MARANA TOWN COUNCIL
REGULAR COUNCIL MEETING
NOTICE AND AGENDA
11555 W. Civic Center Drive, Marana, Arizona 85653
Council Chambers, September 20, 2022, at or after 6:00 PM

Ed Honea, Mayor
Jon Post, Vice Mayor
Patti Comerford, Council Member
Jackie Craig, Council Member
Herb Kai, Council Member
John Officer, Council Member
Roxanne Ziegler, Council Member

Pursuant to A.R.S. §38-431.02, notice is hereby given to the members of the Marana Town Council and to the general public that the Town Council will hold a meeting open to the public on September 20, 2022, at or after 6:00 PM located in the Council Chambers of the Marana Municipal Complex, 11555 W. Civic Center Drive, Marana, Arizona.

ACTION MAY BE TAKEN BY THE COUNCIL ON ANY ITEM LISTED ON THIS AGENDA. Revisions to the agenda can occur up to 24 hours prior to the meeting. Revised agenda items appear in *italics*.

As a courtesy to others, please turn off or put in silent mode all electronic devices.

Meeting Times

Welcome to this Marana Town Council meeting. Regular Council meetings are usually held the first and third Tuesday of each month at 6:00 PM at the Marana Municipal Complex, although the date or time may change and additional meetings may be called at other times and/or places. Contact the Town Clerk or watch for posted agendas for other meetings. This agenda may be revised up to 24 hours prior to the meeting. In such a case a new agenda will be posted in place of this agenda.

Speaking at Meetings

If you are interested in speaking to the Council during the Call to the Public or Public Hearings, you must fill out a speaker card (located in the lobby outside the Council Chambers) and deliver it to the Town Clerk prior to the convening of the meeting.

All persons attending the Council meeting, whether speaking to the Council or not, are expected to observe the Council rules, as well as the rules of politeness, propriety, decorum and good conduct. Any person interfering with the meeting in any way, or acting rudely or loudly will be removed from the meeting and will not be allowed to return.

Accessibility
To better serve the citizens of Marana and others attending our meetings, the Council Chambers are wheelchair and handicapped accessible. Persons with a disability may request a reasonable accommodation, such as a sign language interpreter, by contacting the Town Clerk at (520) 382-1999. Requests should be made as early as possible to arrange the accommodation.

Agendas
Copies of the agenda are available the day of the meeting in the lobby outside the Council Chambers or online at www.maranaaz.gov under Agendas and Minutes. For questions about the Council meetings, special services or procedures, please contact the Town Clerk, at (520) 382-1999, Monday through Friday from 8:00 AM to 5:00 PM.

This Notice and Agenda Posted no later than 24 hours prior to the meeting, at the Marana Municipal Complex, 11555 W. Civic Center Drive, the Marana Operations Center, 5100 W. Ina Road, and at www.maranaaz.gov under Agendas and Minutes.

REGULAR COUNCIL MEETING

CALL TO ORDER AND ROLL CALL

PLEDGE OF ALLEGIANCE/INVOCATION/MOMENT OF SILENCE

APPROVAL OF AGENDA

CALL TO THE PUBLIC
At this time any member of the public is allowed to address the Town Council on any issue within the jurisdiction of the Town Council, except for items scheduled for a Public Hearing at this meeting. The speaker may have up to three minutes to speak. Any persons wishing to address the Council must complete a speaker card located outside the Council Chambers and deliver it to the Town Clerk prior to the commencement of the meeting. Individuals addressing a meeting at the Call to the Public will not be provided with electronic technology capabilities beyond the existing voice amplification and recording capabilities in the facilities. Pursuant to the Arizona Open Meeting Law, at the conclusion of Call to the Public, individual members of the Council may respond to criticism made by those who have addressed the Council, and may ask staff to review the matter, or may ask that the matter be placed on a

future agenda.

PROCLAMATIONS

PR1 Proclamation recognizing September 24 - October 2, 2022, as "Diaper Need Awareness Week" (David Udall)

MAYOR AND COUNCIL REPORTS: SUMMARY OF CURRENT EVENTS

MANAGER'S REPORT: SUMMARY OF CURRENT EVENTS

PRESENTATIONS

CONSENT AGENDA

The Consent Agenda contains items requiring action by the Council which are generally routine items not requiring Council discussion. A single motion and affirmative vote will approve all items on the Consent Agenda, including any resolutions or ordinances. Prior to a motion to approve the Consent Agenda, any Council member may remove any item from the Consent Agenda and that item will be discussed and voted upon separately.

C1 Resolution No. 2022-095: Relating to Development; approving a Release of Assurances for Twin Peaks and Lambert Lane Lots 1 thru 62 and accepting public improvements for maintenance (Jason Angell)

C2 Resolution No. 2022-096: Relating to Real Estate; vacating the remaining unneeded public right-of-way located south of the new terminus point of Tangelo Park Place and authorizing the Town Engineer to execute a Quit Claim Deed of Abandonment for the unneeded right-of-way in favor of Cemex, Inc. (George Cardieri)

C3 Resolution No. 2022-097: Relating to Technology and Intergovernmental Relations; supporting Pima County's application to the National Telecommunications and Information Administration for grant funding from the Enabling Middle Mile Infrastructure grant program and authorizing in-kind services support for the Pima County Middle Mile Infrastructure project (Ricardo Carlos)

C4 Resolution No. 2022-098: Relating to Utilities; authorizing Town staff to complete the application process for funds from the Water Infrastructure Finance Authority of Arizona (WIFA) and to incur debt not to exceed $4,455,413 for the construction of the Twin Peaks Interconnect project and the design and construction of the Picture Rocks Interconnect project (Jing Luo)

C5 Approval of Council Regular Meeting Summary Minutes of September 6, 2022 (David L. Udall)

LIQUOR LICENSES

BOARDS, COMMISSIONS AND COMMITTEES

COUNCIL ACTION

A1 PUBLIC HEARING: Ordinance No. 2022.013: Relating to Development; approving a rezoning of approximately 7.0 acres of land located south of Grier Road and east of Sanders Road from Zone A – Small Lot Zone and R-6 (Single-Family Residential) to Neighborhood Commercial (NC) (Brian D. Varney)

A2 PUBLIC HEARING: Ordinance No. 2022.014: Relating to Development; approving a rezoning of approximately 50.92 acres of land located at the southwest corner of Thornydale Road and Tangerine Road from R-144 (Residential) to SP (Specific Plan), creating the SWC Tangerine & Thornydale Specific Plan; and approving a minor amendment to the Marana General Plan land use designation from Commercial (C) to Master Plan Area (MPA) (Brian D. Varney)

Resolution No. 2022-099: Relating to Development; declaring as a public record filed with the town clerk the SWC Tangerine & Thornydale Specific Plan adopted by Ordinance No. 2022.014 (Brian D. Varney)

A3 PUBLIC HEARING: Ordinance No. 2022.015: Relating to Transaction Privilege Tax; rescinding Ordinance No. 2022.011; amending the Town Tax Code by decreasing the tax rate on the sale of manufactured buildings under Town Tax Code Section 8-427 by one-half cent; and designating an effective date (Yiannis Kalaitzidis)

A4 Resolution No. 2022-100: Relating to Development; adopting the 2022 Land Use Assumptions, the 2022 Streets Facilities Infrastructure Improvements Plan, the 2022 Parks Infrastructure Improvements Plan, the 2022 Water Facilities Infrastructure Improvements Plan, and the 2022 Wastewater Facilities Infrastructure Improvements Plan supporting development impact fees for Streets, Parks, Water, and Sewer (Fausto Burruel, Jim Conroy, Jing Luo)

ITEMS FOR DISCUSSION / POSSIBLE ACTION

EXECUTIVE SESSIONS

Pursuant to A.R.S. § 38-431.03, the Town Council may vote to go into executive session, which will not be open to the public, to discuss certain matters.

E1 Executive Session pursuant to A.R.S. §38-431.03 (A), Council may ask for discussion or consideration, or consultation with designated Town representatives, or consultation for legal advice with the Town Attorney, concerning any matter listed on this agenda for any of the reasons listed in A.R.S. §38-431.03 (A).

FUTURE AGENDA ITEMS

Notwithstanding the Mayor's discretion regarding the items to be placed on the agenda, if three or more Council members request that an item be placed on the agenda, it must be placed on the agenda for the second regular Town Council meeting after the date of the request, pursuant to Marana Town Code Section 2-4-2(B).

ADJOURNMENT

Council-Regular Meeting **PR1**

Meeting Date: 09/20/2022

Submitted For: David L. Udall, Town Clerk/Assistant Town Attorney

Date: September 20, 2022

Subject: Proclamation recognizing September 24 - October 2, 2022, as "Diaper Need Awareness Week" (David Udall)

Attachments

Proclamation Recognizing "Diaper Need Awareness Week"

MARANA AZ

PROCLAMATION
DIAPER NEED AWARENESS WEEK
September 24 – October 2, 2022

WHEREAS, diaper need, the condition of not having a sufficient supply of clean diapers to keep babies and toddlers clean, dry, and healthy, can adversely affect the health and well-being of babies, toddlers, and their families; and

WHEREAS, national surveys and research studies report that one in three families struggle with diaper need and 48 percent delay changing a diaper to extend their supply, as children go through six to twelve diapers each day during the two to three years they wear diapers; and purchasing enough diapers to keep a baby or toddler clean, dry and healthy can consume fourteen percent of a low-wage family's post-tax income, making it difficult to obtain a sufficient supply; and

WHEREAS, a daily or weekly supply of diapers is generally an eligibility requirement for babies and toddlers to participate in childcare programs and quality early-education programs; and

WHEREAS, without enough diapers, babies and toddlers risk infections and health problems that may require medical attention resulting in medical costs, and may prevent parents from accessing child care needed to go to work or school, thereby destabilizing the family's economic prospects and well-being; and

WHEREAS, the people of Marana recognize that diaper need is a public health issue, and addressing diaper need can lead to economic opportunity for the State's families and communities and improved health for children, thus ensuring all children and families have access to the basic necessities required to thrive and reach their full potential; Marana is proud to be home to trusted community-based organizations including the Diaper Bank of Central and Southern Arizona, that recognize the importance of diapers in ensuring health and provide economic stability for families and thus distribute diapers to families through various channels; and

WHEREAS, while experiencing double, triple, or greater increase in demand for diapers due to the pandemic and economic shutdown, these diaper banks continue to do everything in their ability to increase diaper distributions and support children and families in need of immediate assistance; and now that our state is recovering from the pandemic, diaper banks are playing a critical role in supporting families and advancing our collective growth.

NOW, THEREFORE, Mayor Honea and the Marana Town Council do hereby declare the week of September 24 – October 2, 2022 as, **"DIAPER NEED AWARENESS WEEK"** in the Town of Marana, and thank the aforementioned diaper banks, their staff, volunteers and donors for their courageous service during the crisis, and encourage the citizens of Marana to donate generously to diaper banks, diaper drives, and those organizations that collect and distribute diapers to those struggling with diaper need, so that all of Marana's children and families can thrive and reach their full potential.

Dated this 20th day of September 2022.

ATTEST:

David L. Udall, Town Clerk

Ed Honea, Mayor

Council-Regular Meeting **C1**

Meeting Date: 09/20/2022

To: Mayor and Council

Submitted For: Jason Angell, Development Services Director

From: Dustin Ward, Civil Engineer

Date: September 20, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: Resolution No. 2022-095: Relating to Development; approving a Release of Assurances for Twin Peaks and Lambert Lane Lots 1 thru 62 and accepting public improvements for maintenance (Jason Angell)

Discussion:

Twin Peaks and Lambert Lane Lots 1 thru 62 is located north of Lambert Lane along Twin Peaks Road. The final plat was recorded in the Pima County Recorder's Office on September 25, 2020, at Sequence Number 20202690096.

The Town has a substitute third-party trust assurance agreement with the developer assuring the completion of improvements needed to serve the subdivision. The developer has completed the improvements serving Twin Peaks and Lambert Lane Lots 1 thru 62 acceptable to town standards in accordance with the assurance agreement, including public infrastructure consisting of a potable water system.

If approved, this resolution will release the Twin Peaks and Lambert Lane Lots 1 thru 62 assurances and accept the water system for maintenance.

Staff Recommendation:

Staff recommends approving a Release of Assurances for Twin Peaks and Lambert Lane Lots 1 thru 62 and accepting the public improvements for maintenance.

Suggested Motion:

I move to adopt Resolution No. 2022-095, approving a Release of Assurances for Twin Peaks and Lambert Lane Lots 1 thru 62 and accepting public improvements for maintenance.

Attachments

Resolution No. 2022-095

Location Map

MARANA RESOLUTION NO. 2022-095

RELATING TO DEVELOPMENT; APPROVING A RELEASE OF ASSURANCES FOR TWIN PEAKS AND LAMBERT LANE LOTS 1 THRU 62 AND ACCEPTING PUBLIC IMPROVEMENTS FOR MAINTENANCE

WHEREAS the final plat for "Twin Peaks and Lambert Lane Lots 1 thru 62 and Common Area "A" (Private Streets), Common Area "B" (Natural Open Space, Drainage, Landscape, Pedestrian, Public Sewer and Utilities) & Common Area "C" (Active Open Space)" was recorded in the Pima County Recorder's Office on September 25, 2020, at Sequence 20202690096; and

WHEREAS the Town has a substitute third party trust assurance agreement (the "Assurance Agreement") with Meritage Homes of Arizona, Inc. (the "Subdivider") and Title Security Agency, LLC, under Trust No. 202052-S, recorded in the Pima County Recorder's office on November 6, 2020, at Sequence 20203110048, assuring the completion of public improvements for Twin Peaks and Lambert Lane; and

WHEREAS the Subdivider has completed the public improvements for Twin Peaks and Lambert Lane acceptable to Town standards in accordance with the Assurance Agreement.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Council of the Town of Marana as follows:

Section 1. The Assurance Agreement is hereby released.

Section 2. The Town accepts for maintenance, a potable water system including 4,968 linear feet of potable water line, water meters, appurtenances, valves, and fire hydrants for the above-referenced project.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 20th day of September, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

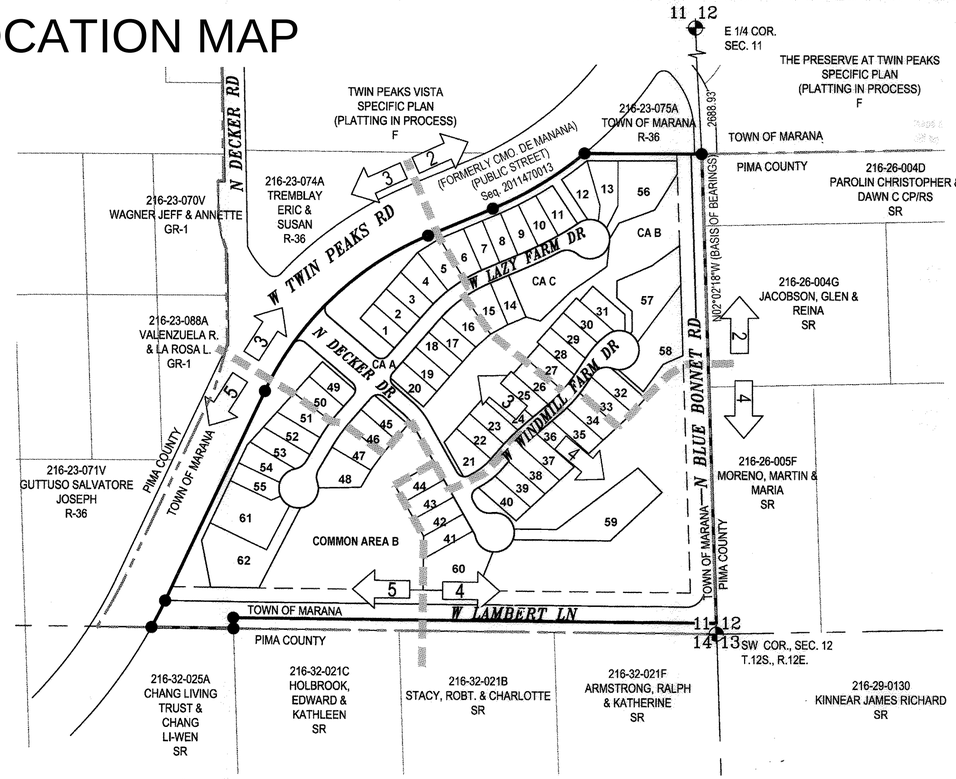
APPROVED AS TO FORM:

Jane Fairall, Town Attorney

GENERAL NOTES

1. THE GROSS AREA OF THE SUBDIVISION =1,489,205 SQ.FT. OR 34.19 ACRES, MORE OR LESS.
2. THE EXISTING ZONING FOR THIS PROJECT IS "R-6" RESIDENTIAL AND IS SUBJECT TO THE TERMS AND CONDITIONS OF MARANA ORDINANCE 2017.008 AND MARANA ORDINANCE 2020.005.
3. THE NUMBER OF LOTS IS 62. DENSITY IS 1.81 RAC.
4. THE MINIMUM ALLOWABLE LOT SIZE IS SIX THOUSAND (6,000) SQUARE FEET.
5. LOT SIZE: MAXIMUM LOT AREA=31,846 SQ FT. MINIMUM (ACTUAL) LOT AREA=6,974 SQ. FT. AVERAGE LOT SIZE IS 9,699 SQ. FT.
6. BUILDING HEIGHTS: BUILDINGS AND STRUCTURES SHALL HAVE HEIGHT NOT GREATER THAN TWO-STORIES OR TWENTY FIVE (25) FEET
7. MINIMUM FRONT, SIDE AND REAR YARDS SETBACKS
   - A. THE REQUIRED FRONT YARD SETBACK SHALL BE A MINIMUM OF SIXTEEN (16) FEET, EXCEPT WHERE GARAGES OPEN OR FACE DIRECTLY ONTO AN ABUTTING STREET, IN WHICH CASE THE GARAGE SETBACK SHALL BE A MINIMUM OF TWENTY (20) FEET. MAXIMUM OF 35% OF THE LOTS MAY HAVE A REDUCED SETBACK TO 16 FEET, WITH THE BALANCE OF THE SETBACKS BEING 20 FEET OR GREATER.
   - B. THE REQUIRED SIDE YARD SETBACK SHALL BE A MINIMUM OF FIVE (5) FEET, WITH A STREET SIDE SIDE YARD SETBACK HAVING A MINIMUM OF TEN (10) FEET.
   - C. THE REQUIRED REAR YARD SETBACK SHALL BE A MINIMUM OF TWENTY (20) FEET.
   - D. WHERE THE FRONT YARD SETBACK IS INCREASED ABOVE THE TWENTY (20) FEET, THE REAR YARD SETBACK MAY BE REDUCED BY ONE FOOT FOR EACH FOOT OF FRONT YARD INCREASE, BUT SHALL NOT BE REDUCED TO BELOW FIFTEEN (15) FEET. WHERE THE FRONT YARD SETBACK IS DECREASED BELOW THE MINIMUM TWENTY (20) FEET, THE REAR YARD SETBACK SHALL BE INCREASED BY ONE (1) FOOT FOR EACH FOOT OF FRONT YARD DECREASE, BUT SHALL NOT BE REQUIRED TO BE OVER TWENTY-FIVE (25) FEET.
8. LOTS 5-13, AND 41-62 SHALL BE RESTRICTED TO SINGLE-STORY CONSTRUCTION PER ORDINANCE 2020.005.
9. PARKING SPACES: 2 PER LOT IN GARAGE; 2 PER LOT IN DRIVEWAY = 248 SPACES.
10. THE BASIS OF BEARING: THE EAST LINE OF THE SOUTHEAST QUARTER (SW 1/4) OF SECTION 11, T-12-S, R-12-E, GILA AND SALT MERIDIAN, TOWN OF MARANA, PIMA COUNTY, ARIZONA, SAID BEARING BEING N02°02'18"W.
11. NO FURTHER SUBDIVIDING OR LOT SPLITTING SHALL BE DONE WITHOUT THE WRITTEN APPROVAL OF THE TOWN OF MARANA, TOWN COUNCIL.
12. APPROVAL OF THIS PLAT DOES NOT AFFIRM, CERTIFY, OR APPROVE ANY LAND DIVISION THAT MAY BE CONTRARY TO STATE LAW, NOR DOES IT CERTIFY THE EXISTENCE OF, OR COMPLIANCE WITH, ANY DEED RESTRICTIONS OR EASEMENTS.
13. ALL NEW AND EXISTING UTILITIES WITHIN OR CONTIGUOUS TO THE SITE SHALL BE PLACED UNDERGROUND EXCEPT ELECTRICAL TRANSMISSION LINES CARRYING 48KV OR GREATER, AND THOSE LINES WHICH CAN BE SHOWN TO EXIST IN CURRENT OR FUTURE ELECTRICAL TRANSMISSION CORRIDORS.
14. OBJECTS AND MATERIALS WITHIN SIGHT VISIBILITY TRIANGLES SHALL BE PLACED SO AS NOT TO INTERFERE WITH A VISIBILITY PLANE DESCRIBED BY TWO HORIZONTAL LINES LOCATED 30" AND 72" ABOVE FINISHED GRADE OF THE ROADWAY SURFACE, AND SHALL CONFORM TO THE TOWN OF MARANA SUBDIVISION STREET STANDARDS.
15. THE AREA BETWEEN 100-YEAR FLOOD LIMITS REPRESENTS AN AREA THAT MAY BE SUBJECT TO FLOODING FROM A 100-YEAR FREQUENCY FLOOD AND ALL LAND IN THIS AREA WILL BE RESTRICTED TO USES THAT ARE COMPATIBLE WITH FLOODPLAIN MANAGEMENT AS APPROVED BY THE FLOODPLAIN ADMINISTRATOR.
16. THE PROFESSIONAL ENGINEER OF RECORD SHALL CERTIFY AS TO THE FORM, LINE, AND FUNCTION OF ALL PUBLIC AND PRIVATE ROADWAYS AND DRAINAGE STRUCTURES BEFORE THE RELEASE OF ASSURANCES.
17. A TOTAL OF 0.47 MILES OF NEW STREETS WILL BE CONSTRUCTED (ALL STREETS ARE PRIVATE).
18. INSTALLATION OF ITEMS SUCH AS LANDSCAPING, IRRIGATION, SIGNAGE, MONUMENTS, WALLS AND DRAINAGE IMPROVEMENTS IN THE PUBLIC RIGHTS-OF-WAY SHALL REQUIRE A PERPETUAL LICENSE AGREEMENT FOR INSTALLATION, MAINTENANCE AND INDEMNIFICATION. THIS DOCUMENT SHALL BE EXECUTED PRIOR TO FINAL APPROVAL OF LANDSCAPE PLANS OR IMPROVEMENT PLANS ALLOWING INSTALLATION WITHIN THE PUBLIC RIGHTS-OF-WAY. A PORTION OF THE REQUIRED LANDSCAPE BUFFER, ALONG TWIN PEAKS, WILL BE PROVIDED WITHIN THE PUBLIC RIGHT-OF-WAY, WITH APPROVAL OF THE APPROPRIATE LICENSE AGREEMENT AND RIGHT-OF-WAY USE PERMIT, BY THE TOWN OF MARANA.
19. A STREET TREE SHALL BE PLANTED ON EACH LOT IN ACCORDANCE WITH THE APPROVED LANDSCAPE PLAN AND WILL BE SUBJECT TO THE MAINTENANCE REQUIREMENTS DEFINED IN THE MARANA LAND DEVELOPMENT CODE.
20. THIS SUBDIVISION IS LOCATED WITHIN THE TOWN OF MARANA WATER SERVICE AREA, WHICH HAS BEEN DESIGNATED AS HAVING AN ASSURED WATER SUPPLY UNDER A.R.S. §45-576.
21. ALL DEVELOPMENT WITHIN THE PLAT AREA WILL BE SUBJECT TO THE TOWN OF MARANA RESIDENTIAL DESIGN STANDARDS.

LOCATION MAP



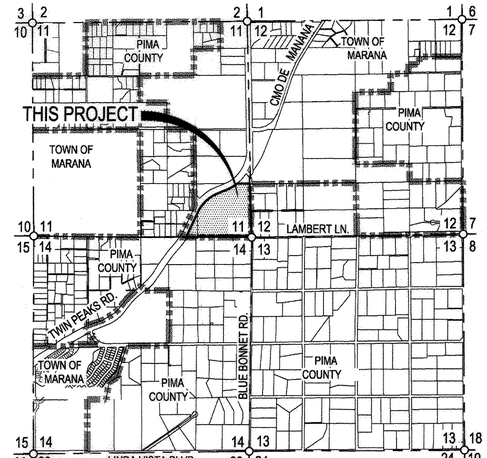
PROJECT LAYOUT
SCALE: 1"=200'

SHEET INDEX

SHEET 1	COVER SHEET
SHEETS 2-5	PLAN SHEETS
SHEETS 6-8	FLOOD INFO
SHEET 9	TABLES
SHEET 10	DETAILS

OWNER

CHUNG-YING FRANK LIN
6088 W. ARIZONA PAVILIONS #1
TUCSON, AZ 85743



LOCATION PLAN

A PORTION OF SECTION 11, T. 12 S., R. 12 E., G.&S.R.M.,
TOWN OF MARANA, PIMA COUNTY, ARIZONA
SCALE 3"=1 MILE

DEDICATION

WE, THE UNDERSIGNED, HEREBY WARRANT THAT WE ARE ALL AND THE ONLY PARTIES HAVING ANY FEE TITLE INTEREST IN THE LAND SHOWN ON THIS PLAT, AND WE CONSENT TO THE SUBDIVISION OF THIS LAND IN THE MANNER SHOWN ON THIS PLAT.

WE HEREBY DEDICATE TO THE TOWN OF MARANA ALL RIGHTS-OF-WAY SHOWN ON THIS PLAT (N. BLUE BONNET LANE & W. LAMBERT LANE), DRAINAGEWAYS, AND EASEMENTS, INCLUDING NO ACCESS EASEMENTS. UTILITY EASEMENTS AS SHOWN ON THIS PLAT, ARE DEDICATED TO THE TOWN OF MARANA, PIMA COUNTY, AND ALL PUBLIC AND PRIVATE UTILITY COMPANIES FOR THE PURPOSE OF ACCESS, INSTALLATION, MAINTENANCE, AND CONSTRUCTION OF PUBLIC AND PRIVATE UTILITIES AND PUBLIC SEWERS. NO ACCESS EASEMENTS SHOWN ON THIS PLAT ARE DEDICATED TO THE TOWN OF MARANA FOR THE PURPOSE OF ACCESS CONTROL TO ADJACENT RIGHTS-OF-WAY. OTHER EASEMENTS SHOWN ON THIS PLAT ARE DEDICATED TO THE TOWN OF MARANA FOR THE PURPOSE OR PURPOSES NOTED ON THIS PLAT. WE HEREBY DEDICATE TO THE TOWN OF MARANA ALL PUBLIC TRAIL EASEMENTS AS SHOWN ON THIS PLAT FOR NON-MOTORIZED TRAVEL BY THE GENERAL PUBLIC.

WE, THE UNDERSIGNED, OUR SUCCESSORS AND ASSIGNS, DO HEREBY HOLD THE TOWN OF MARANA, ITS EMPLOYEES, OFFICERS, AND AGENTS HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS FOR DAMAGES RELATED TO THE USE OF THESE LANDS NOW AND IN THE FUTURE BY REASON OF FLOODING, FLOWAGE, EROSION, OR DAMAGE CAUSED BY WATER, WHETHER SURFACE, FLOOD, OR RAINFALL. NATURAL DRAINAGE SHALL NOT BE ALTERED, DISTURBED, OR OBSTRUCTED WITHOUT THE APPROVAL OF THE TOWN OF MARANA.

GRANTOR HEREBY IRREVOCABLY GRANTS AND DEDICATES EASEMENTS TO PIMA COUNTY FOR ACCESS, INSTALLATION, CONSTRUCTION, MAINTENANCE AND REPLACEMENT OF PUBLIC SEWER SYSTEMS IN ALL COMMON AREAS 'A' & 'B' AS DESIGNATED BY THIS PLAT.

PRIVATE DRAINAGEWAYS AND COMMON AREAS, AS SHOWN ON THIS PLAT, ARE RESERVED FOR THE PRIVATE USE AND CONVENIENCE OF ALL OWNERS OF PROPERTY WITHIN THIS SUBDIVISION, THEIR GUESTS AND INVITEES. COMMON AREAS, BUT NOT PRIVATE DRAINAGEWAYS, ARE GRANTED AS EASEMENTS TO THE TOWN OF MARANA, PIMA COUNTY, AND ALL UTILITY COMPANIES FOR THE PURPOSE OF INSTALLATION AND MAINTENANCE OF, AND ACCESS TO, UNDERGROUND PUBLIC AND PRIVATE UTILITIES AND PUBLIC SEWERS. PRIVATE DRAINAGEWAYS ARE ALSO RESERVED FOR THE FLOW OF WATER, WHETHER SURFACE, FLOOD, OR RAINFALL, FROM THIS SUBDIVISION AND OTHER LANDS AS APPROVED BY THE TOWN ENGINEER. TITLE TO THE LAND OF ALL PRIVATE DRAINAGEWAYS AND COMMON AREAS SHALL BE VESTED IN AN ASSOCIATION OF INDIVIDUAL LOT OWNERS AS ESTABLISHED BY COVENANTS, CONDITIONS AND RESTRICTIONS RECORDED IN SEQUENCE NO. 20202690096, IN THE OFFICE OF THE RECORDER OF PIMA COUNTY, ARIZONA. EACH AND EVERY LOT OWNER WITHIN THE SUBDIVISION SHALL BE A MEMBER OF THE ASSOCIATION, WHICH WILL ACCEPT ALL RESPONSIBILITY FOR THE CONTROL, MAINTENANCE, SAFETY AND LIABILITY OF ALL PRIVATE DRAINAGEWAYS AND COMMON AREAS WITHIN THIS SUBDIVISION.

TITLE SECURITY AGENCY, LLC, A DELAWARE LIMITED LIABILITY COMPANY, TRUST NO. 202057-S, AS TRUSTEE ONLY AND NOT OTHERWISE.

Cindy A. Reiche — 9-9-2020
TRUST OFFICER OF TRUST No. 202057-S — DATE

BENEFICIARY OF TRUST
CHUNG-YING FRANK LIN
6088 W. ARIZONA PAVILIONS #1
TUCSON, AZ 85743

(a) County of Recordation PIMA
(b) Date of Recording 09/25/2020
(c) Fee/Recording Number 20202690096

TOWN OF MARANA APPROVALS

BY _____ P.E. — 14 SEPT 2020
MARANA TOWN ENGINEER/DEVELOPMENT ENGINEER — DATE

BY _____ — 9-15-2020
MARANA DEVELOPMENT SERVICES DIRECTOR — DATE

PIMA COUNTY WASTEWATER APPROVAL

BY _____ — 9/9/20
PIMA COUNTY REGIONAL WASTEWATER RECLAMATION DEPARTMENT — DATE

CERTIFICATION

I, Cherry L. Lawson, CLERK OF THE TOWN OF MARANA HEREBY CERTIFY THAT THIS PLAT WAS APPROVED BY THE TOWN COUNCIL OF THE TOWN OF MARANA ON THE 15 DAY OF September 2020.

BY Cherry L. Lawson — 9/16/2020
CLERK OF THE TOWN OF MARANA — DATE

RECORDING

STATE OF ARIZONA } SS
COUNTY OF PIMA }

FEE $104.00
NO 20202690096

THIS PLAT WAS FILED FOR RECORD AT THE REQUEST OF THE WLB GROUP, INC., ON THIS 25TH DAY OF September, 2020 AT 10:00 AM. IN SEQUENCE NUMBER 20202690096

F. ANN RODRIQUEZ
PIMA COUNTY RECORDER
BY: _____
DEPUTY

Maps not picked up in 45 days will be recycled. 9-25-20

CERTIFICATION

I HEREBY CERTIFY THAT THE FLOODPLAIN LIMITS AND EROSION HAZARD SETBACKS AS SHOWN ON THIS PLAT WERE PREPARED UNDER MY DIRECTION.

WARREN D. THOMPSON PE NO. 14854

CERTIFICATION

I HEREBY CERTIFY THAT THE BOUNDARY SURVEY SHOWN ON THIS PLAT WAS PERFORMED UNDER MY DIRECTION AND THAT ALL EXISTING AND PROPOSED SURVEY MONUMENTS AND MARKERS SHOWN ARE CORRECTLY DESCRIBED. I FURTHER CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECTION.

PETER D. COTE RLS NO. 44121

ACKNOWLEDGEMENT

STATE OF ARIZONA } SS
COUNTY OF } FEE _____ No. _____

ON THIS THE 9th DAY OF September 2020, BEFORE ME, THE UNDERSIGNED PERSONALLY APPEARED ~~BLANE SLOANE~~, WHO ACKNOWLEDGED HERSELF TO BE AN OFFICER OF TRUST NO. 202057-S. AND BEING AUTHORIZED TO DO SO, EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSE THEREIN CONTAINED BY SIGNING THE NAME OF THE CORPORATION BY HERSELF AS SUCH OFFICER. * Cindy A. Reiche

10.5.2022
MY COMMISSION EXPIRES

NOTARY PUBLIC

ADMINISTRATIVE ADDRESS: 5565 W. TWIN PEAKS RD, TUCSON, AZ 85742

ASSURANCES

ASSURANCES IN THE FORM OF THIRD PARTY TRUST FROM TITLE SECURITY AGENCY, LLC AS RECORDED IN SEQUENCE NUMBER 20202690097 IN THE OFFICE OF THE RECORDER OF PIMA COUNTY, ARIZONA HAVE BEEN PROVIDED TO GUARANTEE INSTALLATION OF REQUIRED STREET, SEWER, ELECTRIC, GAS AND WATER UTILITIES, DRAINAGE, FLOOD CONTROL AND OTHER SUBDIVISION IMPROVEMENTS MEETING ESTABLISHED MINIMUM STANDARDS OF DESIGN AND CONSTRUCTION.

BY _____ — 9/14/2020
TOWN OF MARANA — DATE

BASIS OF BEARINGS

THE EAST LINE OF THE S.E. 1/4 OF SECTION 11, T-12-S, R-12-E, G.S.R.M. TOWN OF MARANA, PIMA COUNTY, ARIZONA SAID BEARING BEING: N02°02'18"W.

BASIS OF ELEVATION

BEING A 2-3/4" BCSM IN CONCRETE "T.O.M. RLS 19316", 48' EAST OF THE INTERSECTION OF TWIN PEAKS & BLUE BONNET. SAID ELEVATION BEING: 2386.61 FEET (NAVD 88)

ASSURED WATER SUPPLY

A CERTIFICATE OF ASSURED WATER SUPPLY HAS BEEN RECEIVED FROM THE DIRECTOR OF WATER RESOURCES.

_____ — 9.14.2020
MARANA WATER DIRECTOR — DATE

LAND USES

LAND AREA:		USE:
COMMON AREA "A"	= 147,543 SQ. FT. or 3.387 Acres	ROADWAY (PRIVATE)
COMMON AREA "B"	= 596,777 SQ. FT. or 13.700 Acres	NATURAL OPEN SPACE / DRAINAGE / LANDSCAPE / PEDESTRIAN / PUBLIC SEWER & UTILITIES
COMMON AREA "C"	= 28,460 SQ. FT. or 0.653 Acres	ACTIVE OPEN SPACE
RESIDENTIAL LOTS: LOTS 1-62	= 601,314 SQ. FT. or 13.77 Acres	
DEDICATED PUBLIC RIGHT-OF-WAY:	= 115,110 SQ. FT. or 2.64 Acres	
SQ. FT. TOTAL	= 1,489204 SQ. FT. or 34.187 Acres	

LEGEND

- SUBDIVISION BOUNDARY
- ADJACENT LOT LINE
- LOT LINE
- EASEMENT LINE
- MATCH LINE
- SECTION LINE
- RIGHT OF WAY
- CENTER LINE
- INDICATES BRASS DISK SURVEY MONUMENT TO BE SET UPON COMPLETION OF ROAD CONSTRUCTION
- FOUND MONUMENT AS NOTED
- 1/2" IRON PARCEL PIN TO BE SET BY AN ARIZONA RLS
- 100 YEAR FLOOD LINE
- EROSION HAZARD SETBACK LINE
- TOWN LIMITS
- CA — COMMON AREA
- SVT — SIGHT VISIBILITY TRIANGLE
- NAE — NO ACCESS EASEMENT
- PUE — PUBLIC UTILITY EASEMENT
- R-? — ZONING DESIGNATION
- SECTION CORNER / QUARTER SECTION CORNER
- 3 — SHEET INDEX SHEET INDICATOR

The WLB Group inc. WLB
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Tempe Az. 85282 PH.(480) 736-1600

S:\114013\CAD\Dgn Plotting\08 F-Plat\PLAT.dwg

FINAL PLAT

TWIN PEAKS AND LAMBERT LANE

LOTS 1 THRU 62 AND COMMON AREA "A" (PRIVATE STREETS), COMMON AREA "B" (NATURAL OPEN SPACE, DRAINAGE, LANDSCAPE, PEDESTRIAN, PUBLIC SEWER AND UTILITIES) & COMMON AREA "C" (ACTIVE OPEN SPACE),
A PORTION OF SECTION 11, TOWNSHIP 12 SOUTH, RANGE 12 EAST, GILA & SALT RIVER MERIDIAN, TOWN OF MARANA, PIMA COUNTY, ARIZONA

PROJECT NO. PRV 2004-002,
RELATED CASE NOS. – PRV1812-003, PCZ1606-002, ENG1905-001, ENG1905-002, ENG1905-003 & ENG2004-005

MAY, 2020 WLB JOB NO. 114013 SHEET 1 OF 10

20202690096-1
SEQUENCE NUMBER

20202690096-1
SEQUENCE NUMBER

Council-Regular Meeting **C2**

Meeting Date: 09/20/2022

To: Mayor and Council

Submitted For: George Cardieri, Real Property Manager

From: George Cardieri, Real Property Manager

Date: September 20, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: Resolution No. 2022-096: Relating to Real Estate; vacating the remaining unneeded public right-of-way located south of the new terminus point of Tangelo Park Place and authorizing the Town Engineer to execute a Quit Claim Deed of Abandonment for the unneeded right-of-way in favor of Cemex, Inc. (George Cardieri)

Discussion:

Cemex, Inc. has submitted a formal request for the Town to vacate and abandon the remaining unneeded public right-of-way located south of the new terminus point of Tangelo Park Place. The original 150 feet public right-of-way was dedicated to the Town by Cemex, Inc. by Special Warranty Deed in 2005. Since then, the Marana Town Council adopted the Town of Marana 2040 General Plan, specifically Figure 2-4 Future Circulation, which removed the Tangelo Park Place alignment as a proposed major route. Portions of the Tangelo Park Place public right-of-way, including the eastern 75 feet of Tangelo Park Place south of the new terminus point, have already been vacated and abandoned per the Amended Final Plat for Tangerine/I-10 Lots 3-5 & Block 1, recorded at Sequence Number 20221610285. Of the original 150 feet, the remaining western 75 feet are proposed to be abandoned.

Staff Recommendation:

Staff recommends approval of the resolution to abandon the described portion of public right-of-way.

Suggested Motion:

I move to adopt Resolution No. 2022-096, vacating the remaining unneeded public right-of-way located south of the new terminus point of Tangelo Park Place and authorizing the Town Engineer to execute a Quit Claim Deed of Abandonment for the unneeded right-of-way in favor of Cemex, Inc.

Attachments

Resolution No. 2022-096

Exhibit A (Legal Description)

Exhibit B (Form of QCD)

Final Plat Showing Preceding Abandonment

MARANA RESOLUTION NO. 2022-096

RELATING TO REAL ESTATE; VACATING THE REMAINING UNNEEDED PUBLIC RIGHT-OF-WAY LOCATED SOUTH OF THE NEW TERMINUS POINT OF TANGELO PARK PLACE AND AUTHORIZING THE TOWN ENGINEER TO EXECUTE A QUIT CLAIM DEED OF ABANDONMENT FOR THE UNNEEDED RIGHT-OF-WAY IN FAVOR OF CEMEX, INC.

WHEREAS the Town of Marana received fee title to the Tangelo Park Place public right-of-way from Cemex, Inc. by Special Warranty Deed originally recorded in the office of the Pima County Recorder on December 22, 2005, in Docket 12706, beginning on Pages 7049 through 7056, and as re-recorded to correct the legal descriptions by Notice of Scrivener's Error recorded in the office of the Pima County Recorder on September 1, 2006, in Docket 12881, beginning on Pages 421 through 439; and

WHEREAS the Marana Town Council adopted the Town of Marana 2040 General Plan, specifically Figure 2-4 Future Circulation, which removed the Tangelo Park Place alignment as a Proposed Major Route; and

WHEREAS the Town's Planning Manager approved and adopted a Minor Administrative Amendment to the Tangerine Commerce Park Specific Plan, modifying the specific plan to shorten Tangelo Park Place and allowing for the abandonment of unneeded public right-of-way; and

WHEREAS the Marana Town Council approved the Amended Final Plat for Tangerine/I-10 Lots 3-5 & Block 1, recorded at Sequence Number 20221610285, which shortened Tangelo Park Place, terminating the public right-of-way at a cul-de-sac, and abandoned portions of the unneeded public right-of-way, including the eastern 75 feet of Tangelo Park Place south of the new terminus point; and

WHEREAS Cemex, Inc., as the adjacent fee title property owner, has submitted a formal request for the Town to vacate and abandon the remaining unneeded public right-of-way, which is the western 75 feet of Tangelo Park Place south of the new terminus point; and

WHEREAS the Town of Marana is authorized by A.R.S. §§ 9-240 (B)(3)(e) and 28-7205 to vacate and abandon Town roadways; and

WHEREAS the Mayor and Council of the Town of Marana find that the public interests are served by approving this resolution.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, AS FOLLOWS:

SECTION 1. The Town of Marana hereby vacates and abandons that portion of the Tangelo Park Place right-of-way more particularly described and depicted in Exhibit A attached to and incorporated within this resolution by this reference.

SECTION 2. The Town Engineer is hereby authorized to execute a Quit Claim Deed of Abandonment in favor of Cemex, Inc., the land owner adjacent to the Abandonment Area in the form of Exhibit B attached to and incorporated within this resolution by this reference, evidencing the transfer of title to the Abandonment Area in accordance with requirements of and as prescribed by A.R.S. § 28-7205.

SECTION 3. The Town's Manager and staff are hereby directed and authorized to undertake all other and further tasks required or beneficial to carry out this resolution.

PASSED AND ADOPTED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, this 20th day of September, 2022.

_____
Mayor Ed Honea

ATTEST:

_____
David L. Udall, Town Clerk

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

ON POINT SURVEYING, PLLC
onpointsurveygroup@gmail.com

EXHIBIT A
RIGHT OF WAY ABANDONMENT
LEGAL DESCRIPTION

A portion of North Tangelo Park Place Right of Way as originally dedicated by Special Warranty Deed, Docket 12881, Page 421, and described in in the Amended Final Plat for Tangerine/I-10 Lots 3 through 5 and Block 1, Sequence Number 20221610285 in the Office of the Recorder, Pima County, Arizona situated in a portion of the Northeast Quarter of Section 1, Township 12 South, Range 11 East and a portion of the Northwest Quarter of Section 6, Township 12 South, Range 12 East, Gila and Salt River Meridian, Pima County, Arizona, described as follows:

Commencing at a 3 inch aluminum cap stamped PSOMAS S36/S31, S1/S6, R11E, R12E, T12S, RLS 18657 monumenting the Northeast corner of said Section 1, thence South 00 degrees 27 minutes 14 seconds East, along the east line of said Northeast Quarter, a distance of 2638.01 feet to a General Land Office Stone with a scribed X monumenting the West Quarter corner of said Section 1 being The **Point of Beginning**;

Thence North 89 degrees 30 minutes 15 seconds East, a distance of 17.92 feet to a point on the northeasterly right of way line of said North Tangelo Park Place being a point on a non-tangent curve having a radial bearing of South 73 degrees 53 minutes 01 seconds West and a distance of 930.00 feet;

Thence along said curve to the left, through a central angle of 34 degrees 04 minutes 05 seconds, a distance of 552.98 feet;

Thence continue along said right of way line North 50 degrees 11 minutes 04 seconds West, a distance of 611.06 feet to a point on a curve having a radius of 930.00 feet;

Thence continue along said right of way line, along said curve to the right, through a central angle of 25 degrees 45 minutes 46 seconds, a distance of 418.17 feet to a compound curve have a radius of 480.00 feet;

Thence departing said right of way, along said compound curve to the right, through a central angle of 21 degrees 02 minutes 22 seconds, a distance of 176.26 feet;

Thence North 03 degrees 22 minutes 56 seconds West, a distance of 44.24 feet to a point on a non-tangent curve having a radial bearing of North 30 degrees 45 minutes 44 seconds West and a distance of 60.50 feet;

Thence along said curve to the right, through a central angle of 59 degrees 30 minutes 37 seconds, a distance of 62.84 feet;

Thence South 03 degrees 22 minutes 56 seconds East, a distance of 27.19 feet;

Thence South 75 degrees 11 minutes 47 seconds West, a distance of 34.60 feet to a point on the westerly Right of Way line of said North Tangelo Park Place being a point on a non-tangent curve having a radial bearing of North 78 degrees 05 minutes 57 seconds East and a distance of 1005.00 feet;

Thence along said Right of Way line, along said curve to the left, through a central angle of 38 degrees 17 minutes 01 seconds, a distance of 671.52 feet;

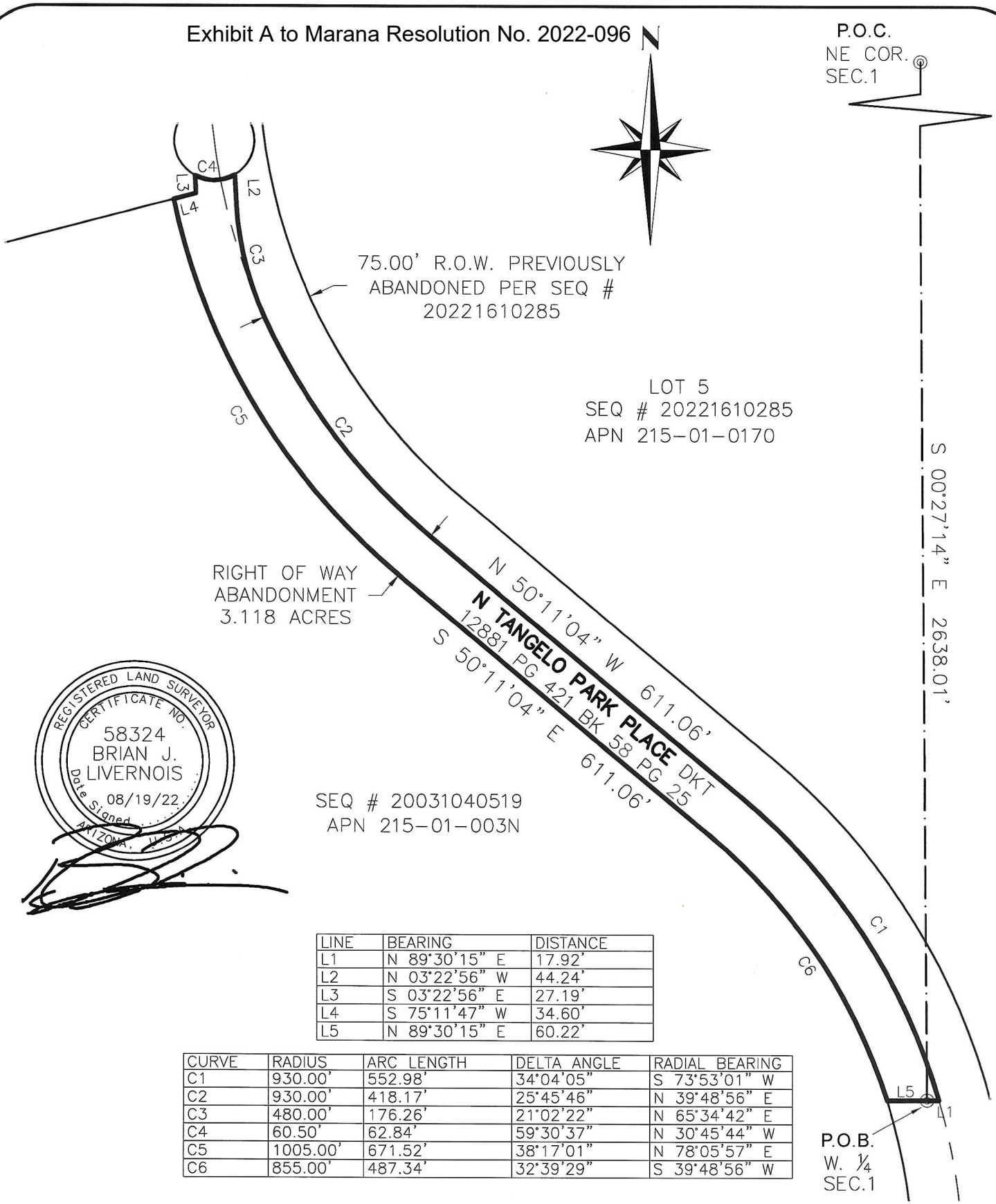
Thence continue along said Right of Way line South 50 degrees 11 minutes 04 seconds East, a distance of 611.06 feet to a point on a curve having a radius of 855.00 feet;

Thence continue along said Right of Way line, along said curve to the right, through a central angle of 32 degrees 39 minutes 29 seconds, a distance of 487.34 feet;

Thence departing said Right of Way line North 89 degrees 30 minutes 15 seconds East, a distance of 60.22 feet to the **Point of Beginning**.

The above described Right of Way abandonment contains 3.118 acres, more or less.





REGISTERED LAND SURVEYOR
CERTIFICATE NO.
58324
BRIAN J.
LIVERNOIS
Date Signed
08/19/22
ARIZONA, U.S.A.

LINE	BEARING	DISTANCE
L1	N 89°30'15" E	17.92'
L2	N 03°22'56" W	44.24'
L3	S 03°22'56" E	27.19'
L4	S 75°11'47" W	34.60'
L5	N 89°30'15" E	60.22'

CURVE	RADIUS	ARC LENGTH	DELTA ANGLE	RADIAL BEARING
C1	930.00'	552.98'	34°04'05"	S 73°53'01" W
C2	930.00'	418.17'	25°45'46"	N 39°48'56" E
C3	480.00'	176.26'	21°02'22"	N 65°34'42" E
C4	60.50'	62.84'	59°30'37"	N 30°45'44" W
C5	1005.00'	671.52'	38°17'01"	N 78°05'57" E
C6	855.00'	487.34'	32°39'29"	S 39°48'56" W

Page 3 of 3	Job # 22054 Date: 08/19/2022 Not to Scale	ON POINT SURVEYING, PLLC (520)490-2467 (520)279-1884 onpointsurveygroup@gmail.com	DEPICTION OF EXHIBIT A PUBLIC RIGHT OF WAY ABANDONMENT OF A PORTION OF TANGELO PARK PLACE AS DESCRIBED IN TANGERINE/I-10 LOTS 3-5, BLOCK 1 SEQ # 20221610285, SITUATED SECTION 1, T-12-S, R-11-E, & SECTION 6, T-12-S, R-12-E, GILA & SALT RIVER MERIDIAN, PIMA COUNTY, ARIZONA

QUIT CLAIM DEED OF ABANDONMENT
Exempt: A.R.S. § 11-1134 (A) (3)

THE TOWN OF MARANA, an Arizona municipal corporation, hereby quit-claims in favor of Cemex, Inc., a Louisiana corporation, the following described real property situated in Pima County, Arizona:

SEE LEGAL DESCRIPTION AND DEPICTION ATTACHED AS EXHIBIT "A" TO THIS QUIT CLAIM DEED OF ABANDONMENT AND INCORPORATED HERE BY THIS REFERENCE

DATED _____, 2022.

THE TOWN OF MARANA, an Arizona municipal corporation

By: _____
Fausto Burruel, Town Engineer*

*Per Marana Resolution No. 2022-_____

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

STATE OF ARIZONA)
ss
County of Pima)

The foregoing instrument was acknowledged before me on _____, 2022, by Fausto Burruel, Town Engineer of THE TOWN OF MARANA, an Arizona municipal corporation, on its behalf.

(Seal)

_____
Notary Public

ON POINT SURVEYING, PLLC
onpointsurveygroup@gmail.com

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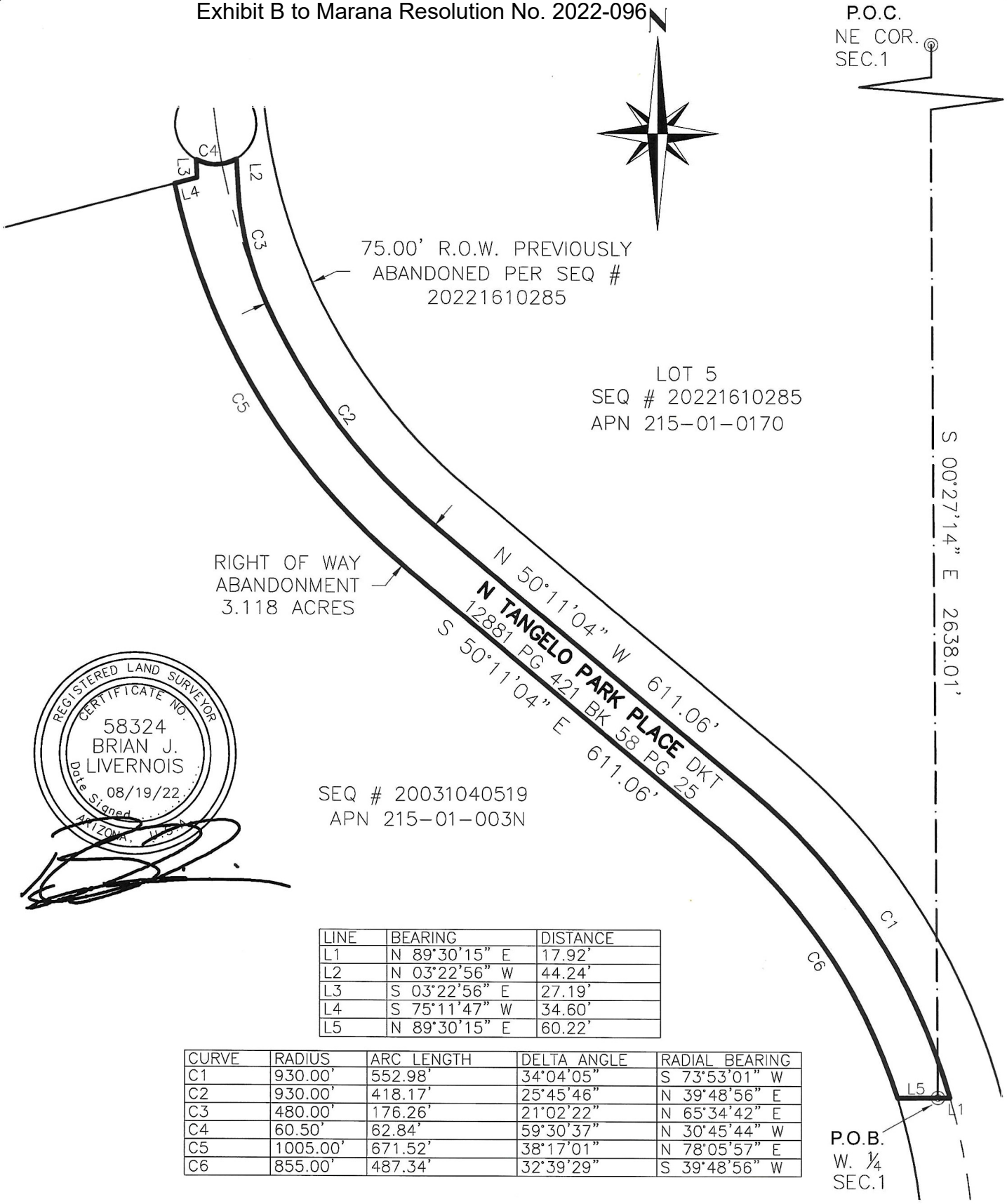
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The above described Right of Way abandonment contains 3.118 acres, more or less.





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Page 3 of 3	Job # 22054 Date: 08/19/2022 Not to Scale	ON POINT SURVEYING, PLLC (520)490-2467 (520)279-1884 onpointsurveygroup@gmail.com	DEPICTION OF EXHIBIT A PUBLIC RIGHT OF WAY ABANDONMENT OF A PORTION OF TANGELO PARK PLACE AS DESCRIBED IN TANGERINE/I-10 LOTS 3-5, BLOCK 1 SEQ # 20221610285, SITUATED SECTION 1, T-12-S, R-11-E, & SECTION 6, T-12-S, R-12-E, GILA & SALT RIVER MERIDIAN, PIMA COUNTY, ARIZONA

GENERAL NOTES:

1. THE GROSS AREA OF THIS RESUBDIVISION IS 38.78 ACRES OR 1,689,289 SQUARE FEET.

2. THE EXISTING ZONING IS SPECIFIC PLAN "F" TANGERINE COMMERCE PARK PER MARANA ORDINANCE NO. 2005.27.

3. THE TOTAL NUMBER OF LOTS IS 3 AND 1 BLOCK. NO SINGLE FAMILY RESIDENTIAL LOTS PROPOSED.

4. THE MINIMUM LOT SIZE PROVIDED IS 348,054 SF. THE AVERAGE LOT SIZE PROVIDED IS 532,641 SF. THE MAXIMUM LOT SIZE PROVIDED IS 870115 SF.

5. THE MAXIMUM ALLOWABLE BUILDING HEIGHT IS 60 FEET, AND IS SUBJECT TO THE MASSING GUIDELINES SET FORTH IN SECTION VI. C.2.A. OF THE TANGERINE COMMERCE PARK SPECIFIC PLAN.

6. BUILDING SET BACKS PER THE SPECIFIC PLAN "F" TANGERINE COMMERCE PARK, FOR COMMERCE PARK LAND USE, AS MEASURED FROM MAJOR ARTERIAL ROADS: FRONT = 30', SIDE = 20', REAR = 30'. OTHER SETBACKS WITHIN THE COMMERCE PARK LAND USE AREA ARE TO BE DETERMINED BASED ON APPLICABLE CODE REQUIREMENTS.

7. MAXIMUM LOT COVERAGE PER THE SPECIFIC PLAN "F' TANGERINE COMMERCE PARK, FOR COMMERCE PARK LAND USE, IS 50%.

8. PARKING REQUIREMENTS: PER T.O.M. DEVELOPMENT CODE, TO BE DETERMINED AT TIME OF INDIVIDUAL LOT DEVELOPMENT PLANS.

9. ALLOWED LAND USES ARE PER THE TANGERINE COMMERCE PARK SPECIFIC PLAN.

10. BASIS OF BEARING: IS THE EAST LINE OF THE NE ¼ OF SECTION 1, T-12-S, R-11-E, G. & S. R. M. ACCORDING TO THE FINAL PLAT FOR TANGERINE /I-10 LOTS 1-10, PARCEL A, SEQUENCE NUMBER 20210990141, PIMA COUNTY, ARIZONA, THE BEARING OF SAID LINE IS NORTH 00°27'14" WEST.

11. NO FURTHER LOT SPITTING SHALL BE DONE WITHOUT THE WRITTEN APPROVAL OF THE TOWN OF MARANA.

12. APPROVAL OF THIS PLAT DOES NOT AFFIRM, CERTIFY, OR APPROVE ANY LAND DIVISION THAT MAY BE CONTRARY TO STATE LAW, NOR DOES IT CERTIFY THE EXISTENCE OF, OR COMPLIANCE WITH, ANY DEED RESTRICTIONS OR EASEMENTS.

13. ALL NEW AND EXISTING UTILITIES WITHIN OR CONTIGUOUS TO THE SITE SHALL BE PLACED UNDERGROUND EXCEPT ELECTRICAL TRANSMISSION LINES CARRYING 48KV OR GREATER, AND THOSE LINES WHICH CAN BE SHOWN TO EXIST IN CURRENT OR FUTURE ELECTRICAL TRANSMISSION CORRIDORS.

14. OBJECTS AND MATERIALS WITHIN SIGHT VISIBILITY TRIANGLES SHALL BE PLACED SO AS NOT TO INTERFERE WITH A VISIBILITY PLANE DESCRIBED BY TWO HORIZONTAL LINES LOCATED 30" AND 72" ABOVE FINISHED GRADE OF THE ROADWAY SURFACE, AND SHALL CONFORM TO THE TOWN OF MARANA SUBDIVISION STREET STANDARDS.

15. THE SUBJECT PARCELS FALL IN ZONE X PER FIRM MAP 04019C1045L MARANA COMMUNITY NUMBER 040118. THE AREA BETWEEN 100-YEAR FLOOD LIMITS REPRESENTS AN AREA THAT MAY BE SUBJECT TO FLOODING FROM A 100-YEAR FREQUENCY FLOOD AND ALL LAND IN THIS AREA WILL BE RESTRICTED TO USES THAT ARE COMPATIBLE WITH FLOODPLAIN MANAGEMENT AS APPROVED BY THE FLOODPLAIN ADMINISTRATOR.

16. THE PROFESSIONAL ENGINEER OF RECORD SHALL CERTIFIED AS TO THE FORM, LINE, AND FUNCTION OF ALL PUBLIC AND PRIVATE ROADWAYS AND DRAINAGE STRUCTURES BEFORE THE RELEASE OF ASSURANCES.

17. TOTAL MILES OF NEW PUBLIC OR PRIVATE STREETS IS 0.0 MILES.

18. INSTALLATION OF ITEMS SUCH AS LANDSCAPING, IRRIGATION, HARDSCAPE, SIGNAGE, MONUMENTS, WALLS AND DRAINAGE IMPROVEMENTS IN THE PUBLIC RIGHT-OF WAY SHALL REQUIRE A PERPETUAL LICENSE AGREEMENT FOR INSTALLATION, MAINTENANCE AND INDEMNIFICATION. THIS DOCUMENT SHALL BE EXECUTED PRIOR TO FINAL APPROVAL OF LANDSCAPE PLANS OR IMPROVEMENT PLANS ALLOWING INSTALLATION WITHIN THE PUBLIC RIGHTS-OF-WAY.

19. THIS SUBDIVISION IS LOCATED WITHIN THE TOWN OF MARANA WATER SERVICE AREA, WHICH HAS BEEN DESIGNATED AS HAVING AN ASSURED WATER SUPPLY UNDER A.R.S. SECTION 45-576.

20. EXISTING PUBLIC RIGHT-OF-WAY WAS DEDICATED PREVIOUSLY AND IS NOT PART OF THIS SUBDIVISION.

21. THE CORTARO-MARANA IRRIGATION DISTRICT AND CORTARO WATER USERS' ASSOCIATION ("CMID/CWUA"), ITS SUCCESSORS, ASSIGNS, AND AGENTS SHALL BE HELD HARMLESS FROM AND AND ALL CLAIMS FOR DAMAGES RELATED TO THE USE OF THE PROPERTY DEPICTED ON THIS PLAT NOW AND IN THE FUTURE, BY REASON OF IRRIGATION FACILITY LEAKAGE, OVERTOPPING, OR FAILURES.

22. ALL CMID/CWUA EASEMENTS WITHIN THIS PLAT AND ADJACENT THERETO SHALL MAINTAIN SUPERIOR PRIOR RIGHTS AND COVENANTS AND MAINTAIN THOSE EXCLUSIVE RIGHTS IN PERPETUITY WITH NO ENCUMBRANCE UNLESS AUTHORIZED BY CMID/CWUA IN WRITING.

23. THE LOCATION OF ANY POTENTIAL SEWER EASEMENTS TO BE PROVIDED FOR CTI HAS NOT BEEN FINALIZED AT THIS TIME AND CAN BE PROVIDED BY SEPARATE INSTRUMENT.

24. ELECTRIC EASEMENT GRANTED TO TUCSON ELECTRIC POWER BY THIS PLAT.

ON POINT SURVEYING, PLLC
(520)490-2467 (520)279-1884
onpointsurveygroup@gmail.com
6817 E BARROW ST.
TUCSON,AZ 85730

DEDICATION

WE THE UNDERSIGNED, HEREBY WARRANT THAT WE ARE ALL AND THE ONLY PARTIES HAVING ANY FEE TITLE INTEREST IN THE LAND SHOWN ON THIS PLAT' AND WE CONSENT TO THE SUBDIVISION OF THIS LAND IN THE MANNER SHOWN ON THIS PLAT.

WE, THE UNDERSIGNED, OUR SUCCESSORS, AND ASSIGNS, DO HEREBY HOLD THE TOWN OF MARANA, ITS EMPLOYEES, OFFICERS, AND AGENTS HARMLESS FROM AND AGAINST ANY AND ALL CLAIMS FOR DAMAGES RELATED TO THE USE OF THESE LANDS NOW AND IN THE FUTURE BY REASON OF FLOODING, FLOWAGE, EROSION, OR DAMAGE CAUSED BY WATER, WHETHER SURFACE, FLOOD, OR RAINFALL. NATURAL DRAINAGE SHALL NOT BE ALTERED, DISTURBED, OR OBSTRUCTED WITHOUT THE APPROVAL OF THE TOWN OF MARANA.

WE HEREBY CONVEY AND DEDICATE TO THE TOWN OF MARANA FEE TITLE TO BLOCK 1 AS SHOWN ON THIS PLAT.

LANDMARK TITLE ASSURANCE AGENCY OF ARIZONA, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TRUSTEE UNDER TRUST NO. 2102, AND NOT OTHERWISE, AS TO LOT 3 AND 4.

BY: Brenda Carrillo DATE: 6/1/2022
BRENDA CARRILLO, TRUST OFFICER

LANDMARK TITLE ASSURANCE AGENCY OF ARIZONA, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TRUSTEE UNDER TRUST NO. 2109, AND NOT OTHERWISE, AS TO LOT 5.

BY: Brenda Carrillo DATE: 6/1/2022
BRENDA CARRILLO, TRUST OFFICER

ACKNOWLEDGMENT

STATE OF ARIZONA }S.S.
COUNTY OF PIMA

ON THIS 1st DAY OF June, 2022, BEFORE ME PERSONALLY APPEARED BRENDA CARRILLO, WHO ACKNOWLEDGED HIMSELF/HERSELF TO BE THE TRUST OFFICER OF LANDMARK TITLE ASSURANCE AGENCY OF ARIZONA, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, AS TRUSTEE UNDER TRUST NO. 2102 AND NOT OTHERWISE AND ACKNOWLEDGED THAT HE/SHE AS THE TRUST OFFICER, BEING AUTHORIZED SO TO DO, EXECUTED THE FOREGOING INSTRUMENT FOR THE PURPOSE THEREIN,

NOTARY PUBLIC 07-19-2025 MY COMMISION EXPIRES

NOTARY PUBLIC
STATE OF ARIZONA
Pima County
ROGER HARRISON
COMMISSION # 597516
My Commission Expires July 19, 2025

STATE OF ARIZONA }S.S.
COUNTY OF PIMA

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TOWN OF MARANA CERTIFICATION

I Cherry L. Lawson, CLERK OF THE TOWN OF MARANA, HEREBY CERTIFY THAT THIS PLAT WAS APPROVED BY THE TOWN COUNCIL OF THE TOWN OF MARANA ON THE 7th DAY OF June, 2022.

