Greg Stanley
Interim County Manager
Development Services

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PINAL COUNTY PLANNING AND ZONING COMMISSION
Regular Meeting
9:00 a.m.
Thursday, January 16, 2014
Emergency Operations Center, Pinal County Complex - Building F
31 N. Pinal St. Florence, Arizona
NOTICE OF PUBLIC MEETING AND AGENDA

There may be a supplemental agenda for this hearing, please check with the Planning & Development Department at 520-866-6447.

CALL TO ORDER:

( )	HARTMAN, Chairman	( )	RIGGINS, Vice-Chairman
( )	AGUIRRE-VOGLER, Member	( )	SALAS, Member
( )	GUTIERREZ, Member	( )	MORITZ, Member
( )	ANDERSON, Member	( )	DEL COTTO, Member
( )	SMYERS, Member	( )	GRUBB, Member

SCHEDULE OF AGENDA: ACTION MEANS DISCUSSION/ RECOMMENDATION FOR APPROVAL OR DENIAL TO THE BOARD OF SUPERVISORS ON THE FOLLOWING PLANNING CASES. (Numbers are shown for administrative convenience only. All interested persons should be aware that the cases may be heard in an order different than that shown on the agenda).

A work session is not a public hearing. For matters that are not listed as "public hearings" the public may attend and listen to the proceedings, but may only address the Commission with its permission.

1. DISCUSSION/APPROVAL/DISAPPROVAL OF MEETING MINUTES:

- **November 21, 2013**
- **December 19, 2013**

2. PLANNING DIRECTORS DISCUSSION ITEMS:

- **New County Manager**
- **Planning and Development Staff**

3. REPORT ON BOARD OF SUPERVISORS ACTION ON P & Z CASES

- **December 18, 2013**
- **January 8, 2014 – No Cases**

CONTINUED CASES:

4. **PZ-005-13 – PUBLIC HEARING/ACTION:** Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13); situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)**(Continued from the December 19, 2013 Planning Commission Meeting)**

5. **PZ-PD-005-13 – PUBLIC HEARING/ACTION:** Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-005-13; situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area) **(Continued from the December 19, 2013 Planning Commission Meeting)**

6. **PZ-PD-008-13 – PUBLIC HEARING/ACTION:** Gary Road Holdings, LLC, landowners/applicants, Matrixx Management, LLC, agent, requesting approval of an Amendment to a Planned Area Development (PAD) Overlay District **(PZ(PD)037-03)** on 83.52± acres within the **San Tan Heights PAD** to plan and develop 218 single-family dwelling units; situated in a portion of the NE¼ of Section 13, T3S, R7E G&SRB&M, tax parcels 509-02-9240 & 509-02-059A (legals on file) (located approximately ½ mile south of the Gary Road and Hunt Highway intersection). **(Continued from the December 19, 2013 Planning Commission Meeting)**

NEW CASES:

7. **PZ-012-13 – PUBLIC HEARING/ACTION:** Mike and Alice Peltcs, landowner/applicant, Sanks and Associates, agent, requesting approval of a zone change from CB-1 (Local Business zone) and CR-2 (Single Residence Zone) to C-2(Community Commercial Zoning District) on 6.86± acres to plan and develop a commercial development including a self-storage facility; situated in a portion of the east ½ Section 30, T02S, R08E G&SRB&M, tax parcels 104-53-009C (legal on file) (located on the west side of Gantzel Road South of Red Fern Road in the San Tan Valley area)

TENTATIVE PLATS:

REVIEW/DISCUSSION/ACTION OF TENTATIVE PLATS IS NOT A PUBLIC HEARING. THE PUBLIC MAY ATTEND AND LISTEN TO THE PROCEEDINGS, BUT MAY ONLY ADDRESS THE COMMISSION WITH ITS PERMISSION.

8. **S-040-13 - DISCUSSION/APPROVAL/DISAPPROVAL:** Magma Ranch III - Phoenix LLC, Landowner, Premier Engineering Corporation. Inc., engineer, requesting approval of a tentative plat for **Magma Ranch III Parcel 2**, 671 lots on a 167.77± acre parcel in

the CR-3 & CR-4/PAD **(PZ-PD-031-02)** zones; situated in a portion of Section 19, T3S, R9E G&SRB&M, Tax Parcel 210-38-003A (located at the northwest corner of Judd Road and Felix Road, Florence area).

WORK SESSIONS:

9. Discussion about potential Ordinance concepts to allow the use of recreational vehicles for short term visitor housing

The Planning Commission may go into executive session for purposes of obtaining legal advice from the County's attorney(s) on any of the above agenda items pursuant to A.R.S.§ 38-431.03 (A)(3).

ADJOURNMENT

Greg Stanley
Interim County
Manager

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PINAL COUNTY PLANNING AND ZONING COMMISSION
REGULAR MEETING
MINUTES OF November 21, 2013

PRESENT:
Mr. Hartman, Chairman
Mr. Salas, Member
Ms. Moritz, Member
Mr. Anderson, Member
Mr. Grubb, Member
Ms. Aguirre-Vogler, Member
Mr. Gutierrez, Member
Mr. Del Cotto, Member
Mr. Smyers, Member

ABSENT: Mr. Riggins, Vice-Chairman

LEGAL STAFF PRESENT:
Ms. Grieb, Deputy County Attorney

PLANNING STAFF PRESENT:
Mr. Stabley, Planning Director
Ms. MacDonald, Planner II
Mr. Ashbaugh, Planner I
Mr. Abraham, Planning Manager
Ms. Bruninga, Secretary II

PUBLIC WORKS STAFF PRESENT:
Mr. Chow, Development Section Chief

The meeting was called to order at 9:07 a.m., this date by Chairman Hartman in the Pinal County Administration Building A., Florence, Arizona.

DISCUSSION/APPROVAL/DISAPPROVAL OF MEETING MINUTES: September 19, 2013

MOTION
Commissioner Salas made a motion to approve the minutes of September 19, 2013. Commissioner Aguirre-Vogler seconded the motion. Motion passed unanimously. (8-0)

DISCUSSION/APPROVAL/DISAPPROVAL OF MEETING MINUTES: October 17, 2013

Commissioner Aguirre-Vogler stated that on S-035-13, page ten (10) she made an issue that the presenter did not come prepared with up to date information. Commissioner Aguirre-Vogler added that there was conflicting information provided as well. Mr. Stabley stated the minutes would be reviewed and brought back before the Commission.

Commissioner Aguirre-Vogler stated that on page eight (8), the motion for SUP-007-13 did not have the members listed that voted in opposition.

Commissioner Moritz stated that on page two (2), the last paragraph, there are no stipulations, yet later it states stipulation fourteen (14) is being changed. Mr. Abraham responded that this refers to the Comprehensive Plan that goes along with this case. Mr. Abraham added that staff would make this clarification.

Commissioner Moritz stated that on page five (5) stipulation twenty-nine (29) is stated twice. Mr. Abraham responded that this is a stipulation for both cases.

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Commissioner Moritz stated that on page seven (7) Commissioner Moritz "stated" should be changed to "verified".

Commissioner Moritz stated that on page eight (8) it shows Mr. Abraham asking the same question twice. Mr. Stabley stated that staff will listen to the recording again.

Commissioner Moritz added that on SUP-007-13, she was opposed to the motion because the applicant purchased residential property, knowing that it would be used for a commercial purpose.

Commissioner Aguirre-Vogler asked if staff checks information when applicants come in. Mr. Stabley stated that staff reviews the information as it comes in.

MOTION
Commissioner Aguirre-Vogler made a motion to have the minutes for October 17 be reviewed and brought back before the Commission in December. Commissioner Gutierrez seconded the motion. Motion passed unanimously. (8-0)

PLANNING DIRECTORS DISCUSSION ITEMS

Mr. Stabley informed the Commission that Mr. Ashbaugh is leaving the Planning Department and has taken a position in the Public Works Department.

Commissioner Aguirre-Vogler asked for an update on the Community Plan training. Mr. Stabley stated that we are in the process of filling out the paperwork. Mr. Stabley added that the process is fairly difficult.

REPORT ON BOARD OF SUPERVISORS ACTION ON P & Z CASES
October 30, 2013
November 6, 2013

Mr. Stabley stated the Board of Supervisors went with the Commission's recommendations on all cases that were heard.

NEW CASES:

PZ-010-13 – PUBLIC HEARING/ACTION: Borgata at San Tan Heights, LLC landowner/applicant, Hoskin Ryan Consultants, Inc, agent, requesting approval of a zone change from CR-1A/PAD (Single Residence Zone with a Planned Area Development Overlay District) **(PZ-PD-037-99)** to (R-12) Single Residence Zoning District on 271.0± acres to plan and develop the 411 lot Borgata at San Tan residential development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-010-13); situated in portions of Sections 2, 9 and 10, T03S, R07E G&SRB&M, tax parcels 509-02-080, 509-04-004, 005, 509-11-001R and 509-96-001 through 085 (legal on file) (located on the west side of Thompson Rd south of Hunt Hwy in the San Tan Valley area)

PZ-PD-010-13 – PUBLIC HEARING/ACTION: Borgata at San Tan Heights, LLC landowner/applicant, Hoskin Ryan Consultants, Inc, agent, requesting approval of an amendment to a Planned Area Development (PAD) Overlay District **(PZ(PD)037-99)** on 271.0± acres within the **San Tan Heights PAD** to plan and develop the 411 lot Borgata at San Tan residential development; pending and in conjunction with Board of Supervisors zone change approval under Planning Case (PZ-010-13); situated in portions of Sections 2, 9 and 10, T03S, R07E G&SRB&M, tax parcels 509-02-080, 509-04-004, 005, 509-11-001R and 509-96-001 through 085 (legal on file) (located on the west side of Thompson Rd south of Hunt Hwy in the San Tan Valley area)

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Ms. MacDonald read a portion of the staff report and used a PowerPoint.

Ms. MacDonald stated that she received one letter in support of the proposal after the packets were sent out, from Ed Guerra.

Chairman Hartman asked about stipulation thirty-three (33), page ten (10), it states final design and tread width. Ms. MacDonald stated that the open space and design guideline manual sets specific tread widths for trails.

Chairman Hartman called the applicant forward. Mark Voigt, 6900 E 2nd St., Scottsdale came forward to address the Commission. Mr. Voigt gave a brief background of the project. Mr. Voigt stated that he agrees with all of the stipulations as presented.

Commissioner Grubb arrived at 9:36.

Chairman Hartman asked what the HOA proposal is. Mr. Voigt stated that the HOA will be created only for the residents at Borgata at San Tan Heights. Mr. Voigt added that the HOA will be responsible for landscape, trails, the exterior, with stringent architectural review and design guidelines.

Chairman Hartman stated that when the property initially came before the Commission for the zoning of CR1-A, there were concerns with the amount of fissures and potential problems. Chairman Hartman also asked if the applicant has cleaned up the refuse out of the fissures on site. Mr. Voigt responded that he is unaware of any areas that were used for fill on the site, he has researched the property and it has not been used as a refuse site.

Chairman Hartman stated that he has concerns with transportation, and the lack of deceleration lanes, adding that this can create a problem with a lot of traffic. Mr. Voigt stated that a preliminary study has been done, and added that staff requires a detailed traffic impact analysis along with the submittal. Mr. Voigt stated that he is prepared to comply with all of staff's requirements.

Chairman Hartman stated that the Queen Creek proposal reduces the number of homes by forty (40), adding that the reduction will not interfere with clustering. Mr. Voigt responded that this project is 1.5 units per acre, with the smallest lot being 70x125. Mr. Voigt added that the least costly home will be around $350,000.

Commissioner Salas asked if Thompson Road will be extended. Mr. Voigt responded that the County proposal is full improvement of Thompson Road, and he will be responsible for the paving in front of his property. Commissioner Salas stated that there is a dirt portion of the road and he wants to know if it will be paved. Mr. Voigt stated that Thompson is paved from the school and riding stables, to the park entrance. Commissioner Salas asked if the dirt road at the extension of Thompson is the park entrance. Mr. Voigt asked if Commissioner Salas is referring to the part of Thompson Road that is abandoned. Ms. MacDonald showed a photo taken at the site, with paved road access. Mr. Voigt added that the property that Commissioner Salas is referring to is to the south of the site.

Commissioner Salas asked if the mountains on site are off limits. Mr. Voigt responded that the west side and "Northern Butte" will be preserved. Mr. Voigt added that this area is below the 10% slope limit.

Commissioner Moritz stated that she counted thirty-five (35) lots that are most vulnerable to the fissures, and asked how eliminating these lots would affect the overall plan. Mr. Voigt responded that this would have an adverse affect on the plan, adding that the plan already has 46% open space. Mr. Voigt stated that the building area has already been decreased by forty-three (43) acres. He also stated that the fissures have been identified and public hazard is being avoided.

Chairman Hartman opened the public portion of the meeting.

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Gordon Brown, 1894 W. Judd Road, San Tan Valley, Arizona, came forward to address the Commission. Mr. Brown stated he is in support of the proposal, and the applicant has done an excellent job of blending into a transitional area.

Commissioner Smyers left at 10:06.
Commissioner Smyers returned at 10:08.

Dominic McCutcheon, 1544 W Lind Road, San Tan Valley, came forward to address the Commission. Mr. McCutcheon stated that he is in opposition of the proposal. He moved to the area because of the less dense population. Mr. McCutcheon stated that he spoke to a lot of people in the area that are in opposition, but they can't be present and haven't taken the time to write a letter, but he represents the average person and wants to stay in the area. He also stated that he wants the rules in place to stay the way they are. Mr. McCutcheon added that he is not a developer, but he knows the wash is impractical to build in or around.

Commissioner Salas asked what rules Mr. McCutcheon wants to keep. Mr. McCutcheon responded that he would like to keep the zoning restrictions, minimum lot sizes, and CC&R's the same, and he needs to protect his interest. Mr. McCutcheon stated that before he built his home, he looked at the master plan that outlined the zoning and what can be expected in the future. The proposed density was not a part of that overall plan. Commissioner Salas asked how large his property is. Mr. McCutcheon responded that his property is two and a half (2.5) acres. Chairman Hartman asked what direction his property is to the proposal. Mr. McCutcheon responded that he lives a couple of miles to the East on Lind Road. Chairman Hartman asked if he uses Thompson Road. Mr. McCutcheon stated that he occasionally uses Thompson.

Wayne Balmer, Planning Administrator, Town of Queen Creek, 22350 S Ellsworth Road, Queen Creek, Arizona, 85142, came forward to address the Commission. Mr. Balmer stated that the Town supports the general proposal, but their main concern is the northern portion of the property that is in the Town's planning area. Mr. Balmer stated that the Town's general plan shows one unit per acre. Mr. Balmer stated that fissures are a big concern, as they are an unknown. Mr. Balmer added that the number of lots adjacent to the fissures and the number of times that roads cross fissures are a concern to the Town. Mr. Balmer added that the Town likes the concept of the proposal, and suggested swapping in more of the high value homes. Larger lots would sell in that area, and would be a great fit with the County's plan and the Town of Queen Creek plan. Mr. Balmer added that the recommendation by the Town is to reduce the density, make larger lots, and move away from fissures. Mr. Balmer added that the Queen Creek Mayor and Council would support the project.

Commissioner Aguirre-Vogler stated that Mr. Balmer made some good points, and asked why this information wasn't provided to the Commission prior to the meeting. Mr. Balmer responded that he had met with Mr. Voigt, but they were unable to get together prior to the meeting. Commissioner Aguirre-Vogler stated that it is important to meet prior to Commission Hearings.

Chairman Hartman stated that he has his own issues with fissures, and he doesn't like the idea of building around them.

Commissioner Gutierrez asked if the Town of Queen Creek has plans to annex this area any time in the future. Mr. Balmer responded that the issue is state law doesn't make annexation easy, a majority of the property owners have to represent a majority of the assessed valuation, but with scattered property owners this is difficult. Mr. Balmer stated that another difficulty is that people want improvements made in order to agree to the annexation. Commissioner Gutierrez asked if the Town is concerned that the expenses in this area are larger with a potential annexation. Mr. Balmer responded that they are not concerned with this area, the concern is for the future and how it will be in twenty (20) years.

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Ed Guerra, 1649 Sundance Road, San Tan Valley, Arizona, came forward to address the Commission. Mr. Guerra stated he is in favor of the proposal. Mr. Guerra stated that growth happens with time and he doesn't like to see the local people in disagreement about the project.

Commissioner Gutierrez asked if Mr. Guerra has any concerns with the traffic impact. Mr. Guerra stated that he uses Hunt Highway daily, and he is not concerned of the traffic, as any growth that occurs East of Ellsworth and Hunt Highway will impact the traffic.

Commissioner Moritz left at 10:29.
Commissioner Moritz returned at 10:33.

Stan Tomkiewicz, 31399 N. Pamela Drive, Queen Creek, Arizona, came forward to address the Commission. Mr. Tomkiewicz is in opposition of the proposal. He is concerned about the smaller lot sizes, and suggested a larger lot size be considered. Mr. Tomkiewicz stated that the trails and open space is nice.

Commissioner Grubb asked if Mr. Tomkiewicz was in opposition of the San Tan Heights or Johnson Ranch subdivisions. Mr. Tomkiewicz stated that he was not in opposition of the San Tan Heights subdivision, but the Johnson Ranch community was developed before he moved to the area. Commissioner Grubb expressed his confusion as this is a lower density than the subdivisions built in the area. Mr. Tomkiewicz stated that one mistake shouldn't be followed by another.

Commissioner Del Cotto left at 10:39.

Chairman Hartman stated that he hopes the public will go before the Board of Supervisors to express their position regardless of the outcome of the Commission.

Commissioner Del Cotto returned at 10:42.

Commissioner Aguirre-Vogler asked staff to remind the Commission the difference in lot size from CR1-A and R-12. Ms. MacDonald stated that the lot sizes in CR1-A are one (1) acre lots, and this proposal has lot sizes varying from eight thousand (8,000) to sixteen thousand (16,000) square feet.

Chairman Hartman asked what the density is in the clustered area. Ms. MacDonald responded that staff hadn't calculated the density specifically for the clustered areas. Commissioner Grubb stated that one map shows the overall density is 1.5 dwelling units per acre. Chairman Hartman stated that his concern is the density in the clustered areas only.

Tom Lang, 6875 W Hunt Highway, San Tan Valley, Arizona, came forward to address the Commission in favor of the project. Mr. Lang stated that he doesn't like to see building occur in fissure areas, and he would like to prevent any construction from blocking his view of the mountains. Mr. Lang stated that the applicant has done a great job with the fissures and added that the whole area has fissures.

Mr. Voigt returned to address comments and concerns expressed by the public. Mr. Voigt stated that the density in the clustered area is 1.7-1.8 dwelling units per acre. The lots are pretty large compared to what is already in the area. Mr. Voigt added that the San Tan Heights subdivision has a higher density of single family homes than what he is proposing. Mr. Voigt added that he appreciates the comments made by neighboring property owners and he understands the concerns. Mr. Voigt stated that he has done twenty-five (25) major master plan communities and does not let the owners deviate from the master plan. He said the only way to run a home owners association is to employ managers to ensure the design guidelines are adhered to. Mr. Voigt stated that he is concerned about the fissures, and has presented a report of all fissures in the area, some of which already have utilities and roads crossing them. Mr. Voigt stated that these are dealt with on a case by case basis, and he will take every precaution to ensure that no catastrophe is possible. Mr. Voigt stated that lowering the density will not

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take the fissures out of the equation. He also stated that no immediate neighbors have expressed any concerns at the Commission Hearing.

Chairman Hartman stated that he has concerns with the fissures, and the Town of Queen Creek and its Council should be treated as neighbors, with their concerns taken into consideration. Chairman Hartman suggested reducing the number of residents in the fissure area. Mr. Voigt stated that he has done everything he was required to do regarding the fissures, grading, and offsite improvements. He added that the fissure areas will have setbacks and be built according to the fissure reports and the recommendations by geologists.

Chairman Hartman asked what policies there are in place to take care of damages caused by fissures. Mr. Stabley stated that he is unaware of any insurance that would cover fissure damages. Mr. Stabley added that the applicant has taken the recommendations from the engineer regarding fissure locations and mitigation of those fissures. The planning process will address the concerns regarding roadway crossings as well.

Commissioner Salas asked if the applicant will inform potential homebuyers of the potential fissures and their locations. Mr. Voigt responded that he is required by law to provide this information in a Department of Real Estate report, including fissures in the area, and their proximity to each home. Commissioner Salas asked if the applicant knows what caused the fissures in the area. Mr. Voigt responded that the main cause was a massive draw down of ground water due to farming in the area. He added that the water is back now, but this doesn't solve the existing fissures. Commissioner Salas asked if there is any subsidence in the area. Mr. Voigt responded that subsidence and fissures are the same thing.

Commissioner Moritz stated that the report provided by the geologist contains many negative comments, stating subsidence is identified and the preferred recommendation is to use the area as open space. She stated that the recommendation made by the Commission needs to be based on the health, safety, and welfare of the residents of the county, and the fissures are a big issue.

Commissioner Anderson asked how the plan would change if the forty-four (44) lots in the Queen Creek town proximity were removed. Mr. Voigt stated that he would have to redesign the project to cut out more large lots. Commissioner Anderson asked if this would create lots with varying widths. Mr. Voigt responded if this is the decision of the Commission and the Board of Supervisors, he will have to modify the number to be reduced.

Commissioner Grubb stated that he likes the project overall, but has concerns with the fissures being close to home lots. Commissioner Grubb added that it is hard to know how the fissures will affect the lots near them in the future.

Commissioner Salas stated that it appears the Town of Queen Creek has interest in the northern part of the property, and asked how they can help with the fissure problem. Mr. Balmer responded that the Town would show them on the plat with deed restrictions, show them on construction standards, and make the lots larger to place the home further away from the fissure areas, with fewer streets crossing the fissures as well. Mr. Balmer added that they would also keep more open space along the washes.

MOTION – PZ-010-13

Commissioner Moritz made a motion to forward case PZ-010-13 to the Board of Supervisors with a recommendation of denial. Commissioner Moritz added that she feels the fissure areas should be redesigned to make lots larger and steer development away from the fissures. Commissioner Salas seconded the motion.

Chairman Hartman asked for a roll call vote.

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Commissioner Aguirre-Vogler Yes. The applicant should work closer with the Town of Queen Creek
Commissioner Gutierrez Yes. He is concerned with the fissure area.
Commissioner Anderson No. The developer has understanding of the fissures and a plan.
Commissioner Smyers Yes. The fissures need to be addresses, and the lot sizes need to be reviewed, as well as their five (5) and ten (10) foot setbacks.

Commissioner Salas Yes. He would like to take caution to avoid further problems.
Commissioner Moritz Yes. She would like to protect the safety of the homebuyers and see a reconfiguration of the lots.

Commissioner Del Cotto Yes. He would like to see more hillside lots.
Commissioner Grubb No. He has concerns about the fissures, but the applicant has taken the appropriate steps to address them.

Chairman Hartman Yes. He is concerned about the fissure area and the health, safety, and welfare of the residents in the area.

Motion passed 7-2, with Commissioners Anderson and Grubb in opposition.

MOTION – PZ-PD-010-13
Commissioner Moritz made a motion to forward case PZ-PD-010-13 to the Board of Supervisors with a recommendation of denial. Commissioner Salas seconded the motion. Motion passed 7-2, with Commissioners Anderson and Grubb in opposition.

BREAK 11:24
RECONVENED 11:34

TENTATIVE PLATS:

S-014-12 - DISCUSSION/APPROVAL/DISAPPROVAL: Lotocka, LLC, landowner, Physical Resource Engineering, Inc., agent, requesting approval of a tentative plat for **Desert Living Estates**, 58 lots on a 83.81± acre parcel in the GR zone; situated in a portion of the southwest quarter of Section 30, T10S, R11E, G&SRB&M, Tax Parcel 410-16-0600 (located at the southeast corner of S. Marylynne Lane and E. Sianna Drive approximately 1.25 miles north of the Town of Marana) **(Continued from the October 17th, 2013 Planning Commission meeting)**.

Mr. Ashbaugh read a portion of the staff report and used a PowerPoint.

Mr. Ashbaugh stated that staff recommends continuing the case because the roadway is not exclusive, and access can be taken away by the current owner. Mr. Ashbaugh added that the County cannot require any road improvements, until the road is transferred into the County's name.

Chairman Hartman called the applicant forward.

Nathan Cottrell (Address unknown) came forward to address the Commission and explained that a continuance is not needed, because there is an existing condition that states at the request of Pinal County the right of way will be assigned to Pinal County. Mr. Cottrell added that this was anticipated. Mr. Cottrell would like to add a stipulation stating that the right of way must be dedicated to Pinal County and be put in the County's name. Mr. Ashbaugh stated that a stipulation has been created, if the Commission chose to go that route.
Commissioner Aguirre-Vogler stated that this should have been transferred a long time ago, as the applicant has been given much time to have this completed. Commissioner Aguirre-Vogler stated that she would like to see a continuance.

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Mr. Ashbaugh stated that stipulation twenty (20) would state "The applicant/developer shall initiate and complete the assignment process with the Arizona State Land Department to transfer the rights of way in Pinal County's name prior to final plat submittal".

Commissioner Aguirre-Vogler stated that the problem is sometimes these get lost in the shuffle and she would like a continuance to allow the Commission to see the transfer of the right of way. Ms. Grieb stated that staff works closely with applicants looking to ensure that there is legal access. Ms. Grieb added that she checked with Dale Harman in the Public Works Department, and was told that the process can be as short as three (3) weeks to a couple of months. Commissioner Aguirre-Vogler stated that the roads in the Missile Base area are horrible and there are a lot of problems out there.

Chairman Hartman stated that this has been transpiring a long time, and asked what happens if the right of way is not transferred. Mr. Ashbaugh stated the applicant would not be able to receive their final plat.

MOTION – S-014-12
Commissioner Moritz made a motion to approve findings 1-7 as set forth in the staff report and approve the tentative plat in S-014-12 along with its 19 stipulations, adding stipulation 20 as read by staff. Commissioner Salas seconded the motion. Motion passed with Commissioner Aguirre-Vogler in opposition. Commissioner Aguirre-Vogler stated that the applicant has had since 2004, and nothing has been done in this amount of time.

S-036-13 - DISCUSSION/APPROVAL/DISAPPROVAL: Peralta Canyon, LLC, landowner, Voyager Properties, agent, Atwell, engineer, requesting approval of a tentative plat for **Peralta Canyon**, 761 lots on a 320.23± acre parcel in the CR-3/PAD zone; situated in a portion of Section 16, T01S, R09E, G&SRB&M, Tax Parcels 104-09-016J, 016K, and 016C (located approximately half mile north of US Highway 60 in the Gold Canyon area).

Mr. Ashbaugh read a portion of the staff report and used a PowerPoint.

Chairman Hartman called the applicant forward.

Mark Voigt, 6900 E. 2nd Street, Scottsdale, Arizona, came forward to address the Commission. Mr. Voigt stated that the applicant agrees with all stipulations.

MOTION – S-036-13
Commissioner Moritz made a motion to approve findings 1-7 as set forth in the staff report and approve the tentative plat in S-036-12 along with its attached 27 stipulations as presented by staff. Commissioner Salas seconded the motion. Motion passed unanimously.

ADJOURNMENT
Commissioner Grubb made a motion to adjourn. Chairman Hartman accepted the motion.

Meeting adjourned at 11:52a.m.

RESPECTFULLY submitted December 19, 2013.

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Jerry Stabley, Planning Director

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Greg Stanley
Interim County
Manager

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PINAL COUNTY PLANNING AND ZONING COMMISSION
REGULAR MEETING
MINUTES OF December 19, 2013

PRESENT:

Mr. Hartman, Chairman
Mr. Salas, Member
Ms. Moritz, Member
Mr. Anderson, Member
Mr. Grubb, Member
Ms. Aguirre-Vogler, Member
Mr. Gutierrez, Member
Mr. Del Cotto, Member
Mr. Smyers, Member
Mr. Riggins, Vice-Chairman

LEGAL STAFF PRESENT:

Mr. Langlitz, Deputy County Attorney

PLANNING STAFF PRESENT:

Mr. Stabley, Planning Director
Ms. MacDonald, Planner II
Mr. Abraham, Planning Manager
Ms. Fisk, Drafting Specialist

PUBLIC WORKS STAFF PRESENT:

Mr. Chow, Development Section Chief

The meeting was called to order at 9:05 a.m., this date by Chairman Hartman in the Pinal County EOC Building F, Florence, Arizona.

DISCUSSION/APPROVAL/DISAPPROVAL OF MEETING MINUTES: October 17, 2013

MOTION: Commissioner Aguirre-Vogler made a motion to approve the minutes of October 17, 2013. Commissioner Grubb seconded the motion. Motion passed unanimously.

DISCUSSION/APPROVAL/DISAPPROVAL OF MEETING MINUTES: November 21, 2013

Mr. Stabley stated that there was a misprint in the minutes and Commissioners had not received page 2 and asked that we bring the minutes back at the January meeting. Chairman Hartman asked if anything else was wrong so we could get it all fixed at the same time. Commissioner Aguirre-Vogler stated on page 5 the notes show Mr. DelCotto leaving but not returning and yet he voted on the next item. She requested that it be corrected before next meeting.

PLANNING DIRECTORS DISCUSSION ITEMS

Mr. Stabley stated the County was working with ULI and the Arizona Planning Association on the Community Plan. One thing they suggested was to have a meeting with Commission and the Board of Supervisors if they choose to be a part of "community plan". He has talked to the Acting County Manager to discuss with the County Supervisors if they would like to do that. He stated the application had been completed and were just waiting to hear if the Supervisors wanted to be a part of it.

Mr. Stabley stated he had a request from one of the Commissioners that when they are out in the field they have a badge or business cards to hand out. He stated the badges were for County employees only but was looking into something else. Mr. Stabley stated if the commissioners received badges then other entities would be requesting badges. He also stated that maybe business cards were better.

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Chairman Hartman stated that he didn't feel the tax payers should pay for commission member's business cards. He stated he just shows his appointment card if questioned.

REPORT ON BOARD OF SUPERVISORS ACTION ON P & Z CASES
November 20, 2013
December 4, 2013 – No cases

Mr. Stabley stated the Board of Supervisors went with the Commission's recommendations on all cases that were heard. He stated the BOS meeting from Wednesday December 18, 2013 that the Board had disagreed with them on the PZ-(PD)-010-13 (Borgata) and approved it. He stated that the Board of Supervisors approved the Comprehensive Plan Amendment for Queen Valley. He stated that the Board of Supervisors continued the case until December because they wanted the department to hold another community meeting to give the winter residents a chance to get involved. He stated there was a good turnout of about 40 residents.

NEW CASES:

PZ-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13); situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

PZ-PD-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-005-13; situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

Ms. MacDonald read a portion of the staff report and used a PowerPoint. She stated there were 31 stipulations with both cases. She stated they would like a change in the wording of stipulation 2 to allow the applicant five (5) years to develop the residential portion and adding the applicant has eight (8) years to complete the commercial portion. She stated this change would apply to both cases. Ms. MacDonald also stated staff was requesting a modification to stip 5 changing out the word developed with improved so that the language is the same as stipulation 2.

Commissioner Aguirre-Vogler asked Ms. MacDonald to give her the names of the roads, and asked if they were paved or dirt roads. Ms. MacDonald stated all the surrounding roads were paved.

Commissioner Aguirre-Vogler asked if there would be turn lanes to enter the community.

Mr. Chow stated the County has been working with the applicant on their roadway requirements. He stated the applicant would have to do their half-street improvement to include another thru lane.

Chairman Hartman instructed Ms. MacDonald to go to page 2 in the staff report and read it. Ms. MacDonald stated the applicant was also asking for eighteen (18) foot setbacks instead of the typical twenty (20) feet in the front and five (5) feet instead of ten (10) foot setbacks on the side.

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Chairman Hartman called for the applicant.

Ms. Dana Belknap, 2575 E. Camelback Rd., Phoenix, AZ 85016. She stated that the community would be at 25.9% open space.

Chairman Hartman stated that he is from the Maricopa area and a few years ago they allowed eighteen (18) foot setbacks in the front but have regretted doing so. He felt that the setbacks needed to be at least twenty (20) feet.

Ms. Belknap stated the set-backs could go back to twenty (20) feet but they really needed the five (5) foot set-backs on the side due to the Sonoqui Wash.

Commissioner Moritz stated the applicant is seeking four variances, three new variances and one suggested by staff. One for five (5) foot side set-backs and one for eighteen (18) foot set-backs in the front, one for height to be allowed to be thirty-five (35) feet tall instead of thirty (30) and the last, from staff, is thirty-five (35) feet set-backs in the back instead of thirty (30) feet. She stated that the commission has seen many applicants come through that have requested changes in the set-backs but she really wished that the side set-backs be left alone and follow the County's guidelines.

Commissioner Grubb stated that the closer the homes are to each other the more threat there is in the case of a fire. He stated when you have ten (10) foot distance wall to wall between homes that gives a six (6) or seven (7) feet roof to roof. He stated that the seven (7) foot set-backs on each side is to protect the neighbors home in case of a fire. He stated he had been in the fire service for 45 years and has seen many homes go down very quickly when the homes are so close together.

Mr. Tim Brislin, the developer of the property stated that many of the homes in that area had five (5) foot side set-backs and they were trying to stay the same as neighboring neighborhoods.

Chairman Hartman stated the applicant wanted twenty (20) foot set-backs in the back instead of twenty-five (25) foot.

Mr. Brislin stated that many of the homes are a large one story homes and in order to meet the set-backs they had to request the twenty (20) foot in the rear.

Chairman Hartman stated they are asking for thirty-five (35) foot height instead of the standard thirty (30) foot.

Mr. Brislin stated they would be okay with thirty (30) feet.

Commissioner Smyers stated his concern about the eighteen (18) foot set-back. He stated that a truck is sixteen (16) feet in length and an extended cab is eighteen (18) feet so the vehicle would be nose to tail in the driveway. If a child were to ride a bike he would crash into the parked vehicle and get hurt.

Commissioner Anderson stated his truck is 21.6 feet long and would not be able to fit in the driveways they are proposing. He stated the truck would hang out in the street.

Mr. Brislin stated it would be twenty (20) feet from the back of the sidewalk.

Commissioner Salas stated he did not want the five (5) foot side set-backs and stated he was pretty adamant about keeping with the guidelines that were set.

Mr. Brislin stated they requested the five (5) and five (5) side set-backs due to the constraints they had. He stated a five (5) and eight (8) foot side set-back was approved for another developer and he could work with that. That would allow more room for fire access.

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Chairman Hartman asked about ingress and egress stating he had a problem with the lack of access on the north end of the community.

Mr. Brislin stated they had an entrance off of Bella Vista Rd which lined up with an existing road. Along Ironwood Road the only place to put an access is between Bella Vista Road and the wash. Because this area is just farmland now they will be creating a depressed channel that collects all the flows, so adding a road here would be difficult and could disrupt those flows..

Chairman Hartman asked Mr. Chow if he thought Pinal County Public Works would consider another access to this community. Mr. Chow stated the PAD is conceptual only and the property is bounded by two RSRs (Regionally Significant Routes) and they will have to meet the guidelines for access.

Commissioner Grubb asked if the southern-most cul-de-sec could connect to Star Dust Drive. Mr. Brislin stated that they considered having an access to Star Dust Drive but felt it was too close to the intersection. He stated they did not want to have more traffic by adding an access to Star Dust. Commissioner Grubb stated he was familiar with Star Dust and there was a wall there to protect the homes that exist there. He stated he is concerned that emergency vehicles coming from the north would pass the community before being able to get into the community. Mr. Brislin stated they would look at another way to access the community for public safety reasons.

Mr. Langlitz stated that because this is a public hearing that side discussions should not be held.

Commissioner Vogler verified that the developer would have twenty (20) foot front set-backs, five (5)/eight (8) foot side set-backs, twenty-five (25) foot rear set-backs and thirty (30) foot maximum height for the commercial. Commission Moritz added that staff had also suggested an increased rear setback for the commercial. Ms. MacDonald stated that a stipulation was not included in the staff report for that, it was an item for the Commission to consider. She stated based on the discussion the applicant has expressed that they would rather remove the request to increase the building height than increase setbacks. Mr. Brislin confirmed that was correct, he would prefer to have the standard thirty (30) foot height and standard setbacks.

Commissioner Moritz asked if they could provide eight (8) foot setbacks on each side. Mr. Brislin responded they would not be able to maintain the density required to make the project feasible with eight (8) foot setbacks.

Commissioner Grubb stated that five (5) and eight (8) side set-backs would still put firefighters in danger. He would really like to see ten (10) foot side set-backs.

Ms. Belknap stated the commission had just approved five (5) and eight (8) foot side set-backs for Sherwood Park. She added that greater setbacks make this project far less marketable.

Commissioner Smyers asked if five (5) foot set-backs was roof line to roof line. Commissioner Riggins stated that it is measured from wall to wall.

Commissioner Gutierrez asked what type of commercial businesses are anticipated. Mr. Brislin stated the center would support retail such as a bank or day care. He added that the area is not large enough for a grocery store, but there would be other commercial pads.

Commissioner Hartman opened the public portion of the meeting.

Gordon Brown 1894 E. Judd Rd. in the San Tan Foothills came forward. Mr. Brown stated he thought the property had originally been planned for more commercial. He stated that it is the developers job to create profitability and the county's job is to ensure that current and future residents are protected. He stated there are about 85,000 residents with a few strip malls and lot of fast food restaurants and these residents have to commute. They spend an extra four hours a day commuting to Maricopa County and

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this is not what residents want. He stated Pinal County needs to attract people that are entrepreneurial that are going to be the creative and change the future.

Ms. Belknap stated the property Mr. Brown was referring to was the Hatch Property. The property she is representing was never going to be large enough for a movie theater.

Vice-Chairman Riggins stated the plan will need to be reconfigured as a result of the setback changes and the access concerns. He stated the case should be continued to allow the applicant the opportunity to make these changes and bring back an updated packet. Commissioner Moritz stated she was in agreement and would like to see the applicant bring back a proposal showing the five (5) and eight (8) foot side setbacks, 30 foot maximum building height for the commercial portion, 20 foot front setbacks and the stipulation modifications from staff.

Commissioner Vogler stated she would like to see ten (10) foot side setbacks.

Commissioner Riggins asked the applicant if they are in agreement with a continuance and stated that they should look into adding an additional access point. Mr. Brislin stated they would add a third connection at Stardust Drive and would bring back a revised plan in January.

Motion PZ-005-13 and PZ-PD-005-13
Vice-Chairman Riggins made a motion to continue cases PZ-005-13 and PZ-PD-005-13 to the January 16, 2014 Planning Commission Hearing at 9:00 am. Commissioner Grubb seconded the motion. Motion passed unanimously (10-0).

PZ-009-13 – PUBLIC HEARING/ACTION: Ellsworth Enterprises Limited Partnership, landowner/applicant, Iplan Consulting, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District on 220.25± acres to plan and develop the 771 lot Combs Ranch Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-009-13); situated in a portion of the south ½ Section 27, T02S, R08E G&SRB&M, tax parcels 104-22-006P, 006Q, 006R, 006S, and 006T (legal on file) (located on the north side of Combs Rd east of Schnepf Rd in the San Tan Valley area)

PZ-PD-009-13 – PUBLIC HEARING/ACTION: Ellsworth Enterprises Limited Partnership, landowner/applicant, Iplan Consulting, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 220.25± acres to plan and develop the 771 lot Combs Ranch Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-009-13; situated in a portion of the south ½ Section 27, T02S, R08E G&SRB&M, tax parcels 104-22-006P, 006Q, 006R, 006S, and 006T (legal on file) (located on the north side of Combs Rd east of Schnepf Rd in the San Tan Valley area)

Ms. MacDonald read a portion of the staff report and used a PowerPoint. She stated there were 31 stipulations and there was a typo in two of them number 1 and number 2. It needed to be changed from 81.36 to 220.25 acres of land.

Chairman Hartman asked if there was a request for an amended standard on the parking pad on front of the garage. Ms. MacDonald stated no but there was a request on the side set-backs and added the proposed side setbacks for this site are five (5) and ten (10) feet side set-backs.

Jason Sanks, 4387 Capricorn Pl., Chandler, AZ 85249 with IPlan Consulting came forward to address the Commission. He stated they were in compliance with the Pinal County Comprehensive Plan and pointed out that they have provided connections to the existing community to the north. He stated there were many ways in and out of the community.

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Mr. Sanks stated that he had received a letter from a concerned citizen indicating that there is insufficient fire service in the area. He added that he spoke with Rural Metro and this site is served by three fire stations and is within the primary service area of the Rural Metro.

Commissioner Aguirre-Vogler left at 10:25 am
She returned at 10:34 am.

Commissioner Smyers left at 10:26 am
He returned at 10:29 am.

Chairman Hartman asked for clarification on stipulation thirty-one (31). Mr. Sanks responded that this is to remove a portion of the trail that runs in front of the residential lots on the western portion of the site.

Chairman Hartman stated he wanted to know about the two phases. Mr. Sanks stated they will start developing on the east and work west. Each phase has been designed to have a mix of lots and each phase will provide both primary and secondary open space.

Commissioner Grubb stated the access points will provide rapid entry for emergency access. He added that he liked the way they incorporated the existing community with the new community.

Commissioner Moritz stated that there was one home owner who owns a large property directly across the street and bought there because she wanted to live in a rural area. She asked if there as an opportunity to provide a transition area from these large lots to the smaller lots. Would it be possible to rezone a portion to R-35 or R-25.

Mr. Sanks responded that Laredo Ranch to the north has a higher density, also the land to the south, which directly abuts the large lots is approved for a higher density. He stated that there is also the 130 foot to 150 foot separation with Combs Road plus a forty (40) foot landscape tract.

Chairman Hartman opened the public portion of the meeting. Hearing none, he closed the public portion.

Motion PZ-009-13
Vice-Chairman Riggins made a motion to forward case PZ-009-13 to the Board of Supervisors with 31 stipulations modifying the acreage in stipulations one (1) and two (2) from 81.36 to 220.25 acres. Commissioner Salas seconded the motion. Motion passed unanimously (10-1)

Motion PZ-PD-009-13
Vice-Chairman Riggins made a motion to forward case PZ-PD-009-13 to the Board of Supervisors with 31 stipulations modifying the acreage in stipulations one (1) and two (2) from 81.36 to 220.25 acres. Commissioner Salas seconded the motion. Motion passed unanimously (10-0).

PZ-PD-008-13 – PUBLIC HEARING/ACTION: Gary Road Holdings, LLC, landowners/applicants, Matrixx Management, LLC, agent, requesting approval of an Amendment to a Planned Area Development (PAD) Overlay District **(PZ(PD)037-03)** on 83.52± acres within the **San Tan Heights PAD** to plan and develop 218 single-family dwelling units; situated in a portion of the NE¼ of Section 13, T3S, R7E G&SRB&M, tax parcels 509-02-9240 & 509-02-059A (legals on file) (located approximately ½ mile south of the Gary Road and Hunt Highway intersection).

Mr. Abraham read a portion of the staff report and used a PowerPoint presentation.

George Cannataro 4550 N 12th St., Phoenix, Az 85014 consultant for the property owner and developer. He stated what Mr. Abraham didn't tell them was that 50% of the property was set aside for open space which amounts to about 42 acres and 35 acres of that is for conservation of the hillside. Mr. Cannataro stated the land was proposed for 290 home sites and they were just asking for 218.

Chairman Hartman asked Mr. Cannataro if there were any fissures in the area. Mr. Cannataro stated there were no fissures to his knowledge. Chairman Hartman asked why they had put the high density home closer to the hillside instead of the bigger homes. Mr. Cannataro stated that it was easier to engineer it that way. Chairman Hartman asked if the hillside would look better to have fewer homes. Mr. Cannataro stated there would be a view from any home of the hillside. Chairman Hartman stated there was a letter expressing concern on water pressure. He stated the report only showed a dip in pressure of 32psi.

Commissioner Aguirre-Vogler asked if the homes were being built over the wash. Mr. Cannataro stated the wash had been mitigated due to drainage improvements in the area. He stated the wash does not exist through the site anymore. Commissioner Aguirre-Vogler asked if Mr. Cannataro had read the request from the Town of Queen Creek. Mr. Cannataro stated he had and did not feel an opening was needed to view the hillside.

Commissioner Smyers asked if the smaller homes were at the top of the hillside. Mr. Cannataro states the lots were splits some smaller and larger homes would be built on the hillside. Commissioner Smyers asked if they were going to put 2 story homes on the top of the hillside. Mr. Cannataro stated he is just the developer and does not have a product to put on the land yet.

Mr. Abraham stated they could make a stipulation that no two-story homes be put at the top of the hillside.

Commissioner Moritz stated she likes to read the letters in opposition and try to come up with a solution or a way to help the concerns of the people. She stated that someone requested walls for protection. She wants the concerns of seven people who objected to the community to be addressed. Mr. Cannataro stated that there is over 50% open space and he doesn't feel there should be anymore.

Vice-Chairman Riggins stated that parts of his packet and PAD book were missing and wanted to clarify with Mr. Abraham about the number of lots that already exist. Mr. Abraham stated there were 133 lots and they were asking for 218.

Vice-Chairman Riggins asked if the set-backs were there from the prior PAD. Mr. Cannataro stated yes. Vice-Chairman Riggins stated that they could talk about anything since it is a PAD amendment. He stated they should be talking about the 18 foot front set-back and the 5 foot side set-backs. Mr. Cannataro stated those things should be discussed when the preliminary plat is submitted.

Mr. Abraham stated that those types of concerns need to be addressed at this meeting.

Vice-Chairman Riggins stated that when it is submitted for preliminary plat most of the stuff is already done. He wanted to discuss it now. Mr. Cannataro stated that the parcel had been approved for 290 units and it had been lost in the housing down turn in the 2000's. Vice-Chairman Riggins stated that he felt it was a good time to discuss the things he felt needed to be discussed. Mr. Cannataro stated that all of San Tan Heights had 18 and 5 foot set-backs.

Vice-Chairman Riggins stated that this one is different because it sits on the side of a mountain. He feels the original PAD had 18 and 5 foot set-backs and he wants to discuss the changes.

Commissioner Moritz agreed with Vice-Chairman Riggins stating that they had already discussed those set-backs with another applicant earlier in the day and found it inappropriate. She felt they should have an opinion on it.

Chairman Hartman stated that there were to many unanswered questions that they were not getting answers for. He asked Mr. Cannataro if he could get answers before lunch or if they should continue it for a month. Mr. Cannataro stated the landowner lived out of town and he felt a continuance was the best choice. Chairman Hartman stated he would like to see the single story homes go to the top of the

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hill and the two-story homes at the bottom. He stated they could make a recommendation to the Board of Supervisors for the single story homes.

Commissioner Moritz stated she wanted Mr. Cannataro to take the single story homes to the owner at the same time so he doesn't have to come back again.

Mr. Abraham stated that it is actually a three week window until the next meeting due to the Holidays.

Gordon Brown 1894 E. Judd Rd. in the San Tan Foothills stated the community is full of old and young people who have come together as a community. He stated that the zoning was every zoning number you could imagine. He stated it was up to the developer to zone what they wanted within the community. He stated it was San Tan Heights, Johnson Ranch and Queen Creek communities. He stated he felt the developer needs to have a rapport with the citizens of the communities. He stated he supports a continuance.

Commissioner Gutierrez leaves at 11:19 am
He returns at 11:23 am.

Peter Boothby, 42022 N Ashton Place stated he built a house in 1996 on five acres of land. He stated he built his home and started having problems with people. He stated people would come up on the hill with golf clubs and shoot golf balls at his home. He stated he did not have a problem with the developer because he felt something has to go there. He stated he has a request that in the alignment of Phillips Road that a fence be built from the intersection of Pamela and Phillips go over the top of the mountain and down the side. He stated it is private property but the people who live there think they could be on the mountain. He stated he had put up signs but people have taken them down and destroyed them. That is his only concern.

Chairman Hartman stated he had large property and had to post signs every 300 feet. Mr. Langlitz stated he did not know the law on trespassers but he felt it was a good start.

Commissioner Moritz stated it was the property owner's responsibility to get the signs up and posted. She stated that most property owners put the signs up along with a fence. She stated they sometimes get together as a group and do it. She stated it was a small price to pay for the property owners.

Mr. Abraham stated he would like to get together with Mr. Boothby and have him show where the problems are. Mr. Abraham stated there are going to be county trails in the general location of where Mr. Boothby was talking about.

Motion PZ-PD-008-13
Vice-Chairman Riggins makes a motion to continue PZ-PD-008-13 to the January 16, 2014 at 9:00 am. Commissioner Aguirre-Vogler seconded the motion. Motion passed unanimously (10-0).

Chairman Hartman called for a break of 10 minutes at 11:32 am.
Chairman Hartman resumed the meeting at 11:39 am.

PZ-C-003-13 – DISCUSSION/APPROVAL/DISAPPROVAL: Pinal County applicant, Kent & Christina Horn landowners, requesting the Planning and Zoning Commission initiate a zone change from MHP (Manufactured Home Park) to RU-1.25 (Rural Zoning District) on 2± acres; situated in a portion of the NE¼ of the NW¼ of Section 6, T02S, R08E, G&SRB&M, tax parcel 511-66-014B (legal on file) (located on the SWC of the intersection of Selma Hwy & S. Mammoth Drive south of Casa Grande)

Mr. Abraham read a portion of the staff report and used a PowerPoint presentation. He stated he would like the Commissioner's approval to go out to the public and let everyone know what is going on by having community meetings and then bring the case back to the Commission with recommendations.

Commissioner Moritz asked what the difference between RU-1.25 and GR. Mr. Abraham stated the RU-1.25 is the new district zoning equivalent to GR zone.

Motion PZ-C-003-13
Vice-Chairman Riggins makes a motion to approve PZ-C-003-13. Commissioner Gutierrez seconds the motion. Motion passed unanimously (10-0).

TENTATIVE PLATS:

S-038-13 - DISCUSSION/APPROVAL/DISAPPROVAL: Pulte Homes Corporation, landowner, Michael Baker, Jr. Inc., agent, requesting approval of a tentative plat for **Red Rock Village IV**, 91 lots on a 22.68± acre parcel in the CR-3/PAD **(PZ-PD-006-02)** zone; a portion of the south half of Section 8, T10S, R14E G&SRB&M, Tax Parcel 410-11-001U (located at Sasco Road and Interstate 10, Red Rock area).

Mr. Denton read a portion of the staff report and used a PowerPoint presentation.

Matt Cawley, 6350 N Camino De La Tierra, Tucson 85743 and Tom Collins 2800 N Country Club Blvd., Tucson 85715. Mr Cawley stated that Village IV was the last of the tentative plats to submit before the downturn in the economy. Mr. Cawley stated the original plat had 45 x 115 lot size but have found that the lots sizes are not marketable. He stated they are requesting larger lots and less density. He stated they were asking for 50 x 120 lot sizes.

Chairman Hartman asked what the set-backs were. Mr. Cawley stated they were originally 10 feet but in hearing what was stated today they could meet the 20 foot set-backs.

Commissioner Aguirre-Vogler asked about the status of the fire station. Mr. Cawley stated the had received the site plan for the fire station and have received comments on it as well. He stated they had been informed to go ahead and submit the final site plan for the station. He stated that Pulte Homes had donated a home for the fire station. He stated the middle of January would be the submittal for the final site plan.

MOTION – S-038-13
Vice-Chairman Riggins makes a motion to approve the tentative plat S-038-13 and allow the applicant to move forward with 18 stipulations. Commissioner Salas seconded the motion. Motion passed unanimously (10-0).

ADJOURNMENT

Meeting adjourned at 11:55 a.m.

RESPECTFULLY submitted January 17, 2014.

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Jerry Stabley, Planning Director

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Greg Stanley
Interim County Manager

PINAL • COUNTY
wide open opportunity

MEMORANDUM

TO: Pinal County Planning and Zoning Commission

FROM: Bridget Fisk, Drafting Specialist
Planning & Development

DATE: January 16, 2014

SUBJECT: **BOARD OF SUPERVISORS (BOS) ACTION ON P&Z CASES**

BOS HEARING OF December 18, 2013
P&Z Cases

PZ-010-13: Borgata San Tan Heights, LLC landowner/applicant, Hoskin Ryan Consultants,Inc, agent, requesting approval of a zone change from CR-1A/PAD (Single Residence Zone with a Planned Area Development Overlay District) (PZ-PD-037-99) to (R-12) Single Residence Zoning District on 271.0± acres to plan and develop the 411 lot Borgata at San Tan residential development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-010-13); situated in portions of Sections 2, 9 and 10, T03S, R07E G&SRB&M, tax parcels 509-02-080, 509-04-004, 005, 509-11-001R and 509-96-001 through 085 (legal on file) (located on the west side of Thompson Rdsouth of Hunt Hwy in the San Tan Valley.

P&Z voted to recommend denial 7-2
BOS Action: Approved Applicant request

PZ-PD-010-13: Borgata at San Tan Heights, LLC landowner/applicant, Hoskin Ryan Consultants, Inc, agent, requesting approval of an amendment to a Planned Area Development (PAD) Overlay District (PZ(PD)037-99) on 271.0± acres within the San Tan Heights PAD to plan and develop the 411 lot Borgata at San Tan residential development; pending and in conjunction with Board of Supervisors zone change approval under Planning Case (PZ-010-13); situated in portions of Sections 2, 9 and 10, T03S, R07E G&SRB&M, tax parcels 509-02-080, 509-04-004, 005, 509-11-001R and 509- 96-001 through 085 (legal on file) (located on the west side of Thompson Rd south of Hunt Hwy in the San Tan Valley area).

P&Z voted to recommend denial 7-2
BOS Action: Approved Applicant request

PZ-PA-002-13: Public Hearing and discussion/approval/disapproval on the following requested major amendment to the 2009 Pinal County Comprehensive Plan A. PZ-PA-002-13– A major amendment of the Pinal County Comprehensive Plan to change the land use map designation of 1379± acres of land from Major Open Space (or 1DU/AC) to Low Density Residential (0-2 DU/AC)(1002± ac); Moderate Density Residential (1-3.5 du/ac)(213± ac); and Medium Density Residential (3.5 - 8du/ac)(164±ac) and amend the Open Space and Trails Plan to remove the "Proposed Open Space" designation (the multi-use trail corridor will remain) to coincide with the Land Use Plan; located in the Queen Valley area; situated in portions of Sections 26, 33, 34, T1S, R10E G&SRB&M, and portions of Sections 3,4, T2S, R10E G&SRB&M; located approximately 3.5 miles northeast of Florence Junction.

P&Z voted to recommend approval 7-0
BOS Action: Approved

BOS HEARING OF January 8, 2014
P&Z Cases

No cases

31 North Pinal Street, Building F, PO Box 2973 Florence, AZ 85132 **T** 520-866-6447 **FREE** 888-431-1311 **F** 520-866-6490 www.pinalcountyaz.gov

PZ-005-13/PZ-PD-005-13

TO: PINAL COUNTY PLANNING & ZONING COMMISSION

MEETING DATE: January 16, 204 (continued from December 19, 2013)

CASE NO.: **PZ-005-13 & PZ-PD-005-13 (Bella Camino)**

CASE COORDINATOR: Ashlee MacDonald

LEGAL DESCRIPTION: 81.36± acres situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M (legal on file)

TAX PARCEL: 210-17-001A, and 002

APPLICANT/LANDOWNER: Ironwood 80, LLLP 17700 N Pacesetter Way, Ste 100, Scottsdale, AZ 85255

AGENT: Harvard Investments, 17700 N Pacesetter Way, Ste 100, Scottsdale, AZ 85255

REQUESTED ACTION & PURPOSE: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13)

REQUESTED ACTION & PURPOSE: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-005-13

LOCATION: The subject property is located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area.

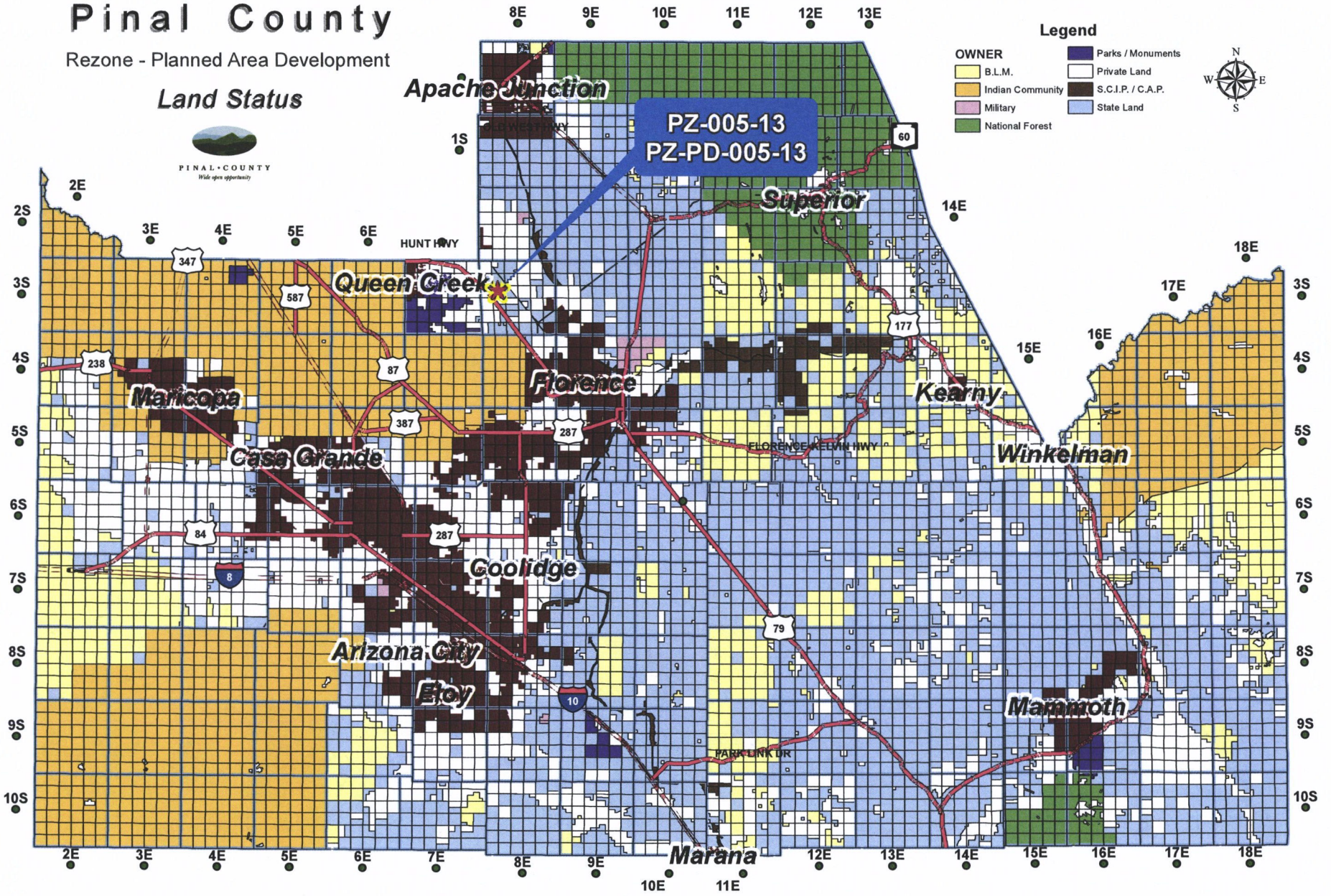
EXISTING ZONING AND LAND USE: The subject property is currently zoned General Rural (GR) and is designated as Moderate Low Density residential (1-3.5 DU/AC). It is currently un-developed vacant land.

SURROUNDING ZONING AND LAND USE:

North: (GR); agriculture, State Land
South: (CR-3/PAD) PZ-PD-001-99; single family residential
East: (GR); agriculture, State Land
West: (CR-3/PAD) PZ-PD-001-99; single family residential

PUBLIC PARTICIPATION:

Neighborhood Meeting: 6/18/2013
Neighborhood and agency mail out: November 14, 2013
News paper Advertising: November 29, 2013


Pinal County
Rezone - Planned Area Development
Land Status
PINAL • COUNTY
Wide open opportunity
PZ-005-13
PZ-PD-005-13
Legend
OWNER
B.L.M.
Indian Community
Military
National Forest
Parks / Monuments
Private Land
S.C.I.P. / C.A.P.
State Land
N
W
E
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Apache Junction
Superior
Queen Creek
Florence
Kearny
Winkelman
Maricopa
Casa Grande
Coolidge
Arizona City
Eloy
Mammoth
Marana
HUNT HWY
FLORENCE-KELVIN HWY
PARK LINK DR
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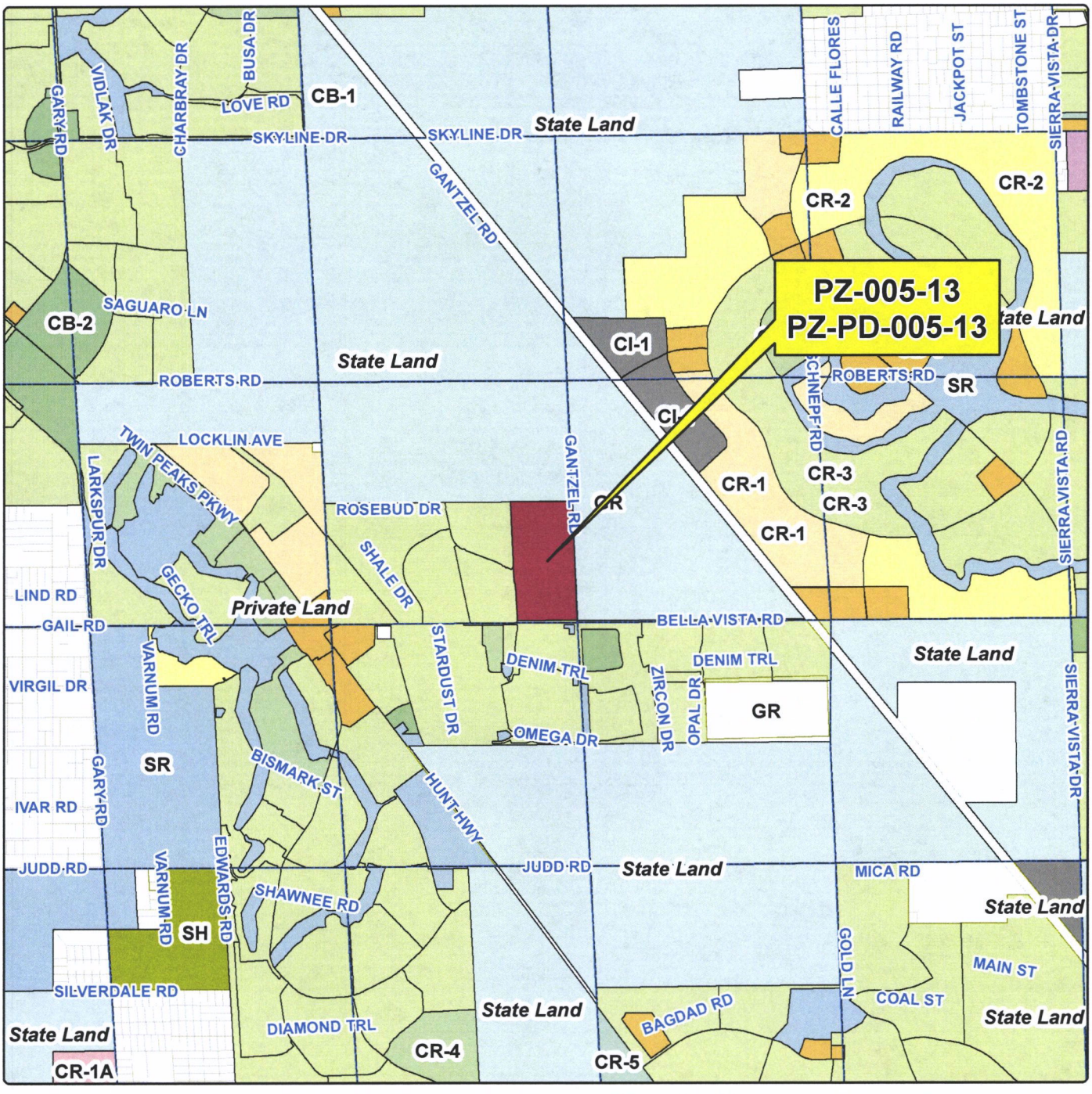
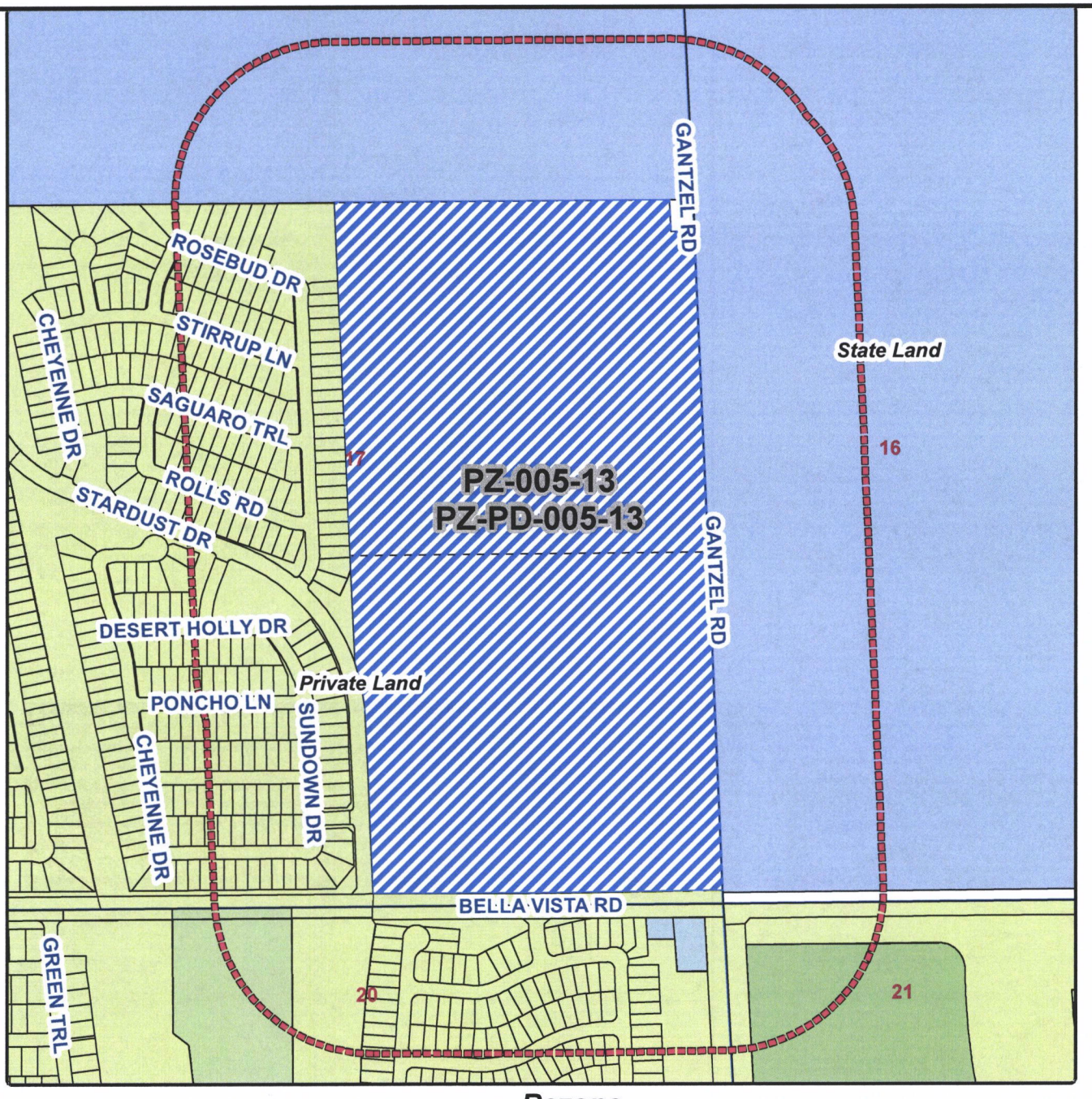


Rezone
Planned Area Development
Planning & Development Services

PINAL • COUNTY
Wide open opportunity

Ironwood 80, LLLP	**Legal Description:** Situated in a portion of the Section 17, T03S,R08E, G&SRB&M, 210-17-001A & 210-17-002 (legal on file) (San Tan Valley area). T03S-R08E Sec 17	Sheet No. 1 of 1	Ironwood 80, LLLP Drawn By: GIS / IT / LJT — Date: 11/13/2013 Sections 17 — Township 03S — Range 08E Case Number: PZ-005-13, PZ-PD-005-13



Rezone
Planned Area Development

PZ-005-13, PZ-PD-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13); situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

Current Zoning: GR
Request Zoning: Rezone - Planned Area Development
Current Land Use: MLDR

PINAL • COUNTY
Wide open opportunity

Legal Description:
Situated in a portion of Section 17, T03S, R08E, G&SRB&M. 210-17-001A & 210-17-002. (legal on file) (San Tan Valley area).

T03S-R08E Sec 17

Sheet No. 1 of 1

Owner/Applicant: Ironwood 80, LLLP
Drawn By: GIS / IT / LJT
Date: 11/13/2013
Sections: 17
Township: 03S
Range: 08E
Case Number: PZ-005-13, PZ-PD-005-13

Rezone
Planned Area Development

NORTH

PINAL • COUNTY
Wide open opportunity

PZ-005-13
PZ-PD-005-13

Site posting: County 11/25/13, Applicant 11/15/2013

FINDINGS:

Site data:
Floodzone: "X" an area that is determined to be outside the 100 and 500 year flood plain
Water: Johnson Utilities
Sewer: Johnson Utilities
Access: The property is accessed from Bella Vista Road and Gantzel Road.

HISTORY: The subject property is zone GR and is currently vacant. The property has historically been used agriculturally.

ANALYSIS: The applicant is requesting a rezoning and PAD overlay zone to allow the development of 250 residential lots ranging in size from 5,520 square feet to 6,325 square feet. The subject property is currently designated Moderate Low Density Residential. The proposed density of the subject 81.36± acres is 3.5 du/ac and is in conformance with the Moderate Low Density Residential designation.

To date, one letter in support has been received from property owners within 600ft of the subject site. No letters in opposition have been received.

The applicant conducted a neighborhood meeting the results of which are included within this report.

THE APPLICANT HAS PROVIDED INFORMATION REGARDING THIS REZONE AND PAD REQUEST, WHICH IS PROVIDED UNDER SEPARATE COVER.

The **Pinal County Department of Public Works** reviewed the proposal and provided comments which are attached to the correspondence section of this report

The Pinal County Department of Air Quality provided comments which are attached to the correspondence section of this report

The **Maricopa County Parks and Recreation Department** provided comments which are attached to the correspondence section of this report.

FIT WITHIN THE NEIGHBORHOOD:
The site has historically been used as farm land and is undeveloped. Vacant land borders the north and eastern sides of the property. South of the proposal are developments zoned CR-3/PAD. These developments are substantially developed. To the southeast of the property there is an 18.5± acre parcel zoned CB-2 (PZ-PD-006-09) that remains undeveloped. The intent at the time of application was to develop these 18.5± acres with a grocery store, convenience store and various restaurants and retail pads.

Since the December Planning Commission hearing the applicant has made a number of changes to the application based on the Commission feedback. First, the applicant has changed the front setback from 18 feet measured from back of sidewalk to front facing garage to 20 feet and increased the front setback for porches, livable area and side load garages from 10 feet to 15 feet. Second, the applicant has increased the side setbacks for the 48 foot wide lots to five feet and eight feet and for the 55 foot wide lots increased side setbacks to five feet and ten feet. Third, the applicant has reduced the maximum building height for the commercial

site to 30 feet. Finally, the applicant has added another access point at Stardust Drive.

The Pinal County Comprehensive Plan designation of Moderate Low Density Residential allows the requested density of 3.5du/ac and supports commercial uses similar to those proposed as part of this application.

At the public hearing, the Commission needs to be satisfied that the health, safety and welfare of the County and adjacent properties will not be negatively impacted by this rezoning and PAD overlay zone request under Planning Cases PZ-(PD)-005-13, the Commission must determine that this rezone and Planned Area Development (PAD) Overlay District will promote the orderly growth and development of the County, at this location and time, and this proposed development is compatible and consistent with the applicable goals and policies of the Pinal County Comprehensive Plan.

THE BURDEN OF PROOF IS UPON THE APPLICANT TO PROVIDE THE NECESSARY AND REQUIRED INFORMATION AT THE PUBLIC HEARING. THE APPLICANT NEEDS TO BE PREPARED TO ADDRESS AND MITIGATE, AS APPLICABLE, THE FOLLOWING ISSUES AND CONCERNS:

A) LAND USE, PERIMETER WALLS, SIGNAGE, SETBACKS, INGRESS/EGRESS & LANDSCAPING
B) PUBLIC SERVICES - SEWER, WATER, UTILITIES, DRAINAGE
C) NEIGHBORHOOD IMPACT
D) FLOOD CONTROL
E) TRAFFIC IMPACT
F) COMPATIBILITY/CONSISTENCY WITH PINAL COUNTY COMPREHENSIVE PLAN
G) BENEFITS/DETRIMENTS TO PINAL COUNTY

STAFF SUMMARY: The applicant, Ironwood 80, LLLP has submitted the proper application and evidence sufficient to warrant a staff recommendation as provided in the Ordinance. Staff provides the following findings together with the information on Page 1 of this staff report:

1. This land use request is for approval of a rezone and PAD Overlay District.
2. To date, one letter in support and no letters in opposition have been received.
3. The property is accessed from Bella Vista and Gantzel Roads
4. The subject property is located within the "Moderate Low Density Residential designation.
5. Granting of the Planned Area Development (PAD) Overlay District request will require, after the time of zoning approval, that the applicant/owner submit and secure from the applicable and appropriate Federal, State, County and Local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

STAFF RECOMMENDATION **(PZ-005-13):** Should the Commission find, after the presentation of the applicant and together with the testimony and evidence presented at the public hearing, that this rezoning request, is needed and necessary at this location and time, will not negatively impact adjacent properties, will promote the orderly growth and development of the County and will be consistent with the applicable goals and policies of the Pinal County Comprehensive Plan, then staff recommends that the Commission forward **PZ-005-13** to the Board of Supervisors with a favorable recommendation with the attached stipulation. If the Commission cannot find for all of the factors listed above, then staff recommends that the Commission forward this case to the Board of Supervisors with a recommendation of denial.

1. The conditions and time periods enumerated herein constitute the Schedule for Development. The schedule of development only applies to the 81.36± acres covered under case PZ-005-13

2. Applicant/property owner shall improve the property as a residential subdivision on 71.19± acres and 10.17± acres of commercial as being proposed under case number PZ-005-13; improve means obtaining a final plat approval for the residential portion and site plan approval(s) for the commercial portion and completing the conditions enumerated herein, within five (5) years for the residential portion and eight (8) years for the commercial portion from the effective date of this ordinance; and where a specific condition requires completion by a specified date or event, applicant/property owner shall complete said condition by that specified date.

3. Applicant/property owner may request the Board of Supervisors set a public hearing to grant an extension of any time period specified in the Schedule for Development.

4. If a condition is not met at the end of the specified time period for that condition the Board of Supervisors after notification by certified mail to the property owner and applicant who requested the rezoning can schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zone classification.

5. If at the expiration of the (5) five year time period the Property has not been improved with residential subdivision, for which it is conditionally approved, or improved in accordance with the Schedule for Development, the Board of Supervisors after notification by registered mail to the property owner and applicant who requested the rezoning, shall schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zoning classification.

6. No building permits shall be issued based on this rezoning until all conditions are satisfied pursuant to the Schedule for Development and the Planning Director issues a Certificate of Compliance.

7. The zone change will be shown on the official Pinal County Zoning Map with a "C" indicating the zoning case has been approved conditioned upon a Schedule for Development for a specific use. After compliance with the Schedule for Development by applicant/property owner and issuance of a Certificate of Compliance by the Planning Director the "C" shall be changed to an "R" indicating issuance of a Certificate of Compliance with zoning restrictions which remain with the land.

8. After compliance with the Schedule for Development, the applicant/property owner shall submit to the Planning Director evidence of compliance and written request for issuance of Certificate of Compliance.

9. Upon compliance by applicant/property owner with the Schedule for Development and written request from applicant/property for issuance of a Certificate of Compliance, the Planning Director shall issue a Certificate of Compliance with the zoning restrictions which remain with the land.

10. At the time of building permit review, applicant/owner shall submit and secure from the applicable Federal, State, County and local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

11. The Schedules for Development in PZ-005-13 and PZ-PD-005-13 govern in the event any discrepancy or conflict arises between applicant's written narrative report for the Planned Area Development Overlay District in PZ-PD-005-13 and the Schedules for Development.

12. The applicant/property owner shall meet the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building Safety Department.

13. approval of this zone change/PAD request will allow the applicant/owner, during construction to provide for construction trailer(s) and associated parking;

14. any change or expansion of the specified use shall require the approval of the Board of Supervisors under the procedures pursuant to Section 2.176.260 of the Development Services Code.

15. all construction activity must conform to the Earthmoving Activity requirements of the Pinal County Air Quality Control District;

16. The property is to be developed in accordance with the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013, along with the applicant's other supplementary documentation, in accordance with the applicable criteria set forth in Chapter 2.176 of the Pinal County Development Services Code;

17. Open space and recreational areas shall be designed to conform to the standards and diagrams indicated in the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013;

18. The applicant shall ensure a minimum of 23% of the approved Bella Camino development remains in open space, with a maximum overall density of 3.5 dwelling units per gross acre;

19. The final plat(s) shall be for no more than 250 single family residential lots.

20. Prior to Final Plat approval, the applicant/owner shall provide written verification from the Florence Unified School District, that applicable school concerns/issues have been resolved to the satisfaction of the District;

21. Prior to tentative plat approval, the applicant/ developer/owner shall provide written verification from the wastewater/sewage disposal provider, together with associated documentation, that:
    a. the wastewater/sewerage disposal provider has adequate capacity for collection, treatment and disposal of wastewater for the development;
    b. the development boundaries are located within a service area designated with an approved **CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)**;
    c. and the wastewater plan for the proposed development is in conformance with the **CERTIFIED AREAWIDE WATER QUALITY MANAGEMENT (208) PLAN**;

22. The applicant/owner, grant and record an agricultural spray easement to all adjacent farm owners/operators; include in the CC&R's references to the recorded agricultural spray easement and reference the agricultural spray easement on the face of the plat(s) in the **NOTES** section;

23. No schools, day care centers or limited care facilities to be located within one-quarter (¼) mile of land in agricultural production requiring aerial spraying. **(PLACE IN NOTES SECTION ON FACE OF FINAL PLAT)**;

24. applicant/owner shall attend a site plan pre-application meeting with staff for the 10.17 acre C-1 (Neighborhood Commercial) site. If staff determines that a formal site plan review is required, the applicant/owner shall receive site plan approval prior to operation in accordance with Chapter 2.200 of the Pinal County Development Services Code;

25. A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;

26. A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;

27. Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;
    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) and a minimum 70' half street right-of-way dedication along BELLA VISTA RD. (southern boundary) or as approved by the County Engineer.

28. GANTZEL RD. and BELLA VISTA RD. have been identified as a "Route of Regional Significance". Applicant will be required to comply with the "Regionally Significant Routes for Safety and Mobility, Final Report, December 2008" and the "Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

29. Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;

30. The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by

the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals; and

31. Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer.

STAFF RECOMMENDATION **(PZ-PD-005-13):** Should the Commission find, after the presentation of the applicant and together with the testimony and evidence presented at the public hearing, that this PAD overlay amendment request, is needed and necessary at this location and time, will not negatively impact adjacent properties, will promote the orderly growth and development of the County and will be consistent with the applicable goals and policies of the Pinal County Comprehensive Plan, then staff recommends that the Commission forward **PZ-PD-005-13** to the Board of Supervisors with a favorable recommendation with the attached stipulations. If the Commission cannot find for all of the factors listed above, then staff recommends that the Commission forward this case to the Board of Supervisors with a recommendation of denial.

1. The conditions and time periods enumerated herein constitute the Schedule for Development. The schedule of development only applies to the 81.36± acres covered under case PZ-PD-005-13

2. Applicant/property owner shall improve the property as a residential subdivision on 71.19± acres and 10.17± acres of commercial as being proposed under case number PZ-PD-005-13; improve means obtaining a final plat approval and completing the conditions enumerated herein, within five (5) years for the residential portion and eight (8) years for the commercial portion from the effective date of this ordinance; and where a specific condition requires completion by a specified date or event, applicant/property owner shall complete said condition by that specified date;

3. Applicant/property owner may request the Board of Supervisors set a public hearing to grant an extension of any time period specified in the Schedule for Development.

4. If a condition is not met at the end of the specified time period for that condition the Board of Supervisors after notification by certified mail to the property owner and applicant who requested the rezoning can schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zone classification.

5. If at the expiration of the (5) five year time period the Property has not been improved with residential subdivision, for which it is conditionally approved, or improved in accordance with the Schedule for Development, the Board of Supervisors after notification by registered mail to the property owner and applicant who requested the rezoning, shall schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zoning classification.

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specific use. After compliance with the Schedule for Development by applicant/property owner and issuance of a Certificate of Compliance by the Planning Director the "C" shall be changed to an "R" indicating issuance of a Certificate of Compliance with zoning restrictions which remain with the land.

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9. Upon compliance by applicant/property owner with the Schedule for Development and written request from applicant/property for issuance of a Certificate of Compliance, the Planning Director shall issue a Certificate of Compliance with the zoning restrictions which remain with the land.

10. At the time of building permit review, applicant/owner shall submit and secure from the applicable Federal, State, County and local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

11. The Schedules for Development in PZ-005-13 and PZ-PD-005-13 govern in the event any discrepancy or conflict arises between applicant's written narrative report for the Planned Area Development Overlay District in PZ-PD-005-13 and the Schedules for Development.

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13. approval of this zone change/PAD request will allow the applicant/owner, during construction to provide for construction trailer(s) and associated parking;

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15. all construction activity must conform to the Earthmoving Activity requirements of the Pinal County Air Quality Control District;

16. The property is to be developed in accordance with the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013, along with the applicant's other supplementary documentation, in accordance with the applicable criteria set forth in Chapter 2.176 of the Pinal County Development Services Code;

17. Open space and recreational areas shall be designed to conform to the standards and diagrams indicated in the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013;

18. The applicant shall ensure a minimum of 23% of the approved Bella Camino development remains in open space, with a maximum overall density of 3.5 dwelling units per gross acre;

19. The final plat(s) shall be for no more than 250 single family residential lots.

20. Prior to Final Plat approval, the applicant/owner shall provide written verification from the Florence Unified School District, that applicable school concerns/issues have been resolved to the satisfaction of the District;

21. Prior to tentative plat approval, the applicant/ developer/owner shall provide written verification from the wastewater/sewage disposal provider, together with associated documentation, that:
    a. the wastewater/sewerage disposal provider has adequate capacity for collection, treatment and disposal of wastewater for the development;
    b. the development boundaries are located within a service area designated with an approved **CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)**;
    c. and the wastewater plan for the proposed development is in conformance with the **CERTIFIED AREAWIDE WATER QUALITY MANAGEMENT (208) PLAN**;

22. The applicant/owner, grant and record an agricultural spray easement to all adjacent farm owners/operators; include in the CC&R's references to the recorded agricultural spray easement and reference the agricultural spray easement on the face of the plat(s) in the **NOTES** section;

23. No schools, day care centers or limited care facilities to be located within one-quarter (¼) mile of land in agricultural production requiring aerial spraying. **(PLACE IN NOTES SECTION ON FACE OF FINAL PLAT)**;

24. applicant/owner shall attend a site plan pre-application meeting with staff for the 10.17 acre C-1 (Neighborhood Commercial) site. If staff determines that a formal site plan review is required, the applicant/owner shall receive site plan approval prior to operation in accordance with Chapter 2.200 of the Pinal County Development Services Code;

25. A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;

26. A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;

27. Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;
    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) and a minimum 70' half street right-of-way dedication along BELLA VISTA RD. (southern boundary) or as approved by the County Engineer.

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31. Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer.

DATE PREPARED: 12/9/13 – arm
REVISED: 01/09/13 – arm

Chairman Hartman stated that he didn't feel the tax payers should pay for commission member's business cards. He stated he just shows his appointment card if questioned.

REPORT ON BOARD OF SUPERVISORS ACTION ON P & Z CASES
November 20, 2013
December 4, 2013 – No cases

Mr. Stabley stated the Board of Supervisors went with the Commission's recommendations on all cases that were heard. He stated the BOS meeting from Wednesday December 18, 2013 that the Board had disagreed with them on the PZ-(PD)-010-13 (Borgata) and approved it. He stated that the Board of Supervisors approved the Comprehensive Plan Amendment for Queen Valley. He stated that the Board of Supervisors continued the case until December because they wanted the department to hold another community meeting to give the winter residents a chance to get involved. He stated there was a good turnout of about 40 residents.

NEW CASES:

PZ-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13); situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

PZ-PD-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-005-13; situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

Ms. MacDonald read a portion of the staff report and used a PowerPoint. She stated there were 31 stipulations with both cases. She stated they would like a change in the wording of stipulation 2 to allow the applicant five (5) years to develop the residential portion and adding the applicant has eight (8) years to complete the commercial portion. She stated this change would apply to both cases. Ms. MacDonald also stated staff was requesting a modification to stip 5 changing out the word developed with improved so that the language is the same as stipulation 2.

Commissioner Aguirre-Vogler asked Ms. MacDonald to give her the names of the roads, and asked if they were paved or dirt roads. Ms. MacDonald stated all the surrounding roads were paved.

Commissioner Aguirre-Vogler asked if there would be turn lanes to enter the community.

Mr. Chow stated the County has been working with the applicant on their roadway requirements. He stated the applicant would have to do their half-street improvement to include another thru lane.

Chairman Hartman instructed Ms. MacDonald to go to page 2 in the staff report and read it. Ms. MacDonald stated the applicant was also asking for eighteen (18) foot setbacks instead of the typical twenty (20) feet in the front and five (5) feet instead of ten (10) foot setbacks on the side.

Chairman Hartman called for the applicant.

Ms. Dana Belknap, 2575 E. Camelback Rd., Phoenix, AZ 85016. She stated that the community would be at 25.9% open space.

Chairman Hartman stated that he is from the Maricopa area and a few years ago they allowed eighteen (18) foot setbacks in the front but have regretted doing so. He felt that the setbacks needed to be at least twenty (20) feet.

Ms. Belknap stated the set-backs could go back to twenty (20) feet but they really needed the five (5) foot set-backs on the side due to the Sonoqui Wash.

Commissioner Moritz stated the applicant is seeking four variances, three new variances and one suggested by staff. One for five (5) foot side set-backs and one for eighteen (18) foot set-backs in the front, one for height to be allowed to be thirty-five (35) feet tall instead of thirty (30) and the last, from staff, is thirty-five (35) feet set-backs in the back instead of thirty (30) feet. She stated that the commission has seen many applicants come through that have requested changes in the set-backs but she really wished that the side set-backs be left alone and follow the County's guidelines.

Commissioner Grubb stated that the closer the homes are to each other the more threat there is in the case of a fire. He stated when you have ten (10) foot distance wall to wall between homes that gives a six (6) or seven (7) feet roof to roof. He stated that the seven (7) foot set-backs on each side is to protect the neighbors home in case of a fire. He stated he had been in the fire service for 45 years and has seen many homes go down very quickly when the homes are so close together.

Mr. Tim Brislin, the developer of the property stated that many of the homes in that area had five (5) foot side set-backs and they were trying to stay the same as neighboring neighborhoods.

Chairman Hartman stated the applicant wanted twenty (20) foot set-backs in the back instead of twenty-five (25) foot.

Mr. Brislin stated that many of the homes are a large one story homes and in order to meet the set-backs they had to request the twenty (20) foot in the rear.

Chairman Hartman stated they are asking for thirty-five (35) foot height instead of the standard thirty (30) foot.

Mr. Brislin stated they would be okay with thirty (30) feet.

Commissioner Smyers stated his concern about the eighteen (18) foot set-back. He stated that a truck is sixteen (16) feet in length and an extended cab is eighteen (18) feet so the vehicle would be nose to tail in the driveway. If a child were to ride a bike he would crash into the parked vehicle and get hurt.

Commissioner Anderson stated his truck is 21.6 feet long and would not be able to fit in the driveways they are proposing. He stated the truck would hang out in the street.

Mr. Brislin stated it would be twenty (20) feet from the back of the sidewalk.

Commissioner Salas stated he did not want the five (5) foot side set-backs and stated he was pretty adamant about keeping with the guidelines that were set.

Mr. Brislin stated they requested the five (5) and five (5) side set-backs due to the constraints they had. He stated a five (5) and eight (8) foot side set-back was approved for another developer and he could work with that. That would allow more room for fire access.

Chairman Hartman asked about ingress and egress stating he had a problem with the lack of access on the north end of the community.

Mr. Brislin stated they had an entrance off of Bella Vista Rd which lined up with an existing road. Along Ironwood Road the only place to put an access is between Bella Vista Road and the wash. Because this area is just farmland now they will be creating a depressed channel that collects all the flows, so adding a road here would be difficult and could disrupt those flows..

Chairman Hartman asked Mr. Chow if he thought Pinal County Public Works would consider another access to this community. Mr. Chow stated the PAD is conceptual only and the property is bounded by two RSRs (Regionally Significant Routes) and they will have to meet the guidelines for access.

Commissioner Grubb asked if the southern-most cul-de-sec could connect to Star Dust Drive. Mr. Brislin stated that they considered having an access to Star Dust Drive but felt it was too close to the intersection. He stated they did not want to have more traffic by adding an access to Star Dust. Commissioner Grubb stated he was familiar with Star Dust and there was a wall there to protect the homes that exist there. He stated he is concerned that emergency vehicles coming from the north would pass the community before being able to get into the community. Mr. Brislin stated they would look at another way to access the community for public safety reasons.

Mr. Langlitz stated that because this is a public hearing that side discussions should not be held.

Commissioner Vogler verified that the developer would have twenty (20) foot front set-backs, five (5)/eight (8) foot side set-backs, twenty-five (25) foot rear set-backs and thirty (30) foot maximum height for the commercial. Commission Moritz added that staff had also suggested an increased rear setback for the commercial. Ms. MacDonald stated that a stipulation was not included in the staff report for that, it was an item for the Commission to consider. She stated based on the discussion the applicant has expressed that they would rather remove the request to increase the building height than increase setbacks. Mr. Brislin confirmed that was correct, he would prefer to have the standard thirty (30) foot height and standard setbacks.

Commissioner Moritz asked if they could provide eight (8) foot setbacks on each side. Mr. Brislin responded they would not be able to maintain the density required to make the project feasible with eight (8) foot setbacks.

Commissioner Grubb stated that five (5) and eight (8) side set-backs would still put firefighters in danger. He would really like to see ten (10) foot side set-backs.

Ms. Belknap stated the commission had just approved five (5) and eight (8) foot side set-backs for Sherwood Park. She added that greater setbacks make this project far less marketable.

Commissioner Smyers asked if five (5) foot set-backs was roof line to roof line. Commissioner Riggins stated that it is measured from wall to wall.

Commissioner Gutierrez asked what type of commercial businesses are anticipated. Mr. Brislin stated the center would support retail such as a bank or day care. He added that the area is not large enough for a grocery store, but there would be other commercial pads.

Commissioner Hartman opened the public portion of the meeting.

Gordon Brown 1894 E. Judd Rd. in the San Tan Foothills came forward. Mr. Brown stated he thought the property had originally been planned for more commercial. He stated that it is the developers job to create profitability and the county's job is to ensure that current and future residents are protected. He stated there are about 85,000 residents with a few strip malls and lot of fast food restaurants and these residents have to commute. They spend an extra four hours a day commuting to Maricopa County and

this is not what residents want. He stated Pinal County needs to attract people that are entrepreneurial that are going to be the creative and change the future.

Ms. Belknap stated the property Mr. Brown was referring to was the Hatch Property. The property she is representing was never going to be large enough for a movie theater.

Vice-Chairman Riggins stated the plan will need to be reconfigured as a result of the setback changes and the access concerns. He stated the case should be continued to allow the applicant the opportunity to make these changes and bring back an updated packet. Commissioner Moritz stated she was in agreement and would like to see the applicant bring back a proposal showing the five (5) and eight (8) foot side setbacks, 30 foot maximum building height for the commercial portion, 20 foot front setbacks and the stipulation modifications from staff.

Commissioner Vogler stated she would like to see ten (10) foot side setbacks.

Commissioner Riggins asked the applicant if they are in agreement with a continuance and stated that they should look into adding an additional access point. Mr. Brislin stated they would add a third connection at Stardust Drive and would bring back a revised plan in January.

Motion PZ-005-13 and PZ-PD-005-13
Vice-Chairman Riggins made a motion to continue cases PZ-005-13 and PZ-PD-005-13 to the January 16, 2014 Planning Commission Hearing at 9:00 am. Commissioner Grubb seconded the motion. Motion passed unanimously (10-0).

PZ-009-13 – PUBLIC HEARING/ACTION: Ellsworth Enterprises Limited Partnership, landowner/applicant, Iplan Consulting, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District on 220.25± acres to plan and develop the 771 lot Combs Ranch Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-009-13); situated in a portion of the south ½ Section 27, T02S, R08E G&SRB&M, tax parcels 104-22-006P, 006Q, 006R, 006S, and 006T (legal on file) (located on the north side of Combs Rd east of Schnepf Rd in the San Tan Valley area)

PZ-PD-009-13 – PUBLIC HEARING/ACTION: Ellsworth Enterprises Limited Partnership, landowner/applicant, Iplan Consulting, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 220.25± acres to plan and develop the 771 lot Combs Ranch Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-009-13; situated in a portion of the south ½ Section 27, T02S, R08E G&SRB&M, tax parcels 104-22-006P, 006Q, 006R, 006S, and 006T (legal on file) (located on the north side of Combs Rd east of Schnepf Rd in the San Tan Valley area)

Ms. MacDonald read a portion of the staff report and used a PowerPoint. She stated there were 31 stipulations and there was a typo in two of them number 1 and number 2. It needed to be changed from 81.36 to 220.25 acres of land.

Chairman Hartman asked if there was a request for an amended standard on the parking pad on front of the garage. Ms. MacDonald stated no but there was a request on the side set-backs and added the proposed side setbacks for this site are five (5) and ten (10) feet side set-backs.

Jason Sanks, 4387 Capricorn Pl., Chandler, AZ 85249 with IPlan Consulting came forward to address the Commission. He stated they were in compliance with the Pinal County Comprehensive Plan and pointed out that they have provided connections to the existing community to the north. He stated there were many ways in and out of the community.

Greg Stanley
Assistant County Manager

Development Services

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Greg Stanley
Interim County Manager

Memorandum

Date: December 19, 2013

To: Steve Abraham, Planning Manager
Planning and Development Services Department

From: Scott Bender, P.E.
Deputy Public Works Director

Subject: Planned Area Development for BELLA CAMINO, Case No. PZ-PD-005-13

The Public Works Department has reviewed the Planned Area Development for BELLA CAMINO, Case No. PZ-PD-005-13 and recommends that it be approved subject to the following conditions:

1) A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;
2) A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;
3) Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;

    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) and a minimum 70' half street right-of-way dedication along BELLA VISTA RD. (southern boundary) or as approved by the County Engineer.

4) GANTZEL RD. and BELLA VISTA RD. have been identified as a "Route of Regional Significance". Applicant will be required to comply with the

"Regionally Significant Routes for Safety and Mobility, Final Report, December 2008" and the "Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

5) Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;

6) The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals;

7) Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer;

Greg Stanley
Assistant County Manager
Development Services

Don Gabrielson
Air Quality Director

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Greg Stanley
Interim County Manager

MEMORANDUM FROM AIR QUALITY

Date: September 6, 2013

To: Ashlee MacDonald

Cc: P & Z Review Committee

From: Anu Jain - Permit Engineer

Re: Planning & Zoning Cases

I have reviewed the following Planning & Zoning cases:

Date	Case #	Applicant	Project	*Response
9/19/13	PZ(PD)-005-13	Ironwood 80, LLLP	Bella Camino	See Comments 1 & 2
9/19/13	SUP-006-13	Marva Austin	Austin Roping Camp	See Comments 1 & 2
9/19/13	SUP-007-13	Michael Wiederhold	Dog Kennel	See Comments 1 & 2
9/19/13	SUP-008-13 & PZ-PA-006-13	Gary Armstrong	PAD – SFR	See Comments 1 & 2
9/19/13	SUP-009-13	Tim Dutra	Rancho San Manuel MHP	See Comments 1 & 2

***Comments:**

1. The above proposed Planning and Zoning cases should have a paved road arterial access to the project, paved road access within the project and paved parking lots.

2. Dust registration is required if 0.1 acres or more land is disturbed.

Note:
All construction activity must conform to the earthmoving activity requirements of the Pinal County Air Quality Control District.

Maricopa County

Parks & Recreation Department

234 N. Central, Suite 6400
Phoenix, Arizona 85004-2208
Phone: (602) 506-2930
Fax: (602) 506-4692

To: Steve Abraham, Planning Manager, Pinal County Planning and Development Services Department

From: Leigh Johnson, Park Planner

Re: Bella Camino (PZ-PD-005-13)

Date: November 20, 2013

The Maricopa County Parks and Recreation Department (MCPRD) attempts to meet customer needs based on generally accepted standards for quality parks and outdoor recreation services. Development that increases density impacts parks and trails with an increase in facility use and the resulting need for additional maintenance and services.

MCPRD has reviewed the exhibits that were provided via compact disk and raises no objections regarding this case number at this time.

Thank you for the opportunity to review the proposed development and to provide comment.

Within 600'

Ashlee MacDonald

From: Judy Allen <meerkat20@comcast.net>
Sent: Tuesday, November 19, 2013 11:37 AM
To: Ashlee MacDonald; 'Judy Allen'
Subject: PZ-PD-005-13

Ashlee MacDonald, Planner II

We are in favor of Ironwood 80, LLLP, landowner and Harvard Investments, Inc., applicant request for a zone change from GR (General Rural) to (R-7) Single Family Zoning and (C-1) Neighborhood Commercial Zoning District. We would like to thank them for investing their time and resources in Pinal County and wish them the best in their new endeavor.

Sincerely,

Randolph A. Allen

MINUTES OF THE BELLA CAMINO PAD ZONING NEIGHBORHOOD MEETING
JUNE 18, 2013

The Bella Camino PAD zoning neighborhood meeting was held at the Circle Cross Ranch K-8 School Cafeteria on June 18, 2013 at 5:00 p.m. as noticed in the mailer attached as Exhibit "A". The mailer was sent to approximately 450 area residents. Four people attended and the Sign-in Sheet is attached as Exhibit "B" (Note – Mr. Estes' wife attended but declined to sign in).

The Bella Camino PAD was represented by Jason Hadley of Hadley Design Group and Tim Brislin of Harvard Investments. Jason and Tim provide an overview of the Bella Camino plan to the attendees and answered questions posed by the attendees. The following questions were asked and answered:

1. What are your plans for the commercial corner?
   Answer: Harvard currently plans to hold the property for investment until there is market demand for commercial uses.

2. What are your points of access?
   Answer: We are planning an access point off of Ironwood/Gantzell Road and Bella Vista Road. As of right now we do not envision an access point off of the existing collector road (Stardust Drive).

3. What is the current general plan for this property?
   Answer: The current general plan designation for this property is Medium Low Density Residential (1-3.5 DUA).

4. What lot sizes will be on this site?
   Answer: The conceptual PAD site plan shows 45' and 55' wide lots. This is representative of what the owner intends to process on a future plat, however, at present the lot sizes, configuration, and roadways shown on the site plan are still conceptual. The lot sizes in the neighboring Rancho Bella Vista north are a mix of similar lot sizes, with existing 45' wide lots bordering Bella Camino on its western boundary.

5. What is the Arizona State Trust Land sale process?
   Answer: All of the land contained in Bella Camino is owned by Harvard Investments, not the State of Arizona. Arizona has a public auction process to sell its land, but that is completely separate from this matter.

6. When will site development start?
   Answer: The start of land development is completely dependent on the market. We are working hard to process the PAD zoning and preliminary plat by the end of 2013, and a final plat in the first part of 2014. If a builder becomes interested at that point in time (i.e. mid 2014), then land development could conceivably begin in the second half of 2014. However, this timeline is not set today and the start of land development could be farther in the future.

EXHIBIT "A"

NEIGHBORHOOD MEETING ANNOUNCEMENT

PROPOSED REZONING & PLANNED AREA DEVELOPMENT FOR BELLA CAMINO

MEETING DATE: Tuesday, June 18, 2013

MEETING TIME: 5pm – 7pm

MEETING PLACE: Circle Cross Ranch K-8 School
35900 North Charbray Drive
Queen Creek, AZ 85143

REQUEST: Rezoning with a Planned Area Development (PAD) overlay for single family residential and commercial uses.

PROPOSAL: The Pinal Comprehensive Plan designates the property as "Medium Low Density" allowing for single family residential housing and some commercial uses. The property owner seeks to accomplish the following goals with the rezoning and PAD: (1) create a high quality single family residential community including various home products at an average of 3.5 units per acre, open spaces, and amenities; and (2) reserve an area for commercial opportunities at the intersection of two major arterial roadways.

PROPERTY LOCATION: Northwest corner of Vineyard Road & Bella Vista Road in San Tan Valley, Pinal County, AZ.

SIZE: Approximately 81 acres

PROPERTY BOUNDARIES:

NORTH:	Roberts Road alignment
SOUTH:	Bella Vista Road
WEST:	Rancho Bella Vista North
EAST:	Vineyard Road

COMMENTS OR QUESTIONS MAY BE DIRECTED TO:

Tim Brislin, Harvard Investments
17700 N. Pacesetter Way Suite 100
Scottsdale, AZ 85255
Phone: 480-515-3255
tbrislin@harvardinvestments.com

This is not a public hearing with the Pinal County Planning and Zoning Commission or the Board of Supervisors. However, you may receive such a notice at a future date if the PAD Amendment and rezoning application is filed with Pinal County and is scheduled for hearing.

BELLA CAMINO NEIGHBORHOOD MEETING SIGN-IN SHEET

MEETING DATE: JUNE 18, 2013 5-7 PM, PLACE: CIRCLE CROSS RANCH K-8 SCHOOL

#	NAME	COMPANY (If applicable)	STREET ADDRESS	CITY	STATE	ZIP	CONTACT INFORMATION
1	FRANK TRCKA	—	[redacted]				
2	Darline Reimer						
3	HENRY ESTES						
4							
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Page 1

EXHIBIT "B"

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Pinal County Web Map

5/29/2013

1,200' maps for Neighborhood mtg

Pinal County does not guarantee the information contained in this map to be an accurate representation of actual existing conditions

APPLICATION FOR CHANGE OF ZONING REGULATIONS IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA

(All applications must be typed or written in ink.)

1. Pinal County Staff Coordinator: Travis Ashbaugh
2. Date of Concept Review: 5 / 21 / 13 Concept Review No.: CR - 018 - 13
3. The Legal Description of the Property: see attached
4. Tax Assessor Parcel No(s).: 210-17-001A, 210-17-002
5. Current Zoning *(Please provide Acreage Breakdown)*: GR R-7 (71.19 acres); C-1 (10.17 acres); PAD Overlay
   Requested PAD Overlay District *(Please provide Acreage Breakdown)*:
6. Parcel Size(s): 81.36 acres
7. The existing use of the property is as follows: agriculture R-7 (71.19 acres); C-1 (10.17 acres)
8. The exact use proposed under this request: PAD Overlay - single family residential with supporting commercial uses
9. Is the property located within three (3) miles of an incorporated community?
   ☐ YES ☒ NO
10. Is an annexation into a municipality currently in progress?
    ☐ YES ☒ NO
11. Is there a zoning violation on the property for which the owner has been cited?
    ☐ YES ☒ NO

    If yes, zoning violation # _____
12. Discuss any recent changes in the area that would support your application i.e.: zone change(s), subdivision approval, Planned Area Development (PAD), utility or street improvements, adopted comprehensive/area plan(s) or similar changes. see attached narrative
13. Explain why the proposed development is needed and necessary at this time. see attached narrative

RECEIPT #: AMT: DATE: CASE:

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. ***Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.***

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Ironwood 80, LLLP
[Insert Name – If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of approx. 81 acres located at northwest corner of Bella Vista Rd and Gantzel Rd
[Insert Address of Property]

and further identified as assessor parcel number 210-17-001A, 210-17-002 ***[Insert Parcel Number]*** and legally described as follows:

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints
Dana Belknap, Gallagher & Kennedy
[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

_____ _____
[Signature] ***[Signature]***
Dated: _____ Dated: _____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, _____
By _____.
[Insert Name of Signor(s)]

My commission expires _____ _____
Notary Public

[Corporate PROPERTY OWNER signature block and acknowledgment The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

Ironwood 80, LLLP by its General Partner
Harvard Ventures Inc.
[Insert Company or Trustee's Name]

By: _____
[Signature of Authorized Officer or Trustee]

Its: Vice President
[Insert Title]

Dated: 10-24-13

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me, this ____ day of _____, _____
by _____ _____
[Insert Signor's Name] *[Insert Title]*
_____, an _____
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*
and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: _____

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

On this 24th day of October, 2013, before me, the undersigned, personally appeared
Christopher J. Caehers Who acknowledged himself/herself
[Insert Signor's Name]
to be Vice President of Harvard Ventures Inc.
[Title of Office Held] *[Second Company]*
As General Partner for Ironwood 80, LLLP, and who being
[i.e, member, manager, etc.] *[Owner's Name]*
authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

_____
Notary Public

My commission expires: 10/26/16

MARY I. TAYLOR
Notary Public - Arizona
Maricopa County
My Comm. Expires Oct 26, 2016

REVISED MARCH 2013

PAGE 7

Bella Camino

Legal Description

PARCEL NO. 1:

THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT THE FOLLOWING DESCRIBED PARCEL:

THE EAST 90.00 FEET OF THE EAST HALF OF THE NORTH 120.00 FEET OF THE SOUTH HALF OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA;

EXCEPT ALL OIL, GAS OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF A GASEOUS NATURE, COAL, MINERALS, FOSSILS, FERTILIZER OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM, OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNITED STATES, OR OF THIS STATE, OR DECISIONS OF THE COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIAL, WHETHER OR NOT OF COMMERCIAL VALUE AND THE EXCLUSIVE RIGHT THERETO, ON, IN, OR UNDER THE ABOVE DESCRIBED LANDS, AS SET FORTH IN INSTRUMENT RECORDED IN DOCKET 903, PAGE 37.

PARCEL NO. 2:

THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT ALL OIL, GAS OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF A GASEOUS NATURE, COAL, MINERALS, FOSSILS, FERTILIZER OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM, OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNITED STATES, OR OF THIS STATE, OR DECISIONS OF THE COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIAL, WHETHER OR NOT OF COMMERCIAL VALUE AND THE EXCLUSIVE RIGHT THERETO, ON, IN, OR UNDER THE ABOVE DESCRIBED LANDS, AS SET FORTH IN INSTRUMENT RECORDED IN DOCKET 903, PAGE 37.

SUPPORTING INFORMATION

1. Note any services that are not available to the site. Discuss any improvements of services that would be paid for by the public:
see attached narrative

2. What is the amount of traffic to be generated (# of trips/day, deliveries/week)? Show ingress/egress on the site plan:
see attached narrative

3. How many parking spaces are to be provided (employees and customers)? Indicate these parking spaces on the site plan:
see attached narrative

4. Is there a potential for excessive noise (I.E.; children, machinery) or the production of smoke, fumes, dust or glare with this proposed land use? If yes, how will you alleviate these problems for your neighbors?
no

5. What type of landscaping are you proposing to screen this use from your neighbors?
see attached narrative

6. What type of signage are you proposing for the activity? Where will the signs be located?
see attached narrative

7. If the proposed land use involves any type of manufacturing or production process, provide a short synopsis of the processes utilizing diagrams, flowcharts and/or a short narrative: N/A

8. Explain how the appearance and operation of the proposed land use will maintain the integrity and character of the zone in which the use is requested:
see attached narrative

9. Have you discussed possible conditions that may be placed on the approval with the Planning Department? ☐ YES ☒ NO

10. Do you understand that if a condition is violated, that there is a public process by which your zoning may be reverted? ☒ YES ☐ NO

APPLICATION CHECKLIST

FOR A PROPOSED ZONE CHANGE
IN UNINCORPORATED PINAL COUNTY

☒ A. Check the appropriate item:

- ☐ This Zone Change is being submitted without a PAD request
- ☒ This Zone Change is being submitted in conjunction with a PAD request. The applicant must complete a PAD application. – ***(Please utilize the "PAD Book" and the "Site Plan" of the PAD application to fulfill the Zoning Application "Narrative" and "Site Plan" in lieu of while having separate copies for each application).***

☒ B. Hold a Neighborhood/Community Meeting:

- ☒ **1.** Notify all property owners within 1200' (feet)
- ☒ **2.** Hold the meeting within five (5) miles of the subject property
- ☒ **3.** Hold the meeting between 5:00 pm – 9:00 pm
- ☒ **4.** Include with the application the following:
  - ☒ **a.** Copy of Notice of Neighborhood/Community Meeting
  - ☒ **b.** List of property owners notified - ***(Use page 5 of this application)***
  - ☒ **c.** Minutes of the meeting
  - ☒ **d.** Attendance sign-in sheet with names & addresses

☒ C. **Submit** a completed **"Agency Authorization"** form *(if applicable)*.

☐ D. **Submit** a written **Narrative** concerning the proposed development ***(if not submitting in conjunction with a PAD Application)*** to include:

submitting in conjunction with a PAD

- ☐ **1.** Title Page
- ☐ **2.** Purpose of Request
- ☐ **3.** Description of Proposal
  - ☐ **a.** Nature of the Project
  - ☐ **b.** Proposed Land Use
  - ☐ **c.** Conformance to adopted Comprehensive Plan
  - ☐ **d.** Answers to the questions from the **Supporting Information** sheet
- ☐ **4.** Location & Accessibility

☐ **5.** Utilities & Services

☐ **6.** Neighborhood Meeting Information

☐ **7.** Appendix, as applicable

☐ **E.** **Submit a Site Plan** ***(if not submitting in conjunction with a PAD Application).*** The submittal shall be professionally prepared (*by a surveyor, architect, or other design professional*) and drawn at a sufficient scale as to not exceed a print size larger than 11" X 17". The lettering shall be of sufficient size to be legible when reduced to an 8½" X 11" print and include: *submitting in conjunction with a PAD*

☐ **1.** Legal Description of total site.

☐ **2.** Name(s) of Landowner(s), Developer, Applicant and Person or Firm preparing plan.

☐ **3.** North Arrow, Scales (*written and graphic*), Preparation Date and Subsequent Revision Dates.

☐ **4.** Location of all Existing & Proposed Structures & Buildings

☐ **5.** Location of all Existing & Proposed Utilities with Location & Width of Associated Easements.

☐ **6.** All Existing & Proposed Public and/or Private Streets with Location & Width of Associated Easements & Right-of-Ways.

☐ **7.** All Points of Ingress & Egress.

☐ **8.** Location & Types of Existing & Proposed Landscaping.

☐ **9.** Indicate Location, Type, Height, & Materials for Proposed Walls, Fences & Signs.

☐ **10.** Show whether the property is adjacent to a projected regionally significant route (RSR) as identified on the Corridor Preservation Map (Figure 9) in the Regionally Significant Routes for Safety and Mobility (RSRSM), Final Report. If adjacent to a projected RSR, show how applicant will comply with the RSRSM Final Report and the RSRSM Access Management Manual.

☒ **F.** **Submit** the following information regarding **Water Supply**: *See preliminary report, attached*

☐ **1.** Identify the water service provider

☐ **2.** Provide an estimated range of water demand and include an explanation of the method used to obtain the estimate

☐ **3.** Provide information about water supply and source, including renewable and non-groundwater supplies

☐ **4.** If a portion of the water supply for the proposed project is groundwater, the application shall be accompanied by the following information that is publicly available from the Arizona Department of Water Resources (ADWR) and/or Arizona Geological Survey, or otherwise available to the land owner:

- ☐ **a.** Depth to bedrock
- ☐ **b.** Depth to groundwater
- ☐ **c.** Known fissures or land subsidence in the area
- ☐ **d.** Known wells in the area, available information on status and water levels
- ☐ **e.** Summary of data-gathering efforts and sources of information

☒ **G.** **Submit** a copy of a certified **A.L.T.A.** survey, including a legal description of proposed zoning districts.

☒ **H.** **Aware** that earth fissure maps are available online from the Arizona State Geologic Survey.

☒ **I.** **Submit a list of all property owners within 600' (feet)** of the subject property boundary showing name, mailing address and tax parcel numbers. This list must be obtained within 30 days prior to application submission. A map showing the 600' boundary and parcels must be included as well (*A Tax Assessor Parcel Map is Acceptable*). - ***(This list is a separate list from the "Neighborhood/Community Meeting list of 1,200' however use Page 5 of this application as well).***

☒ **J.** **Complete** and **Submit** the **"Comprehensive Plan Compliance Checklist"**

☐ **K.** **Submit** the Non-Refundable fees for a Special Use Permit outlined on page one of the Zone Change Application. *N/A*

☒ **L.** **Submit** one **(1) hard copy** of all documentation outlined in the Zone Change application and one **(1) digital copy** in a multi-PDF format per item of the application with all supporting documentation on **one (1) CD.**

☒ **M.** **Submit** one (1) CD which contains:

☐ **1.** An ESRI shapefile for land use (conceptual) which shows all proposed zoning lines and zoning classifications for the project in NAD_1983_stateplan_arizona_central_fips_0202_intlfeet projection

OR

☐ **2.** An AutoCAD (.dwg file), which includes the following layers:

- ☐ **a.** Parcel
- ☐ **b.** Right-of-way
- ☐ **c.** Sub-perimeter

- ☐ **d.** Centerlines
- ☐ **e.** Section Lines
- ☐ **f.** Street names
- ☐ **g.** Lot-numbers
- ☐ **h.** Distances & Bearings tied by course and distance to two Pinal County survey control points or established city or county survey monuments. *(Information on these control points can be obtained from Public Works, Engineering Technicians at 520-866-6411).*

☒ **N.** **Aware to Install Broadcast Notification Sign(s) on the site in conformance with the information shown in this application.** (*See page 12 & 13 of this application for illustrative details*).

☒ **O.** Signature at the end of the **"Checklist"** stating you have reviewed and addressed all areas within it.

I certify that I have submitted all the required information listed above, and I understand that this application for a Zone Change cannot be processed until all required information is submitted.

N Bell 6/28/13

Signature Date

APPLICATION FOR A PLANNED AREA DEVELOPMENT (PAD) OVERLAY DISTRICT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA

(All applications must be typed or written in ink.)

1. Pinal County Staff Coordinator: Travis Ashbaugh
2. Date of Concept Review: 5 / 21 / 13 Concept Review No.: CR - 018-13
3. The Legal Description of the Property: see attached
4. Tax Assessor Parcel No(s).: 210-17-001A, 210-17-002
5. Current Zoning *(Please provide Acreage Breakdown)*: GR
   Requested PAD Overlay District *(Please provide Acreage Breakdown)*: R-7 (71.19 acres); C-1 (10.17 acres; PAD Overlay
6. Parcel Size(s): 81.36 acres
7. The existing use of the property is as follows: agriculture
8. The exact use proposed under this request: R-7 (71.19 acres); C-1 (10.17 acres); PAD Overlay - ~~single family residential with supporting~~ commercial uses
9. Is the property located within three (3) miles of an incorporated community?
   ☐ YES ☒ NO
10. Is an annexation into a municipality currently in progress?
    ☐ YES ☒ NO
11. Is there a zoning violation on the property for which the owner has been cited?
    ☐ YES ☒ NO

    If yes, zoning violation # _____
12. Discuss any recent changes in the area that would support your application i.e.: zone change(s), subdivision approval, Planned Area Development (PAD), utility or street improvements, adopted comprehensive/area plan(s) or similar changes. see attached narrative
13. Explain why the proposed development is needed and necessary at this time. see attached narrative

RECEIPT #: AMT: DATE: CASE:

NAME OF PROJECT: Bella Camino PLANNED AREA DEVELOPMENT

AMENDED PERMITTED USE LIST

Proposed Zoning	Uses that will NOT be permitted in this Planned Area Development
R-7 PAD	Uses not permitted in the R-7 zoning district by County Code will not be permitted in the Bella Camino R-7 PAD
C-1 PAD	Uses not permitted in the C-1 zoning district by County Code will not be permitted in the Bella Camino C-1 PAD

NAME OF PROJECT: Bella Camino PLANNED AREA DEVELOPMENT

AMENDED PERMITTED USE LIST

Proposed Zoning	Uses that **WILL BE** permitted in this Planned Area Development
R-7 PAD	All uses permitted in the R-7 zoning district by County Code
C-1 PAD	All uses permitted in the C-1 zoning district by County Code

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

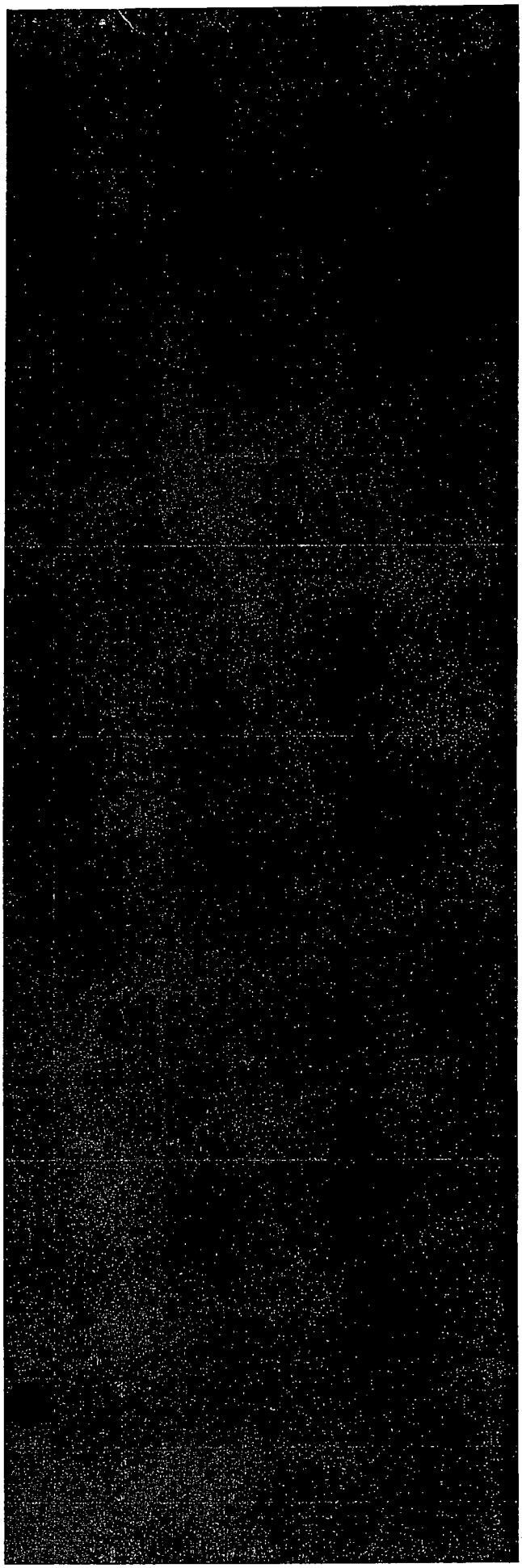
Ironwood 80 LLLP	17700 N. Pacesetter Way #100 Scottsdale AZ 85255	480-348-1118
Name of Landowner (Applicant)	Address	Phone Number

[signature]	hbrisling@harvardinvestments.com
Signature of Landowner (Applicant)	E-Mail Address

Dana Belknap, Gallagher Kennedy, 2575 E Camelback Rd, Phx, AZ 85016	602-530-8348
Name of Agent Address	Phone Number

[signature]	dsb@gknet.com
Signature of Agent	E-Mail Address

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.



Bella Camino

Gantzel and Bella Vista Roads

Preliminary Drainage Report

Zoning/PAD

Job No. 12001060

Prepared for

Harvard Investments
17700 North Pacesetter Way
Scottsdale, Arizona 85255

Prepared by

Atwell, LLC
4700 E Southern Avenue
Mesa, Arizona 85206

July, 2013

ATWELL

PRELIMINARY DRAINAGE REPORT FOR
BELLA CAMINO
BELLA VISTA AND GANTZEL ROADS

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APPENDIX

APPENDIX A	FIGURE 1 – Aerial Photo of Surrounding Area
	FIGURE 2 – Aerial Photo of Site
	FIGURE 3 – Vicinity Map
	FIGURE 4 – Flood Insurance Rate Map
	FIGURE 5 – USGS Map, Offsite Drainage Basins
	FIGURE 6 – Conceptual Site Plan
APPENDIX B	Preliminary Calculations

1.0 INTRODUCTION

This Preliminary Drainage Report has been prepared to evaluate the existing and proposed drainage conditions for the Bella Camino site and to identify potential impacts relating to the Sanokai Wash storm water flows. The off-site storm water flow discussed below is primarily based upon the hydrology analysis prepared for the development of Rancho Bella Vista South (RBVS) located just upstream of this site. That analysis estimates the offsite storm water discharges directed to this site. This report will describe potential impacts to the site that are related to these offsite flows and how the proposed site will accommodate them. This report will also describe the proposed drainage improvements for the Bella Camino development to support the zoning and PAD application.

2.0 LOCATION AND SITE DESCRIPTION

Bella Camino is an 81-acre site located on the northwest corner of Bella Vista and Gantzel Roads. This site is more specifically described as being located within the east half of the SE1/4 of Section 17, Township 3 South, Range 8 East of the Salt River Base and Meridian, Pinal County Arizona (see Figures 1, 2 and 3). The site is bordered by the development of Rancho Bella Vista to the west; Bella Vista Road and Johnson Ranch to the south; undeveloped farmland and Gantzel Road to the east and undeveloped farmland to the north. The Bella Camino site was previously used as farmland and consisted primarily of row crops. The average slope of the site is 0.2 percent, draining in a northerly direction.

Bella Camino is proposed to consist of 258 single family lots and 5.6 net acres of commercial development. It will provide adequate open space to support amenities including area for the Sanokai Wash and onsite retention basins.

The upstream development of Rancho Bella Vista South (RBVS) is a 649-acre development comprised of 756 single-family residential homes, a 17-acre school site, a 9-acre park site and approximately 57-acres of open space reserved for storm water drainage and retention. Rancho Bella Vista South is located southeast of the Bella Vista Road and Gantzel Road intersection. That development is important to Bella Camino because the upstream Sanokai Wash passes through and is controlled by RBVS. The RBVS report establishes the flows and conditions for that developed portion of the Sanokai Wash. The Bella Camino site is in the path of the Sanokai Wash and its storm water flows will impact the site.

3.0 FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) MAP

The project site is located entirely within Zone 'X" as defined by FEMA Flood Insurance Rate Map (FIRM) No. 040077-0475-E, Pinal County, Arizona, effective date 12/4/2007 (see Fig. 4). Zone "X" is described by FEMA as being "areas determined to be outside the 0.2% annual chance flood plain".

4.0 OFFSITE HYDROLOGY ANALYSIS

4.1 Referenced Offsite Studies

A HEC-1 hydrologic computer model of the Sanokai Wash and the Queen Creek Wash, prepared by Huitt-Zollars for the Flood Control District of Maricopa County (FCDMC), is referenced by Pinal County engineers for obtaining design flows for new developments in the area. This study provides a peak discharge of 5,900 cfs where the Sanokai Wash crosses Roberts Road. This is the nearest available junction to the project site, approximately 1.0 mile downstream. This junction, however, also has larger contributing areas from the east side of the Union Pacific Railroad and west of Hunt Highway that do not contribute to the Bella Camino site. Interpolating a design discharge for this site would yield a very unrealistic flow value; therefore, a separate offsite hydrologic model was created in the RBVS Master Drainage Report.

In January 2004, an updated version of Huitt-Zollar's HEC-1 model was completed by Pinal County using the U.S. Army Corps of Engineers HEC-HMS software. The analysis was also reviewed and accepted by engineers at the FCDMC. A copy of this model was obtained by JMI to be used as a guideline for creating the RBVS offsite hydrologic model. Copies of this report are available upon request.

There was also a drainage study prepared by Kimley-Horn and Associates, Inc for Ironwood Road from Bella Vista Road to Combs Road- Phase C. This study was prepared for the expansion of the road from two lanes to 4 lanes. This study is significantly different from the Bella Vista South Report in that it does not account for any flows crossing Hunt Highway. Although the Hunt Highway and upstream irrigation canals will provide some upstream retention, flows will cross the highway in a 100-year event. Therefore, the flows determined in the RBVS report will be used for design of Bella Camino.

4.2 HEC-HMS Model

A HEC-HMS hydrologic model was created by JMI for the Rancho Bella Vista South development to define the offsite design discharges for that site. Exhibit 1 and Appendix C of the RBVS report show the offsite watershed exhibit and a complete summary of parameters used in the model. According to that report, the total contributing drainage area of the Sanokai Wash at Bella Vista Road was defined at 10,239 acres per USGS Quadrangle maps. The results of the HEC-HMS model by JMI show a predeveloped 100-yr, 24-hr peak discharge of 2,066 cfs of the Sanokai Wash at Bella Vista Road.

This discharge will cross the farmland just north of Bella Vista Road and eventually cross Gantzel Road. Large portions of these off-site flows will cross the northeasterly corner of Bella Camino. There is an existing 24" pipe under Gantzel that establishes where this offsite flow cross Gantzel Road. The 24" pipe conveys the lesser flows and bleed-off from RBVS. The remainder of the larger flows will cross over Gantzel Road; enter the Bella Camino site and also discharge into the roadway ditches on both sides of Gantzel Road. Portions of this flow will remain in the Gantzel Road right of way and continue north and not affect Bella Camino. However, Bella Camino will need to prepare a design that will be capable of accepting all the Sanokai Wash flows, convey them through the site and discharge them in their historic condition.

4.3 Offsite Watersheds Along Railroad Track

According to the Rancho Bella Vista South Report, large culvert structures or trestles were not found across the railroad tracks, adjacent to that site. However, there is a pipe that crosses under the railroad immediately adjacent to RBVS that was not accounted for. The effects of this pipe are being evaluated by Pinal County. Please refer to the Ranch Bella Vista Investigation Mitigation: Phase 3 Design Concept. The impact of that additional off-site flow is not expected to have any significant effect on the peak flows crossing Bella Vista Road at the Sanokai Wash.

4.4 Offsite Watershed Affecting the Bella Camino Site

The drainage conditions that surround the Bella Camino site consist of various offsite storm water flows. The existing developments to the south and west control their storm water and have no significant effect on the site. The farm fields to the north flow away from the site and also do not affect the site. However, the offsite flows from the southeast consist primarily of the storm water flows that develop in the Sanokai Wash alignment and its tributary areas.

The Sanokai Wash typically does not have a defined channel that fully contains the flows throughout most of its alignment, which is especially true for the flows that cross the northeast corner of the Bella Camino site and also upstream and downstream of the site. The upstream storm water flows that leave the Bella Vista South community are in the form of wide and shallow flows. The flow spreads out and crosses Bella Vista Road and continues northwest through farm fields and toward Gantzel Road. Once the flows reach Gantzel Road, most will cross over the Road and enter the Bella Camino site and some will continue north along Gantzel Road. The storm water will then cross the northeast corner of the Bella Camino site. For this reason no entry roads off Gantzel Road are proposed in the area of the Sanokai Wash.

According to the Bella Vista South Report, 2059 cfs will discharge over the spillway also known as Bella Vista Road. This will extend from the intersection of Gantzel Road to 1000' to the east. This flow will spread out across the fields north of Bella Vista Road and continue in a northwest direction. A detailed model will be required to determine the width of this flow. Some portion of these flows will continue north in the roadside swales in Gantzel Road. For purposes of this report and future design, the 2059 cfs will be accepted into the site, be conveyed to the north property line and be discharged in its historic drainage path.

It was determined in the RBVS design that a 10 cell, 10' x 4' box culvert could be constructed in the future when the property to the north develops. This is referred to the ultimate condition. This is the future continuation of the Sanokai Wash. This ultimate condition could potentially be part of a regional solution. It is also understood that a similar box culvert could be required in Gantzel Road adjacent to Bella Camino. If placed in the area of the existing 24" storm drain and channel, this culvert could be placed approximately 1500 feet or more north of the Bella Vista Intersection. Until a regional solution is determined, the final location of this Sanokai Wash crossing at Gantzel Road will be unknown.

In order the maintain the Sanokai Wash alignment, the proposed design of Bella Camino consists of accepting these offsite storm water flows, conveying them through the site and discharging them along the north property line in a manner that is similar to the current conditions. A long basin is being proposed to spread out the flows prior to offsite discharge to maintain these current conditions. The site will also be designed to accommodate a future Sanokai Wash cross section that will cross the property and will be able to convey the flows when development occurs north and east of Bella Camino. Until these areas develop or a regional improvement is made, the site will be designed to accept and discharge these flows in their current conditions.

5.0 ONSITE DRAINAGE EVALUATION

5.1 Drainage Conditions/Design

The offsite storm water affecting the Bella Camino site is described above with the major off-site flows within the Sanokai Wash. A channel to convey 2059 cfs would have a top width of approximately 150'. A typical cross section is shown on Appendix B. This is needed to intercept the offsite flows along Gantzel Road, convey them to the north boundary and then a spreader basin will need to be designed to discharge the flows in their historic conditions. An average 150' wide area adjacent to Gantzel Road is proposed to collect and convey the offsite flows and also accommodate an existing irrigation channel. A spreader basin approximately 75' wide is proposed along the north boundary.

Bank protection will be required on the down slope to protect the bank from erosion from water crossing Gantzel Road. Bank protection will also be required opposite the future box culvert. And bank protection will also be required along the spreader basin spillway along the northerly property line. The spillway and bank protection opposite the culvert will most likely be 8" riprap or other approved hard surface. The Gantzel Road bank protection could be a Pyramat type fabric that would allow for vegetation and planting.

A detailed analysis would be required to establish how much flow continues down Gantzel Road. A calculation is included in this report that indicates the roadside swales could convey 50 cfs each, and won't have a large impact on conveying these offsite flows.

Other than the Sanokai Wash flows, onsite conditions should be subject to a typical design for drainage. Street capacities will be designed to meet County regulations and convey the onsite flows to the retention basins. Scuppers will be used to remove storm water from the streets. The retention requirements will be met on site for the half right of way of Bella Vista and Gantzel Roads, except for the portion of Gantzel Road adjacent to the Sanokai Wash. The onsite design will be subject to the retention requirements discussed below.

5.2 Retention Requirements

A proposed drainage design will need to provide for 100-percent onsite retention for the 100-year, 2-hour storm event. Various retention basins will be placed throughout the site in the open space tracts to meet this requirement, see Figure 6 for open space layout. That layout shows a well-spaced layout for tracts that will provide adequate areas for retention.

The estimated volume required for the Bella Camino site would be estimated as follows. Volume = "C" (.65 for weighted C factor for residential) X "I" (2.25" for the 100-year, 2 hour storm) X "A" (81 acres) = 10 acre-feet. With an average of

2.5' depth, this would require approximately 4 acres of retention area, depending on the shapes and number of basins. The conceptual site plan shown in figure 6 meets this need.

As required by the Pinal County Drainage Ordinance, this development will retain runoff from the 100-year, 2 hour storm event. Bella Camino will primarily use the open space and neighborhood parks as its retention areas and any drainage structures proposed will conform to the Pinal County Drainage Ordinance. However, it should be noted that the retention will only be placed in open space areas that are not part of the Sanokai Wash, so that onsite and offsite flows are not comingled.

The commercial site will retain its own retention within the 5.6 net acres and not discharge water into the residential tracts. The commercial site will also be responsible for its half street retention for Bella Vista and Gantzel Roads along the frontage of the commercial site. All onsite retention basins will discharge into drywells designed to discharge storm water within 36 hours. Also, until such time that the Sanokai Wash is connected upstream and downstream to this site, the storm water runoff captured in the Sanokai Wash area onsite will be discharged into drywells located within the adjacent onsite retention basins.

5.3 Future Sanokai Wash Improvements

As described in the RBVS report, an "in-line" storage volume design of 206 acre-ft was provided on the upstream side of Bella Vista Road before overtopping occurs. This overtopping will occur at an elevation of 1497.06 feet per a weir-analysis of the roadway profile defined in the phase 1 paving plans for RBVS. A dip section currently exists at the same location within Bella Vista Road and is defined as a "wet crossing" because the maximum overtopping depth exceeds 1 foot (1.18 ft at 2,066 cfs).

Three 24-inch bleeder pipes cross Bella Vista Road to drain portions of the RBVS basins. Drywells were installed to ensure those basins will drain the remaining volume within a 36-hr period.

A reservoir (RV-E1.1) was defined in the HEC-HMS computer model to replicate the attenuation provided with the additional storage volume provided with this development. The results of the 100-year, 24-hour model show that the peak discharge of 2,066 cfs will be decreased to 2,059 cfs on the downstream side of Bella Vista Road.

It is anticipated that as future developments occur in this area, Bella Vista Road could see significant improvements, including the construction of a possible reinforced concrete box culvert (RCBC) at the Sanokai Wash. In order to preserve a design headwater of 1497.1 feet and 48.4 acre-feet of required retention volume, a 10-Cell, 10 ft x 4 ft RCBC with an inlet elevation at 1491.0

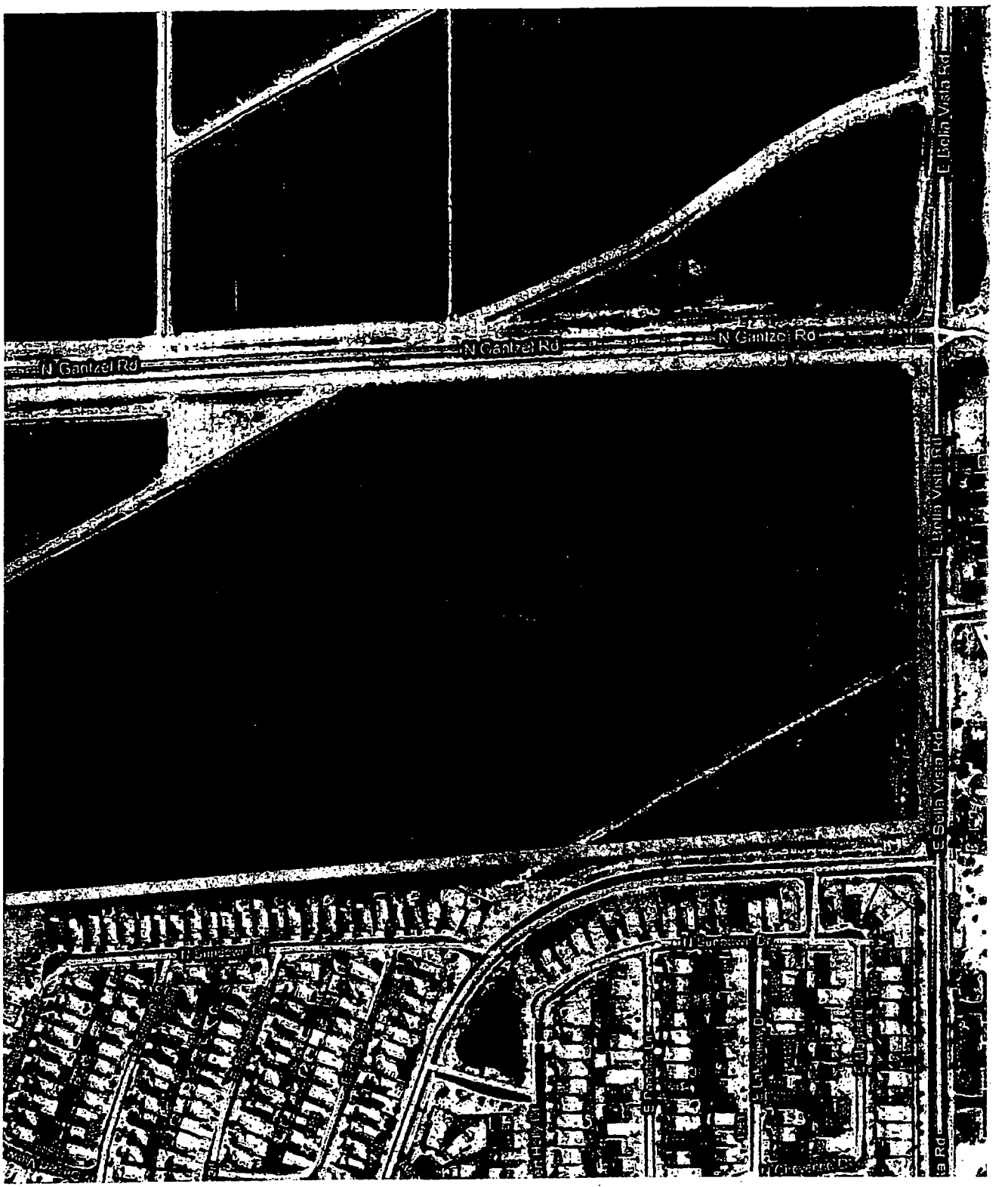
feet was sized to accomplish this. This RCBC structure was rated for a design discharge of 2,066 cfs with an inlet-control headwater and no overtopping at Bella Vista Road.

A similar box culvert will be required at Gantzel Road. This culvert should be designed to convey a minimum flow of 2059 cfs. A preliminary design of this culvert is included in this report, in Appendix B. That design shows that a 7 barrel 5' x 10' box culvert would be required in the future with the regional Sanokai Wash solution. This box culvert will not be constructed as part of this development.

6.0 CONCLUSIONS

This report demonstrates that the site can be developed in accordance with Pinal County Drainage Ordinance. Bella Camino shall be designed to meet the Pinal County requirements, accommodate future wash improvements and preserve historic drainage patterns with no adverse effects to adjacent properties. In order the maintain the Sanokai Wash alignment, the proposed design of Bella Camino consists of accepting these offsite storm water flows, conveying them through the site and discharging them along the north property line in a manner that is similar to the current conditions. Until adjacent properties develop or a regional improvement is made for the Sanokai Wash, the site will be designed to accept and discharge these flows in their current conditions. The proposed development of Bella Camino shall meet or exceed the Pinal County regulations for drainage.

Figure 1


N Gantzel Rd
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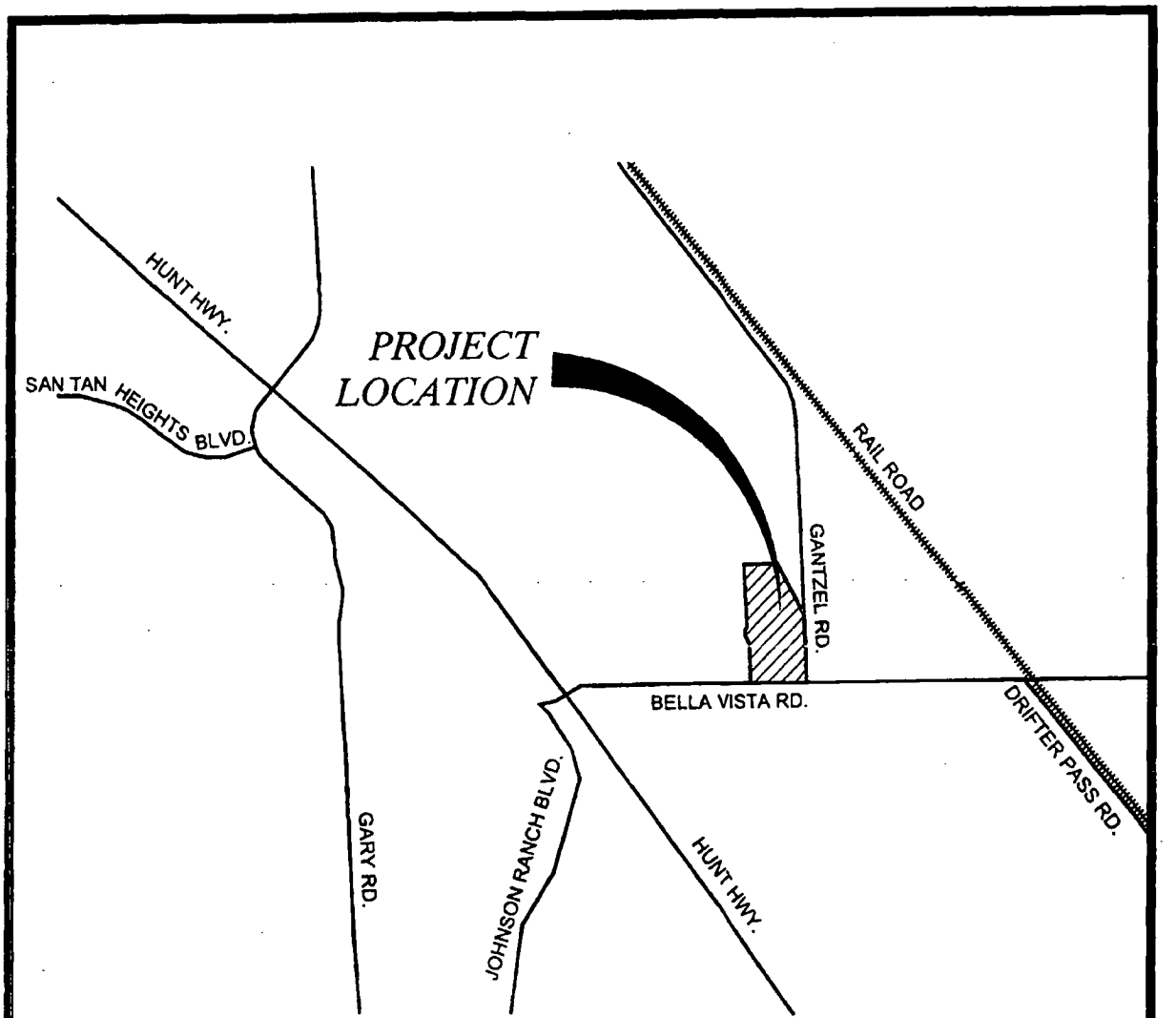
E Bella Vista Rd

Figure 2



N.T.S.

PROJECT LOCATION

ATWELL
866.850.4200 | www.atwell-group.com
OFFICES IN NORTH AMERICA AND ASIA

Land Development & Real Estate
Power & Energy
Telecommunications
Infrastructure & Transportation
Environmental & Solid Waste
Water & Natural Resources

FIGURE 3 - VICINITY MAP

BELLA CAMINO
PINAL COUNTY, AZ

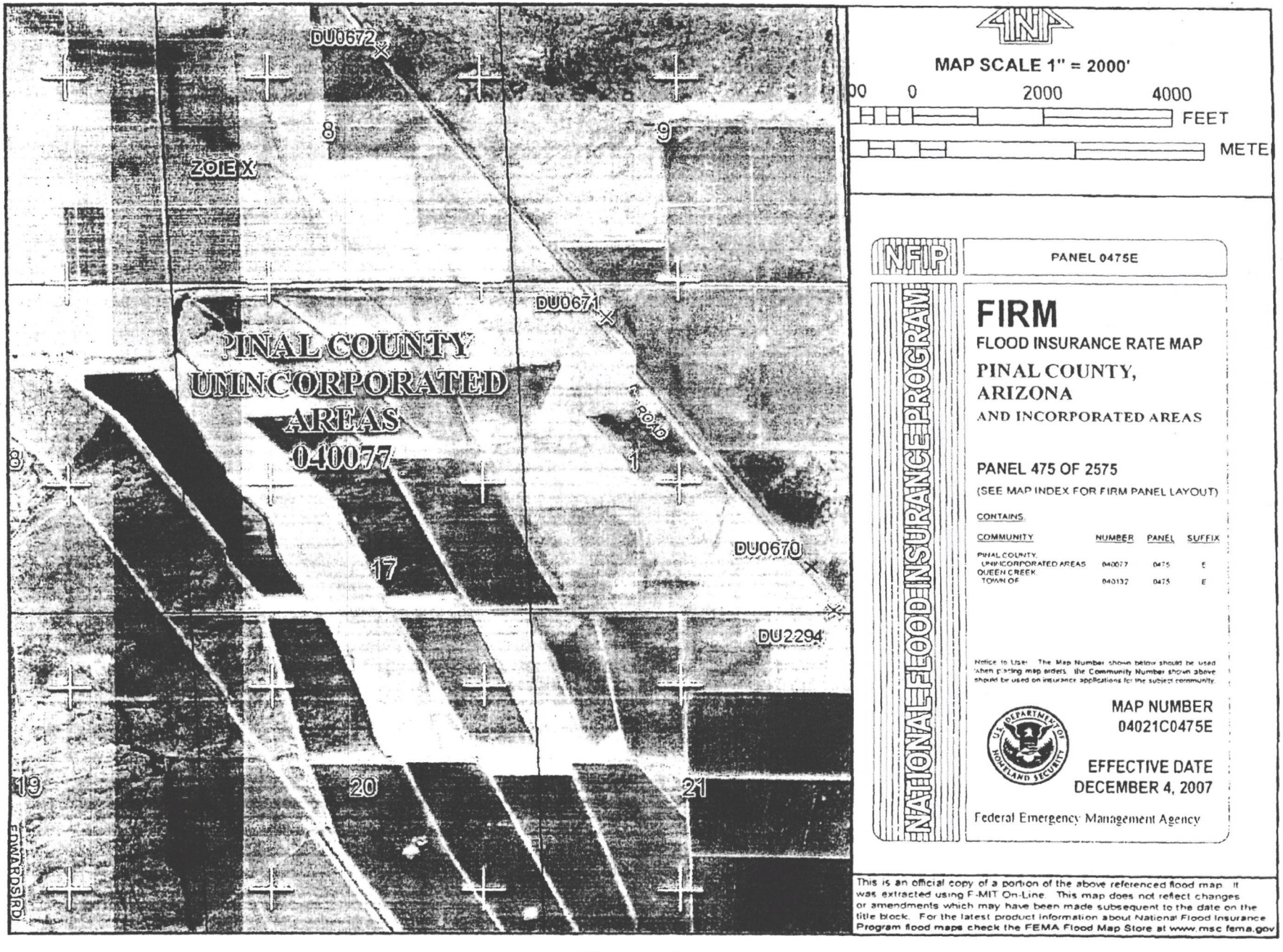

DU0672
ZOIE X
8
9
DU0671
PINAL COUNTY
UNINCORPORATED
AREAS
040077
1
17
DU0670
DU2294
19
20
21
EDWARDS RD
MAP SCALE 1" = 2000'
0
2000
4000
FEET
METE
NFIP
PANEL 0475E
NATIONAL FLOOD INSURANCE PROGRAM
FIRM
FLOOD INSURANCE RATE MAP
PINAL COUNTY,
ARIZONA
AND INCORPORATED AREAS
PANEL 475 OF 2575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY
NUMBER
PANEL
SUFFIX
PINAL COUNTY,
UNINCORPORATED AREAS
040077
0475
E
QUEEN CREEK,
TOWN OF
040132
0475
E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
04021C0475E
EFFECTIVE DATE
DECEMBER 4, 2007
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Figure 4

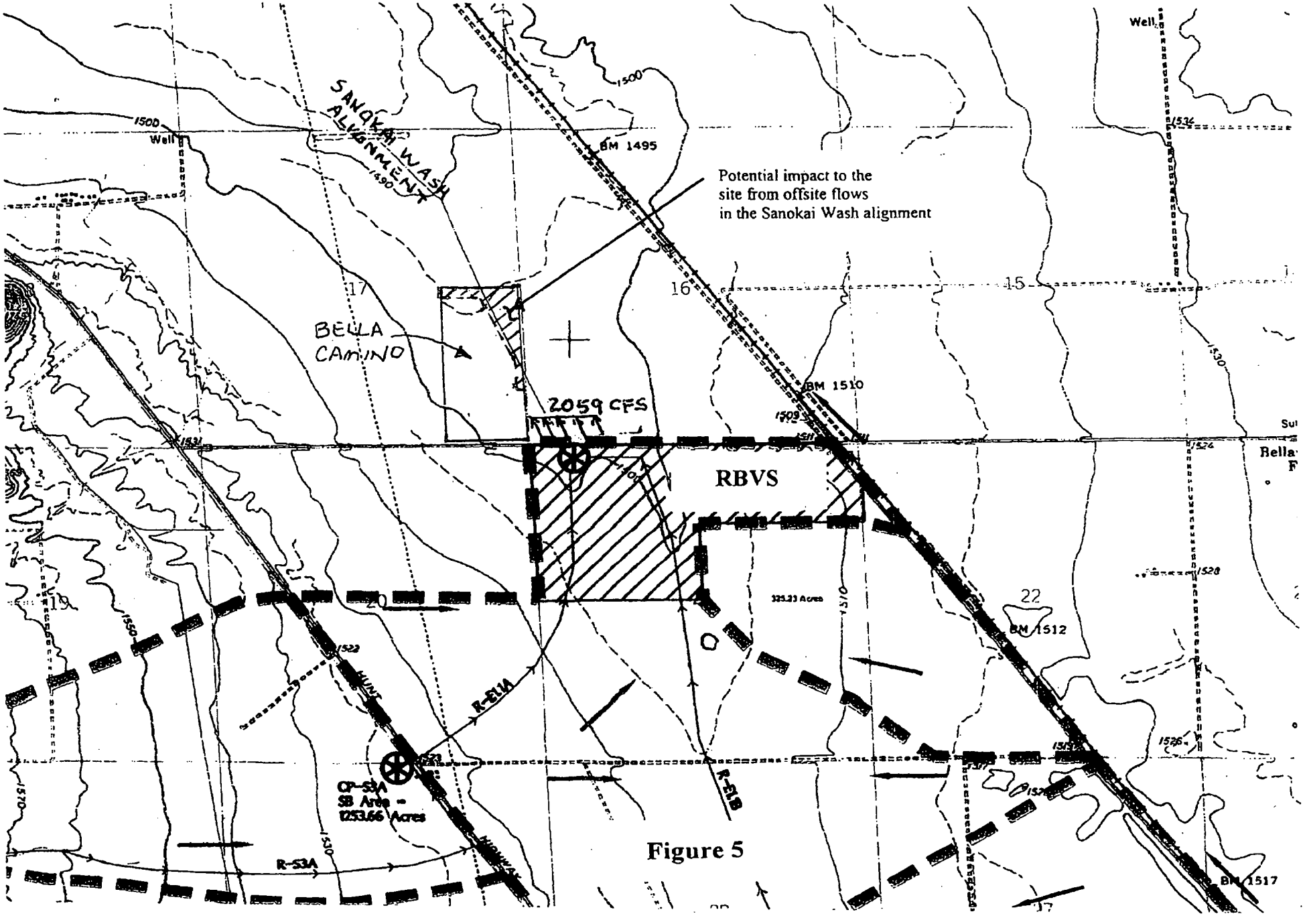
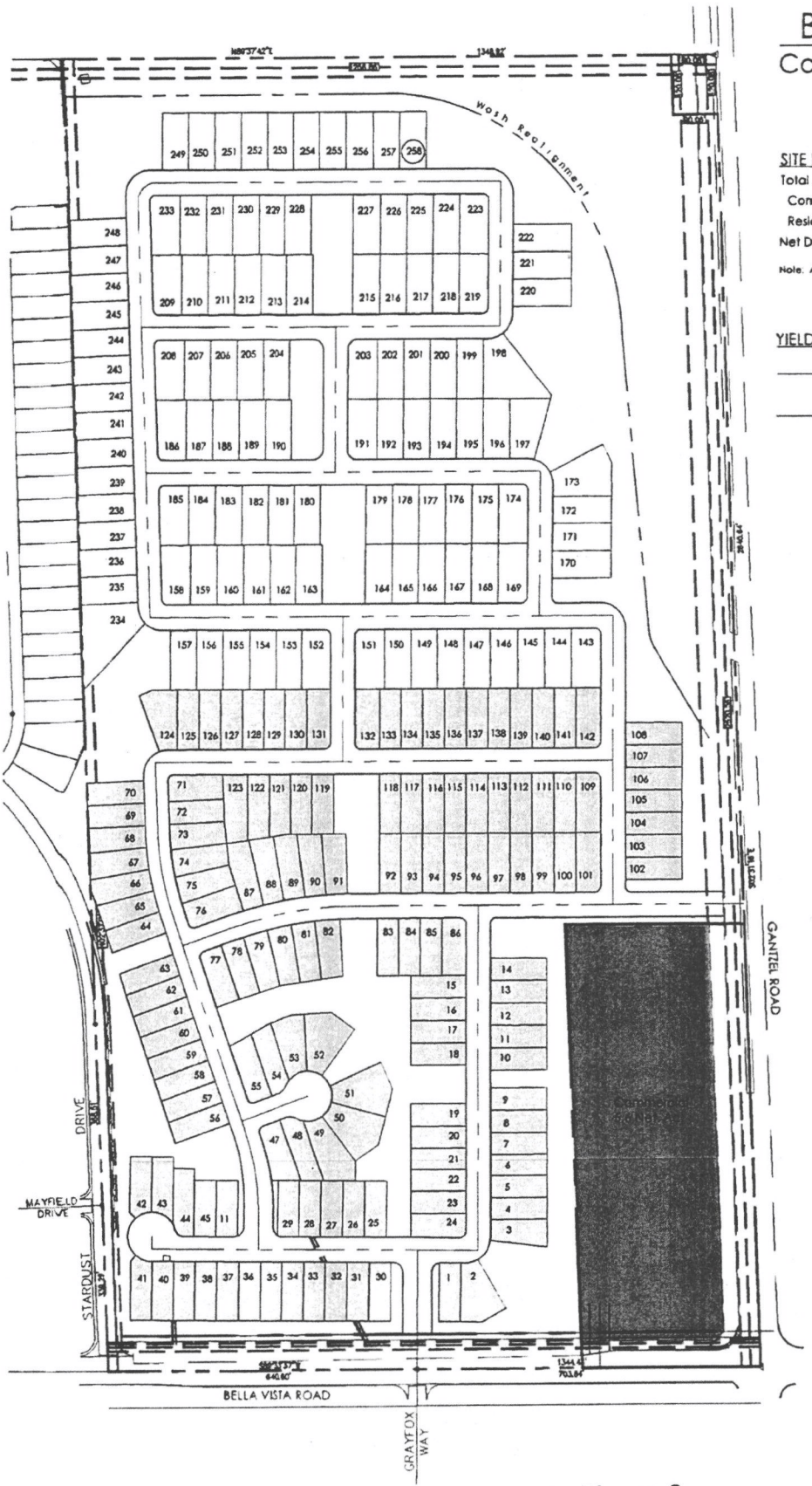

SANOKAI WASH ALIGNMENT
Potential impact to the site from offsite flows in the Sanokai Wash alignment
BELLA CAMINO
2059 CFS
RBVS
BM 1495
BM 1510
BM 1512
BM 1517
R-51A
R-51B
R-53A
CP-53A
SB Area =
125366 Acres
325.23 Acres
Well
HWY

Figure 5



Bella Camino
Conceptual Site Plan

SITE DATA

Total Acres: +/- 81.36 Acres
Commercial Acres: +/- 7.53 (+/-5.6 Net)
Residential Acres: +/- 73.83
Net Density: 3.5 DU/Residential Acre

Note: A minimum of 18% open space will be provided.

YIELD DATA

	Lot Size	Yield	Mix %
	45' x 115'	142	55.0%
	55' x 120'	116	45.0%
		258	100%

north
0' 200' 400'

Date: 25.JUNE.2013

HADLEY DESIGN GROUP
7400 E. McDonald Drive Suite 122
Scottsdale, Arizona 85250
tel 480.478.8093 fax 480.478.8097
www.hadleydesigngroup.com

Figure 6

Appendix B

Calculations

Culvert Design Report
N/A

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	1,500.00	ft	Storm Event	Design	
Computed Headwater Elev	1,499.81	ft	Discharge	2,069.00	cfs
Headwater Depth/Height	0.96		Tailwater Elevation	1,498.00	ft
Inlet Control HW Elev.	1,499.73	ft	Control Type	Entrance Control	
Outlet Control HW Elev.	1,499.81	ft			

Grades					
Upstream Invert	1,495.00	ft	Downstream Invert	1,494.00	ft
Length	150.00	ft	Constructed Slope	0.006667	ft/ft

Hydraulic Profile					
Profile	CompositeS1S2		Depth, Downstream	4.00	ft
Slope Type	Steep		Normal Depth	2.33	ft
Flow Regime	N/A		Critical Depth	3.01	ft
Velocity Downstream	7.39	ft/s	Critical Slope	0.003196	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	10.00	ft
Section Size	10 x 5 ft		Rise	5.00	ft
Number Sections	7				

Outlet Control Properties					
Outlet Control HW Elev.	1,499.81	ft	Upstream Velocity Head	1.50	ft
Ke	0.20		Entrance Loss	0.30	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,499.73	ft	Flow Control	Unsubmerged	
Inlet Type	90° headwall w 45° bevels		Area Full	350.0	ft²
K	0.49500		HDS 5 Chart	10	
M	0.66700		HDS 5 Scale	2	
C	0.03140		Equation Form	2	
Y	0.82000				

Cross Section for Trapezoidal Channel - 1

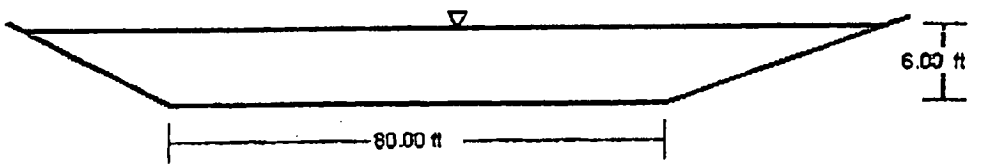
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	6.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	80.00	ft
Discharge	2451.80	ft³/s

Cross Section Image



V: 2
H: 1

Rating Curve for Trapezoidal Channel - 1

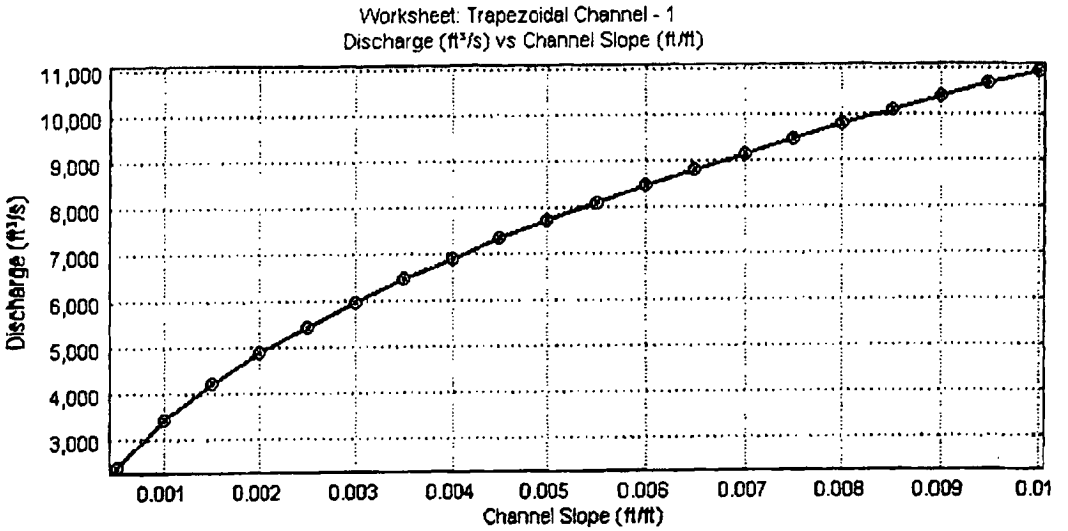
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	6.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	80.00	ft

Rating Curve Plot



Worksheet for Trapezoidal Channel - 1

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	6.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	80.00	ft

Results

Discharge	2451.80	ft^3/s
Flow Area	660.00	ft^2
Wetted Perimeter	141.24	ft
Hydraulic Radius	4.67	ft
Top Width	140.00	ft
Critical Depth	2.89	ft
Critical Slope	0.00675	ft/ft
Velocity	3.71	ft/s
Velocity Head	0.21	ft
Specific Energy	6.21	ft
Froude Number	0.30	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.00	ft
Critical Depth	2.89	ft
Channel Slope	0.00050	ft/ft

Worksheet for Trapezoidal Channel - 1

GVF Output Data

Critical Slope	0.00675 ft/ft

Cross Section for Trapezoidal Channel - 2

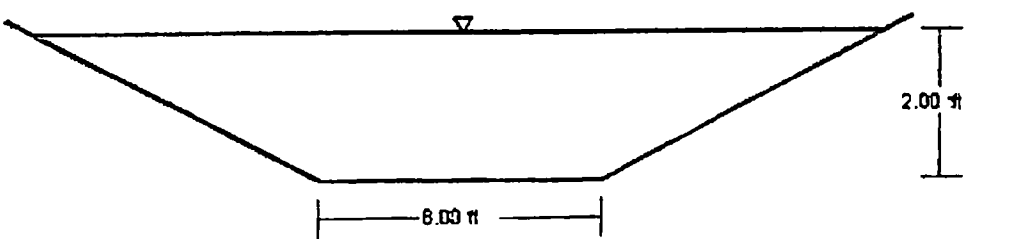
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	8.00	ft
Discharge	50.83	ft³/s

Cross Section Image



Rating Curve for Trapezoidal Channel - 2

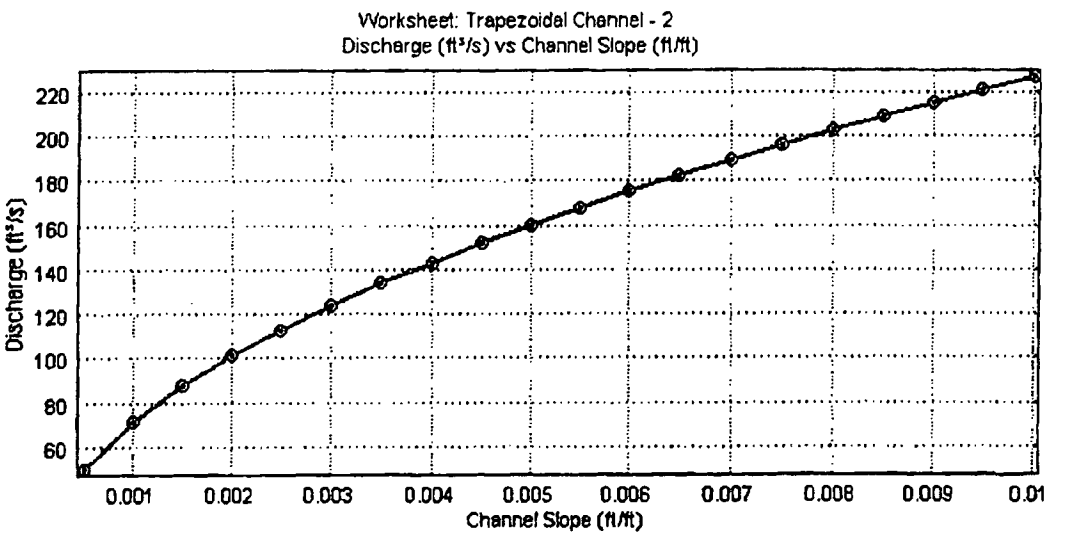
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	8.00	ft

Rating Curve Plot



Worksheet for Trapezoidal Channel - 2

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	8.00	ft

Results

Discharge	50.83	ft^3/s
Flow Area	32.00	ft^2
Wetted Perimeter	24.49	ft
Hydraulic Radius	1.31	ft
Top Width	24.00	ft
Critical Depth	0.92	ft
Critical Slope	0.01047	ft/ft
Velocity	1.59	ft/s
Velocity Head	0.04	ft
Specific Energy	2.04	ft
Froude Number	0.24	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	0.92	ft
Channel Slope	0.00050	ft/ft

Worksheet for Trapezoidal Channel - 2

GVF Output Data

Critical Slope	0.01047 ft/ft

APPLICATION CHECKLIST

FOR A PROPOSED PLANNED AREA DEVELOPMENT (PAD) OVERLAY DISTRICT IN UNINCORPORATED PINAL COUNTY

☒ A. Check the appropriate item:

- ☐ This PAD is being submitted without a zone change request
- ☒ This PAD is being submitted in conjunction with a zone change request. The applicant must complete a zone change application. – ***(Please utilize the "PAD Book" and the "Site Plan" of the PAD application to fulfill the Zoning Application "Narrative" and "Site Plan" in lieu of while having separate copies for each application).***

☒ B. Hold a Neighborhood/Community Meeting:

- ☒ **1.** Notify all property owners within 1200' (feet)
- ☒ **2.** Hold the meeting within five (5) miles of the subject property
- ☒ **3.** Hold the meeting between 5:00 pm – 9:00 pm
- ☒ **4.** Include with the application the following:
  - ☐ **a.** Copy of Notice of Neighborhood/Community Meeting
  - ☐ **b.** List of property owners notified - ***(Use page 5 of this application)***
  - ☐ **c.** Minutes of the meeting
  - ☐ **d.** Attendance sign-in sheet with names & addresses

☒ C. **Submit** a completed **"Agency Authorization"** form *(if applicable).*

☒ D. **Submit** a **"PAD Book"** (written narrative) concerning the proposed development to include the following sections – *Refer to Chapter 2.176.240 (B) of the PCDSC* for further clarification ***(NOTE: Please No Spiral Binding)***:

- ☐ 1. Title Page
- ☐ 2. Purpose of Request
- ☐ 3. Description of Proposal
  - ☐ Nature of the Project
  - ☐ Proposed Land Uses
  - ☐ Building Types & Densities
  - ☐ Conformance to adopted Land Use Plans
  - ☐ Circulation and Recreation Systems

- ☐ 4. Relationship to surrounding properties within one mile
- ☐ 5. Schools
- ☐ 6. Public Services
- ☐ 7. Community Services and how will the need for these services be addressed
- ☐ 8. Location & Accessibility
- ☐ 9. Compliance with RSRSM, Access Management Manual, October 2008
- ☐ 10. Utilities & Services
- ☐ 11. Ownership & Control – [*See Section 2.176.240 (B)11*]
- ☐ 12. Timing of Development (Phasing Schedule)
- ☐ 13. Conformance with the Comprehensive Plan
- ☐ 14. Recreational Amenities
- ☐ 15. Fences, Walls & Screening
- ☐ 16. Total number of dwelling units
- ☐ 17. Maximum Residential Density of each planning unit
- ☐ 18. Total number of parking spaces for recreational facilities
- ☐ 19. Type of landscaping
- ☐ 20. Preliminary hydrologic data and a statement on drainage
- ☐ 21. Additional Information for Commercial & Industrial Uses *(if applicable)*:
  - ☐ Total Area in acres proposed *(Commercial & Industrial Separated)*
  - ☐ Approximate retail sales floor area *(Commercial)*
  - ☐ The uses proposed uses based on permitted uses in the base zone.
  - ☐ The standards of height, open space, buffering, landscaping, pedestrian and vehicle circulation, off-street parking and loading, signs, outdoor lighting, and nuisance controls intended for the development.
- ☐ 23. Tables:
  - ☐ **a.** Land Use Table(s) to include the following:
    1) Total Acreage of the site
    2) Total Area of arterial & collector streets
    3) Total Area & Percent of Open Space
    4) Total Number of each type of dwelling unit

5) Total Number of all dwelling units proposed including the range and mixture of lot sizes within each base zone
6) The Overall proposed Density

☐ **b.** Amended Development Standards Table comparing proposed and current zoning code standards for:
1) Minimum Lot Area
2) Minimum Lot Width
3) Minimum Building Setbacks
4) Maximum Building Height
5) Minimum Distance between main & detached accessory buildings
6) Buildable Area

☐ **c.** Amended Use Tables:
1) Permitted Uses
2) Non-Permitted Uses

☐ **d.** Utilities & Services Table of type and source:
1) Sewer
2) Water
3) Electric
4) Telephone
5) Police
6) Fire
7) Schools
8) Solid Waste Disposal

☐ 24. Appendix, as applicable

☒ E. **Submit** a **map** that shows the relationship to surrounding properties within one mile of the project boundaries. The map shall be drawn at a sufficient scale so as to not exceed a print size larger than 11" X 17". The lettering shall be of sufficient size to be legible when reduced to an 8½" X 11" print. The map shall contain the following information:

☐ 1. Zoning Boundaries

☐ 2. Street Alignment

☐ 3. Open Space

☐ 4. Trails

☒ F. **Submit** a current preliminary **Title Report** *(dated within 60 days prior to application)*

☒ G. **Submit** a **Development Plan.** The submittal shall be drawn at a sufficient scale as to not exceed a print size larger than **24" X 36"** with **11" X 17"** reductions to be included in the PAD Overlay District Application where the lettering is of sufficient size to be readable. The Development Plan shall include:

☐ **1. Site Plan:**

- ☐ **a.** Title of project as shown in the narrative report, such as ***"Planned Area Development for (insert name of Development)"*** in bold letters.
- ☐ **b.** Name(s) of Landowner(s), Developer, Applicant, and Person or Firm preparing the plan.
- ☐ **c.** North Arrow, Scales *(written & graphic)*, Preparation Date & Subsequent Revision Dates.
- ☐ **d.** Vicinity Map showing project, surrounding development and applicable zoning districts *(scale no less than 1" = 2,000')*
- ☐ **e.** Existing Zone designation & requested zone change *(as applicable)*
- ☐ **f.** Legal Description of total site
- ☐ **g.** Boundaries of the proposed PAD Overlay Zoning District delineated and dimensioned by bearing and distance.
- ☐ **h.** All existing and proposed public and/or private streets, location and width of associated easements and rights-of-way and whether they will remain or be extinguished.
- ☐ **i.** Location & Identification of all existing and proposed utilities, location and width of associated easements.
- ☐ **j.** Location of all existing structures and significant natural features.
- ☐ **k.** Nearest regional significant routes to proposed development as projected in RSRSM Final Report, December 2008.
- ☐ **l.** All points of ingress and egress.
- ☐ **m.** Parking Areas.
- ☐ **n.** Identify & Delineate existing and/or proposed trails as shown on the Pinal County trails system master plan.
- ☐ **o.** Indicate and/or label *(as applicable)*:
  1) Areas to be reserved for residential, commercial, industrial, open space, public use, facilities, drainage, and recreation.
  2) Who will own, control and maintain the landscaping, recreational facilities, open areas, refuse disposal, streets, private utility systems.
  3) Topography with a maximum contour interval of two feet except where existing ground is on a slope of less than two percent, then either one foot contours or spot elevation shall be provided where necessary.
  4) Phase Lines *(as applicable)*.
- ☐ **p.** Provide lot typical (typical should show building envelope, setbacks, lot dimensions and fences/walls) for:
  1) Each type of dwelling unit
  2) Lots in unusual locations (i.e. Cul-de-sacs, corners, hillside lots where clustering will occur.

☐ **q.** Indicate by notes the existing drainage pattern and proposed drainage plans for handling on-site and off-site storm water runoff

☐ **r.** Indicate location, type, height, and materials for proposed walls, fences, and signs.

☐ **s.** Location and types of existing and proposed landscaping.

☐ **t.** Designated Flood Zone

☐ **2. Quantitative Development Data Tables**

☐ **a.** Land Use table to include:
1) Total Gross Acreage of site
2) Total Area of Streets (Public & Private)
3) Total Area of Public Open Space
4) Total Net Area of all intended uses
5) Total Areas of Open Space for PAD Residents, and total Recreation Area Open Space
6) Total Dwelling Units permitted under base zoning district
7) Total number of each dwelling type including range and mixture of lot sizes within each base zone
8) Grand Total of Dwelling Units
9) Overall Density proposed

☐ **b.** Zoning Comparison Table of Existing & Proposed to include:
1) Lot area per dwelling unit
2) Setbacks
3) Minimum Lot Widths
4) Maximum Building Heights
5) Parking

☐ **c.** Utility & Services Table indicating type and source:
1) Sewer
2) Electric
3) Telephone
4) Water
5) Police/Security
6) Fire
7) Schools
8) Solid Waste Disposal

☐ **d.** Street Type Table indicating proposed rights-of-way and pavement widths for arterials, collectors, and neighborhood streets.

☒ H. **Submit** an **Open Space & Recreation Plan** ("OSRP") that includes – *Refer to Chapter 2.176.250 (B) (25) of the PCDSC* for further clarification:

☐ **1. Reviewed** the Pinal County Open Space & Recreational Area Guideline Manual (OSRAM).

☐ **2. Site Analysis**

☐ **a.** Aerial Photo
1) Preferred scale of 1"=50' *(maximum scale of 1"=100')*
2) Site Analysis should be produced in an **8½" X 11" format for text**
3) Site Analysis should be produced in an **24" X 36" format for plans**

☐ **b.** Total acreage of proposed development

☐ **c.** Context Map showing the proximity and relationship to the County's trails, parks, or schools and connectivity to the adjacent neighborhoods, off-site trails, paths, bikeways, and transit areas.

☐ **d.** A concept drawing of the proposed development including:
1) Gross Site Area
2) Number of proposed lots
3) Proposed Arterial & Collector street circulation system
4) Proposed lot size(s),
5) Proposed Retention/detention areas
6) Proposed Development Phasing

☐ **e.** The Target Market of the proposed development – (*See OSRAM Guideline Manual*)

☐ **f.** Existing and proposed developed or conservation open space areas and multi-use path and trail corridors within proximity to the proposed development:
1) within one (1) mile in proximity of the proposed development of less than 800 gross acres
2) within three (3) miles in proximity of the proposed development of 800 gross acres or more.

☐ **g.** Narrative Describing:
1) How the proposed development will integrate into the County's overall open space and trail system as depicted in the plan
2) How the requirements for Developed and/or Conservation Open Space, recreation areas and multi-use path and trails are met.

☐ **h.** A pedestrian circulation system

☐ **i.** A Slope Analysis identifying the following slope categories:
1) 0% - 5%
2) 5% - 10%
3) 10% and greater

☐ **j.** Identification of wash corridors and preliminary hydrologic information for the contributing watershed.

☐ **k.** Identification of the location of riparian vegetation and biological habitats. Aerial photos should be used to map the limits of notable vegetation.

☐ **l.** Identification of potential view corridors.

- ☐ **m.** Identification of the projected 100-year floodplain and floodway boundary as required by FEMA.
- ☐ **n.** A record check through Arizona State Museum ("ASM") for archeological sites and identification of any sites or surveys.
- ☐ **o.** The location and percentage of each proposed development to be preserved as conservation open space and the features to be protected including parcel size and minimum dimensions.
- ☐ **p.** The location and percentage of each proposed development to be preserved as developed open space and the specific Recreation Areas, including amenities, parcel size and minimum dimensions.

☒ I. **Submit** a **Landscape Plan** that includes – *Refer to Chapter 2.176.240 (C) of the PCDSC* for further clarification:

- ☐ **1.** A Vegetation Salvage Plan
- ☐ **2.** Proposed treatment of all ground surfaces (paving, turf, gravel, grading, etc.)
- ☐ **3.** Extent and location of all plant materials and other landscape features.
- ☐ **4.** Extent of decorative design elements such as fountains, pools, benches, sculptures, planters, and similar elements.
- ☐ **5.** Location of Water Outlets.

☒ J. **Reviewed, Met,** and/or **Addressed** the following in Chapter 2.176 of the PCDSC:

- ☐ **1.** Minimum requirements for Open Space – *(Section 130)*
- ☐ **2.** Uses permitted within open space areas – *(Section 140)*
- ☐ **3.** Uses prohibited within open space areas – *(Section 150)*
- ☐ **4.** Minimum requirements for recreation areas – *(Section 160)*
- ☐ **5.** Minimum requirements for multi-use paths and trails – *(Section 170)*
- ☐ **6.** Minimum requirements for storm water retention & detention basins – *(Section 180)*
- ☐ **7.** Minimum requirements for streetscapes & entryways – *(Section 190)*
- ☐ **8.** Minimum requirements for conservation open space – *(Section 200)*

☒ K. **Submit** a **Master Sign Plan** detailing the location and type of all proposed signage for the project.

☒ L. **Submit** a **Preliminary Drainage Report**

☒ M. **Submit a Preliminary Traffic Impact Assessment** (TIA)

☒ N. **Submit** a copy of a certified **A.L.T.A.** survey, including a legal description of the PAD boundary.

☒ O. **Aware** that earth fissure maps are available online from the Arizona State Geologic Survey.

☒ P. **Submit a list of all property owners within 600' (feet)** of the subject property boundary showing name, mailing address and tax parcel numbers. This list must be obtained within 30 days prior to application submission. A map showing the 600' boundary and parcels must be included as well (*A Tax Assessor Parcel Map is Acceptable*). - ***(This list is a separate list from the "Neighborhood/Community Meeting list of 1,200' however use Page 5 of this application as well).***

☒ Q. **Submit** separate preliminary reports or master plans for:

- ☐ **1.** Storm water drainage
- ☐ **2.** Wastewater
- ☐ **3.** Domestic water service.

☐ R. **Submit** additional materials required for specific types of commercial and industrial uses as follows *(as applicable)*:

- ☐ **1. Commercial Uses:**
  - ☐ **a.** Retail sales floor area and total area proposed for commercial development
  - ☐ **b.** Type of uses proposed
- ☐ **2. Industrial Uses**
  - ☐ **a.** Total Area proposed for industrial uses
  - ☐ **b.** Types of uses proposed
  - ☐ **c.** Anticipated employment for development per major phases
- ☐ **3. Standards of:**
  - ☐ **a.** Height
  - ☐ **b.** Open Space
  - ☐ **c.** Buffering
  - ☐ **d.** Landscaping
  - ☐ **e.** Pedestrian & Vehicular circulation
  - ☐ **f.** Off-street parking & Loading

- ☐ **g.** Signs
- ☐ **h.** Nuisance Controls

☒ **S.** **Complete** and **Submit** the **"Comprehensive Plan Compliance Checklist"**

☒ **T.** Non-Refundable $1,000.00 filing fee for a Planned Area Development

☒ **U.** **Submit** one **(1) hard copy** of all documentation outlined in the PAD application and one **(1) digital copy** in a multi-PDF format per item of the application with all supporting documentation on **one (1) CD.**

☒ **V.** **Submit** one (1) CD which contains:

☒ **1.** An ESRI shapefile for land use (conceptual) which shows all proposed zoning lines and zoning classifications for the project in NAD_1983_stateplan_arizona_central_fips_0202_intlfeet projection

OR

☐ **2.** An AutoCAD (.dwg file), which includes the following layers:

- ☐ **a.** Parcel
- ☐ **b.** Right-of-way
- ☐ **c.** Sub-perimeter
- ☐ **d.** Centerlines
- ☐ **e.** Section Lines
- ☐ **f.** Street names
- ☐ **g.** Lot-numbers
- ☐ **h.** Distances & Bearings tied by course and distance to two Pinal County survey control points or established city or county survey monuments. *(Information on these control points can be obtained from Public Works, Engineering Technicians at 520-866-6411).*

☒ **W.** **Aware to Install Broadcast Notification Sign(s) on the site in conformance with the information shown in this application.** (*See page 13 of this application for illustrative details*).

☒ **X.** Signature at the end of the **"Checklist"** stating you have reviewed and addressed all areas within it.

I certify that I have submitted all the required information listed above, and I understand that this application for a Planned Area Development cannot be processed until all required information is submitted.

Signature

6/28/13

Date

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Ironwood 80 LLP	17700 N. Pacesetter Way Suite 100 Scottsdale AZ 85255	480-348-1118
Name of Landowner (Applicant)	Address	Phone

Number

[signature]	tbrislin@harvardinvestments.com
Signature of Landowner (Applicant)	E-Mail

Address

Dana Belknap	Gallagher + Kennedy, 2575 E Camelback Rd, Phx, AZ 85016	602-530-8348
Name of Agent	Address	Phone

Number

[signature]	dsb@gknet.com
Signature of Agent	E-Mail

Address

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. ***Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.***

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Ironwood 80, LLLP

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of approx. 81 acres located at northwest corner of Bella Vista Rd and Gantzel Rd

[Insert Address of Property]

and further identified as assessor parcel number 210-17-001A, 210-17-002 ***[Insert Parcel Number]*** and legally described as follows:

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Dana Belknap, Gallagher & Kennedy

[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

_____ _____
[Signature] ***[Signature]***
Dated: _____ Dated: _____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, _____
By _____.
[Insert Name of Signor(s)]

_____
My commission expires _____ Notary Public

[Corporate PROPERTY OWNER signature block and acknowledgment The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

Ironwood 80, LLLP by its General Partner
Harvard Ventures Inc.
[Insert Company or Trustee's Name]

By: _____
[Signature of Authorized Officer or Trustee]

Its: Vice President
[Insert Title]

Dated: 10-24-13

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me, this _____ day of_____, by

_____ _____
[Insert Signor's Name] *[Insert Title]*

_____, an _____
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*

and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: _____

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

On this 24th day of October, 2013, before me, the undersigned, personally appeared

Christopher J. Cacheris Who acknowledged himself/herself to be
[Insert Signor's Name]

Vice President of Harvard Ventures Inc.
[Title of Office Held] *[Second Company]*

As General Partner for Ironwood 80, LLLP, and who being
[i.e, member, manager, etc.] *[Owner's Name]*

authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

Mary I. Taylor
Notary Public

My commission expires: 10/28/16

MARY I. TAYLOR
Notary Public - Arizona
Maricopa County
My Comm. Expires Oct 28, 2016

REVISED JULY 2013

PAGE 9

PZ-005-13/PZ-PD-005-13

TO: PINAL COUNTY PLANNING & ZONING COMMISSION

MEETING DATE: January 16, 204 (continued from December 19, 2013)

CASE NO.: **PZ-005-13 & PZ-PD-005-13 (Bella Camino)**

CASE COORDINATOR: Ashlee MacDonald

LEGAL DESCRIPTION: 81.36± acres situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M (legal on file)

TAX PARCEL: 210-17-001A, and 002

APPLICANT/LANDOWNER: Ironwood 80, LLLP 17700 N Pacesetter Way, Ste 100, Scottsdale, AZ 85255

AGENT: Harvard Investments, 17700 N Pacesetter Way, Ste 100, Scottsdale, AZ 85255

REQUESTED ACTION & PURPOSE: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13)

REQUESTED ACTION & PURPOSE: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-005-13

LOCATION: The subject property is located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area.

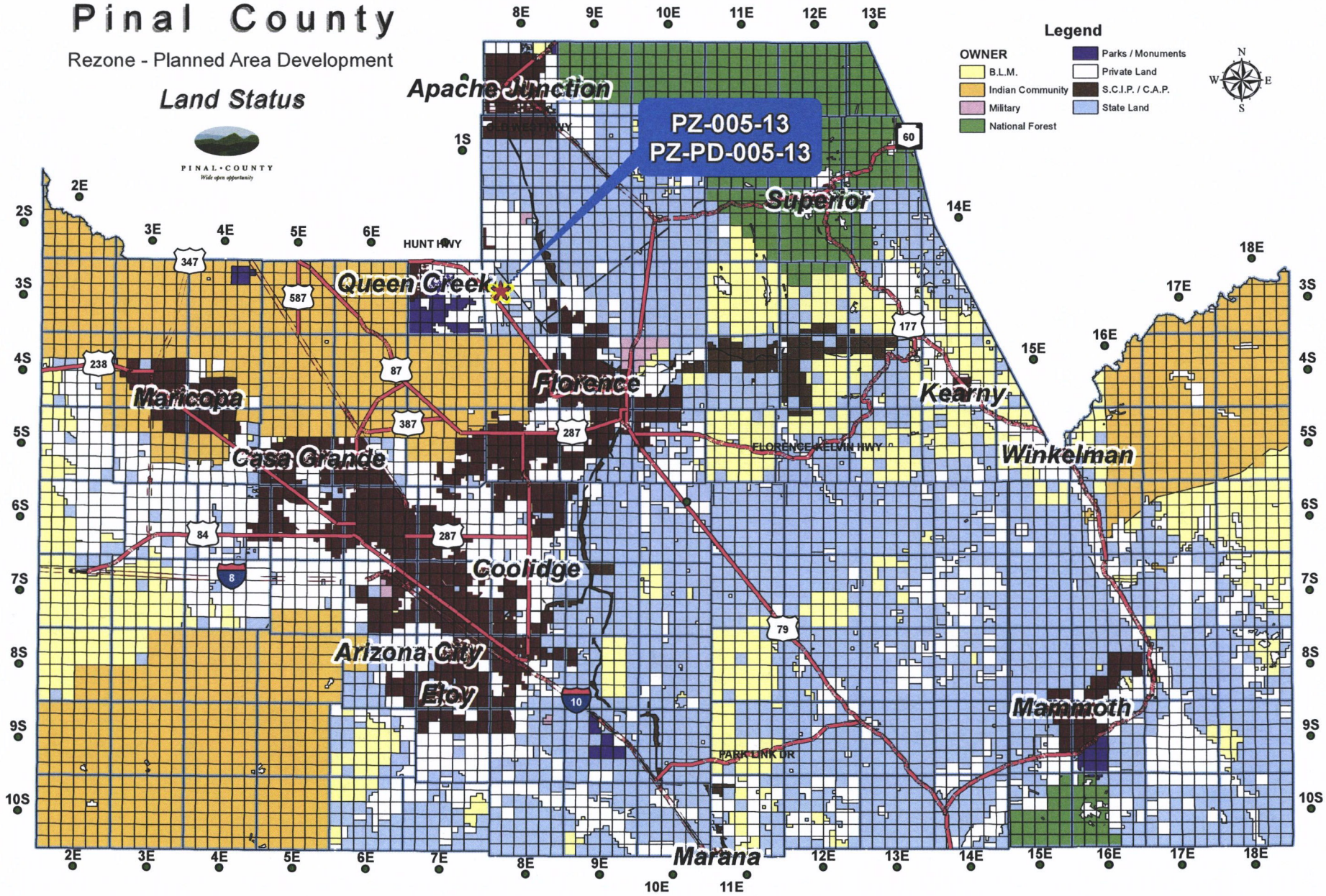
EXISTING ZONING AND LAND USE: The subject property is currently zoned General Rural (GR) and is designated as Moderate Low Density residential (1-3.5 DU/AC). It is currently un-developed vacant land.

SURROUNDING ZONING AND LAND USE:

North: (GR); agriculture, State Land
South: (CR-3/PAD) PZ-PD-001-99; single family residential
East: (GR); agriculture, State Land
West: (CR-3/PAD) PZ-PD-001-99; single family residential

PUBLIC PARTICIPATION:

Neighborhood Meeting: 6/18/2013
Neighborhood and agency mail out: November 14, 2013
News paper Advertising: November 29, 2013


Pinal County
Rezone - Planned Area Development
Land Status
PINAL•COUNTY
Wide open opportunity
PZ-005-13
PZ-PD-005-13
Legend
OWNER
B.L.M.
Indian Community
Military
National Forest
Parks / Monuments
Private Land
S.C.I.P. / C.A.P.
State Land
N
W
E
S
Apache Junction
Superior
Queen Creek
Florence
Kearny
Winkelman
Maricopa
Casa Grande
Coolidge
Arizona City
Eloy
Mammoth
Marana
HUNT HWY
FLORENCE-KELVIN HWY
PARK LINK DR
347
587
87
238
387
287
177
60
84
8
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79
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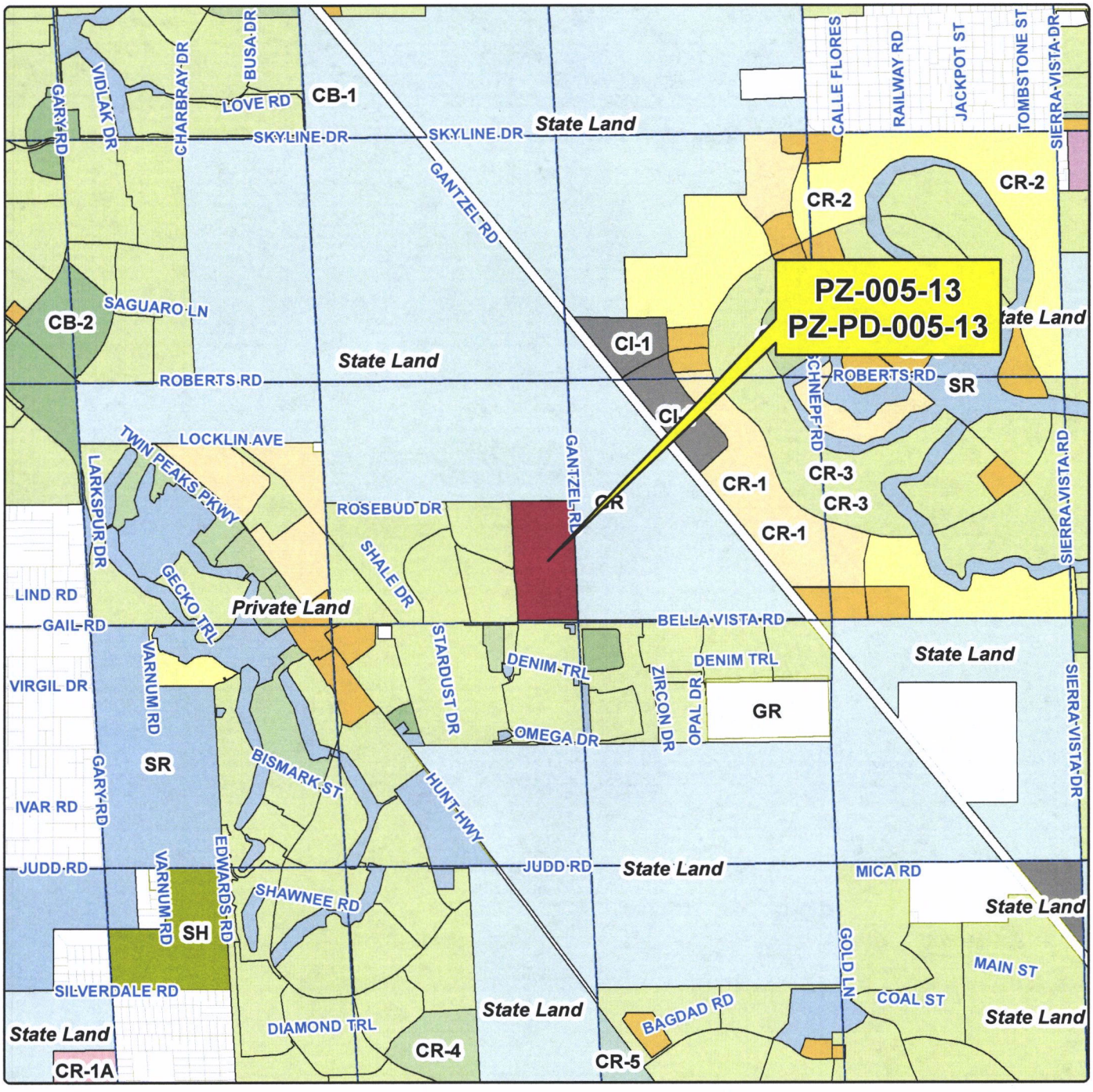
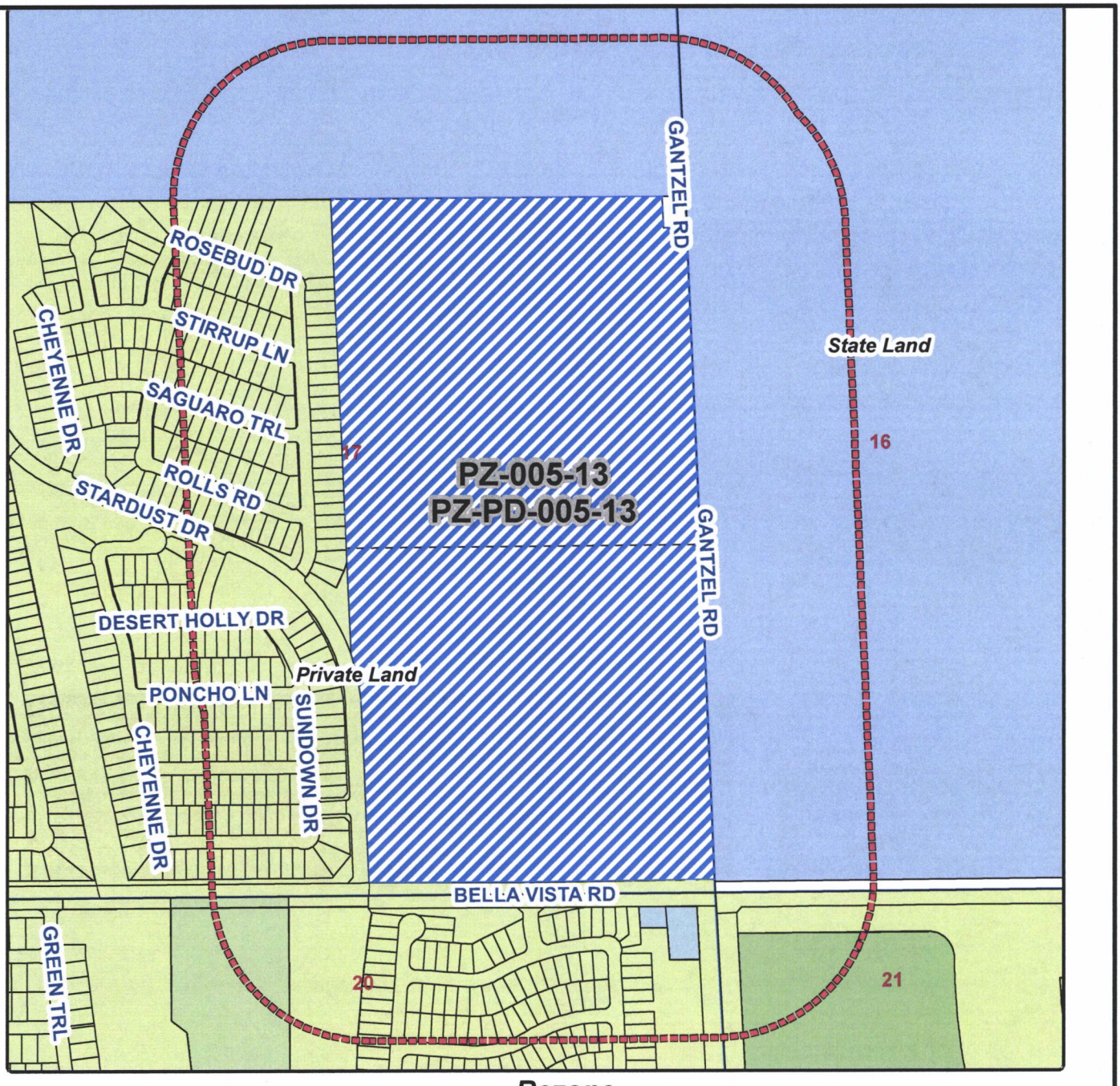


Rezone
Planned Area Development
Planning & Development Services

PINAL • COUNTY
Wide open opportunity

Ironwood 80, LLLP	**Legal Description:** Situated in a portion of the Section 17, T03S,R08E, G&SRB&M, 210-17-001A & 210-17-002 (legal on file) (San Tan Valley area). T03S-R08E Sec 17	Sheet No. 1 of 1	Ironwood 80, LLLP Drawn By: GIS / IT / LJT — Date: 11/13/2013 Sections 17 — Township 03S — Range 08E Case Number: PZ-005-13, PZ-PD-005-13



Rezone
Planned Area Development

PZ-005-13, PZ-PD-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13); situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

Current Zoning: GR
Request Zoning: Rezone - Planned Area Development
Current Land Use: MLDR

PINAL • COUNTY
Wide open opportunity

Legal Description:
Situated in a portion of Section 17, T03S, R08E, G&SRB&M. 210-17-001A & 210-17-002; (legal on file) (San Tan Valley area).

T03S-R08E Sec 17

Sheet No. 1 of 1

Owner/Applicant: Ironwood 80, LLLP
Drawn By: GIS / IT / LJT
Date: 11/13/2013
Sections: 17
Townships: 03S
Range: 08E
Case Number: PZ-005-13, PZ-PD-005-13

Rezone
Planned Area Development

NORTH

PINAL • COUNTY
Wide open opportunity

PZ-005-13
PZ-PD-005-13

Site posting: County 11/25/13, Applicant 11/15/2013

FINDINGS:

Site data:
Floodzone: "X" an area that is determined to be outside the 100 and 500 year flood plain
Water: Johnson Utilities
Sewer: Johnson Utilities
Access: The property is accessed from Bella Vista Road and Gantzel Road.

HISTORY: The subject property is zone GR and is currently vacant. The property has historically been used agriculturally.

ANALYSIS: The applicant is requesting a rezoning and PAD overlay zone to allow the development of 250 residential lots ranging in size from 5,520 square feet to 6,325 square feet. The subject property is currently designated Moderate Low Density Residential. The proposed density of the subject 81.36± acres is 3.5 du/ac and is in conformance with the Moderate Low Density Residential designation.

To date, one letter in support has been received from property owners within 600ft of the subject site. No letters in opposition have been received.

The applicant conducted a neighborhood meeting the results of which are included within this report.

THE APPLICANT HAS PROVIDED INFORMATION REGARDING THIS REZONE AND PAD REQUEST, WHICH IS PROVIDED UNDER SEPARATE COVER.

The **Pinal County Department of Public Works** reviewed the proposal and provided comments which are attached to the correspondence section of this report

The Pinal County Department of Air Quality provided comments which are attached to the correspondence section of this report

The **Maricopa County Parks and Recreation Department** provided comments which are attached to the correspondence section of this report.

FIT WITHIN THE NEIGHBORHOOD:
The site has historically been used as farm land and is undeveloped. Vacant land borders the north and eastern sides of the property. South of the proposal are developments zoned CR-3/PAD. These developments are substantially developed. To the southeast of the property there is an 18.5± acre parcel zoned CB-2 (PZ-PD-006-09) that remains undeveloped. The intent at the time of application was to develop these 18.5± acres with a grocery store, convenience store and various restaurants and retail pads.

Since the December Planning Commission hearing the applicant has made a number of changes to the application based on the Commission feedback. First, the applicant has changed the front setback from 18 feet measured from back of sidewalk to front facing garage to 20 feet and increased the front setback for porches, livable area and side load garages from 10 feet to 15 feet. Second, the applicant has increased the side setbacks for the 48 foot wide lots to five feet and eight feet and for the 55 foot wide lots increased side setbacks to five feet and ten feet. Third, the applicant has reduced the maximum building height for the commercial

site to 30 feet. Finally, the applicant has added another access point at Stardust Drive.

The Pinal County Comprehensive Plan designation of Moderate Low Density Residential allows the requested density of 3.5du/ac and supports commercial uses similar to those proposed as part of this application.

At the public hearing, the Commission needs to be satisfied that the health, safety and welfare of the County and adjacent properties will not be negatively impacted by this rezoning and PAD overlay zone request under Planning Cases PZ-(PD)-005-13, the Commission must determine that this rezone and Planned Area Development (PAD) Overlay District will promote the orderly growth and development of the County, at this location and time, and this proposed development is compatible and consistent with the applicable goals and policies of the Pinal County Comprehensive Plan.

THE BURDEN OF PROOF IS UPON THE APPLICANT TO PROVIDE THE NECESSARY AND REQUIRED INFORMATION AT THE PUBLIC HEARING. THE APPLICANT NEEDS TO BE PREPARED TO ADDRESS AND MITIGATE, AS APPLICABLE, THE FOLLOWING ISSUES AND CONCERNS:

A) LAND USE, PERIMETER WALLS, SIGNAGE, SETBACKS, INGRESS/EGRESS & LANDSCAPING
B) PUBLIC SERVICES - SEWER, WATER, UTILITIES, DRAINAGE
C) NEIGHBORHOOD IMPACT
D) FLOOD CONTROL
E) TRAFFIC IMPACT
F) COMPATIBILITY/CONSISTENCY WITH PINAL COUNTY COMPREHENSIVE PLAN
G) BENEFITS/DETRIMENTS TO PINAL COUNTY

STAFF SUMMARY: The applicant, Ironwood 80, LLLP has submitted the proper application and evidence sufficient to warrant a staff recommendation as provided in the Ordinance. Staff provides the following findings together with the information on Page 1 of this staff report:

1. This land use request is for approval of a rezone and PAD Overlay District.
2. To date, one letter in support and no letters in opposition have been received.
3. The property is accessed from Bella Vista and Gantzel Roads
4. The subject property is located within the "Moderate Low Density Residential designation.
5. Granting of the Planned Area Development (PAD) Overlay District request will require, after the time of zoning approval, that the applicant/owner submit and secure from the applicable and appropriate Federal, State, County and Local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

STAFF RECOMMENDATION **(PZ-005-13):** Should the Commission find, after the presentation of the applicant and together with the testimony and evidence presented at the public hearing, that this rezoning request, is needed and necessary at this location and time, will not negatively impact adjacent properties, will promote the orderly growth and development of the County and will be consistent with the applicable goals and policies of the Pinal County Comprehensive Plan, then staff recommends that the Commission forward **PZ-005-13** to the Board of Supervisors with a favorable recommendation with the attached stipulation. If the Commission cannot find for all of the factors listed above, then staff recommends that the Commission forward this case to the Board of Supervisors with a recommendation of denial.

1. The conditions and time periods enumerated herein constitute the Schedule for Development. The schedule of development only applies to the 81.36± acres covered under case PZ-005-13

2. Applicant/property owner shall improve the property as a residential subdivision on 71.19± acres and 10.17± acres of commercial as being proposed under case number PZ-005-13; improve means obtaining a final plat approval for the residential portion and site plan approval(s) for the commercial portion and completing the conditions enumerated herein, within five (5) years for the residential portion and eight (8) years for the commercial portion from the effective date of this ordinance; and where a specific condition requires completion by a specified date or event, applicant/property owner shall complete said condition by that specified date.

3. Applicant/property owner may request the Board of Supervisors set a public hearing to grant an extension of any time period specified in the Schedule for Development.

4. If a condition is not met at the end of the specified time period for that condition the Board of Supervisors after notification by certified mail to the property owner and applicant who requested the rezoning can schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zone classification.

5. If at the expiration of the (5) five year time period the Property has not been improved with residential subdivision, for which it is conditionally approved, or improved in accordance with the Schedule for Development, the Board of Supervisors after notification by registered mail to the property owner and applicant who requested the rezoning, shall schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zoning classification.

6. No building permits shall be issued based on this rezoning until all conditions are satisfied pursuant to the Schedule for Development and the Planning Director issues a Certificate of Compliance.

7. The zone change will be shown on the official Pinal County Zoning Map with a "C" indicating the zoning case has been approved conditioned upon a Schedule for Development for a specific use. After compliance with the Schedule for Development by applicant/property owner and issuance of a Certificate of Compliance by the Planning Director the "C" shall be changed to an "R" indicating issuance of a Certificate of Compliance with zoning restrictions which remain with the land.

8. After compliance with the Schedule for Development, the applicant/property owner shall submit to the Planning Director evidence of compliance and written request for issuance of Certificate of Compliance.

9. Upon compliance by applicant/property owner with the Schedule for Development and written request from applicant/property for issuance of a Certificate of Compliance, the Planning Director shall issue a Certificate of Compliance with the zoning restrictions which remain with the land.

10. At the time of building permit review, applicant/owner shall submit and secure from the applicable Federal, State, County and local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

11. The Schedules for Development in PZ-005-13 and PZ-PD-005-13 govern in the event any discrepancy or conflict arises between applicant's written narrative report for the Planned Area Development Overlay District in PZ-PD-005-13 and the Schedules for Development.

12. The applicant/property owner shall meet the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building Safety Department.

13. approval of this zone change/PAD request will allow the applicant/owner, during construction to provide for construction trailer(s) and associated parking;

14. any change or expansion of the specified use shall require the approval of the Board of Supervisors under the procedures pursuant to Section 2.176.260 of the Development Services Code.

15. all construction activity must conform to the Earthmoving Activity requirements of the Pinal County Air Quality Control District;

16. The property is to be developed in accordance with the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013, along with the applicant's other supplementary documentation, in accordance with the applicable criteria set forth in Chapter 2.176 of the Pinal County Development Services Code;

17. Open space and recreational areas shall be designed to conform to the standards and diagrams indicated in the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013;

18. The applicant shall ensure a minimum of 23% of the approved Bella Camino development remains in open space, with a maximum overall density of 3.5 dwelling units per gross acre;

19. The final plat(s) shall be for no more than 250 single family residential lots.

20. Prior to Final Plat approval, the applicant/owner shall provide written verification from the Florence Unified School District, that applicable school concerns/issues have been resolved to the satisfaction of the District;

21. Prior to tentative plat approval, the applicant/ developer/owner shall provide written verification from the wastewater/sewage disposal provider, together with associated documentation, that:
    a. the wastewater/sewerage disposal provider has adequate capacity for collection, treatment and disposal of wastewater for the development;
    b. the development boundaries are located within a service area designated with an approved **CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)**;
    c. and the wastewater plan for the proposed development is in conformance with the **CERTIFIED AREAWIDE WATER QUALITY MANAGEMENT (208) PLAN**;

22. The applicant/owner, grant and record an agricultural spray easement to all adjacent farm owners/operators; include in the CC&R's references to the recorded agricultural spray easement and reference the agricultural spray easement on the face of the plat(s) in the **NOTES** section;

23. No schools, day care centers or limited care facilities to be located within one-quarter (¼) mile of land in agricultural production requiring aerial spraying. **(PLACE IN NOTES SECTION ON FACE OF FINAL PLAT)**;

24. applicant/owner shall attend a site plan pre-application meeting with staff for the 10.17 acre C-1 (Neighborhood Commercial) site. If staff determines that a formal site plan review is required, the applicant/owner shall receive site plan approval prior to operation in accordance with Chapter 2.200 of the Pinal County Development Services Code;

25. A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;

26. A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;

27. Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;
    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) and a minimum 70' half street right-of-way dedication along BELLA VISTA RD. (southern boundary) or as approved by the County Engineer.

28. GANTZEL RD. and BELLA VISTA RD. have been identified as a "Route of Regional Significance". Applicant will be required to comply with the "Regionally Significant Routes for Safety and Mobility, Final Report, December 2008" and the "Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

29. Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;

30. The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by

the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals; and

31. Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer.

STAFF RECOMMENDATION **(PZ-PD-005-13):** Should the Commission find, after the presentation of the applicant and together with the testimony and evidence presented at the public hearing, that this PAD overlay amendment request, is needed and necessary at this location and time, will not negatively impact adjacent properties, will promote the orderly growth and development of the County and will be consistent with the applicable goals and policies of the Pinal County Comprehensive Plan, then staff recommends that the Commission forward **PZ-PD-005-13** to the Board of Supervisors with a favorable recommendation with the attached stipulations. If the Commission cannot find for all of the factors listed above, then staff recommends that the Commission forward this case to the Board of Supervisors with a recommendation of denial.

1. The conditions and time periods enumerated herein constitute the Schedule for Development. The schedule of development only applies to the 81.36± acres covered under case PZ-PD-005-13

2. Applicant/property owner shall improve the property as a residential subdivision on 71.19± acres and 10.17± acres of commercial as being proposed under case number PZ-PD-005-13; improve means obtaining a final plat approval and completing the conditions enumerated herein, within five (5) years for the residential portion and eight (8) years for the commercial portion from the effective date of this ordinance; and where a specific condition requires completion by a specified date or event, applicant/property owner shall complete said condition by that specified date;

3. Applicant/property owner may request the Board of Supervisors set a public hearing to grant an extension of any time period specified in the Schedule for Development.

4. If a condition is not met at the end of the specified time period for that condition the Board of Supervisors after notification by certified mail to the property owner and applicant who requested the rezoning can schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zone classification.

5. If at the expiration of the (5) five year time period the Property has not been improved with residential subdivision, for which it is conditionally approved, or improved in accordance with the Schedule for Development, the Board of Supervisors after notification by registered mail to the property owner and applicant who requested the rezoning, shall schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zoning classification.

6. No building permits shall be issued based on this rezoning until all conditions are satisfied pursuant to the Schedule for Development and the Planning Director issues a Certificate of Compliance.

7. The zone change will be shown on the official Pinal County Zoning Map with a "C" indicating the zoning case has been approved conditioned upon a Schedule for Development for a

specific use. After compliance with the Schedule for Development by applicant/property owner and issuance of a Certificate of Compliance by the Planning Director the "C" shall be changed to an "R" indicating issuance of a Certificate of Compliance with zoning restrictions which remain with the land.

8. After compliance with the Schedule for Development, the applicant/property owner shall submit to the Planning Director evidence of compliance and written request for issuance of Certificate of Compliance.

9. Upon compliance by applicant/property owner with the Schedule for Development and written request from applicant/property for issuance of a Certificate of Compliance, the Planning Director shall issue a Certificate of Compliance with the zoning restrictions which remain with the land.

10. At the time of building permit review, applicant/owner shall submit and secure from the applicable Federal, State, County and local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

11. The Schedules for Development in PZ-005-13 and PZ-PD-005-13 govern in the event any discrepancy or conflict arises between applicant's written narrative report for the Planned Area Development Overlay District in PZ-PD-005-13 and the Schedules for Development.

12. The applicant/property owner shall meet the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building Safety Department.

13. approval of this zone change/PAD request will allow the applicant/owner, during construction to provide for construction trailer(s) and associated parking;

14. any change or expansion of the specified use shall require the approval of the Board of Supervisors under the procedures pursuant to Section 2.176.260 of the Development Services Code.

15. all construction activity must conform to the Earthmoving Activity requirements of the Pinal County Air Quality Control District;

16. The property is to be developed in accordance with the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013, along with the applicant's other supplementary documentation, in accordance with the applicable criteria set forth in Chapter 2.176 of the Pinal County Development Services Code;

17. Open space and recreational areas shall be designed to conform to the standards and diagrams indicated in the approved Bella Camino Planned Area Development (PAD) dated November 7, 2013 and the Open Space and Recreation Plan (OSRP) dated November 7, 2013;

18. The applicant shall ensure a minimum of 23% of the approved Bella Camino development remains in open space, with a maximum overall density of 3.5 dwelling units per gross acre;

19. The final plat(s) shall be for no more than 250 single family residential lots.

20. Prior to Final Plat approval, the applicant/owner shall provide written verification from the Florence Unified School District, that applicable school concerns/issues have been resolved to the satisfaction of the District;

21. Prior to tentative plat approval, the applicant/ developer/owner shall provide written verification from the wastewater/sewage disposal provider, together with associated documentation, that:
    a. the wastewater/sewerage disposal provider has adequate capacity for collection, treatment and disposal of wastewater for the development;
    b. the development boundaries are located within a service area designated with an approved **CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)**;
    c. and the wastewater plan for the proposed development is in conformance with the **CERTIFIED AREAWIDE WATER QUALITY MANAGEMENT (208) PLAN**;

22. The applicant/owner, grant and record an agricultural spray easement to all adjacent farm owners/operators; include in the CC&R's references to the recorded agricultural spray easement and reference the agricultural spray easement on the face of the plat(s) in the **NOTES** section;

23. No schools, day care centers or limited care facilities to be located within one-quarter (¼) mile of land in agricultural production requiring aerial spraying. **(PLACE IN NOTES SECTION ON FACE OF FINAL PLAT)**;

24. applicant/owner shall attend a site plan pre-application meeting with staff for the 10.17 acre C-1 (Neighborhood Commercial) site. If staff determines that a formal site plan review is required, the applicant/owner shall receive site plan approval prior to operation in accordance with Chapter 2.200 of the Pinal County Development Services Code;

25. A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;

26. A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;

27. Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;
    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) and a minimum 70' half street right-of-way dedication along BELLA VISTA RD. (southern boundary) or as approved by the County Engineer.

28. GANTZEL RD. and BELLA VISTA RD. have been identified as a "Route of Regional Significance". Applicant will be required to comply with the "Regionally Significant Routes

for Safety and Mobility, Final Report, December 2008" and the "Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

29. Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;

30. The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals; and

31. Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer.

DATE PREPARED: 12/9/13 – arm
REVISED: 01/09/13 – arm

Chairman Hartman stated that he didn't feel the tax payers should pay for commission member's business cards. He stated he just shows his appointment card if questioned.

REPORT ON BOARD OF SUPERVISORS ACTION ON P & Z CASES
November 20, 2013
December 4, 2013 – No cases

Mr. Stabley stated the Board of Supervisors went with the Commission's recommendations on all cases that were heard. He stated the BOS meeting from Wednesday December 18, 2013 that the Board had disagreed with them on the PZ-(PD)-010-13 (Borgata) and approved it. He stated that the Board of Supervisors approved the Comprehensive Plan Amendment for Queen Valley. He stated that the Board of Supervisors continued the case until December because they wanted the department to hold another community meeting to give the winter residents a chance to get involved. He stated there was a good turnout of about 40 residents.

NEW CASES:

PZ-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District (71.19± acres) and (C-1) Neighborhood Commercial Zoning District (10.17±acres) on a total of 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-005-13); situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

PZ-PD-005-13 – PUBLIC HEARING/ACTION: Ironwood 80, LLLP, landowner, Harvard Investments, Inc, applicant, Gallagher & Kennedy, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 81.36± acres to plan and develop the 250 lot Bella Camino Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-005-13; situated in a portion of the SE ¼ Section 17, T03S, R08E G&SRB&M, tax parcels 210-17-001A, and 002 (legal on file) (located on the NWC of Gantzel Rd and Bella Vista Rd in the San Tan Valley area)

Ms. MacDonald read a portion of the staff report and used a PowerPoint. She stated there were 31 stipulations with both cases. She stated they would like a change in the wording of stipulation 2 to allow the applicant five (5) years to develop the residential portion and adding the applicant has eight (8) years to complete the commercial portion. She stated this change would apply to both cases. Ms. MacDonald also stated staff was requesting a modification to stip 5 changing out the word developed with improved so that the language is the same as stipulation 2.

Commissioner Aguirre-Vogler asked Ms. MacDonald to give her the names of the roads, and asked if they were paved or dirt roads. Ms. MacDonald stated all the surrounding roads were paved.

Commissioner Aguirre-Vogler asked if there would be turn lanes to enter the community.

Mr. Chow stated the County has been working with the applicant on their roadway requirements. He stated the applicant would have to do their half-street improvement to include another thru lane.

Chairman Hartman instructed Ms. MacDonald to go to page 2 in the staff report and read it. Ms. MacDonald stated the applicant was also asking for eighteen (18) foot setbacks instead of the typical twenty (20) feet in the front and five (5) feet instead of ten (10) foot setbacks on the side.

Chairman Hartman called for the applicant.

Ms. Dana Belknap, 2575 E. Camelback Rd., Phoenix, AZ 85016. She stated that the community would be at 25.9% open space.

Chairman Hartman stated that he is from the Maricopa area and a few years ago they allowed eighteen (18) foot setbacks in the front but have regretted doing so. He felt that the setbacks needed to be at least twenty (20) feet.

Ms. Belknap stated the set-backs could go back to twenty (20) feet but they really needed the five (5) foot set-backs on the side due to the Sonoqui Wash.

Commissioner Moritz stated the applicant is seeking four variances, three new variances and one suggested by staff. One for five (5) foot side set-backs and one for eighteen (18) foot set-backs in the front, one for height to be allowed to be thirty-five (35) feet tall instead of thirty (30) and the last, from staff, is thirty-five (35) feet set-backs in the back instead of thirty (30) feet. She stated that the commission has seen many applicants come through that have requested changes in the set-backs but she really wished that the side set-backs be left alone and follow the County's guidelines.

Commissioner Grubb stated that the closer the homes are to each other the more threat there is in the case of a fire. He stated when you have ten (10) foot distance wall to wall between homes that gives a six (6) or seven (7) feet roof to roof. He stated that the seven (7) foot set-backs on each side is to protect the neighbors home in case of a fire. He stated he had been in the fire service for 45 years and has seen many homes go down very quickly when the homes are so close together.

Mr. Tim Brislin, the developer of the property stated that many of the homes in that area had five (5) foot side set-backs and they were trying to stay the same as neighboring neighborhoods.

Chairman Hartman stated the applicant wanted twenty (20) foot set-backs in the back instead of twenty-five (25) foot.

Mr. Brislin stated that many of the homes are a large one story homes and in order to meet the set-backs they had to request the twenty (20) foot in the rear.

Chairman Hartman stated they are asking for thirty-five (35) foot height instead of the standard thirty (30) foot.

Mr. Brislin stated they would be okay with thirty (30) feet.

Commissioner Smyers stated his concern about the eighteen (18) foot set-back. He stated that a truck is sixteen (16) feet in length and an extended cab is eighteen (18) feet so the vehicle would be nose to tail in the driveway. If a child were to ride a bike he would crash into the parked vehicle and get hurt.

Commissioner Anderson stated his truck is 21.6 feet long and would not be able to fit in the driveways they are proposing. He stated the truck would hang out in the street.

Mr. Brislin stated it would be twenty (20) feet from the back of the sidewalk.

Commissioner Salas stated he did not want the five (5) foot side set-backs and stated he was pretty adamant about keeping with the guidelines that were set.

Mr. Brislin stated they requested the five (5) and five (5) side set-backs due to the constraints they had. He stated a five (5) and eight (8) foot side set-back was approved for another developer and he could work with that. That would allow more room for fire access.

Chairman Hartman asked about ingress and egress stating he had a problem with the lack of access on the north end of the community.

Mr. Brislin stated they had an entrance off of Bella Vista Rd which lined up with an existing road. Along Ironwood Road the only place to put an access is between Bella Vista Road and the wash. Because this area is just farmland now they will be creating a depressed channel that collects all the flows, so adding a road here would be difficult and could disrupt those flows..

Chairman Hartman asked Mr. Chow if he thought Pinal County Public Works would consider another access to this community. Mr. Chow stated the PAD is conceptual only and the property is bounded by two RSRs (Regionally Significant Routes) and they will have to meet the guidelines for access.

Commissioner Grubb asked if the southern-most cul-de-sec could connect to Star Dust Drive. Mr. Brislin stated that they considered having an access to Star Dust Drive but felt it was too close to the intersection. He stated they did not want to have more traffic by adding an access to Star Dust. Commissioner Grubb stated he was familiar with Star Dust and there was a wall there to protect the homes that exist there. He stated he is concerned that emergency vehicles coming from the north would pass the community before being able to get into the community. Mr. Brislin stated they would look at another way to access the community for public safety reasons.

Mr. Langlitz stated that because this is a public hearing that side discussions should not be held.

Commissioner Vogler verified that the developer would have twenty (20) foot front set-backs, five (5)/eight (8) foot side set-backs, twenty-five (25) foot rear set-backs and thirty (30) foot maximum height for the commercial. Commission Moritz added that staff had also suggested an increased rear setback for the commercial. Ms. MacDonald stated that a stipulation was not included in the staff report for that, it was an item for the Commission to consider. She stated based on the discussion the applicant has expressed that they would rather remove the request to increase the building height than increase setbacks. Mr. Brislin confirmed that was correct, he would prefer to have the standard thirty (30) foot height and standard setbacks.

Commissioner Moritz asked if they could provide eight (8) foot setbacks on each side. Mr. Brislin responded they would not be able to maintain the density required to make the project feasible with eight (8) foot setbacks.

Commissioner Grubb stated that five (5) and eight (8) side set-backs would still put firefighters in danger. He would really like to see ten (10) foot side set-backs.

Ms. Belknap stated the commission had just approved five (5) and eight (8) foot side set-backs for Sherwood Park. She added that greater setbacks make this project far less marketable.

Commissioner Smyers asked if five (5) foot set-backs was roof line to roof line. Commissioner Riggins stated that it is measured from wall to wall.

Commissioner Gutierrez asked what type of commercial businesses are anticipated. Mr. Brislin stated the center would support retail such as a bank or day care. He added that the area is not large enough for a grocery store, but there would be other commercial pads.

Commissioner Hartman opened the public portion of the meeting.

Gordon Brown 1894 E. Judd Rd. in the San Tan Foothills came forward. Mr. Brown stated he thought the property had originally been planned for more commercial. He stated that it is the developers job to create profitability and the county's job is to ensure that current and future residents are protected. He stated there are about 85,000 residents with a few strip malls and lot of fast food restaurants and these residents have to commute. They spend an extra four hours a day commuting to Maricopa County and

this is not what residents want. He stated Pinal County needs to attract people that are entrepreneurial that are going to be the creative and change the future.

Ms. Belknap stated the property Mr. Brown was referring to was the Hatch Property. The property she is representing was never going to be large enough for a movie theater.

Vice-Chairman Riggins stated the plan will need to be reconfigured as a result of the setback changes and the access concerns. He stated the case should be continued to allow the applicant the opportunity to make these changes and bring back an updated packet. Commissioner Moritz stated she was in agreement and would like to see the applicant bring back a proposal showing the five (5) and eight (8) foot side setbacks, 30 foot maximum building height for the commercial portion, 20 foot front setbacks and the stipulation modifications from staff.

Commissioner Vogler stated she would like to see ten (10) foot side setbacks.

Commissioner Riggins asked the applicant if they are in agreement with a continuance and stated that they should look into adding an additional access point. Mr. Brislin stated they would add a third connection at Stardust Drive and would bring back a revised plan in January.

Motion PZ-005-13 and PZ-PD-005-13
Vice-Chairman Riggins made a motion to continue cases PZ-005-13 and PZ-PD-005-13 to the January 16, 2014 Planning Commission Hearing at 9:00 am. Commissioner Grubb seconded the motion. Motion passed unanimously (10-0).

PZ-009-13 – PUBLIC HEARING/ACTION: Ellsworth Enterprises Limited Partnership, landowner/applicant, Iplan Consulting, agent, requesting approval of a zone change from GR (General Rural) to (R-7) Single Residence Zoning District on 220.25± acres to plan and develop the 771 lot Combs Ranch Planned Area Development; pending and in conjunction with Board of Supervisors Planned Area Development (PAD) Overlay District approval under Planning Case (PZ-PD-009-13); situated in a portion of the south ½ Section 27, T02S, R08E G&SRB&M, tax parcels 104-22-006P, 006Q, 006R, 006S, and 006T (legal on file) (located on the north side of Combs Rd east of Schnepf Rd in the San Tan Valley area)

PZ-PD-009-13 – PUBLIC HEARING/ACTION: Ellsworth Enterprises Limited Partnership, landowner/applicant, Iplan Consulting, agent, requesting approval of a Planned Area Development (PAD) Overlay District on 220.25± acres to plan and develop the 771 lot Combs Ranch Planned Area Development; pending and in conjunction with Board of Supervisors zone change approval under planning case PZ-009-13; situated in a portion of the south ½ Section 27, T02S, R08E G&SRB&M, tax parcels 104-22-006P, 006Q, 006R, 006S, and 006T (legal on file) (located on the north side of Combs Rd east of Schnepf Rd in the San Tan Valley area)

Ms. MacDonald read a portion of the staff report and used a PowerPoint. She stated there were 31 stipulations and there was a typo in two of them number 1 and number 2. It needed to be changed from 81.36 to 220.25 acres of land.

Chairman Hartman asked if there was a request for an amended standard on the parking pad on front of the garage. Ms. MacDonald stated no but there was a request on the side set-backs and added the proposed side setbacks for this site are five (5) and ten (10) feet side set-backs.

Jason Sanks, 4387 Capricorn Pl., Chandler, AZ 85249 with IPlan Consulting came forward to address the Commission. He stated they were in compliance with the Pinal County Comprehensive Plan and pointed out that they have provided connections to the existing community to the north. He stated there were many ways in and out of the community.

Greg Stanley
Assistant County Manager

Development Services

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Greg Stanley
Interim County Manager

Memorandum

Date: December 19, 2013

To: Steve Abraham, Planning Manager
Planning and Development Services Department

From: Scott Bender, P.E.
Deputy Public Works Director

Subject: Planned Area Development for BELLA CAMINO, Case No. PZ-PD-005-13

The Public Works Department has reviewed the Planned Area Development for BELLA CAMINO, Case No. PZ-PD-005-13 and recommends that it be approved subject to the following conditions:

1) A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;
2) A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;
3) Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;

    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) and a minimum 70' half street right-of-way dedication along BELLA VISTA RD. (southern boundary) or as approved by the County Engineer.

4) GANTZEL RD. and BELLA VISTA RD. have been identified as a "Route of Regional Significance". Applicant will be required to comply with the

"Regionally Significant Routes for Safety and Mobility, Final Report, December 2008" and the "Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

5) Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;

6) The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals;

7) Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer;

Greg Stanley
Assistant County Manager
Development Services

Don Gabrielson
Air Quality Director

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Greg Stanley
Interim County Manager

MEMORANDUM FROM AIR QUALITY

Date: September 6, 2013

To: Ashlee MacDonald

Cc: P & Z Review Committee

From: Anu Jain - Permit Engineer

Re: Planning & Zoning Cases

I have reviewed the following Planning & Zoning cases:

Date	Case #	Applicant	Project	*Response
9/19/13	PZ(PD)-005-13	Ironwood 80, LLLP	Bella Camino	See Comments 1 & 2
9/19/13	SUP-006-13	Marva Austin	Austin Roping Camp	See Comments 1 & 2
9/19/13	SUP-007-13	Michael Wiederhold	Dog Kennel	See Comments 1 & 2
9/19/13	SUP-008-13 & PZ-PA-006-13	Gary Armstrong	PAD – SFR	See Comments 1 & 2
9/19/13	SUP-009-13	Tim Dutra	Rancho San Manuel MHP	See Comments 1 & 2

***Comments:**

1. The above proposed Planning and Zoning cases should have a paved road arterial access to the project, paved road access within the project and paved parking lots.

2. Dust registration is required if 0.1 acres or more land is disturbed.

Note:
All construction activity must conform to the earthmoving activity requirements of the Pinal County Air Quality Control District.

Maricopa County

Parks & Recreation Department

234 N. Central, Suite 6400
Phoenix, Arizona 85004-2208
Phone: (602) 506-2930
Fax: (602) 506-4692

To: Steve Abraham, Planning Manager, Pinal County Planning and Development Services Department

From: Leigh Johnson, Park Planner

Re: Bella Camino (PZ-PD-005-13)

Date: November 20, 2013

The Maricopa County Parks and Recreation Department (MCPRD) attempts to meet customer needs based on generally accepted standards for quality parks and outdoor recreation services. Development that increases density impacts parks and trails with an increase in facility use and the resulting need for additional maintenance and services.

MCPRD has reviewed the exhibits that were provided via compact disk and raises no objections regarding this case number at this time.

Thank you for the opportunity to review the proposed development and to provide comment.

Within 600'

Ashlee MacDonald

From: Judy Allen <meerkat20@comcast.net>
Sent: Tuesday, November 19, 2013 11:37 AM
To: Ashlee MacDonald; 'Judy Allen'
Subject: PZ-PD-005-13

Ashlee MacDonald, Planner II

We are in favor of Ironwood 80, LLLP, landowner and Harvard Investments, Inc., applicant request for a zone change from GR (General Rural) to (R-7) Single Family Zoning and (C-1) Neighborhood Commercial Zoning District. We would like to thank them for investing their time and resources in Pinal County and wish them the best in their new endeavor.

Sincerely,

Randolph A. Allen

MINUTES OF THE BELLA CAMINO PAD ZONING NEIGHBORHOOD MEETING
JUNE 18, 2013

The Bella Camino PAD zoning neighborhood meeting was held at the Circle Cross Ranch K-8 School Cafeteria on June 18, 2013 at 5:00 p.m. as noticed in the mailer attached as Exhibit "A". The mailer was sent to approximately 450 area residents. Four people attended and the Sign-in Sheet is attached as Exhibit "B" (Note – Mr. Estes' wife attended but declined to sign in).

The Bella Camino PAD was represented by Jason Hadley of Hadley Design Group and Tim Brislin of Harvard Investments. Jason and Tim provide an overview of the Bella Camino plan to the attendees and answered questions posed by the attendees. The following questions were asked and answered:

1. What are your plans for the commercial corner?
   Answer: Harvard currently plans to hold the property for investment until there is market demand for commercial uses.

2. What are your points of access?
   Answer: We are planning an access point off of Ironwood/Gantzell Road and Bella Vista Road. As of right now we do not envision an access point off of the existing collector road (Stardust Drive).

3. What is the current general plan for this property?
   Answer: The current general plan designation for this property is Medium Low Density Residential (1-3.5 DUA).

4. What lot sizes will be on this site?
   Answer: The conceptual PAD site plan shows 45' and 55' wide lots. This is representative of what the owner intends to process on a future plat, however, at present the lot sizes, configuration, and roadways shown on the site plan are still conceptual. The lot sizes in the neighboring Rancho Bella Vista north are a mix of similar lot sizes, with existing 45' wide lots bordering Bella Camino on its western boundary.

5. What is the Arizona State Trust Land sale process?
   Answer: All of the land contained in Bella Camino is owned by Harvard Investments, not the State of Arizona. Arizona has a public auction process to sell its land, but that is completely separate from this matter.

6. When will site development start?
   Answer: The start of land development is completely dependent on the market. We are working hard to process the PAD zoning and preliminary plat by the end of 2013, and a final plat in the first part of 2014. If a builder becomes interested at that point in time (i.e. mid 2014), then land development could conceivably begin in the second half of 2014. However, this timeline is not set today and the start of land development could be farther in the future.

EXHIBIT "A"

NEIGHBORHOOD MEETING ANNOUNCEMENT

PROPOSED REZONING & PLANNED AREA DEVELOPMENT FOR BELLA CAMINO

MEETING DATE: Tuesday, June 18, 2013

MEETING TIME: 5pm – 7pm

MEETING PLACE: Circle Cross Ranch K-8 School
35900 North Charbray Drive
Queen Creek, AZ 85143

REQUEST: Rezoning with a Planned Area Development (PAD) overlay for single family residential and commercial uses.

PROPOSAL: The Pinal Comprehensive Plan designates the property as "Medium Low Density" allowing for single family residential housing and some commercial uses. The property owner seeks to accomplish the following goals with the rezoning and PAD: (1) create a high quality single family residential community including various home products at an average of 3.5 units per acre, open spaces, and amenities; and (2) reserve an area for commercial opportunities at the intersection of two major arterial roadways.

PROPERTY LOCATION: Northwest corner of Vineyard Road & Bella Vista Road in San Tan Valley, Pinal County, AZ.

SIZE: Approximately 81 acres

PROPERTY BOUNDARIES:

NORTH:	Roberts Road alignment
SOUTH:	Bella Vista Road
WEST:	Rancho Bella Vista North
EAST:	Vineyard Road

COMMENTS OR QUESTIONS MAY BE DIRECTED TO:

Tim Brislin, Harvard Investments
17700 N. Pacesetter Way Suite 100
Scottsdale, AZ 85255
Phone: 480-515-3255
tbrislin@harvardinvestments.com

This is not a public hearing with the Pinal County Planning and Zoning Commission or the Board of Supervisors. However, you may receive such a notice at a future date if the PAD Amendment and rezoning application is filed with Pinal County and is scheduled for hearing.

BELLA CAMINO NEIGHBORHOOD MEETING SIGN-IN SHEET

MEETING DATE: JUNE 18, 2013 5-7 PM, PLACE: CIRCLE CROSS RANCH K-8 SCHOOL

#	NAME	COMPANY (If applicable)	STREET ADDRESS	CITY	STATE	ZIP	CONTACT INFORMATION
1	FRANK TRCKA	—	[redacted]				
2	Darline Reimer						
3	HENRY ESTES						
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Page 1

EXHIBIT "B"

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Pinal County Web Map

5/29/2013

1,200' maps for Neighborhood mtg

Pinal County does not guarantee the information contained in this map to be an accurate representation of actual existing conditions

APPLICATION FOR CHANGE OF ZONING REGULATIONS IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA

*(All applications **must** be typed or written in ink.)*

1. Pinal County Staff Coordinator: Travis Ashbaugh
2. Date of Concept Review: 5 / 21 / 13 Concept Review No.: CR - 018 - 13
3. The Legal Description of the Property: see attached
4. Tax Assessor Parcel No(s).: 210-17-001A, 210-17-002
5. Current Zoning *(Please provide Acreage Breakdown)*: GR R-7 (71.19 acres); C-1 (10.17 acres)
   Requested PAD Overlay District *(Please provide Acreage Breakdown)*: PAD Overlay
6. Parcel Size(s): 81.36 acres
7. The existing use of the property is as follows: agriculture R-7 (71.19 acres); C-1 (10.17 acres)
8. The exact use proposed under this request: PAD Overlay - single family residential with supporting commercial uses
9. Is the property located within three (3) miles of an incorporated community?
   ☐ YES ☒ NO
10. Is an annexation into a municipality currently in progress?
    ☐ YES ☒ NO
11. Is there a zoning violation on the property for which the owner has been cited?
    ☐ YES ☒ NO

    If yes, zoning violation # _____
12. Discuss any recent changes in the area that would support your application i.e.: zone change(s), subdivision approval, Planned Area Development (PAD), utility or street improvements, adopted comprehensive/area plan(s) or similar changes. see attached narrative
13. Explain why the proposed development is needed and necessary at this time. see attached narrative

RECEIPT #: AMT: DATE: CASE:

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. ***Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.***

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Ironwood 80, LLLP
[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of approx. 81 acres located at northwest corner of Bella Vista Rd and Gantzel Rd
[Insert Address of Property]

and further identified as assessor parcel number 210-17-001A, 210-17-002 and legally described as follows:
[Insert Parcel Number]

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints
Dana Belknap, Gallagher & Kennedy
[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

[Signature]
Dated: _____

[Signature]
Dated: _____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, _____
By _____.
[Insert Name of Signor(s)]

My commission expires _____

_____
Notary Public

[Corporate PROPERTY OWNER signature block and acknowledgment The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

Ironwood 80, LLLP by its General Partner
Harvard Ventures Inc.
[Insert Company or Trustee's Name]

By: _____
[Signature of Authorized Officer or Trustee]

Its: Vice President
[Insert Title]

Dated: 10-24-13

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me, this ___ day of _____, _____
by _____ _____
[Insert Signor's Name] *[Insert Title]*
_____, an _____
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*
and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: _____

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

On this 24th day of October, 2013, before me, the undersigned, personally appeared
Christopher J. Caehers Who acknowledged himself/herself
[Insert Signor's Name]
to be Vice President of Harvard Ventures Inc.
[Title of Office Held] *[Second Company]*
As General Partner for Ironwood 80, LLLP, and who being
[i.e, member, manager, etc.] *[Owner's Name]*
authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

_____
Notary Public

My commission expires: 10/26/16

MARY I. TAYLOR
Notary Public - Arizona
Maricopa County
My Comm. Expires Oct 28, 2016

REVISED MARCH 2013

PAGE 7

Bella Camino

Legal Description

PARCEL NO. 1:

THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT THE FOLLOWING DESCRIBED PARCEL:

THE EAST 90.00 FEET OF THE EAST HALF OF THE NORTH 120.00 FEET OF THE SOUTH HALF OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA;

EXCEPT ALL OIL, GAS OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF A GASEOUS NATURE, COAL, MINERALS, FOSSILS, FERTILIZER OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM, OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNITED STATES, OR OF THIS STATE, OR DECISIONS OF THE COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIAL, WHETHER OR NOT OF COMMERCIAL VALUE AND THE EXCLUSIVE RIGHT THERETO, ON, IN, OR UNDER THE ABOVE DESCRIBED LANDS, AS SET FORTH IN INSTRUMENT RECORDED IN DOCKET 903, PAGE 37.

PARCEL NO. 2:

THE SOUTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT ALL OIL, GAS OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF A GASEOUS NATURE, COAL, MINERALS, FOSSILS, FERTILIZER OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM, OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNITED STATES, OR OF THIS STATE, OR DECISIONS OF THE COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIAL, WHETHER OR NOT OF COMMERCIAL VALUE AND THE EXCLUSIVE RIGHT THERETO, ON, IN, OR UNDER THE ABOVE DESCRIBED LANDS, AS SET FORTH IN INSTRUMENT RECORDED IN DOCKET 903, PAGE 37.

SUPPORTING INFORMATION

1. Note any services that are not available to the site. Discuss any improvements of services that would be paid for by the public:
see attached narrative

2. What is the amount of traffic to be generated (# of trips/day, deliveries/week)? Show ingress/egress on the site plan:
see attached narrative

3. How many parking spaces are to be provided (employees and customers)? Indicate these parking spaces on the site plan:
see attached narrative

4. Is there a potential for excessive noise (I.E.; children, machinery) or the production of smoke, fumes, dust or glare with this proposed land use? If yes, how will you alleviate these problems for your neighbors?
no

5. What type of landscaping are you proposing to screen this use from your neighbors?
see attached narrative

6. What type of signage are you proposing for the activity? Where will the signs be located?
see attached narrative

7. If the proposed land use involves any type of manufacturing or production process, provide a short synopsis of the processes utilizing diagrams, flowcharts and/or a short narrative: N/A

8. Explain how the appearance and operation of the proposed land use will maintain the integrity and character of the zone in which the use is requested:
see attached narrative

9. Have you discussed possible conditions that may be placed on the approval with the Planning Department? ☐ YES ☒ NO

10. Do you understand that if a condition is violated, that there is a public process by which your zoning may be reverted? ☒ YES ☐ NO

APPLICATION CHECKLIST

FOR A PROPOSED ZONE CHANGE
IN UNINCORPORATED PINAL COUNTY

☒ **A.** Check the appropriate item:

- ☐ This Zone Change is being submitted without a PAD request
- ☒ This Zone Change is being submitted in conjunction with a PAD request. The applicant must complete a PAD application. – ***(Please utilize the "PAD Book" and the "Site Plan" of the PAD application to fulfill the Zoning Application "Narrative" and "Site Plan" in lieu of while having separate copies for each application).***

☒ **B.** Hold a Neighborhood/Community Meeting:

- ☒ **1.** Notify all property owners within 1200' (feet)
- ☒ **2.** Hold the meeting within five (5) miles of the subject property
- ☒ **3.** Hold the meeting between 5:00 pm – 9:00 pm
- ☒ **4.** Include with the application the following:
  - ☒ **a.** Copy of Notice of Neighborhood/Community Meeting
  - ☒ **b.** List of property owners notified - ***(Use page 5 of this application)***
  - ☒ **c.** Minutes of the meeting
  - ☒ **d.** Attendance sign-in sheet with names & addresses

☒ **C.** **Submit** a completed **"Agency Authorization"** form *(if applicable)*.

☐ **D.** **Submit** a written **Narrative** concerning the proposed development ***(if not submitting in conjunction with a PAD Application)*** to include:

submitting in conjunction with a PAD

- ☐ **1.** Title Page
- ☐ **2.** Purpose of Request
- ☐ **3.** Description of Proposal
  - ☐ **a.** Nature of the Project
  - ☐ **b.** Proposed Land Use
  - ☐ **c.** Conformance to adopted Comprehensive Plan
  - ☐ **d.** Answers to the questions from the **Supporting Information** sheet
- ☐ **4.** Location & Accessibility

☐ **5.** Utilities & Services

☐ **6.** Neighborhood Meeting Information

☐ **7.** Appendix, as applicable

☐ **E.** **Submit a Site Plan** ***(if not submitting in conjunction with a PAD Application).*** The submittal shall be professionally prepared (*by a surveyor, architect, or other design professional*) and drawn at a sufficient scale as to not exceed a print size larger than 11" X 17". The lettering shall be of sufficient size to be legible when reduced to an 8½" X 11" print and include: *submitting in conjunction with a PAD*

☐ **1.** Legal Description of total site.

☐ **2.** Name(s) of Landowner(s), Developer, Applicant and Person or Firm preparing plan.

☐ **3.** North Arrow, Scales (*written and graphic*), Preparation Date and Subsequent Revision Dates.

☐ **4.** Location of all Existing & Proposed Structures & Buildings

☐ **5.** Location of all Existing & Proposed Utilities with Location & Width of Associated Easements.

☐ **6.** All Existing & Proposed Public and/or Private Streets with Location & Width of Associated Easements & Right-of-Ways.

☐ **7.** All Points of Ingress & Egress.

☐ **8.** Location & Types of Existing & Proposed Landscaping.

☐ **9.** Indicate Location, Type, Height, & Materials for Proposed Walls, Fences & Signs.

☐ **10.** Show whether the property is adjacent to a projected regionally significant route (RSR) as identified on the Corridor Preservation Map (Figure 9) in the Regionally Significant Routes for Safety and Mobility (RSRSM), Final Report. If adjacent to a projected RSR, show how applicant will comply with the RSRSM Final Report and the RSRSM Access Management Manual.

☒ F. **Submit** the following information regarding **Water Supply**: *See preliminary report, attached*

☐ **1.** Identify the water service provider

☐ **2.** Provide an estimated range of water demand and include an explanation of the method used to obtain the estimate

☐ **3.** Provide information about water supply and source, including renewable and non-groundwater supplies

☐ **4.** If a portion of the water supply for the proposed project is groundwater, the application shall be accompanied by the following information that is publicly available from the Arizona Department of Water Resources (ADWR) and/or Arizona Geological Survey, or otherwise available to the land owner:

- ☐ **a.** Depth to bedrock
- ☐ **b.** Depth to groundwater
- ☐ **c.** Known fissures or land subsidence in the area
- ☐ **d.** Known wells in the area, available information on status and water levels
- ☐ **e.** Summary of data-gathering efforts and sources of information

☒ **G.** **Submit** a copy of a certified **A.L.T.A.** survey, including a legal description of proposed zoning districts.

☒ **H.** **Aware** that earth fissure maps are available online from the Arizona State Geologic Survey.

☒ **I.** **Submit a list of all property owners within 600' (feet)** of the subject property boundary showing name, mailing address and tax parcel numbers. This list must be obtained within 30 days prior to application submission. A map showing the 600' boundary and parcels must be included as well (*A Tax Assessor Parcel Map is Acceptable*). - ***(This list is a separate list from the "Neighborhood/Community Meeting list of 1,200' however use Page 5 of this application as well).***

☒ **J.** **Complete** and **Submit** the **"Comprehensive Plan Compliance Checklist"**

☐ **K.** **Submit** the Non-Refundable fees for a Special Use Permit outlined on page one of the Zone Change Application. *N/A*

☒ **L.** **Submit** one **(1) hard copy** of all documentation outlined in the Zone Change application and one **(1) digital copy** in a multi-PDF format per item of the application with all supporting documentation on **one (1) CD.**

☒ **M.** **Submit** one (1) CD which contains:

☐ **1.** An ESRI shapefile for land use (conceptual) which shows all proposed zoning lines and zoning classifications for the project in NAD_1983_stateplan_arizona_central_fips_0202_intlfeet projection

OR

☐ **2.** An AutoCAD (.dwg file), which includes the following layers:

- ☐ **a.** Parcel
- ☐ **b.** Right-of-way
- ☐ **c.** Sub-perimeter

- ☐ **d.** Centerlines
- ☐ **e.** Section Lines
- ☐ **f.** Street names
- ☐ **g.** Lot-numbers
- ☐ **h.** Distances & Bearings tied by course and distance to two Pinal County survey control points or established city or county survey monuments. *(Information on these control points can be obtained from Public Works, Engineering Technicians at 520-866-6411).*

☒ **N.** **Aware to Install Broadcast Notification Sign(s) on the site in conformance with the information shown in this application.** (*See page 12 & 13 of this application for illustrative details*).

☒ **O.** Signature at the end of the **"Checklist"** stating you have reviewed and addressed all areas within it.

I certify that I have submitted all the required information listed above, and I understand that this application for a Zone Change cannot be processed until all required information is submitted.

Signature _____ Date 6/28/13

APPLICATION FOR A PLANNED AREA DEVELOPMENT (PAD) OVERLAY DISTRICT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA

(All applications must be typed or written in ink.)

1. Pinal County Staff Coordinator: Travis Ashbaugh
2. Date of Concept Review: 5 / 21 / 13 Concept Review No.: CR - 018-13
3. The Legal Description of the Property: see attached
4. Tax Assessor Parcel No(s).: 210-17-001A, 210-17-002
5. Current Zoning *(Please provide Acreage Breakdown)*: GR
   Requested PAD Overlay District *(Please provide Acreage Breakdown)*: R-7 (71.19 acres); C-1 (10.17 acres; PAD Overlay
6. Parcel Size(s): 81.36 acres
7. The existing use of the property is as follows: agriculture
8. The exact use proposed under this request: R-7 (71.19 acres); C-1 (10.17 acres); ~~PAD Overlay - single family residential with supporting~~ commercial uses
9. Is the property located within three (3) miles of an incorporated community?
   ☐ YES ☒ NO
10. Is an annexation into a municipality currently in progress?
    ☐ YES ☑ NO
11. Is there a zoning violation on the property for which the owner has been cited?
    ☐ YES ☒ NO

    If yes, zoning violation # _____
12. Discuss any recent changes in the area that would support your application i.e.: zone change(s), subdivision approval, Planned Area Development (PAD), utility or street improvements, adopted comprehensive/area plan(s), or similar changes. see attached narrative
13. Explain why the proposed development is needed and necessary at this time. see attached narrative

RECEIPT #: AMT: DATE: CASE:

NAME OF PROJECT: Bella Camino PLANNED AREA DEVELOPMENT

AMENDED PERMITTED USE LIST

Proposed Zoning	Uses that will NOT be permitted in this Planned Area Development
R-7 PAD	Uses not permitted in the R-7 zoning district by County Code will not be permitted in the Bella Camino R-7 PAD
C-1 PAD	Uses not permitted in the C-1 zoning district by County Code will not be permitted in the Bella Camino C-1 PAD

NAME OF PROJECT: Bella Camino PLANNED AREA DEVELOPMENT

AMENDED PERMITTED USE LIST

Proposed Zoning	Uses that **WILL BE** permitted in this Planned Area Development
R-7 PAD	All uses permitted in the R-7 zoning district by County Code
C-1 PAD	All uses permitted in the C-1 zoning district by County Code

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

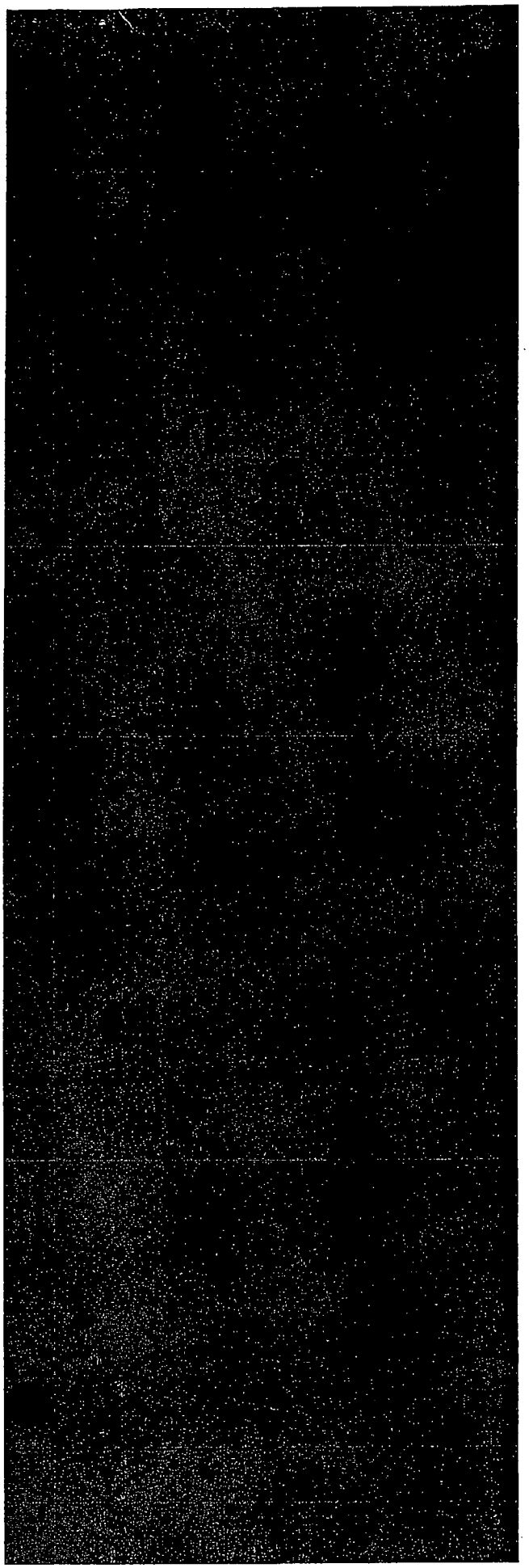
Ironwood 80 LLLP	17700 N. Pacesetter Way #100 Scottsdale AZ 85255	480-348-1118
Name of Landowner (Applicant)	Address	Phone Number

[signature]	hbirsinc@harvardinvestments.com
Signature of Landowner (Applicant)	E-Mail Address

Dana Belknap, Gallagher Kennedy, 2575 E Camelback Rd, Phx, AZ 85016	602-530-8348
Name of Agent Address	Phone Number

[signature]	dsb@gknet.com
Signature of Agent	E-Mail Address

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.



Bella Camino

Gantzel and Bella Vista Roads

Preliminary Drainage Report

Zoning/PAD

Job No. 12001060

Prepared for

Harvard Investments
17700 North Pacesetter Way
Scottsdale, Arizona 85255

Prepared by

Atwell, LLC
4700 E Southern Avenue
Mesa, Arizona 85206

July, 2013

ATWELL

PRELIMINARY DRAINAGE REPORT FOR
BELLA CAMINO
BELLA VISTA AND GANTZEL ROADS

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APPENDIX

APPENDIX A	FIGURE 1 – Aerial Photo of Surrounding Area
	FIGURE 2 – Aerial Photo of Site
	FIGURE 3 – Vicinity Map
	FIGURE 4 – Flood Insurance Rate Map
	FIGURE 5 – USGS Map, Offsite Drainage Basins
	FIGURE 6 – Conceptual Site Plan
APPENDIX B	Preliminary Calculations

1.0 INTRODUCTION

This Preliminary Drainage Report has been prepared to evaluate the existing and proposed drainage conditions for the Bella Camino site and to identify potential impacts relating to the Sanokai Wash storm water flows. The off-site storm water flow discussed below is primarily based upon the hydrology analysis prepared for the development of Rancho Bella Vista South (RBVS) located just upstream of this site. That analysis estimates the offsite storm water discharges directed to this site. This report will describe potential impacts to the site that are related to these offsite flows and how the proposed site will accommodate them. This report will also describe the proposed drainage improvements for the Bella Camino development to support the zoning and PAD application.

2.0 LOCATION AND SITE DESCRIPTION

Bella Camino is an 81-acre site located on the northwest corner of Bella Vista and Gantzel Roads. This site is more specifically described as being located within the east half of the SE1/4 of Section 17, Township 3 South, Range 8 East of the Salt River Base and Meridian, Pinal County Arizona (see Figures 1, 2 and 3). The site is bordered by the development of Rancho Bella Vista to the west; Bella Vista Road and Johnson Ranch to the south; undeveloped farmland and Gantzel Road to the east and undeveloped farmland to the north. The Bella Camino site was previously used as farmland and consisted primarily of row crops. The average slope of the site is 0.2 percent, draining in a northerly direction.

Bella Camino is proposed to consist of 258 single family lots and 5.6 net acres of commercial development. It will provide adequate open space to support amenities including area for the Sanokai Wash and onsite retention basins.

The upstream development of Rancho Bella Vista South (RBVS) is a 649-acre development comprised of 756 single-family residential homes, a 17-acre school site, a 9-acre park site and approximately 57-acres of open space reserved for storm water drainage and retention. Rancho Bella Vista South is located southeast of the Bella Vista Road and Gantzel Road intersection. That development is important to Bella Camino because the upstream Sanokai Wash passes through and is controlled by RBVS. The RBVS report establishes the flows and conditions for that developed portion of the Sanokai Wash. The Bella Camino site is in the path of the Sanokai Wash and its storm water flows will impact the site.

3.0 FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) MAP

The project site is located entirely within Zone 'X" as defined by FEMA Flood Insurance Rate Map (FIRM) No. 040077-0475-E, Pinal County, Arizona, effective date 12/4/2007 (see Fig. 4). Zone "X" is described by FEMA as being "areas determined to be outside the 0.2% annual chance flood plain".

4.0 OFFSITE HYDROLOGY ANALYSIS

4.1 Referenced Offsite Studies

A HEC-1 hydrologic computer model of the Sanokai Wash and the Queen Creek Wash, prepared by Huitt-Zollars for the Flood Control District of Maricopa County (FCDMC), is referenced by Pinal County engineers for obtaining design flows for new developments in the area. This study provides a peak discharge of 5,900 cfs where the Sanokai Wash crosses Roberts Road. This is the nearest available junction to the project site, approximately 1.0 mile downstream. This junction, however, also has larger contributing areas from the east side of the Union Pacific Railroad and west of Hunt Highway that do not contribute to the Bella Camino site. Interpolating a design discharge for this site would yield a very unrealistic flow value; therefore, a separate offsite hydrologic model was created in the RBVS Master Drainage Report.

In January 2004, an updated version of Huitt-Zollar's HEC-1 model was completed by Pinal County using the U.S. Army Corps of Engineers HEC-HMS software. The analysis was also reviewed and accepted by engineers at the FCDMC. A copy of this model was obtained by JMI to be used as a guideline for creating the RBVS offsite hydrologic model. Copies of this report are available upon request.

There was also a drainage study prepared by Kimley-Horn and Associates, Inc for Ironwood Road from Bella Vista Road to Combs Road- Phase C. This study was prepared for the expansion of the road from two lanes to 4 lanes. This study is significantly different from the Bella Vista South Report in that it does not account for any flows crossing Hunt Highway. Although the Hunt Highway and upstream irrigation canals will provide some upstream retention, flows will cross the highway in a 100-year event. Therefore, the flows determined in the RBVS report will be used for design of Bella Camino.

4.2 HEC-HMS Model

A HEC-HMS hydrologic model was created by JMI for the Rancho Bella Vista South development to define the offsite design discharges for that site. Exhibit 1 and Appendix C of the RBVS report show the offsite watershed exhibit and a complete summary of parameters used in the model. According to that report, the total contributing drainage area of the Sanokai Wash at Bella Vista Road was defined at 10,239 acres per USGS Quadrangle maps. The results of the HEC-HMS model by JMI show a predeveloped 100-yr, 24-hr peak discharge of 2,066 cfs of the Sanokai Wash at Bella Vista Road.

This discharge will cross the farmland just north of Bella Vista Road and eventually cross Gantzel Road. Large portions of these off-site flows will cross the northeasterly corner of Bella Camino. There is an existing 24" pipe under Gantzel that establishes where this offsite flow cross Gantzel Road. The 24" pipe conveys the lesser flows and bleed-off from RBVS. The remainder of the larger flows will cross over Gantzel Road; enter the Bella Camino site and also discharge into the roadway ditches on both sides of Gantzel Road. Portions of this flow will remain in the Gantzel Road right of way and continue north and not affect Bella Camino. However, Bella Camino will need to prepare a design that will be capable of accepting all the Sanokai Wash flows, convey them through the site and discharge them in their historic condition.

4.3 Offsite Watersheds Along Railroad Track

According to the Rancho Bella Vista South Report, large culvert structures or trestles were not found across the railroad tracks, adjacent to that site. However, there is a pipe that crosses under the railroad immediately adjacent to RBVS that was not accounted for. The effects of this pipe are being evaluated by Pinal County. Please refer to the Ranch Bella Vista Investigation Mitigation: Phase 3 Design Concept. The impact of that additional off-site flow is not expected to have any significant effect on the peak flows crossing Bella Vista Road at the Sanokai Wash.

4.4 Offsite Watershed Affecting the Bella Camino Site

The drainage conditions that surround the Bella Camino site consist of various offsite storm water flows. The existing developments to the south and west control their storm water and have no significant effect on the site. The farm fields to the north flow away from the site and also do not affect the site. However, the offsite flows from the southeast consist primarily of the storm water flows that develop in the Sanokai Wash alignment and its tributary areas.

The Sanokai Wash typically does not have a defined channel that fully contains the flows throughout most of its alignment, which is especially true for the flows that cross the northeast corner of the Bella Camino site and also upstream and downstream of the site. The upstream storm water flows that leave the Bella Vista South community are in the form of wide and shallow flows. The flow spreads out and crosses Bella Vista Road and continues northwest through farm fields and toward Gantzel Road. Once the flows reach Gantzel Road, most will cross over the Road and enter the Bella Camino site and some will continue north along Gantzel Road. The storm water will then cross the northeast corner of the Bella Camino site. For this reason no entry roads off Gantzel Road are proposed in the area of the Sanokai Wash.

According to the Bella Vista South Report, 2059 cfs will discharge over the spillway also known as Bella Vista Road. This will extend from the intersection of Gantzel Road to 1000' to the east. This flow will spread out across the fields north of Bella Vista Road and continue in a northwest direction. A detailed model will be required to determine the width of this flow. Some portion of these flows will continue north in the roadside swales in Gantzel Road. For purposes of this report and future design, the 2059 cfs will be accepted into the site, be conveyed to the north property line and be discharged in its historic drainage path.

It was determined in the RBVS design that a 10 cell, 10' x 4' box culvert could be constructed in the future when the property to the north develops. This is referred to the ultimate condition. This is the future continuation of the Sanokai Wash. This ultimate condition could potentially be part of a regional solution. It is also understood that a similar box culvert could be required in Gantzel Road adjacent to Bella Camino. If placed in the area of the existing 24" storm drain and channel, this culvert could be placed approximately 1500 feet or more north of the Bella Vista Intersection. Until a regional solution is determined, the final location of this Sanokai Wash crossing at Gantzel Road will be unknown.

In order the maintain the Sanokai Wash alignment, the proposed design of Bella Camino consists of accepting these offsite storm water flows, conveying them through the site and discharging them along the north property line in a manner that is similar to the current conditions. A long basin is being proposed to spread out the flows prior to offsite discharge to maintain these current conditions. The site will also be designed to accommodate a future Sanokai Wash cross section that will cross the property and will be able to convey the flows when development occurs north and east of Bella Camino. Until these areas develop or a regional improvement is made, the site will be designed to accept and discharge these flows in their current conditions.

5.0 ONSITE DRAINAGE EVALUATION

5.1 Drainage Conditions/Design

The offsite storm water affecting the Bella Camino site is described above with the major off-site flows within the Sanokai Wash. A channel to convey 2059 cfs would have a top width of approximately 150'. A typical cross section is shown on Appendix B. This is needed to intercept the offsite flows along Gantzel Road, convey them to the north boundary and then a spreader basin will need to be designed to discharge the flows in their historic conditions. An average 150' wide area adjacent to Gantzel Road is proposed to collect and convey the offsite flows and also accommodate an existing irrigation channel. A spreader basin approximately 75' wide is proposed along the north boundary.

Bank protection will be required on the down slope to protect the bank from erosion from water crossing Gantzel Road. Bank protection will also be required opposite the future box culvert. And bank protection will also be required along the spreader basin spillway along the northerly property line. The spillway and bank protection opposite the culvert will most likely be 8" riprap or other approved hard surface. The Gantzel Road bank protection could be a Pyramat type fabric that would allow for vegetation and planting.

A detailed analysis would be required to establish how much flow continues down Gantzel Road. A calculation is included in this report that indicates the roadside swales could convey 50 cfs each, and won't have a large impact on conveying these offsite flows.

Other than the Sanokai Wash flows, onsite conditions should be subject to a typical design for drainage. Street capacities will be designed to meet County regulations and convey the onsite flows to the retention basins. Scuppers will be used to remove storm water from the streets. The retention requirements will be met on site for the half right of way of Bella Vista and Gantzel Roads, except for the portion of Gantzel Road adjacent to the Sanokai Wash. The onsite design will be subject to the retention requirements discussed below.

5.2 Retention Requirements

A proposed drainage design will need to provide for 100-percent onsite retention for the 100-year, 2-hour storm event. Various retention basins will be placed throughout the site in the open space tracts to meet this requirement, see Figure 6 for open space layout. That layout shows a well-spaced layout for tracts that will provide adequate areas for retention.

The estimated volume required for the Bella Camino site would be estimated as follows. Volume = "C" (.65 for weighted C factor for residential) X "I" (2.25" for the 100-year, 2 hour storm) X "A" (81 acres) = 10 acre-feet. With an average of

2.5' depth, this would require approximately 4 acres of retention area, depending on the shapes and number of basins. The conceptual site plan shown in figure 6 meets this need.

As required by the Pinal County Drainage Ordinance, this development will retain runoff from the 100-year, 2 hour storm event. Bella Camino will primarily use the open space and neighborhood parks as its retention areas and any drainage structures proposed will conform to the Pinal County Drainage Ordinance. However, it should be noted that the retention will only be placed in open space areas that are not part of the Sanokai Wash, so that onsite and offsite flows are not comingled.

The commercial site will retain its own retention within the 5.6 net acres and not discharge water into the residential tracts. The commercial site will also be responsible for its half street retention for Bella Vista and Gantzel Roads along the frontage of the commercial site. All onsite retention basins will discharge into drywells designed to discharge storm water within 36 hours. Also, until such time that the Sanokai Wash is connected upstream and downstream to this site, the storm water runoff captured in the Sanokai Wash area onsite will be discharged into drywells located within the adjacent onsite retention basins.

5.3 Future Sanokai Wash Improvements

As described in the RBVS report, an "in-line" storage volume design of 206 acre-ft was provided on the upstream side of Bella Vista Road before overtopping occurs. This overtopping will occur at an elevation of 1497.06 feet per a weir-analysis of the roadway profile defined in the phase 1 paving plans for RBVS. A dip section currently exists at the same location within Bella Vista Road and is defined as a "wet crossing" because the maximum overtopping depth exceeds 1 foot (1.18 ft at 2,066 cfs).

Three 24-inch bleeder pipes cross Bella Vista Road to drain portions of the RBVS basins. Drywells were installed to ensure those basins will drain the remaining volume within a 36-hr period.

A reservoir (RV-E1.1) was defined in the HEC-HMS computer model to replicate the attenuation provided with the additional storage volume provided with this development. The results of the 100-year, 24-hour model show that the peak discharge of 2,066 cfs will be decreased to 2,059 cfs on the downstream side of Bella Vista Road.

It is anticipated that as future developments occur in this area, Bella Vista Road could see significant improvements, including the construction of a possible reinforced concrete box culvert (RCBC) at the Sanokai Wash. In order to preserve a design headwater of 1497.1 feet and 48.4 acre-feet of required retention volume, a 10-Cell, 10 ft x 4 ft RCBC with an inlet elevation at 1491.0

feet was sized to accomplish this. This RCBC structure was rated for a design discharge of 2,066 cfs with an inlet-control headwater and no overtopping at Bella Vista Road.

A similar box culvert will be required at Gantzel Road. This culvert should be designed to convey a minimum flow of 2059 cfs. A preliminary design of this culvert is included in this report, in Appendix B. That design shows that a 7 barrel 5' x 10' box culvert would be required in the future with the regional Sanokai Wash solution. This box culvert will not be constructed as part of this development.

6.0 CONCLUSIONS

This report demonstrates that the site can be developed in accordance with Pinal County Drainage Ordinance. Bella Camino shall be designed to meet the Pinal County requirements, accommodate future wash improvements and preserve historic drainage patterns with no adverse effects to adjacent properties. In order the maintain the Sanokai Wash alignment, the proposed design of Bella Camino consists of accepting these offsite storm water flows, conveying them through the site and discharging them along the north property line in a manner that is similar to the current conditions. Until adjacent properties develop or a regional improvement is made for the Sanokai Wash, the site will be designed to accept and discharge these flows in their current conditions. The proposed development of Bella Camino shall meet or exceed the Pinal County regulations for drainage.

Figure 1

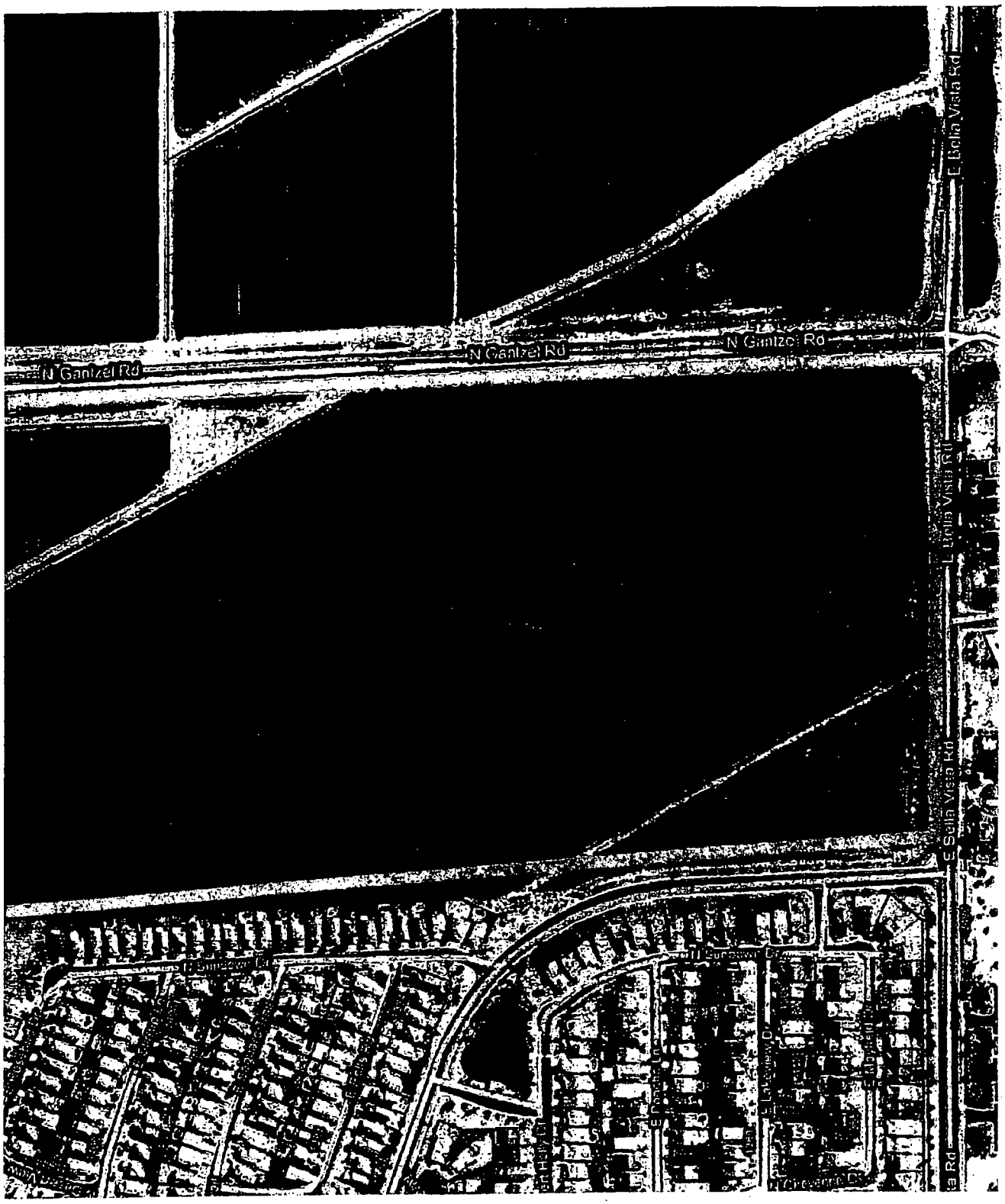
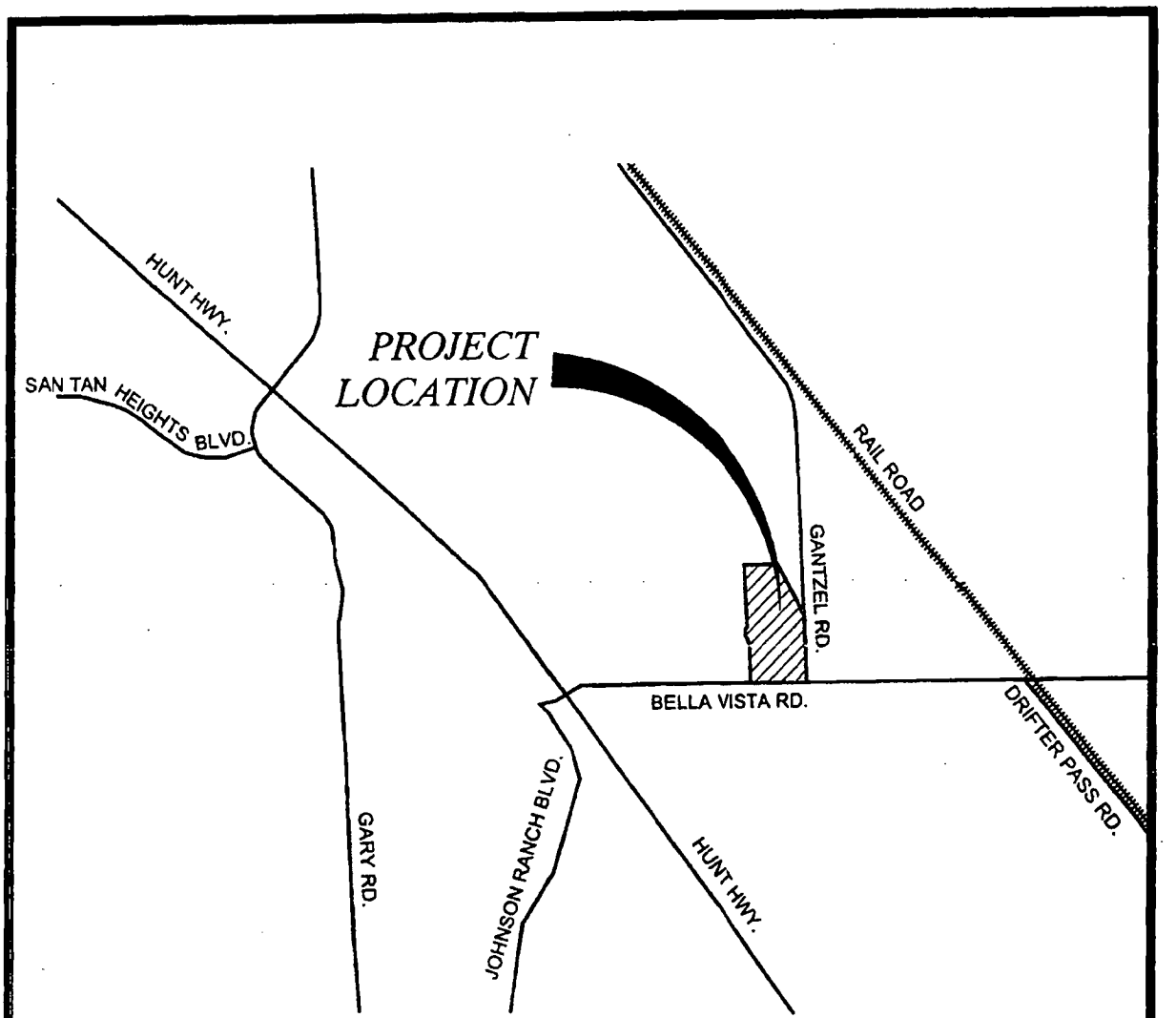

N Ganzel Rd
N Ganzel Rd
N Ganzel Rd
E Bella Vista Rd
E Bella Vista Rd

Figure 2



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Land Development & Real Estate
Power & Energy
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Infrastructure & Transportation
Environmental & Solid Waste
Water & Natural Resources

FIGURE 3 - VICINITY MAP

BELLA CAMINO
PINAL COUNTY, AZ

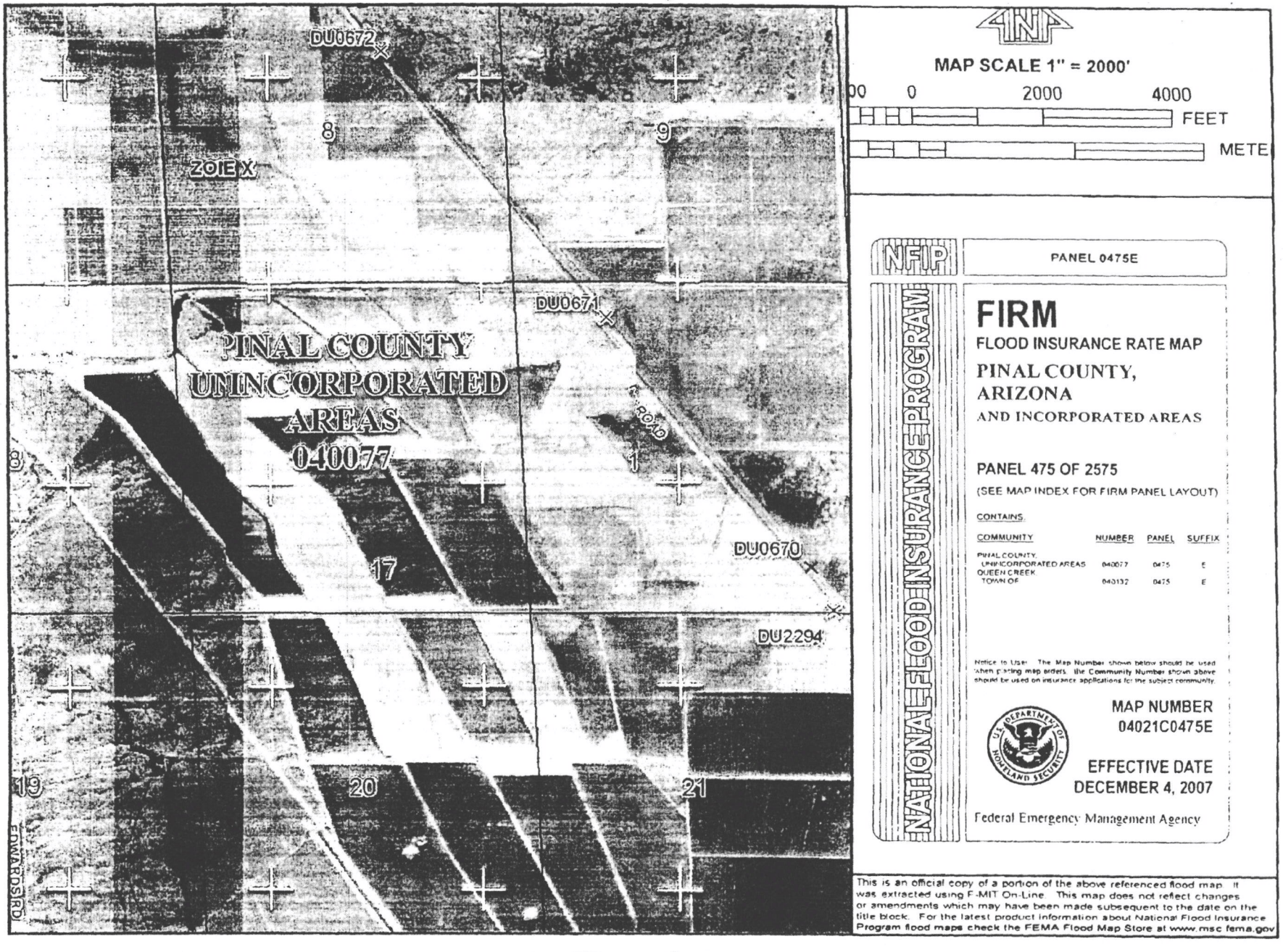

DU0672
ZONE X
8
9
PINAL COUNTY
UNINCORPORATED
AREAS
040077
DU0671
ROAD
1
DU0670
17
DU2294
19
20
21
EDWARDS RD
MAP SCALE 1" = 2000'
00 0 2000 4000
FEET
METE
NFIP
NATIONAL FLOOD INSURANCE PROGRAM
PANEL 0475E
FIRM
FLOOD INSURANCE RATE MAP
PINAL COUNTY,
ARIZONA
AND INCORPORATED AREAS
PANEL 475 OF 2575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)
CONTAINS:
COMMUNITY NUMBER PANEL SUFFIX
PINAL COUNTY,
UNINCORPORATED AREAS 040077 0475 E
QUEEN CREEK,
TOWN OF 040132 0475 E
Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.
MAP NUMBER
04021C0475E
EFFECTIVE DATE
DECEMBER 4, 2007
Federal Emergency Management Agency
This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

Figure 4

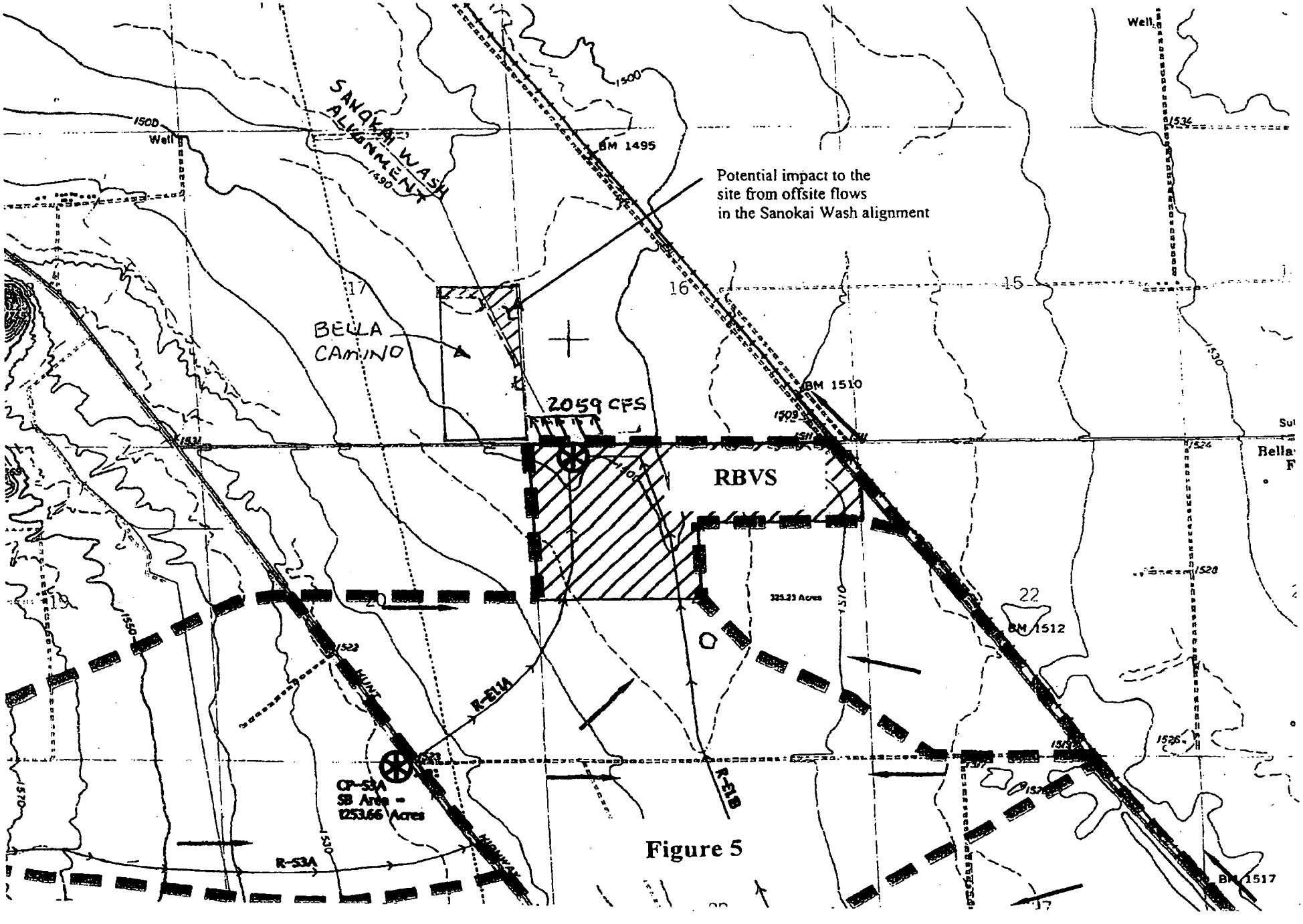
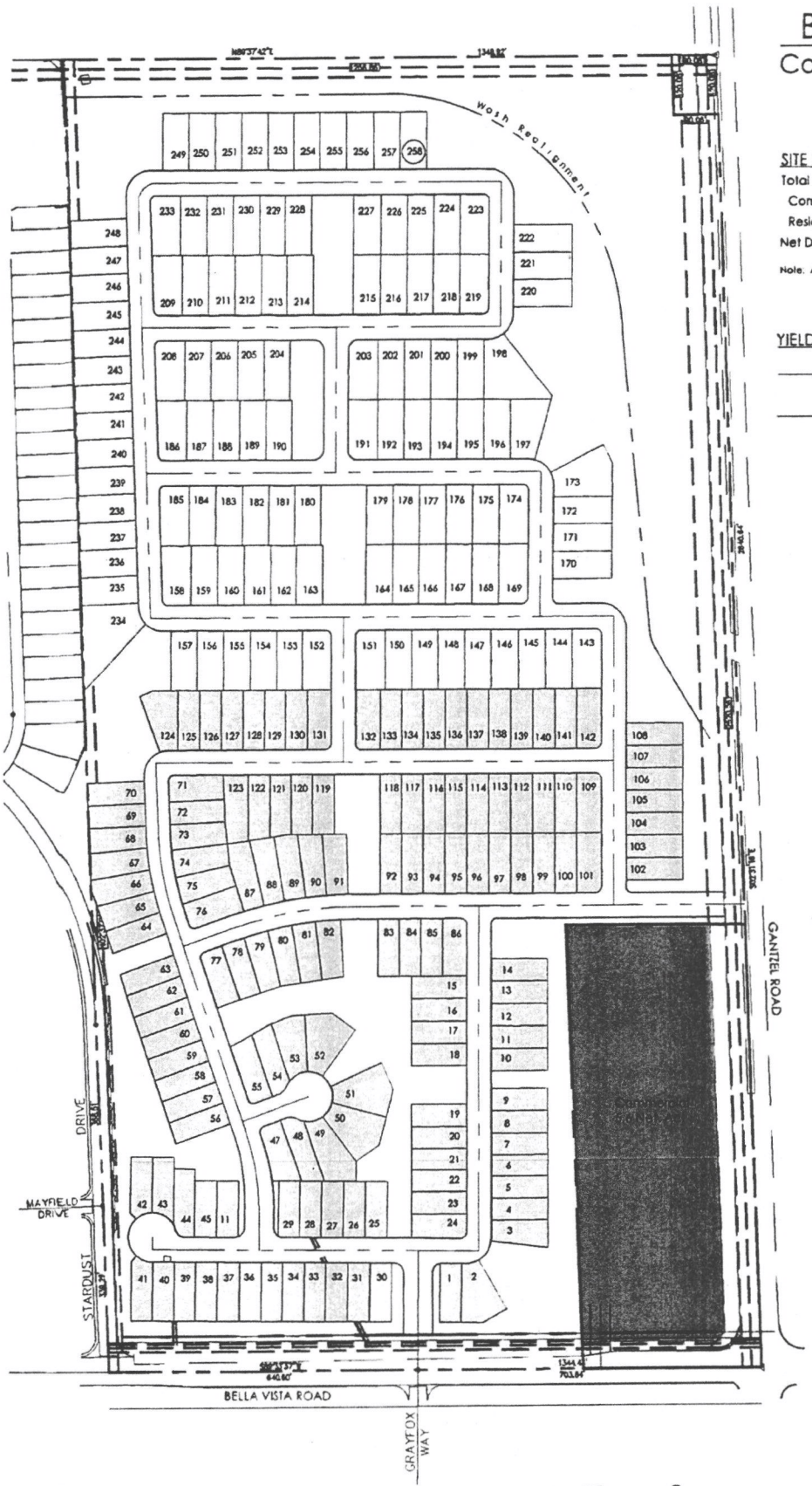

SANOKAI WASH ALIGNMENT
Potential impact to the site from offsite flows in the Sanokai Wash alignment
BELLA CAMINO
2059 CFS
RBVS
BM 1495
BM 1510
BM 1512
BM 1517
R-51A
R-51B
R-53A
CP-53A
SB Area =
1253.66 Acres
323.23 Acres
Well
HIGHWAY

Figure 5



Bella Camino
Conceptual Site Plan

SITE DATA

Total Acres: +/- 81.36 Acres
Commercial Acres: +/- 7.53 (+/-5.6 Net)
Residential Acres: +/- 73.83
Net Density: 3.5 DU/Residential Acre

Note: A minimum of 18% open space will be provided.

YIELD DATA

	Lot Size	Yield	Mix %
	45' x 115'	142	55.0%
	55' x 120'	116	45.0%
		258	100%

north
0' 200' 400'
Date: 25.JUNE.2013

HADLEY DESIGN GROUP
7400 E. McDonald Drive Suite 122
Scottsdale, Arizona 85250
tel 480.478.8091 fax 480.478.8097
www.hadleydesigngroup.com

Figure 6

Appendix B

Calculations

Culvert Design Report
N/A

Solve For: Headwater Elevation

Culvert Summary					
Allowable HW Elevation	1,500.00	ft	Storm Event	Design	
Computed Headwater Elev	1,499.81	ft	Discharge	2,069.00	cfs
Headwater Depth/Height	0.96		Tailwater Elevation	1,498.00	ft
Inlet Control HW Elev.	1,499.73	ft	Control Type	Entrance Control	
Outlet Control HW Elev.	1,499.81	ft			

Grades					
Upstream Invert	1,495.00	ft	Downstream Invert	1,494.00	ft
Length	150.00	ft	Constructed Slope	0.006667	ft/ft

Hydraulic Profile					
Profile	CompositeS1S2		Depth, Downstream	4.00	ft
Slope Type	Steep		Normal Depth	2.33	ft
Flow Regime	N/A		Critical Depth	3.01	ft
Velocity Downstream	7.39	ft/s	Critical Slope	0.003196	ft/ft

Section					
Section Shape	Box		Mannings Coefficient	0.013	
Section Material	Concrete		Span	10.00	ft
Section Size	10 x 5 ft		Rise	5.00	ft
Number Sections	7				

Outlet Control Properties					
Outlet Control HW Elev.	1,499.81	ft	Upstream Velocity Head	1.50	ft
Ke	0.20		Entrance Loss	0.30	ft

Inlet Control Properties					
Inlet Control HW Elev.	1,499.73	ft	Flow Control	Unsubmerged	
Inlet Type	90° headwall w 45° bevels		Area Full	350.0	ft²
K	0.49500		HDS 5 Chart	10	
M	0.66700		HDS 5 Scale	2	
C	0.03140		Equation Form	2	
Y	0.82000				

Cross Section for Trapezoidal Channel - 1

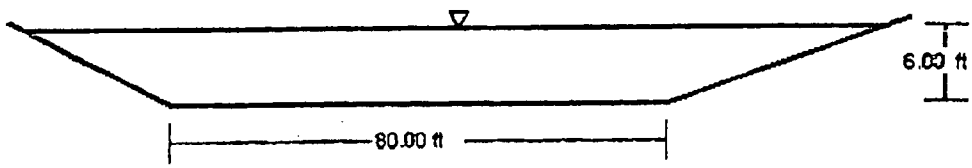
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	6.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	80.00	ft
Discharge	2451.80	ft³/s

Cross Section Image



V: 2
H: 1

Rating Curve for Trapezoidal Channel - 1

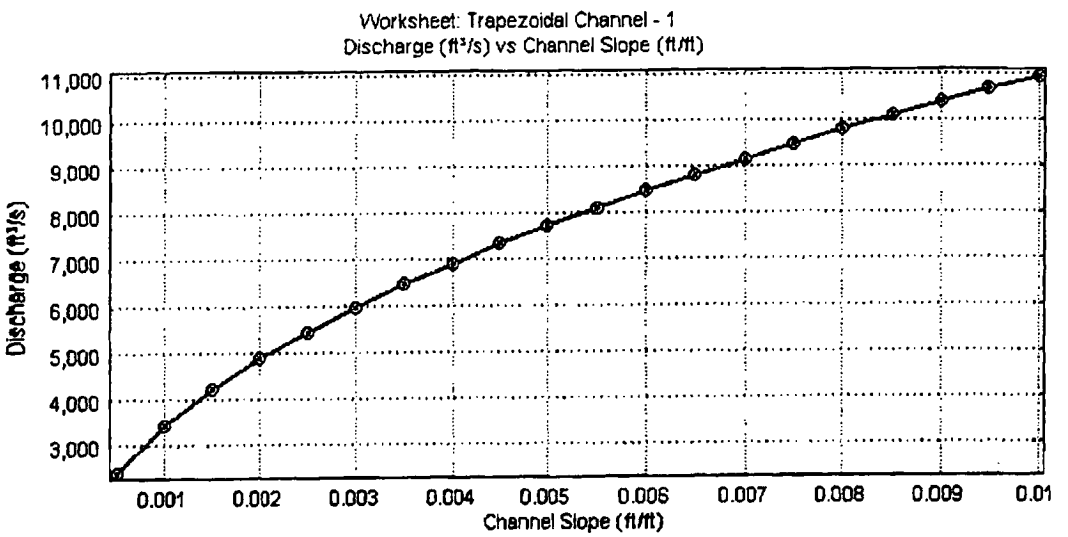
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	6.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	80.00	ft

Rating Curve Plot



Worksheet for Trapezoidal Channel - 1

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	6.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	80.00	ft

Results

Discharge	2451.80	ft^3/s
Flow Area	660.00	ft^2
Wetted Perimeter	141.24	ft
Hydraulic Radius	4.67	ft
Top Width	140.00	ft
Critical Depth	2.89	ft
Critical Slope	0.00675	ft/ft
Velocity	3.71	ft/s
Velocity Head	0.21	ft
Specific Energy	6.21	ft
Froude Number	0.30	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	6.00	ft
Critical Depth	2.89	ft
Channel Slope	0.00050	ft/ft

Worksheet for Trapezoidal Channel - 1

GVF Output Data

Critical Slope	0.00675 ft/ft

Cross Section for Trapezoidal Channel - 2

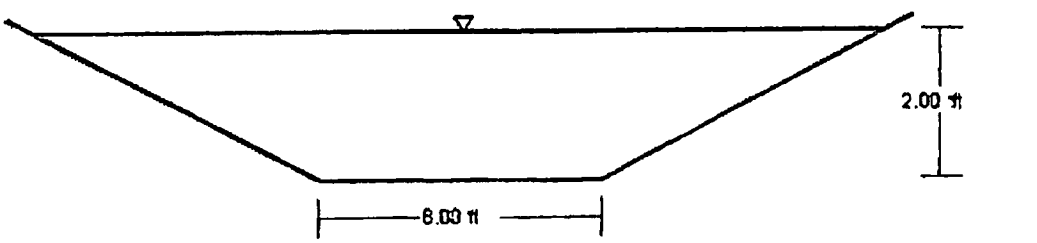
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	8.00	ft
Discharge	50.83	ft³/s

Cross Section Image



V: 2
H: 1

Rating Curve for Trapezoidal Channel - 2

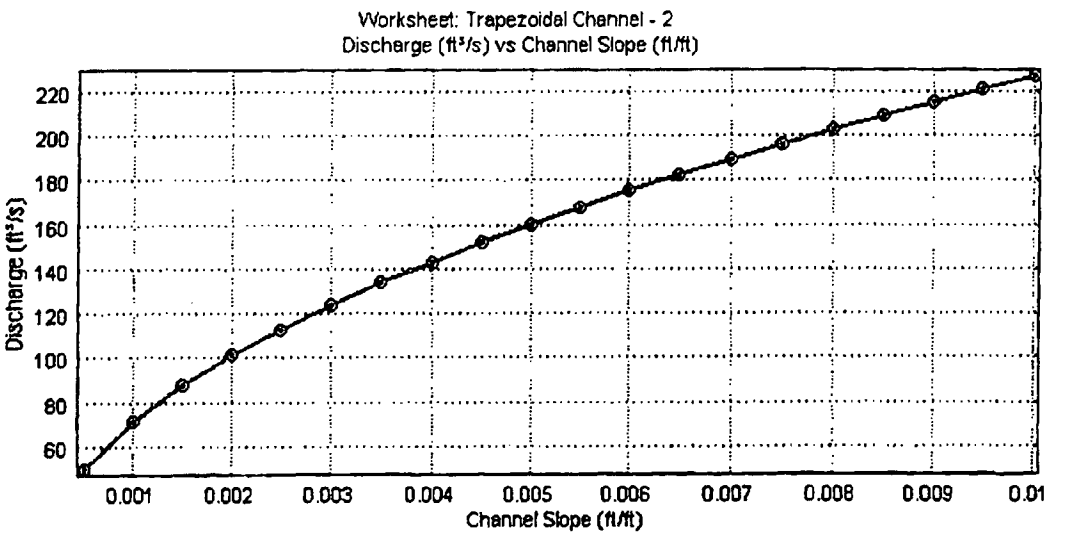
Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	8.00	ft

Rating Curve Plot



Worksheet for Trapezoidal Channel - 2

Project Description

Friction Method	Manning Formula
Solve For	Discharge

Input Data

Roughness Coefficient	0.025	
Channel Slope	0.00050	ft/ft
Normal Depth	2.00	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	8.00	ft

Results

Discharge	50.83	ft^3/s
Flow Area	32.00	ft^2
Wetted Perimeter	24.49	ft
Hydraulic Radius	1.31	ft
Top Width	24.00	ft
Critical Depth	0.92	ft
Critical Slope	0.01047	ft/ft
Velocity	1.59	ft/s
Velocity Head	0.04	ft
Specific Energy	2.04	ft
Froude Number	0.24	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	2.00	ft
Critical Depth	0.92	ft
Channel Slope	0.00050	ft/ft

Worksheet for Trapezoidal Channel - 2

GVF Output Data

Critical Slope	0.01047 ft/ft

APPLICATION CHECKLIST

FOR A PROPOSED PLANNED AREA DEVELOPMENT (PAD) OVERLAY DISTRICT IN UNINCORPORATED PINAL COUNTY

☒ A. Check the appropriate item:

- ☐ This PAD is being submitted without a zone change request
- ☒ This PAD is being submitted in conjunction with a zone change request. The applicant must complete a zone change application. – ***(Please utilize the "PAD Book" and the "Site Plan" of the PAD application to fulfill the Zoning Application "Narrative" and "Site Plan" in lieu of while having separate copies for each application).***

☒ B. Hold a Neighborhood/Community Meeting:

- ☒ **1.** Notify all property owners within 1200' (feet)
- ☒ **2.** Hold the meeting within five (5) miles of the subject property
- ☒ **3.** Hold the meeting between 5:00 pm – 9:00 pm
- ☒ **4.** Include with the application the following:
  - ☐ **a.** Copy of Notice of Neighborhood/Community Meeting
  - ☐ **b.** List of property owners notified - ***(Use page 5 of this application)***
  - ☐ **c.** Minutes of the meeting
  - ☐ **d.** Attendance sign-in sheet with names & addresses

☒ C. **Submit** a completed **"Agency Authorization"** form *(if applicable).*

☒ D. **Submit** a **"PAD Book"** (written narrative) concerning the proposed development to include the following sections – *Refer to Chapter 2.176.240 (B) of the PCDSC* for further clarification ***(NOTE: Please No Spiral Binding)***:

- ☐ 1. Title Page
- ☐ 2. Purpose of Request
- ☐ 3. Description of Proposal
  - ☐ Nature of the Project
  - ☐ Proposed Land Uses
  - ☐ Building Types & Densities
  - ☐ Conformance to adopted Land Use Plans
  - ☐ Circulation and Recreation Systems

- ☐ 4. Relationship to surrounding properties within one mile
- ☐ 5. Schools
- ☐ 6. Public Services
- ☐ 7. Community Services and how will the need for these services be addressed
- ☐ 8. Location & Accessibility
- ☐ 9. Compliance with RSRSM, Access Management Manual, October 2008
- ☐ 10. Utilities & Services
- ☐ 11. Ownership & Control – [*See Section 2.176.240 (B)11*]
- ☐ 12. Timing of Development (Phasing Schedule)
- ☐ 13. Conformance with the Comprehensive Plan
- ☐ 14. Recreational Amenities
- ☐ 15. Fences, Walls & Screening
- ☐ 16. Total number of dwelling units
- ☐ 17. Maximum Residential Density of each planning unit
- ☐ 18. Total number of parking spaces for recreational facilities
- ☐ 19. Type of landscaping
- ☐ 20. Preliminary hydrologic data and a statement on drainage
- ☐ 21. Additional Information for Commercial & Industrial Uses *(if applicable)*:
  - ☐ Total Area in acres proposed *(Commercial & Industrial Separated)*
  - ☐ Approximate retail sales floor area *(Commercial)*
  - ☐ The uses proposed uses based on permitted uses in the base zone.
  - ☐ The standards of height, open space, buffering, landscaping, pedestrian and vehicle circulation, off-street parking and loading, signs, outdoor lighting, and nuisance controls intended for the development.
- ☐ 23. Tables:
  - ☐ **a.** Land Use Table(s) to include the following:
    1) Total Acreage of the site
    2) Total Area of arterial & collector streets
    3) Total Area & Percent of Open Space
    4) Total Number of each type of dwelling unit

5) Total Number of all dwelling units proposed including the range and mixture of lot sizes within each base zone
6) The Overall proposed Density

☐ **b.** Amended Development Standards Table comparing proposed and current zoning code standards for:
1) Minimum Lot Area
2) Minimum Lot Width
3) Minimum Building Setbacks
4) Maximum Building Height
5) Minimum Distance between main & detached accessory buildings
6) Buildable Area

☐ **c.** Amended Use Tables:
1) Permitted Uses
2) Non-Permitted Uses

☐ **d.** Utilities & Services Table of type and source:
1) Sewer
2) Water
3) Electric
4) Telephone
5) Police
6) Fire
7) Schools
8) Solid Waste Disposal

☐ 24. Appendix, as applicable

☒ E. **Submit** a **map** that shows the relationship to surrounding properties within one mile of the project boundaries. The map shall be drawn at a sufficient scale so as to not exceed a print size larger than 11" X 17". The lettering shall be of sufficient size to be legible when reduced to an 8½" X 11" print. The map shall contain the following information:

☐ 1. Zoning Boundaries

☐ 2. Street Alignment

☐ 3. Open Space

☐ 4. Trails

☒ F. **Submit** a current preliminary **Title Report** *(dated within 60 days prior to application)*

☒ G. **Submit** a **Development Plan.** The submittal shall be drawn at a sufficient scale as to not exceed a print size larger than **24" X 36"** with **11" X 17"** reductions to be included in the PAD Overlay District Application where the lettering is of sufficient size to be readable. The Development Plan shall include:

☐ **1. Site Plan:**

- ☐ **a.** Title of project as shown in the narrative report, such as ***"Planned Area Development for (insert name of Development)"*** in bold letters.
- ☐ **b.** Name(s) of Landowner(s), Developer, Applicant, and Person or Firm preparing the plan.
- ☐ **c.** North Arrow, Scales *(written & graphic)*, Preparation Date & Subsequent Revision Dates.
- ☐ **d.** Vicinity Map showing project, surrounding development and applicable zoning districts *(scale no less than 1" = 2,000')*
- ☐ **e.** Existing Zone designation & requested zone change *(as applicable)*
- ☐ **f.** Legal Description of total site
- ☐ **g.** Boundaries of the proposed PAD Overlay Zoning District delineated and dimensioned by bearing and distance.
- ☐ **h.** All existing and proposed public and/or private streets, location and width of associated easements and rights-of-way and whether they will remain or be extinguished.
- ☐ **i.** Location & Identification of all existing and proposed utilities, location and width of associated easements.
- ☐ **j.** Location of all existing structures and significant natural features.
- ☐ **k.** Nearest regional significant routes to proposed development as projected in RSRSM Final Report, December 2008.
- ☐ **l.** All points of ingress and egress.
- ☐ **m.** Parking Areas.
- ☐ **n.** Identify & Delineate existing and/or proposed trails as shown on the Pinal County trails system master plan.
- ☐ **o.** Indicate and/or label *(as applicable)*:
  1) Areas to be reserved for residential, commercial, industrial, open space, public use, facilities, drainage, and recreation.
  2) Who will own, control and maintain the landscaping, recreational facilities, open areas, refuse disposal, streets, private utility systems.
  3) Topography with a maximum contour interval of two feet except where existing ground is on a slope of less than two percent, then either one foot contours or spot elevation shall be provided where necessary.
  4) Phase Lines *(as applicable)*.
- ☐ **p.** Provide lot typical (typical should show building envelope, setbacks, lot dimensions and fences/walls) for:
  1) Each type of dwelling unit
  2) Lots in unusual locations (i.e. Cul-de-sacs, corners, hillside lots where clustering will occur.

☐ **q.** Indicate by notes the existing drainage pattern and proposed drainage plans for handling on-site and off-site storm water runoff

☐ **r.** Indicate location, type, height, and materials for proposed walls, fences, and signs.

☐ **s.** Location and types of existing and proposed landscaping.

☐ **t.** Designated Flood Zone

☐ **2. Quantitative Development Data Tables**

☐ **a.** Land Use table to include:
1) Total Gross Acreage of site
2) Total Area of Streets (Public & Private)
3) Total Area of Public Open Space
4) Total Net Area of all intended uses
5) Total Areas of Open Space for PAD Residents, and total Recreation Area Open Space
6) Total Dwelling Units permitted under base zoning district
7) Total number of each dwelling type including range and mixture of lot sizes within each base zone
8) Grand Total of Dwelling Units
9) Overall Density proposed

☐ **b.** Zoning Comparison Table of Existing & Proposed to include:
1) Lot area per dwelling unit
2) Setbacks
3) Minimum Lot Widths
4) Maximum Building Heights
5) Parking

☐ **c.** Utility & Services Table indicating type and source:
1) Sewer
2) Electric
3) Telephone
4) Water
5) Police/Security
6) Fire
7) Schools
8) Solid Waste Disposal

☐ **d.** Street Type Table indicating proposed rights-of-way and pavement widths for arterials, collectors, and neighborhood streets.

☒ H. **Submit** an **Open Space & Recreation Plan** ("OSRP") that includes – *Refer to Chapter 2.176.250 (B) (25) of the PCDSC* for further clarification:

☐ **1. Reviewed** the Pinal County Open Space & Recreational Area Guideline Manual (OSRAM).

☐ **2. Site Analysis**

☐ **a.** Aerial Photo
1) Preferred scale of 1"=50' *(maximum scale of 1"=100')*
2) Site Analysis should be produced in an **8½" X 11" format for text**
3) Site Analysis should be produced in an **24" X 36" format for plans**

☐ **b.** Total acreage of proposed development

☐ **c.** Context Map showing the proximity and relationship to the County's trails, parks, or schools and connectivity to the adjacent neighborhoods, off-site trails, paths, bikeways, and transit areas.

☐ **d.** A concept drawing of the proposed development including:
1) Gross Site Area
2) Number of proposed lots
3) Proposed Arterial & Collector street circulation system
4) Proposed lot size(s),
5) Proposed Retention/detention areas
6) Proposed Development Phasing

☐ **e.** The Target Market of the proposed development – (*See OSRAM Guideline Manual*)

☐ **f.** Existing and proposed developed or conservation open space areas and multi-use path and trail corridors within proximity to the proposed development:
1) within one (1) mile in proximity of the proposed development of less than 800 gross acres
2) within three (3) miles in proximity of the proposed development of 800 gross acres or more.

☐ **g.** Narrative Describing:
1) How the proposed development will integrate into the County's overall open space and trail system as depicted in the plan
2) How the requirements for Developed and/or Conservation Open Space, recreation areas and multi-use path and trails are met.

☐ **h.** A pedestrian circulation system

☐ **i.** A Slope Analysis identifying the following slope categories:
1) 0% - 5%
2) 5% - 10%
3) 10% and greater

☐ **j.** Identification of wash corridors and preliminary hydrologic information for the contributing watershed.

☐ **k.** Identification of the location of riparian vegetation and biological habitats. Aerial photos should be used to map the limits of notable vegetation.

☐ **l.** Identification of potential view corridors.

☐ **m.** Identification of the projected 100-year floodplain and floodway boundary as required by FEMA.

☐ **n.** A record check through Arizona State Museum ("ASM") for archeological sites and identification of any sites or surveys.

☐ **o.** The location and percentage of each proposed development to be preserved as conservation open space and the features to be protected including parcel size and minimum dimensions.

☐ **p.** The location and percentage of each proposed development to be preserved as developed open space and the specific Recreation Areas, including amenities, parcel size and minimum dimensions.

☒ I. **Submit** a **Landscape Plan** that includes – *Refer to Chapter 2.176.240 (C) of the PCDSC* for further clarification:

☐ **1.** A Vegetation Salvage Plan

☐ **2.** Proposed treatment of all ground surfaces (paving, turf, gravel, grading, etc.)

☐ **3.** Extent and location of all plant materials and other landscape features.

☐ **4.** Extent of decorative design elements such as fountains, pools, benches, sculptures, planters, and similar elements.

☐ **5.** Location of Water Outlets.

☒ J. **Reviewed, Met,** and/or **Addressed** the following in Chapter 2.176 of the PCDSC:

☐ **1.** Minimum requirements for Open Space – *(Section 130)*

☐ **2.** Uses permitted within open space areas – *(Section 140)*

☐ **3.** Uses prohibited within open space areas – *(Section 150)*

☐ **4.** Minimum requirements for recreation areas – *(Section 160)*

☐ **5.** Minimum requirements for multi-use paths and trails – *(Section 170)*

☐ **6.** Minimum requirements for storm water retention & detention basins – *(Section 180)*

☐ **7.** Minimum requirements for streetscapes & entryways – *(Section 190)*

☐ **8.** Minimum requirements for conservation open space – *(Section 200)*

☒ K. **Submit** a **Master Sign Plan** detailing the location and type of all proposed signage for the project.

☒ L. **Submit** a **Preliminary Drainage Report**

☒ M. **Submit a Preliminary Traffic Impact Assessment** (TIA)

☒ N. **Submit** a copy of a certified **A.L.T.A.** survey, including a legal description of the PAD boundary.

☒ O. **Aware** that earth fissure maps are available online from the Arizona State Geologic Survey.

☒ P. **Submit a list of all property owners within 600' (feet)** of the subject property boundary showing name, mailing address and tax parcel numbers. This list must be obtained within 30 days prior to application submission. A map showing the 600' boundary and parcels must be included as well (*A Tax Assessor Parcel Map is Acceptable*). - ***(This list is a separate list from the "Neighborhood/Community Meeting list of 1,200' however use Page 5 of this application as well).***

☒ Q. **Submit** separate preliminary reports or master plans for:

- ☐ 1. Storm water drainage
- ☐ 2. Wastewater
- ☐ 3. Domestic water service.

☐ R. **Submit** additional materials required for specific types of commercial and industrial uses as follows *(as applicable)*:

- ☐ **1. Commercial Uses:**
  - ☐ **a.** Retail sales floor area and total area proposed for commercial development
  - ☐ **b.** Type of uses proposed
- ☐ **2. Industrial Uses**
  - ☐ **a.** Total Area proposed for industrial uses
  - ☐ **b.** Types of uses proposed
  - ☐ **c.** Anticipated employment for development per major phases
- ☐ **3. Standards of:**
  - ☐ **a.** Height
  - ☐ **b.** Open Space
  - ☐ **c.** Buffering
  - ☐ **d.** Landscaping
  - ☐ **e.** Pedestrian & Vehicular circulation
  - ☐ **f.** Off-street parking & Loading

- ☐ **g.** Signs
- ☐ **h.** Nuisance Controls

☒ **S.** **Complete** and **Submit** the **"Comprehensive Plan Compliance Checklist"**

☒ **T.** Non-Refundable $1,000.00 filing fee for a Planned Area Development

☒ **U.** **Submit** one **(1) hard copy** of all documentation outlined in the PAD application and one **(1) digital copy** in a multi-PDF format per item of the application with all supporting documentation on **one (1) CD.**

☒ **V.** **Submit** one (1) CD which contains:

☒ **1.** An ESRI shapefile for land use (conceptual) which shows all proposed zoning lines and zoning classifications for the project in NAD_1983_stateplan_arizona_central_fips_0202_intlfeet projection

OR

☐ **2.** An AutoCAD (.dwg file), which includes the following layers:

- ☐ **a.** Parcel
- ☐ **b.** Right-of-way
- ☐ **c.** Sub-perimeter
- ☐ **d.** Centerlines
- ☐ **e.** Section Lines
- ☐ **f.** Street names
- ☐ **g.** Lot-numbers
- ☐ **h.** Distances & Bearings tied by course and distance to two Pinal County survey control points or established city or county survey monuments. *(Information on these control points can be obtained from Public Works, Engineering Technicians at 520-866-6411).*

☒ **W.** **Aware to Install Broadcast Notification Sign(s) on the site in conformance with the information shown in this application.** (*See page 13 of this application for illustrative details*).

☒ **X.** Signature at the end of the **"Checklist"** stating you have reviewed and addressed all areas within it.

I certify that I have submitted all the required information listed above, and I understand that this application for a Planned Area Development cannot be processed until all required information is submitted.

Signature _____ Date 6/28/13

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Ironwood 80 LLP	17700 N. Pacesetter Way Suite 100 Scottsdale AZ 85255	480-348-1118
Name of Landowner (Applicant)	Address	Phone Number

[signature]	tbrislin@harvardinvestments.com
Signature of Landowner (Applicant) Address	E-Mail

Dana Belknap	Gallagher & Kennedy, 2575 E Camelback Rd, Phx, AZ 85016	602-530-8348
Name of Agent	Address	Phone Number

[signature]	dsb@gknet.com
Signature of Agent Address	E-Mail

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. ***Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.***

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Ironwood 80, LLLP

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of approx. 81 acres located at northwest corner of Bella Vista Rd and Gantzel Rd

[Insert Address of Property]

and further identified as assessor parcel number 210-17-001A, 210-17-002 and legally described as follows:

[Insert Parcel Number]

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Dana Belknap, Gallagher & Kennedy

[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

[Signature]
Dated: _____

[Signature]
Dated: _____

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me this ____ day of _____, _____
By _____.
[Insert Name of Signor(s)]

My commission expires _____ Notary Public

[Corporate PROPERTY OWNER signature block and acknowledgment The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

Ironwood 80, LLLP by its General Partner
Harvard Ventures Inc.
[Insert Company or Trustee's Name]

By: _____
[Signature of Authorized Officer or Trustee]

Its: Vice President
[Insert Title]

Dated: 10-24-13

STATE OF _____)
) ss.
COUNTY OF _____)

The foregoing instrument was acknowledged before me, this _____ day of_____, by

_____ _____
[Insert Signor's Name] *[Insert Title]*

_____, an _____
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*
and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: _____

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

On this 24th day of October, 2013, before me, the undersigned, personally appeared

Christopher J. Cacheris Who acknowledged himself/herself to be
[Insert Signor's Name]

Vice President of Harvard Ventures Inc.
[Title of Office Held] *[Second Company]*

As General Partner for Ironwood 80, LLLP, and who being
[i.e, member, manager, etc.] *[Owner's Name]*
authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

Mary I. Taylor
Notary Public

My commission expires: 10/28/16

MARY I. TAYLOR
Notary Public - Arizona
Maricopa County
My Comm. Expires Oct 28, 2016

REVISED JULY 2013

PAGE 9

Official Application:
August 9, 2013

Revision Date:
November 7, 2013

SAN TAN HEIGHTS

Pinal County, Arizona

Narrative Submittal

Planned Area Development Amendment

For

Parcels D1 & D2

CVL CONSULTANTS

PZ-037-03 and PZ-PD-037-03
Approved February 18, 2004

Pre-Application S-PA-014-13
April 29, 2013

Appendix A: Comprehensive Plan Compliance Checklist

Purpose:

Provide guidance to ensure conformity of development proposals with the Pinal County Comprehensive Plan.

Intent:

1. Explain how to determine if development proposals are compatible with the Comprehensive Plan.
2. Explain why unique conditions exist to deviate from the Plan.

The Pinal County Comprehensive Plan graphics, Land Use, Circulation (two graphics), and Economic Development, are not intended to be zoning maps that outlines specific locations and parcel-by-parcel determination for land uses and facilities. The Comprehensive Plan's intent is to provide policy direction and a framework for how the Pinal County "development form" or layout should occur over time. It is not the intent to predetermine specifically where land uses must occur. Guidelines within the Land Use element provide direction on development and how it relates to transportation corridors, surrounding land uses, public facilities, and natural environment.

Determination:

Comprehensive Plan Compliance is determined by the development's conformity with the Comprehensive Plan's land use designations (Land Use graphic and Land Use element text) and activity centers (Land Use and Economic Development graphics and Economic Development element text) as well as the goals, objectives, policies and guidelines outlined in the Pinal County Comprehensive Plan. Planning guidelines for each of the land use designations and Activity Centers are also included in the Land Use element. It is important to note that all components and concepts may not apply to every potential proposal.

Organization:

The Compliance Checklist focuses on.two major components:

1. Consistency with Pinal County's Vision Components
2. Consistency with the Plan's Key Concepts illustrated on Land Use, Circulation, and Economic Development graphics.

How Is the Checklist Used?

Various concepts are discussed and a "YES" checkbox is provided to indicate if the proposal complies with the key concepts of the Plan.

- If a project complies, it receives a ✓ in the appropriate box.
- If it does not comply, the checkbox will remain blank, and additional information would need to be provided to explain the unique circumstance, if applicable.

- If a project has no relation to a particular check list item, a "non applicable" response is acceptable with a brief explanation.

Who Should Use the Checklist?

Developers, staff, and decision-makers should use the Comprehensive Plan Compliance Checklist.

- ✓ Developers should use this checklist as a guide to the Plan's policies in the early stages of a development proposal and when submitting an application for review.
- ✓ Staff should use it to review development proposals and to make recommendations to decision-makers. The checklist can assist in developing the staff report.
- ✓ Decision-makers can use the checklist to better understand how well a proposal does or does not comply with the Pinal County Comprehensive Plan.

PART ONE

Consistency with Pinal County's Vision Components

The Pinal County Comprehensive Plan is a vision-based plan that provides the framework that all decisions related to growth and development are measured against. The following is intended to describe how the proposal meets the various vision components.

Pinal County Vision The County recognizes the importance of the region's strategic location between the Phoenix and Tucson Metropolitan Areas and its relationship to the overall well-being of the state of Arizona. What happens in Pinal County does not stay in Pinal County; the decisions made here will impact the entire state on many levels: business development, mobility, land management, air quality, water, and overall quality of life. People choose Pinal County for the diverse opportunities it offers; this diversity is what makes Pinal County unique but also represents a challenge as Pinal County continues to grow and change.

Pinal County is a place where history, culture and heritage are the foundation for its future. Pinal County will be seen as a leader in environmental stewardship and conservation practices by ensuring that the natural environment is preserved, yet still available to be discovered. Pinal County provides quality educational and training opportunities placing residents in cutting edge, environmentally-compatible jobs within the County. While communities within Pinal County retain and celebrate their unique qualities, governments and agencies share a collaborative spirit to ensure successes across Pinal County and remain responsive and accountable to their constituents.

Sense of Community—Pinal County is a collection of unique communities, each of which has something special to offer residents and visitors. Balancing emerging urban centers and Pinal County's rural character is important to residents; ensuring that the threads of Pinal County's history, heritage, and culture are woven into its future is what makes Pinal County unique from other regions. Ensuring places exist for people to gather and for communities to showcase the diversity of places, people, lifestyles, cultures, and opportunities will help to define Pinal County's identity.

The proposal:

☒ Is consistent with the **Sense of Community** vision component

Please explain:
SEE ATTACHED

Mobility and Connectivity—Ensuring Pinal County has adequate transportation corridors and a variety of multimodal transportation options addressing all populations is essential for moving goods and people throughout the County and State with minimal affect on Pinal County's native wildlife. Offering multiple mobility and communication options, to effectively connect communities and activity centers throughout the County, will reduce congestion and improve air quality while enhancing the area's quality of life.

The proposal:

☒ Is consistent with the **Mobility and Connectivity** vision component

Please explain:
SEE ATTACHED

Economic Sustainability—Expanding opportunities for residents to live, work, learn, and play in close proximity promotes long-term economic viability. Pinal County desires activity centers that serve the current and future residents' needs offering services, businesses and employment opportunities, including high-tech and environmentally-friendly employers who champion Pinal County's conservation philosophy. The creation of the full range of quality jobs that allow residents to start their career, raise a family, and move up instead of out of Pinal County for career advancement is essential. (This may not apply to all projects)

The proposal:

☒ Is consistent with the **Economic Sustainability** vision component

Please explain:
SEE ATTACHED

Open Spaces and Places—Residents value the large connected open spaces and unique places of Pinal County, not only as part of their quality of life, but as an important resource to sustain the region's immense wildlife habitat and their corridors. From the majestic mountains rising from the desert floor in the west to the high desert and rugged mountain terrain to the east, enjoyment of and respect for the natural surroundings is a big part of why people choose Pinal County to live and visit.

The proposal:

☒ Is consistent with the **Open Spaces and Places** vision component

Please explain:
SEE ATTACHED

Environmental Stewardship—People value the views of the mountains and open vistas during the day and the stars at night. These values have translated to a strong conservation ethic that stresses the importance of maintaining the quality of Pinal County's natural resources for future generations. Pinal County is the leader in environmental stewardship, and rewards and encourages sustainable practices such as innovative land use planning, sustainable agriculture, water conservation, green building development, and the use of renewable and alternative energy sources.

The proposal:

☒ Is consistent with the **Environmental Stewardship** vision component

Please explain:
SEE ATTACHED

Healthy, Happy Residents—Access to quality healthcare and healthy lifestyle choices is a priority. Pinal County is a healthy, safe place where residents can walk or ride to activity centers and where interaction in Pinal County's clean, natural environment is encouraged. Ensuring residents are healthy, safe and happy in their community is a priority for Pinal County.

The proposal:

☒ Is consistent with the **Healthy, Happy Residents** vision component

Please explain:
SEE ATTACHED

Quality Educational Opportunities—Quality, community-based Pre k-12 programs that provide youth with a competitive edge along with a wide variety of post-secondary educational opportunities and technical or specialized workforce training are necessities. Pinal County residents seek out life-long opportunities that help to expand their minds and diversify their experiences. (This may not apply to all projects)

The proposal:

☒ Is consistent with the **Quality Educational Opportunities** vision component

Please explain:
SEE ATTACHED

PART TWO

Consistency with the Plan's Key Concepts illustrated on Land Use, Economic, and Circulation graphics

Consistency with the Land Use Designation shown on the graphics

The project land uses:

☒ Are shown as indicated on the Land Use and Economic Development graphic

☐ Are not shown as indicated on the Land Use and Economic Development graphic

The existing Comprehensive Plan designation is Moderate Low Density Residential (MLDR) for all of the 750 acre PAD Amendment PZ-PD-037-03

Consistency with the Mixed Use Activity Center Concept

The project land uses:

☐ Meet the Mixed Use Activity Center requirements

☒ Are not shown within a Mixed Use Activity Center

If shown within a Mixed Use Activity Center, explain how it meets the planning guidelines outlined in the Land Use element.

The land use proposal includes a Mixed Use project, not shown in a Mixed Use Activity Center; explain how it meets the planning guidelines and intent of the Plan.

The land use proposal does not include a Mixed Use project. The land use proposal is for Residential development only.

Consistency with the Planning Guidelines described in the Land Use element

The project land uses:

☒ Are consistent with the applicable Planning Guidelines described in the Land Use element

SEE ATTACHED

Quality Employment Opportunities County-wide

The Comprehensive Plan stresses the importance of increasing the number of opportunities to locate quality jobs County-wide in order to increase the jobs-to-population ratio.

The proposal:

☒ Is consistent with the Economic Development element

☐ Includes additional information about how the development addresses the Economic Development Vision embodied in the Comprehensive Plan.

Please explain:
There is no Commercial or Employment uses proposed for this project but the Residential use that is proposed relates to and will be supportive of the existing and any proposed Commercial or Employment uses. (also see attached)

Viable Agriculture, Equestrian and Rural Lifestyle

Historically, agriculture has played an important role in Pinal County's economy and lifestyle. Encouraging the continuation of viable agriculture and protecting it is an important component of the Plan. Additionally, supporting an equestrian and rural lifestyle has a place in Pinal County as it continues to urbanize.

The proposal:

☒ Clusters development to protect open space and agriculture

☒ Includes additional information about how the development addresses Viable Agriculture, Equestrian, and Rural Lifestyle.

Please explain:
SEE ATTACHED

System of Connected Trails and Preservation of Open Space

Pinal County is committed to the preservation of large swaths of open space and the development of a connected system of trails. This applies to <u>all</u> projects/proposals/actions.

The proposal:

☒ Is consistent with *Pinal County Trails and Open Space Master Plan* and Comprehensive Plan Open Space and Places Chapter

☒ Includes additional information about how the development addresses the open space Vision and goals

Please explain:
SEE ATTACHED

Natural and Cultural Resource Conservation

The Comprehensive Plan strives to protect natural/cultural resources, wildlife corridors and environmentally-sensitive areas such as mountains and foothills, major washes, and vistas. These areas are predominantly undeveloped and contain sensitive resources or natural hazard areas.

The proposal:

☒ Address environmentally sensitive areas it may impact.

☒ Includes additional information about how the development addresses the natural and cultural resource conservation.

Please explain:
SEE ATTACHED

Water Resources, Public Facilities/Services, and Infrastructure Support

All developments must bring adequate water resources and the necessary infrastructure to support the intensity of development in order to minimize the impact on the County's ability to provide public services. All development and growth, public and private, must acknowledge its impacts and pay its own way.

The proposal:

☒ Ensures that adequate public facilities are in place or planned for within a reasonable time of the start of the new development

Please explain:
SEE ATTACHED

SAN TAN HEIGHTS PARCELS D1 & D2

COMPREHENSIVE PLAN COMPLIANCE – PART ONE

The Proposal is consistent with:

The Sense of Community Vision Component

- This project is located where amenities, community services and infrastructure already exist. (Objective 3.1.2)
- This project offers another choice of housing type, size, and design: contributes to the opportunities for a variety of income levels; and, is located in an existing developed area minimizing sprawl and assuring the provision of adequate services, open space, and the utility of public funds for public facilities and services. (Objective 3.1.3
- This project protects and preserves a significant ridgeline along with wildlife habitat and riparian areas; protects the hillside slopes greater than 15%; protects wildlife movement by providing open spaces and open space corridors to mitigate habitat fragmentation. (Objective 3.1.4)
- This project maintains the San Tan Foothills Area character as a residential development with rural element by the preservation of existing topographic features, limiting development to below the 15% slope line, and with the use of native drought tolerant plants for re-vegetation of open spaces. (Objective 3.3)
- This project is compatible with existing adjacent neighborhoods; has accessibility to schools, community facilities, and services; has an integration of open space, trails, parks, and recreational amenities; has access to nearby existing employment opportunities; and encourages pedestrian orientation and connections. (Suburban Residential Planning Guidelines)

The Mobility and Connectivity Vision Component

- This project complies with Pinal County's development pattern to support a diverse range of travel modes with the development of pedestrian and vehicular circulation and access corridors that promote smooth functioning of the residential street and trails system with sufficient roadway widths and pedestrian/bicycle trails and sidewalks. (Objective 4.1.1)
- This project provides connected open spaces that connect to nearby parks, schools, and neighborhoods (Objective 4.2.2) ; has developed a pedestrian, bicycle, equestrian circulation network that connects to those nearby amenities and services (Objective 4.3.1); and, is a development that provides facilities and amenities that encourage the

use of public transportation, biking, and walking as alternative forms of transportation (Objective 4.5.1)

The Economic Sustainability Vision Component

- This project contributes to regional tourism and recreation by providing regional trail linkage to local communities (Objective 5.1.2); and, provides ongoing development in a continuing pattern that negates the need for the extension of infrastructure for excessive distances (Objective5.3.2)

The Open Spaces and Places Vision Concept

- This project protects natural resources and critical habitats by utilizing density transition to development below the 15% slope and preserving the areas above 15% as a natural preserve amenity; by utilizing land preservation techniques to preserve open space; by utilizing development standards for hillsides that allow development to respond in an innovative way to topography and critical and natural habitats. (Objective 6.1.1)
- This project protects the natural surface water system by implementing an on-site storm water management system and plan to allow for the safe protection of future homeowners. (Objective 6.1.2)
- This project provides a multi-use system of trails and sidewalks that is compatible with the natural environment, existing land uses and a variety of users, that is safe as well. Objective 6.2.1)
- This project has utilized existing County development standards to design the proposed parks, open space, and trails, as well as passive conservation areas that are sensitive to the natural environment. (Objective 6.3.1)
- This project meets the open space, park and facility demands for new residential development within a planned area development. (Objective 6.4.1)

The Environmental Stewardship Vision Component

- This project has minimized or mitigated all site environmental hazards related to flooding, subsidence, and steep slopes with site research and appropriate actions and improvements; provided open space on lands that are environmentally sensitive due to steep slopes and are existing habitat areas. (Objective 7.1.1)
- This project has provided the means to preserve native vegetation with the preservation of natural open space. (Objective 7.1.2)
- This project has utilized methods for trip reduction that reduce the number of vehicle-mile traveled by future residents as a way of minimizing air pollution. (Objective 7.1.3)

- This project has complied with the County's requirements for water service provider, demand, source and use. (Objective 7.2.5)
- This project has utilized community design to reduce energy demand with the use of landscaping for shade and multimodal transportation facilities and options to employment, educational, and commercial activities. (Objective 7.4.2)

The Healthy, Happy Residents Vision Component

- This project is a legal subdivision that expands the range of housing within the overall community and increases the inventory of housing products for that community. (Objective 8.1.1)
- This project supports the concept of a compact residential development by providing a more urban type development and other methods to preserve open space. (Objective 8.1.3)
- This project addresses residents with special needs by providing and incorporating ADA improvements and facilities within the subdivision and within its open spaces and recreation facilities. (Objective 8.1.4)
- This project was designed with the idea of protecting the adjacent hillside topography and to preserve and protect that area as an environmentally sensitive area. (Objective 8.2.2)

The Quality Educational Opportunities Vision Component

- This project has provided safe and convenient pedestrian and bicycle access links for students to nearby existing schools. (Objective 9.1.1)

SAN TAN HEIGHTS PARCELS D1 & D2

COMPREHENSIVE PLAN COMPLIANCE – PART TWO

The Project Land Uses:

Are shown as indicated on the Land Use and Economic Development graphic:

- The existing Comprehensive Plan designation is Moderate Low Density Residential (MLDR) for the entire 750 acre San Tan Heights PAD (PZ-PD-037-03) including Parcels D1 & D2. The proposed uses for these parcels are in conformance with the MLDR designation.

Are not shown within a Mixed Use Activity Center:

- The land use proposal does not include a Mixed Use project. The land use proposal is a single family detached residential development only.

Are consistent with the applicable Planning Guidelines described in the Land Use element:

- As previously stated and answered in the various sections of Part One, the new residential neighborhood proposed for Parcels D1 & D2 is consistent with the applicable General Planning Guidelines for Residential Categories in that it is designed to be a safe, well maintained and attractive place to live: the land use intensity is entirely compatible with the existing adjacent neighborhoods since it was planned as such in being an approved element of the San Tan Heights original and subsequent master plans; the site is not impacted by any freeways or parkways but walls, trees, and other landscape buffering is to utilized at the projects frontage to Gary Road; The development proposes to include 42.8 acres, or 51.2% of open space, 35 acres of which will be natural conservation area open space and the remaining 7.8 acres will contain high quality improvements and amenities, in addition, the development will have access to existing adjacent community trails, parks and amenities.
- As previously stated and answered in the various sections of Part One, the new residential neighborhood proposed for Parcels D1 & D2 is also consistent with the applicable Suburban Residential Planning Guidelines as well in that , once again as previously stated, the land use intensity and relationship is entirely compatible with the existing adjacent neighborhoods since it was planned as such in being an approved element of the San Tan Heights original and subsequent master plans; the project will provide plans for adequate water and infrastructure to support its density as evidenced & provided within the applicant's Preliminary Water Report; the applicant's Preliminary Traffic Impact Assessment has addressed any impact to the vehicular transportation system from this development; the Project Narrative has addressed and evaluated the project's accessibility to nearby community schools, along with community amenities, facilities, employment opportunities, and services; the project's Open Space and Recreation Plan has addressed and proposed the integration of improved and conservation open spaces, trails and sidewalks that encourage pedestrian orientation and community connections, a park with recreational amenities to support the neighborhood and the community.

(See also **The Sense of Community Vision Component, The Mobility and Connectivity Vision Component, The Open Spaces and Places Vision Concept,** and **The Healthy, Happy Residents Vision Component** comment sections of Part One.)

The Proposal is consistent with the Economic Development element:

- As stated previously within the Comprehensive Plan Compliance Check list and in the Economic Sustainability Vision Component comments of Part One, while there are no new Commercial or Employment uses/opportunities proposed for this project, the residential use that is proposed relates to, and contributes to, any existing or proposed Commercial or Employment uses or opportunities by providing rooftops and increased population to stimulate and to sustain trade, commerce, and therefore jobs.
- The project contributes to regional tourism and recreation by providing the aesthetics of natural conservation open space and providing regional trail linkage to local communities and tourist attractions.
- The project provides a continuing pattern of development that negates the need for the extension of infrastructure for extensive distances.

(See also **The Economic Sustainability Vision Component** comment section of Part One.)

The Proposal clusters development to protect open space and includes additional information about how the development addresses Viable Agriculture, Equestrian, and Rural Lifestyle:

- This project supports the concept of a compact residential development by providing a more urban type development and other methods to preserve its 35 acres of conservation open space.
- This project preserves and protects a significant ridgeline along with wildlife habitat and riparian areas within its 35 acre conservation area which also encourages equestrian use.
- This project maintains the San Tan Foothills Area character as a residential development with a rural element by the preservation of existing topographic features, limiting development to below the 15% slope line, and with the use of native drought tolerant plants for re-vegetation of open spaces.
- This project provides connected open spaces that connect to nearby parks, schools, and neighborhoods and has developed a pedestrian, bicycle, equestrian circulation network that connects to those nearby amenities and services.

(See also **The Sense of Community Vision Component, The Mobility and Connectivity Vision Component** and **The Healthy, Happy Residents Vision Component** comment sections of Part One.)

The proposal is consistent with Pinal County Trails and Open Space Master Plan and Comprehensive Plan Open Space and Places Chapter and includes additional information about how the development addresses the open space Vision and Goals:

- This project protects and preserves a significant ridgeline along with wildlife habitat and riparian areas; protects the hillside slopes greater than 15%; protects wildlife movement by providing open spaces and open space corridors to mitigate habitat fragmentation.
- This project maintains the San Tan Foothills Area character as a residential development with rural element by the preservation of existing topographic features, limiting development to below the 15% slope line, and with the use of native drought tolerant plants for re-vegetation of open spaces.
- This project has accessibility to schools, community facilities, and services; has an integration of open space, trails, parks, and recreational amenities; has access to nearby existing employment opportunities; and encourages pedestrian orientation and connections.
- This project complies with Pinal County's development pattern to support a diverse range of travel modes with the development of pedestrian and vehicular circulation and access corridors that promote smooth functioning of the residential street and trails system with sufficient roadway widths and pedestrian/bicycle trails and sidewalks.
- This project provides connected open spaces that connect to nearby parks, schools, and neighborhoods ; has developed a pedestrian, bicycle, equestrian circulation network that connects to those nearby amenities and services ; and, is a development that provides facilities and amenities that encourage the use of public transportation, biking, and walking as alternative forms of transportation
- This project protects natural resources and critical habitats by utilizing density transition to development below the 15% slope and preserving the areas above 15% as a natural preserve amenity; by utilizing land preservation techniques to preserve open space; by utilizing development standards for hillsides that allow development to respond in an innovative way to topography and critical and natural habitats.
- This project protects the natural surface water system by implementing an on-site storm water management system and plan to allow for the safe protection of future homeowners.
- This project provides a multi-use system of trails and sidewalks that is compatible with the natural environment, existing land uses and a variety of users, that is safe as well.
- This project has utilized existing County development standards to design the proposed parks, open space, and trails, as well as passive conservation areas that are sensitive to the natural environment.

- This project meets the open space, park and facility demands for new residential development within a planned area development.
- This project addresses residents with special needs by providing and incorporating ADA improvements and facilities within the subdivision and within its open spaces and recreation facilities.
- This project was designed with the idea of protecting the adjacent hillside topography and to preserve and protect that area as an environmentally sensitive area.
- This project has provided safe and convenient pedestrian and bicycle access links for students to nearby existing schools.

(See also **The Sense of Community Vision Component, The Mobility and Connectivity Vision Component, The Open Spaces and Places Vision Concept, The Healthy, Happy Residents Vision Component,** and **The Quality Educational Opportunities Vision Component** comment sections of Part One.)

The proposal addresses environmentally sensitive areas it may impact and includes additional information about how the development addresses the natural and cultural resource conservation:

- This project protects and preserves a significant ridgeline along with wildlife habitat and riparian areas; protects the hillside slopes greater than 15%; protects wildlife movement by providing open spaces and open space corridors to mitigate habitat fragmentation.
- This project maintains the San Tan Foothills Area character as a residential development with rural element by the preservation of existing topographic features, limiting development to below the 15% slope line, and with the use of native drought tolerant plants for re-vegetation of open spaces.
- This project protects natural resources and critical habitats by utilizing density transition to development below the 15% slope and preserving the areas above 15% as a natural preserve amenity; by utilizing land preservation techniques to preserve open space; by utilizing development standards for hillsides that allow development to respond in an innovative way to topography and critical and natural habitats.
- This project protects the natural surface water system by implementing an on-site storm water management system and plan to allow for the safe protection of future homeowners.
- This project has minimized or mitigated all site environmental hazards related to flooding, subsidence, and steep slopes with site research and appropriate actions and improvements; provided open space on lands that are environmentally sensitive due to steep slopes and are existing habitat areas.

- This project has provided the means to preserve native vegetation with the preservation of natural open space.
- This project has utilized methods for trip reduction that reduce the number of vehicle-mile traveled by future residents as a way of minimizing air pollution.
- This project has complied with the County's requirements for water service provider, demand, source and use.
- This project has utilized community design to reduce energy demand with the use of landscaping for shade and multimodal transportation facilities and options to employment, educational, and commercial activities.
- This project supports the concept of a compact residential development by providing a more urban type development and other methods to preserve open space.
- This project was designed with the idea of protecting the adjacent hillside topography and to preserve and protect that area as an environmentally sensitive area.

(See also **The Sense of Community Vision Component, The Open Spaces and Places Vision Concept, The Environmental Stewardship Vision Component,** and **The Healthy, Happy Residents Vision Component** comment sections of Part One)

The proposal ensures that adequate public facilities are in place or planned for within a reasonable time of the start of the new development:

- This project is located where amenities, community services and infrastructure already exist and simply need to be extended to the proposed development assuring the provision of adequate services, open space, and the utility of public funds for public facilities and services.
- This project complies with Pinal County's development pattern to support a diverse range of travel modes with the development of pedestrian and vehicular circulation and access corridors that promote smooth functioning of the residential street and trails system with sufficient roadway widths and pedestrian/bicycle trails and sidewalks.
- This project has complied with the County's requirements for water and wastewater service provider, demand, source and use.

(See also **The Sense of Community Vision Component, The Mobility and Connectivity Vision Component,** and **The Environmental Stewardship Vision Component** comment sections of Part One.)

Official Application:
August 9, 2013

Revision Date:
November 7, 2013

SAN TAN HEIGHTS

Pinal County, Arizona

Narrative Submittal

Planned Area Development Amendment

For

Parcels D1 & D2

CVL CONSULTANTS

PZ-037-03 and PZ-PD-037-03
Approved February 18, 2004

Pre-Application S-PA-014-13
April 29, 2013

Narrative Submittal
San Tan Heights
Planned Area Development
Amendment

For

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Pinal County, Arizona

Official Application Date 08/09/13

Revision Date 11/07/13

PZ-037-03 and PZ-PD-037-03 Approved February 18, 2004
Pre-Application S-PA-014-13 April 29, 2013

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1. Purpose of Request

The San Tan Heights Planned Community, containing approximately 2,184 gross acres and located at the southeast corner of Hunt Highway and Thompson Road in Pinal County *(See Vicinity Map – San Tan Heights PAD – Exhibit A)* was initially approved for Planned Area Development (PAD) Overlay District, with stipulations, by the Pinal County Board of Supervisors (PCBOS) in March of 2000 as Case Number PZ-PD-037-99. This original PAD was approved with a dwelling unit cap of 5,266 units and an overall residential density of 2.26 dwelling units per acre (DU/AC). The plan was then subsequently approved, with stipulations, for an amendment to the PAD by the PCBOS in February of 2004 as Case Number PZ-PD-037-03. This 2004 amendment to the PAD applied to only about 750 acres of the overall community located along the western and southern portions of the original San Tan Heights Master Plan. The approved amendment was not specific regarding acreage or unit count revisions but designated an overall density cap of 3.5 DU/AC to the residential development parcels within the PAD Amendment area. The application of a 3.5 density to the amendment's residential acreage resulted in an Amended Area Residential Unit Cap (AA-RUC) of 2,402 resulting in an increase of 372 units to the Original Overall Project Residential Unit Cap (OOP-RUC) of 5,266 units bringing the Revised Overall Project Residential Unit Cap (ROP-RUC) to 5,638 dwelling units.

There were three additional amendments to the PAD in 2005, 2010, and in 2012. These amendments while less significant than the 2003 amendment did, however, impact the ROP-RUC and Density through various minor additions to commercial acreage and reductions to residential acreage. With the approval of the 2012 amendment the final residential acreage was calculated at 1,975.94 acres and the ROP-RUC was calculated at 5,133 units resulting in a Revised Overall Project Residential Density (ROP-RD) of 2.60 DU/AC.

Simultaneously with this current amendment request, the applicant/owner is proposing a preliminary plat for the development of 218 single family residential lots on approximately 83.5 acres within Parcels D1 & D2 of the San Tan Heights PAD. Parcels D1 & D2 are a part of the 750 acre amendment area approved in 2004. (See Location Map – Parcels D1 & D2 – Exhibit B). However, since 2004, with ongoing development and residential platting of the project, Pinal County Planning staff has informed the applicant that while there are 588 units remaining of the 5,133 ROP-RUC approved in 2012, only 133 units are remaining of the 2,402 units approved within the 2004 AA-RUC that can be developed. This remaining number of units would indicate that, under the present residential unit cap, 85 of the proposed 218 units within Parcels D1 & D2 cannot be developed as part of the proposed preliminary plat without an approved PAD amendment to increase the existing AA-RUC or the ROP-RUC.

As such, the purpose of this request is to submit and process a PAD amendment for San Tan Heights that would allow for an increase in the AA-RUC of 85 units specifically to allow for the platting and development of 218 lots on approximately 83.5 acres (2.61 density) within Parcels D1 & D2 of San Tan Heights Master Plan. This request would result in a revised AA-RUC of

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2,487 units and a revised AAR-DC of 3.61 DU/AC, but would also result in a ROP-RUC of 5,218 resulting in an Overall Project Residential Density Cap (OPR-DC) of only 2.64 DU/AC.

The development of Parcels D1 & D2 is a realization of the intent of the San Tan Heights PAD to bring development flexibility and a variety of housing alternatives to this area in Pinal County along with a significant amount of additional conservation open space within the San Tan Heights Community.

This proposed amendment for an increase of 85 units, an increase of 0.11 DU/AC in the AAR-DC, and an increase of 0.04 DU/AC in the OPR-DC is also supported by the recently removed "Preserve Area" designation of the San Tan Heights PAD along with the lower density requirements for that designation which no longer apply. The San Tan Heights project now falls within the Comprehensive Plan's "Moderate Low Density Residential" designation which allows for densities up to 3.5 DU/AC. This requested amendment will change the OPR- DC from the existing 2.60 DU/AC to a 2.64 DU/AC, keeping the density for the overall community well below the allowable 3.50 DU/AC density.

2. Description of Proposal

Nature of Project

The existing zoning for the Parcels D1 & D2 is CR-3 PAD. As part of the San Tan Heights Planned Community PAD, the CR-3 PAD zoning allows a minimum lot area of 4,950 S.F. and a minimum lot width of 45-feet which results in the minimum lot dimensions of 45' x 110'. The preliminary site plan proposes two separate subdivisions one containing 108 lots and one containing 110 lots for a total yield of 218 lots all of which to be a minimum of 45' x 110' although larger lot widths will be included in the plan. The plan will have an overall density of 2.61 lots per acre. Additional development standards are provided on the attached Preliminary Site Plan for San Tan Heights Parcels D1 & D2, and in Table 1 of this narrative. *(See Preliminary Site Plan San Tan Heights Parcels D1 & D2 – Exhibit E)*

The proposed development will utilize the existing water and wastewater and other public utilities systems and services currently existing within the adjacent developed areas of the San Tan Heights Planned Community

Proposed Land Uses

Residential land use is the only use proposed for Parcels D1 & D2. Preliminary calculations indicate that the proposed development will contain approximately 40.75 acres (48.8%) of residential lot and street development as described above and approximately 42.8 acres (51.2%) of open space, 34.46 acres of which will be natural hillside conservation open space. The remaining open space is to be utilized as storm water retention areas and landscaped tracts.

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Building Types and Densities

Residential buildings are proposed as traditional single family detached homes. Additional residential product information and types for this development are unavailable at this time but residential density is proposed at 2.61 units per acre. It can be assumed that all residential product buildings will be sized to fit the proposed lot sizes within the required building envelopes of those lot sizes and that the residential products will most likely be limited to one and two story products. On-site recreational structures include shade or Ramada structures of one story in height and dimensions of approximately 20-feet by 20-feet or 400 square feet. No other buildings are proposed for this development.

Conformance to Adopted Land Use Plans

The proposed development for San Tan Heights D1 & D2 complies with the Moderate Low Density Residential (1-3.5 du/ac) land use designation of the Pinal County General Plan and is in conformance with the approved San Tan Heights PAD Amendment PZ-PD-037-03 land use and zoning for Parcels D1 & D2.

Circulation and Recreation Systems

Proposed site vehicular circulation utilizes the County's standard local street improvement section. Access for the development is provided from three access points at North Gary Road, a local collector on the east boundary of the site. Internal vehicular circulation is provided utilizing 50-foot dedicated public local residential street rights-of-way. All internal streets are to be designed per Pinal County standards.

Review of the County's Open Space and Trails Master Plan (2007) and the County's online interactive GIS maps indicated that a multi-use trail connection is designated through the site. The general alignment is east-west, intended as a connection from the San Tan Mountain Regional Park (west of the project site) to the community to the east. This trail alignment heads east until it intersects a power transmission line corridor, and which point the trail corridor heads north. An additional trail corridor coming from the south intersects with the east-west trail corridor at the project site. Also, several community paths and trails were identified and are shown on the Open Space Context Map (Exhibit I of the Open Space and Recreation Plan). Pedestrian and/or Bicycle circulation for the site utilizes six-foot wide paved pathways provided through the open space areas, linking the two major east-west local streets. A five foot wide soft surface trail is provided in the conservation area. All trails and paths have a minimum 30-foot wide corridor and are a minimum of 8-foot from any lot boundary to maintain as landscape buffers. All paths and trails along with street sidewalks provide circulation links to existing community paths and trails.

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3. Relationship To Surrounding Properties

The San Tan Heights Planned Community, containing approximately 2,184 gross acres is located at the southeast corner of Hunt Highway and Thompson Road in Pinal County. Properties directly north of Hunt Highway are zoned as General Rural or GR and consist generally of farms and cotton fields. To the east is a single family residential master planned community called Johnson Ranch zoned as a PAD. Properties to the south consist of large lot residential or agricultural lots with homes and some livestock zoned either GR or Suburban Ranch (SR). Properties to the west of San Tan Heights include the San Tan Regional Park site with the remaining lands zoned as SR containing homes and livestock. *(See Surrounding Properties Map – Exhibit C)*

The master planning for San Tan Heights included various means of minimizing impacts to adjacent properties as documented in the original PAD application and maintained throughout the various amendments. Hunt Highway provides an excellent man-made buffer to the north and northeast; Johnson Ranch to the southeast is a similar development to San Tan Heights but Gary Road acts as a buffer between the two developments as well as the use of perimeter walls. To the south buffering to the adjacent properties includes Phillips and Roberts Roads, a 100-foot landscaped drainage tract, and the use of some larger lots in that area. The western boundary also includes larger lots along with the Thompson Road improvements.

Parcels D1 and D2 are currently vacant and undeveloped lands that are bounded on the north by a proposed church site, on the west by a 100-foot wash corridor and various existing and developed San Tan Heights residential parcels. On the southwest the parcels are bounded by W. Phillips Road and vacant lands beyond, and on the southeast by the Chandler Heights Ranches Unit 3 residential subdivision. On the east the parcels are bounded by Gary Road and the Johnson Ranch subdivision. The overall site includes portions of Section 13 in Township 3S, Range 7E.

As a part of the overall San Tan Community, Parcels D1 & D2 will merge into the surrounding development with no impacts to the north and to the west. Gary Road provides a buffer to the east and Phillips Road provides a buffer to the south along with a 35-foot landscape buffer and a large hillside conservation open space.

4. Schools

The San Tan Heights Community has the existing San Tan Heights Elementary School located at the NWC of W. San Tan Blvd. and N. Village Lane, approximately ½ mile northwest of Parcels D1 & D2 and the existing Mountain Vista Middle School located at the SEC of W. San Tan Blvd. and Mountain Vista Blvd., approximately 1 mile northwest of Parcels D1 & D2. The San Tan Foothills High School is located approximately 1 ¼ miles to the south at the SWC of N. Gary Road and W. Silverdale Road. These schools are adequately serving the existing population of the San Tan Community. The parks adjacent to the schools also provide shared recreational facilities and amenities. *(See Aerial Context Map San Tan Heights – Exhibit D)* These schools are

part of the Coolidge Unified School District 21. This School District has been notified of the proposed PAD Amendment as a part of the Citizen and Adjacent Owners Notification and neighborhood meeting process. A response from the School District has been received. See Exhibit K - School District Response Letter.

5. Public Services

There are two Pinal County Sheriff's Office (PCSO) facilities in the area. The Combs facility is located at 85 W. Combs Road which is approximately 1 mile north of the San Tan Heights Community and Parcels D1 & D2. The San Tan facility, the second facility, is located approximately ½ mile south of the site at Hunt Hwy. and AZ Farms Road. Various Fire Response facilities and services are and will be provided by Rural Metro located at 911 E. Hunt Hwy.

Waste disposal for this development will be provided by Republic Services who currently serves the entire San Tan Heights community as well as surrounding areas.

6. Community Services

In addition to nearby cities such as Queen Creek, Apache Junction, Chandler, etc., the San Tan Community, along with adjacent Communities such as Johnson Ranch, Skyline Ranch, and Chandler Ranch are all Planned Communities near to or completely built out. As such these communities, along with the nearby cities, contain a large mix of community service facilities such as churches, libraries, community centers, shopping malls etc. with easy access from Hunt Hwy., Gary Road, Thompson Road, and other nearby highways and freeways. San Tan Heights offers several amenities within the community and within close proximity of the development. The community provides many family oriented parks of differing sizes, each offering a variety of active and passive recreational facilities, along with green belt areas and over 6 miles of trails and paths. San Tan Elementary School and Mountain Vista Middle School are located in the heart of the community and San Tan Foothills High School, all are rated Performing Plus. Additionally there are several charter schools (K-8), close to the community. Nearby amenities/ services include the San Tan Regional Park which contains 10,000 acres of natural resources and trails; a new Central Arizona College; a new library and nearby medical services and facilities. Nearby retail facilities include the Wal-Mart Complex and the Pavilions Shopping Mall at the southeast and northeast corners of Hunt Highway and Gary Road and the shopping mall at the southeast corner of Hunt Highway and Mountain Vista Blvd. along with other nearby retail facilities. Nearby churches include the Mountain View Family Church on Hunt Highway west of Thompson Road and the Church of Jesus Christ of Latter-day Saints on Gary Road just north of the San Tan Heights community. *(See Aerial Context Map San Tan Heights – Exhibit D)*

7. Location and Accessibility

All existing and proposed developments at San Tan Heights have direct access to two major improved arterials in Hunt Hwy., a major Regionally Significant Route, and Thompson Road as

well as several improved collector roads that include Roberts Road, Phillips Road, Gary Road, and San Tan Heights Blvd. (See Aerial Context Map San Tan Heights – Exhibit D). Parcels D1 & D2 have direct access and frontage to Gary Road which continues northwest and north a short distance to Hunt Highway and continues southeast and south for several miles terminating at the Gila River Indian Community. Gary Road provides direct and convenient access to the area's community services, parks, medical facilities, and retail facilities. Gary Road is currently a two lane paved collector road and will be improved with additional half-street pavement along with curb, gutter, and sidewalk on its west half for the length of the project's frontage to the road. In addition all proposed interior local streets will be improved per Pinal County standards. *(For street improvement sections see Preliminary Site Plan Parcels D1 & D2 – Exhibit E)*

8. Regionally Significant Routes Compliance

With Hunt Highway's designation as a Regionally Significant Route (RSR) the proposed development site conforms to the Regionally Significant Routes for Safety and Mobility, Access Management Manual (RSR Manual) in that it's vehicular access plan does not access directly onto Hunt Highway but that direct site access to the local street system within the proposed development is only from Gary Road, a Major Collector which than does access onto Hunt Highway approximately ¼ mile northwest of the proposed project, providing off-site arterial access to and from the Hunt Hwy. RSR for this development and other adjacent developments in the vicinity in conformance with the RSR Manual policies and standards.

9. Utilities and Services

As stated previously, the San Tan Community is nearing development completion and contains a well-developed and adequate system of site utilities and services. Parcels D1 & D2 will merge with these existing services. All proposed utility systems and plans will be accessed and designed per Pinal County standards and submitted for staff review and approval with the Preliminary and Final Plat processes. The following utilities and services have been analyzed and/or researched to determine their existing facilities, their adequacy, and their capacity in relation to the proposed development:

Service	Provider	Adequacy-Status Statement
Sewer	**Johnson Utilities**	Existing community capacities and facilities have been analyzed and determined adequate for servicing the proposed project. Proposed on-site and off-site improvements to be designed and constructed per County standards.
Water	**Johnson Utilities**	Existing community capacities and facilities have been analyzed and determined adequate for servicing the proposed project. Proposed on-site and off-site improvements to be designed and constructed per County standards.
Electric	**SRP**	Existing community facilities have been determined adequate for servicing the proposed project. Proposed on-site and off-site improvements to be designed and constructed by SRP.

Telephone	**Century Link/ Cox**	Existing community facilities have been determined adequate for servicing the proposed project. Proposed on-site and off-site improvements to be designed and constructed by provider.
Gas	**Mesa Gas**	Existing community facilities have been determined adequate for servicing the proposed project. Proposed on-site and off-site improvements to be designed and constructed by provider.
Police	**County Sheriff**	Existing community services to be extended to include the proposed project.
Fire	**Rural Metro**	Existing community services to be extended to include the proposed project.
Schools	**Coolidge USD 21**	Existing community facilities determined adequate to include the proposed project.
Solid Waste	**Republic Services**	Existing community services to be extended to include the proposed project.

10. Ownership and Control

All existing or proposed common open space, landscaping, trails, retention areas, and recreation facilities are or will be owned, controlled, and maintained by an established homeowners association. All existing or proposed public arterial, collector, and local streets have been or will be improved or constructed to Pinal County standards, dedicated to and maintained by the County, upon approval by the Pinal County Public Works Department. All existing or proposed utility systems or services have been or will be designed and/or utilized per County standards and requirements and maintained by their current respective providers.

11. Timing of Development

- Second submittal of the tentative plat is projected to occur in late October, 2013.
- Zoning Entitlement and Tentative Plat approvals are projected for early in the year 2014.
- On-site and off-site improvements and Final Plat are projected for submittal in late January or early February of 2014 with approvals projected for late June or early July of 2014.
- Submittal of financial assurances is projected by May of 2014.
- Formation of an association for maintaining all common areas and/or easements is projected to occur in May or June of 2014.
- Construction of required open space/amenities is projected to occur by January of 2015.
- The development of Parcels D1 &D2 will be accomplished within two phases subject to and based upon current and future market demand. Parcel D1 development with a proposed yield of 108 lots at 45-feet and 55-feet wide, will most likely begin construction during the second

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quarter of 2014 with infrastructure construction completed by the second quarter of the year 2015.

- Parcel D2 development with a proposed yield of 110 lots at 45-feet and 55-feet wide, will most likely begin construction in the first quarter of 2015 with infrastructure construction completed by the first quarter of 2016. *(See Preliminary Site Plan San Tan Heights Parcels D1 & D2 – Exhibit E; Lot Mix Map San Tan Heights Parcels D1 & D2 – Exhibit F)*

12. Conformance with the Comprehensive Plan

Currently the Comprehensive Plan land use designation for San Tan Heights is "Moderate Low Density Residential" which allows densities up to 3.5 DU/AC. The primary intent of this designation is to provide for a larger lot development pattern but with options for suburban residential pattern. However, the Comprehensive Plan continues on to state that, in order to provide the element of flexibility and promote mixed use concepts that will result in sustainable developments, alternative land uses may be allowed if certain guidelines are met. Therefore, within this land use, Medium and High Density Residential, Commercial, and Employment developments are all permitted without a Comprehensive Plan amendment when these guidelines or certain thresholds for sizes are met in relation to any commercial/employment developments. However, in the case of this development of Parcels D1 & D2 only residential development is being proposed with this request submittal.

The San Tan Master Plan, utilizing the PAD zoning, has attributed to this concept by accommodating a variety of residential and business alternatives. The existing various residential developments within the community reflect this intended variety of lot and housing product options.

The proposed development of Parcels D1 & D2 of the San Tan Heights PAD continues in the community's tradition of creating variety and alternative choices for home buyers by providing more than one size lot on each of the two proposed subdivisions.

13. Recreational Amenities

Both Phases (D1 and D2) contain recreational opportunities. The main amenity area will be developed with parcel D1, and the conservation area and associated natural trail will be developed with parcel D2. The main amenity area is centrally located, with the surrounding residential higher up the terrain, providing views to the open space.

Parcels D1 and D2 are smaller developments, with a combined yield of 218 lots. Per the OSRAM guidelines, this development is not required to provide a playground structure, but rather meet the minimum standards by providing paths and trails connecting to open space. The proposed development meets these minimum standards, but also provides a picnic area and a ramada at the central amenity area, overlooking an open turf play area. The picnic ramada will be supported by CMU columns with a rustic stacked fieldstone veneer. In addition, seating nodes

with tree shade are provided along the paths and trails throughout the community. Six foot wide paved pathways are provided through the open space areas, linking the two major east-west local streets. A five foot wide soft surface trail is provided in the conservation area. All trails and paths have a minimum 30-foot corridor, and are a minimum of 8-foot from any lot, to maintain landscape buffers. *(See Exhibit G - Open Space and Recreation Master Plan)*

A study of the surrounding area was performed, and several schools and developer built neighborhood parks were identified that will support the proposed development, including the San Tan Heights Community Park, and the Mountain Vista Community Park and several others. To the southeast is a golf course community. These existing opportunities were considered in the design of the projects open space program. Review of the County's Open Space and Trails Master Plan (2007) and the County's online interactive GIS maps indicated that a multi-use trail connection is designated through the site. The general alignment is east-west, intended as a connection from the San Tan Mountain Regional Park (west of the project site) to the community to the east. This trail alignment heads east until it intersects a power transmission line corridor, and which point the trail corridor heads north. An additional trail corridor coming from the south intersects with the east-west trail corridor at the project site. In addition, several community paths and trails were observed in the area. In particular, a soft surface trail was noted to the west that could potentially tie into the cul-de-sac on West Pinto Ct. An existing unpaved trail was also observed connecting North Gary Road to West Phillips Road. This connection will be maintained, and will be relocated along the edge of the proposed conservation area. *(See exhibit H – Open Space Context Map)*

(For existing and proposed development and detailed discussion of recreation amenity facilities and related exhibits, see the Open Space and Recreation Plan; a separate document provided in the Appendix.)

14. Fences, Walls, and Screening

With many of the lots backing up to open space or conservation areas, full view and partial view fences will be utilized extensively on the project. Split rail fence with low stone columns will accent the entry to this park area. Additional walls and fences include a Theme Wall generally located at the Gary Road frontage of the development and Secondary Wall located at the sides of lots siding on streets or open space. Landscape screening and buffering is also provided at the frontage of Gary Road and at project entries. (See Exhibit I – Walls, Fences and Signage Master Plan)

Project signage will be minimal, with a wall mounted parcel identity sign at two access points from North Gary Road. Small decorative trail access signs will be located at the three trail access points.

(For existing and proposed development and detailed discussion of fencing, walls, and screening along with related exhibits, see the Open Space and Recreation Plan; a separate document provided in the Appendix.)

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15. Maintenance of Streets and Common Areas

The proposed development for Parcels D1 & D2 of San Tan Heights will have no private streets but all proposed public local streets will be constructed in accordance with Pinal County standards and dedicated to and maintained by the County upon approval of the Pinal County Public Works Department. All proposed common open space, landscaping, trails, retention areas, and recreation facilities will be owned, controlled, and maintained by an established homeowners association.

16. Total Number of Dwelling Units

The existing zoning for the Parcels D1 & D2 is CR-3 PAD. As part of the San Tan Heights Planned Community PAD, the CR-3 PAD zoning allows a minimum lot area of 4,950 S.F. and a minimum lot width of 45-feet which results in the minimum lot dimensions of 45' x 110'. The preliminary site plan proposes two separate subdivisions one containing 108 lots and one containing 110 lots for a total yield of 218 lots all of which to be a minimum of 45' x 110'.

17. Total Number of Parking Spaces for Recreational Facilities

Parking Spaces for the proposed recreational area amenities and/or facilities within this development are not required.

18. Maximum Residential Density of Each Planning Unit

Parcels D1 & D2 of San Tan Heights contain 83.52 acres and 218 lots for an overall residential density of 2.61 lots per acre. Parcel D1 contains 26.73 acres and 108 lots for an individual density of 4.04 lots per acre. Parcel D2 contains 56.79 acres, which includes the 34.45 acre conservation area, and 110 lots for an individual density of 1.94 lots per acre.

19. Type of Landscaping

The plants for the developed open space and streetscape were selected to blend with the surrounding existing developments, and relate to the agrarian history of the area. Large deciduous and evergreen shade trees are utilized in the developed open space and define it separate and apart from the conservation area. The planting style will be naturalized, with trees clustered at focal points and access points. The plant palette and planting design has been developed in conformance to the OSRAM. The southern conservation area consists of native vegetation used to accent the trail access points and seating nodes. As the landscape transitions to the open space area to the north, a traditional plant palette that reflects the agrarian culture of the area is utilized. This will further define and separate the developed open space and conservation areas. All plants used will be from the ADWR low water use list. Final planting design will conform to the densities established in the OSRAM. Plant sizes will meet or exceed the minimum standards. To minimize landscape irrigation demand, all plants will be low water use, per the ADWR plant list. Passive rainwater harvesting techniques will be utilized in the

developed open spaces to direct rain water towards the clustered tree stands. The irrigation source will be potable water, with connection points to be coordinated with the civil plans.

The proposed development is adjacent to N. Gary Road, a collector street. The landscape tract along this street ranges from 15' to over 200', providing an generous landscape buffer and entry into the development. The entire southeast corner of the project will remain as a conservation area, and will be left in its natural state. This area consists of existing pristine hillside vegetation on slopes exceeding 15%. This conservation area is a single large contiguous area, comprised of native, undisturbed hillside. A soft surface trail in proposed for this area, but all re-vegetation will utilize native plant material in this area. *(See Exhibit J – Landscaping Master Plan)*

(For existing and proposed development and detailed discussion of landscaping along with related exhibits, see the Open Space and Recreation Plan; a separate document provided in the Appendix.)

20. Preliminary Hydrologic Data

The Drainage Report for the Mass Grading of San Tan Heights Parcel D1 & D2 has been approved under the 1998 Drainage Ordinance. The site is designed to meet the Pinal County's drainage requirements as stated in the Pinal County Drainage Manual, Volumes 1 and 2.

The overall site is currently vacant with little vegetation. The site is former agricultural field. The site generally slopes to the northeast at approximately 5.7%. The existing outfall is located along the northeast boundary, southwest of N. Gary Road. The site is graded to drain to N. Gary Road and various retention basins located within the site. Soils within the site are primarily silty sand and clayey silty sand.

Offsite storm water flows impact the project from the south and will be conveyed around the project in multiple channels.

Onsite storm water runoff will be routed to onsite retention basins located within the project to retain the onsite runoff from the 100-yr 6-hour runoff, as required by the Pinal County Drainage Manual. The local streets within the site will be designed such that the 10-year runoff is contained within the street curbs. The 100-year runoff will be contained within the right-of-way with a maximum depth of 8 inches; a maximum flow of 100 cfs; and a maximum velocity of 10 fps. Where capacity of the street is exceeded, supplemental storm drain systems will be provided such that the above requirements are met.

Finished floor elevations (FFE) will be set a minimum of 12 inches above the highest adjacent grade, a minimum of 12 inches above the highest adjacent 100-year WSE. In addition, the FFE will be a minimum of 18 inches above the lot outfall.

The Pinal County, Arizona and Incorporated Areas Flood Insurance Rate Map (FIRM), panel number 04021C0475E, Map Revised December 4, 2007, indicate the site falls within Zones "X" (not shaded).

Zone "X" (not shaded) is defined by FEMA as: "Areas determined to be outside the 0.2% annual chance floodplain."

21. Commercial and Industrial Uses

There are no commercial or industrial uses proposed for this development.

22. Tables

The CR-3 PAD development standards for Parcels D1 & D2 remain as previously approved and are as follows:

Table 1: San Tan Heights
Parcels D1 & D2 CR-3 Development Standards

	Code	Existing PAD*	Proposed PAD
Minimum Lot Area	7,000 S. F.	4,950 S.F.	4,950 S.F.
Minimum Lot Width	60'	45'	45'
Minimum Front Setback	20'	18'	18'
Minimum Rear Setback	25'	15'	15'
Minimum Side Setback	8'	5'	5'
Minimum Street Side Setback		10'	10'
Minimum Total Side Setbacks	16'	10'	10'
Maximum Bldg. Height	30'	30'	30'

Additional development standards are provided on the attached Preliminary Site Plan for San Tan Heights Parcels D1 & D2. Parcel D1 development will have a proposed yield of 108 lots at 45-feet and 55-feet wide, Parcel D2 development will have a proposed yield of 110 lots at 45-feet and 55-feet wide. *(See Preliminary Site Plan San Tan Heights Parcels D1 & D2 – Exhibit E)*

***PZ-PD-037-03**

SAN TAN HEIGHTS

Table 2: Parcels D1 & D2 Site Data

Gross Ares (Acres)	83.52
Net Area	83.52
Assessors Parcel #	509029240 50902059A
Existing Zoning	CR-3
Existing Use	Vacant Land

Parcel D1 (Yield)	
45' X 110'	56
55' X 110'	52
Parcel D1 Total	**108**

Parcel D2 (Yield)	
45' X 110'	64
55' X 110'	46
Parcel D2 Total	**110**

Grand Totals	**218**

Lot Mix	45' x 110'	120 (55%)
	55' x 110'	98 (45%)

Public Streets Provided (AC)	9.57
Gross Density (D1 & D2) *	2.61 DU/AC *

Conservation Open Space	34.46 (41.26%)
Developed Open Space	7.86 (9.41%)
Recreational O.S. In Developed Area	3.42 (4.09%)
Recreational O.S. In Conservation Area	3.26 (3.90%)
Recreational Open Space Total	6.68 (7.99%)
Total Open Space Provided	**42.32 (50.65%)**

* Note 5

The San Tan Heights project allows densities up to 3.5 DU/AC. This requested amendment will change the overall project residential density cap (OPR-DC) from the existing 2.60 DU/AC to a 2.64 DU/AC keeping the density for the overall community well below the allowable 3.50 DU/AC.

SAN TAN HEIGHTS

Table 3: CR-3 Amended Use Table for Permitted and Non-Permitted Uses

Uses That Will Be Permitted In This Planned Unit Development
• One-family dwelling, conventional construction.
• Public park, public or parochial school.
• Church, provided the minimum off-street parking requirements, as set forth in PCDSC 2.140.020(E), are met.
• A travel trailer or recreational vehicle (RV) for not more than 90 days during construction of a residence on the same premises, which period may be extended for an additional period of 90 days upon application to the zoning inspector.
• Horticulture, flower and vegetable gardening, nursery or greenhouse used only for propagation and culture and not for retail sales.
• Home occupation.
• Accessory building or use. [Ord. 61862 § 1101].
Uses That Will Not Be Permitted In This Planned Unit Development
• There are no proposed uses in the Planned Unit Development that are not permitted

SAN TAN HEIGHTS

Empire Boulevard

Maricopa County
Pinal County

Ellsworth Rd

Thompson Road

Santan Heights Boulevard

Hunt Highway

Gary Road

Phillips Road

Gantzel Road

BORGATA AT SAN TAN HEIGHTS

SAN TAN HEIGHTS

MORNING SUN FARMS

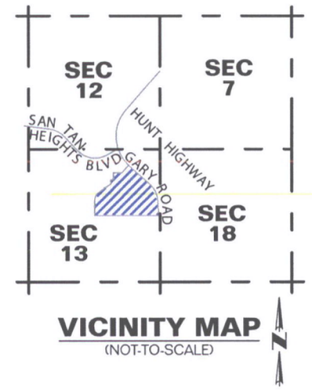
SKYLINE RANCH

JOHNSON RANCH

Zoning Legend

- SR
- CR-1A
- CR-1
- CR-2
- CR-3
- CR-4
- CR-5
- CB-1
- CB-2
- GR

SAN TAN HEIGHTS



VICINITY MAP
(NOT-TO-SCALE)

N

0' 1000' 2000'

Vicinity Map

San Tan Heights PAD

Exhibit A

7 November 2013
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SKYLINE RANCH

Hunt Highway

Santan Heights Boulevard

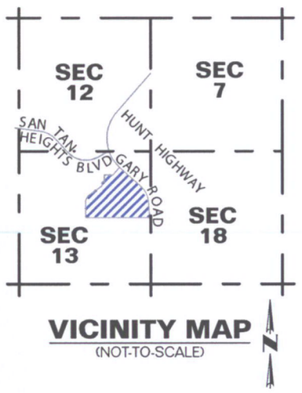
Gary Road

Parcels D1 & D2

JOHNSON RANCH

Phillips Road

SAN TAN HEIGHTS



VICINITY MAP
(NOT-TO-SCALE)

N

0' 500' 1000'

Location Map
Parcels D1 & D2

Exhibit B

7 November 2013
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CVL CONSULTANTS

SAN TAN HEIGHTS

PARCEL 14 AT CIRCLE CROSS RANCH
PARCEL 13 AT CIRCLE CROSS RANCH
PARCEL 15 AT CIRCLE CROSS RANCH
PARCEL 4 AT CIRCLE CROSS RANCH
PARCEL 12 AT CIRCLE CROSS RANCH
PARCEL 11 AT CIRCLE CROSS RANCH
PARCEL 5 AT CIRCLE CROSS RANCH
PHASE 2 AT MORNING SUN FARMS
PARCEL 2 AT CIRCLE CROSS RANCH
PARCEL 6 AT CIRCLE CROSS RANCH
PARCEL 3 AT CIRCLE CROSS RANCH
PHASE 1 AT MORNING SUN FARMS
MORNING SUN FARMS UNIT 3
PARCEL 10 AT CIRCLE CROSS RANCH
PARCEL 9 AT CIRCLE CROSS RANCH
PARCEL 8 AT CIRCLE CROSS RANCH
PARCEL 7 AT CIRCLE CROSS RANCH
BORGATA VENTURES
WOODSIDE 20/25 LLC
SKIHI HOLDINGS
SAN TAN HEIGHTS PARCEL J
SAN TAN HEIGHTS PARCEL K
SAN TAN HEIGHTS PARCEL F
SAN TAN HEIGHTS PARCEL E
SAN TAN LLC
SAN TAN HEIGHTS PARCEL I
BORGATA AT SAN TAN HEIGHTS
SAN TAN HEIGHTS PARCEL D
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 7
SAN TAN HEIGHTS PARCEL C
MORNING SUN FARMS
PARCEL B E. SKYLINE RANCH PHASE ONE
PARCEL A E. SKYLINE RANCH PHASE ONE
PARCEL C E. SKYLINE RANCH PHASE ONE
PARCEL D E. SKYLINE RANCH PHASE ONE
PARCEL I E. SKYLINE RANCH PHASE TWO
PARCEL F E. SKYLINE RANCH PHASE TWO
PARCEL G E. SKYLINE RANCH PHASE TWO
PARCEL E E. SKYLINE RANCH PHASE TWO
PARCEL H E. SKYLINE RANCH PHASE TWO
PARCEL D E. SKYLINE RANCH PHASE TWO
SAN TAN HEIGHTS PARCEL C-6
SAN TAN HEIGHTS PARCEL B
SAN TAN HEIGHTS PARCEL A
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 6
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 9
SAN TAN HEIGHTS PARCEL C-9
SAN TAN HEIGHTS PARCEL C-8
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 5
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 1
Hunt Highway
SAN TAN HEIGHTS PARCEL C-10
SAN TAN HEIGHTS PARCEL C-12
SAN TAN HEIGHTS PARCEL A-1
SAN TAN HEIGHTS PARCEL L
SAN TAN HEIGHTS PARCEL C-11
SAN TAN HEIGHTS PARCEL A-2
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 4
Santan Heights Boulevard
THE VILLAGE @ SAN TAN HEIGHTS PARCEL 2
SAN TAN HEIGHTS PARCEL A-3
THE VILLAGE @ SANTAN HEIGHTS PARCEL 3
Gary Road
SAN TAN HEIGHTS PARCEL A-4
SAN TAN HEIGHTS PARCEL A-7
SAN TAN HEIGHTS PARCEL A-5
SAN TAN HEIGHTS PARCEL A-8
SAN TAN HEIGHTS PARCEL A-6
SAN TAN HEIGHTS PARCEL 9-8
PARCEL A E. SKYLINE RANCH PHASE TWO
PARCEL B E. SKYLINE RANCH PHASE TWO
JOHNSON RANCH UNITS 41 AND 47
JOHNSON RANCH UNIT 52B
JOHNSON RANCH UNITS 40A, 48 AND 49
JOHNSON RANCH UNIT VI
JOHNSON RANCH UNITS 39, 40B AND 50
JOHNSON RANCH UNIT 51
JOHNSON RANCH UNIT 46
JOHNSON RANCH UNIT 1
JOHNSON RANCH UNIT 37 & 38
JOHNSON RANCH UNIT 42
LAKEVIEW GARDENS

N

0' 800' 1600'

Surrounding Properties Map

Exhibit C

7 November 2013
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CVL CONSULTANTS

Mountain View Family Church

American Leadership Academy

Shopping Strip Mall

Mountain Vista Community Park

Church of Jesus Christ of Latterday Saints

Skyline Ranch Elementary School

Mountain Vista Middle School

Santan Heights Boulevard

San Tan Heights Elementary School

Gas

Shopping Strip Mall

Walmart

Eduprize Schools

Hunt Highway

Gary Road

SAN TAN HEIGHTS

N

0' 600' 1200'

Aerial Context Map

San Tan Heights

Exhibit D

7 November 2013

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CVL CONSULTANTS

PLANNED AREA DEVELOPMENT AMENDMENT PRELIMINARY SITE PLAN FOR SAN TAN HEIGHTS PARCEL D1 & D2

A PORTION OF THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN

GENERAL NOTES:

1) NO TREES ARE PERMITTED WITHIN THE RIGHT-OF-WAY SIGHT-VISIBILITY TRIANGLE EASEMENTS AND NO TEMPORARY OR PERMANENT OBJECT, STRUCTURE OR LANDSCAPING SHALL EXCEED TWENTY-FOUR INCHES IN HEIGHT WITHIN THE SIGHT-VISIBILITY TRIANGLE EASEMENTS.

2) MAINTENANCE OF ALL STREET LIGHTING AND LANDSCAPING WITHIN THE COMMON AREAS AND THE STREET RIGHT-OF-WAY SHALL BE THE RESPONSIBILITY OF THE PROPOSED SAN TAN HEIGHTS PARCELS D1 & D2 HOME OWNERS ASSOCIATION.

3) THE PRELIMINARY SITE PLAN FOR SAN TAN HEIGHTS PARCEL D1 & D2 IS CONCEPTUAL ONLY.

4) THE NEAREST REGIONALLY SIGNIFICANT ROUTE TO THE PROPOSED SITE IS HUNT HIGHWAY LOCATED APPOXIMATELY 2,500 LINEAR FEET TO THE NORTHEAST OF THE PROPERTY ENTRANCE.

5) THE SAN TAN HEIGHTS PROJECT ALLOWS DENSITIES UP TO 3.5 DU/AC. THIS REQUESTED AMENDMENT WILL CHANGE THE OVERALL PROJECT RESIDENTIAL DENSITY CAP (OPR-DC) FROM THE EXISTING 2.60 DU/AC TO A 2.64 DU/AC KEEPING THE DENSITY FOR THE OVERALL COMMUNITY WELL BELOW THE ALLOWABLE 3.50 DU/AC

6) THE SITE GENERALLY SLOPES TO THE NORTHEAST AT APPROXIMATELY 5.7%. THE EXISTING OUTFALL IS LOCATED ALONG THE NORTHEAST BOUNDARY, SOUTHWEST OF N. GARY ROAD. THE SITE IS GRADED TO DRAIN TO N. GARY ROAD AND VARIOUS RETENTION BASINS LOCATED WITHIN THE SITE. SOILS WITHIN THE SITE ARE PRIMARILY SILTY SAND AND CLAYEY SILTY SAND.

7) THE PINAL COUNTY, ARIZONA AND INCORPORATED AREAS FLOOD INSURANCE RATE MAP (FIRM), PANEL NUMBER 04021C0475E, MAP REVISED DECEMBER 4, 2007, INDICATE THE SITE FALLS WITHIN ZONES "X"

ZONE "X" IS DEFINED BY FEMA AS: "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN."

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS NORTH 03°16'28" WEST ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, ACCORDING TO FEE NO. 2011-035939, PINAL COUNTY RECORDS.

BENCHMARK

NATIONAL GEODETIC SURVEY DESIGNATION Q 282 BEING A BOUNDARY MARKER SET IN A CONCRETE POST STAMPED Q 282 - 1948 HAVING AN ELEVATION OF 1490.96' NAVD-88

SITE DATA	
GROSS ARES (ACRES)	83.52
NET AREA	83.52
ASSESSORS PARCEL #	509029240 50902059A
EXISTING ZONING	CR-3
EXISTING USE	VACANT LAND
PARCEL D1 (YIELD)	
45' x 110'	56
55' x 110'	52
PARCEL D1 TOTAL	**108**
PARCEL D2 (YIELD)	
45' x 110'	64
55' x 110'	46
PARCEL D2 TOTAL	**110**
GRAND TOTALS	218
LOT MIX 45' x 110'	120 (55%)
LOT MIX 55' x 110'	98 (45%)
PUBLIC STREETS PROVIDED (AC)	9.57
GROSS DENSITY (D1 & D2) *	2.61 DU/AC *
CONSERVATION OPEN SPACE	34.46 (41.26%)
DEVELOPED OPEN SPACE	7.86 (9.41%)
RECREATIONAL O.S. IN DEVELOPED AREA	3.42 (4.09%)
RECREATIONAL O.S. IN CONSERVATION AREA	3.26 (3.90%)
RECREATIONAL OPEN SPACE TOTAL	6.68 (7.99%)
TOTAL OPEN SPACE PROVIDED	42.32 (50.67%)

* SEE NOTE 5

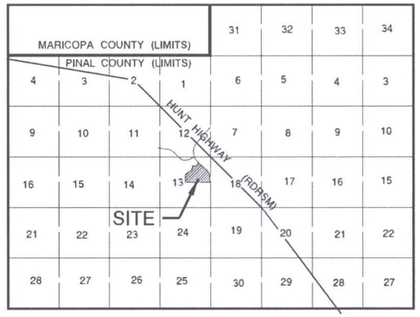
SAN TAN HEIGHTS TRACT TABLE		
TRACTS	AREA ACRES	DESCRIPTION
A	1.53	DEVELOPED OPEN SPACE/RETENTION
B	34.46	CONSERVATION OPEN SPACE/PINAL COUNTY REGIONAL TRAIL CORRIDOR (3.26)
C	1.05	DEVELOPED OPEN SPACE/RETENTION
D	0.50	DEVELOPED OPEN SPACE/RETENTION
E	1.36	DEVELOPED OPEN SPACE/RETENTION
F	3.42	RECREATIONAL OPEN SPACE/RETENTION/ RAMADA
SUB-TOTAL	**42.32**	**OPEN SPACE TOTAL**
G	0.05	LANDSCAPE TRACT
H	0.03	LANDSCAPE TRACT
I	0.02	LANDSCAPE TRACT
J	0.02	LANDSCAPE TRACT
K	0.05	LANDSCAPE TRACT
L	0.05	LANDSCAPE TRACT
M	0.02	LANDSCAPE TRACT
N	0.05	LANDSCAPE TRACT
O	0.05	LANDSCAPE TRACT
P	0.02	LANDSCAPE TRACT
Q	0.06	LANDSCAPE TRACT
R	0.03	LANDSCAPE TRACT
SUB-TOTAL	**0.45**	**LANDSCAPE TRACT TOTAL**
GRAND TOTAL	**42.77**	**GRAND TOTAL**

PREPARED FOR:

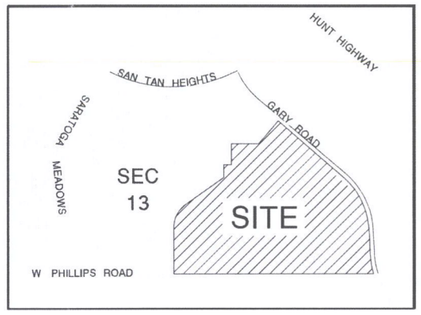
GARY ROAD HOLDINGS LLC c/o
MATRIXX MANAGEMENT, LLC
7650 E. REDFIELD ROAD, SUITE D-7
SCOTTSDALE, AZ 85260
PHONE: (480) 945-9292
FAX: (480) 947-2006

PREPARED BY:

COE & VAN LOO CONSULTANTS INC.
4550 N. 12TH STREET
PHOENIX, AZ 85014
PHONE: (602) 285-4726
FAX: (602) 285-4727
CONTACT: GEORGE CANNATARO



VICINITY MAP
(NOT-TO-SCALE)



LOCATION MAP
(NOT-TO-SCALE)

LEGAL DESCRIPTION

ORDER NO. 26130027-026-LDA

LOT 1, OF RECORD OF SURVEY AND MINOR LAND DIVISION RECORDED AS INSTRUMENT NO. 2011-035939 AND AS AMENDED BY CERTIFICATE OF MENDMENT RECORDED AS INSTRUMENT NO. 2011-056120 OFFICIAL RECORDS, PINAL COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN PATENT FROM UNITED STATES OF AMERICA.

ORDER NO. AZ-FWSX-IMP-N/A-4-13-26130044

THAT PART OF THE NORTH HALF OF SECTION 13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE ALUMINUM CAP STAMPED RLS 40527 MARKING THE EAST QUARTER CORNER OF SAID SECTION 13, FROM WHICH THE BRASS CAP FLUSH STAMPED RLS 32226 MARKING THE NORTHEAST CORNER OF SAID SECTION 13 BEARS NORTH 03 DEGREES 16 MINUTES 28 SECONDS WEST, A DISTANCE OF 2,648.84 FEET;

THENCE SOUTH 89 DEGREES 45 MINUTES 10 SECONDS WEST, ALONG THE EAST-WEST MID-SECTION LINE OF SAID SECTION 13, A DISTANCE OF 1,974.00 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 89 DEGREES 45 MINUTES 10 SECONDS WEST, ALONG SAID EAST-WEST MID-SECTION LINE, A DISTANCE OF 656.93 FEET TO A POINT BEING THE SOUTHEAST CORNER OF THAT CERTAIN PARCEL OF LAND WITHIN THE FINAL PARCEL PLAT AND MAP OF DEDICATION FOR SAN TAN HEIGHTS PARCELS A1 TO A9 RECORDED IN CABINET E, SLIDE 117, PINAL COUNTY RECORDS;

THENCE ALONG THE EASTERLY LINE OF SAID FINAL PARCEL PLAT AND MAP OF DEDICATION FOR SAN TAN HEIGHTS PARCELS A1 TO A9 THE FOLLOWING COURSES:

THENCE NORTH 00 DEGREES 14 MINUTES 03 SECONDS WEST, A DISTANCE OF 595.25 FEET TO THE BEGINNING OF A TANGENT CURVE OF 400.13 FOOT RADIUS, CONCAVE SOUTHEASTERLY;

THENCE NORTHEASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 54 DEGREES 52 MINUTES 04 SECONDS, A DISTANCE OF 383.17 FEET;

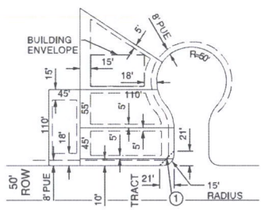
THENCE NORTH 54 DEGREES 38 MINUTES 01 SECONDS EAST, A DISTANCE OF 594.75 FEET TO A POINT ON THE WESTERLY LINE OF LOT 1 OF A RECORD OF SURVEY AND MINOR LAND DIVISION RECORDED IN FEE NO. 2011-035939, PINAL COUNTY RECORDS;

THENCE SOUTH 00 DEGREES 15 MINUTES 50 SECONDS EAST, ALONG THE WESTERLY LINE OF SAID LOT 1, A DISTANCE OF 1,264.60 FEET TO THE POINT OF BEGINNING;

EXCEPT ALL COAL AND OTHER MINERALS, AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

ORDER NO. 26130027-026-LDA
CONTAINING 68.084 ACRES, MORE OR LESS
ORDER NO. AZ-FWSX-IMP-N/A-4-13-2613004
CONTAINING 15.439 ACRES, MORE OR LESS
CONTAINING 83.523 TOTAL ACRES, MORE OR LESS

SAN TAN HEIGHTS



SETBACKS

FRONT	18'
REAR	15'
SIDE	5'&5'
CORNER	5'&10 - UNLESS 10' TRACT

(1) SIGHT VISIBILITY TRIANGLE EASEMENTS (SVTE) SHALL BE 21' x 21' (LOCAL TO LOCAL) AND 33' x 33' (FOR ALL OTHERS).