BY: Cherry Lawson 6/10/2022
CLERK OF THE TOWN OF MARANA DATE

SEQ. 20221610285-1

RECORDING DATA

SEQUENCE: 20221610285
FEE: $24.00
STATE OF ARIZONA
COUNTY OF PIMA ss.
I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD AT THE REQUEST OF: ON POINT SURVEYING, PLLC
DATE: June 10, 2022
TIME: 12:10 PM
WITNESS MY HAND AND OFFICIAL SEAL – DAY AND YEAR ABOVE WRITTEN.
GABRIELLA CAZARES-KELLY, COUNTY RECORDER
BY: Melissa Brandon DEPUTY

(a) County of Recordation PIMA
(b) Date of Recording 06/10/2022
(c) Fee/Recording Number 20221610285

COUNTY RECORDER PIMA COUNTY ARIZONA

ASSURED WATER SUPPLY

A CERTIFICATE OF ASSURED WATER SUPPLY HAS BEEN RECEIVED FROM THE DIRECTOR OF WATER RESOURCES:

BY: 6/6/22
MARANA WATER DIRECTOR DATE

TOWN OF MARANA APPROVALS

BY:

P.E. 6-6-2022
MARANA TOWN ENGINEER/DEVELOPMENT ENGINEER DATE

6/6/22
MARANA PLANNING MANAGER DATE

6/6/22
MARANA WATER DIRECTOR DATE

ASSURANCES

ASSURANCES IN THE FORM OF A THIRD PARTY TRUST AGREEMENT FROM LANDMARK TITLE ASSURANCE AGENCY OF ARIZONA, LLC, AN ARIZONA LIMITED LIABILITY COMPANY, TRUST NO.2102 AS RECORDED IN SEQUENCE NO.20221610286 IN THE OFFICE OF THE RECORDER OF PIMA COUNTY, ARIZONA HAVE BEEN PROVIDED, SPECIFIC TO LOTS 3 AND 4 HAVE BEEN PROVIDED TO GUARANTEE INSTALLATION OF REQUIRED STREET, SEWER, ELECTRIC, GAS, AND WATER UTILITIES, DRAINAGE, FLOOD CONTROL AND OTHER SUBDIVISION IMPROVEMENTS MEETING ESTABLISHED MINIMUM STANDARDS OF DESIGN AND CONSTRUCTION.

BY: 6-10-2022
TOWN OF MARANA DATE

BENEFICIARY OF TRUST

THE BENEFICIARY OF TRUST OF LANDMARK TITLE ASSURANCE ACENCY OF ARIZONA, LLC, TRUST NO. 2102 IS:

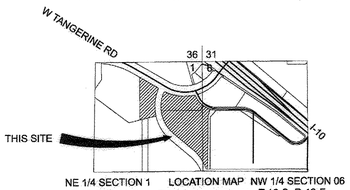
TANGERINE/I-10 LLC, AN ARIZONA LIMITED LIABILITY COMPANY,
C/O BASSETT PROPERTY COMPANY, LLC., AN ARIZONA CORPORATION
3567 EAST SUNRISE DRIVE, #219
TUCSON, ARIZONA 85719

THE BENEFICIARY OF TRUST OF LANDMARK TITLE ASSURANCE ACENCY OF ARIZONA, LLC, TRUST NO. 2109 IS:

CTI INC., AN ARIZONA CORPORATION
11105 N. CASA GRANDE HIGHWAY
P.O. BOX 397
RILLITO, AZ 85654

ADMINISTRATIVE ADDRESS:
9583 W TANGERINE RD, MARANA, AZ 85653

TOWN OF MARANA PROJECT NUMBER PRV2111-003
RELATED PROJECT NUMBER PRV2012-002



Maps not picked up in 45 days will be recycled. 6-10-22 us

SEQUENCE NUMBER 20221610285-1

LEGEND & ABBREVIATIONS:

- ● INDICATES A SURVEY MONUMENT TO BE SET BY A REGISTERED LAND SURVEYOR.
- ◎ INDICATES A FOUND MONUMENT AS NOTED.
- ⊡ INDICATES A 3 INCH TOWN OF MARANA BRASS CAP WITH PUNCH ONLY.
- ◉ INDICATES SURVEY MONUMENT TO BE SET BY THE FINAL PLAT SEQUENCE NUMBER 20210990141

CENTERLINE
SECTION LINE
SUBJECT PROPERTY LINE
EASEMENT LINE
ADJACENT PROPERTY LINE

R.O.W.: RIGHT OF WAY
APN: ASSESSORS PARCEL NUMBER
DKT: DOCKET
PG: PAGE
BK: BOOK
[1] BLOCK 1 MULTI-USE PATH AREA DEDICATED TO THE TOWN OF MARANA BY THIS PLAT.
[2] ABANDONED RIGHT OF WAY OF N TANGELO PARK PLACE BY THIS PLAT..

OWNER'S INFO:
TANGERINE/I-10 LLC
3567 EAST SUNRISE DRIVE
TUCSON, ARIZONA 85718
CONTACT: BILL HALLINAN
PHONE: (520) 299-8424

OWNER'S INFO:
CTI, INC.
11105 N. CASA GRANDE HIGHWAY
RILLITO, ARIZONA 85654
CONTACT: THOMAS E. JONES, JR.
PHONE: (520) 618-0560

CERTIFICATION OF ENGINEER

I HEREBY CERTIFY THAT THE FLOODPLAIN LIMITS AND EROSION HAZARD SETBACKS AS SHOWN ON THIS PLAT WERE PREPARED UNDER MY DIRECTION.

KEVIN M. HALL - PE NO. 37624

Registered Professional Engineer
CERTIFICATE NO.
37624
KEVIN M. HALL
05/31/22
ARIZONA U.S.A.

I HEREBY CERTIFY THAT THE BOUNDARY SURVEY AS SHOWN ON THIS PLAT WAS PERFORMED UNDER MY DIRECT SUPERVISION AND ALL EXISTING AND PROPOSED SURVEY MOMUMENTS SHOWN ARE CORRECTLY DESCRIBED. I FURTHER CERTIFY THAT THIS PLAT WAS PREPARED UNDER MY DIRECTION.

BRIAN JAMES LIVERNOIS, R.L.S.
ARIZONA REGISTRATION NO. 58324

Registered Land Surveyor
CERTIFICATE NO.
58324
BRIAN J.
LIVERNOIS
05/31/2022
ARIZONA U.S.A.

AMENDED FINAL PLAT FOR TANGERINE/I-10 LOTS 3-5 & BLOCK I

BEING A RESUBDIVISION OF LOTS 3-5 OF TANGERINE/I10 LOTS 1 THROUGH 10 & PARCEL A, SEQUENCE NUMBER 20210990141 BEING A PORTION OF THE NE ¼ OF SECTION 1, T-11-S, R-11-E, AND THE NW ¼ OF SECTION 6, T-12-S, R12-E AND THE SW ¼ OF SECTION 31, T-11-S, T-12-S, AND THE SE ¼ OF SECTION 36, T-11-S, R-11-E, GILA AND SALT RIVER MERIDIAN, TOWN OF MARANA, PIMA COUNTY, ARIZONA

Job # 21254
Date 05/31/2022
Page 1 of 2

SEQUENCE NUMBER 20221610285-2

C ¼ CORNER
SECTION 6
1.5" ALUMINUM
CAP RLS 21782

F
(TANGERINE COMMERCE PARK
SPECIFIC PLAN)
AGRICULTURE UNSUBDIVIDED
PARCEL # 216-12-0350
SEQ # 1998085323

N 89°29'10" E
2351.25'

1/2" REBAR
TAGGED RLS
24530

F
(TANGERINE COMMERCE PARK SPECIFIC PLAN)
RESOURCE EXTRACTION UNSUBDIVIDED
PARCEL # 216-12-0320
SEQ # 20031040519

N 00°07'39" W 1269.95'

L7

THIS AREA WAS PREVIOUSLY
DEDICATED TO THE TOWN OF MARANA
AND PROVIDES FOR THE CONTINUATION
OF THE MULTI-USE PATH IN BLOCK 1

L6

L5

L4

S 00°32'00" E 1373.76'

N 00°27'14" W BASIS OF BEARING 2638.01' SECTION LINE

E ¼ CORNER
SECTION 1
W ¼ CORNER
SECTION 6
GLO STONE WITH
SCRIBED "X"

1/2" REBAR
WITH C.A.P.
MARKER ON
ESMT LINE

65.00' DRIVEWAY
EASEMENT
DKT 10808 PG 835

F
APN: 215-01-003N
TANGERINE COMMERCE
PARK SPECIFIC PLAN
AGRICULTURE UNSUBDIVIDED

3" ALUMIMUN CAP
NE COR SEC 1
AND NW COR SEC 6
STAMPED
PSOMAS S36/S31
S1/S6 R11E, R12E,
T12S, RLS 18657

LOT 6
FINAL PLAT FOR TANGERINE/I-10
LOTS 1-10, PARCEL A
SEQUENCE # 20210990141

C13

C14

C15

C10

L3

L2

L1

60.00'

30.00'

A376.12'
R540.00'
D39°54'28"

A48.66'
R35.00'
D79°39'47"

125.00'

250' R.O.W.

N RILLITO VILLAGE TR (EXISTING PUBLIC)

L8 DKT 12881 PG 421

EXISTING PUBLIC U.S. DEPT. OF
INTERIOR BUREAU O F
RECLAMATION RESERVED
R.O.W. PER DKT 8801 PG 1257

PARCEL # 215-01-0170

LOT 5
870115 SQ. FEET +/-
19.975 ACRES +/-

N 89°28'00" E 1026.74'

PARCEL # 215-01-0160

LOT 4
379754 SQ. FEET +/-
8.718 ACRES +/-

D45°35'19"
R930.00'
A740.42'

D40°12'41"
R1055.00'
A740.42'

W TANGERINE
DKT 12837
PG. 3258 & BK. 58, PG. 25

N 50°11'06" W 611.55'

75.00' TO BE ABANDONED
PER THIS PLAT

D25°45'46"
R330.00'
A148.37'

150.00'

F
(TANGERINE COMMERCE PARK
SPECIFIC PLAN)
AGRICULTURE UNSUBDIVIDED
PARCEL # 215-01-003N
SEQ # 20031040519

1" = 20'
DETAIL "A"
ELECTRIC ESMT
BY THIS PLAT
SEE NOTE 24

20' X 20' & 10'
ELECTRIC ESMT
SEQ # 20220880120

A5.10'
R35.00'
D8°20'53"

A14.61'
R35.00'
D23°54'35"

A20.16'
R35.00'
D33°00'32"

S 89°27'19" W 2646.43'

S 57°50'19" E
27.82'

S 57°50'19" E
34.61'

ELECTRIC ESMT
SEE DETAIL "A"

20' X 20' & 10'
ELECTRIC ESMT
SEQ # 20220880120

A52.20'
R35.00'
D85°27'01"

N 85°10'58" W
39.81'

45.00' OF R.O.W.
ABANDONED
BY THIS PLAT

30.00'

S 19°49'01" W 213.49'

N TANGELO PARK PL (EXISITING PUBLIC R.O.W.)

A42.94'
R35.00'
D70°17'37"

L1

30.00'

C3

C4

C5

C6

C7

C8

C9

C2

C1

C12

L9

L10

EXISTING PUBLIC RIGHT OF WAY
DKT 12881 PG 421 BK 58 PG 25

TERMINUS OF
TANGELO PARK PLACE
IMPROVEMENTS

A42.11'
R323.50'
D7°27'26"

5/8" REBAR
NO TAG

LOT 3
348054 SQ. FEET
7.990 ACRES
PARCEL # 215-01-0150

45.00' OF R.O.W.
ABANDONED
BY THIS PLAT

495.89'
S 60°10'59" E 527.80'

S 89°28'00" E 422.93'

N 75°11'47" E 398.53'

F
(TANGERINE COMMERCE PARK
SPECIFIC PLAN)
AGRICULTURE UNSUBDIVIDED
PARCEL # 215-01-003M
SEQ # 20031040519

S 00°32'15" E 1002.78'

F (TANGERINE COMMERCE PARK
SPECIFIC PLAN)
AGRICULTURE UNSUBDIVIDED

LOT 2 OF THE FINAL PLAT FOR TANGERINE/I-10
LOTS 1-10, PARCEL A SEQUENCE # 20210990141
PARCEL # 215-01-0140

3.5" ALUMIMUN CAP
N 1/4 COR SECTION 1
STAMPED ¼ 36/31 T11S R11E
LS 31591

CURVE	RADIUS	ARC LENGTH	CHORD LENGTH
C1	60.50'	107.81'	94.10'
C2	39.50'	30.25'	29.51'
C3	960.00'	345.11'	343.25'
C4	900.00'	318.31'	316.66'
C5	39.50'	33.31'	32.33'
C6	60.50'	52.91'	51.24'
C7	60.50'	63.51'	60.64'
C8	540.00'	62.45'	62.41'
C9	930.00'	718.06'	700.36'
C10	480.00'	212.61'	210.87'
C11	35.00'	49.05'	45.13'
C12	480.00'	176.26'	175.27'
C13	510.00'	660.13'	615.00'
C14	540.00'	46.76'	46.74'
C15	1005.00'	181.66'	181.41'

LINE	BEARING	DISTANCE
L1	S 10°06'38" W	67.75'
L2	S 39°50'08" W	105.25'
L3	S 39°50'08" W	176.89'
L4	N 89°30'15" E	17.92'
L5	S 89°30'15" W	16.89'
L6	N 89°30'15" E	60.76'
L7	N 89°30'15" E	77.91'
L8	S 15°45'14" E	86.57'
L9	S 03°22'56" E	44.24'
L10	S 03°22'56" E	27.19'

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- [2] INDICATES A 3 INCH TOWN OF MARANA BRASS CAP WITH PUNCH ONLY.
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R.O.W.: RIGHT OF WAY
APN: ASSESSORS PARCEL NUMBER
DKT: DOCKET
PG: PAGE
BK: BOOK

[1] BLOCK 1 MULTI-USE PATH AREA DEDICATED TO THE TOWN OF MARANA BY THIS PLAT.

[2] ABANDONED RIGHT OF WAY OF N TANGELO PARK PLACE BY THIS PLAT. AREA ABANDONED IS 4.025 ACRES.

ARIZONA
37624
KEVIN M. HALL
05/31/22
REGISTERED LAND SURVEYOR

ARIZONA
58324
BRIAN J. LIVERNOIS
05/31/22
REGISTERED LAND SURVEYOR

ON POINT SURVEYING, PLLC
(520)490-2467 (520)279-1884
onpointsurveygroup@gmail.com
6817 E BARROW ST.
TUCSON,AZ 85730

TOWN OF MARANA PROJECT NUMBER PRV2111-003
RELATED PROJECT NUMBER PCZ2012-002

AMENDED FINAL PLAT FOR TANGERINE/I-10 LOTS 3-5 & BLOCK I

BEING A RESUBDIVISION OF LOTS 3-5 OF TANGERINE/I10 LOTS 1 THROUGH 10 & PARCEL A, SEQUENCE NUMBER 20210990141 BEING A PORTION OF THE NE ¼ OF SECTION 1, T-11-S, R-11-E, AND THE NW ¼ OF SECTION 6, T-12-S, R12-E AND THE SW ¼ OF SECTION 31, T-11-S, T-12-E, AND THE SE ¼ OF SECTION 36, T-11-S, R-11-E, GILA AND SALT RIVER MERIDIAN, TOWN OF MARANA, PIMA COUNTY, ARIZONA

Job # 21254

Date 05/31/2022

SCALE: 1" = 100'

SEQUENCE NUMBER 20221610285-2

Council-Regular Meeting **C3**

Meeting Date: 09/20/2022

To: Mayor and Council

Submitted For: Ricardo Carlos, Technology Services Director

From: Ricardo Carlos, Technology Services Director

Date: September 20, 2022

Strategic Plan Focus Area:
Commerce, Progress & Innovation

Subject: Resolution No. 2022-097: Relating to Technology and Intergovernmental Relations; supporting Pima County's application to the National Telecommunications and Information Administration for grant funding from the Enabling Middle Mile Infrastructure grant program and authorizing in-kind services support for the Pima County Middle Mile Infrastructure project (Ricardo Carlos)

Discussion:

The Infrastructure Investment and Jobs Act authorized and funded several grant programs to expand the accessibility and availability of high speed broadband internet. The Enabling Middle Mile Infrastructure Program (MMI Program) is one of these programs. It is designed to provide federal funding for grants on a technology-neutral, competitive basis to eligible entities for the construction, improvement, or acquisition of middle mile infrastructure that is critical for carrying large amounts of data over long distances towards the end-user.

The Pima County Board of Supervisors approved a resolution on August 15, 2022 authorizing the County to apply for the MMI Program grant, and a copy of the resolution is included in the backup materials to this agenda item. The goal of the grant application is to construct a fiber optic middle mile infrastructure ring around the area depicted in the PowerPoint slides provided by Pima County, which are also included in the backup materials. The middle mile ring will help serve unserved and underserved areas in the County that currently lack access to high-speed broadband internet and are cut off from opportunities that this technology makes possible. This infrastructure will enable the development of available, accessible, affordable high-speed local networks. More information can be found at the following
website: https://broadbandusa.ntia.doc.gov/enabling-middle-mile-broadband-infrastructure-program.

This program is a one-time opportunity for the County to receive financial assistance to provide middle mile infrastructure currently lacking throughout the community. The County anticipates that the grant budget will be approximately $50 million, with a match requirement of $15 million, and the application is due September 30, 2022. Because the project will impact cities and towns within the County, Pima County is requesting support, including cash or in-kind services, from other jurisdictions impacted by the project.

If approved, this resolution will authorize the Town to support Pima County in its application for the MMI grant and authorize the Town to provide in-kind services to help support the infrastructure project.

Staff Recommendation:

Staff recommends approval of Resolution No. 2022-097.

Suggested Motion:

I move to adopt Resolution No. 2022-097, supporting Pima County's application to the National Telecommunications and Information Administration for grant funding from the Enabling Middle Mile Infrastructure grant program and authorizing in-kind services support for the Pima County middle mile infrastructure project.

Attachments

Resolution No. 2022-097

Pima County Resolution

Pima County Slides

MARANA RESOLUTION NO. 2022-097

RELATING TO TECHNOLOGY AND INTERGOVERNMENTAL RELATIONS; SUPPORTING PIMA COUNTY'S APPLICATION TO THE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION FOR GRANT FUNDING FROM THE ENABLING MIDDLE MILE INFRASTRUCTURE GRANT PROGRAM AND AUTHORIZING IN-KIND SERVICES SUPPORT FOR THE PIMA COUNTY MIDDLE MILE INFRASTRUCTURE PROJECT

WHEREAS the federal Infrastructure Investment and Jobs Act became law in November of 2021 and provides a new grant program intended to expand middle mile infrastructure and reduce the cost of connecting areas unserved or underserved by high-speed broadband internet; and

WHEREAS in June of 2022, the Department of Commerce and the National Telecommunications and Information Administration ("NTIA") announced the Enabling Middle Mile Infrastructure Grant Program ("MMI Program"), which provides federal funding for grants to eligible entities for the construction, improvement, or acquisition of middle mile infrastructure that is critical for carrying large amounts of data over long distances; and

WHEERAS on August 15, 2022, the Pima County Board of Supervisors adopted Pima County Resolution No. 2022-48, approving the submission of an application to the NTIA for MMI Program grant funding to help construct a fiber optic ring that would provide middle mile infrastructure to large portions of Pima County, including to incorporated portions such as the Town of Marana, Oro Valley, and Sahaurita (the "Middle Mile Infrastructure Project"); and

WHEREAS the County estimates that the grant budget for the Middle Mile Infrastructure Project will be approximately $50 million with a match requirement of $15 million; and

WHEREAS the infrastructure constructed by this project will enable the development of available, accessible, and affordable high-speed local networks to the community, including to Marana citizens; and

WHEREAS the Mayor and Council find that adopting this Resolution is in the best interests of the Town and its citizens.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA as follows:

SECTION 1. The Mayor and Marana Town Council hereby support Pima County's application to the NTIA for MMI Program grant funding to fund the Middle Mile Infrastructure Project.

SECTION 2. The Town's Manager and staff are hereby authorized to provide in-kind services in support of the Middle Mile Infrastructure Project and are hereby directed and authorized to undertake all other and further tasks necessary and desirable to give effect to this Resolution.

PASSED AND ADOPTED BY THE Mayor and Council of the Town of Marana, Arizona, this 20th day of September 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

RESOLUTION 2022-_48

PIMA COUNTY RESOLUTION TO APPROVE THE SUBMISSION OF AN APPLICATION TO THE NATIONAL TELECOMMUNICATIONS AND INFORMATION ADMINISTRATION FOR GRANT FUNDING FROM THE ENABLING MIDDLE MILE INFRASTRUCTURE GRANT PROGRAM

The Board of Supervisors of Pima County, Arizona finds:

1. Access to competitive high-speed broadband is imperative for citizens to engage fully with online education, medical care, career development, and business services.

2. Communities without access are at a competitive disadvantage in the marketplace and their citizens are at an even greater risk of disenfranchisement from societal, cultural, and economic systems.

3. Pima County includes many communities designated as unserved or underserved by high-speed broadband. According to the National Telecommunication and Information Administration (NTIA), approximately 12% of the County's population has no internet access; 8% lack access to a computer, smartphone or tablet.

4. Infrastructure improvement, including digital investment, is the County's second highest priority in improving the region's competitiveness, as identified in the County's Economic Development Plan (2019-2021).

5. Investment in "middle mile infrastructure," the physical mid-section of high-capacity fiber lines that carry large amounts of data at high speeds over long distances towards the end-user, has not kept pace with demands, largely because these investments are costly and complex to install.

6. The Infrastructure Investment and Jobs Act (IIJA) passed into law November of 2021, provides a new grant program specifically intended to expand middle mile infrastructure and reduce the cost of connecting unserved and underserved areas. In June 2022, the Department of Commerce and NTIA announced the competitive Enabling Middle Mile Infrastructure Grant Program.

7. This program will distribute $980 million, on a technology-neutral, competitive basis to eligible entities for the construction, improvement, or acquisition of middle mile infrastructure, with a secondary goal to create collaborative, public-private partnerships focused on middle mile infrastructure.

8. Grants are expected to be in the $5 million to $100 million range and applications are due by September 30, 2022.

9. Applicants are required to share at least 30% of the total project costs, which can include cash and in-kind contributions from partner organizations.

10. Pima County's vision is for all community members to have equitable access to affordable and reliable high-speed broadband internet. Accomplishing this vision is possible through strategic investment in middle mile infrastructure for now and the future.

11. Pima County is an entity eligible to apply for funding under the Enabling Middle Mile Grant Program, and has the capacity to create a partnership of critical County directors and stakeholders to prepare a competitive grant. Pima County would like to submit an application to this program to create an open access, fiber ring to provide middle mile infrastructure to large portions of the County, including unincorporated portions and local incorporated portions such as Marana, Oro Valley, and Sahuarita, estimated to cost approximately $50 million.

12. An application submitted by the County is not guaranteed to receive funding but if a grant is awarded, it would substantially assist the County to meet its economic development, digital access, and equity goals.

NOW, THEREFORE, BE IT RESOLVED, that:

A. The Board of Supervisors approves the submission of a grant application on behalf of a public-private partnership lead by Pima County to the NTIA Enabling Middle Mile Infrastructure Grant Program in the approximate amount of $50 million; and

B. Staff is directed to collaboratively work with interested Pima County departments and other stakeholder groups to prepare the documentation required for the submission, including obtaining required financial statements and bank letter of commitment.

Passed and adopted, this 15th day of August, 2022.

Sharon Bronson, Chair
Pima County Board of Supervisors AUG 15 2022

ATTEST:

Clerk of the Board

APPROVED AS TO FORM:

Deputy County Attorney

91480 / 01004472 / v2



PIMA COUNTY

PIMA COUNTY MIDDLE MILE INFRASTRUCTURE PROJECT

July 26, 2022

COMMUNITY ENGAGEMENT

Community Outreach:

- City of Tucson
- Oro Valley
- Marana
- Sahuarita
- Tucson Outer neighborhoods (Picture Rock, Vail, Tanque Verde, Drexel Heights, Catalina Foothills, Rillito, and Avra Valley

Last Mile Carriers:

- Cox
- Comcast
- TING
- TOUA (Alluvion)

LAST MILE:

Connection between the local network and end user homes and business

PIMA COUNTY – BASE MAP
PROBLEM WE ARE DEALING WITH!

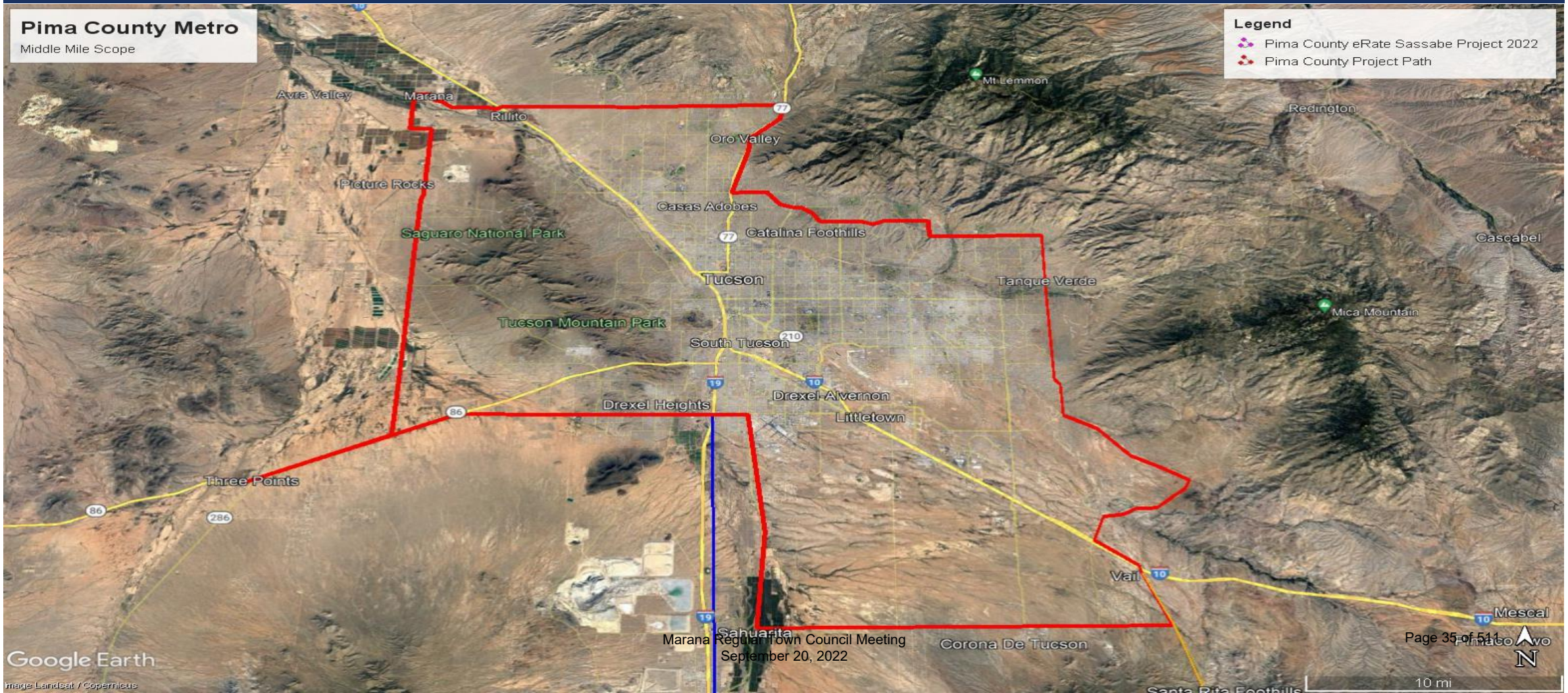


PIMA COUNTY REGION PROJECT SCOPE

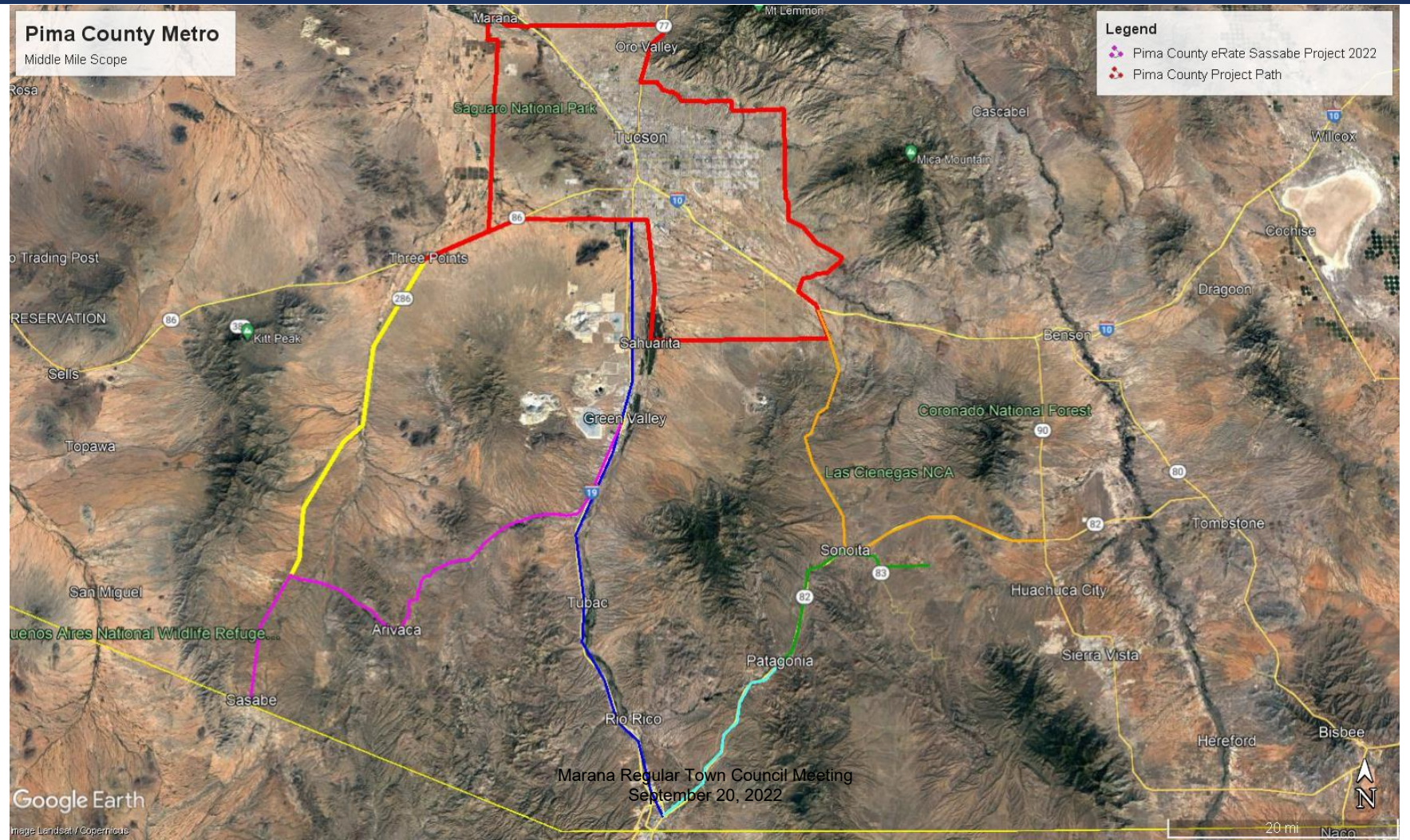
Project Scope and direction.

- Completion of a Metro Middle Mile Pathway corridor
  - Following ADOT's model of Micro Duct pathway
  - Initial fiber for County and Carrier swap
  - Open access Micro Duct or Fiber swap to provide for Last mile carrier projects utilizing upcoming ACA Last Mile Grants
- ADOT tie in:
  - Provides a bypass for ADOT around Tucson to connect I-10 to I-19 and I-10 East.
  - Use of ADOT I-19 fiber to Sahuarita and Amado
- Current Funded and ADE project:
  - Cox ACA project to Three Points and Sycamore Springs
  - Expansion working with ADE to build Arivaca and Sasabe E-rate middle mile project
    - Extend ADE project up Hwy 286 to Three Points connecting to ACA Cox grant Award.
- County Owned infrastructure
  - Contract to 3rd party for plant operations.

PIMA COUNTY – PROPOSED BROADBAND DESIGN



PIMA COUNTY – PROPOSED BROADBAND EXPANSION



NEXT STEPS

- **Community and Carrier strategy meeting**
- **Preliminary budgetary engineering design**
- **NTIA grant – request state support**

COMMUNITY BROADBAND ADVOCATES

website: https://cbadvocates.com

Contact us

Name	Company	Title/Role	Phone	Email
John C. Lucas	Community Broadband Advocates, LLC	CEO	928-792-6054	JCLucas@CBAdvocates.com
Terry Cooper	Community Broadband Advocates, LLC	Community Relations		TCooper@CBAdvocates.com
Jim Palmer	Community Broadband Advocates, LLC	Team Member Legislative and Rural Community Outreach		JAPalmer@CBAdvocates.com
Karen Ziegler	Community Broadband Advocates, LLC	Team Member Federal/State Grants, Community Outreach and Emergency Communications		Kziegler@CBAdvocates.com

Community Broadband Advocates, LLC

"Changing Your Community's Digital Future"

3504 Pine Needle Dr.
Show Low, AZ 85901
Phone: (928) 457-0945

Council-Regular Meeting **C4**

Meeting Date: 09/20/2022

To: Mayor and Council

Submitted For: Jing Luo, Water Director

From: Stephen Dean, Deputy Water Director

Date: September 20, 2022

Strategic Plan Focus Area:
Community, Progress & Innovation

Subject: Resolution No. 2022-098: Relating to Utilities; authorizing Town staff to complete the application process for funds from the Water Infrastructure Finance Authority of Arizona (WIFA) and to incur debt not to exceed $4,455,413 for the construction of the Twin Peaks Interconnect project and the design and construction of the Picture Rocks Interconnect project (Jing Luo)

Discussion:

On August 16, 2022, the Marana Town Council approved Resolution No. 2022-087, approving and authorizing the Town to submit an application for funds from the Water Infrastructure Finance Authority of Arizona (WIFA) to help finance the construction of the Twin Peaks Interconnect project and the design and construction of the Picture Rocks Interconnect project. At the time the resolution was passed, Town staff did not know whether the funding would come in the form of a grant or a loan. Since that time, WIFA representatives have informed Town staff that the funds would be distributed in the form of a loan and requested that additional language be added to the resolution authorizing the Town to pursue this opportunity. This resolution adds the requested language in Sections 1 and 2.

Identified in the 2017 Water Infrastructure Improvement Plan (IIP), the Twin Peaks Interconnect and Picture Rocks Interconnect projects are required to meet existing and future water demand in Marana Water's benefit areas and help mitigate the impacts of per-and polyfluoroalkyl substances (PFAS) and 1,4 Dioxane for their water customers.

The Twin Peaks Interconnect project is to complete the construction of a 24-inch interconnect that will connect the Hartman Vista and Picture Rocks services areas. This project is 100% designed and the construction cost is estimated to be $2,901,250.00. The Picture Rocks Interconnect project will construct approximately 1.7 miles of 12-inch water main. This project is required to maintain the level of service for existing customers that would be affected by the Twin Peaks Interconnect. The estimated costs for the design and construction of Picture Rock Interconnect is $1,554,163.00 (with design equaling approximately $183,563.00 and construction equaling approximately $1,370,600.00).

The Marana Water Department currently operates two PFAS and 1,4 Dioxane water treatment facilities: 1) Picture Rocks Water Treatment Facility in the Continental Reserve area, 2) Airline/Lambert Water Treatment Facility in the Saguaro Bloom area. The construction of these two interconnects will allow Marana Water to distribute high quality drinking water to more customers in various water systems.

On November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act ("Act"), which includes $10 billion to address PFAS contamination in drinking water. These federal funds are being distributed and managed through WIFA. Staff believe it is in the best interests of the Town to use WIFA funding to construct these projects.

In order to complete the WIFA application for these funds, a revised authorization to incur debt must be approved by the Council in accordance with the additional guidelines recently provided to Town staff by WIFA. If approved, this agenda item would provide that authorization. Once the debt authorization is received, WIFA will continue to work with Town staff to proceed with the rest of the application process.

Financial Impact:

Fiscal Year:	FY2023
Budgeted Y/N:	Y
Amount:	$4,455,413

Expenditure authority for the projects has been included in the fiscal year 2023 budget.

Staff Recommendation:

Staff recommends approval of Resolution No. 2022-098.

Suggested Motion:

I move to adopt Resolution No. 2022-098, authorizing Town staff to complete the application process for funds from the Water Infrastructure Finance Authority of Arizona (WIFA) and to incur debt not to exceed $4,455,413 for the construction of the Twin Peaks Interconnect project and the design and construction of the Picture Rocks Interconnect project.

Attachments

Resolution No. 2022-098

MARANA RESOLUTION NO. 2022-098

RELATING TO UTILITIES; AUTHORIZING TOWN STAFF TO COMPLETE THE APPLICATION PROCESS FOR FUNDS FROM THE WATER INFRASTRUCTURE FINANCE AUTHORITY OF ARIZONA (WIFA) AND TO INCUR DEBT NOT TO EXCEED $4,455,413.00 FOR THE CONSTRUCTION OF THE TWIN PEAKS INTERCONNECT PROJECT AND THE DESIGN AND CONSTRUCTION OF THE PICTURE ROCKS INTERCONNECT PROJECT

WHEREAS the 2017 Water Infrastructure Improvement Plan (IIP) identified that the Twin Peaks Interconnect and Picture Rocks Interconnect projects are required to meet future water demand in Marana and to help mitigate the impacts of per-and polyfluoroalkyl substances (PFAS) and 1,4 Dioxane for water customers; and

WHEREAS on November 15, 2021, President Biden signed into law the Infrastructure Investment and Jobs Act (Act) which includes ten billion dollars to address PFAS contamination in drinking water; and

WHEREAS the funds from the Act are being managed and distributed by the Water Infrastructure Finance Authority of Arizona (WIFA); and

WHEREAS on August 16, 2022, the Marana Town Council adopted Resolution No. 2022-087, approving and authorizing the Town to submit an application for funds from WIFA to help finance the construction of the Twin Peaks Interconnect project and the design and construction of the Picture Rocks Interconnect project; and

WHEREAS at the time the resolution was passed, Town staff did not know whether the funds would come in the form of a grant or a loan; and

WHEREAS since August 16, 2022, Town staff learned that the Act funds distributed by WIFA will be in the form of a loan and that the debt authorization language contained in Resolution No. 2022-087 requires revision as a result; and

WHEREAS the Mayor and Council feel it is in the best interests of the Town and its citizens to complete the application process for WIFA funds and to authorize the Town to incur debt by obtaining a loan from WIFA.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, as follows:

SECTION 1. Town staff is hereby authorized and directed to perform any and all tasks necessary or beneficial to completing the application process to obtain funds from

WIFA and to incur debt, in which the Town will borrow an amount not to exceed $4,455,413.00 from WIFA.

SECTION 2. The loan and the loan repayments payable by the Town will be secured by a pledge of certain excise taxes and State-shared revenues of the Town.

SECTION 3. The Town's Manager and staff are hereby directed and authorized to undertake all other and further tasks required or beneficial to carry out the terms, obligations, and objectives of this resolution.

PASSED AND ADOPTED BY THE Mayor and Council of the Town of Marana, Arizona, this 20th day of September 2022.

_____
Mayor Ed Honea

ATTEST:

_____
David L. Udall, Town Clerk

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

Council-Regular Meeting **C5**

Meeting Date: 09/20/2022

To: Mayor and Council

From: David L. Udall, Town Clerk/Assistant Town Attorney

Date: September 20, 2022

Subject: Approval of Council Regular Meeting Summary Minutes of September 6, 2022 (David L. Udall)

Attachments

Regular Council Meeting Summary Minutes, 09/06/2022

MARANA TOWN COUNCIL
REGULAR COUNCIL MEETING
11555 W. Civic Center Drive, Marana, Arizona 85653
Council Chambers, September 6, 2022, at or after 6:00 PM

Ed Honea, Mayor
Jon Post, Vice Mayor
Patti Comerford, Council Member
Jackie Craig, Council Member
Herb Kai, Council Member
John Officer, Council Member
Roxanne Ziegler, Council Member

SUMMARY MINUTES

CALL TO ORDER AND ROLL CALL

Mayor Honea called the meeting to order at 6:02 PM and directed the Interim Town Clerk to call the roll. Present: **Mayor Honea, Vice Mayor Post, Council Member Craig, Council Member Officer, and Councilmember Ziegler.** Excused: **Council Member Comerford, Council Member Kai**. The Interim Town Clerk stated a quorum was present.

PLEDGE OF ALLEGIANCE/INVOCATION/MOMENT OF SILENCE: Led by **Mayor Honea**.

APPROVAL OF AGENDA

Vice Mayor Post moved, and Council Member Officer seconded, the motion approving the agenda as presented. Motion passed, 5-0.

CALL TO THE PUBLIC

Mayor Honea opened the meeting to receive public comments.

Sharon Foltz commented on the proposed rezoning of certain real property located at the southwest corner of Tangerine Road and Thornydale Road, which rezoning was considered and recommended to the Town Council for approval by the Planning Commission at the August 31, 2022 Planning Commission meeting. **Ms. Foltz** explained her opposition to the rezone and submitted to the Interim Town Clerk a letter dated August 30, 2022, titled, "RE: PCZ2109-001 SWC Tangerine and Thornydale Specific Plan." A copy of the letter is on file in the Town Clerk's Office.

PROCLAMATIONS

PR1 Proclamation honoring Sgt. Steve Johnson, Marana Police Department, on his retirement (David Udall): Proclamation read by the Interim Town Clerk.

PR2 Proclamation recognizing and commemorating the 21st Anniversary of 9-11 (David Udall): Proclamation read by the Interim Town Clerk.

PR3 Proclamation recognizing September 16, 2022, as "POW / MIA Recognition Day" (David Udall): Proclamation read by the Interim Town Clerk.

MAYOR AND COUNCIL REPORTS: SUMMARY OF CURRENT EVENTS

Council Member Craig applauded Item C1.

Mayor Honea praised the recent Arizona League of Cities and Towns conference.

MANAGER'S REPORT: SUMMARY OF CURRENT EVENTS

Town Manager Terry Rozema praised **Steve Johnson's** 46 years of public service. He stated the Town issued 40 single-family residential permits in August and that last August we had 86. He reminded the Council of the Town's Concerts in the Courtyard series starting up on September 15, 2022. **Mr. Rozema** commented the Town's upcoming Fall Festival signature event. He provided an update on the community and aquatic center project. **Mr. Rozema** also commented on the Marana Municipal Complex drainage project. Additionally, he acknowledged construction work on Avra Valley Road.

PRESENTATIONS

P1 Relating to Budget; presentation of preliminary year-end results (July-June) for the Town's General Fund and other selected major funds for the 2021-2022 fiscal year (Yiannis Kalaitzidis)

Finance Director Yiannis Kalaitzidis provided a PowerPoint presentation regarding the fourth quarter financial health of the Town's general fund and other selected major funds

for the 2021-2022 fiscal year. A copy of the PowerPoint presentation is on file in the Town Clerk's Office.

Mayor Honea asked if the reserve fund would be affected by the increases in revenue. **Mr. Kalaitzidis** explained that, overall, the Town would have an increase of $700,000 that could be available for projects.

Council Member Ziegler asked how much money the Airport owed. **Mr. Kalaitzidis** said it was just under $500,000, but the number was not final yet. **Council Member Ziegler** commented that the Airport has been in the red for years and asked whether the Town should pay down the debt. **Mr. Kalaitzidis** stated the debt balance has come down significantly and that there is growing economic development at the Airport.

Council Member Ziegler asked **Town Manager Terry Rozema** if it would be beneficial to pay down Airport debt. **Mr. Rozema** stated that the Town is approximately two or three years out from paying off the debt and that it was probably not beneficial to spend reserve funds on Airport debt at this time. He stated that it ultimately was a Council decision and something staff could look into.

Council Member Ziegler asked for **Mayor Honea's** opinion. **Mayor Honea** said the debt has been coming down consistently and likely would be eliminated in the next two to three years.

CONSENT AGENDA

C1 Resolution No. 2022-090: Relating to Budget; approving a new capital improvement project, Tangerine Traffic Interchange Improvements, and approving the transfer of up to $600,000 in budgeted expense authority from the Regional Transportation Fund to the Other Agency Fund in the fiscal year 2022-2023 budget to fund the project (Fausto Burruel)

C2 Resolution 2022-091: Relating to Budget; approving the transfer of $435,157.80 in budgeted expense authority from multiple projects in the general fund to increase the project budget for the Marana Municipal Complex Drainage Improvement Project in the fiscal year 2022-2023 Budget (Fausto Burruel)

C3 Resolution No. 2022-092: Relating to the Marana Regional Airport; approving and authorizing the Town Manager to execute the Lessor's Consent to Leasehold Deed of Trust and Estoppel Certificate for the benefit of Western Alliance Bank, related to the Marana Regional Airport Lease Agreement with The J.D. Russell Company for the lease of approximately 1.078 acres of real property located at 11155 N. Air Commerce Way at the Marana Regional Airport (Jane Fairall)

C4 Approval of Council Study Session Summary Minutes of August 9, 2022 and Approval of Council Regular Meeting Summary Minutes of August 16, 2022 (David Udall)

Vice Mayor Post moved, and Council Member Ziegler seconded, the motion approving the Consent Agenda as presented. Motion passed, 5-0.

LIQUOR LICENSES

BOARDS, COMMISSIONS AND COMMITTEES

COUNCIL ACTION

A1 Resolution No. 2022-093: Relating to Real Estate; approving and authorizing the Mayor to execute a Real Property Agreement and related conveyance documents in favor of Southwest Gas Corporation for the fee title sale and transfer of a new natural gas tap site, along with perpetual easements for natural gas pipelines and a temporary construction easement for temporary workspace over Ora Mae Harn District Park property (George Cardieri)

Town Attorney Jane Fairall presented on this item. **Ms. Fairall** explained that Southwest Gas requested to purchase an approximately 4,400 square-foot piece of real property in Ora Mae Harn Park fronting on Barnett Road east of Lon Adams Road. She said that Southwest Gas desires to install a natural gas tap site to increase natural gas distribution in north Marana. The company will pay for it by installing wall and landscaping improvements in the park. Ms. Fairall further explained that, in addition to the conveyance of real property, perpetual and temporary construction easements will be granted to Southwest Gas if this item is approved.

Mayor Honea asked if there were any questions. There were no questions.

Council Member Ziegler moved, and Council Member Officer seconded, the motion to approve Resolution No. 2022-093. Motion passed, 5-0.

ITEMS FOR DISCUSSION / POSSIBLE ACTION

D1 Relating to Development and Public Works; update, discussion, and possible direction regarding public and private projects and development applications on the Town's Marana Current and Proposed Projects internet site (Jason Angell)

Development Services Director Jason Angell provided an update on public and private projects and development applications in the Town, as currently listed on the following

website:https://marana.maps.arcgis.com/apps/Shortlist/index.html?appid=f7b306429d29496797444b859afcc352. During his presentation, **Mr. Angell** answered questions about the various projects.

D2 Resolution No. 2022-094: Relating to Strategic Planning; approving and authorizing implementation of Marana Strategic Plan Five (Terry Rozema)

Town Manager Terry Rozema explained this was the Council's opportunity to pass Marana Strategic Plan Five and thanked staff, particularly **Andrea Caicedo**, for their work on the plan.

Mayor Honea asked if there were any questions. There were no questions.

Council Member Craig moved, and Vice Mayor Post seconded, the motion to approve Resolution No. 2022-094. Motion passed, 5-0.

EXECUTIVE SESSIONS

Pursuant to A.R.S. § 38-431.03, the Town Council may vote to go into executive session, which will not be open to the public, to discuss certain matters.

E1 Executive Session pursuant to A.R.S. §38-431.03 (A), Council may ask for discussion or consideration, or consultation with designated Town representatives, or consultation for legal advice with the Town Attorney, concerning any matter listed on this agenda for any of the reasons listed in A.R.S. §38-431.03 (A).

E2 Executive session pursuant to A.R.S. § 38-431.03(A)(4) for discussion and consultation with and instructions to the Town's attorneys regarding the pending litigation entitled Connie Partridge v. City of Marana, et al., Pima County Superior Court Case No. C20204074.

Mayor Honea asked for a motion to go into executive session on Item E2.

Council Member Ziegler moved, and Council Member Officer seconded, the motion to go into executive session. Motion passed, 5-0.

An executive session on Item E2 was held, beginning at 7:04 p.m. and concluding at 7:21 p.m.

FUTURE AGENDA ITEM

ADJOURNMENT

Mayor Honea asked for a motion to adjourn the meeting.

Vice Mayor Post moved, and Council Member Officer seconded, the motion to adjourn. Motion passed, 5-0. Meeting adjourned at 7:22 PM.

CERTIFICATION

I hereby certify that the foregoing are the true and correct minutes of the Marana Town Council meeting held on September 6, 2022. I further certify that a quorum was present.

_____

David L. Udall, Town Clerk

DRAFT

Council-Regular Meeting **A1**

Meeting Date: 09/20/2022

To: Mayor and Council

From: Brian Varney, Senior Planner

Date: September 20, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: PUBLIC HEARING: Ordinance No. 2022.013: Relating to Development; approving a rezoning of approximately 7.0 acres of land located south of Grier Road and east of Sanders Road from Zone A – Small Lot Zone and R-6 (Single-Family Residential) to Neighborhood Commercial (NC) (Brian D. Varney)

Discussion:

Request
Paradigm Land Design, LLC is requesting approval from the Marana Town Council to rezone approximately 7.0 acres of land from Zone A – Small Lot Zone and R-6 (Single-Family Residential) to Neighborhood Commercial (NC).

Marana General Plan
The 2040 Marana General Plan designates the proposed rezoning area with the land use category of Traditional Neighborhood (TN), which does accommodate the requested Neighborhood Commercial zoning and typical neighborhood-scaled commercial development and office uses equal to or less than 15 acres in size.

Surrounding Land Use and Site Characteristics
The rezoning area is bordered on the north by Grier Road and, beyond that, property that is currently undeveloped agricultural land zoned Marana Towne Center Specific Plan. The rezoning area is bordered on the east by land zoned Zone A – Small Lot Zone that is developed with single-family residential use. To the southeast is undeveloped agricultural land zoned Las Pilas Specific Plan. The

land to the south of the rezoning area is zoned R-6 Residential and is being developed by DR Horton as the Village at Barnett, a single family residential subdivision that is currently under construction. The rezoning area is bordered on the west by Sanders Road and, beyond that, a developed parcel zoned Zone A – Small Lot Zone containing a vacant, commercial office building.

Of the seven acres within the rezoning area, five and one-half acres are currently vacant, undeveloped land. The eastern one and one-half acres contain a single-family residence. The site is characterized by a very flat topography that is minimally impacted by sheet flooding, predominantly from east to west, largely conveyed by Grier Road. A small portion of the rezoning area falls within the AO flood zone.

Proposed Land Use
The preliminary development plan in the site analysis for the proposed seven acre rezoning area indicates the potential for a mixture of neighborhood-scale commercial uses. It is anticipated the majority of the site will be developed with the typical, allowed neighborhood commercial uses, as indicated for Pads 1 - 4 on the preliminary development plan, and a professional office use(s) on Pad 5. A comprehensive design review will be performed for all proposed development, and compliance with the Town's Multi-family, Commercial, and Industrial Design Standards will be required. Any future commercial development proposed within the rezoning area will be subject to a complete review, and approval by staff, of a detailed development plan package including all improvement plans, landscape plans, and building elevation plans.

Access and Circulation
Access to the rezoning area is proposed at a few locations off of Grier Road. Access from Sanders Road will be considered by the Marana Traffic Engineering Division upon submittal and review of a development plan for the site, as well as a thorough analysis of the off-site road conditions at that time. Anticipated right-of-way dedications will include 45 feet on Grier Road and five feet on Sanders Road. Turn lanes off of Grier Road, and possibly Sanders Road, will be required as warranted by a traffic study with further analysis of such warrants at the time of development plan review. Pedestrian access to the site will be accommodated by the construction of a 5-foot concrete sidewalk along the Grier Road frontage, as well as an asphalt shared-use path to be constructed along the Sanders Road frontage, connecting to the path constructed by the Village at Barnett subdivision to the south. A traffic study has been reviewed by the Marana Traffic Engineering Division with further evaluation occurring at the time of development plan submittal when the actual uses have been defined. Future on-site traffic circulation will also be evaluated at that time.

Utilities
The rezoning area is located within the Town of Marana's intended water service area. A 6-inch water line runs along Grier Road and an 8-inch water line is located along Sanders Road. Water service agreement(s) will be necessary as required by Marana Water, and all necessary on-site and off-site water infrastructure will be

required to be constructed by the property owner / developer at the time of development. The rezoning area is also located within the Town's wastewater service area. A 15-inch sewer line is located within a 30' public sewer easement along the west property boundary. The rezoning area falls within the service areas of the Northwest Fire District, Tucson Electric Power, and Southwest Gas.

Citizen Participation
The applicants directly notified, by correspondence, all property owners within 1000 feet offering to meet and discuss the project. Two individuals responded to the letter, and met with the applicants. The applicants reported that no concerns were expressed during either meeting.

Public Notification
This public hearing was appropriately noticed in The Daily Territorial, and all property owners within 300 feet of the boundary of the rezoning area were noticed by United States mail of the date, time, and topic of the public hearing. Additional notice was posted at various locations within the community.

Case Analysis Review Criteria
Pursuant to Town Code Section 17-3-1(D), the Planning Commission and Town Council shall consider the following questions, at a minimum, in reviewing an application for rezoning:

- Any change of character in the area due to installation of public facilities, other zone changes, new growth trends, deterioration, and development;

  Based upon the requirements and conditions, the rezoning amendment does not appear to be detrimental to the character of the area due to installation of public facilities or any other rezoning changes.
- The degree to which the proposed zoning will benefit the community; whether there will be benefits derived by the community, or area, by granting the proposed rezoning;

  With the acceptance of the recommended conditions, this rezoning will benefit the community by providing opportunities for the development of neighborhood commercial services.
- Whether the proposed rezoning is compatible with the surrounding area or whether there will be adverse impacts on the capacity or safety of the portion of street network influenced by the rezoning, parking problems, or environmental impacts that the new use will generate such an excessive storm runoff, water, air, or noise pollution, excessive nighttime lighting, or other nuisances;

  Based on the recommended requirements and conditions, the rezoning amendment is compatible with the surrounding area and does not appear to be adversely impact the adjacent street network or generate such excessive storm runoff, water, air, or noise pollution, excessive nighttime lighting, or other nuisances
- Whether the proposal conforms with and is in furtherance of the implementation of the goals and policies of the general plan, other adopted plans, and the goals, objectives and policies of the land development code,

and other town regulations and guidelines, including goals and policies relating to economic development;

The rezoning amendment conforms with the goals and policies of the general plan, the land development code, and other town regulations and guidelines.

- The zoning districts and existing land uses of the surrounding properties;

Based on the recommended requirements and conditions, the rezoning amendment is compatible with the surrounding properties, zoning, and existing land use.

- Whether the existing and proposed transportation infrastructure is suitable and adequate to serve the traffic anticipated to be generated by the proposed development;

With the acceptance of the recommended conditions, the existing and proposed transportation infrastructure is suitable and adequate to serve the traffic anticipated to be generated by the proposed development

- Whether the existing and proposed utility infrastructure, public facilities, and public services are suitable and adequate to serve the proposed rezoning area;

Based upon the rezoning requirements and conditions, there is adequate utility infrastructure, public facilities, and public services in the area to serve the proposed rezoning area

- Whether the subject property is suitable for the uses to which it has been restricted under the existing zoning classification;

Based upon the rezoning requirements and conditions, the subject property is suitable for the proposed uses.

- Whether the rezoning is compatible with the adjacent neighborhood, especially residential neighborhood stability and character;

Based upon the rezoning requirements and conditions, this rezoning amendment is compatible with the adjacent neighborhood in area stability and character;

- If applicable, the length of time the subject property has remained vacant as zoned:

The majority (5.5 acres) of the subject property has remained vacant since annexation to the Town. The remaining 1.5 acres has contained a single-family residence for many years.

- Whether there is an adequate supply of land available in the subject area and the surrounding community to accommodate the zoning and community needs:

Based upon the rezoning amendment subject area location, there is an adequate supply of land available in the area and the surrounding community to accommodate the zoning and community needs.

Staff Recommendation:

This is a discretionary item for the Town Council to consider. Should the Town Council choose to approve this item, staff recommends it be based upon the recommended findings and subject to the conditions set forth in the draft ordinance attached.

Planning Commission Recommendation
The proposed rezoning was considered at a public hearing before the Marana Planning Commission on August 31, 2022. The Planning Commission voted unanimously 7-0 to recommend to the Town Council approval of the requested rezoning.

Suggested Motion:
I move to adopt Ordinance No. 2022.013, approving the Grier and Sanders Commercial Corner Rezoning subject to the recommended conditions.

Attachments

Ordinance No. 2022.013
Exhibit A to Ordinance
PCZ2203-002 GSCC Map
PCZ2203-002 GSCC App
PCZ2203-002 GSCC Site Analysis

MARANA ORDINANCE NO. 2022.013

RELATING TO DEVELOPMENT; APPROVING A REZONING OF APPROXIMATELY 7.0 ACRES OF LAND LOCATED SOUTH OF GRIER ROAD AND EAST OF SANDERS ROAD FROM ZONE A – SMALL LOT ZONE AND R-6 (SINGLE-FAMILY RESIDENTIAL) TO NEIGHBORHOOD COMMERCIAL (NC)

WHEREAS Elinor Louise Barnett and Fred C. Barnett, as Co-Trustees of the Barnett Family Trust Agreement, (the "Property Owners"), own approximately 7.0 acres of land located south of Grier Road and east of Sanders Road within Section 28, Township 11 South, and Range 11 East, described on Exhibit "A" attached to and incorporated in this ordinance by this reference (the "Rezoning Area"); and

WHEREAS the Property Owners have authorized Paradigm Land Design, LLC to submit an application to rezone the Rezoning Area from Zone A – Large Lot Zone and R-6 (Single-Family Residential) to Neighborhood Commercial (NC) ("this Rezoning"); and

WHEREAS the Marana Planning Commission held a public hearing to consider this Rezoning on August 31, 2022 and voted unanimously 7-0 to recommend that the Town Council approve this Rezoning subject to the recommended conditions; and

WHEREAS the Marana Mayor and Town Council held a public hearing to consider this Rezoning on September 20, 2022 and determined that this Rezoning should be approved.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the Town of Marana, Arizona, as follows:

Section 1. The zoning of the Rezoning Area is hereby changed from Zone A – Large Lot Zone and R-6 (Single-Family Residential) to Neighborhood Commercial (NC).

Section 2. This Rezoning is subject to the following conditions, the violation of which shall be treated in the same manner as a violation of the Marana Town Code (but which shall not cause a reversion of this Rezoning), and which shall be binding on the Property Owners and their successors in interest (all of whom are collectively included in the term "Property Owners" in the following conditions):

1. Compliance with all applicable provisions of the Town's codes and ordinances current at the time of any subsequent development including, but not limited to, requirements for public improvements and payment of application fees and applicable development impact fees.

2. Any plat or development plan for any portion of the Rezoning Area shall be in general conformance with the Preliminary Development Plan presented to and approved by the Town Council as part of this Rezoning.
3. A master drainage study must be submitted by the Property Owners and accepted by the Town Engineer prior to Town approval of a plat or development plan for any portion of the Rezoning Area.
4. A water infrastructure and phasing plan (WIP) must be submitted by the Property Owners and accepted by Marana Water Department (the "water provider") prior to approval of a plat or development plan for any portion of the Rezoning Area. The WIP shall identify all on-site and off-site water facilities needed to serve the proposed development. The WIP shall include all information required by the water provider, such as (but not limited to) analysis of water use and fire flow requirements, and well source, reservoir, and booster station infrastructure needed to serve the proposed development. If Marana Water requires a water service agreement as a condition of service to the proposed development, the Property Owners must enter into a water service agreement with Marana Water consistent with the accepted WIP.
5. A master sewer plan must be submitted by the Property Owners and accepted by the Marana Water Department (the "wastewater utility") prior to the approval of any plat or development plan for the Rezoning Area. The master sewer plan shall identify all on-site and off-site wastewater facilities needed to serve the proposed development, and shall include all information required by the wastewater utility. If the wastewater utility requires a sewer service agreement as a condition of service to the proposed development, the Property Owners must enter into a sewer service agreement with the wastewater utility consistent with the accepted master sewer plan.
6. The Property Owners must design and construct any roadway, drainage, water, and wastewater improvements, and dedicate or acquire any property rights associated with those improvements, that the Town requires based on the data and findings of the accepted traffic impact analysis, the accepted master drainage study, the accepted WIP, the accepted master sewer plan, and other studies approved in connection with the approval of a plat or development plan for any portion of the Rezoning Area.
7. The final design of all streets and circulation facilities, including gated access (if applicable) must be accepted by the Northwest Fire District prior to approval of a plat or development plan for any portion of the Rezoning Area.
8. No approval, permit or authorization by the Town of Marana authorizes violation of any federal or state law or regulation or relieves the Property Owners from responsibility to ensure compliance with all applicable federal and state laws and regulations, including the Endangered Species Act and the Clean Water Act. The Property Owners should retain appropriate experts and consult appropriate federal and state agencies to determine any action necessary to assure compliance with applicable laws and regulations.

9. The Property Owners shall transfer to the water provider, by the appropriate Arizona Department of Water Resources form, those water rights being IGR, Type I or Type II for providing designation of assured water supply and water service to the Rezoning Area. If Type I or Type II is needed on the Rezoning Area, the water provider and the Property Owners shall arrive at an agreeable solution to the use of those water rights appurtenant to the affected portion of the Rezoning Area.
10. Prior to the issuance of any grading permits, the Property Owners shall submit evidence to the Town that all federal permit requirements have been met through the Corps of Engineers and the State Historic Preservation Office, if federal permits are required for the development of the Rezoning Area.
11. The Property Owners shall not cause any lot split of any kind without the written consent of the Town of Marana.
12. The Property Owners shall install a non-potable system to serve the common open space areas and other landscape amenities, as accepted by the Cortaro-Marana Irrigation District.

Section 3. All ordinances, resolutions and motions and parts of ordinances, resolutions, and motions of the Marana Town Council in conflict with the provisions of this ordinance are hereby repealed, effective as of the effective date of this ordinance.

Section 4. If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 20th day of September, 2022.

_____
Mayor Ed Honea

ATTEST:

_____
David L. Udall, Town Clerk

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

EXHIBIT A to Marana Ordinance No. 2022.013

A PORTION OF THE WEST HALF OF THE NORTHWEST QUARTER OF SECTION 28, TOWNSHIP 11 SOUTH, RANGE 11 EAST, GILA AND SALT RIVER BASE AND MERIDIAN, PIMA COUNTY, ARIZONA, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHWEST CORNER OF SAID SECTION 28 FROM WHICH THE WEST QUARTER CORNER OF SAID SECTION BEARS SOUTH 00°29'31" EAST (BASIS OF BEARINGS), A DISTANCE OF 2632.80 FEET;

THENCE NORTH 89°21'35" EAST, ALONG THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 28, A DISTANCE OF 1318.94 FEET TO THE NORTHEAST CORNER OF THE WEST HALF OF THE NORTHWEST QUARTER OF SAID SECTION 28;

THENCE SOUTH 00°30'57" EAST, ALONG THE EAST LINE OF THE WEST HALF OF THE NORTHWEST QUARTER OF SAID SECTION 28, A DISTANCE OF 30.00 FEET TO THE POINT OF BEGINNING;

THENCE CONTINUE SOUTH 00°30'57" EAST, ALONG SAID EAST LINE, A DISTANCE OF 213.09 FEET;

THENCE SOUTH 89°21'35" WEST, A DISTANCE OF 919.04 FEET;

THENCE SOUTH 00°29'31" EAST, A DISTANCE OF 87.00 FEET;

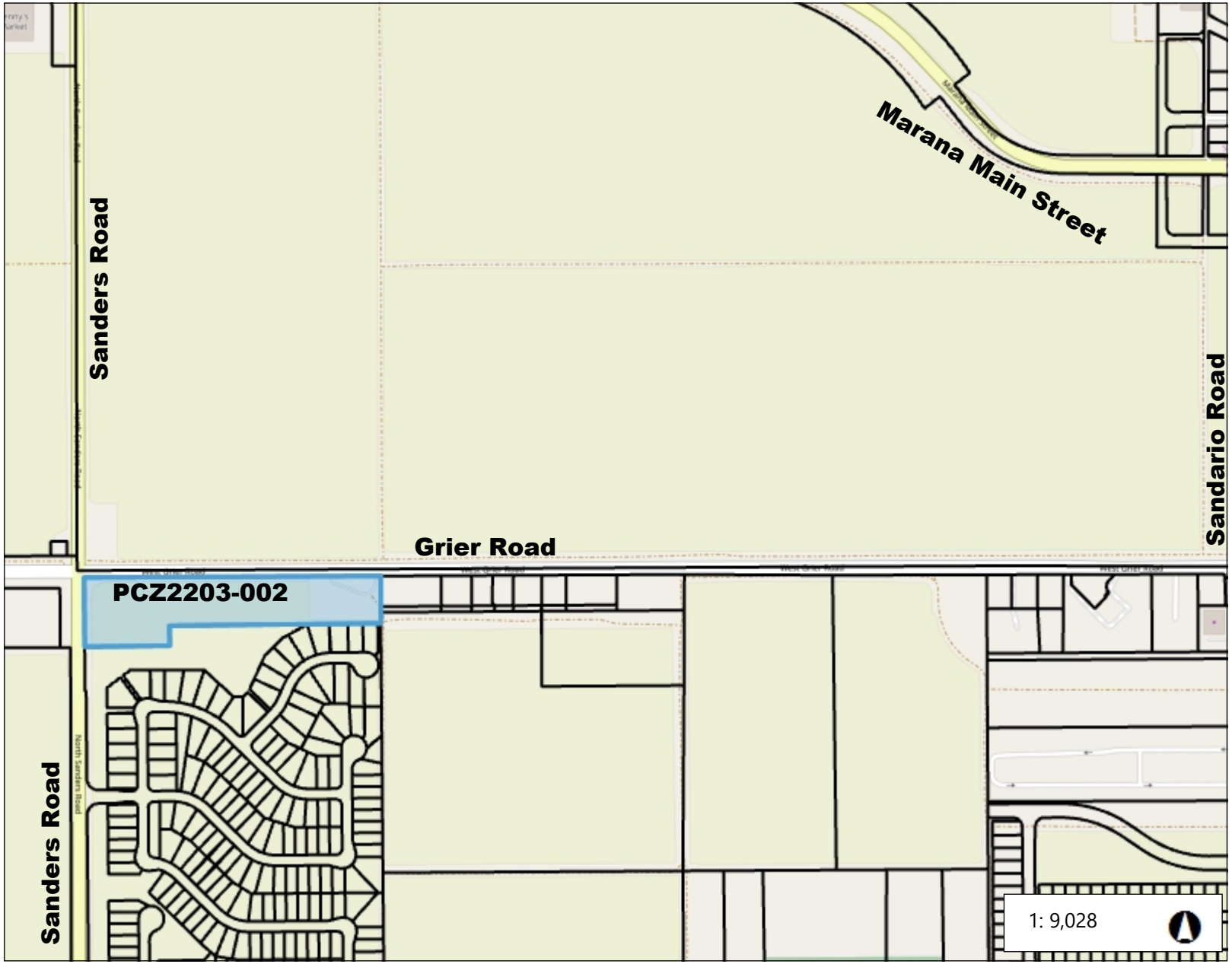
THENCE SOUTH 89°21'35" WEST, A DISTANCE OF 370.00 FEET TO A POINT ON THE EAST LINE OF SANDERS ROAD;

THENCE NORTH 00°29'31" WEST, ALONG SAID EAST LINE, A DISTANCE OF 300.09 FEET TO THE INTERSECTION OF THE EAST LINE OF SANDERS ROAD AND THE SOUTH LINE OF GRIER ROAD;

THENCE NORTH 89°21'35" EAST, ALONG SAID SOUTH LINE OF GRIER ROAD, A DISTANCE OF 1318.94 TO THE POINT OF BEGINNING.

Town of Marana Planning

PCZ2203-002: Grier and Sanders Commercial Corner Rezoning





Legend

- Marana Town Limits
- Parcel Labels
- Parcels (Black)

Notes

0.3 0 0.14 0.3 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

© Latitude Geographics Group Ltd.

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Development Services / maranaplanning@maranaAZ.gov
11555 West Civic Center Drive / Marana, AZ 85653
Ph (520) 382-2600 / Fax (520) 382-2641 / maranaAZ.gov

PROJECT APPLICATION

APPLICATION TYPE

❑ Annexation	❑ Development Plan	❑ Development Plan Package	❑ General Plan Amendment
☒ Rezone	❑ Minor Land Division	❑ Significant Land Use Change	❑ Conditional Use Permit
❑ Specific Plan	❑ Landscape Plan	❑ Native Plant Plan/Exception	❑ SWPP
❑ Variance	❑ Hydraulic Model	❑ Sewer Capacity Assurance	❑ Sign Program
❑ Plat	❑ Improvement Plan	❑ Report (Type): _____	❑ Other: _____

PROJECT INFORMATION

Project Name: Barnett Retail & Offices	
Description of Project: Rezone	Number of Lots: n/a
Parcel No.(s): 217-41-010G	Gross Area (Acres): 7
Project Address: Not Assigned	
Ref. Project No.:	

CONTACT INFORMATION

Owner: Barnett Family Trust	Contact Name: Fred Barnett		
Address: PO Box 397	City: Marana	State: AZ	Zip: 85653
Email: fstfwdfred@aol.com	Phone No.: (520) 440-3733		
Applicant: (Same)	Contact Name:		
Address:	City:	State:	Zip:
Email:	Phone No.:		
Consultant/Engineer: Paradigm Land Design LLC	Contact Name: Paul Oland		
Address: 7090 N Oracle Rd #178-193	City: Tucson	State: AZ	Zip: 85704
Email: GPO@ParadigmLand.US	Phone No.: (520) 664-4304		

OWNER/APPLICANT AUTHORIZATION

I hereby certify that the information set forth in this application are true and correct to the best of my knowledge and that I am either the owner of the property or that I have been authorized in writing by the owner to file this application. (If applicant is not the owner, attach written authorization from the owner.)

Applicant Name (PRINT)	Signature	Date
	Paul Oland Digitally signed by Paul Oland Date: 2022.03.14 15:14:12 -07'00'	

FOR OFFICIAL USE ONLY

Revision Date 03/29/2019

Project No._____ **Date Received**_____

GRIER & SANDERS COMMERCIAL CORNER

REZONING SITE ANALYSIS

(PCZ2203-002)

PREPARED BY:

PARADIGM LAND DESIGN LLC

CONTACT: PAUL OLAND
GPO@PARADIGMLAND.US
(520) 664-4304

IN COLLABORATION WITH:

M Esparza Engineering, LLC

AUGUST 2022

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I. INTRODUCTION

A. PROJECT OVERVIEW

The Property subject to this rezoning request (the "Property") is proposed to be developed as a small mixed-use center consisting of 7.0± acres located at the southeast corner of Grier Road and Sanders Road in Marana, Arizona. This will allow for the property to be developed with 5.5± acres of neighborhood-scale commercial area, and 1.5± acres of office space. The property owner will also work to attract multifamily residential developers to develop all or a portion of the site for residential purposes as allowed by the NC zone. The project site is made up of parcel 217-41-010G and is owned by the Barnett Family Trust. Most of the property has been subject to farming for many years and is void of any native vegetation. The eastern portion of the property contains two existing single-family residences and contains minimal native vegetation. This project will contain a variety of retail, office, and restaurant pad spaces to respond to market demand for economic development near Downtown Marana. The Make Marana 2040 General Plan's "Traditional Neighborhood" designation is appropriate for the Property, as proposed.

This document has been prepared in support of a request to rezone the Property from "A-Small Lot Zone" and "R-6-Single Family Residential" to "NC-Neighborhood Commercial" in order to allow for the development as proposed.

The Town of Marana Strategic Plan 4 encourages new commercial development, especially in North Marana. It also calls for all new developments to provide pedestrian connectivity. This project will meet both of those goals and will also support the Plan's call for diverse housing opportunities if developed residentially.

B. PRIMARY OBJECTIVES

- Support economic growth by providing a prime location for new and existing businesses to expand their market and create employment opportunities.

- Provide a safe, clean, and attractive environment for business owners, employees, and future patrons.

- Construct a commercial development that is pedestrian friendly and compatible with both existing and future surrounding land uses.

Being bound on two of its four sides by major roads, this development will have minimal impact on nearby landowners. The subject property is mainly surrounded by undeveloped parcels to the north and west. Land to the south is currently under development as a residential subdivision, The Village at Barnett. Land to the east contains seven single-family residences, a Cortaro-Marana irrigation district facility and vacant agricultural land. This project has been carefully designed to be sensitive to nearby existing residences by providing landscape buffers around the entirety of the project and by including a land use transition between the residential homes to the east with office spaces creating a buffer from the retail portion of the project.

II. INVENTORY & ANALYSIS

The purpose of the Inventory & Analysis section of this document is to catalog the various developmental opportunities and constraints impacting the property in order to provide a meaningful and relevant context for the development proposal detailed in Section III of this document. Through careful consideration of these existing conditions a design can be deemed compatible with its surroundings and appropriate for the area.

A. EXISTING LAND USES

1. Site Location

   The Property consists of parcel 217-41-010G and is located within Township 11 south, Range 11 east, Section 28, Town of Marana, Arizona. The property totals 7.0± acres and is at the southeast corner of Grier Rand and Sanders Road. See Exhibit II-A-1: Site Location Map.

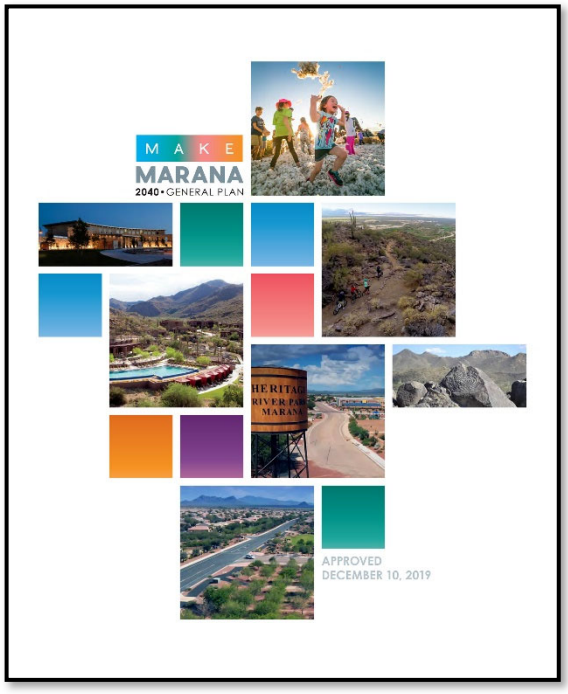
   Per Town of Marana Addressing the Project's administrative address is 12499 West Grier Road, Marana, AZ 85653.

2. Existing Land Uses, Onsite Zoning & General Plan

   Approximately 5.5± acres of the site are undeveloped and vacant, the remaining 1.5± acres contain two single-family residential homes. See Exhibit II-A-2: Existing Land Uses.

   Most of the Property is currently zoned A (Small Lot Zone), with a small portion along the southern boundary being zoned R-6 (Single-Family Residential). See Exhibit II-A-4: Existing Zoning.

   The Make Marana 2040 General Plan designates the Property as Traditional Neighborhood within the "Central Growth Area". As stated in the General Plan, this Central Growth Area is projected to become the main "Downtown" area for the Town of Marana. With lots of space for growth, this area is envisioned to include event and gathering spaces, shops, entertainment destinations, and employment opportunities. This project will contain a variety of retail and restaurant pad spaces to respond to market demand for economic development near Downtown Marana. See Exhibit II-A-3: Existing General Plan Land Uses.



3. Existing Adjacent Zoning and Land Uses

a. Surrounding Zoning & Land Uses

The Property is surrounded by properties featuring the following zoning designations and land uses. See Exhibit II-A-2: Existing Land Uses and Exhibit II-A-4: Existing Zoning.

N:	Existing zoning:	F-Specific Plan, Marana Towne Center
	Existing land use:	Grier Road and Vacant Farmland
NE:	Existing zoning:	F-Specific Plan, Marana Towne Center
	Existing land use:	Grier Road and Vacant Farmland
E:	Existing zoning:	A-Small Lot Zone
	Existing land use:	Single-Family Residential
SE:	Existing zoning:	F-Specific Plan, Las Pilas
	Existing land use:	Vacant Farmland
S:	Existing zoning:	R-6 Single-Family Residential
	Existing land use:	The Village at Barnett Single-Family Residential Subdivision (under construction)
SW:	Existing zoning:	A-Small Lot Zone
	Existing land use:	Sanders Road and Vacant Farmland
W:	Existing zoning:	A-Small Lot Zone
	Existing land use:	Sanders Road, a Vacant Building and Undeveloped Land
NW:	Existing zoning:	A-Small Lot Zone and F-Specific Plan, Marana Towne Center
	Existing land use:	Intersection of Grier Road and Sanders Road, and Vacant Farmland

b. Surrounding Building Heights

All structures nearby are single-story, some homes within the Village at Barnett subdivision that is currently under construction are two-story.

c. Nearby Pending Rezonings

There are no pending rezonings within one-quarter mile.

d. Nearby Approved Rezonings

The Las Pilas Specific Plan is immediately adjacent to the Property's southeastern corner, and the Marana Towne Center Specific Plan is immediately north of the Property. The Villages at Barnett subdivision that is directly south of this project was rezoned to R-6 several years ago.

e. Nearby Approved Subdivisions & Development Plans

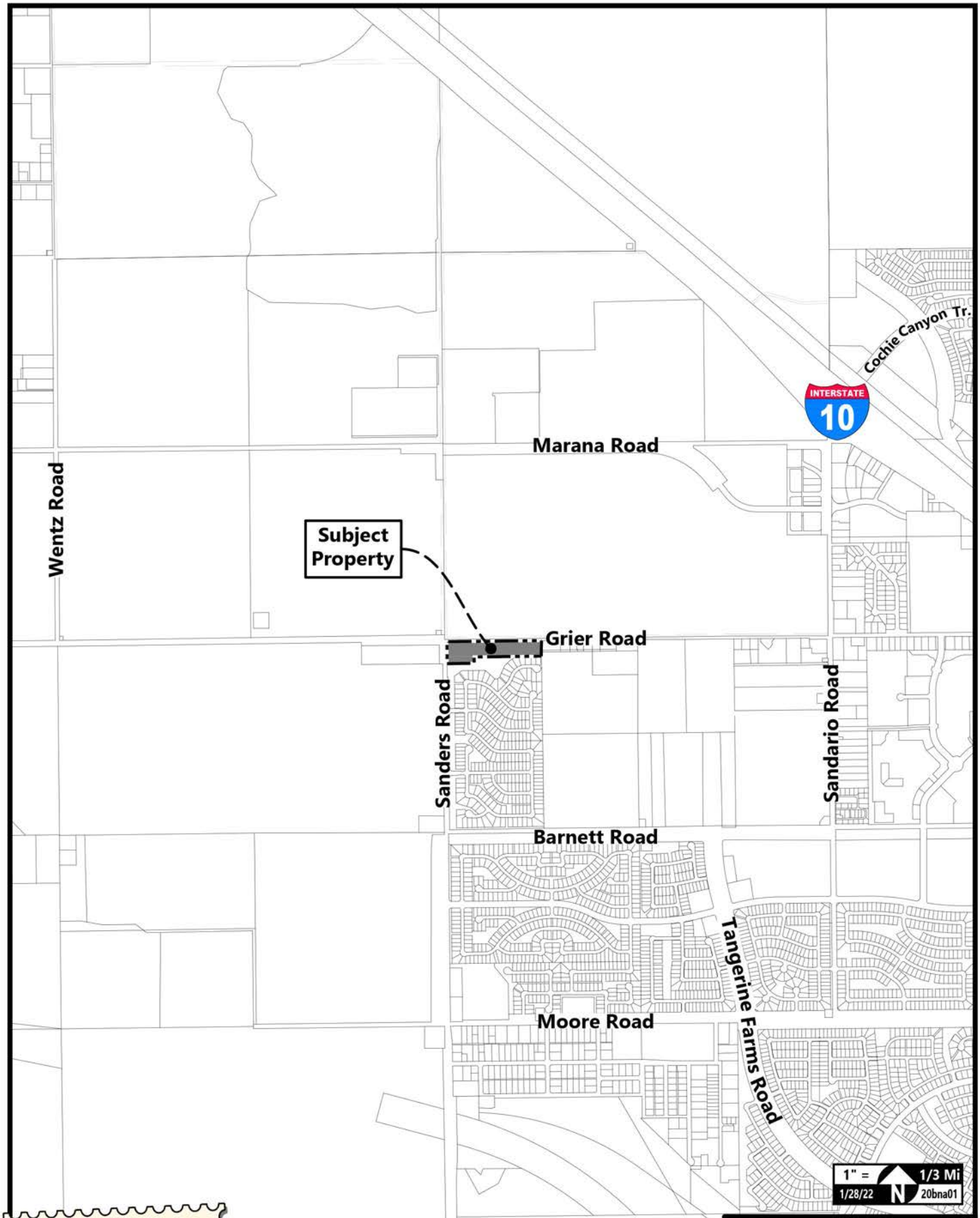
The Village at Barnett Subdivision is directly south of the property and is approved for 251 lots. It is currently under construction.

f. Architectural Styles used in Adjacent Properties

Architectural styles of site-built homes to the east of the project site are typical of most unplanned development in rural Marana. Architectural styles in the subdivisions to the south of the project site are typical of most planned developments in Marana, which is a mix of traditional and contemporary southwest homes. These homes are mainly wood frame homes that utilize stucco and stone veneer and have a gabled tile roof.

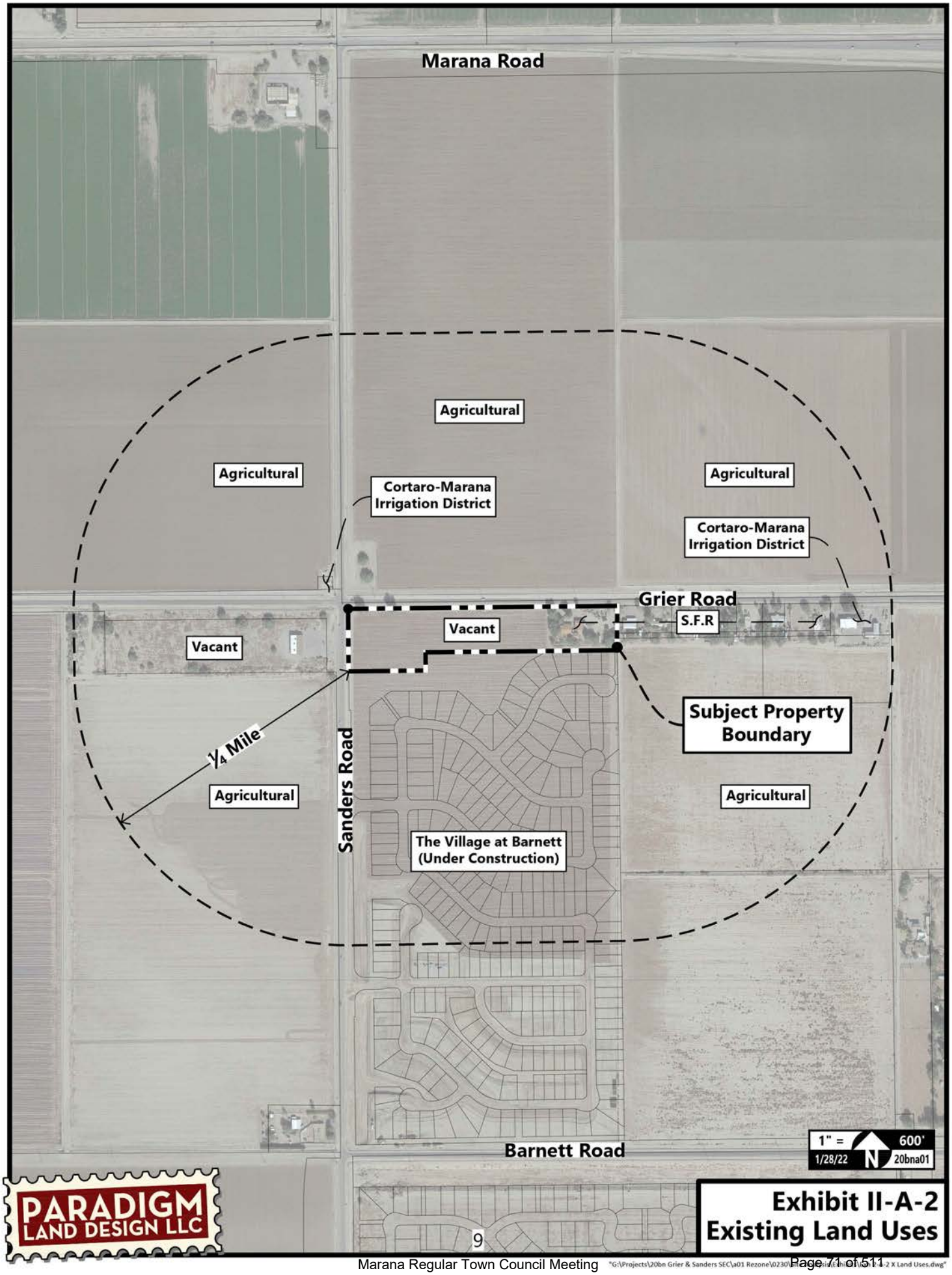
Single-Family Residential Neighbors to the East of the Project

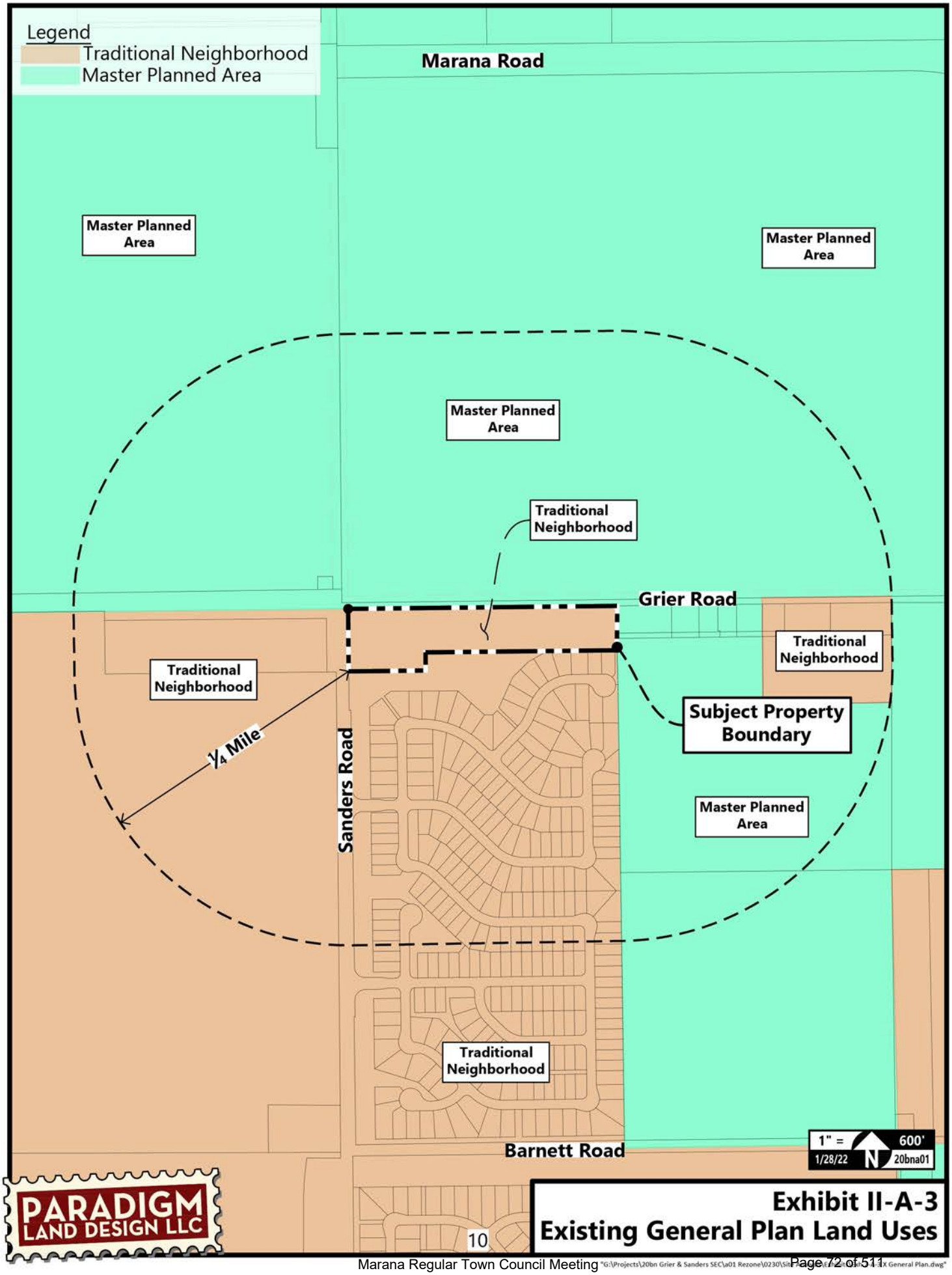


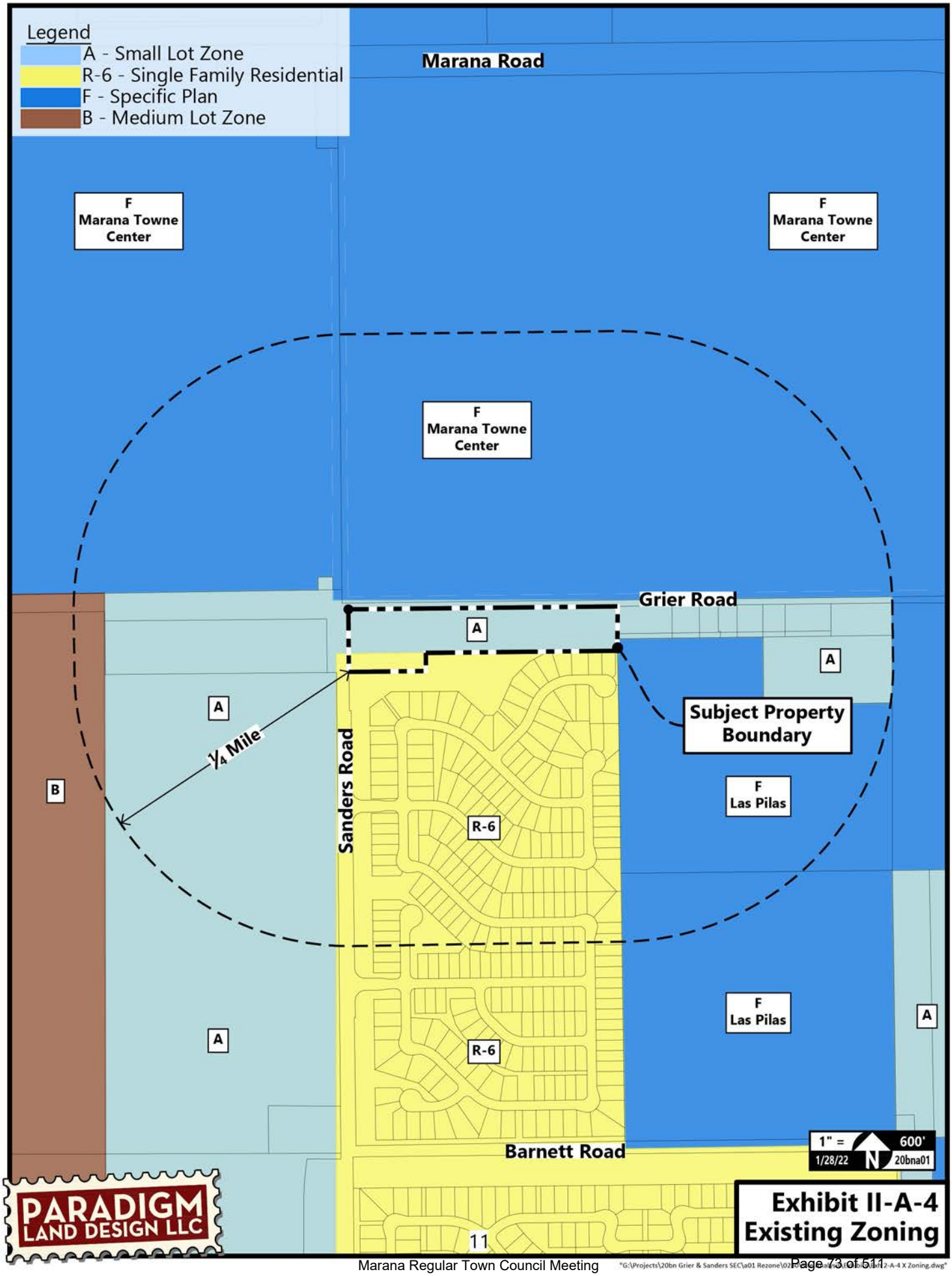


PARADIGM LAND DESIGN LLC

Exhibit II-A-1
Site Location Map


Marana Road
Agricultural
Agricultural
Agricultural
Cortaro-Marana Irrigation District
Cortaro-Marana Irrigation District
Grier Road
S.F.R
Vacant
Vacant
Subject Property Boundary
¼ Mile
Sanders Road
Agricultural
Agricultural
The Village at Barnett (Under Construction)
Barnett Road
1" = 600'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-A-2
Existing Land Uses


Legend
Traditional Neighborhood
Master Planned Area
Marana Road
Master Planned Area
Master Planned Area
Master Planned Area
Traditional Neighborhood
Grier Road
Traditional Neighborhood
Traditional Neighborhood
Subject Property Boundary
¼ Mile
Sanders Road
Master Planned Area
Traditional Neighborhood
Barnett Road
1" = 600'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-A-3
Existing General Plan Land Uses
10
"G:\Projects\20bn Grier & Sanders SEC\a01 Rezone\0230\Sheets\Exhibit II-A-3 General Plan.dwg"


Legend
A - Small Lot Zone
R-6 - Single Family Residential
F - Specific Plan
B - Medium Lot Zone
Marana Road
F
Marana Towne
Center
F
Marana Towne
Center
F
Marana Towne
Center
Grier Road
A
A
A
A
A
B
¼ Mile
Sanders Road
Subject Property
Boundary
F
Las Pilas
R-6
R-6
F
Las Pilas
A
Barnett Road
1" = 600'
1/28/22
N
20bna01
PARADIGM
LAND DESIGN LLC
Exhibit II-A-4
Existing Zoning
11

B. TOPOGRAPHY AND SLOPE

1. Topographic Characteristics

The topography of the Property is characterized by extremely flat terrain. The property generally slopes gently downward from southeast to northwest. Elevations range from approximately 1,974 feet above sea level at the southeast corner to approximately 1,968 feet above sea level at the northwest corner of the property. The Property does not contain any hillside conservation areas, rock outcrops, slopes of 15% or greater, or other significant topographic features. See Exhibit II-B-1: Topography.

2. Pre-Development Slope

a. Average Cross-Slope

The pre-development average cross-slope of the Property is approximately 2.9%, according to the following formula:

C = Contour Interval
L = Length of Topographic Contours
A = Acreage of Property

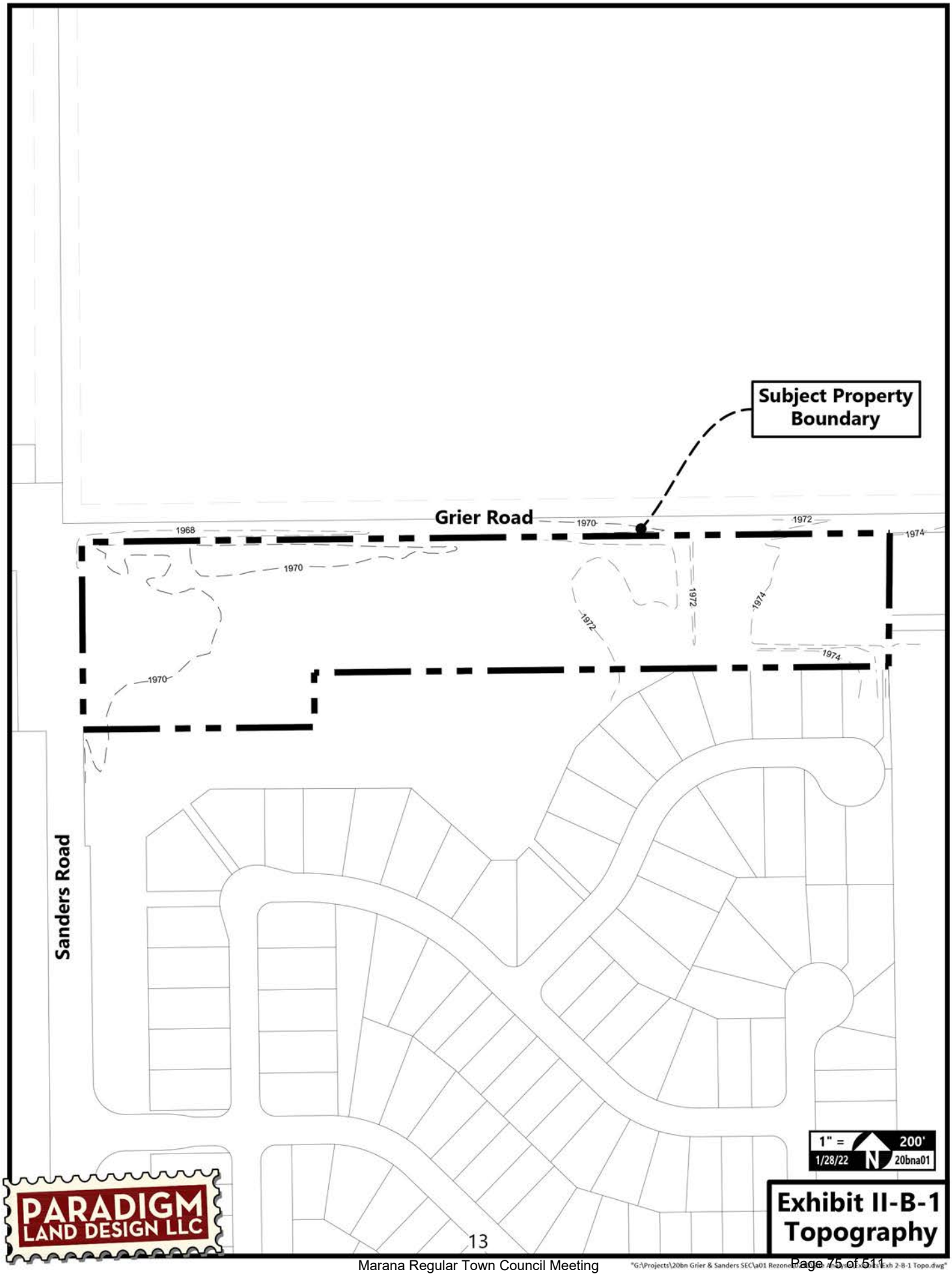
(C x L x 0.0023) / A = Average Cross Slope
(2' x 4,375' x 0.0023) / 7.0 = 2.9%

b. Average Overall Slope

The pre-development average overall slope is 0.004% from the southeast corner to the northwest corner of the project boundary.

A Completely Flat Site




Subject Property Boundary
Grier Road
Sanders Road
1968
1970
1972
1974
1" = 200'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-B-1
Topography
"G:\Projects\20bn Grier & Sanders SEC\a01 Rezone\Exh 2-B-1 Topo.dwg"

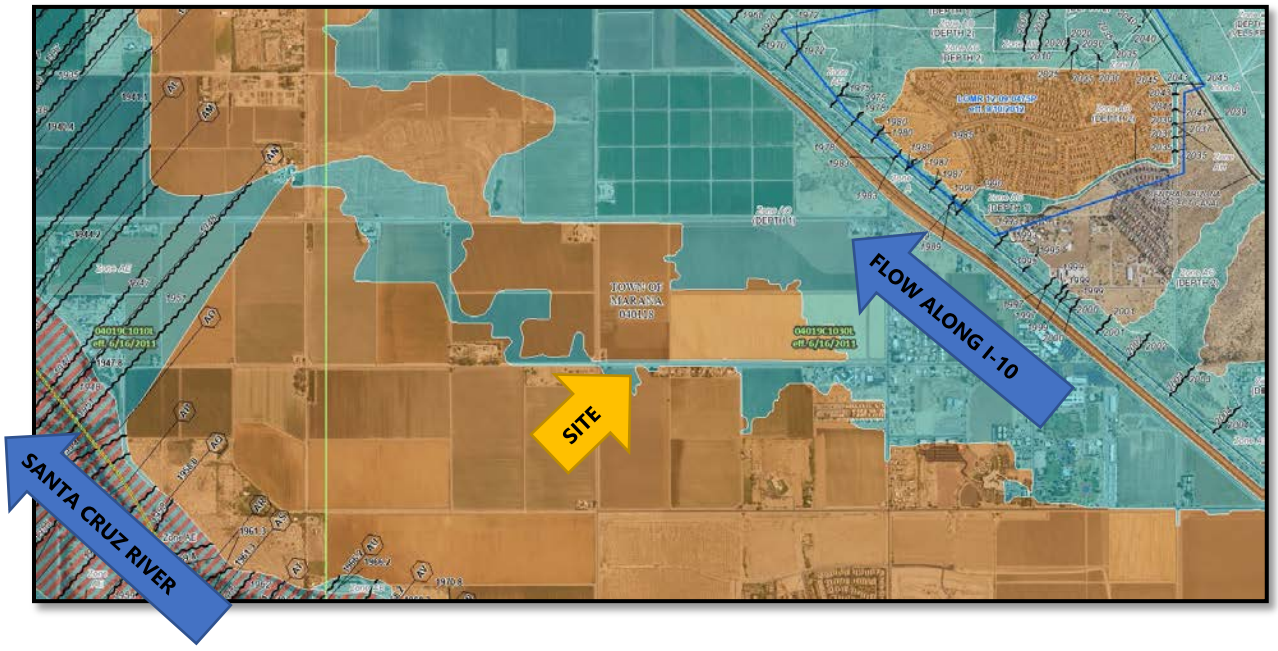
C. HYDROLOGY

1. Offsite Features Affecting Site

Storm drainage primarily enters the Property from the east as it flows within and along Grier Road. The storm drainage along Grier Road accumulates offsite from sheet flow coming off agricultural fields and other properties south of Grier Road. A trivial amount of storm drainage also enters the Property from the Villages at Barnett Common Area to the south. Downstream of the Property storm drainage continues to flow west within and along Grier Road, breaking out to the north within the agricultural field west of Sanders Road. From there, drainage sheet flows to the northwest and then west until joining the larger Santa Cruz River floodplain approximately 1.5 miles west/northwest of the Property. A floodplain use permit will be needed for construction in this area.

2. Acreage of Upstream Offsite Watersheds

The offsite watershed contributing area impacting this property is approximately 300± acres west of Interstate-10. The offsite watershed is characterized by agricultural fields and relatively low-density development with the exception of the Valley of the Sun MHP, the Marana Municipal Complex, and Marana Middle School. In addition, stormwater drainage enters Grier Road via culverts under Interstate-10 from the east. The FEMA AO-1 Zone correlating with Grier Road is a minor breakout from the larger FEMA AO Zone flowing northwest generally within one-half mile along the west side of Interstate-10.



3. Onsite Hydrology Characteristics

   a. 100-Year Floodplains with Discharges ≥ 50 CFS with flow depths greater than 0.2'

   The only regulated floodplain within the project site flows within and along Grier Road from east to west. In some areas the floodplain exceeds the Grier Road right-of-way, extending to the south into this and adjacent properties.

   b. Areas of Sheet Flooding and Average Depths

   Historically, the site and offsite areas have been characterized as sheet flooding areas with depths generally ranging from 0 to 1 foot (Refer to FEMA FIRM Panel 04019C1030L) depicted on Exhibit II-C-1: Onsite Hydrology.

   c. Federally mapped floodways and floodplains

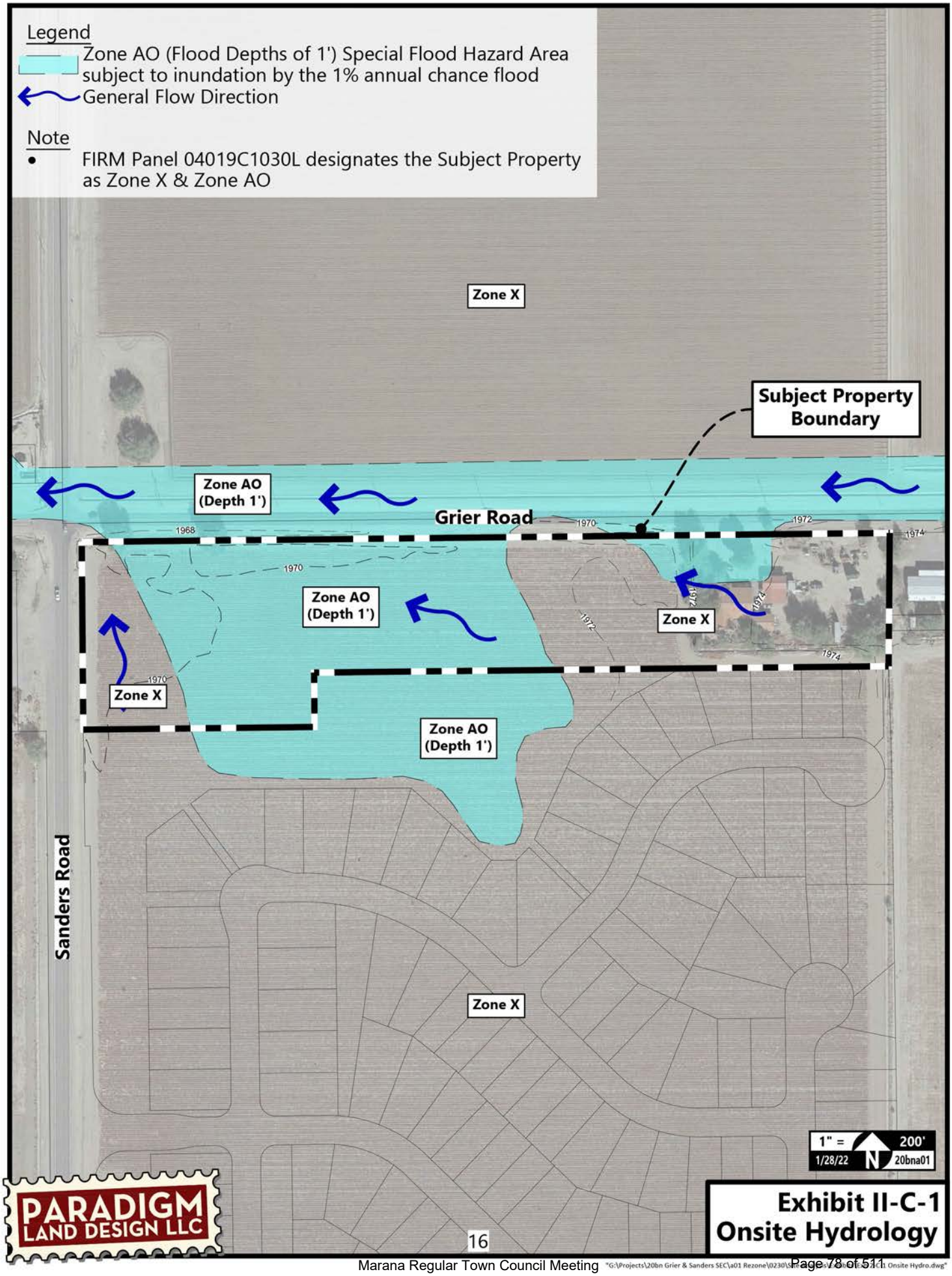
   The FEMA Flood Insurance Rate Map Panel 04019C1030L shows approximately half of the Property to be in Zone X which indicates "areas determined to be outside the 0.2% annual chance floodplain" and half the Property to be within Zone AO-1 which indicates "areas of 1% annual chance flooding with an average depth of 1 foot (usually sheet flow on sloping terrain).

4. Existing Drainage Conditions along the Downstream Property Boundary

Downstream of the Property storm drainage continues to flow west within and along Grier Road, breaking out to the north within the agricultural field west of Sanders Road. From there, drainage sheet flows to the northwest and then west until joining the larger Santa Cruz River floodplain approximately 1.5 miles west/northwest of the Property.

Downstream to the West along Grier Road




Legend
Zone AO (Flood Depths of 1') Special Flood Hazard Area subject to inundation by the 1% annual chance flood
General Flow Direction
Note
• FIRM Panel 04019C1030L designates the Subject Property as Zone X & Zone AO
Zone X
Subject Property Boundary
Zone AO (Depth 1')
Grier Road
1968
1970
1972
1974
Zone AO (Depth 1')
Zone X
Zone X
Zone AO (Depth 1')
Sanders Road
Zone X
1" = 200'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-C-1
Onsite Hydrology

D. VEGETATION

1. Onsite Vegetative Communities

   The Property has historically been used for agriculture purposes. Thus, there is very little existing native vegetation onsite. The only vegetation onsite is in the eastern portion of the site around the existing residences. There is no significant native vegetation within the limits of the Property.

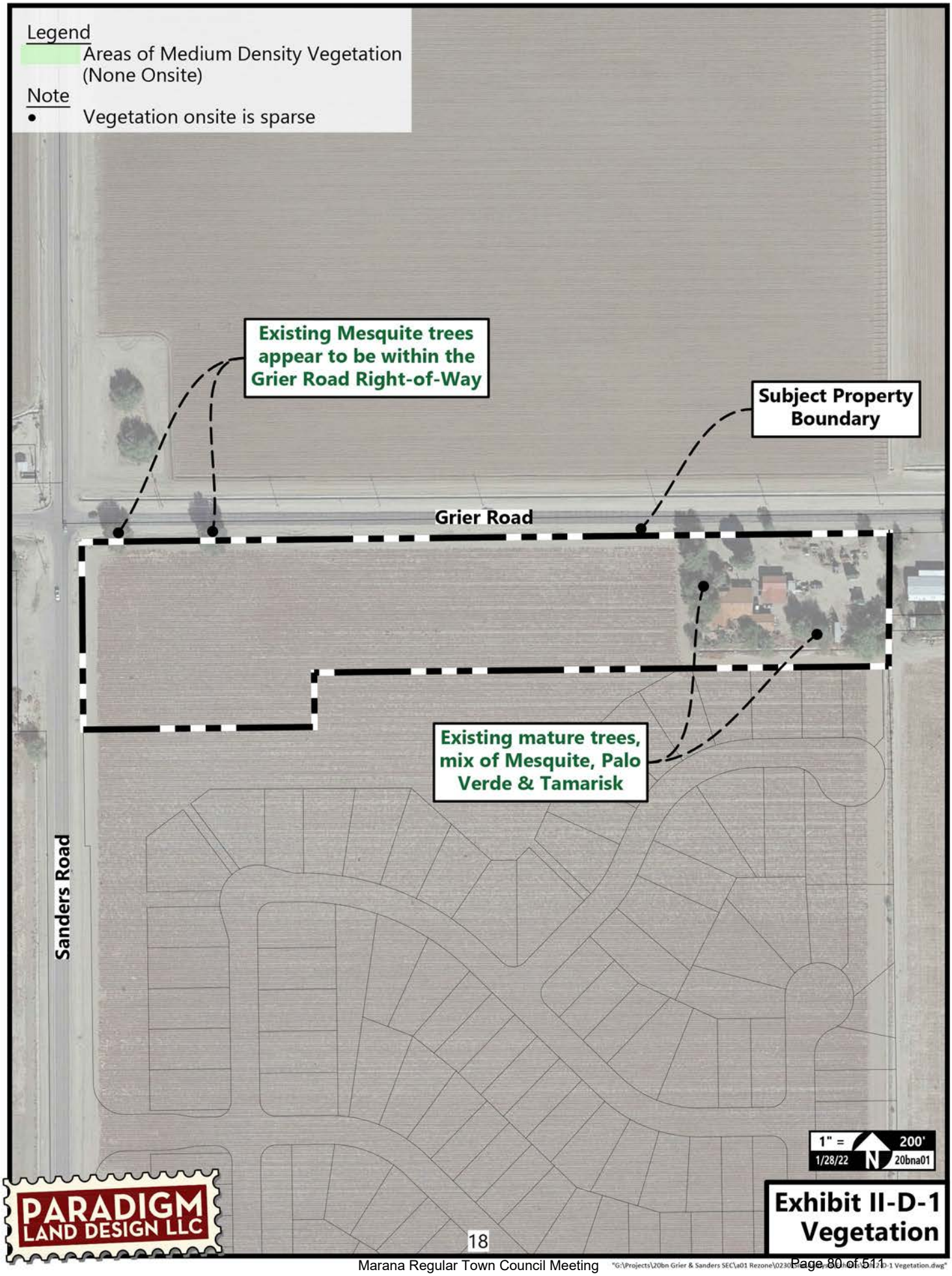
2. Significant, Threatened, or Endangered Flora

   No threatened or endangered flora are known to exist onsite.

3. Vegetative Densities

   Vegetative density of the Property is less than 5% plant cover. See Exhibit II-D-1: Vegetation.




Legend
Areas of Medium Density Vegetation (None Onsite)
Note
Vegetation onsite is sparse
Existing Mesquite trees appear to be within the Grier Road Right-of-Way
Subject Property Boundary
Grier Road
Existing mature trees, mix of Mesquite, Palo Verde & Tamarisk
Sanders Road
1" = 200'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-D-1 Vegetation

E. WILDLIFE

The Arizona Game and Fish Department's online review tool has been consulted, and the Environmental Review report, dated January 5, 2022, indicates that several federally listed species have been known to exist in the vicinity of this development. Any protected species encountered onsite will be handled according to applicable regulatory criteria. See Exhibit II-E-1: AZGFD Report.

Exhibit II-E-1: AZGFD Report

Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
SEC Grier & Sanders

User Project Number:
20bn01

Project Description:
The owner of this property would like to rezone the property to allow for the construction of a small commercial center at the SEC of Grier Road and Sanders Road. Possible uses include a small area for retail, 2-3 PAD spaces, and a small area for an office use.

Project Type:
Development Within Municipalities (Urban Growth), Commercial/industrial (mall) and associated infrastructure, New construction

Contact Person:
Clay Goodwin

Organization:
Paradigm Land Design LLC

On Behalf Of:
CONSULTING

Project ID:
HGIS-15253

Page 1 of 11

Exhibit II-E-1: AZGFD Report (cont'd)

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Page 2 of 11

Exhibit II-E-1: AZGFD Report (cont'd)

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Exhibit II-E-1: AZGFD Report (cont'd)

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

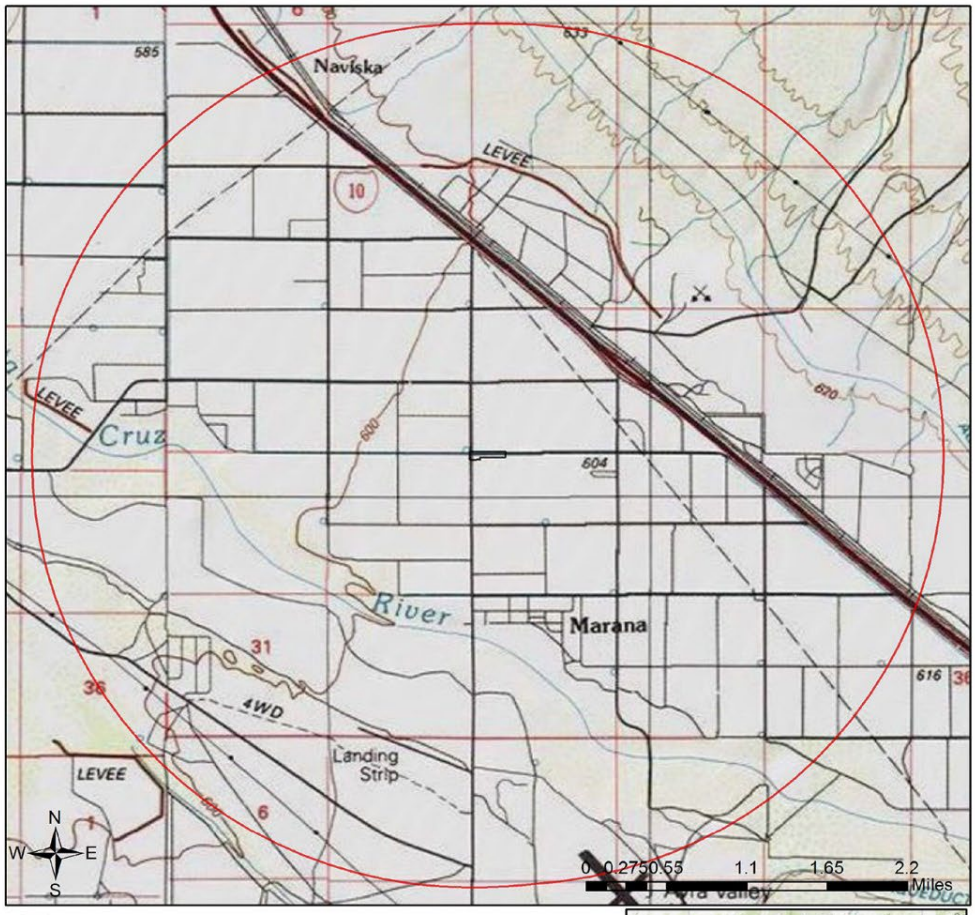
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-15253

project_report_sec_grier_sanders_48765_50263.pdf
Review Date: 1/5/2022 12:40:08 PM

SEC Grier & Sanders

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 6.89

Lat/Long (DD): 32.4528 / -111.2321

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T11S, R11E

USGS Quad(s): MARANA

Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap



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Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-15253

project_report_sec_grier_sanders_48765_50263.pdf
Review Date: 1/5/2022 12:40:08 PM

SEC Grier & Sanders

Web Map As Submitted By User



Project Boundary
Buffered Project Boundary
id_pima

Project Size (acres): 6.89
Lat/Long (DD): 32.4528 / -111.2321
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T11S, R11E
USGS Quad(s): MARANA

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Page 6 of 11

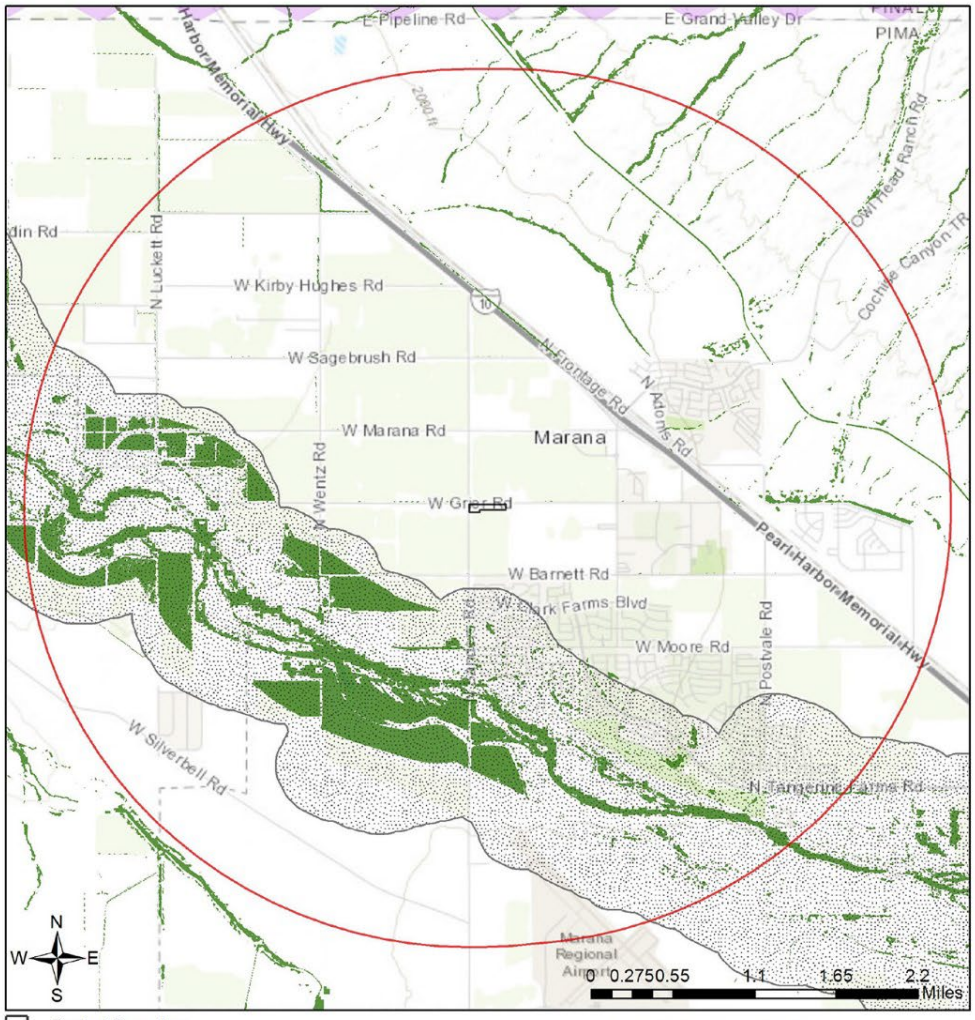
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-15253

project_report_sec_grier_sanders_48765_50263.pdf
Review Date: 1/5/2022 12:40:08 PM

SEC Grier & Sanders

Important Areas



- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Pinal County Riparian
- Critical Habitat
- Important Bird Areas

Project Size (acres): 6.89
Lat/Long (DD): 32.4528 / -111.2321
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T11S, R11E
USGS Quad(s): MARANA

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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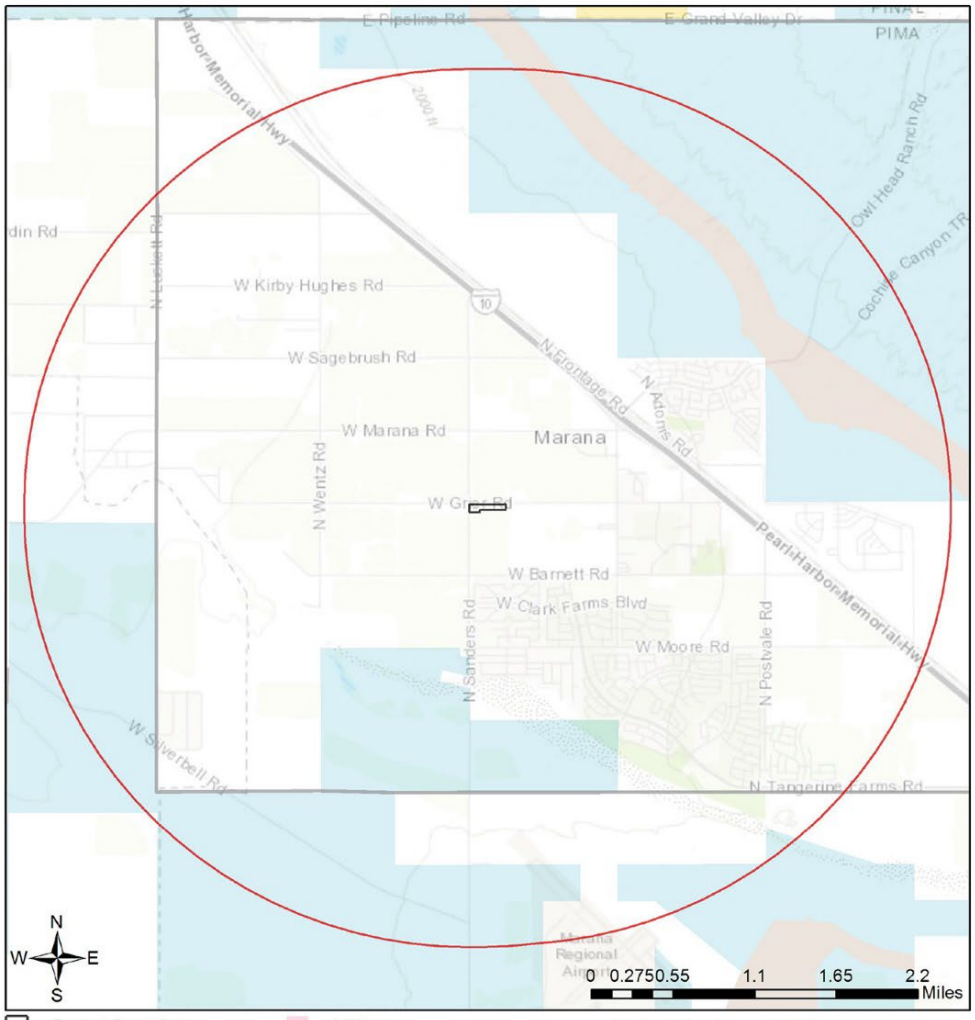
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-15253

project_report_sec_grier_sanders_48765_50263.pdf
Review Date: 1/5/2022 12:40:08 PM

SEC Grier & Sanders

Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 6.89
Lat/Long (DD): 32.4528 / -111.2321
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T11S, R11E
USGS Quad(s): MARANA

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-15253

project_report_sec_grier_sanders_48765_50263.pdf
Review Date: 1/5/2022 12:40:08 PM

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Coccyzus americanus	Yellow-billed Cuckoo (Western DPS)	LT	S	S		1A
Empidonax traillii	Willow Flycatcher	PS				
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	PT	S	S		1B
Heloderma suspectum	Gila Monster					1A
Sigmodon ochrognathus	Yellow-nosed Cotton Rat	SC				1C

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

No Special Areas Detected
No special areas were detected within the project vicinity.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Anaxyrus retiformis	Sonoran Green Toad			S		1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Botaurus lentiginosus	American Bittern					1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
Buteo swainsoni	Swainson's Hawk					1C
Calypte costae	Costa's Hummingbird					1C
Chilomeniscus stramineus	Variable Sandsnake					1B
Chionactis annulata	Resplendent Shovel-nosed Snake	SC				1C
Cistothorus palustris	Marsh Wren					1C
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus tigris	Tiger Rattlesnake					1B
Empidonax wrightii	Gray Flycatcher					1C
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	PT	S	S		1B
Gopherus morafkai	Sonoran Desert Tortoise	C	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A
Heloderma suspectum	Gila Monster					1A
Incilius alvarius	Sonoran Desert Toad					1B

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Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-15253

project_report_sec_grier_sanders_48765_50263.pdf
Review Date: 1/5/2022 12:40:08 PM

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Kinosternon sonoriense sonoriense	Desert Mud Turtle			S		1B
Lasiurus blossevillii	Western Red Bat		S			1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Panthera onca	Jaguar	LE				1A
Passerculus sandwichensis	Savannah Sparrow					1B
Perognathus longimembris	Little Pocket Mouse	No Status				1B
Phrynosoma goodei	Goode's Horned Lizard					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Progne subis hesperia	Desert Purple Martin			S		1B
Setophaga petechia	Yellow Warbler					1B
Sphyrapicus nuchalis	Red-naped Sapsucker					1C
Spizella breweri	Brewer's Sparrow					1C
Sturnella magna	Eastern Meadowlark					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	LeConte's Thrasher			S		1B
Troglodytes pacificus	Pacific Wren					1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					

Page 10 of 11

Exhibit II-E-1: AZGFD Report (cont'd)

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Development Within Municipalities (Urban Growth), Commercial/industrial (mall) and associated infrastructure, New construction

Project Type Recommendations:
Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (https://new.azwater.gov/).

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:
HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at http://www.fws.gov/southwest/es/arizona/ or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

HDMS records indicate that **Western Burrowing Owls** have been documented within the vicinity of your project area. Please review the western burrowing owl resource page at:
https://www.azgfd.com/wildlife/speciesofgreatestconservneed/burrowingowlmanagement/.

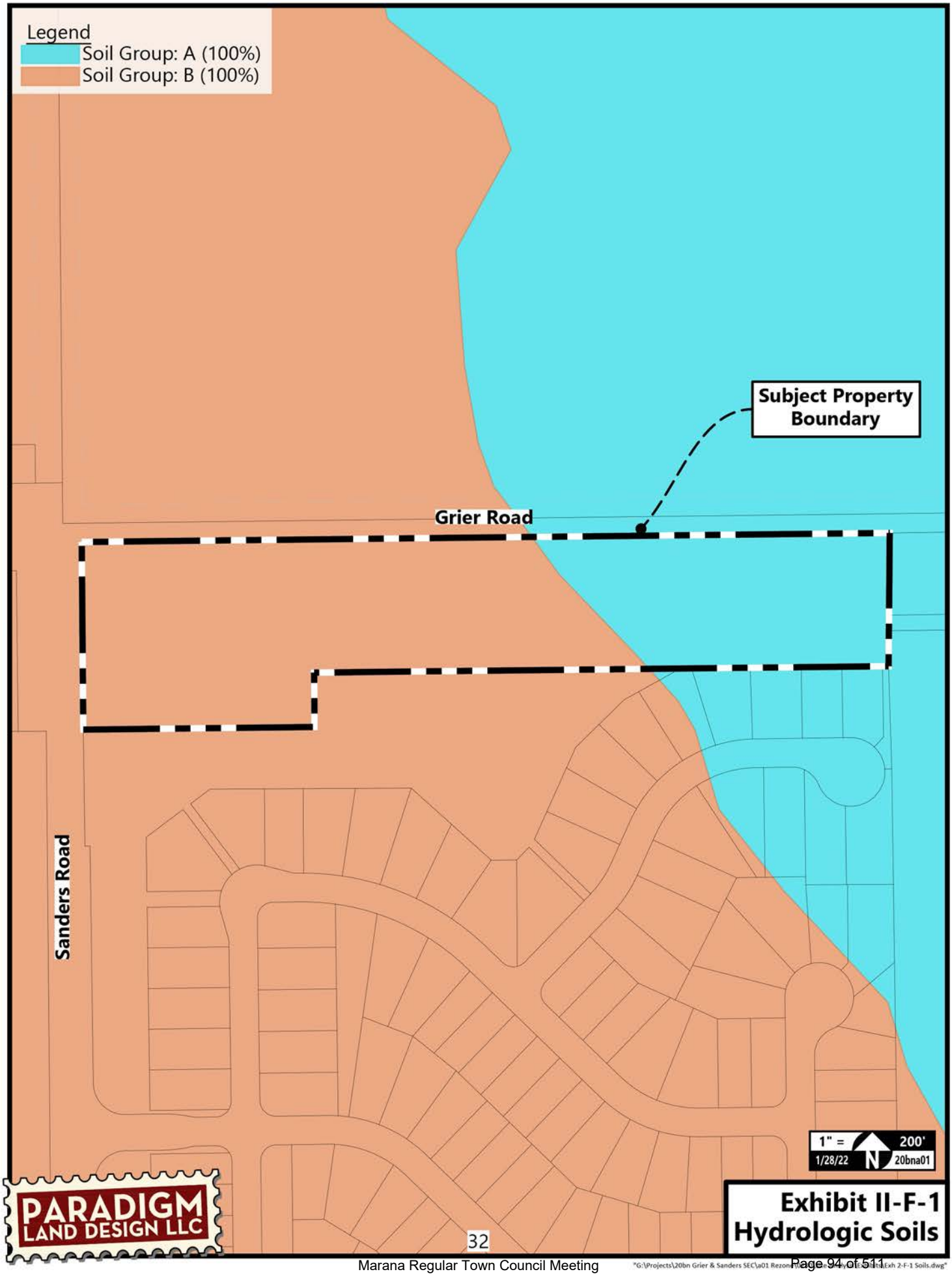
F. SOILS AND GEOLOGY

1. Soils

   Soils in the vicinity of this development are classified by the U.S. Natural Resources Conservation Service (NRCS) as 100% "Soil Group A" (Vinton-anthony sandy loams), and 100% "Soil Group B" (Gila sandy loam and Gila loam, 0 to 1 percent slopes). A detailed geotechnical investigation will be performed prior to development. See Exhibit II-F-1: Hydrologic Soils.

2. Geology

   The Property lies within the Santa Cruz River basin valley. According to the Arizona Geological Survey's online Geologic Map of Arizona (data.azgs.az.gov/geologic-map-of-arizona/) the Property's geology is described as "Quaternary Surficial deposits, undivided (0-2 Ma): Unconsolidated to strongly consolidated alluvial and eolian deposits. This unit includes coarse, poorly sorted alluvial fan and terrace deposits on middle and upper piedmonts and along large drainages; sand, silt and clay on alluvial plains and playas; and wind-blown sand deposits."


Legend
Soil Group: A (100%)
Soil Group: B (100%)
Subject Property Boundary
Grier Road
Sanders Road
1" = 200'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-F-1
Hydrologic Soils
"G:\Projects\20bn Grier & Sanders SEC\a01 Rezone\Exhibits\Exh 2-F-1 Soils.dwg"

G. VIEWSHEDS

1. Viewsheds from Adjacent Properties

   Primary views from the site are of the Tortolita Mountains and Catalina Mountains to the east, the Tucson Mountains to the south, and Picacho Peak to the north. Due to the distance to these mountain ranges, and the extremely flat nature of the Property and the surrounding areas, the views are minimal. Development of the Property will not block these views for existing residents in the area. See Exhibit II-G-1: Viewsheds and Exhibit II-G-2: Viewshed Photographs.



View to the Southeast Across the Property Toward the Tucson Mountains

2. Views which may be Blocked by the Proposed Development

   None.

3. Site Visibility

   Due to the lack of existing vegetation and the relatively even and flat nature of the topography, views into and across the Property are excellent and have only minor sight restrictions across the eastern portion of the property.