45', 55' TYPICAL LOT LAYOUT AND BUILDING SETBACKS
(NOT TO SCALE)

SAN TAN HEIGHTS PARCELS D1 & D2 CR-3 DEVELOPMENT STANDARDS			
MINIMUM LOT AREA	7,000 S. F.	4,950 S.F.	4,950 S.F.
MINIMUM LOT WIDTH	60'	45'	45'
MINIMUM FRONT SETBACK	20'	18'	18'
MINIMUM REAR SETBACK	25'	15'	15'
MINIMUM SIDE SETBACK	8'	5'	5'
MINIMUM STREET SIDE SETBACK		10'	10'
MINIMUM TOTAL SIDE SETBACKS	16'	10'	10'
MAXIMUM BLDG. HEIGHT	30'	30'	30'

LEGEND SITE PLAN

- PROPOSED LOT LINE
- PROPOSED ROW LINE
- PROPOSED BOUNDARY LINE
- SIGHT VISIBILITY LINE
- INDICATES VEHICULAR NON-ACCESS EASEMENT
- INDICATES PUBLIC UTILITY EASEMENT

LEGEND WATER & SEWER

- PROPOSED WATER LINE & VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SEWERLINE & MANHOLE & DIRECTION OF FLOW
- W — EXISTING WATER
- S — EXISTING SEWER

NOTE:
ALL WATER AND SEWERLINES TO BE 8" UNLESS OTHERWISE NOTED

LEGEND GRADING & DRAINAGE

- 1526 — EXISTING CONTOUR & ELEVATION
- 0.45% — PROPOSED GRADE & SLOPE
- RETENTION BASIN
- HW=1525.0 BOT=1520.0 — HIGH WATER ELEVATION BOTTOM OF BASIN
- GRADE BREAK
- G 25.3 — GUTTER GRADE
- PAD=45.6 — PAD ELEVATION
- STORM DRAIN/SCUPPER

UTILITIES PROVIDER		
SERVICE	PROVIDER	ADEQUACY STATUS STATEMENT
SEWER	JOHNSON UTILITIES	EXISTING COMMUNITY CAPACITIES AND FACILITIES HAVE BEEN ANALYZED AND DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED PER COUNTY STANDARDS.
WATER	JOHNSON UTILITIES	EXISTING COMMUNITY CAPACITIES AND FACILITIES HAVE BEEN ANALYZED AND DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED PER COUNTY STANDARDS.
ELECTRIC	SRP	EXISTING COMMUNITY FACILITIES HAVE BEEN DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED BY SRP.
TELEPHONE	CENTURY LINK/COX	EXISTING COMMUNITY FACILITIES HAVE BEEN DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED BY PROVIDER.
GAS	MESA GAS	EXISTING COMMUNITY FACILITIES HAVE BEEN DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED BY PROVIDER.
POLICE	COUNTY SHERIFF	EXISTING COMMUNITY SERVICES TO BE EXTENDED TO INCLUDE THE PROPOSED PROJECT.
FIRE	RURAL METRO	EXISTING COMMUNITY SERVICES TO BE EXTENDED TO INCLUDE THE PROPOSED PROJECT.
SCHOOL	COOLIDGE USD 21	EXISTING COMMUNITY FACILITIES DETERMINED ADEQUATE TO INCLUDE THE PROPOSED PROJECT.
SOLID WASTE	REPUBLIC SERVICES	EXISTING COMMUNITY SERVICES TO BE EXTENDED TO INCLUDE THE PROPOSED PROJECT.

CR-3 AMENDED USE TABLE FOR PERMITTED AND NON PERMITTED USES
USES THAT WILL BE PERMITTED IN THIS PLANNED UNIT DEVELOPMENT
• ONE FAMILY DWELLING, CONVENTIONAL CONSTRUCTION.
• PUBLIC PARK, PUBLIC OR PAROCHIAL SCHOOL.
• CHURCH, PROVIDED THE MINIMUM OFF STREET PARKING REQUIREMENTS, AS SET FORTH IN PCDSC 2.140.020(E), ARE MET.
• A TRAVEL TRAILER OR RECREATIONAL VEHICLE (RV) FOR NOT MORE THAN 90 DAYS DURING CONSTRUCTION OF A RESIDENCE ON THE SAME PREMISES, WHICH PERIOD MAY BE EXTENDED FOR AN ADDITIONAL PERIOD OF 90 DAYS UPON APPLICATION TO THE ZONING INSPECTOR.
• HORTICULTURE, FLOWER AND VEGETABLE GARDENING, NURSERY OR GREENHOUSE USED ONLY FOR PROPAGATION AND CULTURE AND NOT FOR RETAIL SALES.
• HOME OCCUPATON.
• ACCESSORY BUILDING OR USE. [Ord. 61862 § 1101].
USES THAT WILL NOT BE PERMITTED IN THIS PLANNED UNIT DEVELOPMENT
• THERE ARE NO PROPOSED USES IN THE PLANNED UNIT DEVELOPMENT THAT ARE NOT PERMITTED

Preliminary Site Plan

Parcels D1 & D2

Exhibit E.1 of 3

7 November 2013
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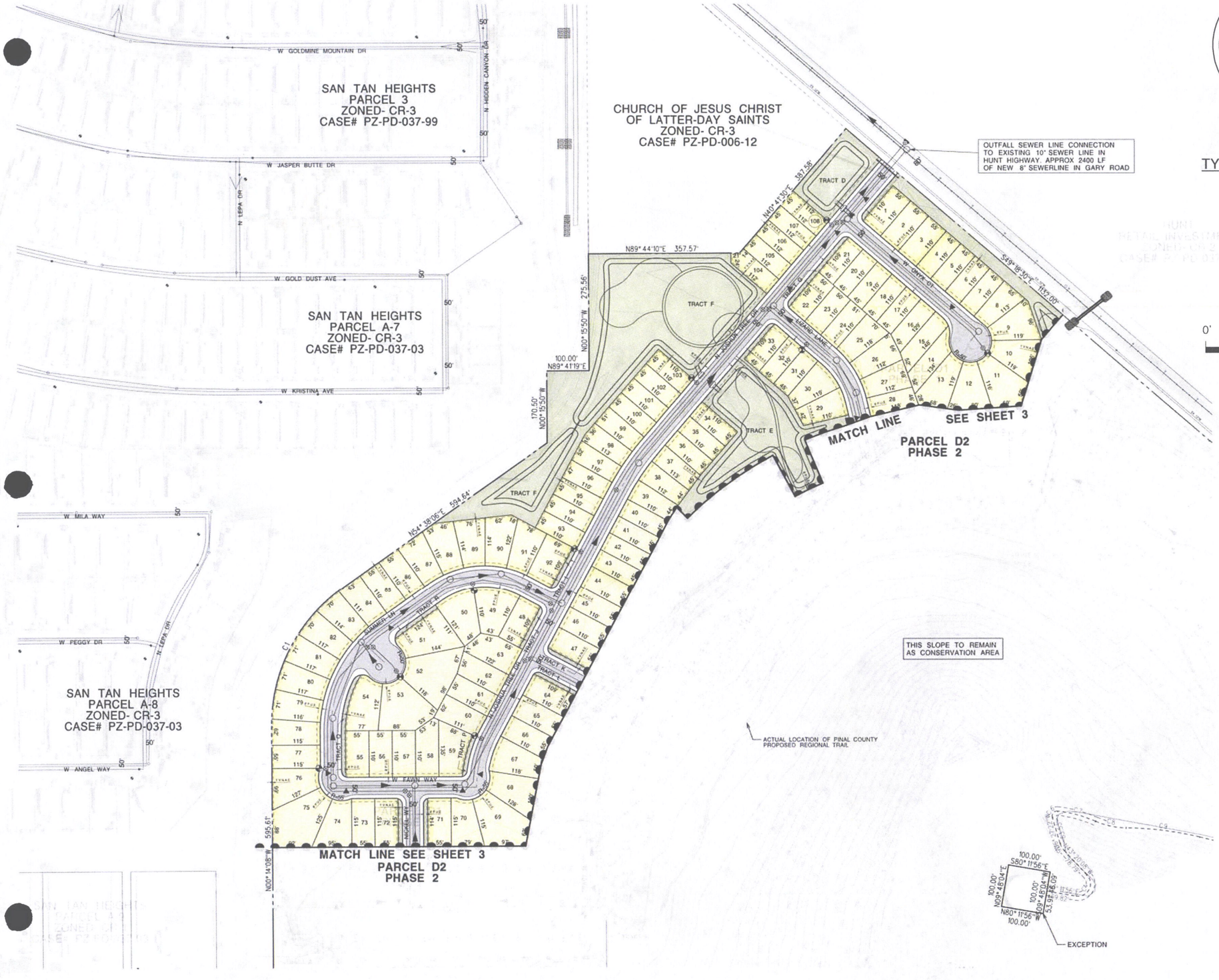
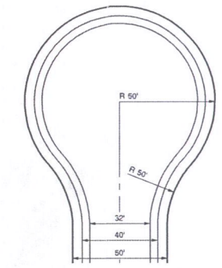
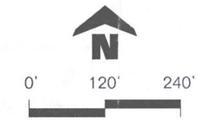
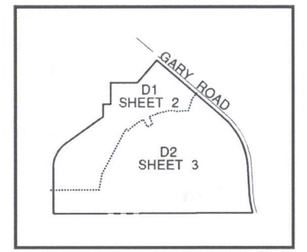




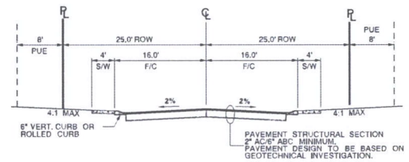
TYPICAL CUL-DE-SAC
NTS



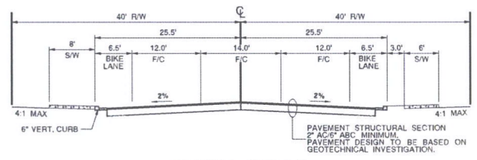
SAN TAN HEIGHTS



SHEET INDEX MAP
(NOT-TO-SCALE)



TYPICAL RESIDENTIAL STREET
NTS



GARY ROAD
NTS

Preliminary Site Plan

Parcels D1 & D2

Exhibit E.2 of 3

7 November 2013
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OUTFALL SEWER LINE CONNECTION TO EXISTING 10" SEWER LINE IN HUNT HIGHWAY. APPROX 2400 LF OF NEW 8" SEWERLINE IN GARY ROAD

HUNT
RETAIL INVESTMENT
ZONED- CB-2
CASE# PZ-PD-037-03

PARCEL D1
PHASE 1
MATCH LINE SEE SHEET 2

TRACT C

GARY ROAD

TRACT A

TRACT B

THIS SLOPE TO REMAIN AS CONSERVATION AREA

ACTUAL LOCATION OF PINAL COUNTY PROPOSED REGIONAL TRAIL

PARCEL D1
PHASE 1
MATCH LINE SEE SHEET 2

CAMEO CT

TRACT B

PHILLIPS RD

656.84'

S89°45'10"W 2611.94'

1955.10'

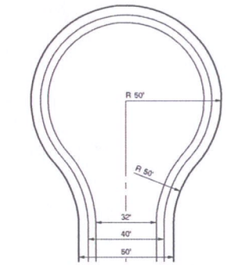
EXCEPTION

VACANT LAND
ZONED- GR
CASE# NULL

VACANT LAND
ZONED- GR
CASE# NULL

VACANT LAND
ZONED- GR
CASE# NULL

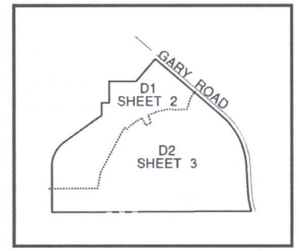
SE1/4 CORNER SECTION 13



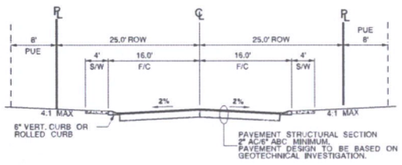
TYPICAL CUL-DE-SAC
NTS

0' 120' 240'

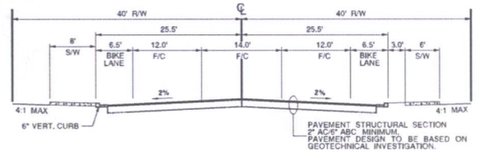
SAN TAN HEIGHTS



SHEET INDEX MAP
(NOT-TO-SCALE)



TYPICAL RESIDENTIAL STREET
NTS



GARY ROAD
NTS

Preliminary Site Plan

Parcels D1 & D2

Exhibit E.3 of 3

7 November 2013
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SAN TAN HEIGHTS

Parcel D1

Parcel D2

Gary Road

Lot Mix Table

Parcel	Lot Size	Yield Mix Percentage %	Yield (Lots)
D1	45' x 110'	52%	56
	55' x 110'	48%	52
	D1 Total	100%	108
D2	45' x 110'	58%	64
	55' x 110'	42%	46
	D2 Total	100%	110
Total Mix	45' x 110'	55%	120
	55' x 110'	45%	98
		100%	218

N

0' 125' 250'

Lot Mix Map

Parcels D1 & D2

Exhibit F

7 November 2013

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SAN TAN HEIGHTS

5' Concrete Pathway through Turf Area

Wall Mounted Parcel Sign

Primary Passive Open Space Area with Picnic Ramada and Turf

Primary Entry

Trail Node with Bench and Tree Shade

Multi-Use Trail Corridor (Proposed)

Natural Surface Trail Graded to Follow Contours

Trail Node with Bench and Tree Shade

Trail Node with Bench and Tree Shade

Conservation Area

Multi-Use Trail Corridor as Conceptually Shown on County Master Plan

N

0' 125' 250'

Open Space and Recreation Master Plan

Exhibit G

7 November 2013

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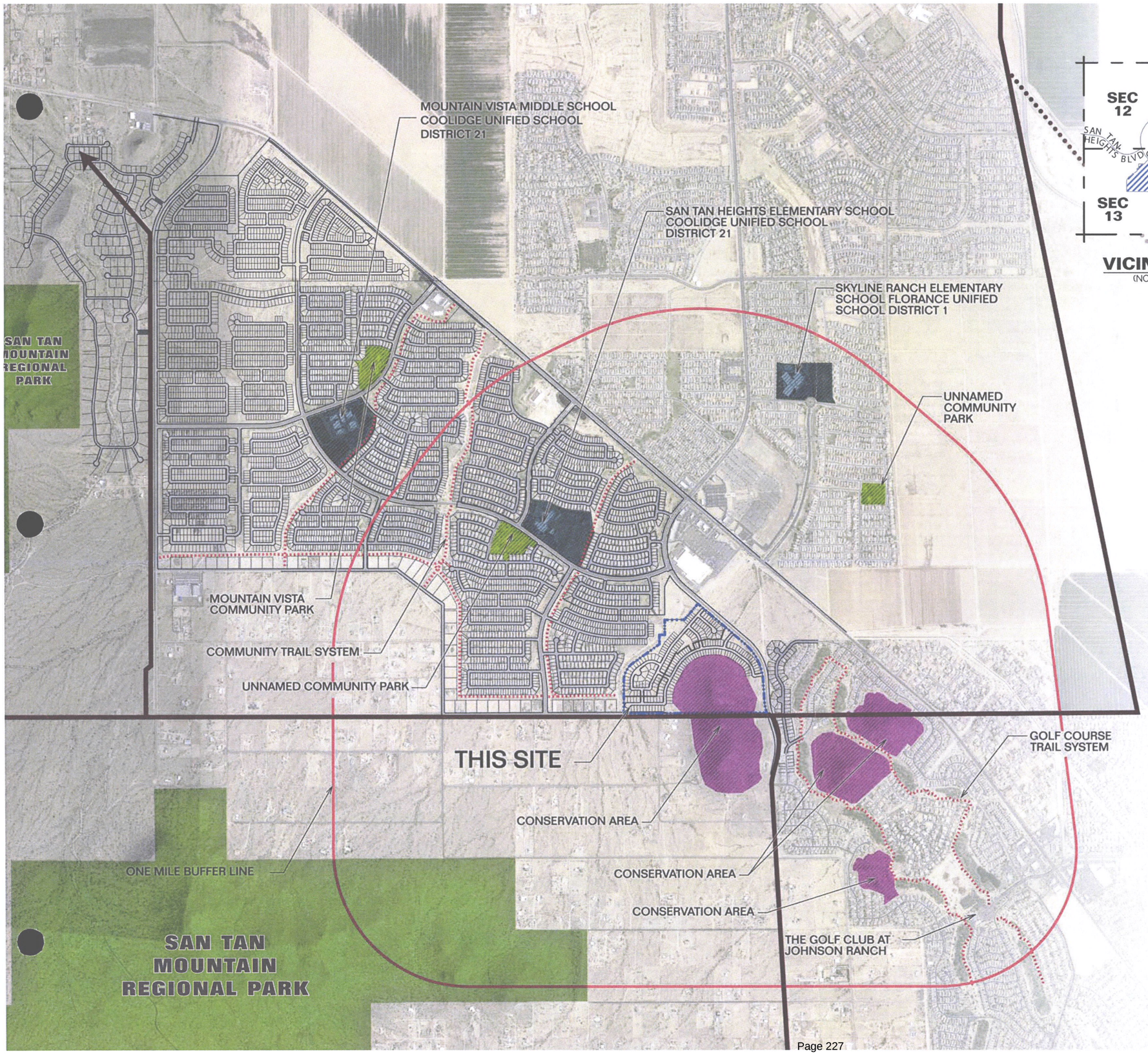
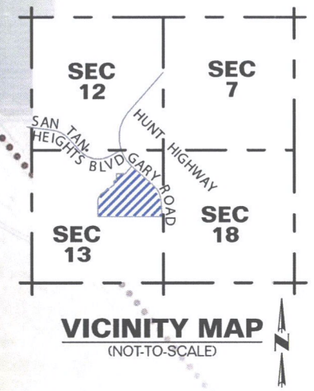
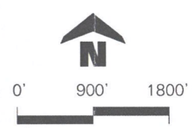




SAN TAN
HEIGHTS

Legend

- Park Area
- School Area
- Conservation Area
- Trail or Pathway (These are local or private trails and are not identified on the County Trails Plan.
- Trail Corridors: Public Trails (Built or Planned) as Identified in the County's Trail Plan
- Transit: High Capacity (per Pinal County GIS)



Open Space Context Map

Exhibit H

7 November 2013
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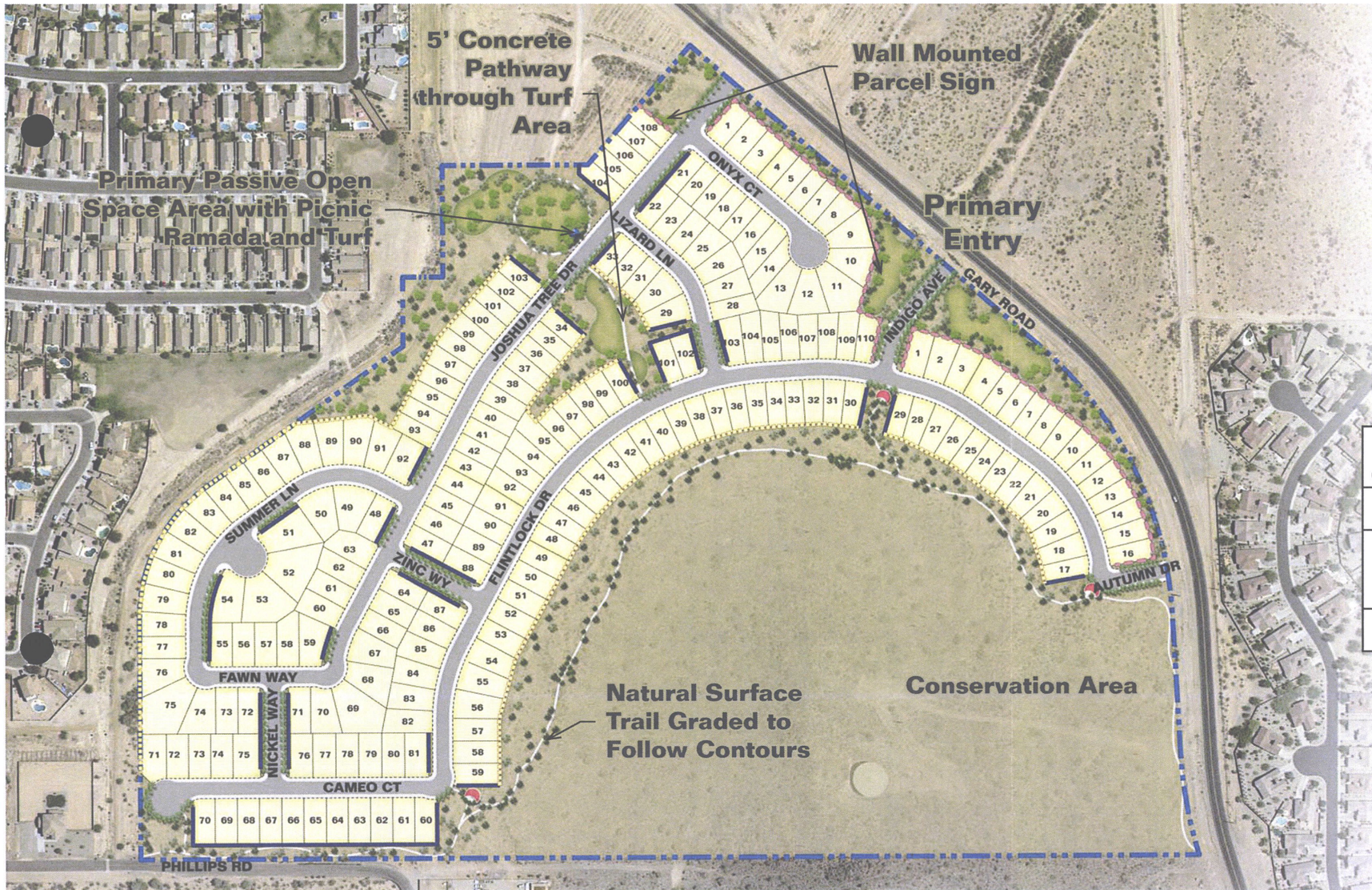

SAN TAN HEIGHTS

Quantity Table

BASED ON 8.31 Acres (361,984 SF)	Total Trees (15 Gallon Minimum)	24" Box Trees	Shrubs (5 Gallon Minimum)	Groundcover (<18" tall)
Standard / Requirement	1 per 1000 SF	25% of tree total	7 per 1000 SF	>50% of vegetation area
Calculation	361,984/1000	0.25 x 362 trees	(361,984/1000) x 7	362 trees x 400 SF + 2534 shrubs x 18 SF Total x 50%
Quantity Required	362 trees	91 - 24" box	2534 shrubs	95,206 SF of Groundcover

Legend

- Theme Wall
- Secondary Wall
- View Fence
- Trail Node with Bench and Shade Tree

N

0' 150' 300'

PLANT LEGEND

THEME TREES

Pistacia chinensis	Chinese Pistache
Ulmus parvifolia	Evergreen Elm

LOCAL STREET TREES

Dalbergia sissoo	Sissoo Tree
Pistacia chinensis	Chinese Pistache
Ulmus parvifolia	Evergreen Elm

NOTE: LOCAL STREET PARKWAY TREES WILL BE INSTALLED AT TIME OF HOME CONSTRUCTION. FINAL TREE PLACEMENT TO BE DETERMINED BY DRIVEWAY AND UTILITY SERVICE LOCATIONS.

SECONDARY TREES

Dalbergia sissoo	Sissoo Tree
Parkinsonia floridum	Blue Palo Verde
Parkinsonia praecox	Palo Brea
Prosopis chilensis	Chilean Hybrid Mesquite

ACCENT TREES

Caesalpinia cacalaco	Cascalote "Smoothie"
Fouquieria splendens	Ocotillo

UNDERSTORY SHRUBS

Caesalpinia pulcherrima	Red Bird of Paradise
Dalea frutescens	Sierra Negra Dalea
Dodonaea viscosa	Hop Bush "purple"
Leucophyllum frutescens	Texas Ranger "Green Cloud"
Leucophyllum langmaniae	Lynn's Legacy Sage
Muhlenbergia rigens	Deer Grass
Tecoma stans angustata	Arizona Yellow Bells
Nerium oleander	Petite Pink Oleander
Calliandra californica	Baja Fairy Duster
Encelia farinosa	Brittle Bush
Justicia californica	Chuparosa
Sphaeralcea ambigua	Desert Globe Mallow

ACCENTS/ CACTUS/ VINES

Agave geminiflora	Twin Flowered Agave
Agave weberi	Weber Agave
Bougainvillea	Bougainvillea "Barbara Karst"
Dasylirion acrotriche	Green spoon
Hesperaloe parviflora	Red Yucca
Muhlenbergia capillaris	Regal Mist Deer Grass
Yucca rigida	Blue Yucca
Pedilanthus macrocarpus	Slipper Plant

GROUND COVERS

Acacia redolens	Desert Carpet Acacia
Lantana montevidensis	Purple Trailing Lantana
Lantana "New Gold"	New Gold Lantana
Baccharis hybrid "Starn"	Thompson Dwarf Broom
Dalea greggii	Trailing Indigo Bush
Verbena Gooddingii	Desert Verbena
Psilostrophe cooperi	Paper Flower
Baileya multiradiata	Desert Marigold

TURF GRASS

Bermuda Hybrid	Bermuda 'Princess 77'

Landscape Master Plan

Exhibit I.1 of 2

7 November 2013
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SAN TAN HEIGHTS

SAN TAN HEIGHTS TRACT TABLE		
TRACTS	AREA ACRES	DESCRIPTION
A	1.53	DEVELOPED OPEN SPACE/RETENTION
B	34.46	CONSERVATION OPEN SPACE/PINAL COUNTY REGIONAL TRAIL CORRIDOR (3.26)
C	1.05	DEVELOPED OPEN SPACE/RETENTION
D	0.50	DEVELOPED OPEN SPACE/RETENTION
E	1.36	DEVELOPED OPEN SPACE/RETENTION
F	3.42	RECREATIONAL OPEN SPACE/RETENTION/ RAMADA
SUB-TOTAL	**42.32**	**OPEN SPACE TOTAL**
G	0.05	LANDSCAPE TRACT
H	0.03	LANDSCAPE TRACT
I	0.02	LANDSCAPE TRACT
J	0.02	LANDSCAPE TRACT
K	0.05	LANDSCAPE TRACT
L	0.05	LANDSCAPE TRACT
M	0.02	LANDSCAPE TRACT
N	0.05	LANDSCAPE TRACT
O	0.05	LANDSCAPE TRACT
P	0.02	LANDSCAPE TRACT
Q	0.06	LANDSCAPE TRACT
R	0.03	LANDSCAPE TRACT
SUB-TOTAL	**0.45**	**LANDSCAPE TRACT TOTAL**
GRAND TOTAL	**42.77**	**GRAND TOTAL**

N

0' 120' 240'

Landscape Tract Plan

Exhibit I.2 of 2

7 November 2013

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SAN TAN HEIGHTS

ONYX CT
LIZARD LN
JOSHUA TREE DR
INDIGO AVE
GARY ROAD
SUMMER LN
ZINC WY
FLINTLOCK DR
FAWN WAY
NICKEL WAY
CAMEO CT
AUTUMN DR
PHILLIPS RD

Legend

- Theme Wall
- Secondary Wall
- View Fence
- Entry Sign
- Trail Node with Bench and Shade Tree

N

0' 120' 240'

Walls, Fences and Signage Master Plan

Exhibit J.1

7 November 2013
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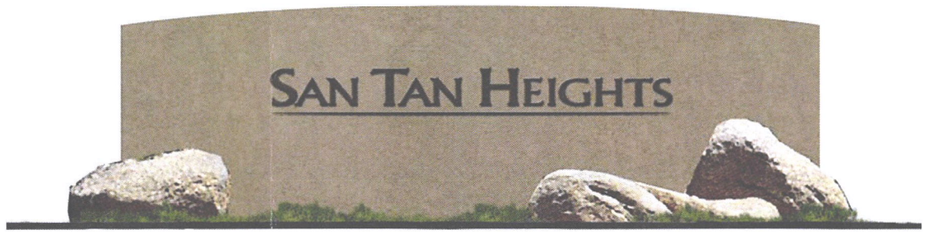
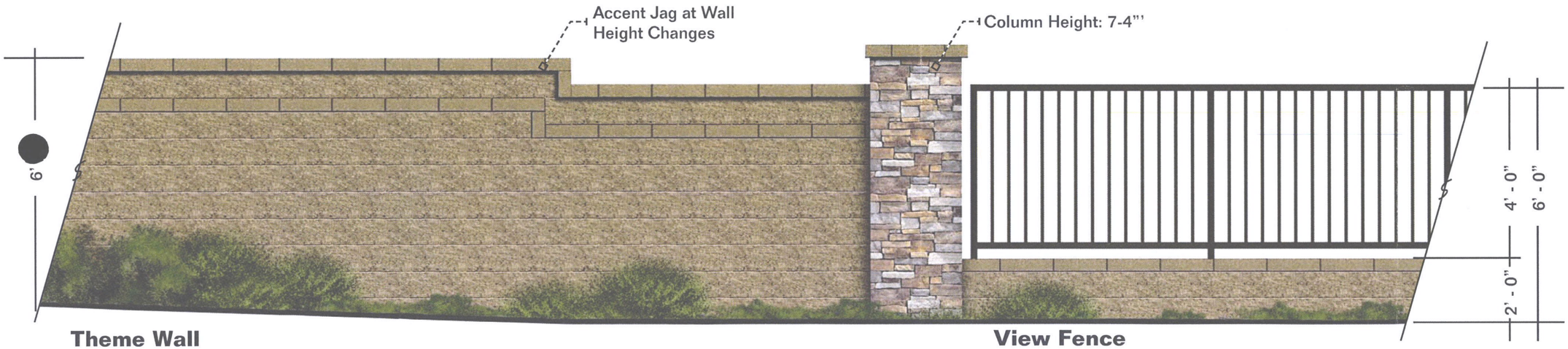
Wall Mounted Entry Sign at Joshua Tree Drive



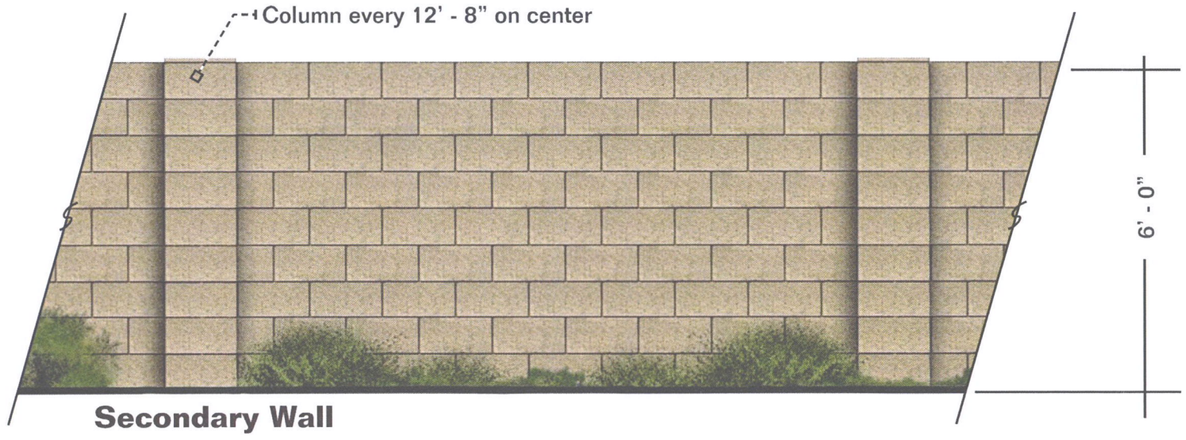
Entry Monument at Indigo

SAN TAN HEIGHTS



Theme Wall **View Fence**

Note: Wall Colors and Stone to match existing San Tan Heights walls.



Secondary Wall

Wall & Entry Elevations

Exhibit J.2

7 November 2013
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CVL CONSULTANTS

From:
Sent:
To:
Subject:

From: Charie.Wallace@coolidgeschools.org [mailto:Charie.Wallace@coolidgeschools.org]
Sent: Wednesday, October 30, 2013 12:18 PM
To: travis.ashbaugh@pinalcountyaz.gov
Cc: George Cannataro
Subject: San Tan Heights Parcels D1 and D2

There are no negative impacts on the San Tan Heights planned area development amendment for Parcels D1 and D2 for Coolidge Unified School District. The preliminary site plan proposes 218 homes. While the district will not require land to build either a new school or build additions to existing school sites, there is a potential that we will need to hire more teachers.

We are requesting that the district and the developer reach a written agreement, including an amount per house, before permits are issued.

The Coolidge Unified School District is in support of the proposed development.

Charie Wallace, *Superintendent*
Coolidge Unified School District #21
450 N. Arizona Boulevard
Coolidge, AZ 85128
P: (520) 723-2041
C: (520) 251-6017
F: (520) 723-2442

Excellence in Service and Communication.

Exhibit K

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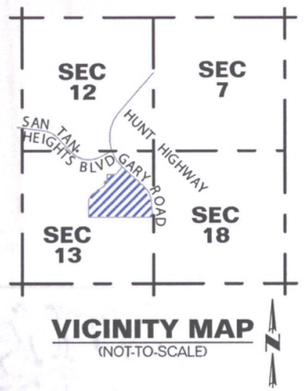

VICINITY MAP
(NOT-TO-SCALE)

600' Buffer

N

0' 250' 500'

Adjacent Ownership Map – 600' Boundary

Exhibit L.1

7 November 2013
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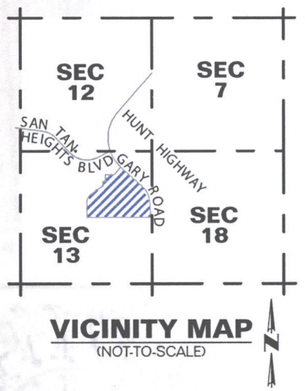
SAN TAN HEIGHTS



VICINITY MAP
(NOT-TO-SCALE)

N

0' 250' 500'

1200' Buffer

Adjacent Ownership Map – 1200' Boundary

Exhibit L.2

7 November 2013
N:\01\0234301\graphics\exhibit\San Tan Heights - exhibits.indd

CVL CONSULTANTS

Official Application:
August 9, 2013

Revision Date:
November 7, 2013

SAN TAN HEIGHTS

Planned Area Develoment
Pinal County, Arizona

OPEN SPACE AND RECREATION PLAN

for

PARCELS D1 & D2

CVL CONSULTANTS

PZ-037-99 and PD-037-99 Approved
March 15, 2000

PZ-037-03 and PD-037-03 Approved
February 18, 2004

OPEN SPACE AND RECREATION PLAN

For

San Tan Heights

Pinal County, Arizona

PZ-037-99 and PD-037-99 Approved March 15, 2000
PZ-037-03 and PD-037-03 Approved February 18, 2004

Owner

Gary Road Holdings, LLC
c/o Matrixx Management, LLC
7950 E. Redfield Road, Suite D-7
Scottsdale, Arizona 85260
Attn: Robert Watt
480-945-9292
bob@matrixxmgt.com

Consultant

Coe & Van Loo Consultants, Inc
4550 North 12th Street
Phoenix, AZ 85014
602.285.4752
Attn: Ryan Weed
rweed@cvlci.com

SAN TAN
HEIGHTS

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SAN TAN HEIGHTS

Exhibits

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Open Space Context Map ..... Exhibit C

Exiting Conditions: Alta Survey (Excerpt) ..... Exhibit D

Site and Slope Analysis Plan ..... Exhibit E

Preliminary Hydrology Analysis ..... Exhibit F

- Excerpt from Master Drainage Report Pavilions at San Tan Heights ..... Exhibit F:1
- Analysis of Local Drainage Features ..... Exhibit F:2
- Proposed Drainage Map ..... Exhibit F:3

Native Plant Inventory for San Tan Heights ..... Exhibit G

Native Plant Inventory List ..... Exhibit H

Preliminary Site Plan ..... Exhibit I

Open Space and Recreation Master Plan ..... Exhibit J

Wall and Signage Master Plan ..... Exhibit K

Landscape Master Plan ..... Exhibit L.1

Landscape Tract Plan ..... Exhibit L.2

Archaeological Records Search Results ..... Exhibit M

SAN TAN
HEIGHTS

A. Executive Summary: Open Space and Recreation Plan

Located within the San Tan Heights Planned Community, Parcels D1 and D2 are currently vacant and undeveloped hillside and foothill lands of approximately 83.52 acres, located one-third of a mile south of the intersection of Hunt Highway and Gary Road. **(See Exhibit A: Vicinity Map)**

Site Analysis

Analysis of the site and surrounding area revealed the following:

- *Developer built neighborhood parks were identified that will support the proposed development, including the San Tan Heights Community Park, and the Mountain Vista Community Park.*
- *A multi-use trail is designated through the site. (See Exhibit C: Open Space Context Map)*
- *The intended target market designation is 'Family' as defined in the OSRAM. As a development of 218 lots, Parcels D1 and D2 fall between the category of "All Developments", and "Developments Exceeding 1000 Dwelling Units"*
- *The southern portion of Parcels D1 and D2 are comprised of hillside, with slopes exceeding 20%, and are generally undisturbed. As such, these areas will contribute the required amount of Conservation area for the project. (See Exhibit E: Site and Slope Analysis Plan)*
- *No natural washes exceeding 200 CFS were observed within the project that would require conservation. The project site falls within Zones "X", and as defined by FEMA are "Areas determined to be outside the 0.2% annual chance of floodplain."*
- *A review was conducted of the AZSITE database maintained by the Arizona State Museum to identify previous archaeological investigations and recorded archaeological sites within a half mile of the project area. There is one recorded archaeological site in the study radius but there are no sites within the project area.*
- *A Native Plant Inventory was conducted on the site, and four zones were identified. Undisturbed hillside consisting of saguaro and barrel cactus, undisturbed foothills consisting of predominantly blue and foothills palo verde, drainage areas with native mesquite, and previously disturbed areas with little vegetation of value.*

Site Plan

Parcel D1 and D2 are comprised of 83.52 acres with a proposed lot mix of 45'x110' and 55'x110' lots. Total number of lots is estimated at 218 for a gross density of 2.61 DU/AC. **(See Exhibit I: Preliminary Site Plan)** Open Space is outlined in the following table.

Category	Area Required	Area Provided
Conservation Open Space	4.33 acres	34.46 acres
Developed Open Space	NA	7.86 acres
Recreation Open Space	4.94 acres	3.42 acres (in developed area) + 3.26 acres (in conservation area) = 6.88 acres total
Total Open Space	15.03 acres	42.32 acres

SAN TAN HEIGHTS

The conservation area is almost entirely hillside area, ranging from 5% to 20%+ slopes, and is located on the southern portion of the site. A total of 8.31 acres is developed open space, in contrast to the 34.46 acres that has been designated as conservation open space. The developed open space areas are comprised of landscape tracts, streetscape frontage, and recreational area open space.

A total of 7.32 acres of recreational open space has been designated. While the two major tracts for the recreation areas are located on the northern portion of the site, as a result of the shape of the actual lotting area, it is centrally located to overall developed area, and equidistant from the lots at either end of the development. Amenities included in the Recreation Area Open Space are pathways and trails in addition to sidewalks, nearly 1 acre of contiguous turf open space play area, one picnic ramada, three trail nodes with seating along the multi-use trail.

Pedestrian Circulation within Parcel D1 and D2 will be provided by sidewalks, open space pathways and trails, and a multi-use trail. The multi-use trail will be located within the northern edge of the conservation area will be developed to the trail standards identified in the OSRAM for Rural multi-use trails (non-motorized). Total corridor width shall be 24' wide, with a stabilized decomposed granite surface 8' in width, with a grade of less than 10%. **(See Exhibit J: Open Space and Recreation Master Plan)**

Compliance with County Standards

A detailed review of the Pinal County Open Space and Recreation Area Manual (OSRAM) and the Pinal County Development Services Code (PCDSC) were undertaken to ensure development of this project would be in conformance with those guidelines and standards. A detailed analysis of this projects compliance is provided in Section D of this report. It was determined that this project is in comformance with the open space requirements, landscaping density requirements, and level of recreation amenity required.

Integration with the County's Open Space and Trails System

Parcel D1 and D2 will be an integrated part of the surrounding community. Design Character, including walls, entry monuments, and amenities will be based on the design established within the existing San Tan Heights community. The landscape character will transition from that observed within the community, to the natural hillside within the site.

In addition, this project affords the opportunity to build a planned portion of the County's trail system. This project will provide for a planned 8'-wide soft paved multi-use trail that was identified in the County's trails master plan.

SAN TAN HEIGHTS

B. Existing Conditions, Context, and Site Analysis

1. Project Context: Site Description

Located within the San Tan Heights Planned Community, Parcels D1 and D2 are currently vacant and undeveloped hillside and foothill lands of approximately 83.52 acres, located one-third of a mile south of the intersection of Hunt Highway and Gary Road. **(See Exhibit A: Vicinity Map)**

The southern portion of the site is undisturbed hillside with slopes exceeding 20%. The western, central and eastern portions of the site are comprised of gently sloping foothills, generally undisturbed. A few existing trails parallel each other, generally running from the southwest at Phillips Road, to the north east and Gary Road. These trails also parallel an existing manmade drainage channel that has naturalized with native plantings. This channel delineates the generally natural hillside portion of the site from the previously disturbed and graded portion of the site to the northwest.

Parcels D1 and D2 are bounded on the north by a proposed church site, on the west by a 100-foot wash corridor and various existing and developed San Tan Heights residential parcels. On the southwest the parcels are bounded by W. Phillips Road and vacant lands beyond, and on the southeast by the Chandler Heights Ranches Unit 3 residential subdivision. On the east the parcels are bounded by Gary Road and the Johnson Ranch subdivision. The overall site includes portions of Section 13 in Township 3S, Range 7E. Assessor's Parcel Numbers for the site include 509029240 and 50902059A. **(See Exhibit B: Location Map)**

2. Project Context: Regional Location

Parcels D1 and D2 are located within the San Tan Heights Planned Community which contains approximately 2,184 gross acres and is located at the southeast corner of Hunt Highway and Thompson Road in Pinal County. Properties directly north of Hunt Highway are zoned as General Rural or GR and consist generally of farms and cotton fields. To the east is a single family residential master planned community called Johnson Ranch zoned as a PAD. Properties to the south are consist of large lot residential or agricultural lots with homes and some livestock zoned either GR or Suburban Ranch (SR). Properties to the west of San Tan Heights include the San Tan Regional Park site with the remaining lands zoned as SR containing homes and livestock. **(See Exhibit A: Vicinity Map)**

3. Surrounding Recreation Opportunities

A study of the surrounding area was performed, and the information compiled into the attached Open Space Context Map (See Exhibit C: Open Space Context Map), and the Site Analysis Plan. Schools and developer built neighborhood parks were identified that will support the

SAN TAN HEIGHTS

proposed development, including the San Tan Heights Community Park, and the Mountain Vista Community Park and several others. To the southeast is a golf course community. These existing opportunities were considered in the design of the projects open space program.

4. Project Context: Existing Connectivity and Area Trails

In analyzing the site, an existing unpaved trail connection from West Phillips Road to North Gary Road was noted for integration into the design of the site. This connectivity will be maintained, with some minor realignment.

In researching the surrounding area, several community paths and trails were observed in the adjacent developments, but were internal to their respective developments with no opportunity for connectivity. However, a soft surface trail was noted to the west that could potentially tie into the cul-de-sac on West Pinto Ct. This trail is located offsite, and is separated from the site by an existing channel which is also offsite.

Review of the County's Open Space and Trails Master Plan (2007) and the County's online interactive GIS maps indicated that a multi-use trail connection is designated through the site. The general alignment is east-west, intended as a connection from the San Tan Mountain Regional Park (west of the project site) to the community to the east. This trail alignment heads east until it intersects a power transmission line corridor, and which point the trail corridor heads north. An additional trail corridor coming from the south intersects with the east-west trail corridor at the project site. **(See Exhibit C: Open Space Context Map)**

These trail corridors will be integrated within the project design by utilizing the existing onsite trail noted above, and as discussed in the implementation section of this report. **(Refer to Section C.1.c: Implementation, Development Concept, Pedestrian Circulation Concept)**

5. Target Market Analysis

Parcel D1 and D2 are being developed as a single family residential complex. While a large portion of the site exceeds 6% slope, the entirety of the developed area occurs within the areas under 5%. This coupled with the lot sizes being under ½ acre in size exclude it from the designation of a 'natural' community. Additionally, the development is not targeted as an adult community.

Based on these factors, and the intended target market as a single family development, the designation of 'Family' as defined in the OSRAM is applicable to the project, and recreational amenities should approach National Recreation and Park Association (NRPA) standards. As a development of 218 lots, Parcels D1 and D2 fall between the category of "All Developments", and "Developments Exceeding 1000 Dwelling Units, as defined in Table 1 of the OSRAM.

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Recreational amenities for Parcel D1 and D2 should exceed the first category, and include elements of the second category, as shown below, to be in conformance.

All Developments	Developments Exceeding 1000 Dwelling Units
Paths in addition to sidewalks	Paths in addition to sidewalks, One Acre Turf Field, One Play Structure, One Picnic Ramada

6. Site and View Shed Analysis

Existing views to consist of either views towards the hillside, or views from the hillside, especially towards the San Tan Mountains to the west. By maintaining the conservation area, the views to the hillside will be preserved. Also, by locating the multi-use trail to the southern side of the development, in the hillside conservation area, occasional views will be provided to hikers. The central open space is oriented with views towards the San Tan Mountains.

7. Slope Analysis

Analysis of the existing slopes is critical in determining the lands of high value, view sheds, and lands that should be set aside for conservation. Slopes exceeding 15% are generally set aside as conservation areas. Additionally, the slopes used in determining the overall project requirement for Conservation Open Space and Recreation Area Open Space.

The southern portion of Parcels D1 and D2 are comprised of hillside, with slopes exceeding 20%, and are generally undisturbed. As such, these areas will contribute the required amount of Conservation area for the project. **(See Exhibit E: Site and Slope Analysis Plan)** The entirety of the site north of the manmade channel is previously disturbed, so would not contribute towards Conservation Area requirements. Calculations for the required Conservation Open Space and Recreation Area Open Space based on the slopes notes are as follows:

Open Space Requirement Calculation				
Slope Categories	0% - 5% Slope	<5% - 10% Slope	<10% Slope	**TOTALS**
Measured Areas Within Each Category	42.45 acres	15.93 acres	25.14 acres	**83.52 acres**
Conservation Open Space Required	Min Reqd. = 0%/3% Area Reqd.= 1.27 acres	Min Reqd. = 5% Area Reqd. = 0.80 acres	Min Reqd. = 9% Area Reqd. = 2.26 acres	**4.33 acres**
Recreation Open Space Required	Min Reqd. = 7% Area Reqd. = 2.97 acres	Min Reqd. = 6% Area Reqd. = 0.96 acres	Min Reqd. = 4% Area Reqd. = 1.01 acres	**4.94 acres**
Total Open Space Required	Min Reqd. = 18% Area Reqd. = 7.64 acres	Min Reqd. = 18% Area Reqd. = 2.87 acres	Min Reqd. = 18% Area Reqd. = 4.53 acres	**15.03 acres**

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8. Preliminary Hydrology Analysis

Review of the preliminary drainage report prepared for this development indicated multiple watershed areas within the project, and previous plans for handling onsite and offsite stormwater and drainage. No natural washes exceeding 200 CFS were observed within the project that would require conservation. **(See Exhibits F1 – F3: Preliminary Hydrology Analysis)**

9. Flood Zone Designation

According to the preliminary drainage report, the project site falls within Zones "X", and as defined by FEMA are "Areas determined to be outside the 0.2% annual chance of floodplain."

10. Archaeological Sites Investigation

A review was conducted of the AZSITE database maintained by the Arizona State Museum to identify previous archaeological investigations and recorded archaeological sites within a half mile of the project area. These records indicate that 7 archaeological surveys have been previously conducted within this study radius and one of the surveys partially overlapped the project area. There is one recorded archaeological site in the study radius but there are no sites within the project area. **(See Exhibits M1 – M3: Archaeological Survey Memo)**

11. Existing Vegetation and Biological Habitat Analysis

A native plant inventory was conducted on the site, and four planting zones were identified. First was the undisturbed hillside consisting mainly of saguaro with some scattered palo verde. Second was the undisturbed foothills consisting of predominantly blue and foothills palo verde. Third was the drainage areas with densely spaced blue palo verdes and some native mesquite. Fourth was the previously disturbed areas with no vegetation of value.

Trees were tagged in the field and identified for potential salvage. Plants were labeled as follows:

- *PIP: Protect in Place. These trees were noted as being outside the proposed development area, and will remain in place, with a gold boundary rope delineating the protected area.*
- *TOS: Transplant on site. These plants will be salvaged, and reused on site. All plants slated for salvage are being proposed for reuse on site.*
- *RFS: Remove from site. These plants were noted as low likelihood of surviving salvage, and will be destroyed and removed from the site. The majority of these were in the bottom of the manmade wash corridor, and as such were either crowded, or had exposed roots.*

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The hillside area, outside the proposed limit of disturbance, was not inventoried. This area has been set aside as a conservation area. The results of the inventory are included with this report, in the attached exhibits. A summary of the inventory is provided in the table below.

Summary				
Species	**TOS**	**PIP**	**RFS**	**Total**
Palo Verde	11	9	298	318
Mesquite	0	0	8	8
Saguaro	12	28	1	41

C. Implementation: Proposed Development Plan

1. Development Concept

a. Site Plan and Open Space Data

Parcel D1 and D2 are comprised of 83.52 acres with a proposed lot mix of 45'x110' and 55'x110' lots. Total number of lots is estimated at 218 for a gross density of 2.61 DU/AC. (See Exhibit I: Preliminary Site Plan)

Due to the natural site constraints, the project was afforded the opportunity to set aside an extensive amount of open space area. As noted in the Open Space Master Plan, there is a total of 42.77 acres of open space, or 51.21% of the project. This far exceeds the minimum required amount of open space of 18%. Tracts G and H are identified as the develop recreation area, for a total of 4.78 acres, or 5.72%. The table below outlines the required areas, as outlined in the slope calculations and other county requirements, and the provided open space areas in each category:

Category	Area Required	Area Provided
Conservation Open Space	4.33 acres	34.46 acres
Developed Open Space	NA	7.86 acres
Recreation Open Space	4.94 acres	3.42 acres (in developed area) + 3.26 acres (in conservation area multi-use trail) = 6.88 acres total
Total Open Space	15.03 acres	42.32 acres

In general, the Conservation Open Space areas are located to the south, with its northern boundary containing a multi-use trail. The northern central portion of the site is comprised of the Recreation Open Space Area. Do the topography of the site, the developable land area is shaped like a band that wraps around the conservation area to the south. While at first glance, the recreation area appears to be located to the extreme north of the property, when analyzed in

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context with the lot locations, the two central recreation tracts are nearly equidistant from the two ends of the development, along Twin Peaks Parkway and Pinto Court.

b. Vehicular Circulation Concept

All existing and proposed developments at San Tan Heights have direct access to two major improved arterials in Hunt Hwy., a major Regionally Significant Route, and Thompson Road as well as several improved collector roads that include Roberts Road, Phillips Road, Gary Road, and San Tan Heights Blvd.

Access for the development is provided from three access points at North Gary Road, a local collector on the east boundary of the site. Internal vehicular circulation is provided utilizing 50-foot dedicated public local residential street rights-of-way. All internal streets are to be designed per Pinal County standards. **(See Exhibit I: Preliminary Site Plan)**

c. Pedestrian Circulation Concept

Pedestrian Circulation within Parcel D1 and D2 will be provided by sidewalks, open space pathways and trails, and a multi-use trail. **(See Exhibit J: Open Space and Recreation Master Plan)**

Circulation along the local streets will occur on sidewalks adjacent to curb. Connections to the open space areas from these attached sidewalks will be provided by 5' wide paved pathways that meander through the open space. All paved access routes shall meet ADA guidelines.

The multi-use trail within the conservation area will be developed to the trail standards identified in the OSRAM for Rural multi-use trails (non-motorized). Total corridor width shall be 24' wide, with a stabilized decomposed granite surface 8' in width, with a grade of less than 10%. **(See Exhibit J: Open Space and Recreation Master Plan)**

d. Stormwater Management Concept

According to the Preliminary Drainage Report, project stormwater will be managed through surface flow on street, and a series of small channels that direct the flow to several distributed retention basins. Basins will be developed in accordance with County standards, and shall be comprised of side slopes that vary and range from 4:1 to 10:1. Retention basins will be designed to be compatible with recreational uses and will integrate paved pathways and picnic areas. A minimum of 25% of the recreation area will be maintained outside of the retention basin high water. **(See Exhibit F3: Preliminary Drainage Concept)**

e. Development Phasing Concept

The development of Parcels D1 &D2 will be accomplished within two phases subject to and based upon current and future market demand. Parcel D1 development with a proposed yield of 108 lots at 45-feet and 55-feet wide, will most likely begin construction during the second quarter

of 2014. Parcel D2 development with a proposed yield of 110 lots at 45-feet and 55-feet wide, will most likely begin construction a year later.

In accordance with the OSRAM and County Standards, each phase of development will include a recreational open space area. Also, as outlined in the OSRAM, "At minimum, 33% of the larger centralized recreation area amenities should be constructed and operational by the time 25% of the of the total allowable dwelling units have had a final inspection, 66% of the larger centralized recreation area amenities should be constructed and operational by the time 50% of the of the total allowable dwelling units have had a final inspection, and 100% of the larger centralized recreation area amenities should be constructed and operational by the time 75% of the of the total allowable dwelling units have had a final inspection."

2. Conservation Open Space

In general, the Conservation Open Space areas are located to the southern portion of the site, with its northern boundary containing a multi-use trail. This multi-use trail serves as a delineation line between the conservation area to the south, and the developed open space areas to the north. A total of 34.46 acres has been designated as Conservation Open Space. **(See Exhibit J: Open Space and Recreation Master Plan)**

3. Developed Open Space

a. Developed Open Space Areas

A total of 8.31 acres is developed open space, in contrast to the 34.46 acres that has been designated as conservation open space. The developed open space areas are comprised of landscape tracts, streetscape frontage, and recreational area open space. **(See Exhibit J: Open Space and Recreation Master Plan)**

b. Proposed Entry, Walls, and Signage.

With many of the lots backing up to open space or conservation areas, full view and partial view fences will be utilized extensively on the project. Project signage will be minimal, with a wall mounted parcel identity sign at two access points from North Gary Road. Small decorative trail access signs will be located at the three trail access points. Wall type and sign locations have been identified on the Wall and Signage Master Plan. **(See Exhibit K: Wall and Signage Master Plan)**

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4. Recreation Area Open Space

A total of 7.32 acres of recreational open space has been designated. As discussed previously, while the tracts for the recreation areas are located on the northern portion of the site, as a result of the shape of the actual lotting area, it is centrally located to overall developed area. **(See Exhibit J: Open Space and Recreation Master Plan)**

The central open space area will contain a picnic area with a ramada overlook. Split rail fence with low stone columns will accent the entry to this park area. The picnic ramada will be supported by CMU columns with a rustic stacked fieldstone veneer.

Just under one-acre of turf play area has been provided in this recreation area, with a looped pathway surrounding this area provided in the northern tract.

As discussed in Section 5, Target Market Analysis, recreational amenities should fall between the lower two categories. An analysis of the amenities provided is shown below.

Suggested Amenities for All Developments (Per OSRAM)	Suggested Amenities for Developments Exceeding 1000 Dwelling Units (Per OSRAM)	Proposed Amenities (218 Dwelling Units)
Paths in addition to sidewalks	Paths in addition to sidewalks, One Acre Turf Field, One Play Structure, One Picnic Ramada	Paths in addition to sidewalks, More than 1/2 Acre Turf Field, One Picnic Ramada, Trail nodes with seating

5. Landscaping

a. Landscape Character

The plants for the developed open space and streetscape were selected to blend with the surrounding existing developments, and relate to the agrarian history of the area. Large deciduous and evergreen shade trees are utilized in the developed open space and define it separate and apart from the conservation area. The planting style will be naturalized, with trees clustered at focal points and access points.

The conservation area will be minimally disturbed for the trail access. Any revegetation in this area will consist of native plants that are currently identified on the hillside

b. Landscape Calculations

No plant installation will occur within the conservation area, except along the provided multi-use trail corridor, to provide enhancements and shade. The remaining developed, recreation,

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and street frontage landscape areas will be planted in conformance with the OSRAM and County Standards. The table below outlines the required plant quantity, density and sizes for this development, and the amount provided. The calculations are based on the 7.86 acres of developed open space. The quantities shown are the minimum required per Pinal County Development Services Code. Detailed calculations will be provided with the final landscape plans.

BASED ON 7.86 Acres (341,946 SF)	Total Trees (15 Gallon Minimum)	24" Box Trees	Shrubs (5 Gallon Minimum)	Groundcover (<18" tall)
Standard / Requirement	1 per 1000 SF	25% of tree total	7 per 1000 SF	>50% of vegetation area
Calculation	341,946/1000	0.25 x 342 trees	(341,946/1000)x7	342 trees x 400 SF + 2,394 shrubs x 18 SF Total x 50%
Quantity Required	342 trees	86 - 24" box	2,394 shrubs	89,946 SF of Groundcover

c. Irrigation Source

To minimize landscape irrigation demand, all plants will be low water use, per the ADWR plant list. Passive rainwater harvesting techniques will be utilized in the developed open spaces to direct rain water towards the clustered tree stands.

The irrigation source will be potable water, with connection points being water meters located within the open space tracts, and to be coordinated with the civil plans.

D. Compliance with County Guidelines and General OSRP Design Guidelines

1. Conformance to the Open Space and Recreation Area Manual (OSRAM)

The development team has reviewed the Open Space and Recreation Area Guideline Manual. Key design guidelines are quoted directly from the manual, below. These guidelines are then related to the proposed development. The development standards outlined in this plan are in conformance with the OSRAM, as follows:

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Spatial Standards

"Open space should be located and designed as a community amenity and provided with each phase of a development. It should be highly visible to the public to encourage community use and awareness."

Both Phases (D1 and D2) contain recreational opportunities. The main amenity area will be developed with parcel D1, and the conservation area and associated natural trail will be developed with parcel D2. The main amenity area is centrally located, with the surrounding residential higher up the terrain, providing views to the open space.

"A good measure of accessibility is providing recreation areas and multi-use paths and trails within a 1,000-foot radius from each dwelling unit."

Approximately 95% of all the units in the proposed development are within 1000' of the central amenity. Those that are not are within 400' of the trail through the conservation area.

"Collector Street Frontage: meandering tract between 10 and 15 feet in width"

The proposed development is adjacent to N. Gary Road, a collector street. The landscape tract along this street ranges from 15' to over 200', providing an generous landscape buffer and entry into the development.

Groundform

Retention basins "should be shaped to have meandering edges with varying slide slopes from 4:1 to 10:1."

"Contouring of the ground and placement of mounds and earth berms along streets is recommended."

All retention basins will have varying side slopes in conformance with the OSRAM. The grading plans will be coordinated with the landscape design to ensure flowing transitions and ADA access to the open space area. The main amenity picnic area will have a gentle slope from North Canyon Drive overlooking the turf play area below.

Planting Standards

"a) a minimum of fifty percent (50%) vegetative groundcover that does not exceed eighteen (18) inches in height, and b) no more than fifty percent (50%) trees and shrubs."

"Provide a natural native desert (or regionally compatible) plant pallet of trees, shrubs and ground covers grouped and arranged to create interesting patterns and textures."

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"Shrubs with a minimum size of five (5) gallons should be planted at a rate of five (5) shrubs per thirty (30) feet of linear street frontage."

"A minimum of twenty-five (25) percent of all frontage landscaped areas should be covered with vegetative or organic groundcover consisting of living plant materials characterized by horizontal"

"Clustering of trees and shrubs is encouraged to accent focal points or landmarks and to provide variety to the streetscape."

The plant palette and planting design has been developed in conformance to the OSRAM. The southern conservation area consists of native vegetation used to accent the trail access points and seating nodes. As the landscape transitions to the open space area to the north, a traditional plant palette that reflects the agrarian culture of the area is utilized. This will further define and separate the developed open space and conservation areas. All plants used will be from the ADWR low water use list. Final planting design will conform to the densities established in the OSRAM.

Planting density calculations were provided within this document that verify conformance with quantities and density requirements.

Conservation Areas

"Conservation areas should be contiguous to any existing or planned conservation area located adjacent to the proposed development."

"The fragmentation of conservation lands is strongly discouraged."

"Conservation areas should include the most sensitive resource areas on the property including but not limited to slopes greater than 15%, riparian areas, natural washes, etc."

"Access to and through Conservation Open Space areas may be provided in the form of multi-use paths and trails. Trails may be allowed in locations that do not negatively impact the habitat value"

"Landscaping in conservation open space areas should be native on-site species only."

The entire southeast corner of the project will remain as a conservation area, and will be left in its natural state. This area consists of existing pristine hillside vegetation on slopes exceeding 15%. A five foot wide soft surface trail (either dg or stabilized dg) will meander along the northern boundary of the conservation area. This trail will follow the hillside contours. Two seating area and a cluster of native trees will be placed along the trail. The trail will stay within a 30' setback from the development, and will stay a minimum of 8' from the edge of the lots. The community will have three access points to the trail directly from W. Twin Peaks Parkway. The access points will be accented with specialty paving, and seating.

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Recreation and Amenities

"Seating areas should be located in appropriate locations to provide supervision of activities. Seating areas shall incorporate shade."

"All recreation areas within the development should be connected through a multi-use path or trail system."

Parcels D1 and D2 are smaller developments, with a combined yield of 218 lots. Per the OSRAM guidelines, this development is not required to provide a playground structure, but rather meet the minimum standards by providing paths and trails connecting to open space. The proposed development meets these minimum standards, but also provides a ramada at the central amenity area, overlooking the open turf play area.

In addition, seating nodes with tree shade are provided along the paths and trails throughout the community.

Pathway and Trail Guidelines

"Rural Trails have a moderate to low intensity usage and are located in residential, agricultural, and natural environments. They are typically unpaved, and should have convenient access to public roads."

"The pedestrian circulation system should efficiently connect all open space"

"The trail systems should offer loops, allowing the individual to avoid backtracking. The multi-use path or trail system should provide linkages to open space"

Review of the County's Open Space and Trails Master Plan (2007) and the County's online interactive GIS maps indicated that a multi-use trail connection is designated through the site. The general alignment is east-west, intended as a connection from the San Tan Mountain Regional Park (west of the project site) to the community to the east. This trail alignment heads east until it intersects a power transmission line corridor, and which point the trail corridor heads north. An additional trail corridor coming from the south intersects with the east-west trail corridor at the project site. **(See Exhibit C: Open Space Context Map)**

These trail corridors will be integrated within the project design by utilizing the existing onsite trail noted above, and as discussed in the implementation section of this report. **(Refer to Section C.1.c: Implementation, Development Concept, Pedestrian Circulation Concept)**

2. Conformance to the PCDSC

The development standards outlined in this plan are in conformance with Chapter 2.176 of the PCDSC, as follows:

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Section 130 – Minimum requirements for open space

The average slope for the net acreage of the project is greater than 10%, requiring a minimum of 9% conservation open space, a minimum of 4% recreation open space, and a total of 18% open space. The proposed development meets these criteria as follows:

Open Space Requirements for PAD with 10% slope avg.	Minimum Required	Proposed
Conservation Open Space	9%	41%
Recreation Open Space	4%	6%
Total Open Space	18%	51%

Section 140 – Uses Permitted

The proposed development provides trails and pathways within the open space and conservation area, in conformance with the PCDSC.

Section 150 – Uses Prohibited

No prohibited uses are being proposed in the open space areas.

Section 160 – Minimum Requirements for Recreation Areas

The Master Open Space exhibit outlines the phasing for the proposed development. This phasing will be tied to the final plat. The phasing allows for development of the primary amenity area with the first phase of development. All recreation open space areas are located with direct access from the local streets and are centrally located to the development. The groundform of these areas will be varied and natural, with a minimum of 25% of the open space area out of the retention.

Plant sizes will meet or exceed the minimum standards. **The total required and provided plant quantities are shown in Section C.5.b. Landscape Calculation.**

Section 170 – Minimum Requirements for Multi-use Paths and Trails

Review of the County's Open Space and Trails Master Plan (2007) and the County's online interactive GIS maps indicated that a multi-use trail connection is designated through the site. The general alignment is east-west, intended as a connection from the San Tan Mountain Regional Park (west of the project site) to the community to the east. This trail alignment heads east until it intersects a power transmission line corridor, and which point the trail corridor heads north. An additional trail corridor coming from the south intersects with the east-west trail corridor at the project site. **(See Exhibit C: Open Space Context Map)**

The multi-use trail within the conservation area will be developed to the trail standards identified in the OSRAM for Rural multi-use trails (non-motorized). Total corridor width shall be 24'

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wide, with a stabilized decomposed granite surface 8' in width, with a grade of less than 10%. **(See Exhibit J: Open Space and Recreation Master Plan)**

Section 180 – Minimum Requirements for Storm Water Retention and Detention Basins

As noted previously, the groundform of the open space area will be varied and natural. Trails through the open space will meet ADA guidelines. The appearance of retention basins will be softened with natural grading and berming along adjacent streets. Turf will be utilized in the basins and open space area along with drought tolerant plant material.

Section 190 – Minimum Requirements for Streetscape and Entryways

Plant sizes and density will meet or exceed the requirements of the PCDSC. All plant material used will be listed on the ADWR low water use plant list.

Section 200 – Minimum Requirements for Conservation of Open Space

The conservation area proposed in this development is a single large contiguous area, comprised of native, undisturbed hillside. A soft surface trail in proposed for this area, but all revegetation will utilize native plant material in this area.

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Ellsworth Rd

Empire Boulevard

Maricopa County
Pinal County

Gantzel Road

Thompson Road

Santan Heights Boulevard

Hunt Highway

Gary Road

Phillips Road

BORGATA AT SAN TAN HEIGHTS

SAN TAN HEIGHTS

MORNING SUN FARMS

SKYLINE RANCH

JOHNSON RANCH

CR-1A
CR-1
CR-2
CR-3
CR-4
CR-5
CB-1
CB-2
SR
GR
TR

Zoning Legend

- SR
- CR-1A
- CR-1
- CR-2
- CR-3
- CR-4
- CR-5
- CB-1
- CB-2
- GR

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SEC 12 | SEC 7 | SEC 13 | SEC 18

SAN TAN HEIGHTS BLVD | GARY ROAD | HUNT HIGHWAY

VICINITY MAP
(NOT-TO-SCALE)

N

0' 1000' 2000'

Vicinity Map
San Tan Heights PAD

Exhibit A

7 November 2013
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SKYLINE RANCH

Santan Heights Boulevard

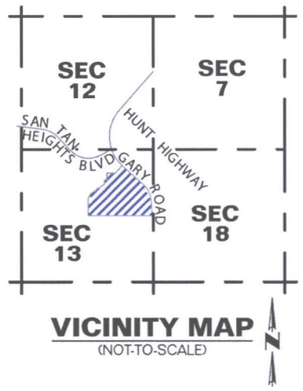
Hunt Highway

Gary Road

Parcels D1 & D2

JOHNSON RANCH

Phillips Road



VICINITY MAP
(NOT-TO-SCALE)

N

0' 500' 1000'

Location Map
Parcels D1 & D2

Exhibit B

7 November 2013
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MOUNTAIN VISTA MIDDLE SCHOOL
COOLIDGE UNIFIED SCHOOL
DISTRICT 21

SAN TAN HEIGHTS ELEMENTARY SCHOOL
COOLIDGE UNIFIED SCHOOL
DISTRICT 21

SKYLINE RANCH ELEMENTARY
SCHOOL FLORANCE UNIFIED
SCHOOL DISTRICT 1

UNNAMED
COMMUNITY
PARK

SAN TAN
MOUNTAIN
REGIONAL
PARK

MOUNTAIN VISTA
COMMUNITY PARK

COMMUNITY TRAIL SYSTEM

UNNAMED COMMUNITY PARK

THIS SITE

CONSERVATION AREA

CONSERVATION AREA

CONSERVATION AREA

GOLF COURSE
TRAIL SYSTEM

THE GOLF CLUB AT
JOHNSON RANCH

ONE MILE BUFFER LINE

SAN TAN
MOUNTAIN
REGIONAL PARK

SEC 12 | SEC 7
SEC 13 | SEC 18
SAN TAN HEIGHTS BLVD
GARY ROAD
HUNT HIGHWAY

VICINITY MAP
(NOT-TO-SCALE)

N

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Legend

- Park Area
- School Area
- Conservation Area
- Trail or Pathway (These are local or private trails and are not identified on the County Trails Plan.
- Trail Corridors: Public Trails (Built or Planned) as Identified in the County's Trail Plan
- Transit: High Capacity (per Pinal County GIS)

N

0' 900' 1800'

Open Space Context Map

Exhibit C

7 November 2013
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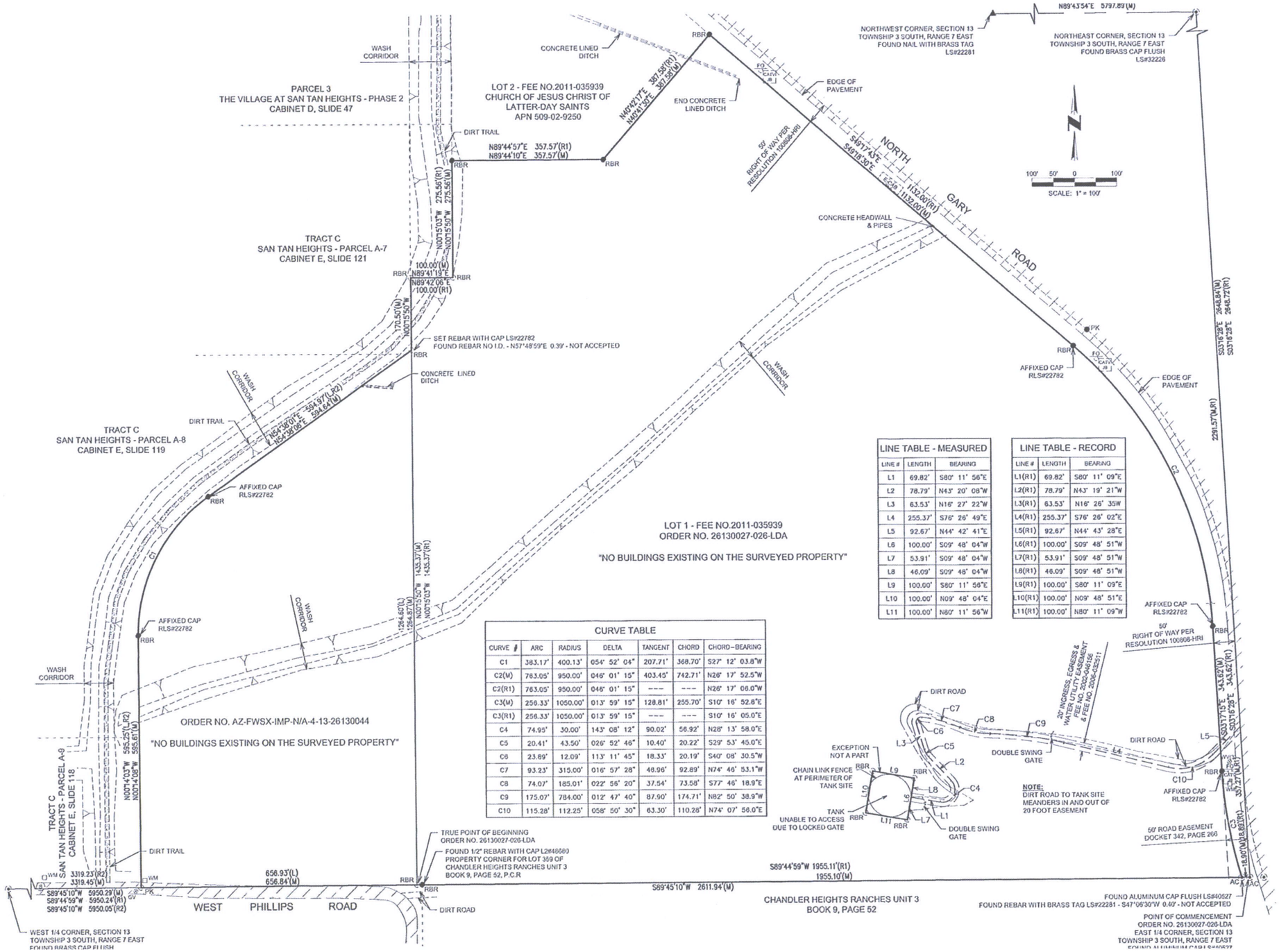

LINE TABLE - MEASURED		
LINE #	LENGTH	BEARING
L1	69.82'	S80° 11' 56"E
L2	78.79'	N43° 20' 08"W
L3	63.53'	N16° 27' 22"W
L4	255.37'	S76° 26' 49"E
L5	92.67'	N44° 42' 41"E
L6	100.00'	S09° 48' 04"W
L7	53.91'	S09° 48' 04"W
L8	46.09'	S09° 48' 04"W
L9	100.00'	S80° 11' 56"E
L10	100.00'	N09° 48' 04"E
L11	100.00'	N80° 11' 56"W

LINE TABLE - RECORD		
LINE #	LENGTH	BEARING
L1(R1)	69.82'	S80° 11' 09"E
L2(R1)	78.79'	N43° 19' 21"W
L3(R1)	63.53'	N16° 26' 35W
L4(R1)	255.37'	S76° 26' 02"E
L5(R1)	92.67'	N44° 43' 28"E
L6(R1)	100.00'	S09° 48' 51"W
L7(R1)	53.91'	S09° 48' 51"W
L8(R1)	46.09'	S09° 48' 51"W
L9(R1)	100.00'	S80° 11' 09"E
L10(R1)	100.00'	N09° 48' 51"E
L11(R1)	100.00'	N80° 11' 09"W

CURVE TABLE						
CURVE #	ARC	RADIUS	DELTA	TANGENT	CHORD	CHORD-BEARING
C1	383.17'	400.13'	054° 52' 04"	207.71'	368.70'	S27° 12' 03.8"W
C2(M)	783.05'	950.00'	046° 01' 15"	403.45'	742.71'	N26° 17' 52.5"W
C2(R1)	763.05'	950.00'	046° 01' 15"	---	---	N26° 17' 08.0"W
C3(M)	256.33'	1050.00'	013° 59' 15"	128.81'	255.70'	S10° 16' 52.8"E
C3(R1)	256.33'	1050.00'	013° 59' 15"	---	---	S10° 16' 05.0"E
C4	74.95'	30.00'	143° 08' 12"	90.02'	56.92'	N28° 13' 58.0"E
C5	20.41'	43.50'	026° 52' 46"	10.40'	20.22'	S29° 53' 45.0"E
C6	23.89'	12.09'	113° 11' 45"	18.33'	20.19'	S40° 08' 30.5"W
C7	93.23'	315.00'	016° 57' 28"	46.96'	92.89'	N74° 46' 53.1"W
C8	74.07'	185.01'	022° 56' 20"	37.54'	73.58'	S77° 46' 18.9"E
C9	175.07'	784.00'	012° 47' 40"	87.90'	174.71'	N82° 50' 38.9"W
C10	115.28'	112.25'	058° 50' 30"	63.30'	110.28'	N74° 07' 56.0"E

Existing Conditions: ALTA Survey (Exerpt)

Exhibit D

7 November 2013

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Slopes Table

Number	Color	Minimum Slope	Maximum Slope	Slope Area
1		0.00%	5.00%	2,576,995 SF
2		5.00%	10.00%	693,753 SF
3		10.00%	15.00%	235,102 SF
4		15.00%	20.00%	212,104 SF
5		20.00%	20.00% +	648,103 SF

SAN TAN HEIGHTS

LOCATE OPEN SPACE & RETENTION DOWN SLOPE

UNNAMED WASH

UNNAMED WASH

VIEWSHED FROM PROJECT

VIEWS FROM SLOPE

VIEWSHED FROM PROJECT

POTENTIAL TRAIL ACCESS

PROJECT ACCESS

DRAINAGE (EXISTING PATTERN)

PRESERVE SLOPES AS CONSERVATION AREAS

W GOLDDUST AVE
W KRISTINA AVE
W PHILLIPS RD
W MILA WAY
W ANGEL WAY
W PINTO CT

SEC 12 | SEC 7 | SEC 13 | SEC 18

SAN TAN HEIGHTS BLVD | GARY ROAD | HUNT HIGHWAY

VICINITY MAP
(NOT-TO-SCALE)

N
NTS

Site and Slope Analysis Plan

Exhibit E

7 November 2013

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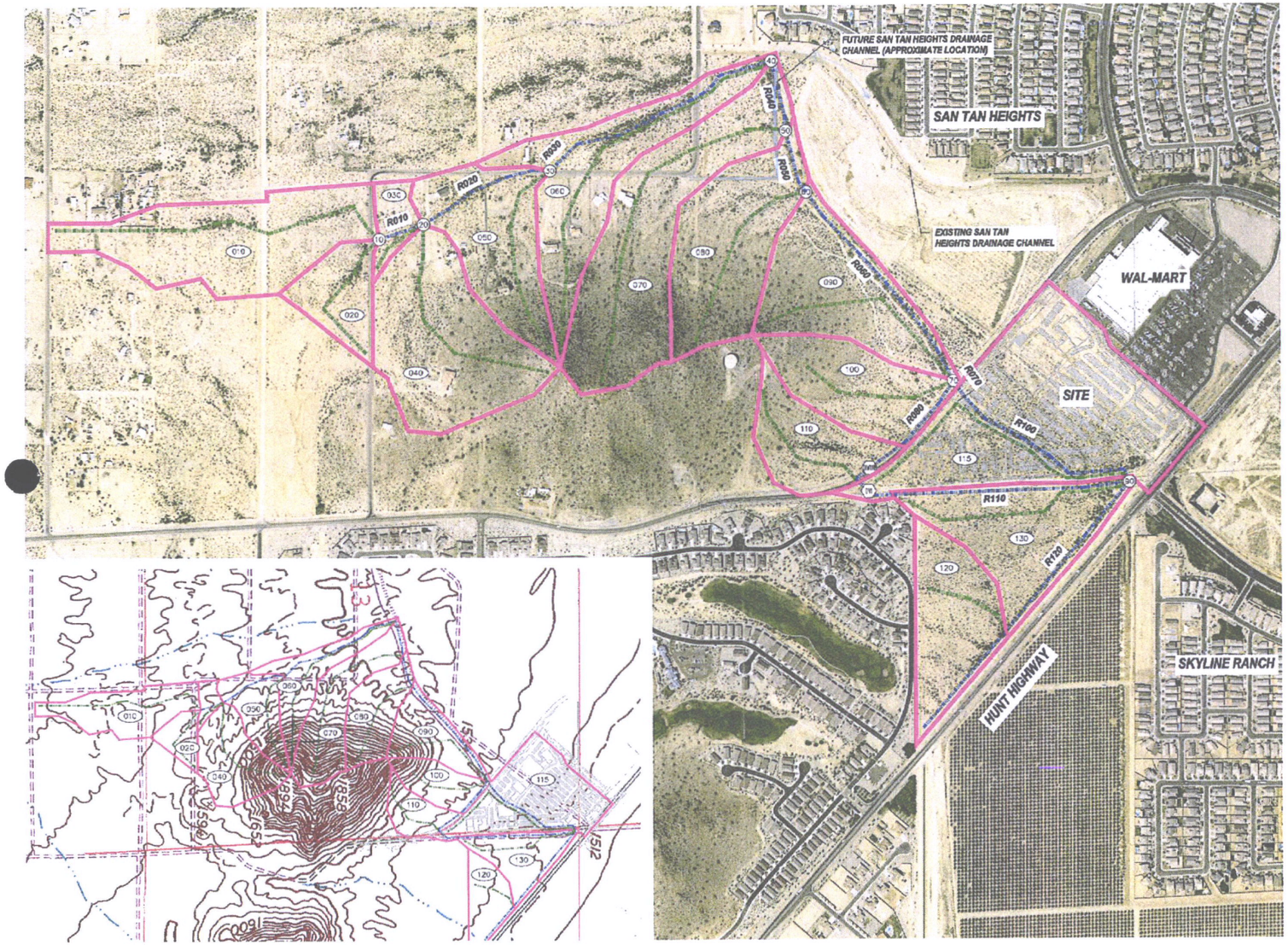

DRAINAGE BASIN DELINEATION MAP
(USGS MAP SACATON NE, AZ - 33111-B5-TF-024, 1978)
SCALE: 1:660

LEGEND
- (120) DRAINAGE AREA IDENTIFIER
- (90) CONCENTRATION POINT
- (P) FLOW DIVERSION
- DRAINAGE AREA DELINEATOR
- FLOW PATH
- R110 DRAINAGE REACH

GRAPHIC SCALE
300 0 150 300 600
(IN FEET)

FOR USE WITH HEC-1 MODELS:
- EXIST100.DAT
- EXIST50.DAT
- EXIST10.DAT
- SANTAN100.DAT
- SANTAN50.DAT
- SANTAN10.DAT

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Kimley-Horn and Associates, Inc.
ENGINEER _____ DATE _____
PE NO. _____

NO | REVISION | BY | DATE | APP'D

Kimley-Horn and Associates, Inc.
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1555 W. Glendale Road, Suite 200
Mesa, Arizona 85202 (480) 755-4444

SCALE (H): 1"=300'
SCALE (V): NONE
DESIGNED BY: JAW
DRAWN BY: JAW
CHECKED BY: PFE
DATE: NOV 2007

PAVILIONS AT SAN TAN HEIGHTS
MASTER DRAINAGE REPORT
OFF-SITE DRAINAGE EXHIBIT
PINAL COUNTY, ARIZONA

Registered Professional Engineer
CERTIFICATE NO.
27059
STEPHEN E. PIPKEY
ARIZONA, USA

PROJECT NO.
191235002

DRAWING NAME
OFFSITE EX-CONDITIONS DWG

APPENDIX F

SAN TAN HEIGHTS

Preliminary Hydrology

Exerpt from "Master Drainage Report for Pavilions at San Tan Heights"

Exhibit F.1

7 November 2013
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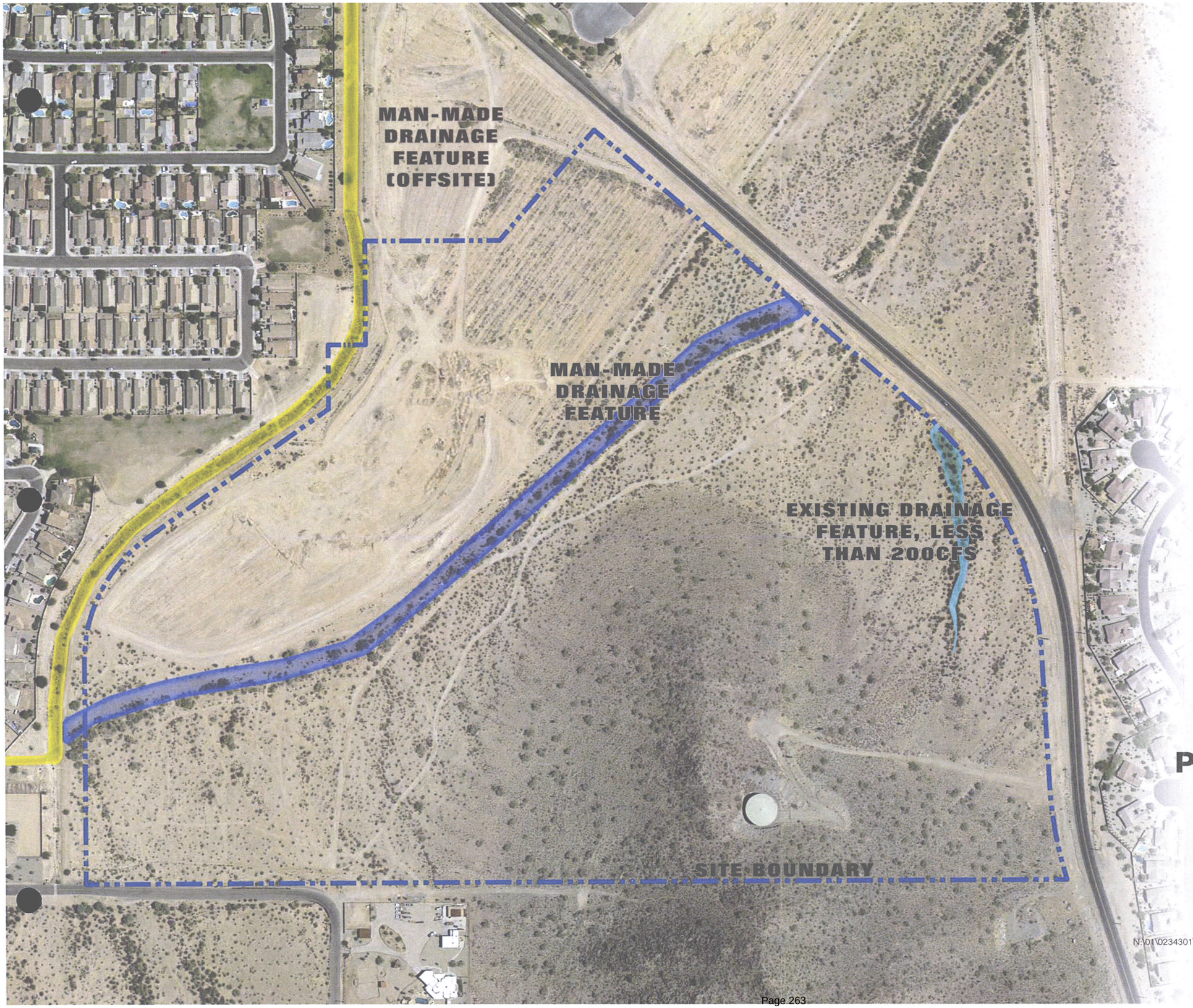

SAN TAN HEIGHTS

Note:
No undisturbed washes in excess of 200 CFS exist within the boundary of the project

Preliminary Hydrology: Analysis of Local Drainage Features

Exhibit F.2

7 November 2013
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KEY TO SYMBOLS

- DRAINAGE AREA BOUNDARY
- DIRECTION OF OFF-SITE FLOW
- DIRECTION OF ON-SITE FLOW
- CB# = CATCH BASIN (CB# XX-YY-ZZ)
- STORM DRAIN (SD# XX-YY)
- [5] CONCENTRATION POINT (CP)
- 6" VERTICAL CURB LOCATION
- R-1 RETENTION BASIN IDENTIFICATION
- RETENTION BASIN
- 404 WASH

SAN TAN HEIGHTS

Preliminary Hydrology: Proposed Drainage Map

Exhibit F.3

7 November 2013

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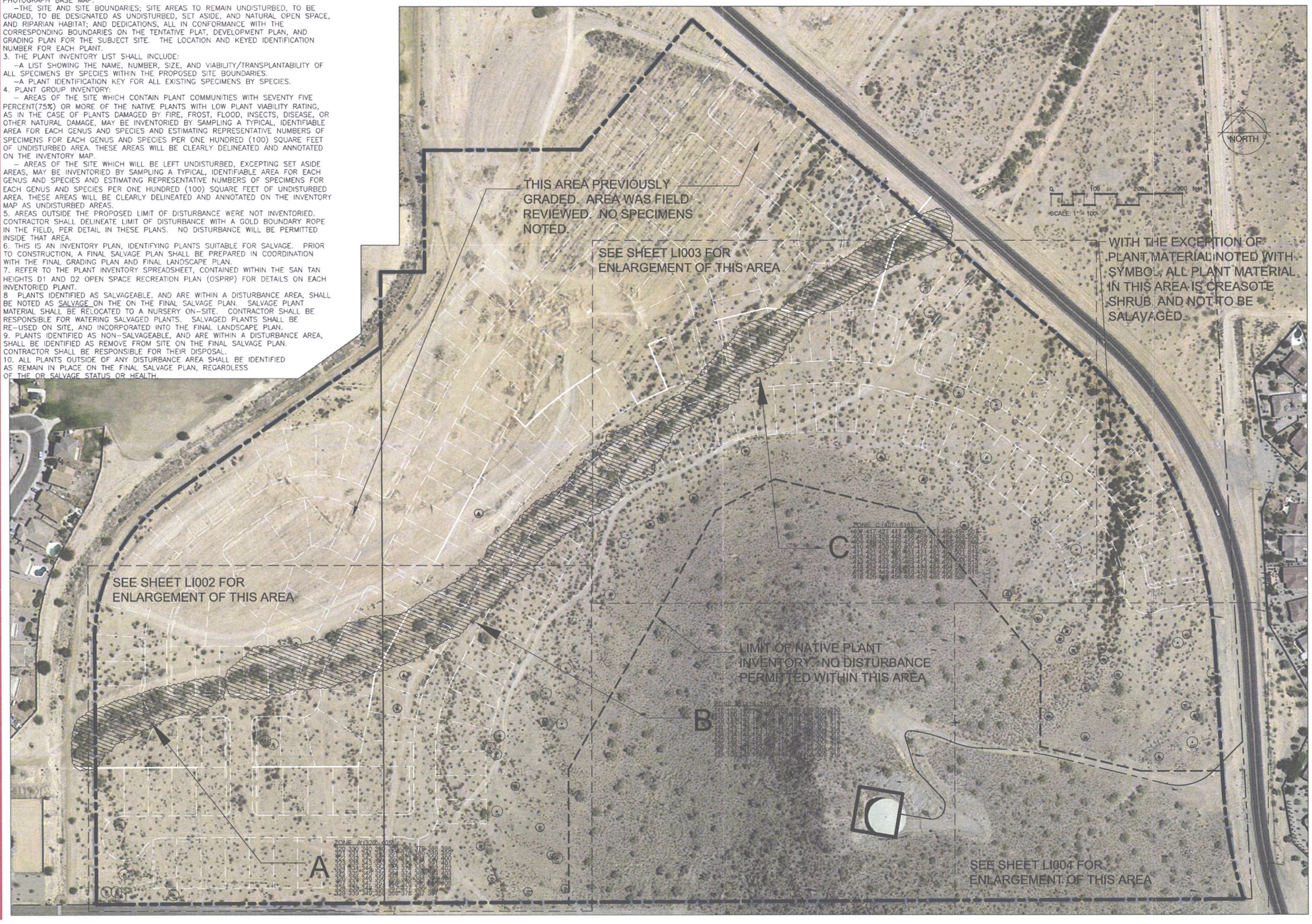
NATIVE PLANT INVENTORY FOR SANTAN HEIGHTS
PINAL COUNTY
NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF GILA AND SALT RIVER BASE MERIDIAN

GENERAL NATIVE PLANT INVENTORY NOTES

1. THE PLANT INVENTORY MAP WILL BE PREPARED IN CONFORMANCE WITH THE FOLLOWING CRITERIA AND STANDARD:
   – AN AERIAL PHOTOGRAPH BASE MAP WITH A MAP SCALE THE SAME AS THE MAP SCALE OF THE NATIVE PLANT LOCATION/PRELIMINARY SITE PLAN. THE AERIAL PHOTOGRAPH WILL BE NO MORE THAN THREE YEARS OLD. IF THE AERIAL IS MORE THAN ONE YEAR OLD, VERIFICATION WILL BE PROVIDED THAT THERE HAS BEEN NO SIGNIFICANT CHANGE IN VEGETATION ON THE SITE FROM THE DATE OF THE AERIAL PHOTOGRAPH UNTIL THE DATE OF THE PRESERVATION PLAN.
2. THE FOLLOWING LABELED MAP ELEMENTS WILL BE ADDED TO THE AERIAL PHOTOGRAPH BASE MAP:
   –THE SITE AND SITE BOUNDARIES; SITE AREAS TO REMAIN UNDISTURBED, TO BE GRADED, TO BE DESIGNATED AS UNDISTURBED, SET ASIDE, AND NATURAL OPEN SPACE, AND RIPARIAN HABITAT; AND DEDICATIONS, ALL IN CONFORMANCE WITH THE CORRESPONDING BOUNDARIES ON THE TENTATIVE PLAT, DEVELOPMENT PLAN, AND GRADING PLAN FOR THE SUBJECT SITE. THE LOCATION AND KEYED IDENTIFICATION NUMBER FOR EACH PLANT.
3. THE PLANT INVENTORY LIST SHALL INCLUDE:
   –A LIST SHOWING THE NAME, NUMBER, SIZE, AND VIABILITY/TRANSPLANTABILITY OF ALL SPECIMENS BY SPECIES WITHIN THE PROPOSED SITE BOUNDARIES.
   –A PLANT IDENTIFICATION KEY FOR ALL EXISTING SPECIMENS BY SPECIES.
4. PLANT GROUP INVENTORY:
   – AREAS OF THE SITE WHICH CONTAIN PLANT COMMUNITIES WITH SEVENTY FIVE PERCENT(75%) OR MORE OF THE NATIVE PLANTS WITH LOW PLANT VIABILITY RATING, AS IN THE CASE OF PLANTS DAMAGED BY FIRE, FROST, FLOOD, INSECTS, DISEASE, OR OTHER NATURAL DAMAGE, MAY BE INVENTORIED BY SAMPLING A TYPICAL, IDENTIFIABLE AREA FOR EACH GENUS AND SPECIES AND ESTIMATING REPRESENTATIVE NUMBERS OF SPECIMENS FOR EACH GENUS AND SPECIES PER ONE HUNDRED (100) SQUARE FEET OF UNDISTURBED AREA. THESE AREAS WILL BE CLEARLY DELINEATED AND ANNOTATED ON THE INVENTORY MAP.
   – AREAS OF THE SITE WHICH WILL BE LEFT UNDISTURBED, EXCEPTING SET ASIDE AREAS, MAY BE INVENTORIED BY SAMPLING A TYPICAL, IDENTIFIABLE AREA FOR EACH GENUS AND SPECIES AND ESTIMATING REPRESENTATIVE NUMBERS OF SPECIMENS FOR EACH GENUS AND SPECIES PER ONE HUNDRED (100) SQUARE FEET OF UNDISTURBED AREA. THESE AREAS WILL BE CLEARLY DELINEATED AND ANNOTATED ON THE INVENTORY MAP AS UNDISTURBED AREAS.
5. AREAS OUTSIDE THE PROPOSED LIMIT OF DISTURBANCE WERE NOT INVENTORIED. CONTRACTOR SHALL DELINEATE LIMIT OF DISTURBANCE WITH A GOLD BOUNDARY ROPE IN THE FIELD, PER DETAIL IN THESE PLANS. NO DISTURBANCE WILL BE PERMITTED INSIDE THAT AREA.
6. THIS IS AN INVENTORY PLAN, IDENTIFYING PLANTS SUITABLE FOR SALVAGE. PRIOR TO CONSTRUCTION, A FINAL SALVAGE PLAN SHALL BE PREPARED IN COORDINATION WITH THE FINAL GRADING PLAN AND FINAL LANDSCAPE PLAN.
7. REFER TO THE PLANT INVENTORY SPREADSHEET, CONTAINED WITHIN THE SAN TAN HEIGHTS D1 AND D2 OPEN SPACE RECREATION PLAN (OSPRP) FOR DETAILS ON EACH INVENTORIED PLANT.
8. PLANTS IDENTIFIED AS SALVAGEABLE, AND ARE WITHIN A DISTURBANCE AREA, SHALL BE NOTED AS SALVAGE ON THE ON THE FINAL SALVAGE PLAN. SALVAGE PLANT MATERIAL SHALL BE RELOCATED TO A NURSERY ON–SITE. CONTRACTOR SHALL BE RESPONSIBLE FOR WATERING SALVAGED PLANTS. SALVAGED PLANTS SHALL BE RE–USED ON SITE, AND INCORPORATED INTO THE FINAL LANDSCAPE PLAN.
9. PLANTS IDENTIFIED AS NON–SALVAGEABLE, AND ARE WITHIN A DISTURBANCE AREA, SHALL BE IDENTIFIED AS REMOVE FROM SITE ON THE FINAL SALVAGE PLAN. CONTRACTOR SHALL BE RESPONSIBLE FOR THEIR DISPOSAL.
10. ALL PLANTS OUTSIDE OF ANY DISTURBANCE AREA SHALL BE IDENTIFIED AS REMAIN IN PLACE ON THE FINAL SALVAGE PLAN, REGARDLESS OF THE OR SALVAGE STATUS OR HEALTH.



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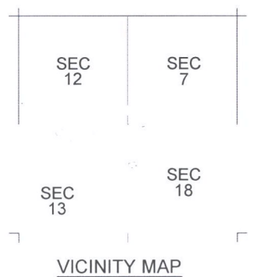
DESIGN TEAM

CVL CONSULTANTS
602.264.6831
Planner: George Cannataro
Engineer: Ryan Weed, PE
Landscape Architect: Tim Starkey, RLA

PROJECT INFORMATION

SANTAN HEIGHTS
PARCEL D1 & D2

CVL JOB#
01-0234301



VICINITY MAP
N.T.S.

KEY MAP

REVISION HISTORY

Exhibit G.1

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PRELIMINARY
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TIMOTHY B. STARKEY 41687
10.15.2013
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DRAWN CH
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DISCIPLINE: LANDSCAPE ARCHITECTURE
NATIVE PLANT INVENTORY

LI001
of

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0 40 80 120 feet
SCALE: 1" = 40'

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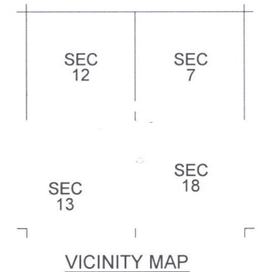
Landscape Architect: Tim Starkey, RLA

PROJECT INFORMATION

SANTAN HEIGHTS
PARCEL D1 & D2

CVL JOB#
01-0234301



VICINITY MAP
N.T.S.

KEY MAP

REVISION HISTORY

Exhibit G.2

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NATIVE PLANT INVENTORY

LI002
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0 40 80 120 feet

SCALE: 1" = 40'

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Engineer: Ryan Weed, PE
Landscape Architect: Tim Starkey, RLA

PROJECT INFORMATION

SANTAN HEIGHTS
PARCEL D1 & D2

CVL JOB#
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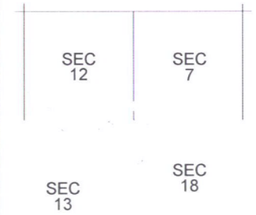

VICINITY MAP
N.T.S.

KEY MAP

REVISION HISTORY

Exhibit G.3

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DESIGN TEAM

CVL CONSULTANTS
602.264.6831
Planner: George Cannataro
Engineer: Ryan Weed, PE
Landscape Architect: Tim Starkey, RLA

PROJECT INFORMATION

SANTAN HEIGHTS
PARCEL D1 & D2

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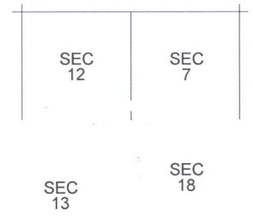

VICINITY MAP
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KEY MAP

REVISION HISTORY

Exhibit G.4

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Legend	
PIP	Protect in place
RFS	Remove from site / Destroy
TOS	Transplant on site / Salvage
DoD	Plant is currently Dead or Dying
Roots	Tangled root system due to plant density, or exposed roots due to existing drainage
CAM	Damage to Cambium layer

Summary				
Species	**TOS**	**PIP**	**RFS**	**Total**
Palo Verde	11	9	298	318
Mesquite	0	0	8	8
Saguaro	12	28	1	41

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
101	*Parkinsonia florida*	Blue Palo Verde	multi	6'	6'	Low / DoD	RFS
102	*Parkinsonia florida*	Blue Palo Verde	multi	4'	10'	Low / DoD	RFS
103	*Parkinsonia florida*	Blue Palo Verde	18"	6'	6'	Low / DoD	RFS
104	*Parkinsonia florida*	Blue Palo Verde	24"	10'	10'	Low / DoD	RFS
105	*Parkinsonia florida*	Blue Palo Verde	20"	10'	10'	Low / DoD	RFS
106	*Parkinsonia florida*	Blue Palo Verde	20"	20"	15"	High / Healthy	TOS
107	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	High / Healthy	TOS
108	*Parkinsonia florida*	Blue Palo Verde	24"	5'	6'	Low / DoD	RFS
109	*Parkinsonia florida*	Blue Palo Verde	24"	15'	20'	Healthy	PIP
110	*Parkinsonia florida*	Blue Palo Verde	24"	15'	20'	Healthy	PIP
111	*Parkinsonia florida*	Blue Palo Verde	18"	6'	6	Low / DoD	RFS
112	*Parkinsonia florida*	Blue Palo Verde	24"	25'	25'	High / Healthy	TOS
113	*Parkinsonia florida*	Blue Palo Verde	24"	30'	30'	Low / DoD	RFS
114	*Parkinsonia florida*	Blue Palo Verde	24"	25'	25'	High / Healthy	TOS
115	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Healthy	PIP
116	*Parkinsonia florida*	Blue Palo Verde	24"	30'	30'	Healthy	PIP
117	*Parkinsonia florida*	Blue Palo Verde	24"	25'	20'	High / Healthy	TOS
118	*Parkinsonia florida*	Blue Palo Verde	24'	25'	25'	Low / Roots	RFS
119	*Parkinsonia florida*	Blue Palo Verde	multi	20'	6'	Low / Roots	RFS
120	*Parkinsonia florida*	Blue Palo Verde	28"	20'	20'	Low / Roots	RFS
121	*Parkinsonia florida*	Blue Palo Verde	16"	7'	5'	Low / Roots	RFS
122	*Parkinsonia florida*	Blue Palo Verde	30"	30'	25'	Low / Roots	RFS
123	*Prosopis veluntina*	Velvet Mesquite	10'	15'	15'	Low / Roots	RFS
124	*Prosopis veluntina*	Velvet Mesquite	10"	15'	15'	Low / Roots	RFS
125	*Parkinsonia florida*	Blue Palo Verde	30"	35'	35'	Low / Roots	RFS
126	*Parkinsonia florida*	Blue Palo Verde	multi	35'	35'	Low / Roots	RFS
127	*Parkinsonia florida*	Blue Palo Verde	12"	6'	6'	Low / Roots	RFS
128	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.1

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
129	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
130	*Prosopis veluntina*	Velvet Mesquite	8"	6'	6'	Low / Roots	RFS
131	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
132	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
133	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
134	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
135	*Prosopis veluntina*	Velvet Mesquite	20"	20'	20'	Low / Roots	RFS
136	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
137	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
138	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
139	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
140	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
141	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
142	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
143	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
144	*Prosopis veluntina*	Velvet Mesquite	10"	6'	6'	Low / Roots	RFS
145	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
146	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
147	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
148	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
149	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
150	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
151	*Parkinsonia florida*	Blue Palo Verde	8"	6'	6'	Low / Roots	RFS
152	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
153	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
154	*Parkinsonia florida*	Blue Palo Verde	10"	10'	10'	Low / Roots	RFS
155	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
156	*Parkinsonia florida*	Blue Palo Verde	10"	10'	10'	Low / Roots	RFS
157	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
158	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
159	*Parkinsonia florida*	Blue Palo Verde	10"	10'	10'	Low / Roots	RFS
160	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
161	*Parkinsonia florida*	Blue Palo Verde	24"	15'	10'	Low / Roots	RFS
162	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
163	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
164	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
165	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
166	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
167	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
168	*Prosopis veluntina*	Velvet Mesquite	40"	25'	30'	Low / Roots	RFS
169	*Parkinsonia florida*	Blue Palo Verde	20"	20'	25'	Low / Roots	RFS
170	*Parkinsonia florida*	Blue Palo Verde	10"	15'	15'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.2

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
171	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
172	*Parkinsonia florida*	Blue Palo Verde	20"	10'	10'	Low / Roots	RFS
173	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
174	*Parkinsonia florida*	Blue Palo Verde	10"	6'	6'	Low / Roots	RFS
175	*Parkinsonia florida*	Blue Palo Verde	18"	25'	20'	Low / Roots	RFS
176	*Parkinsonia florida*	Blue Palo Verde	20"	25'	25'	Low / Roots	RFS
177	*Parkinsonia florida*	Blue Palo Verde	20"	25'	25'	Low / Roots	RFS
178	*Parkinsonia florida*	Blue Palo Verde	20"	12'	15'	Low / Roots	RFS
179	*Parkinsonia florida*	Blue Palo Verde	24"	15'	15'	Low / Roots	RFS
180	*Parkinsonia florida*	Blue Palo Verde	8"	15'	15'	Low / Roots	RFS
181	*Parkinsonia florida*	Blue Palo Verde	20"	20'	20'	Low / Roots	RFS
182	*Parkinsonia florida*	Blue Palo Verde	20"	20'	20'	Low / Roots	RFS
183	*Parkinsonia florida*	Blue Palo Verde	20"	20'	20'	Low / Roots	RFS
184	*Parkinsonia florida*	Blue Palo Verde	20"	20'	20'	Low / Roots	RFS
185	*Parkinsonia florida*	Blue Palo Verde	24"	25'	25'	Low / Roots	RFS
186	*Parkinsonia florida*	Blue Palo Verde	20"	20'	20'	Low / Roots	RFS
187	*Parkinsonia florida*	Blue Palo Verde	20"	20'	20'	Low / Roots	RFS
188	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
189	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
190	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
191	*Parkinsonia florida*	Blue Palo Verde	multi	20'	20'	Low / Roots	RFS
192	*Parkinsonia florida*	Blue Palo Verde	8"	12'	6'	Low / Roots	RFS
193	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
194	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
195	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
196	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
197	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
198	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
199	*Parkinsonia florida*	Blue Palo Verde	6"	6'	6'	Low / Roots	RFS
300	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	TOS
301	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
302	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
303	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
304	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
305	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
306	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
307	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
308	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
309	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
310	*Parkinsonia florida*	Blue Palo Verde	14"	10'	8'	Low / Roots	RFS
311	*Parkinsonia florida*	Blue Palo Verde	10"	20'	20'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.3

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
312	*Parkinsonia florida*	Blue Palo Verde	12"	20'	20'	Low / Roots	RFS
313	*Parkinsonia florida*	Blue Palo Verde	14"	12'	10'	Low / Roots	RFS
314	*Parkinsonia florida*	Blue Palo Verde	multi	10'	6'	Low / Roots	RFS
315	*Parkinsonia florida*	Blue Palo Verde	12"	10'	6'	Low / Roots	RFS
316	*Parkinsonia florida*	Blue Palo Verde	6"	5'	5'	Low / Roots	RFS
317	*Parkinsonia florida*	Blue Palo Verde	12"	12'	12'	Low / Roots	RFS
318	*Parkinsonia florida*	Blue Palo Verde	multi	4'	4'	Low / Roots	RFS
319	*Parkinsonia florida*	Blue Palo Verde	10"	8'	4'	Low / Roots	RFS
320	*Parkinsonia florida*	Blue Palo Verde	multi	8'	5'	Low / Roots	RFS
321	*Parkinsonia florida*	Blue Palo Verde	14"	18'	15'	Low / Roots	RFS
322	*Parkinsonia florida*	Blue Palo Verde	10"	7'	7'	Low / Roots	RFS
323	*Parkinsonia florida*	Blue Palo Verde	12"	8'	12'	Low / Roots	RFS
324	*Parkinsonia florida*	Blue Palo Verde	14"	8'	12'	Low / Roots	RFS
325	*Parkinsonia florida*	Blue Palo Verde	10"	7'	7'	Low / Roots	RFS
326	*Parkinsonia florida*	Blue Palo Verde	10"	7'	7'	Low / Roots	RFS
327	*Parkinsonia florida*	Blue Palo Verde	14"	8'	12'	Low / Roots	RFS
328	*Parkinsonia florida*	Blue Palo Verde	114"	8'	12'	Low / Roots	RFS
329	*Parkinsonia florida*	Blue Palo Verde	5"	6'	6'	Low / Roots	RFS
330	*Parkinsonia florida*	Blue Palo Verde	multi	4'	6'	Low / Roots	RFS
331	*Parkinsonia florida*	Blue Palo Verde	10"	20'	20'	Low / Roots	RFS
332	*Parkinsonia florida*	Blue Palo Verde	10"	20'	20'	Low / Roots	RFS
333	*Parkinsonia florida*	Blue Palo Verde	12"	20'	20'	Low / Roots	RFS
334	*Parkinsonia florida*	Blue Palo Verde	10"	10'	6	Low / Roots	RFS
335	*Parkinsonia florida*	Blue Palo Verde	10"	10'	6'	Low / Roots	RFS
336	*Parkinsonia florida*	Blue Palo Verde	6"	6'	4'	Low / Roots	RFS
337	*Parkinsonia florida*	Blue Palo Verde	multi	25'	25'	Low / Roots	RFS
338	*Parkinsonia florida*	Blue Palo Verde	6"	6'	5'	Low / Roots	RFS
339	*Parkinsonia florida*	Blue Palo Verde	multi	6'	5'	Low / Roots	RFS
340	*Parkinsonia florida*	Blue Palo Verde	10"	10'	7'	Low / Roots	RFS
341	*Parkinsonia florida*	Blue Palo Verde	7"	6'	5'	Low / Roots	RFS
342	*Parkinsonia florida*	Blue Palo Verde	12"	7'	6'	Low / Roots	RFS
343	*Parkinsonia florida*	Blue Palo Verde	14"	8'	6'	Low / Roots	RFS
344	*Parkinsonia florida*	Blue Palo Verde	16"	10	12'	Low / Roots	RFS
345	*Parkinsonia florida*	Blue Palo Verde	10"	20'	20'	Low / Roots	RFS
346	*Parkinsonia florida*	Blue Palo Verde	30"	25'	25'	Low / Roots	RFS
347	*Parkinsonia florida*	Blue Palo Verde	30"	25'	25'	Low / Roots	RFS
348	*Parkinsonia florida*	Blue Palo Verde	7"	7'	7'	Low / Roots	RFS
349	*Parkinsonia florida*	Blue Palo Verde	7"	7'	7'	Low / Roots	RFS
350	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
351	*Parkinsonia florida*	Blue Palo Verde	7"	7'	7'	Low / Roots	RFS
352	*Parkinsonia florida*	Blue Palo Verde	7"	7'	7'	Low / Roots	RFS
353	*Prosopis veluntina*	Velvet Mesquite	16"	20'	6'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.4

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
354	*Parkinsonia florida*	Blue Palo Verde	12"	15'	15'	Low / Roots	RFS
355	*Parkinsonia florida*	Blue Palo Verde	6'	8'	5'	Low / Roots	RFS
356	*Parkinsonia florida*	Blue Palo Verde	6"	8'	5'	Low / Roots	RFS
357	*Parkinsonia florida*	Blue Palo Verde	6"	8'	5'	Low / Roots	RFS
358	*Parkinsonia florida*	Blue Palo Verde	7"	8'	5'	Low / Roots	RFS
359	*Parkinsonia florida*	Blue Palo Verde	multi	6'	6'	Low / Roots	RFS
360	*Parkinsonia florida*	Blue Palo Verde	16"	7'	10'	Low / Roots	RFS
361	*Parkinsonia florida*	Blue Palo Verde	30"	25'	25'	Low / Roots	RFS
362	*Parkinsonia florida*	Blue Palo Verde	8"	6'	8'	Low / Roots	RFS
363	*Parkinsonia florida*	Blue Palo Verde	8"	6'	8'	Low / Roots	RFS
364	*Parkinsonia florida*	Blue Palo Verde	5"	5'	6'	Low / Roots	RFS
365	*Parkinsonia florida*	Blue Palo Verde	16'	20'	20'	Low / Roots	RFS
366	*Parkinsonia florida*	Blue Palo Verde	8'	10'	8'	Low / Roots	RFS
367	*Parkinsonia florida*	Blue Palo Verde	8'	10'	8'	Low / Roots	RFS
368	*Parkinsonia florida*	Blue Palo Verde	12"	10'	8'	Low / Roots	RFS
369	*Parkinsonia florida*	Blue Palo Verde	8'	10'	8'	Low / Roots	RFS
370	*Parkinsonia florida*	Blue Palo Verde	10"	20'	20'	Low / Roots	RFS
371	*Parkinsonia florida*	Blue Palo Verde	20"	25'	25'	Low / Roots	RFS
372	*Parkinsonia florida*	Blue Palo Verde	multi	7'	6'	Low / Roots	RFS
373	*Parkinsonia florida*	Blue Palo Verde	multi	7'	6'	Low / Roots	RFS
374	*Parkinsonia florida*	Blue Palo Verde	multi	7'	6'	Low / Roots	RFS
375	*Parkinsonia florida*	Blue Palo Verde	6"	7'	6'	Low / Roots	RFS
376	*Parkinsonia florida*	Blue Palo Verde	8"	8'	12'	Low / Roots	RFS
377	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
378	*Parkinsonia florida*	Blue Palo Verde	6"	15'	8'	Low / Roots	RFS
379	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
380	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
381	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
382	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
383	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
384	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
385	*Parkinsonia florida*	Blue Palo Verde	12"	20'	15'	Low / Roots	RFS
386	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
387	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	Low / Roots	RFS
388	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	Low / Roots	RFS
389	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	Low / Roots	RFS
390	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	Low / Roots	RFS
391	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Low / Roots	RFS
392	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
393	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Low / Roots	RFS
394	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
395	*Parkinsonia florida*	Blue Palo Verde	24"	25'	25'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.5

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
396	*Parkinsonia florida*	Blue Palo Verde	24"	25'	25'	Low / Roots	RFS
397	*Parkinsonia florida*	Blue Palo Verde	24"	25'	25'	Low / Roots	RFS
398	*Parkinsonia florida*	Blue Palo Verde	8"	12'	6'	Low / Roots	RFS
399	*Parkinsonia florida*	Blue Palo Verde	20"	25'	25'	Low / Roots	RFS
400	*Parkinsonia florida*	Blue Palo Verde	18"	25'	20'	Low / Roots	RFS
401	*Parkinsonia florida*	Blue Palo Verde	multi	25'	30'	Low / Roots	RFS
402	*Parkinsonia florida*	Blue Palo Verde	multi	25'	30'	Low / Roots	RFS
403	*Parkinsonia florida*	Blue Palo Verde	multi	15'	10'	Low / Roots	RFS
404	*Parkinsonia florida*	Blue Palo Verde	18"	30'	25'	Low / Roots	RFS
405	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
406	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
407	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
408	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
409	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
410	*Parkinsonia florida*	Blue Palo Verde	12"	20'	15'	Low / Roots	RFS
411	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
412	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
413	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
414	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
415	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
416	*Parkinsonia florida*	Blue Palo Verde	8"	7'	10'	Low / Roots	RFS
417	*Parkinsonia florida*	Blue Palo Verde	12"	4'	5'	Low / Roots	RFS
418	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
419	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
420	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
421	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
422	*Parkinsonia florida*	Blue Palo Verde	8"	4'	5'	Low / Roots	RFS
423	*Prosopis veluntina*	Velvet Mesquite	12"	4'	5'	Low / Roots	RFS
424	*Parkinsonia florida*	Blue Palo Verde	8"	7'	10'	Low / Roots	RFS
425	*Parkinsonia florida*	Blue Palo Verde	12"	4'	5'	Low / Roots	RFS
427	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
428	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
429	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
430	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
431	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
432	*Parkinsonia florida*	Blue Palo Verde	12"	20'	15'	Low / Roots	RFS
433	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
434	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
435	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	Low / Roots	RFS
436	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	Low / Roots	RFS
437	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.6

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
438	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	Low / Roots	RFS
439	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Low / Roots	RFS
440	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
441	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Low / Roots	RFS
442	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
443	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
444	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
445	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
446	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
447	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
448	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
449	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
450	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
451	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	Low / Roots	RFS
452	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	Low / Roots	RFS
453	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	Low / Roots	RFS
454	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	Low / Roots	RFS
455	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Low / Roots	RFS
456	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
457	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Low / Roots	RFS
458	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
459	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
560	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
461	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
462	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
463	*Parkinsonia florida*	Blue Palo Verde	12"	20'	15'	Low / Roots	RFS
464	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
465	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
466	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
467	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	Low / Roots	RFS
468	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	Low / Roots	RFS
469	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	Low / Roots	RFS
470	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	Low / Roots	RFS
471	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Low / Roots	RFS
472	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
473	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Low / Roots	RFS
474	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
475	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
476	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
477	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
478	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
479	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.7

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
480	*Parkinsonia florida*	Blue Palo Verde	12"	20'	15'	Low / Roots	RFS
481	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
482	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
483	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
484	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	Low / Roots	RFS
485	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	Low / Roots	RFS
486	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	Low / Roots	RFS
487	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	Low / Roots	RFS
488	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Low / Roots	RFS
489	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
490	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Low / Roots	RFS
491	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
492	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
493	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
494	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
495	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
496	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
497	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
498	*Parkinsonia florida*	Blue Palo Verde	12"	20'	15'	Low / Roots	RFS
499	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
500	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	Low / Roots	RFS
501	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	Low / Roots	RFS
502	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	Low / Roots	RFS
503	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	Low / Roots	RFS
504	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Low / Roots	RFS
505	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Low / Roots	RFS
506	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Low / Roots	RFS
507	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / Roots	RFS
508	*Parkinsonia florida*	Blue Palo Verde	30"	30'	30'	Low / Roots	RFS
509	*Parkinsonia florida*	Blue Palo Verde	8"	15'	10'	Low / Roots	RFS
510	*Parkinsonia florida*	Blue Palo Verde	16"	20'	15'	Low / Roots	RFS
511	*Parkinsonia florida*	Blue Palo Verde	16"	25'	20"	Low / Roots	RFS
512	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
513	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
514	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Low / Roots	RFS
515	*Parkinsonia florida*	Blue Palo Verde	10"	20'	15'	Healthy	PIP
516	*Parkinsonia florida*	Blue Palo Verde	15"	30'	20'	High / Healthy	RFS
517	*Parkinsonia florida*	Blue Palo Verde	30"	35'	20'	High / Healthy	TOS
518	*Parkinsonia florida*	Blue Palo Verde	24"	30'	20'	High / Healthy	TOS
519	*Parkinsonia florida*	Blue Palo Verde	18'	20	15'	High / Healthy	TOS
520	*Parkinsonia florida*	Blue Palo Verde	18'	20'	15'	Healthy	PIP
521	*Parkinsonia florida*	Blue Palo Verde	18"	20'	15'	Healthy	PIP

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.8

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
522	*Parkinsonia florida*	Blue Palo Verde	30"	30'	35'	Healthy	PIP
523	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	Low / DoD	RFS
524	*Parkinsonia florida*	Blue Palo Verde	16"	10'	15'	High / Healthy	TOS
525	*Parkinsonia florida*	Blue Palo Verde	16"	15'	15'	Low / DoD	RFS
526	*Parkinsonia florida*	Blue Palo Verde	40"	25'	30'	High / Healthy	TOS
527	*Parkinsonia florida*	Blue Palo Verde	40"	25'	30'	Healthy	PIP
201	*Carnegiea gigantea*	Saguaro	50"	20'		Healthy	PIP
202	*Carnegiea gigantea*	Saguaro	30"	8'		Healthy	PIP
203	*Carnegiea gigantea*	Saguaro	40"	15'		Healthy	PIP
204	*Carnegiea gigantea*	Saguaro	40"	10'		Healthy	PIP
205	*Carnegiea gigantea*	Saguaro	40"	15'		Healthy	PIP
206	*Carnegiea gigantea*	Saguaro	30"	6'		Healthy	PIP
207	*Carnegiea gigantea*	Saguaro	30"	6		Healthy	PIP
208	*Carnegiea gigantea*	Saguaro	30"	4'		Healthy	PIP
209	*Carnegiea gigantea*	Saguaro	50"	25'		High / Healthy	TOS
210	*Carnegiea gigantea*	Saguaro	50"	25'		High / Healthy	TOS
211	*Carnegiea gigantea*	Saguaro	50"	35'		High / Healthy	TOS
212	*Carnegiea gigantea*	Saguaro	30"	6'		Healthy	PIP
213	*Carnegiea gigantea*	Saguaro	30"	4'		Healthy	PIP
214	*Carnegiea gigantea*	Saguaro	30"	10'		Healthy	PIP
215	*Carnegiea gigantea*	Saguaro	30"	6'		Healthy	PIP
216	*Carnegiea gigantea*	Saguaro	30"	10		Healthy	PIP
217	*Carnegiea gigantea*	Saguaro	40"	30'		Healthy	PIP
218	*Carnegiea gigantea*	Saguaro	40"	4'		Healthy	PIP
219	*Carnegiea gigantea*	Saguaro	40"	5'		Healthy	PIP
220	*Carnegiea gigantea*	Saguaro	40"	10'		Healthy	PIP
221	*Carnegiea gigantea*	Saguaro	40"	30'		Healthy	PIP
222	*Carnegiea gigantea*	Saguaro	40"	4'		High / Healthy	TOS
223	*Carnegiea gigantea*	Saguaro	40"	15'		Healthy	PIP
224	*Carnegiea gigantea*	Saguaro	40"	7'		Healthy	PIP
225	*Carnegiea gigantea*	Saguaro	40"	10'		Healthy	PIP
226	*Carnegiea gigantea*	Saguaro	40"	6'		Healthy	PIP
227	*Carnegiea gigantea*	Saguaro	40"	30'		Healthy	PIP
228	*Carnegiea gigantea*	Saguaro	40"	6'		Healthy	PIP
229	*Carnegiea gigantea*	Saguaro	40"	35'		Healthy	PIP
230	*Carnegiea gigantea*	Saguaro	50"	35'		High / Healthy	TOS
231	*Carnegiea gigantea*	Saguaro	50"	35'		High / Healthy	TOS
232	*Carnegiea gigantea*	Saguaro	30"	6'		High / Healthy	TOS
233	*Carnegiea gigantea*	Saguaro	50"	12'		High / Healthy	TOS
234	*Carnegiea gigantea*	Saguaro	30"	7'		High / Healthy	TOS
235	*Carnegiea gigantea*	Saguaro	50"	30'		High / Healthy	TOS

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.9

Id#	Botanical Name	Common Name	Caliper inches	Height feet	Spread feet	Rating / Comments	Salvage
236	*Carnegiea gigantea*	Saguaro	80"	50'		Low / DoD	RFS
237	*Carnegiea gigantea*	Saguaro	50"	40'		High / Healthy	TOS
238	*Carnegiea gigantea*	Saguaro	30"	4'		High / Healthy	TOS
239	*Carnegiea gigantea*	Saguaro	30"	30'		Healthy	PIP
240	*Carnegiea gigantea*	Saguaro	40"	50'		Healthy	PIP
241	*Carnegiea gigantea*	Saguaro	20"	4'		Healthy	PIP

SAN TAN HEIGHTS

Native Plant Inventory Plant List

Exhibit H.10

PLANNED AREA DEVELOPMENT AMENDMENT PRELIMINARY SITE PLAN FOR SAN TAN HEIGHTS PARCEL D1 & D2

A PORTION OF THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN

GENERAL NOTES:

1) NO TREES ARE PERMITTED WITHIN THE RIGHT-OF-WAY SIGHT-VISIBILITY TRIANGLE EASEMENTS AND NO TEMPORARY OR PERMANENT OBJECT, STRUCTURE OR LANDSCAPING SHALL EXCEED TWENTY-FOUR INCHES IN HEIGHT WITHIN THE SIGHT-VISIBILITY TRIANGLE EASEMENTS.

2) MAINTENANCE OF ALL STREET LIGHTING AND LANDSCAPING WITHIN THE COMMON AREAS AND THE STREET RIGHT-OF-WAY SHALL BE THE RESPONSIBILITY OF THE PROPOSED SAN TAN HEIGHTS PARCELS D1 & D2 HOME OWNERS ASSOCIATION.

3) THE PRELIMINARY SITE PLAN FOR SAN TAN HEIGHTS PARCEL D1 & D2 IS CONCEPTUAL ONLY.

4) THE NEAREST REGIONALLY SIGNIFICANT ROUTE TO THE PROPOSED SITE IS HUNT HIGHWAY LOCATED APPOXIMATELY 2,500 LINEAR FEET TO THE NORTHEAST OF THE PROPERTY ENTRANCE.

5) THE SAN TAN HEIGHTS PROJECT ALLOWS DENSITIES UP TO 3.5 DU/AC. THIS REQUESTED AMENDMENT WILL CHANGE THE OVERALL PROJECT RESIDENTIAL DENSITY CAP (OPR-DC) FROM THE EXISTING 2.60 DU/AC TO A 2.64 DU/AC KEEPING THE DENSITY FOR THE OVERALL COMMUNITY WELL BELOW THE ALLOWABLE 3.50 DU/AC

6) THE SITE GENERALLY SLOPES TO THE NORTHEAST AT APPROXIMATELY 5.7%. THE EXISTING OUTFALL IS LOCATED ALONG THE NORTHEAST BOUNDARY SOUTHWEST OF N. GARY ROAD. THE SITE IS GRADED TO DRAIN TO N. GARY ROAD AND VARIOUS RETENTION BASINS LOCATED WITHIN THE SITE. SOILS WITHIN THE SITE ARE PRIMARILY SILTY SAND AND CLAYEY SILTY SAND.

7) THE PINAL COUNTY, ARIZONA AND INCORPORATED AREAS FLOOD INSURANCE RATE MAP (FIRM), PANEL NUMBER 04021C0475E, MAP REVISED DECEMBER 4, 2007, INDICATE THE SITE FALLS WITHIN ZONES "X"

ZONE "X" IS DEFINED BY FEMA AS: "AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN."

BASIS OF BEARINGS

THE BASIS OF BEARINGS FOR THIS SURVEY IS NORTH 03°16'28" WEST ALONG THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, ACCORDING TO FEE NO. 2011-035939, PINAL COUNTY RECORDS.

BENCHMARK

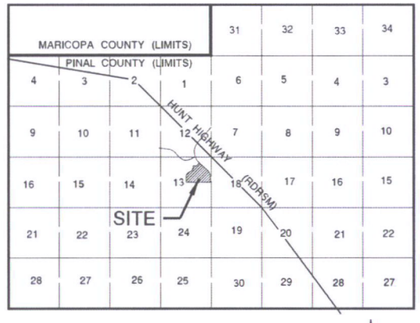
NATIONAL GEODETIC SURVEY DESIGNATION Q 282 BEING A BOUNDARY MARKER SET IN A CONCRETE POST STAMPED Q 282 - 1948 HAVING AN ELEVATION OF 1490.96' NAVD-88

PREPARED FOR:

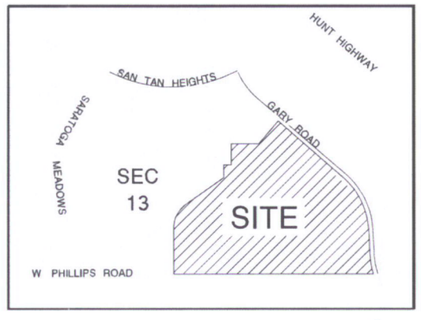
GARY ROAD HOLDINGS LLC c/o
MATRIXX MANAGEMENT, LLC
7650 E. REDFIELD ROAD, SUITE D-7
SCOTTSDALE, AZ 85260
PHONE: (480) 945-9292
FAX: (480) 947-2006

PREPARED BY:

COE & VAN LOO CONSULTANTS INC.
4550 N. 12TH STREET
PHOENIX, AZ 85014
PHONE: (602) 285-4726
FAX: (602) 285-4727
CONTACT: GEORGE CANNATARO



VICINITY MAP
(NOT-TO-SCALE)



LOCATION MAP
(NOT-TO-SCALE)

LEGAL DESCRIPTION

ORDER NO. 26130027-026-LDA

LOT 1, OF RECORD OF SURVEY AND MINOR LAND DIVISION RECORDED AS INSTRUMENT NO. 2011-035939 AND AS AMENDED BY CERTIFICATE OF MENDMENT RECORDED AS INSTRUMENT NO. 2011-056120 OFFICIAL RECORDS, PINAL COUNTY, ARIZONA;

EXCEPT ALL COAL AND OTHER MINERALS AS RESERVED IN PATENT FROM UNITED STATES OF AMERICA.

ORDER NO. AZ-FWSX-IMP-N/A-4-13-26130044

THAT PART OF THE NORTH HALF OF SECTION 13, TOWNSHIP 3 SOUTH, RANGE 7 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

COMMENCING AT THE ALUMINUM CAP STAMPED RLS 40527 MARKING THE EAST QUARTER CORNER OF SAID SECTION 13, FROM WHICH THE BRASS CAP FLUSH STAMPED RLS 32226 MARKING THE NORTHEAST CORNER OF SAID SECTION 13 BEARS NORTH 03 DEGREES 16 MINUTES 28 SECONDS WEST, A DISTANCE OF 2,648.84 FEET;

THENCE SOUTH 89 DEGREES 45 MINUTES 10 SECONDS WEST, ALONG THE EAST-WEST MID-SECTION LINE OF SAID SECTION 13, A DISTANCE OF 1,974.00 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUING SOUTH 89 DEGREES 45 MINUTES 10 SECONDS WEST, ALONG SAID EAST-WEST MID-SECTION LINE, A DISTANCE OF 656.93 FEET TO A POINT BEING THE SOUTHEAST CORNER OF THAT CERTAIN PARCEL OF LAND WITHIN THE FINAL PARCEL PLAT AND MAP OF DEDICATION FOR SAN TAN HEIGHTS PARCELS A1 TO A9 RECORDED IN CABINET E, SLIDE 117, PINAL COUNTY RECORDS;

THENCE ALONG THE EASTERLY LINE OF SAID FINAL PARCEL PLAT AND MAP OF DEDICATION FOR SAN TAN HEIGHTS PARCELS A1 TO A9 THE FOLLOWING COURSES:

THENCE NORTH 00 DEGREES 14 MINUTES 03 SECONDS WEST, A DISTANCE OF 595.25 FEET TO THE BEGINNING OF A TANGENT CURVE OF 400.13 FOOT RADIUS, CONCAVE SOUTHEASTERLY;

THENCE NORTHEASTERLY, ALONG SAID CURVE, THROUGH A CENTRAL ANGLE OF 54 DEGREES 52 MINUTES 04 SECONDS, A DISTANCE OF 383.17 FEET;

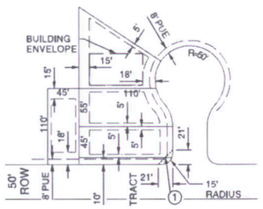
THENCE NORTH 54 DEGREES 38 MINUTES 01 SECONDS EAST, A DISTANCE OF 594.75 FEET TO A POINT ON THE WESTERLY LINE OF LOT 1 OF A RECORD OF SURVEY AND MINOR LAND DIVISION RECORDED IN FEE NO. 2011-035939, PINAL COUNTY RECORDS;

THENCE SOUTH 00 DEGREES 15 MINUTES 50 SECONDS EAST, ALONG THE WESTERLY LINE OF SAID LOT 1, A DISTANCE OF 1,264.60 FEET TO THE POINT OF BEGINNING;

EXCEPT ALL COAL AND OTHER MINERALS, AS RESERVED IN THE PATENT FROM THE UNITED STATES OF AMERICA.

ORDER NO. 26130027-026-LDA
CONTAINING 68.084 ACRES, MORE OR LESS
ORDER NO. AZ-FWSX-IMP-N/A-4-13-26130044
CONTAINING 15.439 ACRES, MORE OR LESS
CONTAINING 83.523 TOTAL ACRES, MORE OR LESS

SAN TAN HEIGHTS



SETBACKS

FRONT	18'
REAR	15'
SIDE	5'&5'
CORNER	5'&10 - UNLESS 10' TRACT

(1) SIGHT VISIBILITY TRIANGLE EASEMENTS (SVTE) SHALL BE 21'x 21' (LOCAL TO LOCAL) AND 33'x 33' (FOR ALL OTHERS).

45', 55' TYPICAL LOT LAYOUT AND BUILDING SETBACKS
(NOT TO SCALE)

SITE DATA	
GROSS ARES (ACRES)	83.52
NET AREA	83.52
ASSESSORS PARCEL #	509029240 50902059A
EXISTING ZONING	CR-3
EXISTING USE	VACANT LAND
PARCEL D1 (YIELD)	
45' x 110'	56
55' x 110'	52
PARCEL D1 TOTAL	**108**
PARCEL D2 (YIELD)	
45' x 110'	64
55' x 110'	46
PARCEL D2 TOTAL	**110**
GRAND TOTALS	218
LOT MIX 45' x 110'	120 (55%)
LOT MIX 55' x 110'	98 (45%)
PUBLIC STREETS PROVIDED (AC)	9.57
GROSS DENSITY (D1 & D2) *	2.61 DU/AC *
CONSERVATION OPEN SPACE	34.46 (41.26%)
DEVELOPED OPEN SPACE	7.86 (9.41%)
RECREATIONAL O.S. IN DEVELOPED AREA	3.42 (4.09%)
RECREATIONAL O.S. IN CONSERVATION AREA	3.26 (3.90%)
RECREATIONAL OPEN SPACE TOTAL	6.68 (7.99%)
TOTAL OPEN SPACE PROVIDED	42.32 (50.67%)

* SEE NOTE 5

SAN TAN HEIGHTS TRACT TABLE		
TRACTS	AREA ACRES	DESCRIPTION
A	1.53	DEVELOPED OPEN SPACE/RETENTION
B	34.46	CONSERVATION OPEN SPACE/PINAL COUNTY REGIONAL TRAIL CORRIDOR (3.26)
C	1.05	DEVELOPED OPEN SPACE/RETENTION
D	0.50	DEVELOPED OPEN SPACE/RETENTION
E	1.36	DEVELOPED OPEN SPACE/RETENTION
F	3.42	RECREATIONAL OPEN SPACE/RETENTION/ RAMADA
SUB-TOTAL	42.32	OPEN SPACE TOTAL
G	0.05	LANDSCAPE TRACT
H	0.03	LANDSCAPE TRACT
I	0.02	LANDSCAPE TRACT
J	0.02	LANDSCAPE TRACT
K	0.05	LANDSCAPE TRACT
L	0.05	LANDSCAPE TRACT
M	0.02	LANDSCAPE TRACT
N	0.05	LANDSCAPE TRACT
O	0.05	LANDSCAPE TRACT
P	0.02	LANDSCAPE TRACT
Q	0.06	LANDSCAPE TRACT
R	0.03	LANDSCAPE TRACT
SUB-TOTAL	0.45	LANDSCAPE TRACT TOTAL
GRAND TOTAL	42.77	GRAND TOTAL

SAN TAN HEIGHTS PARCELS D1 & D2 CR-3 DEVELOPMENT STANDARDS			
MINIMUM LOT AREA	7,000 S. F.	4,950 S.F.	4,950 S.F.
MINIMUM LOT WIDTH	60'	45'	45'
MINIMUM FRONT SETBACK	20'	18'	18'
MINIMUM REAR SETBACK	25'	15'	15'
MINIMUM SIDE SETBACK	8'	5'	5'
MINIMUM STREET SIDE SETBACK		10'	10'
MINIMUM TOTAL SIDE SETBACKS	16'	10'	10'
MAXIMUM BLDG. HEIGHT	30'	30'	30'

LEGEND SITE PLAN

- PROPOSED LOT LINE
- PROPOSED ROW LINE
- PROPOSED BOUNDARY LINE
- SIGHT VISIBILITY LINE
- INDICATES VEHICULAR NON-ACCESS EASEMENT
- INDICATES PUBLIC UTILITY EASEMENT

LEGEND WATER & SEWER

- PROPOSED WATER LINE & VALVE
- PROPOSED FIRE HYDRANT
- PROPOSED SEWERLINE & MANHOLE & DIRECTION OF FLOW
- W — EXISTING WATER
- S — EXISTING SEWER

NOTE:
ALL WATER AND SEWERLINES TO BE 8" UNLESS OTHERWISE NOTED

LEGEND GRADING & DRAINAGE

- EXISTING CONTOUR & ELEVATION
- PROPOSED GRADE & SLOPE
- RETENTION BASIN
- HIGH WATER ELEVATION BOTTOM OF BASIN
- GRADE BREAK
- GUTTER GRADE
- PAD ELEVATION
- STORM DRAIN/SCUPPER

UTILITIES PROVIDER		
SERVICE	PROVIDER	ADEQUACY STATUS STATEMENT
SEWER	JOHNSON UTILITIES	EXISTING COMMUNITY CAPACITIES AND FACILITIES HAVE BEEN ANALYZED AND DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED PER COUNTY STANDARDS.
WATER	JOHNSON UTILITIES	EXISTING COMMUNITY CAPACITIES AND FACILITIES HAVE BEEN ANALYZED AND DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED PER COUNTY STANDARDS.
ELECTRIC	SRP	EXISTING COMMUNITY FACILITIES HAVE BEEN DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED BY SRP.
TELEPHONE	CENTURY LINK/COX	EXISTING COMMUNITY FACILITIES HAVE BEEN DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED BY PROVIDER.
GAS	MESA GAS	EXISTING COMMUNITY FACILITIES HAVE BEEN DETERMINED ADEQUATE FOR SERVICING THE PROPOSED PROJECT. PROPOSED ON-SITE AND OFF-SITE IMPROVEMENTS TO BE DESIGNED AND CONSTRUCTED BY PROVIDER.
POLICE	COUNTY SHERIFF	EXISTING COMMUNITY SERVICES TO BE EXTENDED TO INCLUDE THE PROPOSED PROJECT.
FIRE	RURAL METRO	EXISTING COMMUNITY SERVICES TO BE EXTENDED TO INCLUDE THE PROPOSED PROJECT.
SCHOOL	COOLIDGE USD 21	EXISTING COMMUNITY FACILITIES DETERMINED ADEQUATE TO INCLUDE THE PROPOSED PROJECT.
SOLID WASTE	REPUBLIC SERVICES	EXISTING COMMUNITY SERVICES TO BE EXTENDED TO INCLUDE THE PROPOSED PROJECT.

CR-3 AMENDED USE TABLE FOR PERMITTED AND NON PERMITTED USES
USES THAT WILL BE PERMITTED IN THIS PLANNED UNIT DEVELOPMENT
• ONE FAMILY DWELLING, CONVENTIONAL CONSTRUCTION.
• PUBLIC PARK, PUBLIC OR PAROCHIAL SCHOOL.
• CHURCH, PROVIDED THE MINIMUM OFF STREET PARKING REQUIREMENTS, AS SET FORTH IN PCDSC 2.140.020(E), ARE MET.
• A TRAVEL TRAILER OR RECREATIONAL VEHICLE (RV) FOR NOT MORE THAN 90 DAYS DURING CONSTRUCTION OF A RESIDENCE ON THE SAME PREMISES, WHICH PERIOD MAY BE EXTENDED FOR AN ADDITIONAL PERIOD OF 90 DAYS UPON APPLICATION TO THE ZONING INSPECTOR.
• HORTICULTURE, FLOWER AND VEGETABLE GARDENING, NURSERY OR GREENHOUSE USED ONLY FOR PROPAGATION AND CULTURE AND NOT FOR RETAIL SALES.
• HOME OCCUPATON.
• ACCESSORY BUILDING OR USE. [Ord. 61862 § 1101].
USES THAT WILL NOT BE PERMITTED IN THIS PLANNED UNIT DEVELOPMENT
• THERE ARE NO PROPOSED USES IN THE PLANNED UNIT DEVELOPMENT THAT ARE NOT PERMITTED

Preliminary Site Plan

Parcels D1 & D2

Exhibit I.1 of 3

7 November 2013
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CVL CONSULTANTS

W GOLDMINE MOUNTAIN DR

SAN TAN HEIGHTS
PARCEL 3
ZONED- CR-3
CASE# PZ-PD-037-99

N HIDDEN CANYON DR

W JASPER BUTTE DR

N LEPA DR

W GOLD DUST AVE

SAN TAN HEIGHTS
PARCEL A-7
ZONED- CR-3
CASE# PZ-PD-037-03

W KRISTINA AVE

W MILA WAY

W PEGGY DR

N LEPA DR

SAN TAN HEIGHTS
PARCEL A-8
ZONED- CR-3
CASE# PZ-PD-037-03

W ANGEL WAY

CHURCH OF JESUS CHRIST
OF LATTER-DAY SAINTS
ZONED- CR-3
CASE# PZ-PD-006-12

OUTFALL SEWER LINE CONNECTION TO EXISTING 10" SEWER LINE IN HUNT HIGHWAY. APPROX 2400 LF OF NEW 8" SEWERLINE IN GARY ROAD

N89° 44'10"E 357.57'

N89° 44'10"E 357.57'

N00° 15'50"W 275.56'

100.00'
N89° 41'19"E

170.50'
N00° 15'50"W

N54° 38'06"E 594.64'

595.61'
N00° 14'08"W

TRACT D

TRACT F

TRACT E

TRACT K

TRACT P

TRACT W

W TONTO DR

W LEOPARD LANE

W FAWN WAY

MATCH LINE SEE SHEET 3
PARCEL D2
PHASE 2

MATCH LINE SEE SHEET 3
PARCEL D2
PHASE 2

THIS SLOPE TO REMAIN AS CONSERVATION AREA

ACTUAL LOCATION OF FINAL COUNTY PROPOSED REGIONAL TRAIL

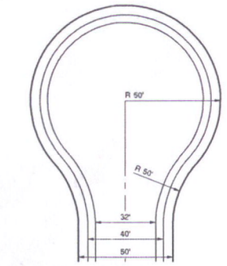
100.00'
S80° 11'56"E

100.00'
N09° 48'04"E

100.00'
S09° 48'04"W

N80° 11'56"W
100.00'

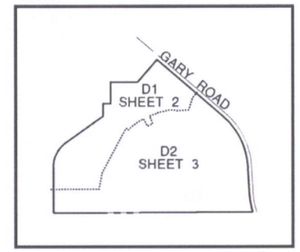
EXCEPTION



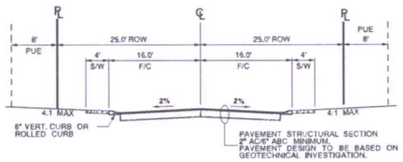
TYPICAL CUL-DE-SAC
NTS

SAN TAN HEIGHTS

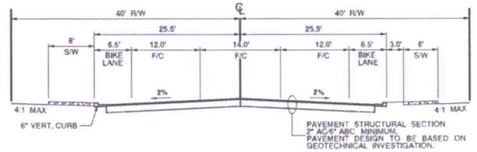
0' 120' 240'



SHEET INDEX MAP
(NOT-TO-SCALE)



TYPICAL RESIDENTIAL STREET
NTS



GARY ROAD
NTS

Preliminary Site Plan

Parcels D1 & D2

Exhibit I.2 of 3

7 November 2013
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CVL CONSULTANTS

OUTFALL SEWER LINE CONNECTION TO EXISTING 10" SEWER LINE IN HUNT HIGHWAY. APPROX 2400 LF OF NEW 8" SEWERLINE IN GARY ROAD

HUNT
RETAIL INVESTMENT
ZONED- CB-2
CASE# PZ-PD-037-03

PARCEL D1
PHASE 1
MATCH LINE SEE SHEET 2

TRACT C

GARY ROAD

INDIGO AVE

TRACT A

PLAYLOCK DR

TRACT B

THIS SLOPE TO REMAIN AS CONSERVATION AREA

ACTUAL LOCATION OF PINAL COUNTY PROPOSED REGIONAL TRAIL

AUTUMN DR

CACTUS WAY

CAMEO CT

TRACT N

TRACT M

TRACT O

EXCEPTION

PARCEL D1
PHASE 1
MATCH LINE SEE SHEET 2

656.84'

PHILLIPS RD

S89° 45'10"W 2611.94'

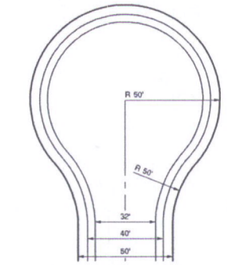
1955.10'

VACANT LAND
ZONED- GR
CASE# NULL

VACANT LAND
ZONED- GR
CASE# NULL

VACANT LAND
ZONED- GR
CASE# NULL

SE1/4CORNER SECTION 13

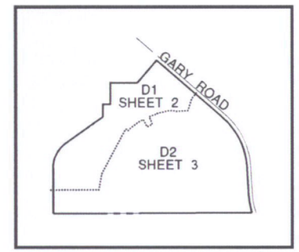


TYPICAL CUL-DE-SAC
NTS

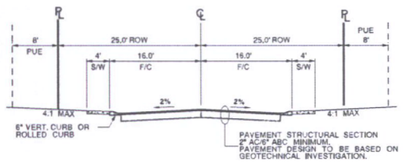
SAN TAN HEIGHTS

N

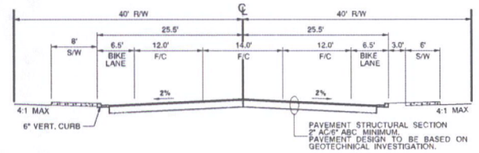
0' 120' 240'



SHEET INDEX MAP
(NOT-TO-SCALE)



TYPICAL RESIDENTIAL STREET
NTS



GARY ROAD
NTS

Preliminary Site Plan

Parcels D1 & D2

Exhibit I.3 of 3

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SAN TAN HEIGHTS

5' Concrete Pathway through Turf Area

Wall Mounted Parcel Sign

Primary Passive Open Space Area with Picnic Ramada and Turf

Primary Entry

Trail Node with Bench and Tree Shade

Multi-Use Trail Corridor (Proposed)

Natural Surface Trail Graded to Follow Contours

Trail Node with Bench and Tree Shade

Trail Node with Bench and Tree Shade

Conservation Area

Multi-Use Trail Corridor as Conceptually Shown on County Master Plan

JOSHUA TREE DR
LIZARD LN
ONYX CT
INDIGO AVE
GARY ROAD
SUMMER LN
ZINC WY
FLINTLOCK DR
AUTUMN DR
FAWN WAY
NICKEL WAY
CAMEO CT
PHILLIPS RD

N

0' 125' 250'

Open Space and Recreation Master Plan

Exhibit J

7 November 2013

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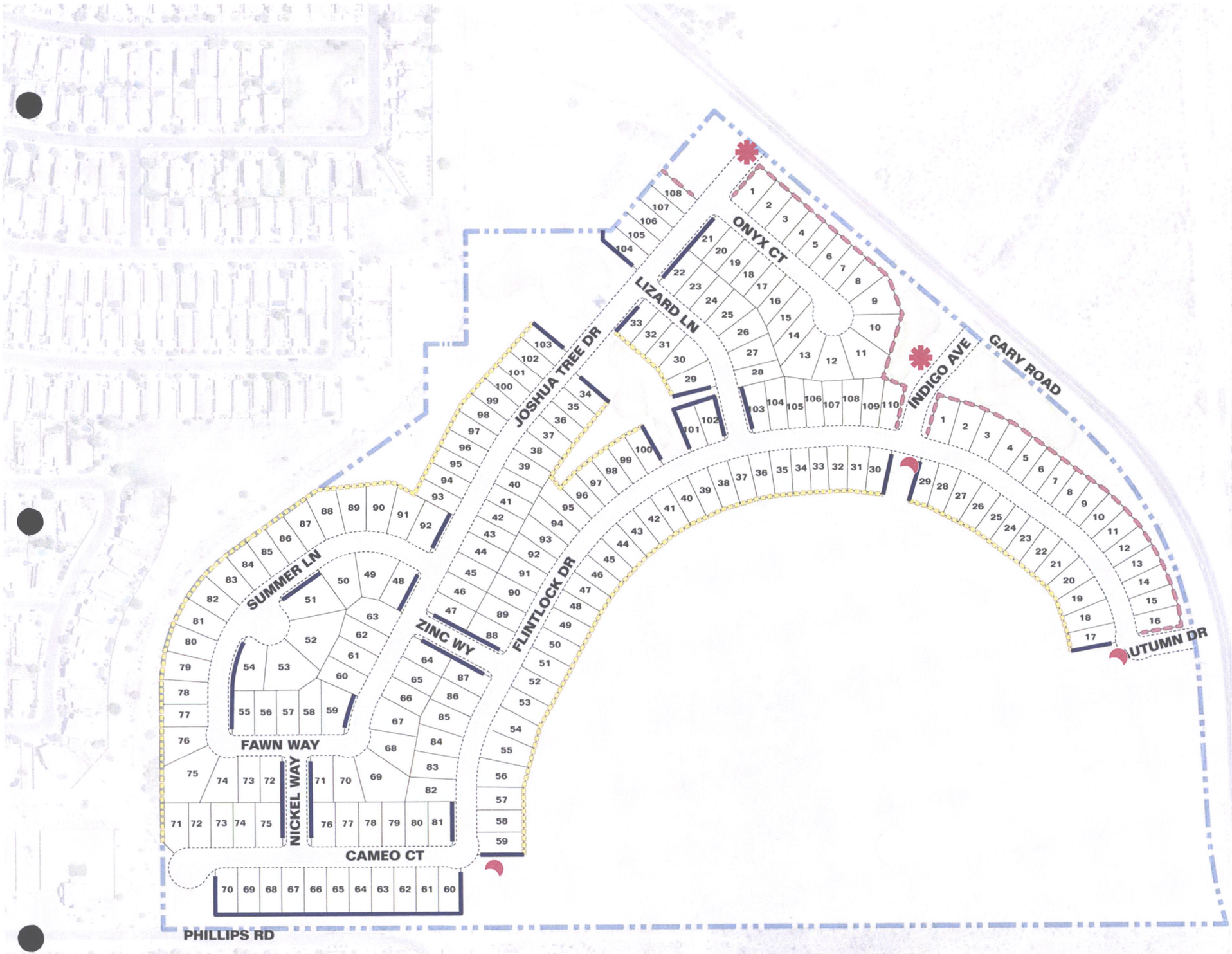

SAN TAN HEIGHTS

Legend

- Theme Wall
- Secondary Wall
- View Fence
- Entry Sign
- Trail Node with Bench and Shade Tree

N

0' 120' 240'

Wall and Signage Master Plan

Exhibit K.1

7 November 2013

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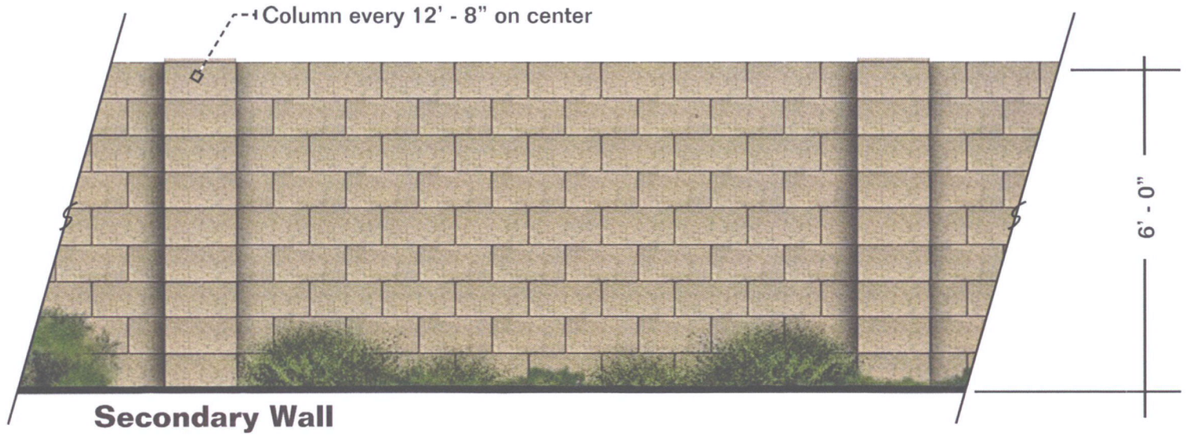
CVL CONSULTANTS

Wall Mounted Entry Sign at Joshua Tree Drive

Entry Monument at Indigo

SAN TAN
HEIGHTS

Theme Wall **View Fence**



Secondary Wall

Note: Wall Colors and Stone to match existing San Tan Heights walls.

Wall & Entry Elevations

Exhibit K.2

7 November 2013
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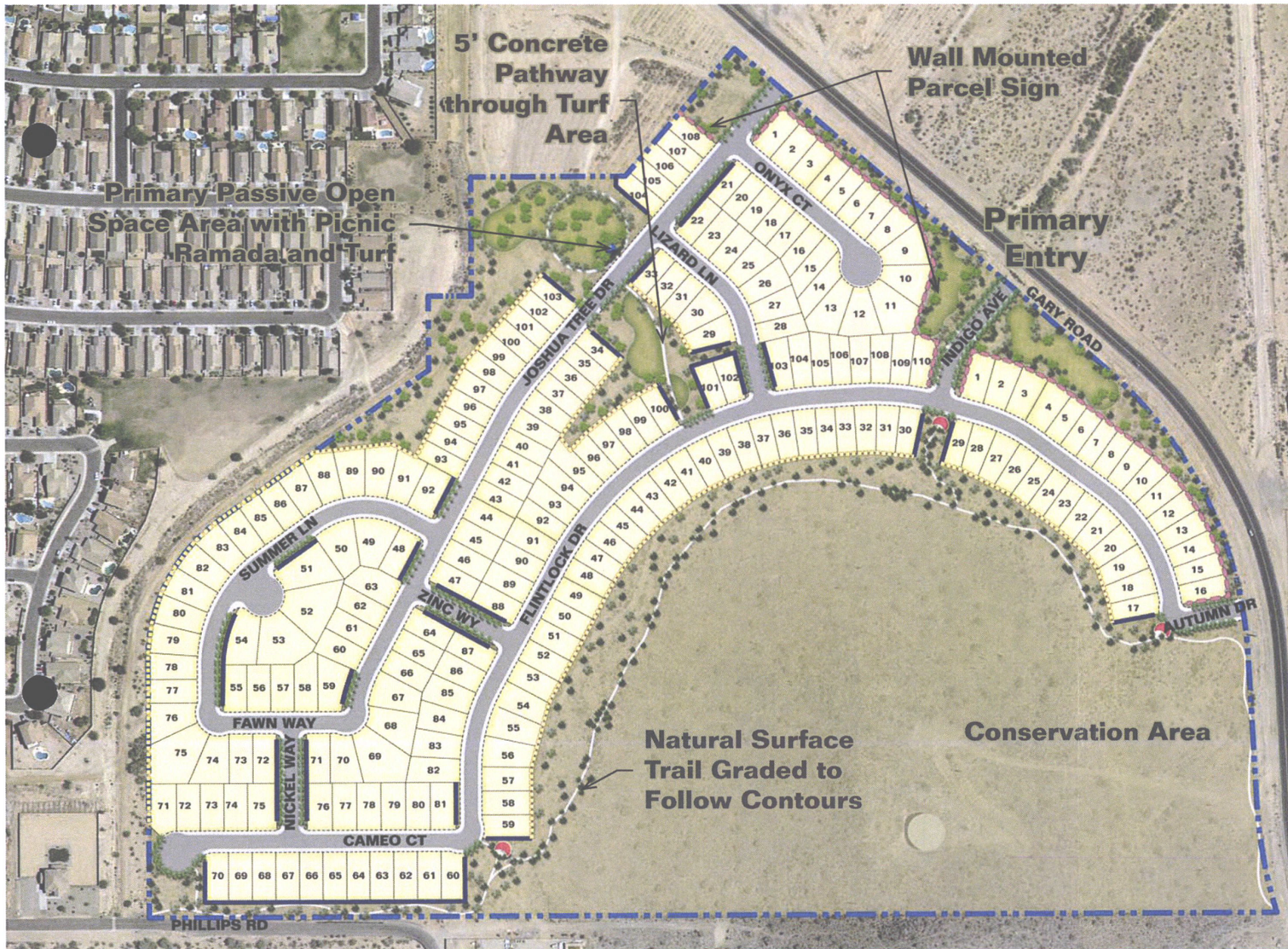
CVL CONSULTANTS



SAN TAN HEIGHTS

Quantity Table

BASED ON 8.31 Acres (361,984 SF)	Total Trees (15 Gallon Minimum)	24" Box Trees	Shrubs (5 Gallon Minimum)	Groundcover (<18" tall)
Standard / Requirement	1 per 1000 SF	25% of tree total	7 per 1000 SF	>50% of vegetation area
Calculation	361,984/1000	0.25 x 362 trees	(361,984/1000) x 7	362 trees x 400 SF + 2534 shrubs x 18 SF Total x 50%
Quantity Required	362 trees	91 - 24" box	2534 shrubs	95,206 SF of Groundcover

Legend

- Theme Wall
- Secondary Wall
- View Fence
- Trail Node with Bench and Shade Tree

N

0' 150' 300'

PLANT LEGEND

THEME TREES

Pistacia chinensis	Chinese Pistache
Ulmus parvifolia	Evergreen Elm

LOCAL STREET TREES

Dalbergia sissoo	Sissoo Tree
Pistacia chinensis	Chinese Pistache
Ulmus parvifolia	Evergreen Elm

NOTE: LOCAL STREET PARKWAY TREES WILL BE INSTALLED AT TIME OF HOME CONSTRUCTION. FINAL TREE PLACEMENT TO BE DETERMINED BY DRIVEWAY AND UTILITY SERVICE LOCATIONS.

SECONDARY TREES

Dalbergia sissoo	Sissoo Tree
Parkinsonia floridum	Blue Palo Verde
Parkinsonia praecox	Palo Brea
Prosopis chilensis	Chilean Hybrid Mesquite

ACCENT TREES

Caesalpinia cacalaco	Cascalote "Smoothie"
Fouquieria splendens	Ocotillo

UNDERSTORY SHRUBS

Caesalpinia pulcherrima	Red Bird of Paradise
Dalea frutescens	Sierra Negra Dalea
Dodonaea viscosa	Hop Bush "purple"
Leucophyllum frutescens	Texas Ranger "Green Cloud"
Leucophyllum langmaniae	Lynn's Legacy Sage
Muhlenbergia rigens	Deer Grass
Tecoma stans angustata	Arizona Yellow Bells
Nerium oleander	Petite Pink Oleander
Calliandra californica	Baja Fairy Duster
Encelia farinosa	Brittle Bush
Justicia californica	Chuparosa
Sphaeralcea ambigua	Desert Globe Mallow

ACCENTS/ CACTUS/ VINES

Agave geminiflora	Twin Flowered Agave
Agave weberi	Weber Agave
Bougainvillea	Bougainvillea "Barbara Karst"
Dasylirion acrotriche	Green spoon
Hesperaloe parviflora	Red Yucca
Muhlenbergia capillaris	Regal Mist Deer Grass
Yucca rigida	Blue Yucca
Pedilanthus macrocarpus	Slipper Plant

GROUND COVERS

Acacia redolens	Desert Carpet Acacia
Lantana montevidensis	Purple Trailing Lantana
Lantana "New Gold"	New Gold Lantana
Baccharis hybrid "Starn"	Thompson Dwarf Broom
Dalea greggii	Trailing Indigo Bush
Verbena Gooddingii	Desert Verbena
Psilostrophe cooperi	Paper Flower
Baileya multiradiata	Desert Marigold

TURF GRASS

Bermuda Hybrid	Bermuda 'Princess 77'

Landscape Master Plan

Exhibit L.1 of 2

7 November 2013

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CVL CONSULTANTS

SAN TAN HEIGHTS

SAN TAN HEIGHTS TRACT TABLE		
TRACTS	AREA ACRES	DESCRIPTION
A	1.53	DEVELOPED OPEN SPACE/RETENTION
B	34.46	CONSERVATION OPEN SPACE/PINAL COUNTY REGIONAL TRAIL CORRIDOR (3.26)
C	1.05	DEVELOPED OPEN SPACE/RETENTION
D	0.50	DEVELOPED OPEN SPACE/RETENTION
E	1.36	DEVELOPED OPEN SPACE/RETENTION
F	3.42	RECREATIONAL OPEN SPACE/RETENTION/ RAMADA
SUB-TOTAL	42.32	OPEN SPACE TOTAL
G	0.05	LANDSCAPE TRACT
H	0.03	LANDSCAPE TRACT
I	0.02	LANDSCAPE TRACT
J	0.02	LANDSCAPE TRACT
K	0.05	LANDSCAPE TRACT
L	0.05	LANDSCAPE TRACT
M	0.02	LANDSCAPE TRACT
N	0.05	LANDSCAPE TRACT
O	0.05	LANDSCAPE TRACT
P	0.02	LANDSCAPE TRACT
Q	0.06	LANDSCAPE TRACT
R	0.03	LANDSCAPE TRACT
SUB-TOTAL	0.45	LANDSCAPE TRACT TOTAL
GRAND TOTAL	42.77	GRAND TOTAL

N

0' 120' 240'

Landscape Tract Plan

Exhibit L.2 of 2

7 November 2013

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CVL CONSULTANTS

THE UNIVERSITY OF ARIZONA.

Arizona State Museum

P.O. Box 210026
Tucson, AZ 85721-0026
Tel: (520) 621-6302
Fax: (520) 621-2976

ARCHAEOLOGICAL RECORDS SEARCH RESULTS

E-mail **Request Received:** 10/24/2013 Expedited **Search Completed:** 10/28/2013

Requester Name and Title:	Ryan Weed, PE
Company:	Coe & Van Loo Consultants, Inc.
Address:	4550 North 12th Street
City, State, Zip Code:	Phoenix, AZ 85014
Phone/Fax/or E-mail:	602.285.4804

Project Name and/or Number
San Tan Heights / Parcels 509-02-9240 & -059A

Project Description
Development on ~85 acres

Project Area Location: SWC Gary Rd & San Tan Heights Hwy, W of Hunt Hwy, Pinal County, Arizona.

Legal Description: a portion of the NE, S13, T3S, R7E, G&SRB&M, Pinal County, Arizona.

Search Results: A search of the archaeological records retained at the Arizona State Museum (ASM) found that the proposed project area has not been entirely inspected; a small portion of the project area was archaeologically inspected in 2011. Thirteen additional inspections were completed within a mile of the project area between 1985 and 2011. No historic properties are identified in the project area. One historic property, Hunt Highway, considered eligible to the Arizona Register of Historic Places, is identified within a mile of the proposed project area. A color orthophotograph taken of the project area in 2010, enclosed, shows formerly cultivated land, bladed land with secondary regrowth of vegetation, unmodified land, a dirt access road leading to a storage facility of some kind, two-track roads and dirt trails, and an intermittent drainage crossing the parcels from SW to NE.

Sites in Project Area: Unknown; without a visual inspection of the ground surface over the entire project area, it is impossible to ascertain the presence or absence of cultural resources.

Recommendations: Because the project area has not been entirely inspected archaeologically, it is possible that important historic properties lie within the project area. The ASM recommends that the ground surface within the area of the proposed development be inspected by an archaeological professional before any ground-disturbing activities are begun.

Upon the completion of an archaeological inspection performed under city or county ordinance or state regulation in Arizona, an archaeological contractor writes a report that summarizes and evaluates the inspection results and makes recommendations for the treatment of the cultural resources, if any are identified. The archaeological contractor should be familiar with current reporting standards and will follow standard procedures in submitting a draft report to you to give to the appropriate county agency for review and consultation. A list of qualified archaeological contractors is posted on the ASM website at the following address: http://www.statemuseum.arizona.edu/crservices/permits/index.shtml.

Pursuant to *Arizona Revised Statutes* § 41-865, if any human remains or funerary objects are discovered during the project work, all effort will stop within the area of the remains and Dr. Todd Pitezel, ASM assistant curator of archaeology, will be contacted immediately at (520) 621-4795.

If you have any questions regarding the results of this records search, please contact me at the letterhead address or at the phone number or e-mail address as follows.

Sincerely,

Nancy E. Pearson

Nancy E. Pearson
Assistant Permits Administrator
(520) 621-2096
nepearso@email.arizona.edu

Exhibit M.1

Coe & Van Loo: PINAL, San Tan Heights

SCALE 1 : 4,761

200 0 200 400 600

FEET

N

Exhibit M.2

http://gis.pima.gov/maps/az/mapguide/arizona65.mwf

Monday, October 28, 2013 11:03 AM

MEMO

TRACE CONSULTING

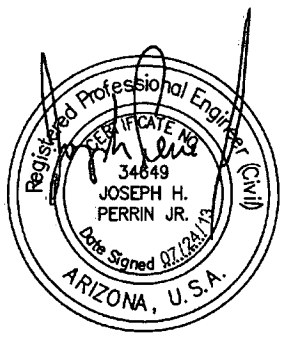
TO: Mr. Ryan Weed, PE
Coe & Van Loo Consultants, Inc.

FROM: Joseph Perrin, PhD, PE, PTOE

DATE: July 24, 2013

PROJECT: San Tan Heights – Parcel D1 and D2

RE: San Tan Heights Trip Generation Memo



EXPIRES 03-31-15

Introduction
The following memorandum addresses the trip generation for Parcels D1 and D2 of the San Tan Heights development in San Tan Valley, Arizona. The site is located south of Gary Road and Hunt Highway.

Description of Site
The proposed site is Parcels D1 and D2 of the larger San Tan Heights Residential community. This area is located in the southeast area of the development, south of Gary Road. A Traffic Analysis Impact study was provided in November 2005 for the overall San Tan Heights Development. In that study, this area is referred to as Parcel K and was proposed as 161 dwelling units as well as 15 acres for a school. The latest site plan includes a proposed 218 single family homes and no school.

Trip Generation
The trip generation rate for land uses comes from the ITE Trip Generation Manual, 9th Edition. Trip generation rates are based on a per unit basis as provided for the AM, PM and Saturday peak periods and daily traffic rates for a weekday and Saturday. Multiplying the trip rate by the facility sizes provides the trip generation for the site by land use. Based on the 218 single family home units, it is estimated that 164 AM trips and 220 PM peak trips will be generated. This represents an estimated 2086 daily trips. It should be noted that there are two methods to generate projected traffic, average rate and regression equation.

Site Traffic Projections

218 Units	AM Peak	PM Peak	Daily
Average Rate	164	220	2086
Regression Equations	162	212	2130

By applying the directional split from the ITE Land Use, the inbound and outbound traffic by time period is determined.

Directional Split of Traffic

218 Units	Inbound / Outbound Percentage	Inbound	Outbound
AM Peak	25% / 75%	41	123
PM Peak	63% / 37%	139	81

SAN TAN
HEIGHTS
American Leadership Academy
Church of Jesus Christ of Latter-day Saints
Skyline Ranch Elementary School
Sanders Ranch Elementary School
Walmart
Aerial Context Map
San Tan Heights
Exhibit D
2 July 2013
CVL

COE & VAN LOO
CONSULTANTS, INC.

PRELIMINARY DRAINAGE REPORT
FOR
SAN TAN HEIGHTS
PARCELS D1 & D2
PINAL COUNTY, ARIZONA

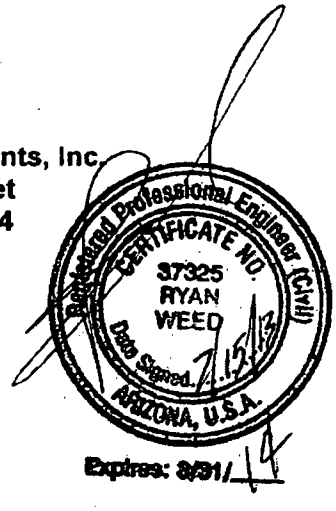
July 15, 2013

Prepared for:

Gary Road Holdings, LLC c/o
Matrixx Mangement, LLC
7650 E. Redfield Road, Suite D-7
Scottsdale, Arizona 85250
480.945.9292

Prepared by:

Coe & Van Loo Consultants, Inc.
4550 N. 12th Street
Phoenix, AZ 85014
(602) 264-6831



CVL Job Number: 1.01.0234301

www.cvlci.com

PHOENIX
4550 N. 12th St.
Phoenix, AZ 85014
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Fax: 602.264.0928

DENVER
7901 E. Belleview, Ste. 150
Englewood, CO 80111
Phone: 720.482.9526
Fax: 720.482.9546

Preliminary Drainage Report
For
San Tan Heights Parcels D1 & D2

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Figures

Figure 1 Vicinity & Location Map
Figure 2 Flood Insurance Rate Map

Appendices

Appendix A Preliminary Retention Basin Volume Calculations
Appendix B NOAA Atlas 14 Precipitation Frequency Estimates at Upper Bound of 90% Confidence Interval
Appendix C Excerpts from the *Master Drainage Report Pavilions at San Tan Heights* (Reference 5)
Appendix D Excerpts from the *Final Master Drainage Report The Village at Santan Heights – Phase I Volume 1* (Reference 6)
Appendix E Channel Information and Cross Section

Plate

Plate 1 Drainage Map

1.0 INTRODUCTION

1.1 Scope

Coe & Van Loo Consultants, Inc. (CVL) has been contracted by Gary Road Holdings, LLC (developer) to provide engineering services in support of the development of San Tan Heights Parcels D1 & D2 (the site). The purpose of this report is to provide hydrologic and hydraulic analysis of the proposed development. In addition, this report addresses off-site drainage, on-site drainage and retention requirements.

This report is focused on providing practical design information, evaluation, and calculations for statistical flood events up to and including the 100-year frequency flood. The procedures used herein are derived from, and performed with, currently accepted engineering methodologies and practices. Additionally, the criteria for this evaluation are designed to conform to currently applicable ordinances, regulations and policies promulgated by Pinal County for the referenced site.

1.2 Site Description

The site is located within the unincorporated areas of Pinal County, Arizona (see Figure 1). The overall site is located southwest of North Gary Road, southeast of San Tan Heights Parcel A-7, east of San Tan Heights Parcel A-8, and north of W. Phillips Road (see Plate 1). The site is irregular in shape, consisting of approximately 15.44 acres. In addition, the site is located in a part of the North Half of Section 13, Township 3 South, Range 7 East, of the Gila and Salt River Base and Meridian, Pinal County, Arizona. The Assessor's Parcel Number for the site is 509-02-059A and 509-02-9240.

1.3 Proposed Development

The proposed subdivision will consist of 218 single-family residential homes, local streets, drainage facilities, and open spaces. Ingress and egress to the site will be provided from N. Gary Road. The San Tan Heights development will be completed in phases/parcels. Each phase/parcel will be required to provide adequate permanent and/or temporary drainage measures to meet the Pinal County requirements.

1.4 Regulatory Jurisdiction

The Drainage Report for the Mass Grading of San Tan Heights Parcel D1 & D2 has been approved under the 1998 Drainage Ordinance (Reference 1). The site is designed to meet the Pinal County's drainage requirements as stated in the *Pinal County Drainage Manual, Volumes 1 and 2* (References 2 & 3).

2.0 EXISTING CONDITIONS

The overall site is currently vacant with little vegetation. The site is former agricultural field. The site generally slopes to the northeast at approximately 5.7%. The existing outfall is located along the northeast boundary, southwest of N. Gary Road. The site is graded to drain to N. Gary Road and various retention basins located within the site. Soils within the site are primarily silty sand and clayey silty sand.

3.0 MANAGEMENT OF OFF-SITE RUNOFF

3.1 Off-Site Hydrology

The off-site drainage for San Tan Heights was evaluated in the *Master Drainage Report Pavilions at San Tan Heights* by Kimley-Horn and Associates, Inc. on November 2007 (Reference 5) using a 100-year, 24-hour storm frequency and the *Final Master Drainage Report The Village at Santan Heights – Phase 1 Volume 1* by CMX Group Inc. on July 24, 2001 (Reference 6) using a 100-year, 6-hour storm frequency. According to the Master Drainage Report for Pavilions at San Tan Heights off-site flows enter the site from the south. See Appendix C for excerpts from Reference 5. Off-site flow from the west of 858 cfs is diverted by an existing channel northwest of the site to the north. See Appendix D for excerpts from Reference 6.

3.2 Off-Site Runoff Management

The local off-site runoff of 67 cfs, 95 cfs, and 26 cfs affecting the site from the south will be conveyed in multiple channels. Channel 1 will convey 67 cfs along the southern boundary to the west connecting with an existing channel to divert the flow around the site to the north. Channel 2 will convey 95 cfs along the south boundary of the site to a point where it will join Channel 4. Channel 3 will convey 26 cfs along the south boundary of the site to appoint where it will join Channel 4. Channel 4 will convey the combined flows of Channel 2 & 3 (121 cfs) through the site to an existing culvert under N. Gary Road on the east side of the site. This connivance to the culvert under N. Gary road returns the flows to their historic release point.

4.0 MANAGEMENT OF ON-SITE RUNOFF

4.1 On-Site Hydrology

The on-site hydrology will be prepared using the Rational Method in accordance with the *Pinal County Drainage Manual* (Reference 2). NOAA Atlas 14 precipitation frequency estimates at upper bound of 90% confidence interval are used for the precipitation calculation. Refer to Appendix B for the precipitation data. The drainage sub-basins are delineated based on the final grading and paving plans. Times of concentration for the 10-year and 100-year rainfall intensities are based on *Pinal County Drainage Manual* (Reference 2). The estimated 100-year runoff coefficient (C-value) of 0.71, 0.31, and 0.94 is used for the residential area, open areas contain basins, and roadways without lot frontage respectively. Refer to Appendix A for the on-site hydrology calculations. See Plate 1 for the sub-basin locations.

4.2 On-Site Storm Water Runoff Management Plan

The drainage concept includes the use of streets to convey runoff and the use of retention basins located within the site to retain the on-site runoff from the 100-year, 6-hour runoff, as required by the *Pinal County Drainage Manual* (Reference 2). The local streets within the site will be designed such that the 10-year runoff is contained within the street curbs. The 100-year runoff will be contained within the right-of-way with a maximum depth of 8 inches; a maximum flow of 100 cfs; and a maximum velocity of 10 fps (Reference 2 & 3). Where capacity of the street is exceeded, supplemental storm drain systems will be provided such that the above requirements are met.

Finished floor elevations (FFE) will be set a minimum of 12 inches above the highest adjacent grade, a minimum of 12 inches above the highest adjacent 100-year WSE. In addition, the FFE will be a minimum of 18 inches above the lot outfall (Reference 2 & 3).

4.3 Retention

The retention concept is to provide retention basins to retain on-site runoff from the 100-year, 6-hour storm event in accordance with *Pinal County Drainage Manual* (Reference 2). The equation that governs this volume is:

Vr = retention volume required in acre-ft.

C = rational runoff coefficient = per Table 6.3 of Reference 1.

P = rainfall depth for the 100-year, 6-hour storm event; 2.52 inches per hour

A = area in acres

The retention basin will be designed to drain within 36 hours by means of infiltration (Reference 2 & 3). Drywells will be incorporated to ensure the required drain time is met, as necessary. Refer to Plate 1 for the retention basin locations and Appendix A for the retention basin calculations.

The retention basins will have a maximum water depth of 3 feet with side slopes no steeper than 4:1. Side slopes of 6:1 will be maintained adjacent to pedestrian walkways and rights-of-ways per 0.4.3.I. The retention basins will be designed in close coordination with the landscape architect to allow for an aesthetically pleasing and hydraulically efficient multi-use facility.

5.0 FLOOD ZONE INFORMATION

The Pinal County, Arizona and Incorporated Areas Flood Insurance Rate Map (FIRM), panel number 04021C0475E, Map Revised December 4, 2007 (Reference 4), indicate the site falls within Zones "X" (not shaded).

Zone "X" (not shaded) is defined by FEMA as:

"Areas determined to be outside the 0.2% annual chance floodplain."

Refer to Figure 3 for a copy of the Flood Insurance Rate Map (FIRM).

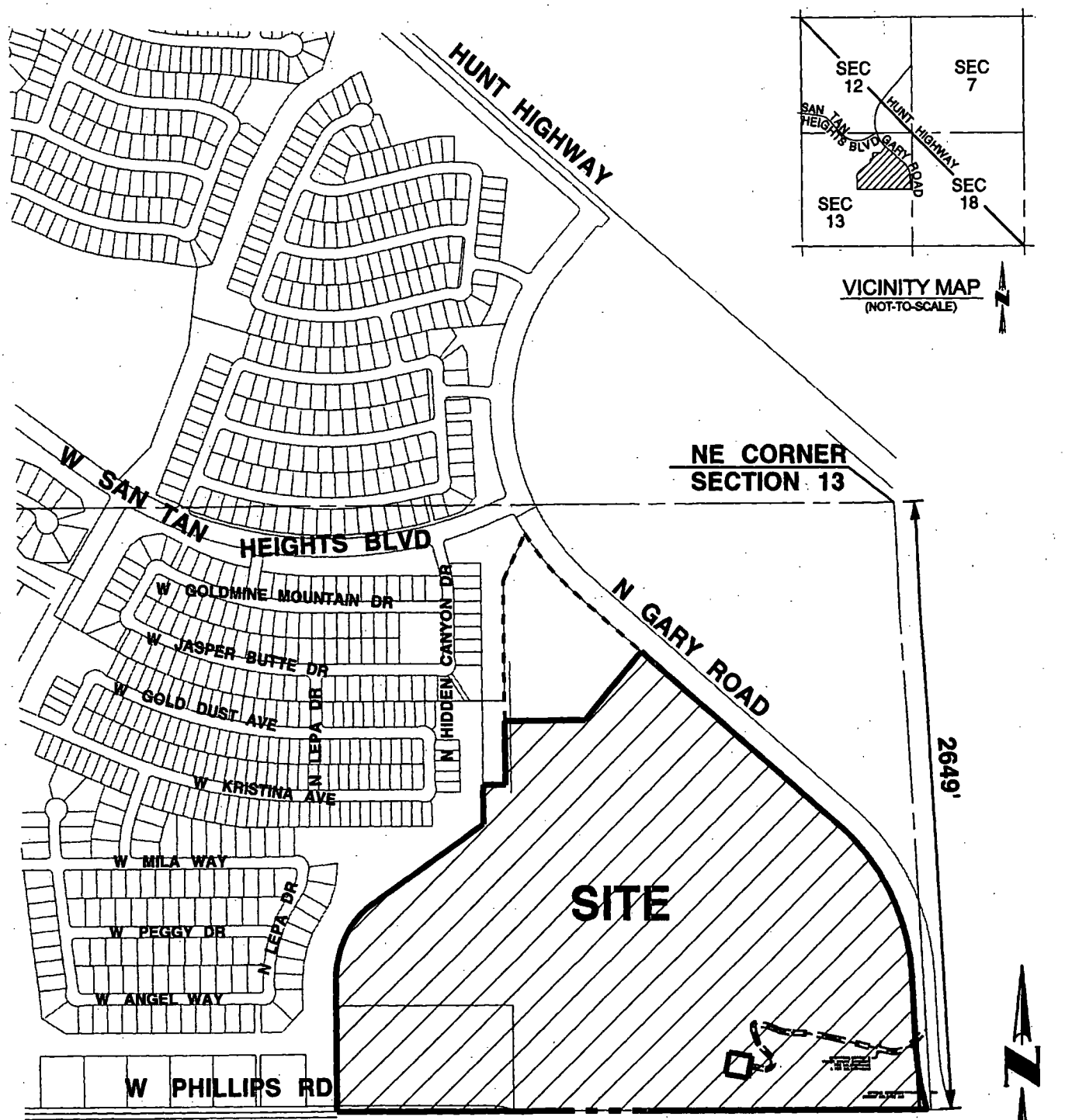
6.0 SUMMARY AND CONCLUSIONS

1. The drainage concept for the site assumes that the off-site flows will be diverted around the site or conveyed through the site by several channels to their historic path.
2. The local streets will be designed to convey the 10-year runoff within the street section below the top of curb. The 100-year runoff will be contained within right-of-way and below the finished floor of buildings with a maximum depth of 8 inches; a maximum flow of 100 cfs; and a maximum velocity of 10 fps.
3. FFE will be set a minimum of 12 inches above the highest adjacent grade, a minimum of 12 inches above the highest adjacent 100-year WSE. In addition, the FFE will be a minimum of 18 inches above the lot outfall.
4. Retention basins will be designed to retain the 100-year, 6-hour runoff.
5. Drywells will be used to ensure that the retention basin drain time is less than 36 hours.
6. The designed of hydraulic structures and hydrologic analysis will be based on generally accepted engineering practice and in accordance with local requirements.

7.0 REFERENCES

1. Pinal County, *Pinal County Drainage Ordinance, Ordinance No. 100798-DO,* Approved 10/7/98, Effective 11/7/98.
2. Pinal County Flood Control District, *Pinal County Drainage Manual Volume 1*, August 2004.
3. Pinal County Flood Control District, *Pinal County Drainage Manual Volume II*, August 2004.
4. Federal Emergency Management Agency (FEMA), *Flood Insurance Rate Map (FIRM), Pinal County, Arizona, and Incorporated Areas, Community Panel Number 04021C0475E*, Map Revised December 4, 2007.
5. Kimley-Horn and Associates, Inc., *Master Drainage Report Pavilions at San Tan Heights,* November 2007.
6. CMX Group Inc., *Final Master Drainage Report The Village at Santan Heights – Phase 1 Volume 1,* July 24, 2001.

FIGURES

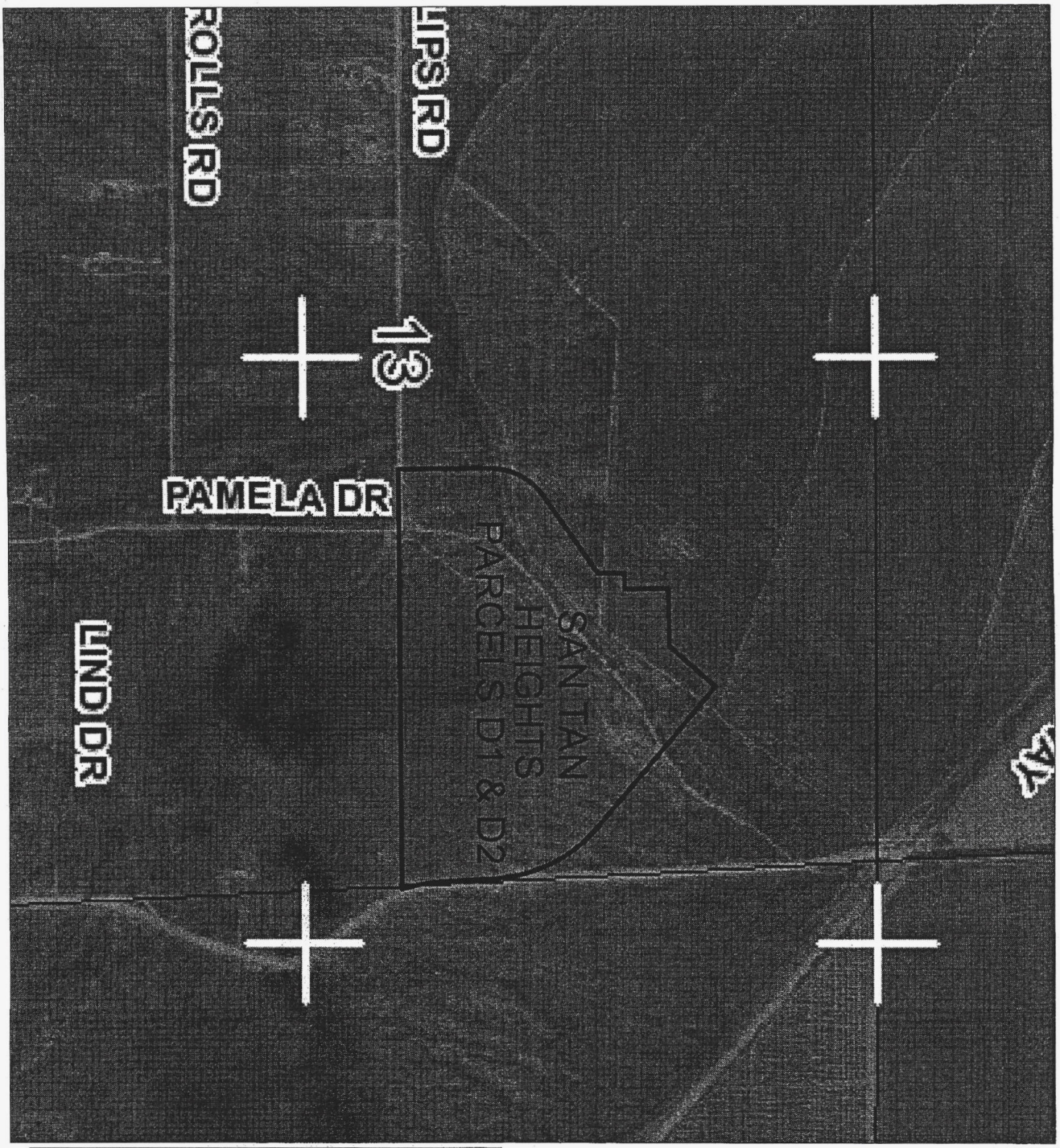


LOCATION MAP

NORTHEAST CORNER OF SECTION 13, TOWNSHIP 3 SOUTH, RANGE 7 EAST

SAN TAN HEIGHTS
PINAL COUNTY

VICINITY & LOCATION MAP	SAN TAN HEIGHTS
COE & VAN LOO PLANNING • ENGINEERING • LANDSCAPE ARCHITECTURE	FIGURE 1 JOB NO 01-0234301



FIRM
FLOOD INSURANCE RATE MAP
PINAL COUNTY, ARIZONA AND INCORPORATED AREAS
PANEL 475 OF 2575
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS: COMMUNITY	NUMBER	PANEL	SUFFIX
PINAL COUNTY, UNINCORPORATED AREAS	040077	0475	E
QUEEN CREEK, TOWN OF	040132	0475	E

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
04021C0475E
EFFECTIVE DATE
DECEMBER 4, 2007

Federal Emergency Management Agency

N.T.S

FIGURE 2	FLOOD INSURANCE RATE MAP	NO.	REVISION	DATE
SCS Project #: 07-07824301	SAN TAN HEIGHTS	Coe & Van Loo Consultants, Inc.		

CVL
4550 North 12th Street
Phoenix, Arizona 85014
Telephone 602-264-6831
http://www.cvlci.com

APPENDICES

APPENDIX A

Preliminary Retention Basin Volume Calculation

San Tan Heights
Preliminary Retention Basin Volume Calculation for the 100-Yr, 6-Hr storm

Drainage [1] Sub-Basin ID	Area A (acres)	Runoff [2] Coefficient C	Rainfall [3] Depth P (inches)	Volume Required [4]		Retention [5] Basin ID	Volume Provided [6]					Excess Runoff (acre-ft)
				Volume V_{req} (acre-ft)	Total V_{req} (acre-ft)		Depth D (ft)	Top Area A_{top} (acres)	Bottom Area A_{bot} (acres)	Volume V_P (acre-ft)	Total V_P (acre-ft)	
drain-1	4.76	0.71	2.64	0.74								
Basin R-1	0.50	0.31	2.64	0.03	0.78	Basin R-1	3.0	0.32	0.21	0.80	0.80	0.02
drain-2	19.92	0.71	2.64	3.11								
Basin R-2	2.36	0.31	2.64	0.16		Basin R-2	3.0	1.95	1.57	5.28		
Basin R-3	0.72	0.31	2.64	0.05	3.32	Basin R-3	3.0	0.33	0.16	0.74	6.02	2.69
drain-3	7.13	0.94	2.64	1.47								
Basin R-4	1.31	0.31	2.64	0.09	1.56	Basin R-4	3.0	0.90	0.60	2.25	2.25	0.69
drain-4	0.39	0.94	2.64	0.08								
drain-5	7.51	0.71	2.64	1.17								
Basin R-5	0.70	0.31	2.64	0.05		Basin R-5	3.0	0.46	0.29	1.13		
Basin R-6	1.46	0.31	2.64	0.10	1.40	Basin R-6	3.0	0.73	0.43	1.74	2.87	1.46
drain-6	1.60	0.71	2.64	0.25								
Basin R-7	0.27	0.31	2.64	0.02	0.27	Basin R-7	3.0	0.15	0.06	0.32	0.32	0.05
Totals	48.63				7.33						12.24	4.91

Notes:

1. Drainage sub-basin delineated per Drainage Map (Plate 1).
2. Assumed 100-year runoff coefficient for single-family, C = 0.71.
3. Estimated precipitation depth per NOAA 14 at upper bound of 90% confidence interval.
4. $V_{req} = A \times C \times (P/12)$ = volume required for retention, acre-ft.
5. Proposed retention basins per Drainage Map (Plate 1).
6. $V_P = D \times [(A_{top} + A_{bot})/2]$ = retention volume provided, acre-ft.