Legend
Highly Visible
Medium Visibility
Low Visibility
Immediate Foreground
Site Photo Location & Direction
Subject Property Boundary
Grier Road
Picacho Peak
Tortolita Mountains
Catalina Mountains
Tucson Mountains
Sanders Road
1
2
3
4
5
6
1" = 200'
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-G-1 Viewsheds

Exhibit II-G-2: Viewshed Photographs

Photo Location #1: Looking North along Sanders Road and the Western Boundary of the Property



Photo Location #1: Looking East across the Southern Portion of the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #1: Looking South away from the Property along Sanders Road



Photo Location #1: Looking West away from the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #2: Looking Northeast from the Intersection of Grier Road and Sanders Road near the Northwest Corner of the Property



Photo Location #2: Looking Southeast into the Property from the Intersection of Grier Road and Sanders Road



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #2: Looking Southwest from the Intersection of Grier Road and Sanders Road near the Northwest Corner of the Property



Photo Location #2: Looking Northwest from the Intersection of Grier Road and Sanders Road near the Northwest Corner of the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #3: Looking North away from the Property



Photo Location #3: Looking East along the Northern Boundary of the Property and Grier Road



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #3: Looking South across the Property towards the Tucson Mountains



Photo Location #3: Looking West along the Northern Boundary of the Property and Grier Road

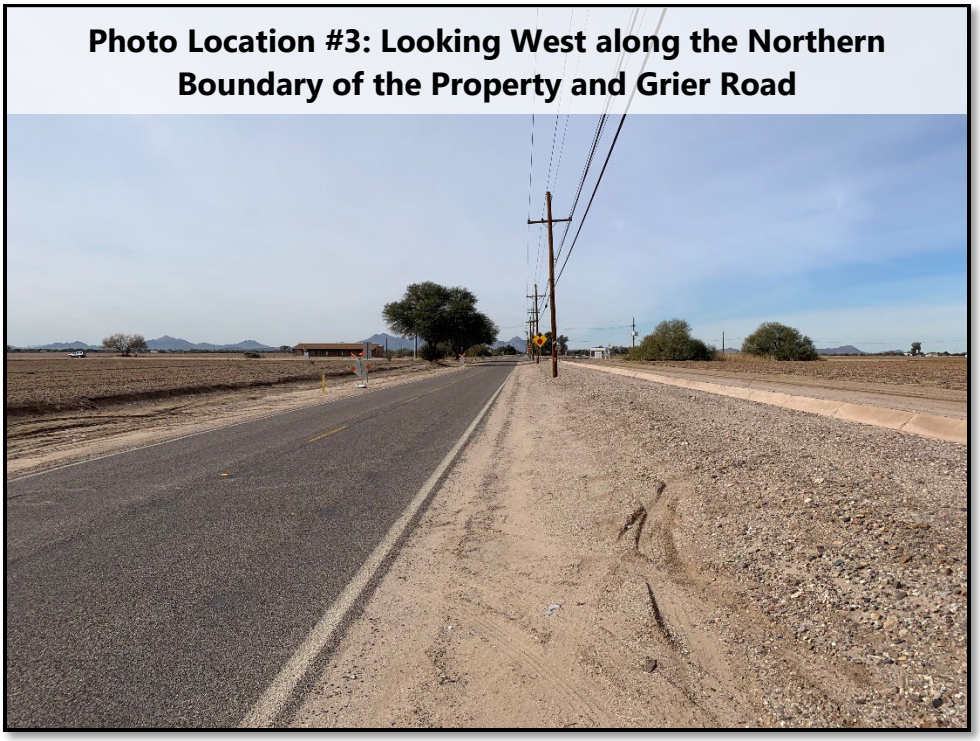


Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #4: Looking Northeast away from the Property at the Northeast Corner of the Property



Photo Location #4: Looking Southeast at the Northeast Corner of the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #4: Looking Southwest into the Property at the Northeast Corner of the Property, these are the Existing Residences Onsite



Photo Location #4: Looking Northwest away from the Property at the Northeast Corner of the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #5: Looking Northeast from the Southeast Corner of the Property



Photo Location #5: Looking Southeast from the Southeast Corner of the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #5: Looking Southwest into the Future Village at Barnett Subdivision from the Southeast Corner of the Property



Photo Location #5: Looking Northwest into the Property from the Southeast Corner of the Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #6: Looking North across the Property from the Middle of the Southern Property Line



Photo Location #6: Looking East along the Southern Boundary of Property



Exhibit II-G-2: Viewshed Photographs (cont'd)

Photo Location #6: Looking South away from the Property from the Middle of the Southern Property Line

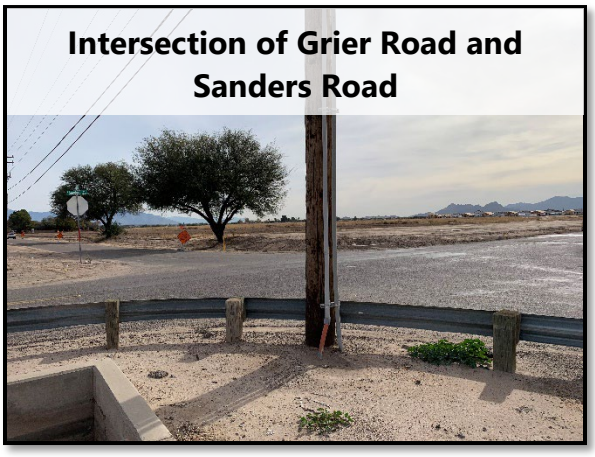


Photo Location #6: Looking West along the Southern Boundary of the Property



H. TRAFFIC

1. Existing / Proposed Offsite Streets between the Development and Nearest Arterial Streets



No new streets are being proposed as part of this development. The site is directly adjacent to Grier Road and Sanders Road, both of which are arterial streets. The 2045 P.A.G. Regional Mobility and Accessibility Plan proposes to widen Marana Road to a 4-lane roadway, with multi-use lanes and sidewalks from Trico Road to Interstate-10. It also proposes to widen Moore Road to a 4-lane divided roadway with bike lanes and sidewalks from Sanders Road to Adonis Road. Both projects are within a mile of this Property, and the existing arterial roadway system has ample capacity to support this project.

The Town of Marana plans to extend Tangerine Farms Road from its existing terminus north to the Marana Road traffic interchange.

Please refer to Exhibit II-H-1: Roadway Network.

2. Nearby Arterial Streets

All the traffic generated by this project will be accommodated by Grier Road and Sanders Road. An analysis of capacity has been prepared by M Esparza Engineering has been submitted as a standalone report.

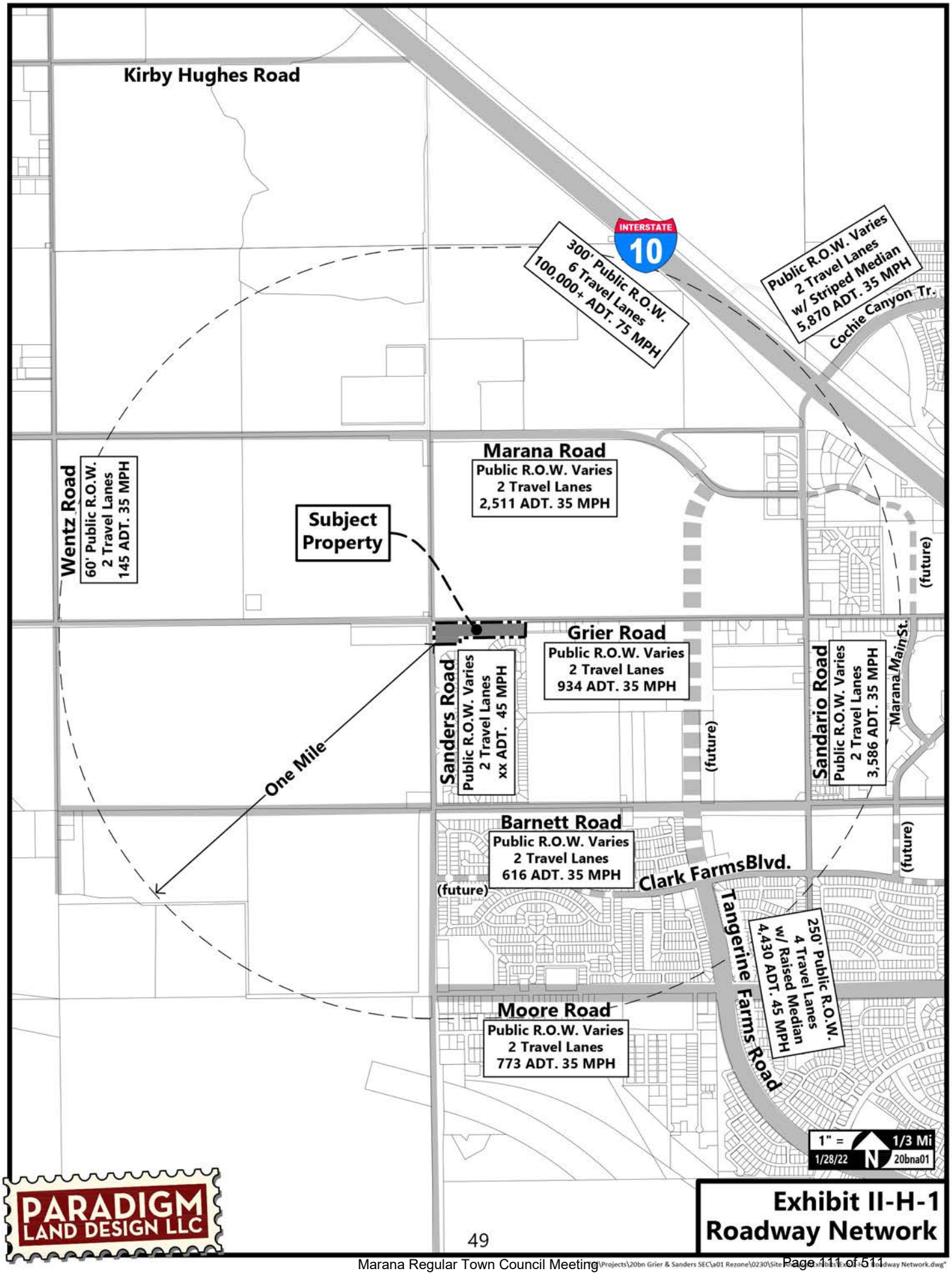
Roadway Name	Planned Right-of-Way Width	Exist. Lanes	Median Type	Speed Limit	General Plan Designation
Grier Road	150′	2	None	35 mph	Existing Arterial
Sanders Road	250′	2	None	45 mph	Existing Arterial
Barnett Road	65′+	2	None	35 mph	None
Marana Road	250′	2	None	45 mph	Existing Arterial
Moore Road	150′ – 250′	2	None	35 mph	Existing Arterial
Interstate 10	Varies	6	Depressed	75 mph	Interstate

3. Nearby Arterial Intersections

There are four arterial intersections within one mile of the site that will carry traffic generated by this development. The unsignalized intersection of Grier Road and Sanders Road is directly adjacent to the northwest corner of the project site. The other arterial intersections include the intersection of Moore Road / Sanders Road to the south, Marana Road / Sanders Road to the north and the intersection of Marana Road / Sandario Road / Intersate-10 to the northeast. All of these intersections are unsignalized.

4. Nearby Bicycle / Pedestrian Ways

A paved multi-use path, sidewalks, and bike lanes are provided alongside Tangerine Farms Road. The Santa Cruz River Park multi-use path and trailhead are just over one mile to the south of the subject property.



PARADIGM LAND DESIGN LLC

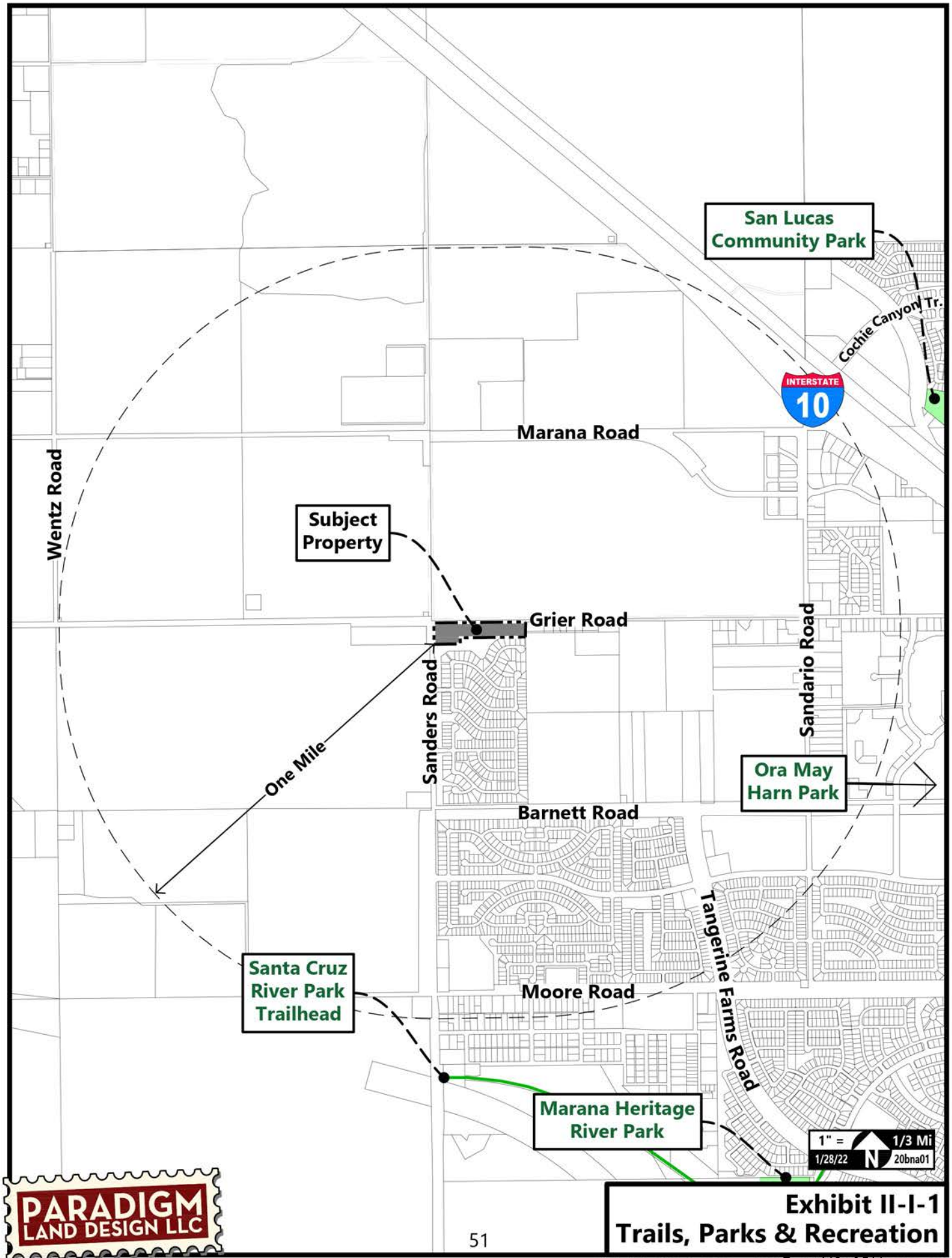
Exhibit II-H-1
Roadway Network

I. RECREATION AND TRAILS

The Santa Cruz River Park and the starting trailhead is just over one mile to the south of this project, on Sanders Road. This trail system provides pedestrian connectivity to the town and the regions broader trail system. The Marana Heritage River Park is approximately a mile and a half to the southeast of the site and will be easily accessible via the Santa Cruz River Park multi-use path. This public park features a pavilion with a grill, paved multi-use path system that provides access to the Juan Bautista de Anza National Historic Trail and includes restrooms and 40 community garden plots. The Ora Mae Harn District Park is just over a mile and a half to the east and is easily accessible via Barnett Road. This public park features an adult softball field, basketball court, a lighted multi-purpose/soccer field, several ramadas with grills, open space grass areas, pickleball courts, a tennis court, a community center and pool with patios and restrooms, two playground areas, youth baseball and softball fields, and walking paths.

The paved multi-use path along Tangerine Farms Road provides pedestrian connectivity to the Santa Cruz River Park multi-use path and the Town's broader trail system.

See Exhibit II-I-1: Trails, Parks & Recreation.


San Lucas Community Park
Cochie Canyon Tr.
INTERSTATE 10
Marana Road
Wentz Road
Subject Property
Grier Road
Sanders Road
Sandario Road
One Mile
Ora May Harn Park
Barnett Road
Tangerine Farms Road
Santa Cruz River Park Trailhead
Moore Road
Marana Heritage River Park
1" = 1/3 Mi
1/28/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-I-1
Trails, Parks & Recreation
51

J. CULTURAL, ARCHAEOLOGICAL, AND HISTORIC RESOURCES

1. Onsite Resources

   No cultural resources are known to exist on the subject property. If any cultural resources are located during construction, State and local antiquities laws and protocols will be followed.

2. Archaeological Records

   The Property was surveyed for cultural resources by Professional Archaeological Services of Tucson in January 2022. Nothing of significance was found and so it was determined that the development of this parcel could proceed without any further work.

   Please refer to Exhibit II-J-1: Professional Archaeological Services of Tucson Report Cover. The complete report was submitted to the Town under separate cover.

Exhibit II-J-1: Professional Archaeological Services of Tucson Report Cover

CULTURAL RESOURCES SURVEY OF GRIER/SANDERS SEC PROJECT IN OR NEAR MARANA, PIMA COUNTY, ARIZONA

Submitted to:

Paradigm Land Design LLC
7090 N. North Oracle Rd. #178-193
Tucson, AZ 85704

Submitted by

Professional Archaeological Services and Technologies
5036 Golder Ranch Dr.
Tucson, AZ 85739-4265

Prepared by
David V.M. Stephen Ph.D.
Principal Investigator
State Antiquities Permit No. 2022-006bl

P.A.S.T. Cultural Resources Report No. 212123
3/11/2022

K. EXISTING INFRASTRUCTURE AND PUBLIC FACILITIES

1. Sewer

   The Property is within the Marana Wastewater service area. An existing 15" sewer line runs along Sanders Road within a 30' public sewer easement along and within the western property boundary. The existing single-family residence on the property, and the homes to the east all use septic systems. See Exhibit II-K-1: Existing Wells & Septic Systems.

2. Water

   The Property is within the Marana Water intended service area. An existing 6" waterline runs along Grier Road and an 8" waterline runs along Sanders Road. No public or private wells are believed to exist within 100 feet of the Property. One well is believed to exist catty-corner from the site at the northwest corner of Grier Road and Sanders Road (55-604800). See Exhibit II-K-1: Existing Wells & Septic Systems and Exhibit III-D-2: Preliminary Development Plan.

3. Non-Potable Water

   The Property does not currently contain any Cortaro Marana Irrigation District (CMID) facilities, but as part of the Villages at Barnett project DR Horton is currently building a pipeline, headbox and gates that will allow CMID to deliver non-potable water to the Property near the east end.

4. Natural Gas

   The Property is located within the Southwest Gas service area.

5. Electric

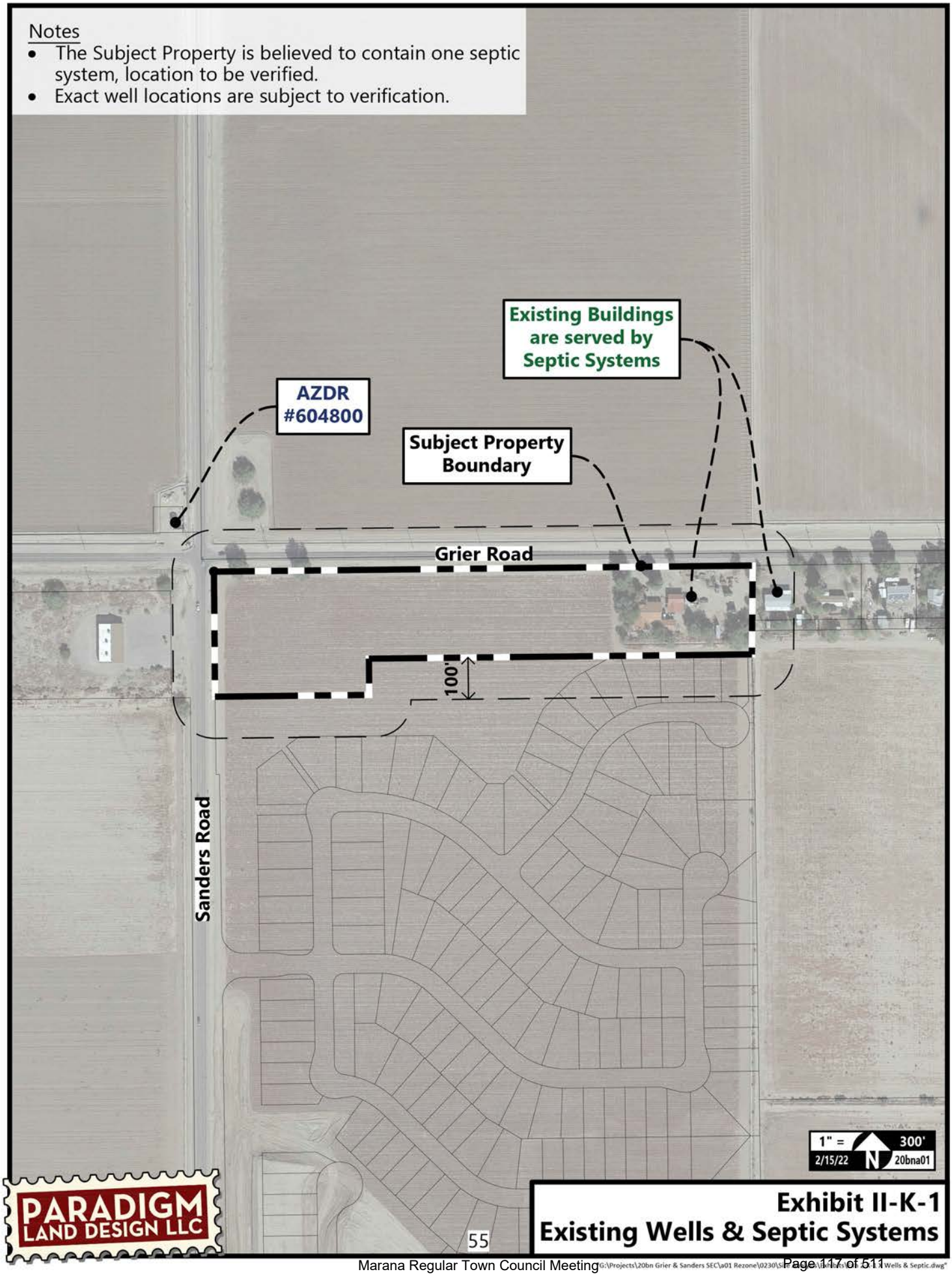
   The Property is located within the Tucson Electric Power service area.

6. Fire Service

   The property is within the Northwest Fire District.

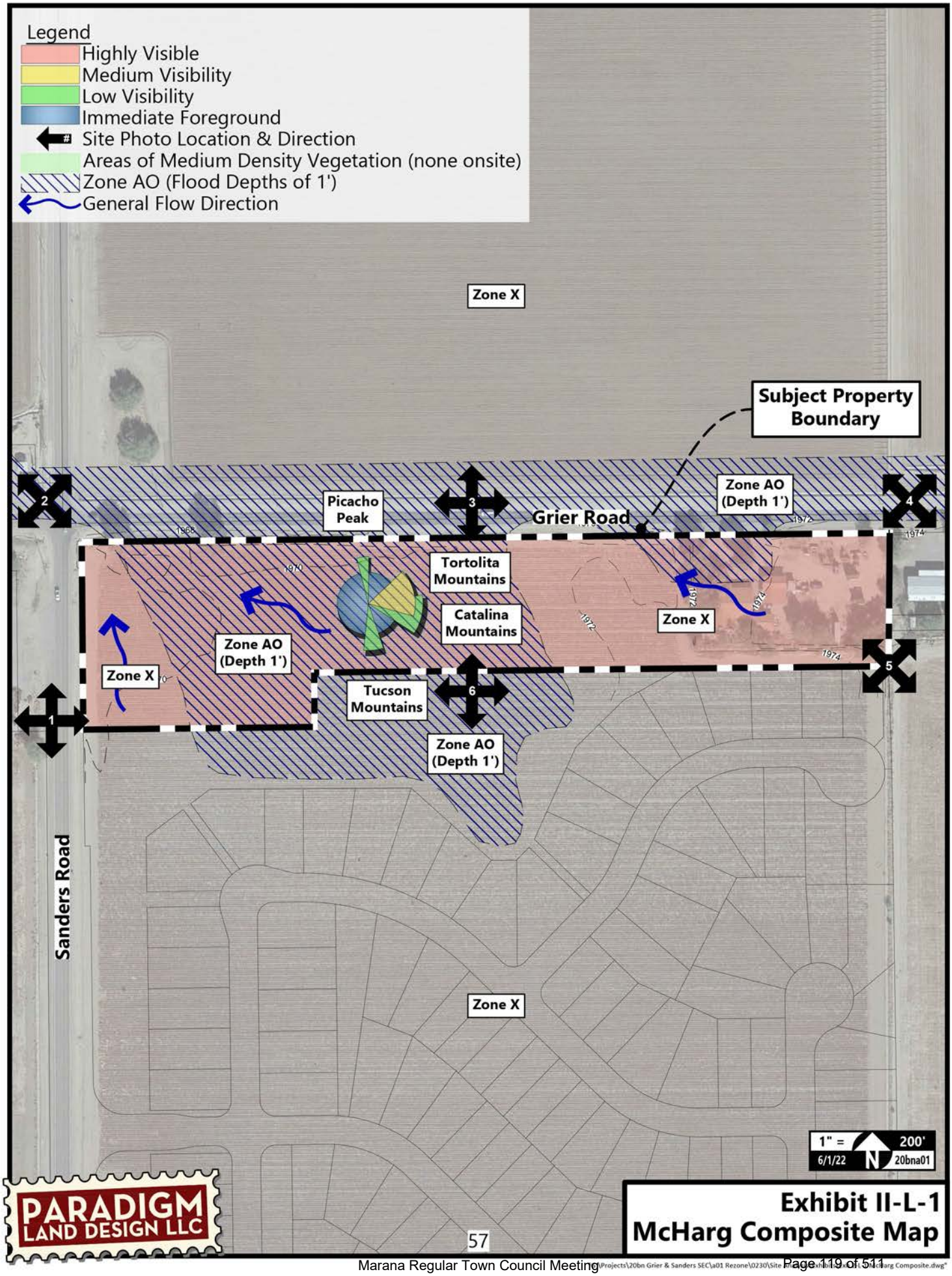
7. Police Service

   The property is located within the Town of Marana Police service area.


Notes
• The Subject Property is believed to contain one septic system, location to be verified.
• Exact well locations are subject to verification.
Existing Buildings are served by Septic Systems
AZDR #604800
Subject Property Boundary
Grier Road
100'
Sanders Road
1" = 300'
2/15/22
N
20bna01
PARADIGM LAND DESIGN LLC
Exhibit II-K-1
Existing Wells & Septic Systems
55

L. McHarg Composite Map

The following map combines individual elements detailed in prior sections to illustrate existing onsite constraints. The purpose of the McHarg Composite Map is to highlight areas that are available for development. As shown, constraints are minimal.



PARADIGM LAND DESIGN LLC

Exhibit II-L-1
McHarg Composite Map

III. LAND USE PROPOSAL

A. PURPOSE & INTENT

This section describes how the development responds to the opportunities and constraints described in the Inventory & Analysis section of this document, along with the Town of Marana Land Development Code. As evidenced by the site plan, this proposed rezoning has been crafted after careful and responsive consideration of the Property's context.

B. RELATIONSHIP TO TOWN OF MARANA ADOPTED PLANS

The Make Marana 2040 General Plan designates this property as Traditional Neighborhood, which supports land uses such as neighborhood scaled commercial development, religious institutions, small offices, and educational facilities. Being located at the intersection of two arterial roadways, Grier Road and Sanders Road, this site is an excellent candidate to provide commercial opportunities near Downtown Marana for neighboring and future nearby residences. This development will create employment openings and expand the tax base. Future buildings onsite will be energy efficient and landscape bufferyards will be provided to minimize impacts to existing and future homes nearby.

This development is within the "Central Growth Area" of the General Plan and will be compatible with the scale and intensity of existing and planned land uses around the subject property. Trees will be planted in the parking lot islands throughout the site to provide shade and reduce the urban heat island effect.

The Town of Marana Strategic Plan 4 encourages new commercial development, especially in North Marana. It also calls for all new developments to provide pedestrian connectivity. This project will meet both of those goals and will also support the Plan's call for diverse housing opportunities if developed residentially.

C. COMPATIBILITY TO ADJOINING DEVELOPMENT

With the Property's location adjacent to two major roadways and undeveloped farmland, this project will have minimal impact on nearby landowners. This project will provide landscape buffers around its entirety to reduce any negative views into the site from the existing residence to the east, or from the future residences to the south of the property. There will also be a variety of screen walls around the project to provide supplementary screening to and from the site. Additionally, canopy trees will be located within the parking areas of the site to help blend this development with the surrounding desert environment. Lighting on the site will be Dark Sky compliant and strategically located around the building and on light poles throughout the site and parking areas to ensure a safe lighting level.

D. LAND USE PROPOSAL

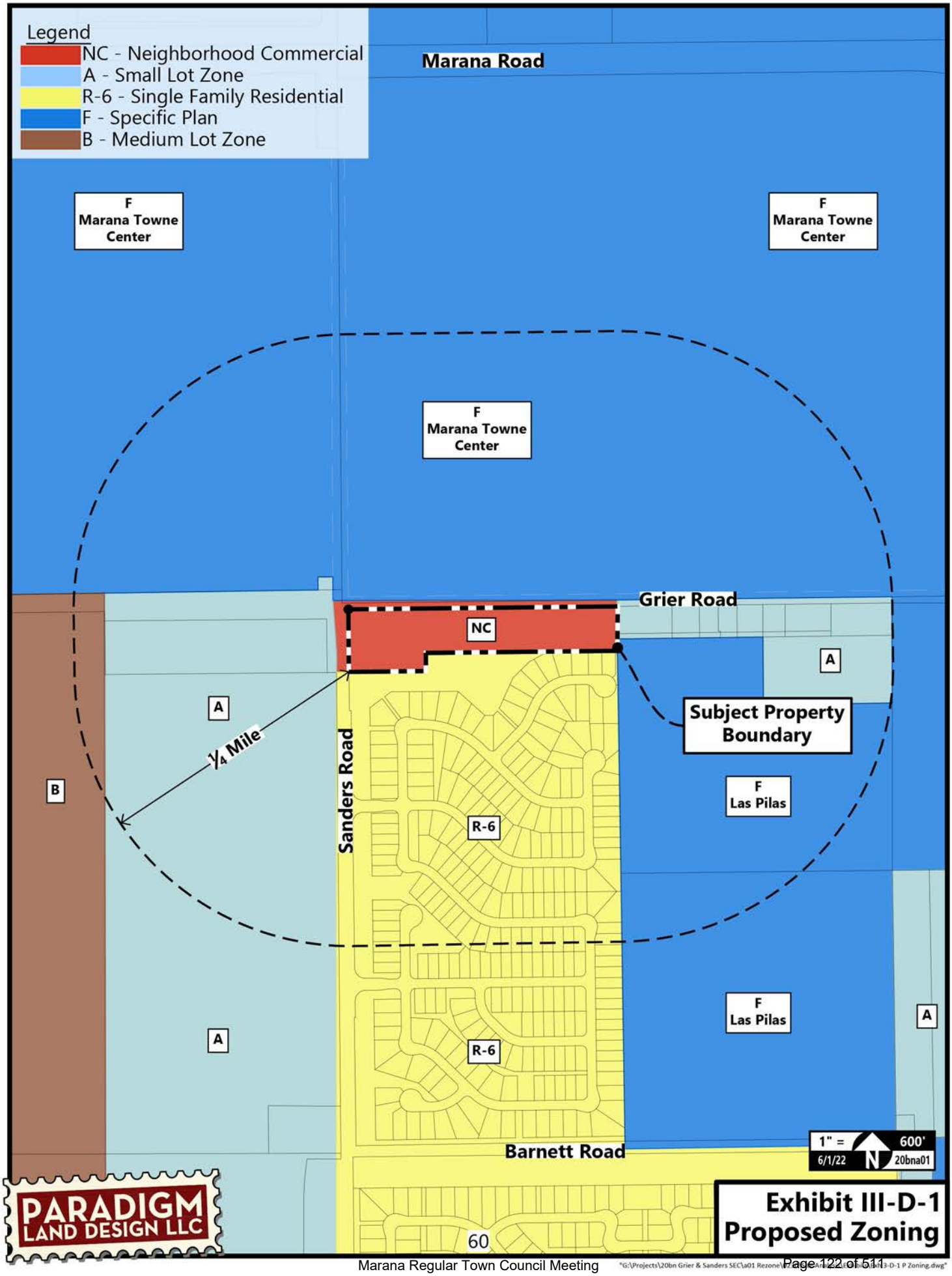
We are requesting to rezone this property from "A-Small Lot Zone" and "R-6 Single-Family Residential" to "NC-Neighborhood Commercial". See Exhibit III-D-1: Proposed Zoning. This will allow for the property to be developed with 5.5± acres of neighborhood-scale commercial area, and 1.5± acres of office space. Non-residential hours of operation will be determined by the tenants and will adhere to all applicable Marana regulations. The property owner will also work to attract multifamily residential developers to develop all or a portion of the site for residential purposes as allowed by the NC zone. See Exhibit III-D-2: Preliminary Development Plan (PDP). This project will adhere to all applicable development standards associated with the NC zoning requirements.

The proposed buildings will be architecturally compatible with nearby developments. The buildings will be constructed out of materials such as CMU split face block, wood framing with stucco exteriors, or other appropriate architectural treatments. The main exterior colors will be desert neutral and designed to blend in with surrounding structures and the desert environment.

Access to the site will be via several driveways along Grier Road and Sanders Road, as described in Section III-J and depicted schematically on Exhibit III-D-2. This development will be accessible to pedestrians, ADA compliant, and will provide access to all proposed buildings. Pavement striping will be provided in the parking areas to clearly delineate pedestrian access ways. A sidewalk will be provided along Grier Road and an asphalt multi-use path will be provided along Sanders Road. Parking spaces will be provided per Marana requirements. Refuse collection areas and loading zones will be properly screened. No new streets are proposed.

The development's common areas will be privately owned and maintained. Site lighting will be provided per Marana requirements to ensure safe pedestrian circulation without excessive lighting impacts to nearby residents. Landscaped borders will be provided around the entirety of the site to provide further visual mitigation and will utilize drought tolerant plant materials. All installed landscaping will be on an underground drip irrigation system until established. Vehicle headlight screen walls will be installed where necessary to block potential headlight impacts to nearby neighbors.

The existing house structures onsite will remain until their removal becomes necessary for development of the Property. A residential use is permitted in the NC zone as long as it complies with the development standards for R-3 zoning, which the existing structures do.


Legend
NC - Neighborhood Commercial
A - Small Lot Zone
R-6 - Single Family Residential
F - Specific Plan
B - Medium Lot Zone
Marana Road
F
Marana Towne
Center
F
Marana Towne
Center
F
Marana Towne
Center
Grier Road
NC
A
A
B
¼ Mile
Sanders Road
Subject Property
Boundary
F
Las Pilas
R-6
F
Las Pilas
A
A
R-6
Barnett Road
1" =
600'
6/1/22
N
20bna01
PARADIGM
LAND DESIGN LLC
60
Exhibit III-D-1
Proposed Zoning

Property Data

1. Property Area: 7.0± Ac.
2. Assessor Parcel(s): 217-41-010G
3. Existing Zoning: A - Small Lot Zone & R-6 Single-Family Residential (Town of Marana)
4. FEMA Floodplain: Zone 'AO' & Zone 'X'

Proposal Summary

1. Zoning: NC - Neighborhood Commercial
2. Building Height: 35' or less
3. Proposed Uses: Neighborhood-scale retail, office, and/or residential up to 10 homes per acre.

Legend

- Proposed Right-of-Way
- Proposed 5' Sidewalk
- Proposed 12' Asphalt Path
- Primary Site Access
- Internal Cross-Access

5' Sidewalk to be Constructed Along Grier Road
20' Building Setback
45' R.O.W. to be Dedicated
Min. 10' Landscape Buffer
Grier Road
1,293'±
Dwy. 2
Dwy. 3
Dwy. 4
Min. 10' Landscape Buffer
Min. 15' Landscape Buffer w/ 6' Wall
20' Building Setback
PAD #1 Commercial 1.9± Ac.
PAD #2 Commercial 0.7± Ac.
PAD #3 Commercial 0.7± Ac.
PAD #4 Commercial 0.7± Ac.
PAD #5 Offices 0.9± Ac.
250'
213'±
300'±
5' R.O.W. to be Dedicated
919'±
87'±
25' Building Setback
Min. 15' Landscape Buffer w/ 6' Wall
370'±
Min. 15' Landscape Buffer w/ 6' Wall
30' Existing Sewer Esmt.
Sanders Road
A Vehicular Connection to Sanders Road May or May Not be Allowed in the Future. This will be Determined at the Time of Development Plan Review
Villages at Barnett Subdivision (Under Construction)
Nicholas Court
Nicholas Drive
Samantha Lane
1" = 150'
8/12/22
20bna01

PARADIGM LAND DESIGN LLC

Exhibit III-D-2
Preliminary Development Plan

"G:\Projects\20bn Grier & Sanders SEC\a01 Re... Exh 3-D-2 PDP.dwg"

E. GRADING CONCEPT

This Property has historically been used for agricultural purposes, and thus contains no hillsides, ridges, rock outcrops, or significant vegetation. Due to the relatively even and flat nature of the project site, buildings will only need to be raised enough to remove them from flood hazard. During development, the Property will be mass graded in order to provide the necessary slopes for stormwater drainage and wastewater flow.

F. POST-DEVELOPMENT HYDROLOGY

Conveyance of the offsite flows through the development will be provided via new constructed channels, culverts, and basins as necessary to meet Marana's drainage code requirements. To safeguard the site against scour and erosion potential channel banks and culvert ends will be stabilized with materials such as stones, riprap, soil cement or gunite to control erosion.

The large size of the offsite watershed results in a time lag between onsite and offsite time to peak flows. Drainage basins and other onsite drainage facilities will ensure the attenuation of increased site runoff across the downstream property boundary to avoid adverse drainage impacts to upstream or downstream properties. Post-development discharges flowing onto the Property will remain the same as under pre-development conditions.

All building pads will be designed to be a minimum of one foot above adjacent 100-year flood elevations.

G. VEGETATION & LANDSCAPING

The Marana Land Development Code, Environmental Resource Preservation, Native Plant and Landscape Requirements, allow for this type of commercial development. Having been subject to agricultural use for many years, this Property has limited native vegetation onsite. Existing vegetation onsite will be inventoried and any plant material that meets Marana's transplant requirements will be transplanted onsite. Native plants will be reintroduced throughout the project in accordance with the Town's landscape design guidelines. A landscape plan will be submitted at the time of development plan review.

Landscaped common areas will be utilized to help manage stormwater runoff and will be planted with native drought tolerant plant material. Additional landscaping will be installed throughout the site and around the perimeter of the property to meet Marana's perimeter landscape bufferyard standards. All installed landscaping will be drought tolerant per Marana guidelines. Native plants are drought tolerant and uniquely suited for the local climate, and further meet the primary objective of development a sustainable and environmentally sensitive residential community. If the project is developed for non-residential uses a 6-foot tall masonry wall will be installed along the southern and eastern property boundaries to provide additional screening for nearby neighbors.

H. WILDLIFE

There are no primary wildlife corridors that run through the property.

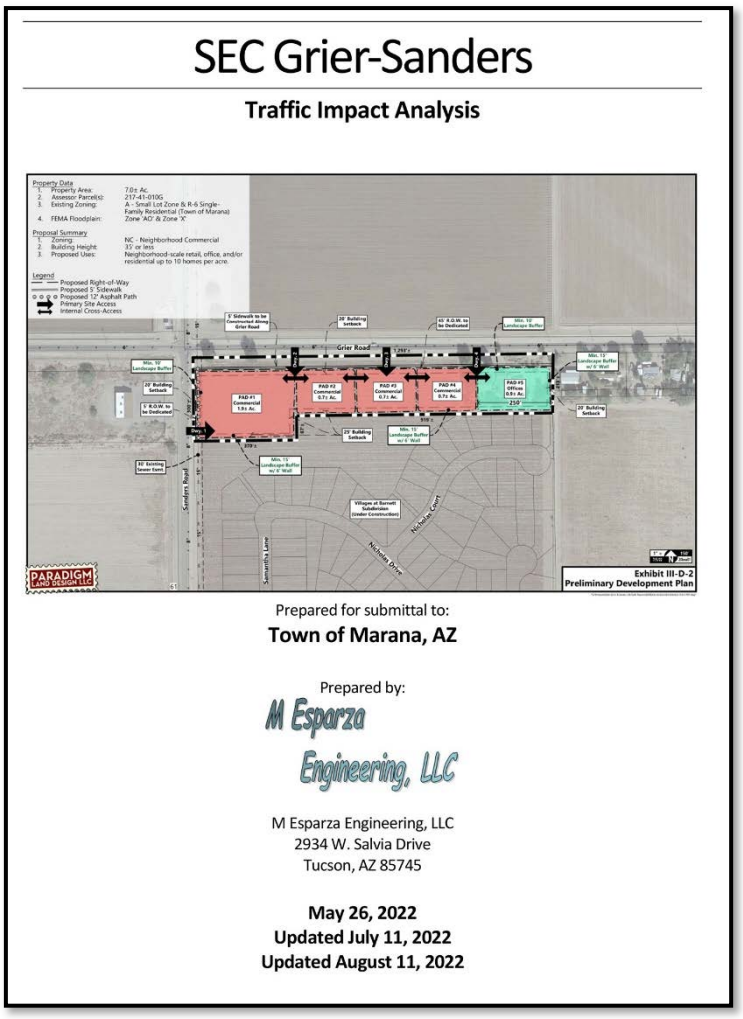
The Arizona Game & Fish Department is responsible for enforcing any wildlife regulations. It is recommended that the developer contact them for guidance prior to the start of construction.

I. VIEWSHEDS

Extraordinary views are not available from or across the property due to existing, relatively flat topography coupled with the distance to surrounding mountain ranges. However, perimeter buffer areas will help mitigate the project's minimal impacts to surrounding viewsheds.

J. TRAFFIC

When constructed, this project will warrant installation of three offsite turn lanes as described below. At the time of development, the project will dedicate an additional 45' of right-of-way along Grier Road and an additional 5' of right-of-way along Sanders Road. Access into the site will come directly from Grier Road and Sanders Road at locations deemed appropriate to provide safe ingress and egress and cross-access will be provided between the proposed pads. No streets are being proposed within this development. Only access lanes and parking area access lanes are proposed, which will be private. This project is expected to generate approximately 760 total daily weekday trips (380 inbound and 380 outbound), with the peak hour total just under 200 trips.


SEC Grier-Sanders

Traffic Impact Analysis

Exhibit III-D-2
Preliminary Development Plan

Prepared for submittal to:
Town of Marana, AZ

Prepared by:
M Esparza Engineering, LLC

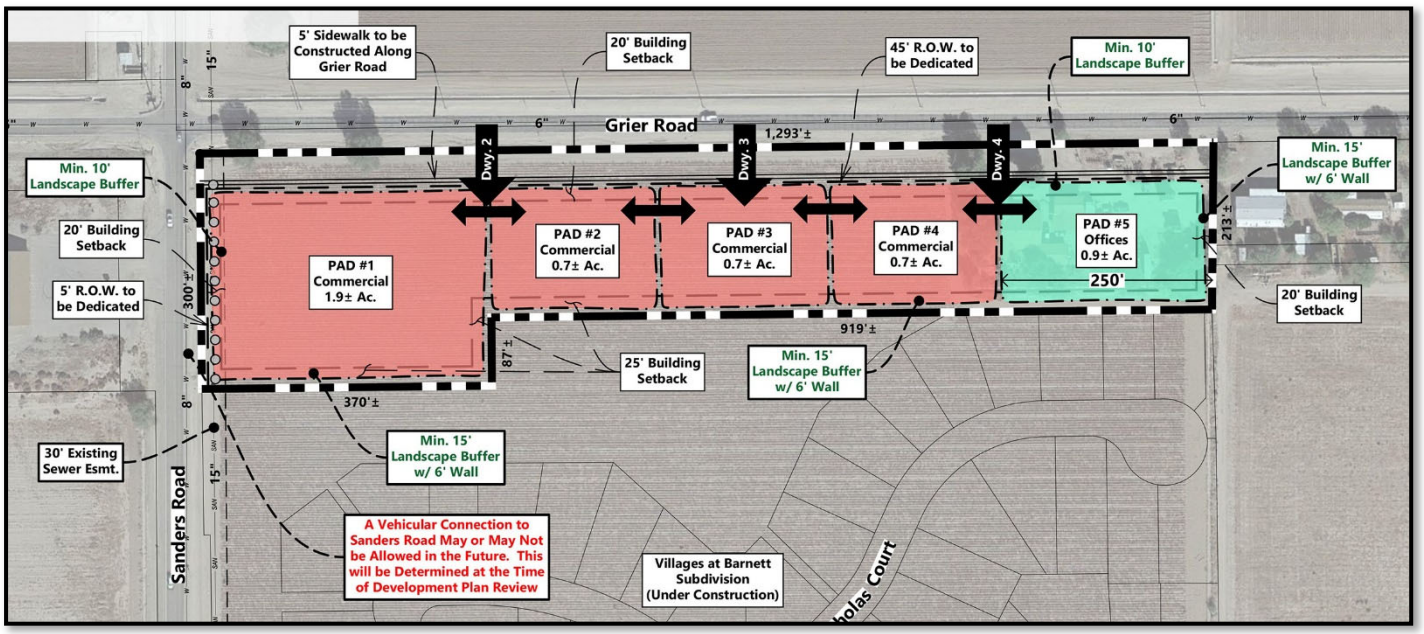
M Esparza Engineering, LLC
2934 W. Salvia Drive
Tucson, AZ 85745

May 26, 2022
Updated July 11, 2022
Updated August 11, 2022

A Traffic Impact Analysis by M Esparza Engineering has been submitted as a standalone report. The rezoning also proposes residential development of up to 10 homes per acre. Such a use, even if developed over the entire property, would only generate approximately 730 trips per day. The TIA models a completely retail / office development scenario because that produces a higher expected trip generation rate, and thus would have a greater impact on the surrounding street system. The TIA references the proposed access points

as Driveways 1 through 4, as shown on the map below, and provides the following recommendations:

1. Construct the project driveways to Town of Marana standards, with one ingress and one egress lane at the driveways.
2. The westbound and southbound left turn lanes at the Grier Road/Sanders Road intersection and the left turn lane on Grier Road at Driveway 2 are warranted based on Pima County turn lane warrant criteria found in the Pima County Subdivision and Development Street Standards. The westbound turn lane at Grier Road/Sanders Road is warranted under existing conditions, the southbound turn lane at the intersection is warranted under 2028 No Project conditions, and the turn lane at Driveway 2 is warranted with the project in 2028. However, the westbound turn lane at the Grier Road/Sanders Road intersection is not recommended because this approach is stop-controlled with few opposing vehicles, and all movements at the intersection will operate at LOS C with the project traffic through 2028. If the other turn lanes are constructed, the Grier Road turn lanes should be 110 feet long and the Sanders Road turn lane should be 150 feet with transition designed to Pima County left turn lane design standards. An opposing northbound left turn lane at the intersection should also be constructed with the southbound left turn lane. However, the turn lane warrant analysis should be reevaluated at the development plan stage.
3. Based on the thresholds for warranting a southbound left turn lane at the Grier/Sanders intersection, the Town should consider a "trigger" condition that the turn lane will be constructed when the project will generate 300 trips per day and if a follow-up TIS conducted for this project at the development stage finds that the turn lane would be warranted.
4. Sidewalks will be constructed along the frontages of the project site on Grier Road and Sanders Road.
5. Ensure that there is acceptable sight distance to and from the project entrances.
6. Roadway and subdivision design should conform to current Town of Marana standards.
7. All new traffic signs and markings must comply with the current Manual on Uniform Traffic Control Devices and local requirements.



K. PUBLIC UTILITIES

1. Sewer

   This development will connect to the existing Town of Marana 15" sewer line in Sanders Road. No additional offsite sewer improvements are anticipated to be necessary for this project.

2. Water

   Marana Water will serve this commercial development. The project will connect to the existing 6" waterline in Grier Road and/or the existing 8" waterline in Sanders Road. An offsite upsizing of Marana's public water system may be constructed by the developer if necessary to achieve adequate fire flow.

3. Non-Potable Water

   The Property does not currently contain any Cortaro Marana Irrigation District (CMID) facilities, but as part of the Villages at Barnett project DR Horton is currently building a pipeline, headbox and gates that will allow CMID to deliver non-potable water to the Property near the east end.

4. Electric

   The property will be served by the Tucson Electric Power Company.

5. Natural Gas

   Southwest Gas will supply natural gas services to this development.

6. Telecommunications

   The development is within the Century Link service area.

L. PUBLIC SERVICE IMPACTS

1. Police

   This project is within Marana's town limits, and law enforcement jurisdiction.

2. Fire

   This project will be protected by the Northwest Fire District.

3. Trash & Recycling

   The Town of Marana does not provide trash and recycling services. The business owners within this development will contract with a private solid waste pick-up provider.

4. Schools

   Being a commercial development, this section is not applicable.

5. Parks

   Being a commercial development, this section is not applicable.

M. RECREATION & TRAILS

Being a commercial development, this section is not applicable.

N. CULTURAL, ARCHAEOLOGICAL & HISTORIC RESOURCES

The Property was surveyed for cultural resources by Professional Archaeological Services of Tucson in January 2022. Nothing of significance was found and so it was determined that the development of this parcel could proceed without any further work.

Council-Regular Meeting **A2**

Meeting Date: 09/20/2022

To: Mayor and Council

From: Brian Varney, Senior Planner

Date: September 20, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: PUBLIC HEARING: Ordinance No. 2022.014: Relating to Development; approving a rezoning of approximately 50.92 acres of land located at the southwest corner of Thornydale Road and Tangerine Road from R-144 (Residential) to SP (Specific Plan), creating the SWC Tangerine & Thornydale Specific Plan; and approving a minor amendment to the Marana General Plan land use designation from Commercial (C) to Master Plan Area (MPA) (Brian D. Varney)

Resolution No. 2022-099: Relating to Development; declaring as a public record filed with the town clerk the SWC Tangerine & Thornydale Specific Plan adopted by Ordinance No. 2022.014 (Brian D. Varney)

Discussion:

Request
Lazarus & Silvyn, P.C. is requesting approval from the Town Council to rezone approximately 50.92 acres of land from R-144 (Residential) to Specific Plan (SP). The proposed rezoning is accompanied by a request to amend the Marana General Plan Land Use category designation from Commercial to Master Plan Area.

Marana General Plan
The 2040 Marana General Plan designates the proposed rezoning area in the land use category of Commercial (C). A minor amendment to the General Plan will

accompany this rezoning, changing the designation to Master Plan Area (MPA), as required when rezoning to Specific Plan (SP).

Surrounding Land Use and Site Characteristics
The rezoning area is bordered on the north by Tangerine Road, beyond that is the Tangerine / Thornydale Specific Plan area that is comprised of open space, existing commercial uses, and vacant, undeveloped land. East of the rezoning area is Thornydale Road and beyond that is vacant Arizona State Trust Land located within unincorporated Pima County and zoned Suburban Ranch (SR). South and west of the rezoning area is the Sky Ranch Specific Plan area with 418 single-family residential lots. In addition, a 5.5 acre parcel, zoned Zone C - Large Lot Zone, is adjacent to the southern boundary of the rezoning area, containing a Tucson Water booster station facility.

The proposed rezoning area is comprised of three parcels that are currently vacant and largely undisturbed. The existing zoning of these parcels is R-144 (Residential). The topography of the site is relatively flat with an average cross-slope of approximately 2.4% sloping from the northeast to the southwest. The site is impacted by a few natural drainage channels that are generally shallow (1 to 2 feet in depth).

Proposed Land Use
Exhibit III.C.1: Land Use Concept of the site analysis document indicates a land use designation of Mixed Use (MU) throughout the rezoning area. The MU designation will accommodate commercial land uses typically allowed within the Town's Village Commercial (VC) zoning designation as well as single-family and multi-family residential uses. The Land Use Concept exhibit also indicates a proposed area of separation from the Sky Ranch subdivision homes:

- There shall be a minimum building setback, applicable to all single-family residential structures, of 300 feet measured from a fixed point along the west and south property boundaries of the rezoning area nearest the existing residences in Sky Ranch.
- An additional 50-foot setback, beyond the 300 feet, will apply to any two-story residence proposed to be constructed in this portion of the rezoning area.
- There shall be a 600-foot building setback, measured from the same fixed point on the west and south property boundaries, applicable to any commercial structure constructed in this portion of the rezoning area.

These building setbacks are all depicted on the Land Use Concept exhibit and the Conceptual Site Plans found within the Specific Plan document.

The site analysis document includes three different 'Illustrative Concept' plans with three potential development scenarios within the rezoning area. 'Illustrative Concept A' depicts 31.6 acres of single-family residential use with a minimum of 30% designated as natural undisturbed open space, approximately 13.4 acres of commercial land use and 6.5 acres of assisted living land use. 'Illustrative Concept B' depicts 31.6 acres of single-family residential with a

minimum of 30% designated as natural undisturbed open space, 6.8 acres of commercial land use and 12.1 acres of multi-family land use. 'Illustrative Concept C' depicts 50.3 acres of single-family residential use with a minimum of 30% designated as natural undisturbed open space.

In all three development scenarios, the most substantial, central drainageway traversing the site is proposed to be maintained in its natural state and allow drainage flows to pass through an undisturbed channel. Town staff will require the submittal of a drainage study and will evaluate all on-site and off-site drainage in greater detail during the review of a preliminary plat or a development plan. All appropriate drainage infrastructure will be required to be constructed by the developer. In addition, regardless of which development scenario is ultimately developed, all development will be subject to the Town's Residential Design Standards and/or the Multi-Family, Commercial, and Industrial Design Standards.

The recreational component of the project will be designed during the platting stage in accordance with the Town's recreational area standards including the Subdivision Recreational Area Design Manual. Additionally, a shared-use path will be constructed by the developer along the south side of Tangerine Road from its termination at Camino de Manana to Thornydale Road, in accordance with Town specifications, when any portion of the Specific Plan is developed. The shared-use path will connect with the larger regional trail system, connecting the Town with unincorporated Pima County and the Town of Oro Valley, along the Tangerine corridor and provide residents of the Specific Plan access to the Tangerine Sky Community Park less than 0.25 miles to the west of the property.

Access and Circulation
Potential access points are proposed at two locations off of Thornydale Road and at three locations off of Tangerine Road, one of these being an emergency-only access. The ultimate location of all points of access will be dependent upon the development scenario selected. All development scenarios propose at least one primary access and one emergency access off of Tangerine Road, and at least one primary access off of Thornydale Road. The Town will require a sidewalk to be constructed to Town standards along the project's entire frontage on Thornydale Road and an asphalt shared-use path to be constructed along the project's entire Tangerine Road frontage, connecting the path's current points of terminus at Camino de Manana and the Tangerine / Thornydale intersection. The Town of Marana Traffic Engineering Division has accepted the traffic study submitted for the rezoning area and further evaluation will occur at the time of development plan or preliminary plat submittal when a specific development scenario has been selected. On-site traffic circulation will also be evaluated at that time.

Utilities
Tucson Water will provide water service to future development within the rezoning area, pursuant to the 2016 intergovernmental agreement between Marana and Tucson regarding Tucson Water service within the Marana town boundaries. A proposed plan identifying water use, fire flow requirements, and all

on-site and off-site water facilities will be required. A water service agreement will be required, and all necessary on-site and off-site water infrastructure will be required to be constructed by the property owner / developer at the time of development. Water lines currently exist in the Sky Ranch subdivision as well as in Thornydale Road. Sewer service will be provided to the future development by Pima County Regional Wastewater Reclamation Department. The rezoning area lies within the service areas of Northwest Fire District, TRICO, Southwest Gas, Century Link, and Comcast.

Citizen Participation
The applicant held two, noticed neighborhood meetings and has engaged in discussion with two separate groups of neighbors, on the south and west borders of the proposed rezoning area. The first neighborhood meeting occurred on June 29, 2021, at which time the applicant requested feedback from the neighborhood. The second neighborhood meeting took place on January 24, 2022 to update the neighbors on changes to the plan. Additionally, the applicant met with Sky Ranch neighbors to the south on February 18, 2022, as well as on April 4, 2022. The applicant also reached out to Sky Ranch neighbors to the west in August of this year.

Public Notification
This public hearing was appropriately noticed in The Daily Territorial, and all property owners within 300 feet of the boundary of the rezoning area were noticed by United States mail of the date, time, and topic of the public hearing. Additional notice was posted at various locations within the community.

Case Analysis Review Criteria
Pursuant to Town Code Section 17-3-1(D), the Planning Commission and Town Council shall consider the following questions, at a minimum, in reviewing an application for rezoning:

- Any change of character in the area due to installation of public facilities, other zone changes, new growth trends, deterioration, and development;

  Based upon the requirements and conditions, the rezoning amendment does not appear to be detrimental to the character of the area due to installation of public facilities or any other rezoning changes.
- The degree to which the proposed zoning will benefit the community; whether there will be benefits derived by the community, or area, by granting the proposed rezoning;

  With the acceptance of the recommended conditions, this rezoning will benefit the community by providing additional commercial opportunities and residential options.
- Whether the proposed rezoning is compatible with the surrounding area or whether there will be adverse impacts on the capacity or safety of the portion of street network influenced by the rezoning, parking problems, or environmental impacts that the new use will generate such an excessive storm runoff, water, air, or noise pollution, excessive nighttime lighting, or other nuisances;

Based on the recommended requirements and conditions, the rezoning amendment is compatible with the surrounding area and does not appear to adversely impact the adjacent street network or generate such excessive storm runoff, water, air, or noise pollution, excessive nighttime lighting, or other nuisances

- Whether the proposal conforms with and is in furtherance of the implementation of the goals and policies of the general plan, other adopted plans, and the goals, objectives and policies of the land development code, and other town regulations and guidelines, including goals and policies relating to economic development;

With the acceptance of the recommended conditions and the approval of the accompanying minor General Plan Amendment from Commercial (C) to Master Plan Area (MPA), the rezoning amendment conforms with the goals and policies of the general plan, the land development code, and other town regulations and guidelines.

- The zoning districts and existing land uses of the surrounding properties;

Based on the recommended requirements and conditions, the rezoning amendment is compatible with the surrounding properties, zoning, and existing land use.

- Whether the existing and proposed transportation infrastructure is suitable and adequate to serve the traffic anticipated to be generated by the proposed development;

With the acceptance of the recommended conditions, the existing and proposed transportation infrastructure is suitable and adequate to serve the traffic anticipated to be generated by the proposed development

- Whether the existing and proposed utility infrastructure, public facilities, and public services are suitable and adequate to serve the proposed rezoning area;

Based upon the rezoning requirements and conditions, there is adequate utility infrastructure, public facilities, and public services in the area to serve the proposed rezoning area

- Whether the subject property is suitable for the uses to which it has been restricted under the existing zoning classification;

Based upon the rezoning requirements and conditions, the subject property is suitable for the proposed uses.

- Whether the rezoning is compatible with the adjacent neighborhood, especially residential neighborhood stability and character;

Based upon the rezoning requirements and conditions, this rezoning amendment is compatible with the adjacent neighborhood in area stability and character;

- If applicable, the length of time the subject property has remained vacant as zoned:

The subject property has remained vacant since annexation into the Town.

- Whether there is an adequate supply of land available in the subject area and the surrounding community to accommodate the zoning and community needs:

Based upon the rezoning amendment subject area location, there is an adequate

supply of land available in the area and the surrounding community to accommodate the zoning and community needs.

Staff Recommendation:

This is a discretionary item for the Town Council to consider. Should the Town Council choose to approve this item, staff recommends the approval be based upon the recommended findings and subject to the conditions set forth in the draft ordinance attached.

Planning Commission Recommendation

The proposed rezoning was considered at a public hearing before the Marana Planning Commission on August 31, 2022. The Planning Commission voted unanimously 7-0 to recommend to the Town Council approval of the requested rezoning subject to the recommended conditions, as well as additional conditions deemed appropriate by the Commission. The motion and approval occurred as follows:

Motion to approve made by Commissioner Flint, and seconded by Commissioner McIntyre, based upon the revised conditions that were presented to the Commission, as opposed to what was presented in the packet, to restrict single-family residential development along Tangerine Road to single story. Also, west of the wash, all commercial development shall be restricted to single story. The 24-armed saguaro should be preserved in accordance with the Town Code Chapter 17-11; regarding native plant preservation and the Town's normal policies. Motion passed unanimously, 7-0.

Suggested Motion:

I move to adopt Ordinance No. 2022.014, approving the SWC Tangerine and Thornydale Specific Plan and the minor amendment to the Marana General Plan subject to the recommended conditions in the draft ordinance attached.

Attachments

Ordinance No. 2022.014
Exhibit A to Ordinance
Resolution No. 2022-099
Exhibit A to Resolution
PCZ2109-001 SWCTT Map
PCZ2109-001 SWCTT App

MARANA ORDINANCE NO. 2022.014

RELATING TO DEVELOPMENT; APPROVING A REZONING OF APPROXIMATELY 50.92 ACRES OF LAND LOCATED AT THE SOUTHWEST CORNER OF THORNYDALE ROAD AND TANGERINE ROAD FROM R-144 (RESIDENTIAL) TO SP (SPECIFIC PLAN), CREATING THE SWC TANGERINE & THORNYDALE SPECIFIC PLAN; AND APPROVING A MINOR AMENDMENT TO THE MARANA GENERAL PLAN LAND USE DESIGNATION FROM COMMERCIAL (C) TO MASTER PLAN AREA (MPA)

WHEREAS H3T Partners, LLC, and Silverbell Properties, LLC (the "Property Owners"), own approximately 50.92 acres of land located at the southwest corner of Thornydale Road and Tangerine Road within Section 6, Township 12 South, and Range 13 East, described on Exhibit "A" attached to and incorporated in this ordinance by this reference (the "Rezoning Area"); and

WHEREAS the Property Owners have authorized Lazarus & Silvyn, P.C. to submit an application to rezone the Rezoning Area from R-144 (Residential) to SP (Specific Plan) ("this Rezoning"), and to request a minor amendment to the Marana General Plan changing the land use category for the Rezoning Area from Commercial (C) to Master Plan Area (MPA); and

WHEREAS the Marana Planning Commission held a public hearing to consider this Rezoning on August 31, 2022, and voted unanimously 7-0 to recommend that the Town Council approve this Rezoning and minor general plan amendment subject to the recommended conditions, plus additional conditions deemed appropriate by the Commission; and

WHEREAS the Marana Mayor and Town Council held a public hearing to consider this Rezoning on September 20, 2022, and determined that this Rezoning and minor general plan amendment should be approved.

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the Town of Marana, Arizona, as follows:

Section 1. The zoning of the Rezoning Area is hereby changed from R-144 (Residential) to SP (Specific Plan), creating the SWC Tangerine & Thornydale Specific Plan. The SWC Tangerine & Thornydale Specific Plan, one electronic and one printed copy of which are on file in the office of the Town Clerk of the Town of Marana, Arizona, which was made a public record by and is attached as Exhibit A to Marana Resolution

No. 2022-099, is hereby referred to, adopted and made part of this ordinance as if fully set out here.

Section 2. A minor amendment to the General Plan is hereby approved, changing the General Plan land use designation of the Rezoning Area from Commercial (C) to Master Plan Area (MPA).

Section 3. This Rezoning is subject to the following conditions, the violation of which shall be treated in the same manner as a violation of the Marana Town Code (but which shall not cause a reversion of this Rezoning), and which shall be binding on the Property Owners and their successors in interest (all of whom are collectively included in the term "Property Owners" in the following conditions):

1. Compliance with all applicable provisions of the Town's codes and ordinances current at the time of any subsequent development including, but not limited to, requirements for public improvements and payment of application fees and applicable development impact fees.
2. Any preliminary plat or development plan for any portion of the Rezoning Area shall be in general conformance with the Conceptual Site Plan(s) presented to and approved by the Town Council as part of this Rezoning.
3. A master drainage study must be submitted by the Property Owners and accepted by the Town Engineer prior to Town approval of a preliminary plat or development plan for any portion of the Rezoning Area.
4. A water infrastructure and phasing plan (WIP) must be submitted by the Property Owners and accepted by Tucson Water (the "water utility") prior to approval of a preliminary plat or development plan for any portion of the Rezoning Area. The WIP shall identify all on-site and off-site water facilities needed to serve the proposed development. The WIP shall include all information required by the water provider, such as (but not limited to) analysis of water use and fire flow requirements, and well source, reservoir, and booster station infrastructure needed to serve the proposed development. If the water provider requires a water service agreement as a condition of service to the proposed development, the Property Owners must enter into a water service agreement with the water provider consistent with the accepted WIP.
5. A master sewer plan must be submitted by the Property Owners and accepted by Pima County Regional Wastewater Reclamation Department (the "wastewater utility") prior to the approval of any final plat or development plan for the Rezoning Area. The master sewer plan shall identify all on-site and off-site wastewater facilities needed to serve the proposed development, and shall include all information required by the wastewater utility. If the wastewater utility requires a sewer service agreement as a condition of service to the proposed development, the Property Owners must enter into a sewer service agreement with the wastewater utility consistent with the accepted master sewer plan.

6. The Property Owners must design and construct any roadway, drainage, water, and wastewater improvements, and dedicate or acquire any property rights associated with those improvements, that the Town requires based on the data and findings of the accepted traffic impact analysis, the accepted master drainage study, the accepted WIP, the accepted master sewer plan, and other studies approved in connection with the approval of a preliminary plat or development plan for any portion of the Rezoning Area.
7. The final design of all streets and circulation facilities, including gated access (if applicable) must be accepted by the Northwest Fire District prior to Town Council consideration of a final plat for any portion of the Rezoning Area.
8. No approval, permit or authorization by the Town of Marana authorizes violation of any federal or state law or regulation or relieves the Property Owners from responsibility to ensure compliance with all applicable federal and state laws and regulations, including the Endangered Species Act and the Clean Water Act. The Property Owners should retain appropriate experts and consult appropriate federal and state agencies to determine any action necessary to assure compliance with applicable laws and regulations.
9. The Property Owners shall transfer to the water provider, by the appropriate Arizona Department of Water Resources form, those water rights being IGR, Type I or Type II for providing designation of assured water supply and water service to the Rezoning Area. If Type I or Type II is needed on the Rezoning Area, the water provider and the Property Owners shall arrive at an agreeable solution to the use of those water rights appurtenant to the affected portion of the Rezoning Area.
10. Prior to the issuance of any grading permits, the Property Owners shall submit evidence to the Town that all federal permit requirements have been met through the Corps of Engineers and the State Historic Preservation Office, if federal permits are required for the development of the Rezoning Area.
11. The Property Owners shall not cause any lot split of any kind without the written consent of the Town of Marana.
12. There shall be a minimum building setback, applicable to all single-family residential structures, of 300 feet measured from a fixed point along the west and south property boundaries of the Rezoning Area nearest the existing residences in the Sky Ranch subdivision. An additional 50-foot setback, beyond the 300 feet, will apply to any two-story residence proposed to be constructed in this portion of the Rezoning Area. Additionally, there shall be a minimum 600-foot building setback, measured from the same fixed point on the west and south property boundaries, applicable to any commercial structure constructed in this portion of the Rezoning Area. These building setbacks are depicted on the Land Use Concept Plan and the Illustrative Concepts within the Specific Plan document.

13. Single-family residential structures along the Tangerine Road frontage in the Rezoning Area shall be restricted to single-story construction.
14. Commercial structures along the Tangerine Road frontage, west of the largest drainage channel in the Rezoning Area, shall be restricted to single-story construction.
15. The approximately 24-armed Saguaro cactus, located approximately 175 feet south of the second Tangerine Road drainage structure east of the western property boundary of the Rezoning Area, shall be preserved in accordance with Town Code Chapter 17-11 and native plant preservation standards.
16. Within 60 days after the adoption of this ordinance, the Property Owners shall provide the Development Services Department with two bound copies, and two electronic CD copies in PDF format, which will also include graphics of the Conceptual Site Plan(s) plan in JPEG or other suitable format, of the SWC Tangerine & Thornydale Specific Plan.

Section 4. All ordinances, resolutions and motions and parts of ordinances, resolutions, and motions of the Marana Town Council in conflict with the provisions of this ordinance are hereby repealed, effective as of the effective date of this ordinance.

Section 5. If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 20th day of September, 2022.

_____
Mayor Ed Honea

ATTEST:

_____
David L. Udall, Town Clerk

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

EXHIBIT A to Marana Ordinance No. 2022.014

LEGAL DESCRIPTION

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF PIMA, STATE OF ARIZONA, AND IS DESCRIBED AS FOLLOWS:

Parcel A: (224-13-001J)

A part of the property recorded in Sequence No. 20120580016 and Sequence No. 20112130097 records of Pima County, located in Government Lots 1 and 2 of Section 6, Township 12 South, Range 13 East, Gila and Salt River Base and Meridian, Pima County, Arizona, described as follows:

BEGINNING at the Northeast corner of said Section 6;

THENCE South 89 degrees 23 minutes 59 seconds West 30.00 feet from said POINT OF BEGINNING, Westerly along the North line of the Northeast quarter of said Section 6 to a point thereon;

THENCE South 00 degrees 39 minutes 06 seconds East 1067.07 feet Southerly along the East line of a right-of-way acquisition filed in Sequence No. 20161300547, records of said Pima County, to the Southeast corner thereof;

THENCE South 89 degrees 24 minutes 53 seconds West 44.99 feet Westerly to the Southwest corner of said acquisition;

THENCE North 00 degrees 39 minutes 04 seconds West 839.67 feet Northerly along the West line of said acquisition to the TRUE POINT OF BEGINNING of Parcel A herein described;

THENCE South 89 degrees 23 minutes 59 seconds West 1410.79 feet leaving said TRUE POINT OF BEGINNING, Westerly to an angle point;

THENCE South 45 degrees 24 minutes 55 seconds West 675.59 feet leaving said angle point, Southwesterly to an angle point in the boundary of the subdivision, Sky Ranch, Book 58 of Maps and Plats at page 58 thereof, records of said Pima County;

THENCE South 89 degrees 24 minutes 53 seconds West 630.00 feet leaving said angle point, Westerly along said boundary to an angle point, establishing the Southwest corner of said Parcel A;

THENCE North 00 degrees 34 minutes 09 seconds West 596.39 feet Northerly along said boundary to a point establishing the Northwest corner of said Parcel A;

THENCE North 89 degrees 23 minutes 59 seconds East 1699.07 feet leaving said Northwest corner, Easterly along the South right-of-way line of Tangerine Road as established by Sequence No. 20173170605, records of said Pima County, to an angle point described in said acquisition filed in Sequence No. 20161300547
;
THENCE North 00 degrees 36 minutes 01 seconds West 50.00 feet Northerly to an angle point;

THENCE North 89 degrees 23 minutes 59 seconds East 90.00 feet Easterly to an angle point;

THENCE South 00 degrees 36 minutes 01 seconds East 50.00 feet Southerly to an angle point;

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AMERICAN LAND TITLE ASSOCIATION

EXHIBIT A to Marana Ordinance No. 2022.014
(Continued)

THENCE North 89 degrees 23 minutes 59 seconds East 389.86 feet to an angle point;

THENCE North 00 degrees 36 minutes 01 seconds West 50.00 feet to an angle point; THENCE North 89 degrees 23 minutes 59 seconds East 72.00 feet Easterly to an angle point;

THENCE South 00 degrees 36 minutes 01 seconds East 50.00 feet to an angle point; THENCE North 89 degrees 23 minutes 59 seconds East 250.55 feet Easterly to a point of curve;

THENCE an arc distance 39.25 feet along the arc of a curve to the right having a radius of 25.00 feet, through a delta of 89 degrees 56 minutes 36 seconds to a point of tangency;

THENCE South 00 degrees 39 minutes 25 seconds East 102.41 feet leaving said point of tangency, Southerly along the West line of said acquisition to the TRUE POINT OF BEGINNING.

Parcel B: (224-13-001K)

A part of the property recorded in Sequence No. 20120580016 and Sequence No. 20112130097 records of Pima County, located in Government Lots 1 and 2 of Section 6, Township 12 South, Range 13 East, Gila and Salt River Base and Meridian, Pima County, Arizona, described as follows:

BEGINNING at the Northeast corner of said Section 6;

THENCE South 89 degrees 23 minutes 59 seconds West 30.00 feet from said POINT OF BEGINNING, Westerly along the North line of the Northeast quarter of said Section 6 to a point thereon;

THENCE South 00 degrees 39 minutes 06 seconds East 1067.07 feet Southerly along the East line of a right-of-way acquisition filed in Sequence No. 20161300547, records of said Pima County, to the Southeast corner thereof;

THENCE South 89 degrees 24 minutes 53 seconds West 44.99 feet Westerly to the Southwest corner of said acquisition, establishing the TRUE POINT OF BEGINNING of Parcel B herein described;

THENCE South 89 degrees 24 minutes 53 seconds West 1897.85 feet leaving said TRUE POINT OF BEGINNING,
Westerly along the boundary of the subdivision, Sky Ranch, Book 58 of Maps and Plats at page 58 thereof, records of said Pima County, to an angle point;

THENCE North 00 degrees 34 minutes 09 seconds West 370.00 feet Northerly along the boundary of said subdivision to an angle point;

THENCE North 45 degrees 24 minutes 55 seconds East 675.59 feet Northeasterly to an angle point;

THENCE North 89 degrees 23 minutes 59 seconds East 372.62 feet leaving said angle point, Easterly along a line parallel with the North line of the Northeast quarter of said Section 6 to an angle point;

THENCE South 00 degrees 39 minutes 04 seconds East 711.99 feet Southerly to an angle point;

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AMERICAN LAND TITLE ASSOCIATION

EXHIBIT A to Marana Ordinance No. 2022.014
(Continued)

THENCE North 89 degrees 24 minutes 53 seconds East 1038.17 feet Easterly to a point on the West line of said acquisition;

THENCE South 00 degrees 39 minutes 04 seconds East 127.41 feet Southerly along the West line of said acquisition to the TRUE POINT OF BEGINNING.

Parcel C: (224-13-001L)

A part of the property recorded in Sequence No. 20120580016 and Sequence No. 20112130097 records of Pima County, located in Government Lots 1 and 2 of Section 6, Township 12 South, Range 13 East, Gila and Salt River Base and Meridian, Pima County, Arizona, described as follows:

BEGINNING at the Northeast corner of said Section 6;

THENCE South 89 degrees 23 minutes 59 seconds West 30.00 feet from said POINT OF BEGINNING, Westerly along the North line of the Northeast quarter of said Section 6 to a point thereon;

THENCE South 00 degrees 39 minutes 06 seconds East 1067.07 feet Southerly along the East line of a right-of-way acquisition filed in Sequence No. 20161300547, records of said Pima County, to the Southeast corner thereof;

THENCE South 89 degrees 24 minutes 53 seconds West 44.99 feet Westerly to the Southwest corner of said acquisition;

THENCE North 00 degrees 39 minutes 04 seconds West 127.41 feet Northerly along the West line of said acquisition to the TRUE POINT OF BEGINNING of Parcel C herein described;

THENCE South 89 degrees 24 minutes 53 seconds West 1038.17 feet from said TRUE POINT OF BEGINNING, Westerly to a point establishing the Southwest corner of said Parcel C;

THENCE North 00 degrees 39 minutes 04 seconds West 711.99 feet Northerly to a point establishing the Northwest corner of Parcel C;

THENCE North 89 degrees 23 minutes 59 seconds East 1038.17 feet Easterly to a point on the West line of said acquisition;

THENCE South 00 degrees 39 minutes 04 seconds East 712.26 feet Southerly along the West line of said acquisition to the TRUE POINT OF BEGINNING.

APN: **224-13-001K**

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MARANA RESOLUTION NO. 2022-099

RELATING TO DEVELOPMENT; DECLARING AS A PUBLIC RECORD FILED WITH THE TOWN CLERK THE SWC TANGERINE & THORNYDALE SPECIFIC PLAN ADOPTED BY ORDINANCE NO. 2022.014

BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA that the SWC Tangerine & Thornydale Specific Plan adopted by Ordinance No. 2022.014 and attached to and incorporated in this resolution as Exhibit A, one electronic and one paper copy of which are on file in the office of the Town Clerk, is hereby declared to be a public record and ordered to remain on file with the Town Clerk.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 20th day of September, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney



SWC TANGERINE & THORNYDALE SPECIFIC PLAN

4011 W. Tangerine Rd.
Marana, Arizona 85658

Project No.: PCZ2109-001
Revised September 2022

Law Offices of Lazarus & Silvyn, P.C.



the architecture company

WestLand Resources, Inc.
Engineering and Environmental Consultants

RICK ENGINEERING COMPANY

Law Offices of Lazarus & Silvyn, P.C.

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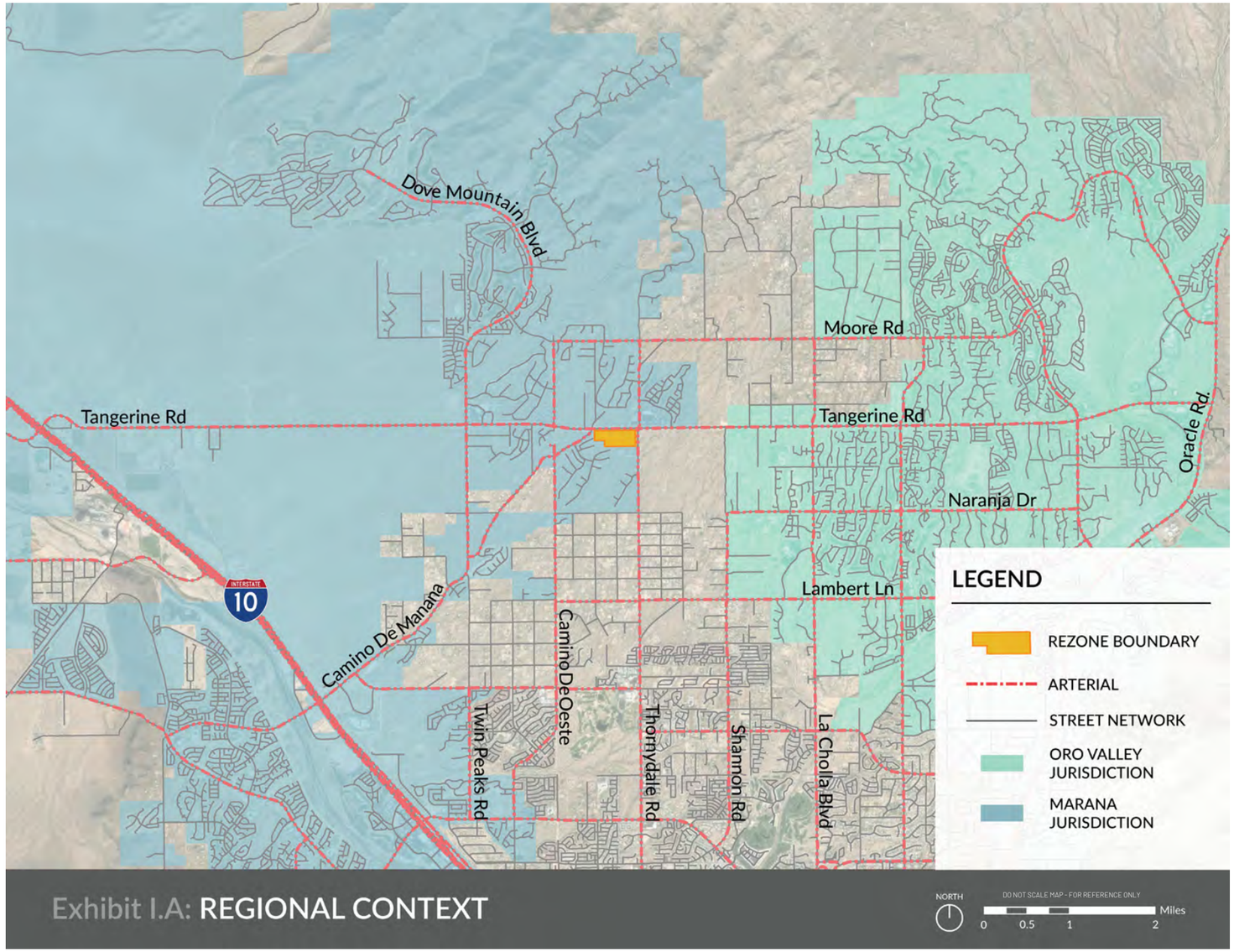


I. Introduction

A. Introduction

The SWC Tangerine & Thornydale Specific Plan ("Specific Plan") proposes a mix of uses on the 50.92 acres of land (the "Property") located on the southwest corner of Tangerine and Thornydale Roads within the Town of Marana ("Town"). (*See Exhibit I.A: Regional Context.*) The Specific Plan provides an appropriate transition between the lower density residential uses to the south/west and the Tangerine Road corridor to the north by establishing a mix of uses, including mid- to higher-density residential and commercial. Tangerine Road is the east/west arterial roadway connecting Interstate 10 with Oracle Road passing through two towns and parts of unincorporated Pima County (the "County"). Tangerine Road has the largest right-of-way of any roadway within the Town, as identified on the Town's General Plan Future Circulation Map. The higher intensity mix of land uses proposed within this Specific Plan are suitable along this corridor.

Historically, this region of the Town was limited in its development potential due to its designation as Critical Habitat for the Cactus Ferruginous Pygmy Owl ("Pygmy Owl"). The Pygmy Owl was first listed Endangered by the U.S. Fish & Wildlife Service ("USFWS") in 1997. After a series of court challenges, the USFWS delisted the Pygmy Owl in 2006 as a threatened or endangered species but not before multiple master planned communities in the Town were designed to accommodate this Critical Habitat. In particular, the Sky Ranch Specific Plan ("Sky Ranch"), located south and west of the Property, was planned around the conservation of Pygmy Owl habitat, resulting in substantial preservation of natural open space. Other specific plans, including Tortolita Vistas, Saguaro Ranch and Dove Mountain were also designed in response to Critical Habitat constraints. The resulting development pattern is a series of similarly clustered residential neighborhoods with large swaths of natural open space, which has established a unique identity for Northern Marana.



A. Introduction Cont.

One primary objective of this Specific Plan is to acknowledge an updated development pattern that supports growth adjacent to the Tangerine Road corridor while respecting the historic patterns of neighboring communities and using rational and sensitive transitions. The Specific Plan allows for a wide range of uses, including single- and multi-family residential, commercial and office uses—and any combination thereof. No commercial uses will be permitted within 600 feet of an existing Sky Ranch home, and single-family residential uses located on the west end of the Property adjacent to Sky Ranch will be sited with minimum 300-foot buffers between new and existing home property lines. The smaller lot residences, which may be developed at 3.5 residences per acre ("RAC"), will serve as a transition in intensity between the existing Sky Ranch homes and Tangerine Road to the north and more intense mixed-use development on the east toward the Tangerine/Thornydale intersection (the "Project").

This Specific Plan serves as both the land use proposal for the Project, as well as a minor amendment to the Town's General Plan, Make Marana 2040. Section I.B, on the following page, is the request and rationale to amend the Make Marana 2040 Future Land Use Map to indicate this Project is being developed as a Master Planned Area ("MPA"). Section II, Development Capability Analysis, includes an analysis of the Property's existing conditions. The Land Use Proposal (Section III) describes the proposed set of uses on the Property, and Section IV prescribes standards for the development of the Specific Plan. The Project's implementation plan and the Town's review process for development of the Project are included in Section V.

B. Make Marana 2040 General Plan Amendment

The Property, situated at the southwest intersection of two major arterial roadways, is located within the East Growth Area of the Town, which is "envisioned to become a diverse community of corporate businesses, commercial destinations, and residential uses compatibly integrated with, and that embody the rich natural environment." With Tangerine Road slated to be a major regional corridor connecting Marana to the Town of Oro Valley and growing portions of unincorporated Pima County, this Property is in a prime location to promote this vision.

The Property is currently designated as Commercial on the 2040 Future Land Use Map of the General Plan. Concurrent with this Specific Plan proposal is a request to amend the Property's land use designation to MPA. Make Marana 2040's *Table I.B: Major/Minor General Plan Amendment* indicates a change from Commercial to MPA qualifies as a minor amendment. The MPA designation "denotes areas that are guided by separate development approvals. These approvals establish the land uses, densities and intensities of development, and the character of the area." MPA is meant for properties planned as a single community with any mix of land uses that are appropriately planned and designed within the context of its environment. This Specific Plan is consistent with the intent of the MPA designation and the vision for the Town's East Growth Area, as well as the goals and policies of Make Marana 2040. The following policies from Make Marana 2040 are relevant and support this Specific Plan:

Table I.B: Major/Minor General Plan Amendment

From \ To	OS	RR	LDR	TN	C	E	MPA	A
OS	NA	Minor ≤ 5 ac Major > 5 ac	Minor ≤ 5 ac Major > 5 ac	Major	Major	Major	Minor ≤ 200 ac Major > 200 ac	Major
RR	Minor	NA	Minor	Major	Minor ≤ 10 ac* Major > 10 ac	Major		
LDR		Minor	NA	Minor ≤ 80 ac Major > 80 ac	Minor ≤ 15 ac* Major > 15 ac	Major		
TN		Minor	Minor	NA	Minor ≤ 20 ac* Major > 20 ac	Minor ≤ 15 ac Major > 15 ac	Minor	
C		Minor	Minor	Minor	NA	Minor		
E		Minor	Minor	Minor	Minor	NA		
MPA	Minor						NA	Major
A	Major							NA
TP	NA	Major						

*No amendment is required up to the amount permitted by right. See Table 2-2 Future Land Use Category Designations for permitted commercial acreage.

1. Built Environment

a. Land Use

Goal BE-2. Non-residential development is compatible with existing and planned residential areas

- **Policy BE 2-2.** Provide on-site transitional land use techniques including building orientation, site design, bufferyards, building height limitations, setbacks, and other methods to reduce impacts of non-residential uses on residential areas.

The Project has been designed with thoughtful transitions between new development and the adjacent Sky Ranch community. New homes within the Specific Plan will be sited at least 300 feet from an existing Sky Ranch home property line with intervening open space to provide ample buffering, and commercial uses will be located at least 600 feet from any existing Sky Ranch home property line. The Mixed-Use designation permits higher intensity uses, including multi-family residential and commercial uses along Tangerine frontage and the Tangerine/Thornydale intersection.

B. Make Marana 2040 General Plan Amendment Cont.

Goal BE-8. Mixed-use development in Marana provides quality areas of housing, commerce, and community interaction.

- **Policy BE 8-1**. Encourage mixed-use development proposals in appropriate locations, with the scale and intensity compatible with existing and planned uses in the area.

- **Policy BE 8-2.** Support and encourage mixed-use development in appropriate areas that reflect the following elements:

  - Integration of land use, transportation, infrastructure, and design elements into a cohesive, well-planned community

  - Accommodation of all modes of travel and connection to public areas through multi-modal circulation

  - Promotion and integration of walkability within land uses and site planning

  - Integration and location of residential, commercial, office, employment, transit, recreation, and open space within a walkable distance from one another

  - Policy BE 8-3. Support mixed-use projects in appropriate areas that promote walkability and livability through compact and integrated residential, commercial and employment areas.

As discussed in Subsection I.C, below, the Project is located along Tangerine Road, which is slated to be an employment corridor west of the Property. The Specific Plan is well-positioned to support the employment uses with housing options for employees and diverse commercial development all around the Tangerine/Thornydale intersection within walking distance of the residential uses.

Goal BE-9. Multi-family development in Marana is of high design quality and is supported by necessary infrastructure and community serving uses.

- **Policy BE 9-2**. Evaluate multi-family development during the development review process for appropriate landscaping, open space, and recreational uses that create a complete residential community.

- **Policy BE 9-3**. Provide access to multi-family residential development from either arterial streets or collector streets.

B. Make Marana 2040 General Plan Amendment Cont.

- **Policy BE 9-4.** Reduce the bulk and massing of multi-family buildings through orientation, façade articulation, roof plane variation, fenestration, and material and color variations.

Goal BE-11. Land use, transportation, and urban design in Marana are integrated in support of land and resource conservation, multi-modal transportation, active open spaces, and design innovation.

- **Policy BE 11-4.** Locate higher density residential uses, as well as mixed-use development, in suitable focal areas, such as Downtown, Ina Road, and Tangerine Road.

Multi-family residential development is permitted within the Specific Plan and is an ideal use near the Tangerine/Thornydale intersection. Any multi-family residential project within the Specific Plan will comply with the Town's Multi-Family, Commercial and Industrial Design Standards. All uses within the Specific Plan will be able to access the shared-use path along Tangerine Road, which also provides pedestrian/bicycle access to Tangerine Sky Park west of the Property.

b. Transportation

Goal BE-17. Marana has an efficient and safe transportation system connecting all modes of travel, serving all residents, and supporting economic development.

- **Policy BE 17-3.** Encourage mixed land uses that combine residential, commercial, and employment with access to transit, bicycle, and pedestrian improvements.

Goal BE-26. The bicycle system in Marana is safe, connects areas of community activity, and promotes recreation.

- **Policy BE 26-2**. Provide for enhanced bicycle features at major arterial streets and freeways, such as separating facilities from vehicular traffic, buffered bike lanes, HAWK signalized crossings, and median refuge areas.

- **Policy BE 26-5**. Create bikeways that increase and enhance connectivity to neighboring jurisdictions.

B. Make Marana 2040 General Plan Amendment Cont.

The Specific Plan is situated at a major arterial intersection and primed to take advantage of all current and future modes of transportation. Tangerine Road features a shared-use path along its southern right-of-way on either side of the Property connecting the Town with the Town of Oro Valley to the east. The path will be extended along the Property as part of this Project. This shared-use path also provides pedestrian/bicycle access to Tangerine Sky Community Park west of the Property.

c. Housing

Goal BE-27. Marana maintains a diverse housing stock that accommodates the various housing needs of all residents.

- **Policy BE 27-2**. Encourage a range of housing types, housing sizes, and lot sizes that foster a variety of options, such as detached single-family homes, attached single-family homes, and multi-family units that increase choices throughout the community.

- **Policy BE 27-3**. Promote development proposals for multi-family residential, mixed-use, and small lot residential areas that are compatible with the existing and planned land uses in the area.

- **Policy BE 27-4**. Encourage the development of apartments, garden homes, court homes, townhomes, condominiums, and attached single-family dwellings in appropriate locations to increase available housing options for price-sensitive rentals.

Goal BE-30. Neighborhoods in Marana have unique identities with diverse residential designs.

- **Policy BE 30-5**. Encourage new and innovative housing types that meet the evolving needs of Marana households, and expand housing choices in all neighborhoods.

- **Policy BE 26-5**. Create bikeways that increase and enhance connectivity to neighboring jurisdictions.

It has become increasingly apparent that the market is demanding more diverse housing options, including smaller lot sizes for single-family residences and more rental opportunities. In the last few years, many homebuilders have expanded their portfolios in response to market demands, designing their single-family detached homes to fit on smaller lots and are still able to ensure each home has a small amount of private patio and/or backyard space. Highly amenitized apartment complexes have also become increasingly popular, especially near employment centers. This Project provides opportunities for diverse housing options, and their development will be sensitive to nearby existing residences through the use of transitions and mitigation strategies.

B. Make Marana 2040 General Plan Amendment Cont.

2. People & Community

a. Recreation

Goal PC-20. Marana supports a healthy, active community through a high quality park and recreation network.

- **Policy PC 20-4.** Provide urban spaces that include recreational opportunities, walkways, or trails to serve the community.

Some residents are choosing smaller living and private outdoor spaces in exchange for what they deem to be quality-of-life features, including proximity to work or schools and access to commercial, entertainment, recreation or open space. This Project will feature onsite recreation areas in accordance with Town recreation requirements, and its location ensures access to community recreation areas and regional open space with the adjacent shared-use path and nearby Tangerine Sky Community Park.

3. Resources & Sustainability

a. Open Space

Goal RS-1. Marana's dedication to preserving the Sonoran Desert environment contributes to the Town's aesthetic character.

- **Policy RS 1-1**. Where possible, encourage developers to maintain open space, view corridors, and wildlife connectivity to ensure that development does not block wildlife crossings and their connecting corridors.

Some residents are choosing smaller living and private outdoor spaces in exchange for what they deem to be quality-of-life features, including proximity to work or schools and access to commercial, entertainment, recreation or open space. This Project will feature onsite recreation areas in accordance with Town recreation requirements, and its location ensures access to community recreation areas and regional open space with the adjacent shared-use path and nearby Tangerine Sky Community Park.

B. Make Marana 2040 General Plan Amendment Cont.

b. Environmental Planning

Goal RS-7. New developments are constructed in a manner that minimizes flooding.

- **Policy RS 7-3.** Work with developers to incorporate drainage facilities within their proposed development.

- **Policy RS 7-5.** Use detention basins for multiple purposes (recreation, landscape bufferyard, etc.) where practical and feasible.

Goal RS-8. Stormwater is efficiently and sustainably managed in a way that reduces flood risks and respects water quality.

- **Policy RS 8-2**. Preserve and protect primary natural drainage systems.

c. Conservation

Goal RS-11. Marana promotes the protection, conservation, and long-term sustainability of its distinct natural environment.

- **Policy RS 11-6**. Ensure that development has collective natural undisturbed open spaces and that they are maintained and managed properly by homeowners' associations or other entities.

The large wash on the Property will be maintained as open space and will also serve as a wildlife corridor, allowing wildlife movement between Sky Ranch to the south and the Tortolitas to the north via large culverts under Tangerine Road. These culverts (installed during Tangerine Road improvements) have established a natural drainage pattern through the Property that will be maintained. A series of dual-purpose basins will provide both retention/detention and opportunities for recreation throughout the Specific Plan. The quantity and characteristics of drainage flows leaving the Property will match existing conditions. A community or homeowners' association will be established to ensure this opens space is protected and maintained as an asset to the community.

C. Honoring Our Heritage. Heralding the Future.

The Town's Economic Development Strategy ("Strategy") highlights Tangerine Road as an employment corridor. While the mapped corridor extends from Interstate 10 to Dove Mountain west of the Property, the Specific Plan is situated to serve as an extension of this economic center. The Strategy focuses on attracting research and business park employment uses on campus-style centers with supporting commercial development around them, and the Specific Plan is well-positioned to provide this support.

The Project is positioned to contribute to the Town's economic development, and the key to supporting non-residential uses—and commercial uses in particular—is developing more rooftops. The Specific Plan will contain diverse housing opportunities for the employees of these centers, many of whom may be seeking an alternative to the traditional 6,000+ square-foot lots that dominate other Specific Plans along Tangerine Road. To support these residents, open space and recreation opportunities will be incorporated throughout the Specific Plan area, and community recreation areas will be accessible via regional trail connections.



II. Development Capability Inventory Analysis

A. Purpopse & Intent

The purpose of this Development Capability Analysis is to establish current site conditions, identify existing land uses in the area, and analyze the site's relevant strengths and weaknesses in preparation for the future development of the Property.

Per the Town of Marana application checklist for Specific Plans, this analysis includes:

- Existing land uses on and around the Property
- Topography and slope
- Hydrology and water resources
- Vegetation and wildlife habitats
- Soils and geology
- Viewsheds
- Traffic analysis
- Recreation and trails
- Cultural, archaeological and historic resources
- Existing infrastructure and public facilities

B. Existing Land Uses

1. Site Location

The Property is located at the eastern edge of the Town in the northeast portion of Section 06, Township 12 South, Range 13 East. The 50.92-acre Property is situated approximately 6 miles east of the Interstate-10 Highway at the southwest corner of Tangerine Road and Thornydale Road. (*See Exhibit II.B.1.a: Property Location*.)

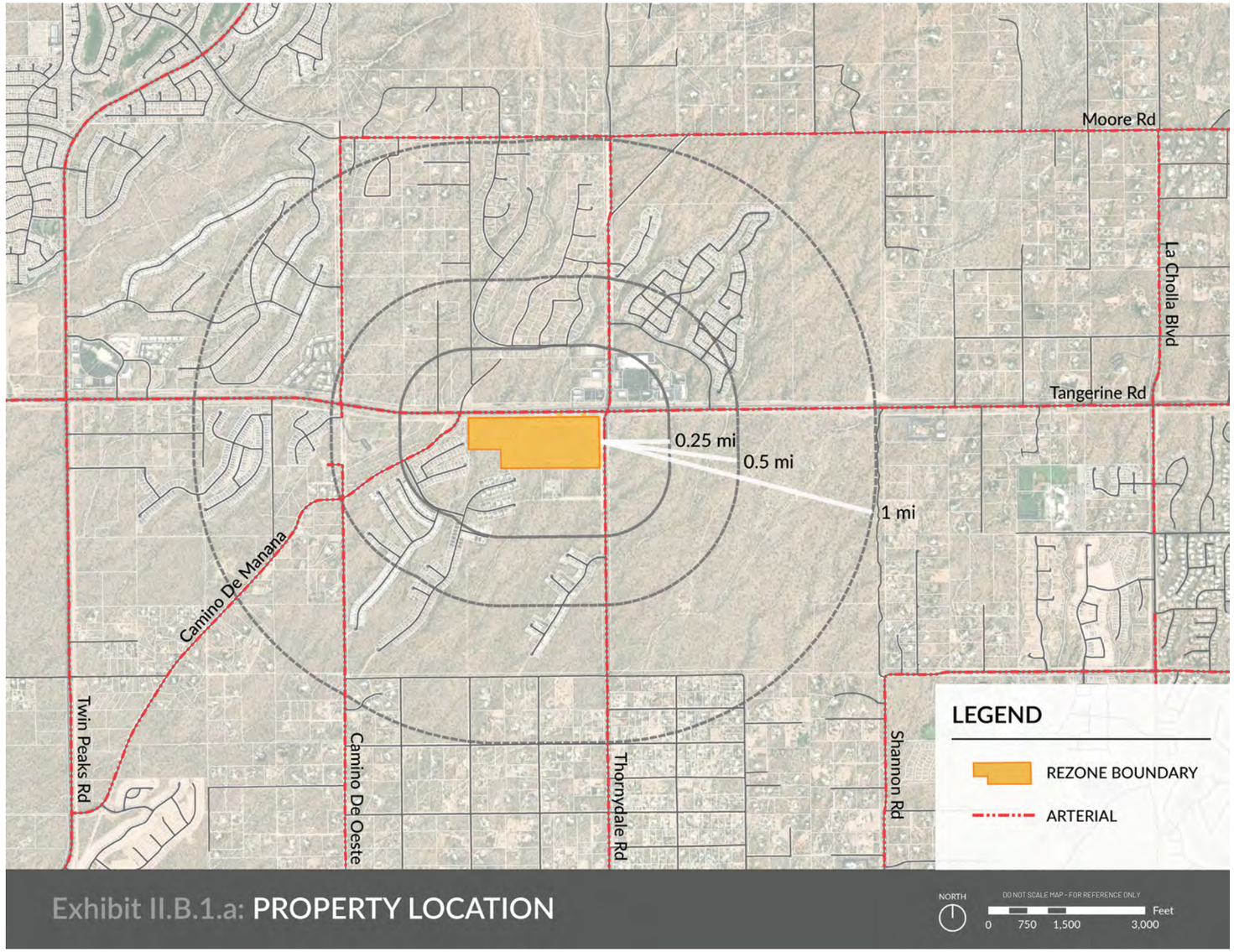


Exhibit II.B.1.a: **PROPERTY LOCATION**

B. Existing Land Uses Cont.

1. Site Location Cont.

The Property is comprised of three (3) separate parcels (Pima County Assessor parcel numbers 224-13-001J,-001K and-001L) with Tangerine Road to the north, Thornydale Road to the east, and the Sky Ranch Neighborhood to the west and south. (*See Exhibit II.B.1.b: Property Description*.) There are three (3) vacant parcels adjacent to the northern and eastern site boundaries owned by the Town extending into the Tangerine Road and Thornydale Road rights-of-way. There is one (1) parcel adjacent to the southern Property boundary with restricted access via Thornydale Road containing a Tucson Water booster station, several one-story utility buildings and various other aboveground storage tanks owned and operated by the City of Tucson.

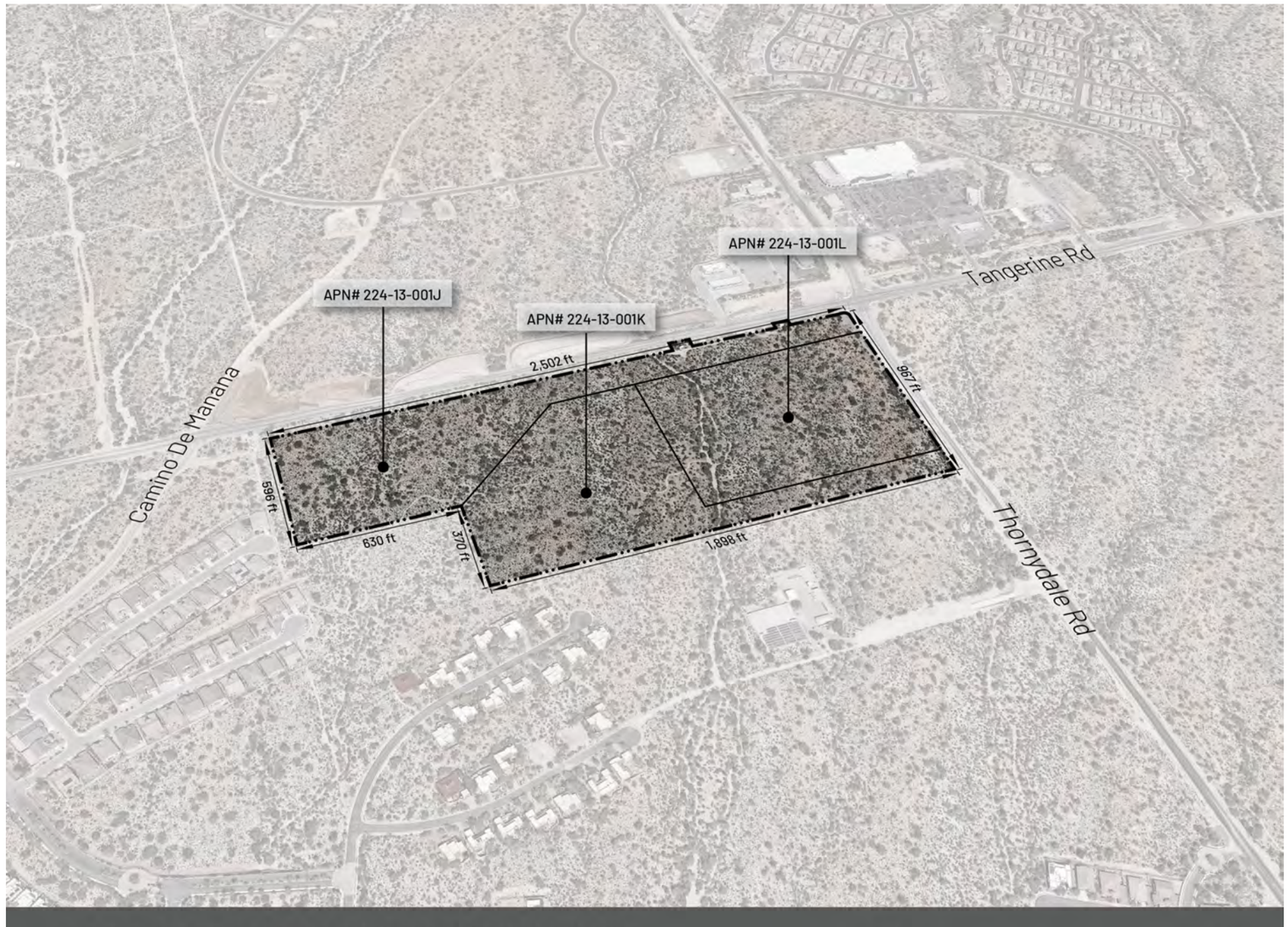
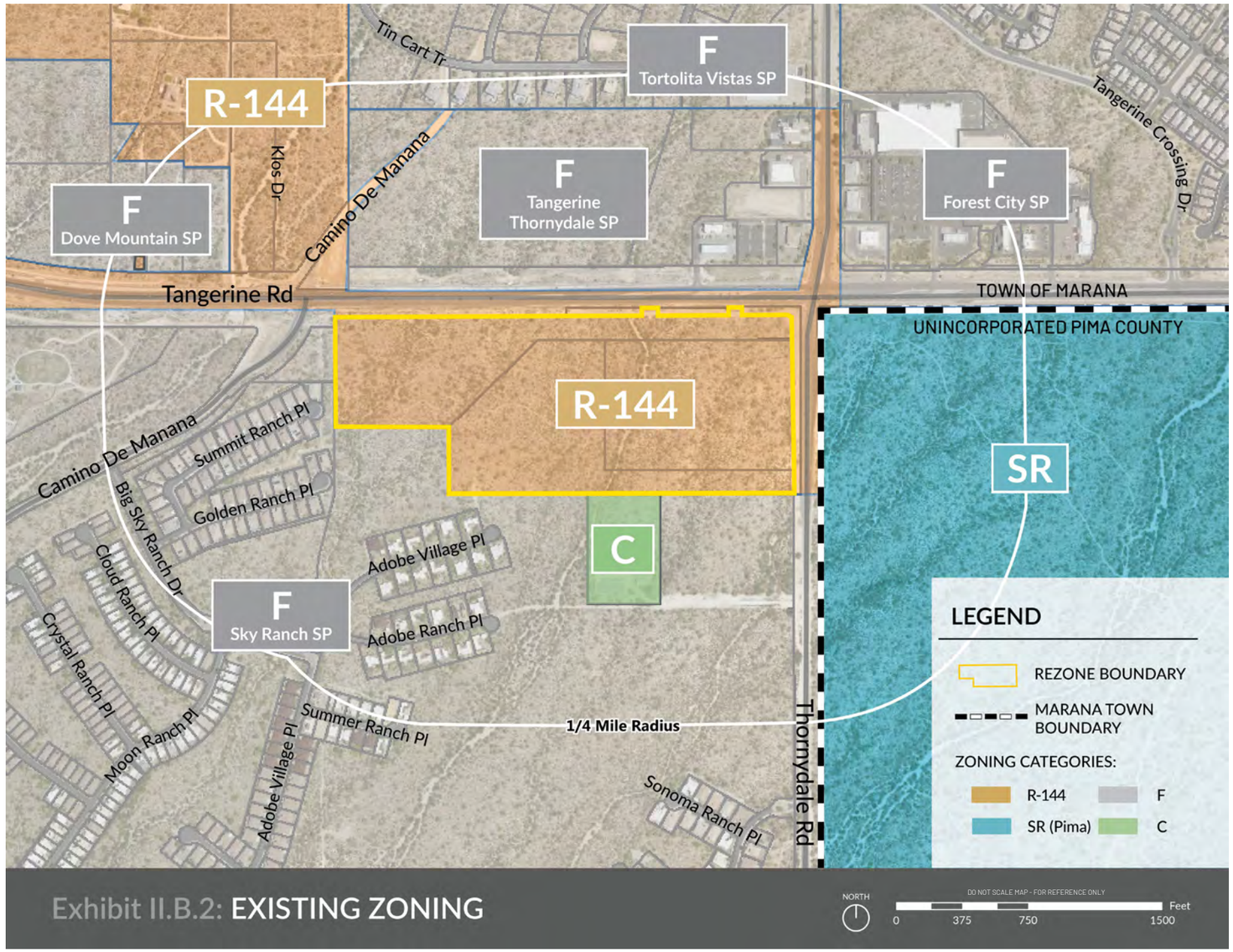


Exhibit II.B.1.b: **PROPERTY DESCRIPTION**

B. Existing Land Uses Cont.

2. Existing Onsite Land Use & Zoning

The Property is currently vacant with no major structures onsite. There are two (2) small buildings located near the north side of the Property with access from Tangerine Road. The first is a telecommunication building owned by AT&T (Mobility Site AZ L00554). The second is a fiber optics building, owner unknown. There are also two (2) cell towers attached to power poles onsite. There is no indication of past grading on any portion of the Property. Aside from several informal trails cutting through the Property and dirt roads along the northern and eastern perimeter of the Property, the Property remains undisturbed. The existing zoning designation on the property is R-144 (Single Family Residential). (*See Exhibit II.B.2: Existing Zoning.*)



B. Existing Land Uses Cont.

3. Existing Conditions on Properties within a One-Quarter (1/4) Mile Radius

a. Zoning

Zoning designations of surrounding properties as depicted in *Exhibit II.B.2: Existing Zoning* are as follows:

North: Town of Marana F (Specific Plan), *Tangerine and Thornydale SP*, Town of Marana F (Specific Plan), *Tortolita Vistas SP*.

South: Town of Marana C (Large Lot Zone), Town of Marana F (Specific Plan), *Sky Ranch SP*.

Northeast: Town of Marana F (Specific Plan), *Forest City SP.*

East: Unincorporated Pima County SR (Suburban Ranch).

West: Town of Marana F (Specific Plan), *Skyranch SP*, Town of Marana F (Specific Plan), *Dove Mountain*.

B. Existing Land Uses Cont.

3. Existing Conditions on Properties within a One-Quarter (1/4) Mile Radius Cont.

b. General Plan Land Use

The 2020 Town of Marana General Plan, Make Marana, indicates the designated future land use for this Property is Commercial. The surrounding General Plan designations within one-quarter (1/4) mile of the site, as depicted in *Exhibit II.B.3.b: General Plan Designations*, are as follows:

North: Master Planned Area

South: Master Planned Area

East: Low Density Residential

West: Master Planned Area

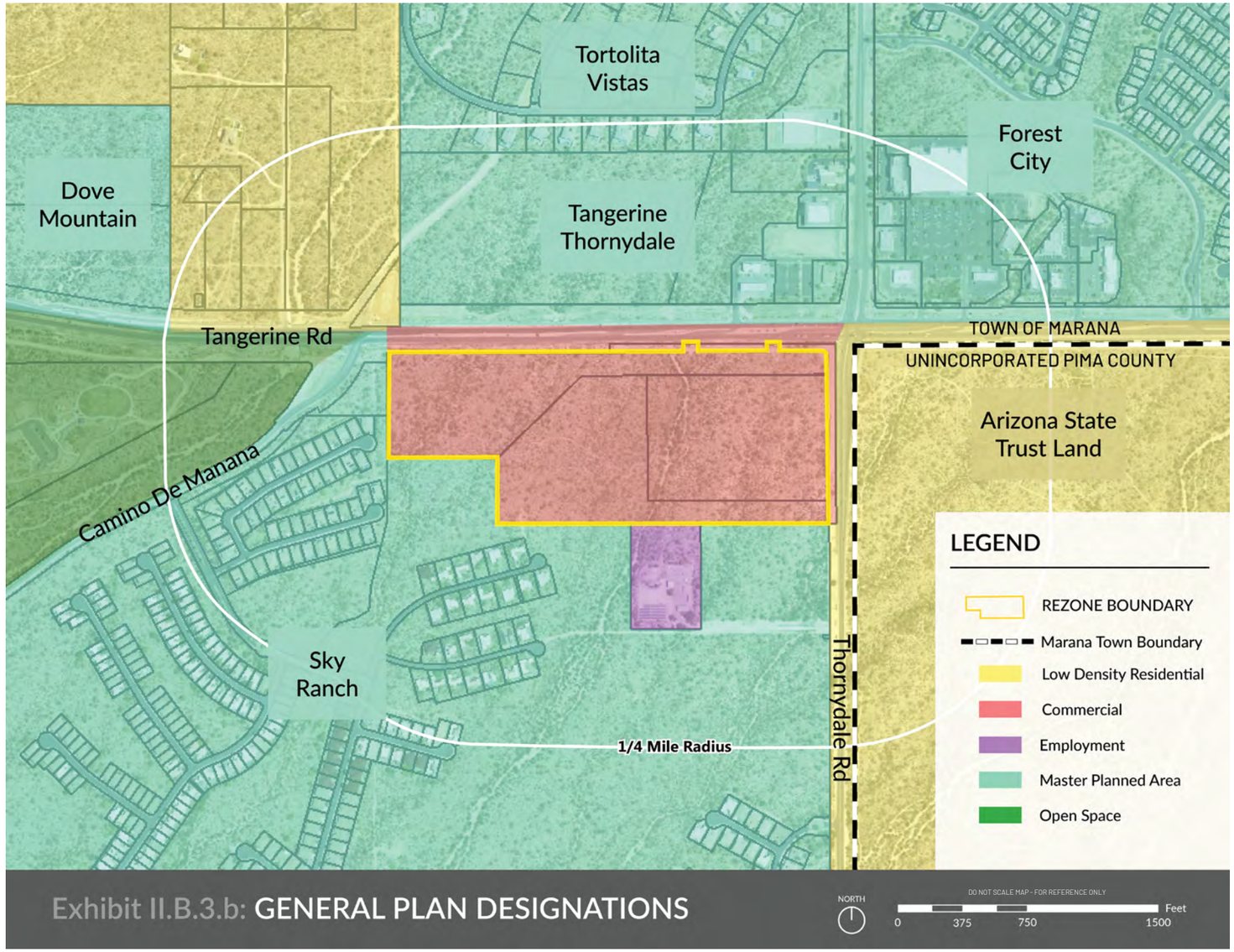


Exhibit II.B.3.b: GENERAL PLAN DESIGNATIONS

B. Existing Land Uses Cont.

3. Existing Conditions on Properties within a One-Quarter (1/4) Mile Radius Cont.

c. Existing Land Use

Land uses on surrounding properties within one-quarter (1/4) mile, as depicted in *Exhibit II.B.3.c: Existing Land Uses*, are as follows:

North: Tangerine Road, single-family residential, Villagio Commercial Center, the Shoppes at Tangerine Crossing Commercial Center.

South: Tucson Water facility and photovoltaic power station, single-family residential, open space.

East: Thornydale Road, vacant Arizona State Trust Land in Unincorporated Pima County.

West: Single-family residential, Tangerine Sky Community Park.



B. Existing Land Uses Cont.

3. Existing Conditions on Properties within a One-Quarter (1/4) Mile Radius Cont.

d. Number of stories of existing structures

The small utility buildings located near the northern portion of the Property are each one (1) story tall. Building heights near the Property are generally one (1) to two (2) stories.

e. Pending and Conditional Rezoning Cases

According to the Town's most recent Current and Proposed Projects map, there are no pending or approved conditional rezonings within one-quarter mile of the Property.

f. Subdivision/Development Plans Approved

According to the Town's most recent subdivisions maps, there are multiple approved subdivisions within one-quarter (1/4) mile of the Property:

Sky Ranch Blocks A-B, (1-365) – *south of Property*
Acres: 434.89
Lot Count: 365
Type: Residential
Record Date: 6/17/2004

Sky Ranch II (1-53) – *south of Property*
Acres: 17.59
Lot Count: 53
Type: Residential
Record Date: 6/21/2012

Tortolita Vistas (1-22, 36-39, 92-150) – *north of Property*
Acres: 167.23
Lot Count: 83
Type: Residential
Record Date: 4/12/2007

Tortolita Vistas (23-25, 40-91, 151-154) – *north of Property*
Acres: 62.16
Lot Count: 69
Type: Residential
Record Date: 6/4/2015

Villagio (1-3) Blocks A & B – *north of Property*
Acres: 12.94
Lot Count: 3
Type: Residential
Record Date: 6/19/2008

Villagio Lot 1 Resubdivision Lots 1 & 4 – *north of Property*
Acres: 4.69
Lot Count: 2
Type: Residential
Record Date: 5/21/2017

Tangerine Crossing (1-347) – *northeast of Property*
Acres: 256.5
Lot Count: 347
Type: Residential
Record Date: 2/16/2006

Tangerine Crossing Commercial Center – *northeast of Property*
Acres: 14.06
Lot Count: 6
Type: Commercial
Record Date: 7/6/2006

Tangerine Crossing Commercial Center II – *northeast of Property*
Acres: 9.61
Lot Count: 6
Type: Commercial
Record Date: 10/26/2014

According to Pima County's most recent development plans map, there is one (1) existing development plan located within one-quarter (1/4) mile of the Property:

Tangerine Crossing Commercial Center
Approved: 11/27/2006

g. Architectural Style of Adjacent Development

The adjacent single-family residential homes in the Sky Ranch Neighborhood have a mix of stucco and brick exteriors in a variety of earth-toned colors complementary to the surrounding desert color palette. The homes have an American southwestern architectural aesthetic and include desert landscaping. The neighborhood contains one and two-story homes with both flat and pitched roof types.

B. Existing Land Uses Cont.

4. Well Sites within 100 Feet of Property

According to the Arizona Department of Water Resources, there are no wells located on the Property or within a 100-foot radius of the Property. One (1) well (#634976), as depicted in *Exhibit II.B.3.c: Existing Land Uses*, is located within a one-quarter (1/4) mile radius northwest of the Property.

C. Topography & Slope

The elevations of the Property range from approximately 2,684 feet near the northeastern corner to approximately 2,646 feet near the southwestern corner nearest W. Summit Ranch Place. Existing topography at 2-foot contour intervals is shown on *Exhibit II.C: Topography & Slope*. All topographic information is from Pima County's Geospatial Data Portal.

1. **Hillside Conservation Areas**

   There are no Hillside Conservation Areas located on or near the Property.

2. **Rock Outcrops**

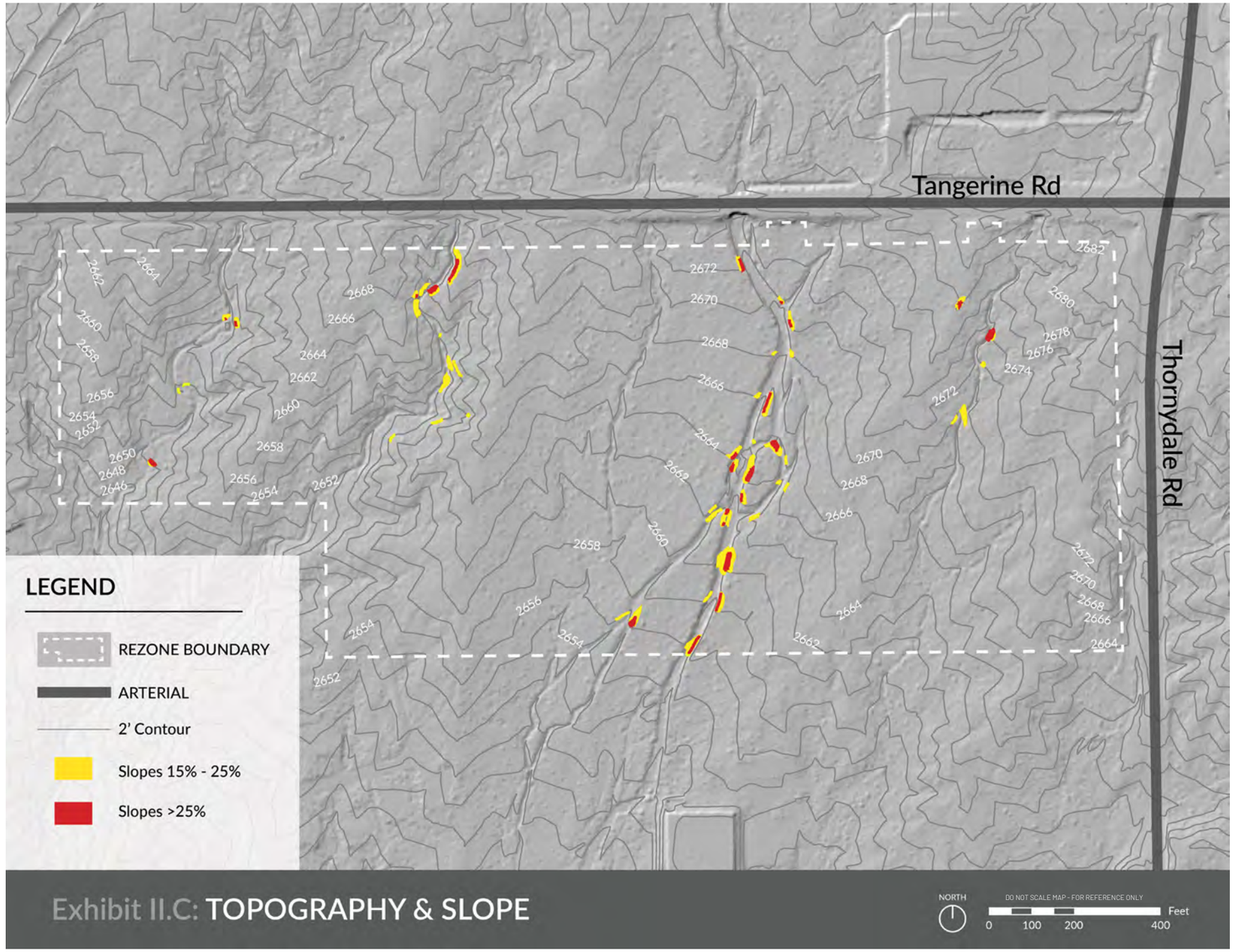
   There are no rock outcrops on the Property.

3. **Slopes of 15% or Greater**

   The Property slopes gradually from the northeast towards the southwest. There are minimal areas where slopes are greater than 15%. These are insignificant and primarily located around wash channels passing through the Property. (*See Exhibit II.C: Topography and Slope*.)

4. **Other Significant Topographic Features**

   There are no other significant topographic features on the Property.



C. Topography & Slope Cont.

5. Statement of Pre-Development Cross-Slope

The average cross-slope ("ACS") of the Property is approximately 2.4%. The pre-development cross slope calculation and values used are as follows:

ACS = (I x L x 0.0023) / A

ACS = (2 x 26,350 x 0.0023) / 50.92

Where:

I = contour interval (2')

L = total length of contours (26,350')

0.0023 = conversion of square feet into "acres x 100"

A = Project site or parcel area in acres (50.92 acres)

ACS = 2.4 %

D. Hydrology, Water Resources & Drainage

The Property is approximately 50.92 acres and is currently undeveloped with two small utility structures and no paved areas. The Property slopes gently from the northeast towards the southwest and contains several areas of slopes greater than 15% located around washes passing through the Property. The ACS of the Property is approximately 2.4%.

1. Offsite Watersheds & Features

Exhibit II.D.1: Pre-Development Hydrology shows the perimeter of all offsite watersheds that affect or are affected by the Property both upstream and downstream. The Property falls within the Canada Agua West Wash Watershed. All washes crossing the Property originate from the Tortolita Mountain Foothills and convey in a southwesterly direction.

The most significant offsite features affecting the hydrology of the Property are the box culverts under Tangerine Road and Thornydale Road to the north and east, respectively. These structures allow stormwater runoff from neighboring areas to flow under these roadways and through the Property. There are four (4) culverts located under Tangerine Road just north of the Property within the watersheds affecting the Property. There is also one (1) culvert under Thornydale Road near the southeast corner of the Property. All the washes crossing the Property exist in a natural condition. The channels are generally shallow having depths ranging from one (1) to two (2) feet. The channel bottoms are comprised of loose, sandy soils and moderate to dense desert vegetation. Runoff is contained within the low-flow channel systems during the more periodic low-intensity rainfall events. Large flood flows overtop the banks and spread across broad areas as sheet flow.

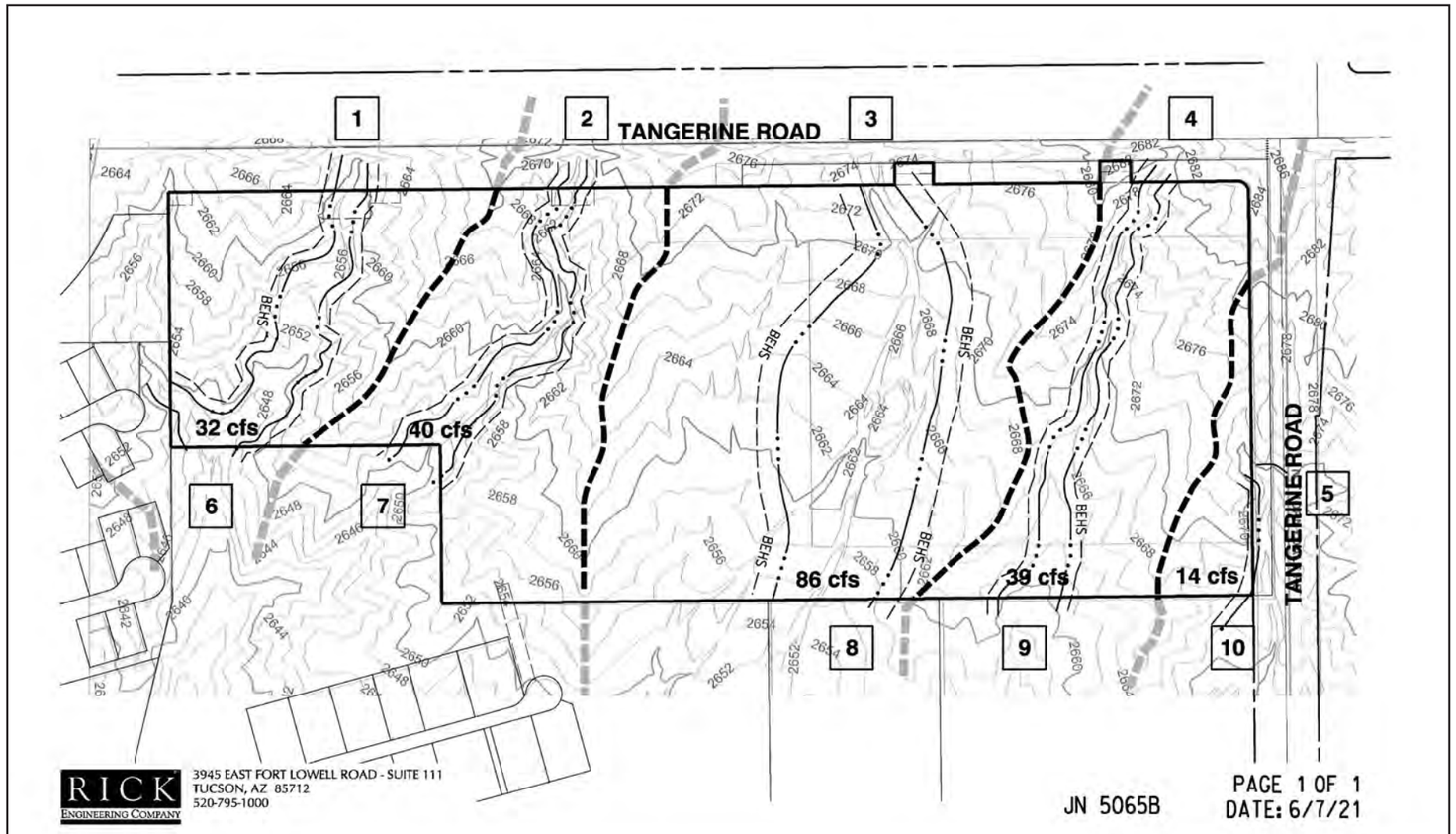


Exhibit II.D: **Pre-Development Hydrology**

D. Hydrology, Water Resources & Drainage Cont.

1. Offsite Watersheds and Features Cont.

There are no floodplains onsite nor any located on adjacent properties. The nearest floodplain is located approximately 500 feet from the northwest corner of the Property (Canada Agua 2 Wash). The area of the upstream offsite watersheds with a 100-year peak discharge rate of 50 cfs or more is given in *Table II.D.1: Offsite Watersheds*. The concentration point locations for these watersheds are shown in *Exhibit II.D: Pre-Development Hydrology.*

Table II.D.1: Offsite Watersheds

Summary of 100 yr. Q's		
Concentration Point	Q100 (CFS)	Drainage Area (Acres)
1	140	28
2	127	128
3	810	321
4	63	9
5	312	83

Data Source: Stage V Cross Drainage Report for Tangerine Road

D. Hydrology, Water Resources & Drainage Cont.

2. Characteristics of Onsite Hydrology

a. On-Site Drainage Flow Conditions
Onsite drainage flow conditions are characterized by offsite watersheds with a 100-year peak discharge rate of 50 cfs or more, as listed in Table II.D.2. The concentration point locations of these watersheds are shown in *Exhibit II.D: Pre-Development Hydrology.*

b. Federally Mapped Floodways and Floodplains
There are no 100-year floodplains or floodways located on the Property. According to the FEMA FIRM MAP 04019C1070L, revised June 16, 2011, the Property is located within Zone X. FEMA defines this zone as an area determined to be outside the 0.2% annual chance floodplain.

c. 100-year Peak Discharges Exceeding 50 cfs
The peak discharge rates for all washes having a 100-year event flow of more than 50 cfs are listed in *Table II.D.2: Onsite & Cumulative Hydrology.*

d. Existing Drainage Conditions along Downstream Property Boundary

The areas of the downstream watersheds and their 100-year peak discharges are provided in *Table II.D.2*. Runoff along the downstream Property boundary is similar to the flow conditions throughout the Property. All-natural watercourses leave the Property and pass through Sky Ranch along the south and west boundaries of the Property. The washes along the downstream boundary exist in their natural condition.

Table II.D.2: Onsite & Cumulative Hydrology

Summary of 100 yr. Q's				
Concentration Point	Drainage Area (Acres)	Q100 (CFS)	Cumulative Drainage Area (Acres)	Cumulative Q100 (CFS)
6	8	32	36	172
7	10	40	38	167
8	21	86	342	896
9	10	39	19	102
10	1.5	14	85	326

E. Vegetation

1. Vegetative Communities & Associations

The Property is located along the Tortolita Alluvial Fan that extends southward from the Tortolita Mountains approximately 4 miles to the north. The Pima County Sonoran Desert Conservation Plan (SDCP) Marana GIS vegetation layer categorizes vegetation on the Property as Paloverde – Mixed Cactus in the uplands and Shrub – Scrub Disclimax along the washes. *Table II.E: Plant Species Commonly Observed Onsite* includes a list of species commonly observed on the Property during a site visit in February 2021. Sonoran Desertscrub of the Arizona Upland Subdivision, as depicted in *Exhibit II.E.1: Vegetative Communities and Associations*, is the only vegetative community located on the Property.

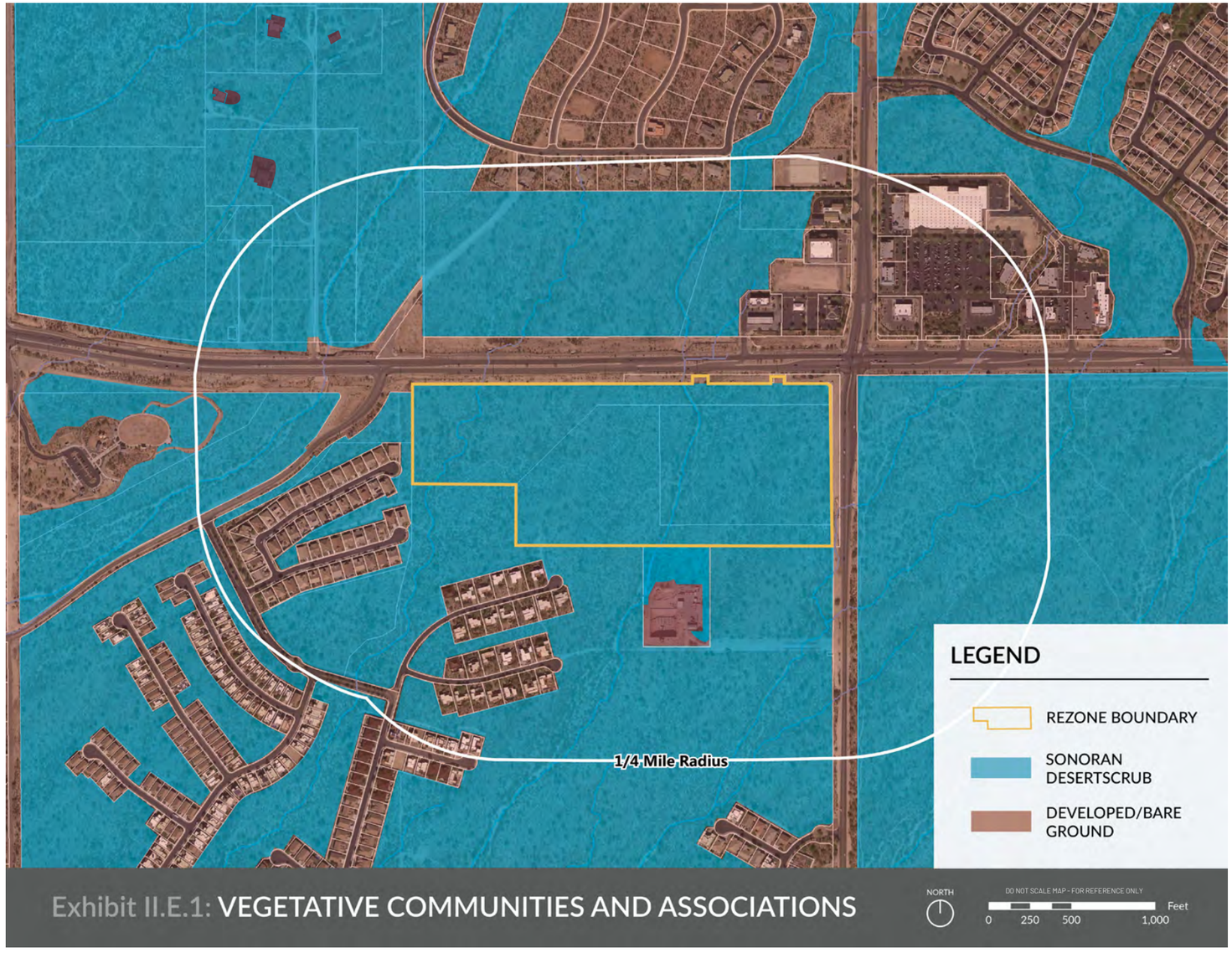


Exhibit II.E.1: VEGETATIVE COMMUNITIES AND ASSOCIATIONS

E. Vegetation Cont.

1. Vegetative Communities & Associations Cont.

Upland vegetation across the Property is uniform. Several braided wash channels of varying sizes pass through the Property with flows running north to south. These washes have culverts under Tangerine Road and traverse the Property. The vegetation community along these washes is similar to the upland portions but in different proportions with more robust individuals at higher densities. The largest of the washes is the second wash from the east and supports the most robust individual plants in a nearly continuous, typically single-plant deep, line along the banks. The other three washes display varying degrees of xeroriparian development, from the eastern wash where little difference from the surrounding upland vegetation is distinguishable on aerial photography, to the western wash where the associated band of vegetation is more visible. A Site Resources Inventory ("SRI") was performed by Westland Resources, Inc. (included as *Appendix A*).

Table II.E: Plant Species Commonly Observed Onsite

Scientific Name	Common Name		Scientific Name	Common Name
Ambrosia deltoidea	Triangle-leaf bursage		*Ferocactus wislizeni*	Barrel cactus
Carnegiea gigantea	Saguaro		*Larrea tridentata*	Creosotebush
Celtis spinosa	Desert hackberry		*Lycium* sp.	Wolfberry
Baccharis sarothroides	Desert broom		*Mammillaria grahamii*	Pincushion cactus
Cylindropuntia acanthocarpa	Buckhorn cholla		*Olneya tesota*	Desert ironwood
Cylindropuntia fulgida	Chainfruit cholla		*Opuntia engelmannii*	Prickly pear cactus
Cylindropuntia leptocaulis	Christmas cholla		*Parkinsonia florida*	Blue paloverde
Cylindropuntia spinosior	Cane cholla		*Parkinsonia microphylla*	Foothills paloverde
Cylindropuntia versicolor	Staghorn cholla		*Prosopis velutina*	Velvet mesquite
Echinocereus sp.	Hedgehog cactus		*Vachellia constricta*	Whitethorn acacia
Ephedra sp.	Jointfir		*Ziziphus obtusifolia*	Graythorn

E. Vegetation Cont.

2. Significant Cacti & Groups of Trees

No unusual groupings of native cacti or trees or other native vegetation were observed on the Property, as indicated in *Exhibit II.E.2: Site Resource Inventory.* (See also *Appendix A*.)