APPENDIX B

NOAA Atlas 14 Precipitation Frequency Estimates at Upper Bound of 90% Confidence Interval

NOAA Atlas 14, Volume 1, Version 5
Location name: Queen Creek, Arizona, US*
Coordinates: 33.1725, -111.5845
Elevation: 1533 ft*
* source: Google Maps

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.196 (0.165-0.237)	0.255 (0.217-0.310)	0.346 (0.291-0.418)	0.415 (0.347-0.499)	0.508 (0.419-0.609)	0.580 (0.472-0.693)	0.654 (0.522-0.779)	0.728 (0.572-0.867)	0.828 (0.634-0.988)	0.904 (0.678-1.08)
10-min	0.298 (0.252-0.360)	0.389 (0.331-0.471)	0.527 (0.443-0.636)	0.631 (0.528-0.759)	0.773 (0.637-0.926)	0.883 (0.718-1.06)	0.995 (0.795-1.19)	1.11 (0.871-1.32)	1.26 (0.965-1.50)	1.38 (1.03-1.65)
15-min	0.369 (0.312-0.446)	0.482 (0.410-0.584)	0.653 (0.549-0.788)	0.782 (0.654-0.942)	0.959 (0.789-1.15)	1.10 (0.891-1.31)	1.23 (0.986-1.47)	1.37 (1.08-1.64)	1.56 (1.20-1.86)	1.71 (1.28-2.04)
30-min	0.496 (0.420-0.601)	0.649 (0.552-0.787)	0.878 (0.739-1.06)	1.05 (0.881-1.27)	1.29 (1.06-1.55)	1.47 (1.20-1.76)	1.66 (1.33-1.98)	1.85 (1.45-2.20)	2.10 (1.61-2.51)	2.30 (1.72-2.75)
60-min	0.614 (0.520-0.744)	0.803 (0.683-0.974)	1.09 (0.915-1.31)	1.30 (1.09-1.57)	1.60 (1.32-1.91)	1.83 (1.48-2.18)	2.06 (1.64-2.45)	2.29 (1.80-2.73)	2.60 (1.99-3.11)	2.84 (2.13-3.40)
2-hr	0.705 (0.599-0.840)	0.913 (0.777-1.09)	1.22 (1.03-1.45)	1.45 (1.22-1.73)	1.76 (1.46-2.09)	2.01 (1.64-2.37)	2.26 (1.82-2.67)	2.51 (1.98-2.96)	2.86 (2.19-3.36)	3.12 (2.35-3.70)
3-hr	0.763 (0.641-0.906)	0.963 (0.823-1.16)	1.26 (1.07-1.52)	1.60 (1.27-1.80)	1.83 (1.52-2.18)	2.10 (1.71-2.49)	2.37 (1.90-2.81)	2.66 (2.10-3.15)	3.06 (2.34-3.62)	3.38 (2.52-4.01)
6-hr	0.912 (0.790-1.07)	1.15 (1.00-1.35)	1.47 (1.28-1.73)	1.73 (1.49-2.02)	2.08 (1.76-2.41)	2.35 (1.96-2.72)	2.64 (2.16-3.05)	2.93 (2.36-3.39)	3.33 (2.61-3.85)	3.64 (2.79-4.22)
12-hr	1.04 (0.916-1.19)	1.31 (1.15-1.50)	1.65 (1.45-1.89)	1.92 (1.68-2.19)	2.29 (1.98-2.60)	2.57 (2.20-2.91)	2.86 (2.40-3.24)	3.15 (2.61-3.57)	3.55 (2.87-4.04)	3.85 (3.05-4.41)
24-hr	1.25 (1.13-1.39)	1.58 (1.43-1.76)	2.04 (1.83-2.27)	2.40 (2.15-2.66)	2.90 (2.58-3.21)	3.29 (2.91-3.64)	3.71 (3.24-4.10)	4.13 (3.58-4.57)	4.72 (4.02-5.24)	5.18 (4.36-5.78)
2-day	1.32 (1.19-1.47)	1.68 (1.52-1.87)	2.19 (1.98-2.44)	2.60 (2.34-2.89)	3.16 (2.82-3.50)	3.61 (3.20-3.99)	4.08 (3.58-4.51)	4.56 (3.96-5.05)	5.23 (4.47-5.82)	5.77 (4.87-6.45)
3-day	1.40 (1.27-1.55)	1.79 (1.63-1.98)	2.35 (2.13-2.60)	2.80 (2.53-3.08)	3.42 (3.08-3.77)	3.93 (3.50-4.32)	4.46 (3.95-4.91)	5.02 (4.40-5.53)	5.81 (5.01-6.42)	6.44 (5.49-7.14)
4-day	1.48 (1.36-1.63)	1.90 (1.73-2.09)	2.50 (2.28-2.75)	2.99 (2.72-3.28)	3.69 (3.33-4.04)	4.25 (3.81-4.65)	4.85 (4.32-5.31)	5.48 (4.83-6.01)	6.38 (5.55-7.01)	7.11 (6.12-7.84)
7-day	1.65 (1.51-1.81)	2.10 (1.92-2.31)	2.78 (2.53-3.05)	3.33 (3.02-3.65)	4.10 (3.70-4.48)	4.72 (4.24-5.17)	5.39 (4.80-5.89)	6.09 (5.37-6.67)	7.09 (6.17-7.78)	7.89 (6.79-8.69)
10-day	1.78 (1.63-1.96)	2.28 (2.09-2.51)	3.01 (2.75-3.30)	3.59 (3.27-3.94)	4.41 (4.00-4.83)	5.07 (4.57-5.55)	5.77 (5.16-6.31)	6.50 (5.76-7.12)	7.54 (6.59-8.28)	8.36 (7.25-9.20)
20-day	2.21 (2.02-2.43)	2.85 (2.60-3.13)	3.76 (3.42-4.12)	4.45 (4.04-4.87)	5.38 (4.87-5.88)	6.09 (5.49-6.66)	6.82 (6.12-7.46)	7.55 (6.74-8.28)	8.55 (7.56-9.40)	9.32 (8.18-10.3)
30-day	2.59 (2.37-2.83)	3.33 (3.05-3.63)	4.39 (4.01-4.78)	5.19 (4.74-5.66)	6.27 (5.69-6.83)	7.10 (6.42-7.74)	7.96 (7.16-8.67)	8.82 (7.89-9.63)	9.99 (8.84-10.9)	10.9 (9.56-12.0)
45-day	3.03 (2.77-3.32)	3.91 (3.57-4.28)	5.15 (4.70-5.63)	6.06 (5.53-6.63)	7.27 (6.60-7.95)	8.19 (7.40-8.95)	9.11 (8.20-9.97)	10.0 (8.97-11.0)	11.2 (9.97-12.4)	12.2 (10.7-13.4)
60-day	3.39 (3.10-3.70)	4.37 (4.00-4.78)	5.75 (5.26-6.28)	6.76 (6.16-7.38)	8.06 (7.32-8.79)	9.03 (8.17-9.85)	10.0 (9.01-10.9)	11.0 (9.81-12.0)	12.2 (10.8-13.4)	13.1 (11.6-14.4)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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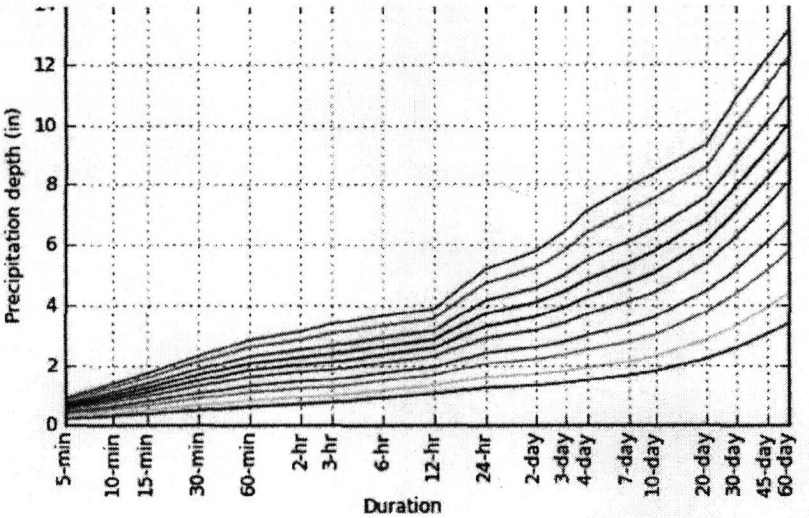
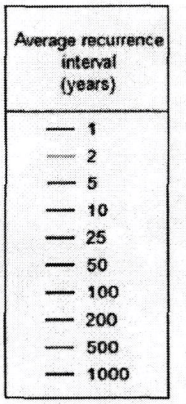
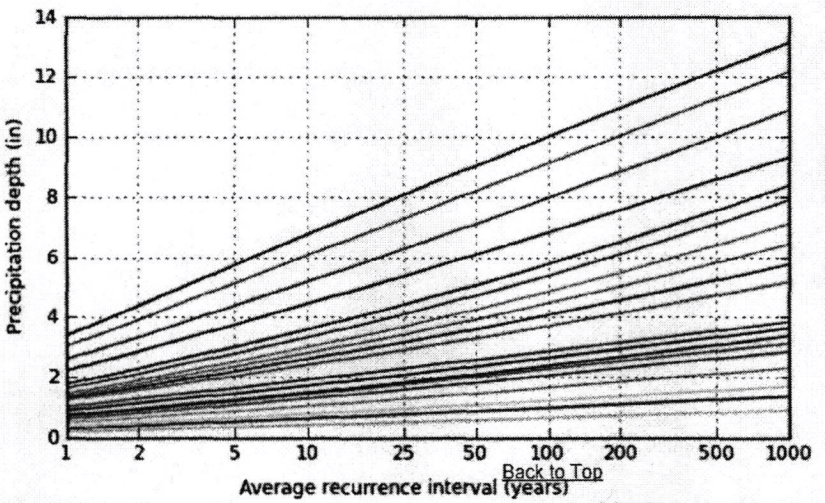
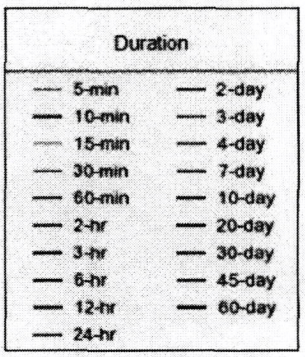
PF graphical









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Maps & aerials

NOAA/NWS/OHD/HDSC

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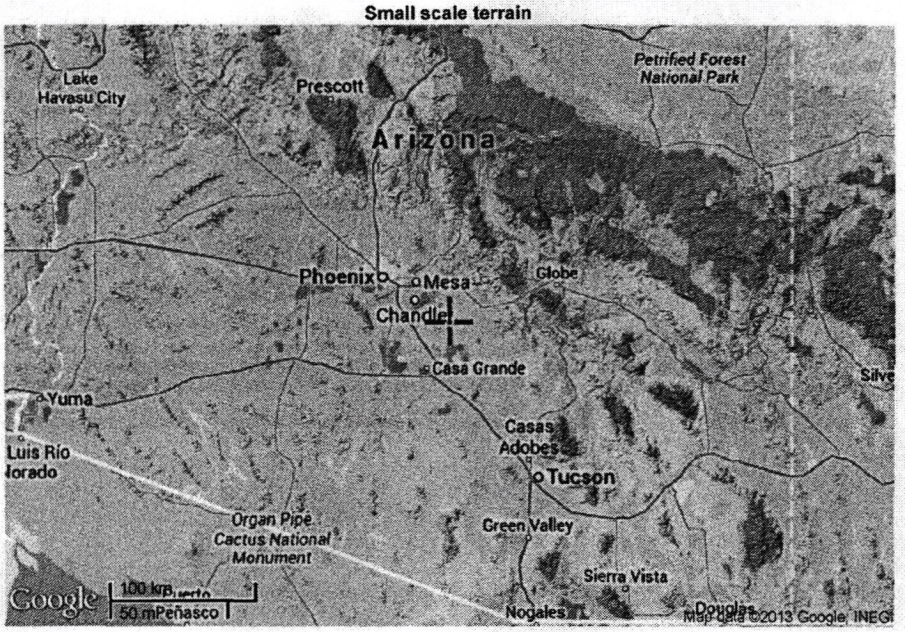
Small scale terrain



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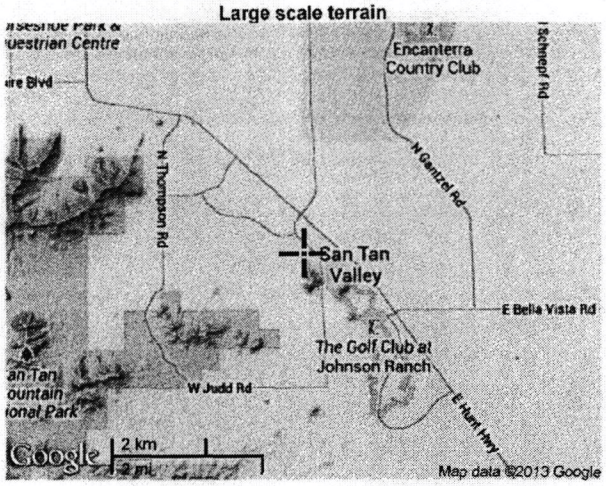

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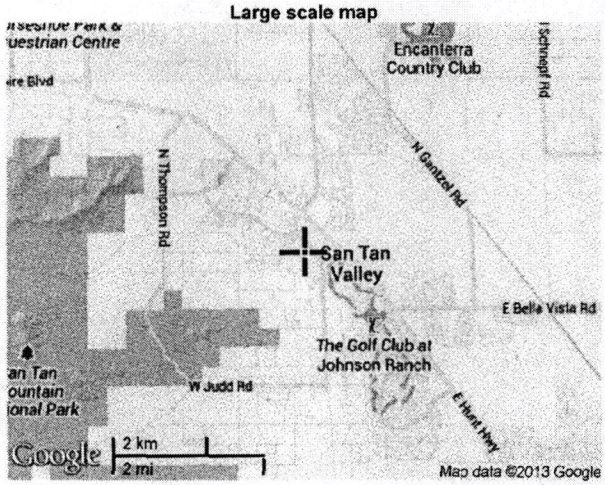

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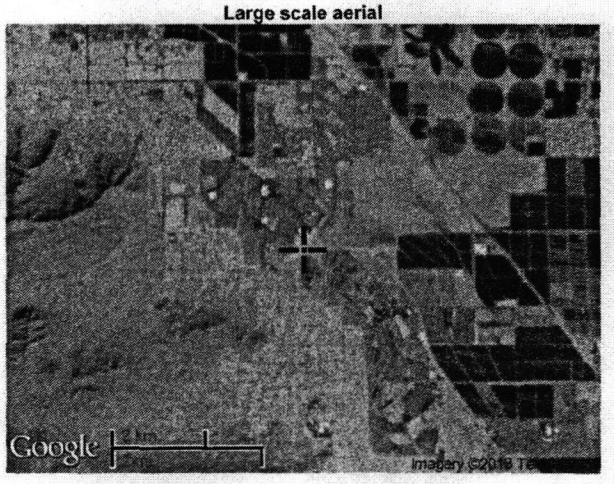

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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
Office of Hydrologic Development
1325 East West Highway
Silver Spring, MD 20910

APPENDIX C

Excerpts from the *Master Drainage Report Pavilions at San Tan Heights* (Reference 5)

Master Drainage Report

Pavilions at San Tan Heights

Pinal County, Arizona

Prepared for:
Kohl's Department Stores Inc.
N56 W 17000 Ridgewood Drive
Menomonee Falls, WI 53051

Prepared by:
Kimley-Horn and Associates, Inc.
1255 Baseline Road
Mesa, Arizona 85202

191255002
© Kimley-Horn and Associates, Inc
November 2007

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Appendix H: Off-Site Drainage Exhibit

Appendix I: Existing Conditions Off-site HEC-1 Output Files and Input Parameters

Appendix J: Gary Road Existing Pipe Culvert Analysis

Appendix K: Hunt Highway Existing Box Culvert Analysis

Appendix L: FEMA Firmette

Appendix M: Existing Conditions On-Site HEC-1 Output Files and Input Parameters and On-Site Existing Conditions Drainage Exhibit

Appendix N: On-Site Proposed Conditions Drainage Exhibit

Appendix O: Proposed Conditions On-Site HEC-1 Output Files and Input Parameters

Appendix P: Proposed Conditions StormCAD Analysis

2.2 *Off-Site Watershed Conditions*

South of Gary Road & West Portion of Adjacent Hill (Drainage Basins 010-090)

The project site lies within a larger area characterized by regional drainage characteristics. In general, stormwater flows northerly via sheet flow and concentrated ephemeral washes. A large hill lies off-site directly south of the project site (south of Gary Road). The topography of the region directs stormwater in the direction of the site and the adjacent San Tan Heights residential development located to the south and southwest of the project site. The San Tan Heights residential development is designed to accept the majority of the off-site flows that impact the project site via man-made drainage channels. San Tan Heights Parcels D-1 and D-2 are proposed to include drainage channels that would accept the majority of the flows that currently impact the project site. San Tan Heights Parcels D-1 & D-2 have not been constructed at the time of the preparation of this report resulting in off-site stormwater impacts to the site. See Appendix G for Preliminary Drainage Masterplan For San Tan Heights Parcels D-1 & D-2 Excerpts.

A HEC-1 Analysis is utilized to quantify off-site flows impacting the project site. The off-site tributary areas consist mainly of undeveloped virgin desert. See Appendix D for Soil Map. Currently the drainage area south of Gary Road impacting the site is approximately 148.1 acres in size resulting in a 100-Year peak flow of 162 cfs entering the site at Gary Road (excluding the east portion of the adjacent hill). Upon the completion of the drainage channel within the San Tan Heights residential development, approximately 50.1 acres south of Gary Road will continue to contribute off-site flows impacting the project Site resulting in a 100-Year peak flow of 95 cfs entering the site at Gary Road. See Appendix H for Off-Site Drainage Exhibit and Appendix I for Existing Conditions Off-Site HEC-1 Output Files. Table 2.2 summarizes existing off-site flows (based on a 100-Year, 24-Hour precipitation depth of 4.00 inches) impacting the site from the south for the 10, 50, and 100-Year return periods.

Table 2.2: Existing Off-Site Peak Flows South of Gary Road (Drainage Basins 010 – 090)

Scenario	10-Year Peak Flow	50-Year Peak Flow	100-Year Peak Flow
Pre-Completion of San Tan Heights Drainage Channel	67 cfs	132 cfs	162 cfs
Post-Completion of San Tan Heights Drainage Channel	55 cfs	81 cfs	95 cfs
Net Decrease	12 cfs	51 cfs	67 cfs

The Pavilions at San Tan Heights is designed to convey the existing off-site flows (peak flow of 162 cfs) through the site to the regional drain located north of Hunt Highway within the Skyline Ranch Residential Development.

Gary Road CMP Culvert Crossing

Off-site flows impact the site from the south via two (2) existing 30-inch CMP culverts passing under Gary Road. Assuming a constant roadway elevation of 1,528.28 feet, the pipe crossing is analyzed for 100% conveyance or overtopping of Gary Road. See Appendix J for Gary Road Existing Pipe Culvert Analysis.

Table 2.3: Existing Gary Road Pipe Culvert Summary

Scenario	Pipe Flow	Overtopping Flow	Overtopping Depth
10-Year (67 cfs)	67 cfs	0 cfs	na
50-Year (132 cfs)	68 cfs	64 cfs	0.05 feet
100-Year (162 cfs)	66 cfs	96 cfs	0.07 feet

Per the Pinal County Drainage Manual the requirement for roadway overtopping is the maximum flow depth over a roadway does not exceed 0.8 feet for the 100-Year peak discharge.

South of Gary Road & East Portion of Adjacent Hill

Stormwater runoff from the east portion of the adjacent hill and south of Gary Road impacts the site at two (2) locations. A fraction of the runoff from this location sheet flows across Gary Road and northerly along the abandoned Gary Road alignment within a drainage way conveying flow to the Hunt Highway box culvert crossing. The remaining portion of the flow is conveyed along Gary Road to the aforementioned existing CMP culvert crossing. Table 2.4 summarizes the flows:

Table 2.4: Existing Off-Site Peak Flows South of Gary Road (Drainage Basins 100 – 110)

Description	10-Year Peak Flow	50-Year Peak Flow	100-Year Peak Flow
Flow Across Gary Road to Hunt Highway Box Culvert Crossing	7 cfs	9 cfs	10 cfs
Flow Along Gary Road to Gary Road CMP Culvert Crossing	10 cfs	14 cfs	16 cfs
Total	17 cfs	23 cfs	26 cfs

See Appendix H for Off-site Drainage Exhibit and Appendix I for Existing Conditions HEC-1 Output Files.

East of Project Site

Directly east of the project site, south of Hunt Highway, and north of the adjacent existing residential development, approximately 24.9 acres contribute stormwater runoff that is conveyed to the existing Hunt Highway box culvert crossing via a concentrated flow path along the south side of an existing irrigation channel paralleling the south side of Hunt Highway (corresponding to Drainage Basins 120 and 130). Table 5 summarizes the flows for the 10, 50, and 100-Year return periods.

Table 2.5: Existing Off-Site Peak Flows East of the Project Site

Description	10-Year Peak Flow	50-Year Peak Flow	100-Year Peak Flow
Off-site Flow Conveyed to Hunt Highway Box Culvert Crossing from the East	22 cfs	37 cfs	44 cfs

Hunt Highway Box Culvert Crossing

Existing off-site and on-site flows converge at a concrete box culvert crossing under Hunt Highway along the north boundary of the site. The existing concrete box culvert crossing consists of a series of three (3) 3-foot by 6-foot concrete box culverts. Assuming a constant roadway elevation of 1,518.15 feet, the box culvert crossing is analyzed for 100% conveyance or overtopping of Gary Road. See Appendix K for Hunt Highway Existing Box Culvert Analysis.

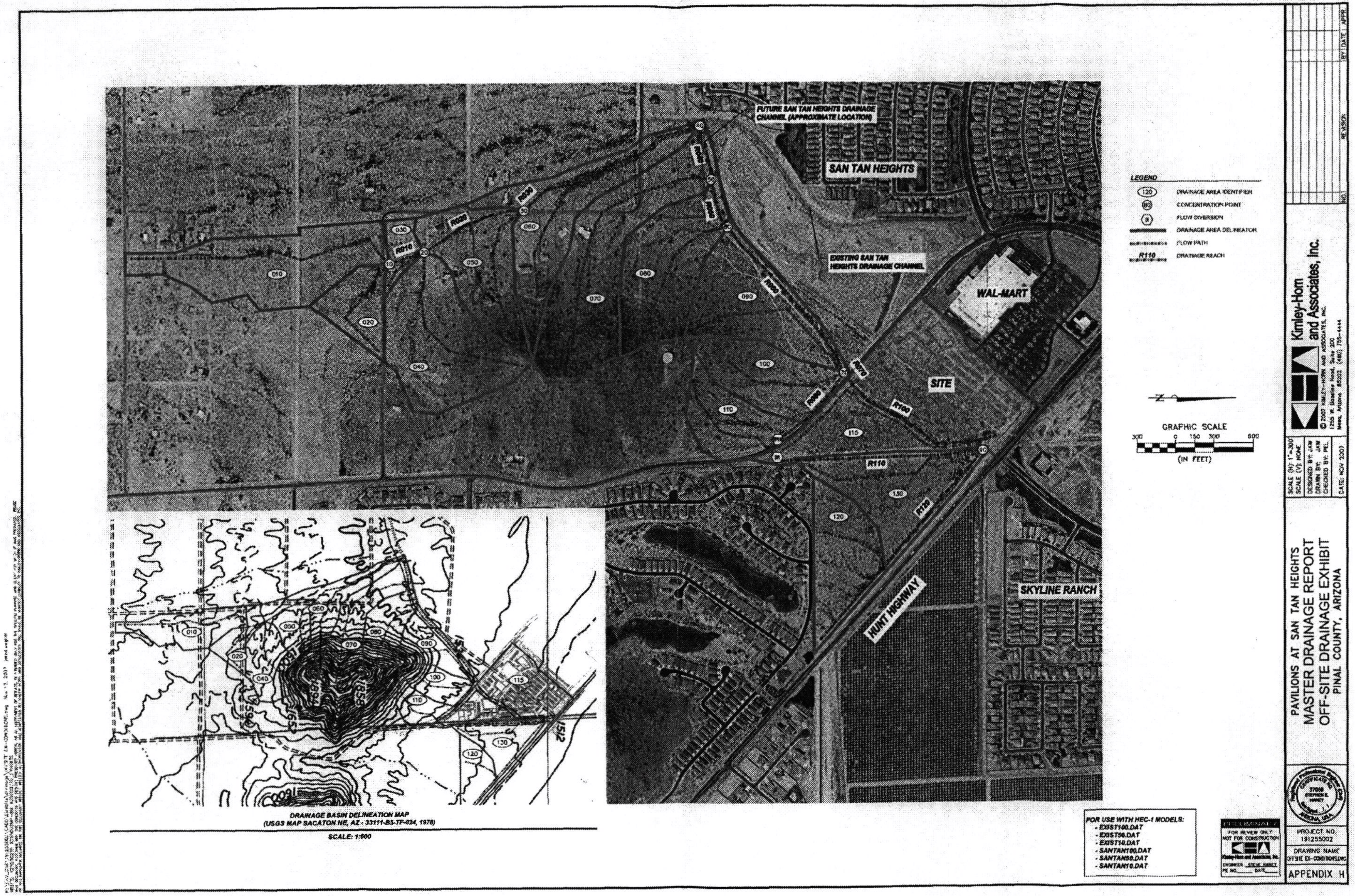
Table 2.6: Existing Hunt Highway Box Culvert Summary

Scenario	Total Flow	Culvert Flow	Overtopping Flow	Overtopping Depth
10-Year	96 cfs	96 cfs	0 cfs	na
50-Year	187 cfs	187 cfs	0 cfs	na
100-Year	234 cfs	234 cfs	0 cfs	na

Per the Pinal County Drainage Manual the requirement for roadway overtopping is the maximum flow depth over a roadway does not exceed 0.8 feet for the 100-Year peak discharge.

2.3 Flood Hazard Zones on the Property

Review of the FEMA Flood Insurance Rate Map 0400770300C dated August 15, 1983 indicates that the subject site lies within Zone "C": Areas of minimal flooding. See Appendix L for FEMA Firmette.


FUTURE SAN TAN HEIGHTS DRAINAGE CHANNEL (APPROXIMATE LOCATION)
SAN TAN HEIGHTS
EXISTING SAN TAN HEIGHTS DRAINAGE CHANNEL
WAL-MART
SITE
SKYLINE RANCH
HUNT HIGHWAY
R010
R020
R030
R040
R050
R060
R070
R080
R100
R110
R120
010
020
030
040
050
060
070
080
090
100
110
115
120
130
LEGEND
120 DRAINAGE AREA IDENTIFIER
80 CONCENTRATION POINT
8 FLOW DIVERSION
DRAINAGE AREA DELINEATOR
FLOW PATH
R110 DRAINAGE REACH
GRAPHIC SCALE
300 0 150 300 600
(IN FEET)
DRAINAGE BASIN DELINEATION MAP
(USGS MAP SACATON NE, AZ - 33111-B5-TF-024, 1978)
SCALE: 1:600
FOR USE WITH HEC-1 MODELS:
- EXIST100.DAT
- EXIST50.DAT
- EXIST10.DAT
- SANTAN100.DAT
- SANTAN50.DAT
- SANTAN10.DAT
FOR REVIEW ONLY
NOT FOR CONSTRUCTION
NO. REVISION BY DATE APPR
Kimley-Horn and Associates, Inc.
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1255 W. Baseline Road, Suite 200
Mesa, Arizona 85202 (480) 755-4444
SCALE (H): 1"=300'
SCALE (V): NONE
DESIGNED BY: JAW
DRAWN BY: JAW
CHECKED BY: PEL
DATE: NOV 2007
PAVILIONS AT SAN TAN HEIGHTS
MASTER DRAINAGE REPORT
OFF-SITE DRAINAGE EXHIBIT
PINAL COUNTY, ARIZONA
PROJECT NO.
191255002
DRAWING NAME
OFFSITE EX-CONDITIONS.DWG
APPENDIX H

APPENDIX D

Excerpts from the *Final Master Drainage Report The Village at Santan Heights – Phase 1 Volume 1* (Reference 6)

S 057 00

FINAL MASTER DRAINAGE REPORT

THE VILLAGE AT SANTAN HEIGHTS - PHASE I

Pinal County, Arizona

VOLUME I

Prepared for:
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Prepared by:
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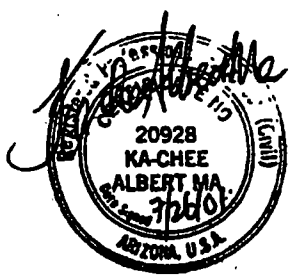

July 24, 2001 Revision
April 5, 2001
March 26, 2001
CMX Project No. 6148.01

FINAL MASTER DRAINAGE REPORT
THE VILLAGE AT SANTAN HEIGHTS - PHASE I
PINAL COUNTY, ARIZONA

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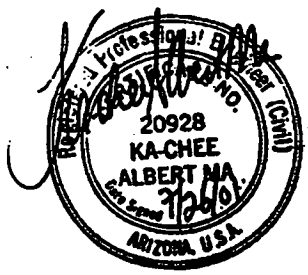
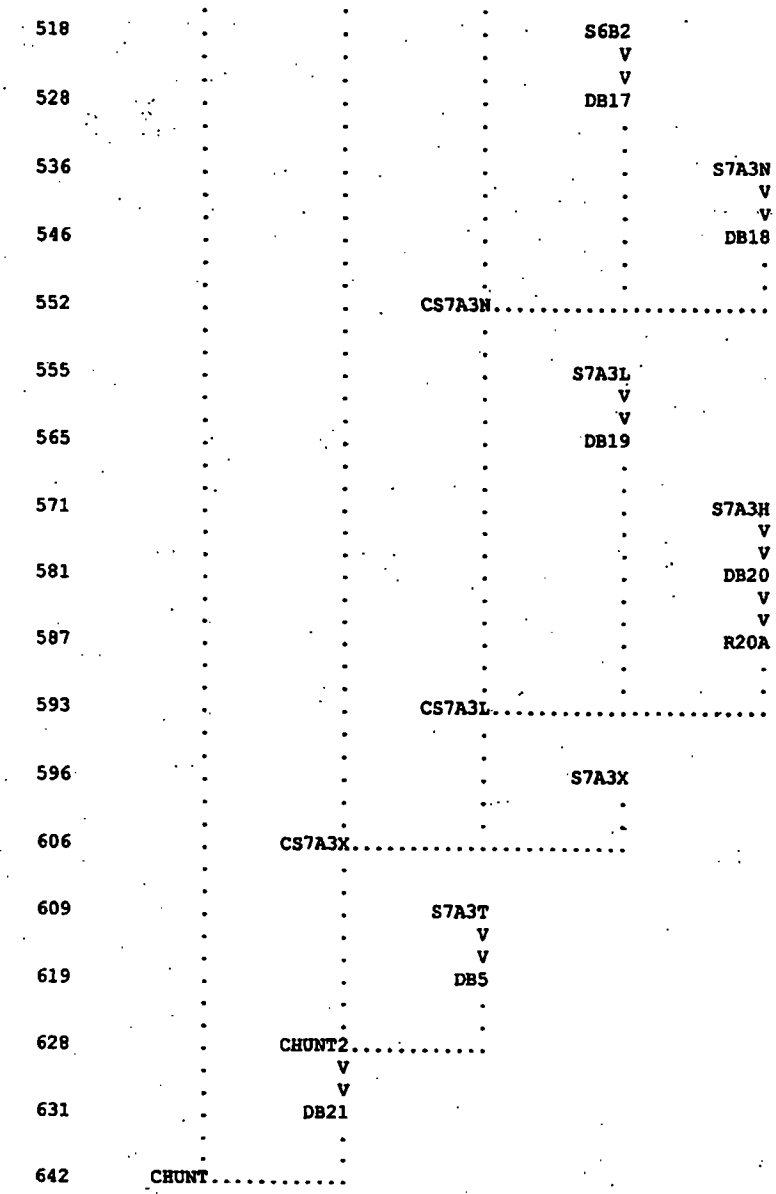


APPENDIX B

HEC-1 FUTURE CONDITIONS:

(a) WITHOUT CULVERT CROSSINGS
@ HUNT HIGHWAY (FULL PRINT-OUTS)

(b) WITH CULVERT CROSSINGS
@ HUNT HIGHWAY (SELECTED PRINT-OUTS)



RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

BASIN AREA	MAXIMUM OPERATION STAGE	TIME OF MAX STAGE	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD 6-HOUR	24-HOUR	72-HOUR
+								
	HYDROGRAPH AT							
+			S8B1	1548.	4.25	185.	47.	45.
.90								
	ROUTED TO							

+ .90		R1	1286.	4.83	184.	47.	45.
+ .36	HYDROGRAPH AT	S8A1	427.	4.33	45.	11.	11.
+ 1.26	2 COMBINED AT	CPS8A1	1304.	4.83	218.	55.	53.
+ 1.26	ROUTED TO	R2	1254.	5.00	218.	55.	53.
+ .14	HYDROGRAPH AT	S8A8A	206.	4.17	27.	7.	6.
+ .14	ROUTED TO	DB1	19.	5.17	12.	4.	4.
+ 1.41	2 COMBINED AT	CS8A8A	1254.	5.00	227.	58.	56.
+ .36	HYDROGRAPH AT	S7B1	747.	4.17	52.	13.	12.
+ .36	ROUTED TO	R3	625.	4.50	52.	13.	12.
+ .25	HYDROGRAPH AT	S7A1	544.	4.17	33.	8.	8.
+ .61	2 COMBINED AT	CPS7A1	645.	4.42	82.	20.	20.
+ .61	ROUTED TO	R4	630.	4.58	82.	20.	20.
+ .61	ROUTED TO	DB2	627.	4.58	82.	20.	20.
+ 2.01	2 COMBINED AT	CCH4N	1384.	5.00	286.	73.	70.
+ 2.01	ROUTED TO	R5	1370.	5.00	286.	73.	70.
+ .01	HYDROGRAPH AT	S7A3R	7.	4.17	1.	0.	0.
+ .01	ROUTED TO	DB3	0.	.08	0.	0.	0.
+ 2.02	2 COMBINED AT	CS7A3R	1370.	5.00	286.	73.	70.

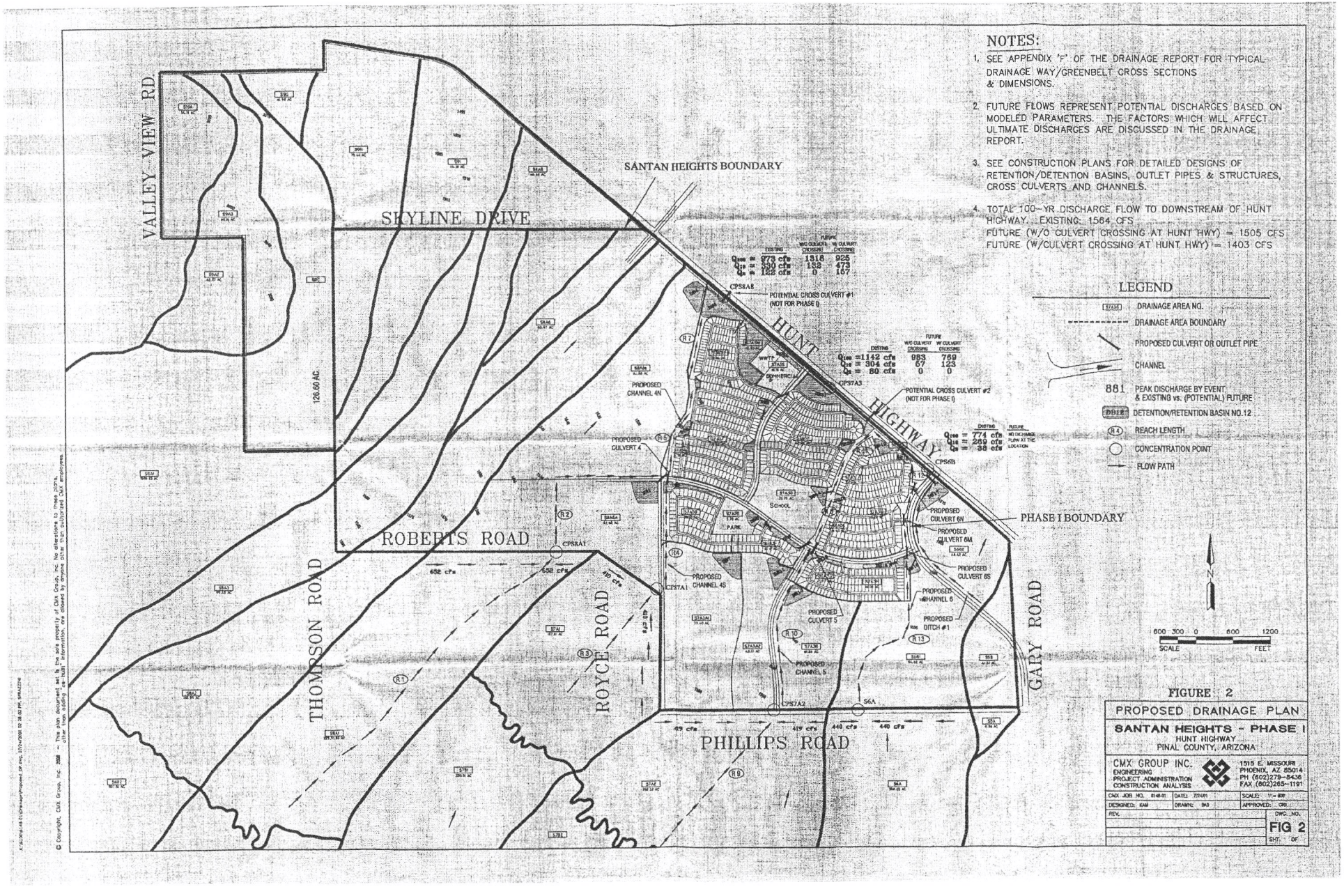
+ 2.02	ROUTED TO	R6	1351.	5.17	286.	73.	70.
+ .22	HYDROGRAPH AT	S8A8B	282.	4.17	41.	10.	10.
+ .22	ROUTED TO	DB4	0.	.08	0.	0.	0.
+ .03	HYDROGRAPH AT	S7A3U	66.	4.08	6.	1.	1.
+ .02	HYDROGRAPH AT	S7A3W	27.	4.17	3.	1.	1.
+ .27	3 COMBINED AT	CS7A3W	92.	4.08	8.	2.	2.
+ .02	HYDROGRAPH AT	S7A3S	29.	4.08	4.	1.	1.
+ .02	ROUTED TO	DB6A	1.	6.08	0.	0.	0.
+ 2.31	3 COMBINED AT	CHUNT1	1346.	5.17	290.	74.	72.
+ 2.31	ROUTED TO	DB6	925.	5.50	285.	73.	70. ← Peak stage 1508.74' (No overlapping C Hunt Hwy)
+ .04	HYDROGRAPH AT	S7A3D	86.	4.08	8.	2.	2.
+ .01	HYDROGRAPH AT	S7A3E	16.	4.08	2.	0.	0.
+ .12	HYDROGRAPH AT	S7A3A1	156.	4.17	22.	5.	5.
+ .12	ROUTED TO	DB7	16.	5.25	11.	3.	3.
+ .17	3 COMBINED AT	CS7A3E	102.	4.08	19.	5.	5.
+ .17	ROUTED TO	DB8	8.	8.58	7.	3.	2.
+ .02	HYDROGRAPH AT	S7A3F	33.	4.08	3.	1.	1.
+ .18	2 COMBINED AT	CS7A3F	33.	4.08	7.	3.	3.

	ROUTED TO						
+ .18		DB9	10.	4.42	7.	3.	3.
	HYDROGRAPH AT						
+ .41		S7B2	922.	4.08	59.	15.	14.
	ROUTED TO						
+ .41		R9	653.	4.58	59.	15.	14.
	HYDROGRAPH AT						
+ .32		S7A2	669.	4.17	42.	10.	10.
	2 COMBINED AT						
+ .73		CPS7A2	653.	4.58	97.	24.	23.
	ROUTED TO						
+ .73		R10	605.	4.75	96.	24.	23.
	HYDROGRAPH AT						
+ .08		S7A3B	160.	4.08	15.	4.	4.
	ROUTED TO						
+ .08		DB10	0.	.08	0.	0.	0.
	ROUTED TO						
+ .08		R10A	0.	.08	0.	0.	0.
	HYDROGRAPH AT						
+ .07		S7A3A2	100.	4.17	13.	3.	3.
	ROUTED TO						
+ .07		DB11	15.	5.00	7.	2.	2.
	ROUTED TO						
+ .07		R11A	15.	5.08	7.	2.	2.
	3 COMBINED AT						
+ .88		CS7A3B	603.	4.75	101.	25.	24.
	HYDROGRAPH AT						
+ .02		S7A3J	41.	4.08	4.	1.	1.
	2 COMBINED AT						
+ .90		CS7A3J	600.	4.75	104.	26.	25.
	ROUTED TO						
+ .90		DB12	565.	4.83	103.	26.	25.
	2 COMBINED AT						
+ 1.08		CS7A3J	548.	4.83	104.	28.	27.
	ROUTED TO						

+ 1.08		R8	547.	4.83	104.	28.	27.
	HYDROGRAPH AT						
+ .01		S7A3K	21.	4.08	2.	0.	0.
	ROUTED TO						
+ .01		DB13	21.	4.08	1.	0.	0.
	HYDROGRAPH AT						
+ .03		S7A3G	71.	4.08	7.	2.	2.
	ROUTED TO						
+ .03		DB14	16.	4.50	5.	1.	1.
	3 COMBINED AT						
+ 1.12		CS7A3G	557.	4.83	109.	29.	28.
	ROUTED TO						
+ 1.12		R11	549.	4.92	109.	29.	28.
	HYDROGRAPH AT						
+ .03		S7A3M	49.	4.08	5.	1.	1.
	ROUTED TO						
+ .03		DB15	15.	4.42	3.	1.	1.
	HYDROGRAPH AT						
+ .55		S6A	877.	4.25	83.	21.	20.
	ROUTED TO						
+ .55		R13	858.	4.42	83.	21.	20.
	HYDROGRAPH AT						
+ .15		S6B1	257.	4.17	29.	7.	7.
	ROUTED TO						
+ .15		DB16	27.	4.92	11.	3.	3.
	2 COMBINED AT						
+ .69		CS6B1	858.	4.42	92.	23.	22.
	2 COMBINED AT						
+ .72		CS7A3M	824.	4.42	93.	23.	23.
	ROUTED TO						
+ .72		R12	818.	4.50	93.	23.	23.
	HYDROGRAPH AT						
+ .08		S6B2	112.	4.17	15.	4.	4.
	ROUTED TO						
+ .08		DB17	15.	5.08	8.	2.	2.

	HYDROGRAPH AT						
+ .05		S7A3N	71.	4.17	9.	2.	2.
	ROUTED TO						
+ .05		DB18	71.	4.17	8.	2.	2.
	3 COMBINED AT						
+ .84		CS7A3N	831.	4.50	106.	27.	26.
	HYDROGRAPH AT						
+ .01		S7A3L	20.	4.08	2.	1.	1.
	ROUTED TO						
+ .01		DB19	0.	.08	0.	0.	0.
	HYDROGRAPH AT						
+ .06		S7A3H	106.	4.08	12.	3.	3.
	ROUTED TO						
+ .06		DB20	106.	4.08	8.	2.	2.
	ROUTED TO						
+ .06		R20A	110.	4.17	8.	2.	2.
	3 COMBINED AT						
+ .92		CS7A3L	858.	4.50	113.	29.	27.
	HYDROGRAPH AT						
+ .02		S7A3X	32.	4.08	3.	1.	1.
	3 COMBINED AT						
+ 2.07		CS7A3X	1099.	4.50	202.	52.	50.
	HYDROGRAPH AT						
+ .06		S7A3T	104.	4.17	12.	3.	3.
	ROUTED TO						
+ .06		DB5	89.	4.25	7.	2.	2.
	2 COMBINED AT						
+ 2.13		CHUNT2	1127.	4.50	207.	53.	51.
	ROUTED TO						
+ 2.13		DB21	769.	5.00	198.	51.	49. ← Peak stage 1508.74' (No overtopping @ Hunt Hwy)
	2 COMBINED AT						
+ 4.44		CHUNT	1403.	5.25	436.	112.	108.

*** NORMAL END OF HEC-1 ***


NOTES:
1. SEE APPENDIX 'F' OF THE DRAINAGE REPORT FOR TYPICAL DRAINAGE WAY/GREENBELT CROSS SECTIONS & DIMENSIONS.
2. FUTURE FLOWS REPRESENT POTENTIAL DISCHARGES BASED ON MODELED PARAMETERS. THE FACTORS WHICH WILL AFFECT ULTIMATE DISCHARGES ARE DISCUSSED IN THE DRAINAGE REPORT.
3. SEE CONSTRUCTION PLANS FOR DETAILED DESIGNS OF RETENTION/DETENTION BASINS, OUTLET PIPES & STRUCTURES, CROSS CULVERTS AND CHANNELS.
4. TOTAL 100-YR DISCHARGE FLOW TO DOWNSTREAM OF HUNT HIGHWAY. EXISTING: 1564 CFS
FUTURE (W/O CULVERT CROSSING AT HUNT HWY) = 1505 CFS
FUTURE (W/CULVERT CROSSING AT HUNT HWY) = 1403 CFS
LEGEND
DRAINAGE AREA NO.
DRAINAGE AREA BOUNDARY
PROPOSED CULVERT OR OUTLET PIPE
CHANNEL
881 PEAK DISCHARGE BY EVENT & EXISTING vs. (POTENTIAL) FUTURE
DETENTION/RETENTION BASIN NO.12
REACH LENGTH
CONCENTRATION POINT
FLOW PATH
VALLEY VIEW RD
SKYLINE DRIVE
SANTAN HEIGHTS BOUNDARY
HUNT HIGHWAY
126.60 AC.
POTENTIAL CROSS CULVERT #1 (NOT FOR PHASE I)
POTENTIAL CROSS CULVERT #2 (NOT FOR PHASE I)
PROPOSED CHANNEL 4N
PROPOSED CULVERT 4
PROPOSED CHANNEL 4S
PROPOSED CULVERT 5
PROPOSED CHANNEL 5
PROPOSED CULVERT 6N
PROPOSED CULVERT 6M
PROPOSED CULVERT 6S
PROPOSED CHANNEL 6
PROPOSED DITCH #1
PHASE I BOUNDARY
ROBERTS ROAD
THOMPSON ROAD
ROYCE ROAD
GARY ROAD
PHILLIPS ROAD
School
PARK
652 cfs
652 cfs
419 cfs
419 cfs
440 cfs
440 cfs
600 300 0 600 1200
SCALE FEET
FIGURE 2
PROPOSED DRAINAGE PLAN
SANTAN HEIGHTS - PHASE I
HUNT HIGHWAY
PINAL COUNTY, ARIZONA
CMX GROUP INC.
ENGINEERING
PROJECT ADMINISTRATION
CONSTRUCTION ANALYSIS
1515 E. MISSOURI
PHOENIX, AZ 85014
PH (602)279-8436
FAX (602)265-1191
FIG 2

APPENDIX E

Channel Information and Cross Section

Worksheet for Channel - 1

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.00860	ft/ft
Left Side Slope	6.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	10.00	ft
Discharge	67.00	ft^3/s

Results

Normal Depth	1.09	ft
Flow Area	16.93	ft^2
Wetted Perimeter	21.17	ft
Hydraulic Radius	0.80	ft
Top Width	20.94	ft
Critical Depth	0.95	ft
Critical Slope	0.01485	ft/ft
Velocity	3.96	ft/s
Velocity Head	0.24	ft
Specific Energy	1.34	ft
Froude Number	0.78	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.09	ft
Critical Depth	0.95	ft
Channel Slope	0.00860	ft/ft

Worksheet for Channel - 1

CVF Output Data

Critical Slope	0.01485	ft/ft

Cross Section for Channel - 1

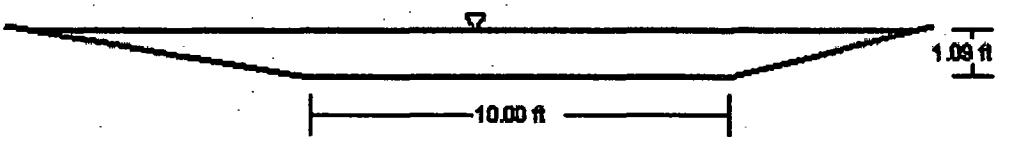
Project Description

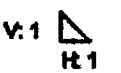
Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.00860	ft/ft
Normal Depth	1.09	ft
Left Side Slope	6.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	10.00	ft
Discharge	67.00	ft³/s

Cross Section Image





Worksheet for Channel - 2

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.01263	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	6.00	ft
Discharge	95.00	ft^3/s

Results

Normal Depth	1.47	ft
Flow Area	17.49	ft^2
Wetted Perimeter	18.13	ft
Hydraulic Radius	0.96	ft
Top Width	17.77	ft
Critical Depth	1.44	ft
Critical Slope	0.01361	ft/ft
Velocity	5.43	ft/s
Velocity Head	0.46	ft
Specific Energy	1.93	ft
Froude Number	0.97	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.47	ft
Critical Depth	1.44	ft
Channel Slope	0.01263	ft/ft

Worksheet for Channel - 2

CVT Output Data

Critical Slope	0.01361	ft/ft

Cross Section for Channel - 2

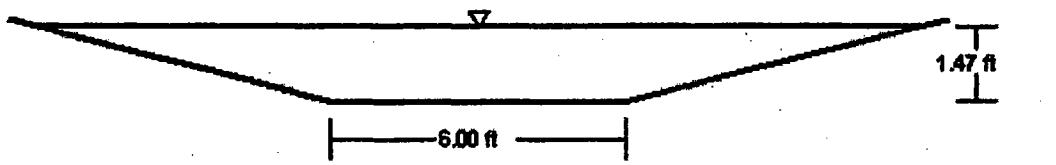
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.01263	ft/ft
Normal Depth	1.47	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	6.00	ft
Discharge	95.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Channel - 3

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.00525	ft/ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	4.00	ft
Discharge	26.00	ft^3/s

Results

Normal Depth	1.09	ft
Flow Area	9.16	ft^2
Wetted Perimeter	13.02	ft
Hydraulic Radius	0.70	ft
Top Width	12.75	ft
Critical Depth	0.83	ft
Critical Slope	0.01622	ft/ft
Velocity	2.84	ft/s
Velocity Head	0.13	ft
Specific Energy	1.22	ft
Froude Number	0.59	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.09	ft
Critical Depth	0.83	ft
Channel Slope	0.00525	ft/ft

Worksheet for Channel - 3

GVF Output Data		
Critical Slope	0.01622	ft/ft

Cross Section for Channel - 3

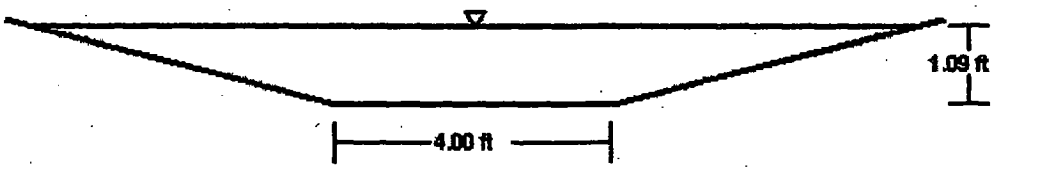
Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.00525	ft/ft
Normal Depth	1.09	ft
Left Side Slope	4.00	ft/ft (H:V)
Right Side Slope	4.00	ft/ft (H:V)
Bottom Width	4.00	ft
Discharge	26.00	ft³/s

Cross Section Image



V: 1
H: 1

Worksheet for Channel - 4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.01250	ft/ft
Left Side Slope	6.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	6.00	ft
Discharge	121.00	ft^3/s

Results

Normal Depth	1.51	ft
Flow Area	22.84	ft^2
Wetted Perimeter	24.42	ft
Hydraulic Radius	0.94	ft
Top Width	24.17	ft
Critical Depth	1.48	ft
Critical Slope	0.01362	ft/ft
Velocity	5.30	ft/s
Velocity Head	0.44	ft
Specific Energy	1.95	ft
Froude Number	0.96	
Flow Type	Subcritical	

GVF Input Data

Downstream Depth	0.00	ft
Length	0.00	ft
Number Of Steps	0	

GVF Output Data

Upstream Depth	0.00	ft
Profile Description		
Profile Headloss	0.00	ft
Downstream Velocity	Infinity	ft/s
Upstream Velocity	Infinity	ft/s
Normal Depth	1.51	ft
Critical Depth	1.48	ft
Channel Slope	0.01250	ft/ft

Worksheet for Channel - 4

CVT Output Data

Critical Slope	0.01362	ft/ft

Cross Section for Channel - 4

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.030	
Channel Slope	0.01250	ft/ft
Normal Depth	1.51	ft
Left Side Slope	6.00	ft/ft (H:V)
Right Side Slope	6.00	ft/ft (H:V)
Bottom Width	6.00	ft
Discharge	121.00	ft³/s

Cross Section Image

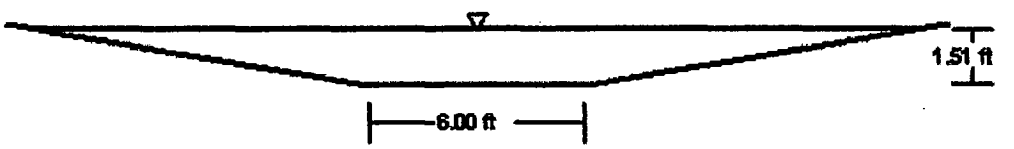


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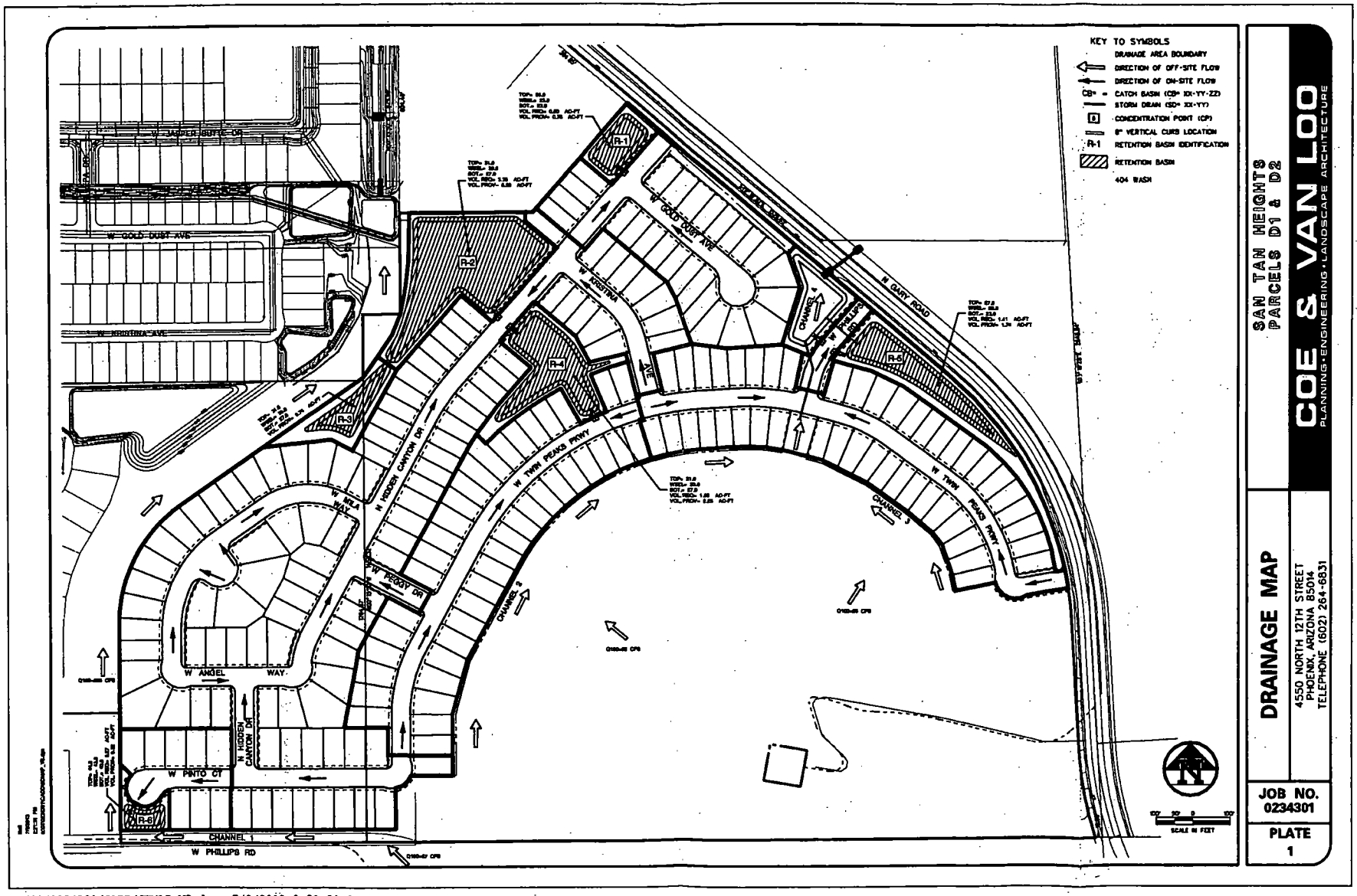
PLATE



SAN TAN HEIGHTS
PARCELS D1 & D2

COE & VAN LOO
PLANNING • ENGINEERING • LANDSCAPE ARCHITECTURE

DRAINAGE MAP

4550 NORTH 12TH STREET
PHOENIX, ARIZONA 85014
TELEPHONE (602) 264-6831

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PLATE
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REVISED

MASTER WATER SYSTEM PLAN AND REPORT UPDATE FOR SAN TAN HEIGHTS PAD

AND

WATER SYSTEM REPORT FOR SAN TAN HEIGHTS, PARCELS A-L PHASE II OF THE PAD

Prepared For:

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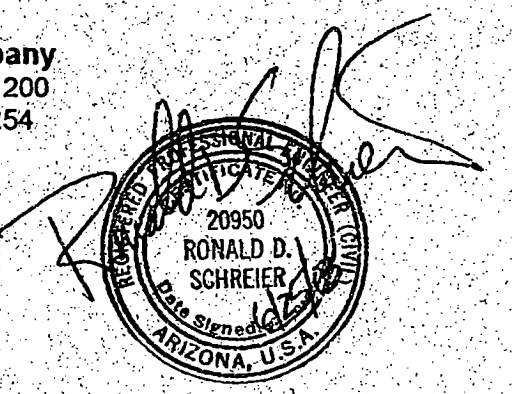

Prepared By:

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June 2003
GF Job No. 40384

REVISED

MASTER WATER SYSTEM PLAN AND REPORT UPDATE
FOR

SAN TAN HEIGHTS PAD
- And -
WATER SYSTEM REPORT
FOR
SAN TAN HEIGHTS, PARCELS A-L
PHASE II OF THE PAD

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REVISED

MASTER WATER SYSTEM PLAN AND REPORT UPDATE
FOR

SAN TAN HEIGHTS PAD
- And -
WATER SYSTEM REPORT
FOR
SAN TAN HEIGHTS, PARCELS A-L
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Appendix A

A-1 San Tan Heights Master Water Demand Calculations
A-2 San Tan Heights Water Demand Calculations

Appendix B
Output Files for Overall PAD Water System Modeling

Appendix C Output Files for San Tan Heights Water System Modeling

Appendix D Text of "Master Water System Plan and Report For San Tan Heights and Water System Report For the Village of San Tan Heights," CMX Group, Inc. 4th Revision, June 27, 2001

Appendix E Johnson Utilities Company Commitments

IMPORTANT NOTICE

This report supersedes the "Master Water System Plan and Report Update For San Tan Heights PAD" prepared by Gannett Fleming, Inc., dated March 28, 2003.

The "Master Water System Plan and Report Update For San Tan Heights PAD" was revised to incorporate the current information related to the water supply for the development and to add Parcel L to Phase II.

In addition, the revised report adds new sections which comprise the "Water System Report for San Tan Heights".

I. INTRODUCTION

A. General Description and Location

San Tan Heights, a Planned Area Development (PAD), is a mixed-use development consisting of residential and commercial land uses. The property is located in north central Pinal County, Arizona in T3S. R7E. Situated adjacent to Hunt Highway, the project is approximately 14 miles northwest of Florence and approximately five (5) miles southeast of Queen Creek (see Exhibit A, Vicinity Map and Exhibit B, Location Map). The site is located on natural desert and fallow agricultural land.

Phase I of the PAD is known as the Village At San Tan Heights and includes Parcels 1-13. Phase II of the PAD is known as San Tan Heights and consists of Parcels A-L.

The property to the immediate south and west of the site is zoned SR-Suburban Ranch and consists of housing on large lots with some containing horses and/or farm animals. The property further south and west of the site consists of the San Tan Mountains. The property on the north side of Hunt Highway, Skyline Ranch, is zoned PAD-Planned Area Development and currently consists of farms and cotton fields. The property to the southeast of the site is part of the Johnson Ranch PAD and is planned as a future golf course community.

B. Previous Report

CMX Group Inc. prepared the "Master Water System Plan and Report for San Tan Heights PAD and Water System Report For The Village at San Tan Heights", dated June, 2001, 4th Revision dated June 27, 2001.

The Scope of this previous report is quoted below *(Reference Page 1 of CMX' Report)*:

"This Master Water System Report has been prepared in accordance with ADEQ requirements and the service provider, Johnson Utilities Company, standards.

The intent of this Master Water System Report is to provide a description of the proposed overall water distribution system, including expected water demands, hydraulic analysis and anticipated locations and sizes of the proposed onsite water distribution lines. The evaluation includes estimating the water demands of the entire (2184 acre) San Tan Heights Planned Area Development (PAD) and an adjacent 60-acre tract, collectively called the "Property", as shown on Exhibit C, San Tan Heights Land Use Plan (PAD) and provides projections for required storage, pumping and supply at full build-out.

In addition to providing an overall description of the San Tan Heights water system, it is the intent of this report to conceptually identify the sequence of development of the property within the PAD. The development sequence of the property within the PAD, though only conjectural at this time, will correlate water infrastructure requirements to stages of development. It is also the intent of this report to establish water system design guidelines that will be adhered to as the Property develops.

Finally, this report provides expected water demand requirements, water model analysis and sizes of water lines and provides projections for required storage, pumping and supply for the first project to be developed within the PAD, The Village at San Tan Heights."

The text of CMX' original report is contained in Appendix D of this report.

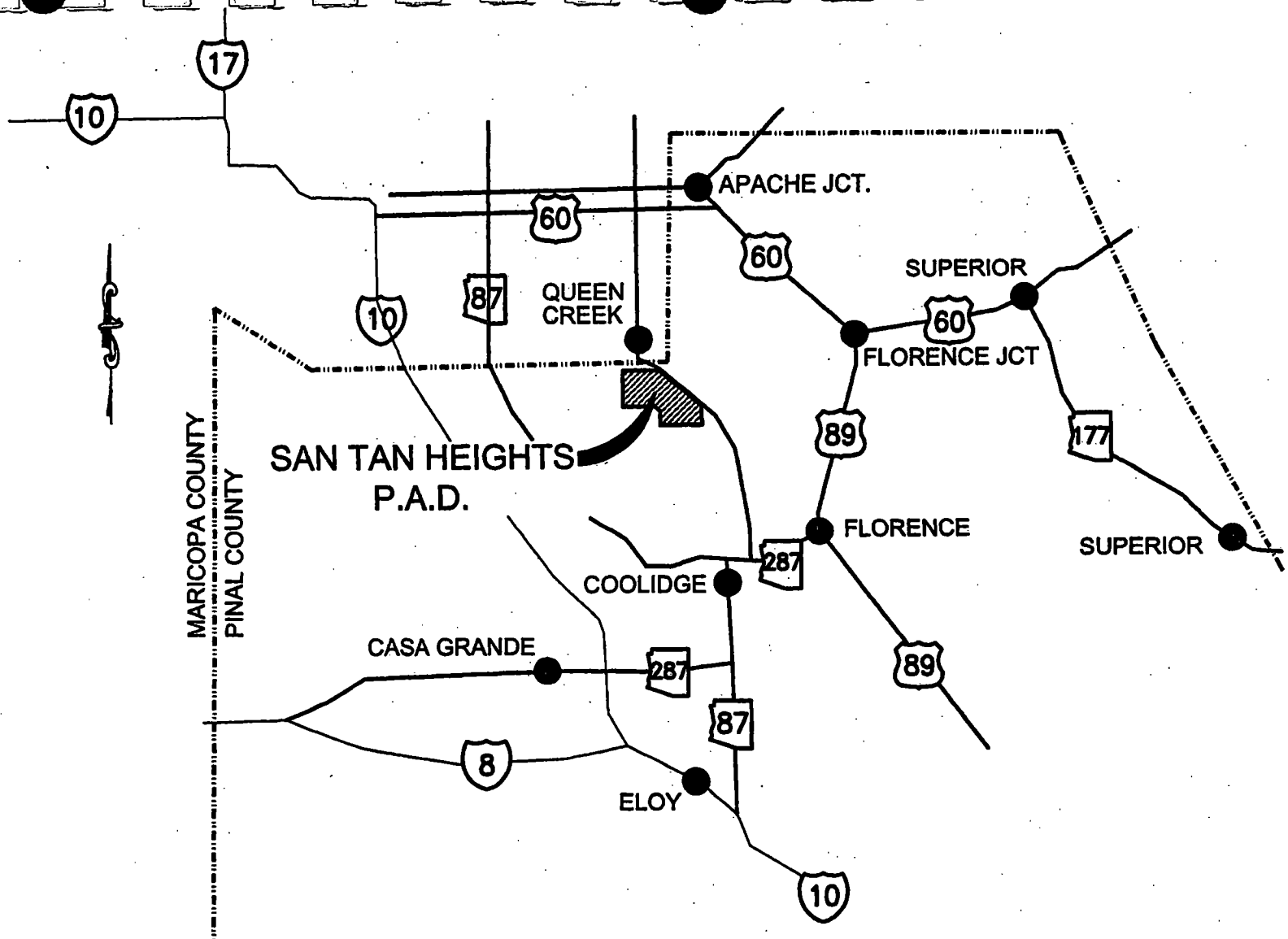


EXHIBIT A
VICINITY MAP

NTS

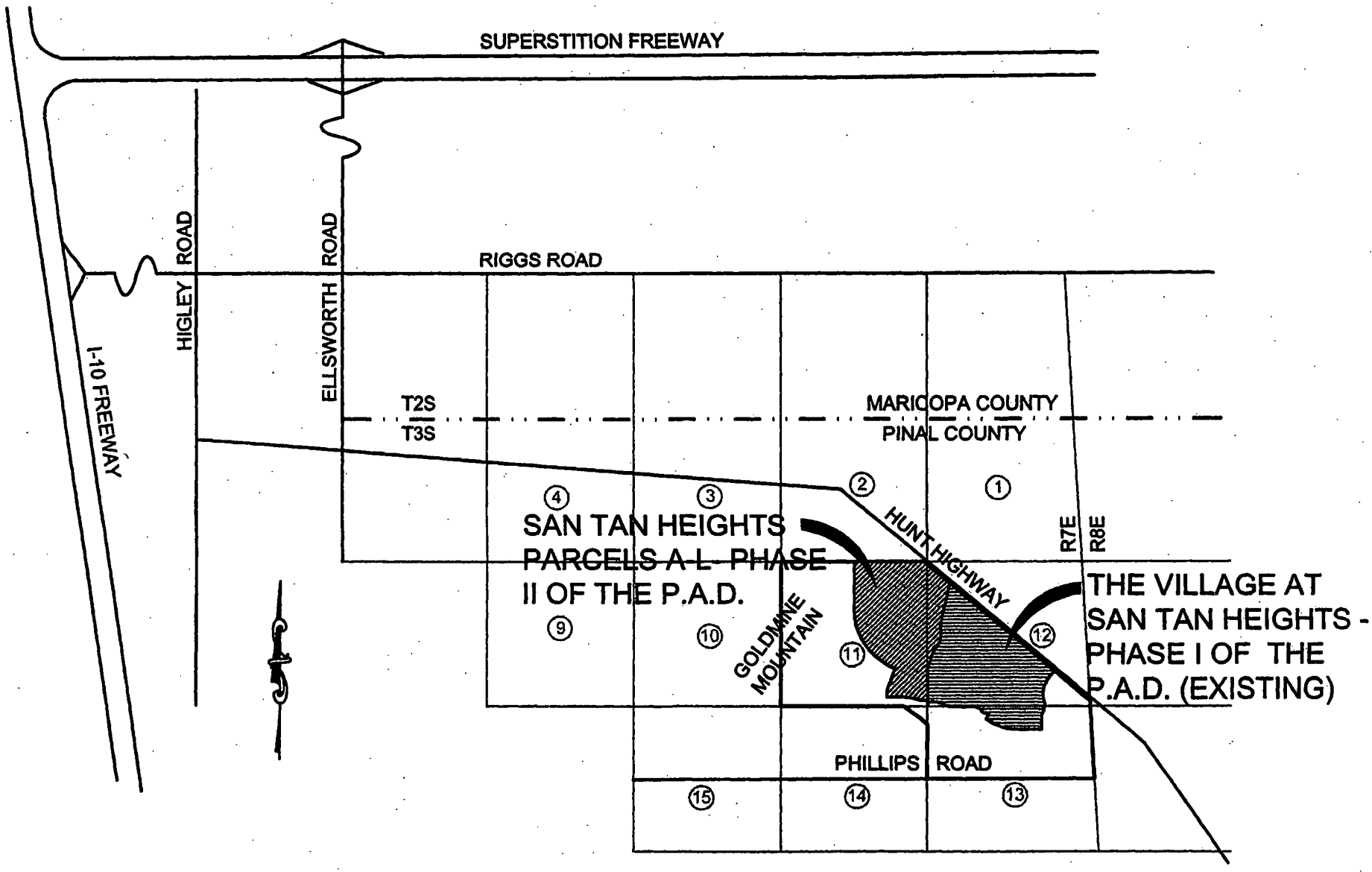


EXHIBIT B
LOCATION MAP

NTS

C. Scope of This Study

This report is being prepared after Phase I construction of the San Tan Heights PAD infrastructure was completed and Phase II of the PAD is under design. The purpose of this report is twofold:

1. To provide a partial update of the Master Water System Plan and Report For San Tan Heights PAD, and

2. To report the Basis of Design for San Tan Heights, Parcels A-L, including estimated water demands, water model analysis and sizes of water lines for the water system serving Phase II.

The update of the previous Master Water System Plan and Report is a "partial" update. The update includes only the following:

1. A recount of the number of lots and an adjustment in the acreage of commercial, school and park area within the PAD.

2. Recalculation of the estimated water demands, fire flow, storage volume, booster pump capacity and well capacity required based on the recounted lots and acreage adjustments.

3. Recalculation of the flow demands for each development stage.

4. Revisions to the water system models due to the new input data.

5. A redefinition of the phase limits of the PAD.

6. Update of the water supply data for the development.

The update does not include a check on the water sizes for The Village At San Tan Heights, Phase I, which is under construction.

II. LAND USE / DEVELOPMENT

A. Planned Area Development (PAD)

The proposed San Tan Heights Planned Area Development (PAD) was approved by the Pinal County Board of Supervisors on March 24, 2000. The PAD consists of a mix of primarily single-family residential land uses and includes five commercial sites, two school tracts, two neighborhood park sites and various open space areas. The Land Use Summary as approved in the PAD is presented in Table II.A.1 *(Reference Page 2 of the CMX Report).* The approved Land Use Plan is provided in Exhibit C, Updated Land Use Plan that is reprinted from the original Master Water System Plan *(Reference page 5 of the CMX Report).*

TABLE II.A.1 LAND USE SUMMARY TABLE			
Land Use	**Density**	**Acres**	**No. Of Units**
Commercial		43.2	-
School		44.3	
Park		17.0	
WW Treatment Plant		4.1	
Linear Open Space		215.3	
Hillside		36.7	
Adjacent Roads		34.0	
Single Family Residential:			
CR-5 (4,000 sf)	4.9	293.7	1,449
CR-4 (5,000 sf)	4.6	328.1	1,512
CR-3 (6,000 sf)	4.0	213.1	861
CR-2 (8,000 sf)	3.0	155.0	468
CR-1 (16,000 sf)	2.1	215.0	459
CR-1A (average 43,560 sf)	1.0	584.8	517
	Totals	2184.3	5,266

B. Additional Area (60 acres)

In the original Master Water System Plan, an additional area of 60 acres was proposed to be included in the Water service area for the San Tan Heights PAD. This is still the case. The 60 acres is located north and south of Hunt Highway at Valleyview Road. For the purpose of this study (as in the original Master Plan) residential zoning was assumed at a density of 2.5 units per acre or 150 dwelling units.

C. Revised Lotting Plan

Exhibit D – Lot Layout and Phasing – illustrates the current plan for the development of the San Tan Heights PAD. Not shown on the Exhibit is the property known as Circle G that is part of the San Tan Heights PAD. The Circle G property is located South of Phillips Road, approximately one mile west of Thompson Road and is assumed to have 239 lots, as in the original Master Plan.

Exhibit D shows current phase lines. Table II.C.1 shows the number of lots per phase that were previously planned for and the new number of lots in this update. Phase II of the PAD is San Tan Heights, Parcels A-L. When the 150 lots from the 60 acres are added, the total number of lots is 6,246.

TABLE II.C.1 NUMBER OF LOTS PER PHASE		
	Number In PAD	**Updated Number**
I	1,013	1,003
IA	510	-
II	2,185	1,186
IIA	-	731
III	359	446
IV	960	2,491
Circle G	239	239
	5,266	6,096

Note: The 60-acre property (150 lots) is not shown in this table

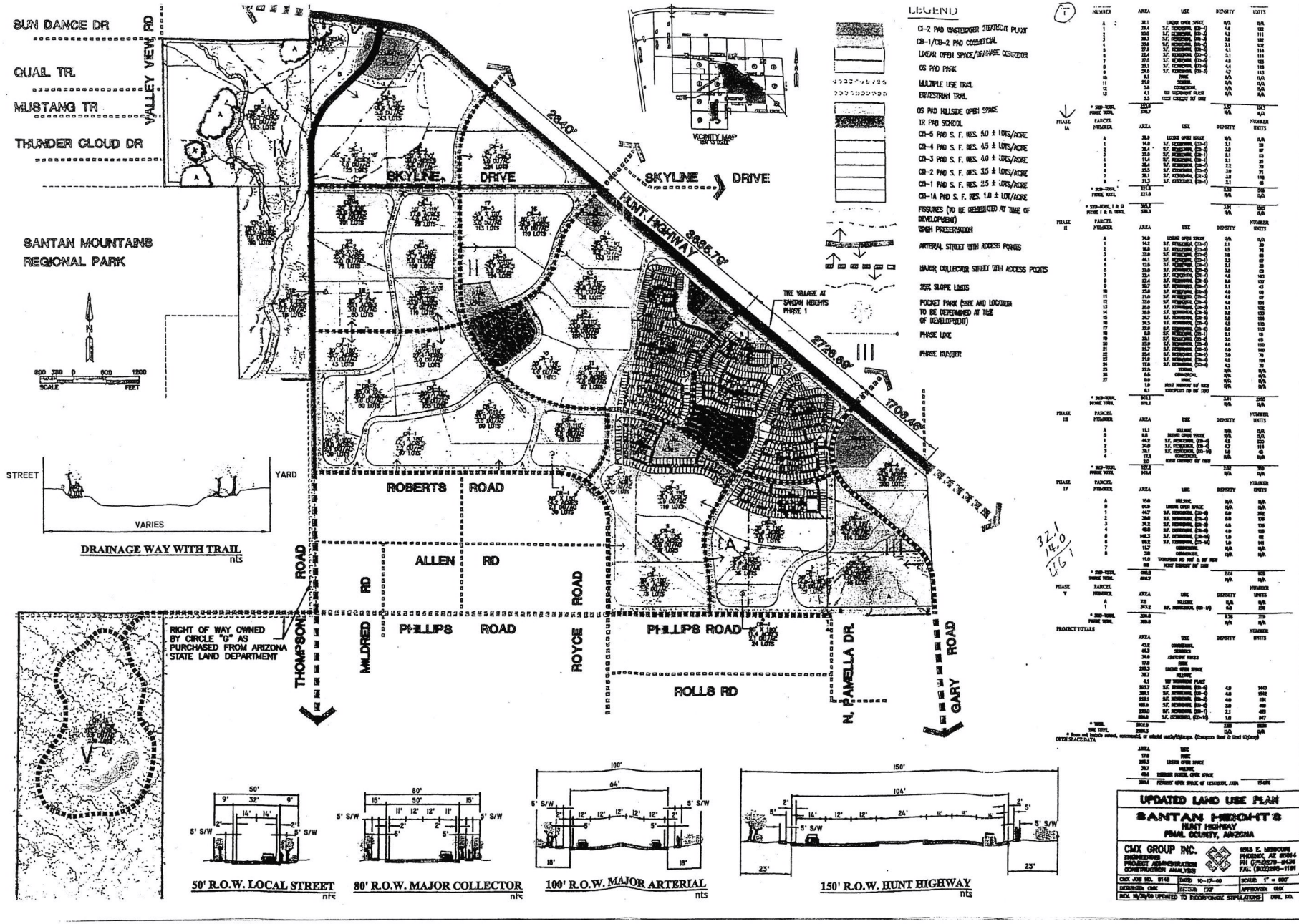
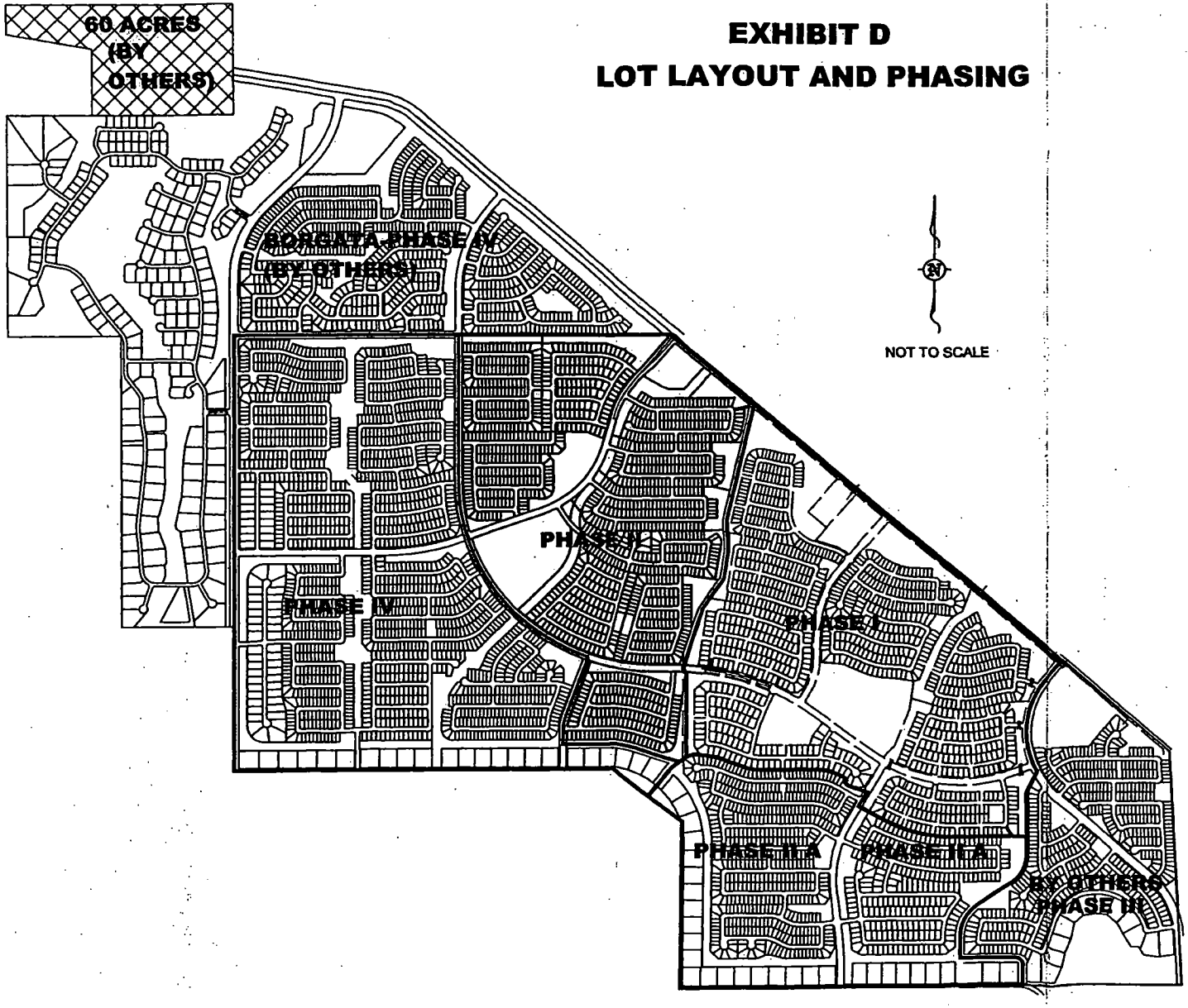

SUN DANCE DR
QUAIL TR.
MUSTANG TR
THUNDER CLOUD DR
VALLEY VIEW RD
SANTAN MOUNTAINS REGIONAL PARK
SKYLINE DRIVE
HUNT HIGHWAY
2840'
3665.79'
2729.69'
1703.43'
VICINITY MAP
THE VILLAGE AT SANTAN HEIGHTS PHASE 1
LEGEND
CI-2 PAD WASTEWATER TREATMENT PLANT
CB-1/CB-2 PAD COMMERCIAL
LINEAR OPEN SPACE/DRAINAGE CORRIDOR
OS PAD PARK
MULTIPLE USE TRAIL
EQUESTRIAN TRAIL
OS PAD ROLLSIDE OPEN SPACE
TR PAD SCHOOL
CR-5 PAD S. F. RES. 5.0 ± UNITS/ACRE
CR-4 PAD S. F. RES. 4.5 ± UNITS/ACRE
CR-3 PAD S. F. RES. 4.0 ± UNITS/ACRE
CR-2 PAD S. F. RES. 3.5 ± UNITS/ACRE
CR-1 PAD S. F. RES. 2.5 ± UNITS/ACRE
CR-1A PAD S. F. RES. 1.0 ± LOT/ACRE
FISSURES (TO BE REFERENCED AT TIME OF DEVELOPMENT)
WASH PRESERVATION
ARTERIAL STREET WITH ACCESS POINTS
MAJOR COLLECTOR STREET WITH ACCESS POINTS
STEEP SLOPE LINES
POCKET PARK (SIZE AND LOCATION TO BE DETERMINED AT TIME OF DEVELOPMENT)
PHASE LINE
PHASE NUMBER
SCALE
FEET
STREET
YARD
VARIES
DRAINAGE WAY WITH TRAIL
nts
ROBERTS ROAD
ALLEN RD
PHILLIPS ROAD
ROLLS RD
THOMPSON ROAD
MILDRED RD
ROYCE ROAD
N. PAMELLA DR.
GARY ROAD
RIGHT OF WAY OWNED BY CIRCLE "G" AS PURCHASED FROM ARIZONA STATE LAND DEPARTMENT
50' R.O.W. LOCAL STREET
80' R.O.W. MAJOR COLLECTOR
100' R.O.W. MAJOR ARTERIAL
150' R.O.W. HUNT HIGHWAY
UPDATED LAND USE PLAN
SANTAN HEIGHTS
HUNT HIGHWAY
PINAL COUNTY, ARIZONA
CMX GROUP INC.
ENGINEERING
PROJECT ADMINISTRATION
CONSTRUCTION ANALYSIS
EXHIBIT C

EXHIBIT D
LOT LAYOUT AND PHASING



D. Development Stages

The San Tan Heights PAD is being developed in stages or phases. It was originally anticipated that the Property would be developed in four stages. This is still the developer's intention. The Circle G property, which is not under the control of this developer (Hunt Ventures, LLLP), was designated as Phase V in the original report, but is not assigned a phase in this report since it is unknown when this property will be developed.

The property known as the "Cardon Company Property" in the original Master Water System Plan and Report is now known as "The Borgata", according to the Preliminary Plat. This property was designated as Phase IV in the original report and is so designated in this report.

For the purpose of this report, what was Phase IA has been redesignated as IIA since the IA area will not be developed before Phase II.

The additional 60 acres described in Section IIB above is not assigned a phase since it is unknown when this property will be developed.

Each phase will be developed as separate parcels, with each parcel being platted as a subdivision. The sequence of the development of each parcel may not be in the order of the parcels as they are currently numbered.

As of the date of the preparation of this report, the Phase I subdivisions are platted and the infrastructure to serve these subdivisions is constructed. The final plats for the Phase II subdivisions have been submitted to Pinal County. The preliminary plat for The Borgata has been submitted to Pinal County.

For The Village at San Tan Heights – which was the Phase I project – the developer entered into agreements with Johnson Utilities Company for water and sewer service for 1,013 lots. (The final tally of lots in Phase I is 1,003). Developers of future phases will enter into separate agreements with Johnson Utilities Company for service to those properties.

Refer to Table II.D.1 for Development Stages.

Finally, the following statement from the original "Master Water System Plan and Report" *(Reference Page 6)* is still valid:

"The objective of providing stages of development is to correlate infrastructure requirements to the development of the PAD. While a sequence of project development is implied, there is nothing in the County approved PAD that prohibits changing the sequence of development, modifying combinations of parcels or combining stages, as long as the related infrastructure is provided and is adequate. As market conditions change, the actual size, location and sequence of the stages are expected to change. In any case, Service Agreements with Johnson Utilities Company will be required for all projects within any of the Stages."

TABLE II.D.1
DEVELOPMENT STAGES

Stage [1]	Property Name & Land Use	Non-Residential Uses (Acres)	Number of Single Family Units
I	**The Village at San Tan Heights**		
	Residential		1,003 [2]
	Commercial	6.14	
	School	20.15	
	Park	7.43	
	Phase I Total	*33.72*	*1,003*
II	**San Tan Heights**		
	Residential (II)		1,186
	Commercial	5.0	
	School	19.26	
	Park	8.16	
	Residential (IIA)		731
	Phase II Total	*32.42*	*1917*
III	**San Tan Heights PAD, Phase III**		
	Residential		446
	Commercial	15.04	
	Phase III Total	*15.04*	*446*
IV	**San Tan Heights PAD, Phase IV**		
	Residential		1,587
	Phase IV Total		*1,587*
IV	**The Borgata**		
	Residential		904
	Commercial	15.48	
	Phase IV Total	*15.48*	*904*
	Circle G		
	Residential		239
	Circle G Total		*239*
	TOTAL ALL STAGES	**96.66**	**6,096**

[1] Stages are conjectural and will very likely change as projects within the San Tan Heights PAD move forward with development. The Stages are intended as a planning tool to provide correlation between the development of the project and the requirements for water and sewer infrastructure.

[2] The approved Preliminary Plat of The Village at San Tan Heights has 1013 residential lots. Due to the reconfiguration of the WWTP site in Parcel 7, the total number of residential lots in The Village at San Tan Heights has been reduced by 10 lots, bringing the total to 1003 lots. The 10 lots have been transferred to another Phase of the development.

Note: The 60-acre property (150 lots) is not shown on this table

E. San Tan Heights

San Tan Heights, Parcels A-L is the second phase of development of the San Tan Heights PAD. San Tan Heights consists of 12 residential subdivisions, a 5.0 acre

commercial tract, a 19.26 acre school site, and 8.16 acres of park. See Exhibit B for location of San Tan Heights.

III. WATER SYSTEM DEMAND PROJECTIONS

A. Johnson Utilities Company Standards

To estimate the water demand, the original "Master Water System Plan and Report" utilized design criteria required by Johnson Utilities Company, "Standard Specifications for Water & Sewer Construction", and "Johnson Ranch Potable Water System Master Plan", Phases I-V, February, 1998. Since the original report was prepared, Johnson Utilities Company published a "Design Guide and Standards Details", July 2002. This Design Guide retained the design criteria and standards utilized in the original report.

Following is a summary of the design criteria utilized for this report.

1. The average water demand per single-family residential unit, per Johnson Utilities Company requirements, was calculated using 100 gallons per capita per day and 2.6 people per unit.

2. The average day water demands that were assigned (per Johnson Utilities Company) for the non-residential land uses in San Tan Heights are:

Commercial	1,500 gpd/acre
School	1,500 gpd/acre
Park	1,500 gpd/acre

3. The maximum or peak day demand used in the San Tan Heights water analysis was assumed to be 2.0 times the average daily demand and the peak hour demand used was assumed to be 3.0 times the average daily demand.

A summary of the calculated flow demands is provided in Table III.A.I. A detailed breakdown of the flow demands for each Parcel within the San Tan Heights PAD and the 60-acre tract is provided in Appendix A-1 and flow demands for each parcel within San Tan Heights are provided in Appendix A-2.

TABLE III.A.1
Calculated Flow Demands

Land Use Description	Average Daily Demand		Maximum Daily Demand		Peak Hour Demand
	(gpd)	(gpm)	(gpd)	(gpm)	(gpm)
Commercial	62,490	45	124,980	90	130
School	59,115	40	118,230	80	125
Park	23,385	15	46,770	30	50
Residential	1,623,960	1,130	3,247,920	2,255	3,385
Total	1,768,950	1,230	3,537,900	2,460	3,685
Demand for Master Water System (entire PAD) based on Johnson Utilities Company criteria identified in items 1 through 3 above.					

B. Fire Flow

The residential fire flow demand for the proposed San Tan Heights water distribution system was calculated at maximum day demand plus fire flow at 1000 gpm for a 2-hour duration per Rural Metro Fire Department requirements. Commercial and School facilities were assumed to have fire sprinkler systems and a fire flow demand also, of 1000 gpm and a 2-hour duration. Table III.B.1 identifies the flow rate in gpm required to meet fire flow requirements for the San Tan Heights project and the additional 60 acres.

TABLE III.B.1
Residential Fire Flow Demands

Description	Maximum Day Demand (gpm)	2-Hour Fire Flow Demand (gpm)
San Tan Heights & 60 acres	2,460	3,460
Demand for Master Water System (entire PAD) based on Johnson Utilities Company criteria identified in items 1 through 3 above.		

C. Storage Volume

The water storage requirements for the San Tan Heights project plus the 60- acre additional area were calculated utilizing criteria provided by Johnson Utilities Company in the Johnson Ranch Master Water Plan. The water storage volume was sized to provide approximately 48% of the maximum day demand plus fire flow demand. The fire flow has been adjusted to meet Rural Metro Fire Departments requirement of 1000 gpm for a 2-hour duration. Table III.C.1 provides the storage capacity required for the entire project. As noted in the Table, the total required storage is 1.8 MG. There will be two 1 MG storage tanks at total buildout.

TABLE III.C.1
Water Storage Requirements

Description	Maximum Day Demand (gpm)	Maximum Day Demand (gallons)	48% of Max. Day Demand (gallons)	2-Hour Fire Flow Demand (gallons)	Total Required Storage (gallons)
San Tan Heights & 60 acres	2,460	3,537,900	1,698,200	120,000	1,818,200
Demand for Master Water System (entire PAD) based on Johnson Utilities Company criteria identified in items 1 through 3 above.					

D. Booster Pump Capacity

System pressures and flows will be provided primarily by existing and proposed water wells and tanks at the PAD. However, a booster pump system will need to be installed to provide water to the Circle G parcel because of its elevation. Under extreme conditions or events (PAD wells or tanks out of service during peak flow events) Johnson Ranch may have to provide water to the PAD from the Johnson Ranch system through the water main in Hunt Highway.

The booster pump capacity for the Johnson Ranch Master Water Plan used the following criteria "When the total system average day demand is greater than 550 gpm, the booster pump station shall be capable of delivering a flow equal to the peak hour demand with the largest pump out of service and when the total system average day demand is greater than 550 gpm, the booster pump station shall be capable of delivering a flow equal to the maximum day demand with the largest pump out of service." Johnson Utilities should monitor the area growth and add booster pump capacity as needed to insure it has adequate capacity to provide water to the PAD during extreme events.

Table III.D.1 shows the booster pump capacity required to serve the Circle G Parcel area.

TABLE III.D.1
PUMP CAPACITY SUMMARY

Description	Maximum Day Demand (gpm)	Fire Flow Demand (gpm)	Max Day + Fire Flow Demand (gpm)
Circle G Parcel Area	85	1,000	1,085

Demand based on Johnson Utilities Company criteria identified in items 1 through 3 above.

E. Water Wells

Per correspondence dated 1/24/01 from Johnson Utilities Company engineering consultant, The WLB Group, wells will be sized to meet the actual estimated demand for the San Tan Heights project, as provided by the developer to the Utility and as required by ADEQ. In addition, the Johnson Ranch Master Water Plan stipulates that well pumping stations shall be capable of delivering a flow at least equal to the peak (maximum) day demand with the largest well out of service.

Currently, water is provided to the San Tan Heights subdivision through the water main in Hunt Highway (from Johnson Ranch) and one water well at San Tan Heights (Skyline Well No. 1). A second well is planned at San Tan Heights (Skyline Well No. 3) along with a connection to another source (modeled in this report as Tank No. 4).

In modeling the flows to San Tan Heights, it was assumed that the largest well out of service would be Skyline Well No. 1 because of its proximity to the site. In this scenario, short term demands (peak hour and fire flow) would be met by on-site storage and long term demands (maximum day) would be provided by other on-site wells and from Johnson Utilities.

Table III.E.1 shows the well capacity required to serve the project.

TABLE III.E.1 WELL CAPACITY SUMMARY		
Description	Maximum Day Demand (gpm)	Total Required Well Capacity (gpm)
San Tan Heights & 60 acres	2,460	2,460
Demand based on Johnson Utilities Company criteria identified in items 1 through 3 above.		

F. Flow Demands For Each Development Stage

It is intended that the proposed San Tan Heights Water Distribution System will be constructed in stages in accordance with the growth of the project. As discussed previously in Section II. D. Development Stages, the project is anticipated at this time to be developed in four (4) stages. Table III.F.1 identifies the various water demand projections for each of the anticipated stages of development.

As market conditions change, the actual size, location and sequence of the stages of development may change. Therefore, the water flow projections provided in Table III.F.1 should only be used as a tool to assist in the scheduling of the expansions to the water system that will be constructed and operated by Johnson Utilities Company. As the Property actually develops, it is envisioned that supplemental reports will be provided which will reflect the actual sequence of development and provide water flow demands and system modeling for determining future improvements to the water system.

G. Johnson Utilities Company Commitments

The latest commitment of potable water for subdivisions made by Johnston Utilities Company to ADEQ are in Appendix E. The letter, dated May 29, 2003, shows an estimated committed flow requirement of 260,780 gpd for Phase I and 273,780 gpd for Phase II for a total estimated committed flow requirement of 534,560 gpd.

IV. ADDITIONAL DESIGN REQUIREMENTS

The following text (in quotes) is excerpted from the original "Master Water Plan and Report" (pages 15-16) and is not revised because the information is still valid.

"A. In addition to the requirements used above to calculate the projected water demands for the San Tan Heights project, the following requirements based on Title 18. Environmental Quality, Chapter 4 Department of Environmental Quality Safe Drinking Water, Article 5. Minimum Design Criteria, Arizona Department of Environmental Quality and Engineering Bulletin No. 10 will be utilized in designing and modeling the water system for San Tan Heights.

TABLE II.F.1
SANTAN HEIGHTS
WATER DEMAND BY DEVELOPMENT STAGE

	NUMBER OF UNITS OR ACRES	ESTIMATED AVERAGE DAILY DEMAND gal/unit/day[1], gal/acre/day	WATER DEMAND STAGE A			WATER DEMAND STAGE B			WATER DEMAND STAGE C			WATER DEMAND STAGE D			TOTAL WATER DEMAND		
			Avg Day Flow (gal/day)	Max Day Flow 2.0 x ADF (gal/day)	Peak Hour Flow 3.0 x ADF (gal/day)	Avg Day Flow (gal/day)	Max Day Flow 2.0 x ADF (gal/day)	Peak Hour Flow 3.0 x ADF (gal/day)	Avg Day Flow (gal/day)	Max Day Flow 2.0 x ADF (gal/day)	Peak Hour Flow 3.0 x ADF (gal/day)	Avg Day Flow (gal/day)	Max Day Flow 2.0 x ADF (gal/day)	Peak Hour Flow 3.0 x ADF (gal/day)	Avg Day Flow (gal/day)	Max Day Flow 2.0 x ADF (gal/day)	Peak Hour Flow x ADF (gal/day
Phase I																	
Residential (Units)	1,003	260	260,780														
Commercial (acres)	6.14	1500	9,210														
School (acres)	20.15	1500	30,225														
Parks (acres)	7.43	1500	11,145														
Subtotal			311,360	622,720	934,080										311,360	622,720	934,080
Phase II																	
Residential (Units)	1,186	260				308,360											
Commercial (acres)	5.0	1500							7,500								
School (acres)	19.26	1500							28,890								
Parks (acres)	8.16	1500							12,240								
Subtotal						308,360	616,720	925,080	48,630	97,260	145,890				356,990	713,980	1,070,970
Phase IIA & III																	
Residential (Units)	1,177	260							306,020								
Commercial (acres)	15.04	1500							22,560								
Subtotal									328,580	657,160	985,740				328,580	657,160	985,740
Phase IV																	
Residential (Units)	1,587	260										412,620	825,240	1,237,860			
Subtotal												412,620	825,240	1,237,860	412,620	825,240	1,237,860
Circle G																	
Residential (Units)	239	260										62,140	124,280	186,420			
Subtotal												62,140	124,280	186,420	62,140	124,280	186,420
Borgata																	
Residential (Units)	904	260							235,040								
Commercial (acres)	15.48	1500							23,220								
Subtotal									258,260	516,520	774,780				258,260	516,520	774,780
60 Acres																	
Residential (Units)	150	260										39,000	78,000	117,000			
Subtotal												39,000	78,000	117,000	39,000	78,000	117,000
Total Residential	6,248																
Total Estimated Water Demand Per Phase (gpd)			311,360	622,720	934,080	308,360	616,720	925,080	635,470	1,270,940	1,906,410	513,760	1,027,520	1,541,280	1,768,950	3,537,900	5,306,850
Max Day Demand Per Phase (mgd)				0.62			0.62			1.27			1.03			3.54	
Storage Required Per Phase (mgd)[2]				0.42			0.42			0.73			0.61			1.82	
Pumps Required Per Phase (gpm)[3]				1,432			1,429			1,883			1,714			3,457	
Well Supply Required Per Phase (gpm)[4]				432			428			883			714			2,457	

(1) Residential demand equals 100 gal/person/day x 2.6 person/dwelling unit or 260 gal/day (per Johnson Utilities Company requirement).
(2) Storage required equal to 48% of Max Day plus Fire Flow at 1000gpm at 2-hour duration.
(3) Pump capacity required equal to Max Day plus Fire Flow with largest pump out of service.
(4) Potable water supply facilities capacity equal to Max Day with largest well out of service.

K:\40384\Reports\Water Report\Exhibits\[Table II.F.1 WATER DEMAND BY DEVELOPMENT STAGE 8-29-03.xls]Water Demands By Dev Phase

1. The proposed water system shall meet the maximum daily demand and peak hourly demand while maintaining a system pressure of not less than 40 psi. In addition, the system shall meet the maximum daily demand with fire flow (at 1000 gpm) while maintaining the system pressure at 20 psi.

2. Areas with pressures over 80 psi should use individual pressure reducing valves to lower the pressure and areas with less than 40 psi during peak hour demands should utilize booster pumps to increase the pressure.

3. Minimum pipe diameter requirements for distribution lines:

   a) Arterial Street -minimum 12-inch diameter pipe.
   b) Collector Street -minimum 8-inch diameter pipe.
   c) All other locations -minimum 8-inch diameter pipe, except single-family residential developments may be served with 6-inch diameter looped lines.
   d) The actual size of water lines within the individual residential subdivisions of San Tan Heights shall be established with each Subdivision Plat and Plans and shall be supported by analysis of the system by computer modeling and shall meet pressure and fire flow requirements.

4. Water lines will be located generally, either one foot behind the curb, when the sidewalk is detached from the curb, or one foot behind the sidewalk, when the sidewalk is attached to the curb, and shall be located on the north and east side of the street opposite of the sewer line.

5. The minimum width of easements for water lines shall be 20 feet. Typically, water lines shall be centered within the easement, unless otherwise approved by Johnson Utilities Company.

6. Air release valves, vacuum release, fire hydrants, or other suitable means of air control shall be installed on all lines, 12 inches in diameter and larger, at high points in a line or where a long line changes vertical alignment.

7. Type of water pipe material:

a) 12-inch and smaller	C900 PVC Class 150 or Ductile Iron
b) Larger than 12-inch	Ductile Iron or Concrete Steel Cylinder

8. The maximum spacing for fire hydrants shall be 500 feet for detached residential uses. If sprinklers are used for emergency fire protection, the maximum spacing for fire hydrants may be increased to 1,000 feet for detached residential uses. Fire hydrants shall be located at maximum intervals of 1000 feet along unloaded traffic corridors. In any case, the proposed fire hydrant spacing will be in accordance with the 1997 Uniform Fire Code and approved by the Fire Chief of the applicable Fire Service Provider, in this case Rural Metro.

9. The maximum spacing of valves in single-family residential areas shall be 800 feet. There shall be a minimum of two (2) valves at every tee and three (3) valves at every cross in the mainline.

10. One gate valve shall be placed between each fire hydrant and the main line, typically flanged to the tee, except for fire hydrants on fire lines of 100 feet or more, then a second gate valve is required 20 feet from the fire hydrant."

V. OVERALL PROJECT- ENTIRE SAN TAN HEIGHTS PAD AND 60 ACRES

A. Water Model Analysis

The following text in quotes is excerpted from the original "Master Water Plan and Report" (pages 16-17) and is not revised when the information is still valid. New information is not in quotes.

"For this study, the services area was divided into three different water pressure zones. Each zone includes System Plan). A breakdown of the flow demands by Parcel within each pressure zone is provided in APPENDIX A-1." Appendix A-1 was updated form the original Master Water Plan for this report.

"The overall water system for San Tan Heights was modeled using Water CAD, Version 4.1.1 by Haestad Methods, Inc." Gannett Fleming has updated the model using WaterCAD Version 6.0. Pipes were modeled as Ductile Iron and PVC pipe. The system was modeled at steady state with domestic, commercial, and fire demands included (APPENDIX B).

"The hydraulic grade for the reservoir was determined according to the following calculation:

$$HG\ [ft] = E\ [ft] + P\ [lb/in^2] * 1/62.4\ lb/ft^3 * 144\ in^2/ft^2$$
$$= E[ft]+2.31P[ft]$$

where HG is the hydraulic grade of the reservoir in feet, E is the elevation where the base pressure is to be established in feet, and P is the pressure to be established in psi.

The water system was designed to provide all of the peak hour flows with a maximum of 5 feet per second (fps) velocity in any one pipe and maximum day flows plus fire demands with a minimum residual pressure of 20 psi. The minimum pipe size for a distribution main teeing into the 12" main in Hunt Highway was assumed to be 12", and the minimum pipe size for a distribution main within the looped networks within the parcel subdivisions in the development was assumed to be 6". In this revised Master Plan, the minimum pipe diameter modeled was 8".

Appendix B contains the output files from the Water CAD models of the system under Average Day Flows, Maximum Day Flows with 1000 gpm Fire Demands, Peak Hour Flows and Peak Hour with Tank No. 4 and Well No. 4 out of service. A network layout is provided to show the pipe layout and location of wells and tanks. Junction Reports are provided to show residual pressures with maximum daily flow and fire flows, and a Pipe Report is provided to show pipe velocities with peak hour flow. The Junction Reports show information concerning elevation, demand, and available residual pressure for each pipe intersection or demand node on the system. The Pipe Report describes pipe length and diameter, pipe material and roughness, discharge and flow velocity, headloss, and friction slope for each pipe in the system. As these tables show, except for the Circle G Parcel and around Tank No. 4, the minimum residual design pressure of 40 psi is exceeded for each node in the system in each demand scenario

and the minimum residual pressure during fire conditions exceeds 20 psi. Flow velocities are also within the design maximum of 5 fps under the peak hour flow."

B. Overall Proposed Improvements

The following text in quotes is excerpted from the original Master Water Plan and Report" (pages 17-18) and is not revised when the information is still valid.

"1. ONSITE SYSTEM IMPROVEMENTS - DISTRIBUTION LINES

Exhibit E, Master Water System Plan, identifies the conceptual locations and sizes of the proposed distribution mains in the arterial and collector roadways within the San Tan Heights PAD. These distribution mains will feed networks of water mains within the individual parcels of the development. To allow for flexibility in parcel design, the Master Water System Plan does not show the locations or sizes of water mains within the various subdivision parcels of San Tan Heights. The water lines within the subdivisions will be designed at the time of improvement plan preparation for each of the parcels. Notwithstanding, ultimate demands for each parcel have been applied to the modeling of the distribution mains in the arterial and collector roadways.

In the case of San Tan Heights, Parcels A-L, the second phase within the PAD, the water model analysis for the water mains within the subdivision parcels are provided in this report under Section VI. San Tan Heights.

2. OFF-SITE WATER SYSTEM IMPROVEMENTS (JOHNSON UTILITIES COMPANY)

The design and construction of the off-site water system improvements, including the distribution mains to serve the site and supply, storage and booster pump facilities, is the responsibility of the service provider, Johnson Utilities Company. The water demand calculations, as well as the storage, supply and booster pump requirements provided in this report are intended to assist Johnson Utilities Company in its analysis of providing water service to the San Tan Heights property.

The modeling of the Overall San Tan Heights Water System was done by assuming the property would obtain water from four (4) supplies. Only Supply #1 is a known location and known size water supply. The location of the other three Supply Points was assumed as follows:

1) Supply 1 -Tie into proposed 12" water line in Hunt Highway at intersection of Gary Road, 12" line provided by Johnson Utilities Company from existing water line in Johnson Ranch. Note that the maximum hydraulic elevation of the system in Johnson Ranch is 1688, according to the WLB report. This operates in Johnson Utilities Zone 1 (from the WLB Conceptual Design Report). This is approximately 10 feet lower than the elevation of San Tan Supply No. 2. Therefore, the Johnson Utilities system will only be able to provide water to San Tan when the HGL at San Tan Heights is less than 1688 feet.

   A pressure sustaining valve was modeled in the 12" water main in Hunt Highway to control the flows because of the difference in pressure of the two systems. When pressures in San Tan Heights PAD exceed an HGL of 1688, excess flows may pass through the valve to Johnson Ranch. When pressures in San Tan Heights PAD are less than an HGL of 1688, flows pass through the

valve to San Tan Heights. This is assuming there is enough capacity in the Johnson Heights system to maintain an HGL of 1688.

2) Supply 2 – Storage Tank T-2 located on a hill southeast of the subdivision. The Tank is to be constructed by Johnson Utilities. The base of the tank is to be at elevation 1674 with an operating range between 1676 and 1698. Note that the upper hydraulic elevation of the tank is approximately 10 feet higher than the upper hydraulic elevation of Supply 1.

3) Supply 3 – A future well, Skyline No. 3, that will feed directly into the 12" water main in Hunt Highway.

4) Supply 4- A connection to a future water main (at Phillips Road and Royce Road) modeled here as a pump (Pump No. 4) and tank (Tank No. 4), to provide water from the southwest side of the subdivision.

Gannett Fleming has updated the assumptions regarding the supply of water provided from the four (4) sources based on the updated water demands. The water model calculated the following water supply requirements:

Table V.B.1
Water Supply Requirements - PAD

Scenario	Total Q (gpm)
Average Day	1,230
Max. Day	2,460
Peak Hour	3,685
Max. Day + Fire Flow	3,460

"Exhibit E, Master Water System Plan, identifies the three water service connection point locations (Supply 1, 3 & 4) and the storage tank (Supply 2) location. These assumptions were made to demonstrate the adequacy of the proposed internal distribution system. The actual locations and sizes of the distribution main connection points and supply, storage and pumping facilities will be determined by and will be the responsibility of Johnson Utilities Company. If the assumptions made in this analysis regarding service connection locations and size and supply, storage and pumping capacities are modified, the water system model will need to be re-analyzed to determine the adequacy of the revised system parameters. It is understood that the water supply system provided by Johnson Utilities Company shall comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules (2).

C. DEVELOPMENT STAGES

The intent of providing stages of development and the water demand requirements for the four stages was to correlate water and wastewater infrastructure requirements to the development of the PAD. Because the size, location and sequence of the stages of development will probably change as market conditions change and as the various landowners/developers within the San Tan Heights PAD elect to move forward with development, modeling of the water systems for each of the stages was not performed in this report."

VI. SAN TAN HEIGHTS

A. Water Model Analysis

The second phase to be developed in the San Tan Heights PAD is San Tan Heights, Parcels A-L (see Exhibit B for the general location of the parcels). The breakdown of the flow demand by Parcel is provided in Appendix A-2, San Tan Heights Water Demand Calculations. The water mains in the roadways of the subdivision parcels were modeled using Water CAD, Version 6.0. The system was modeled at steady state with domestic, commercial and fire demands included. Three scenarios were modeled: Average Day, Maximum day plus Fire and Peak Hour. In the fire analysis, the maximum daily flows were included as demands to the system.

The hydraulic grade for the reservoir was determined according to the following calculation:

$$HG\ [ft] = E\ [ft] + P\ [lb/in^2] * 1/62.4\ lb/ft^3 * 144\ in^2/ft^2$$
$$= E[ft]+2.31P[ft]$$

where HG is the hydraulic grade of the reservoir in feet, E is the elevation where the base pressure is to be established in feet, and P is the pressure to be established in psi.

The water system was designed to provide the peak hour flows with a maximum of 5 feet per second (fps) velocity in any one pipe and maximum day flows plus fire demands with a minimum residual pressure of 20 psi.

Appendix C contains the output files from the Water CAD models of the system under Average Day Flows, Maximum Day Flows with 1000 gpm Fire Demand and Peak Hour. A network layout is provided to show the pipe layout and location of wells and tanks. Junction Reports are provided to show residual pressures with maximum daily flow and fire flows, and a Pipe Report is provided to show pipe velocities with peak hour flow. The Junction Reports show information concerning elevation, demand, and available residual pressure for each pipe intersection or demand node on the system. The Pipe Report describes pipe length and diameter, pipe material and roughness, discharge and flow velocity, headloss, and friction scope for each pipe in the system. As these tables show, the minimum residual design pressure of 40 psi is exceeded for each node in the system in each demand scenario and the minimum residual pressure during fire conditions exceeds 20 psi. Flow velocities are also within the design maximum of 5 fps under the peak hour flow.

B. Proposed Improvements

1. Onsite Water System Improvements

Exhibit F, San Tan Heights Water System Plan, identifies the locations and sizes of the proposed distribution mains within the arterial and

collector roadways, as well as the water mains within the residential streets of the subdivisions of Parcels A-L.

Once this water system is constructed and approved, it will be conveyed to Johnson Utilities Company for ownership, operation and maintenance.

In developing the water model, the pump curves from the WLB report were used to model the pumps. These are estimated flows. Therefore, the flows modeled in this report should be compared to the actual flows from the on-site facilities. Any changes to the flows will increase or decrease the water that will need to be provided from offsite sources.

Water produced by the on-site system that is in excess of the needs of the on-site system was modeled to flow off-site through the 12" connection to Johnson Utilities.

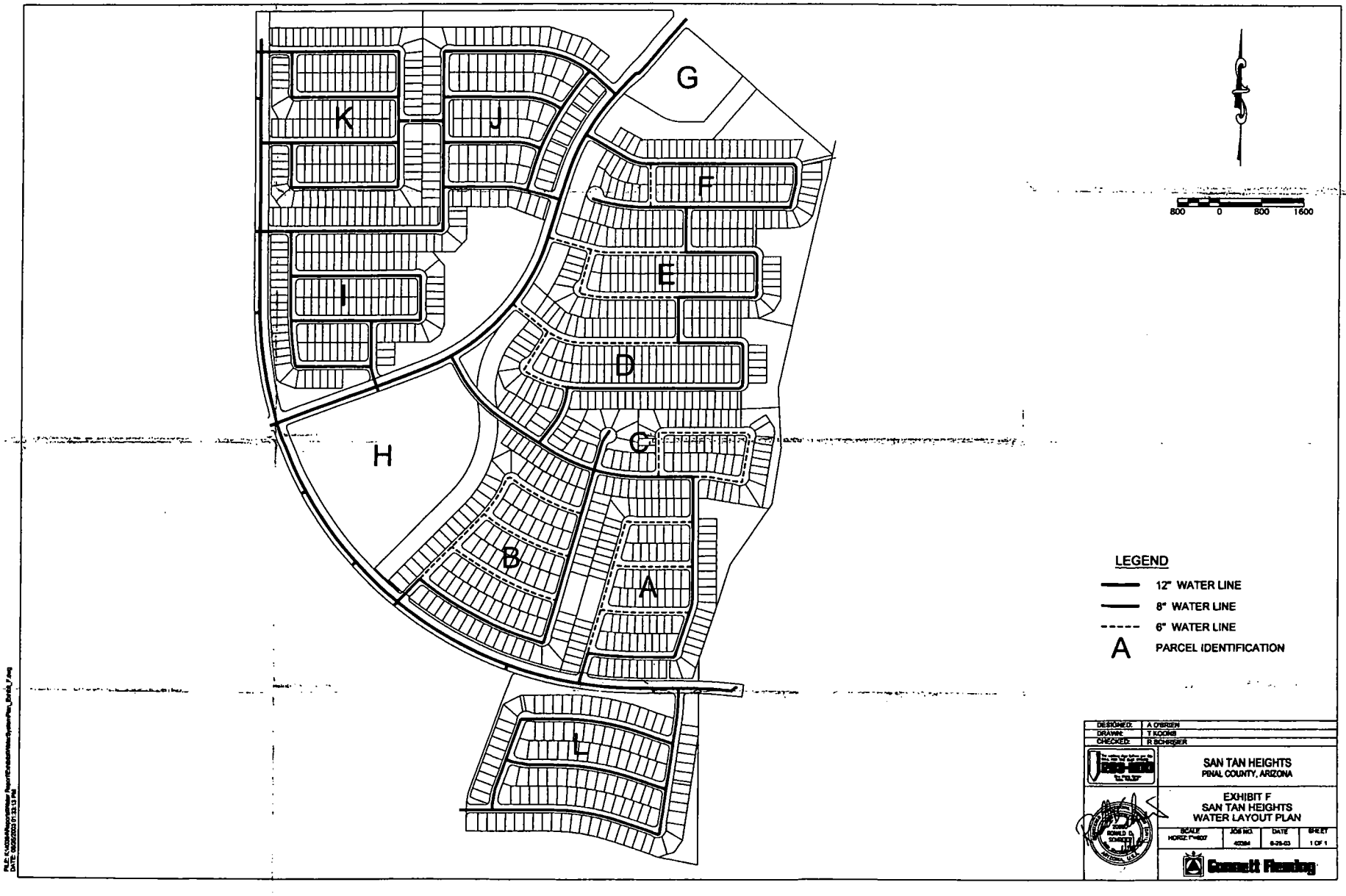
2. Offsite Water System Improvements

The off-site water supply to the San Tan Heights project, Phases I and II, was assumed to be provided by Johnson Utilities' 12-inch water main from the Johnson Ranch water system. According to the water model in the WLB report, the Johnson Ranch water system is connected to the San Tan Heights system through approximately 13,000 feet of 8" and 12" PVC water main. The upper HGL of the San Tan Heights system is 1698. The upper HGL of the Johnson Ranch system is 1688. Since the HGL of the Johnson Ranch system is lower than that of the San Tan Heights system, the Johnson Ranch system was modeled to supply the San Tan Heights subdivision with water when the pressure in the San Tan Heights water mains went below an HGL of 1688 feet.

The total flow requirements for Phases I and II are shown in Table VI.B.1. Johnson Utilities should make up the supply difference from the offsite water system improvements to provide water to San Tan Heights over and above the ability of the Skyline Wells No. 1 and 3 to meet the demands of the subdivision. This will be especially true if one (or both) of the wells are out of service and especially if the water tank (Tank No. 2) is out of service.

Table VI.B.1 Projected Demands
San Tan Heights, Phases I and II

Scenario**	Total Q (gpm)
Average Day	440
Max. Day	880
Peak Hour	1,320
Max. Day + Fire Flow	1,880


G
K
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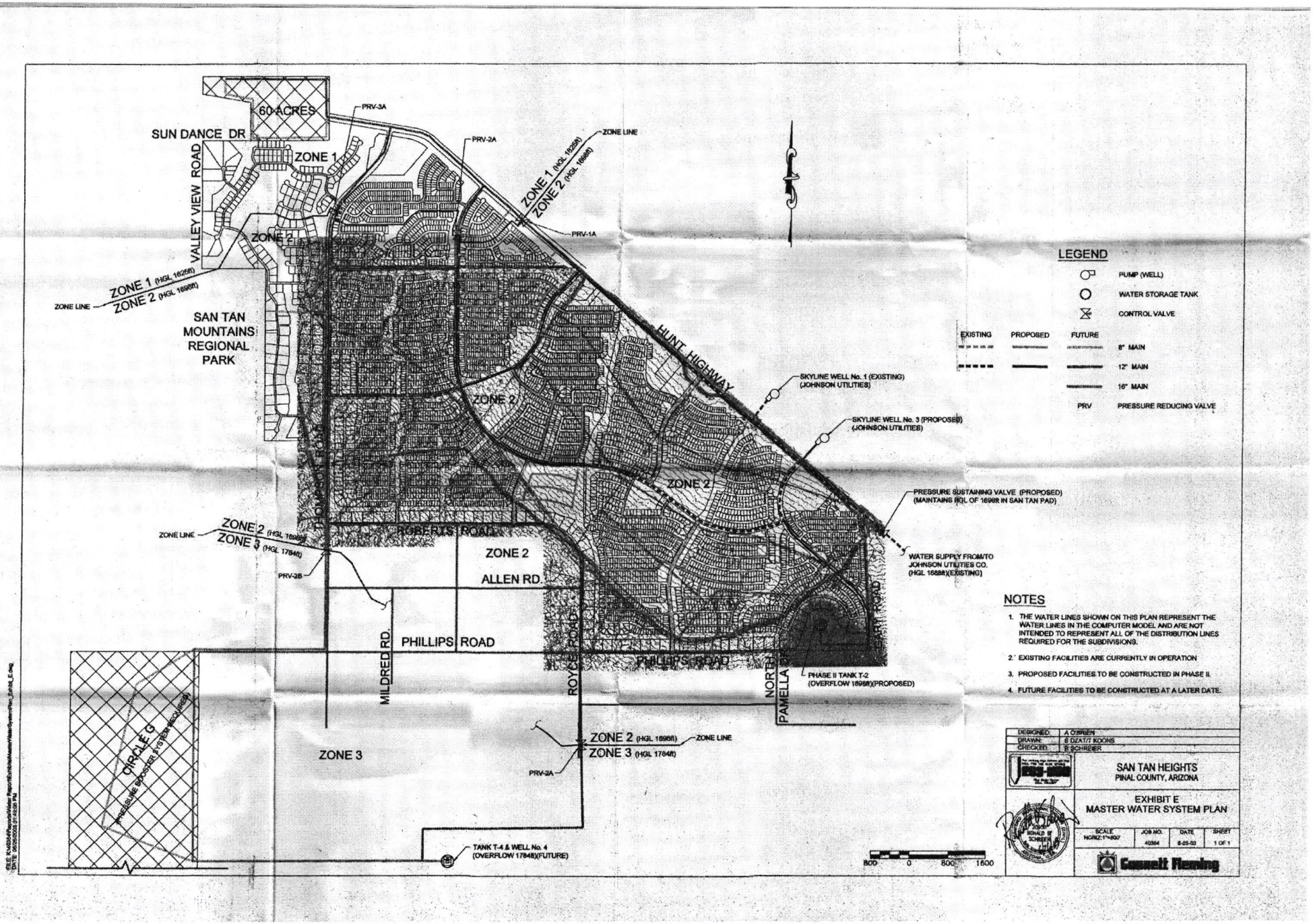
800 0 800 1600
LEGEND
12" WATER LINE
8" WATER LINE
6" WATER LINE
A PARCEL IDENTIFICATION
DESIGNED: A O'BRIEN
DRAWN: T ROOMS
CHECKED: R SCHEIBER
SAN TAN HEIGHTS
PINAL COUNTY, ARIZONA
EXHIBIT F
SAN TAN HEIGHTS
WATER LAYOUT PLAN
SCALE HORIZ 1"=800'
JOB NO. 40384
DATE 8-25-03
SHEET 1 OF 1
Connell Fleming


60 ACRES
SUN DANCE DR
VALLEY VIEW ROAD
ZONE 1
ZONE 2
PRV-3A
PRV-2A
PRV-1A
ZONE LINE
ZONE 1 (HGL 1925ft)
ZONE 2 (HGL 1698ft)
ZONE 1 (HGL 1625ft)
ZONE 2 (HGL 1698ft)
ZONE LINE
SAN TAN MOUNTAINS REGIONAL PARK
HUNT HIGHWAY
SKYLINE WELL No. 1 (EXISTING) (JOHNSON UTILITIES)
SKYLINE WELL No. 3 (PROPOSED) (JOHNSON UTILITIES)
PRESSURE SUSTAINING VALVE (PROPOSED) (MAINTAINS HGL OF 1698ft IN SAN TAN PAD)
WATER SUPPLY FROM/TO JOHNSON UTILITIES CO. (HGL 1688ft)(EXISTING)
THOMPSON ROAD
ROBERTS ROAD
ZONE 2
ALLEN RD.
ZONE 2 (HGL 1698ft)
ZONE 3 (HGL 1784ft)
ZONE LINE
PRV-2B
PHILLIPS ROAD
MILDRED RD.
ROYCE ROAD
PAMELA DR
NORTH
PHASE II TANK T-2 (OVERFLOW 1698ft)(PROPOSED)
CIRCLE G
PRESSURE BOOSTER SYSTEM (EXISTING)
ZONE 3
ZONE 2 (HGL 1698ft)
ZONE 3 (HGL 1784ft)
ZONE LINE
PRV-2A
TANK T-4 & WELL No. 4 (OVERFLOW 1784ft)(FUTURE)
LEGEND
PUMP (WELL)
WATER STORAGE TANK
CONTROL VALVE
EXISTING
PROPOSED
FUTURE
8" MAIN
12" MAIN
16" MAIN
PRV
PRESSURE REDUCING VALVE
NOTES
1. THE WATER LINES SHOWN ON THIS PLAN REPRESENT THE WATER LINES IN THE COMPUTER MODEL AND ARE NOT INTENDED TO REPRESENT ALL OF THE DISTRIBUTION LINES REQUIRED FOR THE SUBDIVISIONS.
2. EXISTING FACILITIES ARE CURRENTLY IN OPERATION
3. PROPOSED FACILITIES TO BE CONSTRUCTED IN PHASE II.
4. FUTURE FACILITIES TO BE CONSTRUCTED AT A LATER DATE.
800 0 800 1600
DESIGNED: A OBRIEN
DRAWN: S DIATI/ KOONS
CHECKED: R SCHREIER
SAN TAN HEIGHTS
PINAL COUNTY, ARIZONA
EXHIBIT E
MASTER WATER SYSTEM PLAN
SCALE HORIZ:1"=800'
JOB NO. 40364
DATE 8-25-03
SHEET 1 OF 1
Cossatt Mesnig

VII. CONCLUSIONS

A. Master Water System Plan

The following text in quotes is excerpted form the original Master Water Plan and Report" (page 25) and is not revised when the information is still valid.

This updated study has revised the water distribution system for the San Tan Heights PAD and the adjacent 60-acre tract identified on Exhibit E, Master Water System Plan.

"1. Based on water supply, storage and pumping facility assumptions presented in Section V. of this report and as summarized in the table below, the water system model demonstrates that the water distribution system is able to provide peak hour demands and maximum day demand plus Fire Flow. Flow and pressures throughout the system (except as noted below) during...design conditions meet or exceed minimum pressure requirements. During the Fire Flow scenario, the model confirmed system junction pressures do not fall below 20 psi during a fire event."

Table VII.A.1
Water Supply Requirements

Scenario	Total Q (gpm)
Average Day	1,230
Max. Day	2,460
Peak Hour	3,685
Max. Day + Fire Flow	3,460

The Circle G Parcel is above Zone 2 and will require a separate booster pumping system to provide adequate pressure and fire flows to the area. This will be especially critical if Well No. 4 and/or Tank No. 4 are out of service.

"2. The San Tan Heights project will receive water service from Johnson Utilities Company. If the location and size of the water service connections and/or the water supply, storage and pumping facility assumptions presented in Section V. of this report are modified, the water system model will need to be re-analyzed to assess the adequacy of the system. In any case, the water supply system provided by Johnson Utilities Company shall comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules.

3. As they are ready to develop, it is intended that Johnson Utilities Company will enter into separate Service Agreements with the various other Land Owners/Developers within the San Tan Heights PAD. Individual analysis of each proposed phase or stage of development will be necessary in order to identify required on-site distribution system layouts and sizing and required off-site system improvements. It is envisioned, as portions of the San Tan Heights water system are constructed and approved, that the improvements will be conveyed to Johnson Utilities Company for ownership, operation and maintenance."

B. San Tan Heights Water System Plan

This study has developed a water distribution system for San Tan Heights, Parcels A through L (Phase II) illustrated in Exhibit F, San Tan Heights Water System Plan.

1. Based on the water system model and the noted on-site and off-site water supply system, the San Tan Heights water system can provide the peak hour and maximum day plus fire demands of the subdivision. Table VII.B.1 summarizes the supply requirements for various demand scenarios.

Table VII.B.1 Projected Demands
San Tan Heights, Phases I and II

Scenario	Total Q (gpm)
Average Day	440
Max. Day	880
Peak Hour	1,320
Max. Day + Fire Flow	1,880

2. San Tan Heights will receive water service from Johnson Utilities Company. If either the facilities proposed here or the Johnson Ranch water system are modified from what is modeled here, the water model will need to be re-analyzed to determine the impact on San Tan Heights. This is especially true if more than one well, booster pump or storage tank is taken out of service at once or prolonged repairs are expected to the 12" water main in Hunt Highway that serves San Tan Heights.

3. It will be the responsibility of Johnson Utilities to guarantee that the water supply system and water quality comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules (2).

4. The San Tan Heights Water System improvements will be permitted and constructed by the developer. After the water infrastructure is constructed and approved, the system will be conveyed to Johnson Utilities Company for ownership, operation and maintenance.

VIII. REFERENCES

1. Standard Specifications for Water & Sewer Construction, Johnson Utilities Company.

2. Johnson Ranch Potable Water System Master Plan, Phases I-V, February, 1998.

3. Title 18. Environmental Quality, Chapter 4. Department of Environmental Quality Safe Drinking Water, Article 5. Minimum Design Criteria, Arizona Department of Environmental Quality, Effective April 28, 1995 and as Amended June 3, 1998.

4. Engineering Bulletin No.10, Guidelines for the Construction of Water Systems, ADEQ, May 1978.

5. "Design Guide and Standard Details", Johnson Utilities Company, July 2002.

6. "San Tan 1,000,000 Gallon Water Storage Tank and Skyline Groundwater Source Well No. 1, Conceptual Design Report No. 1, Vdume 1", The WLB Group, October 2002.

APPENDIX A-1

SAN TAN HEIGHTS MASTER WATER DEMAND CALCULATIONS

APPENDIX A-1
The Village at San Tan Heights-Phase II

LAND USE, ACREAGE, DENSITY AND WATER DEMAND TABLE

PARCEL	LAND USE	RESIDENTIAL				COMMERCIAL/BUS CENTER		SCHOOLS		PARKS		AVERAGE DAY DEMAND (GPD)	AVERAGE DAY DEMAND (GPM)	MAXIMUM DAILY FLOW (GPD)	MAXIMUM DAILY FLOW (GPM)	PEAK HOUR DEMAND (GPM)	MINIMUM DAILY DEMAND (GPM)
		SINGLE-FAMILY		MULTI-FAMILY			ADF/AC		ADF/ACRE		ADF/AC						
		DWELLING UNITS	ADF/UNIT (GPD)	DWELLING UNITS	ADF/UNIT (GPD)	ACRES	(GPD)	ACRES	(GPD)	ACRES	(GPD)	ADF X UN or AC	A.D.D./1440	A.D.D. x 2.0	(A.D.D. x 2.0)/1440	(A.D.D. x 3.0)/1440	(A.D.D. x 0.26)/1440
Circle "G"	S. F. Residential	239	280									62,160	43	124,280	86	129	11
90 Acres	S. F. Residential	150	280									39,000	27	78,000	54	81	7
1	S.F. Residential	124	280									32,240	22	64,480	45	67	6
2	S.F. Residential	109	280									28,340	20	56,680	39	59	5
3	S.F. Residential	103	280									26,780	19	53,560	37	56	5
4	S.F. Residential	102	280									26,520	18	53,040	37	55	5
5	S.F. Residential	114	280									29,640	21	59,280	41	62	5
6	S.F. Residential	114	280									29,640	21	59,280	41	62	5
7	S.F. Residential	114	280									29,640	21	59,280	41	62	5
8	S.F. Residential	110	280									28,600	20	57,200	40	60	5
9	S.F. Residential	113	280									29,380	20	58,760	41	61	5
10	Park									7.43	1500	11,145	8	22,290	15	23	2
11	School							20.15	1500			30,225	21	60,450	42	63	5
12	Commercial					6.14	1500					9,210	6	18,420	13	19	2
13	Commercial (WWTF)					4.96	1500					7,440	5	14,880	10	16	1
14	S.F. Residential	135	280									35,100	24	70,200	49	73	6
15	S.F. Residential	110	280									28,600	20	57,200	40	60	5
16	S.F. Residential	113	280									29,380	20	58,760	41	61	5
17	S.F. Residential	100	280									26,000	18	52,000	36	54	5
18	S.F. Residential	116	280									30,160	21	60,320	42	63	5
19	S.F. Residential	100	280									26,000	18	52,000	36	54	5
20	S.F. Residential	105	280									27,300	19	54,600	38	57	5
21	Commercial					5.00	1500					7,500	5	15,000	10	16	1
22	School							19.26	1500			28,890	20	57,780	40	60	5
23	Park									8.16	1500	12,240	9	24,480	17	26	2
24	S.F. Residential	153	280									39,780	28	79,560	55	83	7
25	S.F. Residential	113	280									29,380	20	58,760	41	61	5
26	S.F. Residential	141	280									36,660	25	73,320	51	76	6
27	S.F. Residential	114	280									29,640	21	59,280	41	62	5
28	S.F. Residential	88	280									22,880	16	45,760	32	48	4
29	S.F. Residential	149	280									38,740	27	77,480	54	81	7
30	S.F. Residential	100	280									26,000	18	52,000	36	54	5
31	S.F. Residential	97	280									25,220	18	50,440	35	53	4
32	S.F. Residential	116	280									29,800	21	59,600	42	62	5
33	S.F. Residential	123	280									31,980	22	63,960	44	67	6
34	S.F. Residential	120	280									31,200	22	62,400	43	65	5
35	S.F. Residential	125	280									32,500	23	65,000	45	68	6
36	S.F. Residential	13	280									3,380	2	6,760	5	7	1
37	S.F. Residential	83	280									21,580	15	43,160	30	45	4
38	S.F. Residential	101	280									26,260	18	52,520	36	55	5
39	S.F. Residential	119	280									30,940	21	61,880	43	64	5
40	Commercial					15.04	1500					22,560	16	45,120	31	47	4
41	S.F. Residential	53	280									13,780	10	27,560	19	29	2
42	S.F. Residential	103	280									26,780	19	53,560	37	56	5
43	S.F. Residential	120	280									31,200	22	62,400	43	65	5
44	S.F. Residential	125	280									32,500	23	65,000	45	68	6
45	S.F. Residential	60	280									15,600	11	31,200	22	33	3
46	S.F. Residential	115	280									29,900	21	59,800	42	62	5
47	S.F. Residential	125	280									32,500	23	65,000	45	68	6
48	S.F. Residential	118	280									30,680	21	61,360	43	64	5
49	S.F. Residential	129	280									33,540	23	67,080	47	70	6
50	S.F. Residential	96	280									24,960	17	49,920	35	52	4
51	S.F. Residential	120	280									31,200	22	62,400	43	65	5
52	S.F. Residential	133	280									34,580	24	69,160	48	72	6
53	S.F. Residential	119	280									30,940	21	61,880	43	64	5
54	S.F. Residential	128	280									32,760	23	65,520	46	68	6
55	S.F. Residential	73	280									18,980	13	37,960	26	40	3
56	S.F. Residential	90	280									23,400	16	46,800	33	49	4
57	S.F. Residential	107	280									27,820	19	55,640	39	58	5
58	S.F. Residential	109	280									28,340	20	56,680	39	59	5
59	S.F. Residential	96	280									24,960	17	49,920	35	52	4
60	S.F. Residential	79	280									20,540	14	41,080	29	43	4
61	Commercial					12.23	1500					18,345	13	36,690	25	38	3
62	Commercial					3.25	1500					4,875	3	9,750	7	10	1
63	S.F. Residential	89	280									23,140	16	46,280	32	48	4
64	S.F. Residential	12	280									3,120	2	6,240	4	7	1
65	S.F. Residential	73	280									18,980	13	37,960	26	40	3
66	S.F. Residential	51	280									13,260	9	26,520	18	28	2
	TOTALS:	6,246	15,080	0	0	47	9,000	39	3,000	16	5,000	1,776,390	1,234	3,552,780	2,467	3,701	308

APPENDIX A-2

SAN TAN HEIGHTS WATER DEMAND CALCULATIONS

APPENDIX A-2
The Village at San Tan Heights-Phase II

LAND USE, ACREAGE, DENSITY AND WATER DEMAND TABLE

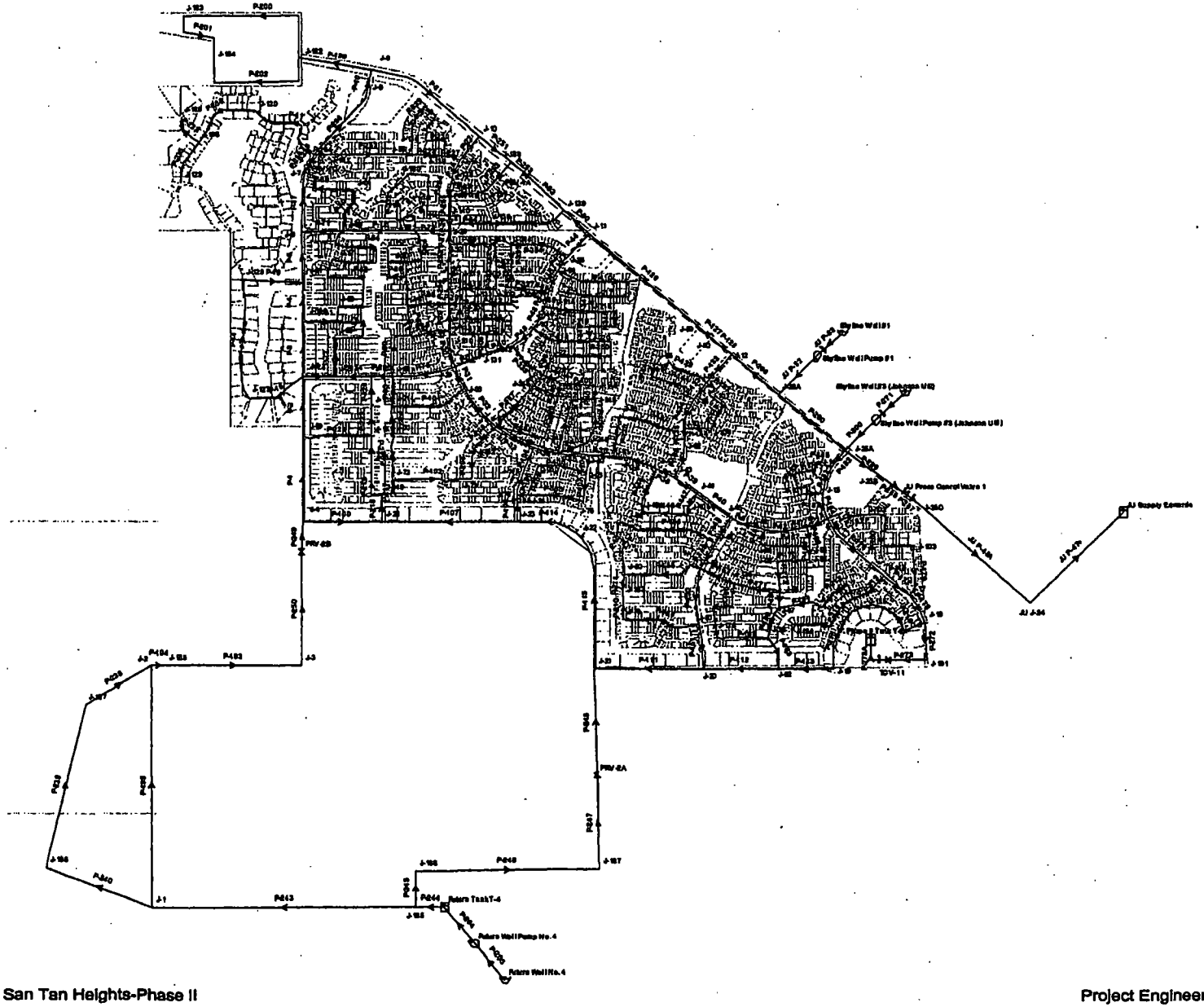
PARCEL	LAND USE	RESIDENTIAL				COMMERCIAL/BUS CENTER		SCHOOLS		PARKS		AVERAGE DAY DEMAND (GPD)	AVERAGE DAY DEMAND (GPM)	MAXIMUM DAILY FLOW (GPD)	MAXIMUM DAILY FLOW (GPM)	PEAK HOUR DEMAND (GPM)	MINIMUM DAILY DEMAND (GPM)
		SINGLE-FAMILY		MULTI-FAMILY			ADF/AC		ADF/ACRE		ADF/AC						
		DWELLING UNITS	ADF/UNIT (GPD)	DWELLING UNITS	ADF/UNIT (GPD)	ACRES	(GPD)	ACRES	(GPD)	ACRES	(GPD)	ADF X UN or AC	A.D.D./1440	A.D.D. x 2.0	(A.D.D. x 2.0)/1440	(A.D.D. x 3.0)/1440	(A.D.D. x 0.25)/1440
1	S.F. Residential	124	260									32,240	22	64,480	45	67	8
2	S.F. Residential	109	260									28,340	20	56,680	39	59	8
3	S.F. Residential	103	260									26,780	19	53,560	37	56	8
4	S.F. Residential	102	260									26,520	18	53,040	37	55	8
5	S.F. Residential	114	260									29,640	21	59,280	41	62	8
6	S.F. Residential	114	260									29,640	21	59,280	41	62	8
7	S.F. Residential	114	260									29,640	21	59,280	41	62	8
8	S.F. Residential	110	260									28,600	20	57,200	40	60	8
9	S.F. Residential	113	260									29,380	20	58,760	41	61	8
10	Park									7.43	1500	11,145	8	22,290	15	23	2
11	School							20.15	1500			30,225	21	60,450	42	63	8
12	Commercial					6.14	1500					9,210	6	18,420	13	19	2
13	Commercial (WWTF)					4.96	1500					7,440	5	14,880	10	16	1
14	S.F. Residential	135	260									35,100	24	70,200	49	73	8
15	S.F. Residential	110	260									28,600	20	57,200	40	60	8
16	S.F. Residential	113	260									29,380	20	58,760	41	61	8
17	S.F. Residential	100	260									26,000	18	52,000	36	54	8
18	S.F. Residential	116	260									30,160	21	60,320	42	63	8
19	S.F. Residential	100	260									26,000	18	52,000	36	54	8
20	S.F. Residential	105	260									27,300	19	54,600	38	57	8
23	Park									8.16	1500	12,240	9	24,480	17	26	2
24	S.F. Residential	153	260									39,780	28	79,560	55	83	7
25	S.F. Residential	113	260									29,380	20	58,760	41	61	8
26	S.F. Residential	141	260									36,660	25	73,320	51	76	8
	TOTALS:	2,189	4,940	0	0	11	3,000	20	1,500	16	3,000	639,400	444	1,278,800	888	1,332	111

1 of 1

APPENDIX B

OUTPUT FILES FOR OVERALL PAD WATER SYSTEM MODELING

Scenario: Ultimate P.A.D. - Average Day Demands



Title: The Village at San Tan Heights-Phase II
san tan rev wtr mod w-ju reservoir 6-2-03.wcd
06/14/03 10:19:22 AM

Gannett Fleming, Inc.
© Haestad Methods, Inc. 37 Brookside Road Waterbury, CT 06708 USA +1-203-755-1666

Project Engineer: Alan O'Brien, P.E.
WaterCAD v6.0 [6.0103a]
Page 1 of 1

Scenario Summary Report
Scenario: Ultimate P.A.D. - Average Day Demands

Scenario Summary	
Active Topology Alternative	Base-Active Topology
Physical Alternative	Base-Physical
Demand Alternative	Demand-Ultimate P.A.D. - Average Day Demands
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Base-Fire Flow
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary			
Analysis	Constituent	Quality Time Step	N/A hr
Age Tolerance	0.01 hr	Constituent Tolerance	0.01 mg/l
Trace Tolerance	1.0 %		

Global Adjustments			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 06/03/03 01:52:53 PM
Average Daily Demand. All systems operating.

Calculation Results Summary

Scenario: Ultimate P.A.D. - Average Day Demands
[Analysis Started]
[Steady State]
0:00:00 Balanced after 14 trials; relative flow change = 0.000713
Flow Summary
Flow Supplied 2,206.14 gpm
Flow Demanded 1,228.64 gpm
Flow Stored 977.47 gpm
0:00:00 Reservoir Future Well No. 4 is emptying
0:00:00 Reservoir Skyline Well #1 is emptying
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Future Tank T-4 is filling at 23 ft
0:00:00 Tank Phase II Tank T-2 is filling at 23 ft
0:00:00 Tank JU Supply Edwards is filling at 20 ft
0:00:00 PRV PRV-1A closed
0:00:00 PRV PRV-2A active
0:00:00 PRV PRV-2B active
0:00:00 PRV PRV-1B closed
0:00:00 PRV PRV-1C active
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-1	1,690.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	40
J-2	1,640.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	62
J-3	1,621.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	70
J-4	1,591.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	46
J-5	1,571.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	54
J-6	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71
J-7	1,514.00	Zone 2	Demand	13.00	Fixed	13.00	1,697	79
J-8	1,495.00	Zone 1	Demand	13.00	Fixed	13.00	1,625	56
J-9	1,488.00	Zone 1	Demand	3.00	Fixed	3.00	1,625	59
J-10	1,495.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	56
J-11	1,508.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	82
J-12	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,698	84
J-14	1,515.00	Zone 2	Demand	16.00	Fixed	16.00	1,698	79
J-15	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,698	77
J-16	1,522.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	76
J-17	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-18	1,535.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	70
J-19	1,560.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	59
J-20	1,551.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	63
J-21	1,562.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	58
J-22	1,547.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	65
J-23	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	61
J-24	1,576.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	52
J-25	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	75
J-25A	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,698	83
J-25B	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,698	83
J-25C	1,506.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,698	83
J-26	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	77
J-26A	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,698	84
J-27	1,563.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	58
J-28	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	61
J-29	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	67
J-30	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	68
J-31	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	70
J-32	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	75
J-33	1,527.00	Zone 2	Demand	9.00	Fixed	9.00	1,697	74
J-34	1,517.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	78
J-35	1,514.00	Zone 2	Demand	5.00	Fixed	5.00	1,697	79
J-36	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	66
J-37	1,546.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	65
J-38	1,542.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	67
J-39	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	69
J-40	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71
J-41	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-42	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-43	1,527.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	74
J-44	1,527.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	74
J-45	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	74
J-46	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	74
J-47	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	74
J-48	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-49	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	69
J-50	1,544.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	66
J-51	1,509.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-54	1,516.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	78
J-55	1,503.00	Zone 1	Demand	17.00	Fixed	17.00	1,625	53
J-56	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-57	1,536.00	Zone 2	Demand	19.00	Fixed	19.00	1,697	70
J-58	1,548.00	Zone 2	Demand	22.00	Fixed	22.00	1,697	64
J-59	1,555.00	Zone 2	Demand	23.00	Fixed	23.00	1,697	61
J-60	1,531.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	72
J-61	1,539.00	Zone 2	Demand	24.00	Fixed	24.00	1,697	68
J-62	1,545.00	Zone 2	Demand	22.00	Fixed	22.00	1,697	66
J-69	1,581.00	Zone 2	Demand	11.00	Fixed	11.00	1,697	50
J-70	1,565.00	Zone 2	Demand	23.00	Fixed	23.00	1,697	57
J-71	1,559.00	Zone 2	Demand	17.00	Fixed	17.00	1,697	60
J-72	1,570.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	55
J-73	1,556.00	Zone 2	Demand	16.00	Fixed	16.00	1,697	61
J-74	1,538.00	Zone 2	Demand	15.00	Fixed	15.00	1,697	69
J-75	1,542.00	Zone 2	Demand	15.00	Fixed	15.00	1,697	67
J-76	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	64
J-79	1,552.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	63
J-80	1,545.00	Zone 2	Demand	18.00	Fixed	18.00	1,697	66
J-81	1,539.00	Zone 2	Demand	27.00	Fixed	27.00	1,697	68
J-82	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	77
J-83	1,519.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	77
J-84	1,514.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	79
J-85	1,511.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	81
J-86	1,515.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	79
J-87	1,517.00	Zone 2	Demand	21.30	Fixed	21.30	1,697	78
J-88	1,526.00	Zone 2	Demand	21.30	Fixed	21.30	1,697	74
J-89	1,507.00	Zone 2	Demand	5.00	Fixed	5.00	1,698	82
J-90	1,506.00	Zone 2	Demand	6.00	Fixed	6.00	1,698	83
J-91	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	66
J-92	1,548.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	64
J-93	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-94	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-95	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71
J-96	1,536.00	Zone 2	Demand	22.00	Fixed	22.00	1,697	70
J-97	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	68
J-98	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	67
J-99	1,530.00	Zone 2	Demand	19.04	Fixed	19.04	1,697	72
J-100	1,517.00	Zone 2	Demand	22.00	Fixed	22.00	1,698	78
J-101	1,520.00	Zone 2	Demand	20.00	Fixed	20.00	1,698	77
J-102	1,519.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	77
J-103	1,520.00	Zone 2	Demand	18.00	Fixed	18.00	1,697	77
J-104	1,535.00	Zone 2	Demand	18.00	Fixed	18.00	1,697	70
J-105	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-106	1,517.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	78
J-107	1,511.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	81
J-125	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	70
J-126	1,544.00	Zone 2	Demand	22.00	Fixed	22.00	1,697	66

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-127	1,585.00	Zone 2	Demand	9.00	Fixed	9.00	1,697	48
J-128	1,558.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	60
J-129	1,510.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-130	1,497.00	Zone 1	Demand	16.00	Fixed	16.00	1,625	55
J-131	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	69
J-133	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	74
J-135	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	76
J-136	1,508.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	51
J-137	1,507.00	Zone 1	Demand	13.00	Fixed	13.00	1,625	51
J-138	1,513.00	Zone 2	Demand	23.00	Fixed	23.00	1,697	80
J-139	1,505.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	83
J-140	1,515.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	79
J-141	1,501.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	54
J-142	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71
J-143	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	75
J-144	1,555.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	61
J-145	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-146	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	66
J-147	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	70
J-148	1,531.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	72
J-149	1,576.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	52
J-150	1,570.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	55
J-151	1,565.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	57
J-152	1,556.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	61
J-153	1,515.00	Zone 2	Demand	18.00	Fixed	18.00	1,697	79
J-154	1,543.00	Zone 2	Demand	23.00	Fixed	23.00	1,697	67
J-155	1,538.00	Zone 2	Demand	2.00	Fixed	2.00	1,697	69
J-156	1,559.00	Zone 2	Demand	23.00	Fixed	23.00	1,697	60
J-157	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	61
J-158	1,503.00	Zone 1	Demand	16.00	Fixed	16.00	1,625	53
J-159	1,501.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	54
J-160	1,503.00	Zone 2	Demand	19.00	Fixed	19.00	1,697	84
J-161	1,509.00	Zone 1	Demand	14.00	Fixed	14.00	1,625	50
J-162	1,490.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	58
J-163	1,515.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	48
J-164	1,520.00	Zone 1	Demand	27.00	Fixed	27.00	1,625	45
J-165	1,510.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-166	1,510.00	Zone 1	Demand	2.00	Fixed	2.00	1,625	50
J-167	1,650.00	Zone 3	Demand	22.00	Fixed	22.00	1,783	57
J-168	1,720.00	Zone 3	Demand	21.00	Fixed	21.00	1,783	27
J-170	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	69
J-185	1,760.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	10
J-186	1,750.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	14
J-187	1,740.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	19
J-188	1,640.00	Zone 3	Demand	0.00	Fixed	0.00	1,783	62
J-189	1,509.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-191	1,540.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	68
J-197	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-202	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	74
J-203	1,534.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	70
J-206	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	76

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-208	1,539.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	68
J-209	1,537.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	69
J-210	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	68
J-211	1,530.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	72
J-212	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	74
J-213	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	74
J-214	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	76
J-217	1,515.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	79
J-218	1,515.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	79
J-219	1,516.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	78
J-220	1,519.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	77
J-221	1,522.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	76
J-222	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-232	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	70
J-241	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	64
J-243	1,514.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	79
J-244	1,514.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	79
J-245	1,536.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	70
J-246	1,542.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	67
J-247	1,531.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	72
J-248	1,534.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	70
J-249	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-250	1,545.00	Zone 2	Demand	10.00	Fixed	10.00	1,697	66
J-251	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71
JU J-24	1,520.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,696	76

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
JU P-47+	false	6,450.00	8.0	PVC	140.0	-275.18	1,687	1,696	9	1.46	1.76
JU P-48A	false	5,800.00	12.0	PVC	140.0	-275.18	1,696	1,698	1	0.24	0.78
JU P-52	false	1,019.00	12.0	Ductile Iron	130.0	683.16	1,700	1,698	1	1.25	1.94
JU P-53	false	611.00	12.0	Ductile Iron	130.0	683.16	850	849	1	1.44	1.94
P-1	false	1,532.00	12.0	PVC	140.0	150.09	1,697	1,697	0	0.07	0.43
P-2	false	1,108.00	12.0	PVC	140.0	114.53	1,697	1,697	0	0.04	0.32
P-3	false	1,000.00	12.0	PVC	140.0	82.87	1,697	1,697	0	0.02	0.24
P-4	false	717.00	12.0	PVC	140.0	66.64	1,697	1,697	0	0.01	0.19
P-5	false	918.00	12.0	PVC	140.0	79.71	1,697	1,697	0	0.02	0.23
P-10	false	531.00	12.0	PVC	140.0	52.82	1,625	1,625	0	0.01	0.15
P-11	false	1,583.00	8.0	PVC	140.0	-18.00	1,625	1,625	0	0.01	0.11
P-14	false	2,156.00	8.0	PVC	140.0	-13.07	1,697	1,697	0	0.01	0.08
P-15	false	1,154.00	8.0	PVC	140.0	-22.07	1,697	1,697	0	0.01	0.14
P-16	false	1,079.00	8.0	PVC	140.0	13.07	1,697	1,697	0	0.01	0.08
P-17	false	1,063.00	12.0	PVC	140.0	114.25	1,697	1,697	0	0.04	0.32
P-21	false	2,334.00	12.0	PVC	140.0	22.82	1,625	1,625	0	0.00	0.06
P-22	false	556.00	12.0	PVC	140.0	-15.20	1,625	1,625	0	0.00	0.04
P-24	false	441.00	12.0	PVC	140.0	5.38	1,625	1,625	0	0.00	0.02
P-26	false	286.00	12.0	PVC	140.0	26.37	1,697	1,697	0	0.00	0.07
P-27	false	236.00	12.0	PVC	140.0	-54.07	1,697	1,697	0	0.01	0.15
P-29	false	486.00	12.0	PVC	140.0	-44.79	1,697	1,697	0	0.01	0.13
P-30	false	675.00	12.0	PVC	140.0	-65.80	1,697	1,697	0	0.01	0.19
P-31	false	440.00	12.0	PVC	140.0	-60.77	1,697	1,697	0	0.01	0.17
P-32	false	899.00	12.0	PVC	140.0	-78.41	1,697	1,697	0	0.02	0.22
P-33	false	761.00	12.0	PVC	140.0	-122.34	1,697	1,697	0	0.05	0.35
P-34	false	446.00	12.0	PVC	140.0	-83.46	1,697	1,697	0	0.02	0.24
P-35	false	588.00	12.0	PVC	140.0	-142.79	1,697	1,697	0	0.06	0.41
P-36	false	433.00	12.0	PVC	140.0	-168.54	1,697	1,697	0	0.08	0.48
P-37	false	799.00	12.0	PVC	140.0	-136.18	1,697	1,697	0	0.06	0.39
P-38	false	349.00	12.0	PVC	140.0	-127.01	1,697	1,697	0	0.05	0.36
P-39	false	508.00	12.0	PVC	140.0	-80.04	1,697	1,697	0	0.02	0.23
P-40	false	721.00	12.0	PVC	140.0	-128.21	1,697	1,697	0	0.05	0.36
P-41	false	656.00	12.0	PVC	140.0	-192.17	1,697	1,697	0	0.10	0.55
P-42	false	766.00	12.0	PVC	140.0	-186.02	1,697	1,697	0	0.10	0.53
P-43	false	427.00	12.0	PVC	140.0	-273.47	1,697	1,697	0	0.20	0.78
P-44	false	598.00	12.0	PVC	140.0	223.51	1,697	1,697	0	0.14	0.63
P-45	false	306.00	12.0	PVC	140.0	167.86	1,697	1,697	0	0.08	0.48
P-46	false	430.00	12.0	PVC	140.0	142.43	1,697	1,697	0	0.06	0.40
P-47	false	240.00	12.0	PVC	140.0	97.89	1,697	1,697	0	0.03	0.28
P-48	false	452.00	12.0	PVC	140.0	82.54	1,697	1,697	0	0.02	0.23
P-49	false	473.00	12.0	PVC	140.0	66.31	1,697	1,697	0	0.01	0.19
P-50	false	483.00	12.0	PVC	140.0	79.78	1,697	1,697	0	0.02	0.23
P-51	false	642.00	12.0	PVC	140.0	47.23	1,697	1,697	0	0.01	0.13
P-60	false	628.00	12.0	PVC	140.0	-67.33	1,697	1,697	0	0.01	0.19
P-61	false	1,228.00	8.0	PVC	140.0	67.33	1,697	1,697	0	0.11	0.43
P-63	false	861.00	8.0	PVC	140.0	-5.37	1,625	1,625	0	0.00	0.03
P-64	false	1,049.00	8.0	PVC	140.0	-44.33	1,697	1,697	0	0.05	0.28
P-69	false	1,189.00	8.0	PVC	140.0	-19.75	1,697	1,697	0	0.01	0.13
P-70	false	800.00	8.0	PVC	140.0	-39.75	1,697	1,697	0	0.04	0.25
P-71	false	776.00	12.0	PVC	140.0	-34.55	1,697	1,697	0	0.00	0.10

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-72	false	1,276.00	12.0	PVC	140.0	-75.39	1,697	1,697	0	0.02	0.21
P-73	false	609.00	12.0	PVC	140.0	-80.44	1,697	1,697	0	0.02	0.23
P-74	false	601.00	12.0	PVC	140.0	9.59	1,697	1,697	0	0.00	0.03
P-76	false	1,135.00	12.0	PVC	140.0	-42.20	1,697	1,697	0	0.01	0.12
P-77	false	711.00	12.0	PVC	140.0	46.67	1,697	1,697	0	0.01	0.13
P-81	false	879.00	8.0	PVC	140.0	16.23	1,697	1,697	0	0.01	0.10
P-82	false	1,488.00	8.0	PVC	140.0	23.67	1,697	1,697	0	0.02	0.15
P-83	false	2,074.00	8.0	PVC	140.0	17.90	1,697	1,697	0	0.01	0.11
P-84	false	1,900.00	8.0	PVC	140.0	-1.10	1,697	1,697	0	0.00	0.01
P-85	false	785.00	8.0	PVC	140.0	4.01	1,697	1,697	0	0.00	0.03
P-86	false	753.00	8.0	PVC	140.0	22.46	1,697	1,697	0	0.01	0.14
P-87	false	698.00	8.0	PVC	140.0	21.01	1,697	1,697	0	0.01	0.13
P-88	false	1,445.00	8.0	PVC	140.0	-16.99	1,697	1,697	0	0.01	0.11
P-89	false	540.00	8.0	PVC	140.0	-18.53	1,697	1,697	0	0.01	0.12
P-90	false	1,032.00	8.0	PVC	140.0	-19.52	1,697	1,697	0	0.01	0.12
P-92	false	948.00	12.0	PVC	140.0	0.00	1,697	1,697	0	0.00	0.00
P-93	false	527.00	8.0	PVC	140.0	-1.76	1,697	1,697	0	0.00	0.01
P-97	false	553.00	8.0	PVC	140.0	-1.13	1,697	1,697	0	0.00	0.01
P-98	false	825.00	8.0	PVC	140.0	-24.13	1,697	1,697	0	0.02	0.15
P-100	false	1,448.00	12.0	PVC	140.0	73.90	1,697	1,697	0	0.02	0.21
P-101	false	1,389.00	8.0	PVC	140.0	-17.63	1,697	1,697	0	0.01	0.11
P-102	false	1,423.00	8.0	PVC	140.0	5.20	1,697	1,697	0	0.00	0.03
P-104	false	412.00	8.0	PVC	140.0	-38.88	1,697	1,697	0	0.04	0.25
P-105	false	508.00	8.0	PVC	140.0	-38.88	1,697	1,697	0	0.04	0.25
P-106	false	490.00	8.0	PVC	140.0	-38.13	1,697	1,697	0	0.04	0.24
P-107	false	2,424.00	12.0	PVC	140.0	18.50	1,697	1,697	0	0.00	0.05
P-111	false	1,935.00	12.0	PVC	140.0	-42.85	1,697	1,697	0	0.01	0.12
P-112	false	1,351.00	12.0	PVC	140.0	-44.56	1,697	1,697	0	0.01	0.13
P-113	false	1,017.00	8.0	PVC	140.0	-21.56	1,697	1,697	0	0.01	0.14
P-114	false	1,169.00	12.0	PVC	140.0	-56.63	1,697	1,697	0	0.01	0.16
P-115	false	2,482.00	12.0	PVC	140.0	-56.63	1,697	1,697	0	0.01	0.16
P-126	false	2,572.00	12.0	PVC	140.0	-290.84	1,697	1,698	1	0.22	0.83
P-127	false	388.00	12.0	PVC	140.0	-295.84	1,698	1,698	0	0.23	0.84
P-128	false	373.00	12.0	PVC	140.0	-301.84	1,698	1,698	0	0.24	0.86
P-132	false	681.00	8.0	PVC	140.0	190.94	1,698	1,697	1	0.74	1.22
P-133	false	382.00	8.0	PVC	140.0	73.45	1,697	1,697	0	0.13	0.47
P-134	false	570.00	8.0	PVC	140.0	72.12	1,697	1,697	0	0.12	0.46
P-135	false	198.00	8.0	PVC	140.0	108.64	1,697	1,697	0	0.26	0.69
P-136	false	736.00	8.0	PVC	140.0	54.98	1,697	1,697	0	0.07	0.35
P-137	false	1,345.00	8.0	PVC	140.0	53.66	1,697	1,697	0	0.07	0.34
P-138	false	729.00	8.0	PVC	140.0	32.36	1,697	1,697	0	0.03	0.21
P-139	false	1,059.00	8.0	PVC	140.0	40.97	1,697	1,697	0	0.04	0.26
P-140	false	260.00	8.0	PVC	140.0	19.97	1,697	1,697	0	0.01	0.13
P-141	false	963.00	8.0	PVC	140.0	-1.33	1,697	1,697	0	0.00	0.01
P-142	false	179.00	8.0	PVC	140.0	76.51	1,697	1,697	0	0.14	0.49
P-143	false	995.00	8.0	PVC	140.0	56.51	1,697	1,697	0	0.08	0.36
P-144	false	466.00	8.0	PVC	140.0	36.51	1,697	1,697	0	0.03	0.23
P-145	false	859.00	8.0	PVC	140.0	-9.17	1,697	1,697	0	0.00	0.06
P-146	false	834.00	8.0	PVC	140.0	-27.17	1,697	1,697	0	0.02	0.17
P-147	false	415.00	8.0	PVC	140.0	-27.17	1,697	1,697	0	0.02	0.17

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-148	false	545.00	8.0	PVC	140.0	63.96	1,697	1,697	0	0.10	0.41
P-149	false	523.00	8.0	PVC	140.0	32.09	1,697	1,697	0	0.03	0.20
P-150	false	1,009.00	8.0	PVC	140.0	21.95	1,697	1,697	0	0.01	0.14
P-151	false	818.00	8.0	PVC	140.0	-1.71	1,697	1,697	0	0.00	0.01
P-153	false	1,155.00	8.0	PVC	140.0	-4.87	1,697	1,697	0	0.00	0.03
P-154	false	1,692.00	8.0	PVC	140.0	-31.87	1,697	1,697	0	0.03	0.20
P-155	false	1,476.00	8.0	PVC	140.0	-28.47	1,697	1,697	0	0.02	0.18
P-156	false	1,381.00	8.0	PVC	140.0	-23.66	1,697	1,697	0	0.02	0.15
P-157	false	671.00	8.0	PVC	140.0	-18.33	1,697	1,697	0	0.01	0.12
P-160	false	1,433.00	8.0	PVC	140.0	-10.30	1,697	1,697	0	0.00	0.07
P-162	false	808.00	8.0	PVC	140.0	11.70	1,697	1,697	0	0.00	0.07
P-163	false	628.00	8.0	PVC	140.0	23.00	1,697	1,697	0	0.01	0.15
P-166	false	338.00	8.0	PVC	140.0	87.45	1,697	1,697	0	0.17	0.56
P-167	false	905.00	8.0	PVC	140.0	25.19	1,697	1,697	0	0.02	0.16
P-168	false	257.00	8.0	PVC	140.0	6.15	1,697	1,697	0	0.00	0.04
P-169	false	250.00	8.0	PVC	140.0	62.26	1,697	1,697	0	0.09	0.40
P-170	false	584.00	8.0	PVC	140.0	62.26	1,697	1,697	0	0.09	0.40
P-171	false	823.00	8.0	PVC	140.0	-28.63	1,697	1,697	0	0.02	0.18
P-173	false	534.00	8.0	PVC	140.0	62.26	1,697	1,697	0	0.09	0.40
P-176	false	557.00	12.0	Ductile Iron	130.0	-167.97	1,697	1,697	0	0.09	0.48
P-177	false	582.00	12.0	PVC	140.0	-139.55	1,697	1,697	0	0.06	0.40
P-178	false	1,449.00	12.0	PVC	140.0	-200.62	1,697	1,697	0	0.11	0.57
P-179	false	943.00	8.0	PVC	140.0	-28.42	1,697	1,697	0	0.02	0.18
P-180	false	1,328.00	8.0	PVC	140.0	-46.42	1,697	1,697	0	0.05	0.30
P-181	false	970.00	8.0	PVC	140.0	-67.42	1,697	1,697	0	0.11	0.43
P-182	false	385.00	12.0	PVC	140.0	599.50	1,698	1,698	0	0.86	1.70
P-183	false	509.00	12.0	PVC	140.0	476.78	1,698	1,698	0	0.56	1.35
P-184	false	483.00	12.0	PVC	140.0	541.50	1,698	1,697	0	0.71	1.54
P-185	false	467.00	8.0	PVC	140.0	106.73	1,698	1,698	0	0.25	0.68
P-186	false	768.00	8.0	PVC	140.0	84.73	1,698	1,698	0	0.16	0.54
P-187	false	408.00	8.0	PVC	140.0	64.73	1,698	1,698	0	0.10	0.41
P-189	false	578.00	8.0	PVC	140.0	-34.70	1,697	1,697	0	0.03	0.22
P-190	false	318.00	8.0	PVC	140.0	-11.63	1,697	1,697	0	0.00	0.07
P-191	false	827.00	8.0	PVC	140.0	23.06	1,697	1,697	0	0.01	0.15
P-193	false	2,593.00	16.0	PVC	140.0	-224.00	1,783	1,783	0	0.03	0.36
P-194	false	144.00	16.0	PVC	140.0	-224.00	1,783	1,783	0	0.03	0.36
P-195	false	4,375.00	16.0	PVC	140.0	-222.43	1,783	1,783	0	0.03	0.35
P-199	false	1,292.00	12.0	PVC	140.0	27.00	1,625	1,625	0	0.00	0.08
P-200	false	2,922.00	12.0	PVC	140.0	14.63	1,625	1,625	0	0.00	0.04
P-201	false	1,330.00	8.0	PVC	140.0	14.63	1,625	1,625	0	0.01	0.09
P-202	false	2,369.00	8.0	PVC	140.0	-12.37	1,625	1,625	0	0.00	0.08
P-208	false	512.00	8.0	PVC	140.0	-10.80	1,697	1,697	0	0.00	0.07
P-209	false	614.00	8.0	PVC	140.0	-31.80	1,697	1,697	0	0.03	0.20
P-210	false	397.00	8.0	PVC	140.0	2.66	1,697	1,697	0	0.00	0.02
P-211	false	418.00	8.0	PVC	140.0	-15.34	1,697	1,697	0	0.01	0.10
P-212	false	902.00	8.0	PVC	140.0	-38.06	1,697	1,697	0	0.04	0.24
P-213	false	710.00	8.0	PVC	140.0	-61.06	1,697	1,697	0	0.09	0.39
P-214	false	1,639.00	8.0	PVC	140.0	23.00	1,697	1,697	0	0.01	0.15
P-215	false	1,427.00	8.0	PVC	140.0	-21.56	1,697	1,697	0	0.01	0.14
P-216	false	1,293.00	8.0	PVC	140.0	-23.56	1,697	1,697	0	0.02	0.15

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-217	false	445.00	8.0	PVC	140.0	-50.32	1,697	1,697	0	0.06	0.32
P-218	false	475.00	8.0	PVC	140.0	-82.40	1,697	1,697	0	0.16	0.53
P-219	false	726.00	8.0	PVC	140.0	32.08	1,697	1,697	0	0.03	0.20
P-221	false	1,256.00	8.0	PVC	140.0	-24.56	1,697	1,697	0	0.02	0.16
P-222	false	537.00	8.0	PVC	140.0	11.08	1,697	1,697	0	0.00	0.07
P-223	false	531.00	8.0	PVC	140.0	35.64	1,697	1,697	0	0.03	0.23
P-224	false	663.00	12.0	PVC	140.0	-37.08	1,697	1,697	0	0.00	0.11
P-225	false	382.00	12.0	PVC	140.0	-24.44	1,697	1,697	0	0.00	0.07
P-226	false	564.00	8.0	PVC	140.0	12.64	1,697	1,697	0	0.00	0.08
P-227	false	285.00	8.0	PVC	140.0	9.82	1,625	1,625	0	0.00	0.06
P-228	false	661.00	8.0	PVC	140.0	-0.33	1,625	1,625	0	0.00	0.00
P-229	false	1,704.00	8.0	PVC	140.0	5.85	1,625	1,625	0	0.00	0.04
P-230	false	612.00	8.0	PVC	140.0	-10.15	1,625	1,625	0	0.00	0.06
P-232	false	1,792.00	8.0	PVC	140.0	-1.04	1,697	1,697	0	0.00	0.01
P-233	false	1,439.00	8.0	PVC	140.0	-23.18	1,625	1,625	0	0.01	0.15
P-234	false	262.00	8.0	PVC	140.0	-37.18	1,625	1,625	0	0.04	0.24
P-235	false	833.00	8.0	PVC	140.0	-0.00	1,625	1,625	0	0.00	0.00
P-236	false	1,358.00	8.0	PVC	140.0	-2.00	1,625	1,625	0	0.00	0.01
P-237	false	614.00	8.0	PVC	140.0	2.00	1,625	1,625	0	0.00	0.01
P-238	false	1,384.00	8.0	PVC	140.0	-1.57	1,783	1,783	0	0.00	0.01
P-239	false	3,023.00	8.0	PVC	140.0	-23.57	1,783	1,783	0	0.02	0.15
P-240	false	2,003.00	8.0	PVC	140.0	-44.57	1,783	1,783	0	0.05	0.28
P-243	false	4,782.00	16.0	PVC	140.0	-267.00	1,783	1,783	0	0.05	0.43
P-244	false	518.00	16.0	PVC	140.0	280.79	1,783	1,783	0	0.05	0.45
P-245	false	648.00	12.0	PVC	140.0	13.79	1,783	1,783	0	0.00	0.04
P-246	false	3,294.00	12.0	PVC	140.0	13.79	1,783	1,783	0	0.00	0.04
P-247	false	1,699.00	12.0	PVC	140.0	13.79	1,783	1,783	0	0.00	0.04
P-248	false	1,926.00	12.0	PVC	140.0	13.78	1,697	1,697	0	0.00	0.04
P-249	false	549.00	16.0	PVC	140.0	223.99	1,697	1,697	0	0.03	0.36
P-250	false	2,045.00	16.0	PVC	140.0	224.00	1,783	1,782	0	0.03	0.36
P-251	false	744.00	12.0	PVC	140.0	7.63	1,625	1,625	0	0.00	0.02
P-252	false	344.00	12.0	PVC	140.0	0.00	1,625	1,625	0	0.00	0.00
P-253	false	656.00	8.0	PVC	140.0	-7.63	1,625	1,625	0	0.00	0.05
P-254	false	202.00	12.0	PVC	140.0	0.00	1,625	1,625	0	0.00	0.00
P-255	false	397.00	12.0	PVC	140.0	0.00	1,697	1,697	0	0.00	0.00
P-256	false	1,377.00	12.0	PVC	140.0	65.82	1,625	1,625	0	0.01	0.19
P-257	false	1,448.00	8.0	PVC	140.0	-17.98	1,697	1,697	0	0.01	0.11
P-258	false	193.00	12.0	PVC	140.0	-121.00	1,697	1,697	0	0.04	0.34
P-259	false	177.00	12.0	PVC	140.0	121.00	1,625	1,625	0	0.04	0.34
P-260	false	1,595.00	12.0	PVC	140.0	190.39	1,698	1,698	0	0.10	0.54
P-264	false	859.00	12.0	PVC	140.0	838.68	1,784	1,783	1	1.60	2.38
P-265	false	827.00	12.0	PVC	140.0	838.68	1,000	999	1	1.60	2.38
P-266	false	1,119.00	12.0	PVC	140.0	-492.78	1,698	1,698	1	0.60	1.40
P-271	false	701.00	12.0	Ductile Iron	130.0	-684.29	849	850	1	1.26	1.94
P-272	false	671.00	16.0	Ductile Iron	130.0	144.41	1,697	1,697	0	0.02	0.23
P-273	false	685.00	12.0	Ductile Iron	130.0	144.41	1,697	1,697	0	0.07	0.41
P-273A	false	672.00	12.0	Ductile Iron	130.0	-144.41	1,697	1,697	0	0.07	0.41
P-285	false	485.00	12.0	Ductile Iron	130.0	-275.18	1,698	1,698	0	0.23	0.78
P-286	false	856.00	12.0	Ductile Iron	130.0	-275.18	1,698	1,698	0	0.23	0.78
P-287	false	355.00	12.0	Ductile Iron	130.0	275.18	1,698	1,698	0	0.23	0.78

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-293	false	532.00	12.0	PVC	140.0	-42.25	1,697	1,697	0	0.01	0.12
P-294	false	545.00	12.0	PVC	140.0	-45.57	1,697	1,697	0	0.01	0.13
P-299	false	182.00	8.0	PVC	140.0	-23.24	1,697	1,697	0	0.01	0.15
P-300	false	819.00	12.0	Ductile Iron	130.0	684.29	1,699	1,698	1	1.26	1.94
P-305	false	270.00	8.0	PVC	140.0	-12.55	1,697	1,697	0	0.00	0.08
P-308	false	363.00	8.0	PVC	140.0	-32.55	1,697	1,697	0	0.03	0.21
P-309	false	202.00	8.0	PVC	140.0	3.32	1,697	1,697	0	0.00	0.02
P-311	false	922.00	8.0	PVC	140.0	-6.68	1,697	1,697	0	0.00	0.04
P-312	false	1,208.00	8.0	PVC	140.0	20.68	1,697	1,697	0	0.01	0.13
P-313	false	487.00	8.0	PVC	140.0	12.97	1,697	1,697	0	0.01	0.08
P-316	false	268.00	8.0	PVC	140.0	12.97	1,697	1,697	0	0.01	0.08
P-321	false	266.00	8.0	PVC	140.0	-46.50	1,697	1,697	0	0.05	0.30
P-327	false	460.00	8.0	PVC	140.0	-44.55	1,697	1,697	0	0.05	0.28
P-335	false	1,325.00	8.0	PVC	140.0	-9.58	1,697	1,697	0	0.00	0.06
P-339	false	781.00	8.0	PVC	140.0	-13.46	1,697	1,697	0	0.01	0.09
P-340	false	360.00	8.0	PVC	140.0	-17.46	1,697	1,697	0	0.01	0.11
P-347	false	276.00	8.0	PVC	140.0	5.43	1,697	1,697	0	0.00	0.03
P-348	false	1,123.00	8.0	PVC	140.0	12.78	1,697	1,697	0	0.01	0.08
P-349	false	267.00	8.0	PVC	140.0	4.78	1,697	1,697	0	0.00	0.03
P-350	false	1,680.00	8.0	PVC	140.0	4.00	1,697	1,697	0	0.00	0.03
P-351	false	384.00	8.0	PVC	140.0	-4.00	1,697	1,697	0	0.00	0.03
P-365	false	258.00	8.0	PVC	140.0	3.87	1,697	1,697	0	0.00	0.02
P-370	false	477.00	8.0	PVC	140.0	2.14	1,697	1,697	0	0.00	0.01
P-385	false	199.00	8.0	PVC	140.0	-0.75	1,697	1,697	0	0.00	0.00
P-386	false	1,031.00	8.0	PVC	140.0	0.50	1,697	1,697	0	0.00	0.00
P-390	false	228.00	8.0	PVC	140.0	-44.55	1,697	1,697	0	0.05	0.28
P-391	false	816.00	8.0	PVC	140.0	-11.82	1,697	1,697	0	0.00	0.08
P-392	false	399.00	8.0	PVC	140.0	-19.82	1,697	1,697	0	0.01	0.13
P-393	false	408.00	8.0	PVC	140.0	16.68	1,697	1,697	0	0.01	0.11
P-394	false	1,088.00	8.0	PVC	140.0	50.64	1,697	1,697	0	0.06	0.32
P-395	false	393.00	8.0	PVC	140.0	42.64	1,697	1,697	0	0.05	0.27
P-396	false	392.00	8.0	PVC	140.0	-13.86	1,697	1,697	0	0.01	0.09
P-397	false	999.00	8.0	PVC	140.0	-5.86	1,697	1,697	0	0.00	0.04
P-398	false	789.00	8.0	PVC	140.0	1.73	1,697	1,697	0	0.00	0.01
P-399	false	888.00	8.0	PVC	140.0	-6.27	1,697	1,697	0	0.00	0.04
P-400	false	611.00	8.0	PVC	140.0	-21.34	1,697	1,697	0	0.01	0.14
P-401	false	265.00	8.0	PVC	140.0	-41.34	1,697	1,697	0	0.04	0.26
P-402	false	407.00	8.0	PVC	140.0	-19.96	1,697	1,697	0	0.01	0.13
P-403	false	1,003.00	8.0	PVC	140.0	-27.96	1,697	1,697	0	0.02	0.18
P-404	false	830.00	8.0	PVC	140.0	-21.37	1,697	1,697	0	0.01	0.14
P-405	false	579.00	8.0	PVC	140.0	-31.37	1,697	1,697	0	0.03	0.20
P-406	false	328.00	8.0	PVC	140.0	25.75	1,697	1,697	0	0.02	0.16
P-407	false	557.00	8.0	PVC	140.0	14.50	1,697	1,697	0	0.01	0.09
P-408	false	878.00	8.0	PVC	140.0	11.25	1,697	1,697	0	0.00	0.07
P-409	false	561.00	8.0	PVC	140.0	1.25	1,697	1,697	0	0.00	0.01
P-410	false	2,172.00	8.0	PVC	140.0	25.43	1,697	1,697	0	0.02	0.16
P-411	false	582.00	8.0	PVC	140.0	0.00	1,697	1,697	0	0.00	0.00
P-412	false	850.00	8.0	PVC	140.0	15.35	1,697	1,697	0	0.01	0.10
P-413	false	1,074.00	8.0	PVC	140.0	7.23	1,697	1,697	0	0.00	0.05

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Tank Report

Label	Zone	Base Elevation (ft)	Initial HGL (ft)	Minimum Elevation (ft)	Maximum Elevation (ft)	Inactive Volume (gal)	Tank Diameter (ft)	Inflow (gpm)	Outflow (gpm)	Current Status	Calculated Hydraulic Grade (ft)	Calculated Percent Full (%)
Future Tank T-4	Zone 3	1,760.00	1,783.00	1,762.00	1,784.00	0.00	100.00	557.89	-557.89	Filling	1,783	95.5
Phase II Tank T-2	Zone 3	1,674.00	1,697.00	1,676.00	1,698.00	0.00	85.00	144.41	-144.41	Filling	1,697	95.5
JU Supply Edwards	Zone - JU-1	1,667.00	1,687.00	1,669.00	1,688.00	0.00	2.00	275.18	-275.18	Filling	1,687	94.7

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Future Well No. 4	1,000.00	Zone 3	-838.68	838.68	1,000
Skyline Well #1	850.00	Zone 1	-683.16	683.16	850
Skyline Well #3 (Johnson Util)	850.00	Zone 1	-684.29	684.29	850

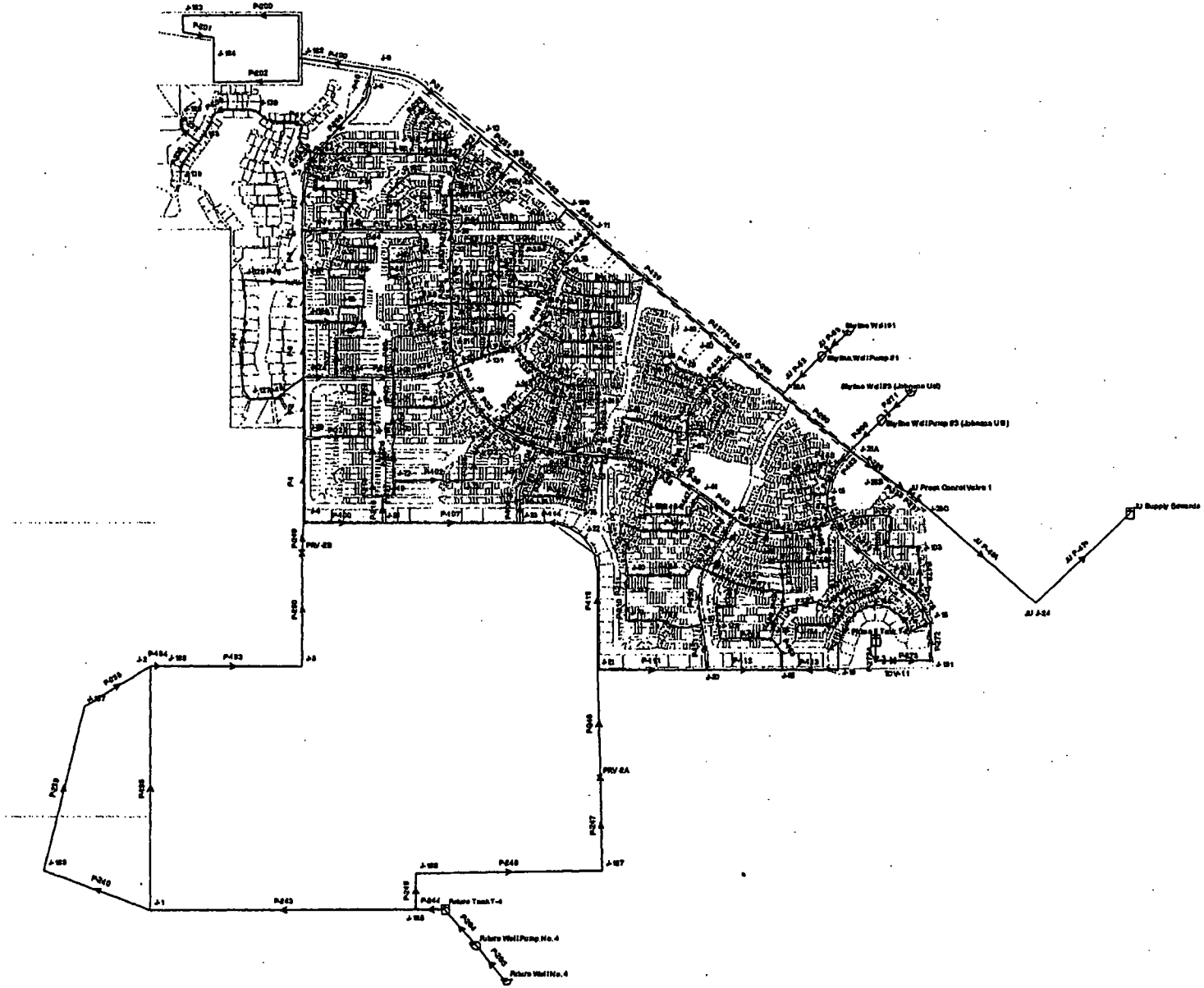
Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Pump Report

Label	Elevation (ft)	Rated Power (Hp)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Calculated Water Power (Hp)
Future Well Pump No. 4	1,000.00		On	999	1,784	838.68	786	166.36
Skyline Well Pump #1	1,000.00		On	849	1,700	683.16	851	146.72
Skyline Well Pump #3 (Johnson Util	1,000.00		On	849	1,699	684.29	850	146.89

Scenario: Ultimate P.A.D. - Average Day Demands
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
JU Press Conrol Valve	1,506.00	12.0	10.00	Inactive	-275.18	1,698	1,698	0
PRV-1A	1,509.00	12.0	4.30	Closed	0.00	1,697	1,625	0
PRV-1B	1,509.00	12.0	4.30	Closed	0.00	1,697	1,625	0
PRV-1C	1,509.00	12.0	4.30	Throttling	121.00	1,697	1,625	72
PRV-2A	1,600.00	12.0	4.30	Throttling	13.79	1,783	1,697	86
PRV-2B	1,600.00	16.0	4.30	Throttling	224.00	1,782	1,697	85
TCV-11	1,674.00	12.0	10.00	Throttling	-144.41	1,697	1,697	0

Scenario: Ultimate P.A.D. - Maximum Day Plus Fire



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Scenario Summary Report
Scenario: Ultimate P.A.D. - Maximum Day Plus Fire

Scenario Summary	
Active Topology Alternative	Base-Active Topology
Physical Alternative	Base-Physical
Demand Alternative	Demand-Ultimate P.A.D. - Maximum Day Plus Fire
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Fire Flow-Ultimate P.A.D. - Maximum Day Plus Fire
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary				
Analysis	Constituent		Quality Time Step	N/A hr
Age Tolerance	0.01	hr	Constituent Tolerance	0.01 mg/l
Trace Tolerance	1.0	%		

Global Adjustments			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 06/03/03 02:05:31 PM
All systems working. Maximum day with a fire.