3. Special-Status Plant Species

No special-status plant species were observed on the Property. Special-status species include those protected by the Endangered Species Act or identified as Special Status Species in the Arizona Game and Fish Department ("AZGFD") Heritage Data Management System ("HDMS") Arizona Environmental Online Review Tool ("OLERT") report obtained online for this project. (See *Appendix B*.)

No special-status plant species were identified on the Property or in its immediate vicinity in a query of the U.S. Fish and Wildlife Service ("USFWS") Information, Planning, and Consultation System ("IPaC") database (see *Appendix C*). The IPaC query provides a list of species with Endangered Species Act ("ESA") classification possibly occurring within one or more United State Geological Survey 7.5-minute quadrangles intersecting the Property.

The OLERT identifies one plant species without federal protection within 3 miles of the Property. The Tumamoc globeberry (*Tumamoca macdougalii*) was delisted in 1993 (AZGFD 2004, USFWS 1993) and is considered vulnerable (S3) in Arizona (AZGFD 2004). The globeberry was not observed during a field investigation of the Property, although a full survey of the Property was not conducted for any specific species.

The Town's draft Habitat Conservation Plan ("HCP") does not include any plant species.



E. Vegetation Cont.

4. Vegetative Densities

Based on qualitative assessment, vegetative densities on the Property are similar to other undeveloped lands in the vicinity, as depicted in *Exhibit II.E.2: Site Resource Inventory*. Upland vegetation density is moderate and vegetation density lining washes is high, especially in a narrow band along the largest wash. There is a total of 50.92 acres of Arizona Upland subdivision of Sonoran Desertscrub on the Property, as depicted in *Exhibit II.E.1: Vegetative Communities & Associations.*

F. Wildlife

In support of this analysis, a query of AZGFD HDMS occurrence records via OLERT was performed to obtain records of special-status species within 3 miles of the Property (see *Appendix B*.) As shown in *Table II.F*, occurrence records for five special-status species of wildlife were found within 3 miles of the Property. Only one species with ESA classification, the Sonoran desert tortoise (*Gopherus morafkai*), a Candidate species with no ESA protections, was reported within 3 miles in the HDMS query. One bird species with Migratory Bird Treaty Act protections, the cactus ferruginous pygmy-owl (*Glaucidium brasilianum cactorum*), was included on the OLERT list. The other three species have various state rankings (SRank) by AZGFD regarding vulnerability.

Table II.F: Wildlife with AZGFD HMDS Occurrence Records within 3 Miles

Scientific Name	Common Name	USFWS Status	State SRank
Glaucidium brasilianum cactorum	Cactus ferruginous pygmy-owl	Species of Concern	S1S2
Gopherus morafkai	Sonoran desert tortoise	Candidate	S4
Heloderma suspectum	Gila monster	--	S4
Leptonycteris yerbabuenae	Lesser long-nosed bat	Species of Concern	S2S3
Lithobates yavapaiensis	Lowland leopard frog	Species of Concern	S3

F. Wildlife Cont.

1. Letter from Habitat Specialist

a. Presence of any State-Listed Threatened or Endangered Species

The AZGFD state-listed special status species documented within three (3) miles of the project vicinity are:

- Sonoran Desert Tortoise
- Cactus Ferruginous Pygmy-owl
- Gila Monster
- Lesser Long-nosed Bat
- Lowland Leopard Frog
- Tumamoc Globeberry

The Sonoran Desert Tortoise (*Gopherus morafkai*) is a Candidate for ESA protections and AZGFD has occurrence records within 3 miles of the Property. Sonoran Desert Tortoises are most closely associated with rocky slopes, bajadas and exposed caliche along washes. They are commonly known to occur on and around the Tortolita Mountain slopes, approximately 1.5 miles to the north, thus this species has some potential to be found on the Property. Due to the lack of nearby boulder habitat and lack of exposed caliche, it is unlikely any individuals would be more than transients traveling through the Property during their prime period of activity, generally from the first summer rains through the middle of October. Tangerine Road may present a significant barrier to accessing the Property, although they may venture through the culverts under Tangerine Road.

No potential tortoise burrows or signs of activity were observed during the field investigation, although survey for the species was not conducted.

The Gila monster, with no ESA classification, also has occurrence records within 3 miles of the Property. The Gila monster occupies much of the same habitat as the Sonoran desert tortoise and has a similar activity pattern but likely occurring at a lower density. Potential for occurrence of the Gila monster at the site is likely similar to the Sonoran desert tortoise. AZGFD classifies both the Sonoran desert tortoise and Gila monster S4- Apparently Secure (see *Appendix B*).

Of the three remaining species with occurrence records within 3 miles of the Property, the lowland leopard frog has no potential to occur on the property due to a lack of appropriate habitat required by the species, the lesser long-nosed bat has the potential to fly through or forage on the Property and the cactus ferruginous pygmy owl is not likely to occur, as it is believed to be extirpated from the area north and east of Tucson.

High Densities of a Given Species:

AGFD HDMS OLERT report does not include any specific records of high densities of a given species within 3 miles of the site (see *Appendix B*). The property does not possess unique vegetation communities relative to other undeveloped lands in the vicinity, or any physical structures where wildlife could congregate in large numbers, and no evidence was observed during the field investigation.

F. Wildlife Cont.

1. Letter from Habitat Specialist Cont.

b. High Densities of a Given Species

There is no evidence high densities of a given species are located on or around the Property. The AGFD HDMS OLERT report does not include any specific records of high densities of a given species within 3 miles of the Property (see *Appendix B*). The Property does not possess unique vegetative communities relative to other undeveloped lands in the vicinity, nor any physical structures where wildlife could congregate in large numbers. No evidence of unique communities was observed during the field investigation.

c. Aquatic or Riparian Ecosystems

There are no aquatic systems with permanent water sources present on the Property. The National Wetland Inventory ("NWI") designates the large wash on the Property as a seasonally flooded, intermittent riverine system (R4SBC). This NWI designation categorizes the large wash as holding water for brief periods only after local storm events. Pima County categorizes the large wash described by NWI as 500-1000 cubic feet per second ("cfs") with 50-foot setback and the wash mapped by Pima County on the west end of the Property is mapped as less than 500 cfs with a 25-foot setback.
As described in the *Appendix A: Site Resource Inventory*, four wash channels were delineated on the Property and all support xeroriparian vegetation plant species.

Two western xeroriparian riparian wash areas (includes the smaller wash mapped by Pima County and a small unmapped wash to the east) begin Wto develop less than 1,000 feet north of the Property and the easternmost riparian area (not mapped by Pima County) begins to form on the Property. The xeroriparian area along the large wash (mapped by NWI and Pima County) located in the east-central portion provides the only drainage with connectivity extending a significant distance both north and south of the Property.

d. Wildlife Corridors

Tangerine Road and Thornydale Road present hazards to wildlife crossing. Several culverts under Tangerine Road provide potential safe movement of wildlife across the road. The culverts range from approximately 120 to 175 feet long, with the shortest culvert at the large wash. This wash also has a substantially larger culvert, with three boxes and a total width of approximately 32 feet, but only 3 to 4 feet high. An openness ratio (culvert cross-section acre/culvert length) of at least 0.75 and height of 6 feet or more is recommended to accommodate large mammals, so this culvert is not ideal for large mammal passage but may be suitable for medium and small wildlife, such as javelina. The other three culverts are approximately 1/3 of the size of the large culvert and are longer, so are proportionally less suitable for wildlife passage. The large wash is also the only wash of the four extending a significant distance both downstream and upstream.

Additionally, cleared vegetation lateral to the roadway could present a deterrent to wildlife movement through the right-of-way. The large wash traversing the Property will remain naturally vegetated through the entirety of the Property to facilitate potential wildlife movement through the Property to surrounding areas.

The Property is approximately 1.5 miles east of the "Tucson Mountains Ridge to Santa Cruz River/Tortolita Fan missing linkage" connecting the Tucson Mountains with Saguaro National Park (west) to the Tortolita Mountains. It is within the broad Saguaro – Tortolita Wildlife Linkage.

G. Soils & Geology

1. Soils

The Property is situated in an area filled with eolian and alluvial deposits. Significant deposits of sands and silts are present around the Property's drainage channels. Surveyors probed deposits in the survey area by inserting a pin flag into the soil and measuring the depth reached by the pin flag. An average of 20–30 cm of deposition was found to be present.

2. Geology

The geology of the Property consists of quaternary surficial deposits, undivided, consisting of unconsolidated to very consolidated eolian and alluvial deposits. This includes coarse, poorly sorted alluvial fan and terrace deposits on piedmonts along drainages. Sediments found here consist of sand, silt, and clay. Episodes of basin filling and arroyo cutting are normal here, occurring over thousands of years. This landscape can change and has changed over time.

H. Viewsheds

1. Viewsheds Onto and Across the Site

The Property is located at the southwest corner of Tangerine Road and Thornydale Road on vacant land approximately 6 miles east of the Interstate-10 Highway. Several clusters of single-family homes, two (2) commercial shopping centers and vacant land are located near the Property. The Property is located in an urbanized area set aside for future infill development by the Town. Most of the Property is currently undisturbed. Viewsheds onto and across the Property are partially obstructed by dense vegetation. Due to an elevation difference of approximately 36 feet from the Property's highest to its lowest points, viewsheds near the northeastern portion of the Property are slightly less obstructed than those near the southwestern portion of the Property.

The significant views and vistas beyond adjacent properties include the Tortolita Mountains to the north, the Catalina Mountains to the east and the Tucson Mountains to the southwest. Views of these mountain ranges are unobstructed by existing structures, vegetation and topography.

See *Viewsheds Onto and Across Property from Adjacent Areas, Photos 1-12.*

2. Areas of High Visibility from Adjacent Off-Site Uses

Areas of high visibility from adjacent off-site uses are found along the Property's boundaries, particularly along Tangerine Road and Thornydale Road to the north and east, respectively. The Property is visible from these roadways because they are slightly higher than the elevation of the Property itself.

Areas of lower visibility from adjacent off-site uses are found along parts of the Property's other boundaries, particularly along parts of Camino De Manana as well as Summit Ranch Place and Golden Ranch Place to the west, and Adobe Village Place and Adobe Ranch Place to the south in Sky Ranch.

H. Viewsheds Cont.



Looking north across Property from Tucson Water booster station south of southern Property boundary.





Looking west along Property's southern boundary from Thornydale Rd. at SEC of Property.





Looking south along Property's eastern boundary from NEC of Property at SWC of Tangerine and Thornydale.



H. Viewsheds Cont.



Looking southwest across Property from NEC of Property at SWC of Tangerine and Thornydale.





Looking west along Property's northern boundary from NEC of Property at SWC of Tangerine and Thornydale.





Looking southwest across Property from Tangerine Rd.



H. Viewsheds Cont.



Looking southeast across Property from NWC of Property at SEC of Tangerine and Camino De Manana.





Looking east across Property at end of cul-de-sac from Summit Ranch Place.





Looking east across Property at end of cul-de-sac from Golden Ranch Place.



H. Viewsheds Cont.



Looking southwest at NEC of Property from NEC of Tangerine and Thornydale in front of AutoZone parking lot.





Looking south across Property from Circle K driveway along Tangerine Rd.





Looking west across Property from SEC of Tangerine Rd. and Thornydale Rd.



I. Traffic Circulation & Road System

A Traffic Impact Analysis ("TIA") has been completed for this Property by Rick Engineering and is included as *Appendix D* of this Specific Plan. The following is a brief description of the existing roadways within the project area:

1. Existing and Proposed Off-Site Streets

Exhibit II.I.1: Traffic depicts arterial roadways within one mile of the Property. Each of these roadways is described in *Table II.I: Roadway Inventory.*

Table II.I: Roadway Inventory*

	Tangerine Road	Thornydale Road	Camino de Manana	Camino de Oeste		Moore Road
				N. of Tang. Rd	S. of Tang. Rd	
Streets Classification	Arterial	Arterial	Collector	Collector	Local	Arterial
Existing R.O.W. (ft)	Approx. 125-480	Approx. 100-210	Aprox. 60-300	150	80	Approx. 60-150
Confroms to Widths Standards	Yes	Yes	Yes	Yes	Yes	Yes
Ownership	Marana	Marana	Marana	Marana	Marana	Marana
R.O.W. is curved or is straight	Straight	Straight	Curved	Straight	Straight	Straight
Current Number of Lanes	4	2-4	2	2	2	2
Speed Limit (mph)	45	40	35	35	N/A	40
Traffic Volumes: AADT (Count, Year)	14,276 (2021)	N. of Tang. Rd. 5,128 (2020) S. of Tang. Rd. 8,629 (2020)	3,188 (2020)	N/A	211 (2020)	169 (2020)
Surface Conditions	Paved	Paved	Paved	Paved	Unpaved	Paved

*Within 1-Mile Radius of Property

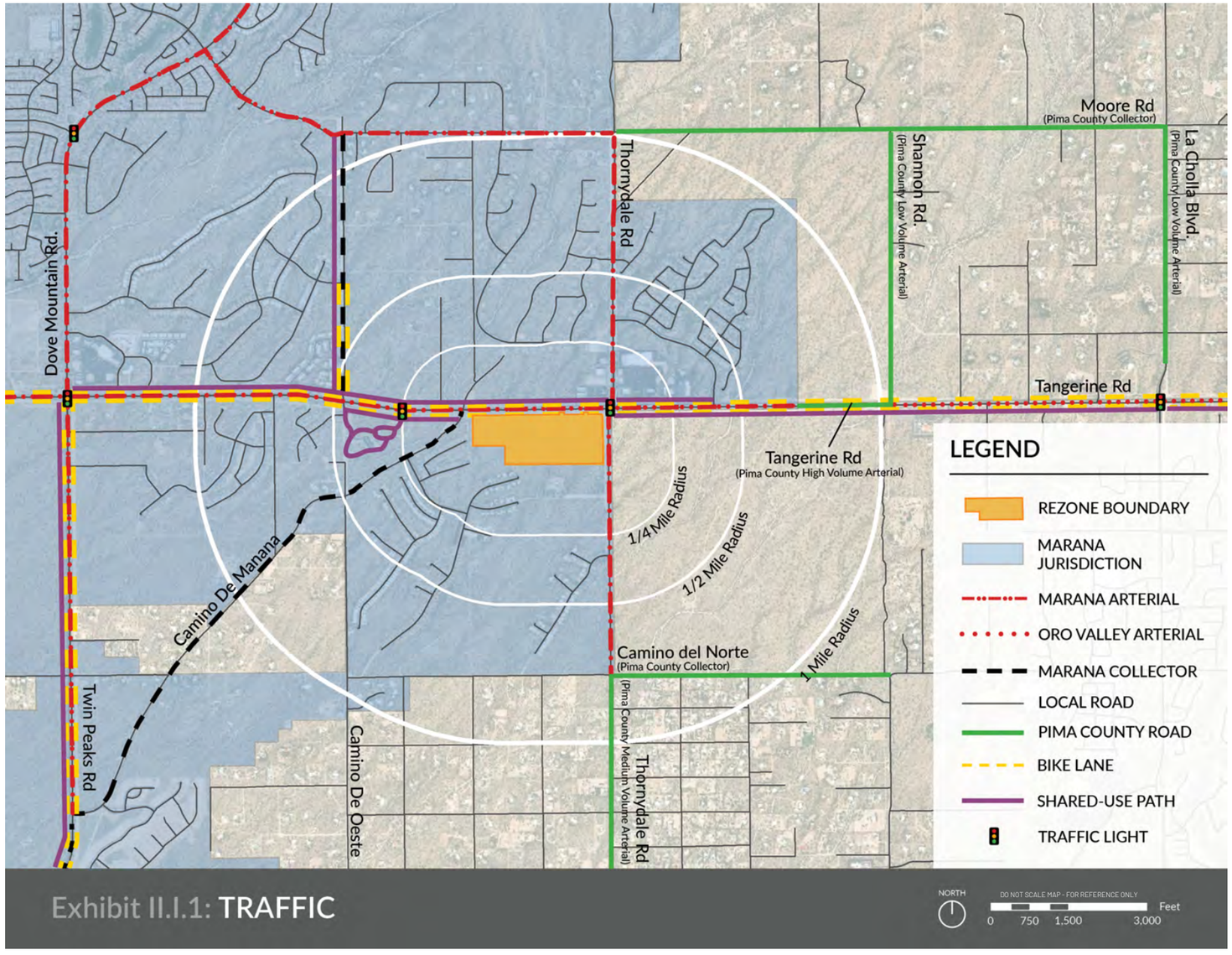


Exhibit II.I.1: TRAFFIC

I. Traffic Circulation & Road System Cont.

2. **Arterial Intersections within One (1) Mile**

Tangerine Road/Camino De Oeste is a paved, signalized intersection with four (4) approaches. The intersection serves mainly single-family homes and the Tangerine Sky Park. Tangerine Road has two (2) lanes of vehicular travel in each direction at this intersection. It contains one (1) left turn lane for each direction of travel with median breaks and one (1) right turn lane for each direction of travel providing access onto Camino De Oeste. There is one (1) continuous, shared-use path directly north of Tangerine Road. The shared-use path directly south of Tangerine Road turns southward and connects to Tangerine Sky Park. There is no shared-use path along the southwest corner of this intersection. Camino De Oeste has one (1) lane of vehicular travel in each direction and provides additional left and right turn lanes onto Tangerine Road at its northbound and southbound approaches. The paved portion of Camino De Oeste north of Tangerine Road terminates at Moore Road. The paved portion of Camino De Oeste south of Tangerine Road intersects with Placita Casa Sevilla and also turns into a driveway near the northbound approach of this intersection, leading directly to the parking lot of Tangerine Sky Park (located near the southeast corner of this intersection). This section of Camino De Oeste does not provide access to the unpaved road southwest of Tangerine Sky Park. The large-lot single family homes southwest of Tangerine Sky Park are accessed from Camino De Manana.

Tangerine Road/Camino De Manana is a paved, unsignalized, skewed intersection with four (4) approaches. Tangerine Road has two (2) lanes of travel in each direction at this intersection and contains a median break with one (1) left turn lane for each direction of travel providing access onto Camino De Manana. Tangerine Road also contains one (1) bike lane on the side of the roadway in each direction of travel. Camino De Manana has one (1) lane of travel in each direction and provides an additional right turn lane onto Tangerine at its northbound approach. The north leg of the intersection is a Town-owned parcel and access is restricted, so the intersection operates like a T-intersection. Vehicles may only turn left or right from this intersection's northbound approach.

Tangerine Road/Thornydale Road is the largest intersection by traffic volume within one (1) mile of the Property. The intersection is a paved and signalized with four (4) approaches. Tangerine Road has two (2) lanes of travel in each direction at this intersection. It contains one (1) left turn lane with median breaks for each direction of travel and one (1) right turn lane for each direction of travel providing access onto Thornydale Road. There is one continuous shared-use path directly north of Tangerine Road. The shared-use path directly south of Tangerine Road terminates at the southeast corner of this intersection. There is no shared-use path directly south of Tangerine on the southwest corner of this intersection. Thornydale Road has two (2) lanes of travel in each direction at this intersection and provides additional left and right turn lanes onto Tangerine Road at its northbound and southbound approaches. There is a lane-drop on to one (1) lane in each direction on the south leg of southbound travel which may affect access to the Property.

Camino De Manana/Camino De Oeste is a partially unpaved, unsignalized, skewed intersection with four (4) approaches. Camino De Manana has one (1) lane of travel in each direction at this intersection and does not provide additional turn lanes. Camino De Oeste has one (1) lane of travel in each direction and does not provide additional turn lanes. Camino De Oeste is unpaved at this intersection at both its northbound and southbound approaches. Camino De Manana is a paved road. Camino De Oeste remains unpaved southbound until its intersection with Corte Sombra Del Tecolote, at which point it becomes paved.

Thornydale Road/Moore Road is a paved, unsignalized intersection with four (4) approaches and a four (4)-way stop. Thornydale has one (1) lane of travel in each direction at this intersection and does not provide additional turn lanes. Moore Road also has one (1) lane of travel in each direction and does not provide additional turn lanes. This intersection is approximately one (1) mile from the Property and will have little to no direct impact on the Property.

I. Traffic Circulation & Road System Cont.

3. Existing Bicycle and Pedestrian Ways

As depicted in *Exhibit II.I.3: Bicycle, Pedestrian, School and Park Connections,* bicycle routes exist along Tangerine Road north of the Property. The Tangerine Road Shared-Use Paths (a series of paved, east-west multi-modal path systems accommodating bicycles and pedestrians) are located directly north and south of Tangerine Road running parallel with the roadway. The bicycle routes along Tangerine Road are separate from the shared-use paths running parallel with Tangerine Road. The shared-use paths have two-way travel on each side of Tangerine Road for a total of four (4) lanes. There is no shared-use path located directly north of the Property. The shared-use path along the south side of Tangerine Road currently terminates at the southwest corner of its intersection with Camino De Manana and at the southeast corner of its intersection with Thornydale Road.

There are two existing curb cuts adjacent to the Property designed to connect to a future shared-use path. These curb cuts are located at the southeast corner of Tangerine Road and Camino De Manana and the southwest corner of Tangerine Road and Thornydale Road. There are no existing pedestrian sidewalks adjacent to the Property.

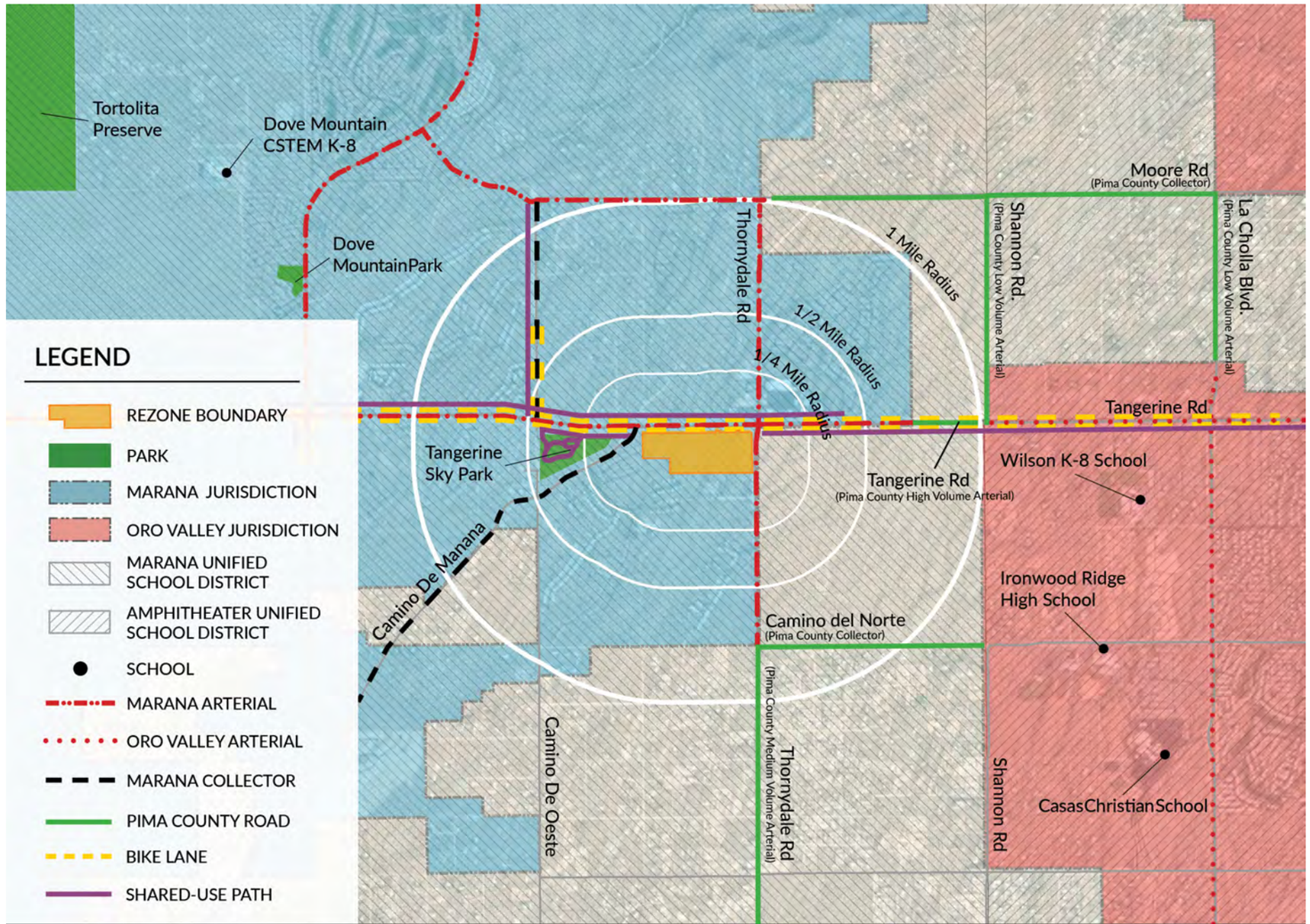


Exhibit II.I.3: BICYCLE, PEDESTRIAN, SCHOOL AND PARK CONNECTIONS

J. Recreation & Trails

As shown in *Exhibit II.J: Trails, Parks and Recreation*, the Tangerine Sky Community Park is located within one mile of the Property, approximately 0.25 miles west of the Property.

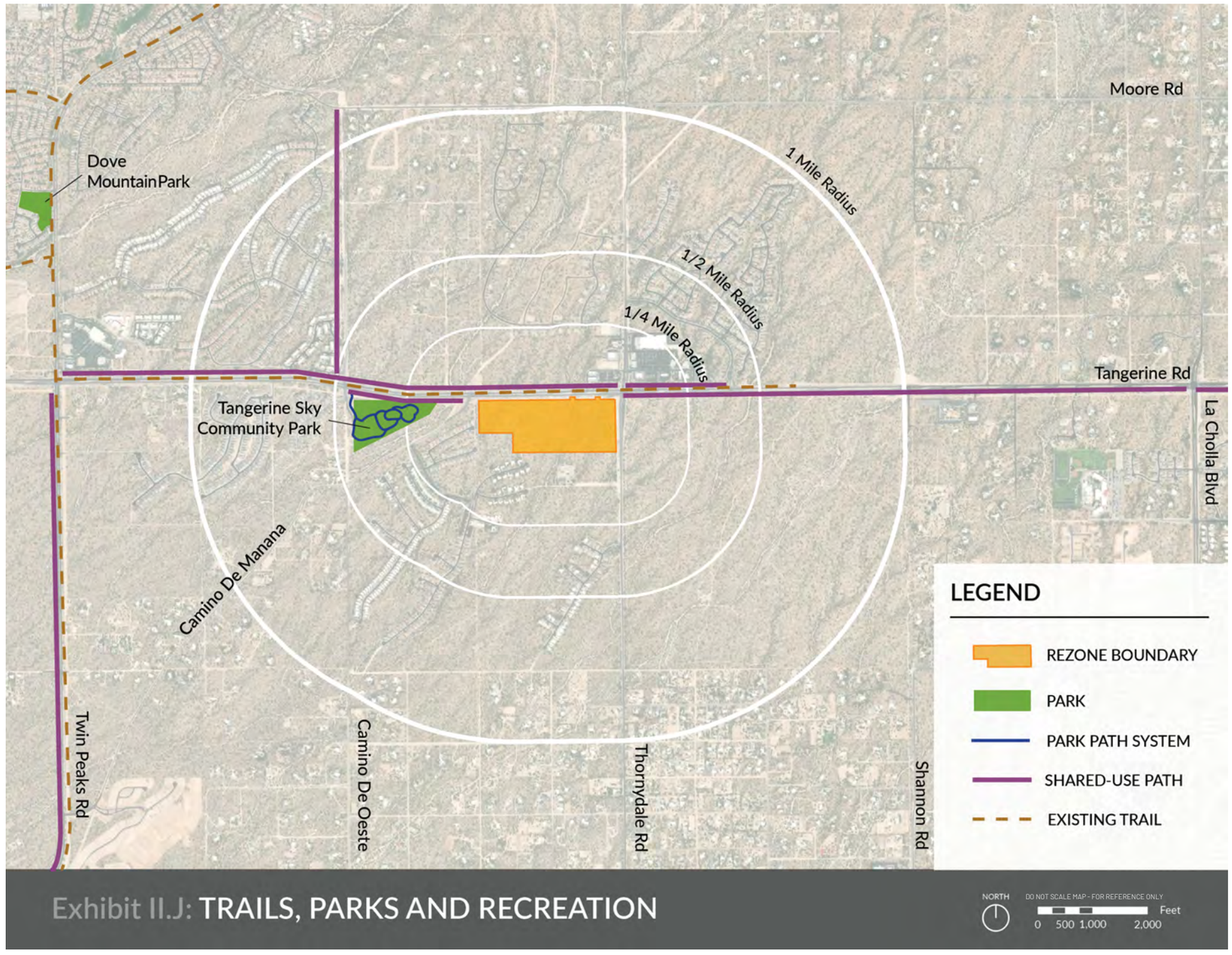
Tangerine Sky Park amenities include:

- 3 Ramadas with Grills
- Open Space Grass Area
- 2 Dog Parks
- 1 Basketball Court
- 2 Playground Areas
- Restrooms
- Multi-Use Walking Paths
- Access to Tangerine Road Shared-Use Path

There are paved and unpaved nature trails located within the Tangerine Sky Community Park approximately 0.25 miles from the Property.

The Property is located near a paved shared-use path that runs along the north side of Tangerine Road from Dove Mountain Boulevard to Tangerine Crossing Drive and crosses to the south side of Tangerine Road from Thornydale Road to La Cañada Boulevard.

No other parks, trails or recreation facilities are located within one (1) mile of the Property.



K. Cultural, Archaeological & Historic Resources

A Cultural Resources Inventory ("CRI") was performed by WestLand Resources, Inc. to identify potential environmental, historic or cultural impacts on the Property.

There is a possibility for buried deposits. The survey area is located within an alluvial fan, and probing found an average of 20-30 cm of deposition in the area. This is enough for some deposits to be buried. Thus, it is possible buried cultural deposits such as Formative period deposits and Archaic sites are present on the Property. T

The CRI identified two prehistoric cultural remains (an artifact scatter and one projectile point) on the Property. No historic artifacts or features were identified. No National Register of Historic Places-eligible sites were identified.

WestLand Resources, Inc. concluded that no historic properties will be adversely impacted by the Project. No further archaeological work is recommended.

L. Existing Infrastructure & Public Facilities

1. Public Utilities

a. Sewer

The Property is tributary to the Tres Rios Water Reclamation Facility via the Canada del Oro Interceptor. Per correspondence with Pima County Regional Wastewater Reclamation Department ("PCRWRD"), capacity is currently available for the western portion of the Property from the public sewer G-2003-057, downstream from manhole 3712-38 from the Sky Ranch subdivision to the south. Capacity is currently available for the eastern portion of the Property from the public sewer G-2004-171, downstream from manhole 3471-07 adjacent to the west side of Thornydale Road. A sewer service agreement will be needed prior to development of the Property. (See *Exhibit II.L.1.a.1: PCRWRD Capacity Response Letter.*)

Exhibit II.L.1.a.2: Existing Sewer Facilities identifies existing sewer facilities near the Property

b. Water

Tucson Water will provide water service to the Property. Arizona Department of Water Resources ("ADWR") has designated Tucson Water as having an assured water supply. A water service agreement is required to establish service to the Property. (See *Exhibit II.L.1.b.1: Tucson Water Availability Letter*.) The Property also has a total of three (3) City of Tucson water meters.

Exhibit II.L.1.b.2: Existing Water Facilities identifies existing water facilities near the Property

c. Traffic

Fiber optic cables owned and maintained by the Town and used for traffic signal connectivity are located near the northern portion of the Property.

d. Fire Service

Northwest Fire District will serve the Property. The closest fire station is Station 339 located at 12095 N. Thornydale Road, approximately one-quarter (1/4) mile north of the Property.

2. Private Utilities

a. Electricity

The Property falls within the District 1 service area of Trico Electric Cooperative, which will provide electric service to the Property. (See *Exhibit II.L.2.a: Trico Electric Cooperative Service Letter*.) There are transmission lines and overhead power lines located along the Property's northern and eastern boundaries, respectively.

b. Gas

Southwest Gas Corporation has existing facilities in the area and will provide natural gas service to the Property.

c. Communications

It is anticipated CenturyLink will extend phone service to the Property. Alternatively, wireless communications may be used which can be provided by any number of service providers. AT&T currently operates at least one cell tower and owns one small, gated utility building (AT&T Mobility Site AZ L00554) on the north side of the Property. There is a second small, gated utility building on the north side of the Property.

L. Existing Infrastructure & Public Facilities Cont.

Exhibit II.L.1.a: PCRWRD Capacity Response Letter (1)

PIMA COUNTY
WASTEWATER RECLAMATION
201 NORTH STONE AVENUE
TUCSON, ARIZONA 85701-1207

JACKSON JENKINS
DIRECTOR

PH: (520) 724-6500
FAX: (520) 724-9635

June 17, 2021

Steven Vasquez
Rick Engineering Company, Inc
3945 E Fort Lowell Road, Suite 111
Tucson, AZ 85712

Sewerage Capacity Investigation No. P21WC00179 Type I

RE: **SWC Thornydale & Tangerine Roads - West, Parcels 22413001J, 22413001K**
Estimated Flow 21,600 gpd (ADWF)

Greetings:

The above referenced project is tributary to the Tres Rios Water Reclamation Facility via the Canada del Oro Interceptor.

Capacity is currently available for a project this size in the public sewer G-2003-057, downstream from manhole 3712-38.

This letter is not a reservation or commitment of treatment or conveyance capacity for this project. It is not an approval of point and method of connection. It is an analysis of the system as of this date. Allocation of capacity is made by the Type III Capacity Response.

If further information is needed, please feel free to contact us at (520) 724-6488.

Reviewed by: Mirela Hromatka, Planner Sr.

Exhibit II.L.1.a: PCRWRD Capacity Response Letter (2)

PIMA COUNTY
WASTEWATER RECLAMATION
201 NORTH STONE AVENUE
TUCSON, ARIZONA 85701-1207

JACKSON JENKINS
DIRECTOR

PH: (520) 724-6500
FAX: (520) 724-9635

June 17, 2021

Steven Vasquez
Rick Engineering Company, Inc
3945 E Fort Lowell Road, Suite 111
Tucson, AZ 85712

Sewerage Capacity Investigation No. P21WC00180 Type I

RE: **SWC Thornydale & Tangerine Roads - East, Parcels 22413001J, 22413001K, 22413001L**
Estimated Flow 69,120 gpd (ADWF)

Greetings:

The above referenced project is tributary to the Tres Rios Water Reclamation Facility via the Canada del Oro Interceptor.

Capacity is currently available for a project this size in the public sewer G-2004-171, downstream from manhole 3471-07.

This letter is not a reservation or commitment of treatment or conveyance capacity for this project. It is not an approval of point and method of connection. It is an analysis of the system as of this date. Allocation of capacity is made by the Type III Capacity Response.

If further information is needed, please feel free to contact us at (520) 724-6488.

Reviewed by: Mirela Hromatka, Planner Sr.

L. Existing Infrastructure & Public Facilities Cont.

Exhibit II.L.1.a.2: Existing Sewer Facilities



L. Existing Infrastructure & Public Facilities Cont.

Exhibit II.L.1.b.1: Tucson Water Availability Letter

TUCSON WATER
A proud part of the City of Tucson

June 8, 2021

Rick Engineering Company
3945 E. Fort Lowell Rd., Suite 111
Tucson, AZ 85712
Attn: Steven Vasquez

SUBJECT: Water Availability for Project: SWC of Tangerine & Thornydale Rd., APN: 22413001J,K,L (3) parcels, Case#: WA3590, T-12 R-13 S-06, Lots: 9999, Location Code: MAR: Total Area: 51.13ac, Zoning: R-144.

WATER SUPPLY

Tucson Water will provide water service to this project based on the subject zoning of the above parcels. Tucson Water has an assured water supply (AWS) designated from the State of Arizona Department of Water Resources (ADWR). An AWS designation means Tucson Water has met the criteria established by ADWR for demonstration of a 100-year water supply - it does not mean that water service is currently available to the subject project.

WATER SERVICE

The approval of water meter applications is subject to the current availability of water service at the time an application is received. The developer shall be required to submit a water master plan identifying, but not limited to 1) Water Use; 2) Fire Flow Requirements; 3) Offsite/Onsite Water Facilities; 4) Loops and Proposed Connection Points to Existing Water System; and 5) Easements/Common Areas.

Any specific area plan fees, protected main/facility fees and/or other needed facilities' cost, are to be paid by the developer. *If the existing water system is not capable of meeting the requirements of the proposed development, the developer shall be financially responsible for modifying or enhancing the existing water system to meet those needs.* ***This letter shall be null and void two years from the date of issuance.***

Issuance of this letter is not to be construed as agency approval of a water plan or as containing construction review comments relative to conflicts with existing water lines and the proposed development.

If you have any questions, please call New Development at 791-4718.

Sincerely,

Michael Mourreale

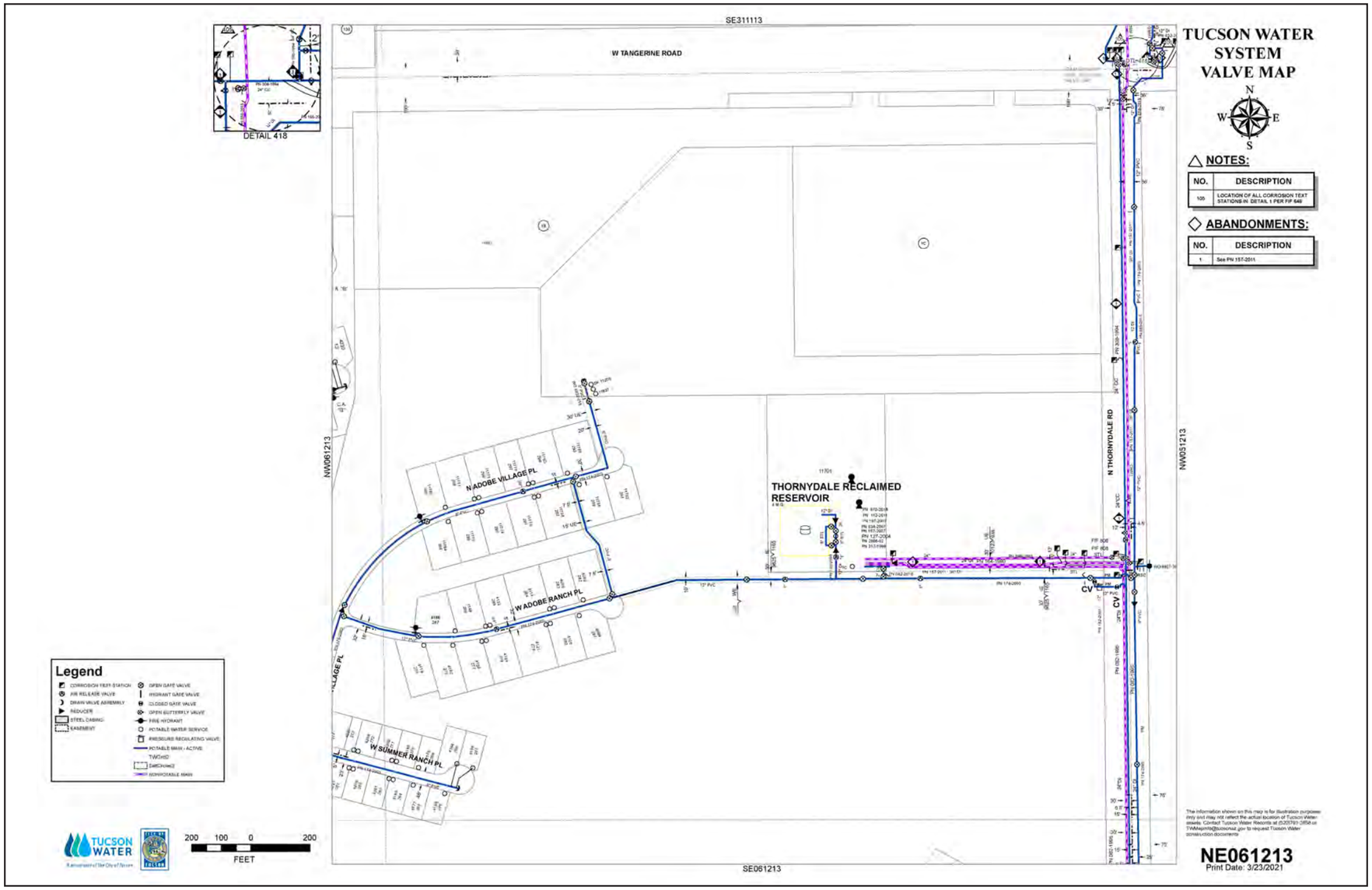
Michael Mourreale
Engineering Manager
Tucson Water New Development

MM:km
cc: WA3590 22413001J,K,L (3) parcels.docx/New Area/Committed Demand/WAL parcels

P.O. Box 27210 • Tucson, AZ 85726-7210
520.791.4718 • tucsonaz.gov/water

L. Existing Infrastructure & Public Facilities Cont.

Exhibit II.L.1.b.2: Existing Water Facilities



L. Existing Infrastructure & Public Facilities Cont.

Exhibit II.L.2.a: Trico Electric Cooperative Service Letter

TRICO
AN ENERGY COOPERATIVE

SENT VIA EMAIL

June 8, 2021

Steven Vasquez
C/O Rick Engineering
svasquez@rickengineering.com

Re: Parcels 22413001J, 22413001K, and 22413001L - T.12S R.13E S.06

To Whom It May Concern:

The above referenced location is contained within the service area of Trico Electric Cooperative, Inc. (Trico). This letter affirms that Trico is willing and able to serve this project according to the Rules, Regulations and Line Extension Policies of Trico. Any relocation of facilities shall be at no expense to Trico.

Please contact our Design Department if you need more information or if you have any questions regarding this letter.

Sincerely,

David Worrell

David Worrell
New Service Technician

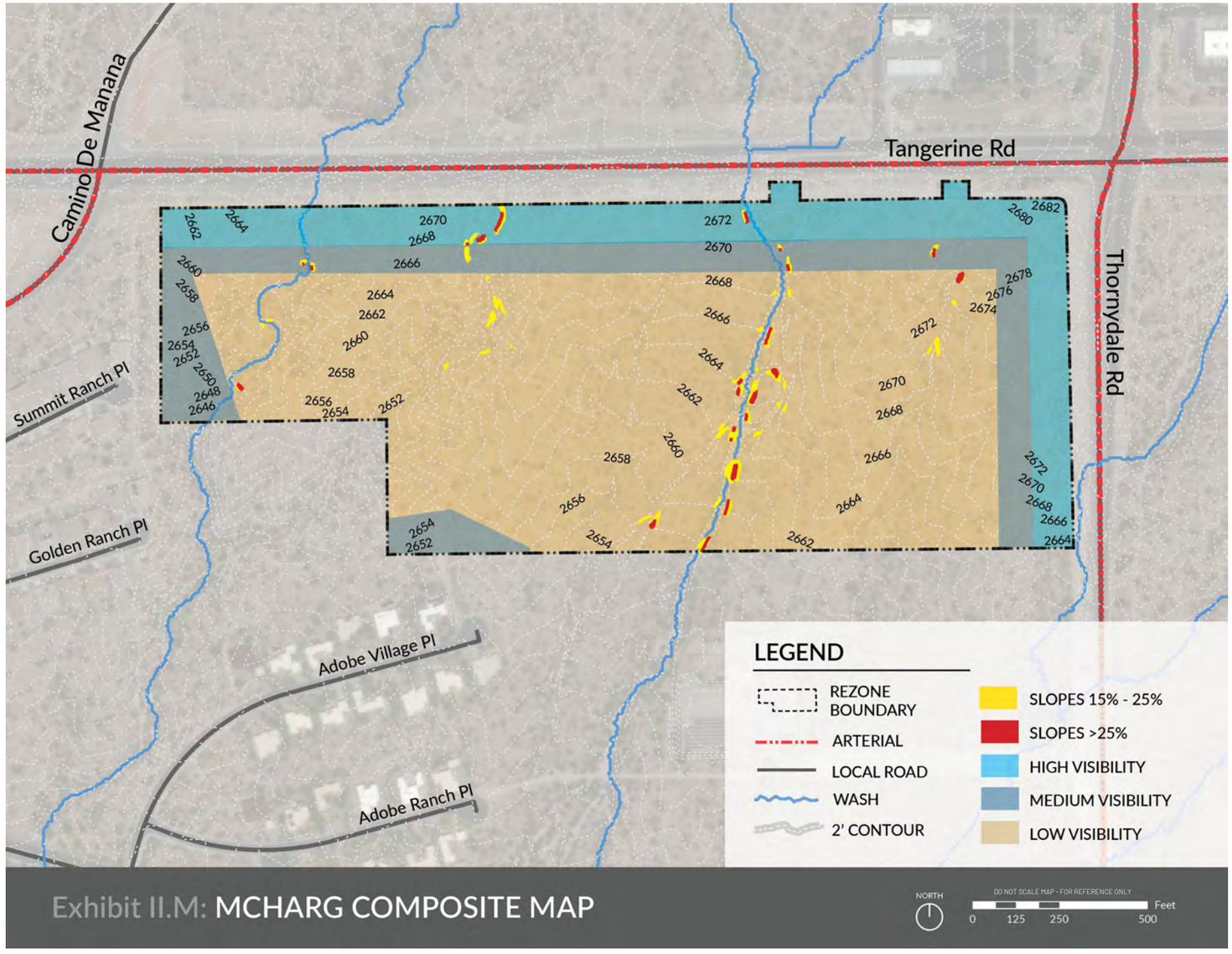
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P.O. Box 930 • Marana, AZ 85653-0930 • 520.744.2944 • (toll free) 866.337.2052 • WWW.TRICO.COOP • A Touchstone Energy® Cooperative

Trico is an equal opportunity provider and employer

M. McHarg Composite Map

Information about the Property's topography, hydrology, vegetation, wildlife and viewsheds has been combined to form the McHarg Composite Map. The map highlights areas most compatible with development. With no wildlife movement corridors or significant vegetation present onsite, relevant constraints are limited to the Property's topography, hydrology and viewsheds, as demonstrated in *Exhibit II.M: McHarg Composite Map*. See Section III (Proposed Land Use Plan) for more information about how the site plan will respond to these constraints.





III. Land Use Proposal

A. Relationship to Adopted Plans

In addition to outlining the land use proposal and providing development guidance for the Property, this Specific Plan serves as an amendment to the Town's General Plan, Make Marana 2040. With this Specific Plan, the Property's designation on the Future Land Use Map is amended to MPA from Commercial. The Specific Plan conforms to the goals and policies of Make Marana 2040, as amended. See Subsections I.B & C for a detailed discussion regarding the Specific Plan's conformance with both the Town's General Plan and its Economic Development Strategy.

B. Compatibility with Surrounding Properties

One of this Specific Plan's primary objectives is to provide thoughtful transitions between new development and existing lower-intensity development within Sky Ranch to the south and Tangerine Road to the north. The southern and western edges of the Specific Plan will include NUOS buffers next to the Sky Ranch boundaries. The existing homes within Sky Ranch are primarily oriented in a northwest/southeast direction to take greatest advantage of the views of the Tortolita and Catalina Mountains. To protect these viewsheds, new residential uses within this Specific Plan are required to be separated from existing Sky Ranch homes' lot lines by at least 300 feet.

The commercial and multi-family residential components of the Project will be located farther away from Sky Ranch and closer to Tangerine and Thornydale Roads where more intense uses and higher densities are appropriate. No commercial uses are permitted within 600 feet of an existing Sky Ranch residential lot line.

C. Land Use

The Specific Plan's land use concept was designed in conformance with the goals and policies of Make Marana 2040 and the Town's Economic Development Strategy, which support commercial and other non-residential land uses along the Tangerine corridor. The Land Use Proposal aims to strike a balance between the development of higher intensity commercial uses at the corner of Tangerine and Thornydale Roads and sensitively placed single-family residential uses as a transition to existing lower-intensity residential communities.

As shown in *Exhibit III.C.1: Land Use Concept*, the Specific Plan features a single land use designations: Mixed-Use ("MU"). The MU designation allows for a multitude of uses, including all uses in the Town's Village Commercial ("VC") zone, as well as single-family residential homes. The homes in this Specific Plan are permitted to be on smaller lots, which is an appropriate transition to Tangerine Road—the Town's largest right-of-way at 250 feet in width. The Property's largest north/south wash (the "Wash") encompasses approximately 1.5 acres and creates a natural divide on the Property: approximately 2/3 on the west and approximately 1/3 on the east. The Wash will be set aside as NUOS.

Because flexibility and response to market conditions are key to the success of this Project, multiple Conceptual Site Plans (*Exhibits III.C.2.a & b*) are included to illustrate the vision for the Specific Plan and demonstrate potential development scenarios. The plans' depictions are conceptual and are not meant to limit development options.

The actual size and location of the lots, buildings, parking and circulation will be determined at time of development plan/preliminary plat preparation. The market will ultimately dictate the mix of uses and the pace of development of the Property.

- *Exhibit III.C.2.a: Conceptual Site Plan #1 ("CSP-1")* – This concept depicts 97 single-family residences on 30.4 acres and features 9.1 acres (or 30%) of NUOS. Multi-family residential uses are shown on 12.1 acres at the southeast corner of the Project, accessible from Thornydale Road and 7.8 acres of commercial uses focused along Tangerine Road, including at its intersection with Thornydale Road.

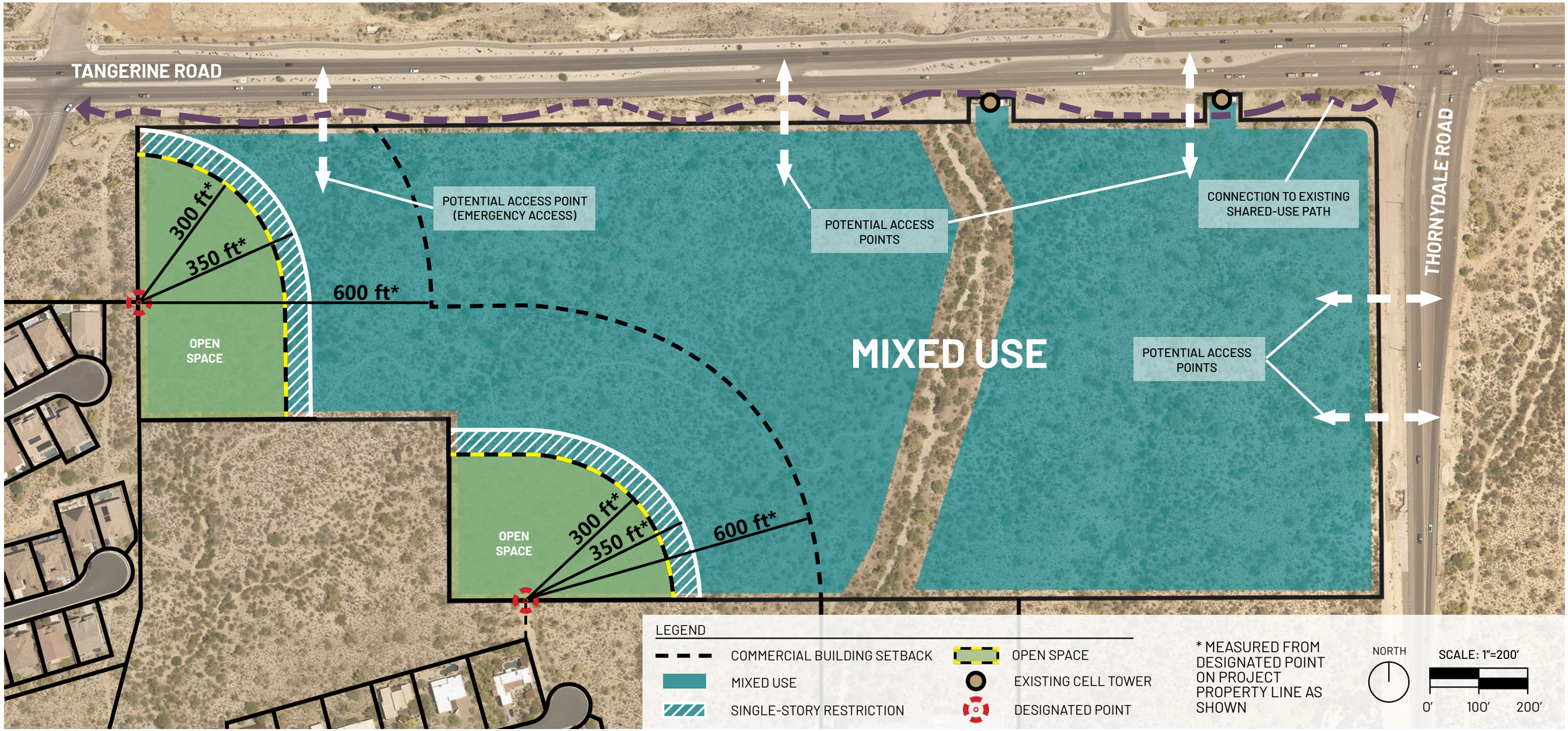
- *Exhibit III.C.2.b: Conceptual Site Plan #2 ("CSP-2")* – This concept shows a single-family residential development with 30% NUOS on the entire area west of the Wash. *CSP-2* features an assisted living facility on 6.5 acres east of the NUOS Wash and 13.4 acres of commercial and office uses along both Tangerine and Thornydale Roads.

- *Exhibit III.C.2.c: Conceptual Site Plan #3 ("CSP-3")* – This concept illustrates single-family residential development across the entire Property.

The two existing wireless communication facilities along the northern Specific Plan boundary adjacent to Tangerine Road are permitted and may remain.

C. Land Use Cont.

Exhibit III.C.1: Land Use Concept



C. Land Use Cont.

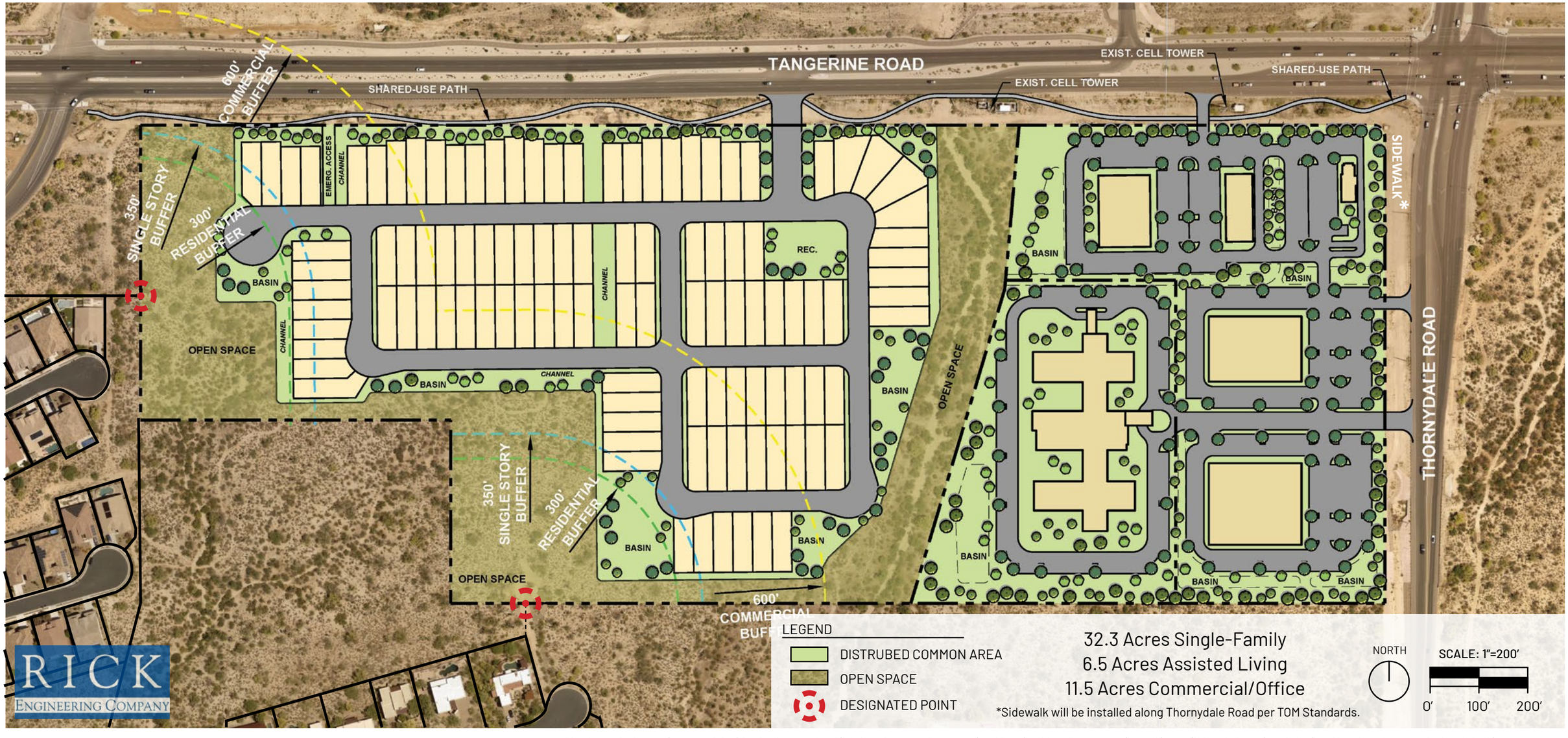
Exhibit III.C.2.a: Conceptual Site Plan #1 (CSP-1)



The layout shown is meant to illustrate a potential development scenario. The final land use configuration will be determined during the development plan/platting process.

C. Land Use Cont.

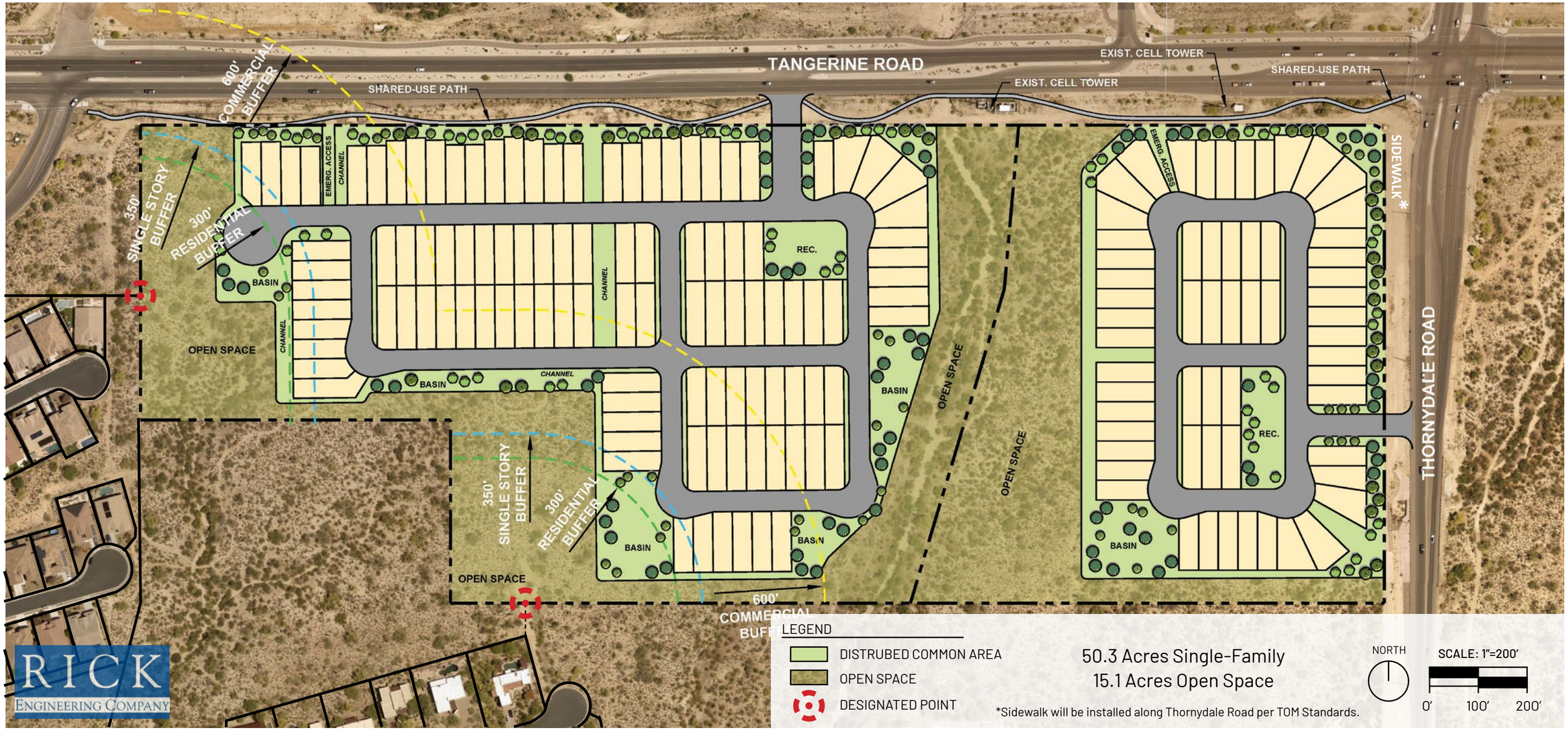
Exhibit III.C.2.b: Conceptual Site Plan #2 (CSP-2)



The layout shown is meant to illustrate a potential development scenario. The final land use configuration will be determined during the development plan/platting process.

C. Land Use Cont.

Exhibit III.C.2.c: Conceptual Site Plan #3 (CSP-3)



The layout shown is meant to illustrate a potential development scenario. The final land use configuration will be determined during the development plan/platting process.

D. Circulation

A Transportation Impact Analysis ("TIA"), provided under separate cover, was prepared by Rick Engineering Company to determine the Specific Plan's potential traffic-related impacts within the Project area. Because final land uses have not yet been determined, the TIA analyzed *CSP-1 (Exhibit III.C.1)*, which features the set of proposed uses with the highest traffic generation. This approach confirms the scenario with the most intense development (in terms of traffic) can be accommodated on the Property and surrounding transportation network, as proposed.

CSP-1 includes:

- 97 single-family residences within 30.4 acres,
- 256 multi-family dwelling units within 12.1 acres,
- 38,000 square feet of general retail and a 2,200 square-foot fast-food restaurant with a drive-thru within 7.8 acres.

For purposes of the TIA, the Project was analyzed assuming the following access points along Tangerine and Thornydale Roads:

- An emergency-only access will be provided on Tangerine Road at the west end of the Project from the single-family residential development. (NOTE: A Design Exception approved by the Town will be required to allow for a single permanent access and a second emergency-only access into a residential subdivision with more than 80 lots.)

- One access point on Tangerine Road at the median break approximately 1300 feet west of the existing Tangerine/ Thornydale intersection will provide full access for both the single-family residential development and the commercial area west of the Wash.

- A right-turn-only driveway about 600 feet west of the Tangerine/Thornydale intersection will be provided for the commercial uses along Tangerine east of the Wash.

- The multi-family residential development that is situated at the east end of the Property will have its primary access along Thornydale Road. Cross-access between the multi-family development and the commercial development to the north will also be provided, as shown in *CSP-1*.

- While not shown on *CSP-1* analyzed for the TIA, there is potential for a secondary right-in/right-out driveway on Thornydale Road south of the Tangerine/Thornydale intersection and north of the primary access point on Thornydale Road. This secondary access is depicted on *CSP-2* and will be part of an analysis at time of development plan submittal if warranted by the final site configuration.

Collectively, the uses proposed for development in *CSP-1* will generate approximately 5,261 daily trips with 314 trips occurring in the AM peak hour and 454 trips occurring during the PM peak hour. The TIA concludes that all the study intersections are anticipated to operate at acceptable levels (LOS D or better) during the AM and PM peak periods with specific improvements outlined in the TIA, which include new and expanded storage for turn lanes on both Tangerine and Thornydale Roads.

E. Open Space & Recreation

As shown on *Exhibit III.C* and illustrated in the conceptual site plans, the Specific Plan features a significant amount of open space. The Wash will continue to provide a naturally vegetated connection between the area north of the Property and the undeveloped land south of the Property via the existing culvert under Tangerine Road. The Wash will be set aside as NUOS with any project within the Specific Plan.

Buffer areas will be incorporated along the south and west edges between the proposed Specific Plan development and the existing Sky Ranch residences. Between new residences and existing Sky Ranch homes there will be a minimum separation of 300 feet (SFR lot line to SFR lot line), and this area will primarily feature existing natural vegetation, which may be enhanced in select areas, as needed. There will be multiple dual-use basins incorporated throughout the area west of the Wash for both detention/retention, as well as active and/or passive recreation opportunities.

Any multi-family residential development will include amenities for its residents, such as a swimming pool, playground, dog park or other outdoor barbecue or gathering space opportunities. Private indoor amenities will also be incorporated into multi-family residential projects.

The final recreation amenities provided within the Specific Plan will be determined at time of development plan/tentative plat submittal and will be provided in conformance with § 17-5-3.B.12 of the Marana Town Code.

The shared-use path along the south side of Tangerine Road will be extended as part of this development from its termination at Camino de Manana to Thornydale Road. The shared-use path will provide residents throughout the Specific Plan access to the Tangerine Sky Community Park less than 0.25 miles to the west of the Property. This path, which will be constructed by the developer in accordance with Town specifications when any portion of the Specific Plan is developed, will connect with the larger regional trail system connecting the Town with unincorporated Pima County and the Town of Oro Valley along the Tangerine corridor. Any easements that may be required will be dedicated at time of development plan or subdivision platting process. A sidewalk will also be installed along the Project frontage of Thornydale Road providing a connection to the shared-use path on Tangerine Road.

F. Topography & Grading

The topography of the Property is conducive to the development of the proposed mixed-use Project. The Project will have minimal areas with excessive cut or fill, with the intent of having a balanced site. The main channel of the Wash will be left natural. Encroachment with erosion protection is proposed along both sides of the Wash. The minor washes on the Property will be graded and channelized in areas outside of the NUOS. No disturbance of these washes is proposed within the NUOS.

G. Hydrology & Drainage

The offsite flows from the four culverts under Tangerine Road and the one under Thornydale Road will be analyzed and accommodated with this development. The nature and quantity of these flows from north to east will be further evaluated in the drainage report that will be prepared for the Project at time of development plan/tentative plat submittal. The necessary improvements to convey the flows through the Property will be determined at that time and will be incorporated into the drainage improvements for the Project. Consultation with the Army Corps of Engineers will be required if the Property is found to contain 404 jurisdictional washes.

The unnamed Wash running within the eastern portion of the Property will maintain natural flow with some development encroachment. The remainder of the Project proposes channelization of flows within the developed areas. The Project will create no drainage impacts to offsite land uses upstream or downstream of the Project.

Retention/detention facilities will be provided throughout the Property in accordance with Town requirements. The quantity and characteristics of flows (e.g., velocity) leaving the Property will match existing conditions.