Calculation Results Summary

Scenario: Ultimate P.A.D. - Maximum Day Plus Fire
[Analysis Started]
[Fire Flow]
Failed to Converge 0
Satisfied Constraints 178
Failed Constraints 0
Total Nodes Computed 178
[Steady State]
0:00:00 Balanced after 13 trials; relative flow change = 0.000337
Flow Summary
Flow Supplied 2,210.92 gpm
Flow Demanded 2,457.28 gpm
Flow Stored -246.37 gpm
0:00:00 Reservoir Future Well No. 4 is emptying
0:00:00 Reservoir Skyline Well #1 is emptying
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Future Tank T-4 is emptying at 23 ft
0:00:00 Tank Phase II Tank T-2 is emptying at 23 ft
0:00:00 Tank JU Supply Edwards is filling at 20 ft
0:00:00 PRV PRV-1A closed
0:00:00 PRV PRV-2A active
0:00:00 PRV PRV-2B active
0:00:00 PRV PRV-1B closed
0:00:00 PRV PRV-1C active
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Ultimate P.A.D. - Maximum Day Plus Fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-1	Zone 3	0.00	true	true	0.00	0.00	0.00	39	J-185	10
J-2	Zone 3	0.00	true	true	0.00	0.00	0.00	60	J-185	10
J-3	Zone 3	0.00	true	true	0.00	0.00	0.00	68	J-185	10
J-4	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	46	J-127	48
J-5	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	52	J-4	46
J-6	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-4	46
J-7	Zone 2	1,000.00	true	true	1,100.00	1,026.00	1,126.00	75	J-4	46
J-8	Zone 1	1,000.00	true	true	1,100.00	1,026.00	1,126.00	55	J-164	45
J-9	Zone 1	1,000.00	true	true	1,100.00	1,006.00	1,106.00	58	J-164	44
J-10	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	58	J-164	45
J-11	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	79	J-4	46
J-12	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	82	J-4	46
J-14	Zone 2	1,000.00	true	true	1,100.00	1,032.00	1,132.00	77	J-4	46
J-15	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	75	J-4	46
J-16	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	74	J-4	46
J-17	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	72	J-4	46
J-18	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-4	46
J-19	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	54	J-4	46
J-20	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	62	J-4	46
J-21	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	57	J-4	46
J-22	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	63	J-4	46
J-23	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	60	J-4	46
J-24	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	51	J-4	46
J-25	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	73	J-4	46
J-25A	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	81	J-4	46
J-25B	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	80	J-4	46
J-25C	Zone - JU-1	0.00	true	true	0.00	0.00	0.00	83	JU J-24	76
J-26	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	74	J-4	46
J-26A	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	82	J-4	46
J-27	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	58	J-4	46
J-28	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	59	J-4	46
J-29	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	64	J-4	46
J-30	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	66	J-4	46
J-31	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-4	46
J-32	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	73	J-4	46
J-33	Zone 2	1,000.00	true	true	1,100.00	1,018.00	1,118.00	71	J-4	46
J-34	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	75	J-4	46
J-35	Zone 2	1,000.00	true	true	1,100.00	1,010.00	1,110.00	77	J-4	46
J-36	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	64	J-4	46
J-37	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	63	J-4	46
J-38	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	65	J-4	46
J-39	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-40	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-4	46
J-41	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	70	J-4	46
J-42	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	71	J-4	46
J-43	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	72	J-4	46
J-44	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	72	J-4	46
J-45	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	72	J-4	46
J-46	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	72	J-4	46
J-47	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	73	J-4	46

Scenario: Ultimate P.A.D. - Maximum Day Plus Fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-48	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-4	46
J-49	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-50	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	63	J-4	46
J-51	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-164	45
J-54	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	73	J-4	46
J-55	Zone 1	1,000.00	true	true	1,100.00	1,034.00	1,134.00	50	J-164	45
J-56	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-4	46
J-57	Zone 2	1,000.00	true	true	1,100.00	1,038.00	1,138.00	62	J-4	46
J-58	Zone 2	1,000.00	true	true	1,100.00	1,044.00	1,144.00	60	J-4	46
J-59	Zone 2	1,000.00	true	true	1,100.00	1,046.00	1,146.00	59	J-4	46
J-60	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	67	J-4	46
J-61	Zone 2	1,000.00	true	true	1,100.00	1,048.00	1,148.00	65	J-4	46
J-62	Zone 2	1,000.00	true	true	1,100.00	1,044.00	1,144.00	63	J-4	46
J-69	Zone 2	1,000.00	true	true	1,100.00	1,022.00	1,122.00	48	J-4	46
J-70	Zone 2	1,000.00	true	true	1,100.00	1,046.00	1,146.00	53	J-4	46
J-71	Zone 2	1,000.00	true	true	1,100.00	1,034.00	1,134.00	57	J-4	46
J-72	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	52	J-4	46
J-73	Zone 2	1,000.00	true	true	1,100.00	1,032.00	1,132.00	56	J-4	46
J-74	Zone 2	1,000.00	true	true	1,100.00	1,030.00	1,130.00	64	J-4	46
J-75	Zone 2	1,000.00	true	true	1,100.00	1,030.00	1,130.00	63	J-4	46
J-76	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	61	J-4	46
J-79	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	57	J-4	46
J-80	Zone 2	1,000.00	true	true	1,100.00	1,036.00	1,136.00	61	J-4	46
J-81	Zone 2	1,000.00	true	true	1,100.00	1,054.00	1,154.00	62	J-4	46
J-82	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	74	J-4	46
J-83	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	74	J-4	46
J-84	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	75	J-4	46
J-85	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	77	J-4	46
J-86	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	72	J-4	46
J-87	Zone 2	1,000.00	true	true	1,100.00	1,042.60	1,142.60	71	J-4	46
J-88	Zone 2	1,000.00	true	true	1,100.00	1,042.60	1,142.60	70	J-4	46
J-89	Zone 2	1,000.00	true	true	1,100.00	1,010.00	1,110.00	80	J-4	46
J-90	Zone 2	1,000.00	true	true	1,100.00	1,012.00	1,112.00	81	J-4	46
J-91	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	63	J-4	46
J-92	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	62	J-4	46
J-93	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	71	J-4	46
J-94	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-4	46
J-95	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-4	46
J-96	Zone 2	1,000.00	true	true	1,100.00	1,044.00	1,144.00	67	J-4	46
J-97	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	66	J-4	46
J-98	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	64	J-4	46
J-99	Zone 2	1,000.00	true	true	1,100.00	1,038.08	1,138.08	70	J-4	46
J-100	Zone 2	1,000.00	true	true	1,100.00	1,044.00	1,144.00	75	J-4	46
J-101	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	74	J-4	46
J-102	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	72	J-4	46
J-103	Zone 2	1,000.00	true	true	1,100.00	1,036.00	1,136.00	72	J-4	46
J-104	Zone 2	1,000.00	true	true	1,100.00	1,036.00	1,136.00	66	J-4	46
J-105	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-4	46
J-106	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	73	J-4	46
J-107	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	76	J-4	46

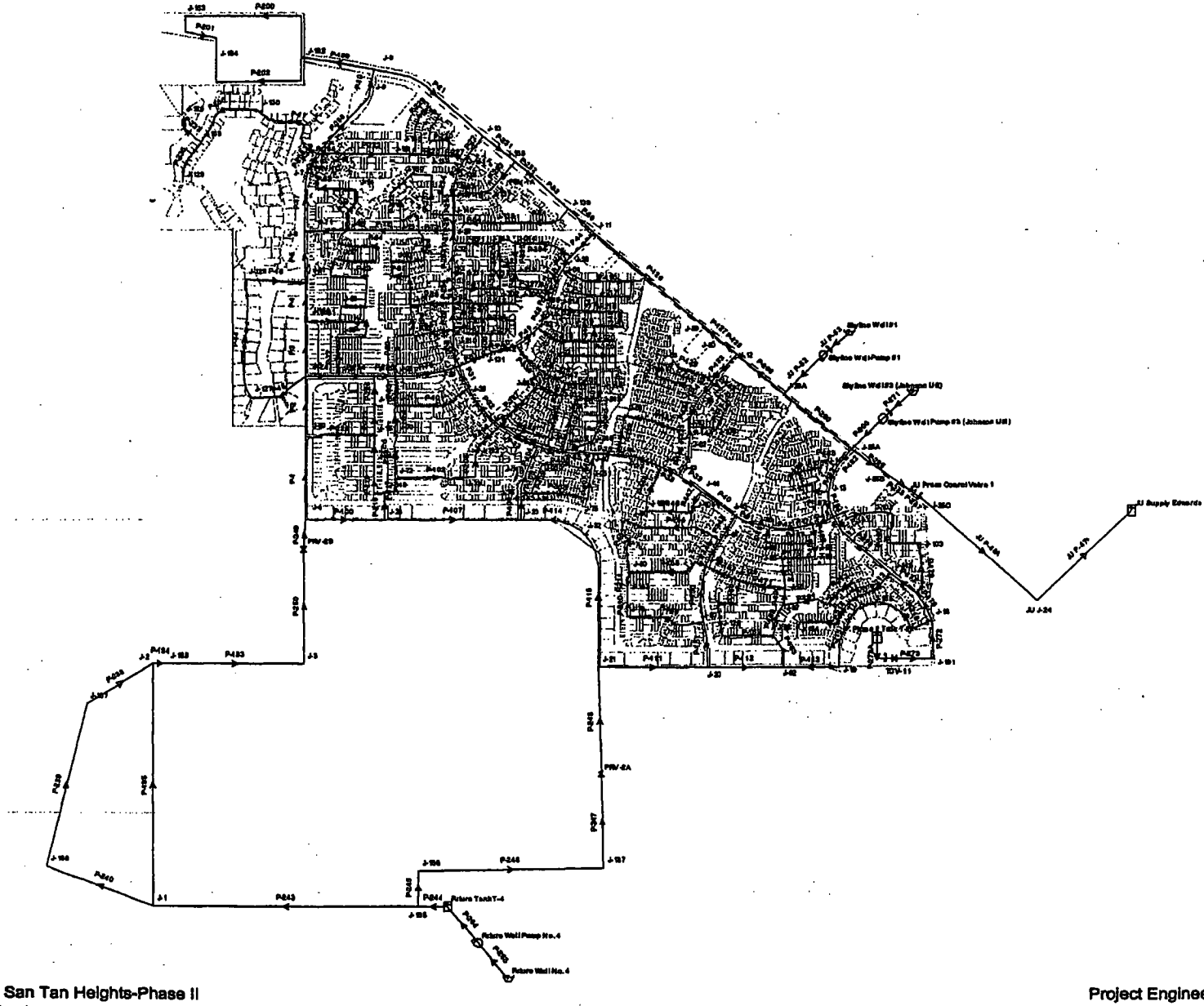
Scenario: Ultimate P.A.D. - Maximum Day Plus Fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-125	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-126	Zone 2	1,000.00	true	true	1,100.00	1,044.00	1,144.00	61	J-4	46
J-127	Zone 2	1,000.00	true	true	1,100.00	1,018.00	1,118.00	42	J-4	46
J-128	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	54	J-127	45
J-129	Zone 1	1,000.00	true	true	1,054.88	1,000.00	1,054.88	20	J-166	26
J-130	Zone 1	1,000.00	true	true	1,100.00	1,032.00	1,132.00	41	J-166	36
J-131	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-133	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	70	J-4	46
J-135	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	74	J-4	46
J-136	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-164	45
J-137	Zone 1	1,000.00	true	true	1,100.00	1,028.00	1,126.00	49	J-164	45
J-138	Zone 2	1,000.00	true	true	1,100.00	1,046.00	1,146.00	74	J-4	46
J-139	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	80	J-4	46
J-140	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	76	J-4	46
J-141	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	53	J-164	45
J-142	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-4	46
J-143	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	73	J-4	46
J-144	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	59	J-4	46
J-145	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	72	J-4	46
J-146	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	63	J-4	46
J-147	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-148	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	68	J-4	46
J-149	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-4	46
J-150	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	51	J-4	46
J-151	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	54	J-4	46
J-152	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	56	J-4	46
J-153	Zone 2	1,000.00	true	true	1,100.00	1,036.00	1,136.00	73	J-4	46
J-154	Zone 2	1,000.00	true	true	1,100.00	1,046.00	1,146.00	48	J-4	46
J-155	Zone 2	1,000.00	true	true	1,100.00	1,004.00	1,104.00	64	J-4	46
J-156	Zone 2	1,000.00	true	true	1,100.00	1,046.00	1,146.00	56	J-4	46
J-157	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	59	J-4	46
J-158	Zone 1	1,000.00	true	true	1,100.00	1,032.00	1,132.00	49	J-164	45
J-159	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	52	J-164	45
J-160	Zone 2	1,000.00	true	true	1,100.00	1,038.00	1,138.00	77	J-4	46
J-161	Zone 1	1,000.00	true	true	1,100.00	1,028.00	1,128.00	49	J-164	45
J-162	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	56	J-164	43
J-163	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	43	J-164	41
J-164	Zone 1	1,000.00	true	true	1,100.00	1,054.00	1,154.00	38	J-163	44
J-165	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	24	J-166	24
J-166	Zone 1	1,000.00	true	true	1,088.18	1,004.00	1,092.18	20	J-129	25
J-167	Zone 3	0.00	true	true	0.00	44.00	44.00	56	J-185	10
J-168	Zone 3	0.00	true	true	0.00	42.00	42.00	26	J-185	10
J-170	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	65	J-4	46
J-185	Zone 3	0.00	true	true	0.00	0.00	0.00	10	J-186	14
J-186	Zone 3	0.00	true	true	0.00	0.00	0.00	14	J-185	10
J-187	Zone 3	0.00	true	true	0.00	0.00	0.00	18	J-185	10
J-188	Zone 3	0.00	true	true	0.00	0.00	0.00	60	J-185	10
J-189	Zone 1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-164	45
J-191	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-197	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	70	J-4	46

Scenario: Ultimate P.A.D. - Maximum Day Plus Fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-202	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	71	J-4	46
J-203	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	68	J-4	46
J-206	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	73	J-4	46
J-208	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	65	J-4	46
J-209	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	68	J-4	46
J-210	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	64	J-4	46
J-211	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	69	J-4	46
J-212	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	71	J-4	46
J-213	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	71	J-4	46
J-214	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-217	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	74	J-4	46
J-218	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	75	J-4	46
J-219	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	74	J-4	46
J-220	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	73	J-4	46
J-221	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	71	J-4	46
J-222	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	70	J-4	46
J-232	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-4	46
J-241	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	61	J-4	46
J-243	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	75	J-4	46
J-244	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	75	J-4	46
J-245	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	66	J-4	46
J-246	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	63	J-4	46
J-247	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	68	J-4	46
J-248	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	67	J-4	46
J-249	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-4	46
J-250	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	62	J-4	46
J-251	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-4	46
JU J-24	Zone - JU-1	0.00	true	true	0.00	0.00	0.00	76	J-25C	83

Scenario: Ultimate P.A.D. - Peak Hour



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Scenario Summary Report
Scenario: Ultimate P.A.D. - Peak Hour

Scenario Summary	
Active Topology Alternative	Base-Active Topology
Physical Alternative	Base-Physical
Demand Alternative	Demand-Ultimate P.A.D. - Peak Hour
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Base-Fire Flow
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary			
Analysis	Constituent	Quality Time Step	N/A hr
Age Tolerance	0.01 hr	Constituent Tolerance	0.01 mg/l
Trace Tolerance	1.0 %		

Global Adjustments			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 06/03/03 03:04:12 PM
All systems functional. Peak hour demands.

Calculation Results Summary

Scenario: Ultimate P.A.D. - Peak Hour
[Analysis Started]
[Steady State]
0:00:00 Balanced after 12 trials; relative flow change = 0.000299
Flow Summary
Flow Supplied 2,220.81 gpm
Flow Demanded 3,685.92 gpm
Flow Stored -1,465.13 gpm
0:00:00 Reservoir Future Well No. 4 is emptying
0:00:00 Reservoir Skyline Well #1 is emptying
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Future Tank T-4 is emptying at 23 ft
0:00:00 Tank Phase II Tank T-2 is emptying at 23 ft
0:00:00 Tank JU Supply Edwards is filling at 20 ft
0:00:00 PRV PRV-1A closed
0:00:00 PRV PRV-2A active
0:00:00 PRV PRV-2B active
0:00:00 PRV PRV-1B closed
0:00:00 PRV PRV-1C active
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-1	1,690.00	Zone 3	Demand	0.00	Fixed	0.00	1,776	37
J-2	1,640.00	Zone 3	Demand	0.00	Fixed	0.00	1,773	57
J-3	1,621.00	Zone 3	Demand	0.00	Fixed	0.00	1,770	65
J-4	1,591.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	46
J-5	1,571.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	53
J-6	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	69
J-7	1,514.00	Zone 2	Demand	39.00	Fixed	39.00	1,692	77
J-8	1,495.00	Zone 1	Demand	39.00	Fixed	39.00	1,625	56
J-9	1,488.00	Zone 1	Demand	9.00	Fixed	9.00	1,625	59
J-10	1,495.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	56
J-11	1,508.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	80
J-12	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	82
J-14	1,515.00	Zone 2	Demand	48.00	Fixed	48.00	1,695	78
J-15	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	76
J-16	1,522.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	75
J-17	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	72
J-18	1,535.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	70
J-19	1,560.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	59
J-20	1,551.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	62
J-21	1,562.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	58
J-22	1,547.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	64
J-23	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	60
J-24	1,576.00	Zone 2	Demand	30.00	Fixed	30.00	1,695	52
J-25	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	73
J-25A	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	82
J-25B	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	82
J-25C	1,506.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,695	82
J-26	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	75
J-26A	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	83
J-27	1,563.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	56
J-28	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	59
J-29	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	65
J-30	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	67
J-31	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	69
J-32	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	73
J-33	1,527.00	Zone 2	Demand	27.00	Fixed	27.00	1,693	72
J-34	1,517.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	76
J-35	1,514.00	Zone 2	Demand	15.00	Fixed	15.00	1,693	77
J-36	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	64
J-37	1,546.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	64
J-38	1,542.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	66
J-39	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	67
J-40	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	69
J-41	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	70
J-42	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	72
J-43	1,527.00	Zone 2	Demand	24.00	Fixed	24.00	1,694	72
J-44	1,527.00	Zone 2	Demand	63.00	Fixed	63.00	1,694	72
J-45	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	72
J-46	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	73
J-47	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	73
J-48	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	70

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-49	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	68
J-50	1,544.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	65
J-51	1,509.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-54	1,516.00	Zone 2	Demand	60.00	Fixed	60.00	1,692	76
J-55	1,503.00	Zone 1	Demand	51.00	Fixed	51.00	1,625	53
J-56	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	70
J-57	1,536.00	Zone 2	Demand	57.00	Fixed	57.00	1,693	68
J-58	1,548.00	Zone 2	Demand	66.00	Fixed	66.00	1,693	63
J-59	1,555.00	Zone 2	Demand	69.00	Fixed	69.00	1,693	60
J-60	1,531.00	Zone 2	Demand	63.00	Fixed	63.00	1,693	70
J-61	1,539.00	Zone 2	Demand	72.00	Fixed	72.00	1,693	67
J-62	1,545.00	Zone 2	Demand	66.00	Fixed	66.00	1,693	64
J-69	1,581.00	Zone 2	Demand	33.00	Fixed	33.00	1,694	49
J-70	1,565.00	Zone 2	Demand	69.00	Fixed	69.00	1,693	55
J-71	1,559.00	Zone 2	Demand	51.00	Fixed	51.00	1,693	58
J-72	1,570.00	Zone 2	Demand	63.00	Fixed	63.00	1,693	53
J-73	1,556.00	Zone 2	Demand	48.00	Fixed	48.00	1,693	59
J-74	1,538.00	Zone 2	Demand	45.00	Fixed	45.00	1,695	68
J-75	1,542.00	Zone 2	Demand	45.00	Fixed	45.00	1,694	66
J-76	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	62
J-79	1,552.00	Zone 2	Demand	63.00	Fixed	63.00	1,694	62
J-80	1,545.00	Zone 2	Demand	54.00	Fixed	54.00	1,694	65
J-81	1,539.00	Zone 2	Demand	81.00	Fixed	81.00	1,694	67
J-82	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	75
J-83	1,519.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	76
J-84	1,514.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	78
J-85	1,511.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	79
J-86	1,515.00	Zone 2	Demand	63.00	Fixed	63.00	1,694	77
J-87	1,517.00	Zone 2	Demand	63.90	Fixed	63.90	1,694	76
J-88	1,526.00	Zone 2	Demand	63.90	Fixed	63.90	1,694	73
J-89	1,507.00	Zone 2	Demand	15.00	Fixed	15.00	1,694	81
J-90	1,506.00	Zone 2	Demand	18.00	Fixed	18.00	1,694	81
J-91	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	64
J-92	1,548.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	64
J-93	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	72
J-94	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	71
J-95	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	70
J-96	1,536.00	Zone 2	Demand	66.00	Fixed	66.00	1,695	69
J-97	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	67
J-98	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	66
J-99	1,530.00	Zone 2	Demand	57.12	Fixed	57.12	1,695	71
J-100	1,517.00	Zone 2	Demand	66.00	Fixed	66.00	1,695	77
J-101	1,520.00	Zone 2	Demand	60.00	Fixed	60.00	1,695	76
J-102	1,519.00	Zone 2	Demand	63.00	Fixed	63.00	1,695	76
J-103	1,520.00	Zone 2	Demand	54.00	Fixed	54.00	1,695	76
J-104	1,535.00	Zone 2	Demand	54.00	Fixed	54.00	1,694	69
J-105	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	70
J-106	1,517.00	Zone 2	Demand	60.00	Fixed	60.00	1,694	76
J-107	1,511.00	Zone 2	Demand	60.00	Fixed	60.00	1,694	79
J-125	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	69
J-126	1,544.00	Zone 2	Demand	66.00	Fixed	66.00	1,695	65

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-127	1,585.00	Zone 2	Demand	27.00	Fixed	27.00	1,693	47
J-128	1,558.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	58
J-129	1,510.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-130	1,497.00	Zone 1	Demand	48.00	Fixed	48.00	1,625	55
J-131	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	67
J-133	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	72
J-135	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	74
J-136	1,508.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	51
J-137	1,507.00	Zone 1	Demand	39.00	Fixed	39.00	1,625	51
J-138	1,513.00	Zone 2	Demand	69.00	Fixed	69.00	1,693	78
J-139	1,505.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	81
J-140	1,515.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	77
J-141	1,501.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	54
J-142	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	70
J-143	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	74
J-144	1,555.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	60
J-145	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	72
J-146	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	64
J-147	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	68
J-148	1,531.00	Zone 2	Demand	60.00	Fixed	60.00	1,693	70
J-149	1,576.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	51
J-150	1,570.00	Zone 2	Demand	63.00	Fixed	63.00	1,694	54
J-151	1,565.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	56
J-152	1,556.00	Zone 2	Demand	63.00	Fixed	63.00	1,693	59
J-153	1,515.00	Zone 2	Demand	54.00	Fixed	54.00	1,694	78
J-154	1,543.00	Zone 2	Demand	69.00	Fixed	69.00	1,695	66
J-155	1,538.00	Zone 2	Demand	6.00	Fixed	6.00	1,696	68
J-156	1,559.00	Zone 2	Demand	69.00	Fixed	69.00	1,693	58
J-157	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	59
J-158	1,503.00	Zone 1	Demand	48.00	Fixed	48.00	1,625	53
J-159	1,501.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	54
J-160	1,503.00	Zone 2	Demand	57.00	Fixed	57.00	1,693	82
J-161	1,509.00	Zone 1	Demand	42.00	Fixed	42.00	1,625	50
J-162	1,490.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	58
J-163	1,515.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	47
J-164	1,520.00	Zone 1	Demand	81.00	Fixed	81.00	1,625	45
J-165	1,510.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-166	1,510.00	Zone 1	Demand	6.00	Fixed	6.00	1,625	50
J-167	1,650.00	Zone 3	Demand	66.00	Fixed	66.00	1,773	53
J-168	1,720.00	Zone 3	Demand	63.00	Fixed	63.00	1,775	24
J-170	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	68
J-185	1,760.00	Zone 3	Demand	0.00	Fixed	0.00	1,782	10
J-186	1,750.00	Zone 3	Demand	0.00	Fixed	0.00	1,782	14
J-187	1,740.00	Zone 3	Demand	0.00	Fixed	0.00	1,779	17
J-188	1,640.00	Zone 3	Demand	0.00	Fixed	0.00	1,773	57
J-189	1,509.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-191	1,540.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	67
J-197	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	70
J-202	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	72
J-203	1,534.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	69
J-206	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	74

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-208	1,539.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	67
J-209	1,537.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	67
J-210	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	67
J-211	1,530.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	70
J-212	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	72
J-213	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	72
J-214	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	74
J-217	1,515.00	Zone 2	Demand	60.00	Fixed	60.00	1,693	77
J-218	1,515.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	77
J-219	1,516.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	77
J-220	1,519.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	75
J-221	1,522.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	74
J-222	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	71
J-232	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	68
J-241	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	62
J-243	1,514.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	77
J-244	1,514.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	77
J-245	1,536.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	68
J-246	1,542.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	65
J-247	1,531.00	Zone 2	Demand	24.00	Fixed	24.00	1,693	70
J-248	1,534.00	Zone 2	Demand	30.00	Fixed	30.00	1,693	69
J-249	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	70
J-250	1,545.00	Zone 2	Demand	30.00	Fixed	30.00	1,694	64
J-251	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	69
JU J-24	1,520.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,694	75

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
JU P-47+	false	6,450.00	8.0	PVC	140.0	-238.30	1,687	1,694	7	1.12	1.52
JU P-48A	false	5,800.00	12.0	PVC	140.0	-238.30	1,694	1,695	1	0.19	0.68
JU P-52	false	1,019.00	12.0	Ductile Iron	130.0	690.71	1,697	1,696	1	1.28	1.96
JU P-53	false	611.00	12.0	Ductile Iron	130.0	690.71	850	849	1	1.47	1.96
P-1	false	1,532.00	12.0	PVC	140.0	801.30	1,697	1,694	2	1.47	2.27
P-2	false	1,108.00	12.0	PVC	140.0	629.93	1,694	1,693	1	0.94	1.79
P-3	false	1,000.00	12.0	PVC	140.0	316.37	1,693	1,693	0	0.26	0.90
P-4	false	717.00	12.0	PVC	140.0	255.02	1,693	1,693	0	0.18	0.72
P-5	false	918.00	12.0	PVC	140.0	307.50	1,693	1,693	0	0.25	0.87
P-10	false	531.00	12.0	PVC	140.0	158.47	1,625	1,625	0	0.07	0.45
P-11	false	1,583.00	8.0	PVC	140.0	-54.00	1,625	1,625	0	0.07	0.34
P-14	false	2,156.00	8.0	PVC	140.0	-52.48	1,693	1,693	0	0.07	0.33
P-15	false	1,154.00	8.0	PVC	140.0	-79.48	1,693	1,693	0	0.15	0.51
P-16	false	1,079.00	8.0	PVC	140.0	52.48	1,693	1,693	0	0.07	0.33
P-17	false	1,063.00	12.0	PVC	140.0	345.27	1,693	1,692	0	0.31	0.98
P-21	false	2,334.00	12.0	PVC	140.0	68.47	1,625	1,625	0	0.02	0.19
P-22	false	556.00	12.0	PVC	140.0	-45.60	1,625	1,625	0	0.01	0.13
P-24	false	441.00	12.0	PVC	140.0	16.12	1,625	1,625	0	0.00	0.05
P-26	false	286.00	12.0	PVC	140.0	5.30	1,693	1,693	0	0.00	0.02
P-27	false	236.00	12.0	PVC	140.0	-158.81	1,693	1,693	0	0.07	0.45
P-29	false	486.00	12.0	PVC	140.0	-206.72	1,693	1,693	0	0.12	0.59
P-30	false	675.00	12.0	PVC	140.0	-252.17	1,693	1,693	0	0.17	0.72
P-31	false	440.00	12.0	PVC	140.0	-222.71	1,693	1,693	0	0.14	0.63
P-32	false	899.00	12.0	PVC	140.0	-223.67	1,693	1,693	0	0.14	0.63
P-33	false	761.00	12.0	PVC	140.0	-344.58	1,693	1,693	0	0.31	0.98
P-34	false	446.00	12.0	PVC	140.0	-161.70	1,693	1,693	0	0.08	0.46
P-35	false	588.00	12.0	PVC	140.0	-337.96	1,693	1,694	0	0.30	0.96
P-36	false	433.00	12.0	PVC	140.0	-230.83	1,694	1,694	0	0.15	0.65
P-37	false	799.00	12.0	PVC	140.0	-242.34	1,694	1,694	0	0.16	0.69
P-38	false	349.00	12.0	PVC	140.0	-220.47	1,694	1,694	0	0.13	0.63
P-39	false	508.00	12.0	PVC	140.0	-315.21	1,694	1,694	0	0.26	0.89
P-40	false	721.00	12.0	PVC	140.0	-454.08	1,694	1,694	0	0.51	1.29
P-41	false	656.00	12.0	PVC	140.0	-406.15	1,694	1,695	0	0.42	1.15
P-42	false	766.00	12.0	PVC	140.0	-374.63	1,695	1,695	0	0.36	1.06
P-43	false	427.00	12.0	PVC	140.0	-494.47	1,695	1,695	0	0.60	1.40
P-44	false	598.00	12.0	PVC	140.0	282.01	1,693	1,693	0	0.21	0.80
P-45	false	306.00	12.0	PVC	140.0	180.02	1,693	1,693	0	0.09	0.51
P-46	false	430.00	12.0	PVC	140.0	145.61	1,693	1,693	0	0.06	0.41
P-47	false	240.00	12.0	PVC	140.0	49.68	1,693	1,693	0	0.01	0.14
P-48	false	452.00	12.0	PVC	140.0	10.45	1,693	1,693	0	0.00	0.03
P-49	false	473.00	12.0	PVC	140.0	-43.62	1,693	1,693	0	0.01	0.12
P-50	false	483.00	12.0	PVC	140.0	6.06	1,693	1,693	0	0.00	0.02
P-51	false	642.00	12.0	PVC	140.0	-102.36	1,693	1,693	0	0.03	0.29
P-60	false	628.00	12.0	PVC	140.0	-115.00	1,693	1,693	0	0.04	0.33
P-61	false	1,228.00	8.0	PVC	140.0	115.00	1,693	1,693	0	0.29	0.73
P-63	false	861.00	8.0	PVC	140.0	-16.12	1,625	1,625	0	0.01	0.10
P-64	false	1,049.00	8.0	PVC	140.0	-46.00	1,693	1,693	0	0.05	0.29
P-69	false	1,189.00	8.0	PVC	140.0	-56.73	1,692	1,692	0	0.08	0.36
P-70	false	800.00	8.0	PVC	140.0	-116.73	1,692	1,693	0	0.30	0.75
P-71	false	776.00	12.0	PVC	140.0	-37.77	1,693	1,693	0	0.01	0.11

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-72	false	1,276.00	12.0	PVC	140.0	-138.82	1,693	1,693	0	0.06	0.39
P-73	false	609.00	12.0	PVC	140.0	-164.11	1,693	1,693	0	0.08	0.47
P-74	false	601.00	12.0	PVC	140.0	234.07	1,693	1,693	0	0.15	0.66
P-76	false	1,135.00	12.0	PVC	140.0	131.82	1,693	1,693	0	0.05	0.37
P-77	false	711.00	12.0	PVC	140.0	146.33	1,693	1,693	0	0.06	0.42
P-81	false	879.00	8.0	PVC	140.0	61.35	1,693	1,693	0	0.09	0.39
P-82	false	1,488.00	8.0	PVC	140.0	77.33	1,693	1,693	0	0.14	0.49
P-83	false	2,074.00	8.0	PVC	140.0	72.68	1,693	1,693	0	0.12	0.46
P-84	false	1,900.00	8.0	PVC	140.0	15.68	1,693	1,693	0	0.01	0.10
P-85	false	785.00	8.0	PVC	140.0	8.99	1,693	1,693	0	0.00	0.06
P-86	false	753.00	8.0	PVC	140.0	51.25	1,693	1,693	0	0.06	0.33
P-87	false	698.00	8.0	PVC	140.0	45.45	1,693	1,693	0	0.05	0.29
P-88	false	1,445.00	8.0	PVC	140.0	-54.01	1,693	1,693	0	0.07	0.34
P-89	false	540.00	8.0	PVC	140.0	-74.76	1,693	1,693	0	0.13	0.48
P-90	false	1,032.00	8.0	PVC	140.0	-95.31	1,693	1,693	0	0.20	0.61
P-92	false	948.00	12.0	PVC	140.0	0.00	1,693	1,693	0	0.00	0.00
P-93	false	527.00	8.0	PVC	140.0	-8.95	1,693	1,693	0	0.00	0.06
P-97	false	553.00	8.0	PVC	140.0	-58.99	1,693	1,693	0	0.08	0.38
P-98	false	825.00	8.0	PVC	140.0	-127.99	1,693	1,693	0	0.35	0.82
P-100	false	1,448.00	12.0	PVC	140.0	564.35	1,697	1,695	1	0.77	1.60
P-101	false	1,389.00	8.0	PVC	140.0	-0.96	1,693	1,693	0	0.00	0.01
P-102	false	1,423.00	8.0	PVC	140.0	80.79	1,693	1,693	0	0.15	0.52
P-104	false	412.00	8.0	PVC	140.0	-182.88	1,693	1,694	0	0.68	1.17
P-105	false	508.00	8.0	PVC	140.0	-182.88	1,694	1,694	0	0.68	1.17
P-106	false	490.00	8.0	PVC	140.0	-365.02	1,694	1,695	1	2.46	2.33
P-107	false	2,424.00	12.0	PVC	140.0	-138.51	1,695	1,695	0	0.06	0.39
P-111	false	1,935.00	12.0	PVC	140.0	292.47	1,696	1,695	0	0.23	0.83
P-112	false	1,351.00	12.0	PVC	140.0	95.64	1,695	1,695	0	0.03	0.27
P-113	false	1,017.00	8.0	PVC	140.0	-75.34	1,695	1,695	0	0.13	0.48
P-114	false	1,169.00	12.0	PVC	140.0	-226.52	1,695	1,695	0	0.14	0.64
P-115	false	2,482.00	12.0	PVC	140.0	-226.52	1,695	1,696	0	0.14	0.64
P-126	false	2,572.00	12.0	PVC	140.0	-397.01	1,693	1,694	1	0.40	1.13
P-127	false	388.00	12.0	PVC	140.0	-412.01	1,694	1,694	0	0.43	1.17
P-128	false	373.00	12.0	PVC	140.0	-430.01	1,694	1,695	0	0.46	1.22
P-132	false	681.00	8.0	PVC	140.0	228.54	1,695	1,694	1	1.03	1.46
P-133	false	382.00	8.0	PVC	140.0	69.21	1,694	1,694	0	0.11	0.44
P-134	false	570.00	8.0	PVC	140.0	11.67	1,694	1,694	0	0.00	0.07
P-135	false	198.00	8.0	PVC	140.0	-18.36	1,694	1,694	0	0.01	0.12
P-136	false	736.00	8.0	PVC	140.0	-70.74	1,694	1,694	0	0.12	0.45
P-137	false	1,345.00	8.0	PVC	140.0	52.39	1,694	1,694	0	0.07	0.33
P-138	false	729.00	8.0	PVC	140.0	-11.51	1,694	1,694	0	0.00	0.07
P-139	false	1,059.00	8.0	PVC	140.0	69.35	1,694	1,694	0	0.11	0.44
P-140	false	260.00	8.0	PVC	140.0	6.35	1,694	1,694	0	0.00	0.04
P-141	false	963.00	8.0	PVC	140.0	-57.55	1,694	1,694	0	0.08	0.37
P-142	false	179.00	8.0	PVC	140.0	89.98	1,694	1,694	0	0.18	0.57
P-143	false	995.00	8.0	PVC	140.0	29.98	1,694	1,694	0	0.02	0.19
P-144	false	466.00	8.0	PVC	140.0	-30.02	1,694	1,694	0	0.02	0.19
P-145	false	859.00	8.0	PVC	140.0	-21.87	1,694	1,694	0	0.01	0.14
P-146	false	834.00	8.0	PVC	140.0	-75.87	1,694	1,694	0	0.13	0.48
P-147	false	415.00	8.0	PVC	140.0	-75.87	1,694	1,694	0	0.13	0.48

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-148	false	545.00	8.0	PVC	140.0	-47.93	1,694	1,694	0	0.06	0.31
P-149	false	523.00	8.0	PVC	140.0	-104.24	1,694	1,695	0	0.24	0.67
P-150	false	1,009.00	8.0	PVC	140.0	-84.86	1,695	1,695	0	0.17	0.54
P-151	false	818.00	8.0	PVC	140.0	-196.83	1,695	1,695	1	0.78	1.26
P-153	false	1,155.00	8.0	PVC	140.0	24.69	1,694	1,694	0	0.02	0.16
P-154	false	1,692.00	8.0	PVC	140.0	-56.31	1,694	1,694	0	0.08	0.36
P-155	false	1,476.00	8.0	PVC	140.0	-83.72	1,694	1,695	0	0.16	0.53
P-156	false	1,381.00	8.0	PVC	140.0	-111.97	1,694	1,695	0	0.28	0.71
P-157	false	671.00	8.0	PVC	140.0	-103.10	1,695	1,695	0	0.24	0.66
P-160	false	1,433.00	8.0	PVC	140.0	35.19	1,695	1,695	0	0.03	0.22
P-162	false	808.00	8.0	PVC	140.0	101.19	1,695	1,695	0	0.23	0.65
P-163	false	628.00	8.0	PVC	140.0	-170.98	1,695	1,695	0	0.60	1.09
P-166	false	338.00	8.0	PVC	140.0	119.84	1,695	1,695	0	0.31	0.76
P-167	false	905.00	8.0	PVC	140.0	88.65	1,695	1,695	0	0.18	0.57
P-168	false	257.00	8.0	PVC	140.0	31.53	1,695	1,695	0	0.03	0.20
P-169	false	250.00	8.0	PVC	140.0	31.20	1,695	1,695	0	0.03	0.20
P-170	false	584.00	8.0	PVC	140.0	31.20	1,695	1,695	0	0.03	0.20
P-171	false	823.00	8.0	PVC	140.0	-67.91	1,695	1,695	0	0.11	0.43
P-173	false	534.00	8.0	PVC	140.0	31.20	1,695	1,695	0	0.03	0.20
P-176	false	557.00	12.0	Ductile Iron	130.0	447.12	1,696	1,695	0	0.57	1.27
P-177	false	582.00	12.0	PVC	140.0	340.22	1,695	1,695	0	0.30	0.97
P-178	false	1,449.00	12.0	PVC	140.0	193.30	1,695	1,695	0	0.11	0.55
P-179	false	943.00	8.0	PVC	140.0	106.89	1,695	1,695	0	0.25	0.68
P-180	false	1,328.00	8.0	PVC	140.0	52.89	1,695	1,695	0	0.07	0.34
P-181	false	970.00	8.0	PVC	140.0	-10.11	1,695	1,695	0	0.00	0.06
P-182	false	385.00	12.0	PVC	140.0	485.27	1,696	1,695	0	0.58	1.38
P-183	false	509.00	12.0	PVC	140.0	330.85	1,695	1,695	0	0.28	0.94
P-184	false	483.00	12.0	PVC	140.0	311.27	1,695	1,695	0	0.25	0.88
P-185	false	467.00	8.0	PVC	140.0	106.42	1,695	1,695	0	0.25	0.68
P-186	false	768.00	8.0	PVC	140.0	40.42	1,695	1,695	0	0.04	0.26
P-187	false	408.00	8.0	PVC	140.0	-19.58	1,695	1,695	0	0.01	0.12
P-189	false	578.00	8.0	PVC	140.0	69.79	1,695	1,695	0	0.12	0.45
P-190	false	318.00	8.0	PVC	140.0	102.71	1,695	1,695	0	0.24	0.66
P-191	false	827.00	8.0	PVC	140.0	32.92	1,695	1,695	0	0.03	0.21
P-193	false	2,593.00	16.0	PVC	140.0	-1,365.66	1,770	1,773	3	0.97	2.18
P-194	false	144.00	16.0	PVC	140.0	-1,365.66	1,773	1,773	0	0.97	2.18
P-195	false	4,375.00	16.0	PVC	140.0	-1,275.11	1,773	1,776	4	0.85	2.03
P-199	false	1,292.00	12.0	PVC	140.0	81.00	1,625	1,625	0	0.02	0.23
P-200	false	2,922.00	12.0	PVC	140.0	43.89	1,625	1,625	0	0.01	0.12
P-201	false	1,330.00	8.0	PVC	140.0	43.89	1,625	1,625	0	0.05	0.28
P-202	false	2,369.00	8.0	PVC	140.0	-37.11	1,625	1,625	0	0.04	0.24
P-208	false	512.00	8.0	PVC	140.0	32.79	1,693	1,693	0	0.03	0.21
P-209	false	614.00	8.0	PVC	140.0	-30.21	1,693	1,693	0	0.02	0.19
P-210	false	397.00	8.0	PVC	140.0	48.97	1,694	1,694	0	0.06	0.31
P-211	false	418.00	8.0	PVC	140.0	-5.03	1,694	1,694	0	0.00	0.03
P-212	false	902.00	8.0	PVC	140.0	-77.92	1,695	1,695	0	0.14	0.50
P-213	false	710.00	8.0	PVC	140.0	-146.92	1,695	1,695	0	0.46	0.94
P-214	false	1,639.00	8.0	PVC	140.0	69.00	1,695	1,695	0	0.11	0.44
P-215	false	1,427.00	8.0	PVC	140.0	-75.34	1,695	1,696	0	0.13	0.48
P-216	false	1,293.00	8.0	PVC	140.0	-81.34	1,696	1,696	0	0.15	0.52

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-217	false	445.00	8.0	PVC	140.0	-271.78	1,693	1,694	1	1.43	1.73
P-218	false	475.00	8.0	PVC	140.0	-395.85	1,694	1,695	1	2.86	2.53
P-219	false	726.00	8.0	PVC	140.0	124.06	1,694	1,694	0	0.33	0.79
P-221	false	1,256.00	8.0	PVC	140.0	-138.37	1,694	1,694	1	0.41	0.88
P-222	false	537.00	8.0	PVC	140.0	61.06	1,694	1,694	0	0.09	0.39
P-223	false	531.00	8.0	PVC	140.0	199.43	1,694	1,693	0	0.80	1.27
P-224	false	663.00	12.0	PVC	140.0	87.75	1,693	1,693	0	0.02	0.25
P-225	false	382.00	12.0	PVC	140.0	218.18	1,693	1,693	0	0.13	0.62
P-226	false	564.00	8.0	PVC	140.0	130.43	1,693	1,693	0	0.37	0.83
P-227	false	285.00	8.0	PVC	140.0	29.47	1,625	1,625	0	0.02	0.19
P-228	false	661.00	8.0	PVC	140.0	-0.99	1,625	1,625	0	0.00	0.01
P-229	false	1,704.00	8.0	PVC	140.0	17.54	1,625	1,625	0	0.01	0.11
P-230	false	612.00	8.0	PVC	140.0	-30.46	1,625	1,625	0	0.02	0.19
P-232	false	1,792.00	8.0	PVC	140.0	-16.30	1,693	1,693	0	0.01	0.10
P-233	false	1,439.00	8.0	PVC	140.0	-69.53	1,625	1,625	0	0.11	0.44
P-234	false	262.00	8.0	PVC	140.0	-111.53	1,625	1,625	0	0.27	0.71
P-235	false	833.00	8.0	PVC	140.0	-0.00	1,625	1,625	0	0.00	0.00
P-236	false	1,358.00	8.0	PVC	140.0	-6.00	1,625	1,625	0	0.00	0.04
P-237	false	614.00	8.0	PVC	140.0	6.00	1,625	1,625	0	0.00	0.04
P-238	false	1,384.00	8.0	PVC	140.0	-90.54	1,773	1,773	0	0.19	0.58
P-239	false	3,023.00	8.0	PVC	140.0	-156.54	1,773	1,775	2	0.51	1.00
P-240	false	2,003.00	8.0	PVC	140.0	-219.54	1,775	1,776	2	0.96	1.40
P-243	false	4,782.00	16.0	PVC	140.0	-1,494.66	1,776	1,782	5	1.15	2.39
P-244	false	518.00	16.0	PVC	140.0	2,013.65	1,783	1,782	1	1.99	3.21
P-245	false	648.00	12.0	PVC	140.0	519.00	1,782	1,782	0	0.66	1.47
P-246	false	3,294.00	12.0	PVC	140.0	519.00	1,782	1,779	2	0.66	1.47
P-247	false	1,699.00	12.0	PVC	140.0	519.00	1,779	1,778	1	0.66	1.47
P-248	false	1,926.00	12.0	PVC	140.0	518.99	1,697	1,696	1	0.66	1.47
P-249	false	549.00	16.0	PVC	140.0	1,365.65	1,697	1,697	1	0.97	2.18
P-250	false	2,045.00	16.0	PVC	140.0	1,365.66	1,770	1,768	2	0.97	2.18
P-251	false	744.00	12.0	PVC	140.0	22.88	1,625	1,625	0	0.00	0.06
P-252	false	344.00	12.0	PVC	140.0	0.00	1,625	1,625	0	0.00	0.00
P-253	false	656.00	8.0	PVC	140.0	-22.88	1,625	1,625	0	0.01	0.15
P-254	false	202.00	12.0	PVC	140.0	0.00	1,625	1,625	0	0.00	0.00
P-255	false	397.00	12.0	PVC	140.0	0.00	1,693	1,693	0	0.00	0.00
P-256	false	1,377.00	12.0	PVC	140.0	197.47	1,625	1,625	0	0.11	0.56
P-257	false	1,448.00	8.0	PVC	140.0	-40.70	1,693	1,693	0	0.04	0.26
P-258	false	193.00	12.0	PVC	140.0	-363.00	1,692	1,692	0	0.34	1.03
P-259	false	177.00	12.0	PVC	140.0	363.00	1,625	1,625	0	0.34	1.03
P-260	false	1,595.00	12.0	PVC	140.0	32.15	1,696	1,696	0	0.00	0.09
P-264	false	859.00	12.0	PVC	140.0	838.68	1,784	1,783	1	1.60	2.38
P-265	false	827.00	12.0	PVC	140.0	838.68	1,000	999	1	1.60	2.38
P-266	false	1,119.00	12.0	PVC	140.0	-658.56	1,695	1,696	1	1.02	1.87
P-271	false	701.00	12.0	Ductile Iron	130.0	-691.42	849	850	1	1.28	1.96
P-272	false	671.00	16.0	Ductile Iron	130.0	-528.46	1,696	1,696	0	0.19	0.84
P-273	false	685.00	12.0	Ductile Iron	130.0	-528.46	1,696	1,696	1	0.78	1.50
P-273A	false	672.00	12.0	Ductile Iron	130.0	528.46	1,697	1,696	1	0.78	1.50
P-285	false	485.00	12.0	Ductile Iron	130.0	-238.30	1,695	1,696	0	0.18	0.68
P-286	false	856.00	12.0	Ductile Iron	130.0	-238.30	1,696	1,696	0	0.18	0.68
P-287	false	355.00	12.0	Ductile Iron	130.0	238.30	1,695	1,695	0	0.18	0.68

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-293	false	532.00	12.0	PVC	140.0	-143.28	1,693	1,693	0	0.06	0.41
P-294	false	545.00	12.0	PVC	140.0	-185.99	1,693	1,693	0	0.10	0.53
P-299	false	182.00	8.0	PVC	140.0	-30.52	1,693	1,693	0	0.02	0.19
P-300	false	819.00	12.0	Ductile Iron	130.0	691.42	1,697	1,696	1	1.28	1.96
P-305	false	270.00	8.0	PVC	140.0	-48.42	1,693	1,693	0	0.06	0.31
P-308	false	363.00	8.0	PVC	140.0	-108.42	1,693	1,693	0	0.26	0.69
P-309	false	202.00	8.0	PVC	140.0	42.71	1,693	1,693	0	0.05	0.27
P-311	false	922.00	8.0	PVC	140.0	12.71	1,693	1,693	0	0.00	0.08
P-312	false	1,208.00	8.0	PVC	140.0	12.10	1,693	1,693	0	0.00	0.08
P-313	false	487.00	8.0	PVC	140.0	45.12	1,693	1,693	0	0.05	0.29
P-316	false	268.00	8.0	PVC	140.0	45.12	1,693	1,693	0	0.05	0.29
P-321	false	266.00	8.0	PVC	140.0	-86.82	1,693	1,693	0	0.17	0.55
P-327	false	460.00	8.0	PVC	140.0	-95.94	1,693	1,693	0	0.21	0.61
P-335	false	1,325.00	8.0	PVC	140.0	-33.30	1,693	1,693	0	0.03	0.21
P-339	false	781.00	8.0	PVC	140.0	-49.69	1,693	1,693	0	0.06	0.32
P-340	false	360.00	8.0	PVC	140.0	-104.97	1,693	1,693	0	0.24	0.67
P-347	false	276.00	8.0	PVC	140.0	-25.59	1,693	1,693	0	0.02	0.16
P-348	false	1,123.00	8.0	PVC	140.0	-10.36	1,693	1,693	0	0.00	0.07
P-349	false	267.00	8.0	PVC	140.0	-34.36	1,693	1,693	0	0.03	0.22
P-350	false	1,680.00	8.0	PVC	140.0	-31.29	1,693	1,693	0	0.03	0.20
P-351	false	384.00	8.0	PVC	140.0	-55.29	1,693	1,693	0	0.07	0.35
P-365	false	258.00	8.0	PVC	140.0	-42.71	1,693	1,693	0	0.05	0.27
P-370	false	477.00	8.0	PVC	140.0	-21.03	1,693	1,693	0	0.01	0.13
P-385	false	199.00	8.0	PVC	140.0	182.14	1,694	1,694	0	0.68	1.16
P-386	false	1,031.00	8.0	PVC	140.0	87.00	1,694	1,694	0	0.17	0.56
P-390	false	228.00	8.0	PVC	140.0	-95.94	1,693	1,693	0	0.21	0.61
P-391	false	816.00	8.0	PVC	140.0	-15.53	1,693	1,693	0	0.01	0.10
P-392	false	399.00	8.0	PVC	140.0	-39.53	1,693	1,693	0	0.04	0.25
P-393	false	408.00	8.0	PVC	140.0	17.29	1,693	1,693	0	0.01	0.11
P-394	false	1,088.00	8.0	PVC	140.0	86.99	1,693	1,693	0	0.17	0.56
P-395	false	393.00	8.0	PVC	140.0	62.99	1,693	1,693	0	0.10	0.40
P-396	false	392.00	8.0	PVC	140.0	-53.83	1,693	1,693	0	0.07	0.34
P-397	false	999.00	8.0	PVC	140.0	-45.03	1,693	1,693	0	0.05	0.29
P-398	false	789.00	8.0	PVC	140.0	-21.68	1,693	1,693	0	0.01	0.14
P-399	false	888.00	8.0	PVC	140.0	-45.68	1,693	1,693	0	0.05	0.29
P-400	false	611.00	8.0	PVC	140.0	-62.27	1,693	1,693	0	0.09	0.40
P-401	false	265.00	8.0	PVC	140.0	-122.27	1,693	1,693	0	0.33	0.78
P-402	false	407.00	8.0	PVC	140.0	-59.02	1,693	1,693	0	0.08	0.38
P-403	false	1,003.00	8.0	PVC	140.0	-83.02	1,693	1,693	0	0.16	0.53
P-404	false	830.00	8.0	PVC	140.0	-63.25	1,693	1,693	0	0.10	0.40
P-405	false	579.00	8.0	PVC	140.0	-93.25	1,693	1,693	0	0.20	0.60
P-406	false	328.00	8.0	PVC	140.0	-107.14	1,694	1,694	0	0.25	0.68
P-407	false	557.00	8.0	PVC	140.0	-42.00	1,694	1,694	0	0.04	0.27
P-408	false	878.00	8.0	PVC	140.0	-65.14	1,694	1,694	0	0.10	0.42
P-409	false	561.00	8.0	PVC	140.0	-95.14	1,694	1,694	0	0.20	0.61
P-410	false	2,172.00	8.0	PVC	140.0	34.41	1,693	1,693	0	0.03	0.22
P-411	false	582.00	8.0	PVC	140.0	0.00	1,693	1,693	0	0.00	0.00
P-412	false	850.00	8.0	PVC	140.0	39.23	1,693	1,693	0	0.04	0.25
P-413	false	1,074.00	8.0	PVC	140.0	27.07	1,693	1,693	0	0.02	0.17

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Pump Report

Label	Elevation (ft)	Rated Power (Hp)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Calculated Water Power (Hp)
Future Well Pump No. 4	1,000.00		On	999	1,784	838.68	786	166.36
Skyline Well Pump #1	1,000.00		On	849	1,697	690.71	848	147.86
Skyline Well Pump #3 (Johnson Util	1,000.00		On	849	1,697	691.42	848	147.96

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Future Well No. 4	1,000.00	Zone 3	-838.68	838.68	1,000
Skyline Well #1	850.00	Zone 1	-690.71	690.71	850
Skyline Well #3 (Johnson Util)	850.00	Zone 1	-691.42	691.42	850

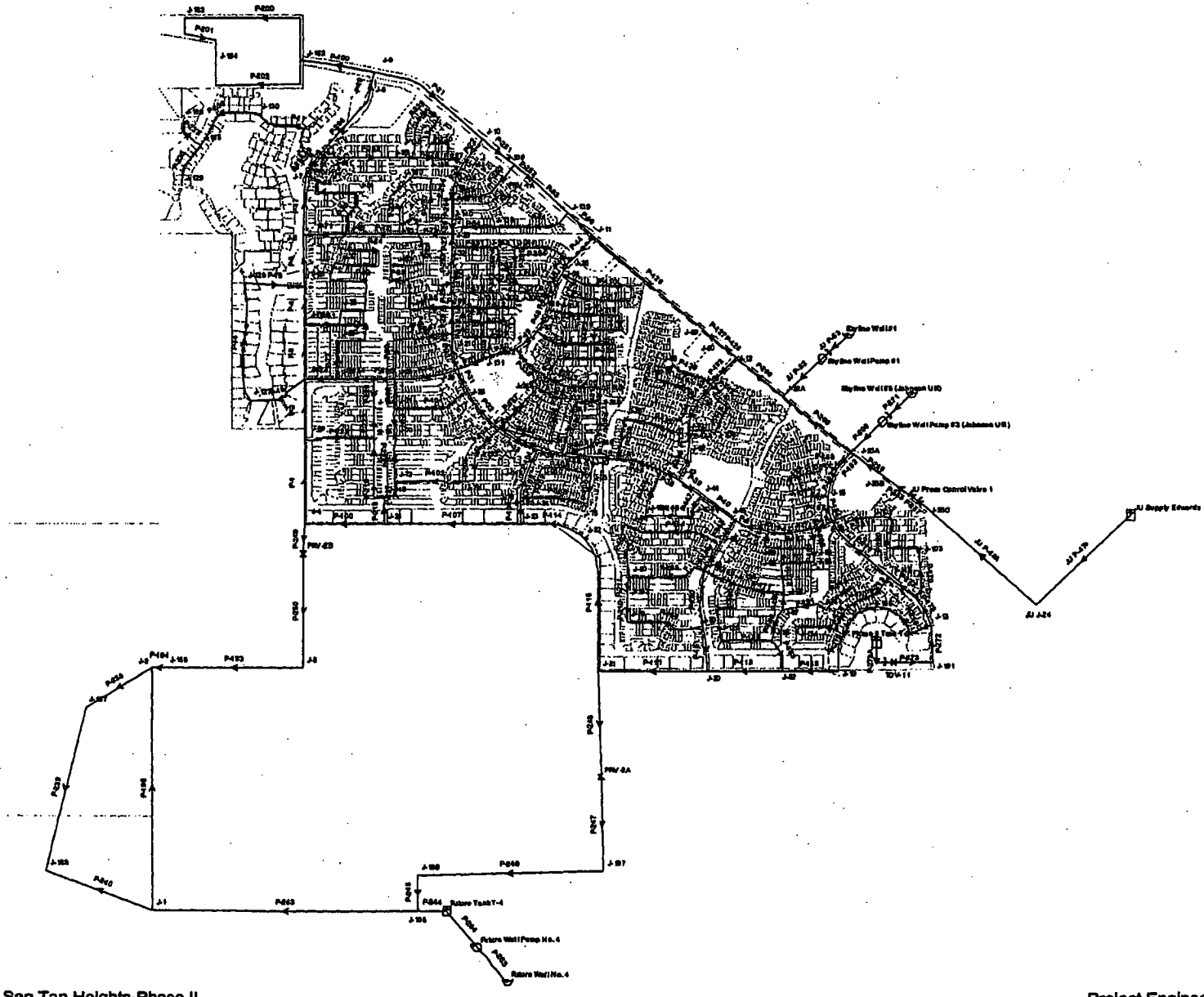
Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Tank Report

Label	Zone	Base Elevation (ft)	Initial HGL (ft)	Minimum Elevation (ft)	Maximum Elevation (ft)	Inactive Volume (gal)	Tank Diameter (ft)	Inflow (gpm)	Outflow (gpm)	Current Status	Calculated Hydraulic Grade (ft)	Calculated Percent Full (%)
Future Tank T-4	Zone 3	1,760.00	1,783.00	1,762.00	1,784.00	0.00	100.00	-1,174.97	1,174.97	Draining	1,783	95.5
Phase II Tank T-2	Zone 3	1,674.00	1,697.00	1,676.00	1,698.00	0.00	85.00	-528.46	528.46	Draining	1,697	95.5
JU Supply Edwards	Zone - JU-1	1,667.00	1,687.00	1,669.00	1,688.00	0.00	2.00	238.30	-238.30	Filling	1,687	94.7

Scenario: Ultimate P.A.D. - Peak Hour
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
JU Press Conrol Valve	1,506.00	12.0	10.00	Inactive	-238.30	1,695	1,695	0
PRV-1A	1,509.00	12.0	4.30	Closed	0.00	1,693	1,625	0
PRV-1B	1,509.00	12.0	4.30	Closed	0.00	1,693	1,625	0
PRV-1C	1,509.00	12.0	4.30	Throttling	363.00	1,692	1,625	67
PRV-2A	1,600.00	12.0	4.30	Throttling	519.00	1,778	1,697	81
PRV-2B	1,600.00	16.0	4.30	Throttling	1,365.66	1,768	1,697	71
TCV-11	1,674.00	12.0	10.00	Throttling	528.46	1,696	1,696	0

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service



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Scenario Summary Report
Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service

Scenario Summary	
Active Topology Alternative	Base-Active Topology
Physical Alternative	Physical-Ultimate P.A.D. - Peak Hour - Well 4 Out
Demand Alternative	Demand-Ultimate P.A.D. - Peak Hour - Well 4 Out
Initial Settings Alternative	Initial Settings-Ultimate P.A.D. - Peak Hour - Well 4 Out
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Base-Fire Flow
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary			
Analysis	Constituent	Quality Time Step	N/A hr
Age Tolerance	0.01 hr	Constituent Tolerance	0.01 mg/l
Trace Tolerance	1.0 %		

Global Adjustments			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 06/03/03 04:26:52 PM
Peak Hour. Well #4 and tank out of service.

Calculation Results Summary

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
[Analysis Started]
[Steady State]
Info 0:00:00: Negative pressures.
{WARNING 0:00:00} Pressure Junction J-3 disconnected
{WARNING 0:00:00} Pressure Junction J-2 disconnected
{WARNING 0:00:00} Pressure Junction J-1 disconnected
{WARNING 0:00:00} Pressure Junction J-167 disconnected
{WARNING 0:00:00} Pressure Junction J-168 disconnected
{WARNING 0:00:00} Pressure Junction J-185 disconnected
{WARNING 0:00:00} Pressure Junction J-186 disconnected
{WARNING 0:00:00} Pressure Junction J-187 disconnected
{WARNING 0:00:00} Pressure Junction J-188 disconnected
{WARNING 0:00:00} PRV PRV-2A disconnected
{WARNING 0:00:00} PRV PRV-2B disconnected
{WARNING 0:00:00} System disconnected because of PRV PRV-2A
{WARNING 0:00:00} System disconnected because of Pressure Pipe P-244
{WARNING 0:00:00} System disconnected because of PRV PRV-2B
0:00:00 Balanced after 8 trials; relative flow change = 0.000047
Flow Summary
Flow Supplied 1,477.09 gpm
Flow Demanded 3,685.92 gpm
Flow Stored -2,208.84 gpm
0:00:00 Reservoir Future Well No. 4 is closed
0:00:00 Reservoir Skyline Well #1 is emptying
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Future Tank T-4 is emptying at 23 ft
0:00:00 Tank Phase II Tank T-2 is emptying at 23 ft
0:00:00 Tank JU Supply Edwards is emptying at 20 ft
0:00:00 PRV PRV-1A closed
0:00:00 PRV PRV-2A closed
0:00:00 PRV PRV-2B closed
0:00:00 PRV PRV-1B closed
0:00:00 PRV PRV-1C active
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-1	1,690.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,144,997
J-2	1,640.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,144,975
J-3	1,621.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,144,967
J-4	1,591.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	33
J-5	1,571.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	41
J-6	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	58
J-7	1,514.00	Zone 2	Demand	39.00	Fixed	39.00	1,665	65
J-8	1,495.00	Zone 1	Demand	39.00	Fixed	39.00	1,625	56
J-9	1,488.00	Zone 1	Demand	9.00	Fixed	9.00	1,625	59
J-10	1,495.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	56
J-11	1,508.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	69
J-12	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	73
J-14	1,515.00	Zone 2	Demand	48.00	Fixed	48.00	1,677	70
J-15	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,677	68
J-16	1,522.00	Zone 2	Demand	0.00	Fixed	0.00	1,677	67
J-17	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,681	66
J-18	1,535.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	65
J-19	1,560.00	Zone 2	Demand	0.00	Fixed	0.00	1,676	50
J-20	1,551.00	Zone 2	Demand	0.00	Fixed	0.00	1,672	52
J-21	1,562.00	Zone 2	Demand	0.00	Fixed	0.00	1,671	47
J-22	1,547.00	Zone 2	Demand	0.00	Fixed	0.00	1,669	53
J-23	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	48
J-24	1,576.00	Zone 2	Demand	30.00	Fixed	30.00	1,667	39
J-25	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	62
J-25A	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,678	74
J-25B	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,678	74
J-25C	1,506.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,678	74
J-26	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	63
J-26A	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,677	75
J-27	1,563.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	45
J-28	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	48
J-29	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	53
J-30	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	55
J-31	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	57
J-32	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	62
J-33	1,527.00	Zone 2	Demand	27.00	Fixed	27.00	1,667	60
J-34	1,517.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	65
J-35	1,514.00	Zone 2	Demand	15.00	Fixed	15.00	1,667	66
J-36	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	53
J-37	1,546.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	52
J-38	1,542.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	54
J-39	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	56
J-40	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	58
J-41	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,669	60
J-42	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,670	62
J-43	1,527.00	Zone 2	Demand	24.00	Fixed	24.00	1,671	62
J-44	1,527.00	Zone 2	Demand	63.00	Fixed	63.00	1,671	62
J-45	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	63
J-46	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,674	64
J-47	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,676	65
J-48	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	61

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-49	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	59
J-50	1,544.00	Zone 2	Demand	0.00	Fixed	0.00	1,672	55
J-51	1,509.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-54	1,516.00	Zone 2	Demand	60.00	Fixed	60.00	1,665	65
J-55	1,503.00	Zone 1	Demand	51.00	Fixed	51.00	1,625	53
J-56	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	59
J-57	1,536.00	Zone 2	Demand	57.00	Fixed	57.00	1,666	56
J-58	1,548.00	Zone 2	Demand	66.00	Fixed	66.00	1,666	51
J-59	1,555.00	Zone 2	Demand	69.00	Fixed	69.00	1,666	48
J-60	1,531.00	Zone 2	Demand	63.00	Fixed	63.00	1,666	58
J-61	1,539.00	Zone 2	Demand	72.00	Fixed	72.00	1,666	55
J-62	1,545.00	Zone 2	Demand	66.00	Fixed	66.00	1,666	52
J-69	1,581.00	Zone 2	Demand	33.00	Fixed	33.00	1,668	37
J-70	1,565.00	Zone 2	Demand	69.00	Fixed	69.00	1,666	44
J-71	1,559.00	Zone 2	Demand	51.00	Fixed	51.00	1,668	46
J-72	1,570.00	Zone 2	Demand	63.00	Fixed	63.00	1,666	42
J-73	1,556.00	Zone 2	Demand	48.00	Fixed	48.00	1,666	48
J-74	1,538.00	Zone 2	Demand	45.00	Fixed	45.00	1,675	59
J-75	1,542.00	Zone 2	Demand	45.00	Fixed	45.00	1,668	55
J-76	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	51
J-79	1,552.00	Zone 2	Demand	63.00	Fixed	63.00	1,672	52
J-80	1,545.00	Zone 2	Demand	54.00	Fixed	54.00	1,672	55
J-81	1,539.00	Zone 2	Demand	81.00	Fixed	81.00	1,672	58
J-82	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,671	65
J-83	1,519.00	Zone 2	Demand	0.00	Fixed	0.00	1,671	66
J-84	1,514.00	Zone 2	Demand	0.00	Fixed	0.00	1,671	68
J-85	1,511.00	Zone 2	Demand	0.00	Fixed	0.00	1,671	69
J-86	1,515.00	Zone 2	Demand	63.00	Fixed	63.00	1,671	67
J-87	1,517.00	Zone 2	Demand	63.90	Fixed	63.90	1,671	67
J-88	1,526.00	Zone 2	Demand	63.90	Fixed	63.90	1,669	62
J-89	1,507.00	Zone 2	Demand	15.00	Fixed	15.00	1,672	71
J-90	1,506.00	Zone 2	Demand	18.00	Fixed	18.00	1,672	72
J-91	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	52
J-92	1,548.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	54
J-93	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,675	64
J-94	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,675	63
J-95	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,674	62
J-96	1,536.00	Zone 2	Demand	66.00	Fixed	66.00	1,674	60
J-97	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,674	58
J-98	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	56
J-99	1,530.00	Zone 2	Demand	57.12	Fixed	57.12	1,674	62
J-100	1,517.00	Zone 2	Demand	66.00	Fixed	66.00	1,677	69
J-101	1,520.00	Zone 2	Demand	60.00	Fixed	60.00	1,677	68
J-102	1,519.00	Zone 2	Demand	63.00	Fixed	63.00	1,678	69
J-103	1,520.00	Zone 2	Demand	54.00	Fixed	54.00	1,679	69
J-104	1,535.00	Zone 2	Demand	54.00	Fixed	54.00	1,670	59
J-105	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,671	61
J-106	1,517.00	Zone 2	Demand	60.00	Fixed	60.00	1,671	66
J-107	1,511.00	Zone 2	Demand	60.00	Fixed	60.00	1,671	69
J-125	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,673	59
J-126	1,544.00	Zone 2	Demand	66.00	Fixed	66.00	1,673	56

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-127	1,585.00	Zone 2	Demand	27.00	Fixed	27.00	1,666	35
J-128	1,558.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	47
J-129	1,510.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-130	1,497.00	Zone 1	Demand	48.00	Fixed	48.00	1,625	55
J-131	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	56
J-133	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	61
J-135	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	63
J-136	1,508.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	51
J-137	1,507.00	Zone 1	Demand	39.00	Fixed	39.00	1,625	51
J-138	1,513.00	Zone 2	Demand	69.00	Fixed	69.00	1,666	66
J-139	1,505.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	70
J-140	1,515.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	65
J-141	1,501.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	54
J-142	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	58
J-143	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	62
J-144	1,555.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	48
J-145	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,679	65
J-146	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	53
J-147	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	57
J-148	1,531.00	Zone 2	Demand	60.00	Fixed	60.00	1,667	59
J-149	1,576.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	39
J-150	1,570.00	Zone 2	Demand	63.00	Fixed	63.00	1,666	42
J-151	1,565.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	44
J-152	1,556.00	Zone 2	Demand	63.00	Fixed	63.00	1,666	48
J-153	1,515.00	Zone 2	Demand	54.00	Fixed	54.00	1,672	68
J-154	1,543.00	Zone 2	Demand	69.00	Fixed	69.00	1,677	58
J-155	1,538.00	Zone 2	Demand	6.00	Fixed	6.00	1,680	62
J-156	1,559.00	Zone 2	Demand	69.00	Fixed	69.00	1,666	46
J-157	1,556.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	48
J-158	1,503.00	Zone 1	Demand	48.00	Fixed	48.00	1,625	53
J-159	1,501.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	54
J-160	1,503.00	Zone 2	Demand	57.00	Fixed	57.00	1,666	71
J-161	1,509.00	Zone 1	Demand	42.00	Fixed	42.00	1,625	50
J-162	1,490.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	58
J-163	1,515.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	47
J-164	1,520.00	Zone 1	Demand	81.00	Fixed	81.00	1,625	45
J-165	1,510.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-166	1,510.00	Zone 1	Demand	6.00	Fixed	6.00	1,625	50
J-167	1,650.00	Zone 3	Demand	66.00	Fixed	66.00	-9,578,736	-4,144,980
J-168	1,720.00	Zone 3	Demand	63.00	Fixed	63.00	-9,578,736	-4,145,010
J-170	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,677	60
J-185	1,760.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,145,027
J-186	1,750.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,145,023
J-187	1,740.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,145,018
J-188	1,640.00	Zone 3	Demand	0.00	Fixed	0.00	-9,578,736	-4,144,975
J-189	1,509.00	Zone 1	Demand	0.00	Fixed	0.00	1,625	50
J-191	1,540.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	63
J-197	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	59
J-202	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	61
J-203	1,534.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	57
J-206	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	63

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-208	1,539.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	55
J-209	1,537.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	56
J-210	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,666	55
J-211	1,530.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	59
J-212	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	61
J-213	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,666	61
J-214	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	63
J-217	1,515.00	Zone 2	Demand	60.00	Fixed	60.00	1,667	66
J-218	1,515.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	66
J-219	1,516.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	65
J-220	1,519.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	64
J-221	1,522.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	63
J-222	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	60
J-232	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	57
J-241	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	51
J-243	1,514.00	Zone 2	Demand	24.00	Fixed	24.00	1,666	66
J-244	1,514.00	Zone 2	Demand	24.00	Fixed	24.00	1,666	66
J-245	1,536.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	57
J-246	1,542.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	54
J-247	1,531.00	Zone 2	Demand	24.00	Fixed	24.00	1,667	59
J-248	1,534.00	Zone 2	Demand	30.00	Fixed	30.00	1,667	58
J-249	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,667	59
J-250	1,545.00	Zone 2	Demand	30.00	Fixed	30.00	1,668	53
J-251	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,668	58
JU J-24	1,520.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,679	69

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
JU P-47+	false	6,450.00	8.0	PVC	140.0	248.95	1,687	1,679	8	1.21	1.59
JU P-48A	false	5,800.00	12.0	PVC	140.0	248.95	1,679	1,678	1	0.20	0.71
JU P-52	false	1,019.00	12.0	Ductile Iron	130.0	739.45	1,678	1,677	1	1.45	2.10
JU P-53	false	611.00	12.0	Ductile Iron	130.0	739.45	850	849	1	1.67	2.10
P-1	false	1,532.00	12.0	PVC	140.0	231.28	1,666	1,666	0	0.15	0.66
P-2	false	1,108.00	12.0	PVC	140.0	195.55	1,666	1,666	0	0.11	0.55
P-3	false	1,000.00	12.0	PVC	140.0	219.40	1,666	1,666	0	0.13	0.62
P-4	false	717.00	12.0	PVC	140.0	175.16	1,666	1,666	0	0.09	0.50
P-5	false	918.00	12.0	PVC	140.0	208.49	1,666	1,666	0	0.12	0.59
P-10	false	531.00	12.0	PVC	140.0	158.47	1,625	1,625	0	0.07	0.45
P-11	false	1,583.00	8.0	PVC	140.0	-54.00	1,625	1,625	0	0.07	0.34
P-14	false	2,156.00	8.0	PVC	140.0	-33.33	1,666	1,666	0	0.03	0.21
P-15	false	1,154.00	8.0	PVC	140.0	-60.33	1,666	1,666	0	0.09	0.39
P-16	false	1,079.00	8.0	PVC	140.0	33.33	1,666	1,666	0	0.03	0.21
P-17	false	1,063.00	12.0	PVC	140.0	341.07	1,666	1,665	0	0.30	0.97
P-21	false	2,334.00	12.0	PVC	140.0	68.47	1,625	1,625	0	0.02	0.19
P-22	false	556.00	12.0	PVC	140.0	-45.60	1,625	1,625	0	0.01	0.13
P-24	false	441.00	12.0	PVC	140.0	16.12	1,625	1,625	0	0.00	0.05
P-26	false	286.00	12.0	PVC	140.0	71.46	1,666	1,666	0	0.02	0.20
P-27	false	236.00	12.0	PVC	140.0	-198.18	1,666	1,666	0	0.11	0.56
P-29	false	486.00	12.0	PVC	140.0	-156.93	1,666	1,666	0	0.07	0.45
P-30	false	675.00	12.0	PVC	140.0	-238.87	1,666	1,666	0	0.16	0.68
P-31	false	440.00	12.0	PVC	140.0	-308.30	1,666	1,666	0	0.25	0.87
P-32	false	899.00	12.0	PVC	140.0	-401.11	1,666	1,667	0	0.41	1.14
P-33	false	761.00	12.0	PVC	140.0	-614.03	1,667	1,667	1	0.90	1.74
P-34	false	446.00	12.0	PVC	140.0	-454.02	1,667	1,668	0	0.51	1.29
P-35	false	588.00	12.0	PVC	140.0	-713.19	1,668	1,668	1	1.18	2.02
P-36	false	433.00	12.0	PVC	140.0	-889.83	1,668	1,669	1	1.78	2.52
P-37	false	799.00	12.0	PVC	140.0	-756.23	1,669	1,670	1	1.32	2.15
P-38	false	349.00	12.0	PVC	140.0	-643.98	1,670	1,671	0	0.98	1.83
P-39	false	508.00	12.0	PVC	140.0	-721.80	1,671	1,671	1	1.21	2.05
P-40	false	721.00	12.0	PVC	140.0	-951.04	1,671	1,673	1	2.01	2.70
P-41	false	656.00	12.0	PVC	140.0	-1,039.49	1,673	1,674	2	2.37	2.95
P-42	false	766.00	12.0	PVC	140.0	-923.05	1,674	1,676	1	1.90	2.62
P-43	false	427.00	12.0	PVC	140.0	-1,285.22	1,676	1,677	2	3.52	3.65
P-44	false	598.00	12.0	PVC	140.0	631.10	1,668	1,667	1	0.94	1.79
P-45	false	306.00	12.0	PVC	140.0	464.89	1,667	1,667	0	0.53	1.32
P-46	false	430.00	12.0	PVC	140.0	395.78	1,667	1,667	0	0.40	1.12
P-47	false	240.00	12.0	PVC	140.0	251.98	1,667	1,667	0	0.17	0.71
P-48	false	452.00	12.0	PVC	140.0	212.49	1,667	1,667	0	0.13	0.60
P-49	false	473.00	12.0	PVC	140.0	196.33	1,667	1,666	0	0.11	0.56
P-50	false	483.00	12.0	PVC	140.0	284.51	1,666	1,666	0	0.22	0.81
P-51	false	642.00	12.0	PVC	140.0	171.56	1,666	1,666	0	0.08	0.49
P-60	false	628.00	12.0	PVC	140.0	-199.77	1,667	1,668	0	0.11	0.57
P-61	false	1,228.00	8.0	PVC	140.0	199.77	1,667	1,666	1	0.81	1.28
P-63	false	861.00	8.0	PVC	140.0	-16.12	1,625	1,625	0	0.01	0.10
P-64	false	1,049.00	8.0	PVC	140.0	-130.77	1,666	1,666	0	0.37	0.83
P-69	false	1,189.00	8.0	PVC	140.0	-60.93	1,665	1,665	0	0.09	0.39
P-70	false	800.00	8.0	PVC	140.0	-120.93	1,665	1,666	0	0.32	0.77
P-71	false	776.00	12.0	PVC	140.0	-132.58	1,666	1,666	0	0.05	0.38

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-72	false	1,276.00	12.0	PVC	140.0	-266.82	1,666	1,666	0	0.19	0.76
P-73	false	609.00	12.0	PVC	140.0	-269.64	1,666	1,666	0	0.20	0.76
P-74	false	601.00	12.0	PVC	140.0	-84.18	1,666	1,666	0	0.02	0.24
P-76	false	1,135.00	12.0	PVC	140.0	-240.99	1,666	1,666	0	0.16	0.68
P-77	false	711.00	12.0	PVC	140.0	134.45	1,666	1,666	0	0.05	0.38
P-81	false	879.00	8.0	PVC	140.0	44.24	1,666	1,666	0	0.05	0.28
P-82	false	1,488.00	8.0	PVC	140.0	65.45	1,666	1,666	0	0.10	0.42
P-83	false	2,074.00	8.0	PVC	140.0	43.68	1,666	1,666	0	0.05	0.28
P-84	false	1,900.00	8.0	PVC	140.0	-13.32	1,666	1,666	0	0.01	0.08
P-85	false	785.00	8.0	PVC	140.0	5.12	1,666	1,666	0	0.00	0.03
P-86	false	753.00	8.0	PVC	140.0	78.71	1,666	1,666	0	0.14	0.50
P-87	false	698.00	8.0	PVC	140.0	81.94	1,666	1,666	0	0.15	0.52
P-88	false	1,445.00	8.0	PVC	140.0	-57.88	1,666	1,666	0	0.08	0.37
P-89	false	540.00	8.0	PVC	140.0	-51.16	1,666	1,666	0	0.06	0.33
P-90	false	1,032.00	8.0	PVC	140.0	-35.23	1,666	1,666	0	0.03	0.22
P-92	false	948.00	12.0	PVC	140.0	0.00	1,667	1,667	0	0.00	0.00
P-93	false	527.00	8.0	PVC	140.0	-37.16	1,666	1,666	0	0.04	0.24
P-97	false	553.00	8.0	PVC	140.0	4.65	1,666	1,666	0	0.00	0.03
P-98	false	825.00	8.0	PVC	140.0	-64.35	1,666	1,666	0	0.10	0.41
P-100	false	1,448.00	12.0	PVC	140.0	-274.28	1,666	1,667	0	0.20	0.78
P-101	false	1,389.00	8.0	PVC	140.0	-92.82	1,666	1,666	0	0.20	0.59
P-102	false	1,423.00	8.0	PVC	140.0	-52.66	1,666	1,666	0	0.07	0.34
P-104	false	412.00	8.0	PVC	140.0	-160.01	1,667	1,668	0	0.53	1.02
P-105	false	508.00	8.0	PVC	140.0	-160.01	1,668	1,668	0	0.53	1.02
P-106	false	490.00	8.0	PVC	140.0	-58.37	1,668	1,668	0	0.08	0.37
P-107	false	2,424.00	12.0	PVC	140.0	483.94	1,668	1,667	1	0.58	1.37
P-111	false	1,935.00	12.0	PVC	140.0	-585.31	1,671	1,672	2	0.82	1.66
P-112	false	1,351.00	12.0	PVC	140.0	-529.22	1,672	1,673	1	0.68	1.50
P-113	false	1,017.00	8.0	PVC	140.0	-400.14	1,673	1,676	3	2.92	2.55
P-114	false	1,169.00	12.0	PVC	140.0	-542.31	1,668	1,669	1	0.71	1.54
P-115	false	2,482.00	12.0	PVC	140.0	-542.31	1,669	1,671	2	0.71	1.54
P-126	false	2,572.00	12.0	PVC	140.0	-830.87	1,668	1,672	4	1.57	2.36
P-127	false	388.00	12.0	PVC	140.0	-845.87	1,672	1,672	1	1.62	2.40
P-128	false	373.00	12.0	PVC	140.0	-863.87	1,672	1,673	1	1.69	2.45
P-132	false	681.00	8.0	PVC	140.0	390.59	1,673	1,671	2	2.79	2.49
P-133	false	382.00	8.0	PVC	140.0	144.12	1,671	1,671	0	0.44	0.92
P-134	false	570.00	8.0	PVC	140.0	107.56	1,671	1,671	0	0.26	0.69
P-135	false	198.00	8.0	PVC	140.0	143.69	1,671	1,671	0	0.44	0.92
P-136	false	736.00	8.0	PVC	140.0	-53.81	1,671	1,671	0	0.07	0.34
P-137	false	1,345.00	8.0	PVC	140.0	197.51	1,671	1,669	1	0.79	1.26
P-138	false	729.00	8.0	PVC	140.0	133.61	1,669	1,669	0	0.38	0.85
P-139	false	1,059.00	8.0	PVC	140.0	90.34	1,671	1,671	0	0.19	0.58
P-140	false	260.00	8.0	PVC	140.0	27.34	1,671	1,671	0	0.02	0.17
P-141	false	963.00	8.0	PVC	140.0	-36.56	1,671	1,671	0	0.03	0.23
P-142	false	179.00	8.0	PVC	140.0	156.13	1,671	1,671	0	0.51	1.00
P-143	false	995.00	8.0	PVC	140.0	96.13	1,671	1,671	0	0.21	0.61
P-144	false	466.00	8.0	PVC	140.0	36.13	1,671	1,671	0	0.03	0.23
P-145	false	859.00	8.0	PVC	140.0	-112.24	1,670	1,670	0	0.28	0.72
P-146	false	834.00	8.0	PVC	140.0	-166.24	1,670	1,671	0	0.57	1.06
P-147	false	415.00	8.0	PVC	140.0	-166.24	1,671	1,671	0	0.57	1.06

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-148	false	545.00	8.0	PVC	140.0	88.45	1,673	1,673	0	0.18	0.56
P-149	false	523.00	8.0	PVC	140.0	-5.55	1,673	1,673	0	0.00	0.04
P-150	false	1,009.00	8.0	PVC	140.0	111.84	1,673	1,672	0	0.28	0.71
P-151	false	818.00	8.0	PVC	140.0	56.09	1,672	1,672	0	0.08	0.36
P-153	false	1,155.00	8.0	PVC	140.0	-13.00	1,672	1,672	0	0.01	0.08
P-154	false	1,692.00	8.0	PVC	140.0	-94.00	1,672	1,673	0	0.20	0.60
P-155	false	1,476.00	8.0	PVC	140.0	-102.24	1,672	1,673	0	0.23	0.65
P-156	false	1,381.00	8.0	PVC	140.0	-55.76	1,672	1,672	0	0.08	0.36
P-157	false	671.00	8.0	PVC	140.0	-219.64	1,673	1,673	1	0.96	1.40
P-160	false	1,433.00	8.0	PVC	140.0	21.18	1,673	1,673	0	0.01	0.14
P-162	false	808.00	8.0	PVC	140.0	87.18	1,673	1,673	0	0.17	0.56
P-163	false	628.00	8.0	PVC	140.0	129.08	1,673	1,673	0	0.36	0.82
P-166	false	338.00	8.0	PVC	140.0	362.17	1,676	1,675	1	2.43	2.31
P-167	false	905.00	8.0	PVC	140.0	173.56	1,675	1,674	1	0.62	1.11
P-168	false	257.00	8.0	PVC	140.0	116.44	1,674	1,674	0	0.30	0.74
P-169	false	250.00	8.0	PVC	140.0	188.61	1,675	1,675	0	0.73	1.20
P-170	false	584.00	8.0	PVC	140.0	188.61	1,675	1,674	0	0.73	1.20
P-171	false	823.00	8.0	PVC	140.0	-198.46	1,673	1,674	1	0.80	1.27
P-173	false	534.00	8.0	PVC	140.0	188.61	1,674	1,674	0	0.73	1.20
P-176	false	557.00	12.0	Ductile Iron	130.0	1,510.74	1,684	1,681	3	5.44	4.29
P-177	false	582.00	12.0	PVC	140.0	1,207.50	1,681	1,679	2	3.13	3.43
P-178	false	1,449.00	12.0	PVC	140.0	801.40	1,679	1,677	2	1.47	2.27
P-179	false	943.00	8.0	PVC	140.0	303.24	1,681	1,679	2	1.75	1.94
P-180	false	1,328.00	8.0	PVC	140.0	249.24	1,679	1,678	2	1.22	1.59
P-181	false	970.00	8.0	PVC	140.0	186.24	1,678	1,677	1	0.71	1.19
P-182	false	385.00	12.0	PVC	140.0	471.58	1,678	1,677	0	0.55	1.34
P-183	false	509.00	12.0	PVC	140.0	319.49	1,677	1,677	0	0.27	0.91
P-184	false	483.00	12.0	PVC	140.0	297.58	1,677	1,677	0	0.23	0.84
P-185	false	467.00	8.0	PVC	140.0	104.09	1,677	1,677	0	0.24	0.66
P-186	false	768.00	8.0	PVC	140.0	38.09	1,677	1,677	0	0.04	0.24
P-187	false	408.00	8.0	PVC	140.0	-21.91	1,677	1,677	0	0.01	0.14
P-189	false	578.00	8.0	PVC	140.0	-216.26	1,673	1,674	1	0.93	1.38
P-190	false	318.00	8.0	PVC	140.0	75.85	1,674	1,674	0	0.13	0.48
P-191	false	827.00	8.0	PVC	140.0	292.11	1,675	1,674	1	1.63	1.86
P-193	false	2,593.00	16.0	PVC	140.0	43.00	-9,578,736	-9,578,736	0	0.00	0.07
P-194	false	144.00	16.0	PVC	140.0	43.00	-9,578,736	-9,578,736	0	0.00	0.07
P-195	false	4,375.00	16.0	PVC	140.0	-27.38	-9,578,736	-9,578,736	0	0.00	0.04
P-199	false	1,292.00	12.0	PVC	140.0	81.00	1,625	1,625	0	0.02	0.23
P-200	false	2,922.00	12.0	PVC	140.0	43.89	1,625	1,625	0	0.01	0.12
P-201	false	1,330.00	8.0	PVC	140.0	43.89	1,625	1,625	0	0.05	0.28
P-202	false	2,369.00	8.0	PVC	140.0	-37.11	1,625	1,625	0	0.04	0.24
P-208	false	512.00	8.0	PVC	140.0	-100.66	1,666	1,666	0	0.23	0.64
P-209	false	614.00	8.0	PVC	140.0	-163.66	1,666	1,667	0	0.56	1.04
P-210	false	397.00	8.0	PVC	140.0	-7.24	1,672	1,672	0	0.00	0.05
P-211	false	418.00	8.0	PVC	140.0	-61.24	1,672	1,672	0	0.09	0.39
P-212	false	902.00	8.0	PVC	140.0	-337.11	1,675	1,677	2	2.13	2.15
P-213	false	710.00	8.0	PVC	140.0	-406.11	1,677	1,679	2	3.00	2.59
P-214	false	1,639.00	8.0	PVC	140.0	69.00	1,677	1,677	0	0.11	0.44
P-215	false	1,427.00	8.0	PVC	140.0	-400.14	1,676	1,680	4	2.92	2.55
P-216	false	1,293.00	8.0	PVC	140.0	-406.14	1,680	1,684	4	3.00	2.59

Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-217	false	445.00	8.0	PVC	140.0	-74.68	1,666	1,666	0	0.13	0.48
P-218	false	475.00	8.0	PVC	140.0	-179.66	1,668	1,667	0	0.66	1.15
P-219	false	726.00	8.0	PVC	140.0	104.98	1,666	1,666	0	0.24	0.67
P-221	false	1,256.00	8.0	PVC	140.0	-2.73	1,666	1,666	0	0.00	0.02
P-222	false	537.00	8.0	PVC	140.0	41.98	1,666	1,666	0	0.05	0.27
P-223	false	531.00	8.0	PVC	140.0	44.70	1,666	1,666	0	0.05	0.29
P-224	false	663.00	12.0	PVC	140.0	-218.63	1,666	1,666	0	0.13	0.62
P-225	false	382.00	12.0	PVC	140.0	-242.92	1,666	1,666	0	0.16	0.69
P-226	false	564.00	8.0	PVC	140.0	-24.30	1,666	1,666	0	0.02	0.16
P-227	false	285.00	8.0	PVC	140.0	29.47	1,625	1,625	0	0.02	0.19
P-228	false	661.00	8.0	PVC	140.0	-0.99	1,625	1,625	0	0.00	0.01
P-229	false	1,704.00	8.0	PVC	140.0	17.54	1,625	1,625	0	0.01	0.11
P-230	false	612.00	8.0	PVC	140.0	-30.46	1,625	1,625	0	0.02	0.19
P-232	false	1,792.00	8.0	PVC	140.0	2.30	1,666	1,666	0	0.00	0.01
P-233	false	1,439.00	8.0	PVC	140.0	-69.53	1,625	1,625	0	0.11	0.44
P-234	false	262.00	8.0	PVC	140.0	-111.53	1,625	1,625	0	0.27	0.71
P-235	false	833.00	8.0	PVC	140.0	-0.00	1,625	1,625	0	0.00	0.00
P-236	false	1,358.00	8.0	PVC	140.0	-6.00	1,625	1,625	0	0.00	0.04
P-237	false	614.00	8.0	PVC	140.0	6.00	1,625	1,625	0	0.00	0.04
P-238	false	1,384.00	8.0	PVC	140.0	70.38	-9,578,736	-9,578,736	0	0.00	0.45
P-239	false	3,023.00	8.0	PVC	140.0	4.38	-9,578,736	-9,578,736	0	0.00	0.03
P-240	false	2,003.00	8.0	PVC	140.0	-58.62	-9,578,736	-9,578,736	0	0.00	0.37
P-243	false	4,782.00	16.0	PVC	140.0	-86.00	-9,578,736	-9,578,736	0	0.00	0.14
P-244	true	518.00	16.0	PVC	140.0	0.00	1,783	-9,578,736	0	0.00	0.00
P-245	false	648.00	12.0	PVC	140.0	-43.00	-9,578,736	-9,578,736	0	0.00	0.12
P-246	false	3,294.00	12.0	PVC	140.0	-43.00	-9,578,736	-9,578,736	0	0.00	0.12
P-247	false	1,699.00	12.0	PVC	140.0	-43.00	-9,578,736	-9,578,736	0	0.00	0.12
P-248	false	1,926.00	12.0	PVC	140.0	-43.00	1,671	1,671	0	0.01	0.12
P-249	false	549.00	16.0	PVC	140.0	-43.00	1,666	1,666	0	0.00	0.07
P-250	false	2,045.00	16.0	PVC	140.0	-43.00	-9,578,736	-9,578,736	0	0.00	0.07
P-251	false	744.00	12.0	PVC	140.0	22.88	1,625	1,625	0	0.00	0.06
P-252	false	344.00	12.0	PVC	140.0	0.00	1,625	1,625	0	0.00	0.00
P-253	false	656.00	8.0	PVC	140.0	-22.88	1,625	1,625	0	0.01	0.15
P-254	false	202.00	12.0	PVC	140.0	-0.00	1,625	1,625	0	0.00	0.00
P-255	false	397.00	12.0	PVC	140.0	0.00	1,666	1,666	0	0.00	0.00
P-256	false	1,377.00	12.0	PVC	140.0	197.47	1,625	1,625	0	0.11	0.56
P-257	false	1,448.00	8.0	PVC	140.0	-59.30	1,666	1,666	0	0.09	0.38
P-258	false	193.00	12.0	PVC	140.0	-363.00	1,665	1,665	0	0.34	1.03
P-259	false	177.00	12.0	PVC	140.0	363.00	1,625	1,625	0	0.34	1.03
P-260	false	1,595.00	12.0	PVC	140.0	-515.01	1,677	1,678	1	0.65	1.46
P-264	false	859.00	12.0	PVC	140.0	-0.00	1,783	1,783	0	0.00	0.00
P-265	false	827.00	12.0	PVC	140.0	-0.00	1,000	1,000	0	0.00	0.00
P-266	false	1,119.00	12.0	PVC	140.0	-1,254.46	1,673	1,677	4	3.36	3.56
P-271	false	701.00	12.0	Ductile Iron	130.0	-737.64	849	850	1	1.44	2.09
P-272	false	671.00	16.0	Ductile Iron	130.0	-1,916.88	1,684	1,686	1	2.08	3.06
P-273	false	685.00	12.0	Ductile Iron	130.0	-1,916.88	1,686	1,691	6	8.46	5.44
P-273A	false	672.00	12.0	Ductile Iron	130.0	1,916.88	1,697	1,691	6	8.46	5.44
P-285	false	485.00	12.0	Ductile Iron	130.0	248.95	1,678	1,678	0	0.19	0.71
P-286	false	856.00	12.0	Ductile Iron	130.0	248.95	1,678	1,678	0	0.19	0.71
P-287	false	355.00	12.0	Ductile Iron	130.0	-248.95	1,678	1,678	0	0.19	0.71

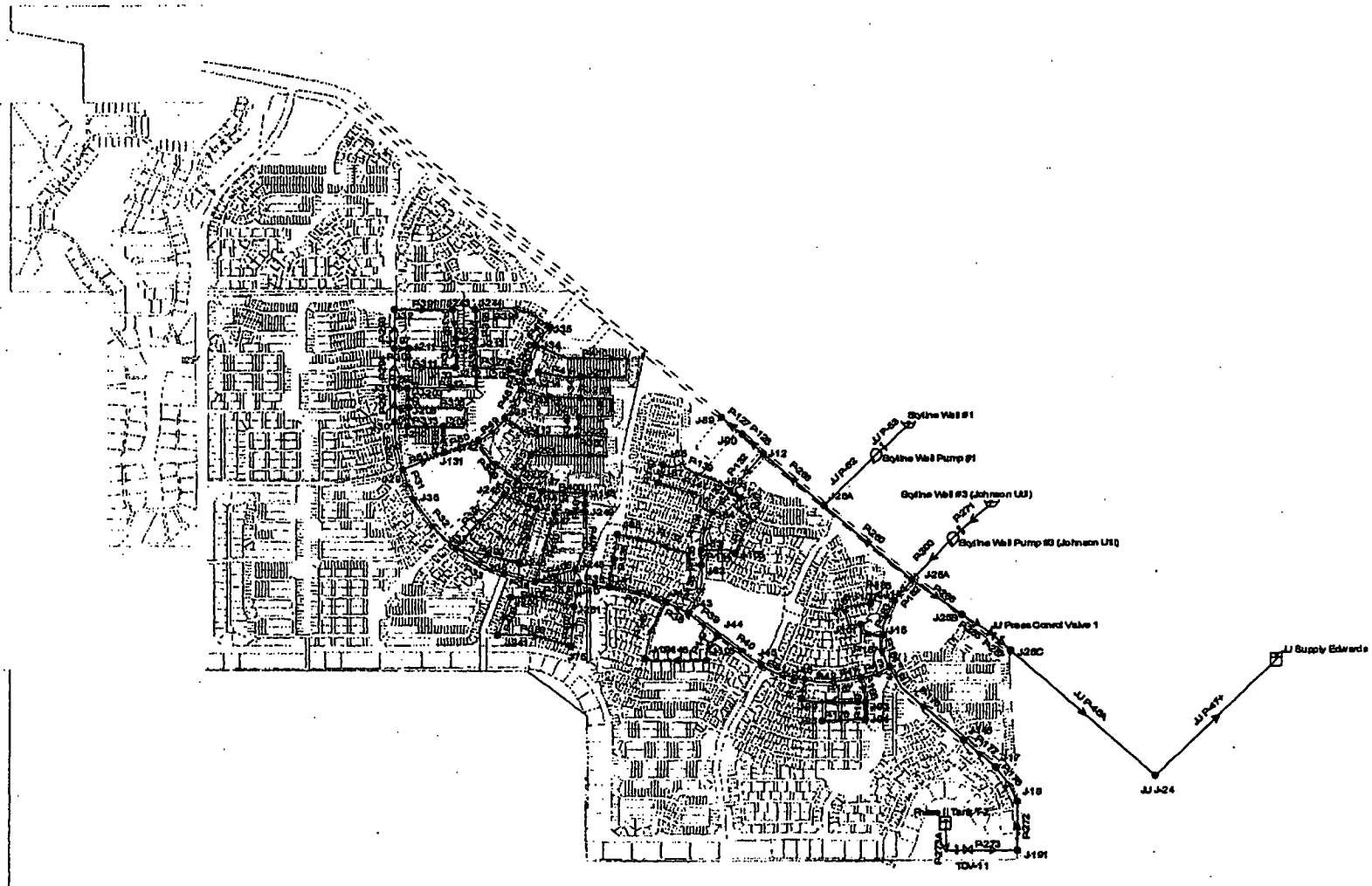
Scenario: Ultimate P.A.D. - Peak Hour - Tank No. 4 Out of Service
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-293	false	532.00	12.0	PVC	140.0	-156.35	1,666	1,666	0	0.07	0.44
P-294	false	545.00	12.0	PVC	140.0	-164.13	1,666	1,666	0	0.08	0.47
P-299	false	182.00	8.0	PVC	140.0	-85.92	1,666	1,666	0	0.17	0.55
P-300	false	819.00	12.0	Ductile Iron	130.0	737.64	1,679	1,678	1	1.44	2.09
P-305	false	270.00	8.0	PVC	140.0	-52.95	1,666	1,666	0	0.07	0.34
P-308	false	363.00	8.0	PVC	140.0	-112.95	1,666	1,666	0	0.28	0.72
P-309	false	202.00	8.0	PVC	140.0	7.79	1,666	1,666	0	0.00	0.05
P-311	false	922.00	8.0	PVC	140.0	-22.21	1,666	1,666	0	0.01	0.14
P-312	false	1,208.00	8.0	PVC	140.0	62.97	1,666	1,666	0	0.09	0.40
P-313	false	487.00	8.0	PVC	140.0	47.72	1,666	1,666	0	0.08	0.30
P-316	false	268.00	8.0	PVC	140.0	47.72	1,666	1,666	0	0.06	0.30
P-321	false	266.00	8.0	PVC	140.0	-148.05	1,666	1,666	0	0.46	0.94
P-327	false	460.00	8.0	PVC	140.0	-143.80	1,666	1,667	0	0.44	0.92
P-335	false	1,325.00	8.0	PVC	140.0	-35.22	1,666	1,666	0	0.03	0.22
P-339	false	781.00	8.0	PVC	140.0	-88.17	1,666	1,667	0	0.18	0.56
P-340	false	360.00	8.0	PVC	140.0	-146.42	1,667	1,667	0	0.45	0.93
P-347	false	276.00	8.0	PVC	140.0	9.11	1,667	1,667	0	0.00	0.06
P-348	false	1,123.00	8.0	PVC	140.0	24.60	1,667	1,667	0	0.02	0.16
P-349	false	267.00	8.0	PVC	140.0	0.60	1,667	1,667	0	0.00	0.00
P-350	false	1,680.00	8.0	PVC	140.0	-34.25	1,667	1,667	0	0.03	0.22
P-351	false	384.00	8.0	PVC	140.0	-58.25	1,667	1,667	0	0.08	0.37
P-365	false	258.00	8.0	PVC	140.0	-1.25	1,667	1,667	0	0.00	0.01
P-370	false	477.00	8.0	PVC	140.0	0.13	1,667	1,667	0	0.00	0.00
P-385	false	199.00	8.0	PVC	140.0	-101.64	1,668	1,668	0	0.23	0.65
P-386	false	1,031.00	8.0	PVC	140.0	-49.40	1,668	1,668	0	0.06	0.32
P-390	false	228.00	8.0	PVC	140.0	-143.80	1,667	1,667	0	0.44	0.92
P-391	false	816.00	8.0	PVC	140.0	-41.83	1,666	1,666	0	0.04	0.27
P-392	false	399.00	8.0	PVC	140.0	-65.83	1,666	1,666	0	0.10	0.42
P-393	false	408.00	8.0	PVC	140.0	52.21	1,666	1,666	0	0.07	0.33
P-394	false	1,088.00	8.0	PVC	140.0	151.21	1,667	1,666	1	0.48	0.97
P-395	false	393.00	8.0	PVC	140.0	127.21	1,666	1,666	0	0.35	0.81
P-396	false	392.00	8.0	PVC	140.0	-50.84	1,666	1,666	0	0.06	0.32
P-397	false	999.00	8.0	PVC	140.0	-23.87	1,667	1,667	0	0.02	0.15
P-398	false	789.00	8.0	PVC	140.0	-1.38	1,667	1,667	0	0.00	0.01
P-399	false	888.00	8.0	PVC	140.0	-25.38	1,667	1,667	0	0.02	0.16
P-400	false	611.00	8.0	PVC	140.0	-145.18	1,667	1,667	0	0.45	0.93
P-401	false	265.00	8.0	PVC	140.0	-205.18	1,667	1,667	0	0.85	1.31
P-402	false	407.00	8.0	PVC	140.0	-100.37	1,667	1,667	0	0.23	0.64
P-403	false	1,003.00	8.0	PVC	140.0	-124.37	1,667	1,668	0	0.34	0.79
P-404	false	830.00	8.0	PVC	140.0	-104.80	1,667	1,667	0	0.24	0.67
P-405	false	579.00	8.0	PVC	140.0	-134.80	1,667	1,668	0	0.39	0.86
P-406	false	328.00	8.0	PVC	140.0	176.64	1,668	1,668	0	0.64	1.13
P-407	false	557.00	8.0	PVC	140.0	94.40	1,668	1,668	0	0.20	0.60
P-408	false	878.00	8.0	PVC	140.0	82.24	1,668	1,668	0	0.16	0.52
P-409	false	561.00	8.0	PVC	140.0	52.24	1,668	1,668	0	0.07	0.33
P-410	false	2,172.00	8.0	PVC	140.0	69.11	1,667	1,667	0	0.11	0.44
P-411	false	582.00	8.0	PVC	140.0	0.00	1,667	1,667	0	0.00	0.00
P-412	false	850.00	8.0	PVC	140.0	39.49	1,667	1,667	0	0.04	0.25
P-413	false	1,074.00	8.0	PVC	140.0	-10.85	1,667	1,667	0	0.00	0.07

APPENDIX C

OUTPUT FILES FOR SAN TAN HEIGHTS WATER SYSTEM MODELING

Scenario: Phase I and Phase II - Average Day



Calculation Results Summary

Scenario: Phase I and Phase II - Average Day
[Analysis Started]
[Steady State]
0:00:00 Balanced after 9 trials; relative flow change = 0.000054
Flow Summary
Flow Supplied 687.44 gpm
Flow Demanded 479.64 gpm
Flow Stored 207.80 gpm
0:00:00 Reservoir Skyline Well #1 is closed
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Phase II Tank T-2 is emptying at 23 ft
0:00:00 Tank JU Supply Edwards is filling at 20 ft
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-12	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	83
J-14	1,515.00	Zone 2	Demand	16.00	Fixed	16.00	1,697	79
J-15	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	77
J-16	1,522.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	76
J-17	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-18	1,535.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	70
J-25A	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	83
J-25B	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	83
J-25C	1,506.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,697	83
J-26A	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	84
J-29	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	66
J-30	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	68
J-31	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	70
J-32	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	75
J-33	1,527.00	Zone 2	Demand	9.00	Fixed	9.00	1,696	73
J-34	1,517.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	77
J-35	1,514.00	Zone 2	Demand	5.00	Fixed	5.00	1,696	79
J-36	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	65
J-37	1,546.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	65
J-38	1,542.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	67
J-39	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	68
J-40	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	70
J-41	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	72
J-42	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	73
J-43	1,527.00	Zone 2	Demand	8.00	Fixed	8.00	1,697	73
J-44	1,527.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	73
J-45	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-46	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-47	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	74
J-75	1,542.00	Zone 2	Demand	15.00	Fixed	15.00	1,696	67
J-82	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	76
J-83	1,519.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	77
J-84	1,514.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	79
J-85	1,511.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	80
J-86	1,515.00	Zone 2	Demand	21.00	Fixed	21.00	1,697	79

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-87	1,517.00	Zone 2	Demand	21.30	Fixed	21.30	1,697	78
J-88	1,526.00	Zone 2	Demand	21.30	Fixed	21.30	1,696	74
J-89	1,507.00	Zone 2	Demand	5.00	Fixed	5.00	1,697	82
J-90	1,506.00	Zone 2	Demand	6.00	Fixed	6.00	1,697	83
J-93	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-94	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-95	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	71
J-99	1,530.00	Zone 2	Demand	19.04	Fixed	19.04	1,697	72
J-100	1,517.00	Zone 2	Demand	22.00	Fixed	22.00	1,697	78
J-101	1,520.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	77
J-104	1,535.00	Zone 2	Demand	18.00	Fixed	18.00	1,697	70
J-105	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	72
J-106	1,517.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	78
J-107	1,511.00	Zone 2	Demand	20.00	Fixed	20.00	1,697	80
J-131	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	69
J-133	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	74
J-135	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	76
J-142	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	71
J-143	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	75
J-145	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	73
J-147	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	69
J-148	1,531.00	Zone 2	Demand	20.00	Fixed	20.00	1,696	71
J-191	1,540.00	Zone 2	Demand	0.00	Fixed	0.00	1,697	68
J-197	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	72
J-202	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	74
J-203	1,534.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	70
J-206	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	76
J-208	1,539.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	68
J-209	1,537.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	69
J-210	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	68
J-211	1,530.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	72
J-212	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	74
J-213	1,526.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	74
J-214	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	76
J-217	1,515.00	Zone 2	Demand	20.00	Fixed	20.00	1,696	78

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-218	1,515.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	78
J-219	1,516.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	78
J-220	1,519.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	77
J-221	1,522.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	75
J-222	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	73
J-232	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	69
J-241	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	63
J-243	1,514.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	79
J-244	1,514.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	79
J-245	1,536.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	69
J-246	1,542.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	67
J-247	1,531.00	Zone 2	Demand	8.00	Fixed	8.00	1,696	71
J-248	1,534.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	70
J-249	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	71
J-250	1,545.00	Zone 2	Demand	10.00	Fixed	10.00	1,696	65
J-251	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	70
JU J-24	1,520.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,695	76

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
JU P-47+	false	6,450.00	8.0	PVC	140.0	-259.50	1,687	1,695	8	1.31	1.66
JU P-48A	false	5,800.00	12.0	PVC	140.0	-259.50	1,695	1,697	1	0.22	0.74
JU P-52	false	1,019.00	12.0	Ductile Iron	130.0	-0.00	1,697	1,697	0	0.00	0.00
JU P-53	false	611.00	12.0	Ductile Iron	130.0	-0.00	850	850	0	0.00	0.00
P-29	false	486.00	12.0	PVC	140.0	-54.25	1,696	1,696	0	0.01	0.15
P-30	false	675.00	12.0	PVC	140.0	-54.25	1,696	1,696	0	0.01	0.15
P-31	false	440.00	12.0	PVC	140.0	-107.36	1,696	1,696	0	0.04	0.30
P-32	false	899.00	12.0	PVC	140.0	-107.36	1,696	1,696	0	0.04	0.30
P-33	false	761.00	12.0	PVC	140.0	-141.44	1,696	1,696	0	0.06	0.40
P-34	false	446.00	12.0	PVC	140.0	-141.44	1,696	1,696	0	0.06	0.40
P-35	false	588.00	12.0	PVC	140.0	-216.00	1,696	1,696	0	0.13	0.61
P-36	false	433.00	12.0	PVC	140.0	-241.00	1,696	1,696	0	0.16	0.68
P-37	false	799.00	12.0	PVC	140.0	-205.54	1,696	1,696	0	0.12	0.58
P-38	false	349.00	12.0	PVC	140.0	-179.56	1,696	1,697	0	0.09	0.51
P-39	false	508.00	12.0	PVC	140.0	-175.67	1,697	1,697	0	0.09	0.50
P-40	false	721.00	12.0	PVC	140.0	-240.86	1,697	1,697	0	0.16	0.68
P-41	false	656.00	12.0	PVC	140.0	-240.86	1,697	1,697	0	0.16	0.68
P-42	false	766.00	12.0	PVC	140.0	-207.41	1,697	1,697	0	0.12	0.59
P-43	false	427.00	12.0	PVC	140.0	-259.90	1,697	1,697	0	0.18	0.74
P-45	false	306.00	12.0	PVC	140.0	-13.64	1,696	1,696	0	0.00	0.04
P-46	false	430.00	12.0	PVC	140.0	-20.73	1,696	1,696	0	0.00	0.06
P-47	false	240.00	12.0	PVC	140.0	-30.26	1,696	1,696	0	0.00	0.09
P-48	false	452.00	12.0	PVC	140.0	-42.27	1,696	1,696	0	0.01	0.12
P-49	false	473.00	12.0	PVC	140.0	-57.78	1,696	1,696	0	0.01	0.16
P-50	false	483.00	12.0	PVC	140.0	-29.54	1,696	1,696	0	0.00	0.08
P-51	false	642.00	12.0	PVC	140.0	-53.11	1,696	1,696	0	0.01	0.15
P-127	false	388.00	12.0	PVC	140.0	-5.00	1,697	1,697	0	0.00	0.01
P-128	false	373.00	12.0	PVC	140.0	-11.00	1,697	1,697	0	0.00	0.03
P-132	false	681.00	8.0	PVC	140.0	150.74	1,697	1,697	0	0.48	0.96
P-133	false	382.00	8.0	PVC	140.0	56.86	1,697	1,697	0	0.08	0.36
P-134	false	570.00	8.0	PVC	140.0	48.03	1,697	1,697	0	0.06	0.31
P-135	false	198.00	8.0	PVC	140.0	68.44	1,697	1,697	0	0.11	0.44
P-136	false	736.00	8.0	PVC	140.0	11.69	1,697	1,697	0	0.00	0.07
P-137	false	1,345.00	8.0	PVC	140.0	56.76	1,697	1,696	0	0.08	0.36
P-138	false	729.00	8.0	PVC	140.0	35.46	1,696	1,696	0	0.03	0.23

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-139	false	1,059.00	8.0	PVC	140.0	33.47	1,697	1,697	0	0.03	0.21
P-140	false	260.00	8.0	PVC	140.0	12.47	1,697	1,697	0	0.00	0.08
P-141	false	963.00	8.0	PVC	140.0	-8.83	1,697	1,697	0	0.00	0.06
P-142	false	179.00	8.0	PVC	140.0	60.42	1,697	1,697	0	0.09	0.39
P-143	false	995.00	8.0	PVC	140.0	40.42	1,697	1,697	0	0.04	0.26
P-144	false	466.00	8.0	PVC	140.0	20.42	1,697	1,697	0	0.01	0.13
P-145	false	859.00	8.0	PVC	140.0	-25.99	1,696	1,697	0	0.02	0.17
P-146	false	834.00	8.0	PVC	140.0	-43.99	1,697	1,697	0	0.05	0.28
P-147	false	415.00	8.0	PVC	140.0	-43.99	1,697	1,697	0	0.05	0.28
P-166	false	338.00	8.0	PVC	140.0	52.48	1,697	1,697	0	0.07	0.33
P-167	false	905.00	8.0	PVC	140.0	52.48	1,697	1,697	0	0.07	0.33
P-168	false	257.00	8.0	PVC	140.0	33.44	1,697	1,697	0	0.03	0.21
P-169	false	250.00	8.0	PVC	140.0	0.00	1,697	1,697	0	0.00	0.00
P-170	false	584.00	8.0	PVC	140.0	0.00	1,697	1,697	0	0.00	0.00
P-176	false	557.00	12.0	Ductile Iron	130.0	51.71	1,697	1,697	0	0.01	0.15
P-177	false	582.00	12.0	PVC	140.0	51.71	1,697	1,697	0	0.01	0.15
P-178	false	1,449.00	12.0	PVC	140.0	51.71	1,697	1,697	0	0.01	0.15
P-182	false	386.00	12.0	PVC	140.0	266.19	1,697	1,697	0	0.19	0.76
P-183	false	509.00	12.0	PVC	140.0	196.50	1,697	1,697	0	0.11	0.56
P-184	false	483.00	12.0	PVC	140.0	208.19	1,697	1,697	0	0.12	0.59
P-185	false	467.00	8.0	PVC	140.0	53.70	1,697	1,697	0	0.07	0.34
P-186	false	768.00	8.0	PVC	140.0	31.70	1,697	1,697	0	0.03	0.20
P-187	false	408.00	8.0	PVC	140.0	11.70	1,697	1,697	0	0.00	0.07
P-260	false	1,595.00	12.0	PVC	140.0	-161.75	1,697	1,697	0	0.08	0.46
P-266	false	1,119.00	12.0	PVC	140.0	-161.74	1,697	1,697	0	0.08	0.46
P-271	false	701.00	12.0	Ductile Iron	130.0	-687.44	849	850	1	1.27	1.95
P-272	false	671.00	16.0	Ductile Iron	130.0	-51.71	1,697	1,697	0	0.00	0.08
P-273	false	685.00	12.0	Ductile Iron	130.0	-51.71	1,697	1,697	0	0.01	0.15
P-273A	false	672.00	12.0	Ductile Iron	130.0	51.71	1,697	1,697	0	0.01	0.15
P-285	false	485.00	12.0	Ductile Iron	130.0	-259.50	1,697	1,697	0	0.21	0.74
P-286	false	856.00	12.0	Ductile Iron	130.0	-259.50	1,697	1,697	0	0.21	0.74
P-287	false	355.00	12.0	Ductile Iron	130.0	259.50	1,697	1,697	0	0.21	0.74
P-293	false	532.00	12.0	PVC	140.0	-14.58	1,696	1,696	0	0.00	0.04
P-294	false	545.00	12.0	PVC	140.0	-35.84	1,696	1,696	0	0.00	0.10
P-299	false	182.00	8.0	PVC	140.0	18.41	1,696	1,696	0	0.01	0.12

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-300	false	819.00	12.0	Ductile Iron	130.0	687.44	1,698	1,697	1	1.27	1.95
P-305	false	270.00	8.0	PVC	140.0	-3.57	1,696	1,696	0	0.00	0.02
P-308	false	363.00	8.0	PVC	140.0	-23.57	1,696	1,696	0	0.02	0.15
P-309	false	202.00	8.0	PVC	140.0	21.26	1,696	1,696	0	0.01	0.14
P-311	false	922.00	8.0	PVC	140.0	11.26	1,696	1,696	0	0.00	0.07
P-312	false	1,208.00	8.0	PVC	140.0	-11.98	1,696	1,696	0	0.00	0.08
P-313	false	487.00	8.0	PVC	140.0	7.81	1,696	1,696	0	0.00	0.05
P-316	false	268.00	8.0	PVC	140.0	7.81	1,696	1,696	0	0.00	0.05
P-321	false	266.00	8.0	PVC	140.0	-2.16	1,696	1,696	0	0.00	0.01
P-327	false	460.00	8.0	PVC	140.0	-9.53	1,696	1,696	0	0.00	0.06
P-335	false	1,325.00	8.0	PVC	140.0	-5.76	1,696	1,696	0	0.00	0.04
P-339	false	781.00	8.0	PVC	140.0	-28.24	1,696	1,696	0	0.02	0.18
P-340	false	360.00	8.0	PVC	140.0	-54.64	1,696	1,696	0	0.07	0.35
P-347	false	276.00	8.0	PVC	140.0	-12.92	1,696	1,696	0	0.00	0.08
P-348	false	1,123.00	8.0	PVC	140.0	-8.91	1,696	1,696	0	0.00	0.06
P-349	false	267.00	8.0	PVC	140.0	-16.91	1,696	1,696	0	0.01	0.11
P-350	false	1,680.00	8.0	PVC	140.0	-18.40	1,696	1,696	0	0.01	0.12
P-351	false	384.00	8.0	PVC	140.0	-26.40	1,696	1,696	0	0.02	0.17
P-365	false	258.00	8.0	PVC	140.0	-18.08	1,696	1,696	0	0.01	0.12
P-370	false	477.00	8.0	PVC	140.0	-8.99	1,696	1,696	0	0.00	0.06
P-386	false	1,031.00	8.0	PVC	140.0	0.91	1,696	1,696	0	0.00	0.01
P-390	false	228.00	8.0	PVC	140.0	-9.53	1,696	1,696	0	0.00	0.06
P-391	false	816.00	8.0	PVC	140.0	14.58	1,696	1,696	0	0.01	0.09
P-392	false	399.00	8.0	PVC	140.0	6.58	1,696	1,696	0	0.00	0.04
P-393	false	408.00	8.0	PVC	140.0	-1.26	1,696	1,696	0	0.00	0.01
P-394	false	1,088.00	8.0	PVC	140.0	8.64	1,696	1,696	0	0.00	0.06
P-395	false	393.00	8.0	PVC	140.0	0.64	1,696	1,696	0	0.00	0.00
P-396	false	392.00	8.0	PVC	140.0	-11.52	1,696	1,696	0	0.00	0.07
P-397	false	999.00	8.0	PVC	140.0	-16.99	1,696	1,696	0	0.01	0.11
P-398	false	789.00	8.0	PVC	140.0	-9.09	1,696	1,696	0	0.00	0.06
P-399	false	888.00	8.0	PVC	140.0	-17.09	1,696	1,696	0	0.01	0.11
P-400	false	611.00	8.0	PVC	140.0	-36.56	1,696	1,696	0	0.03	0.23
P-401	false	265.00	8.0	PVC	140.0	-56.56	1,696	1,696	0	0.08	0.36
P-402	false	407.00	8.0	PVC	140.0	-27.55	1,696	1,696	0	0.02	0.18
P-403	false	1,003.00	8.0	PVC	140.0	-35.55	1,696	1,696	0	0.03	0.23

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-404	false	830.00	8.0	PVC	140.0	-29.01	1,696	1,696	0	0.02	0.19
P-405	false	579.00	8.0	PVC	140.0	-39.01	1,696	1,696	0	0.04	0.25
P-406	false	328.00	8.0	PVC	140.0	25.00	1,696	1,696	0	0.02	0.16
P-407	false	557.00	8.0	PVC	140.0	14.09	1,696	1,696	0	0.01	0.09
P-408	false	878.00	8.0	PVC	140.0	10.91	1,696	1,696	0	0.00	0.07
P-409	false	561.00	8.0	PVC	140.0	0.91	1,696	1,696	0	0.00	0.01
P-410	false	2,172.00	8.0	PVC	140.0	7.08	1,696	1,696	0	0.00	0.05
P-411	false	582.00	8.0	PVC	140.0	0.00	1,696	1,696	0	0.00	0.00
P-412	false	850.00	8.0	PVC	140.0	12.01	1,696	1,696	0	0.00	0.08
P-413	false	1,074.00	8.0	PVC	140.0	6.51	1,696	1,696	0	0.00	0.04

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Pump Report

Label	Elevation (ft)	Rated Power (Hp)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Calculated Water Power (Hp)
Skyline Well Pump #1	1,000.00		Off	850	1,697	0.00	0	0.00
Skyline Well Pump #3 (Johnson Util	1,000.00		On	849	1,698	687.44	849	147.36

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Skyline Well #1	850.00	Zone 1	0.00	-0.00	850
Skyline Well #3 (Johnson Util)	850.00	Zone 1	-687.44	687.44	850

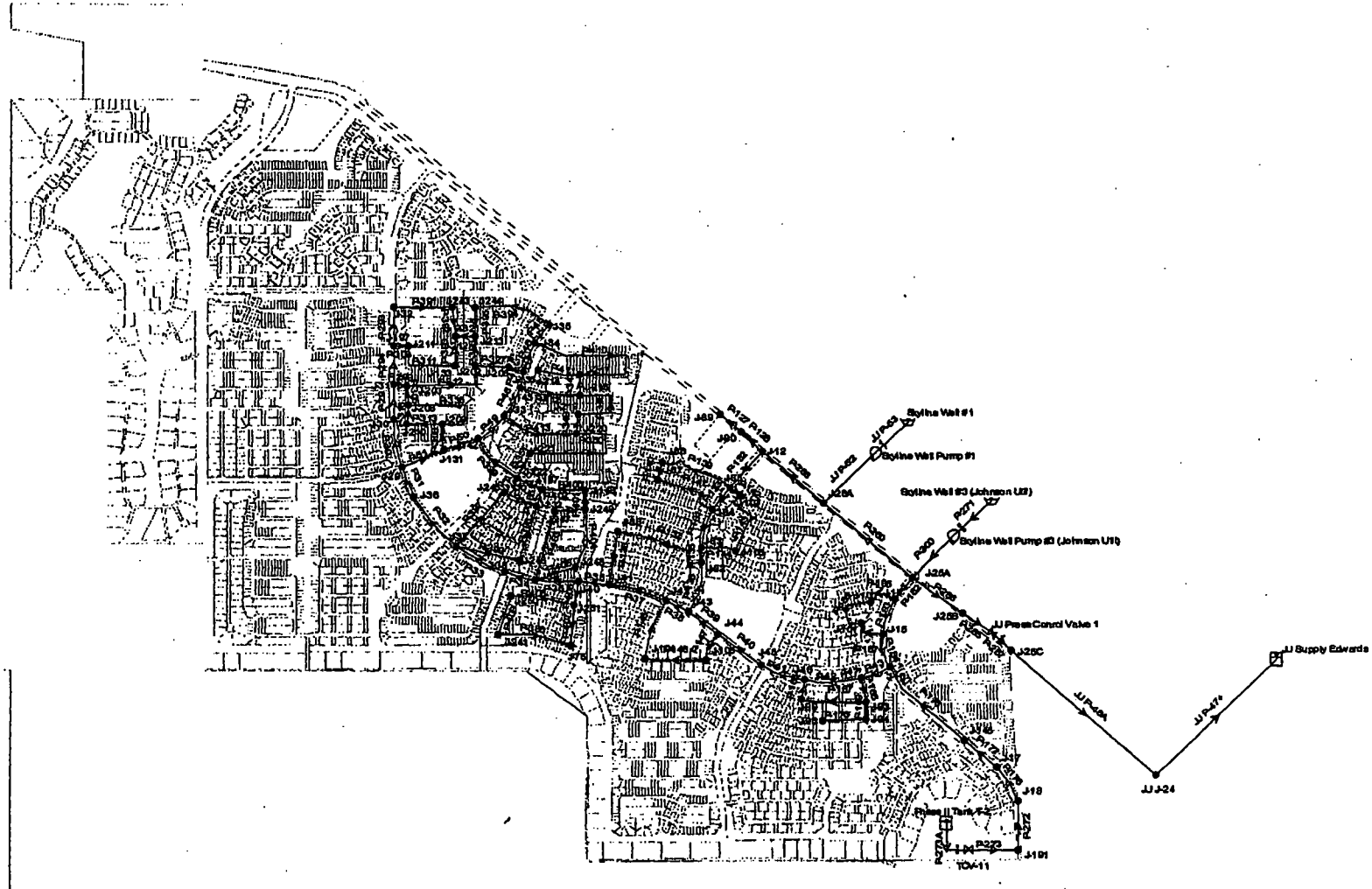
Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Tank Report

Label	Zone	Base Elevation (ft)	Initial HGL (ft)	Minimum Elevation (ft)	Maximum Elevation (ft)	Inactive Volume (gal)	Tank Diameter (ft)	Inflow (gpm)	Outflow (gpm)	Current Status	Calculated Hydraulic Grade (ft)	Calculated Percent Full (%)
Phase II Tank T-2	Zone 3	1,674.00	1,697.00	1,676.00	1,698.00	0.00	85.00	-51.71	51.71	Draining	1,697	95.5
JU Supply Edwards	Zone - J	1,667.00	1,687.00	1,669.00	1,688.00	0.00	2.00	259.50	-259.50	Filling	1,687	94.7

Scenario: Phase I and Phase II - Average Day
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
JU Press Conrol Valve	1,506.00	12.0	10.00	Inactive	-259.50	1,697	1,697	0
TCV-11	1,674.00	12.0	10.00	Throttling	51.71	1,697	1,697	0

Scenario: Phase I and Phase II - Maximum day plus fire



Title: The Village at San Tan Heights-Phase II
san tan heights phase I and phase II water model.w...
06/14/03 09:35:50 AM

Gannett Fleming, Inc.
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Project Engineer: Alan O'Brien, P.E.
WaterCAD v6.0 [6.0103a]
Page 1 of 1

Calculation Results Summary

Scenario: Phase I and Phase II - Maximum day plus fire
[Analysis Started]
[Fire Flow]
Failed to Converge 0
Satisfied Constraints 87
Failed Constraints 0
Total Nodes Computed 87
[Steady State]
0:00:00 Balanced after 9 trials; relative flow change = 0.000031
Flow Summary
Flow Supplied 694.51 gpm
Flow Demanded 959.28 gpm
Flow Stored -264.77 gpm
0:00:00 Reservoir Skyline Well #1 is closed
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Phase II Tank T-2 is emptying at 23 ft
0:00:00 Tank JU Supply Edwards is filling at 20 ft
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-12	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	75	J-241	55
J-14	Zone 2	1,000.00	true	true	1,100.00	1,032.00	1,132.00	73	J-241	57
J-15	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	71	J-241	57
J-16	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	70	J-241	57
J-17	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-241	58
J-18	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-241	59
J-25A	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	77	J-241	57
J-25B	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	76	J-241	57
J-25C	Zone - JU-1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	75	JU J-24	70
J-26A	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	76	J-241	56
J-29	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-36	50
J-30	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	52	J-36	50
J-31	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	54	J-36	50
J-32	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	58	J-36	50
J-33	Zone 2	1,000.00	true	true	1,100.00	1,018.00	1,118.00	57	J-36	50
J-34	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	61	J-36	50
J-35	Zone 2	1,000.00	true	true	1,100.00	1,010.00	1,110.00	62	J-36	50
J-36	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-37	50
J-37	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-36	51
J-38	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	53	J-37	51
J-39	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	55	J-241	51
J-40	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	58	J-241	51
J-41	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	60	J-241	52
J-42	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	63	J-241	53
J-43	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	64	J-241	53
J-44	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	64	J-241	54
J-45	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	65	J-241	55
J-46	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	66	J-241	55
J-47	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	67	J-241	56
J-75	Zone 2	1,000.00	true	true	1,100.00	1,030.00	1,130.00	49	J-241	47
J-82	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	66	J-241	53
J-83	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	66	J-241	54
J-84	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	68	J-241	54
J-85	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	70	J-241	54
J-86	Zone 2	1,000.00	true	true	1,100.00	1,042.00	1,142.00	65	J-241	54

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-87	Zone 2	1,000.00	true	true	1,100.00	1,042.60	1,142.60	64	J-241	54
J-88	Zone 2	1,000.00	true	true	1,100.00	1,042.60	1,142.60	61	J-241	53
J-89	Zone 2	1,000.00	true	true	1,100.00	1,010.00	1,110.00	73	J-241	55
J-90	Zone 2	1,000.00	true	true	1,100.00	1,012.00	1,112.00	74	J-241	55
J-93	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	65	J-241	56
J-94	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	62	J-241	56
J-95	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	56	J-241	56
J-99	Zone 2	1,000.00	true	true	1,100.00	1,038.08	1,138.08	64	J-241	56
J-100	Zone 2	1,000.00	true	true	1,100.00	1,044.00	1,144.00	70	J-241	57
J-101	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	69	J-241	57
J-104	Zone 2	1,000.00	true	true	1,100.00	1,036.00	1,136.00	58	J-241	53
J-105	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	60	J-241	54
J-106	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	66	J-241	54
J-107	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	69	J-241	54
J-131	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	53	J-36	50
J-133	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	55	J-36	50
J-135	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	59	J-36	50
J-142	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	55	J-36	50
J-143	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	58	J-36	50
J-145	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	69	J-241	58
J-147	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	54	J-37	50
J-148	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	56	J-37	51
J-191	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	65	J-241	59
J-197	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	55	J-36	50
J-202	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	56	J-36	50
J-203	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	53	J-36	50
J-206	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	59	J-36	50
J-208	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	51	J-36	50
J-209	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	52	J-36	50
J-210	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	50	J-36	50
J-211	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	54	J-36	50
J-212	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	56	J-36	50
J-213	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	56	J-36	50
J-214	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	52	J-36	50
J-217	Zone 2	1,000.00	true	true	1,100.00	1,040.00	1,140.00	59	J-36	50

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Fire Flow Report

Label	Zone	Needed Fire Flow (gpm)	Fire Flow Balanced?	Satisfies Fire Flow Constraints?	Available Fire Flow (gpm)	Total Flow Needed (gpm)	Total Flow Available (gpm)	Calculated Residual Pressure (psi)	Minimum Zone Junction	Calculated Minimum Zone Pressure (psi)
J-218	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	60	J-36	50
J-219	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	60	J-36	50
J-220	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	59	J-36	50
J-221	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	58	J-36	50
J-222	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	57	J-36	50
J-232	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	54	J-37	50
J-241	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	45	J-250	48
J-243	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	61	J-36	50
J-244	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	61	J-36	50
J-245	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	53	J-37	50
J-246	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	50	J-37	50
J-247	Zone 2	1,000.00	true	true	1,100.00	1,016.00	1,116.00	56	J-241	51
J-248	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	55	J-241	51
J-249	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	56	J-37	51
J-250	Zone 2	1,000.00	true	true	1,100.00	1,020.00	1,120.00	47	J-241	46
J-251	Zone 2	1,000.00	true	true	1,100.00	1,000.00	1,100.00	55	J-241	48
JU J-24	Zone - JU-1	1,000.00	true	true	1,100.00	1,000.00	1,100.00	66	J-25C	77

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-12	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	82
J-14	1,515.00	Zone 2	Demand	32.00	Fixed	32.00	1,694	78
J-15	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	75
J-16	1,522.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	75
J-17	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	73
J-18	1,535.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	70
J-25A	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	82
J-25B	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	81
J-25C	1,506.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,694	81
J-26A	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	82
J-29	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	64
J-30	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	66
J-31	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	68
J-32	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	73
J-33	1,527.00	Zone 2	Demand	18.00	Fixed	18.00	1,691	71
J-34	1,517.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	75
J-35	1,514.00	Zone 2	Demand	10.00	Fixed	10.00	1,691	77
J-36	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	63
J-37	1,546.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	63
J-38	1,542.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	65
J-39	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	67
J-40	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	68
J-41	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	70
J-42	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	71
J-43	1,527.00	Zone 2	Demand	16.00	Fixed	16.00	1,693	72
J-44	1,527.00	Zone 2	Demand	42.00	Fixed	42.00	1,693	72
J-45	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	72
J-46	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	72
J-47	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	73
J-75	1,542.00	Zone 2	Demand	30.00	Fixed	30.00	1,692	65
J-82	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	75
J-83	1,519.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	75
J-84	1,514.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	77
J-85	1,511.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	79
J-86	1,515.00	Zone 2	Demand	42.00	Fixed	42.00	1,693	77

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-87	1,517.00	Zone 2	Demand	42.60	Fixed	42.60	1,693	76
J-88	1,526.00	Zone 2	Demand	42.60	Fixed	42.60	1,692	72
J-89	1,507.00	Zone 2	Demand	10.00	Fixed	10.00	1,694	81
J-90	1,506.00	Zone 2	Demand	12.00	Fixed	12.00	1,694	81
J-93	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	72
J-94	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	71
J-95	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	70
J-99	1,530.00	Zone 2	Demand	38.08	Fixed	38.08	1,694	71
J-100	1,517.00	Zone 2	Demand	44.00	Fixed	44.00	1,694	77
J-101	1,520.00	Zone 2	Demand	40.00	Fixed	40.00	1,694	75
J-104	1,535.00	Zone 2	Demand	36.00	Fixed	36.00	1,693	68
J-105	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	70
J-106	1,517.00	Zone 2	Demand	40.00	Fixed	40.00	1,693	76
J-107	1,511.00	Zone 2	Demand	40.00	Fixed	40.00	1,693	79
J-131	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	67
J-133	1,526.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	71
J-135	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	74
J-142	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	69
J-143	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	73
J-145	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,695	72
J-147	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	67
J-148	1,531.00	Zone 2	Demand	40.00	Fixed	40.00	1,691	69
J-191	1,540.00	Zone 2	Demand	0.00	Fixed	0.00	1,696	68
J-197	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	70
J-202	1,526.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	71
J-203	1,534.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	68
J-206	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	74
J-208	1,539.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	66
J-209	1,537.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	67
J-210	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	66
J-211	1,530.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	70
J-212	1,526.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	71
J-213	1,526.00	Zone 2	Demand	20.00	Fixed	20.00	1,691	71
J-214	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	74
J-217	1,515.00	Zone 2	Demand	40.00	Fixed	40.00	1,691	76

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-218	1,515.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	76
J-219	1,516.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	76
J-220	1,519.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	75
J-221	1,522.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	73
J-222	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	71
J-232	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,691	67
J-241	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	61
J-243	1,514.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	77
J-244	1,514.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	77
J-245	1,536.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	67
J-246	1,542.00	Zone 2	Demand	16.00	Fixed	16.00	1,691	65
J-247	1,531.00	Zone 2	Demand	16.00	Fixed	16.00	1,692	69
J-248	1,534.00	Zone 2	Demand	20.00	Fixed	20.00	1,692	68
J-249	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	69
J-250	1,545.00	Zone 2	Demand	20.00	Fixed	20.00	1,692	64
J-251	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	68
JU J-24	1,520.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,693	75

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
JU P-47+	false	6,450.00	8.0	PVC	140.0	-220.52	1,687	1,693	6	0.97	1.41
JU P-48A	false	5,800.00	12.0	PVC	140.0	-220.52	1,693	1,694	1	0.16	0.63
JU P-52	false	1,019.00	12.0	Ductile Iron	130.0	-0.00	1,694	1,694	0	0.00	0.00
JU P-53	false	611.00	12.0	Ductile Iron	130.0	-0.00	850	850	0	0.00	0.00
P-29	false	486.00	12.0	PVC	140.0	-108.51	1,691	1,691	0	0.04	0.31
P-30	false	675.00	12.0	PVC	140.0	-108.51	1,691	1,691	0	0.04	0.31
P-31	false	440.00	12.0	PVC	140.0	-214.72	1,691	1,691	0	0.13	0.61
P-32	false	899.00	12.0	PVC	140.0	-214.72	1,691	1,691	0	0.13	0.61
P-33	false	761.00	12.0	PVC	140.0	-282.88	1,691	1,692	0	0.21	0.80
P-34	false	446.00	12.0	PVC	140.0	-282.88	1,692	1,692	0	0.21	0.80
P-35	false	588.00	12.0	PVC	140.0	-432.00	1,692	1,692	0	0.47	1.23
P-36	false	433.00	12.0	PVC	140.0	-482.00	1,692	1,692	0	0.57	1.37
P-37	false	799.00	12.0	PVC	140.0	-412.40	1,692	1,693	0	0.43	1.17
P-38	false	349.00	12.0	PVC	140.0	-357.13	1,693	1,693	0	0.33	1.01
P-39	false	508.00	12.0	PVC	140.0	-378.57	1,693	1,693	0	0.37	1.07
P-40	false	721.00	12.0	PVC	140.0	-511.84	1,693	1,693	0	0.64	1.45
P-41	false	656.00	12.0	PVC	140.0	-511.84	1,693	1,694	0	0.64	1.45
P-42	false	766.00	12.0	PVC	140.0	-439.09	1,694	1,694	0	0.48	1.25
P-43	false	427.00	12.0	PVC	140.0	-549.92	1,694	1,694	0	0.73	1.56
P-45	false	306.00	12.0	PVC	140.0	-27.29	1,691	1,691	0	0.00	0.08
P-46	false	430.00	12.0	PVC	140.0	-41.46	1,691	1,691	0	0.01	0.12
P-47	false	240.00	12.0	PVC	140.0	-60.52	1,691	1,691	0	0.01	0.17
P-48	false	452.00	12.0	PVC	140.0	-84.54	1,691	1,691	0	0.02	0.24
P-49	false	473.00	12.0	PVC	140.0	-115.55	1,691	1,691	0	0.04	0.33
P-50	false	483.00	12.0	PVC	140.0	-59.07	1,691	1,691	0	0.01	0.17
P-51	false	642.00	12.0	PVC	140.0	-106.21	1,691	1,691	0	0.03	0.30
P-127	false	388.00	12.0	PVC	140.0	-10.00	1,694	1,694	0	0.00	0.03
P-128	false	373.00	12.0	PVC	140.0	-22.00	1,694	1,694	0	0.00	0.06
P-132	false	681.00	8.0	PVC	140.0	271.36	1,694	1,693	1	1.42	1.73
P-133	false	382.00	8.0	PVC	140.0	100.83	1,693	1,693	0	0.23	0.64
P-134	false	570.00	8.0	PVC	140.0	78.18	1,693	1,693	0	0.14	0.50
P-135	false	198.00	8.0	PVC	140.0	106.76	1,693	1,693	0	0.25	0.68
P-136	false	736.00	8.0	PVC	140.0	-5.44	1,693	1,693	0	0.00	0.03
P-137	false	1,345.00	8.0	PVC	140.0	112.20	1,693	1,692	0	0.28	0.72
P-138	false	729.00	8.0	PVC	140.0	69.80	1,692	1,692	0	0.11	0.44

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-139	false	1,059.00	8.0	PVC	140.0	61.95	1,693	1,693	0	0.09	0.40
P-140	false	260.00	8.0	PVC	140.0	19.95	1,693	1,693	0	0.01	0.13
P-141	false	963.00	8.0	PVC	140.0	-22.65	1,693	1,693	0	0.01	0.14
P-142	false	179.00	8.0	PVC	140.0	108.58	1,693	1,693	0	0.26	0.69
P-143	false	995.00	8.0	PVC	140.0	68.58	1,693	1,693	0	0.11	0.44
P-144	false	466.00	8.0	PVC	140.0	28.58	1,693	1,693	0	0.02	0.18
P-145	false	859.00	8.0	PVC	140.0	-55.27	1,693	1,693	0	0.07	0.35
P-146	false	834.00	8.0	PVC	140.0	-91.27	1,693	1,693	0	0.19	0.58
P-147	false	415.00	8.0	PVC	140.0	-91.27	1,693	1,693	0	0.19	0.58
P-166	false	338.00	8.0	PVC	140.0	110.83	1,694	1,694	0	0.27	0.71
P-167	false	905.00	8.0	PVC	140.0	110.83	1,694	1,694	0	0.27	0.71
P-168	false	257.00	8.0	PVC	140.0	72.75	1,694	1,694	0	0.12	0.46
P-169	false	250.00	8.0	PVC	140.0	0.00	1,694	1,694	0	0.00	0.00
P-170	false	584.00	8.0	PVC	140.0	0.00	1,694	1,694	0	0.00	0.00
P-176	false	557.00	12.0	Ductile Iron	130.0	485.30	1,696	1,696	0	0.66	1.38
P-177	false	582.00	12.0	PVC	140.0	485.30	1,696	1,695	0	0.58	1.38
P-178	false	1,449.00	12.0	PVC	140.0	485.30	1,695	1,694	1	0.58	1.38
P-182	false	385.00	12.0	PVC	140.0	180.63	1,695	1,694	0	0.09	0.51
P-183	false	509.00	12.0	PVC	140.0	99.54	1,694	1,694	0	0.03	0.28
P-184	false	483.00	12.0	PVC	140.0	64.63	1,694	1,694	0	0.01	0.18
P-185	false	467.00	8.0	PVC	140.0	49.09	1,694	1,694	0	0.06	0.31
P-186	false	768.00	8.0	PVC	140.0	5.09	1,694	1,694	0	0.00	0.03
P-187	false	408.00	8.0	PVC	140.0	-34.91	1,694	1,694	0	0.03	0.22
P-260	false	1,595.00	12.0	PVC	140.0	-293.36	1,694	1,695	0	0.23	0.83
P-266	false	1,119.00	12.0	PVC	140.0	-293.36	1,694	1,694	0	0.23	0.83
P-271	false	701.00	12.0	Ductile Iron	130.0	-694.51	849	850	1	1.29	1.97
P-272	false	671.00	16.0	Ductile Iron	130.0	-485.30	1,696	1,696	0	0.16	0.77
P-273	false	685.00	12.0	Ductile Iron	130.0	-485.30	1,696	1,697	0	0.66	1.38
P-273A	false	672.00	12.0	Ductile Iron	130.0	485.30	1,697	1,697	0	0.66	1.38
P-285	false	485.00	12.0	Ductile Iron	130.0	-220.52	1,694	1,694	0	0.15	0.63
P-286	false	856.00	12.0	Ductile Iron	130.0	-220.52	1,694	1,695	0	0.15	0.63
P-287	false	355.00	12.0	Ductile Iron	130.0	220.52	1,694	1,694	0	0.15	0.63
P-293	false	532.00	12.0	PVC	140.0	-29.16	1,691	1,691	0	0.00	0.08
P-294	false	545.00	12.0	PVC	140.0	-71.68	1,691	1,691	0	0.02	0.20
P-299	false	182.00	8.0	PVC	140.0	36.83	1,691	1,691	0	0.03	0.24

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-300	false	819.00	12.0	Ductile Iron	130.0	694.51	1,696	1,695	1	1.29	1.97
P-305	false	270.00	8.0	PVC	140.0	-7.14	1,691	1,691	0	0.00	0.05
P-308	false	363.00	8.0	PVC	140.0	-47.14	1,691	1,691	0	0.06	0.30
P-309	false	202.00	8.0	PVC	140.0	42.51	1,691	1,691	0	0.05	0.27
P-311	false	922.00	8.0	PVC	140.0	22.51	1,691	1,691	0	0.01	0.14
P-312	false	1,208.00	8.0	PVC	140.0	-23.97	1,691	1,691	0	0.02	0.15
P-313	false	487.00	8.0	PVC	140.0	15.61	1,691	1,691	0	0.01	0.10
P-316	false	268.00	8.0	PVC	140.0	15.61	1,691	1,691	0	0.01	0.10
P-321	false	266.00	8.0	PVC	140.0	-4.32	1,691	1,691	0	0.00	0.03
P-327	false	460.00	8.0	PVC	140.0	-19.07	1,691	1,691	0	0.01	0.12
P-335	false	1,325.00	8.0	PVC	140.0	-11.52	1,691	1,691	0	0.00	0.07
P-339	false	781.00	8.0	PVC	140.0	-58.48	1,691	1,691	0	0.08	0.36
P-340	false	360.00	8.0	PVC	140.0	-109.28	1,691	1,691	0	0.26	0.70
P-347	false	276.00	8.0	PVC	140.0	-25.83	1,691	1,691	0	0.02	0.16
P-348	false	1,123.00	8.0	PVC	140.0	-17.82	1,691	1,691	0	0.01	0.11
P-349	false	267.00	8.0	PVC	140.0	-33.82	1,691	1,691	0	0.03	0.22
P-350	false	1,680.00	8.0	PVC	140.0	-36.80	1,691	1,691	0	0.04	0.23
P-351	false	384.00	8.0	PVC	140.0	-52.80	1,691	1,691	0	0.07	0.34
P-365	false	258.00	8.0	PVC	140.0	-36.16	1,691	1,691	0	0.03	0.23
P-370	false	477.00	8.0	PVC	140.0	-17.98	1,691	1,691	0	0.01	0.11
P-386	false	1,031.00	8.0	PVC	140.0	1.82	1,692	1,692	0	0.00	0.01
P-390	false	228.00	8.0	PVC	140.0	-19.07	1,691	1,691	0	0.01	0.12
P-391	false	816.00	8.0	PVC	140.0	29.16	1,691	1,691	0	0.02	0.19
P-392	false	399.00	8.0	PVC	140.0	13.16	1,691	1,691	0	0.01	0.08
P-393	false	408.00	8.0	PVC	140.0	-2.51	1,691	1,691	0	0.00	0.02
P-394	false	1,088.00	8.0	PVC	140.0	17.29	1,691	1,691	0	0.01	0.11
P-395	false	393.00	8.0	PVC	140.0	1.29	1,691	1,691	0	0.00	0.01
P-396	false	392.00	8.0	PVC	140.0	-23.03	1,691	1,691	0	0.01	0.15
P-397	false	999.00	8.0	PVC	140.0	-33.98	1,691	1,691	0	0.03	0.22
P-398	false	789.00	8.0	PVC	140.0	-18.18	1,691	1,691	0	0.01	0.12
P-399	false	888.00	8.0	PVC	140.0	-34.18	1,691	1,691	0	0.03	0.22
P-400	false	611.00	8.0	PVC	140.0	-73.12	1,691	1,691	0	0.13	0.47
P-401	false	265.00	8.0	PVC	140.0	-113.12	1,691	1,692	0	0.28	0.72
P-402	false	407.00	8.0	PVC	140.0	-55.11	1,692	1,692	0	0.07	0.35
P-403	false	1,003.00	8.0	PVC	140.0	-71.11	1,692	1,692	0	0.12	0.45

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-404	false	830.00	8.0	PVC	140.0	-58.01	1,692	1,692	0	0.08	0.37
P-405	false	579.00	8.0	PVC	140.0	-78.01	1,692	1,692	0	0.14	0.50
P-406	false	328.00	8.0	PVC	140.0	50.00	1,692	1,692	0	0.06	0.32
P-407	false	557.00	8.0	PVC	140.0	28.18	1,692	1,692	0	0.02	0.18
P-408	false	878.00	8.0	PVC	140.0	21.82	1,692	1,692	0	0.01	0.14
P-409	false	561.00	8.0	PVC	140.0	1.82	1,692	1,692	0	0.00	0.01
P-410	false	2,172.00	8.0	PVC	140.0	14.17	1,691	1,691	0	0.01	0.09
P-411	false	582.00	8.0	PVC	140.0	0.00	1,691	1,691	0	0.00	0.00
P-412	false	850.00	8.0	PVC	140.0	24.01	1,691	1,691	0	0.02	0.15
P-413	false	1,074.00	8.0	PVC	140.0	13.02	1,691	1,691	0	0.01	0.08

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Pump Report

Label	Elevation (ft)	Rated Power (Hp)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Calculated Water Power (Hp)
Skyline Well Pump #1	1,000.00		Off	850	1,694	0.00	0	0.00
Skyline Well Pump #3 (Johnson Util	1,000.00		On	849	1,696	694.51	846	148.42

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Skyline Well #1	850.00	Zone 1	0.00	-0.00	850
Skyline Well #3 (Johnson Util)	850.00	Zone 1	-694.51	694.51	850

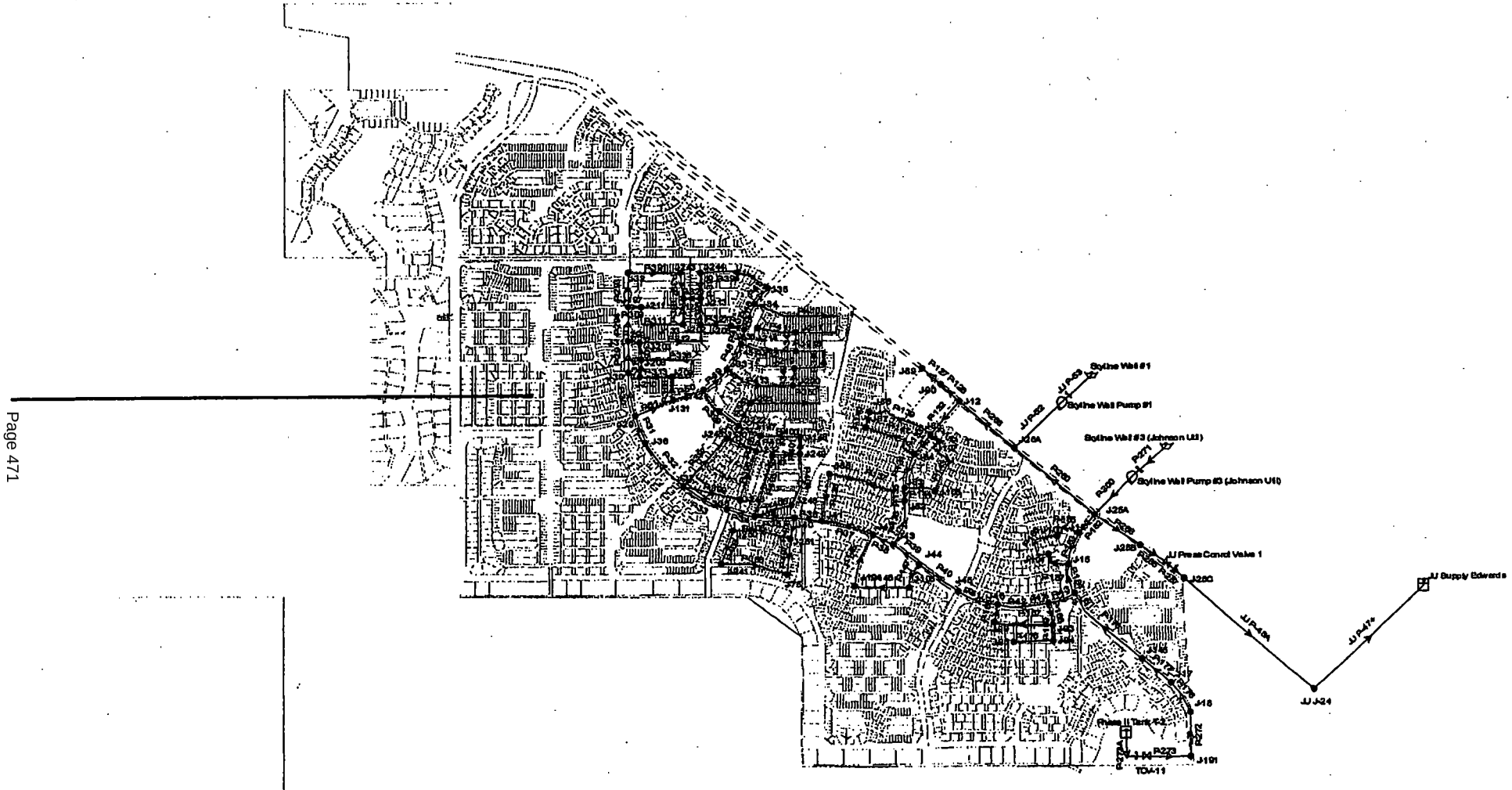
Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Tank Report

Label	Zone	Base Elevation (ft)	Initial HGL (ft)	Minimum Elevation (ft)	Maximum Elevation (ft)	Inactive Volume (gal)	Tank Diameter (ft)	Inflow (gpm)	Outflow (gpm)	Current Status	Calculated Hydraulic Grade (ft)	Calculated Percent Full (%)
Phase II Tank T-2	Zone 3	1,674.00	1,697.00	1,676.00	1,698.00	0.00	85.00	-485.30	485.30	Draining	1,697	95.5
JU Supply Edwards	Zone - J	1,667.00	1,687.00	1,669.00	1,688.00	0.00	2.00	220.52	220.52	Filling	1,687	94.7

Scenario: Phase I and Phase II - Maximum day plus fire
Fire Flow Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
JU Press Conrol Valve	1,606.00	12.0	10.00	Inactive	-220.52	1,694	1,694	0
TCV-11	1,674.00	12.0	10.00	Throttling	485.30	1,697	1,697	0

Scenario: Phase I and Phase II - Peak Hour



Scenario Summary Report
Scenario: Phase I and Phase II - Peak Hour

Scenario Summary	
Active Topology Alternative	Base-Active Topology
Physical Alternative	Base-Physical
Demand Alternative	Demand-Phase I and Phase II - Peak Hour
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Age Alternative	Base-Age Alternative
Constituent Alternative	Base-Constituent
Trace Alternative	Base-Trace Alternative
Fire Flow Alternative	Base-Fire Flow
Capital Cost Alternative	Base-Capital Cost
Energy Cost Alternative	Base-Energy Cost
User Data Alternative	Base-User Data

Hydraulic Analysis Summary	
Analysis	Steady State
Friction Method	Hazen-Williams Formula
Accuracy	0.001000
Trials	40

Quality Analysis Summary					
Analysis	Constituent		Quality Time Step	N/A	hr
Age Tolerance	0.01	hr	Constituent Tolerance	0.01	mg/l
Trace Tolerance	1.0	%			

Global Adjustments			
Demand Operation	<None>	Roughness Operation	<None>
Demand	0.00	Roughness	0.00

Created: 06/07/03 05:27:30 PM
Tanks at 1 foot down.
All wells working.

Calculation Results Summary

Scenario: Phase I and Phase II - Peak Hour
[Analysis Started]
[Steady State]
0:00:00 Balanced after 9 trials; relative flow change = 0.000037
Flow Summary
Flow Supplied 707.18 gpm
Flow Demanded 1,438.92 gpm
Flow Stored -731.74 gpm
0:00:00 Reservoir Skyline Well #1 is closed
0:00:00 Reservoir Skyline Well #3 (Johnson Util) is emptying
0:00:00 Tank Phase II Tank T-2 is emptying at 23 ft
0:00:00 Tank JU Supply Edwards is filling at 20 ft
0:00:00 TCV JU Press Conrol Valve 1 open
[Analysis Ended]

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-12	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,688	80
J-14	1,515.00	Zone 2	Demand	48.00	Fixed	48.00	1,690	76
J-15	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,690	73
J-16	1,522.00	Zone 2	Demand	0.00	Fixed	0.00	1,690	73
J-17	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,693	71
J-18	1,535.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	69
J-25A	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,690	79
J-25B	1,506.00	Zone 2	Demand	0.00	Fixed	0.00	1,690	79
J-25C	1,506.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,690	79
J-26A	1,504.00	Zone 2	Demand	0.00	Fixed	0.00	1,689	80
J-29	1,543.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	61
J-30	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	62
J-31	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	64
J-32	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	69
J-33	1,527.00	Zone 2	Demand	27.00	Fixed	27.00	1,683	67
J-34	1,517.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	72
J-35	1,514.00	Zone 2	Demand	15.00	Fixed	15.00	1,683	73
J-36	1,545.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	60
J-37	1,546.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	59
J-38	1,542.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	61
J-39	1,538.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	63
J-40	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	65
J-41	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,685	67
J-42	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	68
J-43	1,527.00	Zone 2	Demand	24.00	Fixed	24.00	1,686	69
J-44	1,527.00	Zone 2	Demand	63.00	Fixed	63.00	1,686	69
J-45	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,687	69
J-46	1,527.00	Zone 2	Demand	0.00	Fixed	0.00	1,688	70
J-47	1,526.00	Zone 2	Demand	0.00	Fixed	0.00	1,689	71
J-75	1,542.00	Zone 2	Demand	45.00	Fixed	45.00	1,684	62
J-82	1,520.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	72
J-83	1,519.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	72
J-84	1,514.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	74
J-85	1,511.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	76
J-86	1,515.00	Zone 2	Demand	63.00	Fixed	63.00	1,686	74
J-87	1,517.00	Zone 2	Demand	63.90	Fixed	63.90	1,686	73
J-88	1,526.00	Zone 2	Demand	63.90	Fixed	63.90	1,685	69
J-89	1,507.00	Zone 2	Demand	15.00	Fixed	15.00	1,688	78
J-90	1,506.00	Zone 2	Demand	18.00	Fixed	18.00	1,688	79
J-93	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,689	70
J-94	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,689	69
J-95	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,689	68
J-99	1,530.00	Zone 2	Demand	57.12	Fixed	57.12	1,688	68
J-100	1,517.00	Zone 2	Demand	66.00	Fixed	66.00	1,690	75
J-101	1,520.00	Zone 2	Demand	60.00	Fixed	60.00	1,690	73
J-104	1,535.00	Zone 2	Demand	54.00	Fixed	54.00	1,686	65
J-105	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,686	67
J-106	1,517.00	Zone 2	Demand	60.00	Fixed	60.00	1,686	73
J-107	1,511.00	Zone 2	Demand	60.00	Fixed	60.00	1,686	76
J-131	1,537.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	63
J-133	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	68

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Junction Report

Label	Elevation (ft)	Zone	Type	Demand (gpm)	Pattern	Calculated Demand (gpm)	Calculated Hydraulic Grade (ft)	Calculated Pressure (psi)
J-135	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	70
J-142	1,532.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	65
J-143	1,523.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	69
J-145	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,692	71
J-147	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	64
J-148	1,531.00	Zone 2	Demand	60.00	Fixed	60.00	1,683	66
J-191	1,540.00	Zone 2	Demand	0.00	Fixed	0.00	1,694	67
J-197	1,530.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	66
J-202	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	68
J-203	1,534.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	64
J-206	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	70
J-208	1,539.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	62
J-209	1,537.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	63
J-210	1,539.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	62
J-211	1,530.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	66
J-212	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	68
J-213	1,526.00	Zone 2	Demand	30.00	Fixed	30.00	1,683	68
J-214	1,521.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	70
J-217	1,515.00	Zone 2	Demand	60.00	Fixed	60.00	1,683	73
J-218	1,515.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	73
J-219	1,516.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	72
J-220	1,519.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	71
J-221	1,522.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	70
J-222	1,528.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	67
J-232	1,536.00	Zone 2	Demand	0.00	Fixed	0.00	1,683	64
J-241	1,550.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	58
J-243	1,514.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	73
J-244	1,514.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	73
J-245	1,536.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	64
J-246	1,542.00	Zone 2	Demand	24.00	Fixed	24.00	1,683	61
J-247	1,531.00	Zone 2	Demand	24.00	Fixed	24.00	1,684	66
J-248	1,534.00	Zone 2	Demand	30.00	Fixed	30.00	1,684	65
J-249	1,531.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	66
J-250	1,545.00	Zone 2	Demand	30.00	Fixed	30.00	1,684	60
J-251	1,534.00	Zone 2	Demand	0.00	Fixed	0.00	1,684	65
JU J-24	1,520.00	Zone - JU-1	Demand	0.00	Fixed	0.00	1,689	73

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
JU P-47+	false	6,450.00	8.0	PVC	140.0	-126.48	1,687	1,689	2	0.35	0.81
JU P-48A	false	5,800.00	12.0	PVC	140.0	-126.48	1,689	1,690	0	0.06	0.36
JU P-52	false	1,019.00	12.0	Ductile Iron	130.0	-0.00	1,689	1,689	0	0.00	0.00
JU P-53	false	611.00	12.0	Ductile Iron	130.0	-0.00	850	850	0	0.00	0.00
P-29	false	486.00	12.0	PVC	140.0	-162.76	1,683	1,683	0	0.08	0.46
P-30	false	675.00	12.0	PVC	140.0	-162.76	1,683	1,683	0	0.08	0.46
P-31	false	440.00	12.0	PVC	140.0	-322.08	1,683	1,683	0	0.27	0.91
P-32	false	899.00	12.0	PVC	140.0	-322.08	1,683	1,683	0	0.27	0.91
P-33	false	761.00	12.0	PVC	140.0	-424.32	1,683	1,684	0	0.45	1.20
P-34	false	446.00	12.0	PVC	140.0	-424.32	1,684	1,684	0	0.45	1.20
P-35	false	588.00	12.0	PVC	140.0	-648.00	1,684	1,684	1	0.99	1.84
P-36	false	433.00	12.0	PVC	140.0	-723.00	1,684	1,685	1	1.21	2.05
P-37	false	799.00	12.0	PVC	140.0	-618.72	1,685	1,686	1	0.91	1.76
P-38	false	349.00	12.0	PVC	140.0	-535.42	1,686	1,686	0	0.69	1.52
P-39	false	508.00	12.0	PVC	140.0	-571.01	1,686	1,686	0	0.78	1.62
P-40	false	721.00	12.0	PVC	140.0	-771.31	1,686	1,687	1	1.37	2.19
P-41	false	656.00	12.0	PVC	140.0	-771.31	1,687	1,688	1	1.37	2.19
P-42	false	766.00	12.0	PVC	140.0	-661.50	1,688	1,689	1	1.03	1.88
P-43	false	427.00	12.0	PVC	140.0	-828.43	1,689	1,690	1	1.56	2.35
P-45	false	306.00	12.0	PVC	140.0	-40.93	1,683	1,683	0	0.01	0.12
P-46	false	430.00	12.0	PVC	140.0	-62.19	1,683	1,683	0	0.01	0.18
P-47	false	240.00	12.0	PVC	140.0	-90.79	1,683	1,683	0	0.03	0.26
P-48	false	452.00	12.0	PVC	140.0	-126.81	1,683	1,683	0	0.05	0.36
P-49	false	473.00	12.0	PVC	140.0	-173.33	1,683	1,683	0	0.09	0.49
P-50	false	483.00	12.0	PVC	140.0	-88.61	1,683	1,683	0	0.02	0.25
P-51	false	642.00	12.0	PVC	140.0	-159.32	1,683	1,683	0	0.07	0.45
P-127	false	388.00	12.0	PVC	140.0	-15.00	1,688	1,688	0	0.00	0.04
P-128	false	373.00	12.0	PVC	140.0	-33.00	1,688	1,688	0	0.00	0.09
P-132	false	681.00	8.0	PVC	140.0	403.49	1,688	1,686	2	2.97	2.58
P-133	false	382.00	8.0	PVC	140.0	149.71	1,686	1,686	0	0.47	0.96
P-134	false	570.00	8.0	PVC	140.0	115.17	1,686	1,686	0	0.29	0.74
P-135	false	198.00	8.0	PVC	140.0	156.59	1,686	1,686	0	0.51	1.00
P-136	false	736.00	8.0	PVC	140.0	-11.59	1,686	1,686	0	0.00	0.07
P-137	false	1,345.00	8.0	PVC	140.0	168.18	1,686	1,685	1	0.59	1.07
P-138	false	729.00	8.0	PVC	140.0	104.28	1,685	1,685	0	0.24	0.67

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-139	false	1,059.00	8.0	PVC	140.0	92.36	1,686	1,686	0	0.19	0.59
P-140	false	260.00	8.0	PVC	140.0	29.36	1,686	1,686	0	0.02	0.19
P-141	false	983.00	8.0	PVC	140.0	-34.54	1,686	1,686	0	0.03	0.22
P-142	false	179.00	8.0	PVC	140.0	161.42	1,686	1,686	0	0.54	1.03
P-143	false	995.00	8.0	PVC	140.0	101.42	1,686	1,686	0	0.23	0.65
P-144	false	466.00	8.0	PVC	140.0	41.42	1,686	1,686	0	0.04	0.26
P-145	false	859.00	8.0	PVC	140.0	-83.30	1,686	1,686	0	0.16	0.53
P-146	false	834.00	8.0	PVC	140.0	-137.30	1,686	1,686	0	0.40	0.88
P-147	false	415.00	8.0	PVC	140.0	-137.30	1,686	1,686	0	0.40	0.88
P-166	false	338.00	8.0	PVC	140.0	166.93	1,689	1,689	0	0.58	1.07
P-167	false	905.00	8.0	PVC	140.0	166.93	1,689	1,688	1	0.58	1.07
P-168	false	257.00	8.0	PVC	140.0	109.81	1,688	1,688	0	0.27	0.70
P-169	false	250.00	8.0	PVC	140.0	0.00	1,689	1,689	0	0.00	0.00
P-170	false	584.00	8.0	PVC	140.0	0.00	1,689	1,689	0	0.00	0.00
P-176	false	557.00	12.0	Ductile Iron	130.0	858.22	1,694	1,693	1	1.91	2.43
P-177	false	582.00	12.0	PVC	140.0	858.22	1,693	1,692	1	1.66	2.43
P-178	false	1,449.00	12.0	PVC	140.0	858.22	1,692	1,690	2	1.66	2.43
P-182	false	385.00	12.0	PVC	140.0	144.21	1,690	1,690	0	0.06	0.41
P-183	false	509.00	12.0	PVC	140.0	34.41	1,690	1,690	0	0.00	0.10
P-184	false	483.00	12.0	PVC	140.0	-29.79	1,690	1,690	0	0.00	0.08
P-185	false	467.00	8.0	PVC	140.0	61.80	1,690	1,690	0	0.09	0.39
P-186	false	768.00	8.0	PVC	140.0	-4.20	1,690	1,690	0	0.00	0.03
P-187	false	408.00	8.0	PVC	140.0	-64.20	1,690	1,690	0	0.10	0.41
P-260	false	1,595.00	12.0	PVC	140.0	-436.49	1,689	1,690	1	0.48	1.24
P-266	false	1,119.00	12.0	PVC	140.0	-436.49	1,688	1,689	1	0.48	1.24
P-271	false	701.00	12.0	Ductile Iron	130.0	-707.18	849	850	1	1.33	2.01
P-272	false	671.00	16.0	Ductile Iron	130.0	-858.22	1,694	1,694	0	0.47	1.37
P-273	false	685.00	12.0	Ductile Iron	130.0	-858.22	1,694	1,696	1	1.91	2.43
P-273A	false	672.00	12.0	Ductile Iron	130.0	858.22	1,697	1,696	1	1.91	2.43
P-285	false	485.00	12.0	Ductile Iron	130.0	-126.48	1,690	1,690	0	0.05	0.36
P-286	false	856.00	12.0	Ductile Iron	130.0	-126.48	1,690	1,690	0	0.06	0.36
P-287	false	355.00	12.0	Ductile Iron	130.0	126.48	1,690	1,690	0	0.06	0.36
P-293	false	532.00	12.0	PVC	140.0	-43.75	1,683	1,683	0	0.01	0.12
P-294	false	545.00	12.0	PVC	140.0	-107.52	1,683	1,683	0	0.04	0.30
P-299	false	182.00	8.0	PVC	140.0	55.24	1,683	1,683	0	0.07	0.35

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-300	false	819.00	12.0	Ductile Iron	130.0	707.18	1,691	1,690	1	1.33	2.01
P-305	false	270.00	8.0	PVC	140.0	-10.71	1,683	1,683	0	0.00	0.07
P-308	false	363.00	8.0	PVC	140.0	-70.71	1,683	1,683	0	0.12	0.45
P-309	false	202.00	8.0	PVC	140.0	63.77	1,683	1,683	0	0.10	0.41
P-311	false	922.00	8.0	PVC	140.0	33.77	1,683	1,683	0	0.03	0.22
P-312	false	1,208.00	8.0	PVC	140.0	-35.95	1,683	1,683	0	0.03	0.23
P-313	false	487.00	8.0	PVC	140.0	23.42	1,683	1,683	0	0.02	0.15
P-316	false	268.00	8.0	PVC	140.0	23.42	1,683	1,683	0	0.02	0.15
P-321	false	266.00	8.0	PVC	140.0	-6.48	1,683	1,683	0	0.00	0.04
P-327	false	460.00	8.0	PVC	140.0	-28.60	1,683	1,683	0	0.02	0.18
P-335	false	1,325.00	8.0	PVC	140.0	-17.29	1,683	1,683	0	0.01	0.11
P-339	false	781.00	8.0	PVC	140.0	-84.72	1,683	1,683	0	0.16	0.54
P-340	false	360.00	8.0	PVC	140.0	-163.92	1,683	1,683	0	0.56	1.05
P-347	false	276.00	8.0	PVC	140.0	-38.75	1,683	1,683	0	0.04	0.25
P-348	false	1,123.00	8.0	PVC	140.0	-26.73	1,683	1,683	0	0.02	0.17
P-349	false	267.00	8.0	PVC	140.0	-50.73	1,683	1,683	0	0.06	0.32
P-350	false	1,680.00	8.0	PVC	140.0	-55.20	1,683	1,683	0	0.07	0.35
P-351	false	384.00	8.0	PVC	140.0	-79.20	1,683	1,683	0	0.15	0.51
P-365	false	258.00	8.0	PVC	140.0	-54.25	1,683	1,683	0	0.07	0.35
P-370	false	477.00	8.0	PVC	140.0	-26.97	1,683	1,683	0	0.02	0.17
P-386	false	1,031.00	8.0	PVC	140.0	2.74	1,684	1,684	0	0.00	0.02
P-390	false	228.00	8.0	PVC	140.0	-28.60	1,683	1,683	0	0.02	0.18
P-391	false	816.00	8.0	PVC	140.0	43.75	1,683	1,683	0	0.05	0.28
P-392	false	399.00	8.0	PVC	140.0	19.75	1,683	1,683	0	0.01	0.13
P-393	false	408.00	8.0	PVC	140.0	-3.77	1,683	1,683	0	0.00	0.02
P-394	false	1,088.00	8.0	PVC	140.0	25.93	1,683	1,683	0	0.02	0.17
P-395	false	393.00	8.0	PVC	140.0	1.93	1,683	1,683	0	0.00	0.01
P-396	false	392.00	8.0	PVC	140.0	-34.55	1,683	1,683	0	0.03	0.22
P-397	false	999.00	8.0	PVC	140.0	-50.97	1,683	1,683	0	0.06	0.33
P-398	false	789.00	8.0	PVC	140.0	-27.28	1,683	1,683	0	0.02	0.17
P-399	false	888.00	8.0	PVC	140.0	-51.28	1,683	1,683	0	0.06	0.33
P-400	false	611.00	8.0	PVC	140.0	-109.68	1,683	1,683	0	0.27	0.70
P-401	false	265.00	8.0	PVC	140.0	-169.68	1,683	1,684	0	0.60	1.08
P-402	false	407.00	8.0	PVC	140.0	-82.66	1,684	1,684	0	0.16	0.53
P-403	false	1,003.00	8.0	PVC	140.0	-106.66	1,684	1,684	0	0.25	0.68

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Pipe Report

Label	Closed?	Length (ft)	Diameter (in)	Material	Hazen-Williams C	Discharge (gpm)	Upstream Structure Hydraulic Grade (ft)	Downstream Structure Hydraulic Grade (ft)	Pressure Pipe Headloss (ft)	Headloss Gradient (ft/1000ft)	Velocity (ft/s)
P-404	false	830.00	8.0	PVC	140.0	-87.02	1,684	1,684	0	0.17	0.56
P-405	false	579.00	8.0	PVC	140.0	-117.02	1,684	1,684	0	0.30	0.75
P-406	false	328.00	8.0	PVC	140.0	75.00	1,684	1,684	0	0.13	0.48
P-407	false	557.00	8.0	PVC	140.0	42.26	1,684	1,684	0	0.05	0.27
P-408	false	878.00	8.0	PVC	140.0	32.74	1,684	1,684	0	0.03	0.21
P-409	false	561.00	8.0	PVC	140.0	2.74	1,684	1,684	0	0.00	0.02
P-410	false	2,172.00	8.0	PVC	140.0	21.25	1,683	1,683	0	0.01	0.14
P-411	false	582.00	8.0	PVC	140.0	0.00	1,683	1,683	0	0.00	0.00
P-412	false	850.00	8.0	PVC	140.0	36.02	1,683	1,683	0	0.03	0.23
P-413	false	1,074.00	8.0	PVC	140.0	19.52	1,683	1,683	0	0.01	0.12

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Pump Report

Label	Elevation (ft)	Rated Power (Hp)	Control Status	Intake Pump Grade (ft)	Discharge Pump Grade (ft)	Discharge (gpm)	Pump Head (ft)	Calculated Water Power (Hp)
Skyline Well Pump #1	1,000.00		Off	850	1,689	0.00	0	0.00
Skyline Well Pump #3 (Johnson Util	1,000.00		On	849	1,691	707.18	842	150.28

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Reservoir Report

Label	Elevation (ft)	Zone	Inflow (gpm)	Outflow (gpm)	Calculated Hydraulic Grade (ft)
Skyline Well #1	850.00	Zone 1	0.00	-0.00	850
Skyline Well #3 (Johnson Util)	850.00	Zone 1	-707.18	707.18	850

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Tank Report

Label	Zone	Base Elevation (ft)	Initial HGL (ft)	Minimum Elevation (ft)	Maximum Elevation (ft)	Inactive Volume (gal)	Tank Diameter (ft)	Inflow (gpm)	Outflow (gpm)	Current Status	Calculated Hydraulic Grade (ft)	Calculated Percent Full (%)
Phase II Tank T-2	Zone 3	1,674.00	1,697.00	1,676.00	1,698.00	0.00	85.00	-858.22	858.22	Draining	1,697	95.5
JU Supply Edwards	Zone - J	1,667.00	1,687.00	1,669.00	1,688.00	0.00	2.00	126.48	-126.48	Filling	1,687	94.7

Scenario: Phase I and Phase II - Peak Hour
Steady State Analysis
Valve Report

Label	Elevation (ft)	Diameter (in)	Minor Loss Coefficient	Control Status	Discharge (gpm)	From HGL (ft)	To HGL (ft)	Headloss (ft)
JU Press Conrol Valve	1,506.00	12.0	10.00	Inactive	-126.48	1,690	1,690	0
TCV-11	1,674.00	12.0	10.00	Throttling	858.22	1,696	1,696	0

APPENDIX D

TEXT OF "MASTER WATER SYSTEM PLAN AND REPORT FOR SAN TAN HEIGHTS AND WATER SYSTEM REPORT FOR THE VILLAGE OF SAN TAN HEIGHTS, "CMX GROUP, INC., 4TH REVISION, JUNE 27, 2001

MASTER WATER SYSTEM
PLAN AND REPORT
FOR

SAN TAN HEIGHTS PAD

-AND-

WATER SYSTEM REPORT
FOR

THE VILLAGE AT SAN TAN HEIGHTS

Prepared for:
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June, 2001
1st Revision 5/7/01, 2nd Revision 5/29/01,
3rd Revision 6/8/01, 4th Revision 6/27/01
Project No. 6148

MASTER WATER SYSTEM
PLAN AND REPORT
FOR
SAN TAN HEIGHTS PAD
-AND-
WATER SYSTEM REPORT
FOR
THE VILLAGE AT SAN TAN HEIGHTS

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I. INTRODUCTION

A. GENERAL DESCRIPTION AND LOCATION

San Tan Heights, a Planned Area Development (PAD), is a mixed-use development consisting of residential and commercial land uses. The project area is approximately 2,184 acres and has been approved for 5,266 residential dwelling units.

The property is located in north central Pinal County, Arizona in T3S, R7E. Situated adjacent to Hunt Highway, the project is approximately 14 miles northwest of Florence and approximately 5 miles southeast of Queen Creek (see **Exhibit A, Vicinity Map** and **Exhibit B, Pinal County Location Map**). The site is located on desert scrubland, which was previously used for agricultural activities.

The property to the immediate south and west of the site is zoned SR-Suburban Ranch and consists of housing on large lots with some containing horses and/or farm animals. The property further south and west of the site consists of the San Tan Mountains. The property on the north side of Hunt Highway, Skyline Ranch, is zoned PAD-Planned Area Development and currently consists of farms and cotton fields. The property to the southeast of the site is part of the Johnson Ranch PAD and is planned as a future golf course community.

B. SCOPE OF STUDY

This Master Water System Report has been prepared in accordance with ADEQ requirements and the service provider, Johnson Utilities Company, standards.

The intent of this Master Water System Report is to provide a description of the proposed overall water distribution system, including expected water demands, hydraulic analysis and anticipated locations and sizes of the proposed onsite water distribution lines. The evaluation includes estimating the water demands of the entire (2184 acre) San Tan Heights Planned Area Development (PAD) and an adjacent 60-acre tract, collectively called the "Property", as shown on **Exhibit C, San Tan Heights Land Use Plan (PAD)** and provides projections for required storage, pumping and supply at full build-out

In addition to providing an overall description of the San Tan Heights water system, it is the intent of this report to conceptually identify the sequence of development of the property within the PAD. The development sequence of the property within the PAD, though only conjectural at this time, will correlate water infrastructure requirements to stages of development. It is also the intent of this report to establish water system design guidelines that will be adhered to as the Property develops.

Finally, this report provides expected water demand requirements, water model analysis and sizes of water lines and provides projections for required storage, pumping and supply for the first project to be developed within the PAD, **The Village at San Tan Heights.**

II. LAND USE / DEVELOPMENT

A. PLANNED AREA DEVELOPMENT (PAD)

The proposed San Tan Heights Planned Area Development (PAD), as approved by the Pinal County Board of Supervisors on March 24, 2000, consists of a mix of primarily single-family residential land uses and includes five commercial sites, two school tracts, two neighborhood park sites and various open space areas. The Land Use Summary as approved in the PAD is presented in **Table II.A.1.** The approved Land Use Plan, including detailed Site Data is provided in **Exhibit C, Updated Land Use Plan.**

TABLE II.A.1

LAND USE SUMMARY TABLE			
LAND USE	**DENSITY**	**ACRES**	**NO. OF UNITS**
Commercial		43.2	-
School		44.3	-
Park		17.0	-
WW Treatment Plant		4.1	-
Linear Open Space		215.3	-
Hillside		36.7	-
Adjacent Roads		34.0	-
Single Family Residential:			
CR-5 (4,000 sf)	4.9	293.7	1,449
CR-4 (5,000 sf)	4.6	328.1	1,512
CR-3 (6,000 sf)	4.0	213.1	861
CR-2 (8,000 sf)	3.0	155.0	468
CR-1 (16,000 sf)	2.1	215.0	459
CR-1A (average 43,560 sf)	1.0	584.8	517
	TOTALS	2184.3	5,266

B. ADDITIONAL AREA (60 ACRES)

An additional area of 60 acres is also proposed to be included in the water service area for San Tan Heights. The 60 acres is located north and south of Hunt Highway at Valleyview Road (see **Exhibit D, San Tan Heights Development Plan**). The property is zoned GR, General Rural and is currently vacant land. The ultimate zoning for this 60-acre tract is not known at this time. However, for the purpose of this study residential zoning was assumed at a density of 2.5 units per acre or 150 dwelling units.

C. DEVELOPMENT STAGES

To accommodate the market demand, the San Tan Heights PAD will be developed in stages. It is anticipated at this time that the Property will be developed in four (4) stages (see **Table II.C.1** and **Exhibit D, San Tan Heights Development Plan**). Each stage will be developed as several parcels, with each parcel being platted as a subdivision. The sequence of development of each parcel within a stage may not be in the order of the parcels as they are currently numbered. At present, subdivision plats and improvement plans are being prepared for parcels in Stage A. These include: 1) nine (9) parcels/ subdivisions within the project known as The Village at San Tan Heights (approximately 1013 residential lots, a school site, commercial site and park site); 2) four (4) parcels within the project known as Circle G in the San Tans (approximately 119 residential lots) and 3) four (4) parcels within the project known as the Cardon Company Property (approximately 233 residential lots). The first two projects have Preliminary Plats approved by Pinal County. The Preliminary Plat on the Cardon Company Property is in preparation.

The Village at San Tan Heights is the first project to be developed within the PAD and Stage A of development. **The Village at San Tan Heights** has entered into agreements with Johnson Utilities Company for water and sewer service for 1013 lots. As Circle G and Cardon Company move forward with development of their projects (as mentioned above), separate agreements will be negotiated with Johnson Utilities Company for service to those properties.

The objective of providing stages of development is to correlate infrastructure requirements to the development of the PAD. While a sequence of project development is implied, there is nothing in the County approved PAD that prohibits changing the sequence of development, modifying combinations of parcels or combining stages, as long as the related infrastructure is provided and is adequate. As market conditions change, the actual size, location and sequence of the stages are expected to change. In any case, Service Agreements with Johnson Utilities Company will be required for all projects within any of the Stages.

TABLE II.C.1

DEVELOPMENT STAGES			
STAGE	**PROPERTY NAME & LAND USE**	**ACRES**	**NUMBER OF SINGLE FAMILY UNITS**
A	The Village @ San Tan Heights		
	Residential	-	1013
	Commercial	5.8	-
	School	21.8	-
	Park	8.1	-
	Circle G in the San Tans, Ph 1		
	Residential	-	119
	Cardon Company Property, Ph 1		
	Residential	-	233
	Commercial	3	-
	Stage A Total	**38.7**	**1364**
B	San Tan Heights 2A & 2B		
	Residential	-	983
	Commercial	5.5	-
	Circle G in the San Tans, Ph 2		
	Residential	-	120
	Bonanza Land Company		
	Residential	-	359
	Commercial	17.2	-
	Stage B Total	**22.7**	**1462**
C	San Tan Heights 3A & 3B		
	Residential	-	681
	School	22.5	-
	Park	8.9	-
	Cardon Company Property, Ph 2		
	Residential	-	360
	Commercial	11.7	-
	60 ac. @ Hunt Hwy & Valleyview		
	Residential	-	150
	Stage C Total	**43.4**	**1191**
D	San Tan Heights 4		
	Residential	-	1032
	Cardon Company Property, Ph 3		
	Residential	-	367
	Stage D Total	**-**	**1399**
	TOTAL ALL STAGES	**104.5 ac**	**5416 units**

(1) Stages are conjectural and will very likely change as projects within the San Tan Heights PAD move forward with development. The Stages are intended as a planning tool to provide correlation between the development of the project and the requirements for water and sewer infrastructure.
(2) The approved Preliminary Plat of The Village at San Tan Heights has 1013 residential lots. Due to the reconfiguration of the WWTP site in Parcel 7, the total number of residential lots in The Village at San Tan Heights has been reduced by 10 lots, bringing the total to 1003 lots. The 10 lots will be transferred to another Phase of the development.

D. THE VILLAGE AT SAN TAN HEIGHTS

The first project of Stage A to be developed is The Village at San Tan Heights. The Village at San Tan Heights (Phase I) approved Preliminary Plat consists of 1013 Residential Lots, a 5.8-acre Commercial Tract, a 21-acre school site, an 8-acre Park site and a 3.5-acre WWTP site. The Preliminary Plat has been divided into nine (9) subdivision parcel plats and one master roadway dedication plat. See **Exhibit C, Updated Land Use Plan** for location and configuration of The Village at San Tan Heights.

III. WATER SYSTEM DEMAND PROJECTIONS

A. JOHNSON UTILITIES COMPANY STANDARDS

The demand requirements used in this report are based on criteria required by Johnson Utilities Company, Standard Specifications for Water & Sewer Construction[1] and Johnson Ranch Potable Water System Master Plan, Phases I-V, February, 1998[2].

Following is a summary of the criteria utilized:

1. The average water demand per single family residential unit, per Johnson Utilities Company requirements, was calculated using 100 gallons per capita per day and 2.6 persons per dwelling unit

2. The average day water demands that were assigned for the nonresidential land uses in San Tan Heights, per Johnson utilities Company requirements, were:

Commercial	1,500 gpd/acre
School	1,500 gpd/acre
Park	1,500 gpd/acre

3. The maximum or peak day demand used in the San Tan Heights water analysis was assumed to be 2.0 times the average daily demand and the peak hour demand used was assumed to be 3.0 times the average daily demand.

A summary of the calculated flow demands is provided in **Table III.A.I.** A detailed breakdown of the flow demands for each Parcel within the San Tan Heights PAD and the 60-acre tract is provided in **APPENDIX A-1** and flow demands for each Parcel within **The Village at San Tan Heights** are provided in **APPENDIX A-2.**

TABLE III.A.I

Land Use Description	Average Daily Demand		Maximum Daily Demand		Peak Hour Demand
	(gpd)	(gpm)	(gpd)	(gpm)	(gpm)
Commercial	70,950	49	141,900	98	147
School	67,200	47	134,400	94	141
Park	25,500	18	51,000	36	55
Residential	1,408,160	978	2,816,320	1,955	2,932
Total	1,571,810	1092	3,142,120	2,183	3,275

Demand for Master Water System (entire PAD) based on Johnson Utilities Company criteria identified in items 1 through 3 above. For The Village at San Tan Heights (first project within PAD) ADD = 220 GPM, MDD = 440 GPM and PHD = 660 GPM. For detailed demand calculations on The Village at San Tan Heights, see Section VI and Appendix A-2.

B. FIRE FLOW

The residential fire flow demand for the proposed San Tan Heights water distribution system was calculated at maximum day demand plus fire flow at 1000 gpm for a 2-hour duration per Rural Metro Fire Department requirements. Commercial and School facilities were assumed to have fire sprinkler systems and a fire flow demand also, of 1000 gpm and a 2-hour duration. **Table III.B.I** identifies the flow rate in gpm required to meet fire flow requirements for the San Tan Heights project and the additional 60 acres.

TABLE III.B.1

Description	Maximum Day Demand (gpm)	2-Hour Fire Flow Demand (gpm)
San Tan Heights & 60 acres	2,183	3,183

Demand for Master Water System (entire PAD) based on Johnson Utilities Company criteria identified in items 1 through 3 above. For The Village at San Tan Heights (first project within PAD) MDD = 440 GPM and MDD + Fire Flow = 1440 GPM. For detailed demand calculations on The Village at San Tan Heights, see Section VI and Appendix A-2.

C. STORAGE VOLUME

The water storage requirements for the San Tan Heights project plus the 60-acre additional area were calculated utilizing criteria provided by Johnson Utilities Company in the Johnson Ranch Master Water Plan. The water storage volume was sized to provide approximately 48% of the maximum day demand plus fire flow demand. The fire flow has been adjusted to meet Rural Metro Fire Departments requirement of 1000 gpm for a 2-hour duration. **Table III.C.1** provides the storage capacity required for the entire project.

TABLE III.C.1

STORAGE VOLUME SUMMARY

Description	Maximum Day Demand (gpm)	Maximum Day Demand (gallons)	48% of Max. Day Demand (gallons)	2-Hour Fire Flow Demand (gallons)	Total Required Storage (gallons)
San Tan Heights & 60 acres	2,183	3,143,520	1,508,890	120,000	1,628,890

Demand for Master Water System (entire PAD) based on Johnson Utilities Company criteria identified in items 1 through 3 above. For The Village at San Tan Heights (first project within PAD) MDD = 440 GPM = 633,600 gallons x 48% = 304,128 + Fire Flow @ 120,000 gallons = 424,128 gallons. For detailed demand calculations on The Village at San Tan Heights, see Section VI and Appendix A-2.

D. BOOSTER PUMP CAPACITY

The booster pump capacity for the Johnson Ranch Master Water Plan[3] used the following criteria "When the total system average day demand is greater than 550 gpm, the booster pump station shall be capable of delivering a flow equal to the peak hour demand with the largest pump out of service and when the total system average day demand is greater than 550 gpm, the booster pump station shall be capable of delivering a flow equal to the maximum day demand with the largest pump out of service." However, this report has adjusted the booster pump capacity for San Tan Heights to be capable of delivering a flow equal to the maximum day demand plus fire flow with the largest pump out of service. **Table III.D.1** shows the booster pump capacity required to serve the entire project.

TABLE III.D.1

PUMP CAPACITY SUMMARY			
Description	**Maximum Day Demand (gpm)**	**Fire Flow Demand (gpm)**	**Max Day + Fire Flow Demand (gpm)**
San Tan Heights & 60 acres	2,183	1,000	3,183
Demand based on Johnson Utilities Company criteria identified in items 1 through 3 above. For The Village at San Tan Heights (first project within PAD) MDD = 440 GPM and MDD + Fire Flow = 1440 GPM. For detailed demand calculations on The Village at San Tan Heights, see Section VI and Appendix A-2.			

E. WATER WELLS

Per correspondence dated 1/24/01 from Johnson Utilities Company engineering consultant, The WLB Group, wells will be sized to meet the actual estimated demand for the San Tan Heights project, as provided by the developer to the Utility and as required by ADEQ. In addition, the Johnson Ranch Master Water Plan stipulates that well pumping stations shall be capable of delivering a flow at least equal to the peak (maximum) day demand with the largest well out of service. This report assumes the actual estimated supply demand is equal to maximum day demand plus a 10% reserve capacity. Table III.E.1 shows the well capacity required to serve the project.

TABLE III.E.1

WELL CAPACITY SUMMARY			
Description	**Maximum Day Demand (gpm)**	**Plus10% of Max. Day Demand (gpm)**	**Total Required Well Capacity (gpm)**
San Tan Heights & 60 acres	2,183	218	2,401
Demand based on Johnson Utilities Company criteria identified in items 1 through 3 above. For The Village at San Tan Heights (first project within PAD) MDD = 440 GPM and MDD x 110% = 484 GPM. For detailed demand calculations on The Village at San Tan Heights, see Section VI and Appendix A-2.			

G. FLOW DEMANDS FOR EACH DEVELOPMENT STAGE

It is intended that the proposed San Tan Heights Water Distribution System will be constructed in stages in accordance with the growth of the project. As discussed previously in Section II. D. Development Stages, the project is anticipated at this time to be developed in four (4) stages. Table III.F.1 identifies the various water demand projections for each of the anticipated stages of development.

As market conditions change, the actual size, location and sequence of the stages of development may change. Therefore, the water flow projections provided in Table III.F.1 should only be used as a tool to assist in the scheduling of the expansions to the water system that will be constructed and operated by Johnson Utilities Company. As the Property actually develops, it is envisioned that supplemental reports will be provided which will reflect the actual sequence of development and provide water flow demands and system modeling for determining future improvements to the water system.

IV. ADDITIONAL DESIGN REQUIREMENTS

A. In addition to the requirements used above to calculate the projected water demands for the San Tan Heights project, the following requirements based on Title 18. Environmental Quality, Chapter 4. Department of Environmental Quality Safe Drinking Water, Article 5. Minimum Design Criteria, Arizona Department of Environmental Quality[3] and Engineering Bulletin No. 10[4] will be utilized in designing and modeling the water system for San Tan Heights.

1. The proposed water system shall meet the maximum daily demand and peak hourly demand while maintaining a system pressure of not less than 40psi. In addition, the system shall meet the maximum daily demand with fire flow (at 1000gpm) while maintaining the system pressure at 20psi.

2. Areas with pressures over 80 psi should use individual pressure reducing valves to lower the pressure and areas with less than 40 psi during peak hour demands should utilize booster pumps to increase the pressure.

3. Minimum pipe diameter requirements for distribution lines:

   a) Arterial Street - minimum 12-inch diameter pipe.

   b) Collector Street - minimum 8-inch diameter pipe.

   c) All other locations - minimum 8-inch diameter pipe, except single-family residential developments may be served with 6-inch diameter looped lines.

   d) The actual size of water lines within the individual residential subdivisions of San Tan Heights shall be established with each Subdivision Plat and Plans and shall be supported by analysis of the system by computer modeling and shall meet pressure and fire flow requirements.

4. Water lines will be located generally, either one foot behind the curb, when the sidewalk is detached from the curb, or one foot behind the sidewalk, when the sidewalk is attached to the curb, and shall be located on the north and east side of the street opposite of the sewer line.

5. The minimum width of easements for water lines shall be 20 feet. Typically, water lines shall be centered within the easement, unless otherwise approved by Johnson Utilities Company.

6. Air release valves, vacuum release, fire hydrants, or other suitable means of air control shall be installed on all lines, 12 inches in diameter and larger, at high points in a line or where a long line changes vertical alignment.

7. Type of water pipe material:

a) 12-inch and smaller	C900 PVC Class 150 or Ductile Iron
b) Larger than 12-inch	Ductile Iron or Concrete Steel Cylinder

8. The maximum spacing for fire hydrants shall be 500 feet for detached residential uses. If sprinklers are used for emergency fire protection, the maximum spacing for fire hydrants may be increased to 1,000 feet for detached residential uses. Fire hydrants shall be located at maximum intervals of 1000 feet along unloaded traffic corridors. In any case, the proposed fire hydrant spacing will be in accordance with the 1997 Uniform Fire Code and approved by the Fire Chief of the applicable Fire Service Provider, in this case Rural Metro.

9. The maximum spacing of valves in single-family residential areas shall be 800 feet. There shall be a minimum of two (2) valves at every tee and three (3) valves at every cross in the mainline.

10. One gate valve shall be placed between each fire hydrant and the main line, typically flanged to the tee, except for fire hydrants on fire lines of 100 feet or more, then a second gate valve is required 20 feet from the fire hydrant.

V. OVERALL PROJECT – ENTIRE SAN TAN HEIGHTS PAD AND 60 ACRES

A. WATER MODEL ANALYSIS

For this study, the services area was divided into three different water pressure zones. Each zone includes 100 feet of topographic elevation difference (see **Exhibit E, Master Water Plan**). A breakdown of the flow demands by Parcel within each pressure zone is provided in **APPENDIX A-1.**

The overall water system for San Tan Heights was modeled using Water CAD, Version 4.1.1 by Haestad Methods, Inc. All pipes were modeled as PVC pipe. The system was modeled at steady state with domestic, commercial, and fire demands included (**APPENDIX B**). Four fire scenarios were modeled. In the fire analysis, the maximum daily flows were included as demands to the system, as well as individual fire flows to test the performance of different portions of the water line network.

The hydraulic grade for the reservoir was determined according to the following calculation:

$$HG\ [ft] = E\ [ft] + P\ [lb/in^2] * 1/62.4\ lb/ft^3 * 144\ in^2/ft^2$$
$$= E\ [ft] + 2.31P\ [ft]$$

where HG is the hydraulic grade of the reservoir in feet, E is the elevation where the base pressure is to be established in feet, and P is the pressure to be established in psi.

The water system was designed to provide all of the peak hour flows with a maximum of 5 feet per second (fps) velocity in any one pipe and maximum day flows plus fire demands with a minimum residual pressure of 20 psi. The minimum pipe size for a distribution main teeing into the 12" main in Hunt Highway was assumed to be 12", and the minimum pipe size for a distribution main within the looped networks within the parcel subdivisions in the development was assumed to be 6".

Appendix B contains the output files from the Water CAD models of the system under Average Day Flows, Maximum Day Flows, Maximum Day Flows with 1000 gpm Fire Demands and Peak Hour Flows. Junction Reports are provided to show residual pressures with maximum daily flow and fire flows, and a Pipe Report is provided to show pipe velocities with peak hour flow. The Junction Reports show information concerning elevation, demand, and available residual pressure for each pipe intersection or demand node on the system. The Pipe Report describes pipe length and size, pipe material and roughness, discharge and flow velocity, headloss, and friction slope for each pipe in the system. As these tables show, the minimum residual design pressure of 40 psi is exceeded for each node in the system in each demand scenario and the minimum residual pressure during fire conditions exceeds 20 psi. Flow velocities are also within the design maximum of 5 fps under the peak hour flow.

B. OVERALL PROPOSED IMPROVEMENTS

1. ONSITE SYSTEM IMPROVEMENTS - DISTRIBUTION LINES

Exhibit E, Master Water System Plan, identifies the conceptual locations and sizes of the proposed distribution mains in the arterial and collector roadways within the San Tan Heights PAD. These distribution mains will feed networks of water mains within the individual parcels of the development. To allow for flexibility in parcel design, the Master Water System Plan does not show the locations or sizes of water mains within the various subdivision parcels of San Tan Heights. The water lines within the subdivisions will be designed at the time of improvement plan preparation for each of the parcels. Notwithstanding, ultimate demands for each parcel have been applied to the modeling of the distribution mains in the arterial and collector roadways.

In the case of The Village at San Tan Heights, the first project within the PAD, the water model analysis for the water mains within local roadways of the subdivision parcels are provided in this report under **Section VI. The Village at San Tan Heights.**

2. OFF-SITE WATER SYSTEM IMPROVEMENTS (JOHNSON UTILITIES COMPANY)

The design and construction of the off-site water system improvements, including the distribution mains to serve the site and supply, storage and booster pump facilities, is the responsibility of the service provider, Johnson Utilities Company. The water demand calculations, as well as the storage, supply and booster pump requirements provided in this report are intended to assist Johnson Utilities Company in its analysis of providing water service to the San Tan Heights property.

Since information from Johnson Utilities regarding the location and supply of water to the San Tan Heights PAD at full buildout was not available at the time of writing this report, the modeling of the Overall San Tan Heights Water System was done by assuming the property would obtain water from four (4) supplies. Only Supply #1 is a known location and known size water supply. The location of the other three Supply Points was assumed as follows:

1) Supply 1 – Tie into proposed 12" water line in Hunt Highway at intersection of Gary Road, 12" line provided by Johnson Utilities Company from existing water line in Johnson Ranch.

2) Supply 2 – Storage Tank (T-1) located in San Tan Regional Park to the south of the Property and provided by Johnson Utilities Company. The tank would connect to the southwest corner of the site via a 16" main. The ground elevation of the storage tank was assumed at 1760' with an operating range of 1760' to 1780'.

3) Supply 3 – Tie into future water line at Hunt Highway and Skyline Drive (J-11).

4) Supply 4 – Tie into future water line at Phillips Road and Royce Road (J-21).

The supply of water provided from the four (4) sources was assumed to be distributed as follows:

Scenario	Total Q (gpm)	Supply				
		#1* (gpm)	#2 (gpm)	#3 (gpm)	#4 (gpm)	PMP @ #1 Tie-in
Average Day	1,092	223	287	291	291	15
Max. Day	2,183	440	582	581	581	28
Peak Hour	3,275	661	869	873	873	42
Max. Day + Fire Flow	3,183	N/A	N/A	N/A	N/A	33**

* Flow from Supply #1, initial tie-in at Hunt Highway and Gary Road, are required for Phase I (The Village at San Tan Heights). The flow for supplies #2, #3 and #4 was calculated by taking the Total demand less Supply #1 and dividing the remaining demand equally between #2, #3 and #4.
** Will meet 20 psi minimum.

Exhibit E, Master Water System, identifies the three water service connection point locations (Supply 1, 3 & 4) and the storage tank (Supply 2) location. These assumptions were made to demonstrate the adequacy of the proposed internal distribution system. The actual locations and sizes of the distribution main connection points and supply, storage and pumping facilities will be determined by and will be the responsibility of Johnson Utilities Company. If the assumptions made in this analysis regarding service connection locations and size and supply, storage and pumping capacities are modified, the water system model will need to be re-analyzed to determine the adequacy of the revised system parameters. It is understood that the water supply system provided by Johnson Utilities Company shall comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules [2].

C. DEVELOPMENT STAGES

The intent of providing stages of development and the water demand requirements for the four stages was to correlate water and wastewater infrastructure requirements to the development of the PAD. Because the size, location and sequence of the stages of development will probably change as market conditions change and as the various landowners/developers within the San Tan Heights PAD elect to move forward with development, modeling of the water systems for each of the stages was not preformed in this report.

VI. THE VILLAGE AT SAN TAN HEIGHTS

A. THE VILLAGE - WATER MODEL ANALYSIS

The first project of Stage A to be developed in the San Tan Heights PAD is **The Village at San Tan Heights** (see **Exhibit C** for location of The Village within the PAD). The breakdown of the flow demands by Parcel is provided in **Appendix A-2**, Phase I, Parcels 1 through 13. The water mains in the collector and local roadways of the subdivision parcels within The Village at San Tan Heights were modeled using Water CAD, Version 4.1.1 by Haestad Methods, Inc. All pipes were modeled as PVC pipe. The system was modeled at steady state with domestic, commercial, and fire demands included. Four fire scenarios were modeled. In the fire analysis, the maximum daily flows were included as demands to the system, as well as individual fire flows to test the performance of different portions of the water line network.

The hydraulic grade for the reservoir was determined according to the following calculation:

$$HG\ [ft] = E\ [ft] + P\ [lb/in^2] * 1/62.4\ lb/ft^3 * 144\ in^2/ft^2$$
$$= E\ [ft] + 2.31P\ [ft]$$

where HG is the hydraulic grade of the reservoir in feet, E is the elevation where the base pressure is to be established in feet, and P is the pressure to be established in psi.

The water system was designed to provide all of the peak hour flows with a maximum of 5 feet per second (fps) velocity in any one pipe and maximum day flows plus fire demands with a minimum residual pressure of 20 psi.

Appendix C contains the output files from the Water CAD models of the system under Average Day Flows, Maximum Day Flows, Maximum Day Flows with 1000 gpm Fire Demands and Peak Hour Flows. Junction Reports are provided to show residual pressures with maximum daily flow and fire flows, and a Pipe Report is provided to show pipe velocities with peak hour flow. The Junction Reports show information concerning elevation, demand, and available residual pressure for each pipe intersection or demand node on the system. The Pipe Report describes pipe length and size, pipe material and roughness, discharge and flow velocity, headloss, and friction slope for each pipe in the system. As these tables show, the minimum residual design pressure of 40 psi is exceeded for each node in the system in each demand scenario and the minimum residual pressure during fire conditions exceeds 20 psi. Flow velocities are also within the design maximum of 5 fps under the peak hour flow.

B. THE VILLAGE – PROPOSED IMPROVEMENTS

1. ON-SITE WATER SYSTEM IMPROVEMENTS

Exhibit F, The Village at San Tan Heights Water System Plan, identifies the locations and sizes of the proposed distribution mains in the arterial and collector roadways, as well as the water mains within local roadways of the nine (9) subdivision parcels of The Village.

Per the **On-site Line Extension Agreement,** between Johnson Utilities Company and The Village of San Tan Heights owner, Galeb Miller Development, LLC, the water system, once constructed and approved, will be conveyed to Johnson Utilities Company for ownership, operation and maintenance.

2. OFF-SITE WATER SYSTEM IMPROVEMENTS

Water supply to The Village at San Tan Heights project was assumed to come from a 12-inch single-feed water distribution main that will be constructed in Hunt Highway and connected to the Johnson Utilities Company water supply in Johnson Ranch (see **Exhibit F, The Village at San Tan Heights Water System Plan).** Since flow and pressure information was not provided at the tie-in point of the 12-inch water main, it was assumed that The Village at San Tan Heights water system would operate at a residual pressure of not less than 40 psi during maximum-day and peak-hourly demand and not less than 20 psi during maximum-day demand plus fire flow at 1000 gpm for a 2-hour duration. The model output for this analysis indicates that at the connection point of the 12-inch water main in Hunt Highway at Gary Road, the Johnson Utilities Company system will need to supply 51 psi pressure at 1440 gpm in order to provide maximum demand plus fire flow as identified in this analysis of The Village at San Tan Heights.

The following table identifies the supply requirements for various demand scenarios needed to provide a minimum of 40 psi residual pressure and 20 psi residual pressure with fire demand:

Demand Scenario	Minimum Pressure on Site (psi)	Q (gpm)	Discharge Pressure @ Tie-in (psi)
Average Day	40.87	220	50
Max. Day	45.31	440	55
Peak Hour	46.45	660	57
Max. Day + Fire Flow	20	1,440	51

Per the **Utility Service Agreement**, between Johnson Utilities Company and The Village of San Tan Heights owner, Galeb Miller Development, LLC, the design and construction of the off-site water system improvements, including the distribution main to serve the site (12-inch main in Hunt Highway) and supply facilities, is the responsibility of Johnson Utilities Company. The Utility Service Agreement also stipulates that the water system shall comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules [2].

The Village at San Tan Heights has entered into Utility Service Agreements with Johnson Utilities Company for water and sewer service for 1003 lots. (Note, the approved Preliminary Plat of The Village at San Tan Heights has 1013 residential lots. Due to the reconfiguration of the WWTP site in Parcel 7, the total number of residential lots in The Village at San Tan Heights has been reduced by 10 lots, bringing the total to 1003 lots. The 10 lots will be transferred to another Phase of the development.) As other developers move forward with development of additional projects within the San Tan Heights PAD, separate agreements will be negotiated with Johnson Utilities Company for service to those properties.

VII. CONCLUSIONS

A. MASTER WATER SYSTEM PLAN

This study has developed a water distribution system for the San Tan Heights PAD and the adjacent 60-acre tract identified on **Exhibit E, Master Water System Plan.**

1. Based on water supply, storage and pumping facility assumptions presented in Section V. of this report and as summarized in the table below, the water system model demonstrates that the water distribution system is able to provide peak hour demands and maximum day demand plus Fire Flow. Flow and pressures throughout the system during all design conditions meet or exceed minimum pressure requirements. During the Fire Flow scenario, the model confirmed system junction pressures do not fall below 20 psi during a fire event.

Scenario	Total Q (gpm)	Supply				
		#1* (gpm)	#2 (gpm)	#3 (gpm)	#4 (gpm)	PMP @ #1 Tie-In
Average Day	1,092	223	287	291	291	15
Max. Day	2,183	440	582	581	581	28
Peak Hour	3,275	661	869	873	873	42
Max. Day + Fire Flow	3,183	N/A	N/A	N/A	N/A	33**

* Flow from Supply #1, initial tie-in at Hunt Highway and Gary Road, are required for Phase I (The Village at San Tan Heights). The flow for supplies #2, #3 and #4 was calculated by taking the Total demand less Supply #1 and dividing the remaining demand equally between #2, #3 and #4.
** Will meet 20 psi minimum.

2. The San Tan Heights project will receive water service from Johnson Utilities Company. If the location and size of the water service connections and/or the water supply, storage and pumping facility assumptions presented in Section V. of this report are modified, the water system model will need to be re-analyzed to assess the adequacy of the system. In any case, the water supply system provided by Johnson Utilities Company shall comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules [2].

3. As they are ready to develop, it is intended that Johnson Utilities Company will enter into separate Service Agreements with the various other Land Owners/Developers within the San Tan Heights PAD. Individual analysis of each proposed phase or stage of development will be necessary in order to identify required on-site distribution system layouts and sizing and required off-site system improvements. It is envisioned, as portions of the San Tan Heights water system are constructed and approved, that the improvements will be conveyed to Johnson Utilities Company for ownership, operation and maintenance.

B. THE VILLAGE AT SAN TAN HEIGHTS WATER SYSTEM PLAN

This study has developed a water distribution system for The Village at San Tan Heights (Phase I) identified on **Exhibit F, The Village at San Tan Heights Water System Plan.**

1. Based on the water system model and connection to a 12-inch single feed water main in Hunt Highway, which supplies a minimum pressure of 51 psi with 1440 gpm (maximum day demand plus fire flow), The Village at San Tan Heights water distribution system is able to provide peak hour demands and maximum day demand plus fire flow. The following table summarizes the supply requirements for various demand scenarios needed to provide a minimum of 40 psi residual pressure and 20 psi residual pressure with fire demand:

Demand Scenario	Minimum Pressure on Site (psi)	Q (gpm)	Discharge Pressure @ Tie-in (psi)
Average Day	40.87	220	50
Max. Day	45.31	440	55
Peak Hour	46.45	660	57
Max. Day + Fire Flow	20	1,440	51

2. The Village at San Tan Heights will receive water service from Johnson Utilities Company. If the flow and pressure requirements at the water service connection in Hunt Highway are modified, the water system model will need to be re-analyzed to assess the integrity of the system. In any case, the water supply system provided by Johnson Utilities Company shall comply with the Arizona Department of Environmental Quality, Safe Drinking Water Rules [2].

3. The Village at San Tan Heights water system improvements will be permitted and constructed by the developer. After the improvements are completed and approved, the improvements will be conveyed to Johnson Utilities Company for ownership, operation and maintenance.

IV. REFERENCES

1. Standard Specifications for Water & Sewer Construction, Johnson Utilities Company.

2. Johnson Ranch Potable Water System Master Plan, Phases I-V, February, 1998.

3. Title 18. Environmental Quality, Chapter 4. Department of Environmental Quality Safe Drinking Water, Article 5. Minimum Design Criteria, Arizona Department of Environmental Quality, Effective April 28, 1995 and as Amended June 3, 1998.

4. Engineering Bulletin No. 10, Guidelines for the Construction of Water Systems, ADEQ, May 1978.

APPENDIX E

JOHNSON UTILITIES COMPANY COMMITMENTS

JOHNSON UTILITIES COMPANY L.L.C

5230 East Shea Boulevard * Scottsdale, Arizona 85254
PH: (480) 998-3300; FAX: (480) 483-7908

Arizona Department of Environmental Quality
1110 West Washington Street
Phoenix, Arizona 85007
Attn: Mr. Aolad Hossain, P.E.

May 29, 2003

Re: Johnson Utilities
Water Capacity and allocations

Dear Mr. Hossain:

Pursuant to your request, attached is a copy of the latest water commitments and allocations for the Johnson Ranch area. We have made minor corrections and additions to the spreadsheet.

This commitment sheet should be referenced when reviewing submittal packages. If you have any additional question, or require further clarification please contact me directly at 480-998-3300.

Sincerely:
Johnson Utilities Co., L.L.C.

Brian P. Tompsett, P.E.
Operations Officer

Cc: Gregory Brown (ADEQ)
Joan Scarbrough (Sunbelt)
Ron Smith (San Tan Heights)

C:\Johnson Utilities\Water Committments\aolad capacity may03.doc

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Johnson Utilities Co. - System #11-128
Subdivision Commitments

P.A.D. or MASTER PLAN LOCATION	SUBDIVISION UNIT NUMBER	ADEQ FILE NO.	TOTAL NO. LOTS in Subdiv.	TOTAL NO. LOTS Committed	ESTIMATED COMMITTED FLOW REQUIREMENTS (@ 280 GPD)
Johnson Ranch	Unit 1	980270	109	109	28,340
	Unit 2	980011	135	135	35,850
	Unit 3A	980051	164	164	42,640
	Unit 3B	980449	91	91	23,660
	Unit 4A	980009	253	253	65,780
	Unit 4B	20000218	218	218	56,180
	Unit 6	980501	40	40	10,400
	Unit 7	20000184	278	278	72,280
	Unit 8	20000185	198	198	51,480
	Unit 12A&12B	20000186	210	210	54,600
	Lakeview Gardens	9904620	68	68	18,080
	Unit 13	20000469	234	234	60,840
	Superstition Vistas	20010100	80	80	19,600
	Unit 4D&4F - Phase 1	20010574	83	83	21,580
	Unit 4D&4F - Phase 2	20010574	68	68	17,680
	Unit 4D&4F - Phase 3	20010574	92	92	23,920
	Unit 4D&4F - Phase 4		104	104	27,040
	Unit 4D&4F - Phase 5		97	97	25,220
	Unit 10	20010329	"no lots"	"no lots"	6,000
	Unit 15 - Phase 1	20010538	95	95	24,700
	Unit 15 - Phase 2	20010538	71	71	18,460
	Unit 15 - Phase 3	20010538	71	71	18,460
	Unit 16 - Phase 1		220	220	57,200
	Unit 17 - Phase 1	20020811	"no lots"	"no lots"	0
	Unit 17 - Phase 2	20020933	100	100	26,000
	Unit 17 - Phase 3	20020813	78	78	19,960
	Unit 18 - Phase 1	20020455	"no lots"	"no lots"	0
	Unit 18 - Phase 2	20020455	110	110	28,600
	Unit 18 - Phase 3	20020455	88	88	22,880
	Unit 34 - Rural Metro - onsite	20020128	"no lots"	"no lots"	1,380
	Unit 24 - Loss & onsite	20020609	194	194	50,440
	Unit 35 - Commercial		"no lots"	"no lots"	0
	Unit 36 - "Circle K"		"no lots"	"no lots"	1,380
	Unit 5744		125	125	28,100
	Unit 20/21 - Phase 1	20020316	35	35	9,380
	Unit 20/21 - Phase 2	20020317	68	68	17,680
	Unit 20/21 - Phase 3	20020318	80	80	20,800
	Unit 11 - Commercial		"no lots"	"no lots"	0
	Unit 19,43,44 & 45	20030010	272	272	70,720
	Unit 22		147	147	38,220
	Unit 23		258	258	67,080
	Unit 25		168	168	43,680
	Unit 24		817	217	56,420
	Unit 27		140	140	36,400
Area west of Johnson Ranch	El Pedregal/Butte Creek	20000368	24	24	6,240
	Bonanza Ranch	20010097	59	59	15,340
San Tan Heights	Parcel 1 @ S.T.H.	20010365	124	124	32,240
	Parcel 2 @ S.T.H.	20010365	109	109	28,340
	Parcel 3 @ S.T.H.	20010357	103	103	26,780
	Parcel 4 @ S.T.H.	20010359	102	102	26,520
	Parcel 5 @ S.T.H.	20010359	114	114	29,640
	Parcel 6 @ S.T.H.	20010360	114	114	29,640
	Parcel 7 @ S.T.H.	20010361	114	114	29,640
	Parcel 8 @ S.T.H.	20010362	110	110	28,600
	Parcel 9 @ S.T.H.	20010363	113	113	29,380

Revised: 5/29/2003

Revised: ADEQ overall water revised May2003

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Johnson Utilities Co. - System #11-128
Subdivision Commitments

P.A.D. or MASTER PLAN LOCATION	SUBDIVISION UNIT NUMBER	ADEQ FILE NO.	TOTAL NO. LOTS in Subdiv.	TOTAL NO. LOTS Committed	ESTIMATED COMMITTED FLOW REQUIREMENTS (@ 250 GPD)
San Tan Heights Phase 2	Parcel A @ S.T.H.		110	110	28,600
	Parcel B @ S.T.H.		113	113	29,380
	Parcel C @ S.T.H.		102	102	26,520
	Parcel D @ S.T.H.		116	116	30,160
	Parcel E @ S.T.H.		100	100	26,000
	Parcel F @ S.T.H.		106	106	27,560
	Parcel G @ S.T.H.		Commercial	0	0
	Parcel H @ S.T.H.		School	0	0
	Parcel I @ S.T.H.		153	153	39,780
	Parcel J @ S.T.H.		113	113	29,380
	Parcel K @ S.T.H.		141	141	36,660
Oasis Sunrise and Magic Ranch area	Oasis @ Magic Ranch - PH1	20010095	282	282	73,320
	Oasis Sunrise Subdivision - PH 1	20020013	160	160	41,600
	Oasis Sunrise Subdivision - PH 2	20030242	154	154	40,040
	Oasis Sunrise Subdivision - PH 3		118	118	30,680
Circle Cross	Parcel 1 @ C.C.	20020420	125	125	32,500
	Parcel 2 @ C.C.	20020421	265	265	68,900
	Parcel 3 @ C.C.	20020422	167	167	43,420
	Parcel 4 @ C.C.	20020423	163	163	42,380
	Parcel 5 @ C.C.	20020424	216	216	56,160
	Parcel 6 @ C.C.	20030122	115	115	29,900
Copper Basin	Parcel A (Lots 1-98)	2002-0949	99	99	25,740
	Parcel B (Lots 413-418)	2002-0949	88	88	22,880
	Parcel C (Lots 99-217)	2002-0949	119	119	30,940
	Parcel D (Lots 219-412)	2002-0949	194	194	50,440
	Phase II (154 Lots)	20020629	154	154	40,040
Rancho Bella Vista	Parcel A (Lots 1-175)		175	175	45,500
Morning Sun Farms	Model Complex		16	16	4,160
	Phase I		253	253	65,780
	TOTAL UNITS		10,040	10,040	
	TOTAL ESTIMATED FLOW @ 260 GAL/UNIT/DAY				2,610,160

TOTAL UNITS AVAILABLE PER TABLE "A"		20,869	
TOTAL FLOW AVAILABLE PER TABLE "A" IN GALLONS			5,426,940

Revised: 5/29/2003

Revised: ADEQ overall water revised May/2003

Johnson Utilities Company
Water Plant No. 1
A Portion of "Option #4"

Revised Well #4 plus Well #5 Blending Plan

System # 11-129 Well #4 + #5 located at Johnson Ranch	R.O. Unit Run Time with no Expansion (In Min.)	R.O. Unit: Average R.O. Output in (GPD)	R.O. Unit: Average R.O. Unit output (mg/L as N)	Raw from Well Source: Average Raw Water output (GPD)	Raw from Well Source: Average Raw water output (mg/L as N)	Blended @ Storage Tank: Average Blended output At P.O.E. (GPD)	Blended @ Storage Tank: Average Blended output At P.O.E. (mg/L as N)
Run Time							
5 Hours	300	75,000	1.48	137,100	14.57	212,100	9.94
6 Hours	360	90,000	1.48	164,520	14.57	254,520	9.94
7 Hours	420	105,000	1.48	191,940	14.57	296,940	9.94
8 Hours	480	120,000	1.48	219,360	14.57	339,360	9.94
9 Hours	540	135,000	1.48	246,780	14.57	381,780	9.94
10 Hours	600	150,000	1.48	274,200	14.57	424,200	9.94
11 Hours	660	165,000	1.48	301,620	14.57	466,620	9.94
12 Hours	720	180,000	1.48	329,040	14.57	509,040	9.94
13 Hours	780	195,000	1.48	356,460	14.57	551,460	9.94
14 Hours	840	210,000	1.48	383,880	14.57	593,880	9.94
15 Hours	900	225,000	1.48	411,300	14.57	636,300	9.94
16 Hours	960	240,000	1.48	438,720	14.57	678,720	9.94
17 Hours	1020	255,000	1.48	466,140	14.57	721,140	9.94
18 Hours	1080	270,000	1.48	493,560	14.57	763,560	9.94
19 Hours	1140	285,000	1.48	520,980	14.57	805,980	9.94
20 Hours	1200	300,000	1.48	548,400	14.57	848,400	9.94
21 Hours	1260	315,000	1.48	575,820	14.57	890,820	9.94
22 Hours	1320	330,000	1.48	603,240	14.57	933,240	9.94
23 Hours	1380	345,000	1.48	630,660	14.57	975,660	9.94
24 Hours	1440	360,000	1.48	658,080	14.57	1,018,080	9.94

Well #4 Production Capacity	580	(GPM) Note: Well #4 "only"
Well #4 Raw Water	11.54	Nitrate+Nitrite-N (Untreated)
Well #5 Production Capacity	240	(GPM) Note: Well #5 "only"
Well #5 Raw Water	20.70	Nitrate+Nitrite-N (Untreated)
Well #4 plus Well #5 Raw Water Production Capacity	750	(GPM)
Raw Water flow to R.O. Unit	333	(GPM)

By-Pass Blended Production Capacity (Raw)	457	(GPM) "Without Flow to R.O. Unit"
R.O. Unit Production Capacity after Treatment	250	(GPM)
Well #4 plus Well #5 Blended Quality (Raw)	14.57	Nitrate+Nitrite-N (Untreated)
R.O. Unit Production Quality after Treatment	1.48	Nitrate+Nitrite-N (Treated)

Calculated Point of Entry flow:	707	(GPM)
Calculated Point of Entry Quality	9.94	Nitrate+Nitrite-N (blended)
Calculated 24 hour production capacity	1,018,080	(Gal/day)

Approx. Number of Residential Units Served	2916	(@ 260 Gal/unit/day)

Johnson Utilities Company - System #11-128

PRODUCTION OPTIONS WITHIN JOHNSON UTILITIES SERVICE AREA
Note: LOW NITRATES HAVE BEEN ASSUMED FOR ALL PRODUCTION WELLS EXCEPT FOR WELL #4.

Well Identification Name System # 11-128	Well Identification Number	LOCATED WITHIN THE AREA OF:	ADEQ FILE NUMBER	ESTIMATED FLOW PER WELL Including R.O. loss (gal/min)	Option #1 Well #4 "Treated" ESTIMATED PRODUCTION CAPABILITY PER WELL IN: (gal/day)	Option #2 Well #4&#5 "Blended & Treated" Plus Oasis Wells & Circle Cross ESTIMATED PRODUCTION CAPABILITY PER WELL IN: (gal/day)
Production:						
J.R. Well No. 4 (untreated)	55-656445	Johnson	656005	550	0	0
J.R. Well No. 4 (Treated with With R.O. Unit)	55-656445	Johnson	656005	0	0	0
J.R. Well #4 plus #5 (blended)	55-656445	Johnson	656005	707	1,018,080	1,018,080
J.R. Well No. 5 (untreated)	55-671409	Johnson	656005	550	0	0
Edwards Road Well No. 2 (untreated)	55-595169	Johnson	20010837	130	187,200	187,200
Oasis Well No. 6 (untreated)	55-605615	Oasis	20010811	66	95,520	95,520
Oasis Well No. 11 (untreated)	55-592697	Oasis	20010811	66	95,520	95,520
Oasis Well No. 10 (untreated)	55-592698	Oasis	20010811	66	95,520	95,520
San Tan Hillside Well #1 (untreated)	55-571482	San Tan Hls.	20020538	1000	1,440,000	1,440,000
Circle Cross Well #1 (untreated)	55-619619	Circle Cross	20020418	1000	1,440,000	1,440,000
TOTAL ESTIMATED WELL PRODUCTION (GPD)					**4,336,840**	**4,336,840**

Storage:					Storage Capacity (Gallons)	16,878 Units served @ 260 Gal/unit/day
Johnson Ranch Water Plant No. 1		Johnson	656115		500,000	
Johnson Ranch Water Plant No. 1		Johnson	20000556		100,000	
Oasis Water Plant No. 1		Oasis	20020418		600,000	
Edwards Road Water Plant No. 2		Johnson	20010837		50,000	
Circle Cross Water Plant No. 1		Circle Cross	20020418		500,000	
San Tan Water Plant No. 1		San Tan	20020538		1,000,000	
Production from Well #4 - (55-656445)		Johnson	656005		0	
TOTAL ESTIMATED STORAGE CAPACITY (Gallons)					**2,950,000**	
LESS FIRE STORAGE CAPACITY AS REQUIRED BY FIRE DISTRICT (Gallons)					**-120,000**	
WELL PRODUCTION WITHOUT CIRCLE CROSS OPERATING (Gallons/day)					**2,830,840**	
ESTIMATED 1 DAY SYSTEM PRODUCTION and STORAGE CAPACITY (Gallons)					**5,436,840**	
Units served @ 260 Gal/unit/day					**20,569**	

(*) Pending indicates that the improvement plans have been submitted to ADEQ.

Revised: 5/29/2003 — ADEQ overall water revised May2003 — **Table "A"**

16009 N. 81st Street, Suite 200
Scottsdale, AZ 85260
Telephone: (480) 947-5100
Facsimile: (480) 947-5151

Omega Management Services, Inc.

Fax

To:	Jonathan Bastianelli	**From:**	Ron Smith
Fax:	602-553-8816	**Pages:**	6, including cover
Re:	San Tan Heights	**Date:**	5/29/2003

☐ **Urgent** ☐ **For Review** ☐ **Please Comment** ☐ **Please Reply** ☐ **Please Recycle**

• **Comments:**

Attached are Water Commitments from Johnson Utilities, FYI.

CONFIDENTIALITY STATEMENT

The information contained in this facsimile is privileged and confidential, and is intended only for the use of the individual or entity named above. If the reader is not the intended recipient, you are hereby notified that any dissemination, distribution or copying of the facsimile is strictly prohibited. If you have received this facsimile in error, please immediately notify us by telephone, and return the original facsimile to us via the United States Postal Service. Thank you.

MASTER WASTEWATER SYSTEM
PLAN AND REPORT UPDATE
FOR

SAN TAN HEIGHTS PAD

- and -

WASTEWATER SYSTEM REPORT
FOR

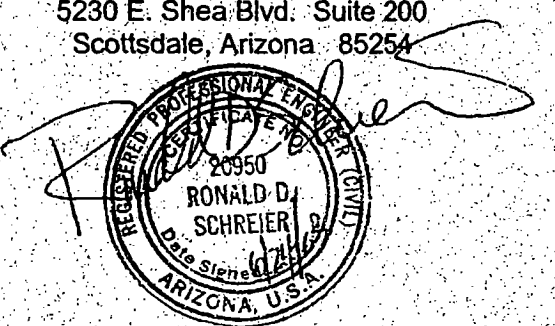
SAN TAN HEIGHTS, PARCELS A-K
PHASE II OF THE P.A.D.

Prepared For:

HUNT VENTURES, LLLP
16009 N. 81ST Street Suite 200
Scottsdale, Arizona 85260

Submitted To:

Arizona Department of Environmental Quality
3033 N. Central Avenue
Phoenix, Arizona 85012
- and -
Johnson Utilities Company
5230 E. Shea Blvd. Suite 200
Scottsdale, Arizona 85254



Prepared By:

GANNETT FLEMING, INC.
3001 E. Camelback Road Suite 130
Phoenix, Arizona 85016
Telephone: 602-553-8817

June 2003
GF Job No. 40384

MASTER WASTEWATER SYSTEM
PLAN AND REPORT UPDATE
FOR

SAN TAN HEIGHTS PAD
- And –
WASTEWATER SYSTEM REPORT
FOR
SAN TAN HEIGHTS, PARCELS A-K
PHASE II OF THE P.A.D.

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PLAN AND REPORT UPDATE
FOR

SAN TAN HEIGHTS PAD
- And –
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Appendix A

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Appendix B

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I. INTRODUCTION

A. General Description and Location

San Tan Heights, a Planned Area Development (PAD), is a mixed-use development consisting of residential and commercial land uses. The property is located in north central Pinal County, Arizona in T3S. R7E. Situated adjacent to Hunt Highway, the project is approximately 14 miles northwest of Florence and approximately five (5) miles southeast of Queen Creek (see Exhibit A, Vicinity Map and Exhibit B, Location Map). The site is located on natural desert and fallow agricultural land.

The property to the immediate south and west of the site is zoned SR-Suburban Ranch and consists of housing on large lots with some containing horses and/or farm animals. The property further south and west of the site consists of the San Tan Mountains. The property on the north side of Hunt Highway, Skyline Ranch, is zoned PAD-Planned Area Development and currently consists of farms and cotton fields. The property to the southeast of the site is part of the Johnson Ranch PAD and is planned as a future golf course community.

B. Previous Report

CMX Group Inc. prepared the "Master Wastewater System Plan and Report for San Tan Heights PAD and Wastewater System Report For The Village at San Tan Heights", dated June, 2001, 4th Revision dated June 27, 2001.

The Scope of this previous report is quoted below *(Reference Page 1 of CMX' Report)*:

"This Master Wastewater System Report has been prepared in accordance with ADEQ standards and the service provider, Johnson Utilities Company, standards.

The intent of this Master Wastewater System Report is to provide a description of the proposed overall wastewater system, including expected flows and anticipated locations and sizes of the proposed sewer interceptor and trunk lines and lift stations. The evaluation includes sizing the wastewater collection system components for the entire (2184 acre) San Tan Heights Planned Area Development (PAD) and an adjacent 60-acre tract, collectively called the "Property".

In addition to providing an overall description of the San Tan Heights wastewater system, it is the intent of this report to conceptually identify the sequence of development of the property within the PAD. The development sequence of the property within the PAD, though only conjectural at this time, will correlate wastewater infrastructure requirements to stages of development. It is also the intent of this report to establish wastewater system design guidelines that will be adhered to as the Property develops. Finally, this report provides expected flows, locations and sizes for the sewer collection system for the first project to be developed within the PAD, The Village at San Tan Heights."

The text of CMX' original report is contained in Appendix C of this report.

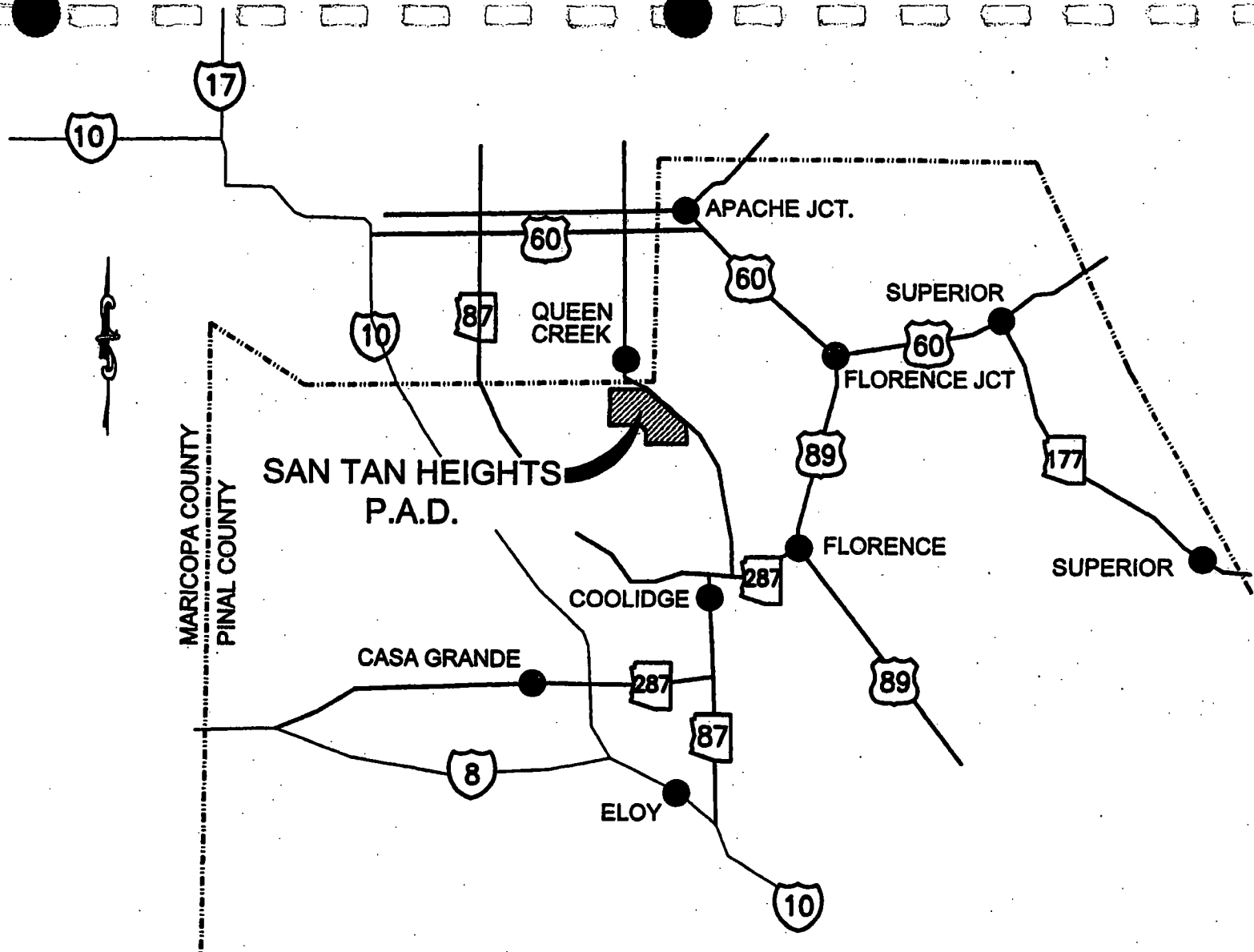


EXHIBIT A
VICINITY MAP

NTS

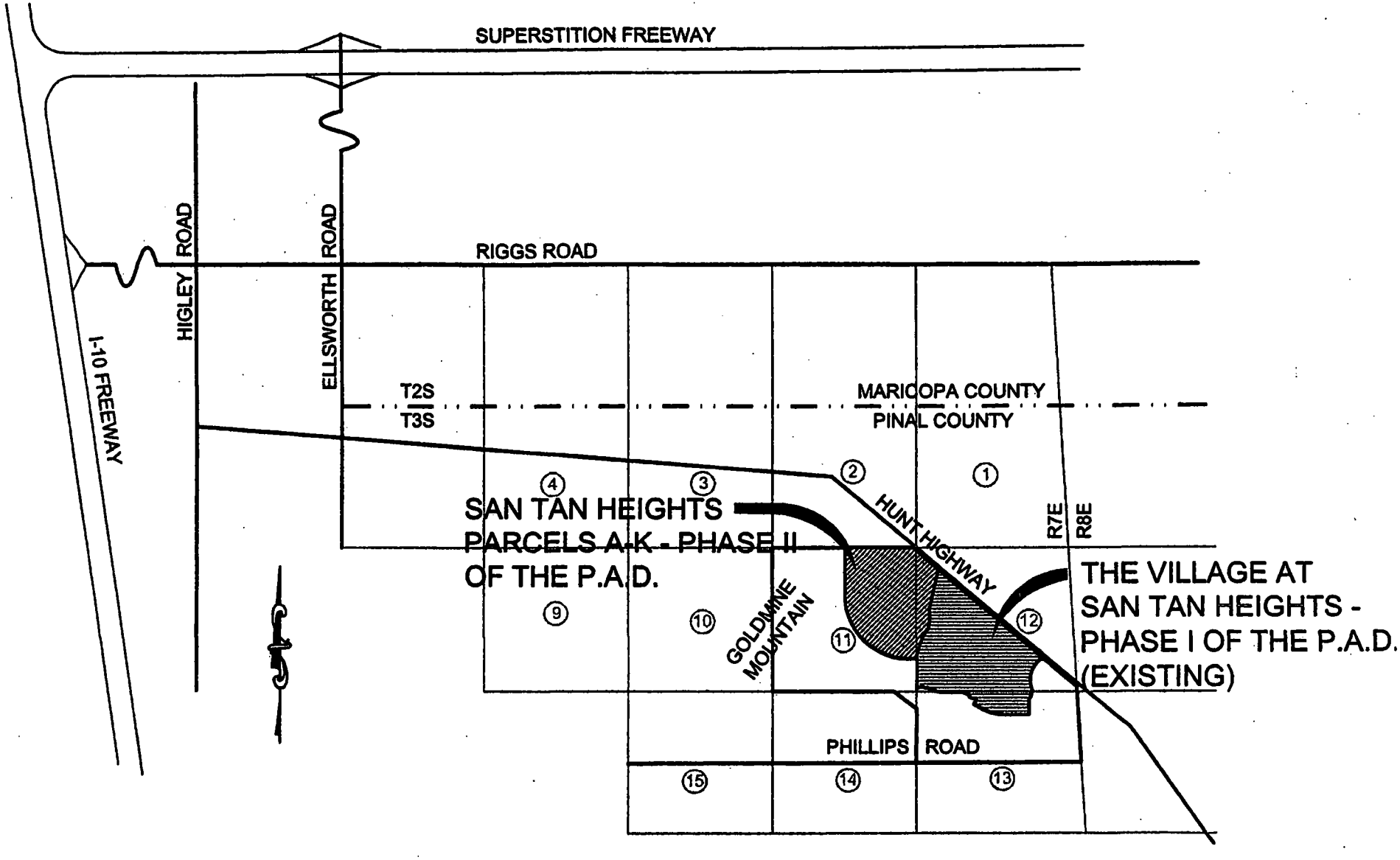


EXHIBIT B
LOCATION MAP

NTS

C. Scope of This Study

This report is being prepared as the Phase I construction of the infrastructure is being completed and Phase II of the PAD is under design for San Tan Heights, Parcels A-K. The purpose of this report is twofold:

1. To provide a partial update of the Master Wastewater System Plan and Report For San Tan Heights PAD, and

2. To report the Basis of Design for San Tan Heights, Parcels A-K, including estimated anticipated flows, locations and sizes for the sewer collection system serving the Parcels.

The update of the previous Master Wastewater System Plan and Report is a "partial" update. The update includes only the following:

1. A recount of the number of lots within the PAD.

2. Recalculation of the estimated wastewater rates that will be generated based on the recounted lots.

3. A check on the size of the existing and proposed sewer interceptors in Hunt Highway based on the recalculated wastewater rates.

4. Determination of sizes and approximate locations of trunk sewers serving the proposed (unplatted) parcels/subdivisions (Phases II-IV of the PAD).

5. Determination of sizes of sewer mains within the proposed (unplatted) parcels/subdivisions.

6. Recalculation of the ultimate sewage peak flows conveyed to the Wastewater Treatment Plant.

7. Recalculation of the ultimate sewage peak flows conveyed to the two proposed Lift Stations.

8. A redefinition of the phase limits of the PAD.

The update does not include a check on the sewer sizes for The Village At San Tan Heights, Phase I, which is under construction.

This report also provides expected flows, locations and sizes for the sewage collection system for San Tan Heights, Parcels A-K.

II. LAND USE / DEVELOPMENT

A. Planned Area Development (PAD)

The proposed San Tan Heights Planned Area Development (PAD) was approved by the Pinal County Board of Supervisors on March 24, 2000. The PAD consists of a mix of primarily single-family residential land uses and includes five commercial sites, two school tracts, two neighborhood park sites and various open space areas. The Land Use Summary as approved in the PAD is presented in Table II.A.1 *(Reference Page 4 of the CMX Report).* The approved Land Use Plan is provided in Exhibit C, Updated Land Use Plan that is reprinted from the original Master Wastewater System Plan *(Reference page 7 of the CMX Report).*

TABLE II.A.1

LAND USE SUMMARY TABLE			
Land Use	**Density**	**Acres**	**No. Of Units**
Commercial		43.2	-
School		44.3	
Park		17.0	
WW Treatment Plant		4.1	
Linear Open Space		215.3	
Hillside		36.7	
Adjacent Roads		34.0	
Single Family Residential:			
CR-5 (4,000 sf)	4.9	293.7	1,449
CR-4 (5,000 sf)	4.6	328.1	1,512
CR-3 (6,000 sf)	4.0	213.1	861
CR-2 (8,000 sf)	3.0	155.0	468
CR-1 (16,000 sf)	2.1	215.0	459
CR-1A (average 43,560 sf)	1.0	584.8	517
	Totals	2184.3	5,266

B. Additional Area (60 acres)

In the original Master Wastewater System Plan, an additional area of 60 acres was proposed to be included in the wastewater service area for San Tan Heights. This is still the case. The 60 acres is located north and south of Hunt Highway at Valleyview Road. For the purpose of this study (as in the original Master Plan) residential zoning was assumed at a density of 2.5 units per acre or 150 dwelling units.

C. Revised Lotting Plan

Exhibit D – Lot Layout and Phasing – illustrates the current plan for the development of San Tan Heights. Not shown on the Exhibit is the property known as Circle G that is part of the San Tan Heights PAD. The Circle G property is located South of Phillips Road, approximately one mile west of Thompson Road and is assumed to have 239 lots, as in the original Master Plan.

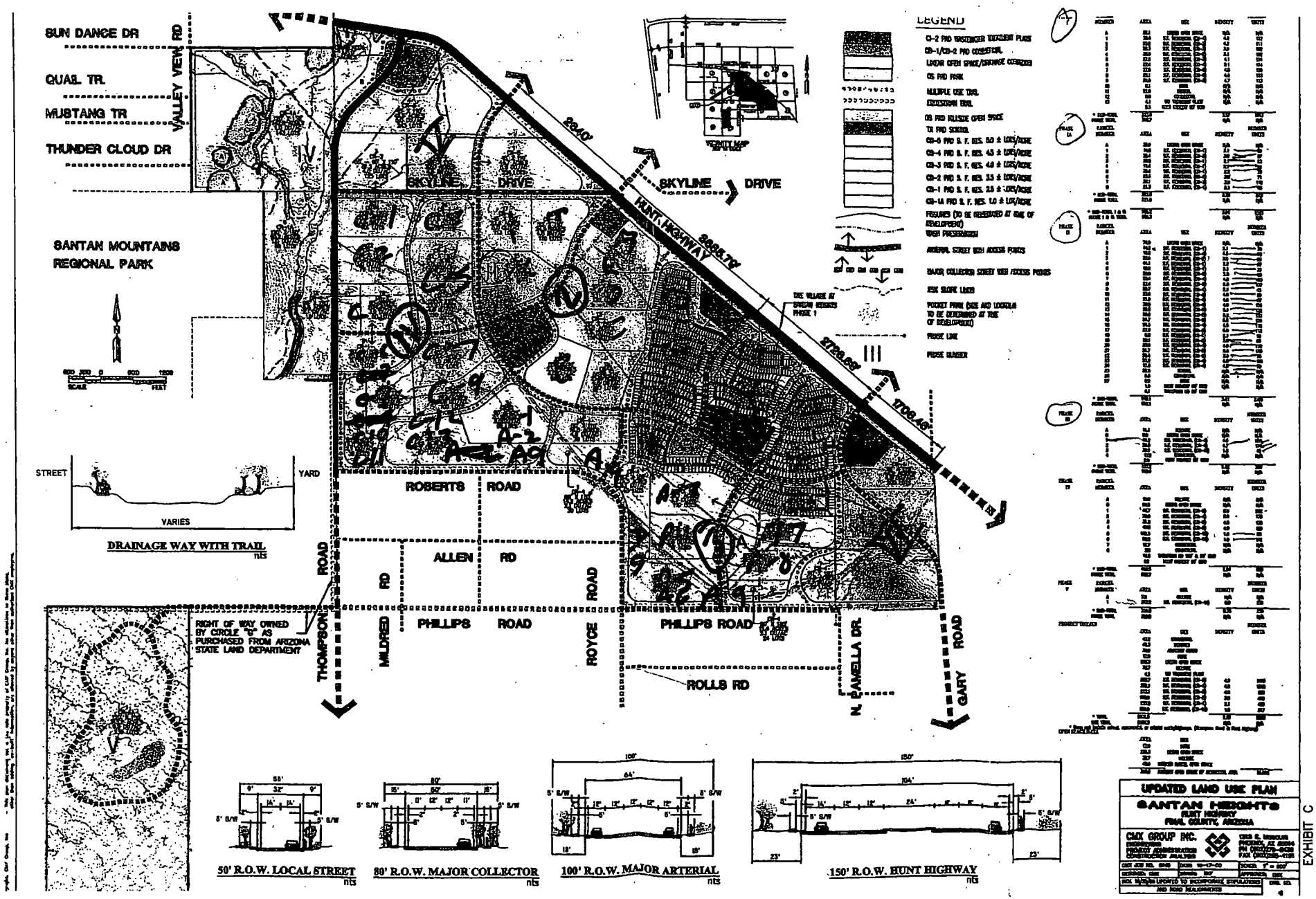

SUN DANCE DR
QUAIL TR.
MUSTANG TR
THUNDER CLOUD DR
VALLEY VIEW RD
SANTAN MOUNTAINS REGIONAL PARK
SKYLINE DRIVE
SKYLINE DRIVE
HUNT HIGHWAY
2640'
3885.70'
2788.88'
1709.45'
ROBERTS ROAD
ALLEN RD
PHILLIPS ROAD
PHILLIPS ROAD
ROLLS RD
THOMPSON ROAD
MILDRED RD
ROYCE ROAD
N. PAMELLA DR.
GARY ROAD
STREET
YARD
VARIES
DRAINAGE WAY WITH TRAIL
nts
RIGHT OF WAY OWNED BY CIRCLE "G" AS PURCHASED FROM ARIZONA STATE LAND DEPARTMENT
50' R.O.W. LOCAL STREET
nts
80' R.O.W. MAJOR COLLECTOR
nts
100' R.O.W. MAJOR ARTERIAL
nts
150' R.O.W. HUNT HIGHWAY
nts
LEGEND
UPDATED LAND USE PLAN
SANTAN HEIGHTS
HUNT HIGHWAY
PINAL COUNTY, ARIZONA
CMX GROUP INC.
EXHIBIT C

EXHIBIT D
LOT LAYOUT AND PHASING

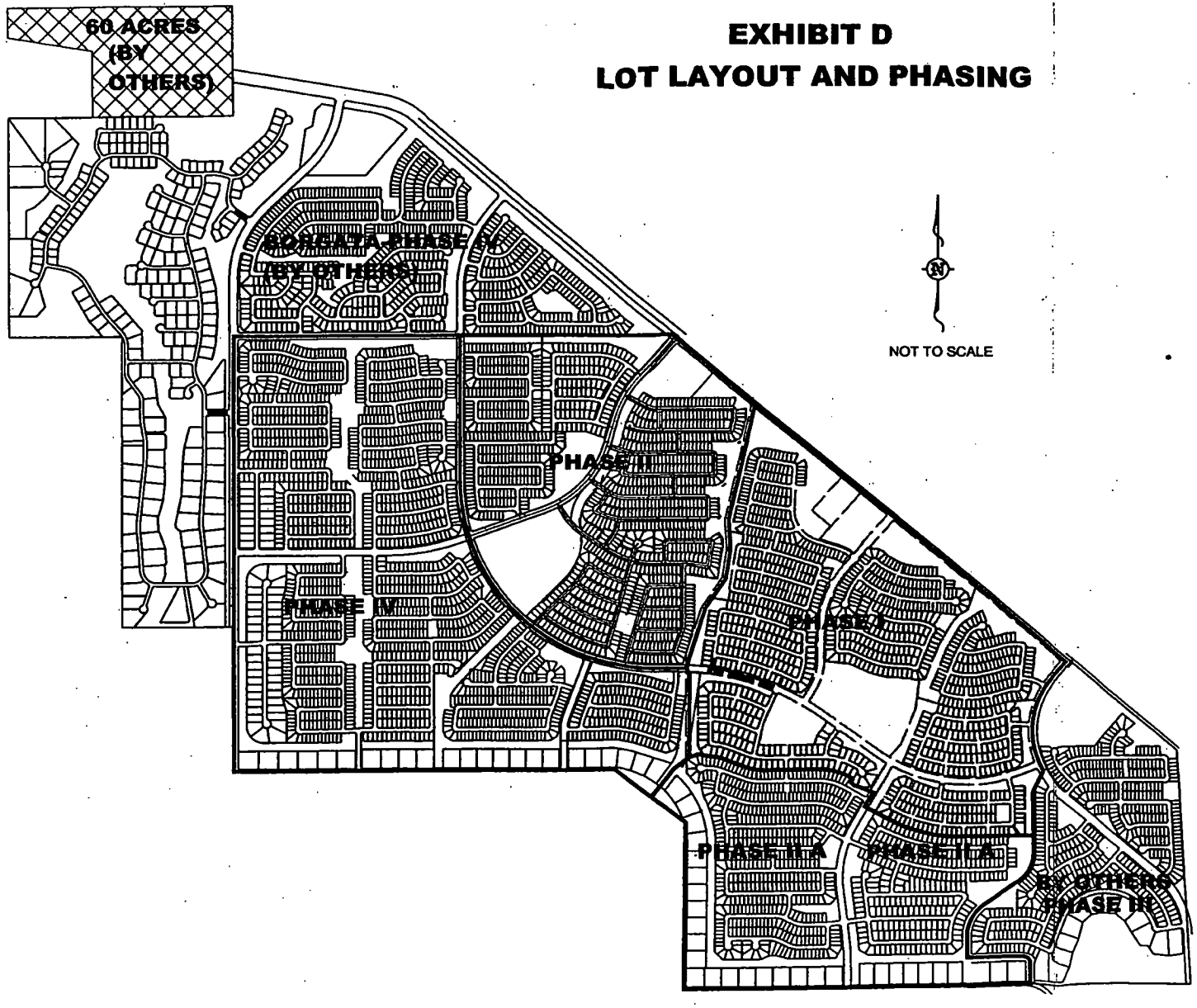


Exhibit D shows current phase lines. Table II.C.1 shows the number of lots per phase that were previously planned for and the new number of lots in this update. Phase II of the PAD is San Tan Heights, Parcels A-K. When the 150 lots from the 60 acres are added, the total number of lots is 6,246.

TABLE II.C.1

NUMBER OF LOTS PER PHASE		
	Number In Pad	Updated Number
I	1,013	1,003
IA	510	-
II	2,185	1,051
IIA	-	731
III	359	446
IV	960	2,626
Circle G	239	239
	5,266	6,096

D. Development Stages

The San Tan Heights PAD is being developed in stages or phases. It was originally anticipated that the Property would be developed in four stages. This is still the developer's intention. The Circle G property, which is not under the control of this developer (Hunt Ventures, LLLP), was designated as Phase V in the original report, but is not assigned a phase in this report since it is unknown when this property will be developed.

The property known as the "Cardon Company Property" in the original Master Wastewater System Plan and Report is now known as "The Borgata", according to the Preliminary Plat. This property was designated as Phase IV in the original report and is so designated in this report.

For the purpose of this report, what was Phase IA has been redesignated as IIA since the IA area will not be developed before Phase II.

The additional 60 acres described in Section IIB above is not assigned a phase since it is unknown when this property will be developed.

Each phase will be developed as separate parcels, with each parcel being platted as a subdivision. The sequence of the development of each parcel may not be in the order of the parcels as they are currently numbered.

As of the date of the preparation of this report, the Phase I subdivisions are platted and the infrastructure to serve these subdivisions is under construction. The preliminary plats for the Phase II subdivisions have been submitted to Pinal County. The preliminary plat for The Borgata has been submitted to Pinal County.

For The Village at San Tan Heights – which was the Phase I project – the developer entered into agreements with Johnson Utilities Company for water and sewer service for 1,013 lots. (The final tally of lots in Phase I is 1,003). Developers of future phases

will enter into separate agreements with Johnson Utilities Company for service to those properties.

Refer to Table II.D.1 for Development Stages.

Finally, the following statement from the original "Master Wastewater System Plan and Report" *(Reference Page 5)* is still valid:

"The objective of providing stages of development is to correlate infrastructure requirements to the development of the PAD. While a sequence of project development is implied, there is nothing in the County approved PAD that prohibits changing the sequence of development, modifying combinations of parcels or combining stages, as long as the related infrastructure is provided and is adequate. As market conditions change, the actual size, location and sequence of the stages may change. In any case, Service Agreements with Johnson Utilities Company will be required for all projects within any of the Stages."

TABLE II.D.1

DEVELOPMENT STAGES

Stage [1]	Property Name & Land Use	Non-Residential Uses (Acres)	Number of Single Family Units
I	**The Village at San Tan Heights**		
	Residential		1,003 [2]
	Commercial	6.14	
	School	20.15	
	Park	7.43	
	Phase I Total	*33.72*	*1,003*
II	**San Tan Heights, Phase II**		
	Residential (II)		1,051
	Commercial	5.0	
	School	19.26	
	Park	8.16	
	Residential (IIA)		731
	Phase II Total	*32.42*	*1,782*
III	**The Village at San Tan Heights, Phase III**		
	Residential		446
	Commercial	15.04	
	Phase III Total	*15.04*	*446*
IV	**The Village at San Tan Heights, Phase IV**		
	Residential		1,722
	Phase IV Total		*1,722*
	The Borgata		
	Residential		904
	Commercial	15.48	
	Phase IV Total	*15.48*	*904*
	Circle G		
	Residential		239
	Circle G Total		239
	TOTAL ALL STAGES	**96.66**	**6,096**

[1] Stages are conjectural and will very likely change as projects within the San Tan Heights PAD move forward with development. The Stages are intended as a planning tool to provide correlation between the development of the project and the requirements for water and sewer infrastructure.
[2] The approved Preliminary Plat of The Village at San Tan Heights has 1013 residential lots. Due to the reconfiguration of the WWTP site in Parcel 7, the total number of residential lots in The Village at San Tan Heights has been reduced by 10 lots, bringing the total to 1003 lots. The 10 lots have been transferred to another Phase of the development.

Note: The 60-acre property (239 lots) is not shown on this table

III. WASTEWATER SYSTEM DESIGN CRITERIA

A. Johnson Utilities Company Standards

To estimate the wastewater flow projections, the original "Master Wastewater System Plan and Report" utilized design criteria required by Johnson Utilities Company, "Standard Specifications for Water & Sewer Construction", and "Johnson Ranch Wastewater System Master Plan", February, 1998. Since the original report was prepared, Johnson Utilities Company published a "Design Guide and Standards Details", July 2002. This Design Guide retained the design criteria and standards utilized in the original report.

While there were no changes to the Johnson Utilities Company Standards, the Arizona Department of Environmental Quality changed the scour velocity to 2.5 feet per second (fps). The previous Wastewater Master Plan utilized 2.25 fps. Because of this change, the minimum design slopes changed for each pipe size.

Following is a summary of the design criteria utilized for this report. It should be noted that the criteria that have been revised from the original report do not apply to Phase I which is under construction.

1. The average wastewater flow generated per single-family residential unit, per Johnson Utilities Company requirements, is 234 gpd, based on 90 gpd/person times 2.6 people per unit. .

2. The average wastewater flows assigned (per Johnson Utilities Company) for the non-residential land uses in San Tan Heights are:

Commercial	1,000 gpd/acre
School	1,000 gpd/acre
Park	1,000 gpd/acre

3. Wastewater lines shall be designed to provide mean velocities, when flowing full, of not less than 2.5 feet per second (fps), or greater than 10.0 fps. The following table indicates the minimum slopes generally considered necessary to maintain a minimum 2.5 fps velocity based upon Manning's formula with an "n" value of 0.013 for all sewers.

Size	Minimum Design Slope (ft./ft.) n=0.013	Maximum Design Slope (ft./ft.) n=0.013
6"	0.00305	
8"	0.0052	0.0834
10"	0.0039	0.0619
12"	0.0030	0.0485
15"	0.0023	0.0361
18"	0.0018	0.0283

4. An infiltration rate of 200 Gallons/Inch Pipe Diameter/Mile/Day is applied to each line segment. This is the rate of infiltration allowed by ADEQ (Engineering Bulletin No. 11 – Page IV-2). It is assumed that the infiltration rate, if any, will not exceed the limit allowed.

B. Additional Design Requirements

In addition to the design criteria used above, the following additional standards will be utilized in designing and constructing the wastewater system for San Tan Heights. These standards are based on criteria from Johnson Utilities Company as mentioned above and Arizona Department of Environmental Quality, Aquifer Protection Permit Rules, effective January I, 2001, as set forth in Title 18, Environmental Quality, Chapter 9, Department of Environmental Quality Water Pollution Control, Article 3. Aquifer Protection Permits - General Permits, Part E. Type 4 General Permits, 4.01 General Permit: Sewage Collection Systems (R-18-9-E301).

1. The Peaking Factors used to calculate Peak Flow Rates for the residential subdivisions within San Tan Heights internal wastewater system were based on Johnson Utilities Company Design Guide and Standard Details, Table 1, Page 4 of 59. The peaking factor used for commercial and school areas is 3.0.

2. All wastewater collector lines shall be a minimum of 8-inch diameter or larger except the first 400 feet of a dead end sewer line with no potential for extension may be 6 inches in diameter.

3. Manholes shall be installed at all graded changes, all size changes, all alignment changes, all sewer intersections (except with service connections) and at any location necessary to comply with following spacing requirements:

Pipe Size	Maximum Spacing
8" -15"	500'
18" -30"	600'

Cleanouts may be used in place of manholes at the end of laterals less than 300 feet in length.

4. The type of pipe material used shall have established ASTM, ANSI or NSF standards of manufacture or seals of approval and shall be designated for use

as sewer pipe. The following type of pipe material is acceptable. Alternative pipe material shall be allowed subject to approval by Johnson Utilities.

a) Sizes less than or equal to 15 inches - Polyvinyl chloride (PVC) SDR 35
b) Sizes larger than 15 inches – Extra Strength Vitrified Clay Pipe (VCP)

5. Wastewater lines will be located generally 5' north or east of the roadway centerline.

6. Easement widths provided for wastewater lines shall be a minimum of twelve (12) feet.

7. The minimum horizontal separation from a wastewater line to another underground utility shall be six (6) feet. Exceptions must be approved by Johnson Utilities Company and ADEQ.

8. The minimum vertical separation of a wastewater line crossing under a water line shall be two (2) feet. When a wastewater line crosses under a water line with less than the two (2) feet separation, the wastewater line shall be constructed of ductile iron pipe with mechanical joints, or other approved pipe, for at least ten (10) feet in both directions from the crossing, or the wastewater line shall be encased in concrete of 6-inch minimum thickness for the same distance. When a water line must cross under a wastewater line, a vertical separation of at least two (2) feet between the bottom of the wastewater line and the top of the water line shall be maintained with support provided for the wastewater line to prevent settling. The wastewater line shall be constructed of ductile iron pipe with mechanical joints, or other approved pipe, for at least ten (10) feet in both directions from the crossing, or the wastewater line shall be encased in concrete of 6-inch minimum thickness for the same distance.

9. All collector trunk and interceptor lines shall have a sufficient depth to serve the ultimate drainage area with a minimum cover of six (6) feet measured from finished grade to the top of the pipe. An exception to the minimum depth of six (6) feet shall be made in localized areas when a shallower depth of cover will allow an area to be serviced by gravity feed in lieu of a lift station.

10. Special construction will be required for all manhole and wastewater lines under wash crossings to eliminate uncovering of pipe. See ADEQ Title 18, Chapter 9, Section E-301D, Item 2.C (page 8 of 59 Johnson Utilities).

11. On wastewater lines 6 to 12 inches, manholes shall be four (4) foot diameter with standard 24-inch frame and cover. On lines 15 inch and larger, manholes shall be five (5) foot diameter with a standard 30-inch frame and cover. Five (5) foot diameter manholes shall be provided on all wastewater lines, regardless of size, where the depth of the line from the finished grade to the pipe invert is greater than twelve (12) feet.

12. All developments within San Tan Heights will be required to connect to the wastewater system. No on-site disposal systems will be allowed.

13. All wastewater lift stations shall follow the design requirements of R 18-9 E301, 4.01 General Permit: Sewage Collection Systems, D. Design Requirements, 5, Lift Stations and as required by Johnson Utilities Company.

14. The design of force mains shall follow the requirements of R 18-9-E301. 4.01 General Permit: Sewage Collection Systems, D. Design Requirements, 4. Force Mains and as required by Johnson Utilities Company.

IV. PROPOSED WASTEWATER COLLECTION SYSTEM

A. Wastewater Flow Calculations

Estimates of anticipated wastewater flows generated within the San Tan Heights PAD and the adjacent 60-acre tract have been made. Sewage flow rates were calculated based on the number of lots shown in Table II.C.1 and the application of the appropriate design criteria described in Sections IIIA and IIIB of this report.

Appendix A-1 provides details of the applicable design criteria and the flow calculations, and indicates Average Daily Flows (ADF) and Peak Flow rates computed for selected nodes on the Trunk Lines, Interceptor Lines and Force Main for the overall project.

Appendix B provides details of the applicable design criteria and flow calculations and indicates Average Daily Flow (ADF) and Peak Flow rates computed for trunk lines within the Phase II subdivisions.

B. Pipe Sizing

The pipe sizes were developed utilizing the previously outlined design criteria. Pipes in Phases II-IV are designed to convey the peak flow with velocities a minimum of 2.5 fps when flowing full. The capacities of pipes of various diameters at minimum slope are shown in Table IV.B.1.

Notes within Appendices A and B indicate when pipes larger than 8-inch diameter need to be designed if the minimum slope is utilized.

TABLE IV.B.1

PIPE CAPACITIES FOR CONVEYING WASTEWATER		
Pipe Diameter	**Slope (ft./.ft)**	**Capacity (MGD)**
8"	.0052	0.5630
10"	.0037	0.8610
12"	.0030	1.2607
15"	.0022	1.9575
18"	.0017	2.7982

Exhibit E, Master Wastewater System Plan, identifies the conceptual locations of the overall wastewater network. The actual pipe sizes identified may deviate from the sizes shown due to changes in the actual design slope of the pipe and due to revisions

to the wastewater flow rates. However, the minimum design criteria established herein will be followed.

The force main and lift station pump calculations from the original "Master Wastewater Plan and Report" can be found in Appendix A-2, San Tan Heights Force Main and Lift Station Calculations. These calculations have not been updated. The original report indicates an estimated peak flow of 73,476 gallons per day (gpd) flowing to Lift Station No. 1 and an estimated 533,254 gpd flowing to Lift Station No. 2. These values compare to 60,522 gpd and 624,464 gpd, respectively, in the calculations in this report. When the lift stations are designed in the future phases, the flow calculations should be checked again and the lift stations and force mains should be designed based on those calculations.

C. Overall Collection System

The following text is excerpted from the original "Master Wastewater Plan and Report" (pages 15-16) and is not revised because the information is still valid.

"Based on the natural topography, the majority of the Property can be served by gravity sewer lines. Gravity lines cannot serve areas that are downstream of the proposed treatment facility. These areas will need to be served by wastewater pumping ("lift") stations that will pump the wastewater to one of the proposed gravity wastewater interceptors in Hunt Highway.

Per the On-site Line Extension Agreement between Galeb Miller Development, LLC and Johnson Utilities Company, it is intended as the internal wastewater collection system is constructed and approved that the system will be conveyed to Johnson Utilities Company for ownership, operation and maintenance. This report assumes that the Line Extension Agreements between Johnson Utilities Company and the other Property Developers in the San Tan Heights PAD will have similar provisions. Therefore, it is intended that the ADEQ Provisional Verification of General Permit (4.01) Conformance for Sewage Collection System will be issued to the various developers and upon construction completion and receipt of the Verification of General Permit Conformance by ADEQ, the General Permit (4.01) will be transferred to Johnson Utilities Company.

The proposed San Tan Heights wastewater collection system includes the following appurtenances.

1. Two wastewater interceptor lines are proposed, which will receive flow from trunk wastewater lines and will convey the flow to the proposed San Tan Heights wastewater treatment facility located onsite. The Interceptors, Lines H and S, will convey flow from their respective service areas, as shown on Exhibit E, Master Wastewater System Plan. These two main interceptor lines will be located in Hunt Highway.

2. In addition, various wastewater trunk lines will receive flow from collector lines and will convey the flow to one of the two-wastewater interceptor lines. These trunk lines, Lines A, B, C, E, F, G, J through N, P, Q, and R, are shown on Exhibit E, Master Wastewater System Plan." *(Note: In this Master Plan Line G has been further broken down into lines G and G1; Line F into F and F1; Line E into E, E1 and E2)*

"3. Wastewater pumping ("lift") stations and force mains are provided where required to service areas where gravity conveyance of wastewater flows is not feasible due to topographical constraints. Two (2) pumping station / force main facilities are currently

planned for the San Tan Heights project. These facilities serve the 504-acre Cardon Company Property, (a/k/a "The Borgata") the adjacent 60-acre site at Hunt Highway and Valleyview Rd. and approximately 250 acres of the San Tan Heights 3B and 4 tracts. The conceptual locations of the two (2) planned pumping stations and associated force mains, Lines A2 and D, are identified on Exhibit E, Master Wastewater System Plan. *(Note: In this Master Plan Line A2 is also Line A)*

4. The numerous collector lines, which will collect wastewater flow from house service lines, are not included in this Master Wastewater System Plan. All collector lines will be a minimum of eight (8) inches in diameter."

D. Phasing of the Development

The properties within the San Tan Heights PAD are shown on Exhibit C, Revised Land Use Plan. The lot layouts and proposed phasing is not current in Exhibit C, but is current on Exhibit D, Lot Layout and Phasing.

1. Phase I: The Village at San Tan Heights, Phase I, is the first stage to be constructed. Various collector lines have been/are being constructed to convey wastewater flows form house service lines to trunk lines. These Trunk Lines, J through R, convey sewage flow to the Interceptor Line S in Hunt Highway that conveys the flow by gravity to the future San Tan Heights Wastewater Treatment Plant.

2. Phase II: San Tan Heights, Parcels A-K will be the second stage of construction. Various collector lines are being designed to convey wastewater flows from house service lines to trunk lines. These Trunk Lines E, E1, E2, F, F1, G and G1 convey sewage flow to the Interceptor Line H in Hunt Highway which conveys the flow by gravity to the future San Tan Heights Wastewater Treatment Plant.

   The phasing of the properties in Phases III and IV will be the subject of a future Wastewater Master Plan Update.

V. PROPOSED TREATMENT OF WASTEWATER

The following text (in quotes) is excerpted from the original "Master Wastewater Plan and Report" (page 17) and is not revised because the information is still valid.

"A. PERMANENT WASTEWATER TREATMENT

No wastewater treatment facility exists in close proximity to the project. Therefore, the Property will ultimately be served by an on-site San Tan Heights Wastewater Treatment Facility that will be permitted, constructed, owned and operated by Johnson Utilities Company, the service provider. Exhibit E., Master Wastewater System Plan identifies the site location of the San Tan Heights Wastewater Treatment Facility. Per the Wastewater Service Agreement, the treatment facility shall comply with the Arizona Department of Environmental Quality. Aquifer Protection Permit Rules, effective January 1, 2001.

The proposed San Tan Heights Wastewater Treatment Facility will be constructed in stages in accordance with the growth of the project. As discussed previously in Section II. D. Development Stages, the project is anticipated at this time to be developed in four (4) stages."

Table V.A.1 is an updated version of Table V.A.1 presented in the original "Master Wastewater System Plan" and Table V.A.1 identifies the estimated wastewater treatment requirements, using Johnson Utilities Company Criteria, for each stage of development. The first two stages of the wastewater treatment facility is anticipated to be a combined 500,000 gpd plant. A 500,000 gpd plant is currently under construction and expected to be on-line in late summer 2003. At full build-out of the Property, it is anticipated that the plant will treat 1.56 MGD.

"As market conditions change, the actual size, location and sequence of the stages of development may change. Therefore, the wastewater flow requirements provided in Table V.A.1 should only be used as a tool to assist in the scheduling of the expansions to the wastewater treatment facility that will be constructed and operated by Johnson Utilities Company. As the Property develops beyond *(Phase III),* it is envisioned that this Report will be updated to reflect the actual sequence of development and provide revised wastewater flow calculations for determining future expansions to the wastewater treatment plant.

B. THE VILLAGE AT SAN TAN HEIGHTS WASTEWATER TREATMENT

The service provider, Johnson Utilities Company, has proposed through the Utility Service Agreement to provide wastewater service for approximately 1003 residential lots within The Village at San Tan Heights development. (Note, the approved Preliminary Plat of The Village at San Tan Heights has 1013 residential lots. Due to the reconfiguration of the WWTP site, the total number of residential lots in The Village at San Tan Heights has been reduced by 10 lots, bringing the total to 1003 lots.) It is anticipated that this wastewater service connection will be utilized during the time that the permanent San Tan Heights Wastewater Treatment Plant is being permitted and constructed."

The first phase of the permanent San Tan Heights Wastewater Treatment Plant is currently under construction with a capacity of 500,000 gallons per day. Once this plant is on-line in late summer 2003, the temporary service provided by Johnston Utilities Company will be disconnected.

"C. EFFLUENT DISPOSAL

The wastewater service provider, Johnson Utilities Company, is responsible for the disposal of all effluent and sludge generated by the San Tan Heights Wastewater Treatment Plant. Please refer to the Johnson Utilities Company plans and report for the wastewater treatment facilities."

Table V.A.1
San Tan Heights – Estimated Wastewater Requirements for Staged Wastewater Treatment Plant

	Number of Units or Acres	Estimated Average Daily Flow [1] gal./unit/day gal/acre/day	WWTP Stage A A.D.F. (gal/day)	WWTP Stage B A.D.F. (gal/day)	WWTP Stage C A.D.F. (gal/day)	WWTP Stage D A.D.F. (gal/day)	WWTP Total All Flows (gal/day)
Phase I							
Residential (Units)	1,003	234	234,702				
Commercial (acres)	6.14	1,000	6,140				
School (acres)	20.15	1,000	20,150				
Park (acres)	7.43	1,000	7,430				
Subtotal			268,422				
Phase II							
Residential (units)	1,051	234		245,934			
Commercial (acres)	5.0	1,000			5,000		
School (acres)	19.26	1,000			19,260		
Park (acres)	8.16	1,000			8,160		
Subtotal				245,934	32,420		
Phase IIA & III							
Residential	1,177	234			275,418		
Commercial	15.04	1,000			15,040		
Subtotal					290,458		
Phase IV							
Residential	1,722	234				402,948	
Subtotal						402,948	
Circle G							
Residential	239	234				55,926	
Subtotal						55,926	
Borgata							
Residential	904	234			211,526		
Commercial	15.48	1000			15,480		
Subtotal					227,016		
60 Acres							
Residential	150	234				35,100	
Subtotal						35,100	
Total Estimated Per Stage			268,422	245,934	549,894	493,974	1,558,224
Design Flow Per Stage			250,000	250,000	530,000	530,000	1,560,000

VI. CONCLUSIONS

A. Master Wastewater System Plan

This study has updated the "Master Wastewater System Plan and Report" for the San Tan Heights PAD and for the adjacent 60-acre tract illustrated in Exhibit E, Master Wastewater System Plan. The wastewater collection system will convey wastewater generated by San Tan Heights and the adjacent 60-acre tract to an onsite San Tan Heights Wastewater Treatment Plant that will be designed, permitted, constructed, owned and operated by Johnson Utilities Company.

This update has confirmed the following:

1. The majority of the San Tan Heights PAD service area can be served by a gravity collection system. Parcels downstream of the proposed permanent treatment facility will be served by two wastewater lift stations, which will pump the wastewater to one of the proposed gravity wastewater interceptors. The proposed wastewater collection system will be conveyed, upon construction and acceptance, to Johnson Utilities Company for ownership, operation and maintenance.

2. The actual sizes and locations of the wastewater collection system in future phases beyond Phase II may vary upon final determination of subdivision layouts, pipe slopes and wastewater flows generated by San Tan Heights. Additionally, the stages of development may change as market conditions change and the property develops.

3. The size of the ultimate San Tan Heights Wastewater Treatment Plant has grown from 1.4 mgd in the original report to 1.56 mgd.

4. The required sizes of the sewage interceptors are unchanged from the original report.

5. The required sizes of the trunk lines are unchanged from the original report, except for: Line G from Node G6 to G1 should be 10-inch diameter pipes if minimum slope is used in design. Line F from Node F6 to F3 should be 10-inch diameter pipes and from Node F3 to F1 should be 12-inch diameter pipes if minimum slope is utilized in design.

6. The lift station and force main design calculations should be reconfirmed by the lift station/force main designer.

B. San Tan Heights, Parcels A-K

This report has presented detailed calculations in Appendix B for San Tan Heights, Parcels A-K. The trunk lines which serve these parcels are illustrated in Exhibit E, Master Wastewater System Plan. The sewage collection system for these parcels includes:

1. Residential laterals and trunk mains which will convey wastewater generated within these subdivisions to sewage Interceptor "H" along Hunt Highway which will convey the wastewater to the San Tan Heights Wastewater Treatment Plant. This plant will be designed, permitted, constructed, owned and operated by Johnson Utilities Company. The proposed wastewater collection system will be conveyed, upon construction and acceptance, to Johnson Utilities Company for ownership, operation and maintenance.

2. Sewage Trunk lines within these subdivisions are sized to be 8-inch lines, except, G-7 to G-1 (MH #7) are to be 10-inch diameter lines, F-6 to F-3 are to be 10-inch diameter lines, and F-3 to F-1 (MH #32) are to be 12-inch diameter lines (when a minimum design slope is utilized).

VII. REFERENCES

1. "Master Wastewater System Plan and Report for San Tan Heights and Wastewater System Report For The Village At San Tan Heights", by CMX Group, Inc., June 28, 2001.

2. Standard Specifications for Water & Sewer Construction, Johnson Utility Company.

3. Johnson Ranch Wastewater System Master Plan, February, 1998.

4. Title 18. Environmental Quality, Chapter 9. Department of Environmental Quality Water Pollution Control, Article 3. Aquifer Protection Permits - General Permits, Part E. Type 4 General Permits, 4.01 General Permit: –, Sewage Collection Systems, Arizona Department of Environmental Quality, Aquifer Protection Permit Rules, Effective January 1, 2001.

5. CAAG 208 Water Quality Plan Amendment for Johnson Utilities Company, LLC Precision Golf Course WWTP, June 2000.

6. "Design Guide and Standard Details", Johnson Utilities Company, July 2002.

APPENDIX A

APPENDIX A-1

SAN TAN HEIGHTS WASTEWATER FLOWS BY LINE SEGMENT

APPENDIX A-1
San Tan Heights PAD
Wastewater Flows by Line Segment-Interceptor Line S

Sewer Line Designation	Node # (**)	Wastewater Lines		RESIDENTIAL				Sub-Total	C/S/P			Sub-Total	INFILTRATION		TOTAL	Sewer Line
		From Manhole	To Manhole	Dwelling Unit	Cumulative ADF	Equivalent Population	Peaking Factor	Residential Peak Flow	Acreage	Cumulative ADF	Peaking Factor	C/S/P Peak Flow	Pipe Length	Cumulative Infiltration	PEAK FLOW	Size Required (inches)
S		MH# 36	MH# 35	393	91,962	1,022	2.37	217,950	0.000	0	3.00	0	18,500	5,608	223,558	8
S		MH# 35	MH# 34	53	104,364	1,160	2.33	243,168	0.000	0	3.00	0	18,500	11,212	254,380	8
S		MH# 34	MH# 33	0	104,364	1,160	2.33	243,168	15.040	15,040	3.00	45,120	500	11,364	299,652	8
S	140	MH# 33	MH# 13	0	104,364	1,160	2.33	243,168	0.000	15,040	3.00	45,120	500	11,515	299,803	8
S		MH# 13	MH# 12	0	104,364	1,160	2.33	243,168	0.000	15,040	3.00	45,120	335	11,617	299,905	8
S	141	MH# 12	MH# 11	298	174,096	1,934	2.20	383,011	0.000	15,040	3.00	45,120	13,228	15,625	443,756	8
S	142	MH# 11	MH# 10	823	366,678	4,074	2.02	740,690	7.430	22,470	3.00	67,410	33,510	25,780	833,879	10
S		MH# 10	MH# 9	0	366,678	4,074	2.02	740,690	0.000	22,470	3.00	67,410	249	25,855	833,955	10
S	143	MH# 9	MH# 8	162	404,586	4,495	2.00	809,172	0.000	22,470	3.00	67,410	6,090	27,701	904,283	12
S		MH# 8	MH# 1	0	404,586	4,495	2.00	809,172	0.000	22,470	3.00	67,410	453	27,838	904,420	12
S	144	MH# 1	MH# 2	349	486,252	5,403	1.96	953,054	20.150	42,620	3.00	127,860	15,380	32,498	1,113,412	12
S	145	MH# 2	MH# 3	0	486,252	5,403	1.96	953,054	6.140	48,760	3.00	146,280	180	32,553	1,131,887	12
				2,078	486,252	5,403	1.96	953,054	48.760	48,760	3.00	146,280	107,425	32,553	1,131,887	

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 80 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [redacted] Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration
10) The node designations on this page are in accordance with the original "Master Wastewater System Plan and Report".
11) The Manhole numbers on this page are in accordance with the Improvement Plans for the Sewer Lines.

APPENDIX A-1
San Tan Heights PAD
Wastewater Flows by Line Segment-Lines A and C

Sewer Line Designation	Node # (**)	Wastewater Lines		RESIDENTIAL				Sub-Total	C/S/P.			Sub-Total	INFILTRATION		TOTAL	Sewer Line
		From Manhole	To Manhole	Dwelling Unit	Cumulative ADF	Equivalent Population	Peaking Factor	Residential Peak Flow	Acreage	Cumulative ADF	Peaking Factor	C/S/P Peak Flow	Pipe Length	Cumulative Infiltration	PEAK FLOW	Size Required (inches)
A	1	MH# 50	MH# 51	79	18,486	205	3.13	57,861	0.000	0	3.00	0	8,340	2,627	60,388	8
A	2 (L1)	MH# 51	MH# 52	0	18,486	205	3.13	57,861	0.000	0	3.00	0	440	2,661	60,522	
				79	18,486	205	3.13	57,861	0.000	0	3.00	0	8,780	2,661	60,522	
A	2 (L1)	MH# 51	MH# 52	79	18,486	205	3.13	57,861	0.000	0	3.00	0	8,780	2,661	60,522	
A	3	MH# 49	MH# 48	150	53,586	595	2.56	137,180	0.000	0	3.00	0	500	2,812	139,992	8
A		MH# 48	MH# 47	0	53,586	595	2.56	137,180	0.000	0	3.00	0	500	2,964	140,144	8
A	4	MH# 47	MH# 46	145	87,516	972	2.39	209,163	3.250	3,250	3.00	9,750	15,186	7,565	226,479	8
				374	87,516	972	2.39	209,163	3.250	3,250	3.00	9,750	24,988	7,565	226,479	
C	10	MH# 39	MH# 40	199	46,566	517	2.63	122,469	0.000	0	3.00	0	7,446	2,256	124,725	8
C		MH# 40	MH# 41	0	46,566	517	2.63	122,469	0.000	0	3.00	0	360	2,365	124,834	8
C		MH# 41	MH# 42	0	46,566	517	2.63	122,469	0.000	0	3.00	0	360	2,475	124,943	8
C	11	MH# 42	MH# 43	481	159,120	1,768	2.22	353,246	0.000	0	3.00	0	17,858	7,886	361,132	8
C		MH# 43	MH# 44	0	159,120	1,768	2.22	353,121	0.000	0	3.00	0	250	7,962	361,083	8
C		MH# 44	MH# 45	0	159,120	1,768	2.22	353,121	0.000	0	3.00	0	350	8,068	361,189	8
B & C	5,12	MH# 45	MH# 46	0	159,120	1,768	2.22	353,121	12.230	12,230	3.00	36,690	350	8,174	397,985	8
				680	159,120	1,768	2.22	353,121	12.230	12,230	3.00	36,690	26,974	8,174	397,985	

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [redacted] indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration
10) The node designations on this page are in accordance with the original "Master Wastewater System Plan and Report".
11) The Manhole numbers on this page are in accordance with the Improvement Plans for the Sewer Lines.

APPENDIX A-1
San Tan Heights PAD
Wastewater Flows by Line Segment-Line D and Interceptor Line H

Sewer Line Designation	Node # (**)	Wastewater Lines		RESIDENTIAL				Sub-Total	C/S/P			Sub-Total	INFILTRATION		TOTAL	Sewer Line
		From Manhole	To Manhole	Dwelling Unit	Cumulative ADF	Equivalent Population	Peaking Factor	Residential Peak Flow	Acreage	Cumulative ADF	Peaking Factor	C/S/P Peak Flow	Pipe Length	Cumulative Infiltration	PEAK FLOW	Size Required (inches)
A	4	MH# 47	MH# 46	874	87,518	872	2.38	208,163	3.250	3,250	3.00	9,750	24,966	7,685	226,479	8
B & C	5,12	MH# 45	MH# 46	680	159,120	1,768	2.20	353,121	12.230	12,230	3.00	36,690	26,874	8,174	397,985	8
D (FM)	37															
				1,054	246,638	2,740	2.11	562,285	15.480	15,480	3.00	46,440	51,940	15,739	624,464	
D (FM)	37			1,054	246,638	2,740	2.11	562,285	15.480	15,480	3.00	46,440	51,940	15,739	624,464	
F	37	F 2	MH# 32	1,624	428,816	4,742	1.99	849,311	27.420	27,420	3.00	82,260	72,970	22,112	953,683	12
H	37	MH# 32	MH# 31	0	673,452	7,483	1.90	1,279,759	0.000	42,900	3.00	128,700	287	37,938	1,446,397	15
H		MH# 31	MH# 30	0	673,452	7,483	1.90	1,279,759	5.000	47,900	3.00	143,700	500	38,090	1,461,549	15
H		MH# 30	MH# 7	0	673,452	7,483	1.90	1,279,759	0.000	47,900	3.00	143,700	500	38,241	1,461,700	15
G		G 2	MH# 7	1,186	277,992	3,089	2.06	572,940	0.000	0	3.00	0	15,609	4,821	582,920	10
H	45	MH# 7	MH# 6	0	951,444	10,572	1.84	1,749,169	0.000	47,900	3.00	143,700	500	52,214	1,945,083	15
H		MH# 6	MH# 5	0	951,444	10,572	1.84	1,749,169	0.000	47,900	3.00	143,700	318	52,310	1,945,179	15
H	46	MH# 5	MH# 4	102	975,312	10,837	1.84	1,794,574	0.000	47,900	3.00	143,700	4,113	53,557	1,991,831	18
H	146	MH# 4	MH# 3	0	975,312	10,837	1.84	1,794,574	0.000	47,900	3.00	143,700	296	53,646	1,991,920	18
				4,168	975,312	10,837	1.84	1,794,574	47.900	47,900	3.00	143,700	177,032	53,646	1,991,920	18

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [ ] Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration
10) The node designations on this page are in accordance with the original "Master Wastewater System Plan and Report".
11) The Manhole numbers on this page are in accordance with the Improvement Plans for the Sewer Lines.

APPENDIX A-1
San Tan Heights PAD
Wastewater Flows to Treatment Plant
Combined Interceptors H and S

Sewer Line Designation	From Node	To Node	Sub Area	ADF	Equivalent Population	Peaking Factor	Cumulative ADF	C/S/P Cumulative ADF	Cumulative Infiltration	TOTAL PEAK FLOW
H	46	146	West	975,312	10,837	———	———	47,900	53,646	———
S	145	148	East	486,252	5,403	———	———	48,760	32,553	———
				1,461,564	16,240	1.79	2,616,200	96,660	86,199	2,799,059

APPENDIX A-2

SAN TAN HEIGHTS FORCE MAIN AND PUMP CALCULATIONS

Scenario: Base

Force Main A2 (6"ϕ)

w/ 0.50 hp pump for Lift station

Scenario Summary Report
Scenario: Base

Scenario Summary	
Physical Properties Alternative	Base-Physical Properties
Dry Weather Loading Alternative	Base-Dry Weather Loading
Infiltration and Inflow Loading Alter	Base-Infiltration and Inflow Loading
Known Flow Loading Alternative	Base-Known Flow
Structure Headlosses Alternative	Base-Structure Headlosses
Boundary Conditions Alternative	Base-Boundary Conditions
Design Constraints Alternative	Base-Design Constraints
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

General Calculation Options			
Calculation Type	Analysis	Extreme Flow Setup	Base Flow Setup

Gravity Calculation Options	
Analysis Type	Capacity Analysis
Average Velocity Method	Simple Average Velocity (Vu/2 + Vd/2)
Hydraulic Grade Convergence Tes	1.0e-3 ft
Number of Flow Profile Steps	5

Description|Desc.	
Trials	40
Accuracy	0.001000
Use Controls In Steady State Analy	true

Description|Desc.	
Wet Well Increment	0.50 ft
Use Pumped Loads	false

Created: 06/05/01 08:56:52 AM

Scenario: Base

Steady State Hydraulic Summary

Iteration Summary
Balanced Trials = 12, Accuracy = 0.000003
Trial 1 : 197.442001 accuracy
Trial 2 : 0.498605 accuracy
Trial 3 : 0.497204 accuracy
Trial 4 : 0.494400 accuracy
Trial 5 : 0.488746 accuracy
Trial 6 : 0.477133 accuracy
Trial 7 : 0.452017 accuracy
Trial 8 : 0.392391 accuracy
Trial 9 : 0.252666 accuracy
Trial 10 : 0.065847 accuracy
Trial 11 : 0.002567 accuracy
Trial 12 : 0.000003 accuracy

Flow Summary
Flow Supplied 0.00 gpm
Flow Demanded 0.00 gpm
Flow Stored 0.00 gpm

Message Summaries

(no messages)

Gravity subnetwork discharging at: O-1

>>>> Info: Loading and hydraulic computations completed successfully.

Completed: 06/05/2001 02:08:07 PM

Scenario: Base

Pump Report

Label	Ground Elevation (ft)	Intake Pump Pressure (psi)	Discharge Pump Pressure (psi)	Pump Head (ft)	Initial Relative Speed Factor	Initial Status	To Pipe	Pump Type	Pump Power (Hp)	Shutoff Head (ft)	Shutoff Discharge (gpm)	Design Head (ft)	Design Discharge (gpm)	Maximum Operating Discharge (gpm)	Maximum Operating Head (ft)
PMP-1	466.00	3.24	9.67	14.88	1.00		FM-2	Constant Pow	0.50						

Scenario: Base

Pressure Node Report

Label	X (ft)	Y (ft)	Ground Elevation (ft)	Calculated Load (gpm)	Pressure (psi)	Description
WW-1	,924.80	,981.92	,468.75	-132.91	2.49	
PMP-1	,946.88	,982.56	,466.00			

Scenario: Base

Pressure Pipe Report

Label	Upstream Node	Downstream Node	Length (ft)	User Defined Length?	Diameter (in)	Material	Minor Loss Coefficient	Check Valve?	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Velocity (ft/s)	Pressure Flow (gpm)	Pressure Pipe Headloss (ft)
FM-1	WW-1	PMP-1	10.00	true	6.0	Ductile Iron	0.00	false	,468.75	1,466.00	1.51	132.91	0.02
FM-2	PMP-1	O-1	,446.00	true	6.0	Ductile Iron	0.00	false	,466.00	1,483.50	1.51	132.91	4.36

Scenario: Base

Wet Well Report

Label	Ground Elevation (ft)	Base Elevation (ft)	Maximum Elevation (ft)	Minimum Elevation (ft)	Wet Well Diameter (ft)	Average Area (ft^2)	Forcemain Discharge (gpm)	Unit Dry Weather Load	Loading Unit Count	Load Description	Total Base Load (gpd)
WW-1	,468.75	,468.75	,500.00	,468.75	10.00	78.5	132.91	<None>	N/A	Simple	0.00

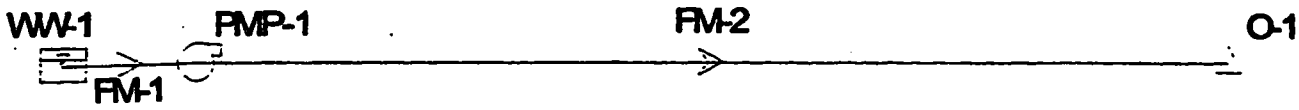
Scenario: Base

Wet Well Report

Inflow (gpd)	Known Flow (gpd)	Service Area (mile²)	Population (capita)	Adjusted Population (capita)	Description
73,440.00	73,440.00	0.00	0	0	

Scenario: Base

Force Main D (6"ϕ)
w/ 8.0 hp. pump for lift station



Scenario Summary Report
Scenario: Base

Scenario Summary	
Physical Properties Alternative	Base-Physical Properties
Dry Weather Loading Alternative	Base-Dry Weather Loading
Infiltration and Inflow Loading Alter	Base-Infiltration and Inflow Loading
Known Flow Loading Alternative	Base-Known Flow
Structure Headlosses Alternative	Base-Structure Headlosses
Boundary Conditions Alternative	Base-Boundary Conditions
Design Constraints Alternative	Base-Design Constraints
Initial Settings Alternative	Base-Initial Settings
Operational Alternative	Base-Operational
Cost Alternative	Base-Cost
User Data Alternative	Base-User Data

General Calculation Options			
Calculation Type	Analysis	Extreme Flow Setup	Base Flow Setup

Gravity Calculation Options	
Analysis Type	Capacity Analysis
Average Velocity Method	Simple Average Velocity (Vu/2 + Vd/2)
Hydraulic Grade Convergence Tes	1.0e-3 ft
Number of Flow Profile Steps	5

Description|Desc.	
Trials	40
Accuracy	0.001000
Use Controls In Steady State Analy	true

Description|Desc.	
Wet Well Increment	0.50 ft
Use Pumped Loads	false

Created: 06/05/01 08:56:52 AM

Scenario: Base

Steady State Hydraulic Summary

Iteration Summary
Balanced Trials = 4, Accuracy = 0.000002
Trial 1 : 0.575591 accuracy
Trial 2 : 0.310036 accuracy
Trial 3 : 0.002767 accuracy
Trial 4 : 0.000002 accuracy

Flow Summary
Flow Supplied 0.00 gpm
Flow Demanded 0.00 gpm
Flow Stored 0.00 gpm

Message Summaries

(no messages)

Gravity subnetwork discharging at: O-1

>>>> Info: Loading and hydraulic computations completed successfully.

Completed: 06/05/2001 02:02:40 PM

Scenario: Base

Wet Well Report

Label	Ground Elevation (ft)	Base Elevation (ft)	Maximum Elevation (ft)	Minimum Elevation (ft)	Wet Well Diameter (ft)	Average Area (ft^2)	Forcemain Discharge (gpm)	Unit Dry Weather Load	Loading Unit Count	Load Description	Total Base Load (gpd)
WW-1	,474.00	,468.75	,500.00	,468.75	10.00	78.5	375.80	<None>	N/A	Simple	0.00

Scenario: Base

Wet Well Report

Inflow (gpd)	Known Flow (gpd)	Service Area (mile²)	Population (capita)	Adjusted Population (capita)	Description
0.00	73,440.00	0.00	0	0	

Scenario: Base

Pressure Node Report

Label	X (ft)	Y (ft)	Ground Elevation (ft)	Calculated Load (gpm)	Pressure (psi)	Description
WW-1	,924.80	,981.92	,474.00	-375.80	0.43	
PMP-1	,946.88	,982.56	,471.90			

Scenario: Base

Pressure Pipe Report

Label	Upstream Node	Downstream Node	Length (ft)	User Defined Length?	Diameter (in)	Material	Minor Loss Coefficient	Check Valve?	Upstream Invert Elevation (ft)	Downstream Invert Elevation (ft)	Velocity (ft/s)	Pressure Flow (gpm)	Pressure Pipe Headloss (ft)
FM-1	WW-1	PMP-1	1.00	true	6.0	Ductile Iron	0.00	false	,474.00	1,471.90	4.26	375.80	0.01
FM-2	PMP-1	O-1	,708.00	true	6.0	Ductile Iron	0.00	false	,471.90	1,495.00	4.26	375.80	57.45

Scenario: Base

Pump Report

Label	Ground Elevation (ft)	Intake Pump Pressure (psi)	Discharge Pump Pressure (psi)	Pump Head (ft)	Initial Relative Speed Factor	Initial Status	To Pipe	Pump Type	Pump Power (Hp)	Shutoff Head (ft)	Shutoff Discharge (gpm)	Design Head (ft)	Design Discharge (gpm)	Maximum Operating Discharge (gpm)	Maximum Operating Head (ft)
PMP-1	,471.90	-1.37	35.05	84.22	1.00		FM-2	Constant Pow	8.00						

APPENDIX B

SAN TAN HEIGHTS, PARCELS A-K
WASTEWATER FLOWS BY LINE SEGMENT

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW
G	G- 30	G- 29	11	2,574	29	4.00	10,296	0.000	0	3.00	0	2,740	830	11,126
G	G- 29	G- 28	0	2,574	29	4.00	10,296	0.000	0	3.00	0	134	871	11,167
G	G- 28	G- 27	0	2,574	29	4.00	10,296	0.000	0	3.00	0	357	979	11,275
G	G- 27	G- 26	210	51,714	575	2.58	133,422	0.000	0	3.00	0	7,534	3,262	136,684
G	G- 26	G- 25	0	51,714	575	2.58	133,422	0.000	0	3.00	0	488	3,410	136,832
G	G- 25	G- 24	0	51,714	575	2.58	133,422	0.000	0	3.00	0	476	3,554	136,976
G	G- 24	G- 31	141	84,708	941	2.44	206,688	0.000	0	3.00	0	6,890	5,642	212,330
G	G- 24	G- 23	0	84,708	941	2.44	206,688	0.000	0	3.00	0	190	5,700	212,387
G	G- 23	G- 22	28	91,260	1,014	2.37	216,597	0.000	0	3.00	0	930	5,982	222,579
G	G- 22	G- 21	8	93,132	1,035	2.37	220,483	0.000	0	3.00	0	320	6,078	226,561
G	G- 21	G- 20	21	98,046	1,089	2.35	230,642	0.000	0	3.00	0	530	6,239	236,881
G	G- 20	G- 19	5	99,216	1,102	2.35	233,053	0.000	0	3.00	0	260	6,318	239,370
G	G- 19	G- 18	23	104,598	1,162	2.33	244,103	0.000	0	3.00	0	690	6,527	250,629
G	G- 18	G- 17	25	110,448	1,227	2.32	256,044	0.000	0	3.00	0	1,060	6,848	262,892
G	G- 17	G- 16	9	112,554	1,251	2.31	260,327	0.000	0	3.00	0	80	6,872	267,199
G	G- 16	G- 15	10	114,894	1,277	2.31	265,075	0.000	0	3.00	0	190	6,930	272,005
G	G- 15	G- 14	6	116,298	1,292	2.30	267,919	0.000	0	3.00	0	250	7,006	274,924
G	G- 14	G- 13	2	116,766	1,297	2.30	268,866	0.000	0	3.00	0	50	7,021	275,887
G	G1	G-13	368	86,112	957	2.40	206,669	0.000	0	3.00	0	13,270	4,021	210,690
G	G- 13	G- 12	0	202,878	2,254	2.16	437,771	0.000	0	3.00	0	270	11,124	448,895
G	G- 12	G- 11	66	218,322	2,426	2.14	467,194	0.000	0	3.00	0	1,940	11,712	478,905
G	G- 11	G- 10	52	230,490	2,561	2.13	490,231	0.000	0	3.00	0	1,290	12,103	502,333
G	G- 10	G- 9	49	241,956	2,688	2.12	511,831	0.000	0	3.00	0	1,300	12,497	524,327
G	G- 9	G- 8	6	243,360	2,704	2.11	514,469	0.000	0	3.00	0	270	12,578	527,047
G	G- 8	G- 7	0	243,360	2,704	2.11	514,469	0.000	0	3.00	0	50	12,594	527,062
G	G- 7	G- 6	43	253,422	2,816	2.10	533,332	0.000	0	3.00	0	1,250	12,972	546,305
G	G- 6	G- 5	51	265,356	2,948	2.09	555,612	0.000	0	3.00	0	1,240	13,348	568,960 *
G	G- 5	G- 4	4	266,292	2,959	2.09	557,356	0.000	0	3.00	0	120	13,385	570,740 *
G	G- 4	G- 3	2	266,760	2,964	2.09	558,227	0.000	0	3.00	0	120	13,421	571,648 *
G	G- 3	G- 2	48	277,992	3,089	2.08	579,099	0.000	0	3.00	0	1,150	13,769	592,869 *
G	G- 2	MH# 7	0	277,992	3,089	2.08	579,099	0.000	0	3.00	0	170	13,821	592,920 *
			1,188	277,992	3,089	2.08	579,099	0	0	3.00	0	45,609	13,821	592,920

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

* Indicates 10-inch diameter sewer line is required at minimum sewer slope.

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW
G1	G1- 13	G1- 12	136	31,824	354	2.82	89,744	0.000	0	3.00	0	5,020	1,521	91,265
G1	G1- 12	G1- 11	52	43,992	489	2.65	116,579	0.000	0	3.00	0	1,940	2,109	118,688
G1	G1- 11	G1- 10	6	45,396	504	2.64	119,845	0.000	0	3.00	0	340	2,212	122,058
G1	G1- 10	G1- 9	2	45,884	510	2.63	120,622	0.000	0	3.00	0	120	2,248	122,871
G1	G1- 9	G1- 8	3	46,566	517	2.63	122,469	0.000	0	3.00	0	150	2,294	124,763
G1	G1- 8	G1- 7	9	48,672	541	2.61	127,034	0.000	0	3.00	0	240	2,367	129,401
G1	G1- 7	G1- 6	6	50,076	556	2.59	129,697	0.000	0	3.00	0	250	2,442	132,139
G1	G1- 6	G1- 5	81	69,030	767	2.47	170,504	0.000	0	3.00	0	2,980	3,345	173,850
G1	G1- 5	G1- 4	45	79,560	884	2.43	193,331	0.000	0	3.00	0	1,130	3,688	197,019
G1	G1- 4	G1- 3	4	80,496	894	2.42	194,800	0.000	0	3.00	0	110	3,721	198,522
G1	G1- 3	G1- 2	4	81,432	905	2.42	197,065	0.000	0	3.00	0	280	3,806	200,872
G1	G1- 2	G1- 1	13	84,474	939	2.40	202,738	0.000	0	3.00	0	280	3,891	206,629
G1	G1- 1	G- 13	7	86,112	957	2.40	206,669	0.000	0	3.00	0	430	4,021	210,690
			368	86,112	957	2.40	206,669	0	0	3.00	0	13,270	4,021	210,690

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [redacted] Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW	
F	F- 31	F- 30	239	55,926	621	2.55	142,611	0.000	0	3.00	0	165	50	142,661	
F	F- 30	F- 29	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	202	142,813	
F	F- 29	F- 28	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	353	142,964	
F	F- 28	F- 27	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	505	143,116	
F	F- 27	F- 26	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	656	143,267	
F	F- 26	F- 25	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	808	143,419	
F	F- 25	F- 24	0	55,926	621	2.55	142,611	0.000	0	3.00	0	149	853	143,464	
F	F- 24	F- 23	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	1,004	143,616	
F	F- 23	F- 22	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	1,156	143,767	
F	F- 22	F- 21	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	1,307	143,919	
F	F- 21	F- 20	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	1,459	144,070	
F	F- 20	F- 19	0	55,926	621	2.55	142,611	0.000	0	3.00	0	500	1,610	144,222	
F	F- 19	F- 18	0	55,926	621	2.55	142,611	0.000	0	3.00	0	389	1,728	144,339	
F	F- 18	F- 17	18	60,138	668	2.52	151,548	0.000	0	3.00	0	1,530	2,192	153,740	
F	F- 17	F- 16	0	60,138	668	2.52	151,548	0.000	0	3.00	0	430	2,322	153,870	
F	F- 16	F- 15	270	123,318	1,370	2.29	282,085	0.000	0	3.00	0	11,570	5,828	287,913	
F	F- 15	F- 14	7	124,956	1,388	2.28	285,378	0.000	0	3.00	0	680	6,034	291,412	
F	F- 14	F- 13	0	124,956	1,388	2.28	285,378	0.000	0	3.00	0	380	6,149	291,527	
F	F- 13	F- 12	0	124,956	1,388	2.28	285,378	0.000	0	3.00	0	380	6,265	291,642	
E1	E1- 1	F- 12	146	34,164	380	2.77	94,634	0	0	3.00	0	6,126	1,856	96,491	
F	F- 12	F- 11	0	159,120	1,768	2.22	353,121	0.000	0	3.00	0	306	8,214	361,335	
F	F- 11	F- 10	0	159,120	1,768	2.22	353,121	0.000	0	3.00	0	336	8,315	361,437	
F	F- 10	F- 9	0	159,120	1,768	2.22	353,121	19.256	19,256	3.00	57,768	460	8,455	419,344	
F	F- 9	F- 8	0	159,120	1,768	2.22	353,121	0.000	19,256	3.00	57,768	352	8,562	419,451	
F	F- 8	F- 7	0	159,120	1,768	2.22	353,121	0.000	19,256	3.00	57,768	352	8,668	419,558	
F	F- 7	F- 6	0	159,120	1,768	2.22	353,121	8.164	27,420	3.00	82,260	474	8,812	444,193	
E1	E1- 1	F- 6	524	122,616	1,362	2.29	280,672	0	0	3.00	0	18,078	5,751	288,423	
F	F- 6	F- 5	0	281,736	3,130	2.08	586,039	0.000	27,420	3.00	82,260	436	14,695	682,993	*
F	F- 5	F- 4	0	281,736	3,130	2.08	586,039	0.000	27,420	3.00	82,260	228	14,764	683,062	*
F	F- 4	F- 3	0	281,736	3,130	2.08	586,039	0.000	27,420	3.00	82,260	247	14,839	683,137	*
E1	E1- 1	F- 3	620	145,080	1,612	2.24	325,484	0	0	3.00	0	22,850	6,955	332,439	
F	F- 3	F- 2	0	426,816	4,742	1.99	849,311	0.000	27,420	3.00	82,260	744	22,019	953,590	**
F	F- 2	MH# 32	0	426,816	4,742	1.99	849,311	0.000	27,420	3.00	82,260	308	22,112	953,683	**
			1,824	426,816	4,742	1.99	849,311	27.420	27,420	3.00	82,260	72,970	22,112	953,683	

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling U
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

* Indicates 10-inch diameter sewer line is required at minimum sewer slope.
** Indicates 12-inch diameter sewer line is required at minimum sewer slope.

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW
F1	F1- 3	F1- 2	57	13,338	148	3.38	45,082	0.000	0	3.00	0	2,208	669	45,752
F1	F1- 2	F1- 1	45	23,868	265	2.98	71,127	0.000	0	3.00	0	1,698	1,184	72,310
F1	F1- 1	F- 12	44	34,164	380	2.77	94,634	0.000	0	3.00	0	2,220	1,856	96,491
			146	34,164	380	2.77	94,634	0	0	3.00	0	6,126	1,856	96,491

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [redacted] Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW
E	E- 9	E- 8	120	28,080	312	2.89	81,151	0.000	0	3.00	0	4,438	1,345	82,496
E	E- 8	E- 7	228	81,432	905	2.42	197,065	0.000	0	3.00	0	8,740	3,993	201,059
E	E- 7	E- 6	83	100,854	1,121	2.34	235,998	0.000	0	3.00	0	2,365	4,710	240,708
E	E- 6	E- 5	13	103,896	1,154	2.34	243,117	0.000	0	3.00	0	320	4,807	247,924
E	E- 5	E- 4	53	116,298	1,292	2.30	267,919	0.000	0	3.00	0	1,895	5,381	273,300
E	E- 4	E- 3	5	117,468	1,305	2.30	270,286	0.000	0	3.00	0	270	5,463	275,749
E	E- 3	E- 2	14	120,744	1,342	2.29	276,901	0.000	0	3.00	0	480	5,608	282,509
E	E- 2	E- 1	4	121,680	1,352	2.29	278,787	0.000	0	3.00	0	150	5,854	284,441
E	E- 1	F- 6	4	122,616	1,362	2.29	280,672	0.000	0	3.00	0	320	5,751	286,423
			524	122,616	1,362	2.29	280,672	0	0	3.00	0	18,978	5,751	286,423

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [redacted] Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW
E1	E1- 12	E1- 11	50	11,700	130	3.48	40,716	0.000	0	3.00	0	2,000	608	41,322
E1	E1- 11	E1- 10	161	49,374	549	2.60	128,372	0.000	0	3.00	0	5,690	2,330	130,703
E1	E1- 10	E1- 9	35	57,564	640	2.54	146,213	0.000	0	3.00	0	910	2,606	148,819
E1	E1- 9	E1- 8	10	59,904	666	2.52	150,958	0.000	0	3.00	0	320	2,703	153,661
E1	E1- 8	E1- 7	20	64,584	718	2.49	160,814	0.000	0	3.00	0	590	2,882	163,696
E2	E2-1	E1-7	256	59,904	666	2.52	150,958	0.000	0	3.00	0	9,395	2,847	153,805
E1	E1- 7	E1- 6	0	124,488	1,383	2.28	284,437	0.000	0	3.00	0	270	5,811	290,248
E1	E1- 6	E1- 5	2	124,956	1,388	2.28	285,378	0.000	0	3.00	0	140	5,853	291,231
E1	E1- 5	E1- 4	19	129,402	1,438	2.27	294,293	0.000	0	3.00	0	630	6,044	300,337
E1	E1- 4	E1- 3	5	130,572	1,451	2.27	296,634	0.000	0	3.00	0	130	6,083	302,717
E1	E1- 3	E1- 2	1	130,806	1,453	2.27	297,102	0.000	0	3.00	0	130	6,123	303,224
E1	E1- 2	E1- 1	29	137,592	1,529	2.26	310,633	0.000	0	3.00	0	1,545	6,591	317,224
E1	E1- 1	F- 3	32	145,080	1,612	2.24	325,484	0.000	0	3.00	0	1,200	6,955	332,439
			620	145,080	1,612	2.24	325,484	0	0	3.00	0	22,950	6,955	332,439

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
4) Hourly Peaking Factor = Per A.D.E.Q. Rules R18-9-E301
   a) Peaking Factor for population less than 100 = 4.0
   b) Peaking Factor for Commercial, School, Park = 3.0
5) [redacted] Indicates input from another table – values are not cumulative
6) Subtotal Residential Peak Flow = Cumulative Residential Average Daily Flow x Peaking Factor
7) Subtotal Commercial, School, Park Peak Flow = Cumulative Commercial, School, Park Average Daily Flow x 3.0
8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

APPENDIX B
San Tan Heights, Parcel A-K
Wastewater Flows by Line Segment

Sewer Line Designation	Wastewater Lines From Manhole	Wastewater Lines To Manhole	RESIDENTIAL Dwelling Unit	RESIDENTIAL Cumulative ADF	RESIDENTIAL Equivalent Population	RESIDENTIAL Peaking Factor	Sub-Total Residential Peak Flow	C/S/P Acreage	C/S/P Cumulative ADF	C/S/P Peaking Factor	Sub-Total C/S/P Peak Flow	INFILTRATION Pipe Length	INFILTRATION Cumulative Infiltration	TOTAL PEAK FLOW
E2	E2- 6	E2- 5	40	9,360	104	3.60	33,696	0.000	0	3.00	0	1,925	583	34,279
E2	E2- 5	E2- 4	148	43,992	489	2.65	116,579	0.000	0	3.00	0	5,490	2,247	118,826
E2	E2- 4	E2- 3	36	52,416	582	2.57	134,709	0.000	0	3.00	0	930	2,529	137,238
E2	E2- 3	E2- 2	12	55,224	614	2.55	140,821	0.000	0	3.00	0	320	2,626	143,447
E2	E2- 2	E2- 1	7	56,862	632	2.54	144,429	0.000	0	3.00	0	270	2,708	147,137
E2	E2- 1	E1- 7	13	59,904	666	2.52	150,958	0.000	0	3.00	0	460	2,847	153,805
			256	59,904	666	2.52	150,958	0.000	0	3.00	0	9,395	2,847	153,805

NOTES:

1) C/S/P = Commercial, School and Park Parcels
2) Average Wastewater Generated:
   a) Single Family Residential = 90 Gallons Per Capita Day / Person x 2.6 People / Dwelling Unit
   b) Commercial, School, Park = 1,000 Gallons Per Acre Day
3) Equivalent Population = Average Daily Flow / 90 Gallons Per Capita Day / Person
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8) Infiltration = Pipe Length (miles) x 200 Gallons Per Inch Diameter per Mile
9) Total Peak Flow = Subtotal Residential Peak Flow + Subtotal Commercial, School, Park Peak Flow + Infiltration

APPENDIX C

MASTER WASTEWATER SYSTEM PLAN AND REPORT FOR *SAN TAN HEIGHTS PAD*

-AND-

WASTEWATER SYSTEM REPORT FOR *THE VILLAGE AT SAN TAN HEIGHTS*

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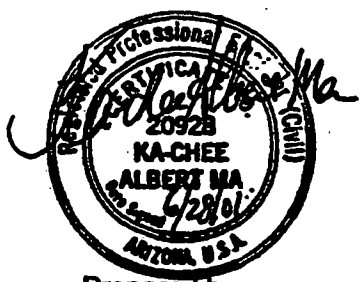

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MASTER WASTEWATER SYSTEM
PLAN AND REPORT
FOR
SAN TAN HEIGHTS PAD
-AND-
WASTEWATER SYSTEM REPORT
FOR
THE VILLAGE AT SAN TAN HEIGHTS

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I. INTRODUCTION

A. GENERAL DESCRIPTION AND LOCATION

San Tan Heights, a Planned Area Development (PAD), is a mixed-use development consisting of residential and commercial land uses. The project area is approximately 2,184 acres and has been approved for 5,266 residential dwelling units.

The property is located in north central Pinal County, Arizona in T3S, R7E. Situated adjacent to Hunt Highway, the project is approximately 14 miles northwest of Florence and approximately 5 miles southeast of Queen Creek (see **Exhibit A, Vicinity Map** and **Exhibit B, Pinal County Location Map**). The site is located on desert scrubland, which was previously used for agricultural activities.

The property to the immediate south and west of the site is zoned SR-Suburban Ranch and consists of housing on large lots with some containing horses and/or farm animals. The property further south and west of the site consists of the San Tan Mountains. The property on the north side of Hunt Highway, Skyline Ranch, is zoned PAD-Planned Area Development and currently consists of farms and cotton fields. The property to the southeast of the site is part of the Johnson Ranch PAD and is planned as a future golf course community.

B. SCOPE OF STUDY

This Master Wastewater System Report has been prepared in accordance with ADEQ standards and the service provider, Johnson Utilities Company, standards.

The intent of this Master Wastewater System Report is to provide a description of the proposed overall wastewater system, including expected flows and anticipated locations and sizes of the proposed sewer interceptor and trunk lines and lift stations. The evaluation includes sizing the wastewater collection system components for the entire (2184 acre) San Tan Heights Planned Area Development (PAD) and an adjacent 60-acre tract, collectively called the "Property".

In addition to providing an overall description of the San Tan Heights wastewater system, it is the intent of this report to conceptually identify the sequence of development of the property within the PAD. The development sequence of the property within the PAD, though only conjectural at this time, will correlate wastewater infrastructure requirements to stages of development. It is also the intent of this report to establish wastewater system design guidelines that will be adhered to as the Property develops.

Finally, this report provides expected flows, locations and sizes for the sewer collection system for the first project to be developed within the PAD, **The Village at San Tan Heights.**

II. LAND USE / DEVELOPMENT

A. PLANNED AREA DEVELOPMENT (PAD)

The proposed San Tan Heights Planned Area Development (PAD), as approved by the Pinal County Board of Supervisors on March 24, 2000, consists of a mix of primarily single-family residential land uses and includes five commercial sites, two school tracts, two neighborhood park sites and various open space areas. The Land Use Summary as approved in the PAD is presented in **Table II.A.1**. The approved Land Use Plan, including detailed Site Data is provided in **Exhibit C, Updated Land Use Plan.**

TABLE II.A.1

LAND USE SUMMARY TABLE			
LAND USE	**DENSITY**	**ACRES**	**NO. OF UNITS**
Commercial		43.2	-
School		44.3	-
Park		17.0	-
WW Treatment Plant		4.1	-
Linear Open Space		215.3	-
Hillside		36.7	-
Adjacent Roads		34.0	-
Single Family Residential:			
CR-5 (4,000 sf)	4.9	293.7	1,449
CR-4 (5,000 sf)	4.6	328.1	1,512
CR-3 (6,000 sf)	4.0	213.1	861
CR-2 (8,000 sf)	3.0	155.0	468
CR-1 (16,000 sf)	2.1	215.0	459
CR-1A (average 43,560 sf)	1.0	584.8	517
	TOTALS	**2184.3**	**5,266**

B. ADDITIONAL AREA (60 ACRES)

An additional area of 60 acres is also proposed to be included in the wastewater service area for San Tan Heights. The 60 acres is located north and south of Hunt Highway at Valleyview Road (see **Exhibit D, San Tan Heights Development Plan**). The property is zoned GR, General Rural and is currently vacant land. The ultimate zoning for this 60-acre tract is not known at this time. However, for the purpose of this study residential zoning was assumed at a density of 2.5 units per acre or 150 dwelling units.

C. DEVELOPMENT STAGES

To accommodate the market demand, the San Tan Heights PAD will be developed in stages. It is anticipated at this time that the Property will be developed in four (4) stages (see **Table II.C.1** and **Exhibit D, San Tan Heights Development Plan**). Each stage will be developed as several parcels, with each parcel being platted as a subdivision. The sequence of development of each parcel within a stage may not be in the order of the parcels as they are currently numbered. At present, subdivision plats and/or improvement plans are being prepared for parcels in Stage A. These include: 1) nine (9) parcels/ subdivisions within the project known as **The Village at San Tan Heights** (approximately 1013 residential lots, a school site, commercial site and park site); 2) four (4) parcels within the project known as Circle G in the San Tans (approximately 119 residential lots) and 3) four (4) parcels within the project known as the Cardon Company Property (approximately 233 residential lots). The first two projects have Preliminary Plats approved by Pinal County. The Preliminary Plat on the Cardon Company Property is in preparation.

The Village at San Tan Heights is the first project to be developed within the PAD and Stage A of development. **The Village at San Tan Heights** has entered into agreements with Johnson Utilities Company for water and sewer service for 1013 lots. As Circle G and Cardon Company move forward with development of their projects (as mentioned above), separate agreements will be negotiated with Johnson Utilities Company for service to those properties.

The objective of providing stages of development is to correlate infrastructure requirements to the development of the PAD. While a sequence of project development is implied, there is nothing in the County approved PAD that prohibits changing the sequence of development, modifying combinations of parcels or combining stages, as long as the related infrastructure is provided and is adequate. As market conditions change, the actual size, location and sequence of the stages may change. In any case, Service Agreements with Johnson Utilities Company will be required for all projects within any of the Stages.

TABLE II.C.1

DEVELOPMENT STAGES			
STAGE (1)	**PROPERTY NAME & LAND USE**	**NON-RESIDENTIAL USES (ACRES)**	**NUMBER OF SINGLE FAMILY UNITS**
A	The Village @ San Tan Heights		
	Residential	-	1013(2)
	Commercial	5.8	-
	School	21.8	-
	Park	8.1	-
	Circle G in the San Tans, Ph 1		
	Residential	-	119
	Cardon Company Property, Ph 1		
	Residential	-	233
	Commercial	3	-
	Stage A Total	**38.7**	**1364**
B	San Tan Heights 2A & 2B		
	Residential	-	983
	Commercial	5.5	-
	Circle G in the San Tans, Ph 2		
	Residential	-	120
	Bonanza Land Company		
	Residential	-	359
	Commercial	17.2	-
	Stage B Total	**22.7**	**1462**
C	San Tan Heights 3A & 3B		
	Residential	-	681
	School	22.5	-
	Park	8.9	-
	Cardon Company Property, Ph 2		
	Residential	-	360
	Commercial	11.7	-
	60 ac. @ Hunt Hwy & Valleyview		
	Residential	-	150
	Stage C Total	**43.4**	**1191**
D	San Tan Heights 4		
	Residential	-	1032
	Cardon Company Property, Ph 3		
	Residential	-	367
	Stage D Total	**-**	**1399**
	TOTAL ALL STAGES	**104.5 ac**	**5416 units**

(1) Stages are conjectural and will very likely change as projects within the San Tan Heights PAD move forward with development. The Stages are intended as a planning tool to provide correlation between the development of the project and the requirements for water and sewer infrastructure.

(2) The approved Preliminary Plat of The Village at San Tan Heights has 1013 residential lots. Due to the reconfiguration of the WWTP site in Parcel 7, the total number of residential lots in The Village at San Tan Heights has been reduced by 10 lots, bringing the total to 1003 lots. The 10 lots will be transferred to another Phase of the development.

III. WASTEWATER SYSTEM FLOW PROJECTIONS

A. JOHNSON UTILITIES COMPANY STANDARDS

The flow requirements used in this report are based on criteria required by Johnson Utilities Company, Standard Specifications for Water & Sewer Construction[1], and Johnson Ranch Wastewater System Master Plan, February, 1998[2].

Following is a summary of the design criteria utilized.

1. The average wastewater flow generated per single-family residential unit, per Johnson Utilities Company requirements, is 234 gpd, based on 90 gpd/person times 2.6 people per unit.

2. The average wastewater flows assigned (per Johnson Utilities Company) for the nonresidential land uses in San Tan Heights are:

Commercial	1,000 gpd/acre
School	1,000 gpd/acre
Park	1,000 gpd/acre

3. Per Reference 1, Johnson Utilities Company, Standard Specifications for Sewer Construction, wastewater lines shall be designed to provide mean velocities, when flowing full, of not less than 2.25 feet per second (fps), nor greater than 10.0 fps. The following table indicates the minimum slopes generally considered necessary to maintain a minimum 2.25 fps velocity based upon Manning's formula with an "n" value of 0.013 for all sewers. [1]

Size	Minimum Design Slope n=0.013
6"	0.0060
8"	0.0042
10"	0.0031
12"	0.0024
15"	0.0018
18"	0.0014

B. ADDITIONAL DESIGN REQUIREMENTS

In addition to the design criteria used above the following additional standards will be utilized in designing and constructing the wastewater system for San Tan Heights. These standards are based on criteria from Johnson Utilities Company as mentioned above[1,2] and Arizona Department of Environmental Quality, Aquifer Protection Permit Rules, effective January 1, 2001, as set forth in Title 18. Environmental Quality, Chapter 9. Department of Environmental Quality Water Pollution Control, Article 3. Aquifer Protection Permits – General Permits, Part E. Type 4 General Permits, 4.01 General Permit: Sewage Collection Systems (R-18-9-E301)[3].

1. The Peaking Factors used to calculate Peak Flow Rates for the San Tan Heights internal wastewater system were based on ADEQ statute R18-9-E301.

2. All wastewater collector lines shall be a minimum of 8-inch diameter or larger except the first 400 feet of a dead end sewer line with no potential for extension may be 6 inches in diameter.

3. Manholes shall be installed at all graded changes, all size changes, all alignment changes, all sewer intersections (except with service connections) and at any location necessary to comply with following spacing requirements:

Pipe Size	Maximum Spacing
6" – 18"	500'
18" – 30"	600'

Cleanouts may be used in place of manholes at the end of laterals less than 200 feet in length.

4. The type of pipe material used shall have established ASTM, ANSI or NSF standards of manufacture or seals of approval and shall be designated for use as sewer pipe. The following type of pipe material is acceptable. Alternative pipe material shall be allowed subject to approval by Johnson Utilities.

   a) Sizes less than or equal to 15 inches - Polyvinyl chloride (PVC) SDR 35

   b) Sizes larger than 15 inches - Extra strength VCP or as approved by Johnson Utility Company

5. Wastewater lines will be located generally in the center of the driving lane, on the south and west sides of the roadway centerline, on the opposite side of the potable water line.

6. Easement widths provided for wastewater lines shall be a minimum of twenty (20) feet.

7. The minimum horizontal separation from a wastewater line to another underground utility shall be six (6) feet. Exceptions must be approved by Johnson Utilities Company.

8. The minimum vertical separation of a wastewater line crossing under a water line shall be two (2) feet. When a wastewater line crosses under a water line with less than the two (2) feet separation, the wastewater line shall be constructed of cast iron pipe with leaded or mechanical joints, or other approved pipe, for at least six (6) feet in both directions from the crossing, or the wastewater line shall be encased in concrete of 6-inch minimum thickness for the same distance. When a water line must cross under a wastewater line, a vertical separation of at least two (2) feet between the bottom of the wastewater line and the top of the water line shall be maintained with support provided for the wastewater line to prevent settling. The wastewater line shall be constructed of cast iron pipe with leaded or mechanical joints, or other approved pipe, for at least six (6) feet in both directions from the crossing, or the wastewater line shall be encased in concrete of 6-inch minimum thickness for the same distance.

9. All collector, trunk and interceptor lines shall have a sufficient depth to serve the ultimate drainage area with a minimum cover of six (6) feet measured from finished grade to the top of the pipe. An exception to the minimum depth of six (6) feet shall be made in localized areas when a shallower depth of cover will allow an area to be serviced by gravity feed in lieu of a lift station.

10. Special construction will be required for all manhole and wastewater lines under wash crossings to eliminate drainage flow.

11. On wastewater lines 6 to 12 inches, manholes shall be four (4) foot diameter with standard 24-inch frame and cover. On lines 15 inch and larger, manholes shall be five (5) foot diameter with a standard 30-inch frame and cover. Five (5) foot diameter manholes shall be provided on all wastewater lines, regardless of size, where the depth of the line from the finished grade to the pipe invert is greater than twelve (12) feet.

12. All developments within San Tan Heights will be required to connect to the wastewater system. No on-site disposal systems will be allowed.

13. All wastewater lift stations shall follow the design requirements of R18-9-E301. 4.01 General Permit: Sewage Collection Systems, D. Design Requirements, 5. Lift Stations[3] and as required by Johnson Utilities Company.[1]

14. The design of force mains shall follow the requirements of R18-9-E301. 4.01 General Permit: Sewage Collection Systems, D. Design Requirements, 4. Force Mains[3] and as required by Johnson Utilities Company.[1]

IV. PROPOSED WASTEWATER COLLECTION SYSTEM

A. WASTEWATER FLOW CALCULATIONS

This evaluation includes sizing the wastewater system infrastructure to meet the wastewater requirements of the San Tan Heights PAD and the adjacent 60-acre tract as shown in **Exhibit D, Development Plan.** Flow quantities for the San Tan Heights PAD were calculated based on the densities identified in **Exhibit C, Updated Land Use Plan** and Johnson Utilities Company criteria. As previously discussed, the 60-acre tract was assumed residential zoning at a density of 2.5 units per acre or 150 dwelling units.

Table IV.A.1 provides details on the wastewater flow calculations and identifies the Average Day Flows (ADF) and Peak Flow rates collected at selected on site nodes.

B. PIPE SIZING

The pipe sizes were developed utilizing the previously outlined design criteria. All pipes are designed to convey the peak flow with velocities exceeding 2.25 fps when flowing full[1].

Exhibit E, Master Wastewater System Plan, identifies the conceptual locations of the overall wastewater network. The actual pipe sizes identified may deviate from the sizes shown due to changes in the actual design slope of the pipe and due to revisions to the wastewater flow rates. However, the minimum design criteria established herein will be followed.

The flow and slope calculations for the trunk and interceptor lines can be found in **Appendix A-1, San Tan Heights Wastewater Flow By Line Segment** and the two force main and lift station pump calculations can be found in **Appendix A-2, San Tan Heights Force Main and Lift Station Calculations.**

C. OVERALL COLLECTION SYSTEM

Based on the natural topography, the majority of the Property can be served by gravity sewer lines. Gravity lines cannot serve areas that are downstream of the proposed treatment facility. These areas will need to be served by wastewater pumping ("lift") stations that will pump the wastewater to one of the proposed gravity wastewater interceptors in Hunt Highway.

Per the On-site Line Extension Agreement between Galeb Miller Development, LLC and Johnson Utilities Company, it is intended as the internal wastewater collection system is constructed and approved that the system will be conveyed to Johnson Utilities Company for ownership, operation and maintenance. This report assumes that the Line Extension Agreements between Johnson Utilities Company and the other Property Developers in the San Tan Heights PAD will have similar provisions. Therefore, it is intended that the ADEQ Provisional Verification of General Permit (4.01) Conformance for Sewage Collection System will be issued to the various developers and upon construction completion and receipt of the Verification of General Permit Conformance by ADEQ, the General Permit (4.01) will be transferred to Johnson Utilities Company.

The proposed San Tan Heights wastewater collection system includes the following appurtenances.

1. Two wastewater interceptor lines are proposed, which will receive flow from trunk wastewater lines and will convey the flow to the proposed San Tan Heights wastewater treatment facility located onsite. The Interceptors, Lines H and S, will convey flow from their respective service areas, as shown on **Exhibit E, Master Wastewater System Plan**. These two main interceptor lines will be located in Hunt Highway.

2. In addition, various wastewater trunk lines will receive flow from collector lines and will convey the flow to one of the two-wastewater interceptor lines. These trunk lines, Lines A, B, C, E, F, G, J through N, P, Q, and R, are shown on **Exhibit E, Master Wastewater System Plan.**

3. Wastewater pumping ("lift") stations and force mains are provided where required to service areas where gravity conveyance of wastewater flows is not feasible due to topographical constraints. Two (2) pumping station / force main facilities are currently planned for the San Tan Heights project. These facilities serve the 504-acre Cardon Company Property, the adjacent 60-acre site at Hunt Highway and Valleyview Rd. and approximately 250 acres of the San Tan Heights 3B and 4 tracts. The conceptual locations of the two (2) planned pumping stations and associated force mains, Lines A2 and D, are identified on **Exhibit E, Master Wastewater System Plan.**

4. The numerous collector lines, which will collect wastewater flow from house service lines, are not included in this Master Wastewater System Plan. All collector lines will be a minimum of eight (8) inches in diameter.

Detailed design of the various collector lines will be provided in the individual subdivision plats and plans.

D. STAGE 'A' – CONCEPTUAL FIRST PHASE OF DEVELOPMENT

The properties in the San Tan Heights PAD proposed for the first Stage of Development 'Stage A' are identified in **Exhibit D, Development Plan**. Stage 'A' of development currently includes the properties identified as "The Village at San Tan Heights", "Circle G in the San Tans - Phase 1" and "The Cardon Company Property – Phase 1". The Stage 'A' wastewater facilities (see **Exhibit E, Master Wastewater System Plan**) that are proposed to serve these three properties include the following:

1. For **The Village at San Tan Heights**, *the first project within the PAD to be developed*, various collector lines will be provided that convey the wastewater flow from the house service lines within The Village of San Tan Heights to the trunk lines. These lines are Trunk Lines 'J' through 'R' which convey the flow to the interceptor line; and Interceptor Line 'S' in Hunt Highway, which conveys the flow by gravity to the San Tan Heights future onsite wastewater treatment plant. Flow calculations and slopes for the Trunk Lines and Interceptor Line 'S' are included in **Appendix B, The Village at San Tan Heights – Wastewater Flows By Line Segment**. The detailed design of the Trunk Lines and Interceptor Line 'S' ("Sewage Collection System") is provided in the master dedication plat and associated infrastructure construction plans for **The Village at San Tan Heights**. The detailed design of the various collector lines is provided in the individual subdivision plats and plans, **Parcels 1 through 9 for The Village at San Tan Heights**.

2. For Circle G in the San Tans, various collector lines, which convey the wastewater flow from the house service lines within Circle G in the San Tans – Phase 1 to Trunk Line 'F'; Trunk Line 'F' and Interceptor Line 'H' in Hunt Highway, which convey the flow by gravity to the San Tan Heights future onsite wastewater treatment plant. Flow calculations and slopes for Trunk Line 'F' and Interceptor Line 'H' are included in this report. The detailed design of the Interceptor and Trunk Line ("Sewage Collection System") will be provided in the future, at the same time as the various collector lines within the individual subdivision plats and plans for Circle G in the San Tans – Phase 1 are submitted.

3. For the Cardon Company Property, various collector lines that convey the wastewater flow from the house service lines within the Cardon Company Property – Phase 1 to Trunk Line 'A'; Trunk Line 'A', including Lift Station 1 and Force Main 'A2', which conveys the flow to Lift Station 2; and Lift Station 2 which lifts the flow through Force Main 'D' to Interceptor Line 'H'. Flow calculations and slopes for Trunk Line 'F' and Interceptor Line 'H' are included in this report, as well as preliminary sizing of the Force Mains and Lift Station Pumps. The detailed design of the Interceptor, Trunk Line, Force Mains and Lift Stations ("Sewage Collection System") will be provided in the future, at the same time as the various collector lines within

the individual subdivision plats and plans for the Cardon Company Property – Phase 1 are submitted.

V. PROPOSED TREATMENT OF WASTEWATER

A. PERMANENT WASTEWATER TREATMENT

No wastewater treatment facility exists in close proximity to the project. Therefore, the Property will ultimately be served by an on-site San Tan Heights Wastewater Treatment Facility that will be permitted, constructed, owned and operated by Johnson Utilities Company, the service provider. **Exhibit E., Master Wastewater System Plan** identifies the site location of the San Tan Heights Wastewater Treatment Facility. Per the Wastewater Service Agreement, the treatment facility shall comply with the Arizona Department of Environmental Quality, Aquifer Protection Permit Rules, effective January 1, 2001 [3].

The proposed San Tan Heights Wastewater Treatment Facility will be constructed in stages in accordance with the growth of the project. As discussed previously in Section II. D. Development Stages, the project is anticipated at this time to be developed in four (4) stages. **Table V.A.1** identifies the estimated wastewater treatment requirements, using Johnson Utilities Company Criteria, for each stage of development. The first stage of the wastewater treatment facility is anticipated to be a 350,000 gpd plant. At full build-out of the Property, it is anticipated that the plant will treat 1.4 MGD.

As market conditions change, the actual size, location and sequence of the stages of development may change. Therefore, the wastewater flow requirements provided in **Table V.A.1** should only be used as a tool to assist in the scheduling of the expansions to the wastewater treatment facility that will be constructed and operated by Johnson Utilities Company. As the Property develops beyond Stage A, it is envisioned that this Report will be updated to reflect the actual sequence of development and provide revised wastewater flow calculations for determining future expansions to the wastewater treatment plant.

TABLE V.A.1

SANTAN HEIGHTS - ESTIMATED WASTEWATER REQUIREMENTS FOR STAGED WASTEWATER TREATMENT PLANT (Johnson Utilities Co.)							
	NUMBER OF UNITS, ACRES OR STUDENTS	ESTIMATED AVERAGE DAILY FLOW (1) gal/unit/day, gal/acre/day or gal/student/day	WWTP STAGE A avg day flow (gal/day)	WWTP STAGE B avg day flow (gal/day)	WWTP STAGE C avg day flow (gal/day)	WWTP STAGE D avg day flow (gal/day)	WWTP TOTAL ALL FLOWS
THE VILLAGE @ SANTAN HEIGHTS 1 (Galeb Miller Development, LLC)							
RESIDENTIAL (UNITS)	1013	234	237,042				
COMMERCIAL (ACRES)	5.8	1000	5,800				
SCHOOL (STUDENTS)	21.8	1000	21,800				
PARK (ACRES)	8.1	1000	8,100				
			272,742				272,742
SANTAN HEIGHTS 2A & 2B (Sand Hill Co., Inc.)							
RESIDENTIAL (UNITS)	983	234		230,022			
COMMERCIAL (ACRES)	5.5	1000		5,500			
				235,522			235,522
SANTAN HEIGHTS 3A & 3B (Mountain Real Estate Investors, Inc.)							
RESIDENTIAL (UNITS)	681	234			159,354		
SCHOOL (STUDENTS)	22.5	1000			22,500		
PARK (ACRES)	8.9	1000			8,900		
					190,754		190,754
SANTAN HEIGHTS 4 (Saratoga Meadow, Inc.)							
RESIDENTIAL (UNITS)	1032	234				241,488	241,488
CIRCLE G IN THE SANTANS PHASE 1							
RESIDENTIAL (UNITS)	119	234	27,846				27,846
CIRCLE G IN THE SANTANS PHASE 2							
RESIDENTIAL (UNITS)	120	234		28,080			28,080
BONANZA LAND CO.							
RESIDENTIAL (UNITS)	359	234		84,006			
COMMERCIAL (ACRES)	17.2	1000		17,200			
				101,206			101,206
CARDON COMPANY PROPERTY PH 1							
RESIDENTIAL (UNITS)	233	234	54,522				
COMMERCIAL (ACRES)	3	1000	3,000				
			57,522				57,522
CARDON COMPANY PROPERTY PH 2							
RESIDENTIAL (UNITS)	360	234			84,240		
COMMERCIAL (ACRES)	11.7	1000			11,700		
					95,940		95,940
CARDON COMPANY PROPERTY PH 3							
RESIDENTIAL (UNITS)	367	234				85,878	85,878
60ac @ HUNT HWY & VALLEYVIEW							
RESIDENTIAL (UNITS)	150	234			35,100		35,100
TOTAL ESTIMATED FLOW PER STAGE			358,110	384,808	321,794	327,366	1,372,078
DESIGN FLOW PER STAGE			350,000	350,000	350,000	350,000	1,400,000

(1) Estimated residential daily flow equal to 90 gpcd @ 2.6 persons per dwelling = 234 gal/unit/day, commercial @ 1,000 gal/acre/day, park and school @ 1,000 gal/acre/day.

B. THE VILLAGE AT SAN TAN HEIGHTS WASTEWATER TREATMENT

The service provider, Johnson Utilities Company, has proposed through the Utility Service Agreement to provide wastewater service for approximately 1003 residential lots within **The Village at San Tan Heights** development. (Note, the approved Preliminary Plat of **The Village at San Tan Heights** has 1013 residential lots. Due to the reconfiguration of the WWTP site, the total number of residential lots in **The Village at San Tan Heights** has been reduced by 10 lots, bringing the total to 1003 lots.) It is anticipated that this wastewater service connection will be utilized during the time that the permanent San Tan Heights Wastewater Treatment Plant is being permitted and constructed.

Johnson Utilities Company is currently in the process of obtaining permit and plan approval for a 300,000 gpd wastewater treatment facility (Precision Golf Course WWTP) that will be located in the vicinity of the existing Marwood WWTP. The Marwood Plant is located ¼ mile south of Bella Vista Road and approximately 0.7 mile east of Hunt Highway. The wastewater service for **The Village at San Tan Heights** (1003 units) is proposed to be provided via approximately 3 miles of force main and gravity line that will be constructed along Hunt Highway and Bella Vista Road and will connect to this new 300,000 gpd plant.

Exhibit F, The Village at San Tan Heights Wastewater Collection System, identifies the conceptual routing of the collection system to the 300,000 gpd WWTP. Capacity in the 300,000 gpd plant for The Village at San Tan Heights will be reserved until the San Tan Heights WWTP is permitted, constructed and operational. The committed capacity for The Village at San Tan Heights is 1003 lots (households) x 90 gpd x 2.6 persons/household = 234,702 gpd. Once the San Tan Heights WWTP is constructed and operational, the service will be disconnected from the Precision Golf Course WWTP.

C. EFFLUENT DISPOSAL

The wastewater service provider, Johnson Utilities Company, is responsible for the disposal of all effluent and sludge generated by the San Tan Heights Wastewater Treatment Plant. Please refer to the Johnson Utilities Company plans and report for the wastewater treatment facilities.

IV. CONCLUSIONS

A. MASTER WASTEWATER SYSTEM PLAN

This study has developed a wastewater collection system for the San Tan Heights PAD and the adjacent 60-acre tract identified on **Exhibit E, Master Wastewater System Plan.** The Master Wastewater System Plan includes:

1. A wastewater collection system that will convey wastewater generated by San Tan Heights and the adjacent 60-acre tract to an onsite San Tan Heights wastewater treatment facility that will be designed, permitted, constructed, owned and operated by Johnson Utilities Company.

2. The majority of the San Tan Heights PAD service area can be served by a gravity collection system. Parcels downstream of the proposed permanent treatment facility will be served by two wastewater lift stations, which will pump the wastewater to one of the proposed gravity wastewater interceptors. The proposed wastewater collection system will be conveyed, upon construction and acceptance, to Johnson Utilities Company for ownership, operation and maintenance.

3. The actual sizes and locations of the wastewater collection system may vary upon final determination of subdivision layouts, pipe slopes and wastewater flows generated by San Tan Heights. Additionally, the stages of development may change as market conditions change and the property develops.

B. THE VILLAGE WASTEWATER SYSTEM

This report has further developed a wastewater collection system for the first project to be developed in the PAD, The Village at San Tan Heights, also identified on **Exhibit E, Master Wastewater System Plan.** The Village at San Tan Heights Wastewater System includes:

1. A wastewater collection system that will convey wastewater generated by **The Village at San Tan Heights** to an onsite San Tan Heights wastewater treatment facility that will be designed, permitted, constructed, owned and operated by Johnson Utilities Company. The proposed wastewater collection system will be conveyed, upon construction and acceptance, to Johnson Utilities Company for ownership, operation and maintenance.

2. While the San Tan Heights wastewater treatment facility is being permitted and constructed, wastewater service for **The Village at San Tan Heights,** 1003 lots or 234,702 gpd, is proposed through the 300,000 gpd Precision Golf Course WWTP. The connection will be by way of a force main and gravity feed line which will be constructed in Hunt Highway by Johnson Utilities Company, see **Exhibit F, Temporary Wastewater Service.**

IV. REFERENCES

1. Standard Specifications for Water & Sewer Construction, Johnson Utility Company.

2. Johnson Ranch Wastewater System Master Plan, February, 1998.

3. Title 18. Environmental Quality, Chapter 9. Department of Environmental Quality Water Pollution Control, Article 3. Aquifer Protection Permits – General Permits, Part E. Type 4 General Permits, 4.01 General Permit: Sewage Collection Systems, Arizona Department of Environmental Quality, Aquifer Protection Permit Rules, Effective January 1, 2001.

4. CAAG 208 Water Quality Plan Amendment for Johnson Utilities Company, LLC Precision Golf Course WWTP, June 2000.

PZ-PD-008-13

TO: PINAL COUNTY PLANNING & ZONING COMMISSION

MEETING DATE: January 16, 2014

CASE NO.: **PZ-PD-008-13 (San Tan Heights Parcels D1 & D2 PAD Amendment)**

The applicants in this case have requested a continuance to February 20, 2014, to allow more time prepare exhibits for the Commission's review.

CASE COORDINATOR: Travis Ashbaugh

LEGAL DESCRIPTION: 83.52± acres, situated in a portion of the N¼ of Section 13, T3S, R7E G&SRB&M

TAX PARCEL: Tax parcels 509-02-9240 & 509-02-059A

APPLICANT/LANDOWNER: Gary Road Holdings, LLC

AGENT: Matrixx Management, LLC

REQUESTED ACTION & PURPOSE:

PZ-PD-008-13 – PUBLIC HEARING/ACTION: Gary Road Holdings, LLC, landowners/applicants, Matrixx Management, LLC, agent, requesting approval of an Amendment to a Planned Area Development (PAD) Overlay District **(PZ(PD)037-03)** on 83.52± acres within the **San Tan Heights PAD** to plan and develop 218 single-family dwelling units.

LOCATION: Approximately ½ mile south of the Gary Road and Hunt Highway intersection.

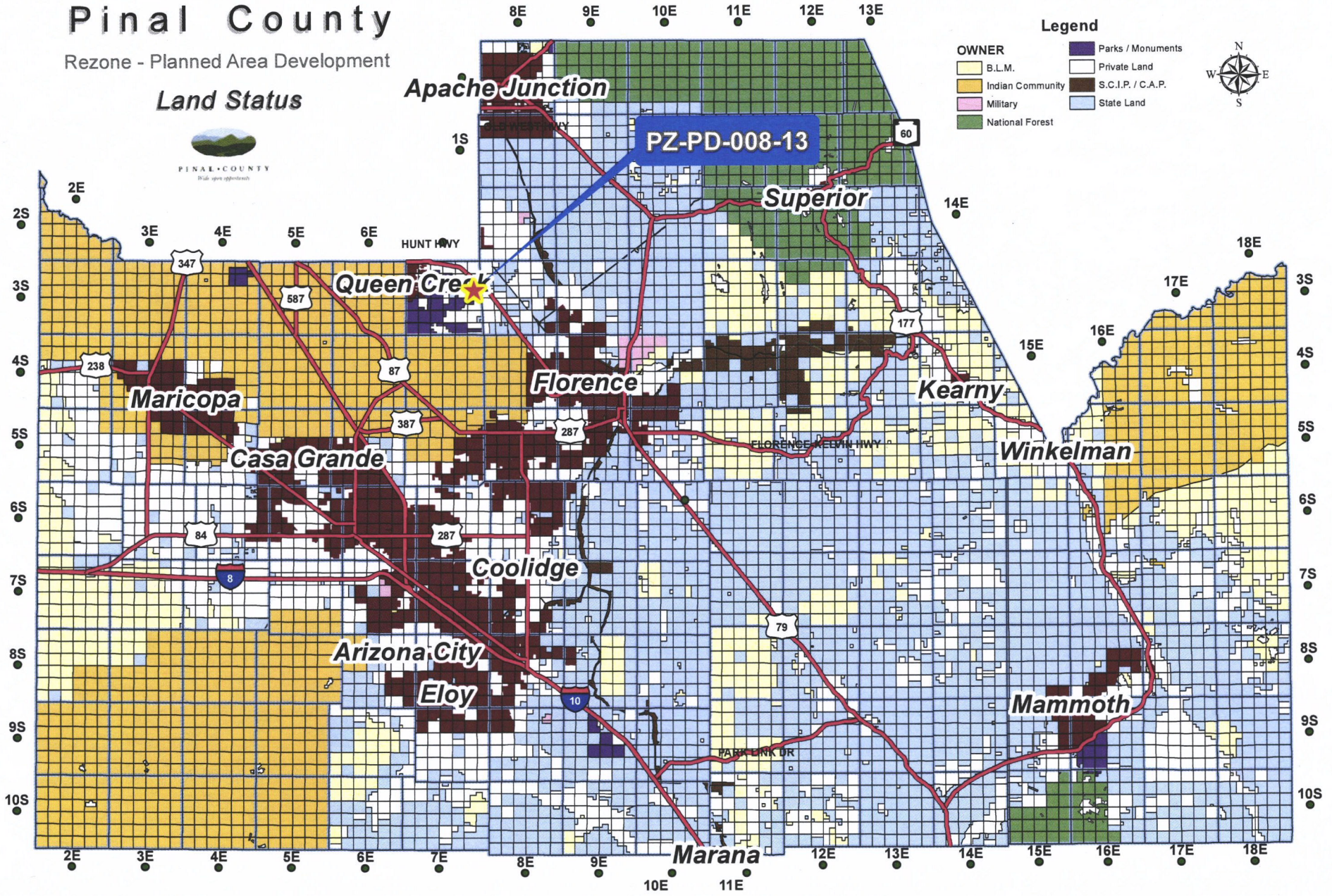
SIZE: 83.52± acres

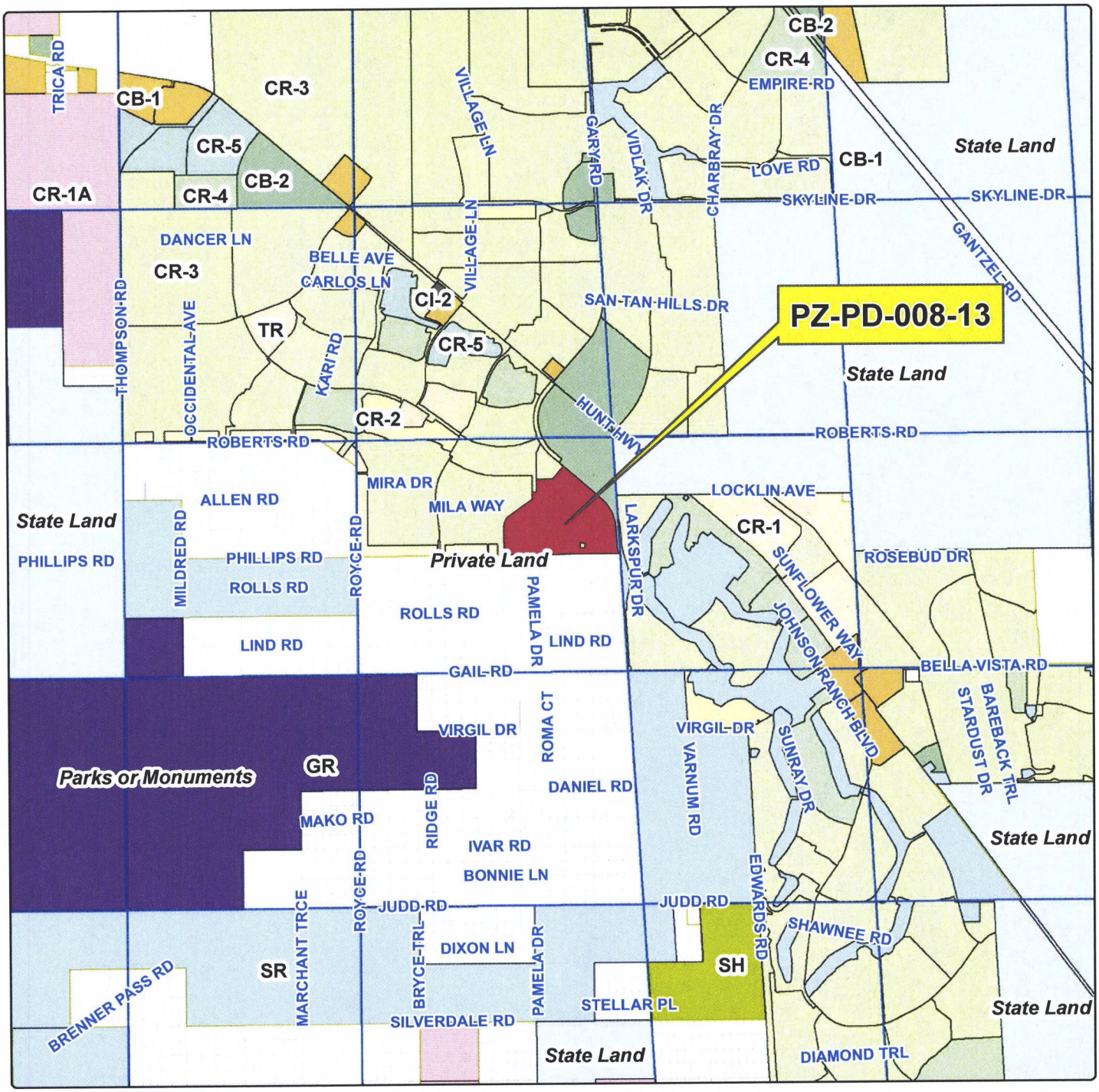
COMPREHENSIVE PLAN: The subject property is designated VLDR (Very Low Density Residential 0-1 du/ac) on 83.52± acres. However, the San Tan Heights PAD allowed up to 3.5 du/ac. The proposed amendment in relations to the current overall density of the San Tan Heights PAD will only increase to 2.64 du/ac from 2.60 du/ac and therefore does not require a Comprehensive Plan Amendment. The surrounding properties to the north and east are Moderate Low Density Residential (MLDR) while the southern and western properties are VLDR.

EXISTING ZONING AND LAND USE: The subject property is currently zoned CR -3 (Single Residence) on 83.52± acres. The subject property is currently undeveloped.

SURROUNDING ZONING AND LAND USE:

North: CB-2/PAD (PZ-PD-037-03) - Vacant
East: CR-3/PAD (PZ-PD-031-97) - Residential
South: GR – Most lots Vacant; One with SFR
West: CR-3/PAD (PZ-PD-037-03) – Residential

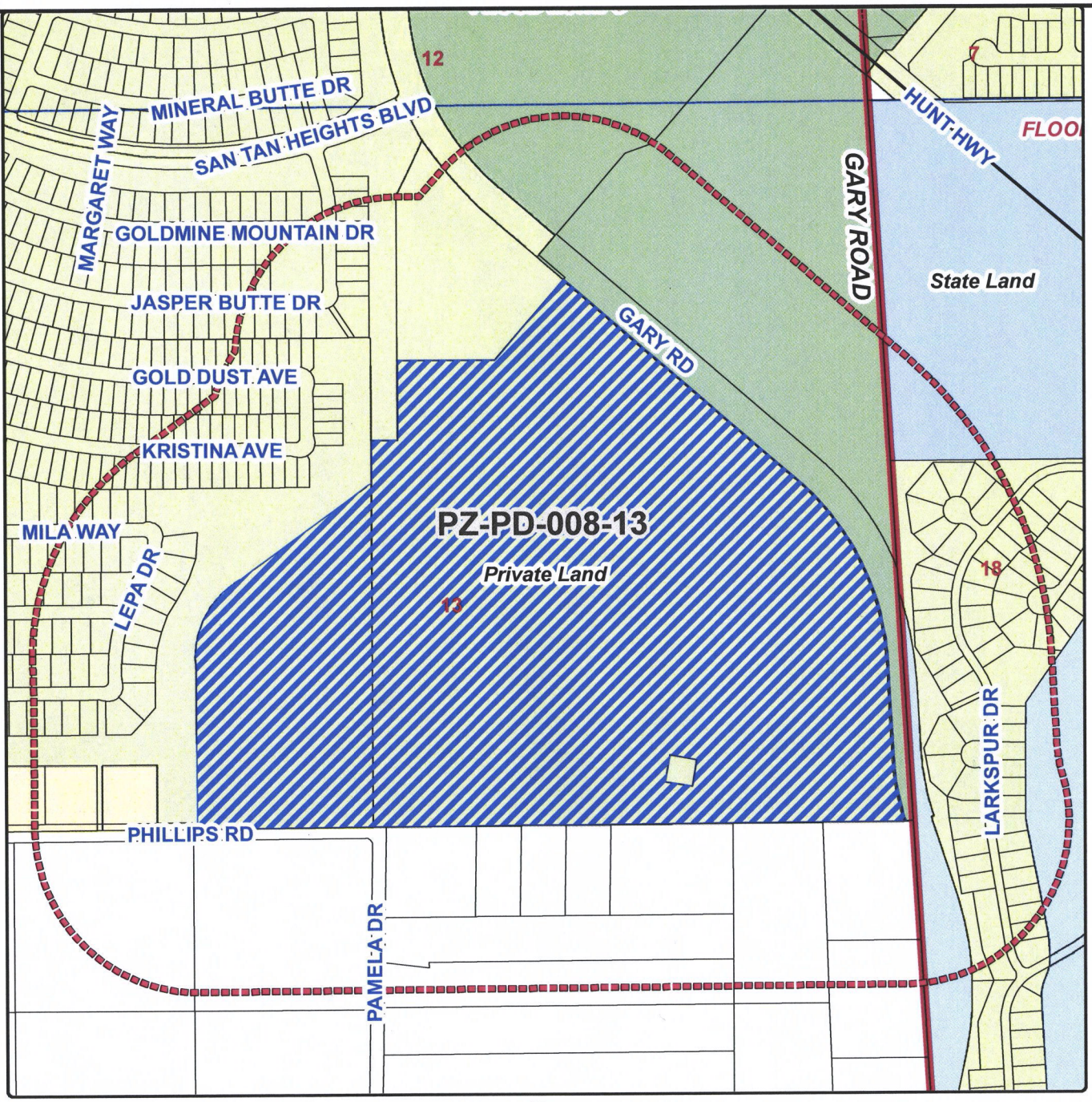

Pinal County
Rezone - Planned Area Development
Land Status
PINAL • COUNTY
PZ-PD-008-13
Legend
OWNER
B.L.M.
Indian Community
Military
National Forest
Parks / Monuments
Private Land
S.C.I.P. / C.A.P.
State Land
N
W
E
S
Apache Junction
Superior
Queen Creek
Florence
Kearny
Winkelman
Maricopa
Casa Grande
Coolidge
Arizona City
Eloy
Mammoth
Marana
HUNT HWY
FLORENCE-KELVIN HWY
PARK LINK DR
60
347
587
87
177
238
387
287
84
8
79
10



Rezone
Planned Area Development
Planning & Development Services

PINAL • COUNTY
Wide open opportunity

Gary Road Holdings LLC	**Legal Description:** Situated in a portion of the Section 13, T03S,R07E, G&SRB&M, 509-02-924 and 509-02-059A (legal on file) (San Tan Valley area). T03S-R07E Sec 13	Sheet No. 1 of 1	Gary Road Holdings LLC Drawn By: GIS / IT / LJT — Date: 10/09/2013 Sections 13 — Township 03S — Range 07E Case Number: PZ-PD-008-13



Rezone
Planned Area Development

PZ-PD-008-13 – PUBLIC HEARING/ACTION: Gary Road Holdings, LLC, landowners/applicants, Matrixx Management, LLC, agent, requesting approval of an Amendment to a Planned Area Development (PAD) Overlay District (PZ(PD)037-03) on 83.52± acres within the San Tan Heights PAD to plan and develop 218 single-family dwelling units; situated in a portion of the NE¼ of Section 13, T3S, R7E G&SRB&M, tax parcels 509-02-9240 & 509-02-059A (legals on file) (located approximately ½ mile south of the Gary Road and Hunt Highway intersection).

Current Zoning: CR-3
Request Zoning: Rezone - Planned Area Development
Current Land Use: VLDR

PINAL • COUNTY
Wide open opportunity

Legal Description:
Situated in a portion of Section 13, T03S, R07E, G&SRB&M, 509-02-924 and 509-02-059A. (legal on file) (San Tan Valley area).

T03S-R07E Sec 13

Sheet No. 1 of 1

Owner/Applicant: Gary Road Holdings LLC

Drawn By:	GIS / IT / LJT	Date: 10/09/2013
Sections: 13	Townships: 03S	Range: 07E

Case Number: PZ-PD-008-13

Rezone
Planned Area Development

NORTH

PINAL • COUNTY
Wide open opportunity

PZ-PD-008-13

PUBLIC PARTICIPATION:

Neighborhood Meeting: August 7, 2013
Neighborhood and agency mail out: Week of November 11, 2013
News paper Advertising: November 28, 2013
Site posting: Applicant – November 11, 2013, County – November 26, 2013

FINDINGS:

Site data:

Flood zone: "X" an area that is determined to be outside the 100 and 500 year flood plain
Water: Johnson Utilities
Sewer: Johnson Utilities
Access: The property is accessible from Gary Road

HISTORY: For the 83.5 acres coved under this request to site was rezoned from CR-1A to CR-3 under case PZ-(PD)-037-03. As part of the approval, only a density cap of 3.5 dwelling units per acre was established there is no detailed development plan. The site is part of the larger San Tan Heights PAD which was originally approved under case PZ(PD)037-99. This is one of the last tiers of the San Tan Heights plan that have not been developed or platted. Since the last approval under case PZ-PD-037-03, only one other entitlement has been granted, for a camouflaged cell tower (two cacti) located near the top of the hill on the southern side of the property.

ANALYSIS: The applicant is requesting approval of a Planned Area Development (PAD) Overlay District Amendment **(PZ-PD-037-03)** to allow a 218 unit single-family residential development on a total of 83.52± acres.

To date, 7 letters in opposition and one in favor have been received from property owners within the notification area.

THE APPLICANT HAS PROVIDED INFORMATION REGARDING THIS AND PLANNED AREA DEVELOPMENT AMENDMENT REQUEST, WHICH IS PROVIDED UNDER SEPARATE COVER.

The proposal was sent to the Town of Queen Creek review as the Town limits are within three (3) miles of the this proposal. The proposal is outside the Town's General Plan boundaries. Their comments are attached.

The **Pinal County Department of Public Works** reviewed the proposal and their comments are attached to correspondence section of this report.

The Pinal County Department of Air Quality provided comments which are attached to the correspondence section of this report

Fit within the neighborhood

The area was originally planned to be 3.5 dwelling units per acre or 290 units. Over time transfers to other section of the PAD were administratively approved. The code only allows transfers to and from a development area once administratively, after that all

transfers per development area must be approved via a Major PAD amendment process. So while the area in particular is well below the 3.5 du/ac requirement the net effect of the request on the total PAD results in an increase in du/ac of .04 du/ac. That plus the code doesn't allow anymore transfers without a public hearing is the reason why the request is in front of the Commission. The lot sizes are comparable to other lot sizes in the San Tan Heights PAD, further the new plan meets the new open space requirements rather than the previously approved 15%.

At the public hearing, the Commission needs to be satisfied that the health, safety and welfare of the County and adjacent properties will not be negatively impacted by this PAD Overlay District Amendment request under planning cases PZ-PD-008-13. Furthermore, the Commission must determine that this PAD Overlay District Amendment will promote the orderly growth and development of the County, at this location and time, and this proposed development is compatible and consistent with the applicable goals and policies of the Pinal County Comprehensive Plan.

THE BURDEN OF PROOF IS UPON THE APPLICANT TO PROVIDE THE NECESSARY AND REQUIRED INFORMATION AT THE PUBLIC HEARING. THE APPLICANT NEEDS TO BE PREPARED TO ADDRESS AND MITIGATE, AS APPLICABLE, THE FOLLOWING ISSUES AND CONCERNS:

- **A) LAND USE, PERIMETER WALLS, SIGNAGE, SETBACKS, INGRESS/EGRESS & LANDSCAPING**
- **B) PUBLIC SERVICES - SEWER, WATER, UTILITIES, DRAINAGE**
- **C) NEIGHBORHOOD IMPACT**
- **D) FLOOD CONTROL**
- **E) TRAFFIC IMPACT**
- **F) COMPATIBILITY/CONSISTENCY WITH PINAL COUNTY COMPREHENSIVE PLAN**
- **G) BENEFITS/DETRIMENTS TO PINAL COUNTY**

STAFF SUMMARY: The applicant Gary Holdings, LLC, has submitted the proper applications and evidence sufficient to warrant a staff recommendation as provided in the Ordinance. Staff provides the following findings together with the information on Page 1 of this staff report:

1. This land use request is for approval of a PAD Overlay District Amendment.
2. To date, 7 letters in opposition and one in favor have been received from property owners inside the notification area.
3. The property has legal access.
4. The subject property is located within the VLDR (Very Low Density Residential 0-1 du/ac) however the proposal doesn't exceed the original approved density and is and will be compatible and consistent with the applicable goals and policies of the Pinal County Comprehensive Plan.
5. Granting of the Planned Area Development Overlay District amendment request will require, after the time of zoning approval, that the applicant/owner submit and secure from the applicable and appropriate Federal, State, County and Local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

STAFF RECOMMENDATION – **(PZ-PD-008-13):** Should the Commission find, after the presentation of the applicant and together with the testimony and evidence presented at the

public hearing, that this PAD amendment request, is needed and necessary at this location and time, will not negatively impact adjacent properties, will promote the orderly growth and development of the County and will be consistent with the applicable goals and policies of the Pinal County Comprehensive Plan, then staff recommends that the Commission forward **PZ-PD-008-13** to the Board of Supervisors with a favorable recommendation with the attached stipulation. If the Commission cannot find for all of the factors listed above, then staff recommends that the Commission forward this case to the Board of Supervisors with a recommendation of denial.

STIPULATIONS:

1. A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;

2. A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;

3. A minimum of 50' half street right-of-way dedication may be required along GARY ROAD or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;

4. Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;

5. The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals;

6. Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer;

7. The property is to be developed with an approved San Tan Heights Parcel D1 & D2 Planned Area Development (PAD) with a revised date of November 7, 2013 and Open Space and Recreation Plan (OSRP) with a revised date of November 7, 2013, along with the applicant's other supplementary documentation, in accordance with the applicable criteria set forth in Chapter 2.176 of the Pinal County Development Services Code;

8. As phase of development occurs, recreational open space and other developed open space will be developed in conjunction with the land uses developed within each "Phase" as outlined in section "11.0 Timing of Development" of the San Tan Heights Parcel D1 & D2 Planned Area Development (PAD) with a revised date of November 7, 2013;

9. Open space and recreational areas shall be designed to conform to the standards and diagrams indicated in the approved San Tan Heights Parcel D1 & D2 Planned Area Development (PAD) with a revised date of November 7, 2013 and Open Space and Recreation Plan (OSRP) with a revised date of November 7, 2013

10. The applicant shall ensure a minimum of 50.6 percent of the approved San Tan Heights Parcel D1 & D2 Quail Ranch Planned Area Development remains in open space, with a maximum overall density of 2.61 dwelling units per gross acre;

11. The final plat(s) shall be for no more than 218 single family residential lots.

12. Prior to Final Plat approval, the applicant/owner shall provide written verification from the Florence Unified School District, that applicable school concerns/issues have been resolved to the satisfaction of the District;

13. Prior to tentative plat and/or site plan approval, the applicant/ developer/owner shall provide written verification from the wastewater/sewage disposal provider, together with associated documentation, that:

    a. the wastewater/sewerage disposal provider has adequate capacity for collection, treatment and disposal of wastewater for the development;
    b. the development boundaries are located within a service area designated with an approved **CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)**;
    c. and the wastewater plan for the proposed development is in conformance with the **CERTIFIED AREAWIDE WATER QUALITY MANAGEMENT (208) PLAN**;

14. Approval of this zone change will allow the applicant/owner, during construction to provide for construction trailer(s) and associated parking;

15. Approval of this zone change will require, at the time of application for development, that the applicant/owner submit and secure from the applicable and appropriate Federal, State, County and Local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals; and

16. In the event any discrepancy or conflict arises between the applicant's written narrative report for the zone change and the stipulations attached to case number PZ-PD-008-13, the stipulations shall govern.

Date Prepared: 12/12/13 – sja
Revised: 01/09/14- sja

Greg Stanley
Assistant County Manager

Development Services

Greg Stanley
Interim County Manager

Memorandum

Date: December 19, 2013

To: Steve Abraham, Planning Manager
Planning and Development Services Department

From: Scott Bender, P.E.
Deputy Public Works Director

Subject: Planned Area Development Amendment for SAN TAN HEIGHTS, Case No. PZ-PD-008-13

The Public Works Department has reviewed the Planned Area Development Amendment for SAN TAN HEIGHTS, Case No. PZ-PD-008-13 and recommends that it be approved subject to the following conditions:

1) A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Final Plat approval;
2) A drainage report will be required to be submitted to the County Engineer for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Final Plat approval. The approved Drainage Plan shall provide retention for storm waters in a common retention area;
3) A minimum of 50' half street right-of-way dedication may be required along GARY ROAD or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;
4) Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;
5) The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic

signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals;

6) Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer;

Greg Stanley
Assistant County Manager
Development Services

Don Gabrielson
Air Quality Director

PINAL • COUNTY
wide open opportunity

Greg Stanley
Interim County Manager

MEMORANDUM FROM AIR QUALITY

Date: November 1, 2013

To: Travis Ashbaugh

Cc: P & Z Review Committee

From: Anu Jain - Permit Engineer

Re: Planning & Zoning Cases

I have reviewed the following Planning & Zoning cases:

Date	Case #	Applicant	Project	*Response
11/21/13	PZ(PD)009-13	Tim Dutra	Rancho San Manuel MHP	See Comments 1 & 2
11/21/13	PZ-PD-005-13	Ironwood 80, LLLP	Bella Camino	See Comments 1 & 2
11/21/13	PZ-PD-008-13	Gary Road Holdings, LLC	San Tan Heights PAD Amendment	See Comments 1 & 2
11/21/13	PZ(PD)-010-13	Borgata @ San Tan Heights, LLC	Rezone & PAD Overlay	See Comments 1 & 2

***Comments:**

1. The above proposed Planning and Zoning cases should have a paved road arterial access to the project, paved road access within the project and paved parking lots.

2. Dust registration is required if 0.1 acres or more land is disturbed.

Note:
All construction activity must conform to the earthmoving activity requirements of the Pinal County Air Quality Control District.

JOSEPH BECHELLI

HILARY J. BECHELLI

December 31, 2013

To: Steve Abraham
Pinal County Planning & Development Dept.
PO Box 2973
Florence, AZ 85132

Via e-mail: Steve.Abraham@PinalCountyAZ.gov

Re: Gary Road PAD Request for Amendment PZ-PD-008-13
Date of Hearing: 1/16/14

Dear Mr. Abraham:

My wife Hilary and I own a home across Gary Road from the land in question in the action item shown above. Our address is listed below.

We object to the project as follows:

1. The project and its amendment require a transfer of housing density from another parcel, even though the overall project has previously been granted such a transfer. Pinal County rules do not allow the developers the luxury of two such transfers, and their request should be denied for that reason and for the fact that its current density of 118 housing units is more than enough. Leaping to 287 units is really bad planning and is not justified legally or otherwise.

2. There is a conservation area within the boundaries of the PAD and these developers use that area as their "open space". Since they are mandated to leave that portion of the land undeveloped, they should not be able to call that "open space" to facilitate their increase in housing density.

3. Gary Road is a two lane, winding and hilly road on the south end of the development. The developers' plans for this development call for three separate entrances onto Gary Road, the southern one being the nearest to the hill/conservation area. Where that entrance is shown, Gary Road has a curve; and this would require drivers leaving the development to enter from the "inside" of the curve. That type of intersection requires greater

Reply to:
• 32089 N. Larkspur Dr. $ San Tan Valley, AZ 85142 $ (925) 768-2957 $ Fax (480) 365-0961
Q 15 St. Andrews Rd., Suite 4 $ Valley Springs, CA 95252 $ (209) 772-3681 $ Fax (209) 772-3658
E-mail: bechelli1@sbcglobal.net

than 180 degree vision by the driver entering Gary Road, and that is a well-known traffic hazard. Good example: The exit from the nearby Wal-Mart onto Gary Road is also from the inside of a curve on Gary Road, and is obviously dangerous. See attached photo of Gary Road showing the curve where the new entrance is proposed.

4. The plans call for three different entrances onto Gary Road in a very short distance. That will produce congestion and traffic hazards.

5. The most significant problem is also one which may not be so obvious until you drive along Gary Road: The development will destroy what is a beautiful, scenic view of the San Tan Mountains to drivers along Gary Road. See photo #2 attached, showing the current view. Photo #3 shows the current view from Gary Road across the street from the existing San Tan development – presumably similar to the view we will have (i.e., zero) if this development is passed as currently proposed.

Pinal County has made great efforts at purportedly requiring development to follow the concepts described in the Pinal Comprehensive Plan, especially the Land Use Element. The various goals, objectives and policies were crafted "to give guidance for achieving the long-range vision of how a community is to look and function in the future". The very first county-wide land use issue identified by the people of Pinal County is listed in paragraph 4.2 of the Land Use Element:

"Protect the natural environment, including **scenic views**, wildlife corridors, native vegetation, natural and cultural resources, and **open space**." (emphasis supplied).

If this development is to be approved, we ask you to 1) require the homes to be primarily single-story, especially near the Gary Road portion; 2) deny the request to increase the du/acre figure to 287 and instead require a limit of 118 dwelling units/acre as the maximum allowed (not to include the conservation area as part of the overall acreage in calculating the du/acre; 3) require the placement of Open space and drainage washes along Gary Road to maximize the scenic view of the mountains; and 4) eliminate the uppermost and the lowest of the three entrance roads.

Thank you very much for your help.

Very truly yours,

F. JOSEPH BECHELLI, JR.
and HILARY J. BECHELLI

Reply to:
• 32089 N. Larkspur Dr. $ San Tan Valley, AZ 85142 $ (925) 768-2957 $ Fax (480) 365-0961
Q 15 St. Andrews Rd., Suite 4 $ Valley Springs, CA 95252 $ (209) 772-3681 $ Fax (209) 772-3658
E-mail: bechelli1@sbcglobal.net

Reply to:
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E-mail: bechelli1@sbcglobal.net

Steve Abraham

From: [redacted]
Sent: Friday, December 20, 2013 1:25 PM
To: Steve Abraham
Subject: pz-pd-008-13/pz-008-13

Subject: Fencing request on mountain
From: Peter Boothby
[redacted]

Dear Steve
Thank you for your interest in my concern about protecting private property. As I mentioned before it has been a very large problem at times to keep people off the mountain. People never accepted that someone can own a mountain. Over the years I found trash, needles and saw a man take my no trespassing signs and pitch them over the side. I saw people hitting golf balls from the back of the mountain trying to hit my house. I have picked up about 8-10 balls (that I found). Kids started a landslide and sent boulders towards my neighbors house (been told).
I understand it's not the county's problem but policing the mountain is hard at times.
Now, with the influx of approximately 500-600 new people residing next door, it will be much worst because they will regard it as their mountain. This is because of someone developing the land and placing a burden on the owners of the adjacent mountain property.
I am requesting that a fence be erected (by builder/developer) that starts at the intersection of Phillips Rd and Pamela Pl and follow the back of the development and end at Gary Rd that will have no trespassing signs posted. Usually most developments are automatically fenced anyway, so I do not believe that my request is out of ordinary. There was a comment about Phillips Rd going over the mountain and connecting to Gary. This is next to impossible because the mountain is quiet high but there is a dirt road cut in a little way up but is really meant to give access for someone who may purchase the top lots.
I did not mean to be long winded but I hope the board will visit this issue again. Thank you again for your interest.

Peter Boothby

Travis Ashbaugh

From: Michael Sweeney [redacted]
Sent: Tuesday, January 07, 2014 7:27 PM
To: Travis Ashbaugh
Subject: opposition to PZ-PD-008-13

As a resident of the area pertaining to this proposal, I am strongly opposed to changing the existing PAD.
I bought property in this area BECAUSE it is zoned rural. I don't want to look out of my property and a
bunch of houses stacked next to each other.

Michael E. Sweeney
[redacted]

Travis Ashbaugh

From: [redacted]
Sent: Tuesday, January 07, 2014 5:44 PM
To: Travis Ashbaugh
Subject: PZ-PD-008-13

From: William Hundrieser
[redacted]

Regarding: PZ-PD-008-13

This letter is to serve as my expressed **DISAPPROVAL to the re-zoning of the PAD PZ-PD-008-13** to allow high density housing. We have far too many residents in the area the way it is making travel nearly impossible on Hunt Hwy both East and West bound. It is not allow way over congested but dangerous, It has already been widely publicized that the county has messed up with not planning for the growth and letting housing developers build these huge housing developments consisting of high density housing. This lack of planning has resulted in huge traffic woes not only on Hunt Hwy but the north and south bound traffic on Gary Road. Additionally it has been announced that the county/state does not have the funds to expand Hunt Hwy to even make it meet today's needs. So we have to live with the poor planning from the past. PLEASE do not make yet another bad decision and grant the approval for yet another high density development to further add to the horrendous traffic and elevated commute times. This area should remain as it is currently zoned low density housing.

I STRONGLY OPPOSE the re-zoning of PZ-PD-008-13

Sincerely,

William Hundrieser

Travis Ashbaugh

From: [redacted]
Sent: Tuesday, January 07, 2014 6:58 PM
To: Travis Ashbaugh
Subject: Land Development

Dear Travis Ashbaugh,

I am writing you in regard to the planned development on land down the street from me.
The vacant land is on the west side of Gary Road, south of Hunt Highway. My address is 2304 W Phillips Rd.
All the houses on Phillips Rd are on at least 1acre and more. I have seen the proposed development and have many concerns about having more high density housing right down the street.
The PAD currently describes and requires a transitional interface between low and high-density properties. I am opposed to proposal PZ-PD-008-13. which is wanting to change the current conditions of requiring larger lots like the one we live on.
We moved here to be out in the rural area because of just that, it is rural. We have invested almost $170,000 on a new building on our property for a pool house/ RV garage and planned on staying out in this "rural" area for many years.
Our fears and concerns are increased traffic, lowering our property values, light pollution, noise pollution, crime, blocking views, and lowering our quality of life with such high density housing.
Please reconsider and do not allow the change to go through Respectfully, Greg and Ronna Guidera

[redacted]

Opposed to proposal PZ-PD-008-13

Sent from my iPad

Travis Ashbaugh

From: [redacted]
Sent: Thursday, January 09, 2014 11:28 AM
To: Travis Ashbaugh; stan@telonics.com
Subject: PZ-PD-008-13

Attention: Mr. Travis Ashbaugh
Subject: PZ-pd-008-13

Dear Mr. Ashbaugh

I am writing to you concerning the housing development near Gary Rd. referenced in the subject line. I have done my best to see what has been approved already and what is being requested as a modification. It is confusing and I will not be able to attend the meeting due to personal issues. I am opposed to the increase in units in the proposal. I am opposed to the abandonment of a transition interface between high density housing and low density housing just north of Phillips Road. Some effort was made to have a transition along Phillips Road. One acre lots were placed along Philips road by San Tan Heights, but this proposal disregards any transition. If there can be a transition zone in the housing I would recommend that the row of homes next to Philips be removed in favor of open space rather than high density right next to the road. I am also concerned that a fence be installed to prevent people from simply walking out of the development into the open spaces yet undeveloped just to the south and to trespass on the mountain to the south. This land is all private land. It is still open and it is not part of the regional park, but there is extensive trespassing on the mountain at the present time and this will be increased with the addition of this development and then further increased if additional units are approved. The reoccurring issue is that those of us who moved to this part of Pinal County did so to have a rural life style. There is already extensive high density housing throughout the valley floor. Some kind of transition interface needs to exist between these two different housing options.
Since I will not be able to attend the meeting I am assigning Stanley M. Tomkiewicz to speak on my behalf at the meeting. I am sure you will consider all options and make the right decision to keep an interface between the two areas.

Thank You
David J. Plantholt Sr. & Family
[redacted]

Travis Ashbaugh

From: Michael Clarke [redacted]
Sent: Wednesday, January 08, 2014 3:04 PM
To: Travis Ashbaugh
Subject: Opposition to PZ-PD-008-13

Dear Mr. Ashbaugh

I was surprised to learn that a developer has requested a change to the existing zoning density for the vacant land south of Hunt Highway and West of Gary Road.
We are opposed to this for a number of reasons as follows :-

1. There are surrounding developments which are high density (Johnson Ranch/ Solera and San Tan Heights), and given the proximity to these communities, some of which house young children, while others accommodate 55+ adults. The increased traffic would increase the risks to all in these communities

2. Apart from increased risk, increased traffic volumes will increase noise to houses alongside Gary Road, some of which are already noisy.

3. It is my understanding that water run off from Gary / Lind Roads causes run off and flooding in Solera on occasions, which despite expensive modifications to the drainage in this development has not been eliminated. Further development, will only make water absorption more difficult and probably make the situation worse in Solera.

4. Given the rural nature of the land surrounding roads leading to San Tan Regional Park (Lind & Phillips) further development will detract from the area, and encourage further development in this part of Pinal County.

Our personal view is that while developers have a right to profit from making developments, it should not be at the expense of the surrounding community. As taxpayers we believe that it is the County responsibility to protect the numerous small home and land owners in the area from degradation of property values and quality of life.

Michael & Louise Clarke
[redacted]

Travis Ashbaugh

From: [redacted]
Sent: Wednesday, October 30, 2013 12:18 PM
To: Travis Ashbaugh
Cc: Gcannataro@cvlci.com
Subject: San Tan Heights Parcels D1 and D2

There are no negative impacts on the San Tan Heights planned area development amendment for Parcels D1 and D2 for Coolidge Unified School District. The preliminary site plan proposes 218 homes. While the district will not require land to build either a new school or build additions to existing school sites, there is a potential that we will need to hire more teachers.

We are requesting that the district and the developer reach a written agreement, including an amount per house, before permits are issued.

The Coolidge Unified School District is in support of the proposed development.

Charie Wallace

Charie Wallace, *Superintendent*
Coolidge Unified School District #21
450 N. Arizona Boulevard
Coolidge, AZ 85128
P: (520) 723-2041
C: (520) 251-6017
F: (520) 723-2442

Excellence in Service and Communication.

Steve Abraham

From: Wayne Balmer <wayne.balmer@queencreek.org>
Sent: Wednesday, November 27, 2013 4:14 PM
To: Travis Ashbaugh
Cc: Steve Abraham
Subject: Comments for PZ-008-13 & PZ-PD-008-13

Hello Travis:

Thank you for sending us the information on the above cases for review and comment by the Town of Queen Creek.

Although this property is not in the Town's Planning Area, I think it's important to note the difference between how the property adjacent to the hill is proposed to be developed in this case, compared to The Borgata at San Tan.

This property, like the Borgata was originally designated for 1 dwelling per acre due to the topography, and an earlier site plan showed large lots at the base of the hill.

Unlike the Borgata, however, this plan represents a substantial shift away from the 1 home per acre concept, and the base of the hill is lined with small lots - which effectively "wall off" the hill from the rest of the subdivision - both physically and visually.

I'm assuming the hill will be maintained by the future HOA, yet it appears to be seen as a liability rather than an asset. My recommendations would be:

- Increase the size of the lots at the base of the hill so there is more space between the homes through which the hill can be viewed by the neighbors
- Reduce the number of lots adjacent to the hill by allowing more points of access to the hill and "view corridors" to the hill - particularly where Christine and Peggy Streets intersect with Twin Peak. This would allow a view of the hill to the drivers - and to avoid headlights into the home on the other side of the street.
- It would also be helpful to remove one lot each both Pinto and Twin Peaks each turn facing the hill, so that drivers would have a view of the hill where they turn rather than having an additional lot in these locations.

P.S. Is there anyway you can shorten the files you send - 705 pages is a lot to review... It would also help if you could put the applicant's site plan with the location map and zoning map, so you can find them quickly, rather than having to look through the entire file and then go back and forth.

Wayne Balmer, AICP | Planning Administrator, Development Services Department | Town of Queen Creek | phone: 480-358-3095 | fax: 480-358-3105 | e-mail: wayne.balmer@queencreek.org | 22350 S. Ellsworth Road, Queen Creek, AZ 85142 | www.queencreek.org

Steve Abraham

From: Judy Allen <meerkat20@comcast.net>
Sent: Tuesday, November 19, 2013 11:21 AM
To: Steve Abraham; 'Judy Allen'
Subject: PZ-PD-008-13

Mr. Steve Abraham, Planning Manager

We are in favor of Gary Road Holdings, LLC amendment to the Planned Area Development Overlay District in the San Tan Heights PAD (PZ-PD-008-13). We would like to wish them the best and to thank them for investing in the San Tan Valley area.

Sincerely, Randolph A. Allen

To Whom It May Concern:

1. Planning Case Number – PZ-PD-008-13
2. Richard Hallman, [redacted]
3. I am opposing the request.
4. I don't plan on appearing at the hearing.

I understand that owners can put in 133 houses with out this change. Depending on the plot lay out it would have less of an impact on all the wild life that is in the area. I can have as many as 40+ Quail in my yard at one time. Just as many dove and a number of rabbits now and then. We have many children riding their bikes all around the trails as well as people on 4 wheelers and motorcycles. It is a place that they can go and ride safely. There had to be other good reasons why the original was changed to the 133. Another one I can think of is the traffic it will create on Gary. When the church they just built lets out on Sunday it will be a mess and I guarantee you will have accidents. (Many) I don't want to see anything built near or around the mountain, that's what makes our area so nice. Thank you for taking the time to read this and posting a big NO from at least one person.(family)

Richard Hallman Sr.

Steve Abraham

From: roger novak [redacted]
Sent: Monday, December 09, 2013 9:49 AM
To: Steve Abraham
Subject: pz-pd-008-13

Roger Novak

[redacted]

December 9 2013

Pinal County Planning & Development Dept

PO box 2979(31 N Pinal, Bldg F

Florance AZ 85132

ATTENTION: Steve Abraham

Ref: PZ-PD-008-13 Public Hearing amendment to PZ(PD)037-03

Dear Sir,

I am opposed the amended plan to overlay PZ(PD)037-03. I am concerned for the environmental effects to the area created by this plan. This includes both nature, road traffic as well as the safety of the children.

I will not be able to attend the Dec 19th hearing. Please record my opposition to the application and keep me informed with the further developments of the proposal.

Sincerely

Roger Novak

November 19, 2013

I am writing about PZ-PD-008-13 and Gary Road Holdings PZ(PD0037-03. I am extremely opposed to the rezoning. It will create traffic problems and place additional burden on law enforcement and street maintenance. It will also influence the number of children in elementary and High School adding a burden on the schools and also our tax base, which contribute a great percentage to schools.

I will not be able to attend the meeting because of previous commitments.

Sincerely,

Gennaro Malizia

Solera

SUBJECT: PZ-PD-008-13 PUBLIC HEARING

Since I will be unable to physically attend the scheduled Public Hearing on December 19, 2013, due to holiday plans out of state; I feel it necessary to write to you with my concerns. I am not opposed to the planned project, but feel that my concerns need to be brought to the Planning Departments attention prior to the start of the project. Two concerns listed below:

(1) **Water Distribution.** I reside in Solera, which is just opposite the planned site on the other side of Gary Road. Certain sections of Solera have experienced poor water pressure problems. Not enough pressure for normal use. This begs the question.....Will there be sufficient water pressure for an additional 218 homes? I feel this question needs to be clearly and completely answered to the surrounding communities.

(2) **Hwy Traffic concerns.** The present project plan calls for three (3) entry/exits onto Gary Road. This portion of Gary Road is very curvy and therefore hazardous to driving. Three entry/exits out onto a curve is a potential safety problem or an accident waiting to happen. Also there is no entry/exit out onto Phillips Road at the opposite end of the property. This could be a problem for emergency evacuations or public safety event. I would like to recommend that the plan be modified to allow for no more than two (2) entry/exits onto Gary Road and add one (1) entry/exit onto Phillips Road. The Phillips Road access would help alleviate congestion on Gary Road during peak traffic hours, and allow access to first responders in an emergency or Public Safety event.

I Thank You for your time and consideration.

NAME: Paul Messinger
ADDRESS: 32130 N. Echo Canyon Rd. San Tan Valley, AZ. 85143
PHONE: 480-735-9357
E-MAIL: paulsgop@cox.net

Courtesy Copy to: Supervisor Cheryl Chase

Travis Ashbaugh

From: pete <[redacted]
Sent: Tuesday, December 03, 2013 8:21 AM
To: Travis Ashbaugh
Subject: PZ-PD-008-13

Attention: Mr. Travis Ashbaugh
Subject: PZ-pd-008-13
Dear Sir
I am writing to you concerning the housing development off of Gary Rd. I am not really against the project because it is a logical use of the land but I would prefer that it did not happen.
I currently live at the corner of Ashton Pl and Phillips Rd. I first moved to this area in 1996, I bought 5 acres on Pamela Pl and built a house and never thought that this area would be high density housing. I moved here for the rural lifestyle. Then houses started to spring up but at least, there are one acre property's along the north side of Phillips and Robert's Rd too act as a buffer between high density and rural living.
My concern is I am hopeful that the south side of the new development that is along Phillips Rd be a buffer zone like the other parts of Phillips Rd or at least fenced to foot and auto traffic. The part of the mountain on the south that is part of the project needs to be fenced also because the land North is private and it is impossible to keep people from climbing. I struggled to keep people off and had property damage and people pulled down my signs.
I do plan on attending the meeting and if you have questions I would be more than happy to help you.

Thank you
Peter Boothby
[redacted]

Steve Abraham

From: Ashlee MacDonald
Sent: Monday, December 09, 2013 8:02 AM
To: Steve Abraham
Subject: FW: PZ-PD-008-13

Ashlee MacDonald
Planner II
Pinal County Planning and Development
P.O. Box 2973
Florence, AZ 85132
phone 520-866-6642
fax 520-866-6435

From: DOMINICK MCCUTCHEON [redacted]
Sent: Thursday, December 05, 2013 8:13 PM
To: Ashlee MacDonald
Subject: PZ-PD-008-13

Dear Mrs. MacDonald:

We are opposed to the increase of an additional 85 units to the San Tan Heights development (PZ-PD-008-13).

(We are not opposed to the plan that had previously been approved).

Sincerely,

Dominick and Julie McCutcheon
[redacted]
Ed and Audrey Felzer
[redacted]

Travis Ashbaugh

From: Stan Tomkiewicz [redacted]
Sent: Sunday, December 08, 2013 7:49 PM
To: Travis Ashbaugh
Subject: PZ-PD-008-13

Attention: Mr. Travis Ashbaugh
Subject: PZ-pd-008-13

Dear Mr. Ashbaugh

I am writing to you concerning the housing development near Gary Rd. referenced in the subject line. I have done my best to see what has been approved already and what is being requested as a modification. It is confusing and I will attend the meeting to clarify the issue. I am opposed to the increase in units in the proposal. I am opposed to the abandonment of a transition interface between high density housing and low density housing just north of Philips Road. Some effort was made to have a transition along Philips. One acre lots were placed along Philips road by San Tan Heights, but this proposal disregards any transition. If there can be a transition zone in the housing I would recommend that the row of homes next to Philips be removed in favor of open space rather than high density right next to the road. I am also concerned that a fence be installed to prevent people from simply walking out of the development into the open spaces yet undeveloped just to the south and to trespass on the mountain to the south. This land is all private land. It is still open and it is not part of the regional park, but there is extensive trespassing at the present time and this will be increased with addition of this development and then further increased if additional units are approved. The reoccurring issue is that those of us who moved to this part of Pinal County did so to have a rural life style. There is already extensive high density housing throughout the valley floor. Some kind of transition interface needs to exist between these two different housing options.

Stanley Tomkiewicz

[redacted]

CVL
CONSULTANTS

July 22, 2013

Neighboring Property Owners

Re: San Tan Heights – Parcels D1 & D2
Property Rezoning

Dear Neighbor:

On behalf of Matrixx Management, LLC, we invite you to attend a neighborhood meeting scheduled for Wednesday, August 7, 2013 at 6:00 pm, to review plans for San Tan Heights – Parcels D1 D2. This project is located at Gary Road and Phillips Road. (See attached map)

Coe & Van Loo Consultants, Inc. (CVL) is processing a Planned Area Development ("PAD") Amendment to enable development of the site as a high quality, single-family detached residential community with 218 homes and substantial open space. The PAD Amendment is being processed with Pinal County to allow an increased number of homes within the overall San Tan Heights PAD. The proposed increase will not exceed the previously agreed to zoning cap.

The purpose of the meeting is to share with the neighborhood a Preliminary Development Plan and other updated plans for the residential development based on County Staff and neighborhood input. A copy of the revised Preliminary Development Plan is attached.

The neighborhood meeting will be held at the below listed time and place:

Wednesday, August 7, 2013
6:00 p.m.
San Tan Heights Elementary School – Cafeteria
2500 W. San Tan Heights Blvd., San Tan Valley, AZ 85142

We look forward to seeing you then. If you have any questions regarding this meeting, please contact me directly at (602) 285-4730.

Sincerely,

COE & VAN LOO
Consultants, Inc.

Ryan Weed, P.E.
Executive Vice President, Director

San Tan Heights Neighborhood Meeting
8/7/2013

	Name	Address	Phone #	Email Address
1	BARBARA GILMORE	[redacted]		
2	FRED GILMORE			
3	PAUL MESSINGER			
4	Vincent Wilcox			
5	Rick Hallman			
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8	Victor Jones			
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San Tan Heights Neighborhood Meeting
8/7/2013

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PROJECT COMMENTS

Please provide the information outlined below, as well as any comments about the project.

Name: BARBARA + FRED GILMORE

Address: [redacted]

Phone:

Email:

Comments: WILL THE TOWN WIDEN GALEY RD
WILL STREET LIGHTS BE PUT UP.
WILL THERE BE SIDEWALKS

PROJECT COMMENTS

Please provide the information outlined below, as well as any comments about the project.

Name: BARBARA + FRED GILMORE

Address: [redacted]

Phone:

Email:

Comments: NEED A GUARD RAIL ON EAST SIDE OF GARY RD DUE TO NUMEROUS ACCIDENTS ACROSS FROM LOTS 15 & 16

PROJECT COMMENTS

Please provide the information outlined below, as well as any comments about the project.

Name: Vincent Wilcox

Address: [redacted]

Phone:

Email:

Comments: Not enough Park area's; or play area for children, using green space on hill for without adequate park area.

PROJECT COMMENTS

Please provide the information outlined below, as well as any comments about the project.

Name: Paul MESSINGER

Address: [redacted]

Phone:

Email:

Comments:
THREE EXITS ON GARY Rd AND NONE out the other END. There will be EXCESSIVE tfc ON GARY AND There should be another exit out the back. PERHAPS ONE LESS EXIT ON GARY AND ADD ONE ON Phillips Rd where cul de sac is shown.

PROJECT COMMENTS

Please provide the information outlined below, as well as any comments about the project.

Name: Rich Hallman

Address: [redacted]

Phone:

Email:

Comments: Need to keep Habitat For Animals in area
77-76-75-74-73 DC
71 72-73-74-75 71-70-69 76-81 move Horses to Green
at Parcel D1
I am against This whole Thing we Should have
a Large Park area instead of The Homes.

Do Not Build !!!

SAN TAN HEIGHTS PARCELS D1 & D2
PLANNED AREA DEVELOPMENT (PAD) AMENDMENT
CITIZEN REVIEW REPORT
MEETING NOTES:
NEIGHBORHOOD MEETING HELD WEDNESDAY, AUGUST 7, 2013, 6:00 PM

On July 22, 2013 the applicant implemented a notification mailing to all citizens within the San Tan Heights Community and to all neighboring property owners, homeowner and community associations, and school districts within 1200 feet of the property. The letter of notification included the date, time, and location of the meeting; a description of the project and the nature of the requested PAD amendment; and a request for written and/or verbal comments or questions from the citizens participating. (See attached copy of Notification Letter).

The meeting was held at the San Tan Heights Elementary School Cafeteria, 2500 W. San Tan Heights Blvd. and began at 6:00 PM.
A pre-prepared sign-in sheet indicates that a total of six (6) citizens attended and participated in the meeting. (See attached copy of the Sign-in Sheet).
Other attendees included Mr. Robert Watt of Matrixx Management representing the project property owner, and George Cannataro of Coe & Van Loo Consultants, Inc. representing the consultants for the project.
Presentation exhibit boards were displayed and Mr. Cannataro gave a short verbal presentation of the proposed project development and the requested PAD amendment process and turned the meeting over to the citizen attendees for questions and comments.

- There seem to be little interest in the residential development itself except that attendee Mr. Richard Hallman wanted it not to be built at all and wanted all the property to be set aside as a conservation area/park and a habitat for animals.
- Attendees Barbara and Fred Gilmore were not opposed to the project but asked questions related to improvements to Gary Road (see attached written comments) stating that the existing Road was insufficiently improved and needed improvements such as lighting, sidewalks, and a guardrail on the road's east side at the curve due to many past accidents in that area. The Gilmores also asked if the new development would have all the necessary utilities and services and was told that the developer was required by Pinal County codes and standards to provide utility infrastructure and services to all new development.
- Attendee Vincent Wilcox was no opposed to the project but was concerned about open space, parks, and trail connections. Mr. Wicox was briefed as to the over 50% of total

open space proposed for the project that included a park picnic area and ramada along with trails that did indeed connect with the community and County regional trails.

- Attendee Paul Messinger was not opposed to the project in general but was concerned about the three access points onto Gary Road and suggested that one of the three exits should be relocated to the southwest corner of the project onto Phillips Road. Mr. Messinger was informed that the project half of Gary Road would be improved to the extent where it would be much safer having the proposed access points there and that it is likely that all the residents of the project would be inclined to want to exit the development onto Gary Road. Mr. Messinger was also told that an access point onto Phillips Road might provide resident in other parts of the community an opportunity for a short-cut through the project to get to Gary Road and to the commercial facilities at Hunt Highway. This would cause outside traffic flow through the project and possible cause traffic congestion and unsafe conditions at the proposed intersections on Gary Road.
- There was a general discussion related to the proposed housing products to be used within the project and attendees were informed that the developer for this project was not a home builder and that the entitled project would eventually be sold to one of the home builders already involved in building homes in the San Tan Heights community.
- The meeting was concluded at approximately 7:20 PM.
  (See attached attendee written comments)

APPLICATION FOR A PLANNED AREA DEVELOPMENT (PAD) OVERLAY DISTRICT IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA

(All applications must be typed or written in ink.)

1. Pinal Count Staff Coordinator: Travis Ashbaugh

2. Date of Concept Review: 04/29/2013 Concept Review No.: S-PA-014-13

3. The Legal Description of the Property: A portion of the North half of Section 13, Township 3 South range 7 East of the Gila and Salt River base and meridian, Pinal County, Arizona.

4. Tax Assessor Parcel No.: 509029240 & 50902059A

5. Current Zoning: CR-3 83.52 acres.
Requested PAD Overlay District: 83.52 acres

6. Parcel Size: 83.52 acres

7. The existing use of the property is as follows: Vacant and undeveloped.

8. The exact use proposed under this request: Single family residential.

9. Is the property located within three (3) miles of an incorporated community?
YES (NO)

10. Is an annexation into a municipality currently in progress?
YES (NO)

11. Is there a zoning violation on the property for which the owner has been cited? If yes, zoning violation #_____
YES (NO)

12. Discuss any recent changes in the area that would support your application i.e.: zone change(s), subdivision approval, Planned Area Development (PAD), utility or street improvements, adopted comprehensive/area plan(s) or similar changes. The San Tan Heights PAD is approximatly 80 to 85 percent developed. This application is for PAD admendment and subdivision approval of Parcels D1 and D2 of the original PAD, which are one of the few residential areas originally planned but not yet developed.