H. Vegetation

The conceptual site plans provided in Subsection III.C have been designed with consideration for the topography, hydrology, and the xeroriparian Wash that traverses the Property. The majestic views in the immediate vicinity—the Tortolita Mountains to the north, the Santa Catalina Mountains to the east, and the Tucson Mountains to the southwest—will be preserved and given high priority through careful use of vegetative screening. Screening will be accomplished through the use of preserved and planted vegetation, as well as site layout and orientation.

The overall landscape theme will reflect attributes typical of the Sonoran Desert and the vegetation characteristics
in the vicinity. Native and desert-adapted plant materials
(those deemed non-invasive in character and low water use) and regionally appropriate hardscape will be used wherever possible. Buffer and common areas will reflect the plant palette and appearance of the environment on and near the Property.

The landscape design will prioritize the conservation of water through implementation of underground drip irrigation, reducing evaporative water loss, and integration of low-water-use plants in selected common area whenever possible. Passive water harvesting techniques, such as strategic grading in parking areas and capturing rooftop runoff into swales to direct rainwater into landscaped areas will be employed wherever possible. Rainwater that is collected or diverted will supplement the water requirements of the landscape plants.

Plants that have been proven to have the potential for invasive characteristics will be prohibited in public common areas and on private property (front, back or side yards). In addition, select vegetation along washes may be removed for fire prevention, invasive species maintenance and safety of residents.

I. Wildlife

No federally listed species or other special-status species were detected or observed on the Property. Although not detected, the Sonoran desert tortoise (a Candidate for ESA protection and State-protected) and Gila monster (State-protected) have some potential to move through the Property, most notably along the large Wash identified in the Site Resource Inventory (*Exhibit II.E.2*). This Wash traverses the Property and continues well beyond its boundaries both north and south. Wildlife connectivity will be maintained through avoidance of vegetation removal along the large Wash and maintenance of the existing box culvert in the immediate vicinity of the Property. Box culverts discharging to the Property under Tangerine Road will remain open and clear before, during, and after construction activities.

To further maintain existing wildlife connectivity potential through the property, appropriate outdoor lighting (namely low voltage or similar landscape fixtures) will be applied to buildings, whenever possible, especially those adjacent to the existing wash. Lighting options will be low voltage, whenever possible, and directed away from the wash so as not to disrupt nightly wildlife travel.

Additional measures will be applied to reduce impacts to local wildlife. AGFD requires a 100% clearance survey for the Sonoran desert tortoise to be completed by a qualified biologist prior to issuance of a grading permit. Individuals encountered would be relocated following AGFD relocation protocols.

J. Public Services

1. Utilities

a. Sewer

The Property is tributary to the Tres Rios Water Reclamation Facility via the Canada del Oro Interceptor. Capacity is currently available for the western portion of the site from the public sewer G-2003-057, downstream from manhole 3712-38 from the Sky Ranch subdivision to the south. Capacity is currently available for the eastern portion of the site from the public sewer G-2004-171, downstream from manhole 3471-07 adjacent to the west side of Thornydale Road. A sewer service agreement will be needed prior to development of the Project. (See *Exhibit II.L.1.a.1: PCRWRD Capacity Response Letter*.)

Exhibit III.J.1.a: Proposed Sewer Connections identifies sewer connection points for development on east and west sides fo the Wash.

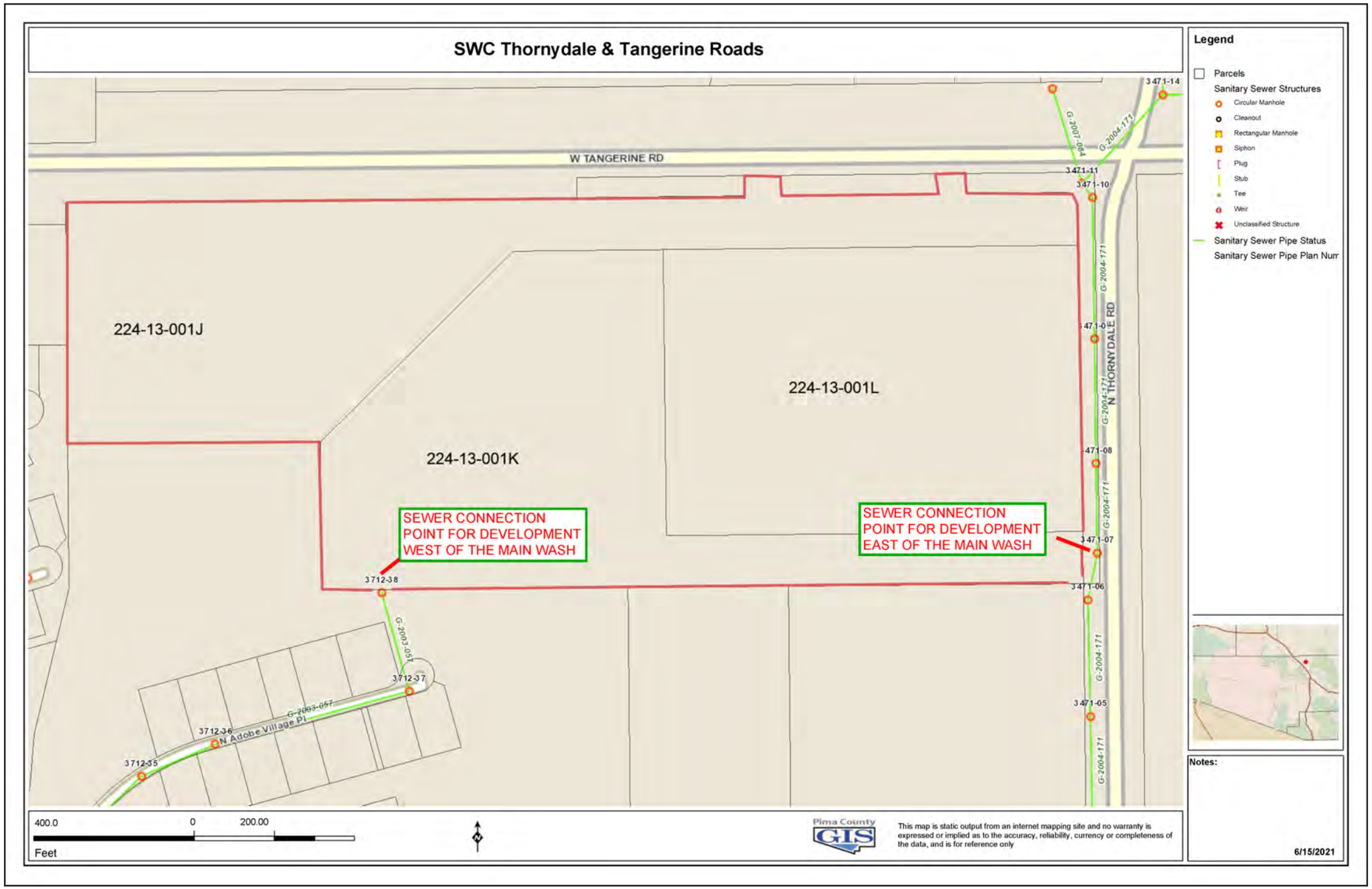
b. Water

The water supply for the Project will be provided by Tucson Water, which has been designated by Arizona Department of Water Resources as having an assured water supply. A water service agreement is required to establish service to the Project. (See *Exhibit II.L.1.b.1: Tucson Water Availability Letter.*)

Exhibit III.J.1.b: Proposed Water Connections identifies the schematic water system loop and connection points.

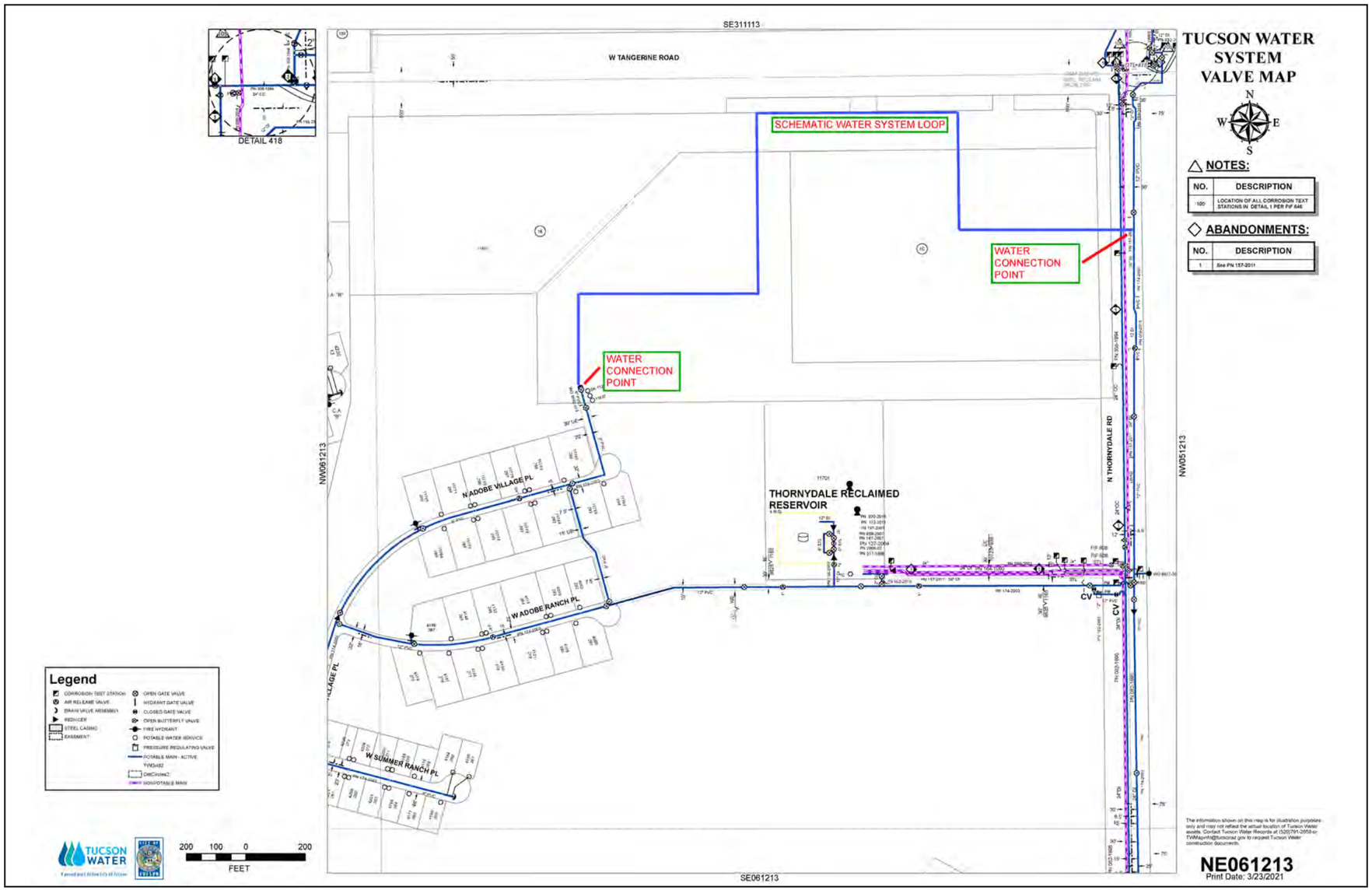
J. Public Services Cont.

Exhibit III.J.1.a: Proposed Sewer Connections



J. Public Services Cont.

Exhibit III.J.1.b: Proposed Water Connections



J. Public Services Cont.

2. Fire Service

The Project will be served by Northwest Fire District. The closest fire station is Station 339 located at 12095 N. Thornydale Road, approximately one-quarter mile north of the Property.

3. Schools

The Property is located within Marana Unified School District ("MUSD"). MUSD estimates this Project will generate approximately 59 elementary and 27 secondary students. (*See Exhibit III.J.3: MUSD Letter*.) The future students will be able to attend Dove Mountain CSTEM K-8, Tortolita Middle School and Mountain View High School, all of which have capacity to absorb the impact of this Project.

K. Cultural, Archaeological & Historic Resources

A Cultural Resources Inventory ("CRI") was performed by WestLand Resources, Inc. to identify potential environmental, historic or cultural impacts on the Property. The CRI identified two prehistoric cultural remains (an artifact scatter and one projectile point) on the Property. No historic artifacts or features were identified. No National Register of Historic Places-eligible sites were identified. WestLand Resources, Inc. concluded that no historic properties will be adversely impacted by the Project.

A qualified archaeologist will consult with the Army Corps of Engineers and make appropriate recommendations if the Property is found to contain 404 jurisdictional washes. No further archaeological work is recommended at this time.

J. Public Services Cont.

Exhibit III.J.3: MUSD Letter

GOVERNING BOARD
Maribel Lopez, Ed.D., President
Hunter Holt, Vice President
Tom Carlson, Member
John Lewandowski, Member
Dan Post, Member

MARANA UNIFIED SCHOOL DISTRICT

ADMINISTRATION
Daniel Streeter, Ed.D., Superintendent
Carolyn Dumler, Ed.D., Assistant Superintendent
Kristin Reidy, Assistant Superintendent
Dan Contorno, Chief Financial Officer

May 5, 2021

Robin Large
Senior Land Planner
Lazarus & Silvyn, P.C.

RE: Proposed Development Tangerine and Thornydale

Dear Ms. Large,

Thank you for informing us of the proposed 50.46 acre development south of Tangerine and west of Thornydale on parcels 22413001J, 22413001L, and 22413001k. Marana Unified School District currently uses a factor of .25 students per home for elementary and .1 students per home for secondary. We use lower factors of .1 students per apartment for elementary and .05 students per apartment for secondary. The 110 homes and 310 apartments could generate about 59 elementary and 27 secondary students.

These future potential students can be supported by the following schools with their current enrollment/capacity numbers shown; Dove Mountain CSTEM K-8 (884/1000), Tortolita Middle School (577/1234) and Mountain View High School (1817/2257). All schools have capacity for the impact this proposed development may have on our student population under current conditions.

Thank you for supporting the development of quality homes and businesses in our community. Marana Unified School District knows that one of the keys to the continued success of our wonderful community is the quality of our children's education. This belief is held so strongly that we have multiple developers providing the school district with rooftop impact development fees. The district uses these funds to ensure that necessary infrastructure is in place to support growth and maintain an inspiring education for every child. Voluntary developer participation in this process is an invaluable investment in our community. Please contact the Marana Schools Finance Office at 520-682-4756 to learn more about participation.

Please contact Dan Contorno at 520-682-4756, or myself at 520-616-4521 if you have any further questions.

Sincerely,

R Federico

Russell Federico, M.Ed.
Executive Director of Bond and Capital Projects
Marana Unified School District

Inspiring students to learn today and lead tomorrow.

11279 W. Grier Road • Marana, Arizona 85653 • (520) 682-3243 • www.maranausd.org



IV. Development & Design Regulations

A. Applicability & Design Regulations

The standards and guidelines contained within this Specific Plan shall supersede the standards within the Town Code and Land Development Code ("LDC"). If an issue, situation, or condition arises that is not addressed by this Specific Plan, the applicable portions of the Town Code and the LDC that are in place at the time of development shall apply.

All construction and development within the Specific Plan area shall comply with applicable provisions of various codes and regulations adopted by the Town including, but not limited to, building, fire and lighting codes current at the time of development.

B. Permitted Land Uses

The Zoning Administrator may permit any use not specifically listed in this section if determined to be similar in nature and/or complementary to other permitted uses within the Specific Plan. The following uses are permitted within the Specific Plan:

1. Residential, including both single-family and multi-family uses, and related accessory structures
2. All uses permitted in the Town's Village Commercial ("VC") zone, subject to Table 3: Conditions Per Use in LDC § 17-4-3.
3. Food processing facility (e.g., microbrewery, bakery, etc.) when operated in conjunction with a restaurant or bar.
4. Existing wireless communication facilities may remain.

C. Site Development Standards

1. Single-Family Residential

a. Minimum Lot Area: 4,000 square feet

b. Minimum Lot Width & Depth: none

c. Maximum Lot Coverage: 75%

d. Maximum Building Height: 30 feet

(1) No more than 60% of the homes may be 2-stories.

(2) No more than two 2-story homes may be located side by side on the same street

(3) Any lot within 50 feet of the edge of the 300-foot buffer as shown on the Land Use Concept Plan shall be limited to single-story

e. Maximum Residential Density: 3.5 RAC

f. Minimum Building Setbacks

(1) Front

- To livable area: 10 feet
- To front-facing garage: 20 feet
- To side-loaded garage: 10 feet
- To non-livable area (e.g., patio structure): 10 feet
- To side abutting street on corner lot: 10 feet

(2) Side: per building code

(3) Rear: 10 feet, except for the following:

- A minimum setback of five (5) feet shall be maintained from the rear and side property lines for an attached patio structure that is open and unenclosed on three (3) sides, as measured to the structure.

(4) Accessory Structures: per building code

g. Minimum Building Separation

(1) Between SFRs within Specific Plan: per building code

(2) Between Specific Plan SFR lot line and the Designated Points as shown on the Land Use Concept Plan: 300 feet

h. Minimum Open Space

(1) A minimum of 30% of any single-family residential project shall be maintained as NUOS, which includes the major wash corridor

(2) NUOS shall be located along the major wash corridor and within the 300-foot buffers as shown on the Land Use Concept Plan with limited site development encroachment permitted along the boundary of the 300-foot buffers closest to the Specific Plan residential area (drainage/road, etc.)

2. Multi-Family & Commercial

a. Minimum Site Area: none

b. Maximum Site Coverage: 75%

c. Maximum Building Height: 40 feet

d. Maximum Residential Density: 25 RAC

e. Minimum Perimeter Setbacks:

(1) 25 feet from Tangerine & Thornydale Roads

(2) Adjacent to more intense use: 0 feet

(3) Adjacent to same or less intense use: 10 feet

- For purposes of determining more/less intense use, generalized land use categories are listed below in order of most to least intense:
  - Retail/commercial
  - Office/multi-family residential
  - Single-family residential

f. Minimum Building Separation

(1) Between buildings within Specific Plan: per building code

(2) Between Specific Plan commercial buildings and/or apartment-style MFR and the Designated Points as shown on the Land Use Concept Plan: 600 feet

D. Vehicular & Bicyle Parking

Vehicular and bicycle parking will be provided in accordance with Town Code § 17-9 (Parking).

E. Solid Waste & Recycling

To be contracted with private service provider.

F. Bufferyards & Screening

Development within the Specific Plan shall comply with Town Code § 17-11-7 (Landscape Requirements) except as provided herein.

(1) Adjacent to Tangerine & Thornydale Roads: 10-foot bufferyard with 36-inch screen wall in vehicular parking areas that face Tangerine and Thornydale Roads
(2) Adjacent to open space: none required
(3) Adjacent to more intense use: none required
(4) Adjacent to same or less intense use: 10-foot bufferyard with 5-foot screen

- For purposes of determining more/less intense use, generalized land use categories are listed below in order of most to least intense:

    - Retail/commercial
    - Office/multi-family residential
    - Single-family residential

G. Lighting

This Project is committed to “Dark Skies” principles and the Town’s Outdoor Lighting Code (“OLC”), which requires shielded lighting that does not spill over onto adjacent properties. A lighting plan will be prepared and submitted with the Project’s building permit plans in accordance with the OLC’s permit submission requirements.

H. Signage

Signage will be designed and permitted in accordance with Town Code § 17-10: Signs, except that no lighted wall signs are permitted on the west and south faces of non-residential buildings within 800 feet of the southern Property line.

Address and unit number signage will be incorporated per Town Addressing requirements.

I. Design Guidelines

Unless otherwise provided in this Specific Plan, single-family residential projects within the Specific Plan will comply with the Town’s Residential Design Standards (LDC § 17-7).

Unless otherwise provided in this Specific Plan, multi-family residential and commercial projects within the Specific Plan will comply with the Town’s Multi-Family, Commercial and Industrial Design Standards (LDC § 17-8).



V. Implementation & Administration

A. Administration & Interpretation

The Specific Plan shall be administered by the Town's Zoning Administrator, and all implementation decisions shall be based on the purpose of the Specific Plan. If a conflict arises between the Specific Plan and the Land Development Code ("LDC"), the Specific Plan shall control. If the Specific Plan is silent on any issue, and the LDC is consulted, the purpose and intent of the Specific Plan shall control the Zoning Administrator's decision whether and how to apply the LDC. Appeals of any Zoning Administrator interpretation of this Specific Plan may be made to the Mayor & Council within 15 days of the date of the interpretation. The Specific Plan will not result in the modification or change of any existing Town-adopted building codes.

B. Amendments

The Zoning Administrator may administratively approve minor (or insubstantial) changes, as defined in § 17-4-15(D) of the Marana Town Code, provided such changes are in conformance with the overall intent, goals and objectives of the Specific Plan as presented herein.

Major (or substantial) amendments to the Specific Plan shall be those changes or modifications that materially alter the guiding goals and objectives as presented in the Specific Plan. Major amendments to the Specific Plan shall be processed in accordance with § 17-3-1 of the Marana Town Code.

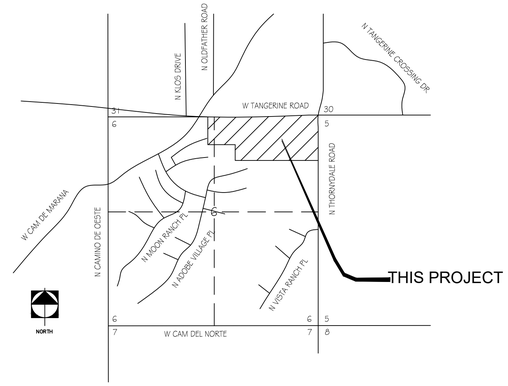


VI. Appendices

Appendix A: Site Resource Inventory

SHEET LAYOUT OVERVIEW





LOCATION MAP

A PORTION OF SECTION 6 T12S – R13E,
G.&S.R.M. PIMA COUNTY, ARIZONA.
3" = 1 MILE

SITE RESOURCE INVENTORY

The property includes Pima County Assessor's Parcels 224-13-001J, K, and L; a total of 50.91 acres of undeveloped land. Thornydale Road and Tangerine Road, both major local thoroughfares, define the east and north boundaries of the property, respectively. The Skyranch subdivision abuts the property to the west and south. The southern boundary of the property also is adjacent to a City of Tucson booster station.

Vegetation: The property supports an Arizona Upland subdivision of the Sonoran Desertscrub plant community typical of the upper Tortolita Fan. Trees include foothill and blue palo verde (*Parkinsonia microphylla* and *P. florida*), velvet mesquite (*Prosopis velutina*), and desert ironwood (*Olneya tesota*); the shrub layer is represented by wolfberry (*Lycium* sp.), desert hackberry (*Celtis spinosa*), graythorn (*Ziziphus obtusifolia*), whitethorn acacia (*Vachellia constricta*), jointfir (*Ephedra* sp.), and creosotebush (*Larrea tridentata*), among other species; cacti include saguaro (*Carnegiea gigantea*), barrel cactus (*Ferocactus wislizeni*), hedgehog cactus (*Echinocereus* sp.), pincushion cactus (*Mammillaria grahamii*), cholla (*Cylindropuntia* spp.), and prickly pear (*Opuntia* spp.); and triangle-leaf bursage (*Ambrosia deltoidea*) is a common sub-shrub component.

There are:

- No Peaks
- No Ridges
- No Rock Outcroppings
- No 100 year floodplain
- No Steep Hillsides
- No Significant Vegetation
- No Unique Plant communities

Riparian Areas and Wildlife Corridor: Four wash channels on the property support a vegetation community that is denser than that on the surround uplands, but composed of most of the same species. This xeroriparian vegetation on the two western riparian areas begins to develop less than 1,000 feet north of the property and on the easternmost riparian area begins development on the property. The east-central riparian area is the only one with connectivity extending to the foothills of the Tortolita Mountains, providing a corridor for wildlife movement, although the approximately 270-foot width of Tangerine Road with its cleared vegetation lateral to the road could present a deterrent to wildlife movement.

north

120' 0' 120'
SCALE: 1" = 120'

Total Site Area: 50.91 ac. (2,217,639.6sf)

LEGEND

PROJECT BOUNDARY
PARCEL BOUNDARY
SHEET MATCHLINE
RIPARIAN AREA
WILDLIFE CORRIDOR

DESIGNED BY: RAC
DRAWN BY: RAC
CHECKED BY: RWS
DRAWING SCALE(S):

Westland Resources
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

REVISIONS

NO.	BY	DESCRIPTION	APP'D	DATE

TANGERINE AND THORNYDALE ROADS
SITE RESOURCE INVENTORY

REGISTERED LANDSCAPE ARCHITECT
10101
RICHARD W. SCHONFELD
Signed 02.26.21
ARIZONA, U.S.A.

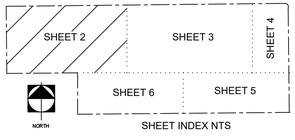
PLAN DATE: FEBRUARY 26, 2021
PROJECT NUMBER: 2223.01
SHEET NO. COVER
1 OF 6

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north

40' 0' 40'
SCALE: 1" = 40'



SHEET INDEX NTS

LEGEND

PROJECT BOUNDARY
SHEET MATCHLINE
WILDLIFE CORRIDOR
PARCEL BOUNDARY
RIPARIAN AREA

DESIGNED BY: RAC
DRAWN BY: RAC
CHECKED BY: RWS
DRAWING SCALE(S):

Westland Resources
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

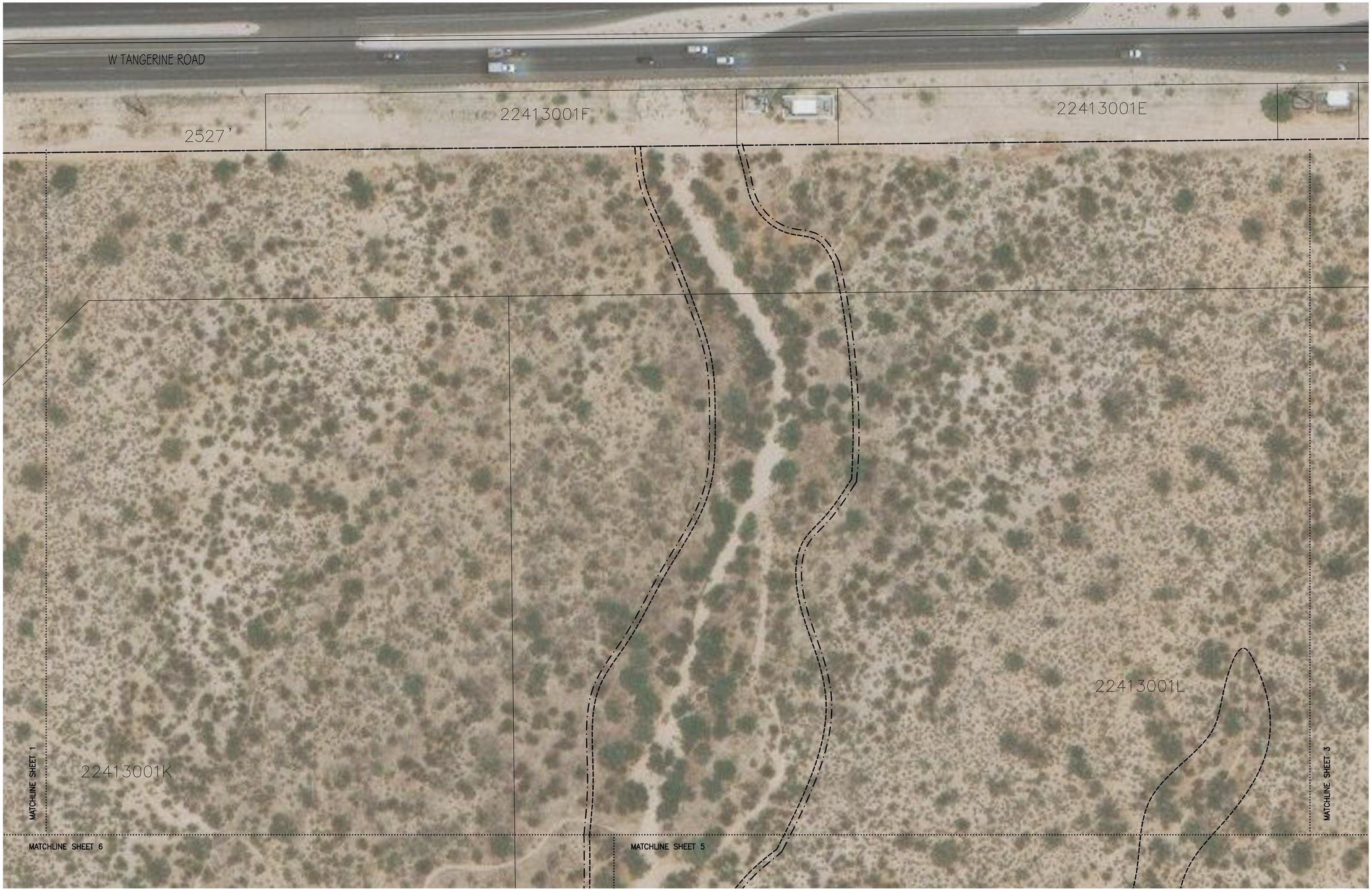
REVISIONS

NO.	BY	DESCRIPTION	APP'D	DATE

TANGERINE AND THORNYDALE ROADS
SITE RESOURCE INVENTORY

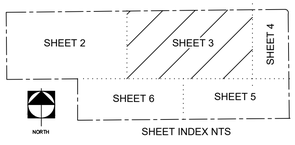
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PROJECT NUMBER: 2223.01
SHEET NO.
SHEET 2 OF 6

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north

40' 0' 40'
SCALE: 1" = 40'



SHEET INDEX NTS

LEGEND

PROJECT BOUNDARY
PARCEL BOUNDARY
SHEET MATCHLINE
RIPARIAN AREA
WILDLIFE CORRIDOR

DESIGNED BY: RAC
DRAWN BY: RAC
CHECKED BY: RWS
DRAWING SCALE(S):

Westland Resources
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

REVISIONS

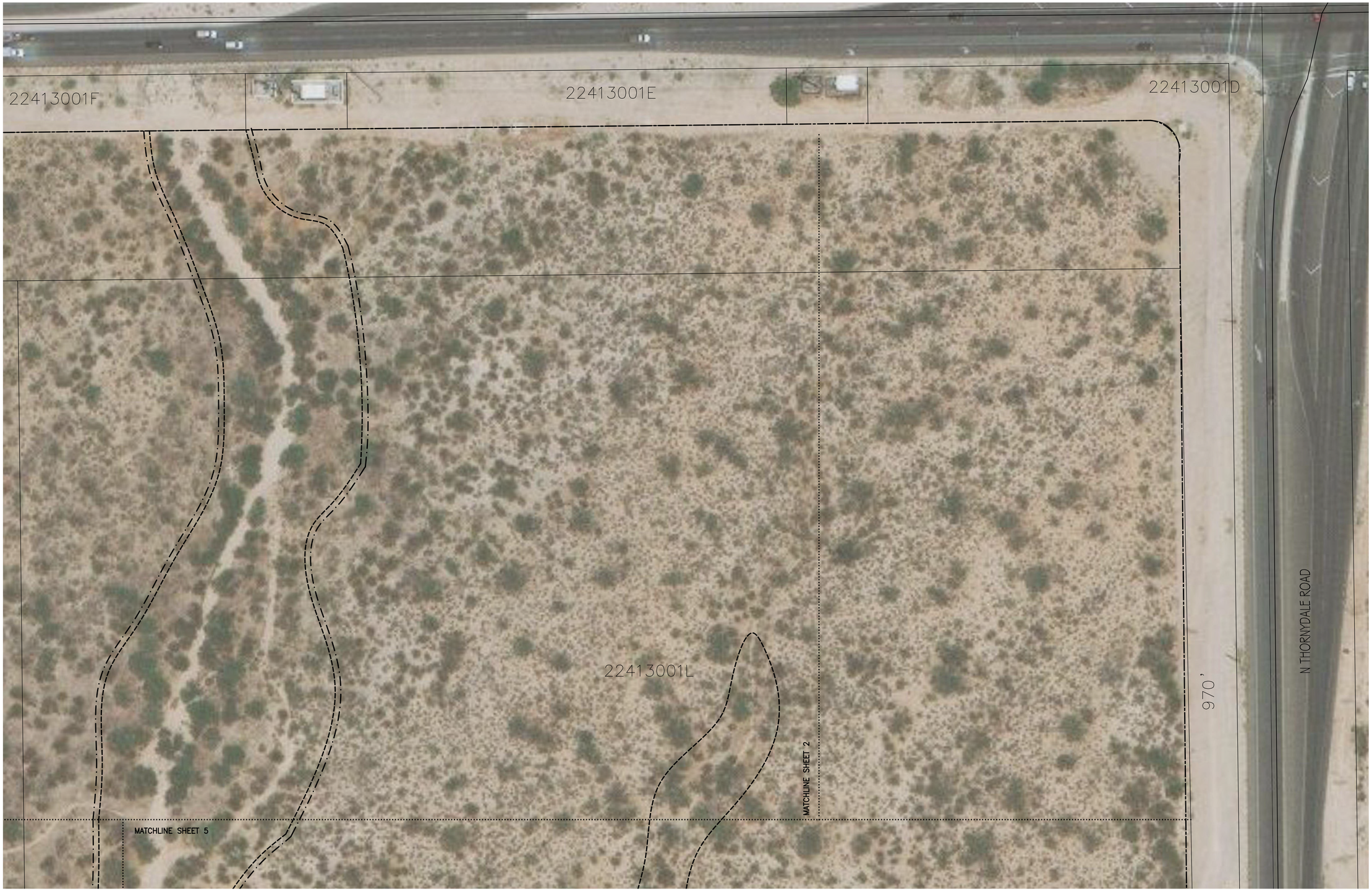
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TANGERINE AND THORNYDALE ROADS

SITE RESOURCE INVENTORY

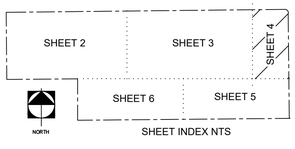
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SHEET NO.
SHEET 3 OF 6

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north

40' 0' 40'
SCALE: 1" = 40'



SHEET INDEX NTS

LEGEND

PROJECT BOUNDARY
PARCEL BOUNDARY
SHEET MATCHLINE
RIPARIAN AREA
WILDLIFE CORRIDOR

DESIGNED BY: RAC
DRAWN BY: RAC
CHECKED BY: RWS
DRAWING SCALE(S):

Westland Resources
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

REVISIONS

NO.	BY	DESCRIPTION	APP'D	DATE

TANGERINE AND THORNYDALE ROADS
SITE RESOURCE INVENTORY

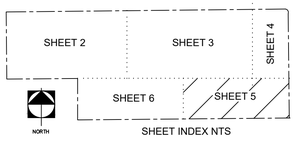
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PROJECT NUMBER: 2223.01
SHEET NO. SHEET 4 OF 6

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north

40' 0' 40'
SCALE: 1" = 40'



LEGEND

PROJECT BOUNDARY
SHEET MATCHLINE
WILDLIFE CORRIDOR
PARCEL BOUNDARY
RIPARIAN AREA

DESIGNED BY: RAC
DRAWN BY: RAC
CHECKED BY: RWS
DRAWING SCALE(S):

Westland Resources
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

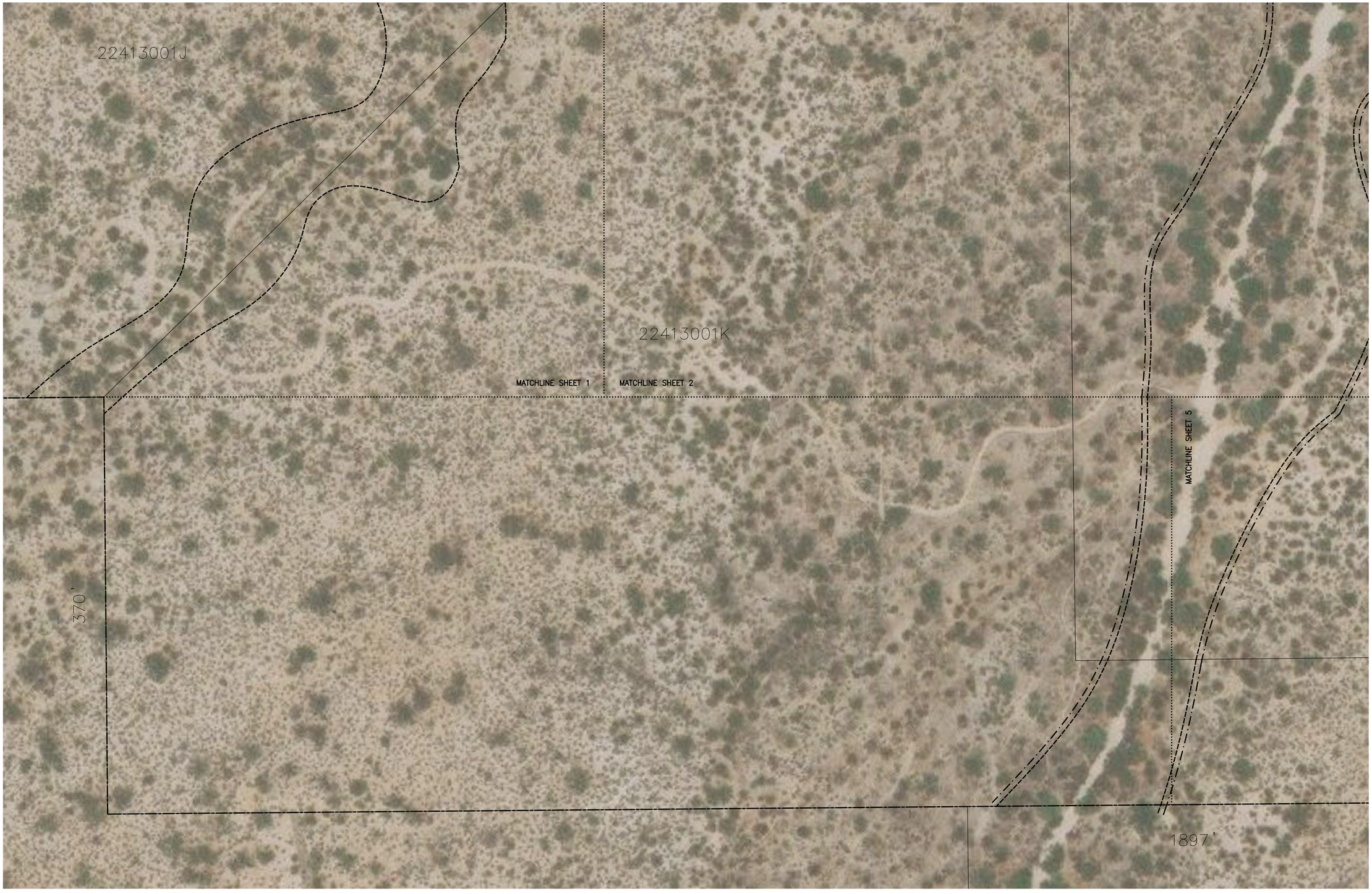
REVISIONS

NO.	BY	DESCRIPTION	APP'D	DATE

TANGERINE AND THORNYDALE ROADS
SITE RESOURCE INVENTORY

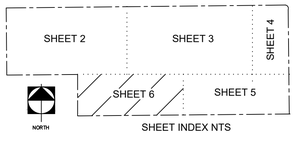
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PROJECT NUMBER: 2223.01
SHEET NO. SHEET 5 OF 6

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north

40' 0' 40'
SCALE: 1" = 40'



SHEET INDEX NTS

LEGEND

PROJECT BOUNDARY
SHEET MATCHLINE
WILDLIFE CORRIDOR
PARCEL BOUNDARY
RIPARIAN AREA

DESIGNED BY: RAC
DRAWN BY: RAC
CHECKED BY: RWS
DRAWING SCALE(S):

Westland Resources
4001 E. Paradise Falls Drive
Tucson, Arizona 85712
(520) 206-9585

REVISIONS

NO.	BY	DESCRIPTION	APP'D	DATE

TANGERINE AND THORNYDALE ROADS
SITE RESOURCE INVENTORY

PLAN DATE: FEBRUARY 26, 2021
PROJECT NUMBER: 2223.01
SHEET NO. SHEET 6 OF 6

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Arizona Environmental Online Review Tool Report

Arizona Game and Fish Department Mission
To conserve Arizona's diverse wildlife resources and manage for safe, compatible outdoor recreation opportunities for current and future generations.

Project Name:
Thornydale and Tangerine

Project Description:
Residential Development

Project Type:
Development Within Municipalities (Urban Growth), Residential subdivision and associated infrastructure, New construction

Contact Person:
Gabrielle Diamond

Organization:
Private Consulting Firm

On Behalf Of:
CONSULTING

Project ID:
HGIS-13252

Please review the entire report for project type and/or species recommendations for the location information entered. Please retain a copy for future reference.

Disclaimer:

1. This Environmental Review is based on the project study area that was entered. The report must be updated if the project study area, location, or the type of project changes.
2. This is a preliminary environmental screening tool. It is not a substitute for the potential knowledge gained by having a biologist conduct a field survey of the project area. This review is also not intended to replace environmental consultation (including federal consultation under the Endangered Species Act), land use permitting, or the Departments review of site-specific projects.
3. The Departments Heritage Data Management System (HDMS) data is not intended to include potential distribution of special status species. Arizona is large and diverse with plants, animals, and environmental conditions that are ever changing. Consequently, many areas may contain species that biologists do not know about or species previously noted in a particular area may no longer occur there. HDMS data contains information about species occurrences that have actually been reported to the Department. Not all of Arizona has been surveyed for special status species, and surveys that have been conducted have varied greatly in scope and intensity. Such surveys may reveal previously undocumented population of species of special concern.
4. HabiMap Arizona data, specifically Species of Greatest Conservation Need (SGCN) under our State Wildlife Action Plan (SWAP) and Species of Economic and Recreational Importance (SERI), represent potential species distribution models for the State of Arizona which are subject to ongoing change, modification and refinement. The status of a wildlife resource can change quickly, and the availability of new data will necessitate a refined assessment.

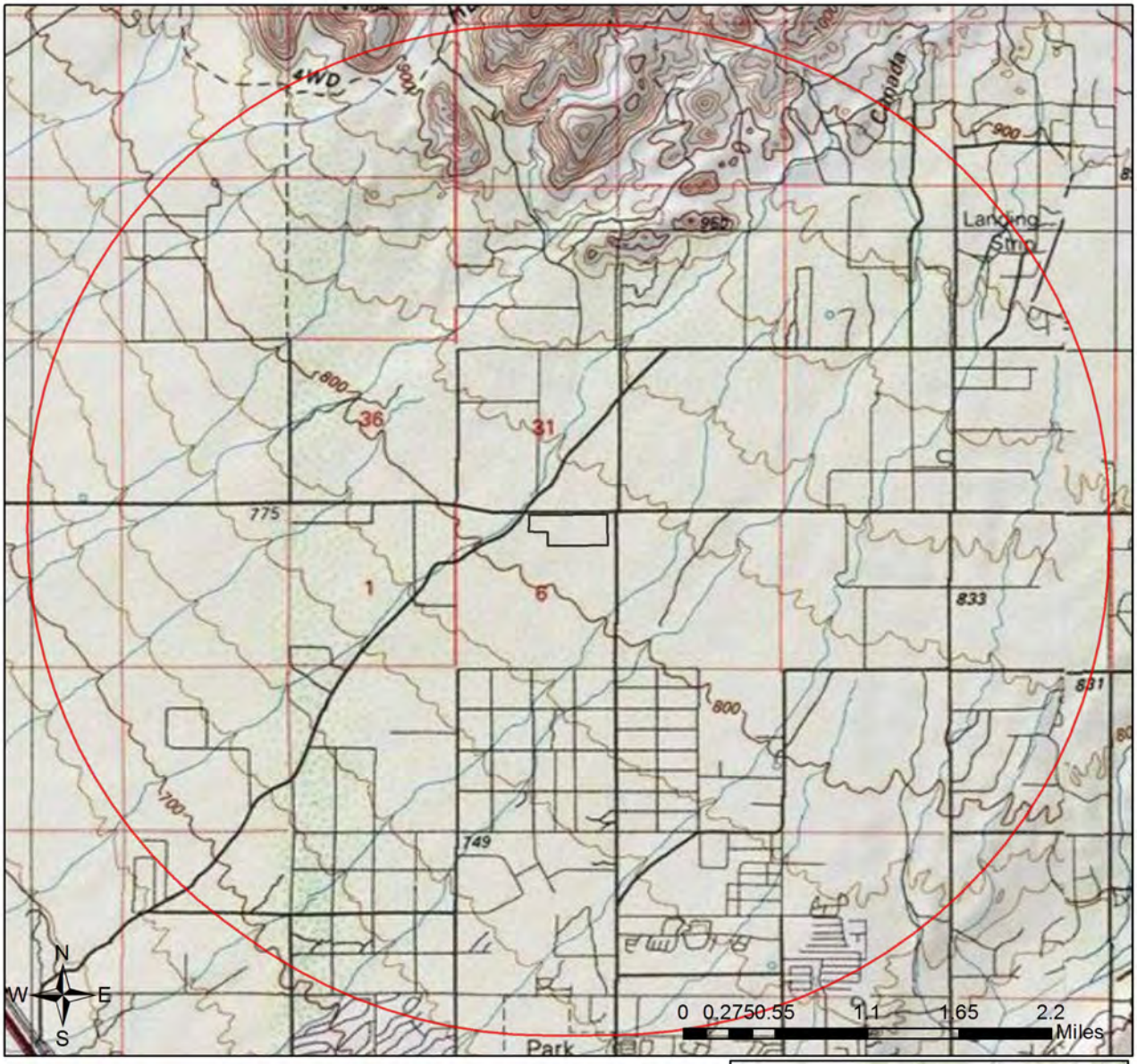
Locations Accuracy Disclaimer:
Project locations are assumed to be both precise and accurate for the purposes of environmental review. The creator/owner of the Project Review Report is solely responsible for the project location and thus the correctness of the Project Review Report content.

Recommendations Disclaimer:

1. The Department is interested in the conservation of all fish and wildlife resources, including those species listed in this report and those that may have not been documented within the project vicinity as well as other game and nongame wildlife.
2. Recommendations have been made by the Department, under authority of Arizona Revised Statutes Title 5 (Amusements and Sports), 17 (Game and Fish), and 28 (Transportation).
3. Potential impacts to fish and wildlife resources may be minimized or avoided by the recommendations generated from information submitted for your proposed project. These recommendations are preliminary in scope, designed to provide early considerations on all species of wildlife.
4. Making this information directly available does not substitute for the Department's review of project proposals, and should not decrease our opportunity to review and evaluate additional project information and/or new project proposals.
5. Further coordination with the Department requires the submittal of this Environmental Review Report with a cover letter and project plans or documentation that includes project narrative, acreage to be impacted, how construction or project activity(s) are to be accomplished, and project locality information (including site map). Once AGFD had received the information, please allow 30 days for completion of project reviews. Send requests to:
   Project Evaluation Program, Habitat Branch
   Arizona Game and Fish Department
   5000 West Carefree Highway
   Phoenix, Arizona 85086-5000
   Phone Number: (623) 236-7600
   Fax Number: (623) 236-7366
   Or
   PEP@azgfd.gov
6. Coordination may also be necessary under the National Environmental Policy Act (NEPA) and/or Endangered Species Act (ESA). Site specific recommendations may be proposed during further NEPA/ESA analysis or through coordination with affected agencies

Thornydale and Tangerine

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 51.06

Lat/Long (DD): 32.4222 / -111.0510

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T12S, R13E

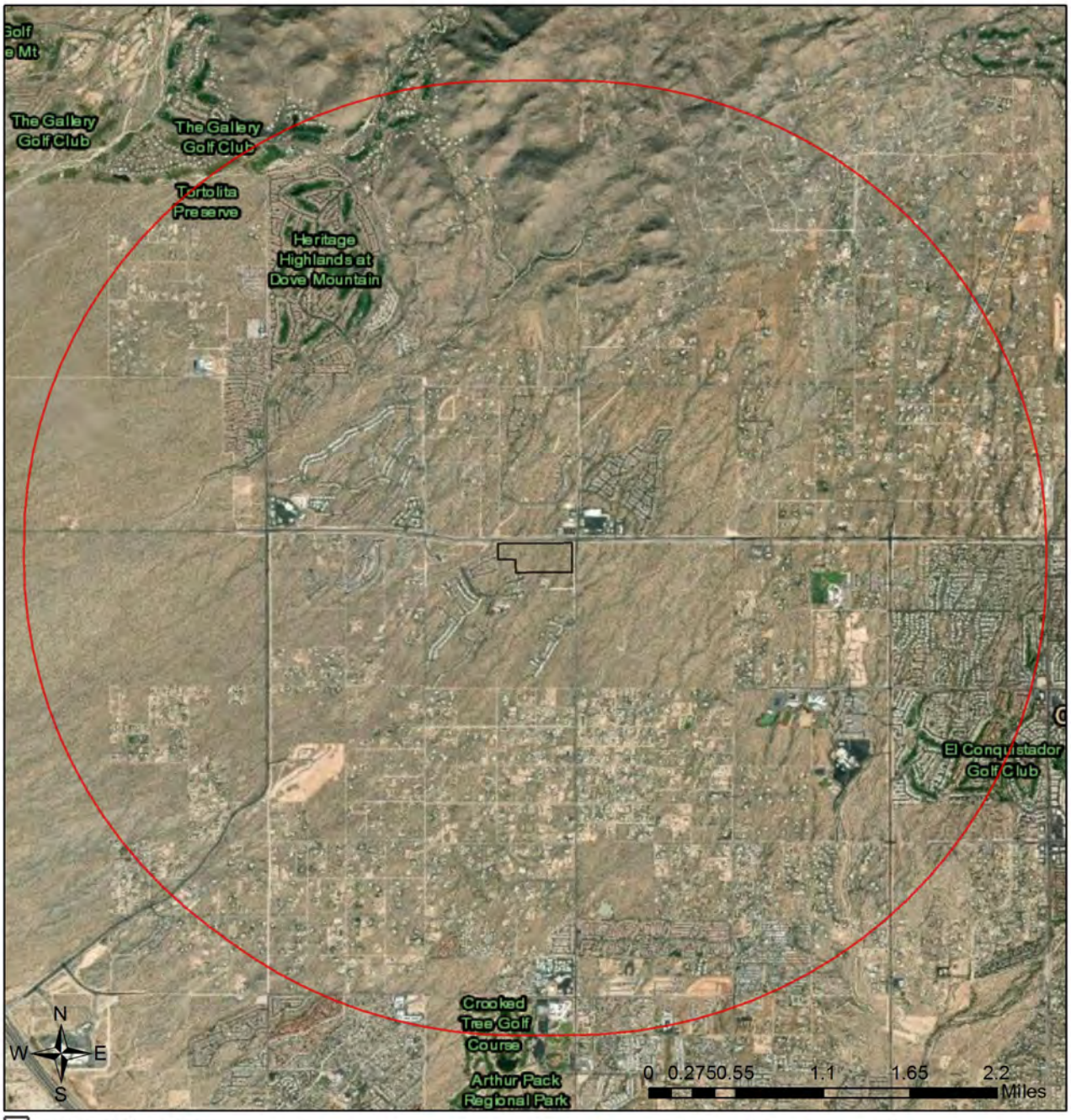
USGS Quad(s): RUELAS CANYON



Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap

Thornydale and Tangerine

Web Map As Submitted By User



Project Boundary

Buffered Project Boundary

Project Size (acres): 51.06

Lat/Long (DD): 32.4222 / -111.0510

County(s): Pima

AGFD Region(s): Tucson

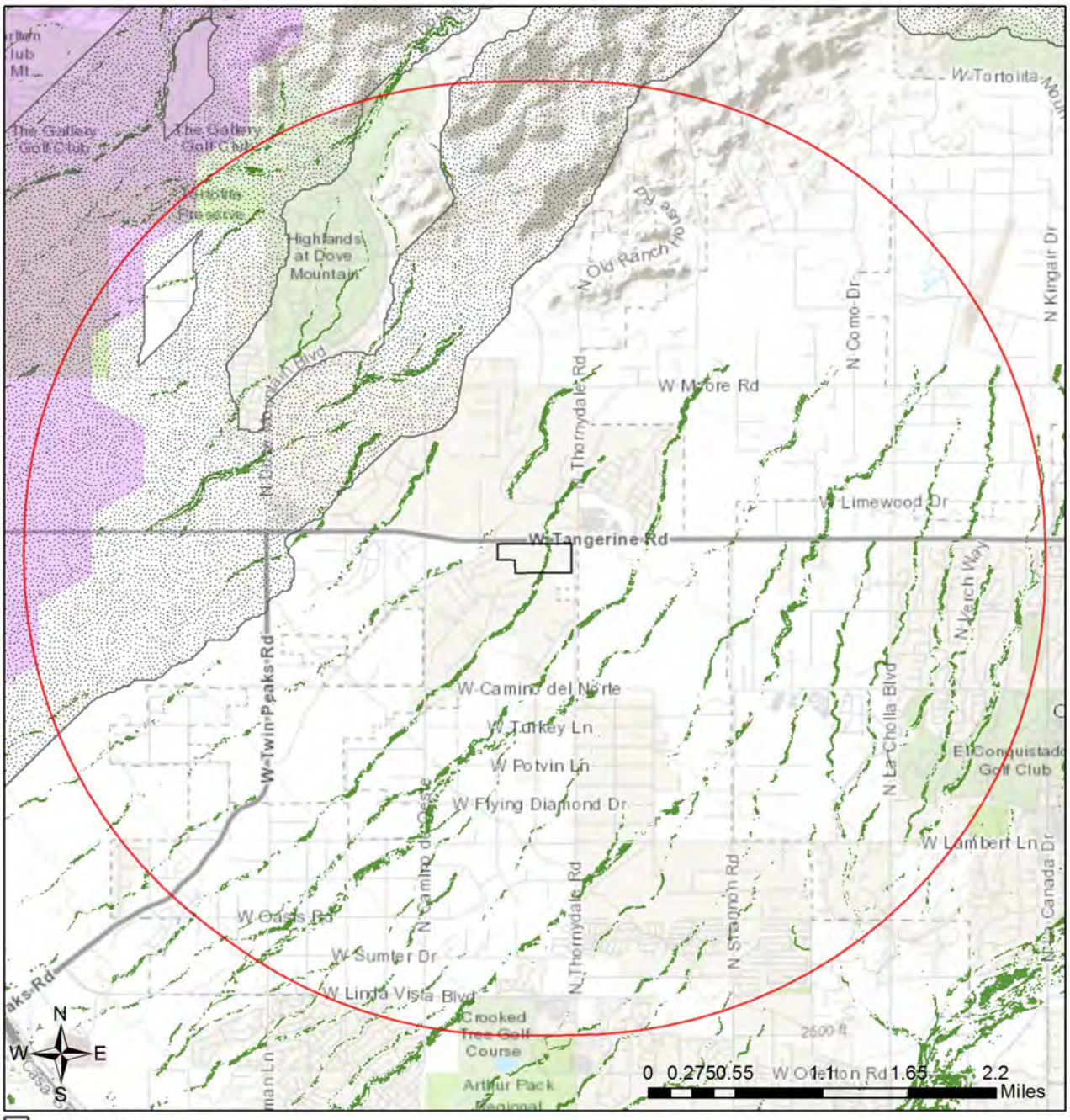
Township/Range(s): T12S, R13E

USGS Quad(s): RUELAS CANYON

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Esri, HERE, Garmin, (c) OpenStreetMap contributors, and the GIS user community

Thornydale and Tangerine

Important Areas



- Project Boundary
- Buffered Project Boundary
- Wildlife Connectivity
- Important Connectivity Zones
- Pinal County Riparian
- Critical Habitat
- Important Bird Areas

Project Size (acres): 51.06

Lat/Long (DD): 32.4222 / -111.0510

County(s): Pima

AGFD Region(s): Tucson

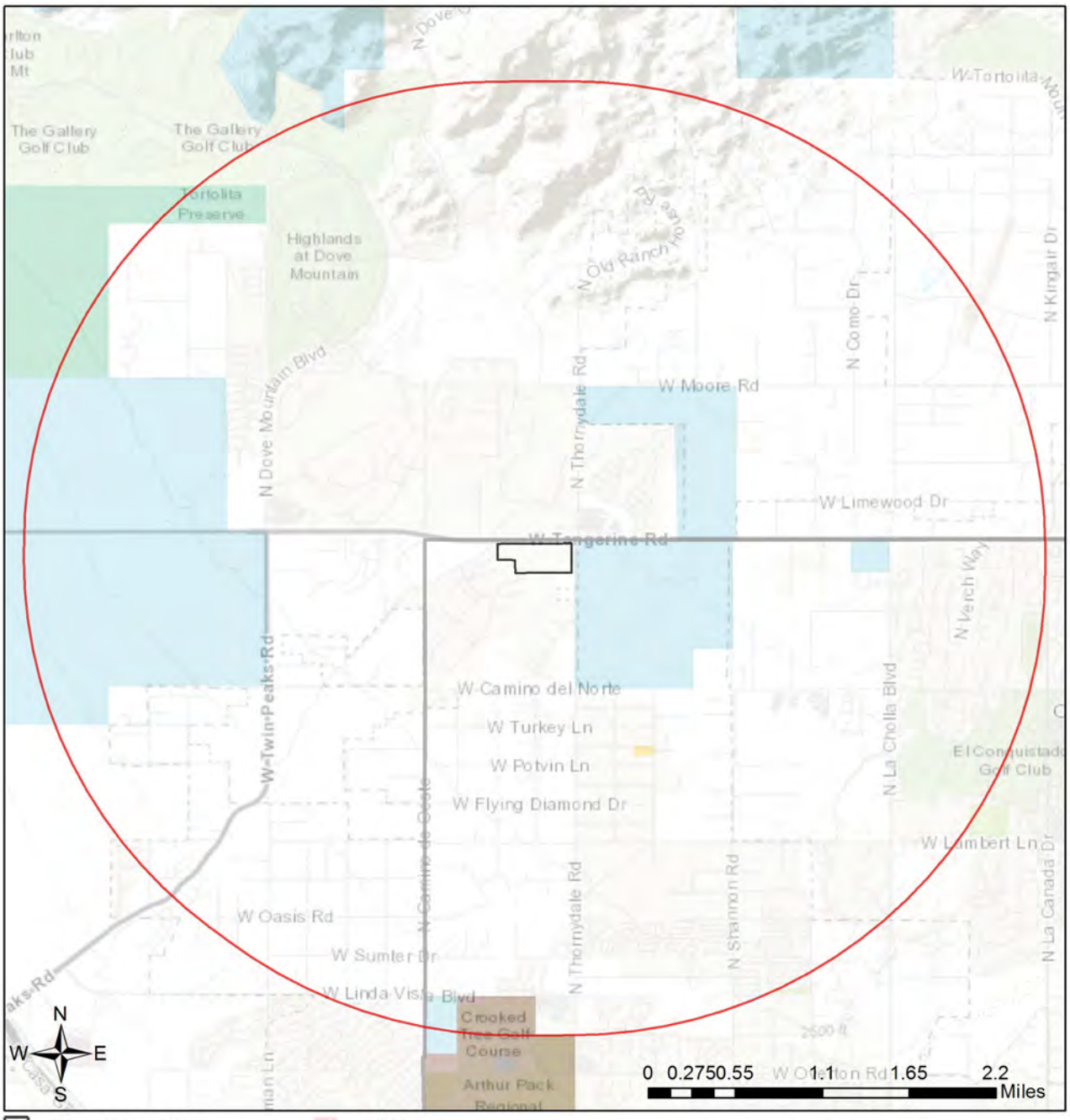
Township/Range(s): T12S, R13E

USGS Quad(s): RUELAS CANYON

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Thornydale and Tangerine

Township/Ranges and Land Ownership



- Project Boundary
- Buffered Project Boundary
- Township/Ranges

Land Ownership

- AZ Game & Fish Dept.
- BLM
- BOR
- Indian Res.
- Military
- Mixed/Other
- National Park/Mon.
- Private
- State & Regional Parks
- State Trust
- US Forest Service
- Wildlife Area/Refuge

Project Size (acres): 51.06
Lat/Long (DD): 32.4222 / -111.0510
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T12S, R13E
USGS Quad(s): RUELAS CANYON

Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Special Status Species Documented within 3 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	SC	S	S		1B
Gopherus morafkai	Sonoran Desert Tortoise	C	S	S		1A
Heloderma suspectum	Gila Monster					1A
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lithobates yavapaiensis	Lowland Leopard Frog	SC	S	S		1A
Tumamoca macdougalii	Tumamoc Globeberry	DL	S	S	SR	

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Special Areas Documented that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Riparian Area	Riparian Area					

Note: Status code definitions can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/statusdefinitions/
.

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Aix sponsa	Wood Duck					1B
Ammospermophilus harrisii	Harris' Antelope Squirrel					1B
Anthus spragueii	Sprague's Pipit	SC				1A
Aspidoscelis stictogramma	Giant Spotted Whiptail	SC	S			1B
Aspidoscelis xanthonota	Red-backed Whiptail	SC	S			1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Calypte costae	Costa's Hummingbird					1C
Chilomeniscus stramineus	Variable Sandsnake					1B
Colaptes chrysoides	Gilded Flicker			S		1B
Coluber bilineatus	Sonoran Whipsnake					1B
Corynorhinus townsendii pallescens	Pale Townsend's Big-eared Bat	SC	S	S		1B
Crotalus tigris	Tiger Rattlesnake					1B
Cynanthus latirostris	Broad-billed Hummingbird		S			1B
Dipodomys spectabilis	Banner-tailed Kangaroo Rat			S		1B
Euderma maculatum	Spotted Bat	SC	S	S		1B
Eumops perotis californicus	Greater Western Bonneted Bat	SC		S		1B
Falco peregrinus anatum	American Peregrine Falcon	SC	S	S		1A
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	SC	S	S		1B
Gopherus morafkai	Sonoran Desert Tortoise	C	S	S		1A
Haliaeetus leucocephalus	Bald Eagle	SC, BGA	S	S		1A

Species of Greatest Conservation Need Predicted that Intersect with Project Footprint as Drawn, based on Predicted Range Models

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Heloderma suspectum	Gila Monster					1A
Incilius alvarius	Sonoran Desert Toad					1B
Lasiurus xanthinus	Western Yellow Bat		S			1B
Leptonycteris yerbabuenae	Lesser Long-nosed Bat	SC				1A
Lepus alleni	Antelope Jackrabbit					1B
Macrotus californicus	California Leaf-nosed Bat	SC		S		1B
Melanerpes uropygialis	Gila Woodpecker					1B
Melospiza lincolnii	Lincoln's Sparrow					1B
Melozone aberti	Abert's Towhee		S			1B
Micrathene whitneyi	Elf Owl					1C
Micruroides euryxanthus	Sonoran Coralsnake					1B
Myiarchus tyrannulus	Brown-crested Flycatcher					1C
Myotis occultus	Arizona Myotis	SC		S		1B
Myotis velifer	Cave Myotis	SC		S		1B
Myotis yumanensis	Yuma Myotis	SC				1B
Nyctinomops femorosaccus	Pocketed Free-tailed Bat					1B
Oreoscoptes montanus	Sage Thrasher					1C
Oreothlypis luciae	Lucy's Warbler					1C
Panthera onca	Jaguar	LE				1A
Peucaea carpalis	Rufous-winged Sparrow					1B
Phrynosoma solare	Regal Horned Lizard					1B
Phyllorhynchus browni	Saddled Leaf-nosed Snake					1B
Progne subis hesperia	Desert Purple Martin			S		1B
Setophaga petechia	Yellow Warbler					1B
Spizella breweri	Brewer's Sparrow					1C
Tadarida brasiliensis	Brazilian Free-tailed Bat					1B
Toxostoma lecontei	LeConte's Thrasher			S		1B
Vireo bellii arizonae	Arizona Bell's Vireo					1B
Vulpes macrotis	Kit Fox	No Status				1B

Species of Economic and Recreation Importance Predicted that Intersect with Project Footprint as Drawn

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Callipepla gambelii	Gambel's Quail					
Odocoileus hemionus	Mule Deer					
Pecari tajacu	Javelina					
Puma concolor	Mountain Lion					
Zenaida asiatica	White-winged Dove					
Zenaida macroura	Mourning Dove					

Project Type: Development Within Municipalities (Urban Growth), Residential subdivision and associated infrastructure, New construction

Project Type Recommendations:
Fence recommendations will be dependant upon the goals of the fence project and the wildlife species expected to be impacted by the project. General guidelines for ensuring wildlife-friendly fences include: barbless wire on the top and bottom with the maximum fence height 42", minimum height for bottom 16". Modifications to this design may be considered for fencing anticipated to be routinely encountered by elk, bighorn sheep or pronghorn (e.g., Pronghorn fencing would require 18" minimum height on the bottom). Please refer to the Department's Fencing Guidelines located on Wildlife Friendly Guidelines page, which is part of the WIldlife Planning button at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

During the planning stages of your project, please consider the local or regional needs of wildlife in regards to movement, connectivity, and access to habitat needs. Loss of this permeability prevents wildlife from accessing resources, finding mates, reduces gene flow, prevents wildlife from re-colonizing areas where local extirpations may have occurred, and ultimately prevents wildlife from contributing to ecosystem functions, such as pollination, seed dispersal, control of prey numbers, and resistance to invasive species. In many cases, streams and washes provide natural movement corridors for wildlife and should be maintained in their natural state. Uplands also support a large diversity of species, and should be contained within important wildlife movement corridors. In addition, maintaining biodiversity and ecosystem functions can be facilitated through improving designs of structures, fences, roadways, and culverts to promote passage for a variety of wildlife. Guidelines for many of these can be found at: https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Consider impacts of outdoor lighting on wildlife and develop measures or alternatives that can be taken to increase human safety while minimizing potential impacts to wildlife. Conduct wildlife surveys to determine species within project area, and evaluate proposed activities based on species biology and natural history to determine if artificial lighting may disrupt behavior patterns or habitat use. Use only the minimum amount of light needed for safety. Narrow spectrum bulbs should be used as often as possible to lower the range of species affected by lighting. All lighting should be shielded, canted, or cut to ensure that light reaches only areas needing illumination.

Minimize the potential introduction or spread of exotic invasive species, including aquatic and terrestrial plants, animals, insects and pathogens. Precautions should be taken to wash and/or decontaminate all equipment utilized in the project activities before entering and leaving the site. See the Arizona Department of Agriculture website for a list of prohibited and restricted noxious weeds at https://www.invasivespeciesinfo.gov/unitedstates/az.shtml and the Arizona Native Plant Society https://aznps.com/invas for recommendations on how to control. To view a list of documented invasive species or to report invasive species in or near your project area visit iMapInvasives - a national cloud-based application for tracking and managing invasive species at https://imap.natureserve.org/imap/services/page/map.html.

- To build a list: zoom to your area of interest, use the identify/measure tool to draw a polygon around your area of interest, and select “See What’s Here” for a list of reported species. To export the list, you must have an account and be logged in. You can then use the export tool to draw a boundary and export the records in a csv file.

The construction or maintenance of water developments should include: incorporation of aspects of the natural environment and the visual resources, maintaining the water for a variety of species, water surface area (e.g., bats require a greater area due to in-flight drinking), accessibility, year-round availability, minimizing potential for water quality problems, frequency of flushing, shading of natural features, regular clean-up of debris, escape ramps, minimizing obstacles, and minimizing accumulation of silt and mud.