13. Explain why the proposed development is needed and necessary at this time. These Parcels have been vacant and undeveloped since 2004 and are parts of the last few areas in line for development to complete the development of the San Tan Community.

RECEIPT #: AMT: 1,545 DATE: 8/9/13 CASE: PZ-PD-008-13

Revised February 2012

Name of Project: San Tan Heights, Parcels D1 & D2 Planned Area Development

Amended Development Standards

Proposed Zoning	Minimum Lot Area (Square Feet)		Minimum Lot Width (Feet)		Minimum Yard Sizes (Building Setbacks in Feet)		Maximum Building Height (Feet)		Detached Accessory Buildings (Minimum Distance Between)		Buildable Area	
	Code	Proposed	Code	Proposed	Code	Proposed	Code	Proposed	Code	Proposed	Code	Proposed
CR-3	7,000	4,950	60'	45'	Front: 20 Side: 8 Rear: 25	Front: 18 Side: 5 Rear: 15	30	30	Main Building: Front Lot Line: Rear & Side Lot Lines:	Main Building: Front Lot Line: Rear & Side Lot Lines:		
					Front: Side: Rear:	Front: Side: Rear:			Main Building: Front Lot Line: Rear & Side Lot Lines:	Main Building: Front Lot Line: Rear & Side Lot Lines:		
					Front: Side: Rear:	Front: Side: Rear:			Main Building: Front Lot Line: Rear & Side Lot Lines:	Main Building: Front Lot Line: Rear & Side Lot Lines:		

Revised February 2012

NAME OF PROJECT: SAN TAN HEIGHTS PARCELS D1 & D2 PLANNED AREA DEVELOPMENT

AMENDED PERMITTED USE LIST

Proposed Zoning	Uses that will **NOT** be permitted in this Planned Area Development
CR-3	• There are no proposed uses in the Planned Unit Development that are not permitted

NAME OF PROJECT: **SAN TAN HEIGHTS PARCELS D1 & D2** PLANNED AREA DEVELOPMENT

AMENDED PERMITTED USE LIST

Proposed Zoning	Uses that WILL BE permitted in this Planned Area Development
CR-3	• One-family dwelling, conventional construction. • Public park, public or parochial school. • Church, provided the minimum off-street parking requirements, as set forth in PCDSC 2.140.020(E), are met. • A travel trailer or recreational vehicle (RV) for not more than 90 days during construction of a residence on the same premises, which period may be extended for an additional period of 90 days upon application to the zoning inspector. • Horticulture, flower and vegetable gardening, nursery or greenhouse used only for propagation and culture and not for retail sales. • Home occupation. • Accessory building or use. [Ord. 61862 § 1101].

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. *Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.*

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

GARY ROAD HOLDINGS, LLC
[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]
hereinafter referred to as "Owner," is/are the owner(s) of _____ acres located at _____, and further identified _____
[Insert Address of Property]
as assessor parcel number 509-01-9240 and legally described as follows:
[Insert Parcel Number]

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints MATRIXX MANAGEMENT, LLC
[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]
hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

_____ *[Signature]*
Dated: 10/18/13

_____ *[Signature]*
Dated: _____

STATE OF California)
COUNTY OF San Francisco) ss

The foregoing instrument was acknowledged before me this 11 day of October, 2013
by Peggy S. Gale
[Insert Name of Signor(s)]

My commission expires June 01, 2017

MICHAEL CORNELIUS
Commission # 2023339
Notary Public - California
San Francisco County
My Comm. Expires Jun 1, 2017

[Corporate PROPERTY OWNER signature block and acknowledgment The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

Gary Road Holdings, LLC
[Insert Company or Trustee's Name]

By: _____
[Signature of Authorized Officer or Trustee]

Its: Manager
[Insert Title]

Dated: 10/11/13

STATE OF California
) ss.
COUNTY OF San Francisco

The foregoing instrument was acknowledged before me, this 11 day of October, 2013, by

Peggy S. Gaub
[Insert Signor's Name]

Manager
[Insert Title]

Gary Road Holdings, LLC an _____
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*

and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: June 01, 2017

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF _____)
) ss.
COUNTY OF _____)

On this ____ day of _____, _____, before me, the undersigned, personally appeared

_____ Who acknowledged himself/herself to be
[Insert Signor's Name]

_____ of _____
[Title of Office Held] *[Second Company]*

As _____ for _____, and who being
[i.e, member, manager, etc.] *[Owner's Name]*
authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

_____
Notary Public

My commission expires: _____

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. *Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.*

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

SAND Hill Company Inc
[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of _____ acres located at _____, and further identified _____
[Insert Address of Property]

as assessor parcel number 509-62-059A and legally described as follows:
[Insert Parcel Number]

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints MATRIXX Wanagement
[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

_____ *[Signature]*
Dated: 10/11/13

_____ *[Signature]*
Dated: _____

STATE OF California)
COUNTY OF San Francisco) ss

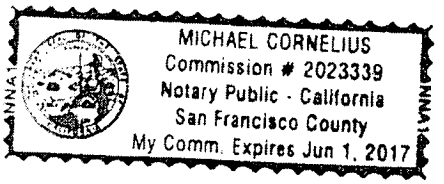
The foregoing instrument was acknowledged before me this 11 day of October, 2013
by Peggy S. Hall
[Insert Name of Signor(s)]

My commission expires June 01, 2017

MICHAEL CORNELIUS
Commission # 2023339
Notary Public - California
San Francisco County
My Comm. Expires Jun 1, 2017

[Corporate PROPERTY OWNER signature block and acknowledgment The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

Sand Hill Company INC
[Insert Company or Trustee's Name]



By: _____
[Signature of Authorized Officer or Trustee]

Its: Vice President / Treasurer
[Insert Title]

Dated: 10/11/13

STATE OF California)
) ss.
COUNTY OF San Francisco)

The foregoing instrument was acknowledged before me, this 11 day of October 2013, by

Peggy S. Caleb
[Insert Signor's Name]

Vice President / Treasurer
[Insert Title]

Sand Hill Company Inc., an Arizona
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*

and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: June 01, 2017

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF _____)
) ss.
COUNTY OF _____)

On this ____ day of _____, _____, before me, the undersigned, personally appeared

_____ Who acknowledged himself/herself to be
[Insert Signor's Name]

_____ of _____
[Title of Office Held] *[Second Company]*

As _____ for _____, and who being
[i.e, member, manager, etc.] *[Owner's Name]*
authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

_____
Notary Public

My commission expires: _____

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Sand Hill Company, INC
12340 S. Sunnyvale - Saratoga Rd
Saratoga, CA 95070

408-253-4747

Name of Landowner (Applicant) Address Phone Number

Signature of Landowner (Applicant) Peggy@GalebPaving.com
E-Mail Address

Matrixx Management, LLC
7650 E Redfield Rd D-7
Scottsdale, AZ 85260

480-860-5252

Name of Agent Address Phone Number

Signature of Agent Bob@matrixxmgt.com
E-Mail Address

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Name of Landowner (Applicant)	Address	Phone Number
GARY ROAD HOLDINGS, LLC	12340 S. Sunnyvale-Saratoga Rd, Saratoga, CA 95070	408-253-4747

Signature of Landowner (Applicant) — Peggy@GalebBuying.com (E-Mail Address)

Name of Agent	Address	Phone Number
MATRIXX MANAGEMENT, LLC	7650 E Redfield Rd D-7, Scottsdale, AZ 85260	480-850-5252

Signature of Agent — BOB@MATRIXXMGT.com (E-Mail Address)

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.

APPLICATION CHECKLIST

FOR A PROPOSED PLANNED AREA DEVELOPMENT (PAD) OVERLAY DISTRICT IN UNINCORPORATED PINAL COUNTY

☒ A. Check the appropriate item:

- ☒ This PAD is being submitted without a zone change request
- ☐ This PAD is being submitted in conjunction with a zone change request. The applicant must complete a zone change application. – ***(Please utilize the "PAD Book" and the "Site Plan" of the PAD application to fulfill the Zoning Application "Narrative" and "Site Plan" in lieu of while having separate copies for each application).***

☒ B. Hold a Neighborhood/Community Meeting:

- ☒ **1.** Notify all property owners within 1200' (feet)
- ☒ **2.** Hold the meeting within five (5) miles of the subject property
- ☒ **3.** Hold the meeting between 5:00 pm – 9:00 pm
- ☒ **4.** Include with the application the following:
  - ☒ **a.** Copy of Notice of Neighborhood/Community Meeting
  - ☒ **b.** List of property owners notified - ***(Use page 6 of this application)*** *see narrative booklet.
  - ☒ **c.** Minutes of the meeting
  - ☒ **d.** Attendance sign-in sheet with names & addresses

☒ C. **Submit** a completed **"Agency Authorization"** form *(if applicable)*.

☒ D. **Submit** a **"PAD Book"** (written narrative) concerning the proposed development to include the following sections – *Refer to Chapter 2.176.240 (B) of the PCDSC* for further clarification ***(NOTE: Please No Spiral Binding)***:

- ☒ 1. Title Page
- ☒ 2. Purpose of Request
- ☒ 3. Description of Proposal
  - ☒ Nature of the Project
  - ☒ Proposed Land Uses
  - ☒ Building Types & Densities
  - ☒ Conformance to adopted Land Use Plans
  - ☒ Circulation and Recreation Systems

☒ 4. Relationship to surrounding properties within one mile

☒ 5. Schools

☒ 6. Public Services

☒ 7. Community Services and how will the need for these services be addressed

☒ 8. Location & Accessibility

☒ 9. Compliance with RSRSM, Access Management Manual, October 2008

☒ 10. Utilities & Services

☒ 11. Ownership & Control – [*See Section 2.176.240 (B)11*]

☒ 12. Timing of Development (Phasing Schedule)

☒ 13. Conformance with the Comprehensive Plan

☒ 14. Recreational Amenities

☒ 15. Fences, Walls & Screening

☒ 16. Total number of dwelling units

☒ 17. Maximum Residential Density of each planning unit

☒ 18. Total number of parking spaces for recreational facilities

☒ 19. Type of landscaping

☒ 20. Preliminary hydrologic data and a statement on drainage

☐ 21. Additional Information for Commercial & Industrial Uses *(if applicable)*:

- ☐ Total Area in acres proposed *(Commercial & Industrial Separated)*
- ☐ Approximate retail sales floor area *(Commercial)*
- ☐ The uses proposed uses based on permitted uses in the base zone.
- ☐ The standards of height, open space, buffering, landscaping, pedestrian and vehicle circulation, off-street parking and loading, signs, outdoor lighting, and nuisance controls intended for the development.

☒ 23. Tables:

- ☒ **a.** Land Use Table(s) to include the following:
  1) Total Acreage of the site
  2) Total Area of arterial & collector streets
  3) Total Area & Percent of Open Space
  4) Total Number of each type of dwelling unit

5) Total Number of all dwelling units proposed including the range and mixture of lot sizes within each base zone
6) The Overall proposed Density

☒ **b.** Amended Development Standards Table comparing proposed and current zoning code standards for:
1) Minimum Lot Area
2) Minimum Lot Width
3) Minimum Building Setbacks
4) Maximum Building Height
5) Minimum Distance between main & detached accessory buildings
6) Buildable Area

☒ **c.** Amended Use Tables:
1) Permitted Uses
2) Non-Permitted Uses

☒ **d.** Utilities & Services Table of type and source:
1) Sewer
2) Water
3) Electric
4) Telephone
5) Police
6) Fire
7) Schools
8) Solid Waste Disposal

☐ 24. Appendix, as applicable

☒ E. **Submit** a **map** that shows the relationship to surrounding properties within one mile of the project boundaries. The map shall be drawn at a sufficient scale so as to not exceed a print size larger than 11" X 17". The lettering shall be of sufficient size to be legible when reduced to an 8½" X 11" print. The map shall contain the following information:

☒ 1. Zoning Boundaries

☒ 2. Street Alignment

☒ 3. Open Space

☒ 4. Trails

☒ F. **Submit** a current preliminary **Title Report** *(dated within 60 days prior to application)*

☒ G. **Submit** a **Development Plan.** The submittal shall be drawn at a sufficient scale as to not exceed a print size larger than **24" X 36"** with **11" X 17"** reductions to be included in the PAD Overlay District Application where the lettering is of sufficient size to be readable. The Development Plan shall include:

☑ **1. Site Plan:**

- ☑ **a.** Title of project as shown in the narrative report, such as ***"Planned Area Development for (insert name of Development)"*** in bold letters.
- ☑ **b.** Name(s) of Landowner(s), Developer, Applicant, and Person or Firm preparing the plan.
- ☑ **c.** North Arrow, Scales *(written & graphic)*, Preparation Date & Subsequent Revision Dates.
- ☑ **d.** Vicinity Map showing project, surrounding development and applicable zoning districts *(scale no less than 1" = 2,000')*
- ☑ **e.** Existing Zone designation & requested zone change *(as applicable)*
- ☑ **f.** Legal Description of total site
- ☑ **g.** Boundaries of the proposed PAD Overlay Zoning District delineated and dimensioned by bearing and distance.
- ☑ **h.** All existing and proposed public and/or private streets, location and width of associated easements and rights-of-way and whether they will remain or be extinguished.
- ☑ **i.** Location & Identification of all existing and proposed utilities, location and width of associated easements.
- ☑ **j.** Location of all existing structures and significant natural features.
- ☑ **k.** Nearest regional significant routes to proposed development as projected in RSRSM Final Report, December 2008.
- ☑ **l.** All points of ingress and egress.
- ☑ **m.** Parking Areas.
- ☑ **n.** Identify & Delineate existing and/or proposed trails as shown on the Pinal County trails system master plan.
- ☑ **o.** Indicate and/or label *(as applicable)*:
  1) Areas to be reserved for residential, commercial, industrial, open space, public use, facilities, drainage, and recreation.
  2) Who will own, control and maintain the landscaping, recreational facilities, open areas, refuse disposal, streets, private utility systems.
  3) Topography with a maximum contour interval of two feet except where existing ground is on a slope of less than two percent, then either one foot contours or spot elevation shall be provided where necessary.
  4) Phase Lines *(as applicable)*.
- ☑ **p.** Provide lot typical (typical should show building envelope, setbacks, lot dimensions and fences/walls) for:
  1) Each type of dwelling unit
  2) Lots in unusual locations (i.e. Cul-de-sacs, corners, hillside lots where clustering will occur.

☑ **q.** Indicate by notes the existing drainage pattern and proposed drainage plans for handling on-site and off-site storm water runoff

☑ **r.** Indicate location, type, height, and materials for proposed walls, fences, and signs.

☑ **s.** Location and types of existing and proposed landscaping.

☑ **t.** Designated Flood Zone

☑ **2. Quantitative Development Data Tables**

☑ **a.** Land Use table to include:
1) Total Gross Acreage of site
2) Total Area of Streets (Public & Private)
3) Total Area of Public Open Space
4) Total Net Area of all intended uses
5) Total Areas of Open Space for PAD Residents, and total Recreation Area Open Space
6) Total Dwelling Units permitted under base zoning district
7) Total number of each dwelling type including range and mixture of lot sizes within each base zone
8) Grand Total of Dwelling Units
9) Overall Density proposed

☑ **b.** Zoning Comparison Table of Existing & Proposed to include:
1) Lot area per dwelling unit
2) Setbacks
3) Minimum Lot Widths
4) Maximum Building Heights
5) Parking

☑ **c.** Utility & Services Table indicating type and source:
1) Sewer
2) Electric
3) Telephone
4) Water
5) Police/Security
6) Fire
7) Schools
8) Solid Waste Disposal

☑ **d.** Street Type Table indicating proposed rights-of-way and pavement widths for arterials, collectors, and neighborhood streets.

☑ H. **Submit** an **Open Space & Recreation Plan** ("OSRP") that includes – *Refer to Chapter 2.176.250 (B) (25) of the PCDSC* for further clarification:

☑ **1. Reviewed** the Pinal County Open Space & Recreational Area Guideline Manual (OSRAM).

☑ **2. Site Analysis**

☑ **a.** Aerial Photo
1) Preferred scale of 1"=50' *(maximum scale of 1"=100')*
2) Site Analysis should be produced in an **8½" X 11" format for text**
3) Site Analysis should be produced in an **24" X 36" format for plans**

☑ **b.** Total acreage of proposed development

☑ **c.** Context Map showing the proximity and relationship to the County's trails, parks, or schools and connectivity to the adjacent neighborhoods, off-site trails, paths, bikeways, and transit areas.

☑ **d.** A concept drawing of the proposed development including:
1) Gross Site Area
2) Number of proposed lots
3) Proposed Arterial & Collector street circulation system
4) Proposed lot size(s),
5) Proposed Retention/detention areas
6) Proposed Development Phasing

☑ **e.** The Target Market of the proposed development – (*See OSRAM Guideline Manual*)

☑ **f.** Existing and proposed developed or conservation open space areas and multi-use path and trail corridors within proximity to the proposed development:
1) within one (1) mile in proximity of the proposed development of less than 800 gross acres
2) within three (3) miles in proximity of the proposed development of 800 gross acres or more.

☑ **g.** Narrative Describing:
1) How the proposed development will integrate into the County's overall open space and trail system as depicted in the plan
2) How the requirements for Developed and/or Conservation Open Space, recreation areas and multi-use path and trails are met.

☑ **h.** A pedestrian circulation system

☑ **i.** A Slope Analysis identifying the following slope categories:
1) 0% - 5%
2) 5% - 10%
3) 10% and greater

☑ **j.** Identification of wash corridors and preliminary hydrologic information for the contributing watershed.

☑ **k.** Identification of the location of riparian vegetation and biological habitats. Aerial photos should be used to map the limits of notable vegetation.

☑ **l.** Identification of potential view corridors.

☑ **m.** Identification of the projected 100-year floodplain and floodway boundary as required by FEMA.

☑ **n.** A record check through Arizona State Museum ("ASM") for archeological sites and identification of any sites or surveys.

☑ **o.** The location and percentage of each proposed development to be preserved as conservation open space and the features to be protected including parcel size and minimum dimensions.

☑ **p.** The location and percentage of each proposed development to be preserved as developed open space and the specific Recreation Areas, including amenities, parcel size and minimum dimensions.

☑ I. **Submit** a **Landscape Plan** that includes – *Refer to Chapter 2.176.240 (C) of the PCDSC* for further clarification:

☑ **1.** A Vegetation Salvage Plan

☑ **2.** Proposed treatment of all ground surfaces (paving, turf, gravel, grading, etc.)

☑ **3.** Extent and location of all plant materials and other landscape features.

☑ **4.** Extent of decorative design elements such as fountains, pools, benches, sculptures, planters, and similar elements.

☑ **5.** Location of Water Outlets.

☑ J. **Reviewed, Met,** and/or **Addressed** the following in Chapter 2.176 of the PCDSC:

☑ **1.** Minimum requirements for Open Space – *(Section 130)*

☑ **2.** Uses permitted within open space areas – *(Section 140)*

☑ **3.** Uses prohibited within open space areas – *(Section 150)*

☑ **4.** Minimum requirements for recreation areas – *(Section 160)*

☑ **5.** Minimum requirements for multi-use paths and trails – *(Section 170)*

☑ **6.** Minimum requirements for storm water retention & detention basins – *(Section 180)*

☑ **7.** Minimum requirements for streetscapes & entryways – *(Section 190)*

☑ **8.** Minimum requirements for conservation open space – *(Section 200)*

☑ K. **Submit** a **Master Sign Plan** detailing the location and type of all proposed signage for the project.

☑ L. **Submit** a **Preliminary Drainage Report**

☑ **M.** **Submit** a **Preliminary Traffic Impact Assessment** (TIA)

☑ **N.** **Submit** a copy of a certified **A.L.T.A.** survey, including a legal description of the PAD boundary.

☑ **O.** **Aware** that earth fissure maps are available online from the Arizona State Geologic Survey.

☑ **P.** **Submit a list of all property owners within 600' (feet)** of the subject property boundary showing name, mailing address and tax parcel numbers. This list must be obtained within 30 days prior to application submission. A map showing the 600' boundary and parcels must be included as well (*A Tax Assessor Parcel Map is Acceptable*). - ***(This list is a separate list from the "Neighborhood/Community Meeting list of 1,200' however use Page 5 of this application as well).***

☑ **Q.** **Submit** separate preliminary reports or master plans for:

- ☑ **1.** Storm water drainage
- ☑ **2.** Wastewater
- ☑ **3.** Domestic water service.

☐ N/A **R.** **Submit** additional materials required for specific types of commercial and industrial uses as follows *(as applicable)*:

- ☐ **1. Commercial Uses:**
  - ☐ **a.** Retail sales floor area and total area proposed for commercial development
  - ☐ **b.** Type of uses proposed
- ☐ **2. Industrial Uses**
  - ☐ **a.** Total Area proposed for industrial uses
  - ☐ **b.** Types of uses proposed
  - ☐ **c.** Anticipated employment for development per major phases
- ☐ **3. Standards of:**
  - ☐ **a.** Height
  - ☐ **b.** Open Space
  - ☐ **c.** Buffering
  - ☐ **d.** Landscaping
  - ☐ **e.** Pedestrian & Vehicular circulation
  - ☐ **f.** Off-street parking & Loading

- ☐ **g.** Signs
- ☐ **h.** Nuisance Controls

☐ **S.** **Complete** and **Submit** the **"Comprehensive Plan Compliance Checklist"**

☒ **T.** Non-Refundable $1,000.00 filing fee for a Planned Area Development

☒ **U.** **Submit** one **(1) hard copy** of all documentation outlined in the PAD application and one **(1) digital copy** in a multi-PDF format per item of the application with all supporting documentation on **one (1) CD.**

☒ **V.** **Submit** one (1) CD which contains:

☐ **1.** An ESRI shapefile for land use (conceptual) which shows all proposed zoning lines and zoning classifications for the project in NAD_1983_stateplan_arizona_central_fips_0202_intlfeet projection

OR

☑ **2.** An AutoCAD (.dwg file), which includes the following layers:

- ☐ **a.** Parcel
- ☐ **b.** Right-of-way
- ☐ **c.** Sub-perimeter
- ☐ **d.** Centerlines
- ☐ **e.** Section Lines
- ☐ **f.** Street names
- ☐ **g.** Lot-numbers
- ☐ **h.** Distances & Bearings tied by course and distance to two Pinal County survey control points or established city or county survey monuments. *(Information on these control points can be obtained from Public Works, Engineering Technicians at 520-866-6411).*

☑ **W.** **Aware to Install Broadcast Notification Sign(s) on the site in conformance with the information shown in this application.** (*See page 13 of this application for illustrative details*).

☑ **X.** Signature at the end of the **"Checklist"** stating you have reviewed and addressed all areas within it.

I certify that I have submitted all the required information listed above, and I understand that this application for a Planned Area Development cannot be processed until all required information is submitted.

D.L. Constantino for Ryan Wood, PE — 08/09/13

Signature — Date

PZ-012-13

TO: PINAL COUNTY PLANNING & ZONING COMMISSION

MEETING DATE: January 16, 2014

CASE NO.: **PZ-012-13 (Pecan Creek Storage)**

CASE COORDINATOR: Ashlee MacDonald

LEGAL DESCRIPTION: portion of the east ½ Section 30, T02S, R08E G&SRB&M (legal on file)

TAX PARCEL: 104-53-009C

APPLICANT/LANDOWNER: Mike and Alice Peltcs

AGENT: Sanks and Associates

REQUESTED ACTION & PURPOSE: Request for approval of a zone change from CB-1 (Local Business zone) and CR-2 (Single Residence Zone) to C-2(Community Commercial Zoning District) on 6.86± acres to plan and develop a commercial development including a self-storage facility

LOCATION: Located on the west side of Gantzel Road South of Red Fern Road in the San Tan Valley area.

SIZE: 6.86± acres

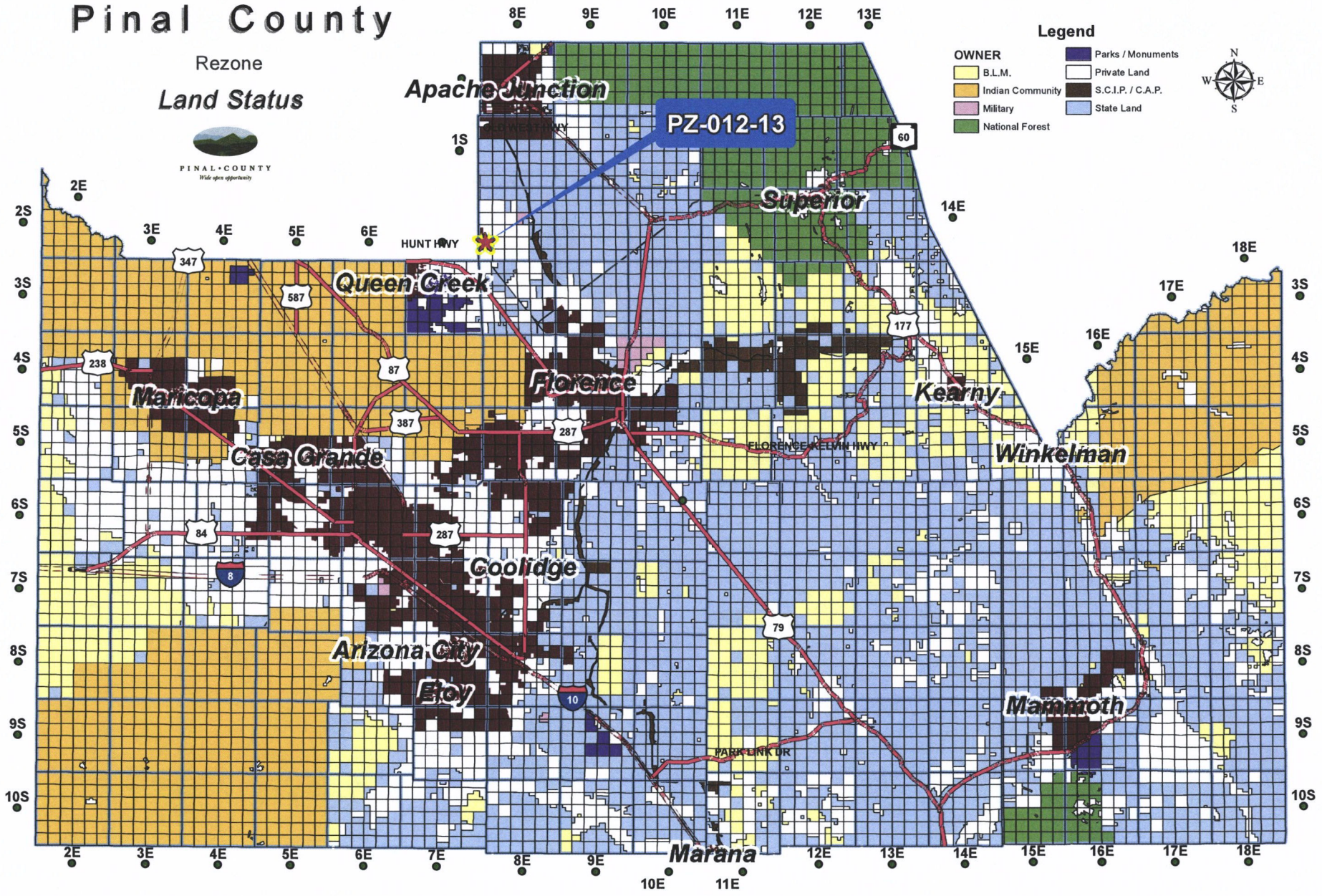
COMPREHENSIVE PLAN: The subject property is designated Moderate Low Density Residential. The requested zoning and use are compliant with the Comprehensive Plan.

EXISTING ZONING AND LAND USE: The subject property was rezoned from GR to CR-2 and CB-1 in 2006 under planning case PZ-012-06. The property remains undeveloped.

SURROUNDING ZONING AND LAND USE:
North: (SR) PZ-403-73; Residential
South: (CR-2 and CB-2) PZ-012-06; Vacant; Nursery
East: (CR-3/PAD) PZ-PD-054-00; Residential
West: (CR-2) PZ-012-06; Vacant

PUBLIC PARTICIPATION:
Neighborhood Meeting: August 14, 2013
Neighborhood and agency mail out: December 12, 2013
News paper Advertising: December 23, 2013
Site posting: County December 30, 2013 Applicant: December 16, 2013

FINDINGS:
Site data:
Floodzone: "X" an area that is determined to be outside the 100 and 500 year flood plain


Pinal County
Rezone
Land Status
PINAL • COUNTY
Wide open opportunity
PZ-012-13
Legend
OWNER
B.L.M.
Indian Community
Military
National Forest
Parks / Monuments
Private Land
S.C.I.P. / C.A.P.
State Land
N
W
E
S
Apache Junction
Superior
Queen Creek
Florence
Kearny
Winkelman
Maricopa
Casa Grande
Coolidge
Arizona City
Eloy
Mammoth
Marana
HUNT HWY
FLORENCE-KELVIN HWY
PARK LINK DR
347
587
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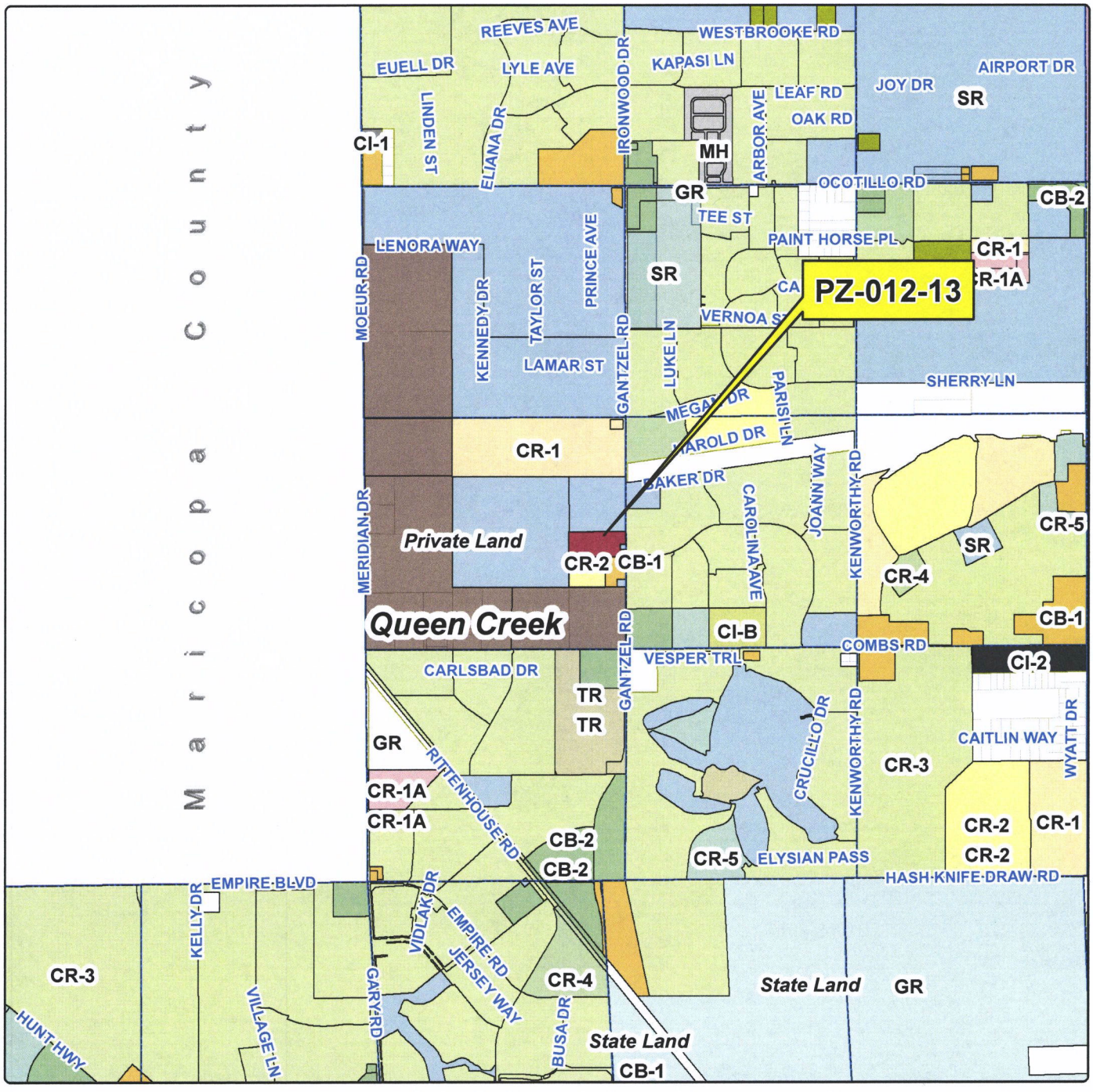


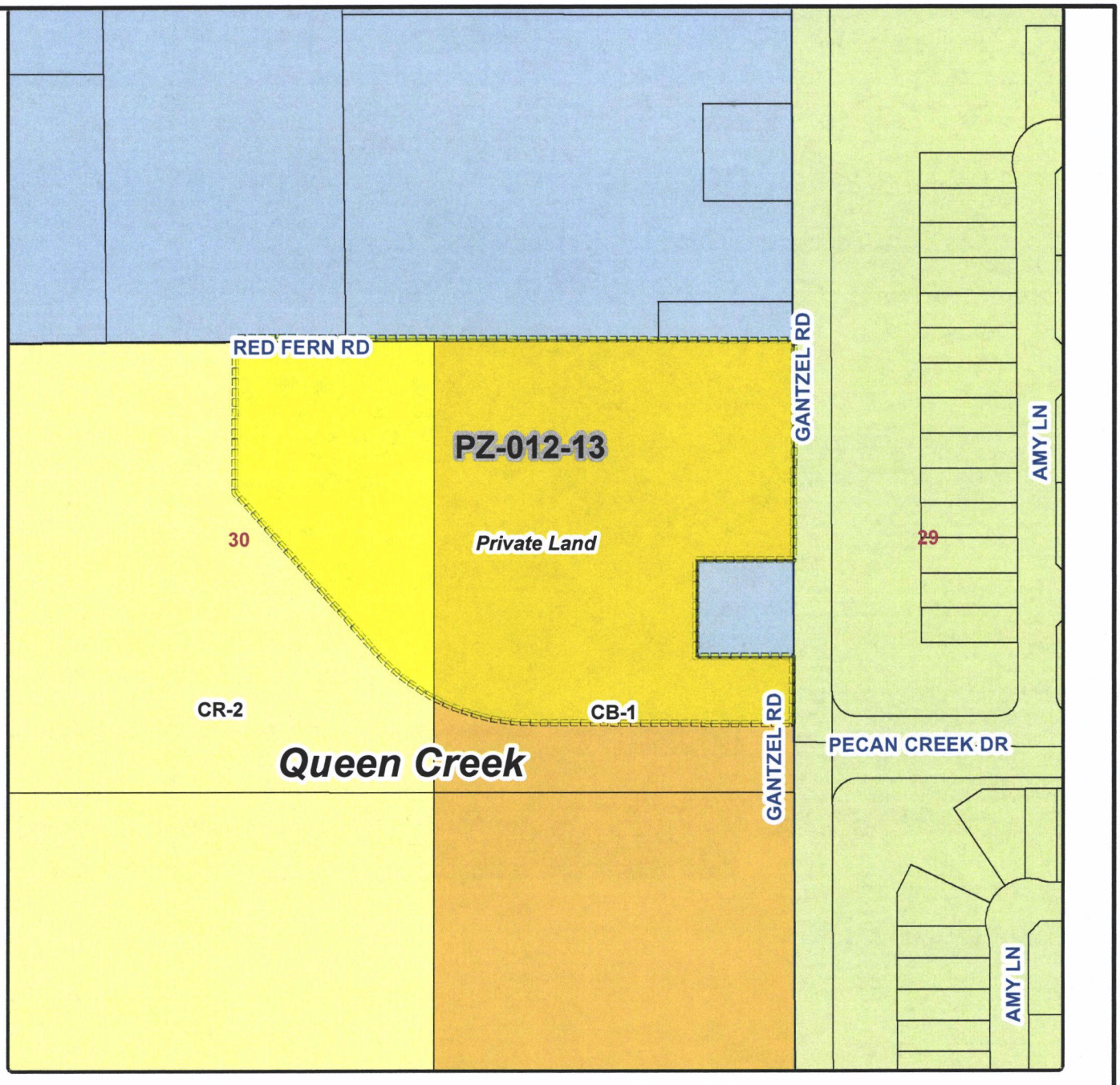
Rezone

Planning & Development Services

PINAL • COUNTY

Wide open opportunity

PELTCS MICHAEL J & ALICE	**Legal Description:** Situated in a portion of the Section 30, T02S,R08E, G&SRB&M, 104-53-009A. (legal on file) (San Tan Valley area). T02S-R08E Sec 30	Sheet No. 1 of 1	PELTCS MICHAEL J & ALICE Drawn By: GIS / IT / LJT — Date: 12/11/2013 Sections 30 — Township 02S — Range 08E Case Number: PZ-012-13



Rezone

PZ-012-13 – PUBLIC HEARING/ACTION: Mike and Alice Peltcs, landowner/applicant, Sanks and Associates, agent, requesting approval of a zone change from CB-1 (Local Business zone) and CR-2 (Single Residence Zone) to C-2(Community Commercial Zoning District) on 6.86± acres to plan and develop a commercial development including a self-storage facility; situated in a portion of the east ½ Section 30, T02S, R08E G&SRB&M, a portion of tax parcel 104-53-009A (legal on file) (located on the west side of Gantzel Road South of Red Fern Road in the San Tan Valley area)

Current Zoning: CR-2, CB-1
Request Zoning: Rezone
Current Land Use: MLDR

PINAL • COUNTY
Wide open opportunity

Legal Description:
Situated in a portion of Section 30, T02S, R08E, G&SRB&M; 104-53-009A, (legal on file) (San Tan Valley area).

T02S-R08E Sec 30

Sheet No. 1 of 1

Owner/Applicant: PELTCS MICHAEL J & ALICE

Drawn By:	Date:
GIS / IT / LJT	12/11/2013

Sections	Townships	Range
30	02S	08E

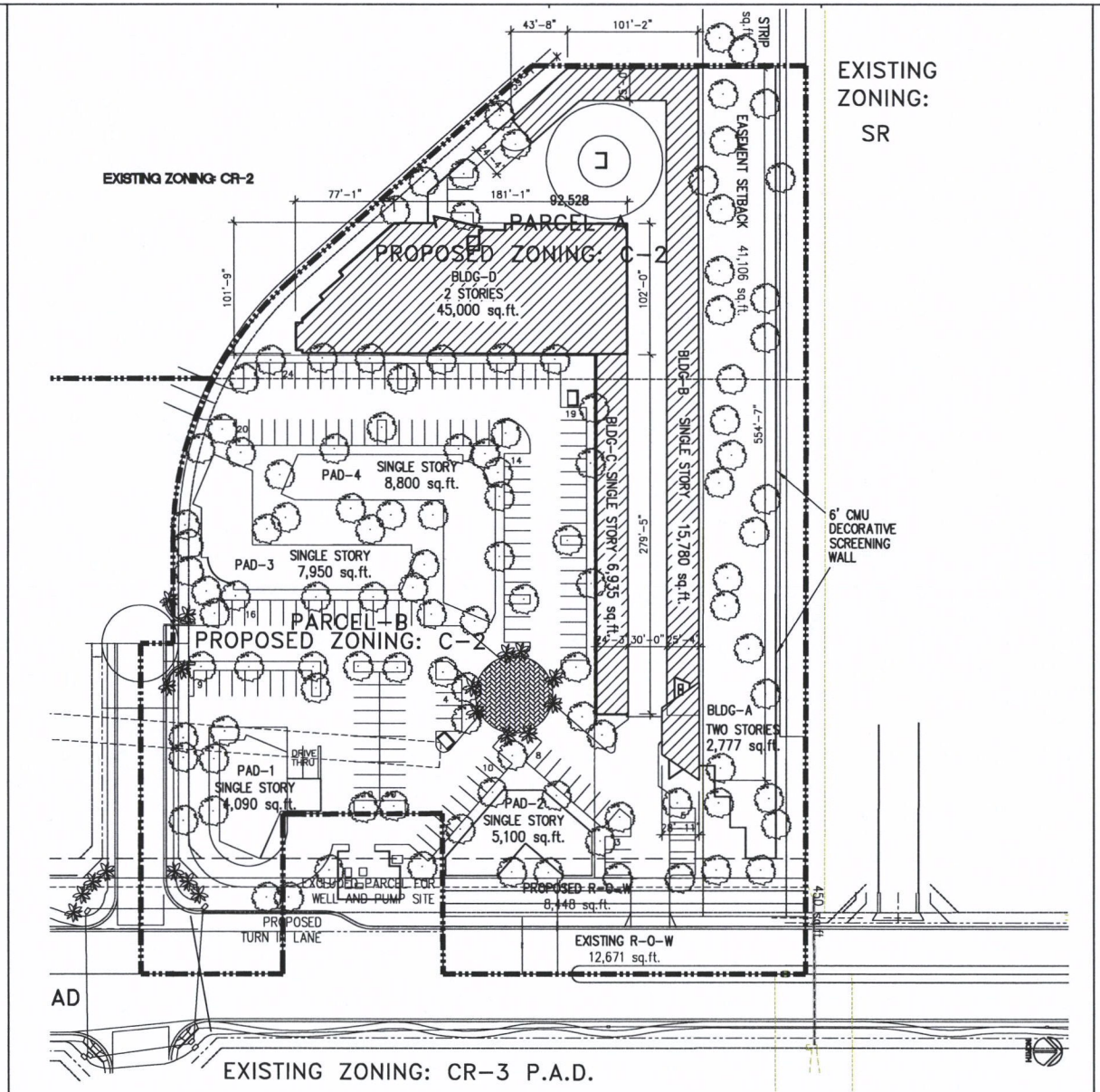
Case Number: PZ-012-13

Rezone

NORTH

PINAL • COUNTY
Wide open opportunity

PZ-012-13



ENLARGED SITE PLAN (SELF STORAGE) SCALE : 1"=40'-0"

KEYNOTES

tony tang architect, p.c.
3304 n. valencia ln.
phoenix, az 85018
tel:(480) 947-8501
kctt@cox.net

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sheet title: ENLARGED PARTIAL SITE PLAN

project: QUANTZEL MASTER PLAN
38100 N. QUANTZEL ROAD
PINAL COUNTY, ARIZONA

date: 24OCT2013
job no.: 2013004
revision: 08DEC2013 ZONING COM-1
11DEC2013 ZONING COM-1

20159 KINAN CHUEH-TANG
EXP. 30SEP2016

2013004

PRELIMINARY NOT FOR CONSTRUCTION

Water/Sewer: H2O/Queen Creek
Access: The property is accessible Gantzel Road.

HISTORY: This property was rezoned from GR to CR-2 and CB-1 in 2006 under planning case PZ-012-06.

ANALYSIS: The applicant is requesting approval of a zone change to C-2.

To date, no letters in opposition or support have been received from property owners within the notification area.

The subject property is located within the Town of Queen Creek's planning area and is designated Low Density Residential. The proposal was sent to the **Town of Queen Creek** for review. Their comments are attached to the correspondence section of this report.

The **Pinal County Department of Public Works** reviewed the proposal and their comments are attached to correspondence section of this report.

The Pinal County Department of Air Quality provided comments which are attached to the correspondence section of this report

Fit within the neighborhood

The applicant's proposal features self storage facility as well as other commercial pads. The applicant has indicated that they hope to begin development of the self-storage facility as soon as all entitlements are received.

The Comprehensive Plan allows for commercial up to 20 acres within the Moderate Low Density land use designation, therefore the proposed use is compliant with the Comprehensive Plan. Commercial zoning is located on the west side of the property and is developed, in part, with the Black Rock Gardens nursery. Also to the west and north is residentially zoned property that was intended to be developed as a gated community and has no Planned Area Development (PAD) overlay. Land to the east is zoned SR and is developed with residential lots. The applicant is not proposing access from Red Fern Road and is providing a six foot decorative screen wall with a landscape buffer along Red Fern Road as required by the zoning ordinance.

At the public hearing, the Commission needs to be satisfied that the health, safety and welfare of the County and adjacent properties will not be negatively impacted by this rezone case under PZ-012-13. Furthermore, the Commission must determine that this rezone will promote the orderly growth and development of the County, at this location and time, and this proposed development is compatible and consistent with the applicable goals and policies of the Pinal County Comprehensive Plan.

THE BURDEN OF PROOF IS UPON THE APPLICANT TO PROVIDE THE NECESSARY AND REQUIRED INFORMATION AT THE PUBLIC HEARING. THE APPLICANT NEEDS TO BE PREPARED TO ADDRESS AND MITIGATE, AS APPLICABLE, THE FOLLOWING ISSUES AND CONCERNS:

A) LAND USE, PERIMETER WALLS, SIGNAGE, SETBACKS, INGRESS/EGRESS &

LANDSCAPING
B) PUBLIC SERVICES - SEWER, WATER, UTILITIES, DRAINAGE
C) NEIGHBORHOOD IMPACT
D) FLOOD CONTROL
E) TRAFFIC IMPACT
F) COMPATIBILITY/CONSISTENCY WITH PINAL COUNTY COMPREHENSIVE PLAN
G) BENEFITS/DETRIMENTS TO PINAL COUNTY

STAFF SUMMARY: The applicants, Mike and Alice Peltcs, have submitted the proper application and evidence sufficient to warrant a staff recommendation as provided in the Ordinance. Staff provides the following findings together with the information on Page 1 of this staff report:

1. This land use request is for approval of a rezone from CR-2 and CB-1 to C-2.
2. To date, no letters in opposition have been received from property owners inside the notification area.
3. The property has legal access.
4. The subject property is located within the "Moderate Low Density Residential" designation.
5. Granting of the Rezone request will require, after the time of zoning approval, that the applicant/owner submit and secure from the applicable and appropriate Federal, State, County and Local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals.

STAFF RECOMMENDATION**(PZ-012-13):** Should the Commission find, after the presentation of the applicant and together with the testimony and evidence presented at the public hearing, that this rezone request, is needed and necessary at this location and time, will not negatively impact adjacent properties, will promote the orderly growth and development of the County and will be consistent with the applicable goals and policies of the Pinal County Comprehensive Plan, then staff recommends that the Commission forward **PZ-012-13** to the Board of Supervisors with a favorable recommendation with the attached stipulations. If the Commission cannot find for all of the factors listed above, then staff recommends that the Commission forward this case to the Board of Supervisors with a recommendation of denial.

1. The conditions and time periods enumerated herein constitute the Schedule for Development. The schedule of development applies to the 6.86± acres covered under case PZ-012-13;

2. Applicant/property owner shall improve the property with a self-storage facility and commercial center, improve means obtaining a building permit and completing the conditions enumerated herein, within (5) five years from the effective of this Ordinance; and where a specific condition requires completion by a specified date or event, applicant/property owner shall complete said condition by that specified date.

3. the applicant/property owner shall submit for a site plan review application within (2) two years from the effective date of this ordinance.

4. the applicant/property owner shall complete all required on-site and offsite improvements required as part of the site plan review process within (5) five years from the effective date of this ordinance.

5. the applicant/property owner may request the Board of Supervisors set a public hearing to grant an extension of any time period specified in the Schedule for Development;

6. if a condition is not met at the end of the specified time period for that condition the Board of Supervisors after notification by certified mail to the property owner and applicant who requested the rezoning can schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zone classification;

7. if at the expiration of the (5) five year time period the Property has not been improved with a self-storage facility and commercial center, for which it is conditionally approved, or improved in accordance with the Schedule for Development, the Board of Supervisors after notification by certified mail to the property owner and applicant who requested the rezoning, shall schedule a public hearing to grant an extension, determine compliance with the Schedule for Development or cause the property to revert to its former zoning classification;

8. no building permits shall be issued based on this rezoning until all conditions are satisfied pursuant to the Schedule for Development and the Planning Director issues a Certificate of Compliance;

9. the zone change will be shown on the official Pinal County Zoning Map with a "C" indicating the zoning case has been approved conditioned upon a Schedule for Development for a specific use. After compliance with the Schedule for Development by applicant/property owner and issuance of a Certificate of Compliance by the Planning Director the "C" shall be changed to an "R" indicating issuance of a Certificate of Compliance with zoning restrictions which remain with the land;

10. after compliance with the Schedule for Development, the applicant/property owner shall submit to the Planning Director evidence of compliance and written request for issuance of Certificate of Compliance;

11. upon compliance by applicant/property owner with the Schedule for Development and written request from applicant/property for issuance of a Certificate of Compliance, the Planning Director shall issue a Certificate of Compliance with the zoning restrictions which remain with the land;

12. approval of this Rezone will require, at the time of application for development, that the applicant/owner submit and secure from the applicable and appropriate Federal, State, County and Local regulatory agencies, all required applications, plans, permits, supporting documentation and approvals;

13. the layout, design and set up of the self-storage facility and commercial center shall be as shown and set forth on the applicant's submittal documents and site plan dated 10/24/2013;

14. a Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer at the time of Site Plan submittal for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Site Plan approval;

15. a drainage report will be required to be submitted to the County Engineer at the time of Site Plan submittal for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Site Plan approval. The approved Drainage Plan shall provide retention for storm waters in an onsite retention area;

16. right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;

    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) or as approved by the County Engineer.

17. GANTZEL RD. has been identified as a "Route of Regional Significance". Applicant will be required to comply with the "Regionally Significant Routes for Safety and Mobility, Final Report, December 2008" and the "Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

18. the developer agrees to contribute a portion of the cost to modify existing signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the Site Plan approval, developer shall contribute toward the total cost of traffic signal modifications at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the modifications of the required traffic signals; and

19. any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer

Date Prepared: 01/09/14 – arm
Revised:

PECAN CREEK STORAGE

C-2 Rezoning

West of Gantzel Road, North of Combs Road,
Just south of Red Fern Road alignment

SUBMITTED TO:
PINAL COUNTY PLANNING & DEVELOPMENT
Florence, Arizona

APPLICANT:
SANKS AND ASSOCIATES LLC

Prepared: October 2013

Purpose of Request

The purpose of this C-2 rezoning request is to allow the development of a one and two story self-storage facility as depicted on the site plan for Parcel A. The remainder of the site, Parcel B, has been conceptually illustrated to indicate how the various pad sites can work with the property and provide sufficient parking and landscaping. Parcel B is expected to develop in the future once actual users are known. The first phase of development will be the self-storage facility, and construction will start immediately after the entitlements are received and permits issued.

Description of Proposal

NATURE OF THE PROJECT:
The small commercial project is expected to build out over the next couple years with the self-storage facility providing a buffer for nearby large lot residences to the other commercial uses located south of it. The nature of self-storage facilities is well-known, with benefits to the surrounding neighborhood such as:

1. Secure access facility – Gated, code access and security cameras
2. Limited hours of operation
3. Onsite live-in manager to care for the property
4. Very low traffic trips
5. Virtually no noise, light, or activity in general
6. Provide a buffer to noisier, retail/service oriented commercial uses

The second phase of the project is Parcel B with the commercial pads. Uses for that are unknown at this time, and will conform to the use lists allowed by right in the C-2 district.

PROPOSED LAND USE:
The project proposes a 70,492 SF self-storage facility on the northern portion of the site plan. Three other commercial pads have been conceptually illustrated immediately south of the self-storage facility. The Pad-1 building has illustrated a possible drive-through lane so it may develop as a fast food restaurant or a bank. Circulation is simple and adequate, and care was taken to limit access points to Gantzel Road in conformance with RSRSM guidelines.

CONFORMANCE TO ADOPTED COMPREHENSIVE PLAN:
The Comprehensive Plan Compliance Checklist has been included with the submittal package for review by Pinal County Planning Staff. The C-2 request near the corner of Gantzel and Combs Road conforms the Comprehensive Plan's desire for a greater mix of uses near neighborhoods, location of commercial activities on Regionally Significant Roads, and the provision of additional employment opportunities in Pinal County.

SUPPORTING INFORMATION SHEET:
The supporting information sheet included with the rezoning application has been completed and is attached to the submittal package for review by Pinal County Planning Staff. Information provided includes confirmation that utilities are available for this small commercial project, sufficient parking has been provided, and landscaping will beautify this project while providing necessary buffering to adjacent land uses.

Location and Accessibility

The proposed self-storage facility is located along Gantzel Road, immediately south of the Red Fern Road alignment. Red Fern Road will not be improved with this project, rather, the Pecan Creek Road alignment will be utilized because of the existing traffic signal. This will provide a safer point of access for this project. We anticipate that this new collector will eventually provide access for the residences located north and west of the larger property.

A dedicated drive entry has been provided for the storage facility which also accesses the other commercial pads. This drive entry has been designed to provide adequate queuing of vehicles, such as small moving trucks, that would typically visit the self-storage site. Considering the large amount of residential development occurring in the area, and the arrival of new Pinal County residents needing temporary storage of their belongings while in transition in and out of these homes, we believe this location is perfect for this use. It is highly accessible and visible, and the infrastructure and surrounding land uses are very supportive of this use.

Utilities & Services

We have identified the following utility providers as part of this project:

Water	H20 Water – soon to be Town of Queen Creek Water
Sewer	Town of Queen Creek
Electricity	Salt River Project
Gas	City of Mesa
Telephone	Century Link
Cable Television	Cox Communications
Fire	Rural Metro
Police	Pinal County Sheriff's Department
Solid Waste	Various providers available.

Water: Per the included Water Statement, this project will utilize existing water services in Gantzel Road. The H20 Water company is in the process of being acquired by Town of Queen Creek Water.

Sewer: The property is located within the Town of Queen Creek sewer service area. Typically, sewer services require that the property be annexed into the Town of Queen Creek. However, due to State of Arizona statute requirements, this property cannot annex until other properties to the west have annexed. That said, the self-storage facility is expected to run on septic for now, and will likely annex into Queen Creek within a year (see included correspondence with the Town of Queen Creek). The system will be designed to convert from septic to sewer when the time comes that service is available. Pad sites on Parcel B will require sewer service when developed.

Electricity: Salt River Project – Plan coordination for electrical service to this development will be coordinated through SRP.

Gas – City of Mesa – It is not anticipated that this project will require natural gas services at this time (self-storage). Future potential restaurant uses may choose to connect to nearby gas lines.

Telephone – Century Link is the telephone provider in this area and nearby telephone lines will be extended to service the needs of this project.

Cable Television – Cox Communications can provide cable services to this development.

Fire – Rural Metro is the emergency services provider for this area and will provide coverage to this development.

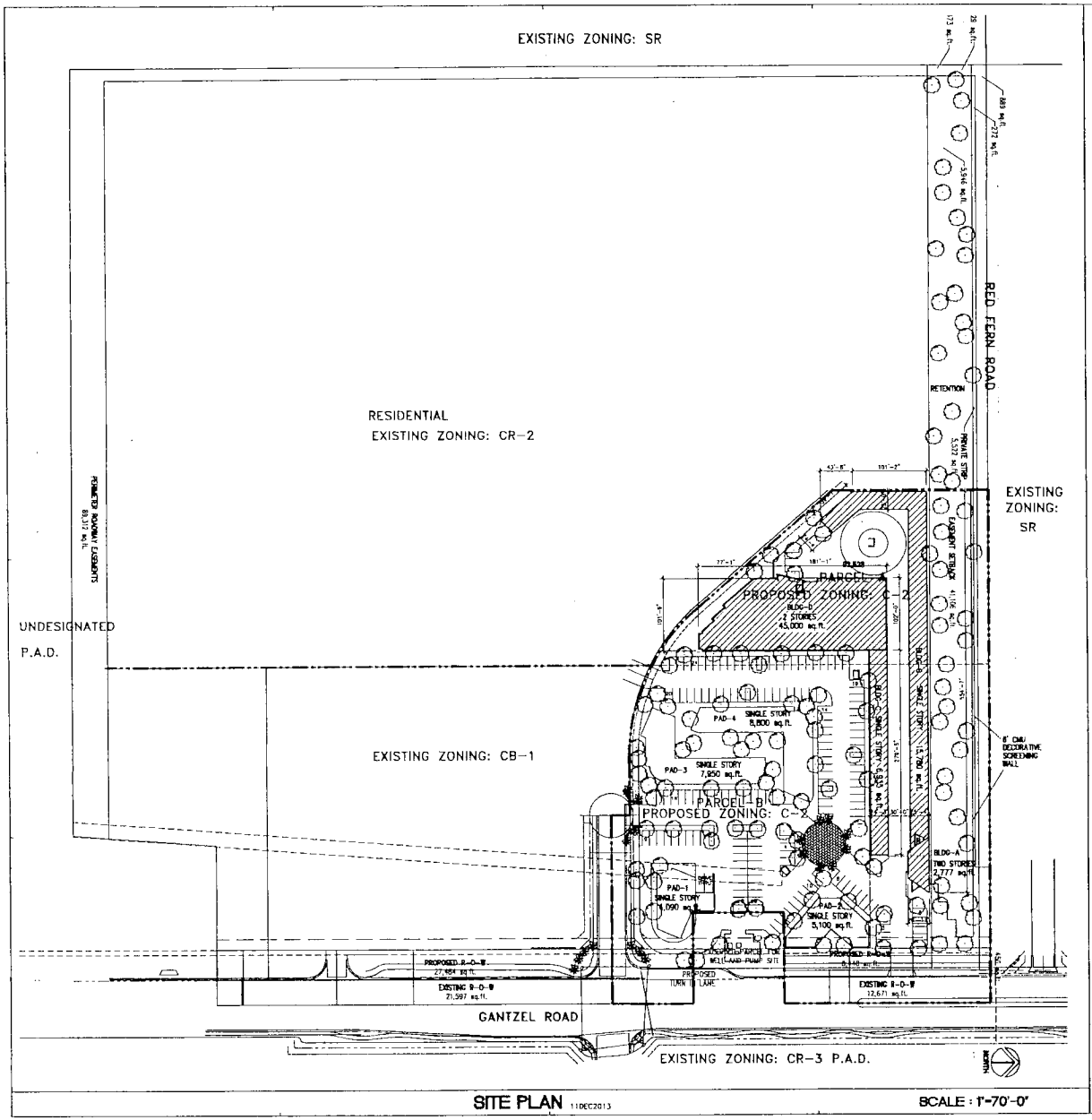
Police – Pinal County Sheriff's Department will provide all patrol and police response services to this property.

Solid Waste – Various providers are available, such as Waste Management. A provider will be selected at the time of development.

Neighborhood Meeting Information

A neighborhood meeting was held on August 14, 2013 at 6:30pm at the SRP Building located at 3735 E. Combs Road. Eight adjacent neighbors attended the meeting and asked questions relating to the type and timing expected of the development. At that time, it was anticipated that the self-storage rezoning application would also include an R-7 component for the residual of the 36 acre property. Most discussion at that public meeting focused on concerns of the proposed density and existing easements and HOA regulations. When asked specifically about the commercial request, the neighbors expressed no opposition to the self-storage facility or other commercial uses. The notification letter, 1200' address lists, meeting minutes, and sign-in sheets have been provided with this application for Pinal County Planning Staff review.

Public notice shall be provided as required for the anticipated Planning & Zoning Commission and Board of Supervisors hearings related to this proposal.



SITE PLAN 11DEC2013 SCALE : 1"=70'-0"

PROJECT DATA

JURISIDICTION: PINAL COUNTY

PROJECT TEAM

OWNER BLACK ROCK GARDEN
38600 N. GANTZEL RD.
QUEEN CREEK, AZ 85140
TEL: 602-725-1397
CONTACT: MICHAEL PELTOS
EMAIL: mjpelt@aol.com

ARCHITECT TONY TANG ARCHITECT, LTD.
3304 N. VALENCIA LN.
PHOENIX, ARIZONA 85018
TEL: (602) 947-8501
CONTACT: TONY TANG
EMAIL: kctt55@gmail.com

ZONING CONS SANKS AND ASSOCIATES, L.L.C.
1806 E. ELLIS STREET
PHOENIX, AZ 85042
TEL: 602-326-0581
CONTACT: JASON SANKS
EMAIL: jason@sanksassociates.com

CIVIL SK CONSULTING L.L.C.
4858 E. BASELINE RD. #101
MESA, AZ 85206
TEL: 480-664-8592
CONTACT: CARL BLOOMFIELD
EMAIL: carl@skllc.com

PARCEL-A

SELF STORAGE SITE	133,834 S.F. (3.07 AC)
ACTUAL SITE:	92,528 S.F.
DRAINAGE EASEMENT:	41,106 S.F.
PROPOSED ZONING:	C-2
FRONT YARD SETBACK:	20'
SIDE YARD SETBACK:	15' ADJACENT TO RESIDENTIAL
REAR YARD SETBACK:	25'
MAX. BLDG. HEIGHT:	30'
SITE COVERAGE:	35.26 %
F.A.R.:	52.75 %

BLDG-A	TWO STORIES	OFFICE/RESIDENT	2,777 S.F.
		FIRST FLOOR OFFICE: 787 S.F.	
		FIRST FLOOR 2 CAR GARAGE: 612 S.F.	
		SECOND FLOOR RESIDENCE: 1,378 S.F.	
BLDG-B	SINGLE STORY	NON AC STORAGE	
BLDG-C	SINGLE STORY	NON-AC STORAGE	6,935 S.F.
BLDG-D	TWO STORIES	A/C & NON STORAGE	45,000 S.F.
			15,780 S.F.
TOTAL SELF STORAGE GROSS BUILDING AREA:			70,492 S.F.

PARCEL-B

NET COMMERCIAL SITE: 129,752 S.F. (2.98 AC)
(DOES NOT INCLUDE PROPOSED R.O.W. AND HALF STREET)
PROPOSED ZONING: C-2

PAD-1	SINGLE STORY	MULTI-TENANT	4090 S.F.
PAD-2	SINGLE STORY	MULTI-TENANT	5,100 S.F.
PAD-3	SINGLE STORY	MULTI-TENANT	7,950 S.F.
PAD-4	SINGLE STORY	MULTI-TENANT	8,800 S.F.
TOTAL COMMERCIAL BUILDING AREA:			25,940 S.F.

REQUIRED PARKING (1/250 S.F.) 104 SPACES
PROPOSED PARKING: 150 SPACES

LEGAL DESCRIPTION

A PORTION OF LOT 109 OF SUN VALLEY FARMS, UNIT IV, RECORDED IN PINAL COUNTY RECORDERS OFFICE, BOOK OF SURVEYS 1 PAGE 50, FURTHER DESCRIBED AS

A PARCEL OF LAND LYING IN THE EAST HALF OF SECTION 30, TOWNSHIP 2 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER MERIDIAN, PINAL COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

BEGINNING AS THE EAST QUARTER CORNER OF SAID SECTION 30 (IT IS REPRESENTED BY A 2" G. PASS CAP WHICH IS THE POINT OF BEGINNING

THENCE SOUTH 00 DEGREES 12 MINUTES 41 SECONDS WEST, ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SAID SECTION 30, A DISTANCE OF 291.36 FEET;

THENCE NORTH 89 DEGREES 47 MINUTES 19 SECONDS WEST, A DISTANCE OF 125.00 FEET;

THENCE SOUTH 00 DEGREES 12 MINUTES 41 SECONDS WEST, A DISTANCE OF 125.00 FEET;

THENCE SOUTH 89 DEGREES 47 MINUTES 19 SECONDS EAST, A DISTANCE OF 125.00 FEET TO A POINT ON THE EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 30;

THENCE SOUTH 00 DEGREES 12 MINUTES 41 SECONDS WEST, ALONG THE EAST LINE OF THE SOUTHEAST QUARTER OF SECTION 30, A DISTANCE OF 80.76 FEET;

THENCE NORTH 89 DEGREES 41 MINUTES 13 SECONDS WEST, A DISTANCE OF 338.91 FEET TO A TANGENT CURVE CONCAVE NORTHEASTERLY;

THENCE ALONG SAID CURVE, HAVING A RADIUS 270.00 FEET, A LENGTH OF 227.65 FEET THROUGH A DELTA ANGLE OF 48 DEGREES 19 MINUTES 32 SECONDS;

THENCE ALONG A LINE TANGENT TO THE CURVE NORTH 41 DEGREES 32 MINUTES 41 SECONDS WEST, A DISTANCE OF 272.73 FEET;

THENCE NORTH 00 DEGREES 22 MINUTES 54 SECONDS EAST, A DISTANCE OF 196.16 FEET TO A POINT ON THE NORTH LINE OF SAID LOT 109;

THENCE SOUTH 89 DEGREES 37 MINUTES 19 SECONDS EAST, A DISTANCE OF 720.25 FEET;

THENCE SOUTH 00 DEGREES 12 MINUTES 19 SECONDS WEST, A DISTANCE OF 209.01 FEET TO THE POINT OF BEGINNING

SAID BOUNDARY CONTAINS 2,918,836 SQUARE FEET (66.984 ACRES) MORE OR LESS

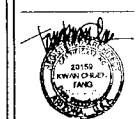
2013004
tony tang architect, ltd.
3304 n. valencia ln.
phoenix, az 85018
tel:(480) 947-8501
kctt@cox.net

this drawing is an instrument of service, and shall remain the property of the architect. this drawing shall not be reproduced or used for any purpose, in whole or in part, without the written consent of the architect.

street title: SITE PLAN

project: GANTZEL MASTER PLAN
38100 N. GANTZEL ROAD
PINAL COUNTY, ARIZONA

date: 24OCT2013
job no.: 2013004
revision: 08DEC2013
ZONING COM-1
11DEC2013
ZONING_COM-2



EXP. 30SEP2016

A1.1
2013004

PRELIMINARY NOT FOR CONSTRUCTION

Greg Stanley
Assistant County Manager

Development Services

PINAL • COUNTY
wide open opportunity

Greg Stanley
Interim County Manager

Memorandum

Date: January 16, 2014

To: Steve Abraham, Planning Manager
Planning and Development Services Department

From: Scott Bender, P.E.
Deputy Public Works Director

Subject: Planned Area Development for the PECAN CREEK MINI STORAGE, Case No. PZ-PD-012-13

The Public Works Department has reviewed the Planned Area Development for the PECAN CREEK MINI STORAGE, Case No. PZ-PD-012-13 and recommends that it be approved subject to the following conditions:

1) A Traffic Impact Analysis (TIA) will be required to be submitted to the County Engineer at the time of Site Plan submittal for review and approval. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines and Procedures and shall be approved prior to Site Plan approval;
2) A drainage report will be required to be submitted to the County Engineer at the time of Site Plan submittal for review and approval. The drainage report shall comply with the current Pinal County Drainage Manual and shall be approved prior to Site Plan approval. The approved Drainage Plan shall provide retention for storm waters in an onsite retention area;
3) Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;

    a. A minimum 75' half street right-of-way dedication along GANTZEL RD. (eastern boundary) or as approved by the County Engineer.

4) GANTZEL RD. has been identified as a "Route of Regional Significance". Applicant will be required to comply with the "Regionally Significant Routes for Safety and Mobility, Final Report, December 2008" and the

"Regionally Significant Routes for Safety and Mobility, Access Management Manual, October 2008" or as approved by the County Engineer;

5) The developer agrees to contribute a portion of the cost to modify existing signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the Site Plan approval, developer shall contribute toward the total cost of traffic signal modifications at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the modifications of the required traffic signals;

6) Any roadway sections, alignments, access locations and access movements shown in the PAD are conceptual only and have not been approved by the Pinal County Engineer;

rev: L. Chow
cc: A. MacDonald

Greg Stanley
Assistant County Manager
Development Services

Don Gabrielson
Air Quality Director

PINAL • COUNTY
wide open opportunity

Greg Stanley
Interim County Manager

MEMORANDUM FROM AIR QUALITY

Date: January 3, 2014

To: Ashlee MacDonald

Cc: P & Z Review Committee

From: Anu Jain - Permit Engineer

Re: Planning & Zoning Cases

I have reviewed the following Planning & Zoning cases:

Date	Case #	Applicant	Project	*Response
1/16/14	PZ-012-13	Sanks & Associates, LLC	Pecan Creek Storage	See Comments 1 & 2

***Comments:**

1. The above proposed Planning and Zoning cases should have a paved road arterial access to the project, paved road access within the project and paved parking lots.

2. Dust registration is required if 0.1 acres or more land is disturbed.

Note:
All construction activity must conform to the earthmoving activity requirements of the Pinal County Air Quality Control District.

Ashlee MacDonald

From:	Wayne Balmer <wayne.balmer@queencreek.org>
Sent:	Wednesday, January 08, 2014 11:29 AM
To:	Travis Ashbaugh
Cc:	Steve Abraham; Jerrold Stabley; Ashlee MacDonald; Brett Burningham; [redacted]
Subject:	Queen Creek comments on Case PZ-012-13
Attachments:	Email to Carl Bloomfield.docx

Good morning Travis:

Thank you for sending the material on the above case for review and comment by the Town of Queen Creek.

This property is located within the Town's Planning Area, and is one of the areas we anticipate annexing in the near future.

Mr. Peltcs and Mr. Bloomfield have been to our office to discuss the future zoning and annexation of this property, and to determine how to obtain water and wastewater service for the proposed self-storage project.

As a result of our discussions the Town provided the attached email to Mr. Peltcs and Mr. Bloomfield indicating the Town would support this request, subject to the following conditions:

1. Mr. Peltcs will agree to support the annexation of his entire property - as he has stated in his September 11 letter

2. Mr. Peltcs will agree to sign an annexation petition for the entire property when it is presented to him - as he has stated in his September 11 letter.

3. Mr. Peltcs can proceed with the proposed rezoning of that portion of the property northeast of the proposed new entry road for the purpose of developing the self-storage project. The south property line of the parcel should reflect the design of the road.

4. The self-storage project will be initially served by a septic tank system, but Mr. Peltcs will agree to discontinue use of that system and connect to the future sewer in the street when it is constructed.

5. All future development of the property will occur within the Town of Queen Creek, including the rezoning of the property, approval of the preliminary and final plats, and the design and construction of the onsite and off-site improvements.

6. The Town will have the opportunity to review the proposed building design and layout for the self-storage project prior to it being officially submitted to Pinal County for consideration.

Not all of these conditions are germane to the rezoning request currently before you, but I have included them to provide a broader perspective on how development of the self-storage project now will be incorporated into the development of the balance of the property in the future.

Tomorrow will be my last day with the Town of Queen Creek, so if you have any questions about this case please contact Brett Burningham at brett.burningham@queencreek.org or at 480-358-3097.

Also, please forward all future referrals to the Town to Brett as well.

Thanks Travis.

Wayne Balmer, AICP | Planning Administrator, Development Services Department | Town of Queen Creek | phone: 480-358-3095 | fax: 480-358-3105 | e-mail: wayne.balmer@queencreek.org | 22350 S. Ellsworth Road, Queen Creek, AZ 85142 | www.queencreek.org

Office hours: Monday – Thursday, 7 a.m. – 6 p.m., closed on Fridays

E-mails that board members or staff generate pertaining to the business of the public body are public records. Therefore, the e-mails must be preserved according to a records retention program and generally be made available for public inspection. The recipient of this message is hereby notified that participation in email discussions with this sender can and will result in all information contained therein being reviewed by any interested parties, including media outlets and reporters. To ensure compliance with the Open Meeting Law, Town Council recipients of this message should not forward it to other members of the Council. Members of the Council may reply to this message, but they should not send a copy of the reply to other members. Any questions may be directed to the Town of Queen Creek's Town Attorney: 602-285-5000.

SANKS AND ASSOCIATES LLC

Dear Neighbor,

You are invited to attend an informal meeting to learn about a proposal to rezone and develop approximately 40 acres located west of Gantzel Road, just south of the Red Fern Road alignment– current site of a plant nursery. The proposal will allow the development of an upscale self-storage facility, other commercial uses along the remaining Gantzel Road frontage, and a residential community with lot sizes over 8,000SF located to the west of the commercial portion of the site.

C-1 zoning already exists along Gantzel Road, however, we are requesting C-2 zoning to allow the self-storage facility. R-7 with a PAD overlay will be proposed for the residential component. A preliminary site plan for the property has been included with this letter and is located on the backside of this page.

This application for rezoning will include details regarding the site layout, density, and a conceptual level of design details to ensure a very high quality project will be tied to the approval. The commercial and residential portions of this property may be processed under two separate zoning applications, as the self-storage facility is likely to develop first.

As a land owner within 1200 feet of the site, you are being notified about the project and are invited to attend the meeting to learn more about the proposal and ask any questions that you might have. The meeting will be held as follows:

SRP Pinal Customer Center @ 6:30pm on August 14, 2013
Conference Room
3735 E Combs Road
Queen Creek, AZ 85140

If you have any questions and/or cannot attend the meeting, please contact me at 602.326.0581 or via email at Jason@sanksassociates.com.

With regard,

Jason Sanks

Sanks and Associates LLC

Sanks and Associates LLC
1806 E. Ellis St., Phoenix, AZ 85042 Phone: 602-326-0581 Email: Jason@sanksassociates.com

SANKS AND ASSOCIATES LLC

Pecan Creek Storage / Black Rock Estates
Neighborhood Meeting Minutes

August 14, 2013

6:30 PM – SRP building 3735 E. Combs Rd. Queen Creek, AZ

Neighbor Comment: What will happen to the irrigation system and the well on the west side of the property as a consequence of this development?
Response from Land Owner: The irrigation will go underground and the well will not change.

Neighbor Comment: The density of homes on the residential portion of the development are scheduled to be a different density that under the current neighborhood association.
Response from Moderator: The Homeowners association rules are different than the zoning legislation and are handled separately.

Neighbor Comment: How many homes will be built on the land adjacent to this property?
Response from Landowner: We do not control that land but believe the owner is anticipating 150 homes on 80 acres.

Neighbor Comment: Where will Red Fern Rd. intersect with the feeder road proposed to go through the site and how will we access?
Response from Moderator: On the other side of the retention canal and the retention canal will be in a culvert.

Neighbor Comment: How wide will the feeder road be that will go through the development?
Response from Moderator: The feeder road is anticipated to be 30 feet wide however that will be determined by the county. Most likely the developer will need to provide the County a traffic study.

Neighbor Comment: (referring to another Neighbor attending the meeting) Well, your home is the closest to this site (adjacent) how do you feel about it? (Neighbors response) We like it. It is much better than vacant land with weed issues especially if there will be a fence surrounding the property.

Neighbor Comment: Who will maintain Red Fern Rd. once the development has been completed?
Response from Moderator: The County will require dust abatement on all roadways including the feeder road and all other roadways. Most likely they will require crushed stone on existing roads.

Neighbor Comment: Will drivers be able to cross the property on the existing Sangria roadway running down the east side of the property? (the Neighbor did not want traffic on Sangria)
Response from Landowner: There will no longer be access to cross the property on Sangria.

Neighbor Comment: Will the county look to charge the current homeowners for improving Red Fern road?
Response from Moderator: As long as there are no major improvements that take place on the current homeowner's property the county will not charge homeowners for the improvements on Red Fern.

Moderator Comment: Are there any comments in regard to the commercial development or the mini-storage development?
There were no questions or comments in regard to the commercial or mini storage project.

Pecan Creek Neighborhood Meeting 8/14/2013 Sign in Sheet

Name	Address	Phone	Email
Jesus Herrera	37566 N Gantzel	[redacted]	[redacted]
Pam & Dietrich Fischer	38106 N Sangria Ln	[redacted]	[redacted]
Mike & Linda Dunn	38241 N. Dunnbrooks Ranch Rd	[redacted]	[redacted]
Adam Petersen	39321 N Patricia Cir	[redacted]	[redacted]
Roxanne Taylor	383 N Red Fern Rd	[redacted]	[redacted]
Cody Solomon	784 E. Harris Dr. (Lot 8 o.w. Red Fern)	[redacted]	[redacted]

APPLICATION FOR CHANGE OF ZONING REGULATIONS IN AN UNINCORPORATED AREA OF PINAL COUNTY, ARIZONA

*(All applications **must** be typed or written in ink.)*

1. Pinal County Staff Coordinator: Travis Ashbaugh

2. Date of Concept Review: 7 / 2 / 13 Concept Review No.: CR - 039 - 13

3. The Legal Description of the Property: see Site Plan

4. Tax Assessor Parcel No(s).: 104-53-009 A (rezone request is a portion of this parcel)

5. Current Zoning *(Please provide Acreage Breakdown)*: CB-1 and CR-2
   Requested PAD Overlay District *(Please provide Acreage Breakdown)*: C-2 (6.856 acres)

6. Parcel Size(s): 6.856 acres

7. The existing use of the property is as follows: Plant nursery

8. The exact use proposed under this request: Self-storage facility, other commercial uses proposed include a bank with drive-thru and multi-tenant retail.

9. Is the property located within three (3) miles of an incorporated community?
   ☒ YES ☐ NO

10. Is an annexation into a municipality currently in progress?
    ☐ YES ☒ NO

11. Is there a zoning violation on the property for which the owner has been cited?
    ☐ YES ☒ NO

    If yes, zoning violation # _____

12. Discuss any recent changes in the area that would support your application i.e.: zone change(s), subdivision approval, Planned Area Development (PAD), utility or street improvements, adopted comprehensive/area plan(s) or similar changes. The Gantzel Road corridor continues to grow and numerous housing developments are recently built or planned nearby, which command the need for new commercial services.

13. Explain why the proposed development is needed and necessary at this time. We have identified the need for additional self-storage in the immediate area, as well as the additional commercial services proposed. The intersection at Combs has only the Fry's Shopping center with relatively few outlets for the nearby homes.

RECEIPT #: AMT: DATE: CASE:

SUPPORTING INFORMATION

1. Note any services that are not available to the site. Discuss any improvements of services that would be paid for by the public:
We are working with Queen Creek on future sewer service, for now, the storage facility will have to be on Septic.

2. What is the amount of traffic to be generated (# of trips/day, deliveries/week)? Show ingress/egress on the site plan:
The majority of the property is zoned CB-1. The addtional acreage for the self storage facility will generate very few traffic trips related to the nature of the use.

3. How many parking spaces are to be provided (employees and customers)? Indicate these parking spaces on the site plan:
104 parking spaces are required, 150 are provided. Site plan shows all parking proposed.

4. Is there a potential for excessive noise (I.E.; children, machinery) or the production of smoke, fumes, dust or glare with this proposed land use? If yes, how will you alleviate these problems for your neighbors?
No, the self-storage facility is very quiet and will buffer adjacent uses from the rest of the site. It is anticipated that future residential development to the west will be buffered by the extension of the Pecan Creek Dr. collector that will wrap and realign with Red Fern Rd

5. What type of landscaping are you proposing to screen this use from your neighbors?
Gantzel Road and parking areas will feature landscape in the form of trees, shrubs, and ground cover. We have a very large easement on our north to buffer residences.

6. What type of signage are you proposing for the activity? Where will the signs be located?
Monument and wall signs will be of high quality and submitted to the County for review under separate permit. Exact locations have not yet been determined.

7. If the proposed land use involves any type of manufacturing or production process, provide a short synopsis of the processes utilizing diagrams, flowcharts and/or a short narrative:
Not applicable to this project.

8. Explain how the appearance and operation of the proposed land use will maintain the integrity and character of the zone in which the use is requested:
The proposed self storage and retail pads will meet all development standard and use restrictions for C-2. The architecture will be contemporary and colors/materials will match nearby development.

9. Have you discussed possible conditions that may be placed on the approval with the Planning Department? ☐ YES ☑ NO

10. Do you understand that if a condition is violated, that there is a public process by which your zoning may be reverted? ☒ YES ☐ NO

I certify the information included in this application is accurate, to the best of my knowledge. I have read the application and I have included the information, as requested. I understand if the information submitted is incomplete, this application cannot be processed.

Michael Peltcs 1692 W Hopi Dr. Chandler AZ 85224
Name of Landowner (Applicant) Address Phone Number

[redacted]

Signature of Landowner (Applicant) [redacted] E-Mail
Address

Jason Sanks / Sanks and Associates LLC 1806 E. Ellis St., Phoenix, AZ 85042 (602)326-0581
Name of Agent Address Phone Number

jason@sanksassociates.com
Signature of Agent E-Mail
Address

The Agent has the authority to act on behalf of the landowner, which includes agreeing to stipulations. The agent will be the contact person for Planning staff and must be present at all hearings. Please use attached Agency Authorization form, if applicable.

TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. ***Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.***

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Mike and Alice Peltcs
[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]
hereinafter referred to as "Owner," is/are the owner(s) of 6.856 acres located at

[Insert Address of Property]
and further identified as assessor parcel number 104-53-009A & B and legally
[Insert Parcel Number]
described as follows:

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints
Jason Sanks / Sanks and Associates LLC
[Insert Agent's Name. If the Agent is a Company, Insert Company Name Only]
hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; special use permit or industrial use permit; and to file applications and make the necessary submittals for such approvals.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF-SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

Alice Peltcs
[Signature]
Dated: 9-25-13

[Signature]
Dated: 9-25-13

STATE OF ARIZONA)
) ss.
COUNTY OF MARICOPA)

DEANNA KEESEE-PANGALDAN
NOTARY PUBLIC - ARIZONA
Maricopa County
My Commission Expires
September 14, 2016

The foregoing instrument was acknowledged before me this 25 day of Sept, 2013
By Alice Peltcs, Michael Peltcs
[Insert Name of Signor(s)]

My commission expires Sept 14, 2016 Notary Public

6K CONSULTING L.L.C.

4858 E Baseline Rd, Ste 101
Mesa, AZ 89206
p. (480) 664-8592

December 5, 2013

Planning Department – Pinal County

RE: Water Supply for Pecan Creek Estates

The property identified as APN 104-53-009A and APN 104-53-009B is within the service boundary of H_2O Inc. Water Utility (now owned by Queen Creek) and all future development will be supplied water by that company. There is a 12" water line existing in Gantzel Road with 8" stubs to the property for easy access to the existing water system. The property has irrigation water rights that are anticipated to be converted to and granted to H_2O at the time of development.

This letter is intended to be submitted with the commercial rezoning application. The anticipated uses for the commercial area include; mini storage, office, retail, restaurant and convenience store uses. The anticipated demand of the project will be based on the current demands for similar uses as provided by H_2O at the time of analysis. Commercial uses vary widely but the most intensive demand will be a restaurant estimated at 50gal/day/seat. The anticipated uses for the property being rezoned is a mini storage facility and a convenience store. The mini storage will have a resident manager and so 3x the typical residential use seems appropriate and the convenience store will be approximately 2 gpm.

Therefore, for purposes of this preliminary estimate, the following statements are either known or assumed:

- The commercial area to be rezoned is 6.86 acres.
- A typical residential demand is around 0.25 gpm per dwelling unit
- Assume the commercial demands to be as listed above, the total demand will be 0.75+2= 2.75 gpm.
- The anticipated maximum fire flow requirements will be 2,750 gpm for two hours based on the adopted building code adopted for the area.

The system will be analyzed using current demands from H_2O serviced projects similar in scope and size. Initial discussions with H_2O indicate that the system will likely handle the development of the entire property, therefore this small portion will be accommodated. The anticipated minimum requirements are the donation of the property water rights, payment of development fees and/or donation of the constructed system.

Regards,

Carl Bloomfield

6K Consulting, LLC.
Carl Bloomfield, P.E.

APPLICATION CHECKLIST

FOR A PROPOSED ZONE CHANGE
IN UNINCORPORATED PINAL COUNTY

☑ A. Check the appropriate item:

- ☑ This Zone Change is being submitted without a PAD request
- ☐ This Zone Change is being submitted in conjunction with a PAD request. The applicant must complete a PAD application. – ***(Please utilize the "PAD Book" and the "Site Plan" of the PAD application to fulfill the Zoning Application "Narrative" and "Site Plan" in lieu of while having separate copies for each application).***

☑ B. Hold a Neighborhood/Community Meeting:

- ☑ **1.** Notify all property owners within 1200' (feet)
- ☑ **2.** Hold the meeting within five (5) miles of the subject property
- ☑ **3.** Hold the meeting between 5:00 pm – 9:00 pm
- ☑ **4.** Include with the application the following:
  - ☑ **a.** Copy of Notice of Neighborhood/Community Meeting
  - ☑ **b.** List of property owners notified - ***(Use page 5 of this application)***
  - ☑ **c.** Minutes of the meeting
  - ☑ **d.** Attendance sign-in sheet with names & addresses

☑ C. **Submit** a completed "**Agency Authorization**" form *(if applicable)*.

☑ D. **Submit** a written **Narrative** concerning the proposed development ***(if not submitting in conjunction with a PAD Application)*** to include:

- ☑ **1.** Title Page
- ☑ **2.** Purpose of Request
- ☑ **3.** Description of Proposal
  - ☑ **a.** Nature of the Project
  - ☑ **b.** Proposed Land Use
  - ☑ **c.** Conformance to adopted Comprehensive Plan
  - ☑ **d.** Answers to the questions from the **Supporting Information** sheet
- ☑ **4.** Location & Accessibility

☑ **5.** Utilities & Services

☑ **6.** Neighborhood Meeting Information

☒ **7.** Appendix, as applicable

☑ **E.** **Submit** a **Site Plan** ***(if not submitting in conjunction with a PAD Application).*** The submittal shall be professionally prepared (*by a surveyor, architect, or other design professional*) and drawn at a sufficient scale as to not exceed a print size larger than 11" X 17". The lettering shall be of sufficient size to be legible when reduced to an 8½" X 11" print and include:

☑ **1.** Legal Description of total site.

☑ **2.** Name(s) of Landowner(s), Developer, Applicant and Person or Firm preparing plan.

☑ **3.** North Arrow, Scales (*written and graphic*), Preparation Date and Subsequent Revision Dates.

☑ **4.** Location of all Existing & Proposed Structures & Buildings

☑ **5.** Location of all Existing & Proposed Utilities with Location & Width of Associated Easements.

☑ **6.** All Existing & Proposed Public and/or Private Streets with Location & Width of Associated Easements & Right-of-Ways.

☑ **7.** All Points of Ingress & Egress.

☑ **8.** Location & Types of Existing & Proposed Landscaping.

☑ **9.** Indicate Location, Type, Height, & Materials for Proposed Walls, Fences & Signs.

☑ **10.** Show whether the property is adjacent to a projected regionally significant route (RSR) as identified on the Corridor Preservation Map (Figure 9) in the Regionally Significant Routes for Safety and Mobility (RSRSM), Final Report. If adjacent to a projected RSR, show how applicant will comply with the RSRSM Final Report and the RSRSM Access Management Manual.

☑ **F.** **Submit** the following information regarding **Water Supply**:

☑ **1.** Identify the water service provider

☑ **2.** Provide an estimated range of water demand and include an explanation of the method used to obtain the estimate

☑ **3.** Provide information about water supply and source, including renewable and non-groundwater supplies

4. If a portion of the water supply for the proposed project is groundwater, the application shall be accompanied by the following information that is publicly available from the Arizona Department of Water Resources (ADWR) and/or Arizona Geological Survey, or otherwise available to the land owner:

- ☐ **a.** Depth to bedrock
- ☐ **b.** Depth to groundwater
- ☐ **c.** Known fissures or land subsidence in the area
- ☐ **d.** Known wells in the area, available information on status and water levels
- ☐ **e.** Summary of data-gathering efforts and sources of information

☑ **G.** **Submit** a copy of a certified **A.L.T.A.** survey, including a legal description of proposed zoning districts.

☑ **H.** **Aware** that earth fissure maps are available online from the Arizona State Geologic Survey.

☑ **I.** **Submit a list of all property owners within 600' (feet)** of the subject property boundary showing name, mailing address and tax parcel numbers. This list must be obtained within 30 days prior to application submission. A map showing the 600' boundary and parcels must be included as well (*A Tax Assessor Parcel Map is Acceptable*). - ***(This list is a separate list from the "Neighborhood/Community Meeting list of 1,200' however use Page 5 of this application as well).***

☑ **J.** **Complete** and **Submit** the **"Comprehensive Plan Compliance Checklist"**

☑ **K.** **Submit** the Non-Refundable fees for a Special Use Permit outlined on page one of the Zone Change Application.

☑ **L.** **Submit** one **(1) hard copy** of all documentation outlined in the Zone Change application and one **(1) digital copy** in a multi-PDF format per item of the application with all supporting documentation on **one (1) CD.**

☑ **M.** **Submit** one (1) CD which contains:

☐ 1. An ESRI shapefile for land use (conceptual) which shows all proposed zoning lines and zoning classifications for the project in NAD_1983_stateplan_arizona_central_fips_0202_intlfeet projection

OR

☑ 2. An AutoCAD (.dwg file), which includes the following layers:

- ☑ **a.** Parcel
- ☑ **b.** Right-of-way
- ☑ **c.** Sub-perimeter

☑ **d.** Centerlines

☑ **e.** Section Lines

☑ **f.** Street names

☑ **g.** Lot-numbers

☑ **h.** Distances & Bearings tied by course and distance to two Pinal County survey control points or established city or county survey monuments. *(Information on these control points can be obtained from Public Works, Engineering Technicians at 520-866-6411).*

☑ **N.** **Aware to Install Broadcast Notification Sign(s) on the site in conformance with the information shown in this application.** *(See page 12 & 13 of this application for illustrative details).*

☑ **O.** Signature at the end of the **"Checklist"** stating you have reviewed and addressed all areas within it.

I certify that I have submitted all the required information listed above, and I understand that this application for a Zone Change cannot be processed until all required information is submitted.

Signature _____ Date 10/24/13

S-040-13

PINAL • COUNTY
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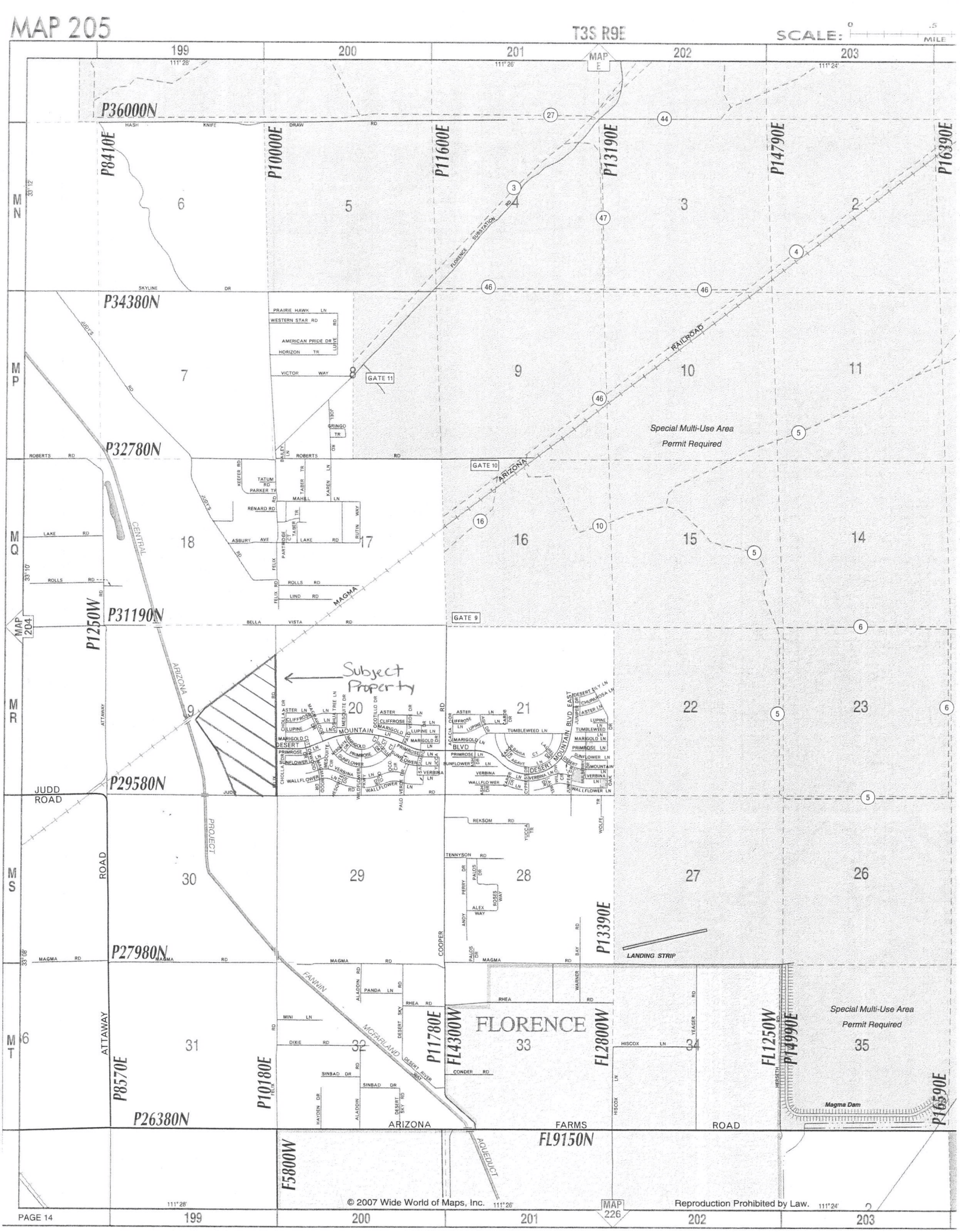
Staff Report

Pinal County Planning & Zoning Commission

Meeting Date:	January 19, 2014
Case Number:	S-040-13
Case Coordinator:	Dedrick Denton
Subdivision Name:	Magma Ranch III Parcel 2
Landowner/Developer:	Greg Bamford Magma Ranch III – Phoenix LLC 3808 N. Sullivan Road, Blgd. N15, #202 Spalcane, WA 92216
Engineer:	Sam Malekooti Premier Engineering Corporation 6437 W. Chandler Blvd. Ste. #1 Chandler, AZ 85226
Comprehensive Plan:	Moderate Low Density Residential & General Commercial
Existing Zoning:	CR-3 & CR-4/PAD (PZ-031-02 & PZ-PD-031-02)
Existing Uses:	Vacant
Surrounding Land Uses:	North: GR; Vacant East: CB-1 & CR-3/PAD; Magma Ranch South: Town of Florence West: Town of Florence
Flood Zone:	X "an area that is determined to be outside the 100 and 500 year floodplain."
Location:	The subject property is located at the northwest corner of Judd Road and Felix Road, adjacent to the Town of Florence.
Legal Description:	A 167.77± acre parcel situated in portion of the east half of Section 19, T03S, R09E, G&SRB&M (legal on file).
Number of Lots:	671
Tax Parcel Numbers:	210-38-003A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P8570E
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P14300W
P13390E
P12800W
P11250W
P14090E
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WESTERN STAR RD
AMERICAN PRIDE DR
HORIZON TR
VICTOR WAY
GATE 11
GRINGO TR
JUDD'S RD
ROBERTS RD
TATUM RD
PARKER TR
RENARD RD
MAHEL LN
KAREN LN
TABER TR
RUTIN WAY
ASBURY AVE
LAKE RD
ROLLS RD
LIND RD
BELLA VISTA RD
GATE 10
GATE 9
CENTRAL ARIZONA PROJECT
MAGMA
RAILROAD
SUBSTATION
FLORENCE
Special Multi-Use Area
Permit Required
Subject Property
MOUNTAIN DESERT BLVD
ASTER LN
CLIFFROSE LN
LUPINE LN
MARIGOLD LN
PRIMROSE LN
SUNFLOWER LN
VERBINA LN
WALLFLOWER LN
TUMBLEWEED LN
JUDD ROAD
ATTAWAY ROAD
REKSOM RD
TENNYSON RD
PALOS DR
FERRY DR
ALEX WAY
ANDY WAY
ROSES WAY
COOPER
LANDING STRIP
MAGMA RD
RHEA RD
CONDER RD
HISCOX LN
YEAGER RD
WARNER RD
FANNIN MCFARLAND DESERT RIVER WAY
ALADDIN RD
PANDA LN
MINI LN
DIXIE RD
SINBAD DR
HAYDEN DR
DESERT SKY RD
FLORENCE
ARIZONA FARMS ROAD
AQUEDUCT
Magma Dam
MAP 204
MAP 226
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PAGE 14

TENTATIVE PLAT OF
Magma Ranch 3 - Parcel 2

A PORTION OF SECTION 19, TOWNSHIP 3 SOUTH, RANGE 9 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA

GENERAL NOTES

PLANNING DEPARTMENT

A. THE GROSS AREA OF THE SUBDIVISION IS 167.77± ACRES.

B. ZONING INFORMATION
ZONING IS CR-3 (PAD).

C. THE NUMBER OF LOTS IS 671.

D. THE APPROXIMATE AREA OF PARKS, RECREATION AREAS, DRAINAGE WAYS, OPEN SPACE AND ALL OTHER PROPOSED NON-RESIDENTIAL USES IS 28.94 AC.

PUBLIC WORKS DEPARTMENT

A. JUDD ROAD ROAD IS THE NEAREST PACED ACCESS MAINTAINED BY THE COUNTY WHICH SERVES THIS SUBDIVISION. THESE STREETS ARE ADJACENT TO THE SUBDIVISION.

B. ANY RELOCATING, MODIFICATION, UNDERGROUNDING, ETC., OF THE EXISTING UTILITIES AND/OR IMPROVEMENTS REQUIRED BY THIS SUBDIVISION DEVELOPMENT WILL BE PAID BY THE SUBDIVIDER.

BUILDING SAFETY DEPARTMENT AND ENVIRONMENTAL HEALTH DEPARTMENT

A. PRIVATE SEWERS ARE PLANNED FOR THIS SUBDIVISION

1. ONSITE SANITARY SEWERS WILL BE CONSTRUCTED, OPERATED AND MAINTAINED ON A PRIVATE BASIS, EXCEPT PUBLIC SEWERS WITHIN PUBLIC SEWER EASEMENTS OR RIGHTS-OF-WAY. THE LOCATION AND METHOD OF CONNECTION TO AN EXISTING PUBLIC SANITARY SEWER IS SUBJECT TO REVIEW AND APPROVAL BY THE COUNTY BUILDING & SAFETY DEPARTMENT AT THE TIME OF SUBMITTAL OF PLUMBING OR BUILDING PLANS. THE SIZE, LOCATION AND CONSTRUCTION OF SEPTIC TANKS ARE SUBJECT TO REVIEW AND APPROVAL OF THE COUNTY ENVIRONMENTAL HEALTH DEPARTMENT AT THE TIME OF BUILDING PERMIT APPLICATION.

2. A HOMEOWNERS' ASSOCIATION MAY BE FORMED TO ACCEPT RESPONSIBILITY AND LIABILITY FOR CONSTRUCTION, MAINTENANCE, OPERATION, AND CONTROL OF ALL PRIVATE SEWERS.
OR

3. IF NO HOMEOWNERS' ASSOCIATION IS BEING FORMED, MAINTENANCE AND OPERATION OF THE PRIVATE SANITARY SEWER TO ITS POINT OF CONNECTION TO THE PUBLIC SANITARY SEWER IS THE RESPONSIBILITY OF EACH AND EVERY PROPERTY OWNER WITHIN THE SUBDIVISION.

4. STATEMENT REGARDING THE LOCATION, COLLECTION, METHOD OF SEWAGE DISPOSAL AND THE DISTANCE TO THE NEAREST SOLID WASTE DISPOSAL AREA BY ROAD. IDENTIFY THE PARTY OR AGENCY HAVING OPERATING JURISDICTION.

5. A STATEMENT AS TO THE TYPE OF DOMESTIC WATER SUPPLY FACILITIES, BOTH EXISTING AND PROPOSED, AND THE NAME OF THE PROVIDER SHALL BE PLACED ON THE PLAT.

SPECIAL NOTES

PLANNING DEPARTMENT

A. IF ANY VARIANCE, WAIVER OR SPECIAL USE PERMIT APPROVAL IS RECEIVED, ADD NOTE STATING WHO APPROVED IT, WHAT WAS APPROVED, AND WHEN IT WAS SUBDIVISION & INFRASTRUCTURE DESIGN MANUAL.

APPROVED AND THE CASE NUMBER. PROVIDE A COPY OF THE MINUTES ON EACH OFFICIAL ACTION WITH THE TENTATIVE PLAT.
B. 'X' IS FLOOD ZONE(S) DESIGNATION.
C. MINIMUM LOT SIZE 4500 SQUARE FEET.

ENVIRONMENTAL HEALTH AND BUILDING SAFETY DEPARTMENTS

A. PRIVATE SEWERS

1. THE REQUIRED OFFSITE SANITARY SEWER LINE WILL BE CONSTRUCTED OPERATED AND MAINTAINED ON A PRIVATE BASIS. THE LOCATION AND METHOD OF CONNECTION TO AN EXISTING PUBLIC SANITARY SEWER IS SUBJECT TO REVIEW BY THE COUNTY BUILDING SAFETY DEPARTMENT AT THE TIME OF SUBMITTAL OF PLUMBING OR BUILDING PLANS.

2. SEWERAGE DISPOSAL FOR ALL LOTS WILL BE BY PRIVATE INDIVIDUAL DISPOSAL SYSTEMS.

C. DRYWELLS

THE FOLLOWING STATEMENT SHALL APPEAR ON ALL PLATS FOR DEVELOPMENTS WHICH USES DRYWELLS: ALL DRYWELLS SHOWN ON THIS PLAT SHALL BE MAINTAINED BY THE OWNER AND ARE TO BE REPLACED BY THE HOA/OWNER WHEN THEY CEASE TO DRAIN THE STORED SURFACE WATER IN A 36 HOUR PERIOD. ANNUAL INSPECTION AND MAINTENANCE OF THE DRYWELL SILTING CHAMBER IS REQUIRED.

BENCHMARK

FOUND 2" PIPE AT THE SOUTH QUARTER CORNER OF SECTION 20. POINT NUMBER 309190 PER PINAL COUNTY GIS CONTROL NETWORK ELEVATION = 1575.80 NAVD88

BASIS OF BEARINGS

N89°39'27"W ALONG THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 20 (JUDD ROAD) OF THE G&SRB&M OF PINAL CO., AZ

LAND USE TABLE

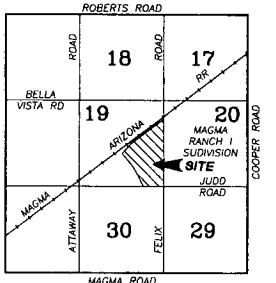
GROSS AREA	167.77 ACRES
AREA OF STREETS	40.48 ACRES
NET ACREAGE	160.58 ACRES
TOTAL NUMBER OF LOTS	671 LOTS
OVERALL DENSITY	4 DU/AC
ARTERIAL ROAD R/W DEDICATION	7.19 ACRES
MAJOR COLLECTOR ROAD R/W DEDICATION	2.53 ACRES
AVERAGE AREA PER LOT	6,000 SQFT
AREA OF TRACTS	28.94 ACRES

OWNER/DEVELOPER

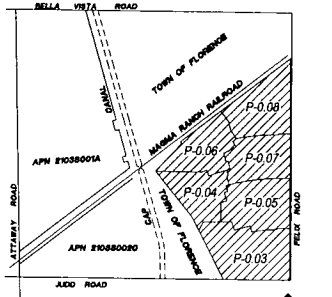
POMESAL LAND II, LLC
3808 N SULLIVAN ROAD
BUILDING N15, SUITE 202
SPALCANE, WA 99216

ENGINEER

PREMIER ENGINEERING CORPORATION
6437 W CHANDLER BLVD, SUITE 1
CHANDLER, AZ, 85226
PHONE: 480-829-6000
CONTACT: SAM MALEKDOTI



VICINITY MAP
N.T.S.



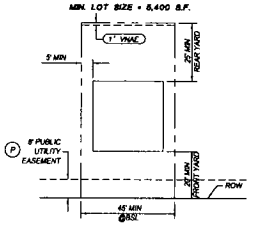
KEY MAP
N.T.S.

BASE ZONING & ZONING CASE NO.

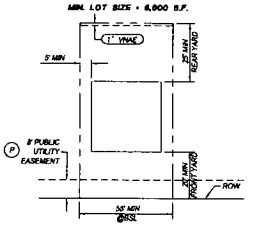
PLANNED AREA DEVELOPMENT
CR-3 P.A.D. SINGLE FAMILY
ZONING CASE # PZ-PD-031-02

MAXIMUM BUILDING HEIGHT	30'
MIN. LOT AREA	5400 SQ FT
MIN. LOT WIDTH	45'
MIN FRONT YARD SETBACK	20'
MIN. SIDE YARD SETBACK	10' (TOTAL)
MIN REAR YARD SETBACK	25'
LOT COVERAGE	51%
TARGET DENSITY	4.0 DU/AC
OPEN SPACE	15%

TYPICAL LOT LAYOUT BUILDING SETBACK 1



TYPICAL LOT LAYOUT BUILDING SETBACK 2



LEGEND

- ROADWAY CENTER LINE
- RIGHT OF WAY LINE
- LOT/TRACT LINE
- SUBDIVISION BOUNDARY
- EASEMENT LINE
- MATCH LINE
- PHASE LINE
- C00 — CURVE NUMBER
- CENTERLINE MONUMENT
- SUBDIVISION CORNER
- FOUND MONUMENT
- SBD — SUBDIVISION BOUNDARY
- 158 — LOT NUMBER
- 1' VNAE — 1' VEHICULAR NON-ACCESS EASEMENT
- P — 8' PUBLIC UTILITY EASEMENT
- V1 — 33'x33' SIGHT VISIBILITY TRIANGLE EASEMENT (SVTE)
- V2 — 21'x21' SIGHT VISIBILITY TRIANGLE EASEMENT (SVTE)
- S — 12' SEWER EASEMENT
- TENTATIVE PHASE NUMBER

LAND SURVEYOR'S CERTIFIACTION

I HEREBY CERTIFY THAT THE SURVEY AND SUBDIVISION OF THE PREMISES DESCRIBED AND PLATTED HEREIN WERE MADE UNDER MY DIRECTION DURING THE MONTH OF _____, _____ AND THIS PLAT REPRESENTS THE SURVEY MADE. I FURTHER CERTIFY ALL EXTERIOR BOUNDARY MONUMENTS SHOWN HERE ON ACTUALLY EXIST AND THEIR LOCATION, SIZE AND MATERIAL ARE ACCURATELY SHOWN AND ARE SUFFICIENT TO ENABLE THE SURVEY TO BE RETRACED.

NAME

SERVICE PROVIDERS

WATER	JOHNSON UTILITIES COMPANY, LLC
SANITARY SEWER	JOHNSON UTILITIES COMPANY, LLC
ELECTRICAL	SALT RIVER PROJECT
NATURAL GAS	MESA GAS CORPORATION
TELEPHONE	CENTURY LINK
CABLE T.V.	COX COMMUNICATIONS/ JOHNSON RANCH
SOLID WASTE	CENTRAL ARIZONA TRANSFER
FIRE/AMBULENCE	RURAL METRO FIRE DISTRICT
POLICE	PINAL COUNTY SHERIFF'S DEPARTMENT
SCHOOL	FLORENCE UNIFIED SCHOOL DISTRICT #1

PREMIER
ENGINEERING CORPORATION
6437 W. CHANDLER BLVD. SUITE 1
CHANDLER, AZ 85226 (480) 829-6000

REVISIONS | DATE

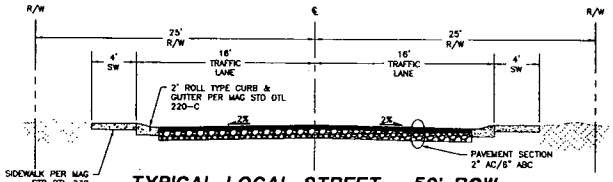
TENTATIVE PLAT OF
MAGMA RANCH III - PARCEL 2

SHEET TITLE:
COVER SHEET

STATUS: PRELIMINARY

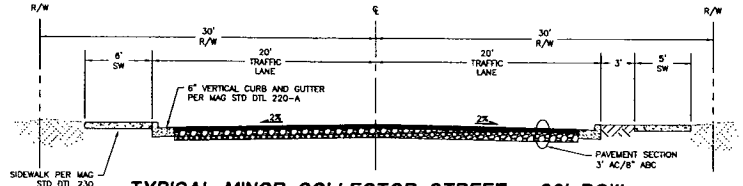
DRAFTED:	TEL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	2013004
SHEET NO:	P-0.01 1 OF 10

S-040-13



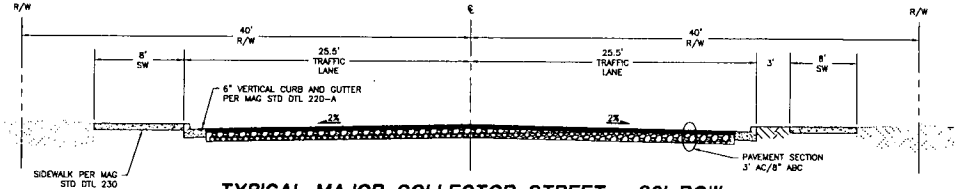
TYPICAL LOCAL STREET - 50' ROW

N.T.S.



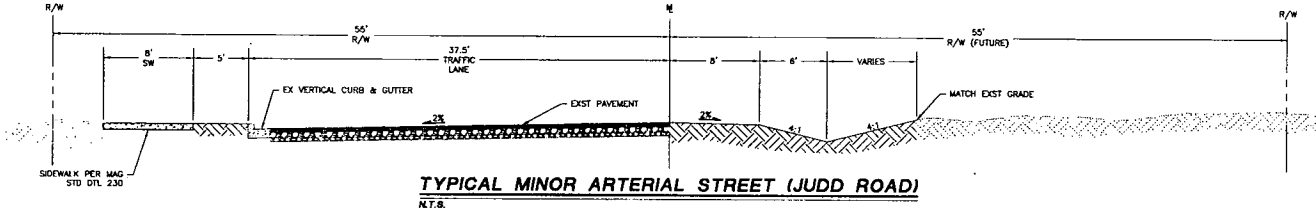
TYPICAL MINOR COLLECTOR STREET - 60' ROW

N.T.S.



TYPICAL MAJOR COLLECTOR STREET - 80' ROW

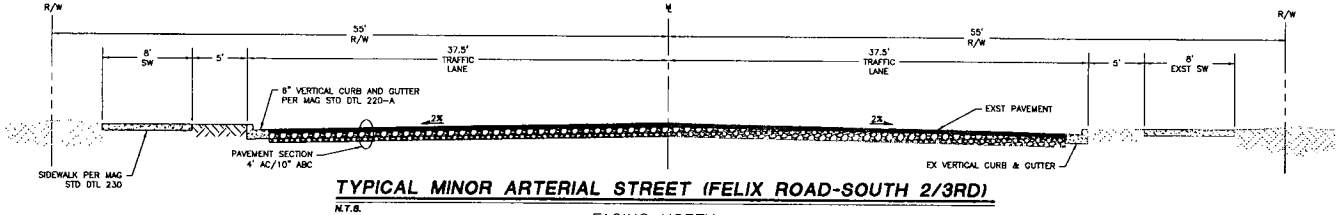
N.T.S.



TYPICAL MINOR ARTERIAL STREET (JUDD ROAD)

N.T.S.

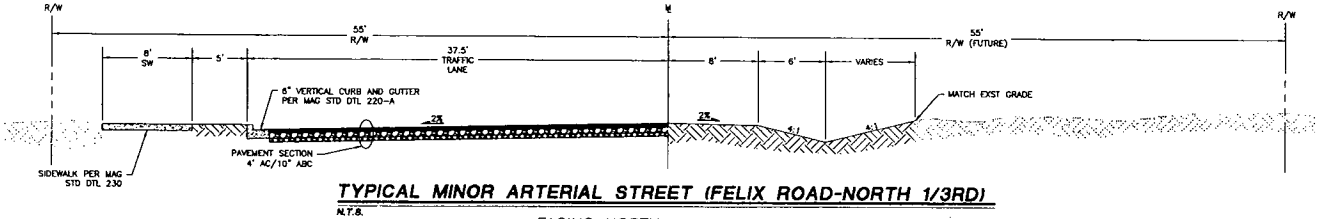
FACING EAST



TYPICAL MINOR ARTERIAL STREET (FELIX ROAD-SOUTH 2/3RD)

N.T.S.

FACING NORTH



TYPICAL MINOR ARTERIAL STREET (FELIX ROAD-NORTH 1/3RD)

N.T.S.

FACING NORTH

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CHANDLER, AZ 85226 (480) 629-8000

REVISIONS	DATE

TENTATIVE PLAT OF MAGMA RANCH 3 - PARCEL 2

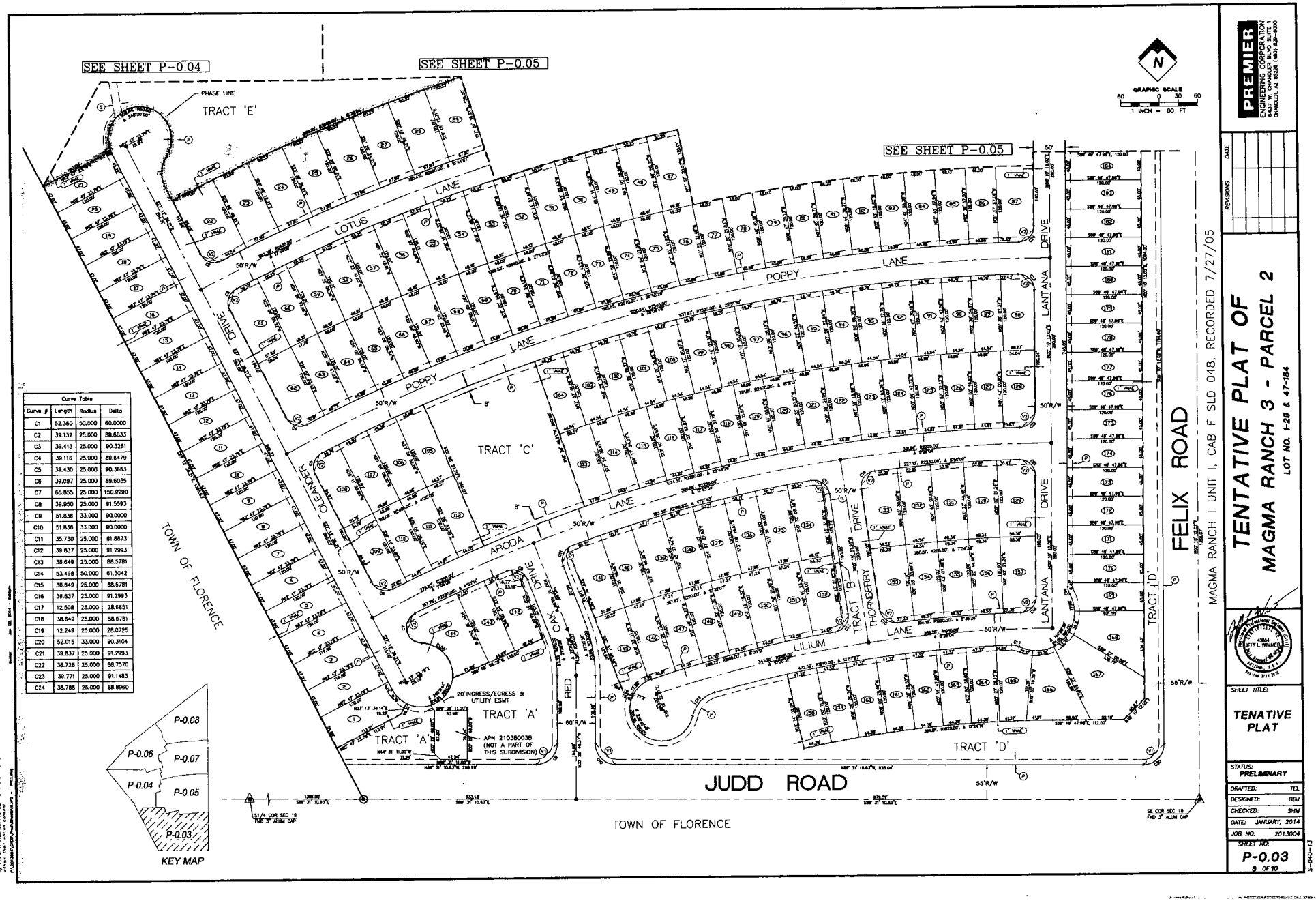
JEFF L. WILLIAMS 42864 REGISTERED PROFESSIONAL ENGINEER ARIZONA U.S.A. Expires 3/31/2015

SHEET TITLE:

DETAIL SHEET

STATUS:	PRELIMINARY
DRAFTED:	TEL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	2013004
SHEET NO:	P-0.02
# OF 10	

S-040-13



Curve Table			
Curve #	Length	Radius	Delta
C1	52.360	50.000	60.0000
C2	39.132	25.000	89.6833
C3	39.413	25.000	90.3281
C4	39.116	25.000	89.6479
C5	39.430	25.000	90.3683
C6	39.097	25.000	89.6035
C7	65.855	25.000	150.9290
C8	39.950	25.000	91.5593
C9	51.836	33.000	90.0000
C10	51.836	33.000	90.0000
C11	35.730	25.000	81.8873
C12	39.837	25.000	91.2993
C13	38.649	25.000	88.5781
C14	53.498	50.000	61.3042
C15	38.649	25.000	88.5781
C16	39.837	25.000	91.2993
C17	12.508	25.000	28.6651
C18	38.649	25.000	88.5781
C19	12.249	25.000	28.0725
C20	52.015	33.000	90.3104
C21	39.837	25.000	91.2993
C22	38.728	25.000	88.7570
C23	39.771	25.000	91.1483
C24	38.788	25.000	88.8960

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1744 E. RIVULON BLVD., SUITE H
CHANDLER, AZ 85225 (480) 505-8000

REVISIONS | DATE

TENTATIVE PLAT OF MAGMA RANCH 3 - PARCEL 2

LOT NO. 1-29 & 47-184

SHEET TITLE: TENTATIVE PLAT

STATUS: PRELIMINARY

DRAFTED:	TCL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	2013004
SHEET NO:	P-0.03
	3 OF 10

S-040-13

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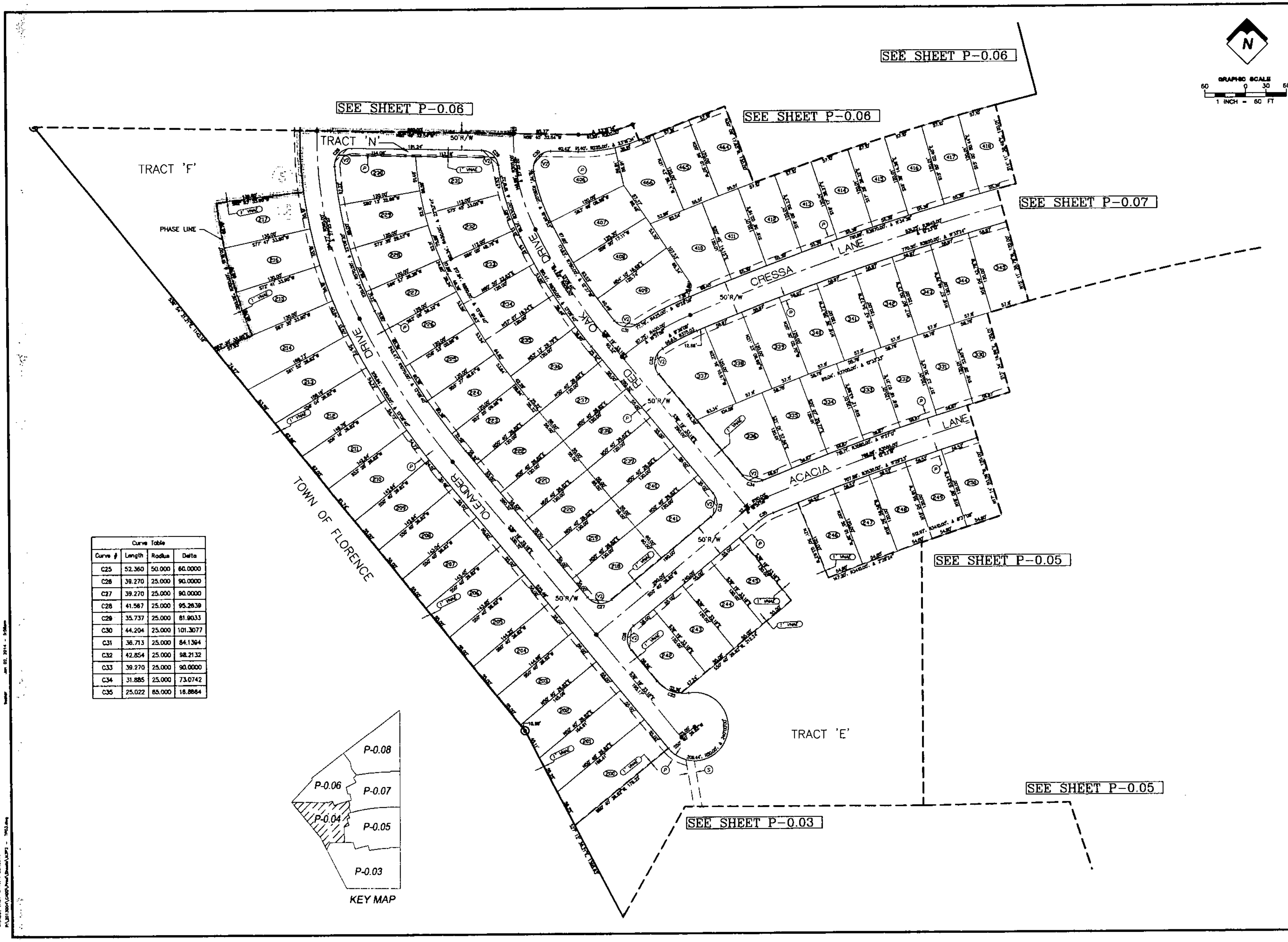

Curve Table			
Curve #	Length	Radius	Delta
C25	52.360	50.000	60.0000
C26	39.270	25.000	90.0000
C27	39.270	25.000	90.0000
C28	41.567	25.000	95.2639
C29	35.737	25.000	81.9033
C30	44.204	25.000	101.3077
C31	36.713	25.000	84.1394
C32	42.854	25.000	98.2132
C33	39.270	25.000	90.0000
C34	31.885	25.000	73.0742
C35	25.022	85.000	16.8664

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TENTATIVE PLAT OF MAGMA RANCH 3 - PARCEL 2

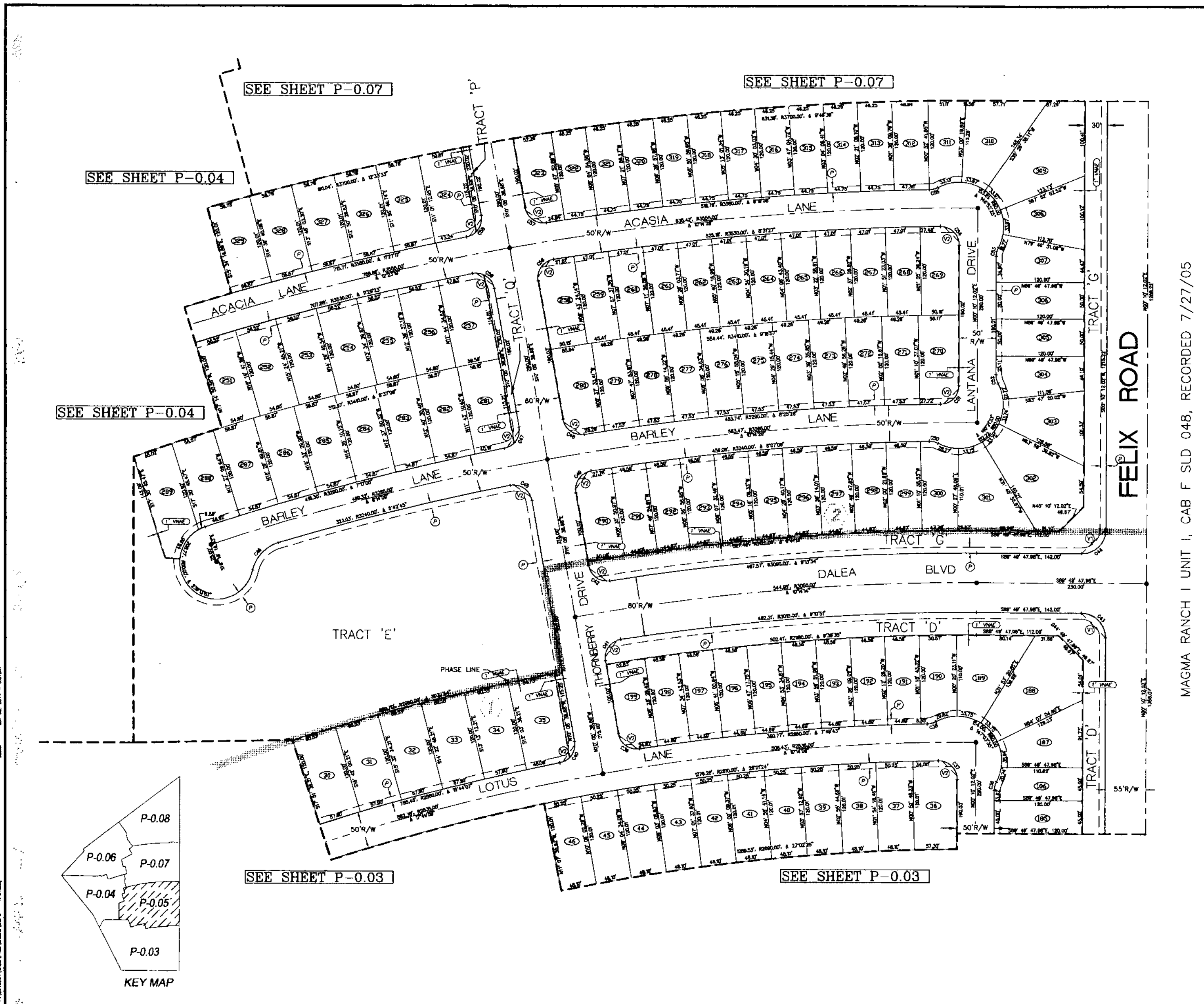
LOT NO. 200-250, 330-345, 406-418, & 464-466

43854
JEFF L. WIMMER
ARIZONA, U.S.A.

SHEET TITLE:
TENATIVE PLAT

STATUS: PRELIMINARY
DRAFTED: TEL
DESIGNED: BBJ
CHECKED: SHM
DATE: JANUARY, 2014
JOB NO: 2013004
SHEET NO: P-0.04
4 OF 10

S-040-13



Curve Table			
Curve #	Length	Radius	Delta
C36	12.249	25.000	28.0725
C37	39.719	25.000	91.0287
C38	12.074	25.000	27.6727
C39	38.781	25.000	88.8792
C40	38.806	25.000	88.9361
C41	39.743	25.000	91.0833
C42	38.817	25.000	88.9619
C43	51.836	33.000	90.0000
C44	51.836	33.000	90.0000
C45	39.686	25.000	90.9547
C46	53.036	50.000	60.7747
C47	38.866	25.000	89.0741
C48	38.844	25.000	89.0246
C49	39.709	25.000	91.0058
C50	12.404	25.000	28.4269
C51	38.893	25.000	89.1358
C52	12.249	25.000	28.0725
C53	12.249	25.000	28.0725
C54	39.627	25.000	90.8174
C55	12.110	25.000	27.7529
C56	39.672	25.000	90.9225
C57	38.879	25.000	89.1031
C58	38.898	25.000	89.1486
C59	39.652	25.000	90.8757

TENTATIVE PLAT OF MAGMA RANCH 3 - PARCEL 2

LOT NO. 30-46, 186-199, 251-329

PREMIER ENGINEERING CORPORATION
6437 W. CHANDLER BLVD SUITE 1
CHANDLER, AZ 85226 (480) 829-6000

REVISIONS | DATE

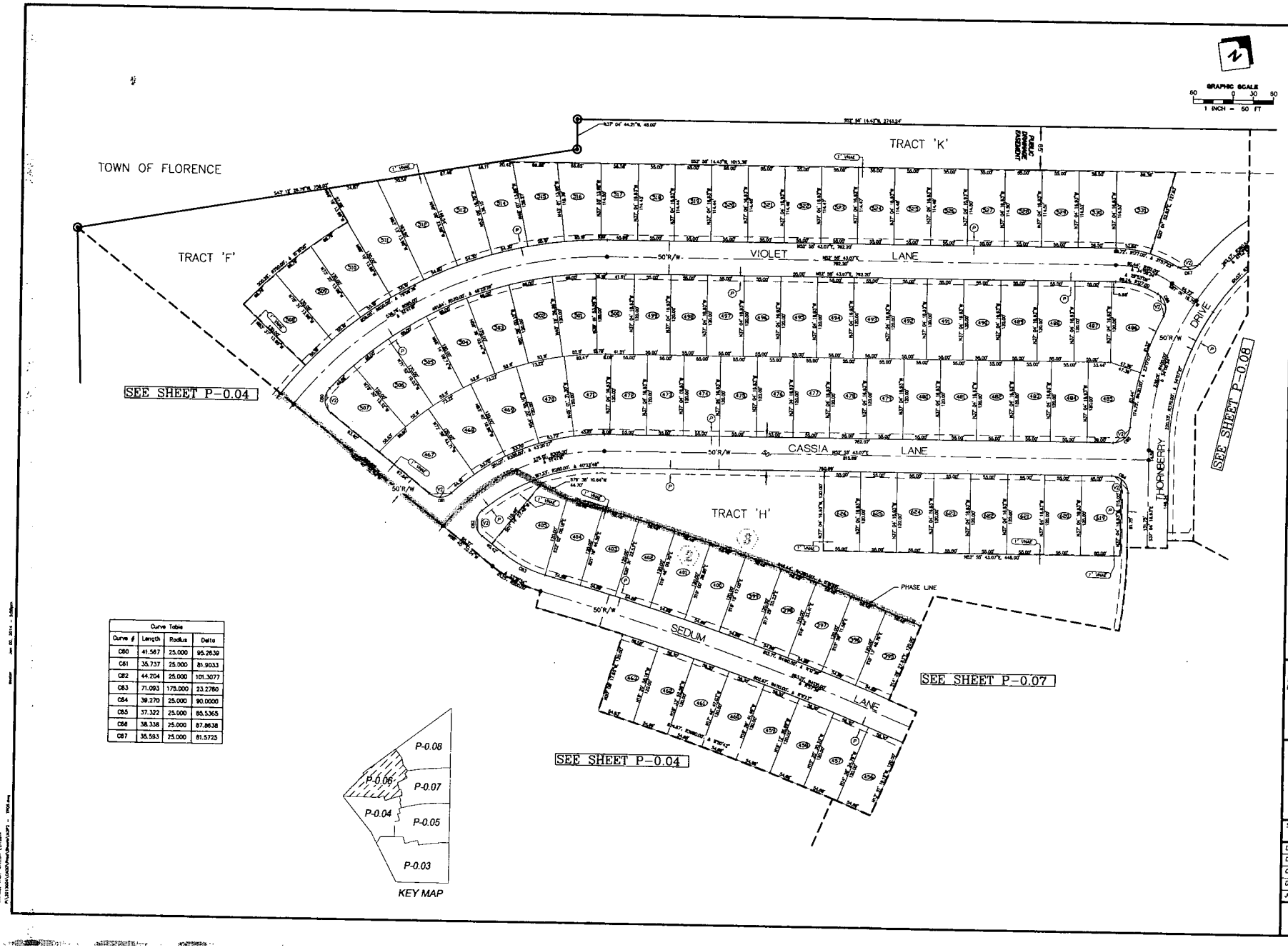
Registered Professional Engineer (Civil) Certificate No. 43654 JEFF L. WIMMER Arizona, U.S.A. Expires 3/31/2015

SHEET TITLE: **TENATIVE PLAT**

STATUS: **PRELIMINARY**

DRAFTED: TEL
DESIGNED: BBJ
CHECKED: SHM
DATE: JANUARY, 2014
JOB NO: 2013004
SHEET NO: **P-0.05** 5 OF 10

S-040-13



Curve Table			
Curve #	Length	Radius	Delta
C60	41.567	25.000	95.2639
C61	35.737	25.000	81.9033
C62	44.204	25.000	101.3077
C63	71.093	175.000	23.2780
C64	39.270	25.000	90.0000
C65	37.322	25.000	85.5365
C66	38.338	25.000	87.8638
C67	35.593	25.000	81.5725

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TENTATIVE PLAT FOR MAGMA RANCH 3 - PARCEL 2

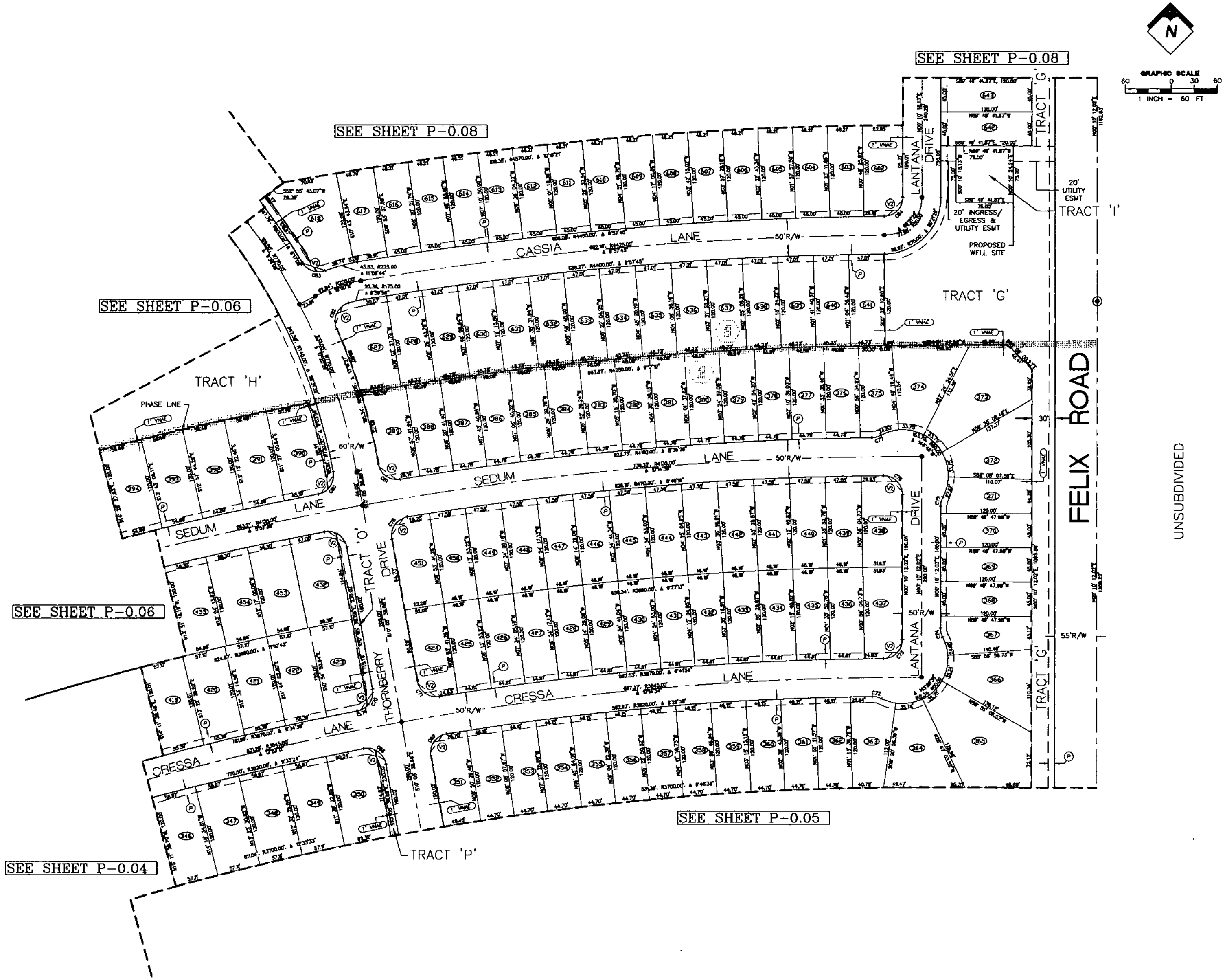
LOT NO. 395-405, 456-463, 467-531, & 619-626

SHEET TITLE: TENATIVE PLAT

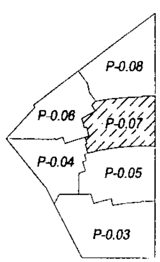
STATUS: PRELIMINARY

DRAFTED:	TEL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	2013004
SHEET NO:	P-0.06 6 OF 10

5-040-13



Curve Table			
Curve #	Length	Radius	Delta
C68	39.623	25.000	90.8088
C69	39.642	25.000	90.8520
C70	38.928	25.000	89.2120
C71	38.908	25.000	89.1698
C72	12.380	25.000	28.3730
C73	38.949	25.000	89.2645
C74	12.249	25.000	28.0725
C75	12.249	25.000	28.0725
C76	39.576	25.000	90.7013
C77	12.129	25.000	27.7974
C78	39.615	25.000	90.7915
C80	39.147	25.000	89.7181
C81	38.763	25.000	88.8387
C82	42.612	25.000	97.6590
C83	34.823	25.000	79.8086
C84	38.990	25.000	89.3582



KEY MAP

PREMIER
ENGINEERING CORPORATION
6437 W. CHANDLER BLVD SUITE 1
CHANDLER, AZ 85226 (480) 829-8000

REVISIONS	DATE

TENTATIVE PLAT OF MAGMA RANCH 3 - PARCEL 2

LOT NO. 346-394, 419-455, 602-618, 627-643

JEFF L. WIMMER 43854

SHEET TITLE:

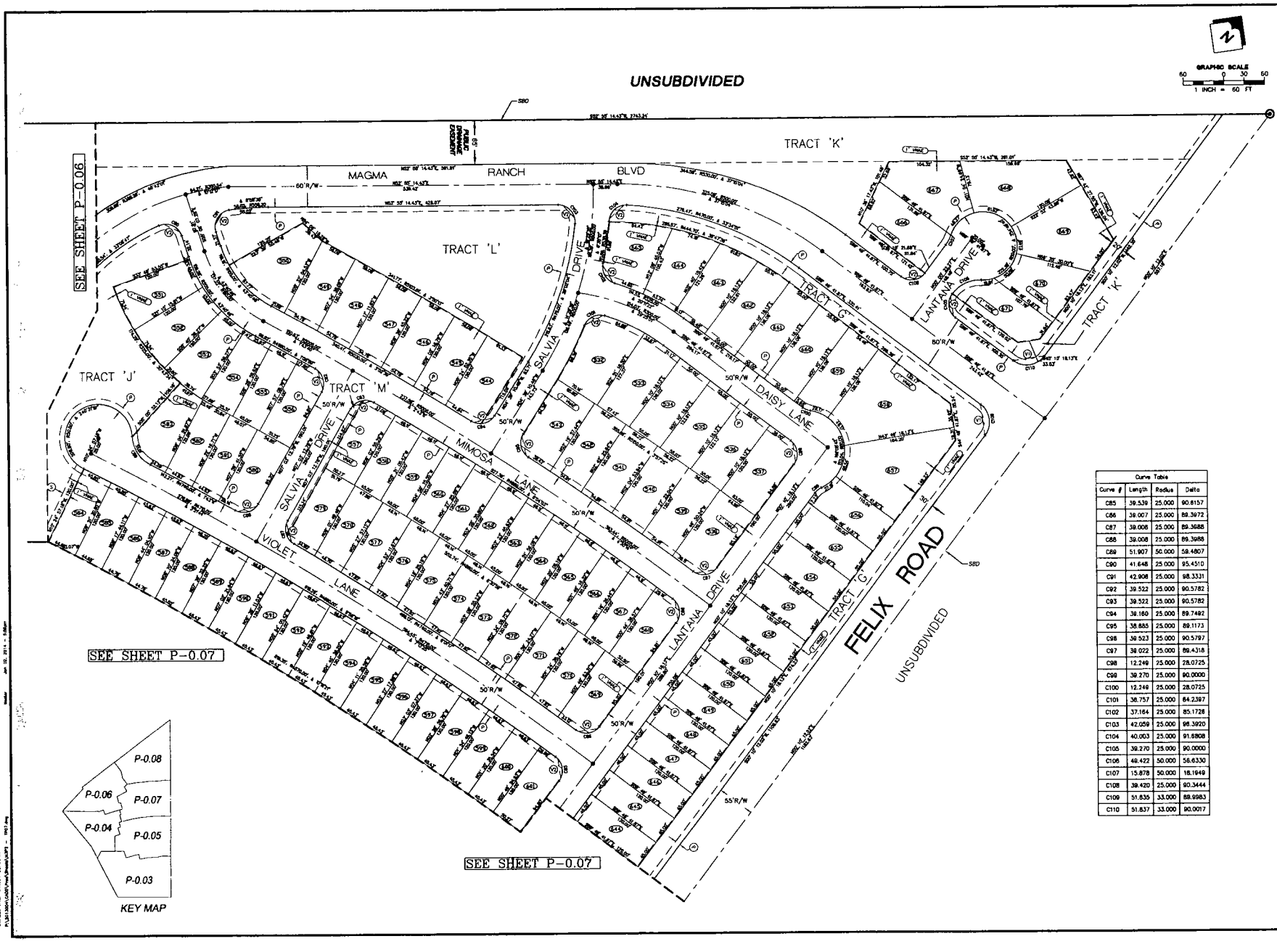
TENATIVE PLAT

STATUS: PRELIMINARY

DRAFTED:	TEL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	2013004

SHEET NO: P-0.07
7 OF 10

S-040-13



Curve Table			
Curve #	Length	Radius	Delta
C85	39.539	25.000	90.6157
C86	39.007	25.000	89.3972
C87	39.008	25.000	89.3988
C88	39.008	25.000	89.3988
C89	51.907	50.000	59.4807
C90	41.648	25.000	95.4510
C91	42.908	25.000	98.3331
C92	39.522	25.000	90.5782
C93	39.522	25.000	90.5782
C94	39.160	25.000	89.7492
C95	38.885	25.000	89.1173
C96	39.523	25.000	90.5797
C97	39.022	25.000	89.4318
C98	12.249	25.000	28.0725
C99	39.270	25.000	90.0000
C100	12.249	25.000	28.0725
C101	36.757	25.000	84.2397
C102	37.164	25.000	85.1728
C103	42.059	25.000	96.3920
C104	40.003	25.000	91.6808
C105	39.270	25.000	90.0000
C106	49.422	50.000	56.6330
C107	15.878	50.000	18.1949
C108	39.420	25.000	90.3444
C109	51.835	33.000	89.9983
C110	51.837	33.000	90.0017

PREMIER
ENGINEERING CORPORATION
6437 W. CHANDLER BLVD SUITE 1
CHANDLER, AZ 85226 (480) 829-4000

REVISIONS | DATE

TENTATIVE PLAT OF
MAGMA RANCH 3 - PARCEL 2
LOT NO. 632-801 & 844-871

SHEET TITLE:
TENATIVE PLAT

STATUS: PRELIMINARY

DRAFTED:	TEL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	201.3004
SHEET NO:	P-0.08
	8 OF 10

S-040-13

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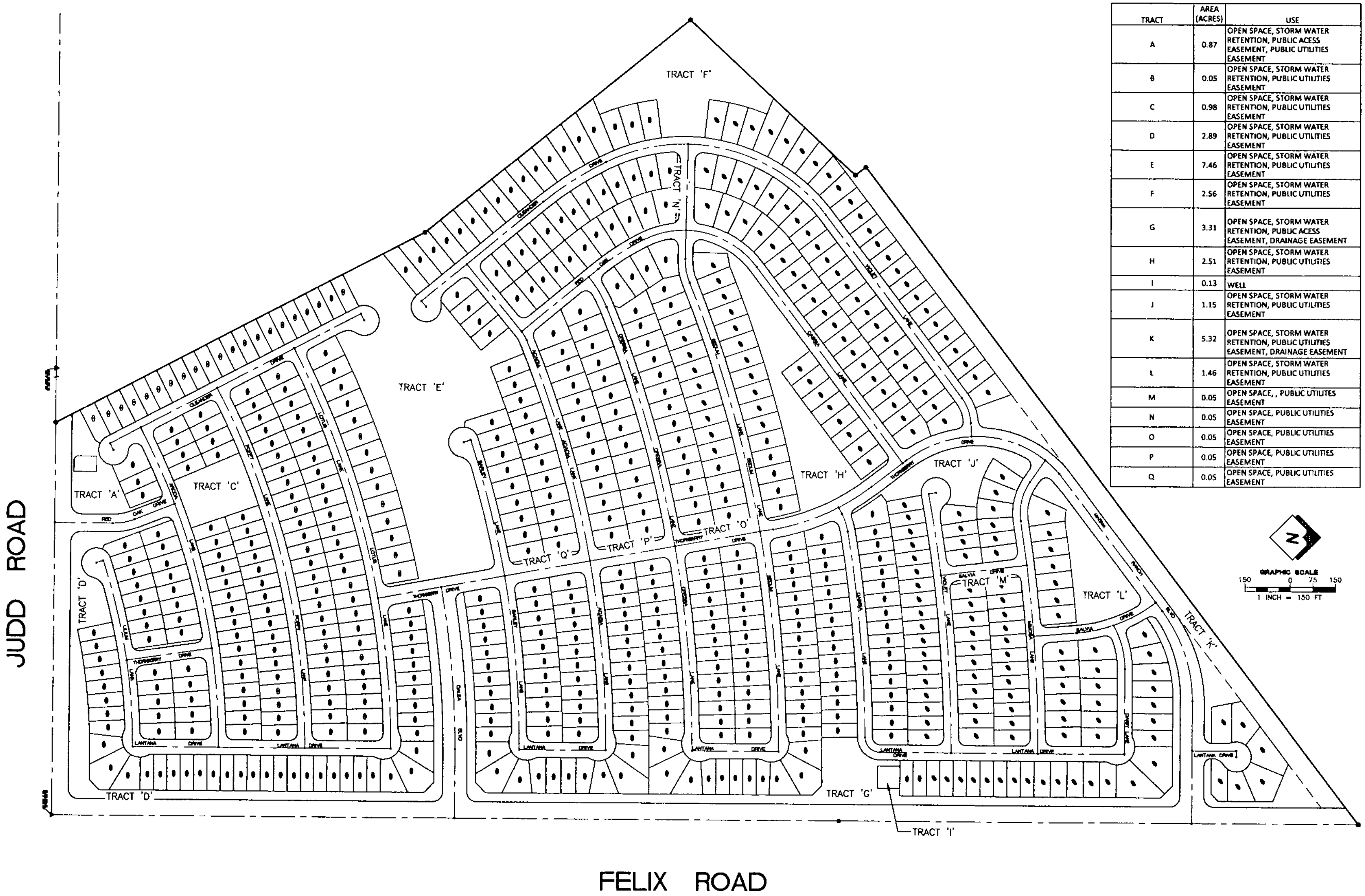
TENTATIVE PLAT OF MAGMA RANCH 3 - PARCEL 2



TRACT TABLE

TRACT	AREA (ACRES)	USE
A	0.87	OPEN SPACE, STORM WATER RETENTION, PUBLIC ACESS EASEMENT, PUBLIC UTILITIES EASEMENT
B	0.05	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
C	0.98	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
D	2.89	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
E	7.46	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
F	2.56	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
G	3.31	OPEN SPACE, STORM WATER RETENTION, PUBLIC ACESS EASEMENT, DRAINAGE EASEMENT
H	2.51	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
I	0.13	WELL
J	1.15	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
K	5.32	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT, DRAINAGE EASEMENT
L	1.46	OPEN SPACE, STORM WATER RETENTION, PUBLIC UTILITIES EASEMENT
M	0.05	OPEN SPACE, , PUBLIC UTILITES EASEMENT
N	0.05	OPEN SPACE, PUBLIC UTILITIES EASEMENT
O	0.05	OPEN SPACE, PUBLIC UTILITIES EASEMENT
P	0.05	OPEN SPACE, PUBLIC UTILITIES EASEMENT
Q	0.05	OPEN SPACE, PUBLIC UTILITIES EASEMENT

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ENGINEERING CORPORATION
8437 W. CHANDLER BLVD SUITE 1
CHANDLER, AZ 85226 (480) 829-8000

REVISIONS | DATE

43854
JEFF L. WIMMER

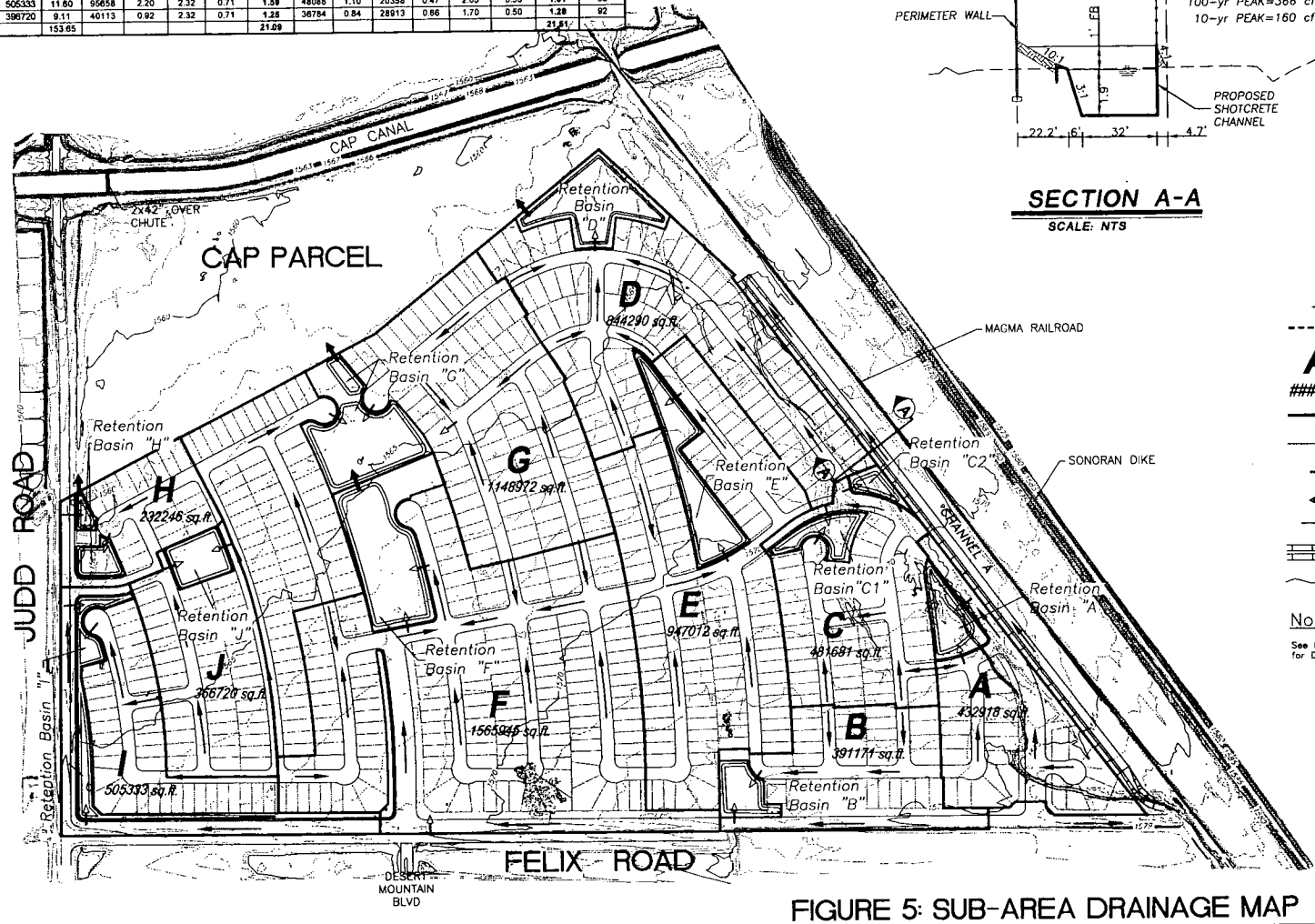
SHEET TITLE:
MASTER LAYOUT

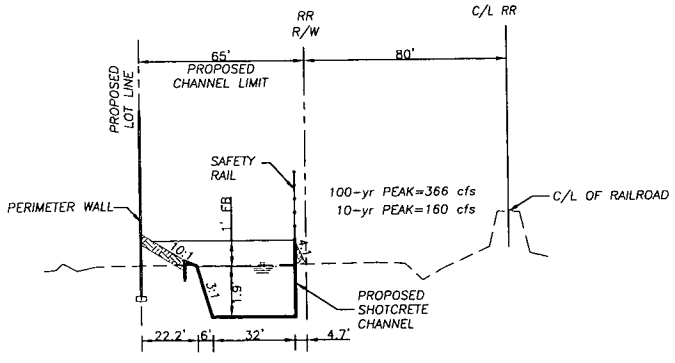
STATUS: PRELIMINARY
DRAFTED: TEL
DESIGNED: BBJ
CHECKED: SHM
DATE: JANUARY, 2014
JOB NO: 2013004
SHEET NO: **P-0.09**
9 OF 10

S-040-13

SUB-DRAINAGE AREAS RETENTION CALCULATIONS

Sub Drainage Area	Total Area (Sq. ft)	Total Area (Acres)	O.S. Area available for Retention Basin(Sq ft)	O.S. Area available for Retention Basin(Acres)	100-yr, 2 hr, Rainfall (inches)	Weighted Runoff Coefficient	Volume required for retension, (Acre-feet)	Top Surface Area, TSA (Sf)	Top Surface Area, TSA (Acre)	Bottom Surface Area, BSA (Sf)	Bottom Surface Area, BSA (Acre)	Depth of Retention Basin, (Ft)	Basin Freeboard (ft)	Storage Volume for Retention Basin, (Acre-feet)	% Used for Retention Basin Area
A	432918	9.94	48491	1.11	2.32	0.71	1.35	33713	0.77	24072	0.55	2.10	0.50	1.39	70
B	391171	8.98	36822	0.89	2.32	0.71	1.23	28331	0.65	19424	0.45	2.25	0.50	1.26	73
C	481681	11.06	52501	1.21	2.32	0.71	1.52	36893	0.85	20944	0.48	2.35	0.50	1.56	70
D	844290	19.38	110921	2.55	2.32	0.71	2.66	82716	1.90	70597	1.62	1.60	0.50	2.82	74
E	947012	21.74	104748	2.40	2.32	0.71	2.98	80098	1.84	62383	1.43	1.85	0.50	3.03	76
F	1565945	35.95	164980	3.79	2.32	0.71	4.93	116127	2.67	98784	2.27	2.00	0.50	4.93	70
G	1292475	29.67	138506	3.18	2.32	0.71	4.07	104084	2.39	83939	1.93	1.90	0.50	4.10	75
H	232246	5.33	30247	0.69	2.32	0.71	0.73	22222	0.51	14264	0.33	2.00	0.50	0.84	73
I	505333	11.60	95658	2.20	2.32	0.71	1.59	48086	1.10	20358	0.47	2.05	0.50	1.61	50
J	366720	9.11	40113	0.92	2.32	0.71	1.28	36784	0.84	28913	0.66	1.70	0.50	1.28	92
Total		153.65					21.09							21.81	





SECTION A-A
SCALE: NTS

LEGEND

- Storm Drain Pipe
- A — Drainage Basin Name
- ####### sq.ft. — Drainage Area
- Drainage Basin Boundc
- Open Space Area
- Scupper/Catch Basin
- Ultimate Site Outfall
- Flow Arrow
- Channel
- Major Existing Elevatior (5' Min Interval)

Note:

See Preliminary Drainage Report for Detail Calculation.

GRAPHIC SCALE
200 0 100 200
1 INCH = 200 FT

FIGURE 5: SUB-AREA DRAINAGE MAP

PREMIER ENGINEERING CORPORATION
2477 W. CHANDLER BLVD. SUITE 1
CHANDLER, AZ 85224 (480) 626-9000

REVISIONS | DATE

TENTATIVE PLAT FOR
MAGMA RANCH 3 - PARCEL 2

SHEET TITLE:
PRELIMINARY DRAINAGE PLAN

STATUS: PRELIMINARY

DRAFTED:	TEL
DESIGNED:	BBJ
CHECKED:	SHM
DATE:	JANUARY, 2014
JOB NO:	2013004
SHEET NO:	P-0.10
	10 OF 10

S-040-13

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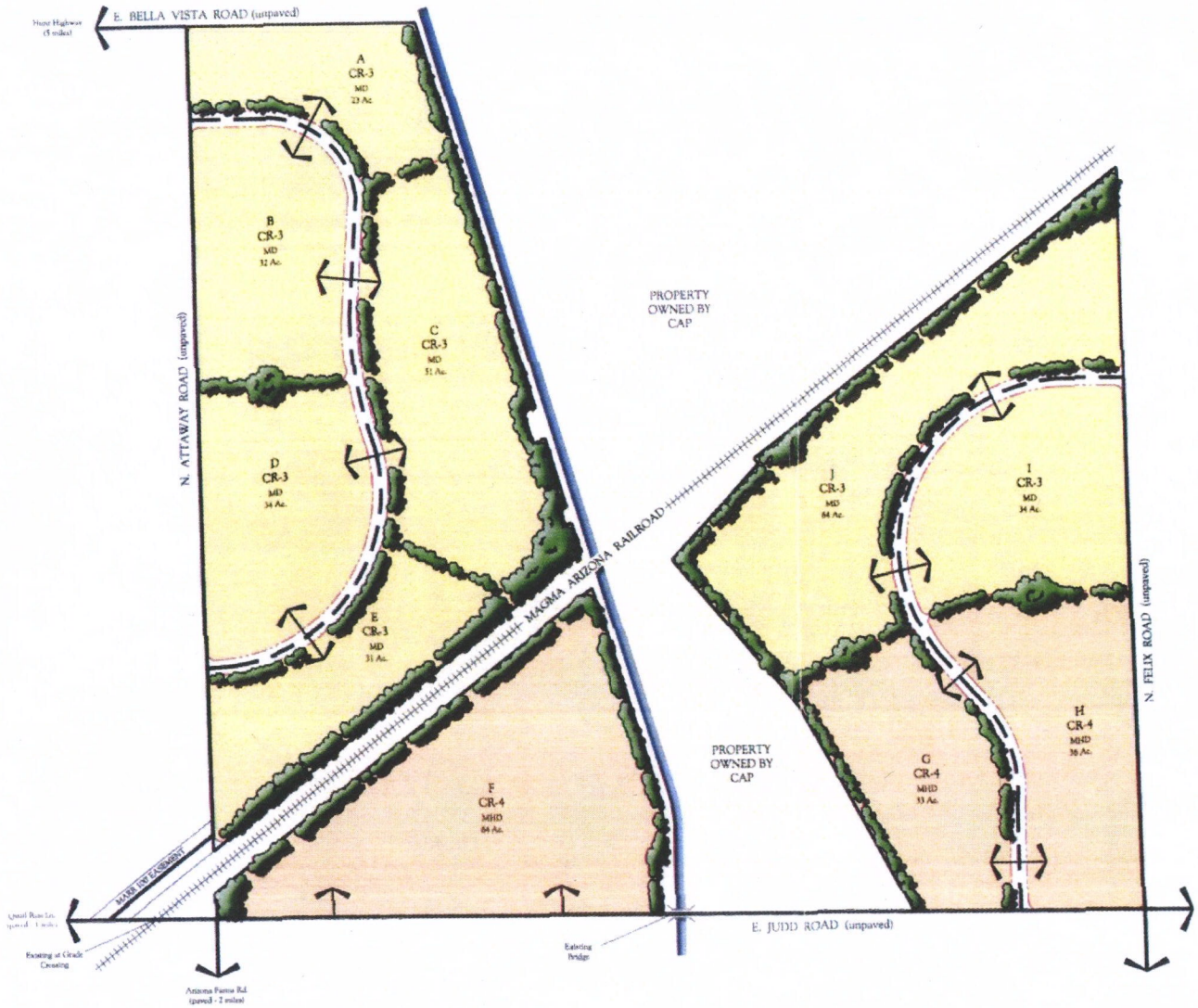

LAND USE TABLE

Land Use	Land Use Designation	Proposed Zoning	Gross Acreage	Total Units
MD	Medium Density Residential	CR-3	269 Ac.	983
MHD	Medium-High Density Residential	CR-4	133 Ac.	625
		Totals:	402 Ac.	1,608

LEGEND

Zoning Category → A / CR-3 / MD / 34 Ac. ← Parcel Designation; Land Use (see table); Number of Acres

Existing Roadway

Proposed Roadway

NOTE:
The location of roads shown on this plan is conceptual only
Their final location may change during the platting process

0' 200' 400' 600'

LAND USE PLAN
Exhibit II-1

The WLB Group

SONORAN VILLAGES

Request & Purpose: Magma Ranch III-Phoenix, LLC, landowner, Premier Engineering, agent, requesting approval of a tentative plat for **Magma Ranch III Parcel 2**, 671 lots on a 167.77± acre parcel in the CR-3 and CR-4/PAD zone **(PZ-031-02 & PZ-PD-031-02)**.

HISTORY: The property was rezoned in 2003 from GR (General Rural Zone) to CR-3 (Single Residence Zone) and CR-4 (Multiple Residence Zone), under Planning Case PZ-031-02 and from CR-3 and CR-4 to CR-3 and CR-4/PAD, under Planning Case PZ-PD-031-02. In 2005, the Planning & Zoning Commission approved a 1,590 lot tentative plat under case number S-027-05. The previous owner submitted final plats for review but the tentative plat expired prior to the final plats receiving approval by the Board of Supervisors. The PAD was approved with a maximum of 1,608 lots.

UTILITIES: The applicant has indicated that the proposed subdivision service providers are:

Telephone: Century Link
Electrical: Salt River Project
Water: Johnson Utilities
Fire District: Rural Metro
Refuse: Central Arizona Transfer
Cable: Cox Communications
Gas: City of Mesa
Police: Pinal County Sheriff Department

Chapter 3.15.050(C) of the Development Services Code requires the subdivider or their representative to attend a Subdivision Coordinating Committee meeting. On November 19, 2013 the County held a Subdivision Coordinating Committee meeting with the developer/engineer to address technical issues and concerns with the proposed subdivision. There was a written comment from City of Mesa Gas Utility Department. Their comments are included in the staff report.

DEVELOPMENT STANDARDS: There were no changes in the development standards. The minimum are listed below.

Lot Area	Front Yard	Side Yard	Rear Yard	Lot Width	Height
4,500 sq. ft	10′	8′ total	10′	45′	30′
3,000 sq. ft	10′	8′ total	10′	30′	30′

FINDINGS: Under Chapter 3.15.050(H) of the Development Services Code, the Commission shall hear and consider all evidence relating to the tentative plat and make findings as to the conformity of the tentative plat with these regulations. The Commission may request changes to the type and extent of improvements to be made.

The Commission shall consider the following criteria in conditionally approving or denying a tentative plat. The Commission may consider other criteria in addition to

the criteria listed below, and may deny approval of a tentative plat if conformance is not found with one or more of the following:

1. Whether the proposed subdivision is consistent and in conformance with Title 3 of the Pinal County Development Services Code and other applicable ordinances and regulations.

   Analysis: The tentative plat contains all the required information, is in satisfactory form, and comments have been received from those who participated in the Subdivision Coordinating Committee meeting.

   Finding: Staff finds that the proposed subdivision will be consistent and in conformance with the Pinal County Development Services Code and other applicable ordinances and regulations with the recommended stipulations.

2. Whether the proposed subdivision is consistent with the approved zoning or Planned Area Development (PAD), if applicable.

   Analysis: This project is located within the CR-3 & CR-4/PAD zoning classification. The Board approved seven stipulations of understanding for case PZ-031-02 and seventeen stipulations for case PZ-PD-031-02.

   Finding: Staff finds that the lots in the proposed tentative plat meet the requirement of the minimum lot area and the applicable zoning stipulations have been transferred to this case for the Commission consideration.

3. Whether the design of the proposed subdivision is suitable to the environment or causes substantial environmental damage or presents serious public health problems.

   Analysis: The design of Magma Ranch III Parcel 2 is suitable to the environment and does not cause any substantial environmental damage or presents any serious public hazard problems. The project presents comprehensive solutions for water, sewer, infrastructure, drainage, utilities, and traffic circulation.

   Finding: Based on information provided to date, staff is not aware of any other situation(s) that the proposed subdivision may cause serious public health problems.

4. Whether the design of the proposed subdivision is compatible with the physical features of the site including, but not limited to, natural slopes greater than 15%, floodplains and habitat areas.

Analysis: The proposed subdivision is in an area where the topography is relatively flat.

Finding: Staff finds that the proposed tentative plat, with the approved attached stipulations will conform to the physical features of the site.

5. Whether the proposed subdivision will have adequate permanent access.

Analysis: Access for this tentative plat is from Gary Road and Rhea Road. Gary Road is paved and Rhea Road will have to be improved.

Finding: Staff finds that the proposed subdivision, with the attached stipulations, will have adequate permanent access.

6. Whether the proposed subdivision will place an unreasonable burden on the ability of the County or other local governments to provide for streets, water, sewage, fire, police, hospital, solid waste, education, housing, recreation and other services, that is not offset by improvements associated with the proposed subdivision.

Analysis: The applicant is required to develop the proposed streets both public and private to County Road Standards.

Water service is to be provided by Johnson Utilities. A will serve letter will be provided at time of final plat approval.

Sewer service is to be provide by Johnson Utilities.

Fire service is available on a subscription basis by Rural Metro.

Police protection is to be provided by the Pinal County Sheriff's Dept.

Solid waste service is to be provided by Central Arizona Transfer.

Finding: Staff finds that the proposed subdivision, with the attached stipulations, will not place an unreasonable burden on the local government to provide necessary utilities and amenities.

7. Whether the design of the proposed subdivision promotes the safety, health, and general welfare of the public.

Analysis: The applicant did submit a tentative plat in conformance with the Comprehensive Plan, Planned Area Development and Development Services Code, in order to be heard by Pinal County Planning Commission. Additional requirements to be provided during the final platting process will ensure that the proposed subdivision will promote the safety, health and general welfare of the public.

Finding: With information that was provided by the applicant, County Departments and agencies/entities, staff finds that the design and layout of the proposed subdivision will promote the safety, health, and general welfare of the public, with the attached stipulations.

STAFF SUMMARY AND RECOMMENDATION: All submittals, evidence presented, written documentation, public testimony, planning case staff reports (PZ-031-02 & PZ-PD-031-02), with stipulations are considered part of the record in this subdivision case. Based upon the Planning Director's review of the application, exhibits received in evidence, a staff visit to the subject property and the attached staff report, staff recommends that the Commission adopt the staff report and record as presented and grant approval to the tentative plat with the following recommended motion:

I move to approve findings 1 – 7 as set forth in the staff report and approve the tentative plat in Planning Case S-040-13 with the 22 stipulations as presented in the staff report.

1. All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis (TIA) to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines.

2. The drainage plan shall be in accordance with the current Pinal County Drainage Manual. The approved Drainage Plan shall provide retention for storm waters in common retention areas.

3. Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer.

    a. A minimum 55' half street right-of-way dedication along **JUDD ROAD**. (southern boundary) and a minimum 55' half street right-of-way dedication along **FELIX ROAD** (eastern boundary).

4. Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer.

5. Street lights shall be provided at all arterial/collector, collector/collector, and collector/local street intersections or as approved by the County Engineer. Street lights shall be maintained by the Homeowners' Association.

6. The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals.

7. Prior to final plat approval, the developer is required to contact the local electric service provider to determine if a substation will be required within or directly adjacent to the proposed subdivision. The developer will provide a written verification from the electrical provider of their substation plans in the immediate area. If there are any existing substations requiring modification or new substations are required, the developer will pay all costs for block screening walls and landscaping around the substation site.

8. If any conflicts or discrepancies between the tentative plat and these stipulations arise, the stipulations shall govern.

9. It shall be the responsibility of the developer/subdivider to ensure that all contractors engaged to perform work on this subdivision are aware of the stipulations associated with this plat and that all work performed is in conformance with all applicable stipulations.

10. Final plat submittals, acceptance, and review shall be in accordance to Sections 3.15.110, 3.20.030, and 3.20.040 of the Development Services Code.

11. The applicant/owner shall develop the 671 lot subdivision in accordance with the subdivision submittal documents for Magma Ranch III Parcel 2 and in accordance with all applicable criteria of Title 3 of the Development Services Code, Pinal County Subdivision & Infrastructure Design Manual, and approved zoning cases (PZ-031-02 & PZ-PD-031-02), or secure any Waivers/Variances prior to signing the final subdivision plat by the Board of Supervisors.

12. On all of the lots the developer/owner shall ensure that structures can fit within the building setbacks and no structures are to be placed within the erosion setback.

13. The applicant/owner/developer shall meet the requirements of the International Fire Code, as adopted by Pinal County and administered by the Pinal County Building and Safety Department.

14. All construction activity must conform to the Earthmoving Activity requirements of the Pinal County Air Quality Control District.

15. Prior to final plat approval, the applicant/owner shall provide written verification from the Florence Unified School District, that applicable school concerns/issues have been resolved to the satisfaction of the District, including providing school bus stops with shelters, as may be required.

16. Place the following in the notes section on the final plat:

    - This subdivision is subject to an agricultural spray easement recorded by fee No. _____, in the official records of the County Recorder of Pinal County, Florence, Arizona.

    - No schools or day care centers to be located within (¼) one-quarter mile of land in agricultural production requiring aerial spraying.

17. Prior to development approval, the applicant/developer/owner shall provide written verification from the wastewater/sewage disposal provider, together with associated documentation, that:

    a. The wastewater/sewerage disposal provider has adequate capacity for collection, treatment and disposal of wastewater for the development.

    b. The development boundaries are located within a service area designated with an approved **Certificate of Convenience and Necessity (CCN).**

    c. The wastewater plan for the proposed development is in conformance with the **Certified Water Quality Management Plan (208).**

18. The final plat/map title **(Required by A.R.S. § 11-481)** shall include:

    a. Type of map or plat.

    b. Name of subdivision and description with township, range and section.

    c. Name of the owner of record.

    d. Recorder's information and seal block.

This information shall be located on the top ¼ of the face of the final plat with the Recorder's seal block located on the top ¼ of each page of the final plat.

19. Place the following items on the face of the final plat:

    a. Pertinent general notes as required for final plat approval in the Pinal County Subdivision & Infrastructure Design Manual

    b. Benchmark & Basis of Bearing

    c. Vicinity Map & Location Map

    d. Base Zoning & Case Number

    e. Typical Lot Layout & Building Setbacks

    f. Legend, Land Surveyor's Certification, Approvals, Declaration, Title Warranty and Dedication, Recorder's Block, and Project Title

20. The applicant/landowner/developer will coordinate with Pinal County Public Works Department in addressing traffic circulation between this development and adjacent developments both current and proposed.

21. Place the following statement on the face of the final plat: "Assurances" Assurance in the form of (Bond/Letter of Credit/Cash Deposit/Third Party Trust Agreement) has been submitted to guarantee installation of the required infrastructure.

22. Conditional approval of the tentative plat and an extension request shall be as set forth in Section 3.15.100 of the Pinal County Development Services Code.

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Greg Stanley
Assistant County Manager

Development Services

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Greg Stanley
Interim County Manager

Memorandum

Date: January 16, 2014

To: Steve Abraham, Planning Manager
Planning and Development Services Department

From: Scott Bender, P.E.
Deputy Public Works Director

Subject: Tentative Plat for MAGMA RANCH III PARCEL 2, Case No. S-040-13

The Public Works Department has reviewed the Tentative Plat for MAGMA RANCH III PARCEL 2, Case No. S-040-13 and recommends that it be approved subject to the following conditions:

1) All peripheral road and infrastructure improvements shall be per the approved Traffic Impact Analysis (TIA) to mitigate impacts on all surrounding roadways to be completed at the developer's cost. These may include construction of acceleration/deceleration lanes, left turn pockets, traffic signals or other public improvements as approved by the County Engineer. The TIA shall be in accordance with the current Pinal County TIA Guidelines;
2) The drainage plan shall be in accordance with the current Pinal County Drainage Manual. The approved Drainage Plan shall provide retention for storm waters in common retention areas;
3) Right-of-way dedication will be required along all section and mid-section lines or as approved by the County Engineer. All right-of-way dedication shall be free and unencumbered. All roadway and infrastructure improvements shall be in accordance with the current Pinal County Subdivision Standards or as approved by the County Engineer;

    a. A minimum 55' half street right-of-way dedication along JUDD ROAD. (southern boundary) and a minimum 55' half street right-of-way dedication along FELIX ROAD (eastern boundary).

4) Lift stations, if required, shall be located in a tract and shall not be located adjacent to a residential lot. Access to the lift station shall be provided off a local street. Final location of the lift station to be approved by the County Engineer;
5) Street lights shall be provided at all arterial/collector, collector/collector, and collector/local street intersections or as approved by the County Engineer. Street lights shall be maintained by the Homeowners' Association;

6) The developer agrees to contribute a portion of the cost to provide signals at intersections significantly impacted by the development as required by the approved traffic study. Prior to the recordation of the first final plat for this subdivision, developer shall contribute toward the total cost of traffic signals at each intersection required by the approved traffic study and as approved by the County Engineer. Funds in escrow or other assurance as determined by the County Engineer shall be posted with Pinal County to guarantee the installation of the required traffic signals;

7) Prior to final plat approval, the developer is required to contact the local electric service provider to determine if a substation will be required within or directly adjacent to the proposed subdivision. The developer will provide a written verification from the electrical provider of their substation plans in the immediate area. If there are any existing substations requiring modification or new substations are required, the developer will pay all costs for block screening walls and landscaping around the substation site;

8) If any conflicts or discrepancies between the tentative plat and these stipulations arise, the stipulations shall govern;

rev: L. Chow
cc: D. Denton

Dedrick Denton

From: Giao Tran <Giao.Tran@MesaAZ.gov>
Sent: Monday, October 28, 2013 11:25 AM
To: Dedrick Denton
Subject: Magma Ranch III, Parcel 2 (Case no. S-040-13)

Dedrick,

Thank you for supplying us information on developments in the Pinal County. This information is very helpful for our Department. Regarding the development at Magma Ranch III, Parcel 2 (Case no. S-040-13), the following is the City of Mesa Gas Utility Department's comment for the review process:

"The proposed project lies within the City of Mesa Energy Resources Department's natural gas service territory. If you have any questions as to the benefits of clean burning and efficient natural gas, the process required for the City of Mesa to provide gas to your project, or for inquiries regarding Will-Serve letters, please contact one of our business development representatives at (480) 644-3683 or (480) 644-2652. Please contact Arizona Blue Stake at 811 prior to any excavation in the area."

Additionally, I also have a correction to make on the application package. Regarding item 7 on page 3 "Gas service provider". The correct person of contact should be:

Lucy Lopez
640 N Mesa Dr., Mesa, AZ 85211
(480) 644-3683 or cell (480)229-6967

Please let me know if you have any questions.

Sincerely,

Giao Tran
Gas Planning Engineer
480-644-6429

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II. GENERAL SUBDIVISION INFORMATION

1. The name of the proposed subdivision: Magma Ranch III, Parcel 2
2. Number of lots this subdivision contains: 671 Lots
3. Number of access roads proposed by this subdivision: Three
4. Are the streets within proposed subdivision intended to be: public: Yes private: ____
5. Parcel number(s): APN 21038003A
6. Township 3S Range 9E Section(s) 19
7. Parcel size: 167.77 Acres
8. Zoning Classification: CR-3, PAD Planning Case #: ____
9. Flood Zone Designation: "X"
10. Topography: Flat
11. Does it front a public road? Yes Name of road(s) Judd Road and Felix Road
12. Does it front a private road? No Name of road(s) ____

III. EXPLANTION OF THE SUBDIVISION PLANS

1. Prior to acceptance of this application, the applicant should notify and coordinate with the following applicable utilities and agencies of this proposal:

   a. Electricity, gas, water, sewer, telephone, cable, solid waste, fire district, and school district.

2. Coordination with the affected utilities and agencies should address the following questions with regards to your proposal:

   a. Can they service your proposal? Yes

   b. When could service be installed? Upon request

   c. What is the distance and size of line extension necessary? TBD

   d. Will the lines be buried or overhead? Buried

   e. What is the impact on other users in the area? None

f. Are there funds budgeted to complete the installation for this subdivision? Yes

g. Is there a need for easements? yes If so, at what locations? Per Tentative Plat

h. Additional comments or concerns. None

3. Septic system or public/private sewer? Public Sewer

4. Sewer service provider:
   Company Name: Johnson Utilities
   Contact Person: Bob Padilla
   Address: 5230 E Shea Blvd, Scottsdale Az
   Phone Number: 480-998-3300

5. Water service provider:
   Company Name: Johnson utilities
   Contact Person: Bob Padilla
   Address: 5230 E Shea Blvd, Scottsdale, Az
   Phone number: 480-998-3300

6. Electrical service provider:
   Company Name: Salt River Project
   Contact Person: SRP Blue Stake
   Address: 3735 E Combs Rd, Pinal County, AZ
   Phone number: 602-236-8026

7. Gas service provider:
   Company Name: City of Mesa
   Contact Person: Gilbert Montez
   Address: 20 E Main Street, Mesa
   Phone number: 480-644-3513

8. Telephone service provider:
   Company Name: Century Link
   Contact Person:
   Address: 111 W Florence Blvd, Ste 9, Casa Grande, AZ 85122
   Phone number: 623-780-3350

9. Cable service provider:
   Company Name: Cox Communication
   Contact Person: Gwendolyn Garcia
   Address: 1500 W Deer Valley Road, Phoenix, AZ 85027
   Phone number: 623-328-4073

10. Solid waste provider:
    Company Name: Central Arizona Transfer, Inc
    Contact Person: Chris Coyle
    Address: 4811 W Lower Buckeye Rd, Phoenix, AZ 85043
    Phone number: 480-982-1961

11. Fire District:
    Company Name: Rural Metro Fire District
    Contact Person:
    Address: 708 W Baseline Road, Mesa, AZ 85210
    Phone number: 480-627-6200

12. School District:
    Company Name: Florence Unified School District #1
    Contact Person: Dana Hawman
    Address: 1000 main Street, Florence, AZ, 85132
    Phone number: 520-866-5121

PINAL • COUNTY
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Please Print:

Sam Malekooti	6437 W Chandler Blvd, Suite#1, Chandler, AZ 85226	480-829-6000
Name of Applicant	Mailing Address	Phone

smalekooti@pre-engr.com
Applicant E-Mail Address

Magma Ranch III- Phoenix LLC	3808 N Sullivan Road, Bldg N-15, Ste 202, Spokan, Washington 99216	480-946-9635
Name of Landowner(s)	Mailing Address	Phone

mvoigt@voyagerproperties.com
Landowner(s) E-Mail Address

If the applicant is not the landowner, a notarized consent/agency authorization must accompany this application.

All notices will be mailed to the applicant unless otherwise noted below.

Sam Malekooti . 6437 W. Chandler Blvd., Chandler, AZ 85226
Name and mailing address of person to be notified

Malekooti 10/3/13
Signature of Applicant Date

Note: A completed application, supporting information, and appropriate filing fees shall be submitted to Planning & Development in person in order for the application to be considered accepted by the County.

FEES:

Tentative Subdivision Plat:

Base fee $470.00
Plus $48.00 per lot or dwelling unit

Final Subdivision Plat:

Base fee $470.00
Plus $48.00 per lot or dwelling unit

Pre-Application Case Number: S-PA-

Pre-Plat Meeting Date: Nov. 19, 2013 Coordinator: Dedrick Denton

S-040-13

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TO BE COMPLETED BY ALL LANDOWNERS OF SUBJECT PROPERTY WHEN LANDOWNERS DO NOT REPRESENT THEMSELVES. *Instructions for completing required information are in bold and brackets below lines. If applicant is a company, corporation, partnership, joint venture, trustee, etc., please use the corporate signature block and have the notary fill in the notarization section for corporations not individuals.*

AGENCY AUTHORIZATION

TO: Pinal County Planning & Development Services
P.O. Box 2973
Florence, AZ 85132

Magma Ranch III- Phoenix LLC

[Insert Name -- If a Corporation, Partnership or Association, Include State of Incorporation]

hereinafter referred to as "Owner," is/are the owner(s) of 167.77 acres located at NW Corner of Judd Road and Felix Road

and further identified ***[Insert Address of Property]***

as assessor parcel number 210-038-03A ***[Insert Parcel Number]*** and legally described as follows:

Legal Description is attached hereto as Exhibit A

Said property is hereinafter referred to as the "Property."

Owner hereby appoints Sam Malekooti, Premier Engineering

[Insert Agent's Name. If the Agent Is a Company, Insert Company Name Only]

hereinafter referred to as "Agent," to act on Owner's behalf in relation to the Property in obtaining approvals from Pinal County for any necessary amendment to Pinal County's Comprehensive Plan; zone changes; planned area development overlay districts; platting of the subject property; any necessary special use or industrial use permits; and to file applications and make the necessary submittals for such approvals; to apply for and process an appeal of a development fee; to apply for and process an application for credit or to claim the Property is not subject to a development fee, including preparation and negotiations of agreements related thereto; and to proceed with any other Pinal County process concerning the development of the Property.

Owner consents and agrees to be bound by all stipulations agreed to by this Agent in connection with any of above-referenced processes.

[Individual PROPERTY OWNER signature block and acknowledgment. DO NOT SIGN HERE IF SIGNING AS AN OFFICER OF A CORPORATION ON THE NEXT PAGE.]

_____ _____
[Signature] ***[Signature]***

Dated:_____ Dated:_____

STATE OF_____)
) ss.
COUNTY OF_____)

The foregoing instrument was acknowledged before me this_____day of_____, _____,

By_____.
[Insert Name of Signor(s)]

_____
Notary Public

My commission expires:_____

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[Corporate PROPERTY OWNER signature block and acknowledgment. The appropriate Corporate officer or trustee signs this signature block NOT the block on the previous page.]

OFFICIAL SEAL
NANCY E. ARNOLD
Notary Public - Arizona
MARICOPA COUNTY
My Commission Expires
MAY 27, 2016

MAGMA RANCH III - PHOENIX, LLC
[Insert Company or Trustee's Name]

By: _____
[Signature of Authorized Officer or Trustee]

Its: VICE PRESIDENT
[Insert Title]

Dated: 10.3.13

STATE OF Arizona)
) ss.
COUNTY OF Maricopa)

The foregoing instrument was acknowledged before me, this 3rd day of October, by

DAVID ROGERS
[Insert Signor's Name]

VICE PRESIDENT
[Insert Title]

MAGMA RANCH III - PHOENIX LLC, an DELAWARE LIMITED LIABILITY COMPANY,
[Insert Name of Company or Trust] *[Insert State of Incorporation, if applicable]*

and who being authorized to do so, executed the foregoing instrument on behalf of said entity for the purposes stated therein.

_____
Notary Public

My commission expires: 5/27/2016

ALTERNATE: Use the following acknowledgment only when a second company is signing on behalf of the owner:

STATE OF _____)
) ss.
COUNTY OF _____)

On this _____ day of _____, _____, before me, the undersigned, personally appeared _____
[Insert Signor's Name]

who acknowledged himself/herself to be _____ of _____, as
[Title of Office Held] *[Second Company]*

_____ for _____, and who being
[i.e, member, manager, etc.] *[Owner's Name]*

authorized to do so, executed the foregoing instrument on behalf of said entities for the purposes stated therein.

_____
Notary Public

My commission expires: _____

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW
GARBAGE AGREEMENT – COLLECTION SERVICE [APPENDIX A1]

APPENDIX A1 – GARBAGE AGREEMENT – COLLECTION SERVICE

This agreement must be filled out and signed by a representative of the collection agency and the original submitted with application (A.A.C. R18-5-409).

The Republic Services of Phoenix agrees to provide
Name of Collection Agency

refuse collection service to MAGMA RANCH III PINAL
Name of Subdivision County

in accordance with applicable rules and regulations governing refuse collection and disposal.

CHRIS COYLE
Type or Print Name of Representative of Collection Agency

Title General MANAGER

Address 4811 West Lower Buckeye Road

City Phoenix Zip Code 85043

Signature of Representative of Collection Agency Date 8/16/13

1110 WEST WASHINGTON, PHOENIX, AZ 85007
WWW.AZDEQ.GOV

ADEQ Arizona Department of Environmental Quality

ENGINEERING REVIEW
GARBAGE AGREEMENT – DISPOSAL SERVICE
[APPENDIX A2]

APPENDIX A2 – GARBAGE DISPOSAL AGREEMENT

This agreement must be filled out and signed by a representative of the operational authority of the landfill and the original submitted with application (A.A.C. R18-5-409).

The CENTRAL ARIZONA TRANSFER is operated by CENTRAL ARIZONA TRANSFER, INC.
Name of Disposal Site — Name of Operational Authority

in accordance with applicable rules and regulations governing refuse disposal and will accept refuse from persons living in:

MAGMA RANCH III
Name of Subdivision

CHRIS COYLE
Type or Print Name of Representative of Operational Authority

Title GENERAL MANAGER

Address 4811 W HOWER BUCKEYE RD.

City PHOENIX Zip Code 85043

Signature of Representative of Operational Authority

Date 8/16/13

CASE NO. PZ-031-02

STIPULATIONS OF UNDERSTANDING

1) The applicant/landowner, at the time of development application [Sonoran Villages subdivision(s)], shall submit and secure all required applications, plans, supporting document submittals, approvals and permits from the applicable and appropriate Federal, State, County & Local regulatory agencies;
2) the property is to be developed with an approved Planned Area Development (PAD) (PZ-PD-031-02), in accordance with the applicable criteria set forth in Article 33 of the Pinal County Zoning Ordinance and the applicant's submittal documents;
3) the applicant/landowner, shall grant and record an agricultural spray easement to all adjacent farm owners/operators; include in the CC&R's references to the recorded agricultural spray easement and reference the agricultural spray easement on the face of the final plat(s) in the **NOTE SECTION**;
4) **AT THE TIME OF ZONE CHANGE/PLANNED AREA DEVELOPMENT (PAD) APPROVAL BY THE BOARD OF SUPERVISORS THE APPLICANT/OWNER VOLUNTEERS TO PAY FEES FOR THE 1,608 RESIDENTIAL LOTS, BASED ON THE SUPERSTITION VALLEY TRANSPORTATION STUDY PRORATED FEE SCHEDULE ATTACHED TO THIS STAFF REPORT;**
5) prior to final plat approval, the applicant/owner shall comply with the conditions as set forth in the Memorandum from the **Pinal County Public Works Department** to the Pinal County Planning & Development Services Department dated January 5, 2003, as follows:

The Department of Public Works has reviewed the PAD Development Plan for Sonoran Villages Master Planned Community and recommends it be approved subject to the following conditions:

1. All roadway and infrastructure improvements shall be in accordance with the current county subdivision standards or as approved by the County Engineer. Peripheral road and infrastructure improvements shalla be implemented per the traffic impact analysis submitted for approval by the County Engineer.

    a. The minimum public right-of-way for the north side of Judd Road, Felix Road, Attaway Road, and Bella Vista Road to be 50' (section line roads).

2. Provide a master grading and drainage plan for the site. The plan shall provide retention for the 100-year, 1 hour storm.

6) the maximum density shall be no greater than 4.0 du/ac; and,

7) should the requested Sonoran Villages subdivision(s) not commence within 18 months of the Pinal County Board of Supervisors approval of this zone change, the Board may schedule a public hearing to grant an extension, determine compliance with the schedule of development, or cause the property to revert to its former zoning classification.

STAFFRPT.BOS\PZ03102.STPS

CASE NO. PZ-PD-031-02

STIPULATIONS

1) Approval of this Planned Area Development (PAD) Overlay District is contingent upon the Board of Supervisors zone change approval as set forth in Planning Case PZ-031-02;

2) the applicant/landowner, at the time of development application [Sonoran Villages subdivision(s)], shall submit and secure all required applications, plans, supporting document submittals, approvals and permits from the applicable and appropriate Federal, State, County & Local regulatory agencies;

3) the property is to be developed with an approved Planned Area Development (PAD) (PZ-PD-031-02), in accordance with the applicable criteria set forth in Article 33 of the Pinal County Zoning Ordinance and the applicant's submittal documents;

4) prior to final plat approval, the applicant/landowner shall provide written verification from the RURAL METRO FIRE DISTRICT, that applicable fire service concerns/issues have been resolved to the satisfaction of the fire district;

5) prior to final plat approval, the applicant/landowner shall provide written verification from the Florence Unified School District #1, that applicable school concerns/issues have been resolved to the satisfaction of the District;

6) the applicant/landowner shall ensure a minimum of fifteen percent (15%) of the approved Sonoran Villages Master Planned Community remains in open space;

7) the applicant/landowner, shall grant and record an agricultural spray easement to all adjacent farm owners/operators; include in the CC&R's references to the recorded agricultural spray easement and reference the agricultural spray easement on the face of the final plat(s) in the **NOTE SECTION;**

8) **AT THE TIME OF ZONE CHANGE/PLANNED AREA DEVELOPMENT (PAD) APPROVAL BY THE BOARD OF SUPERVISORS THE APPLICANT/OWNER VOLUNTEERS TO PAY FEES FOR THE 1,608 RESIDENTIAL LOTS, BASED ON THE SUPERSTITION VALLEY TRANSPORTATION STUDY PRORATED FEE SCHEDULE ATTACHED TO THIS STAFF REPORT;**

9) granting of this Planned Area Development (PAD) Overlay District request will require, at the time of application for development [Sonoran Villages subdivision(s)], that the applicant/landowner submit and secure from the applicable and appropriate Federal, State, County & Local regulatory agencies, all required applications, plans, permits, supporting documentation

and approvals including, but not limited to zone change approval, PAD overlay district approval, subdivision, planning clearance, building, grading, paving, drainage, landscaping, walls/fencing, signage, lighting, sanitation, water supply, public/private utilities, retention/detention, access, road dedication, regional road improvements, air quality, and fire suppression;

10) prior to final plat approval, the applicant/landowner shall comply with the conditions as set forth in the Memorandum from the **Pinal County Public Works Department** to the Pinal County Planning and Development Services Department dated January 5, 2003 as follows:

1. Submit two copies of a current Traffic Impact Analysis to the Pinal County Engineer for review and approval. All peripheral road and infrastructure improvements shall be per the approved traffic study to include construction of acceleration/deceleration lanes with left turn pockets as required and recommended by the traffic study and the Pinal County Engineer.
2. Provide a master grading and drainage plan for the site. The plan shall provide retention for the 100-year, 1-hour storm water in a common retention area. Individual grading and drainage plan for each parcel to be submitted for review and approval.
3. An association, including all property owners in the development will be formed and have the responsibility for maintaining all common areas to be noted as "tracts" or easements (including landscaped areas and drainage facilities) in accordance with approved plans.
4. All roadway and infrastructure improvements shall be in accordance with the current county subdivision standards or as approved by the county engineer.
   a. Provide curb, gutter, sidewalk (one side), paving and incidentals on all interior streets.
   b. Provide curb, gutter sidewalks, paving and incidentals at all collector streets.
   c. Provide a 15' minimum radius for all property returns at corners of all local street intersections.
   d. Provide a 21'x21' right-of-way triangle at all streets which intersect with the peripheral streets.
   e. The minimum paving widths for all local public streets within this development to be 28' (back-of-curb to back-of-curb) within 50' of right-of-way. All collector streets to be constructed 42' (back of curb to back of curb) with a minimum structural section of 8" of Class 1 aggregate base and 3" asphalt concrete within 60' right-of-way. Section line roads to be 50' right-of-way, half street, with 10" Class 1 aggregate base and 4" asphalt concrete.
5. The final plats shall include a statement to the effect that the stormwater retention volumes required by the drainage ordinance

have been met and that the overall gross retention/detention volumes will not be changed without prior county approval.

6. Prior to recordation of the final plats, the developer shall name, in a letter to the department of Public Works, a civil engineer licensed in the State of Arizona who will assume the responsibilities of engineer of record.
7. All areas within any school site and park site should be called out as tracts within the subdivision limits.
8. Provide conduit and junction boxes at all road intersections, which require signals as noted by the traffic study. Funds in escrow to be posted with Pinal County to guarantee the installation of the required traffic signals when warrant.
9. This site contains a natural water feature (dry wash), which may be subject to Section 404 Permit provisions of the United States Clean Water Act.

11) prior to final subdivision approval (initial plat), the applicant/developer/owner shall provide written verification from the wastewater/sewage disposal provider (**JOHNSON UTILITY COMPANY**) together with associated documentation, that:

a. The wastewater/sewage disposal provider (**JOHNSON UTILITY COMPANY**) has adequate capacity for collection, treatment and disposal of wastewater for the subdivision(s).

b. The subdivision(s) boundaries are located within a service area designated with an approved **CERTIFICATE OF CONVENIENCE AND NECESSITY (CCN)**.

c. The wastewater plan for the proposed subdivision(s) is in conformance with the **CERTIFIED AREAWIDE WATER QUALITY MANAGEMENT (208) PLAN**.

12) no schools or day care centers to be located within (1/4) one-quarter mile of land in agricultural production requiring aerial spraying. **(PLACE IN NOTE SECTION ON FACE OF FINAL PLAT)**;

13) the applicant/landowner agrees to ensure the CC&R's for each subdivision/development will include the following:

a. Notice that the subject property is adjacent to Arizona State Land, which may be developed for any possible land use in the future.

14) all construction activity must conform to the Earthmoving Activity requirements of the Pinal County Air Quality Control District;

15) developer/landowner will work with Central Arizona Project personnel toward the development of a non-motorized trail along the canal bank;

16) the maximum density shall be no greater than 4.0 du/ac; and,

17) should the requested Sonoran Villages subdivision(s) not commence within 18 months of the Pinal County Board of Supervisors approval of this Planned Area Development (PAD) Overlay District, the Board may schedule a public hearing to grant an extension, determine compliance with the schedule of development, or cause the property to revert to its former zoning classification.

STAFFRPT.BOS\PZPD03102.STPS

Using Recreational Vehicles for Short Term Visitor Housing

Pinal County Planning and Development Department will be conducting neighborhood meetings in January to obtain public feedback on allowing Recreational Vehicles (RVs) to be used for visitor housing. These meetings are a follow up to meetings that were held in October. The Board of Supervisors directed staff to hold two sets of meetings to make sure that full and part time residents had a chance to participate.

RVs include all types of camping setups from a small tent trailer up to the largest motorhome. The County Zoning Ordinance does not allow visitors to stay in RVs unless they are in an RV park. However, many residents want to allow friends and relatives to stay in RVs when they visit in the winter. The County receives a number of calls each winter, with concerns about visitors staying in RVs.

The Board of Supervisors wants to know how County residents feel about the issue. They will then use this feedback to determine if and how they want to change the zoning regulations.

These meetings are designed to allow everyone who is interested in this issue to attend and to share their views. The attached list shows that neighborhood meetings will be held in locations across the County.

If you own an RV or not, or if you have visitors who stay in RVs or not, please attend and let the Board know how you feel!

- **Queen Valley: Monday, January 13 - 7:00 PM** 1478 East Queen Valley Drive
- **Arizona City Fire Station: Tuesday, January 21 - 10:00 AM** 14022 S. Sunland Gin Road
- **Casa Grande: Wednesday, January 22 - 6:00 PM**
  County Supervisors Conference Room, 820 East Cottonwood Lane
- **Apache Junction: Thursday, January 23 - 6:00 PM**
  City Council Chambers, 300 E. Superstition Boulevard
- **San Tan Valley: Friday, January 24 - 6:00 PM** SRP Office, 3735 East Combs Road
- **Maricopa, Hidden Valley, Papago Buttes and Thunderbird Farms:**
  Tuesday, January 28 - 1:00 PM Thunderbird Fire District, 12366 North Ralston Road
- **Oracle: Wednesday, January 29 - 6:00 PM**
  Oracle Justice Court, 1470 North Justice Drive
- **Florence: Thursday, January 30 - 6:00 PM**
  Pinal County Complex, Building F, Ocotillo Room, 31 North Pinal Street

Rezoning and Planned Area Development/ Open Space and Recreation Plan For

Bella Camino

Prepared: November 07, 2013

Submitted By:
Gallagher & Kennedy, P.A.
Dana Stagg Belknap, Attorney
2575 E. Camelback Road, Ste 1100
Phoenix, Arizona 85016

Submitted On Behalf Of:
Ironwood 80, LLLP
c/o Harvard Investments, Inc.
Tim Brislin
17700 N. Pacesetter Way, Ste 100
Scottsdale, Arizona 85255

BELLA CAMINO

1 REZONING AND PLANNED AREA DEVELOPMENT

2 OPEN SPACE AND RECREATION PLAN

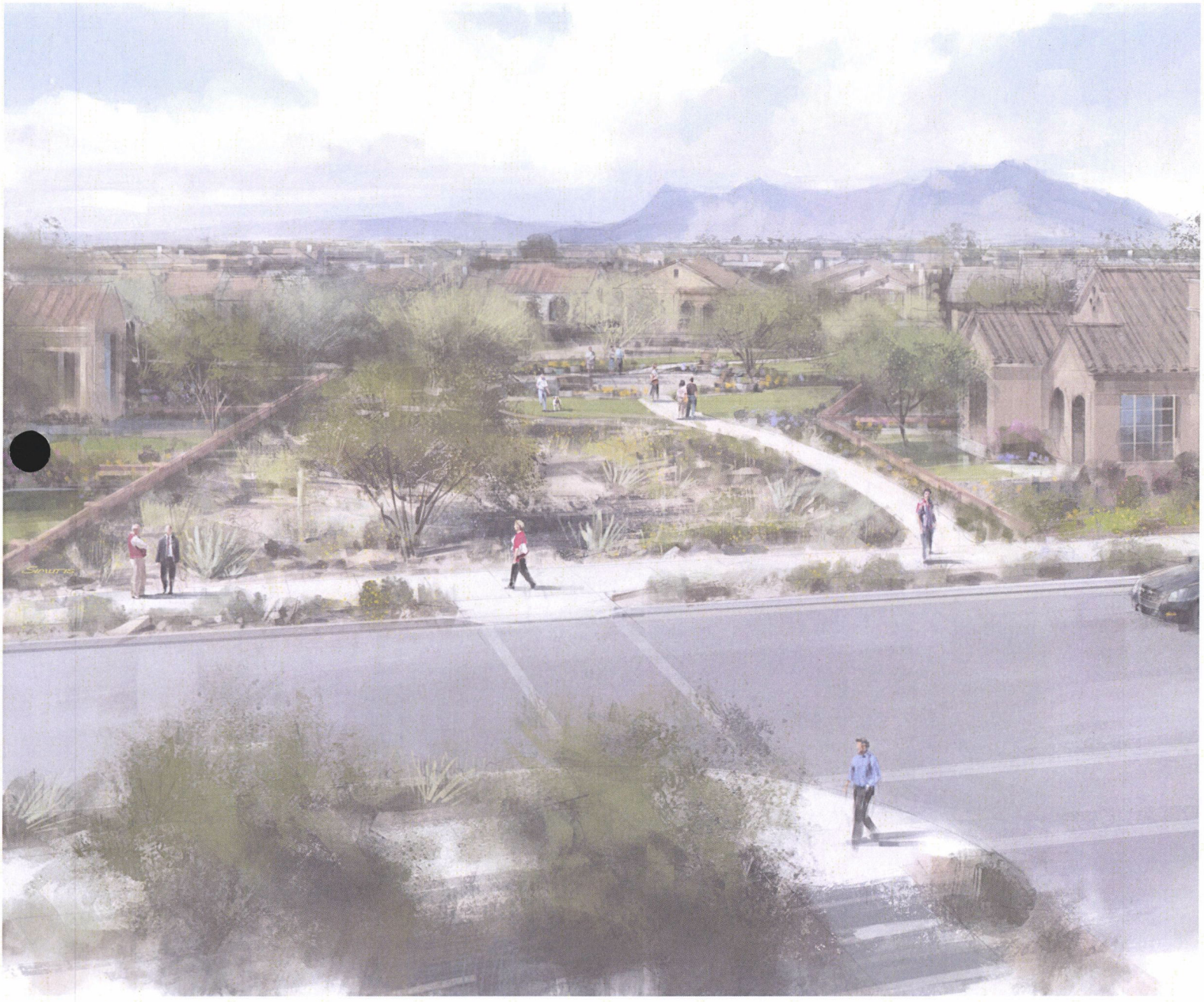
3 TRAFFIC IMPACT ANALYSIS

4

5

Rezoning and Planned Area Development
For
Bella Camino

Prepared: November 07, 2013



Submitted By:
Gallagher & Kennedy, P.A.
Dana Stagg Belknap, Attorney
2575 E. Camelback Road, Ste 1100
Phoenix, Arizona 85016

Submitted On Behalf Of:
Ironwood 80, LLLP /
c/o Harvard Investments, Inc.
Tim Brislin
17700 N. Pacesetter Way, Ste 100
Scottsdale, Arizona 85255

Development Team

PROPERTY OWNER

Ironwood 80, LLLP
c/o Harvard Investment, Inc.
Contact: Tim Brislin, Vice President
17700 N. Pacesetter Way, Suite 100
Scottsdale, AZ 85255
Phone: 480-348-1118
FAX: 480-348-8976
tbrislin@harvardinvestments.com

APPLICANT

Gallagher & Kennedy, P.A.
Contact: Dana Stagg Belknap, Attorney
2575 E. Camelback Road
Suite 1100
Phoenix, Arizona 85016
Phone: 602-530-8348
Fax: 602-530-8500
dsb@gknet.com

LAND PLANNER / LANDSCAPE DESIGN

Hadley Design Group, Inc.
Contact: Jason N. Hadley, President
7400 East McDonald Drive, Suite 122
Scottsdale, Arizona 85250
Phone: 480-478-0096
Fax: 480-478-0097
JHadley@hadleydesigngroup.com

CIVIL ENGINEER

Atwell, LLC
Contact: Matt Olsen, PE,
4700 E. Southern Avenue
Mesa, Arizona 85206
Phone: 480-586-2106
Fax: 480-830-4888
molsen@atwell-group.com

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Appendix

Appendix A – FUSD Correspondence Letter
Appendix B – Comprehensive Plan Compliance Checklist
Appendix C – Master Plant Schedule

PURPOSE OF REQUEST

The purpose of this request is to rezone the subject property, known as Bella Camino, from General Rural (GR) to R-7 and C-1 with a Planned Area Development (PAD) overlay. This request will provide for the ability to develop medium density single family homes with a small supporting commercial corner. The plan is in compliance with the current Pinal County Comprehensive Plan Designation of Moderate Low Density Residential (MLDR). The PAD overlay will allow for flexibility in design and provide a guideline of development standards to ensure Bella Camino is developed as a cohesive, harmonious, and high quality development.

The project site, consisting of approximately 81 acres, is currently undeveloped farm land located in the San Tan Valley area of central Pinal County. The site is located adjacent to two Master Planned Communities (Johnson Ranch and Rancho Bella Vista) that are comprised of predominately single family residential uses. The proposed R-7 PAD and C-1 PAD zoning categories are compatible with the neighboring land uses. The new Central Arizona College San Tan Campus, located approximately one mile east of the project site, serves as an anchor for the area. The College is an attraction for home buyers and creates a demand for future housing in the area. As planned, Bella Camino will provide 250 single family homes as well as 10 acres of supporting neighborhood commercial. The balance of housing and commercial services provided at Bella Camino will benefit Pinal County economically as well as conform to the future vision as outlined in the Comprehensive Plan.

DESCRIPTION OF PROPOSAL

Nature of the Project

Bella Camino is planned for single family residential with a supporting open space network and neighborhood commercial corner. Approximately 71.19 acres of the 81.36 acre site will be utilized for residential and open space uses with the remaining 10.17 acres to be commercial. An internal open space network unifies the Bella Camino community and creates a pedestrian corridor from the north portion of the site to the commercial parcel proposed at the southeast corner. The current plan designates approximately 23% of the residential area as open space that will be utilized for passive and active recreational opportunities as well as drainage and retention. See Table 1 – Land Use Summary.

Proposed Land Uses

SINGLE FAMILY RESIDENTIAL: Proposed with this PAD request will be a maximum residential net density of 3.5 dwelling units per acre, in conformance with the project's MLDR Comprehensive Plan designation. Based on the plans 71.19 acres of residential area, Bella Camino will have no more than 250 lots. There are two different lot sizes envisioned within Bella Camino, 48'x115' and 55'x120', providing options for homebuyers and assisting in creating variety and visual interest within the community. Typical lots will range in size from 5,520 sf to 6,325 sf and offer multiple floor plans. Final lot sizes and locations will be determined at the time of tentative plat. The lot layout emphasizes north south home exposure and creates opportunities to side and or back on the open space network. See Table 2 – Amended Development Standards.

COMMERCIAL: The proposed commercial use at Bella Camino will be sited at the southeast corner of the property fronting two major roadways, providing good accessibility and visibility for patrons and merchants. The commercial portion of the project will be zoned C-1 PAD and allow for neighborhood commercial uses as outlined in the Pinal County Zoning Code. See Table 3 – Permitted Uses. It is anticipated that the commercial site will be broken down into three (3) to five (5) development pads that will go through the Pinal County Site Plan Development Review process prior to construction.

RELATIONSHIP TO SURROUNDING PROPERTIES

The project site was chosen for its location near already established Master Planned Communities, proximity to education facilities, and its accessibility to Hunt Highway and Ironwood/Gantzel Road. See Exhibit A – Vicinity Map. Bella Camino is located at the northwest corner of Bella Vista Road and Gantzel Road. Adjacent properties include Rancho Bella Vista to the west and Johnson Ranch to the south, both which are zoned CR-3 PAD. To the north and east are undeveloped State Trust lands zoned General Rural. Two educational facilities, Poston Butte High School and Central Arizona Community College San Tan Campus, are located within a mile radius of Bella Camino. Commercial services are also provided approximately one mile to the west at the corner of Bella Vista Road and Hunt Highway. See Exhibit B – Existing Zoning.

The R-7 PAD proposed zoning and 3.5 du/ac density of the Bella Camino development will dovetail with neighboring communities within a one mile radius. See Exhibit C – Proposed Zoning. It will also positively affect surrounding properties by improving vacant land and offering new housing and commercial opportunities. The addition of a small neighborhood

commercial corner at Bella Vista and Gantzel Roads will provide additional commercial services to the area.

SCHOOLS

Bella Camino is located within the Florence Unified School District (FUSD). Currently there are three (3) operating elementary schools located within a three (3) mile radius of the project site, with additional elementary schools planned for Bella Vista Farms which is one (1) mile to the east. There is estimated to be enough capacity in the surrounding elementary schools to service the 250 home sites planned for Bella Camino. Poston Butte High School, located less than a mile north of the project site along Gantzel Road will serve as the high school for the Bella Camino residents. Communication and coordination with FUSD to formulate a service and donation agreement for the property is currently underway. A letter from FUSD's Director of School Construction and Public Relations regarding these efforts is attached as Appendix A.

PUBLIC SERVICES

Fire Protection

Efforts are being coordinated with Rural Metro Fire Department to provide fire protection and emergency services to Bella Camino residents. Rural Metro has signified that there are sufficient existing resources and facilities to service the property and a new fire station will not be required. Fire hydrants will be provided within the development and connected to the 8" water distribution system that will tie into the existing 12" water lines located in both Bella Vista and Gantzel Roads. The water supply system will supply sufficient water and fire flows.

Police / Public Safety

The Pinal County Sheriff's Department will supply law enforcement and protection services for Bella Camino residents. The project is located within the service area of Pinal County Sherriff's Region A substation with existing facilities located at Hunt Highway and Arizona Farms Road and at Ironwood Road and Combs Road.

Solid Waste Disposal

Currently it is unknown who will provide solid waste disposal services for the Bella Camino community. There are multiple options for providers that currently provide service in the area. It is the intent of the developer to determine the best provider and contract with them for solid waste disposal once the project gets closer to development.

COMMUNITY SERVICES

At this time, Bella Camino does not propose to offer onsite community services such as churches, libraries, museums, or community centers. As with any new residential development, there will be a need for these types of services, however due to the small scale of the project, it is not feasible to provide them within the Bella Camino community. Bella Camino residents will utilize existing community services located in the surrounding area.

LOCATION AND ACCESSIBILITY

Location

Bella Camino is located in the San Tan Valley area of central Pinal County approximately seven (7) miles northwest of Florence and five (5) miles southeast of Queen Creek. The project site is located in Section 17, Township 3 South, Range 8 East and is approximately 81.36 gross acres. The property is bordered by Bella Vista Road to the south and Gantzel Road to the east. Bella Camino is located adjacent to two (2) existing, large scale master planned communities (Rancho Bella Vista and Johnson Ranch) and the future Bella Vista Farms community. Bella Camino continues the area's current framework by providing residential uses supported by neighborhood commercial services. See Exhibit D - Development Plan.

Project Access

Access to Bella Camino will be provided along Bella Vista Road, Stardust Drive and Gantzel Road, Bella Vista Road being the primary entry corridor. Both Bella Vista Road and Gantzel Road are designated as regionally significant routes in the Regionally Significant Routes for Safety and Mobility, Final Report, December 2008. Bella Vista Road, a minor arterial, adjacent to the southern edge of the project site currently is paved to two (2) east bound lanes and one (1) west bound lane. Half street improvements to the County's roadway profile standards will be constructed with the development of the project. The intersection of Hunt Highway

and Bella Vista Road has been fully improved and signalized with two approach lanes in each direction of travel and all associated turn lanes. Hunt Highway, which provides regional access to the north and southeast, is less than one (1) mile west of Bella Camino. Gantzel Road, a principal arterial, which borders the east side of the property, is currently paved to two (2) lanes in each direction and will be improved with half street improvements from the northern end of Bella Camino property south to its intersection at Bella Vista Road. See Table 5 – Roadway Classifications.

Internal Circulation

Internal vehicular circulation for Bella Camino is to be provided by local streets. The fifty (50) foot right-of-way, local street section, will provide direct access to residential driveways. Entrances into the community will be provided off the adjacent roadways, Bella Vista Road, Stardust Drive and Gantzel Road. Enhanced and widened entries are proposed off the adjacent arterial roadways which will taper down to the local roadway width of 50' feet once internal to the community. Due to the size of the project and its location adjacent to a principal arterial and minor arterial, no internal collector roadways are warranted. A Preliminary Traffic Impact Analysis, included with this request, shows support of the proposed vehicular circulation network.

Street Improvements

Bella Camino has frontage onto Bella Vista Road to the south and Gantzel Road to the east which will both require half street improvements. See Exhibit E - Typical Street Sections. Both perimeter roadways will be designed per the Pinal County Subdivision and Infrastructure Design Manual. All roadways associated with the project will be dedicated to Pinal County for ownership and maintenance upon approval by the Pinal County Public Works Department and will be constructed in accordance with Pinal County standards.

A portion of Stardust Drive to the west is within the Bella Camino property boundary. Rancho Bella Vista was granted a roadway easement in order to build a full street section since this roadway is used as an entrance into that community. The existing Stardust Drive roadway easement within Bella Camino will be abandoned, and the existing half street improvements within the Bella Camino property boundary will be dedicated with the Bella Camino final plat.

RSRSM COMPLIANCE

Bella Camino is bordered by Bella Vista Road to the south and Gantzel Road to the east. Both of these roads are designated as regionally significant routes in the Regionally Significant Routes for Safety and Mobility, Final Report, December 2008. Bella Camino will connect to these regionally significant routes with a proposed main entrance to the community located along Bella Vista Road west of Gantzel Road and with a secondary entrance located along Gantzel Road north of Bella Vista Road.

Gantzel Road is a major arterial which borders the east side of the property and is currently paved with two (2) lanes in each direction. The development of Bella Camino will fully improve the west half of Gantzel Road from the northern end of Bella Camino property south to its intersection at Bella Vista Road. These improvements will include the median curb, turn lanes and any tapers as required.

Bella Vista Road is an arterial road adjacent to the southern edge of the project site and is currently paved with two (2) east bound lanes and one (1) west bound lane. The existing roadway to the west is fully improved with a 50' half right of way and 32' from centerline to back of curb. The development of Bella Camino will fully improve the north half of Bella Vista Road continuing that existing cross section from the western end of Bella Camino property east to its intersection at Gantzel Road. These improvements will include any turn lanes and any tapers as required.

These proposed half street improvements described above to be constructed with this project will comply with the regionally significant routes (as maybe amended between the developer and Pinal County Engineering), Pinal County regulations and the recommendations of the approved TIA.

UTILITIES AND SERVICES

Water Service

A 12" water line is located in both Bella Vista Road and Gantzel Road. The site will be served by an 8" water distribution system. This system will be connected to both existing water lines which will provide a redundant connection for operating the system and minimize water velocity during a fire demand scenario.

Potable water service will be provided by Johnson Utilities.

Wastewater Service

A 12" sanitary sewer line is located within the Bella Vista Road corridor, drains from east to west, and discharges to a pump station located near the site's southeast corner. In addition, there is a five (5) foot diameter manhole located approximately 200 feet west of the intersection of Bella Vista Road and Gantzel Road. This manhole is approximately twenty-one (21) feet deep.

The site will be served by an 8" sanitary sewer collection system which ties-in to the existing line mentioned above. A main collection line will be routed from the existing manhole through roadways and open space tracts to the site's northwest corner. Based on a slope of 0.35% and a minimum cover of four (4) feet, the most upstream manhole rim will be approximately two (2) feet above existing grade. This will require fill to be placed in this area. The remainder of the site will meet minimum sewer design constraints with typical earthwork cut and fill efforts.

Wastewater service will be provided by Johnson Utilities.

Electrical Service

Overhead electric lines are located adjacent to Bella Camino's south property line. The site will be served by a system of on-site transformers and electric distribution lines, and located within the eight (8) foot public utility easement.

Bella Camino is located within the Salt River Project (SRP) service area.

Telephone / Cable TV / Data Service

Existing telephone and fiber optic lines are located adjacent to Bella Vista Road and Gantzel Road in public utility easements. On-site communication will be installed within the eight (8) foot public utility easement.

Bella Camino is located within the service area of Century Link and Cox Communications.

Natural Gas Service

A six (6) inch gas line is located within the Bella Vista roadway corridor. Extension of the gas distribution system will be installed within the local rights-of-way.

The property is located within the service area of Mesa Gas.

OWNERSHIP AND CONTROL

The roadways within Bella Camino will be constructed in accordance with Pinal County minimum standards and dedicated to Pinal County for ownership. Upon acceptance by the Pinal County Public Works Department, Pinal County will be responsible for the maintenance of the public streets; the Bella Camino Home Owner Association (HOA) will be responsible for maintenance of the landscape areas within the public rights-of-way excluding medians in adjacent arterials. In addition, all open space and neighborhood park facilities within Bella Camino will be owned and maintained by the HOA for the use and enjoyment of the residents of Bella Camino.

Dry utility improvements such as electric, natural gas, and data lines will be owned and maintained by their respective providers. See Table 4 – Utilities and Services. All water and wastewater improvements will be owned and maintained by Johnson Utilities.

TIMING OF DEVELOPMENT

Bella Camino may be developed in two separate phases. Ultimately, the schedule of phasing will be dependent upon the market, economic conditions, absorption rates and construction logistics and, as such, infrastructure phasing and /or construction plans may need to be revised.

The timing of development for Bella Camino is dependent on market forces. The preliminary schedule is to begin Site grading, street improvements and utility work by the fourth quarter of 2014, with completion anticipated by the second half of 2015. Delivery of homes in Bella Camino should occur first quarter of 2016. Development of the residential may precede the development of the commercial corner, however all necessary infrastructure will be constructed at one time.

CONFORMANCE WITH COMPREHENSIVE PLAN

The Bella Camino property is currently classified as Moderate Low Density Residential (MLDR) (1 - 3.5 du/ac) in the Pinal County Comprehensive Plan, updated November 12, 2012. See Exhibit F – Comprehensive Plan. The community will have a maximum allowable density of 3.5 dwelling units per acre based on the gross residential acreage. The proposed 250 residential units and 10.17 acre neighborhood commercial corner requested with this PAD are consistent with the MLDR Comprehensive Plan land use designation and alternative allowed land uses.

The proposed R-7 PAD and C-1 PAD zoning conforms to the goals and guidelines established for the MLDR land use category. The proposed Bella Camino development is in conformance with the County's Vision Components, including Sense of Community, Mobility and Connectivity, Economic Sustainability, Open Spaces and Places, Environmental Stewardship, and Healthy, Happy Residents, as outlined in the Comprehensive Plan Compliance Checklist. See Appendix B – Comprehensive Plan Compliance Checklist.

RECREATIONAL AMENITIES

Open Space Design

The purpose of the open space plan for Bella Camino is to enhance community character and quality of life by providing connectivity and recreational opportunities for residents of all ages. See Exhibit G – Conceptual Open Space Plan. The conceptual plan shows common area open space, not including that which is part of the commercial site, totaling approximately 16.57 acres or twenty-three percent (23%) of the gross residential area. This amount exceeds the PAD requirement of eighteen percent (18%) as outlined in the Pinal County Development Services Code Chapter 2.176. The proposed recreation area open space will also exceed the seven percent (7%) requirement for projects with 0% - 5% slope with approximately 5.33 acres of recreation area open space or 7.5%.

Bella Camino is designed as a family oriented community with a variety of open space opportunities available to its residents. A balance of active (neighborhood park) and passive (pathway network) recreation areas that are highly visible and easily accessible have been designed to encourage community use and awareness. Areas utilized for drainage and

retention will incorporate an informal or formal recreation element, where possible. The proposed open space design is in conformance with the Pinal County Open Space and Recreation Area Guideline Manual dated January 18, 2012 and per PDSC section 2.176.160B: Recreation areas shall be located and designed as community amenities and they shall be centrally located within the area they serve, they are internalized to the neighborhood(s) with access provided on a minimum of two sides at least 100 feet of local street frontage for each side and are on quarter minimum in acreage. The amenity programming, dimensions and acreages are shown on Exhibit K – Conceptual Landscape Plan. Open space programming will be finalized and submitted in detail during the preliminary plat process. All open space areas will be owned and maintained by the Bella Camino Homeowner's Association (HOA).

Neighborhood Parks

A neighborhood park is planned for Bella Camino; that is one and a half acres and provides both passive and active recreation opportunities. All residents are located within a quarter of a mile or a three (3) to five (5) minute walk from an open space amenity, allowing for a great walkable community. See Exhibit H – Conceptual Parks. The neighborhood park is designed to provide both active and passive recreational activities, while also providing storage for storm water runoff in retention basins. The park will provide opportunities for people of all ages with appropriately scaled amenities which may include; ramadas, turfed open space, and tot lot play equipment. Within the neighborhood park (shown on Exhibit H-Conceptual Parks Plan) there will be one sport court. The type of the sport court will be decided at the time of tentative plat when there is a more clear understanding of the buyer profile. Where physical structures have been proposed, site grading will elevate those structures above the retention basin to minimize nuisance flows and to keep those facilities more accessible. A minimum of 25% of the recreation area shall be high and dry and not used as retention / detention. Recreation areas will be easily visible and accessible and connected through the internal pathway system. The neighborhood park will be owned and maintained by the Bella Camino HOA.

Paths and Walks

The land plan for Bella Camino has been designed to create a central linear open space that runs the length of the project that will accommodate a network of paths and sidewalks. This suburban linear pedestrian network will provide connectivity throughout the project connecting residents to the neighborhood parks and commercial corner, as well as encouraging an active and social lifestyle. The pathways will consist of a five (5) foot concrete path or a six (6) to eight (8) foot wide decomposed granite trail through open space corridors that are in conformance with Section 5 of the Multi-use Path and trail OSRAM

Guidelines as outlined in Table 3 under the Suburban category for walking and hiking paths including among other criteria; minimum 25' corridors, minimum 5' width and landscape buffering. In addition, there will be a four (4) foot sidewalk adjacent to the local rights-of-way. A continuous pedestrian connection is provided from the north end of the community to the southern edge.

FENCES, WALLS AND SCREENING

Bella Camino will utilize their walls and monumentation as a way to unify and visually enhance the overall design intent for the community. See Exhibit I – Conceptual Entry Monument and Wall Details. A primary entry feature is proposed for the community entrance off Bella Vista Road. This roadway entrance will have a widened roadway section and incorporate signage on the east side of the entry road. An additional entry feature is proposed for the entrance off Gantzel Road, which is planned as a secondary entry. The signage at this location will be a modified version of the primary entry monument located on Bella Vista Road.

Theme walls will be provided on lots that directly back to Bella Vista and Gantzel Roads. See Exhibit J – Conceptual Wall Plan. Theme walls may be made of integral color or painted standard or split face CMU block. The theme walls in the residential areas will be no more than six (6) feet in height and no more than eight (8) feet in height in commercial areas.

View fence will be provided on lots adjacent to open space areas and along rear property lines where appropriate. The view walls and columns will be constructed and finished with materials consistent with the character of the theme walls and will meet all pool code regulations.

Subdivision walls, which complement the theme wall, will be utilized throughout the project where a theme wall or view wall are not appropriate. Subdivision walls will be used at the end of blocks where a landscape tract separates the lot from the local roadway and where lots back or side directly on the Bella Camino property line.

Screening will take place in two (2) forms at Bella Camino, one in the form of walls and the other a massing of plant material. This vegetative buffer will work in combination with walls to help buffer the commercial use from the adjacent homeowners that back to the proposed commercial corner.

MAINTENANCE OF STREETS AND COMMON AREAS

Roadways proposed as part of the Bella Camino development are proposed to be publicly dedicated streets and will be dedicated to Pinal County for ownership and maintenance upon acceptance by the Pinal County Public Works Department. The Bella Camino HOA will be responsible for maintenance of any landscape areas within the public rights-of-way, excluding medians in adjacent arterials, as well as own and maintain all common area open space and neighborhood park facilities.

TOTAL NUMBER OF DWELLING UNITS

Bella Camino proposes a total of 250 single family dwelling units comprised of two (2) different lot sizes: 48'x115' and 55'x120'. The lot sizes and mix are conceptual at this time and may change, however the site will not exceed 250 units. Under the MLDR land use designation a maximum residential density of 3.5 du/ac is allowed. The residential portion of Bella Camino is 71.19 acres in size, allowing for a maximum of 250 residential dwelling units, therefore Bella Camino is consistent with the Comprehensive Plan.

MAXIMUM RESIDENTIAL DENSITY

This PAD request is consistent with the Pinal County Comprehensive Plan land use designation of MLDR, allowing a maximum residential density of 3.5 du/ac. The residential portion of Bella Camino is 71.19 acres in size and proposes 250 single family dwelling units, therefore providing a residential density of 3.5 du/ac.

PARKING FOR RECREATIONAL FACILITIES

Due to the small size of the Bella Camino community and the nature of the neighborhood parks proposed, no dedicated parking spaces will be programmed into the recreational areas. The centralized neighborhood parks are within a three (3) to five (5) minute walk for residents and the internal pedestrian corridor will provide a safe walk to each amenity. On-street parking adjacent to the neighborhood parks is allowed.

LANDSCAPE CHARACTER

The design intent of the landscaped open space at Bella Camino is to establish an overall unifying theme for the project, while making the open space visually appealing and accessible to residents. See Exhibit K – Conceptual Landscape Plan. The internal open space system will be a blend of Sonoran Desert plant material, accented with activity nodes designed with turf elements and lush plant species. Visual interest and shade will be achieved using a combination of low water use trees, shrubs, groundcover and accents. Turf will be used at select locations. Enhanced landscaping at the project entrances will signify an arrival into the Bella Camino community. Landscape buffers along Bella Vista and Gantzel roads, as well as bordering the proposed commercial corner, will provide softness and help reduce noise impacts on the residential uses. The north east corner of the site will take on a more natural landscape form where the Sanoki Wash is being realigned and preserved. The overall landscape design will adhere to the landscape recommendations and guidelines as outlined in the Pinal County Open Space and Recreation Area Guideline Manual (OSRAGM) dated January 18, 2012. More detailed information regarding the landscape theme planned for Bella Camino can be found in Appendix C- Master Plant Schedule. Due to the historic agricultural uses, no native vegetation is on the site and thus no salvage plan has been provided with the submittal.

PRELIMINARY HYDROLOGY AND DRAINAGE

The drainage conditions that surround the Bella Camino site consist of various offsite storm water flows. The existing developments to the south and west control their storm water and have no significant effect on the site. The farm fields to the north flow away from the site and also do not affect the site. However, the offsite flows from the southeast consist primarily of the storm water flows that develop in the Sanoki Wash alignment and its tributary areas. There have been numerous studies that estimate these flows. The estimated storm water flows in the area, as determined in the design of the Bella Vista South community, show that this flow is approximately 2,066 cfs.

The Sanoki Wash typically does not have a defined channel that fully contains the flows throughout most of its alignment, which is especially true for the flows that cross the northeast corner of the Bella Camino site and also upstream and downstream of the site. The upstream storm water flows that leave the Bella Vista South community are in the form of wide and shallow flows. The flow spreads out and crosses Bella Vista Road and continues northwest through farm fields and toward Gantzel Road. Once the flows reach Gantzel Road, most will cross over the Road and enter the Bella Camino site and some will continue north along

Gantzel Road. The storm water will then cross the northeast corner of the Bella Camino site. There is an existing 24" culvert that conveys lesser flows under Gantzel Road in the Sanoki Wash alignment.

In order the maintain the Sanoki Wash alignment, the proposed design of Bella Camino consists of accepting these offsite storm water flows, conveying them through the site and discharging them along the north property line in a condition that is similar to the current conditions. A long basin is being proposed to spread out the flows prior to offsite discharge to maintain these current conditions. The site will also be designed to accommodate a future Sanoki Wash cross section that will cross the property and will be able to convey the flows when development occurs north and east of Bella Camino. Until these areas develop or a regional improvement is made, the site will be designed to accept and discharge these flows in their current conditions. A more detailed description of these conditions is included in the Preliminary Drainage Report.

Bella Camino is shown to be located within Flood Zone X, and has a gradual slope to the north and northeast due to its current use as an agricultural field. All drainage flows towards the Sanoki Wash in the northeast corner of the site. The Preliminary Drainage Report, submitted as part of this PAD request, describes in greater detail the drainage and storm water management systems proposed for the property.

As required by the Pinal County Drainage Ordinance, this development will retain runoff from the 100-year, 2 hour storm event. Bella Camino will primarily use the open space and neighborhood parks as its retention areas and any drainage structures proposed will conform to the Pinal County Drainage Ordinance. Also in accordance with Pinal County, the retention will placed in open space areas other than the Sanoki Wash, so that onsite and offsite flows are not comingled. All onsite retention basins will discharge into drywells designed to discharge storm water within 36 hours. Also, until such time that the Sanoki Wash is connected upstream and downstream to this site, the storm water runoff retained in the Sanoki Wash area onsite will be discharged into drywells located with the adjacent onsite retention basins.

Bella Camino shall be designed to meet the Pinal County requirements, accommodate future wash improvements and preserve historic drainage patterns with no adverse effects to adjacent properties.

COMMERCIAL AND INDUSTRIAL USES

Approximately 10.17 gross acres (7.61 net acres) of neighborhood commercial is proposed under this PAD request. Located at the northwest corner of Gantzel and Bella Vista roads, a portion of the Bella Camino project is planned for a neighborhood commercial parcel that will accommodate three (3) to five (5) commercial pads. The zoning designation proposed for the commercial area is C-1 PAD.

Uses proposed for the commercial development at Bella Camino will be consistent with those permitted under the Pinal County Development Services Code Chapter 2.315, except where noted herein. The proposed development standards for the C-1 PAD category are demonstrated in Table 2 – Amended Development Standards. No industrial uses are proposed for Bella Camino.

Table 1 - Land Use Summary

Land Use Designation	Acres	% of Gross Area	% of Gross Residential Area
Residential (R-7 PAD)	50.26	61.77%	70.60%
Open Space[1]	11.24	13.82%	15.79%
Open Space-Recreational Area[1]	5.33	6.55%	7.49%
Associated Arterial / Collector Roadway	4.36	5.36%	6.12%
Residential Developable Area	**71.19**	**87.50%**	**100.00%**
Commercial (C-1 PAD)	7.61	9.35%	
Associated Arterial / Collector Roadway	2.56	3.15%	
Commercial Developable Area	**10.17**	**12.50%**	
Gross Site Area	**81.36**	**100.0%**	
Total Arterial / Collector Roadway	**6.92**		
Project Yield[2]		% of Lots	
Product Type "A" - 48'x 115'	146	58.4%	
Product Type "B" - 55' x 120'	104	41.6%	
Total Lot Yield	**250**	**100.0%**	
Total Yield Allowed	**250**		
Project Density [3]	**3.5**		

NOTES:

(1) Total Open Space area for Bella Camino is approximated 23% based on Gross Residential Acres, exceeding the minimum 18% requirement. In addtion, the Recreational Area Open Space is approximately 7.5% of the Gross Residential Acres exceeding the 7% County requirement.

(2) It is anticipated at this time that 48'x115' and 55'x120' lots will be constructed at Bella Camino. The lot sizes and mix shown in this PAD are proposed and are subject to change. Final lot sizes and distribution will be determined and submitted with the

(3) Project Density is calculated by dividing the Total Lot Yield by the Residential Developable Area.

Table 2 - Amended Development Standards

RESIDENTIAL:

	Pinal County	Bella Camino Product Type A	Bella Camino Product Type B
Zoning Category	R-7	R-7 PAD	R-7 PAD
Min. Lot Area	7,000 sq.ft.	**5,520 sq.ft.**	**6,325 sq.ft.**
Min. Lot Width	50'	**48'**	**55'**
Min. Front Setback	20'	**20' / 15' (1)**	**20' / 15' (1)**
Min. Side Setbacks	10' / 10'	**5' /8'**	**5' /10'**
Min. Street Side Setback	-	-	-
Min. Rear Setback	25'	**20' (2)**	**20' (2)**
Max. Building Height	30' / 2 story	30' / 2 story	30' / 2 story
Min. Distance Between Main & Detached Accessory Buildings	7'	**5'**	**5'**
Max. Buildable Area	None	None	None

NOTES:

(1) Front setback is 20' measured from back of sidewalk to front facing garage door. Front setback for porches, livable area, and side loaded garage is 15' from back of sidewalk.

(2) Covered patios may encroach 5' into rear setback line.

Table 2 - Amended Development Standards, Cont.

COMMERCIAL:

	Pinal County	Bella Camino
Zoning Category	C-1	C-1 PAD
Min. Lot Area w/out Detached Accessory Dwelling	none	none
Min. Lot Area with Detached Accessory Dwelling	3,500 sq.ft.	**none**
Min. Lot Width	none	none
Min. Front Setback	20'	20'
Min. Side Setbacks	none (1)	none (3)
Min. Rear Setback	25'	25'
Max. Building Height	30'	**30'**
Minimum Distance Between Main Buildings	none (2)	none
Max. Buildable Area	None	None
Detached Accessory Buildings:		
Permitted Coverage	40% (4)	40% (4)
Maximum Height	20' / 30' (5)	20' / 30' (5)
Minimum Distance to Main Building	7'	7'
Minimum Distance to Front Lot Line	20'	20'
Minimum Distance to Side Lot Lines	none / 15' (6)	none / 15' (6)
Minimum Distance to Rear Lot Line	4'	4'

NOTES:

(1) Where commercial use abuts rural or residential zones 15' side setbacks are required; 7' each for detached accessory dwelling.

(2) 14' between detached accessory dwelling and commercial building is required.

(3) 10' side yard setback required when adjacent to residential uses.

(4) 40% of the total area of the rear and side setbacks.

(5) 20' within the required rear setback; 30' within the buildable area.

(6) No side setbacks are required except where it abuts rural or residential zones, then a 15' side setback is required.

Table 3 - Permitted Uses

RESIDENTIAL (R-7 PAD):

Use Description	Permitted Uses	Special Uses
One Dwelling, Conventional Construction	x	
Beauty Salon / Barber Shop		x
Child Care (No More Than 5 Children)	x	
Child Care (More Than 5 Children)		x
Church	x	
Clubs, Lodges, and Assembly Halls		x
Golf Course		x
Government Structures, Fire Stations, Sheriff's Facilities	x	
Group Home of Less Than 11 Residents	x	
Group Home of 11 or More Residents		x
Guest House / Casita	x	
Home Occupation	x	
Parks	x	
Private Schools		x
Public Schools	x	
Solar Energy Device	x	
Wireless Communication Facilities		x

NOTES:

(1) All uses will be subject to the requirements set forth in PCDSC 2.150.

(2) The permitted uses listed herein shall also include all associated accessory buildings and uses.

Table 3 - Permitted Uses, Cont.

COMMERCIAL (C-1 PAD):

Use Description	Permitted Uses	Special Uses
Assisted Living Center	X	
Child Care Center	X	
Church	X	
College and Art, Business, Technical or Trade Schools	X	
Community Service Agency, Library or Museum	X	
Government Structures, Fire Stations, Sheriff's Facilities	X	
Health Club or Fitness Center	X	
Medical or Dental Clinic or Health Care Facility		X
Motel or Hotel		X
Offices	X	
Parks	X	
Private Club or Lodge, Fraternal & Service Organizations (Nonprofit)	X	
Restaurants [1]	X	
Restaurants [2] With Indoor Live Entertainment		X
Retail Sales Establishments up to 75,000 Gross SqFt for Any Single Use	X	
Retail Sales Establishments up to 100,000 Gross SqFt for Any Single Use		X
Self-Storage Facility [3]	X	
Service Establishments up to 50,000 Gross SqFt for Any Single Use	X	
Service Establishments up to 100,000 Gross SqFt for Any Single Use		X
Wireless Communication Facilities		X

NOTES:

(1) This allows for 1) Indoor food service with or without alcoholic beverage service at the table; 2) Outdoor food service without alcoholic beverage service; and 3) Drive-through service for food and nonalcoholic beverages.

(2) This allows for 1) Indoor and outdoor food service with or without alcoholic beverage service at the table; 2) Indoor live entertainment; and 3) Drive-through service for food and nonalcoholic beverages.

(3) Subject to the requirements set forth in PCDSC 2.315.020.

Table 4 - Utilities and Services

Utility / Service	Provider
Sewer	Johnson Utilities
Water	Johnson Utilities
Electrical	Salt River Project (SRP)
Telephone / Cable / Data	Century Link / Cox Communications
Police / Public Safety	Pinal County Sheriff Department
Fire Protection	Rural Metro Fire Department
School	Florence Unified School District
Solid Waste Disposal	Private Provider via Contract
Natural Gas	Mesa Gas

Table 5 - Roadway Classifications

Roadway Type	Right-of-way Width	Pavement Width
Pincipal Arterial - Gantzel Road	150' / 75' half-street	101' / 50.5' half-street
Minor Arterial - Bella Vista Road	100' / 50' half-street	64' / 32' half-street
Minor Collector - Stardust Drive	60' / 30' half-street	40' / 20' half-street
Local - Interior Roadways	50' full-street	32' full-street

EXHIBITS

Bella Camino

VICINITY MAP

LEGEND

PROJECT BOUNDARY

LEGAL DESCRIPTION

The East half of the Southeast quarter of Section 17, Township 3 South, Range 8 East, of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

Except the following described parcel:
The East 90.00 feet of the East half of the North 120.00 feet of the South half of Section 17, Township 3 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

north

0' 1200' 2400'

Scale: 1"=1200'

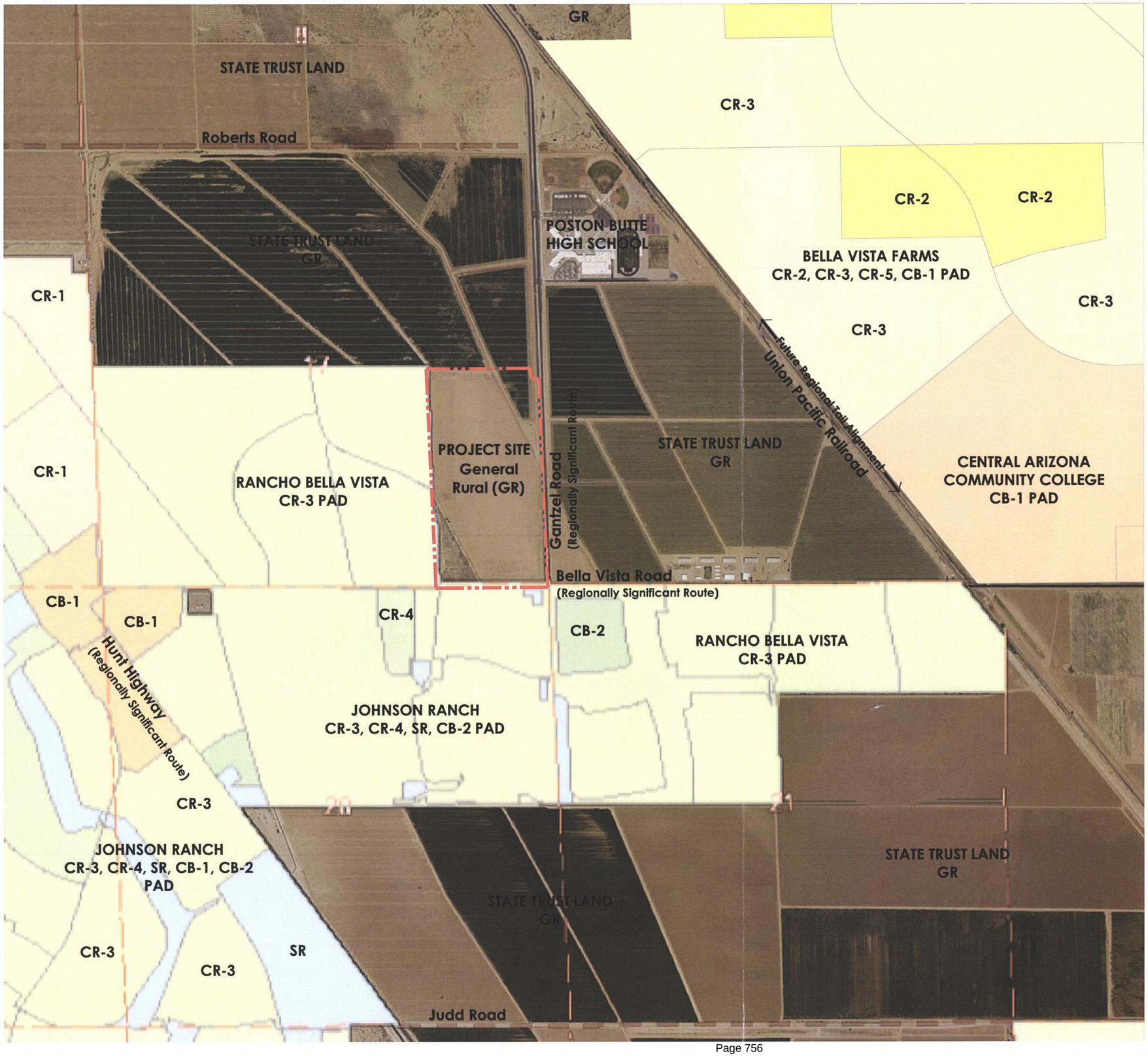
Date: 07.NOVEMBER.2013

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit A

Bella Camino

EXISTING ZONING



LEGEND

- PROJECT BOUNDARY
- CAR
- CB-1
- CB-2
- CI-1
- CI-2
- CI-B
- CR-1
- CR-1A
- CR-2
- CR-3
- CR-4
- CR-5
- GR
- MH
- MHP
- Multiple, See PAD
- RV
- RVP
- SH
- SR
- TR
- Undesignated

north

0' 1200' 2400'

Scale: 1"=1200'

Date: 07.NOVEMBER.2013

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
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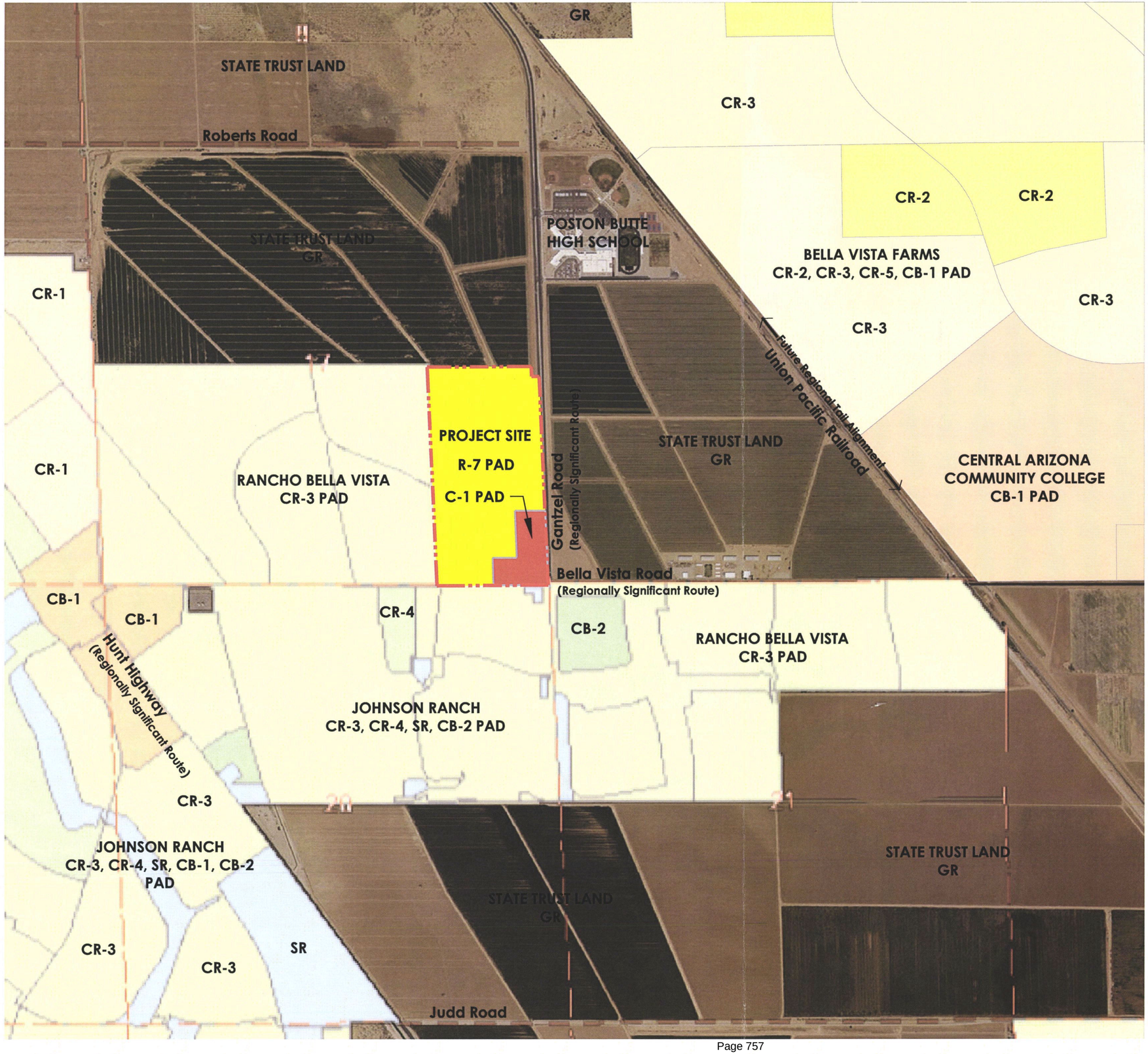
Exhibit B

Bella Camino

PROPOSED ZONING



LEGEND

- PROJECT BOUNDARY
- CAR
- CB-1
- CB-2
- CI-1
- CI-2
- CI-B
- CR-1
- CR-1A
- CR-2
- CR-3
- CR-4
- CR-5
- GR
- MH
- MHP
- Multiple, See PAD
- RV
- RVP
- SH
- SR
- TR
- Undesignated
- R-7
- C-1

north

0' 1200' 2400'

Scale: 1"=1200'

Date: 07.NOVEMBER.2013

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Scottsdale, Arizona 85250
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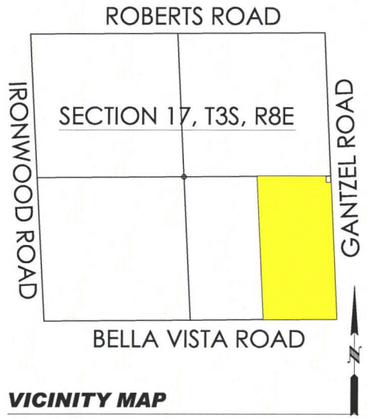
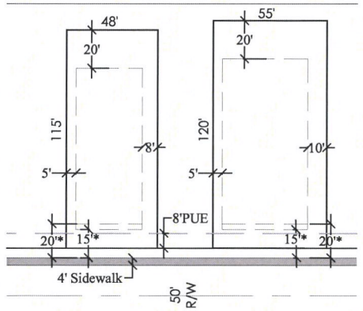
Exhibit C



VICINITY MAP

NTS

TYPICAL LOT SETBACK DETAIL



48' x 115' Lots 55' x 120' Lots

* Front setback is 20' measured from back of sidewalk to front facing garage door. Front setback for porches, livable area, and side loaded garage is 15' from back of sidewalk.

LEGAL DESCRIPTION

The East half of the Southeast quarter of Section 17, Township 3 South, Range 8 East, of the Gila and Salt River Base and Meridian, Pinal County, Arizona.
Except the following described parcel:
The East 90.00 feet of the East half of the North 120.00 feet of the South half of Section 17, Township 3 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

OWNERSHIP AND MAINTENANCE

1. All open space areas, landscaping, drainage facilities and recreational amenities will be owned, controlled and maintained by the Bella Camino Homeowners Association (HOA).
2. All streets will be public, and will be owned, controlled and maintained by Pinal County upon approval by Pinal County Public Works Department.

UTILITIES AND SERVICES

Utility / Service	Provider
Sewer	Johnson Utilities
Water	Johnson Utilities
Electrical	Salt River Project (SRP)
Telephone / Cable / Data	Century Link / Cox Communications
Police / Public Safety	Pinal County Sheriff Department
Fire Protection	Rural Metro Fire Department
School	Florence Unified School District
Solid Waste Disposal	Private Provider via Contract
Natural Gas	Mesa Gas

NOTES:

1. ALL LOT SIZES AND LAYOUT ARE CONCEPTUAL AND WILL BE FINALIZED WITH THE PRELIMINARY PLAT SUBMITTAL.
2. ALL OPEN SPACE REPRESENTED IS CONCEPTUAL IN NATURE AND SUBJECT TO CHANGE. REFER TO LANDSCAPE PLAN FOR CONCEPTUAL LANDSCAPE DESIGN AND PROPOSED PLANT PALETTE.
3. ALL INFRASTRUCTURE LOCATIONS ARE CONCEPTUAL AND SUBJECT TO CHANGE.
4. THE SITE IS WITHIN FLOOD ZONE "X". REFER TO PRELIMINARY DRAINAGE REPORT FOR DRAINAGE PATTERNS AND RETENTION REQUIREMENTS.
5. THE EXISTING DRAINAGE ON THE SITE IS TO THE NORTH / NORTHEAST. OFF-SITE FLOWS AND ON-SITE DRAINAGE WILL BE ACCOMMODATED THROUGH A SYSTEM OF RETENTION AREAS AND BASINS. REFER TO THE PRELIMINARY DRAINAGE REPORT FOR MORE DETAIL.
6. REFER TO WALL PLAN AND ENTRY MONUMENT AND WALL EXHIBIT FOR MORE DETAILED INFORMATION ON CONCEPTUAL ENTRY MONUMENTATION AND WALLS.
7. RIGHT OF WAYS:
   - GANTZEL ROAD - 150' (75' HALF STREET DEDICATION)
   - BELLA VISTA ROAD - 100' (50' HALF STREET DEDICATION)
   - STARDUST DRIVE - 60' (30' HALF STREET DEDICATION)
   - LOCAL ROADWAYS - 50' (FULL STREET DEDICATION)

ZONING COMPARISON TABLE

Refer to the Bella Camino PAD narrative for complete table and footnotes.

RESIDENTIAL	PINAL COUNTY	Bella Camino R-7 PAD Product A	Bella Camino R-7 PAD Product B	COMMERCIAL	PINAL COUNTY	Bella Camino
Zoning Category	R-7			Zoning Category	C-1	C-1 PAD
Minimum Lot Area	7,000 sqft	5,520 sqft	6,325 sqft	Min. Lot Area w/out Detached Accessory Dwelling	None	None
Minimum Lot Width	50'	48'	55'	Min. Lot Area with Detached Accessory Dwelling	3,500 sqft	None
Front Setback	20'	20' / 15'(1)	20' / 15'(1)	Minimum Lot Width	None	None
Side Setbacks	10' / 10'	5' / 8'	5' / 10'	Front Setback	20'	20'
Street Side Setback	None	None	None	Side Setbacks	None(3)	None(4)
Rear Setback	25'	20'(2)	20'(2)	Rear Setback	25'	25'
Maximum Building Height	30'/2 Story	30'/2 Story	30'/2 Story	Maximum Building Height	30'	30'
Min. Distance Between Main & Detached Accessory Buildings	7'	5'	5'	Min. Distance Between Main Buildings	None(5)	None(5)
Maximum Buildable Area	None	None	None	Maximum Buildable Area	None	None

(1) Front setback is 20' measured from back of sidewalk to front facing garage door. Front setback for porches, livable area, and side loaded garage is 15' from back of sidewalk.

REZONING AND PLANNED AREA DEVELOPMENT FOR

Bella Camino

LEGEND

- R-7 PAD - PRODUCT TYPE A - 48' x 115'
- R-7 PAD - PRODUCT TYPE B - 55' x 120'
- C-1 PAD - NEIGHBORHOOD COMMERCIAL
- OPEN SPACE
- PEDESTRIAN PATH OR TRAIL
- NEIGHBORHOOD PARK ($\frac{1}{2}$ ACRE - 1 $\frac{1}{2}$ ACRES)

ZONING

EXISTING ZONING: GENERAL RURAL (GR)
PROPOSED ZONING: R-7 PAD AND C-1 PAD

LAND USE SUMMARY

LAND USE DESIGNATION	ACRES	% OF GROSS ACRES	% OF GROSS RESIDENTIAL ACRES
Residential (R-7 PAD)	50.26	61.77%	70.60%
Open Space(1)	11.24	13.82%	15.79%
Open Space - Recreational Area (1)	5.33	6.55%	7.49%
Associated Arterial / Collector Roadway	4.36	5.36%	6.12%
Residential Developable Area	71.19	87.50%	100%
Commercial (C-1 PAD)	7.61	9.35%	
Associated Arterial / Collector Roadway	2.56	3.15%	
Commercial Developable Area	10.17	12.50%	
Gross Site Area	81.36	100.0%	
Total Arterial / Collector Roadway	6.92		
Project Yield		% OF LOTS	
48' x 115'	146	58.4%	
55' x 120'	104	41.6%	
Total Lot Yield	250	100.0%	
Total Allowed Yield	250		
Project Density	3.5		

(1) Total Open Space area for Bella Camino is approximately 23% based on Gross Residential Acres & Recreational Areas are approximately 7.5% based on Gross Residential Acres.

north

0' 400' 800' 1600'

Scale: 1"=400'
Date: 07.JANUARY.2014

Landowner / Developer:
Ironwood 80, LLLP
17700 N. Pacesetter Way
Scottsdale, Az 85255
Tel. 480.348.1118

Applicant:
Gallagher & Kennedy, P.A.
2575 E. Camelback Road
Suite 1100
Phoenix, Az 85016
Tel. 602.530.8000

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7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
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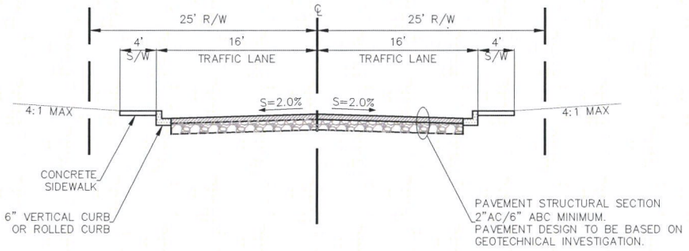
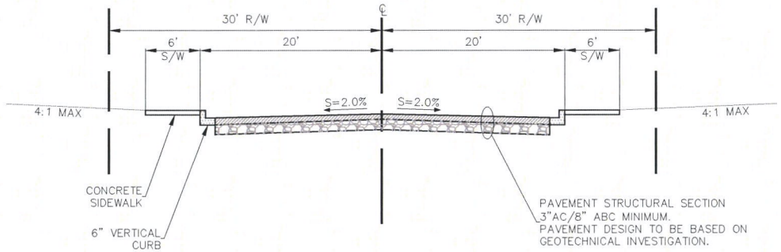
Exhibit D

Bella Camino

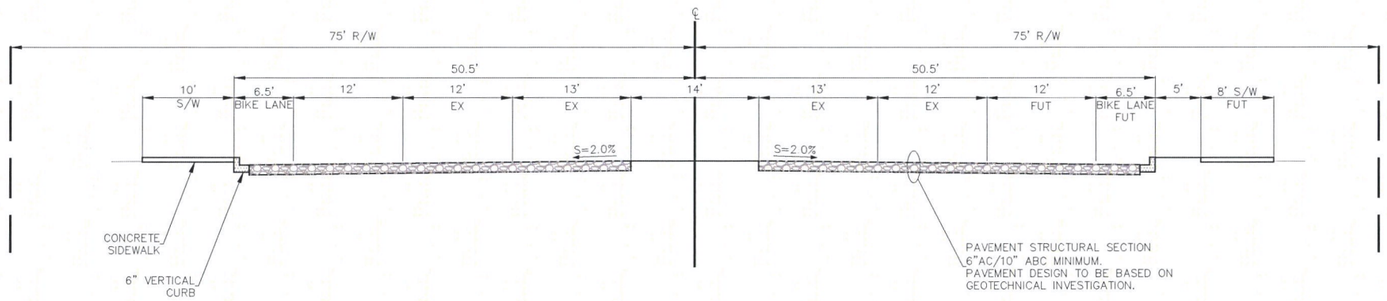
TYPICAL STREET SECTIONS



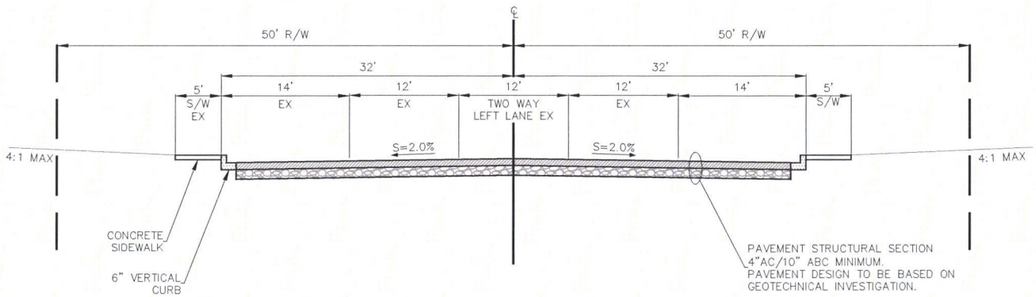
LOCAL STREET



ENTRANCE ROAD



GANTZEL ROAD



BELLA VISTA ROAD

0' 200' 400'

Scale: 1"=200'

Date: 07.NOVEMBER.2013

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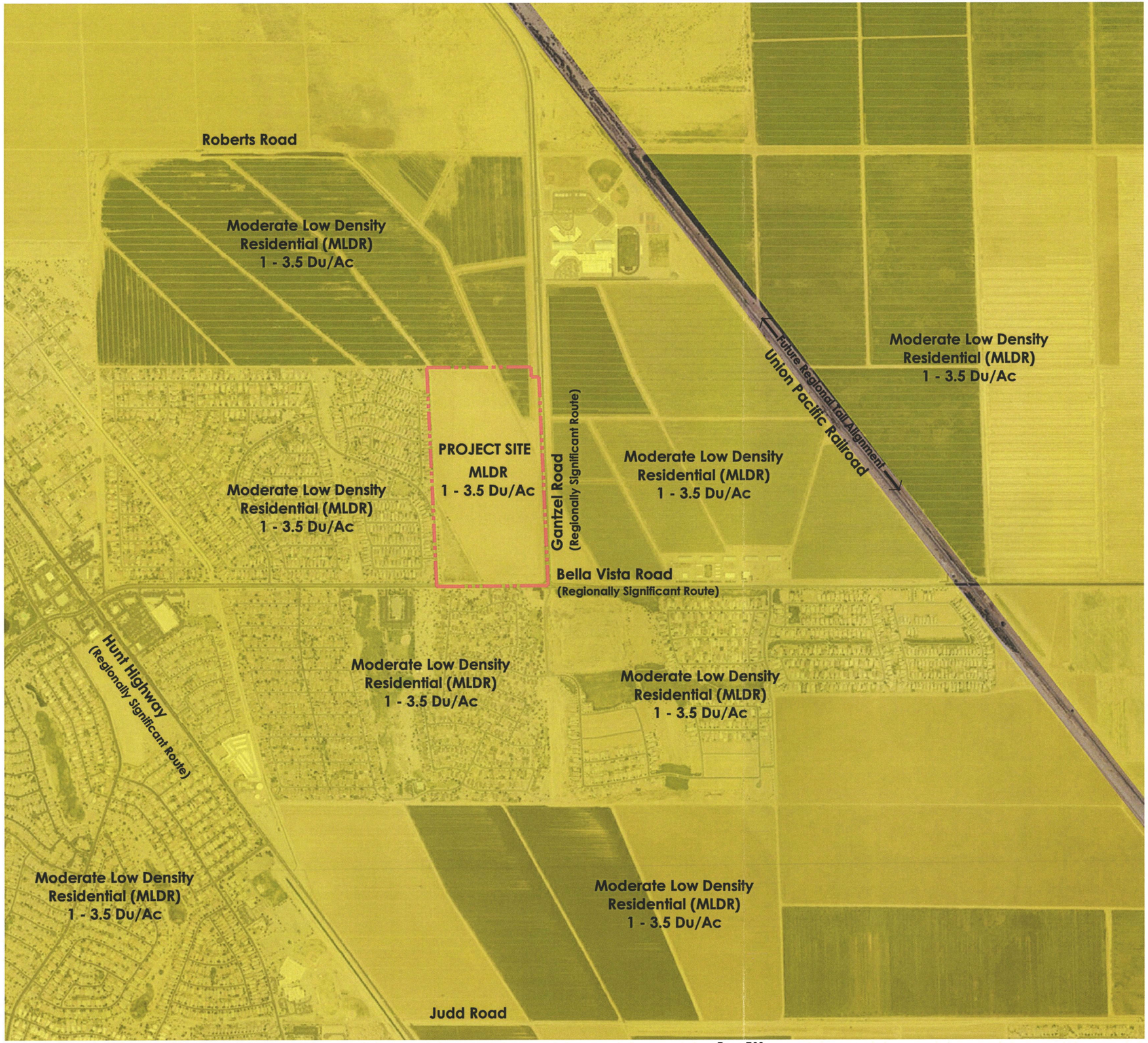
Exhibit E

Bella Camino

COMPREHENSIVE PLAN



LEGEND

PROJECT BOUNDARY

MODERATE LOW DENSITY RESIDENTIAL (MLDR)

north

0' 1200' 2400'

Scale: 1"=1200'

Date: 07.NOVEMBER.2013

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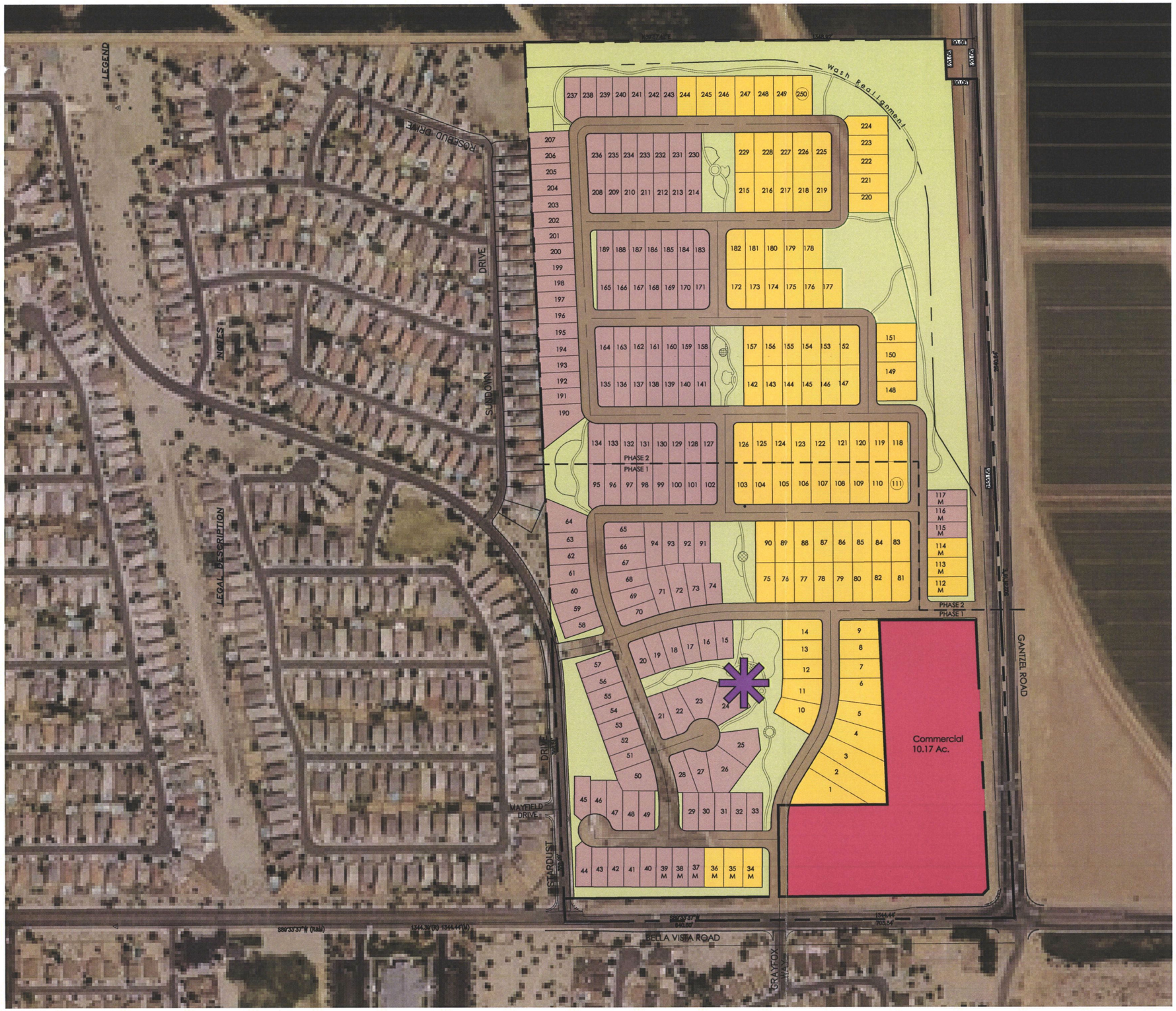
Exhibit F

Bella Camino

CONCEPTUAL OPEN SPACE PLAN



LEGEND

- OPEN SPACE (23% or 16.57 Ac +/-)
- PEDESTRIAN PATH OR TRAIL
- NEIGHBORHOOD PARK ($\frac{1}{2}$ ACRE - 1 $\frac{1}{2}$ ACRES)

LAND USE SUMMARY

LAND USE DESIGNATION	ACRES	% OF GROSS ACRES	% OF GROSS RESIDENTIAL ACRES
Residential (R-7 PAD)	50.26	61.77%	70.60%
Open Space(1)	11.24	13.82%	15.79%
Open Space - Recreational Area (1)	5.33	6.55%	7.49%
Associated Arterial / Collector Roadway	4.36	5.36%	6.12%
Residential Developable Area	71.19	87.50%	100%
Commercial (C-1 PAD)	7.61	9.35%	
Associated Arterial / Collector Roadway	2.56	3.15%	
Commercial Developable Area	10.17	12.50%	
Gross Site Area	81.36	100.0%	
Total Arterial / Collector Roadway	6.92		
Project Yield		% OF LOTS	
48' x 115'	146	58.4%	
55' x 120'	104	41.6%	
Total Lot Yield	250	100.0%	
Total Allowed Yield	250		
Project Density	3.5		

(1) Total Open Space area for Bella Camino is approximately 23% based on Gross Residential Acres & Recreational Areas are approximately 7.5% based on Gross Residential Acres.

north

0' 300' 600'

Scale: 1"=300'

Date: 07.JANUARY.2014

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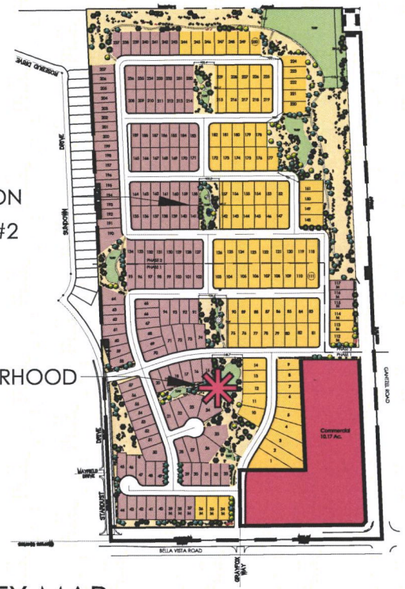
Exhibit G

Bella Camino

CONCEPTUAL PARK & RECREATION AREA OPEN SPACE



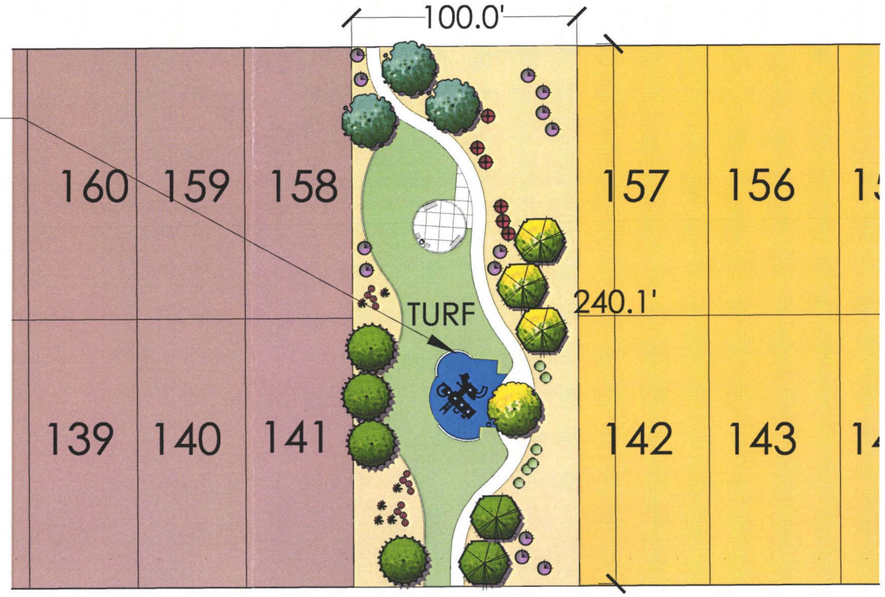
KEY MAP

RECREATION AREA OS #2

TOT LOT

- Shade Cover Play Structure
- Benches
- Trash Receptacle

Minimum 100'x240'
0.55 Acres



NEIGHBORHOOD PARK

RAMADA

- Picnic Tables
- Grill
- Trash Receptacle

TOT LOT

- Shade Cover
- Benches
- Trash Receptacle

Linear Path

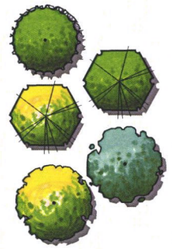
- Turf Area

Sport Court

Minimum 100' Openings on two streets.
2.15 Acres

CONCEPTUAL LANDSCAPE PALETTE

All tree sizes to meet or exceed Arizona Nurseryman Association (ANA) Specifications



TREES		
Item		Size
Acacia stenophylla	Shoestring Acacia	15 GAL. MIN Multi Trunk
Chilopsis linearis 'Warren Jones'	Desert Willow	15 GAL. MIN. Multi Trunk
Parkinsonia praecox	Palo Brea	24" box Multi Trunk
Prosopis velutina	Native Mesquite	24" Box Multi Trunk
Parkinsonia 'Desert Museum'	Desert Museum Palo Verde	24" box Std. Trunk

SHRUBS		
Item		Size
Caesalpinia pulcherrima	Red Bird of Paradise	5 gal.
Eremophila maculata	Valentine Bush	5 gal.
Leucophyllum laevigatum	Chihuahuan Sage	5 gal.
Ruellia peninsularis	Desert Ruellia	5 gal.
Simmondsia chinensis	Jojoba	5 gal.

ACCENTS AND GRASSES		
Item		Size
Agave americana	Century Plant	5 gal.
Hesperaloe parviflora	Red Yucca	5 gal.

GROUNDCOVERS AND PERENNIALS		
Item		Size
Acacia redolens	Desert Carpet	1 gal.
Lantana 'Dallas Red'	Dallas Red Lantana	1 gal.
Lantana ' New Gold'	New Gold Lantana	1 gal.
Rosmarinus officinalis 'Prostratum'	Prostrate Rosemary	1 gal.

MISCELLANEOUS		
Item		Size
Concrete Header		6"x6"
Decomposed Granite - 'Saddleback Brown'		3/4" screened 2" Minimum Depth
Turf - 'Mid Iron' Bermuda Sod		

GROUND SURFACE TREATMENTS

TRAILS: DECOMPOSED GRANITE OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

TOT LOTS: SAND OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

north

0' 60' 120'

Scale: 1"=60'

Date: 07.JANUARY.2014

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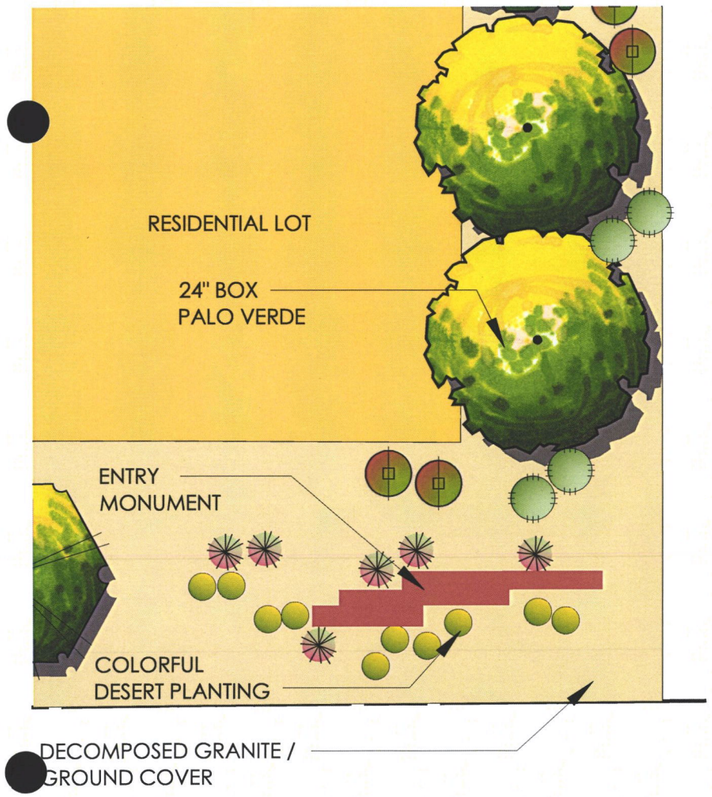
Exhibit H

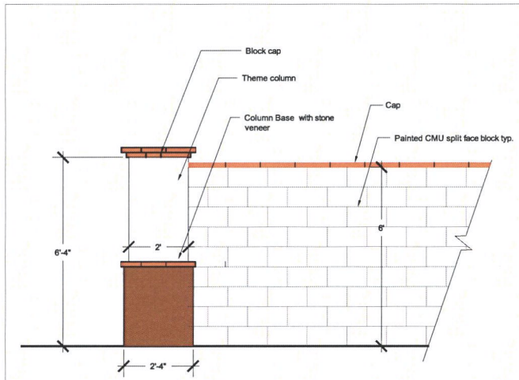
Bella Camino

CONCEPTUAL ENTRY MONUMENT AND WALL DETAILS

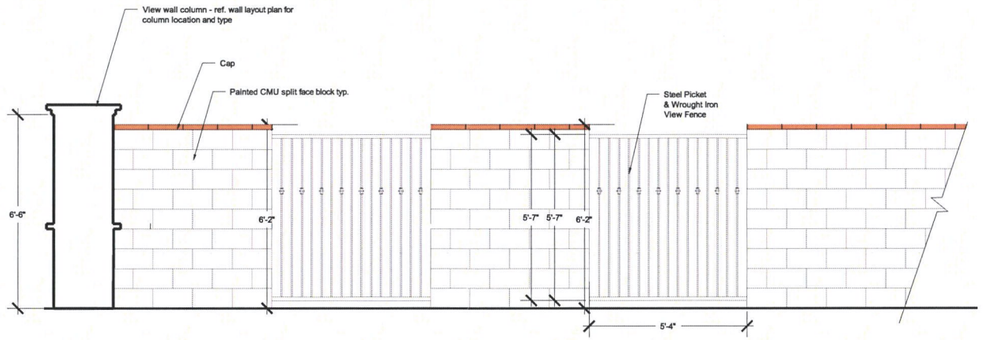
KEY MAP - N.T.S.



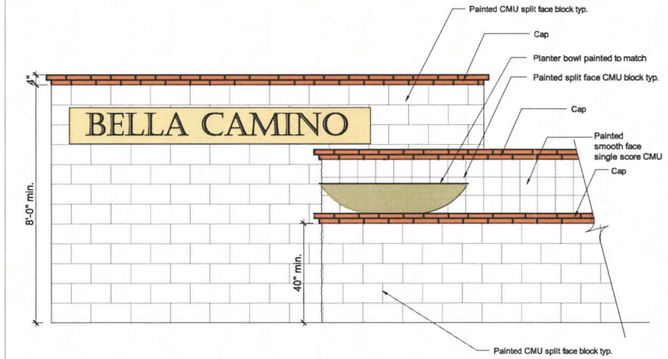
PLAN VIEW - N.T.S.



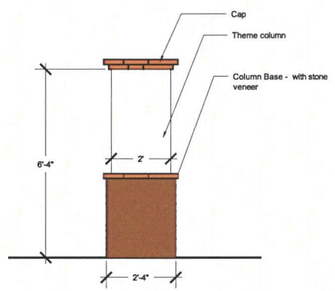
1 Theme Wall Elevation — Scale: NTS



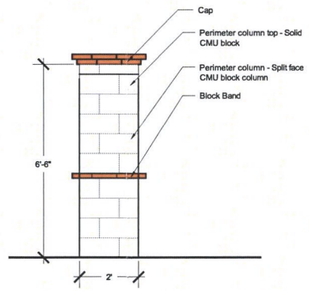
2 View Fence Elevation — Scale: NTS



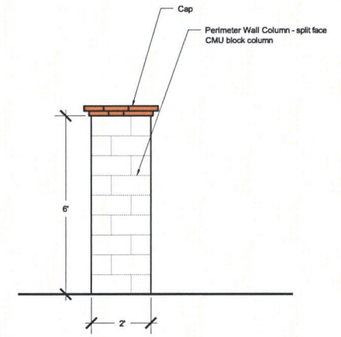
3 Project Entry — Scale: NTS



4 Theme Wall Column — Scale: NTS



5 View Wall Column — Scale: NTS



6 Perimeter Wall Column — Scale: NTS

ENTRY MONUMENT, WALL & FENCE DETAILS - N.T.S.

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Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Date: 07.JANUARY.2014

Exhibit I

Bella Camino

CONCEPTUAL WALL PLAN

LEGEND

- Theme Wall
- View Fence

north

0' 300' 600'

Scale: 1"=300'

Date: 07.JANUARY.2014

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7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit J

Bella Camino

CONCEPTUAL LANDSCAPE PLAN

LAND USE SUMMARY

LAND USE DESIGNATION	ACRES	% OF GROSS ACRES	% OF GROSS RESIDENTIAL ACRES
Residential (R-7 PAD)	50.26	61.77%	70.60%
Open Space(1)	11.24	13.82%	15.79%
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Gross Site Area	81.36	100.0%	
Total Arterial / Collector Roadway	6.92		
Project Yield		% OF LOTS	
48' x 115'	146	58.4%	
55' x 120'	104	41.6%	
Total Lot Yield	250	100.0%	
Total Allowed Yield	250		
Project Density	3.5		

(1) Total Open Space area for Bella Camino is approximately 23% based on Gross Residential Acres & Recreational Areas are approximately 7.5% based on Gross Residential Acres.

REQUIRED PLANT QUANTITIES

TREES

Required:	1 Tree per 1,000 square feet of open space
Minimum Size:	15 gallon with 25% of trees to be 24" Box
Estimate Square Feet of Area:	18.41 Ac. x 43,560 = 801,940
Estimate Square Feet of Area:	801,940 square feet / 1,000 = 802 Trees Required

TREES FOR STREETSCAPES AND ENTRYWAYS

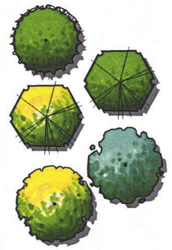
Required:	1 Tree per 1,000 square feet of open space
Minimum Size:	15 gallon with 25% of trees to be 24" Box
Estimate Square Feet of Area:	1.9 Ac. x 43,560 = 82,764
Estimate Square Feet of Area:	82,764 square feet / 1,000 = 83 Trees Required

GENERAL NOTES

1. All five (5) gallon shrubs shall be planted at a rate of five (5) shrubs per 30 feet of linear street frontage.
2. Five (5) gallon shrubs within recreation areas shall be planted at a rate of seven (7) shrubs per 1,000 square feet of surface area provided.
3. The minimum number of trees required shall be planted per the Open Space and Recreation Area Manual.
4. Twenty-Five percent (25%) of the trees shall be at least 24-Inch Box trees.
5. Decorative design elements such as: benches and paving accents shall be provided where appropriate to enhance open space areas.
6. A vegetative salvage plan does not apply on this site due to historic farming.
7. There is no Conservtion Open Space within this site.
8. Location of water outlets will be provided during the construction documents process and will meet the minimum standards and specifications for the material of the Arizona Nurserymen's Association or Arizona Association of Nurserymen.
9. Riparian vegetation and biological habitats are not present on this site.

CONCEPTUAL LANDSCAPE PALETTE

All tree sizes to meet or exceed Arizona Nurseryman Association (ANA) Specifications



TREES Item	Size
Acacia stenophylla Shoestring Acacia	15 GAL. MIN Multi Trunk
Chilopsis linearis 'Warren Jones' Desert Willow	15 GAL. MIN. Multi Trunk
Parkinsonia praecox Palo Brea	24" box Multi Trunk
Prosopis velutina Native Mesquite	24" Box Multi Trunk
Parkinsonia 'Desert Museum' Desert Museum Palo Verde	24" box Std. Trunk

SHRUBS Item	Size
Caesalpinia pulcherrima Red Bird of Paradise	5 gal.
Eremophila maculata Valentine Bush	5 gal.
Leucophyllum laevigatum Chihuahuan Sage	5 gal.
Ruellia peninsularis Desert Ruellia	5 gal.
Simmondsia chinensis Jojoba	5 gal.

ACCENTS AND GRASSES Item	Size
Agave americana Century Plant	5 gal.
Hesperaloe parviflora Red Yucca	5 gal.

GROUNDCOVERS AND PERENNIALS Item	Size
Acacia redolens Desert Carpet	1 gal.
Lantana 'Dallas Red' Dallas Red Lantana	1 gal.
Lantana ' New Gold' New Gold Lantana	1 gal.
Rosmarinus officinalis 'Prostratum' Prostrate Rosemary	1 gal.

MISCELLANEOUS Item	Size
Concrete Header	6"x6"
Decomposed Granite - 'Saddleback Brown'	3/4" screened 2" Minimum Depth
Turf - 'Mid Iron' Bermuda Sod	

GROUND SURFACE TREATMENTS

TRAILS: DECOMPOSED GRANITE OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

TOT LOTS: SAND OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

north

0' 300' 600'

Scale: 1"=300'

Date: 07.JANUARY.2014

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit K

APPENDIX

Appendix A – FUSD Correspondence Letter

Florence Unified School District No. 1

P.O. Box 2850 Florence, Arizona 85132
(520) 866-3500 Fax (520) 868-2302

Amy P. Fuller, Ed.D., Superintendent
Chris Knutsen, Assistant to the Superintendent
Tony Jimenez, Assistant to the Superintendent for Administrative Services

June 25, 2013

Ironwood 80, LLLP
c/o Harvard Investments
17700 N. Pacesetter Way, Suite 100
Scottsdale, AZ 85255

Attn: Tim Brislin, Vice President

Dear Mr. Brislin;

Thank you for making the Florence Unified School District aware of your proposed 80 acre development at the North West Corner of Ironwood Road and Bella Vista Rd. in Pinal County Arizona. The conceptual site plan and Vicinity map you included were also very helpful. We understand that we will continue discussions in the future with Harvard Investments as the zoning case progresses and your plans for development are refined. As part of this future effort we will discuss a method of addressing the impact on our school district created by the proposed PAD overlay zoning district.

I look forward to working with you. If I can be of any further assistance please do not hesitate to contact me via email (jschreur@fusdaz.org) or telephone (520) 866-3532. Thank you.

Sincerely,

John Schreur
Director of School Construction and Public Relations

Board of Education

Bob Dailey, President Denise Guenther, Vice-President
Rose Marie M. Monks, Member Jim Thomas, Member Janeane Candelaria, Member

Appendix B – Comprehensive Plan Compliance Checklist

PART ONE

Consistency with Pinal County's Vision Components

The Pinal County Comprehensive Plan is a vision-based plan that provides the framework that all decisions related to growth and development are measured against. The following is intended to describe how the proposal meets the various vision components.

Pinal County Vision The County recognizes the importance of the region's strategic location between the Phoenix and Tucson Metropolitan Areas and its relationship to the overall well-being of the state of Arizona. What happens in Pinal County does not stay in Pinal County; the decisions made here will impact the entire state on many levels: business development, mobility, land management, air quality, water, and overall quality of life. People choose Pinal County for the diverse opportunities it offers; this diversity is what makes Pinal County unique but also represents a challenge as Pinal County continues to grow and change.

Pinal County is a place where history, culture and heritage are the foundation for its future. Pinal County will be seen as a leader in environmental stewardship and conservation practices by ensuring that the natural environment is preserved, yet still available to be discovered. Pinal County provides quality educational and training opportunities placing residents in cutting edge, environmentally-compatible jobs within the County. While communities within Pinal County retain and celebrate their unique qualities, governments and agencies share a collaborative spirit to ensure successes across Pinal County and remain responsive and accountable to their constituents.

Sense of Community—Pinal County is a collection of unique communities, each of which has something special to offer residents and visitors. Balancing emerging urban centers and Pinal County's rural character is important to residents; ensuring that the threads of Pinal County's history, heritage, and culture are woven into its future is what makes Pinal County unique from other regions. Ensuring places exist for people to gather and for communities to showcase the diversity of places, people, lifestyles, cultures, and opportunities will help to define Pinal County's identity.

The proposal:

√ Is consistent with the **Sense of Community** vision component

Please explain:

The property is located within the West Pinal Growth Area, and as such, is intended for development that is more urban in character. Development of the property as part of the Bella Camino PAD will improve the County's livability by accommodating a range of housing in quality neighborhoods, together with neighborhood commercial services.

Mobility and Connectivity—Ensuring Pinal County has adequate transportation corridors and a variety of multimodal transportation options addressing all populations is essential for moving goods and people throughout the County and State with minimal affect on Pinal County's native wildlife. Offering multiple mobility and communication options, to effectively connect communities and activity centers throughout the County, will reduce congestion and improve air quality while enhancing the area's quality of life.

The proposal:

√ Is consistent with the **Mobility and Connectivity** vision component

Please explain:

Access to the property will be provided by Bella Vista Road and Gantzel Road, which are both roads of regional signficance that will be improved to the County's standards in phases as part of development of Bella Camino. The internal circulation for Bella Camino will be provided by a series of local streets. A network of pedestrian trails and pathways has been planned to connect the Sanoki Wash with the internal neighborhood paths and trails.

Economic Sustainability—Expanding opportunities for residents to live, work, learn, and play in close proximity promotes long-term economic viability. Pinal County desires activity centers that serve the current and future residents' needs offering services, businesses and employment opportunities, including high-tech and environmentally-friendly employers who champion Pinal County's conservation philosophy. The creation of the full range of quality jobs that allow residents to start their career, raise a family, and move up instead of out of Pinal County for career advancement is essential. (This may not apply to all projects)

The proposal:

N/A Is consistent with the **Economic Sustainability** vision component

Please explain:

The Bella Camino PAD provides a neighborhood commercial area that will serve the residences within and near Bella Camino, but is too small to provide significant employment opportunities.

Open Spaces and Places—Residents value the large connected open spaces and unique places of Pinal County, not only as part of their quality of life, but as an important resource to sustain the region's immense wildlife habitat and their corridors. From the majestic mountains rising from the desert floor in the west to the high desert and rugged mountain terrain to the east, enjoyment of and respect for the natural surroundings is a big part of why people choose Pinal County to live and visit.

The proposal:

√ Is consistent with the **Open Spaces and Places** vision component

Please explain:

Development of Bella Camino includes the containment of the Sanoki Wash, which will provide a regional drainage benefit and a significant open space feature within the project. As the State Trust Land to the north and east of Bella Camino develops, the regional drainage and open space connectivity among developments in the area will be enhanced. It is anticipated that approximately 23% of Bella Camino's residential acreage will remain as open space, providing open space and recreation areas for its residents.

Environmental Stewardship—People value the views of the mountains and open vistas during the day and the stars at night. These values have translated to a strong conservation ethic that stresses the importance of maintaining the quality of Pinal County's natural resources for future generations. Pinal County is the leader in environmental stewardship, and rewards and encourages sustainable practices such as innovative land use planning, sustainable agriculture, water conservation, green building development, and the use of renewable and alternative energy sources.

The proposal:

√ Is consistent with the **Environmental Stewardship** vision component

Please explain:

The Comprehensive Plan identifies categories of Sensitive Areas and Vegetation to be considered when developing property; the property contains no such Sensitive Areas or Vegetation. Development of the property will comply with all applicable regulations related to noise, dust control, preservation of dark skies. Water conservation and green building development will be encouraged.

Healthy, Happy Residents—Access to quality healthcare and healthy lifestyle choices is a priority. Pinal County is a healthy, safe place where residents can walk or ride to activity centers and where interaction in Pinal County's clean, natural environment is encouraged. Ensuring residents are healthy, safe and happy in their community is a priority for Pinal County.

The proposal:

√ Is consistent with the **Healthy, Happy Residents** vision component

Please explain:

The property's location within the Bella Camino PAD provides the opportunity for residents of the property to walk or bike to recreation areas and neighborhood commercial uses.

Quality Educational Opportunities—Quality, community-based Pre k-12 programs that provide youth with a competitive edge along with a wide variety of post-secondary educational opportunities and technical or specialized workforce training are necessities. Pinal County residents seek out life-long opportunities that help to expand their minds and diversify their experiences. (This may not apply to all projects)

The proposal:

N/A Is consistent with the **Quality Educational Opportunities** vision component

PART TWO

Consistency with the Plan's Key Concepts illustrated on Land Use, Economic, and Circulation graphics

Consistency with the Land Use Designation shown on the graphics

The project land uses:

√ Are shown as indicated on the Land Use and Economic Development graphic

___ Are not shown as indicated on the Land Use and Economic Development graphic

Bella Camino is consistent with its Comprehensive Plan designation as Moderate Low Density Residential.

Consistency with the Mixed Use Activity Center Concept

The project land uses:

___ Meet the Mixed Use Activity Center requirements

√ Are not shown within a Mixed Use Activity Center

If shown within a Mixed Use Activity Center, explain how it meets the planning guidelines outlined in the Land Use element.

Not applicable.

The land use proposal includes a Mixed Use project, not shown in a Mixed Use Activity Center; explain how it meets the planning guidelines and intent of the Plan.

Not applicable.

Consistency with the Planning Guidelines described in the Land Use element

The project land uses:

√ Are consistent with the applicable Planning Guidelines described in the Land Use element

Bella Camino is consistent with the Suburban Residential Planning Guidelines:

- The proposed uses within Bella Camino are compatible with neighboring land uses.
- Adequate water and wastewater infrastructure will be provided to the property (see infrastructure section, below).
- Development impact on roads, accessibility, transit, and non- motorized options are planned for and coordinated as part of the Bella Camino PAD.

- The property is accessible to nearby schools and community facilities/services are planned within the Bella Camino PAD.
- The Bella Camino PAD integrates open space, parks, trails, and recreational amenities that will support the development on the property.
- The property is accessible to employment opportunities, such as Central Arizona College, which will reduce vehicle miles traveled.

Quality Employment Opportunities County-wide

The Comprehensive Plan stresses the importance of increasing the number of opportunities to locate quality jobs County-wide in order to increase the jobs-to-population ratio.

The proposal:

√ Is consistent with the Economic Development element

__ Includes additional information about how the development addresses the Economic Development Vision embodied in the Comprehensive Plan.

Please explain:

The proposal is consistent with the Economic Development element of the Comprehensive Plan. According to the Comprehensive Plan, 40% of Pinal County residents commute outside of Pinal County for work, which not only represents lost time from family and community but also makes the area less attractive as a residential location and creates traffic congestion. While the proposal itself does not provide quality employment opportunities, it enhances the ability of area employers, and particularly, the Central Arizona College to attract employees, students, and incoming faculty.

Viable Agriculture, Equestrian and Rural Lifestyle

Historically, agriculture has played an important role in Pinal County's economy and lifestyle. Encouraging the continuation of viable agriculture and protecting it is an important component of the Plan. Additionally, supporting an equestrian and rural lifestyle has a place in Pinal County as it continues to urbanize.

The proposal:

√ Clusters development to protect open space ~~and agriculture~~ **(see System of Connected Trails and Preservation of Open Space, below)**

√ Includes additional information about how the development addresses Viable Agriculture, Equestrian, and Rural Lifestyle.

Please explain:

The Comprehensive Plan states that it "intends to support agriculture as a land use as long as it is economically feasible. Additionally, the amount of open space and trails identified

for preservation will encourage the continuation and enhancement of the rural and equestrian lifestyles." The property is located within the West Pinal Growth Area, which is anticipated to become a sustainable, well planned Growth Area in the heart of Pinal County. In the long-term, development of the West Pinal Growth Area is not compatible with agriculture, equestrian uses, and a rural lifestyle, and those uses gradually will be phased out as they become economically infeasible.

System of Connected Trails and Preservation of Open Space

Pinal County is committed to the preservation of large swaths of open space and the development of a connected system of trails. This applies to all projects/proposals/actions.

The proposal:

√ Is consistent with *Pinal County Trails and Open Space Master Plan* and Comprehensive Plan Open Space and Places Chapter

√ Includes additional information about how the development addresses the open space Vision and goals

Please explain:

The Bella Camino PAD meets the goals of the Comprehensive Plan related to the provision of adequate neighborhood park space connected by a path and trail system, all of which will be maintained by a property owners' association. Approximately 23% of the residential acreage will be devoted to open space. The Bella Camino PAD calls for two neighborhood parks that will provide both passive and active recreation opportunities. All residents are located within a quarter mile (3-5 minute walk) from an open space amenity, and a central linear open space that runs the length of the project will accommodate a network of paths and sidewalks, providing connectivity throughout the project.

Natural and Cultural Resource Conservation

The Comprehensive Plan strives to protect natural/cultural resources, wildlife corridors and environmentally-sensitive areas such as mountains and foothills, major washes, and vistas. These areas are predominantly undeveloped and contain sensitive resources or natural hazard areas.

The proposal:

N/A Address environmentally sensitive areas it may impact.

N/A Includes additional information about how the development addresses the natural and cultural resource conservation.

Please explain:

The property is currently actively farmed. The Sanoki Wash passes through the northeast

corner of the property. In order to maintain the Sanoki Wash alignment, the proposed design of Bella Camino consists of accepting offsite storm water flows from the south and east, conveying them through the site and discharging them along the north property line in a condition that is similar to the current conditions. A long basin is proposed to spread out the flows prior to offsite discharge to maintain these current conditions. The site also will be designed to accommodate a future Sanoki Wash cross-section that will cross the property and will be able to convey the flows when development occurs north and east of Bella Camino. The property is relatively flat, with no major topographical features. No environmentally-sensitive areas are on the property. A records check through the Arizona State Museum indicates that no cultural resources are present on the property.

Water Resources, Public Facilities/Services, and Infrastructure Support

All developments must bring adequate water resources and the necessary infrastructure to support the intensity of development in order to minimize the impact on the County's ability to provide public services. All development and growth, public and private, must acknowledge its impacts and pay its own way.

The proposal:

√ Ensures that adequate public facilities are in place or planned for within a reasonable time of the start of the new development

Please explain:

Water service to the property will be provided by Johnson Utilities. Bella Camino is within the Johnson Utilities certificated wastewater service area, and existing backbone wastewater infrastructure is located in the vicinity of Bella Camino. All wastewater infrastructure will be sized to accommodate anticipated peak flows and construction phased as necessary. Bella Vista Road and Gantzel Road provide direct access to the property and will be improved as part of development of Bella Camino.

Appendix C – Master Plant Schedule

APPENDIX C
MASTER PLANT SCHEDULE

Botanical Name	Common Name
Trees	
Acacia spp.	Acacia
Brahea spp.	Blue Palm
Caesalpinia spp.	
Callistemon viminalis	Weeping Bottle Brush
Ceratonia siliqua	Carob Tree
Cercidium spp.	Palo Verde
Chamaerops humilis	Mediterranean Fan Palm
Chilopsis linearis	Desert Willow
Cupressus sempervirens	Italian Cypress
Dahlbergia sissoo	Sissoo Tree
Geijera parviflora	Australian Willow
Gleditsia triacanthos	Honey Locust
Leucaena retusa	Golden Ball Lead Tree
Lysiloma spp.	Desert Fern
Olea Europaea "Swan Hill"	Swan Hill Olive (or other non-pollen producing olive trees)
Olneya tesota	Ironwood
Parkinsonia spp.	Palo Verde
Phoenix canariansis	Canary Island Date Palm
Phoenix dactylifera	Date Palm
Pinus canariensis	Canary Island Pine
Pinus eldarica	Afghan Pine
Pinus halepensis	Aleppo Pine
Pinus pinea	Italian Stone Pine
Pistacia spp.	Pistache
Pithecellobium spp.	
Prosopis spp.	Mesquite
Quercus spp.	Oak
Rhus lancea	African Sumac
Schinus terebinthifolious	Brazilian Pepper
Sophora secundiflora	Texas Mountain Laurel
Ulmus parvifolia	Evergreen Elm
Vitex agnus-castus	Chaste Tree
Washingtonia spp.	Fan Palm
Ziziphus jujuba	Chinese Jujube

Shrubs

Acacia spp.	Acacia
Ambrosia deltoidea	Triangleleaf Bursage
Ambrosia dumosa	White Bursage
Atriplex spp.	Saltbush
Baccaris spp.	
Bougainvillea spp.	Bougainvillea
Buddleia marrubifolia	Wooly Butterfly Bush
Caesalpinia spp.	
Caliandra californica	Baja Red Fairy Duster
Calliandra eriophylla	Pink Fairy Duster
Callistemon citrinus	Lemon Bottle Brush
Callistemon viminalis "Captain Cook"	Dwarf Bottle Brush
Celtis pallida	Desert Hackberry
Cistus spp.	Rockrose
Convolvulus cneorum	Bush Morning Glory
Cordia boissieri	
Cordia parvifolia	Little Leaf Cordia
Dalea spp.	
Dodonaea spp.	Hopbush
Encelia spp.	Brittlebush
Ephedra spp.	Mormon Tea
Ericameria laricifolia	Turpentine Bush
Eremophila spp.	
Juniperus chinensis varieties	Juniper
Justicia spp.	
Lantana camara	Bush Lantana
Leucophyllum spp.	Texas Ranger
Nerium oleander varieties	Oleander
Plumbago scandens	Cape Plumbago
Punica granatum	Pomegranate
Pyracantha spp.	Pyracantha
Rhus ovata	Mountain Laurel
Rhus trilobata	Skunkbush
Rhus virens	Evergreen Sumac
Ruellia californica	Ruellia
Ruellia peninsularis	Baja Ruellia
Salvia spp. (shrub only)	Sage
Senna spp.	Cassia
Simmondsia chinensis	Jojoba
Tecoma stans	Yellow Bells
Tecoma x 'Orange Jubilee'	Orange Jubilee
Teucrium fruticans	Bush Germander
Vauquelinia spp.	Rosewood

Accents and Grasses

Agave spp.	Century Plant/Agave
Aloe spp.	Aloe
Asclepias subulata	Desert Milkweed
Cacti (all)	
Dasylirion spp.	Desert Spoon
Fouquieria spp.	Ocotillo
Hesperaloe spp.	
Muhlenbergia spp	Deer Grass
Nolina spp.	Bear Grass
Pennisetum setaceum	Fountain Grass
Yucca spp.	Yucca

Groundcover

Acacia redolens	Desert Carpet
Asparagus densiflorus cv. sprengeri	Sprenger Asparagus
Atriplex spp.	
Baccharis spp.	
Carpobrotus edulis	Ice Plant
Cephalophyllum spp.	Red Spike Ice Plant
Convolvulus mauritanicus	Ground Morning Glory
Dalea spp.	
Gazania spp.	Gazania
Lantana montevidensis	Purple Trailing Lantana
Lantana spp	Lantana
Malephora crocea	Ice Plant
Myoporum parvifolium	Sandalwood
Oenothera berlandieri	Mexican Evening Primrose
Rosmarinus officinalis	Prostrate Rosemary
Salvia chamaedryoides	Blue Sage
Salvia farinacea	Mealy Cup Sage
Sphaeralcea spp.	Globe Mallow
Teucrium spp	Germander
Verbena spp	Verbena
Turf	

Annuals and Perennials

Arctotis spp.	African Daisy
Argemone pleicantha	Prickly Poppy
Baeria chrysostoma	Goldfield
Bahia absinthifolia	Bahia
Baileya multiradiata	Desert Marigold
Cassia covesii	
Catharanthus roseus cultivars	Madagascar Periwinkle
Celosia spp.	Cockscomb
Cosmos spp.	Cosmos
Dimorphotheca spp.	African Daisy
Dyssodia pentachaeta	Dyssodia
Eschscholzia californica	California Poppy
Eschscholzia mexicana	Mexican Gold Poppy
Gilia leptantha Showy	Blue Gilia
Gomphrena globosa	Globe Amaranth
Helichrysum bracteatum	Everlasting Daisy
Helipterum spp.	
Kallstroemia grandiflora	Arizona Poppy
Layia platyglossa	Tidy Tips
Lesquerella gordoni	Gold Crucifer
Linaria spp.	Toadflax
Lupinus densiflorus	Lupine
Lupinus sparsiflorus	
Matricaria grandiflora	Pineapple Weed
Melampodium leucanthum	Blackfoot Daisy
Mentzelia spp.	Blazing Star
Orthocarpus purpurascens	Owl's Clover
Pectis papposa	Chinch Weed
Penstemon spp.	Penstemon
Tagetes spp.	Marigold
Ursinia spp.	Ursinia

Vines

Antigonon leptopus	Queen's Wreath
Bougainvillea spp	Bougainvillea
Campsis radicans	Trumpet Creeper
Cissus trifoliata	Arizona Grape Ivy
Hardenbergia comtoniana	Wild Wisteria
Macfadyena unguis-cati	Cat Claw
Mascagnia macroptera	Yellow Orchid Vine
Podranea ricasoliana	Pink Trumpet Vine
Solanum jasminoides	Potato Vine

Material Finishes

Decomposed granite, ¾" minus
Weathered granite boulders – surface select

Landscape Review and Approval

Landscape plans shall be prepared for each phase of development in conjunction with the architectural improvement plans to be submitted and approved by Pinal County.

Open Space and Recreation Plan
For
Bella Camino

Prepared: November 07, 2013

Submitted By:
Gallagher & Kennedy, P.A.
Dana Stagg Belknap, Attorney
2575 E. Camelback Road, Ste 1100
Phoenix, Arizona 85016

Submitted On Behalf Of:
Ironwood 80, LLLP
c/o Harvard Investments, Inc.
Tim Brislin
17700 N. Pacesetter Way, Ste 100
Scottsdale, Arizona 85255

Development Team

PROPERTY OWNERS

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List of Exhibits

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Appendix

Appendix A – Arizona State Museum (ASM) Letter

OPEN SPACE AND RECREATION PLAN OVERVIEW

The purpose of the open space plan for Bella Camino is to enhance community character and quality of life by providing connectivity and recreational opportunities for residents of all ages. See Exhibit D – Conceptual Open Space Plan. The conceptual plan shows common area open space, not including that which is part of the commercial site, totaling 16.57 acres or approximately twenty-three percent (23%) of the gross residential area. This amount exceeds the PAD requirement of eighteen percent (18%) as outlined in the Pinal County Development Services Code Chapter 2.176. The proposed recreation area open space will also exceed the seven percent (7%) requirement for projects with 0% - 5% slope (approximately 4.98) with approximately 5.33 acres of recreational area open space or eight percent (7.5%).

Bella Camino is designed as a Family Oriented community with a variety of open space opportunities available to its residents. A balance of "active" (Neighborhood Park) and "passive" (pathway network) recreation areas that are highly visible and easily accessible have been designed to encourage community use and awareness. Areas utilized for drainage and retention will incorporate an informal or formal recreation element, where possible. The proposed open space design is in conformance with the Pinal County Open Space and Recreation Area Guideline Manual dated January 18, 2012. Open space programming will be finalized and submitted in detail during the preliminary plat process. All open space areas will be owned and maintained by the Bella Camino Homeowner's Association (HOA).

CONTEXT AND CONNECTIVITY

Bella Camino is comprised of approximately 81.36 acres located north of Bella Vista Road and west of Gantzel Road. The site is bordered on the north and east by State Trust land, and bordered on the west by Rancho Bella Vista and to the south by Johnson Ranch (see Exhibit A – Context Map). While the project is bordered by two developments, no direct connectivity to adjacent neighborhoods or developments via trails or pathways currently exists or is contemplated. The property is not adjacent to a regional County trail corridor, according to the Pinal County Open Space and Trails Master Plan (see Exhibit A – Context Map). There are no existing or proposed conservation open space areas within one-mile of the site.

While there are existing developed open space areas within Rancho Bella Vista to the east and Johnson Ranch to the south these areas do not provide connectivity to Bella Camino. The developed open space areas in both communities represent "self contained" open space amenities and are used for retention and/or recreation facilities. Due to the roadways that

would need to be crossed, the distance to the south, and separation from these developed open space areas, no connections are proposed.

OPEN SPACE AND RECREATION GUIDELINE CONFORMANCE

The Bella Camino meets and is in conformance with the OSRP Guidelines. The following general design guidelines will be implemented in the OSRP for Bella Camino, and are consistent with the requirements of the Pinal County Open Space and Recreation Area Guideline Manual for Residential Developments (the "OSRAM"):

- As a "family oriented" development with less than 1,000 dwelling units, the OSRP for Bella Camino exceeds the OSRP Guidelines, as demonstrated in Table 1, below.
- Open space has been designed to be a community amenity and will be provided in all areas or neighborhoods of the community.
- Open space areas have been strategically situated in high visibility locations; at the end of entry roads into individual neighborhoods, adjacent to the main community collector street, or at the end of cul-de-sacs where trails and pathway can feed into them.
- The lot layout for Bella Camino has been designed around the open space areas, to ensure close proximity, visibility and interconnectivity of the open space.
- Fragmentation of open space areas has been avoided whenever possible.

TABLE-1 – Minimum Facilities for Family Oriented Development (less than 1,000 units)

OSRP Guidelines	Bella Camino
Paths in addition to sidewalks	Pathways and seating areas in addition to sidewalks
A one acre turf field	A one acre turf field
A play structure	A neighborhood park with a tot lot play structure, benches, turf areas, and trash receptacles
A picnic ramada	A picnic ramada

PRELIMINARY HYDROLOGY AND DRAINAGE

The drainage conditions that surround the Bella Camino site consist of various offsite storm water flows. The existing developments to the south and west control their storm water and have no significant effect on the site. The farm fields to the north flow away from the site and also do not affect the site. However, the offsite flows from the southeast consist primarily of the storm water flows that develop in the Sanoki Wash alignment and its tributary areas. There have been numerous studies that estimate these flows. The estimated storm water flows in the area, as determined in the design of the Bella Vista South community, show that this flow is approximately 2066 cfs.

The Sanoki Wash typically does not have a defined channel that fully contains the flows throughout most of its alignment, which is especially true for the flows that cross the northeast corner of the Bella Camino site and also upstream and downstream of the site. The upstream storm water flows that leave the Bella Vista South community are in the form of wide and shallow flows. The flow spreads out and crosses Bella Vista Road and continues northwest through farm fields and toward Gantzel Road. Once the flows reach Gantzel Road, most will cross over the Road and enter the Bella Camino site and some will continue north along Gantzel Road. The storm water will then cross the northeast corner of the Bella Camino site. There is an existing 24" culvert that conveys lesser flows under Gantzel Road in the Sanoki Wash alignment.

In order the maintain the Sanoki Wash alignment, the proposed design of Bella Camino consists of accepting these offsite storm water flows, conveying them through the site and discharging them along the north property line in a condition that is similar to the current conditions. A long basin is being proposed to spread out the flows prior to offsite discharge to maintain these current conditions. The site will also be designed to accommodate a future Sanoki Wash cross section that will cross the property and will be able to convey the flows when development occurs north and east of Bella Camino. Until these areas develop or a regional improvement is made, the site will be designed to accept and discharge these flows in their current conditions. A more detailed description of these conditions is included in the Preliminary Drainage Report.

Bella Camino is shown to be located within Flood Zone X, and has a gradual slope to the north and northeast due to its current use as an agricultural field. All drainage flows towards the Sanoki Wash in the northeast corner of the site. The Preliminary Drainage Report, submitted as part of this PAD request, describes in greater detail the drainage and storm water management systems proposed for the property.

As required by the Pinal County Drainage Ordinance, this development will retain runoff from the 100-year, 2 hour storm event. Bella Camino will primarily use the open space and neighborhood park as its retention areas and any drainage structures proposed will conform to the Pinal County Drainage Ordinance. Also in accordance with Pinal County, the retention will be placed in open space areas other than the Sanoki Wash, so that onsite and offsite flows are not comingled. All onsite retention basins will discharge into drywells designed to discharge storm water within 36 hours. Also, until such time that the Sanoki Wash is connected upstream and downstream to this site, the storm water runoff retained in the Sanoki Wash area onsite will be discharged into drywells located with the adjacent onsite retention basins.

Bella Camino shall be designed to meet the Pinal County requirements, accommodate future wash improvements and preserve historic drainage patterns with no adverse effects to adjacent properties.

SLOPE ANALYSIS

Bella Camino is essentially flat and has historically been used for agricultural purposes. The site has a slope less that 1%, sloping slightly to the northwest. For PAD's with slopes less than 5%, a minimum of 18% of the overall property must be provided as open space, with 7% comprising recreation area open space. The proposed OSRP will provide 23% of the overall property as open space and 7.5% as recreation area open space, both of which exceed the County's requirements.

Because the property has been actively farmed for many years and is entirely disturbed, no conservation open space areas are required. There are no significant natural features on the property.

TABLE-2 – Open Space Requirements for 0 – 5% Slopes, Disturbed Property

OPEN SPACE REQUIREMENT	REQUIRED	PROVIDED	ACRES
Conservation Open Space	0%	0%	0.00
Recreation Area Open Space	7%	7.5%	5.33
Total Open Space	18%	23%	16.57
TOTAL ACREAGE			**81.36**

Wash Corridors

As referenced above, the Sanoki Wash is not a typical wash as it does not have a defined channel that fully contains the flows throughout most of its alignment. There are no other washes on the site.

Flood Zone

Bella Camino is shown to be located within Flood Zone X, and has a gradual slope to the north and northeast due to its current use as an agricultural field. All drainage flows towards the Sanoki Wash in the northeast corner of the site.

ARCHEAOLOGY SITES

The Arizona State Museum has issued a letter (see Appendix A – ASM Letter) indicating that while several archaeological inspections have been conducted within the vicinity of the project, no historic properties are identified in the project area. Should any artifacts or remains be uncovered during construction activities, development work will stop until the Arizona State Museum is notified and can investigate.

CONSERVATION OPEN SPACE

Because the property has been historically used for agricultural purposes, there are no sensitive resource areas on the property that merit conservation as natural open space. The property is essentially flat farm ground with a slope of less than 5%. Consequently, no conservation open space is required. Nevertheless, natural and historic drainage patterns in the area have been maintained.

DEVELOPED OPEN SPACE

Recreation Open Space

The purpose of the open space plan for Bella Camino is to enhance community character and quality of life by providing connectivity and recreational opportunities for residents of all ages. See Exhibit D – Conceptual Open Space Plan. The conceptual plan shows common area open space, not including that which is part of the commercial site, totaling 16.57 acres, or approximately twenty-three percent (23%) of the gross residential area. This amount exceeds the PAD requirement of eighteen percent (18%) as outlined in the Pinal County Development Services Code Chapter 2.176. The proposed recreation area open space will also exceed the seven percent (7%) requirement for projects with 0% - 5% slope with approximately 5.33 acres of recreational area open space or seven and a half percent (7.5%).

Bella Camino is designed as a family oriented community with a variety of open space opportunities available to its residents. A balance of active (neighborhood park) and passive (pathway network) recreation areas that are highly visible and easily accessible have been designed to encourage community use and awareness. Areas utilized for drainage and retention will incorporate an informal or formal recreation element, where possible. The proposed open space design is in conformance with the Pinal County Open Space and Recreation Area Guideline Manual dated January 18, 2012. Open space programming will be finalized and submitted in detail during the preliminary plat process. Recreation area amenities may include; shaded ramadas, shaded tot lots, one to two acre turf field and/or sport court. The recreational area open spaces within Bella Camino are a minimum of 100' in width and 100' in depth and are centrally located along the local street network. The open design creates viewsheds into each recreational open space are. All open space areas will be owned and maintained by the Bella Camino Homeowner's Association (HOA).

Open Space Design

The purpose of the open space plan for Bella Camino is to enhance community character and quality of life by providing connectivity and recreational opportunities for residents of all ages. See Exhibit G – Conceptual Open Space Plan. The conceptual plan shows common area open space, not including that which is part of the commercial site, totaling approximately 16.57 acres or twenty-three percent (23%) of the gross residential area. This amount exceeds the PAD requirement of eighteen percent (18%) as outlined in the Pinal County Development Services Code Chapter 2.176. The proposed recreation area open space will also exceed the seven percent (7%) requirement for projects with 0% - 5% slope with approximately 5.33 acres of recreation area open space or 7.5%.

Bella Camino is designed as a family oriented community with a variety of open space opportunities available to its residents. A balance of active (neighborhood park) and passive (pathway network) recreation areas that are highly visible and easily accessible have been designed to encourage community use and awareness. Areas utilized for drainage and retention will incorporate an informal or formal recreation element, where possible. The proposed open space design is in conformance with the Pinal County Open Space and Recreation Area Guideline Manual dated January 18, 2012 and per PDSC section 2.176.160B: Recreation areas shall be located and designed as community amenities and they shall be centrally located within the area they serve, they are internalized to the neighborhood(s) with access provided on a minimum of two sides at least 100 feet of local street frontage for each side and are on quarter minimum in acreage. The amenity programming, dimensions and acreages are shown on Exhibit F – Conceptual Landscape Plan. Open space programming will be finalized and submitted in detail during the preliminary plat process. All open space areas will be owned and maintained by the Bella Camino Homeowner's Association (HOA).

Neighborhood Park

A neighborhood park is planned for Bella Camino; that is one and a half acres and provides both passive and active recreation opportunities. All residents are located within a quarter of a mile or a three (3) to five (5) minute walk from an open space amenity, allowing for a great walkable community. See Exhibit E – Conceptual Parks. The neighborhood park is designed to provide both active and passive recreational activities, while also providing storage for storm water runoff in retention basins. The park will provide opportunities for people of all ages with appropriately scaled amenities which may include; ramadas, turfed open space, and tot lot play equipment. Within the neighborhood park (shown on Exhibit E-Conceptual Parks Plan) there will be one sport court. The type of the sport court will be decided at the time of tentative plat when there is a more clear understanding of the buyer profile. Where physical structures have been proposed, site grading will elevate those structures above the retention

basin to minimize nuisance flows and to keep those facilities more accessible. A minimum of 25% of the recreation area shall be high and dry and not used as retention / detention. Recreation areas will be easily visible and accessible and connected through the internal pathway system. The neighborhood park will be owned and maintained by the Bella Camino HOA.

Paths and Walks

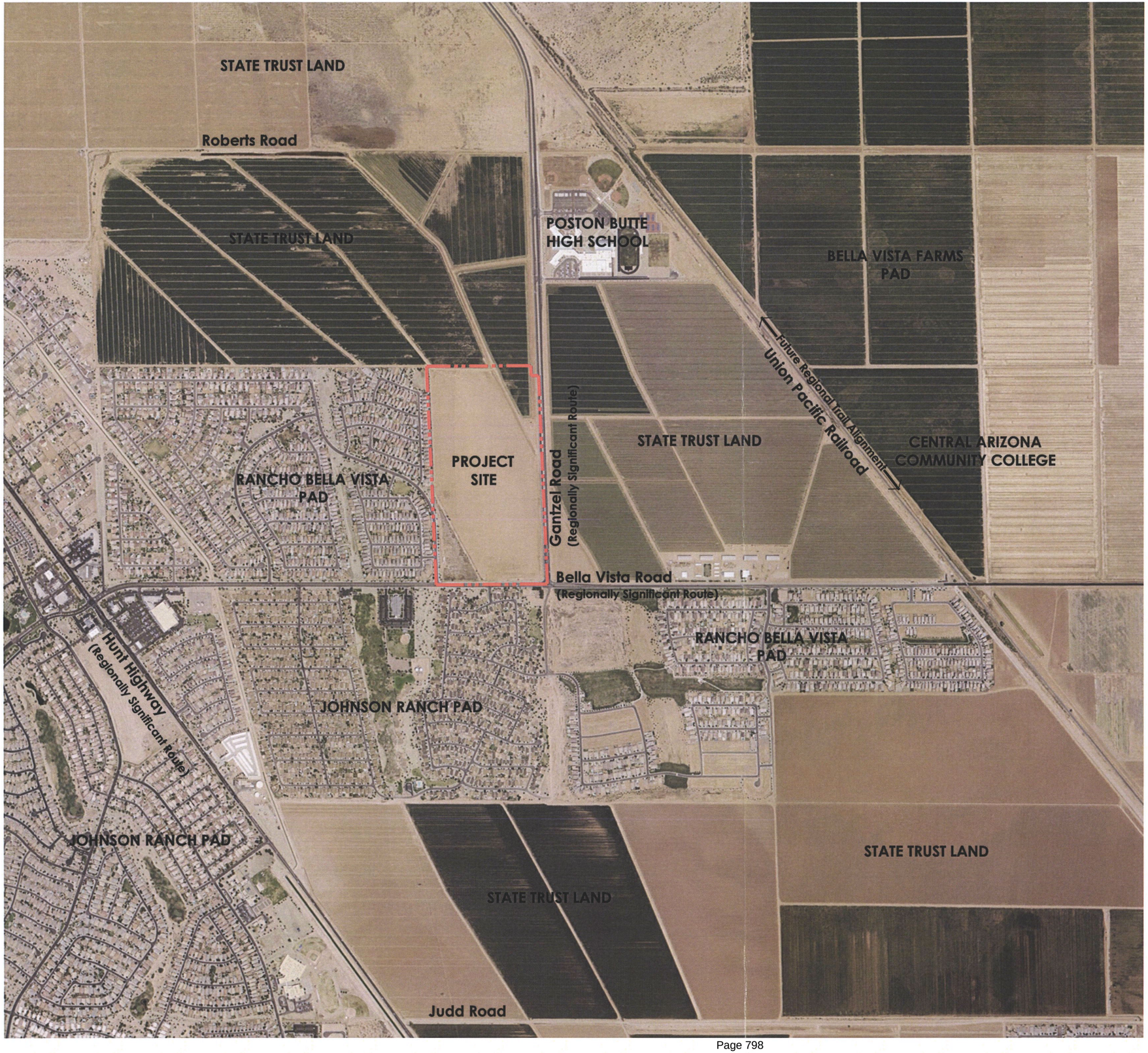
The land plan for Bella Camino has been designed to create a central linear open space that runs the length of the project that will accommodate a network of paths and sidewalks. This suburban linear pedestrian network will provide connectivity throughout the project connecting residents to the neighborhood parks and commercial corner, as well as encouraging an active and social lifestyle. The pathways will consist of a five (5) foot concrete path or a six (6) to eight (8) foot wide decomposed granite trail through open space corridors that are in conformance with Section 5 of the Multi-use Path and trail OSRAM Guidelines as outlined in Table 3 under the Suburban category for walking and hiking paths including among other criteria; minimum 25' corridors, minimum 5' width and landscape buffering. In addition, a four (4) foot sidewalk adjacent to the local rights-of-way. A continuous pedestrian connection is provided from the north end of the community to the southern edge.
(See Exhibit F – Conceptual Landscape Plan and Exhibit G – Path and Trail Sections).

CONCEPTUAL LANDSCAPE PLAN

The design intent of the landscaped open space at Bella Camino is to establish an overall unifying theme for the project, while making the open space visually appealing and accessible to residents. The internal open space system will be a blend of Sonoran Desert plant material, accented with activity nodes designed with turf elements and lush plant species. Visual interest and shade will be achieved using a combination of low water use trees, shrubs, groundcover and accents. Turf will be used at select locations. Enhanced landscaping at the project entrances will signify an arrival into the Bella Camino community. Landscape buffers along Bella Vista and Gantzel roads, as well as bordering the proposed commercial corner, will provide softness and help reduce noise impacts on the residential uses. The north east corner of the site will take on a more natural landscape form where the Sanoki Wash is being realigned and preserved. The overall landscape design will adhere to the landscape recommendations and guidelines as outlined in the Pinal County Open Space and Recreation Area Guideline Manual (OSRAGM) dated January 18, 2012. More detailed information regarding the landscape theme planned for Bella Camino can be found in Exhibit F – Conceptual Landscape Plan.

Bella Camino

OPEN SPACE / RECREATION PLAN CONTEXT MAP



LEGEND

PROJECT BOUNDARY

LEGAL DESCRIPTION

The East half of the Southeast quarter of Section 17, Township 3 South, Range 8 East, of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

Except the following described parcel:
The East 90.00 feet of the East half of the North 120.00 feet of the South half of Section 17, Township 3 South, Range 8 East of the Gila and Salt River Base and Meridian, Pinal County, Arizona.

north

0' 1200' 2400'

Scale: 1"=1200'

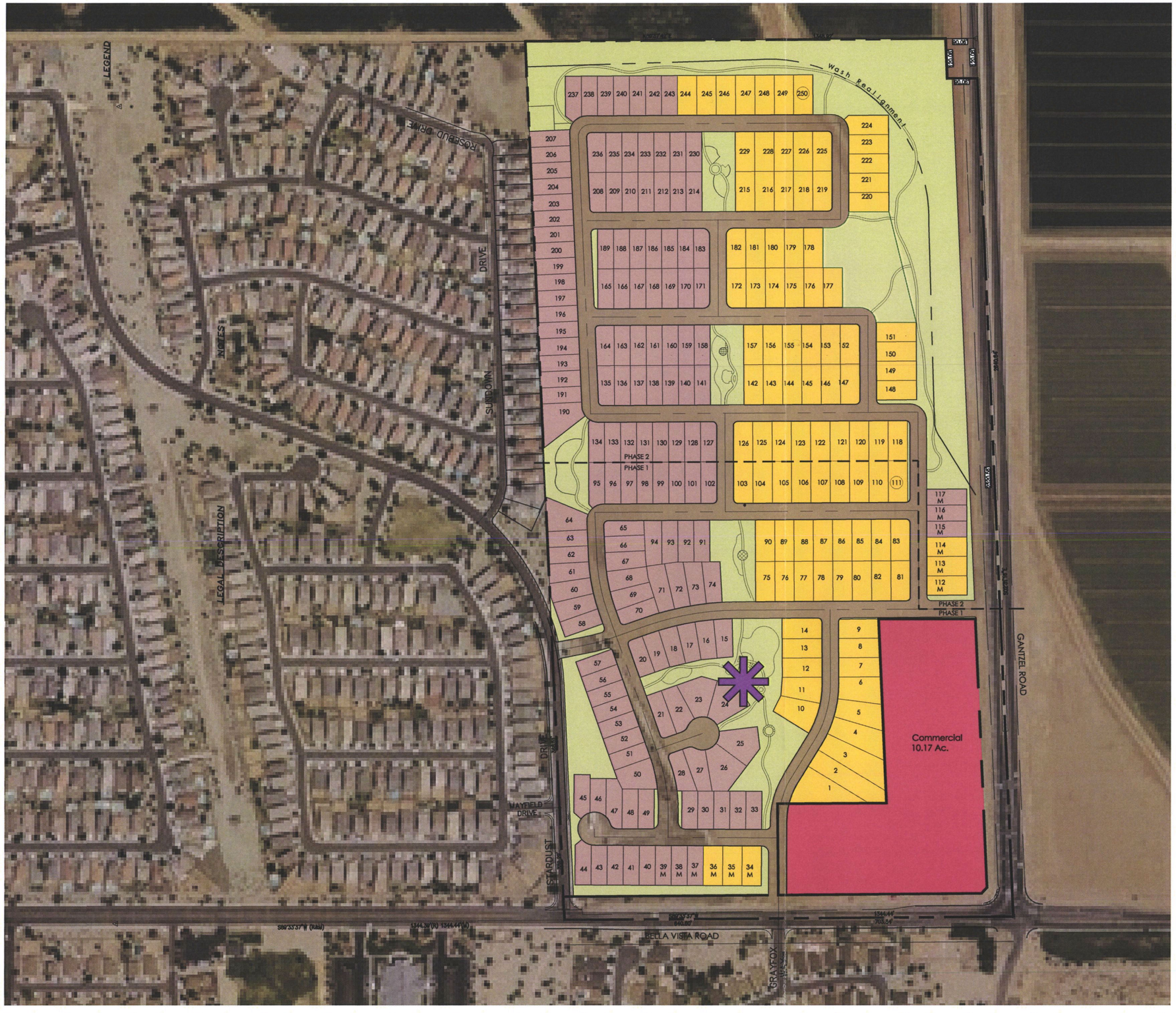
Date: 07.NOVEMBER.2013

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit A

Bella Camino

OPEN SPACE / RECREATION PLAN
CONCEPTUAL SITE PLAN



LEGEND

- R-7 PAD - PRODUCT TYPE A - 45' x 115'
- R-7 PAD - PRODUCT TYPE B - 55' x 120'
- C-1 PAD - NEIGHBORHOOD COMMERCIAL
- OPEN SPACE (23% or 16.57 Ac +/-)
- PEDESTRIAN PATH OR TRAIL
- NEIGHBORHOOD PARK ($\frac{1}{2}$ ACRE - 1 $\frac{1}{2}$ ACRES)

LAND USE SUMMARY

LAND USE DESIGNATION	ACRES	% OF GROSS ACRES	% OF GROSS RESIDENTIAL ACRES
Residential (R-7 PAD)	50.26	61.77%	70.60%
Open Space(1)	11.24	13.82%	15.79%
Open Space - Recreational Area (1)	5.33	6.55%	7.49%
Associated Arterial / Collector Roadway	4.36	5.36%	6.12%
Residential Developable Area	71.19	87.50%	100%
Commercial (C-1 PAD)	7.61	9.35%	
Associated Arterial / Collector Roadway	2.56	3.15%	
Commercial Developable Area	10.17	12.50%	
Gross Site Area	81.36	100.0%	
Total Arterial / Collector Roadway	6.92		
Project Yield		% OF LOTS	
48' x 115'	146	58.4%	
55' x 120'	104	41.6%	
Total Lot Yield	250	100.0%	
Total Allowed Yield	250		
Project Density	3.5		

(1) Total Open Space area for Bella Camino is approximately 23% based on Gross Residential Acres & Recreational Areas are approximately 7.5% based on Gross Residential Acres.

north

0' 300' 600'

Scale: 1"=300'

Date: 07.JANUARY.2014

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit B

ALTA/ACSM SURVEY

BEING THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA

SCHEDULE B EXCEPTIONS

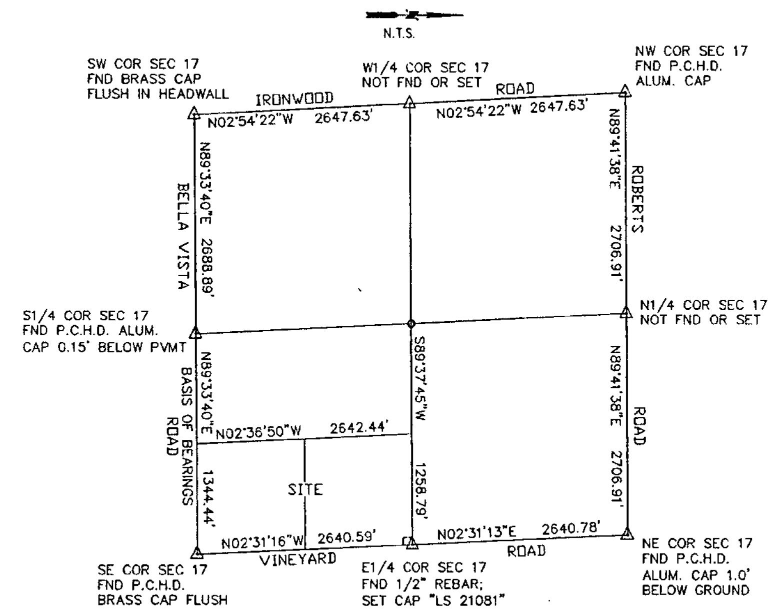
1. TAXES FOR THE FULL YEAR OF 2013. (THE FIRST HALF IS DUE OCTOBER 1, 2013 AND IS DELINQUENT NOVEMBER 1, 2013. THE SECOND HALF IS DUE MARCH 1, 2014 AND IS DELINQUENT MAY 1, 2014.)
2. ANY CHARGE UPON SAID LAND BY REASON OF ITS INCLUSION IN CENTRAL ARIZONA GROUND WATER REPLENISHMENT DISTRICT. (ALL ASSESSMENTS DUE AND PAYABLE ARE PAID.)
3. ANY CHARGE UPON SAID LAND BY REASON OF ITS INCLUSION IN CENTRAL ARIZONA WATER CONSERVATION DISTRICT. (ALL ASSESSMENTS DUE AND PAYABLE ARE PAID.)
4. ANY CHARGE UPON SAID LAND BY REASON OF ITS INCLUSION IN NEW MAGMA IRRIGATION AND DRAINAGE DISTRICT. (ALL ASSESSMENTS DUE AND PAYABLE ARE PAID.)
5. RESERVATIONS OR EXCEPTIONS IN PATENTS, OR IN ACTS AUTHORIZING THE ISSUANCE THEREOF.
6. RIGHT TO ENTER UPON TO PROSPECT FOR ALL OIL, GAS OTHER HYDROCARBON SUBSTANCES, HELIUM OR OTHER SUBSTANCES OF A GASEOUS NATURE, COAL, MINERALS, FOSSILS, FERTILIZER OF EVERY NAME AND DESCRIPTION, TOGETHER WITH ALL URANIUM, THORIUM, OR ANY OTHER MATERIAL WHICH IS OR MAY BE DETERMINED BY THE LAWS OF THE UNITED STATES, OR OF THIS STATE, OR DECISIONS OF THE COURT, TO BE PECULIARLY ESSENTIAL TO THE PRODUCTION OF FISSIONABLE MATERIAL, WHETHER OR NOT OF COMMERCIAL VALUE AND THE EXCLUSIVE RIGHT THERETO, ON, IN, OR UNDER THE ABOVE DESCRIBED LANDS, AS SET FORTH IN INSTRUMENT RECORDED IN DOCKET 903, PAGE 37.
7. THE TERMS AND PROVISIONS CONTAINED IN THE DOCUMENT ENTITLED "EASEMENT AGREEMENT" RECORDED AUGUST 26, 1998 AS 98-034487 OF OFFICIAL RECORDS. (PLOTTED HEREON)
8. ALL MATTERS AS SET FORTH IN AGREEMENT FOR ESTABLISHMENT OF A PORTION OF VINEYARD ROAD AS A COUNTY HIGHWAY, RECORDED JULY 10, 1997 AS 97-023719 OF OFFICIAL RECORDS. (NOT PLOTTED HEREON)
9. ALL MATTERS AS SET FORTH IN RESOLUTION 70997-VR, RECORDED JULY 10, 1997 AS 97-023721_OF OFFICIAL RECORDS. (PLOTTED HEREON)
10. ALL MATTERS AS SET FORTH IN RESOLUTION NO 020399- II, RECORDED FEBRUARY 09, 1999 AS 99-005759 OF OFFICIAL RECORDS. (BLANKET CABLE TV EASEMENT; NOT PLOTTED HEREON)
11. ALL MATTERS AS SET FORTH IN RESOLUTION NO. 050703-ELL, RECORDED MAY 13, 2003 AS 2003-031415 OF OFFICIAL RECORDS. (PLOTTED HEREON)
12. ALL MATTERS AS SET FORTH IN DECLARATION OF CONSTRUCTION AND REPAIR EASEMENT, RECORDED MAY 22, 2003 AS 2003-033697 OF OFFICIAL RECORDS. (PLOTTED HEREON)
13. ALL MATTERS AS SET FORTH IN ORDINANCE NO. 121207-AO1, RECORDED JANUARY 08, 2008 AS 2008-001862 OF OFFICIAL RECORDS. (NOT PLOTTED HEREON)
14. AN EASEMENT FOR PUBLIC HIGHWAY AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED AS DOCKET 66, PAGE 129. (PLOTTED HEREON)
15. AN EASEMENT FOR OVERHEAD, UNDERGROUND POWER AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED AS DOCKET 590, PAGE 562. (PLOTTED HEREON)
16. AN EASEMENT FOR ROADWAY, PUBLIC UTILITY AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED AS 2003-031423 OF OFFICIAL RECORDS. (PLOTTED HEREON)
17. AN EASEMENT FOR ROADWAY, PUBLIC UTILITY AND INCIDENTAL PURPOSES IN THE DOCUMENT RECORDED AS 2006-117360 OF OFFICIAL RECORDS. (PLOTTED HEREON)
18. SURVEY MATTERS DISCLOSED BY SPECIAL WARRANTY DEED RECORDED NOVEMBER 23, 2011 AS 2011-095252 OF OFFICIAL RECORDS AND RE-RECORDED AS DECEMBER 01, 2011 AS 2011-096871 OF OFFICIAL RECORDS AND RE-RECORDED AS JANUARY 05, 2012 AS 2012-000954 OF OFFICIAL RECORDS.
19. SURVEY MATTERS DISCLOSED BY SPECIAL WARRANTY DEED RECORDED OCTOBER 26, 2012 AS 2012-092609 OF OFFICIAL RECORDS.
20. ANY FACTS, RIGHTS, INTERESTS OR CLAIMS THAT MAY EXIST OR ARISE BY REASON OF THE FOLLOWING MATTERS DISCLOSED BY AN ALTA/ACSM SURVEY MADE BY TOP LINE ENGINEERING ON 6-21-13, DESIGNATED JOB NUMBER 130367.
21. THE RIGHTS OF PARTIES IN POSSESSION BY REASON OF ANY UNRECORDED LEASE OR LEASES OR MONTH TO MONTH TENANCIES AFFECTING ANY PORTION OF THE WITHIN DESCRIBED PROPERTY.
22. WATER RIGHTS, CLAIMS OR TITLE TO WATER, WHETHER OR NOT SHOWN BY THE PUBLIC RECORDS.

BASIS OF BEARING

BEING THE SOUTH LINE OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 NORTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA. ALSO BEING THE CENTERLINE OF BELLA VISTA ROAD.

BEARING SOUTH 89°33'40" WEST

SECTION 17, T3S, R8E



LEGEND

△	SECTION CORNER
⊛	BRASS CAP FLUSH
•	MONUMENT AS NOTED
Ⓢ	SANITARY SEWER MANHOLE
⊛	WELL HEAD
⊗	WATER VALVE
▼	FIBER-OPTIC MARKER
▬	GAS LINE MARKER
⋈	GAS VALVE
	ELECTRICAL JUNCTION BOX
	TRAFFIC SIGNAL BOX
	TRAFFIC SIGNAL
⊠	CABLE TV BOX
P.P.	POWER POLE
←	GUY WIRE
	SIGN
ENCR.	ENCROACHMENT
(C)	CALCULATED
(M)	MEASURED
(R)	RECORD PER CAB E SLD 39
P.C.H.D.	PINAL COUNTY HWY DEPT.
	MASONRY WALL
— — — —	EDGE OF PAVEMENT
	OVERHEAD ELECTRIC
	METAL RAIL FENCE
	SECTION LINE
	EASTMENT LINE
	PROPERTY BOUNDARY

AS-SURVEYED AREA

SITE AREA = 81.35 ACRES

RESIDENTIAL AREA = 73.83 ACRES

COMMERCIAL AREA = 7.52 ACRES

ALTA/ACSM LAND TITLE SURVEY

TO: FIRST AMERICAN TITLE INSURANCE COMPANY;
IRONWOOD 80, LLLP. AND HARVARD INVESTMENTS, INC.;

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS MAP, DRAWING OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE "MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/ ACSM LAND TITLE SURVEYS," JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS IN 2011, AND INCLUDES ITEMS 1-6, 7-19 AND 20-21 OF TABLE A THEREOF. PURSUANT TO THE ACCURACY STANDARDS AS ADOPTED BY THE ALTA AND NSPS AND IN EFFECT ON THE DATE OF THIS CERTIFICATION, UNDERSIGNED FURTHER CERTIFIES THAT IN MY PROFESSIONAL OPINION, AS A LAND SURVEYOR REGISTERED IN THE STATE OF ARIZONA THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY DOES NOT EXCEED THAT WHICH IS SPECIFIED THEREIN.

FIELD DATE: 06-21-13

[signature] AZ RLS 24532 6-28-13

REGISTERED LAND SURVEYOR REGISTRATION NO. DATE

PAD BOUNDARY

PARCEL NO. 1:

THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

EXCEPT THE FOLLOWING DESCRIBED PARCEL:

THE EAST 90.00 FEET OF THE EAST HALF OF THE NORTH 120.00 FEET OF THE SOUTH HALF OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA;

PARCEL NO. 2:

THE SOUTHEAST QUARTERR OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA.

ZONING DISTRICT 1 (RESIDENTIAL)

LEGAL DESCRIPTION
ZONING DISTRICT 1 (RESIDENTIAL)
TO WIT--

BEING A PORTION OF THE E ½ OF THE SE ¼ OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING FROM THE SE CORNER OF SAID SECTION 17;

THENCE S89°33'40"W, BEING THE BASIS OF BEARINGS OF HEREIN DESCRIBED PARCEL, 365.27 FT. ALONG THE SOUTH BOUNDARY OF SAID SECTION TO THE TRUE POINT OF BEGINNING;

THENCE CONTINUING, S89°33'37"W, ALONG SAID SOUTH BOUNDARY, 979.17 FT. TO THE EAST 16TH CORNER BETWEEN SAID SECTION 17 AND SECTION 20;

THENCE N02°36'50"W, 2,642.44 FT. ALONG THE N-S CENTERLINE OF THE SE ¼ OF SAID SECTION TO THE E 1/16TH ON THE E-W CENTERLINE OF SAID SECTION;

THENCE N89°37'42"E, 1,258.79 FT. ALONG SAID E-W CENTERLINE;

THENCE S02°31'16"E, 120.00 FT.;

THENCE N89°37'42"E, 90.00 FT. TO A POINT ON THE EAST BOUNDARY OF SAID SECTION;

THENCE S02°31'16"E, 2,520.59 FT. ALONG SAID EAST BOUNDARY;

THENCE S87°28'44"W, 365.27 FT.;

THENCE S02°31'16"E, 898.96 FT. TO THE TRUE POINT OF BEGINNING AND CONTAINING 73.83 ACRES MORE OR LESS.

ZONING DISTRICT 2 (COMMERCIAL)

LEGAL DESCRIPTION
ZONING DISTRICT 2 (COMMERCIAL)
TO WIT--

BEING A PORTION OF THE E1/2 OF THE SE1/4 OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING FROM THE SE CORNER OF SAID SECTION 17;

THENCE S89°33'40" W, BEING THE BASIS OF BEARINGS OF HEREIN DESCRIBED PARCEL, 365.27 FT. ALONG THE SOUTH BOUNDARY OF SAID SECTION TO THE SW CORNER OF HEREIN DESCRIBED PARCEL;

THENCE, N02°31'16" W, 898.68 FT. TO THE NW CORNER OF HEREIN DESCRIBED PARCEL;

THENCE, N87°28'44" E, 365.27FT. TO A POINT ON THE EAST BOUNDARY OF SAID SECTION AND BEING THE NE CORNER OF SAID HEREIN DESCRIBED PARCEL;

THENCE, S02°31'16" E, 898.01 FT. ALONG SAID EAST BOUNDARY OF SAID SECTION TO THE POINT OF BEGINNING AND CONTAINING 7.52 ACRES MORE OR LESS.

OPEN SPACE / RECREATION PLAN
ALTA
Exhibit C

REV. NO. DESCRIPTION

TOP LINE ENGINEERING
• ENGINEERING • URBAN DESIGN • LAND SURVEYING • CONSTRUCTION SURVEYING
4711 EAST FALCON DRIVE, SUITE 354 MESA, ARIZONA 85215 (480) 969-5822 TEL (480) 969-3682 FAX

ALTA/ACSM SURVEY
BEING THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA

OWNER
IRONWOOD 80, LLLP AND HARVARD INVESTMENTS, INC.

CALL 2 WORKING DAYS BEFORE YOU DIG 1-800-STAKE-IT

DESIGN: PWR
DRAWN: TB

Registered Land Surveyor CERTIFICATE NO. 24532 PHILLIP W. ROSENDAHL 6-28-13 ARIZONA U.S.A.
EXP: 3/31/2016

PROJECT NO. 130637
DATE: 6-27-13
SHEET 1 OF 2

P:\2013\130637 Harvard Inv\dwg\Sur\ 130637 ALTA.dwg - Jun 28,2013 3:15pm

ALTA/ACSM SURVEY

BEING THE EAST HALF OF THE SOUTHEAST QUARTER
SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF
THE GILA AND SALT RIVER BASE AND MERIDIAN,
PINAL COUNTY, ARIZONA

(IN FEET)
1 inch = 100 ft.

ACCEPTED S1/4 COR SEC 17
FND P.C.H.D. ALUM.
CAP 0.15' BELOW PVMT

S89°33'40"W
1344.34'(M)

RANCHO BELLA VISTA UNIT 2
CABINET E, SLIDE 39
NOT A PART

MAYFIELD DRIVE

STARDUST DRIVE

PAVED ROAD

CURB & GUTTER
W/5' SIDEWALK

TRACT UUU

N02°36'50"W 2642.44'(M)

1321.22'

SUNDOWN DRIVE

ROSEBUD DRIVE

TRACT TTT

765 767 766 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789

FND P.K. NAIL
W/TAG "LS 21081"

BELLA VISTA ROAD

WELL SITE

30' ROADWAY & PUBLIC
UTILITY ESMT PER
DOC #2003-031415 (11)
DOC #2003-031423 (16)

EDGE OF
LANDSCAPING

(12) 20' SLOPE & TEMP.
CONSTR. ESMT PER
DOC #2003-033697

0.3' WALL
ENCR.

DIRT ROAD

20' SLOPE & TEMP.
CONSTR. ESMT PER (12)
DOC #2003-033697

0.2' WALL
ENCR.

0.4' FENCE
ENCR.

CONC. IRRIG. DITCH

FND 1/2" REBAR
W/CAP "LS
21081"

CONC. IRRIG. DITCH

CHAINLINK
FENCE

WELL SITE

CHAINLINK
FENCE

7' ELEC ESMT PER
DKT 590, PG 562 (13)

DIRT ROAD

ABANDONED CONC.
IRRIG. DITCH

ABANDONED CONC.
IRRIG. DITCH

RESIDENTIAL ZONING
AREA = 73.83 ACRES

PARCEL 1
VACANT LAND

DIRT ROAD

40'

(7) 20' INGRESS/EGRESS ESMT
PER DOC #98-034487

ROBERTS ROAD

1258.79'
N89°37'42"E 1348.92'(M)

STATE LAND

7' ELEC ESMT PER
DKT 590, PG 562 (15)

24" PIPES

GRAYFOX
WAY

BRASS CAP FLUSH

EDGE OF PVMT

BASIS OF BEARINGS

S89°33'40"W
1344.44'(M)

PARECL 2
VACANT LAND

1346.66'
N89°35'43"E

40' HWY ESMT PER
DKT 66, PG 129 (14)

7' ELEC ESMT PER
DKT 590, PG 562 (15)

N02°31'16"W
898.68'

CURB & GUTTER

COMMERCIAL ZONING
AREA = 7.52 ACRES

365.27'

N87°28'44"E

75' ROADWAY
AND UTILITY ESMT (15)
DOC #2006-117360

40' COUNTY ROADWAY (9)
PER DOC #97-023721

20' INGRESS/EGRESS ESMT (7)
PER DOC #98-034487

DIRT ROAD

DIRT IRRIGATION DITCH

DIRT ROAD

S02°31'16"E 120.00'

FND 1/2" REBAR
W/CAP "LS 21081"

FND 1/2" REBAR
W/CAP "LS 21081"

90' X 120'
EXCEPTION

CONC. IRRIG. DITCH

WATER BLOW-
OFF VALVE

DIRT ROAD

N89°37'42"E 90.00'

EDGE OF PVMT

RETENTION BASIN

RETENTION BASIN

N89°37'42"E 90.00'

1200.26'

422.26'

896.01'

N02°31'16"W 2640.59'(M)

VINEYARD ROAD

DIRT TRAFFIC
MEDIAN

24" IRRIG. PIPE

24" IRRIG. PIPE

FND 1/2" REBAR
W/CAP "LS 21081"

ACCEPTED E1/4 COR SEC 17
FND 1/2" REBAR;
W/CAP "LS 21081"

SE COR SEC 17
FND P.C.H.D.
BRASS CAP FLUSH

OPEN SPACE / RECREATION PLAN
ALTA
Exhibit C

REV. NO.	DESCRIPTION

TOPLINE ENGINEERING
• ENGINEERING • LAND SURVEYING
• URBAN DESIGN • CONSTRUCTION SURVEYING
4711 EAST FALCON DRIVE, SUITE 354 (480) 969-5822 TEL
MESA, ARIZONA 85215 (480) 969-5662 FAX

ALTA/ACSM SURVEY

BEING THE EAST HALF OF THE SOUTHEAST QUARTER OF SECTION 17, TOWNSHIP 3 SOUTH, RANGE 8 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, PINAL COUNTY, ARIZONA

OWNER
IRONWOOD 80, LLLP AND
HARVARD INVESTMENTS, INC.

CALL 2 WORKING DAYS BEFORE YOU DIG
ARIZONA BLUE STAKE, INC.
1-800-STAKE-IT
(602) 263-1100

DESIGN: PWR
DRAWN: TB

CERTIFICATE NO.
24532
PHILLIP W.
ROSENDAHL
ARIZONA U.S.A.
EXP: 3/31/2016

PROJECT NO.
130637
DATE: 6-27-13

SHEET
2 OF 2

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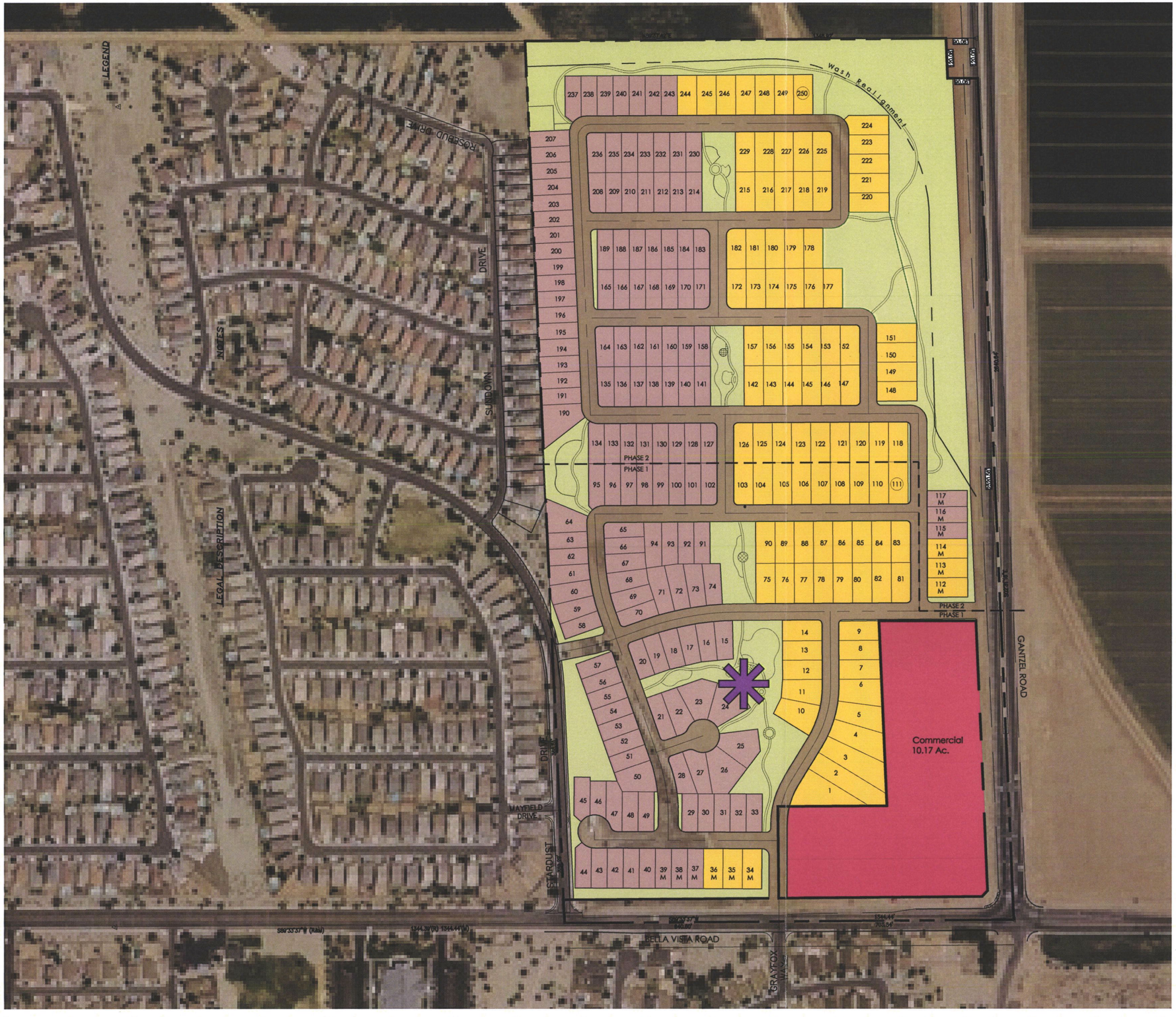
Bella Camino

OPEN SPACE /RECREATION PLAN
CONCEPTUAL OPEN SPACE PLAN



LEGEND

- OPEN SPACE (23% or 16.57 Ac +/-)
- PEDESTRIAN PATH OR TRAIL
- NEIGHBORHOOD PARK ($\frac{1}{2}$ ACRE - 1 $\frac{1}{2}$ ACRES)

LAND USE SUMMARY

LAND USE DESIGNATION	ACRES	% OF GROSS ACRES	% OF GROSS RESIDENTIAL ACRES
Residential (R-7 PAD)	50.26	61.77%	70.60%
Open Space(1)	11.24	13.82%	15.79%
Open Space - Recreational Area (1)	5.33	6.55%	7.49%
Associated Arterial / Collector Roadway	4.36	5.36%	6.12%
Residential Developable Area	71.19	87.50%	100%
Commercial (C-1 PAD)	7.61	9.35%	
Associated Arterial / Collector Roadway	2.56	3.15%	
Commercial Developable Area	10.17	12.50%	
Gross Site Area	81.36	100.0%	
Total Arterial / Collector Roadway	6.92		
Project Yield		% OF LOTS	
48' x 115'	146	58.4%	
55' x 120'	104	41.6%	
Total Lot Yield	250	100.0%	
Total Allowed Yield	250		
Project Density	3.5		

(1) Total Open Space area for Bella Camino is approximately 23% based on Gross Residential Acres & Recreational Areas are approximately 7.5% based on Gross Residential Acres.

north

0' 300' 600'

Scale: 1"=300'

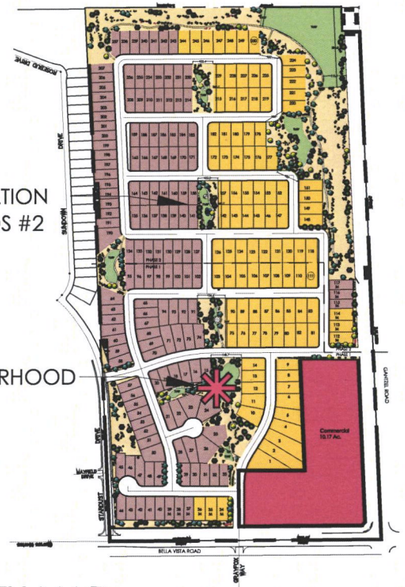
Date: 07.JANUARY.2014

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit D

Bella Camino

OPEN SPACE / RECREATION PLAN
CONCEPTUAL PARK & RECREATION OPEN SPACE

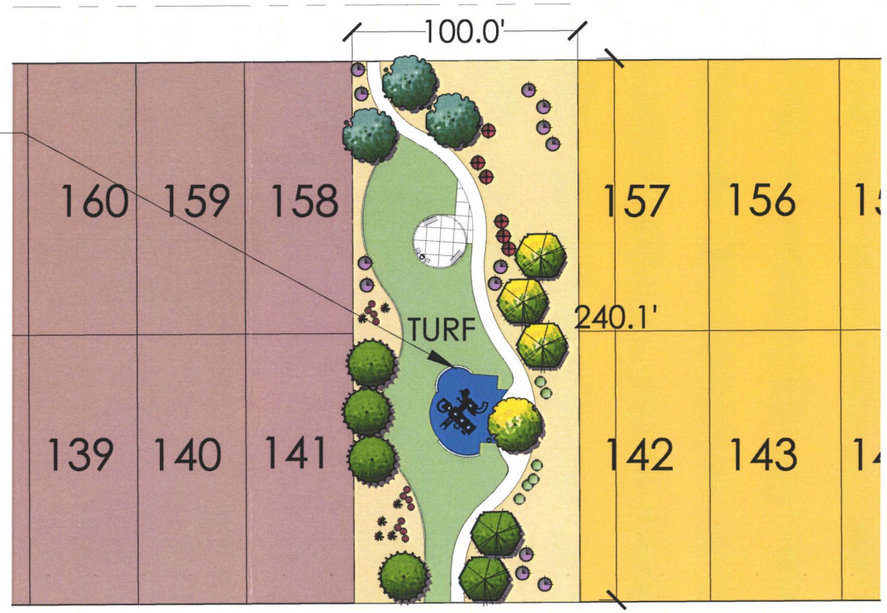


KEY MAP

RECREATION AREA OS #2

TOT LOT
- Shade Cover Play Structure
- Benches
- Trash Receptacle

Minimum 100'x240'
0.55 Acres



NEIGHBORHOOD PARK

RAMADA
- Picnic Tables
- Grill
- Trash Receptacle

TOT LOT
- Shade Cover
- Benches
- Trash Receptacle

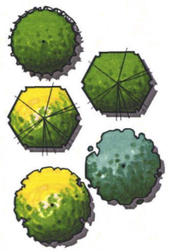
Linear Path
- Turf Area

Sport Court

Minimum 100' Openings on two streets.
2.15 Acres

CONCEPTUAL LANDSCAPE PALETTE

All tree sizes to meet or exceed Arizona Nurseryman Association (ANA) Specifications



TREES		
Item		Size
Acacia stenophylla	Shoestring Acacia	15 GAL. MIN Multi Trunk
Chilopsis linearis 'Warren Jones'	Desert Willow	15 GAL. MIN. Multi Trunk
Parkinsonia praecox	Palo Brea	24" box Multi Trunk
Prosopis velutina	Native Mesquite	24" Box Multi Trunk
Parkinsonia 'Desert Museum'	Desert Museum Palo Verde	24" box Std. Trunk

SHRUBS		
Item		Size
Caesalpinia pulcherrima	Red Bird of Paradise	5 gal.
Eremophila maculata	Valentine Bush	5 gal.
Leucophyllum laevigatum	Chihuahuan Sage	5 gal.
Ruellia peninsularis	Desert Ruellia	5 gal.
Simmondsia chinensis	Jojoba	5 gal.

ACCENTS AND GRASSES		
Item		Size
Agave americana	Century Plant	5 gal.
Hesperaloe parviflora	Red Yucca	5 gal.

GROUNDCOVERS AND PERENNIALS		
Item		Size
Acacia redolens	Desert Carpet	1 gal.
Lantana 'Dallas Red'	Dallas Red Lantana	1 gal.
Lantana ' New Gold'	New Gold Lantana	1 gal.
Rosmarinus officinalis 'Prostratum'	Prostrate Rosemary	1 gal.

MISCELLANEOUS		
Item		Size
Concrete Header		6"x6"
Decomposed Granite - 'Saddleback Brown'		3/4" screened 2" Minimum Depth
Turf - 'Mid Iron' Bermuda Sod		

GROUND SURFACE TREATMENTS

TRAILS: DECOMPOSED GRANITE OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

TOT LOTS: SAND OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

north

0' 60' 120'

Scale: 1"=60'

Date: 07.JANUARY.2014

HADLEY DESIGN GROUP
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Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit E

Bella Camino

OPEN SPACE / RECREATION PLAN
CONCEPTUAL LANDSCAPE PLAN

LAND USE SUMMARY

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Total Allowed Yield	250		
Project Density	3.5		

(1) Total Open Space area for Bella Camino is approximately 23% based on Gross Residential Acres & Recreational Areas are approximately 7.5% based on Gross Residential Acres.

REQUIRED PLANT QUANTITIES

TREES

Required:	1 Tree per 1,000 square feet of open space
Minimum Size:	15 gallon with 25% of trees to be 24" Box
Estimate Square Feet of Area:	19.8 Ac. x 43,560 = 862,488
Estimate Square Feet of Area:	862,488 square feet / 1,000 = 862 Trees Required

TREES FOR STREETSCAPES AND ENTRYWAYS

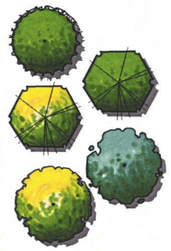
Required:	1 Tree per 1,000 square feet of open space
Minimum Size:	15 gallon with 25% of trees to be 24" Box
Estimate Square Feet of Area:	1.9 Ac. x 43,560 = 82,764
Estimate Square Feet of Area:	82,764 square feet / 1,000 = 83 Trees Required

GENERAL NOTES

1. All five (5) gallon shrubs shall be planted at a rate of five (5) shrubs per 30 feet of linear street frontage.
2. Five (5) gallon shrubs within recreation areas shall be planted at a rate of seven (7) shrubs per 1,000 square feet of surface area provided.
3. The minimum number of trees required shall be planted per the Open Space and Recreation Area Manual.
4. Twenty-Five percent (25%) of the trees shall be at least 24-Inch Box trees.
5. Decorative design elements such as: benches and paving accents shall be provided where appropriate to enhance open space areas.
6. A vegetative salvage plan does not apply on this site due to historic farming.
7. There is no Conservtion Open Space within this site.
8. Location of water outlets will be provided during the construction documents process and will meet the minimum standards and specifications for the material of the Arizona Nurserymen's Association or Arizona Association of Nurserymen.
9. Riparian vegetation and biological habitats are not present on this site.

CONCEPTUAL LANDSCAPE PALETTE

All tree sizes to meet or exceed Arizona Nurseryman Association (ANA) Specifications



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TOT LOTS:	SAND OR ALTERNATE MATERIAL APPROVED BY THE PLANNING DIRECTOR.

north

0' 300' 600'

Scale: 1"=300'

Date: 07.JANUARY.2014

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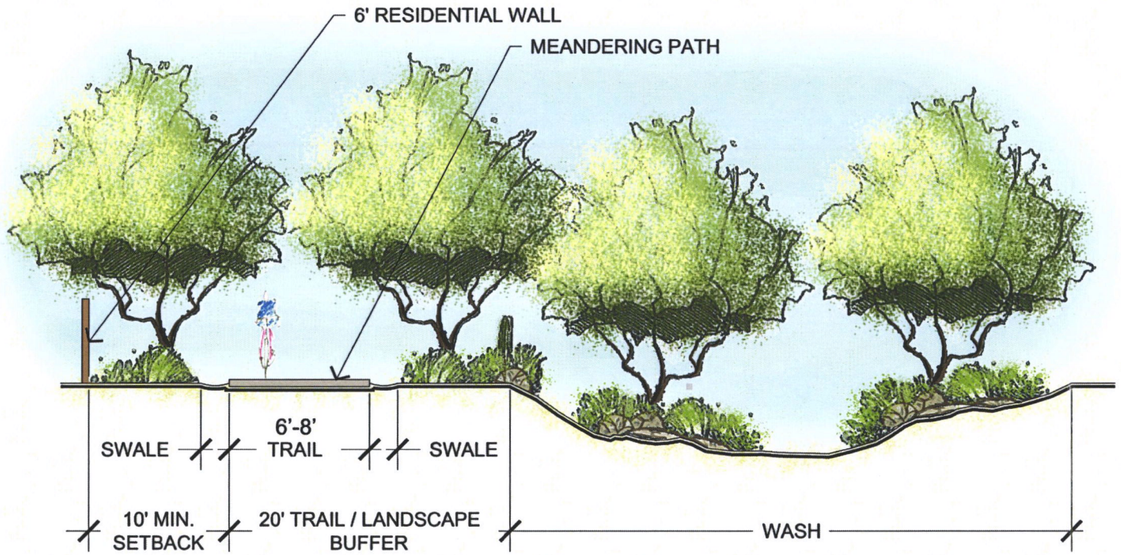
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

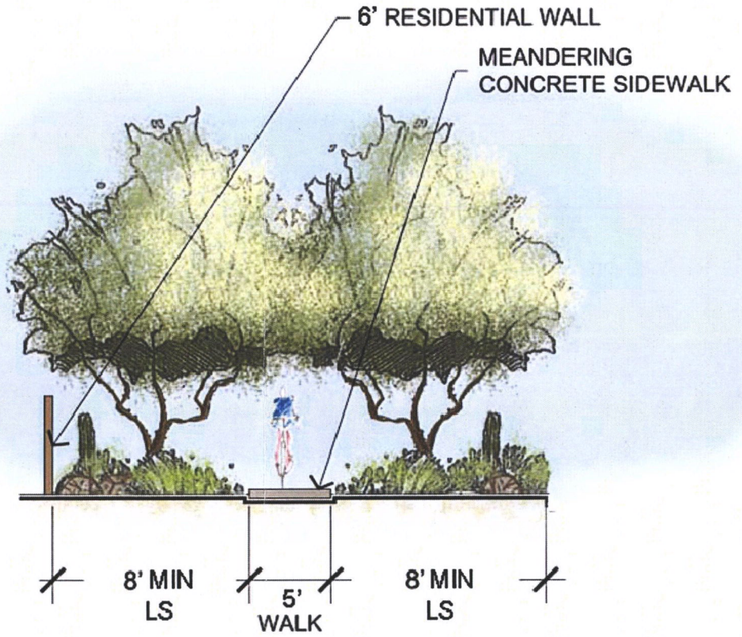
Exhibit F

Bella Camino

OPEN SPACE / RECREATION PLAN
CONCEPTUAL PATH & TRAILS SECTIONS



TYPICAL SANOKI WASH PATH & TRAIL



TYPICAL PATH

NOT TO SCALE

Date: 07.NOVEMBER.2013

HADLEY DESIGN GROUP
7400 E. McDonald Dr. Suite 122
Scottsdale, Arizona 85250
Tel. 480.478.0096 Fax. 480.478.0097
www.hadleydesigngroup.com

Exhibit G

APPENDIX

Appendix A – Arizona State Museum (ASM) Letter

PALEOWEST
archaeology

602.261.7253 | paleowest.com | 649 North 3rd Avenue | Phoenix, AZ 85003

June 28, 2013

Chris Haas
Project Manager
Atwell, LLC

Via email

RE: A Class I Cultural Resources Study for the Bella Camino Development, Pinal County, Arizona

Dear Mr. Haas:

PaleoWest has conducted a Class I Cultural Resources Study for the Bella Camino development in Pinal County, Arizona. A review of the AZSITE database maintained by the Arizona State Museum was conducted to identify previous archaeological investigations and recorded archaeological and historical sites within a quarter-mile proximity to the project area. These records indicate that three archaeological surveys have been previously conducted within this quarter-mile study radius (see the attached figure and table). No archaeological sites are within the study radius.

Based on this study, the Bella Camino development does not appear to be in an area of high archaeological sensitivity. Please let me know if you have any questions about this information.

Sincerely,

Douglas R. Mitchell
Vice President/Senior Archaeologist

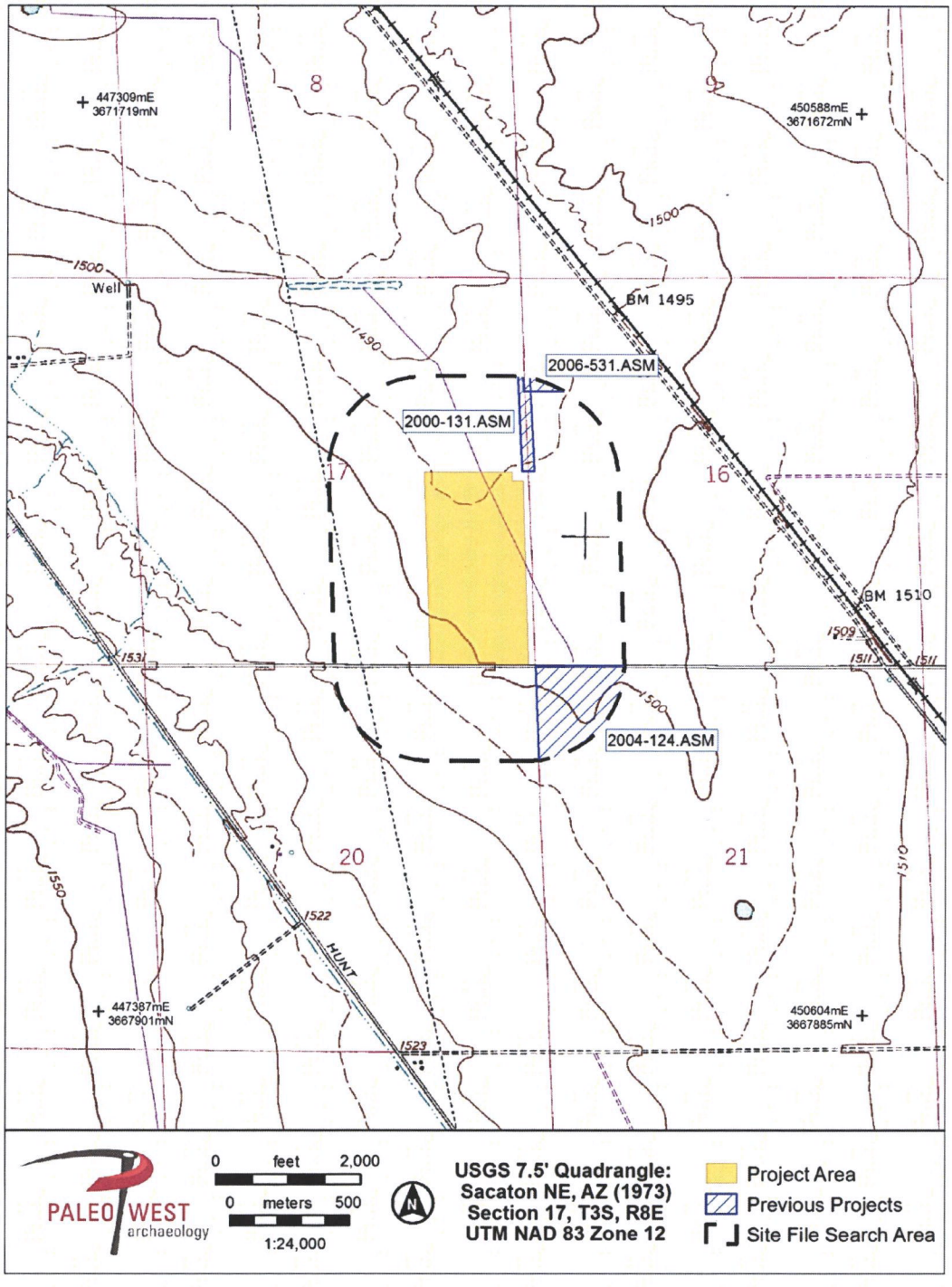


Table 1. Previous Surveys Conducted in the Study Radius

Project No.	Description	In Project Area?	Reference
2000-131.ASM	Road survey	No	Slawson 2000
2004-124.ASM	No information available	No	--
2006-531.ASM	Development survey	No	Gage 2006

Note: ASM – Arizona State Museum

CivTech

December 10, 2013

Mr. Tim Brislin
Vice President
Ironwood 80
17700 N. Pacesetter Way, Suite 100
Scottsdale, Arizona 85255
Email: tbrislin@harvardinvestments.com
Phone: (480) 515-3255

Registered Professional Engineer (Civil) CERTIFICATE NO. 16255 JOSEPH F. SPADAFINO Date Signed 12/10/13 ARIZONA U.S.A. Expires 6/30/2016

Re: ***Preliminary Traffic Impact Analysis for Bella Camino – Pinal County, Arizona*** (CivTech #13-830)

Dear Mr. Brislin:

CivTech Inc. was retained to prepare a preliminary traffic impact analysis (PTIA) for the Bella Camino development located in the unincorporated boundaries of Pinal County, Arizona. The proposed development includes 250 single family dwelling units and 10.17 acres of commercial area. This preliminary traffic statement will address the proposed ingress/egress locations and spacing, the trip generation for the proposed site, the trip distribution including the number of new trips to the adjacent street and compliance with the *Regionally Significant Roadways for Safety and Mobility (RSRSM)*.

PROPOSED DEVELOPMENT

The proposed development encompasses approximately 81.36 acres in the northwest corner of the intersection of Gantzel Road and Bella Vista Road in Pinal County, Arizona. The Bella Camino residential subdivision will include 250 single family dwelling units on 71.19 acres and 10.17 net acres of commercial is reserved for the immediate corner of the intersection. Per the site plan provided, access to the residential subdivision will be obtained from two access points, one on Gantzel Road and one on Bella Vista Road. The access on Bella Vista Road is proposed to align with an existing residential street, Gray Fox Way, located south of Bella Vista Road. A site plan for the commercial parcel has not been prepared; two driveways, both restricting left turns out, one on each of the fronting streets have been assumed. The proposed site plan for the Bella Camino subdivision is attached as **Exhibit A.**

EXISTING ROADWAY CONDITIONS

The proposed development has direct access to Gantzel Road and Bella Vista Road, which are both Regionally Significant Routes as explained within the *Regionally Significant Roadways for Safety and Mobility (RSRSM)*.

Bella Vista Road is an east-west two (2) lane roadway with one (1) lane of travel in each direction in the vicinity of the development. Bella Vista Road between Gantzel Road and Hunt Highway has four lanes with two in each direction and a TWLTL throughout most of this section. Bella Vista Road begins to the west at Hunt Highway and travels eastbound terminating at

Sierra Vista Drive. Bella Vista Road is classified as a principal arterial in the *Pinal County Comprehensive Plan, November 2009* and as a RSR within the *2008 RSRSM.*

Gantzel Road is a predominantly north-south four (4) lane roadway with unpaved median and two (2) lanes of travel in each direction. Near its intersection with Bella Vista Road, Gantzel Road is striped with one lane in each direction. Gantzel Road/Ironwood Road is classified as a principal arterial in the *Pinal County Comprehensive Plan, November 2009* and as a RSR within the *2008 RSRSM.*

The intersection of ***Gantzel Road and Bella Vista Road*** is a signalized, four-legged intersection. The west- and southbound approaches consist of a shared left-turn-through lane and an exclusive right-turn lane. Both approaches also have pavement width to separate the left turn and through movements for future use. The eastbound approach consists of an exclusive left-turn lane and a shared through-right-turn lane. The northbound approach consists of a shared left-through-right-turn lane. All approaches have permitted left-turn phasing.

TRIP GENERATION

The trip generation was estimated utilizing the Institute of Transportation Engineers (ITE) *Trip Generation, 9th Edition. Trip Generation* contains data collected by various transportation professionals for a wide range of different land uses. The data summarized in the report includes average rates and equations that have been established correlating the relationship between an independent variable that describes the development size and generated trips for each categorized land use. The report provides information for daily and peak hour trips.

Land use code (LUC) 210, single family detaching housing was utilized to generate trips for the proposed residential subdivision. To estimate trips for the 10.17 acre commercial parcel, a floor area ratio (FAR) of approximately twenty percent was assumed resulting in 88,000 square feet of building area. Land use code (LUC) 820, shopping center, was utilized to estimate the trips for the commercial parcel based on the assumption of 88,000 square feet.

Weekday generated trips for are summarized in **Table 1**. Detailed trip generation worksheets have been included as **Exhibit B**.

Table 1 – Weekday Trip Generation

Land Use	ITE LUC	Size		Weekday Generated Trips						
				Daily	AM Peak Hour			PM Peak Hour		
		Quantity	Units	Total	Enter	Exit	Total	Enter	Exit	Total
Homes	210	250	DU	2,380	47	141	188	158	92	250
Shopping Center	820	88,000	SF	6,250	90	55	145	264	286	550
Total Trips				**8,630**	**137**	**196**	**333**	**422**	**378**	**800**
Interaction/Internal Capture			*Differences*	*(432)*	*(14)*	*(19)*	*(33)*	*(42)*	*(38)*	*(80)*
Total External Trips				**8,198**	**123**	**177**	**300**	**380**	**340**	**720**
Pass-by Trips			*Differences*	*(312)*				*(93)*	*(93)*	*(186)*
Total "New" External Trips				**7,886**	**123**	**177**	**300**	**287**	**247**	**534**

[1]New trips are the trips estimated to be added to the street system after accounting for pass-by trips, which are trips already on the street system that decide to visit a land use.

TRIP DISTRIBUTION

It is expected that the proposed development would produce trips based on future employment within a 10-mile radius of the site. Future total employment within the 10 mile radius of the site, as predicted by the 2020 socio-economic data, compiled by the Central Arizona Association of Governments (CAAG) and the Maricopa Association of Governments (MAG), was used as a basis to estimate trip distribution. Trips generated by the site were distributed to the roadway network as described in **Table 2** for the residential land use.

Table 2 – Trip Distribution for Residential Land Use

Roadway	Direction (To/From)	Distribution Percentage
Gantzel Road	North of development	40%
Bella Vista Road	West of development	45%
Bella Vista Road	East of Gantzel Road	15%
Total		**100%**

Trips to and from the commercial parcel are expected to originate from nearby residential areas and therefore results in a different distribution than the residential land use. The trip distribution assumed for the commercial parcel is summarized in **Table 3**.

Table 3 – Trip Distribution for Commercial Parcel

Roadway	Direction (From)	Distribution Percentage
Gantzel Road	North of development	35%
Bella Vista Road	West of development	40%
Bella Vista Road	East of Gantzel Road	25%
Total		**100%**

TRIP ASSIGNMENT

It is expected that site generated trips will use the major roadways within the vicinity of the site to travel to/from their destinations. Trips generated by the proposed development were applied to the roadway network according to the trip distribution (summarized in **Table 2** and **Table 3**) based on anticipated routes to/from the site. The assignment of site-generated trips to the adjacent roadways is illustrated in **Exhibit C**. The locations of the access points for the commercial parcel shown in the exhibit only approximate the minimal future driveway configuration, that is, one driveway along each of the site's frontages. These driveways are shown only to better illustrate the distribution of commercial trips to the intersection of Gantzel Road and Bella Vista Road and are not intended to fix their locations; required driveway spacing is discussed below.

SITE ACCESSES

Residential. The proposed residential development has two access points, one on Gantzel Road and one on Bella Vista Road. Gantzel Road and Bella Vista Road are both Regionally Significant Routes (RSR) as explained within the *Regionally Significant Roadways for Safety and Mobility (RSRSM)*. Because the proposed access points intersect roads identified as RSRs, design standards in Pinal County's RSRSM must be followed. The standards state that publicly dedicated roadways should be spaced at ¼ mile to ½ mile spacing. For this development, an exception is needed due to the minimum frontage on Bella Vista Road. Moreover, the access on Bella Vista Road is proposed to align with an existing residential street, Gray Fox Way, located south of Bella Vista Road. The location of a wash in the northeast corner of the site limits the location of the access point on Gantzel Road.

Commercial. When the commercial parcel is developed, the driveway spacing criteria in the RSRSM should be followed. The criteria requires 660 feet for a full access driveway from a signal, 330 feet for a partial access driveway from a signal, and 330 feet between the driveways. For parcels with short frontage, proposed driveways with spacing less than 330 feet may be considered case by case. The partial driveways may be developed with right-in, right-out, and left-in movements as long as the left-in from Gantzel Road does not conflict with the signalized intersection of Gantzel Road and Bella Vista Road.

CONCLUSIONS

- The proposed residential subdivision will generate approximately 2,380 weekday daily trips with 188 occurring during the AM peak hour and 250 occurring during the PM peak hour. With the addition of the commercial parcel, the total new trips for the entire development are expected to be 7,886 new weekday trips with 300 occurring during the AM peak hour and 534 occurring during the PM peak hour.

- The proposed development has direct access to Gantzel Road and Bella Vista Road, which are both Regionally Significant Routes (RSR) as explained within the *Regionally Significant Roadways for Safety and Mobility (RSRSM)*. Because the proposed access points intersect roads identified as RSRs, design standards in Pinal County's RSRSM must be followed.

- For this development, an exception is needed due to the minimum frontage on Bella Vista Road. To minimize access points along Bella Vista Road, the residential access is proposed to align with an existing residential street, Gray Fox Way, located south of Bella Vista Road. The location of a wash in the northeast corner of the site limits the location of the access point on Gantzel Road.

- When the commercial parcel is developed, the driveway spacing criteria in the RSRSM should be followed. The criteria require 660 feet for a full access driveway from a signal, 330 feet for a partial access driveway from a signal, and 330 feet between the driveways. For parcels with short frontage, proposed driveways with spacing less than 330 feet may be considered case by case. The partial driveways may be developed with right-in, right-out, and left-in movements as long as the left-in from Gantzel Road does not conflict with the signalized intersection of Gantzel Road and Bella Vista Road.

Should you wish to discuss this information further, please contact me at (480) 659-4250.

Sincerely,

CivTech

Joseph F. Spadafino, P.E., PTOE
Project Manager/Senior Traffic Engineer

President

Attachments:
Exhibit A – Site Plan and Access
Exhibit B – Trip Generation Calculations
Exhibit C – Trip Distribution and Site Generated Traffic Volumes

CivTech

Exhibit A: Site Plan and Access

Land Use	ITE LUC	ITE Land Use Name	Quantity	Units	AM Distribution In	AM Distribution Out	PM Distribution In	PM Distribution Out
Homes	210	Single-Family Detached Housing	250	Dwelling Units	25%	75%	63%	37%
Shopping Center	820	Shopping Center	88.000	KSF	62%	38%	48%	52%

Land Use	ADT Avg Rate	ADT Total	AM Peak Hour Avg Rate	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Avg Rate	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Homes	9.52	2,380	0.75	47	141	188	1.00	158	92	250
Shopping Center	71.02	6,250	1.64	90	55	145	6.25	264	286	550
TOTALS		8,630		137	196	333		422	378	800

Notes: 1. This trip generation calculation is provided for the entire development without applied volume reductions taken as part of this study. If applicable, trips net of interaction and pass-by trips are shown below.

	Daily Percentage	Daily Trips	AM Peak Hour Percentage	AM Peak Hour In	AM Peak Hour Out	AM Peak Hour Total	PM Peak Hour Percentage	PM Peak Hour In	PM Peak Hour Out	PM Peak Hour Total
Interaction/Internal Capture	Factor	5%	10%				10%			
	Differences	432		14	19	33		42	38	80
	Net Trips	8,198		123	177	300		380	340	720
Pass-by Trips										
Homes										
Shopping Center	5%	312					34%			186
Total Pass-By Trips		**312**						**93**	**93**	**186**
NET "NEW" TRIPS (After interaction/internal capture & net of pass-by trips)		**7,886**		**123**	**177**	**300**		**287**	**247**	**534**

Exhibit B: Trip Generation Calculations

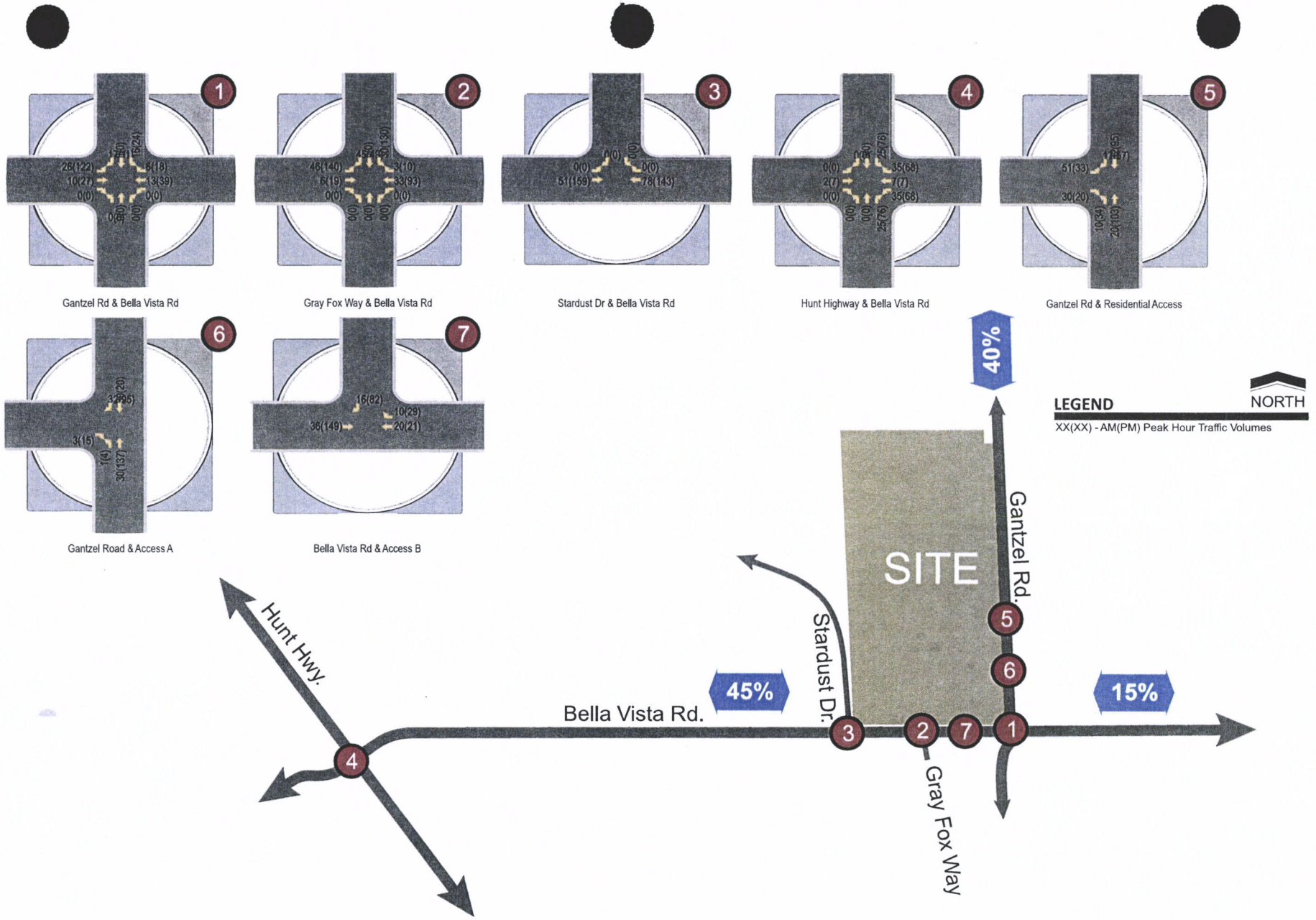


Exhibit C: Trip Distribution and Site Generated Traffic Volumes