Minimization and mitigation of impacts to wildlife and fish species due to changes in water quality, quantity, chemistry, temperature, and alteration to flow regimes (timing, magnitude, duration, and frequency of floods) should be evaluated. Minimize impacts to springs, in-stream flow, and consider irrigation improvements to decrease water use. If dredging is a project component, consider timing of the project in order to minimize impacts to spawning fish and other aquatic species (include spawning seasons), and to reduce spread of exotic invasive species. We recommend early direct coordination with Project Evaluation Program for projects that could impact water resources, wetlands, streams, springs, and/or riparian habitats.

The Department recommends that wildlife surveys are conducted to determine if noise-sensitive species occur within the project area. Avoidance or minimization measures could include conducting project activities outside of breeding seasons.

Based on the project type entered, coordination with State Historic Preservation Office may be required (http://azstateparks.com/SHPO/index.html).

Trenches should be covered or back-filled as soon as possible. Incorporate escape ramps in ditches or fencing along the perimeter to deter small mammals and herptefauna (snakes, lizards, tortoise) from entering ditches.

Communities can actively support the sustainability and mobility of wildlife by incorporating wildlife planning into their regional/comprehensive plans, their regional transportation plans, and their open space/conservation land system programs. An effective approach to wildlife planning begins with the identification of the wildlife resources in need of protection, an assessment of important habitat blocks and connective corridors, and the incorporation of these critical wildlife components into the community plans and programs. Community planners should identify open spaces and habitat blocks that can be maintained in their area, and the necessary connections between those blocks to be preserved or protected. Community planners should also work with State and local transportation planning entities, and planners from other communities, to foster coordination and cooperation in developing compatible development plans to ensure wildlife habitat connectivity. The Department's guidelines for incorporating wildlife considerations into community planning and developments can be found on the Widlife Friendly Guidelines portion of the Wildlife Planning page at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Design culverts to minimize impacts to channel geometry, or design channel geometry (low flow, overbank, floodplains) and substrates to carry expected discharge using local drainages of appropriate size as templates. Reduce/minimize barriers to allow movement of amphibians or fish (e.g., eliminate falls). Also for terrestrial wildlife, washes and stream corridors often provide important corridors for movement. Overall culvert width, height, and length should be optimized for movement of the greatest number and diversity of species expected to utilize the passage. Culvert designs should consider moisture, light, and noise, while providing clear views at both ends to maximize utilization. For many species, fencing is an important design feature that can be utilized with culverts to funnel wildlife into these areas and minimize the potential for roadway collisions. Guidelines for culvert designs to facilitate wildlife passage can be found on the home page of this application at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/.

Based on the project type entered, coordination with Arizona Department of Environmental Quality may be required (http://www.azdeq.gov/).

Based on the project type entered, coordination with Arizona Department of Water Resources may be required (https://new.azwater.gov/).

Based on the project type entered, coordination with U.S. Army Corps of Engineers may be required (http://www.usace.army.mil/)

Based on the project type entered, coordination with County Flood Control district(s) may be required.

Development plans should provide for open natural space for wildlife movement, while also minimizing the potential for wildlife-human interactions through design features. Please contact Project Evaluation Program for more information on living with urban wildlife at PEP@azgfd.gov or at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/ and https://www.azgfd.com/Wildlife/LivingWith.

Vegetation restoration projects (including treatments of invasive or exotic species) should have a completed site-evaluation plan (identifying environmental conditions necessary to re-establish native vegetation), a revegetation plan (species, density, method of establishment), a short and long-term monitoring plan, including adaptive management guidelines to address needs for replacement vegetation.

The Department requests further coordination to provide project/species specific recommendations, please contact Project Evaluation Program directly at PEP@azgfd.gov.

Project Location and/or Species Recommendations:
HDMS records indicate that one or more native plants listed on the **Arizona Native Plant Law and Antiquities Act** have been documented within the vicinity of your project area. Please contact:
Arizona Department of Agriculture
1688 W Adams St.
Phoenix, AZ 85007
Phone: 602.542.4373
https://agriculture.az.gov/sites/default/files/Native%20Plant%20Rules%20-%20AZ%20Dept%20of%20Ag.pdf starts on page 44

HDMS records indicate that one or more **Listed, Proposed, or Candidate** species or **Critical Habitat** (Designated or Proposed) have been documented in the vicinity of your project. The Endangered Species Act (ESA) gives the US Fish and Wildlife Service (USFWS) regulatory authority over all federally listed species. Please contact USFWS Ecological Services Offices at http://www.fws.gov/southwest/es/arizona/ or:

Phoenix Main Office
9828 North 31st Avenue #C3
Phoenix, AZ 85051-2517
Phone: 602-242-0210
Fax: 602-242-2513

Tucson Sub-Office
201 N. Bonita Suite 141
Tucson, AZ 85745
Phone: 520-670-6144
Fax: 520-670-6155

Flagstaff Sub-Office
SW Forest Science Complex
2500 S. Pine Knoll Dr.
Flagstaff, AZ 86001
Phone: 928-556-2157
Fax: 928-556-2121

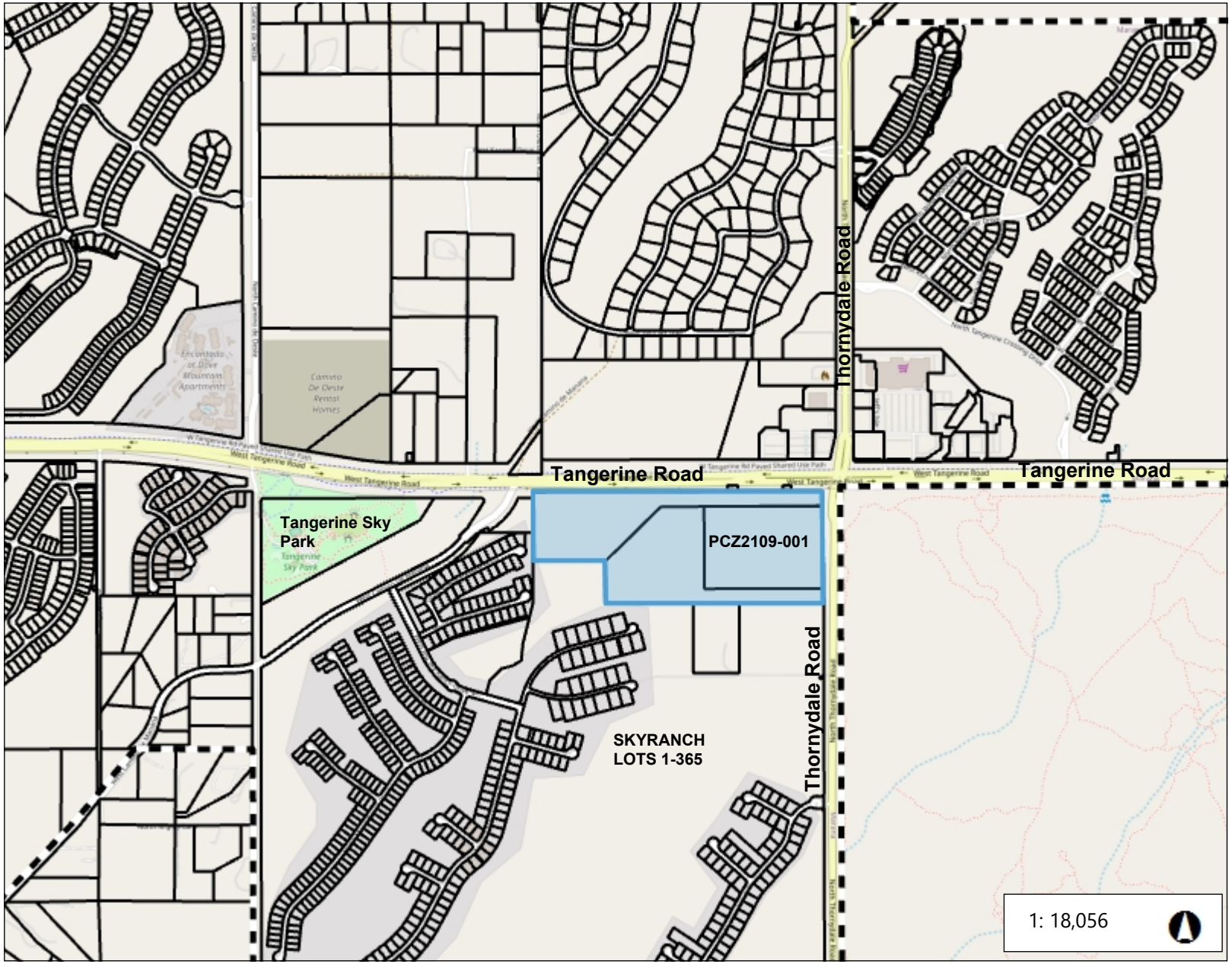
HDMS records indicate that **Sonoran Desert Tortoise** have been documented within the vicinity of your project area. Please review the Tortoise Handling Guidelines found at: https://www.azgfd.com/wildlife/nongamemanagement/tortoise/

HDMS records indicate that **Lesser Long-nosed Bats** have been documented within the vicinity of your project area. Please review the Lesser Long-nosed Bat Management Guidelines at: https://s3.amazonaws.com/azgfd-portal-wordpress/PortalImages/files/wildlife/planningFor/wildlifeFriendlyGuidelines/FINALlecuyeHabitatGdln.pdf

This review has identified **riparian areas** within the vicinity of your project. During the planning stage of your project, avoid, minimize, or mitigate any potential impacts to riparian areas identified in this report. Riparian areas play an important role in maintaining the functional integrity of the landscape, primarily by acting as natural drainages that convey water through an area, thereby reducing flood events. In addition, riparian areas provide important movement corridors and habitat for fish and wildlife. Riparian areas are channels that contain water year-round or at least part of the year. Riparian areas also include those channels which are dry most of the year, but may contain or convey water following rain events. All types of riparian areas offer vital habitats, resources, and movement corridors for wildlife. The Pinal County Comprehensive Plan (i.e. policies *6.1.2.1* and *7.1.2.4*), Open Space and Trails Master Plan, Drainage Ordinance, and Drainage Design Manual all identify riparian area considerations, guidance, and policies. Guidelines to avoid, minimize, or mitigate impacts to riparian habitat can be found at https://www.azgfd.com/wildlife/planning/wildlifeguidelines/. Based on the project type entered, further consultation with the Arizona Game and Fish Department and Pinal County may be warranted.

Town of Marana Planning

PCZ2109-001 SWC Tangerine Road and Thornydale Road Specific Plan





Legend

- Marana Town Limits
- Parcel Labels
- Parcels (Black)

Notes

0.6 0 0.28 0.6 Miles

WGS_1984_Web_Mercator_Auxiliary_Sphere

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This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

Development Services / maranaplanning@maranaAZ.gov
11555 West Civic Center Drive / Marana, AZ 85653
Ph (520) 382-2600 / Fax (520) 382-2641 / maranaAZ.gov

PROJECT APPLICATION

APPLICATION TYPE

❑ Annexation	❑ Development Plan	❑ Development Plan Package	❑ General Plan Amendment
❑ Rezone	❑ Minor Land Division	❑ Significant Land Use Change	❑ Conditional Use Permit
☒ Specific Plan	❑ Landscape Plan	❑ Native Plant Plan/Exception	❑ SWPP
❑ Variance	❑ Hydraulic Model	❑ Sewer Capacity Assurance	❑ Sign Program
❑ Plat	❑ Improvement Plan	❑ Report (Type): _____	❑ Other: _____

PROJECT INFORMATION

Project Name: SWC Tangerine & Thornydale Specific Plan	
Description of Project: Specific Plan for mix of residential & commercial	Number of Lots: approx. 100 SFR
Parcel No.(s): 224-13-001J, -001L, -001K	Gross Area (Acres): 50.92 acres
Project Address: 11837, 11913 & 11971 N. Thornydale Rd.; 3851 W. Tangerine Rd.	
Ref. Project No.: (see SWC Tangerine & Thornydale GPA, submitted under separate cover)	

CONTACT INFORMATION

Owner: H3T Partners, LLC & Silverbell Properties, LLC	Contact Name: Kegan Tom		
Address: 2625 N. Silverbell Rd.	City: Tucson	State: AZ	Zip: 85745
Email: ktom@architecturecompany.net	Phone No.: (520) 622-4506		
Applicant: Lazarus & Silvyn, P.C.	Contact Name: Robin Large & Keri Silvyn		
Address: 5983 E. Grant Rd., Ste. 290	City: Tucson	State: AZ	Zip: 85712
Email: RLarge@LSLawAZ.com	Phone No.: (520) 207-4464		
Consultant/Engineer: Rick Engineering Company	Contact Name: Chuck Martin		
Address: 3945 E. Ft. Lowell Rd.	City: Tucson	State: AZ	Zip: 85712
Email: cmartin@rickengineering.com	Phone No.: (520) 795-1000		

OWNER/APPLICANT AUTHORIZATION

I hereby certify that the information set forth in this application are true and correct to the best of my knowledge and that I am either the owner of the property or that I have been authorized in writing by the owner to file this application. (If applicant is not the owner, attach written authorization from the owner.)

Robin Large		09/01/2021
Applicant Name (PRINT)	Signature	Date

FOR OFFICIAL USE ONLY

Project No._____ **Date Received**_____

Revision Date 03/29/2019

Council-Regular Meeting **A3**

Meeting Date: 09/20/2022

To: Mayor and Council

Submitted For: Yiannis Kalaitzidis, Finance Director

From: Libby Shelton, Deputy Town Attorney

Date: September 20, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: PUBLIC HEARING: Ordinance No. 2022.015: Relating to Transaction Privilege Tax; rescinding Ordinance No. 2022.011; amending the Town Tax Code by decreasing the tax rate on the sale of manufactured buildings under Town Tax Code Section 8-427 by one-half cent; and designating an effective date (Yiannis Kalaitzidis)

Discussion:

At the October 19, 2021 Council Meeting, Town Council approved Ordinance No. 2021.022 amending the Town Tax Code by increasing the tax rate on certain activities by one-half cent for the design and construction, and fixtures, furniture and equipment, for a new Multi-generational Community Center and Aquatic Center. Ordinance 2021.022 provides that certain classifications are exempt from the transaction privilege tax rate increase.

The exempted classifications are:

- Construction Contracting under Town Tax Code Sections 8-415, 8-416, 8-417
- Hotel/Motel – Additional Tax under Town Tax Code Section 8-447
- Mining under Town Tax Code Section 8-432
- Telecommunication Services under Town Tax Code Section 8-470
- Utility Services under Town Tax Code Section 8-480

Ordinance 2021.022 did not exempt manufactured buildings, under Town Tax Code Section 8-427, from the tax increase.

Ordinance 2021.022 also adopted Local Option V of the Model City Tax Code to impose an alternate tax structure on sales/purchases of "big ticket" items and kept the lower tax rate of 2% for any single item purchase over $5,000. Under the current Town Tax Code, manufactured buildings would not qualify as a "big ticket" item because they are not "tangible personal property" for application of the retail sales tax. Thus, manufactured buildings do not qualify for the lower tax rate of 2% as a "big ticket" item.

Since manufactured buildings were not included in the exemptions and also would not qualify for the lower tax rate of 2% under the current Town Tax Code, Town staff is recommending manufactured buildings not have to pay the one-half cent tax increase.

At the August 3, 2022, Council Meeting, the Town Council approved Ordinance No. 2022.011 which sought to amend Ordinance No. 2021.022 by adding manufactured buildings to the listed exemptions from the sales tax increase, thereby allowing the sales of manufactured buildings to be taxed at the lower rate of two percent beginning November 1, 2022. After the August 3, 2022 Council Meeting, the Arizona Department of Revenue (ADOR) contacted Town staff and expressed concern that Ordinance 2022.011 "amended" Ordinance No. 2021.022, rather than just reducing the tax rate on manufactured buildings from two-and-a-half percent to two percent beginning November 1, 2022. ADOR believes that by only amending the original Ordinance No. 2021.022 and exempting manufactured buildings from the sales tax increase effective January 1, 2022, it does not accurately reflect that the increased sales tax rate did apply to the sale of manufactured buildings beginning on January 1, 2022. ADOR requested that Town staff present Town Council with a new ordinance that decreased the transaction privilege tax rate on the sale of manufactured buildings to two percent, rather than amending Ordinance No. 2021.022 to exempt manufactured buildings from the sales tax increase.

After the public hearing this evening, staff is seeking Council's consideration of the proposed ordinance which rescinds Ordinance No. 2022.011 and reduces the transaction privilege tax rate on the sale of manufactured buildings, pursuant to Town Tax Code Section 8-427, from two-and-a-half percent to two percent effective December 1, 2022. Should the Ordinance be approved, Staff will provide notice to the Municipal Tax Code Commission and the Arizona Department of Revenue within 10 days of approval (A.R.S. §42-6052(I)).

Financial Impact:

The financial impact of excluding manufactured buildings from the one-half cent tax is anticipated to be immaterial when compared to overall tax collections and can be absorbed through other revenue variances. If approved, however, the exemption provided may increase interest for consumers to "shop local" for Manufactured Buildings in Marana and thereby support businesses in our community.

Staff Recommendation:

Staff recommends approval of the proposed Ordinance.

Suggested Motion:

I move to adopt Ordinance No. 2022-015, rescinding Ordinance No. 2022.011 and amending the Town Tax Code by decreasing the tax rate on the sale of manufactured buildings under Town Tax Code Section 8-427 by one-half cent; and designating an effective date

---

Attachments

Ordinance No. 2022.015

MARANA ORDINANCE NO. 2022.015

RELATING TO TRANSACTION PRIVILEGE TAX; RESCINDING ORDINANCE NO. 2022.011; AMENDING THE TOWN TAX CODE BY DECREASING THE TAX RATE ON THE SALE OF MANUFACTURED BUILDINGS UNDER TOWN TAX CODE SECTION 8-427 BY ONE-HALF CENT; AND DESIGNATING AN EFFECTIVE DATE

WHEREAS A.R.S. §42-6002 provides a procedure for the levy of transaction privilege taxes by a city or town; and

WHEREAS A.R.S. §9-240 provides that the Town Council shall have control of the finances of the town; and

WHEREAS the Town Council has adopted the Model City Tax Code as defined by A.R.S. §42-6051; and

WHEREAS the Town Council adopted title 8 of the Marana Town Code, adopting the tax code of the Town of Marana ("Town Tax Code") and any amendments to it via Ordinance No. 96.03, which has been amended from time to time; and

WHEREAS the Town Council adopted Ordinance No. 2021.022 on October 19, 2021, amending the Town Tax Code by increasing the tax rate on certain activities by one-half cent effective January 1, 2022, to fund the new multi-generational Community Center and Aquatic Center; and

WHEREAS Section 1 of Ordinance No. 2021.022 exempted several enumerated activities from the one-half cent tax increase; and

WHEREAS the Town Council adopted Ordinance No. 2022.011 on August 3, 2022, adding the sale of manufactured buildings under Town Tax Code Section 8-427 to the list of activities exempted from the one-half cent tax increase, with an intended effective date of November 1, 2022; and

WHEREAS following the adoption of Ordinance No. 2022.011, the Arizona Department of Revenue expressed concern that Ordinance No. 2022.011 amended Ordinance No. 2021.022, which was effective January 1, 2022, rather than decreasing the transaction privilege tax rate on manufactured buildings by one-half cent beginning November 1, 2022; and

WHEREAS the Town Council finds that it is in the best interests of the community to rescind Ordinance No. 2022.011 and decrease the tax rate on the sale of manufactured homes by one-half cent by this ordinance.

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, as follows:

Section 1. Marana Ordinance No. 2022.011 is hereby rescinded.

Section 2. The tax rate for the sale of manufactured buildings under Marana Tax Code Section 8-427 is decreased from two-and-a-half percent to two percent.

Section 3. The various Town officers and employees are authorized and directed to perform all acts necessary or desirable to give effect to this ordinance.

Section 4. All ordinances, resolutions, or motions and parts of ordinances, resolutions, or motions of the Council in conflict with the provisions of this ordinance are hereby repealed, effective as of the effective date of this ordinance.

Section 5. If any section, subsection, sentence, clause, phrase, or portion of this ordinance is for any reason held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, the decision shall not affect the validity of the remaining portions of this ordinance.

Section 6. This ordinance shall become effective on December 1, 2022.

PASSED AND ADOPTED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, this 20th day of September, 2022.

_____
Mayor Ed Honea

ATTEST:

_____
David L. Udall, Town Clerk

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

Council-Regular Meeting **A4**

Meeting Date: 09/20/2022

To: Mayor and Council

Submitted For: Fausto Burruel, Public Works Director

From: Fausto Burruel, Public Works Director

Date: September 20, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: Resolution No. 2022-100: Relating to Development; adopting the 2022 Land Use Assumptions, the 2022 Streets Facilities Infrastructure Improvements Plan, the 2022 Parks Infrastructure Improvements Plan, the 2022 Water Facilities Infrastructure Improvements Plan, and the 2022 Wastewater Facilities Infrastructure Improvements Plan supporting development impact fees for Streets, Parks, Water, and Sewer (Fausto Burruel, Jim Conroy, Jing Luo)

Discussion:

Town staff is currently working to update the Town's impact fees for streets, parks, water, and wastewater. The Town last updated its impact fees in 2017. New infrastructure needs related to newly revised land use assumptions and growth projections have necessitated the review and update to all of the Town's impact fees. Moreover, state law requires the Town to update its Land Use Assumptions (LUA) and Infrastructure Improvements Plans (IIP) at least every 5 years.

Draft reports for Land Use Assumptions and Infrastructure Improvements Plans were posted on the Town's website and released to the public on May 13, 2022, and a public hearing was held before Council on August 3, 2022.

Based on staff and consultant analysis of stakeholder feedback on the draft reports, the Town's consultants have made various revisions to the Land Use Assumptions and the Streets and Parks IIPs. The changes are relatively minor in nature and

include correcting clerical errors and adding additional text for clarification purposes. The changes to the Parks IIP also include allocating a portion of parks infrastructure costs and fees to non-residential development. The changes are highlighted on draft LUA and IIPs included in the agenda packet, and will be discussed during the meeting. Clean versions of all documents are also attached for adoption.

Adoption of the Land Use Assumptions and IIPs will provide the necessary background documents for formal impact fee calculations. Town staff will then continue with the formal process as dictated by state law for impact fee adoption.

Financial Impact:

This resolution does not have an immediate financial impact, but it will have an impact on the development and update of development impact fees which will be established in the near future.

Staff Recommendation:

Staff recommends adoption of Resolution No. 2022-100, adopting the Land Use Assumptions and Infrastructure Improvement plans for Streets, Parks, Water and Wastewater.

Suggested Motion:

I move to adopt Resolution No. 2022-100, adopting the Land Use Assumptions and Infrastructure Improvement plans for Streets, Parks, Water and Wastewater.

Attachments

Resolution No. 2022-100
Final Land Use Assumptions Report
Final Land Use Assumptions
Final Streets IIP Report
Final Streets IIP
Final Parks IIP Report
Final Parks IIP
Final Water IIP
Final Sewer IIP Report
LUA and IIP Presentation

MARANA RESOLUTION NO. 2022-100

RELATING TO DEVELOPMENT; ADOPTING THE 2022 LAND USE ASSUMPTIONS, THE 2022 STREETS FACILITIES INFRASTRUCTURE IMPROVEMENTS PLAN, THE 2022 PARKS INFRASTRUCTURE IMPROVEMENTS PLAN, THE 2022 WATER FACILITIES INFRASTRUCTURE IMPROVEMENTS PLAN, AND THE 2022 WASTEWATER FACILITIES INFRASTRUCTURE IMPROVEMENTS PLAN SUPPORTING DEVELOPMENT IMPACT FEES FOR STREETS, PARKS, WATER, AND SEWER

WHEREAS the Town has commissioned studies to update its development impact fees authorized by the Arizona municipal development impact fee enabling statute, A.R.S. § 9-463.05, to assess and collect development impact fees to offset costs to the Town associated with providing necessary public services to a development; and

WHEREAS the draft reports containing the findings of the studies were posted on the Town's website and released to the public no later than June 3, 2022; and

WHEREAS the Town Council held a public hearing on the studies on August 3, 2022; and

WHEREAS the Town Council finds this resolution to be in the best interests of the Town and its citizens.

NOW, THEREFORE, BE IT RESOLVED by the Mayor and Council of the Town of Marana, Arizona, adopting the following reports, full copies of which were included in the Town Council's agenda materials for the August 3, 2022 and September 20, 2022 meetings:

1. "Town of Marana Impact Fee Study Land Use Assumptions Public Report Final" dated September 20, 2022

2. "Town of Marana Impact Fee Study Streets Facilities Infrastructure Improvements Plan Public Report Final" dated September 20, 2022

3. "Town of Marana Impact Fee Study Update and Parks Infrastructure Improvement Plan Public Report Final" dated September 20, 2022

4. "Town of Marana Impact Fee Study Wastewater Facilities Infrastructure Improvements Plan Public Report Final" dated September 20, 2022
5. "Town of Marana Impact Fee Study Water Facilities Infrastructure Improvements Plan Public Report Final" dated September 20, 2022

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 20th day of September, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

Town of Marana

Impact Fee Study

Land Use Assumptions



Public Report

FINAL

As approved by the Marana Town Council, September 20, 2022

Prepared by

PSOMAS

333 East Wetmore Road, Suite 450

Tucson, AZ 85705

Prepared for

MARANA AZ

11555 West Civic Center Drive

Marana, AZ 85653

Psomas Project No. 7TMA150123

September 20, 2022

Town of Marana Mayor and Council

Ed Honea – Mayor

Jon Post – Vice Mayor

Patti Comerford – Councilmember

Herb Kai – Councilmember

Roxanne Ziegler – Councilmember

John Officer – Councilmember

Jackie Craig - Councilmember

Key Staff

Terry Rozema, Town Manager

Steve Cheslak, Town Planner II

Jane Fairall, Town Attorney

Fausto Burruel, P.E., Public Works Director & Acting Town Engineer

Project Consultants

Psomas

333 East Wetmore Road, Suite 450

Tucson, AZ 85705

520-292-2300

Prime Consultant – All Tasks

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1. INTRODUCTION

The Town of Marana collects development impact fees to offset some of the infrastructure costs associated with growth. The Town currently charges fees for roads, parks, and wet utilities and intends to continue doing so. In order to continue the fees, the Town must comply with Arizona Revised Statute (ARS) §9-463.05. In so doing, the Town will be preparing new development impact fee studies, project lists, and fee schedules.

The statute limits the types of "necessary public services" which impact fees can fund. A municipality must develop two preliminary products prior to calculating the fees for each service category: a set of land use assumptions and an infrastructure improvement plan (IIP).

As defined in ARS §9-463.05(T)6, "'Land use assumptions' means projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the general plan of the municipality."

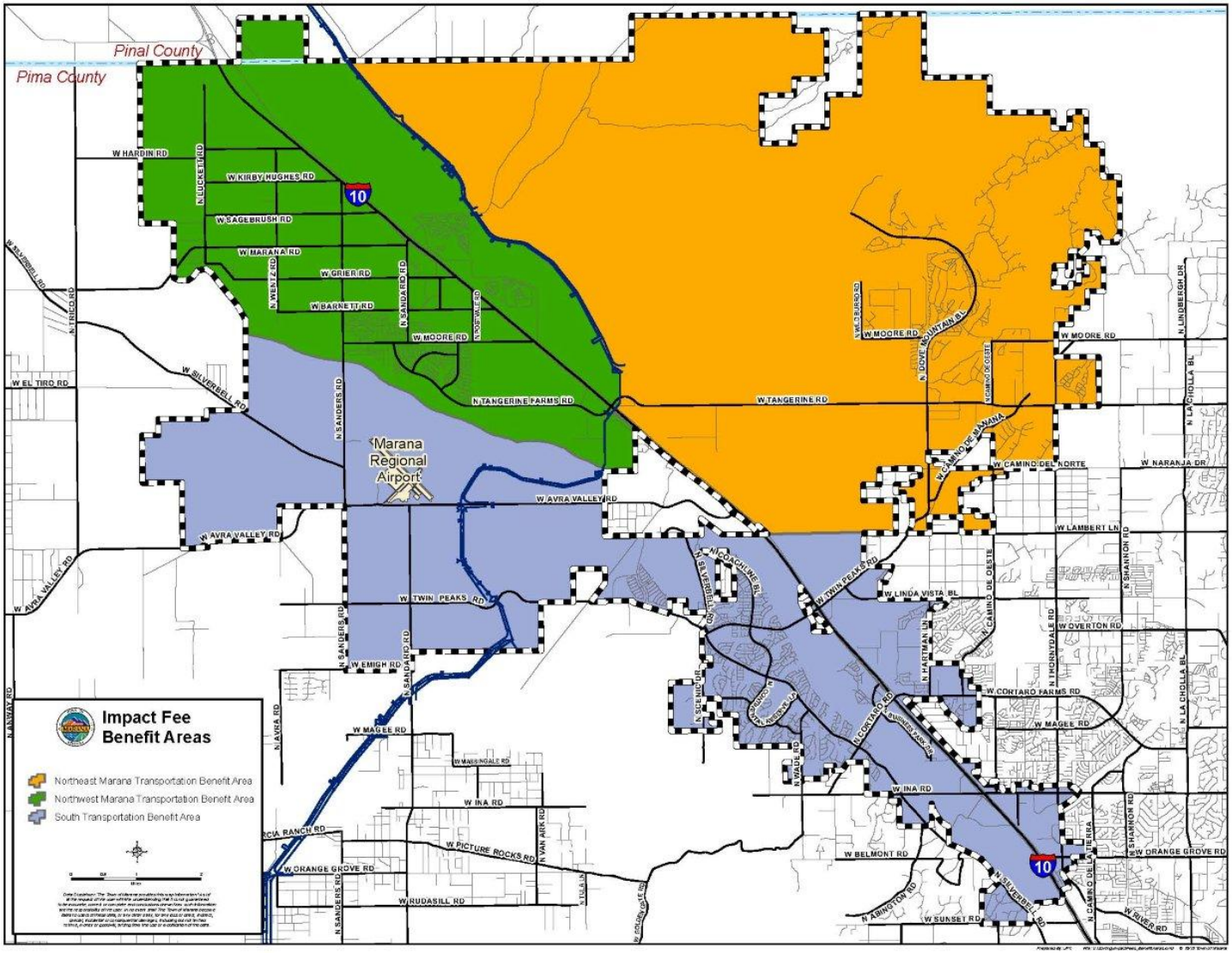
This report is a required document that identifies the land use assumptions to be applied in the IIPs for streets, parks, and wet utilities, and the subsequent calculation of development impact fee rates. These land use assumptions are used to estimate the amount of new development within the benefit areas from which development impact fees will be assessed and generally reflect the community's general plan and the region's official suballocation of population forecast to the municipality.

1.1. ALLOCATION OF GROWTH WITHIN SERVICE AREAS

A "service area" is defined in ARS §9-463.05 (T)9 as "any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services of facility expansions and the development being served as prescribed in the infrastructure improvement plan."

The Town will continue to use the current service areas, which are shown in Figure 1. The park service area includes the entire Town, and the wet utilities are those areas serviced by Marana Water or by Tucson Water when Marana is required to provide water credits.

Figure 1. Streets Service Areas and Parks Service Area (Town Limits)



2. EXISTING SOCIOECONOMIC CONDITIONS

2.1. POPULATION AND HOUSING

Marana continues to grow faster than the state as a whole. The general population and housing information shown in Table 1 was collected from the US Census Bureau[1].

Table 1. Population and Household Units Census Data

	Marana	Arizona
Population, July 1, 2021	54,895	7,276,316
Population, 2020 (April 1) Census	51,908	7,151,502
Population, percent change, April 1, 2020 to July 1, 2021	5.5%	1.7%
Population, 2010 (April 1) Census	34,691	6,392,017
Population, percent change, between 2010-2020 Census	49.6%	11.9%
Median value of owner-occupied housing units, 2016-2020	$271,200	$242,000
Households, 2016-2020	17,277	2,643,430
Persons per household, 2016-2020	2.69	2.65

2.2. EMPLOYMENT

Marana also has a higher employment rate than the state as a whole. The 2020 employment data in Table 2 was obtained from the US Census Bureau[2].

Table 2. 2020 Employment Data

Employment Status	Marana		Arizona	
	Estimate	Percent	Estimate	Percent
Population 16 years and over	37,210	-	5,720,956	-
In labor force	22,297	59.1%	3,436,482	60.1%
Civilian labor force	22,102	58.6%	3,415,201	59.7%
Employed	21,091	56.1%	3,215,843	56.2%
Unemployed	1,011	2.5%	199,358	3.5%
Armed Forces	195	0.5%	21,281	0.4%
Not in labor force	14,913	40.9%	2,284,474	39.9%
Percent Unemployed (unemployed/labor force)	-	4.5%	-	5.8%

3. EXISTING (2022) SOCIOECONOMIC CONDITIONS – PAG-ASSISTED MODEL

As part of the update to the streets IIP, Psomas assisted the Pima Association of Governments (PAG) with refining the existing regional model and developing a travel demand model based on existing and projected socioeconomic conditions for use in this study.

PAG maintains a model of existing conditions as well as a model representing the regional transportation network incorporating the planned 5-year Transportation Improvement Program (TIP) projects (currently through 2027). PAG provided both models as well as socioeconomic data for each Transportation Analysis Zone (TAZ) in the region for each model. The data included population and employment estimates. For the existing population and employment data for the TAZs within and surrounding the Marana impact fee service areas, proposed refinements were suggested to represent the impact fee service areas. These refinements were developed in concert with the Town and included updating population and/or employment for the TAZs to produce an updated model of existing conditions for the region for use in this project.

In addition, because 2021 and the early part of 2022 saw significant growth in the Town, the volumes in the existing model were adjusted upward to account for the growth through the end of 2022.

4. LAND USE ASSUMPTIONS

The land use assumptions are based on the current Town General Plan, as required by the statute. These are shown in Table 3.

The land use assumptions include the estimated build out number of residential units and the estimated non-residential commercial acres. This was done to show the percentage of each development that is estimated to be constructed and eligible for inclusion in the IIP which is developed for a 10-year planning horizon. The 10-year period will begin January 1, 2023; therefore, December 31, 2032 would be the planning horizon. The land use assumptions are provided for the area within the existing Town limits and also within areas that are projected to be annexed within the 10-year period.

Table 3. Marana Land Use Assumptions

Development	Buildout Residential Units	Buildout Commercial Acres	Existing and 10 Year Growth				Current Streets Impact Fee Area
			Existing Residential Units*	10 Year Residential Units	Existing Commercial Acres*	10 Year Commercial Acres	
AERIE APARTMENTS (Phase 3)	400	0	400	0	0	0	South
AIRPORT	0	10	0	0	50	10	South
ALEXANDER SP APARTMENTS (MU)	211	3	211	0	3	3	South
BREAKERS RD INDUSTRIAL	0	40	0	0	40	40	Northeast
CONTINENTAL RANCH (MU)	0	6	0	0	26	6	South
CORTARO RANCH (Commercial)	0	9	0	0	9	9	South
CROSSROADS AT GLADDEN	0	122	0	0	168	122	Northwest
CUSTOM HOMES	0	0	0	60	0	0	Northeast
CUSTOM HOMES (Marana Water)	0	0	0	30	0	0	Northeast
CYPRESS GARDENS	217	0	0	217	0	0	Northwest
DE ANZA	265	0	115	150	0	0	South
DOVE MOUNTAIN (MU)	9,159	0	5,197	1,800	105	0	Northeast
GLADDEN FARMS (Commercial)	0	0	0	0	22	0	Northwest
GLADDEN FARMS II	2,539	0	950	1,589	0	0	Northwest
HERITAGE PARK SHOPPES	0	9	0	0	18	9	Northwest
JOPLIN ESTATES (MU)	185	0	0	185	18	0	South
LA PUERTA DEL NORTE EAST	150	0	0	150	0	0	South
LAZY K	178	0	178	0	0	0	South
LINDA VISTA VILLAGE (MU)	693	0	0	693	26	0	South
MANDARINA (MU)	2,500	0	0	1,650	11	0	Northwest
MANDARINA SOUTH (MU)	750	20	0	250	20	20	Northwest
MARANA & I10 (Dahlstrom Commercial)	0	28	0	0	37	28	Northwest
MARANA MAIN ST. (Commecial)	0	10	0	0	20	10	Northwest
MARANA SPECTRUM/CENTER (MU)	275	87	275	0	87	87	South
MARANA TECHNOLOGY CAMPUS	0	9	0	0	9	9	Northeast
MARANA TOWNE CENTER (MU)	2,200	30	0	0	462	30	Northwest

Table 3 cont'd. Marana Land Use Assumptions

Development	Buildout Residential Units	Buildout Commercial Acres	Existing and 10 Year Growth				Current Streets Impact Fee Area
			Existing Residential Units*	10 Year Residential Units	Existing Commercial Acres*	10 Year Commercial Acres	
ORANGE GROVE INDUSTRIAL (Commercial)	0	3	0	0	5	3	South
PAYSON FARMS (Remington Ranch)	457	0	0	457	0	0	Northwest
PIMA FARMS NORTH (Commercial)	700	1	480	200	1	1	South
PRESERVE AT TWIN PEAKS (Lennar)	190	0	140	50	0	0	Northeast
QUIKTRIP PLAZA @ Star Commerce (Commercial)	0	6	0	0	6	6	South
RANCHO MARANA - West (MU)	516	1	366	150	5	1	Northwest
RANCHO MARANA TOWN CENTER (Commercial)	0	5	0	0	41	5	Northwest
RIVERSIDE @ SILVERBELL (SE INA/SB) (MU)	210	0	0	210	12	0	South
SAGUARO BLOOM	2,509	0	1,809	700	0	0	South
SAGUARO RANCH	240	0	15	50	0	0	Northeast
SANDERS GROVE	2,500	0	0	700	0	0	Northwest
SILVERBELL GATEWAY (NE INA/SB) (Apts) (MU)	300	0	300	0	0	0	South
SILVERBELL RIDGE (SW of Ina)	56	0	0	56	0	0	South
SONORAN PRESERVE at BAJADA	29	0	15	14	0	0	Northeast
STONEGATE	3,138	0	0	1,000	0	0	Northwest
TANG THORNYDALE SW CORNER REZONE(MU)	250	0	0	250	15	0	Northeast
TANGERINE BUSINESS PARK (Commercial)	0	7	0	0	40	7	Northeast
TANGERINE COMMERCE PARK	0	30	0	0	47	30	Northwest
TANGERINE CROSSING Fry's (Commercial)	0	3	0	0	3	3	Northeast
TANGERINE THORNYDALE (Villagio, HSL) (MU)	107	0	0	107	2	0	Northeast
TAPESTRY	670	0	0	600	0	0	Northeast
TORTOLITA 30 REZONE	82	0	42	40	0	0	Northeast
TORTOLITA VISTAS	155	0	115	40	0	0	Northeast
TWIN PEAKS & LAMBERT	62	0	62	0	0	0	Northeast
TWIN PEAKS CROSSING (Cardinal)(MU)	154	0	0	154	25	0	Northeast
TAVIRA AT TWIN PEAKS ESTATES	82	0	0	82	0	0	Northeast

Table 3 cont'd. Marana Land Use Assumptions

Development	Buildout Residential Units	Buildout Commercial Acres	Existing and 10 Year Growth				Current Streets Impact Fee Area
			Existing Residential Units*	10 Year Residential Units	Existing Commercial Acres*	10 Year Commercial Acres	
TWIN PEAKS RD (Future rezones)	100	0	0	100	0	0	Northeast
TWIN PEAKS VISTA	58	0	0	58	0	0	Northeast
UPTOWN	930	0	0	300	0	0	Northwest
VANDERBILT FARMS (MU)	1,945	0	224	1,500	0	0	Northwest
VILLAGES OF BARNETT	251	0	81	50	0	0	Northwest
Villages of Tortolita	6,500	0	0	300	0	0	Northwest
WHITNEY FARMS	12	0	12	0	0	0	Northwest
Total				**13,942**		**439**	
Average Growth per Year				**1,394**		**44**	

*Existing residential units and existing commercial acres are an etimated projection for the winter of 2022, the anticipated effective data of a new impact fee cycle.

5. 2032 Conditions With Land Use Assumptions

The land use assumptions were provided to the PAG travel demand modeling staff. Psomas estimated 2022 and 2032 socioeconomic population and employment projections by TAZ and compared them with the PAGs socioeconomic parameters (population and employment). The project team met with PAG staff to discuss their findings, including suggested refinements of some of the TAZ boundaries, and to request a special model run for the project based on the Psomas projections.

The 2032 socioeconomic conditions were estimated using data from the PAG 2021 model and adding the projects in the Land Use Assumptions (if they were not already represented in the model). For residential developments, population was calculated assuming an average of 2.5 persons per unit. This assumption was applied for consistency with the existing PAG model, which showed an average of 2.5 persons/residence. Slight variations were used based on the location and type of residential development to remain consistent with the persons per household information available in the PAG model for various TAZs.

The commercial development assumptions and employment estimates are based on analysis conducted for the Marana Town Center study and information provided by PAG, shown in Table 4.

Table 4. Commercial Development Assumptions

	% Acres to include buildings	# sq ft per employee
Retail	20%	600
High Traffic Retail	20%	200
Office	20%	400
Industrial	20%	500
Medical	20%	500
Hotel	20%	1,800

After the population and employment numbers were calculated for 2032 for each of the proposed projects in the Town of Marana, those values were assigned to the TAZ(s) in which the project is expected to be located. The population and employment numbers were then compared to the corresponding values provided in the PAG 2030 model.

The higher of the two values for each affected TAZ was used for the 2032 model to ensure that all of the planned projects in the Town were accounted for in the 2032 model. Additional adjustments were made to better represent 2022 and 2032 conditions after the models were run due to the significant growth in the Town in 2021 and the expected growth through 2022.

A summary of the population and employment estimates for 2022 and 2032 conditions and the increases in each are shown in Table 5. The population and employment numbers by TAZ and the TAZ/Service Areas map are provided in the appendix. It should be noted that the population and employment estimates in the appendix differ from Table 5 because some areas located outside the Town are included in several of the TAZs. The estimated future population of 88,241 in 2032 is higher than the Arizona State Demographers forecast[3] of 69,627. However, the State forecast was prepared in 2018 based on the 2010 Census data and does not account for unexpected significant increases in residential and commercial development during the COVID-19 pandemic and expected continuation of that growth. As an example, the 2021 forecast for Marana was 6.5% less than the US Census estimate in Table 1 (51,568 by the State, 54,895 in the US Census estimate)

Table 5. Socioeconomic Totals (2022 – 2032)

	2022		2032		Increase	
	Employees	Population	Employees	Population	Employees	Population
Northwest	2,130	11,100	6,537	26,290	4,407	15,190
Northeast	1,415	13,047	2,526	24,746	1,111	11,700
South	10,747	30,786	13,813	37,205	3,066	6,419
Townwide Totals	**14,292**	**54,932**	**22,876**	**88,241**	**8,584**	**33,309**

6. REFERENCES

[1] https://www.census.gov/quickfacts/fact/dashboard/maranatownarizona/PST045221 accessed August 2022.

[2] https://data.census.gov/cedsci/table?q=marana%20arizona%20Employment&tid=ACSDP5Y2020.DP03 accessed August 2022.

[3] https://www.azcommerce.com/oeo/population/population-projections/, accessed August 2022

Appendix A
List of Preparers

Psomas

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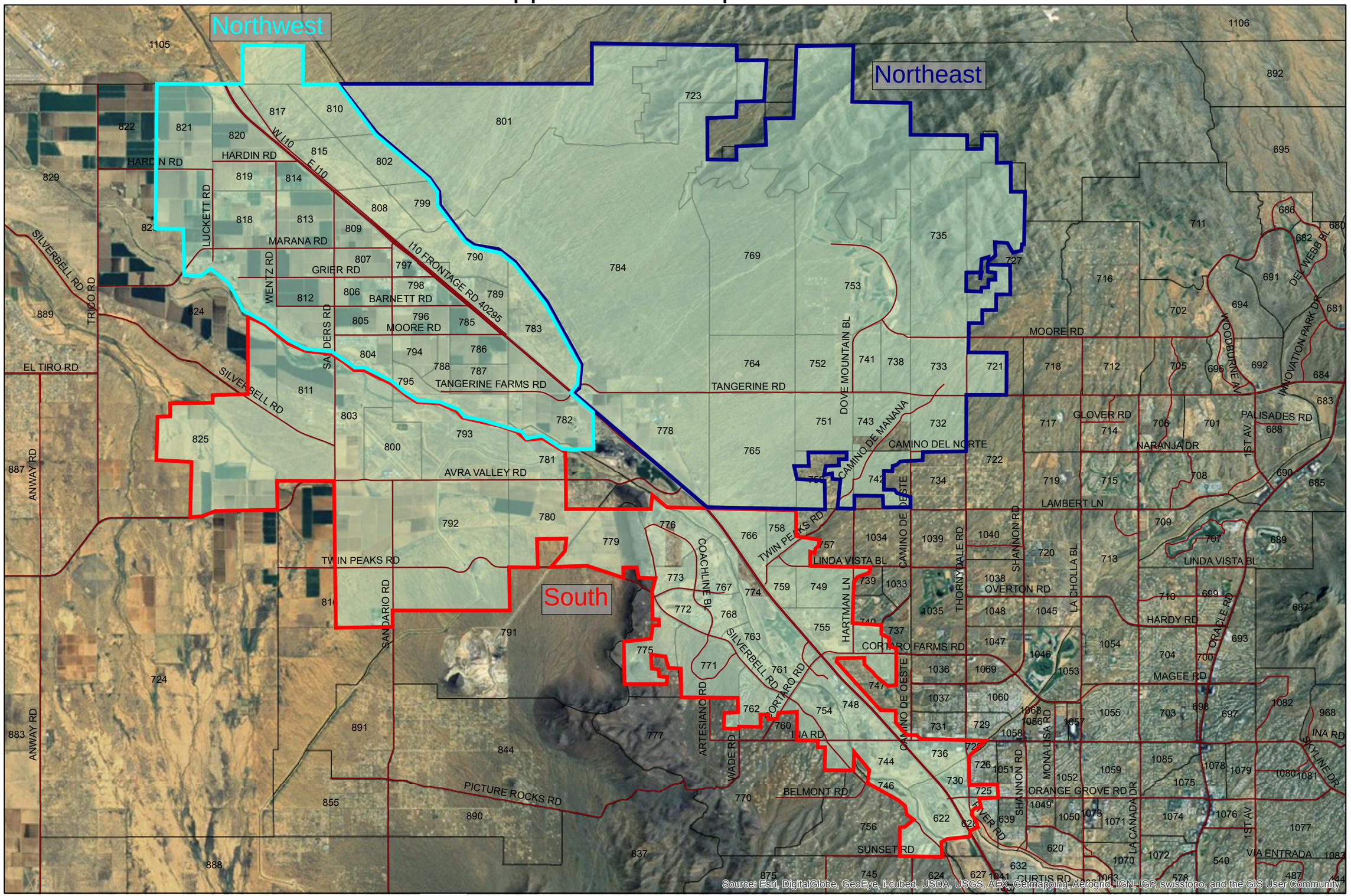
Staff Participants

Fausto Burruel, P.E., Public Works Director & Acting Town Engineer

Steve Cheslak, Town Planner II

Jane Fairall, Town Attorney

Appendix B - Map of TAZs



Appendix C

Population and Employment by TAZ

Northwest Benefit Area						
TAZ	2022		2032		Increase	
	Employees	Population	Employees	Population	Employees	Population
782	312	168	4,468	169	4,156	1
783	0	0	0	3,846	0	3,846
785	0	0	0	0	0	0
786	0	1,102	9	1,102	9	0
787	0	981	0	981	0	0
788	14	1,249	156	1,542	142	292
789	0	313	8	2,410	8	2,097
790	90	861	93	1,126	3	265
794	58	1,808	58	2,714	0	906
795	0	0	1	69	1	69
796	0	616	4	3,898	4	3,281
797	198	198	438	198	240	0
798	1,383	551	1,488	551	105	0
799	0	315	0	1,064	0	749
802	0	0	0	0	0	0
804	11	1,011	13	942	2	-69
805	0	832	15	2,299	15	1,467
806	37	684	50	812	13	128
807	38	3	99	3	61	0
808	0	285	0	285	0	0
809	0	0	1,232	461	1,232	461
810	0	0	0	0	0	0
812	18	13	96	13	78	0
813	0	0	0	1,076	0	1,076
814	0	0	0	598	0	598
815	0	0	0	0	0	0
817	0	0	0	0	0	0
818	62	81	62	81	0	0
819	6	17	6	17	0	0
820	7	0	7	0	0	0
821	0	2	0	2	0	0
823	10	22	10	23	0	1
824	59	229	59	306	0	77
TOTALS	**2,303**	**11,342**	**8,372**	**26,586**	**6,069**	**15,245**

South Benefit Area						
TAZ	2022		2032		Increase	
	Employees	Population	Employees	Population	Employees	Population
622	69	3	117	9	48	6
628	639	999	653	1,146	14	147
725	318	970	320	1,318	2	348
728	401	0	401	0	0	0
729	478	959	487	962	9	3
730	1,539	0	1,994	0	455	0
731	837	1,810	852	1,860	15	50
736	1,401	1,687	1,401	2,320	0	633
737	115	2,113	115	2,119	0	6
739	0	1,727	26	1,742	26	15
740	100	1,541	102	1,683	2	142
744	193	0	206	541	13	541
746	0	40	10	47	10	7
747	144	1,887	169	2,010	25	123
748	2,982	21	3,243	19	261	-2
749	15	1,205	18	2,374	3	1,169
754	172	0	433	410	261	410
755	71	864	313	941	242	77
756	12	858	19	1,084	7	226
757	0	531	82	595	82	64
758	1	207	1	200	0	-7
759	803	607	1,787	423	984	-185
760	79	1,067	82	1,499	3	432
761	366	1,448	367	1,503	1	55
762	18	953	21	1,048	3	96
763	17	1,272	17	1,361	0	89
766	0	0	4	0	4	0
767	15	1,374	15	1,303	0	-71
768	214	2,123	214	1,979	0	-144
770	125	791	129	939	4	148
771	444	4,450	444	4,450	0	0
772	164	2,627	665	3,044	501	418
773	13	1,228	13	1,911	0	683
774	910	866	960	1,697	50	831
775	55	1,610	55	1,013	0	-597
776	0	1,065	11	1,357	11	292
777	26	272	26	289	0	17
779	9	3,731	12	4,683	3	952
780	37	241	44	698	7	457
781	45	0	45	0	0	0
791	50	61	51	61	1	0
792	0	0	0	0	0	0
793	0	0	56	0	56	0
800	68	0	152	0	84	0
803	16	3	60	3	44	0
811	85	473	85	473	0	0
816	199	400	199	620	0	220
825	35	49	35	49	0	0
TOTALS	**13,280**	**44,134**	**16,510**	**51,782**	**3,230**	**7,648**

Northeast Benefit Area						
TAZ	**2022**		**2032**		**Increase**	
	Employees	**Population**	**Employees**	**Population**	**Employees**	**Population**
721	416	831	460	833	44	2
723	0	0	0	0	0	0
727	31	336	31	354	0	18
732	4	692	5	1,897	1	1,205
733	45	209	45	508	0	299
734	27	315	28	318	1	3
735	1	261	1	2,447	0	2,186
738	11	1,560	11	2,437	0	877
741	166	1,132	166	2,324	0	1,192
742	0	555	11	756	11	201
743	16	469	20	1,105	4	636
750	2	513	3	763	1	250
751	0	0	0	0	0	0
752	1	1,044	1	1,468	0	424
753	625	4,832	692	7,918	67	3,086
764	0	0	0	0	0	0
765	0	0	0	0	0	0
769	56	1,564	57	2,370	1	806
778	167	103	1,180	198	1,013	95
784	145	123	145	872	0	749
801	0	0	0	0	0	0
TOTALS	**1,713**	**14,539**	**2,858**	**26,568**	**1,145**	**12,029**

TAZ Totals	**2022**		**2032**		**Increase**	
	Employees	**Population**	**Employees**	**Population**	**Employees**	**Population**
	17,296	70,015	27,740	104,936	10,444	34,922

Town Totals	**2022**		**2032**		**Increase**	
	Employees	**Population**	**Employees**	**Population**	**Employees**	**Population**
	14,292	54,932	22,876	88,241	8,584	33,309

Town of Marana

Impact Fee Study

Land Use Assumptions

Public Report

FINAL

As approved by the Marana Town Council, September 20, 2022

Prepared by

PSOMAS

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Prepared for

MARANA AZ

11555 West Civic Center Drive

Marana, AZ 85653

Psomas Project No. 7TMA150123

September 20, 2022

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Jon Post – Vice Mayor

Patti Comerford – Councilmember

Herb Kai – Councilmember

Roxanne Ziegler – Councilmember

John Officer – Councilmember

Jackie Craig - Councilmember

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1. INTRODUCTION

The Town of Marana collects development impact fees to offset some of the infrastructure costs associated with growth. The Town currently charges fees for roads, parks, and wet utilities and intends to continue doing so. In order to continue the fees, the Town must comply with Arizona Revised Statute (ARS) §9-463.05. In so doing, the Town will be preparing new development impact fee studies, project lists, and fee schedules.

The statute limits the types of "necessary public services" which impact fees can fund. A municipality must develop two preliminary products prior to calculating the fees for each service category: a set of land use assumptions and an infrastructure improvement plan (IIP).

As defined in ARS §9-463.05(T)6, "'Land use assumptions' means projections of changes in land uses, densities, intensities and population for a specified service area over a period of at least ten years and pursuant to the general plan of the municipality."

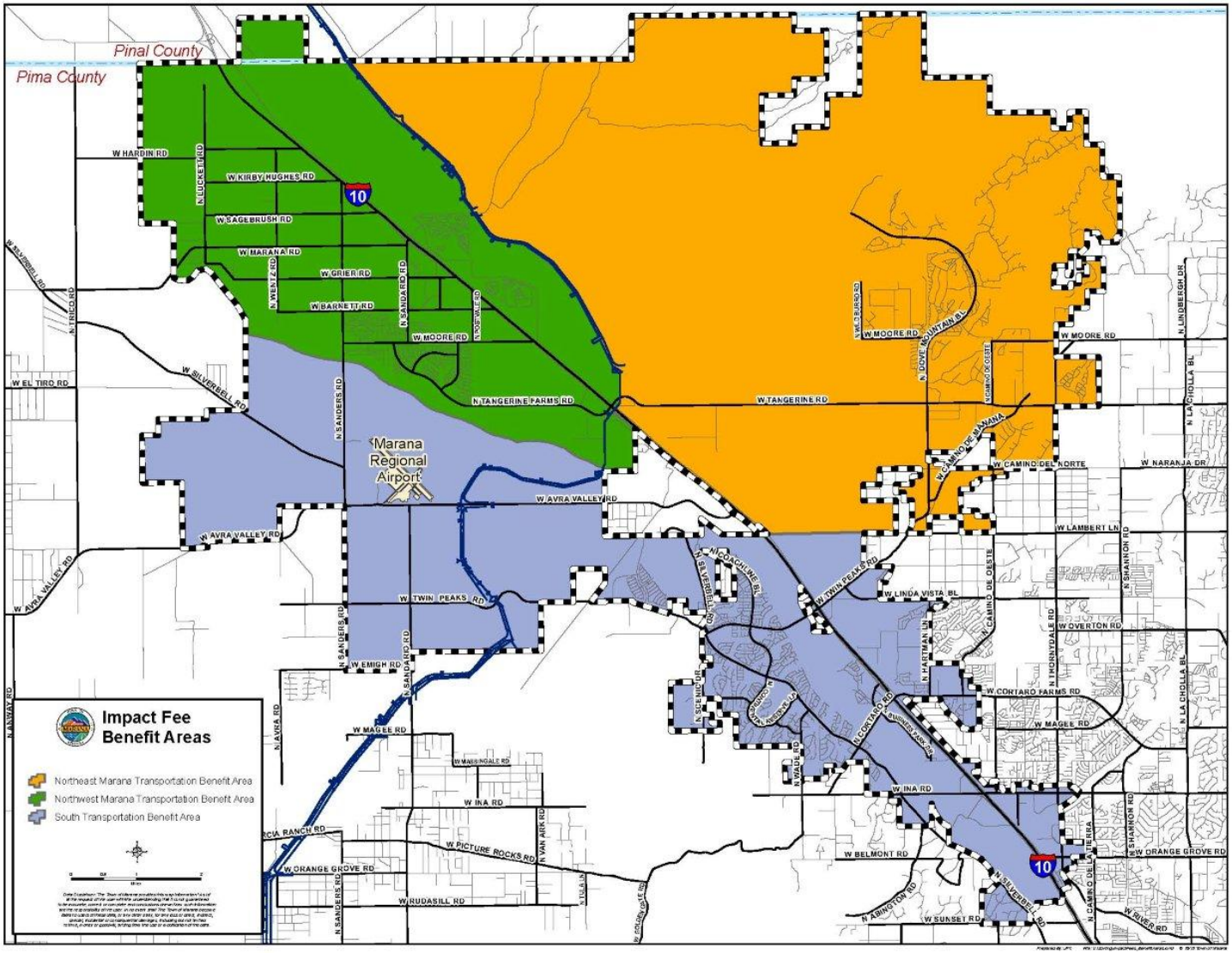
This report is a required document that identifies the land use assumptions to be applied in the IIPs for streets, parks, and wet utilities, and the subsequent calculation of development impact fee rates. These land use assumptions are used to estimate the amount of new development within the benefit areas from which development impact fees will be assessed and generally reflect the community's general plan and the region's official suballocation of population forecast to the municipality.

1.1. ALLOCATION OF GROWTH WITHIN SERVICE AREAS

A "service area" is defined in ARS §9-463.05 (T)9 as "any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services of facility expansions and the development being served as prescribed in the infrastructure improvement plan."

The Town will continue to use the current service areas, which are shown in Figure 1. The park service area includes the entire Town, and the wet utilities are those areas serviced by Marana Water or by Tucson Water when Marana is required to provide water credits.

Figure 1. Streets Service Areas and Parks Service Area (Town Limits)



2. EXISTING SOCIOECONOMIC CONDITIONS

2.1. POPULATION AND HOUSING

Marana continues to grow faster than the state as a whole. The general population and housing information shown in Table 1 was collected from the US Census Bureau[1].

Table 1. Population and Household Units Census Data

	Marana	Arizona
Population, July 1, 2021	54,895	7,276,316
Population, 2020 (April 1) Census	51,908	7,151,502
Population, percent change, April 1, 2020 to July 1, 2021	5.5%	1.7%
Population, 2010 (April 1) Census	34,691	6,392,017
Population, percent change, between 2010-2020 Census	49.6%	11.9%
Median value of owner-occupied housing units, 2016-2020	$271,200	$242,000
Households, 2016-2020	17,277	2,643,430
Persons per household, 2016-2020	2.69	2.65

2.2. EMPLOYMENT

Marana also has a higher employment rate than the state as a whole. The 2020 employment data in Table 2 was obtained from the US Census Bureau[2].

Table 2. 2020 Employment Data

Employment Status	Marana		Arizona	
	Estimate	Percent	Estimate	Percent
Population 16 years and over	37,210	-	5,720,956	-
In labor force	22,297	59.1%	3,436,482	60.1%
Civilian labor force	22,102	58.6%	3,415,201	59.7%
Employed	21,091	56.1%	3,215,843	56.2%
Unemployed	1,011	2.5%	199,358	3.5%
Armed Forces	195	0.5%	21,281	0.4%
Not in labor force	14,913	40.9%	2,284,474	39.9%
Percent Unemployed (unemployed/labor force)	-	4.5%	-	5.8%

3. EXISTING (2022) SOCIOECONOMIC CONDITIONS – PAG-ASSISTED MODEL

As part of the update to the streets IIP, Psomas assisted the Pima Association of Governments (PAG) with refining the existing regional model and developing a travel demand model based on existing and projected socioeconomic conditions for use in this study.

PAG maintains a model of existing conditions as well as a model representing the regional transportation network incorporating the planned 5-year Transportation Improvement Program (TIP) projects (currently through 2027). PAG provided both models as well as socioeconomic data for each Transportation Analysis Zone (TAZ) in the region for each model. The data included population and employment estimates. For the existing population and employment data for the TAZs within and surrounding the Marana impact fee service areas, proposed refinements were suggested to represent the impact fee service areas. These refinements were developed in concert with the Town and included updating population and/or employment for the TAZs to produce an updated model of existing conditions for the region for use in this project.

In addition, because 2021 and the early part of 2022 saw significant growth in the Town, the volumes in the existing model were adjusted upward to account for the growth through the end of 2022.

4. LAND USE ASSUMPTIONS

The land use assumptions are based on the current Town General Plan, as required by the statute. These are shown in Table 3.

The land use assumptions include the estimated build out number of residential units and the estimated non-residential commercial acres. This was done to show the percentage of each development that is estimated to be constructed and eligible for inclusion in the IIP which is developed for a 10-year planning horizon. The 10-year period will begin January 1, 2023; therefore, December 31, 2032 would be the planning horizon. The land use assumptions are provided for the area within the existing Town limits and also within areas that are projected to be annexed within the 10-year period.

Table 3. Marana Land Use Assumptions

Development	Buildout Residential Units	Buildout Commercial Acres	Existing and 10 Year Growth				Current Streets Impact Fee Area
			Existing Residential Units*	10 Year Residential Units	Existing Commercial Acres*	10 Year Commercial Acres	
AERIE APARTMENTS (Phase 3)	400	0	400	0	0	0	South
AIRPORT	0	10	0	0	50	10	South
ALEXANDER SP APARTMENTS (MU)	211	3	211	0	3	3	South
BREAKERS RD INDUSTRIAL	0	40	0	0	40	40	Northeast
CONTINENTAL RANCH (MU)	0	6	0	0	26	6	South
CORTARO RANCH (Commercial)	0	9	0	0	9	9	South
CROSSROADS AT GLADDEN	0	122	0	0	168	122	Northwest
CUSTOM HOMES	0	0	0	60	0	0	Northeast
CUSTOM HOMES (Marana Water)	0	0	0	30	0	0	Northeast
CYPRESS GARDENS	217	0	0	217	0	0	Northwest
DE ANZA	265	0	115	150	0	0	South
DOVE MOUNTAIN (MU)	9,159	0	5,197	1,800	105	0	Northeast
GLADDEN FARMS (Commercial)	0	0	0	0	22	0	Northwest
GLADDEN FARMS II	2,539	0	950	1,589	0	0	Northwest
HERITAGE PARK SHOPPES	0	9	0	0	18	9	Northwest
JOPLIN ESTATES (MU)	185	0	0	185	18	0	South
LA PUERTA DEL NORTE EAST	150	0	0	150	0	0	South
LAZY K	178	0	178	0	0	0	South
LINDA VISTA VILLAGE (MU)	693	0	0	693	26	0	South
MANDARINA (MU)	2,500	0	0	1,650	11	0	Northwest
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SILVERBELL RIDGE (SW of Ina)	56	0	0	56	0	0	South
SONORAN PRESERVE at BAJADA	29	0	15	14	0	0	Northeast
STONEGATE	3,138	0	0	1,000	0	0	Northwest
TANG THORNYDALE SW CORNER REZONE(MU)	250	0	0	250	15	0	Northeast
TANGERINE BUSINESS PARK (Commercial)	0	7	0	0	40	7	Northeast
TANGERINE COMMERCE PARK	0	30	0	0	47	30	Northwest
TANGERINE CROSSING Fry's (Commercial)	0	3	0	0	3	3	Northeast
TANGERINE THORNYDALE (Villagio, HSL) (MU)	107	0	0	107	2	0	Northeast
TAPESTRY	670	0	0	600	0	0	Northeast
TORTOLITA 30 REZONE	82	0	42	40	0	0	Northeast
TORTOLITA VISTAS	155	0	115	40	0	0	Northeast
TWIN PEAKS & LAMBERT	62	0	62	0	0	0	Northeast
TWIN PEAKS CROSSING (Cardinal)(MU)	154	0	0	154	25	0	Northeast
TAVIRA AT TWIN PEAKS ESTATES	82	0	0	82	0	0	Northeast

Table 3 cont'd. Marana Land Use Assumptions

Development	Buildout Residential Units	Buildout Commercial Acres	Existing and 10 Year Growth				Current Streets Impact Fee Area
			Existing Residential Units*	10 Year Residential Units	Existing Commercial Acres*	10 Year Commercial Acres	
TWIN PEAKS RD (Future rezones)	100	0	0	100	0	0	Northeast
TWIN PEAKS VISTA	58	0	0	58	0	0	Northeast
UPTOWN	930	0	0	300	0	0	Northwest
VANDERBILT FARMS (MU)	1,945	0	224	1,500	0	0	Northwest
VILLAGES OF BARNETT	251	0	81	50	0	0	Northwest
Villages of Tortolita	6,500	0	0	300	0	0	Northwest
WHITNEY FARMS	12	0	12	0	0	0	Northwest
Total				**13,942**		**439**	
Average Growth per Year				**1,394**		**44**	

*Existing residential units and existing commercial acres are an etimated projection for the winter of 2022, the anticipated effective data of a new impact fee cycle.

5. 2032 CONDITIONS WITH LAND USE ASSUMPTIONS

The land use assumptions were provided to the PAG travel demand modeling staff. Psomas estimated 2022 and 2032 socioeconomic population and employment projections by TAZ and compared them with the PAGs socioeconomic parameters (population and employment). The project team met with PAG staff to discuss their findings, including suggested refinements of some of the TAZ boundaries, and to request a special model run for the project based on the Psomas projections.

The 2032 socioeconomic conditions were estimated using data from the PAG 2021 model and adding the projects in the Land Use Assumptions (if they were not already represented in the model). For residential developments, population was calculated assuming an average of 2.5 persons per unit. This assumption was applied for consistency with the existing PAG model, which showed an average of 2.5 persons/residence. Slight variations were used based on the location and type of residential development to remain consistent with the persons per household information available in the PAG model for various TAZs.

The commercial development assumptions and employment estimates are based on analysis conducted for the Marana Town Center study and information provided by PAG, shown in Table 4.

Table 4. Commercial Development Assumptions

	% Acres to include buildings	# sq ft per employee
Retail	20%	600
High Traffic Retail	20%	200
Office	20%	400
Industrial	20%	500
Medical	20%	500
Hotel	20%	1,800

After the population and employment numbers were calculated for 2032 for each of the proposed projects in the Town of Marana, those values were assigned to the TAZ(s) in which the project is expected to be located. The population and employment numbers were then compared to the corresponding values provided in the PAG 2030 model.

The higher of the two values for each affected TAZ was used for the 2032 model to ensure that all of the planned projects in the Town were accounted for in the 2032 model. Additional adjustments were made to better represent 2022 and 2032 conditions after the models were run due to the significant growth in the Town in 2021 and the expected growth through 2022.

A summary of the population and employment estimates for 2022 and 2032 conditions and the increases in each are shown in Table 5. The population and employment numbers by TAZ and the TAZ/Service Areas map are provided in the appendix. It should be noted that the population and employment estimates in the appendix differ from Table 5 because some areas located outside the Town are included in several of the TAZs. The estimated future population of 88,241 in 2032 is higher than the Arizona State Demographers forecast[3] of 69,627. However, the State forecast was prepared in 2018 based on the 2010 Census data and does not account for unexpected significant increases in residential and commercial development during the COVID-19 pandemic and expected continuation of that growth. As an example, the 2021 forecast for Marana was 6.5% less than the US Census estimate in Table 1 (51,568 by the State, 54,895 in the US Census estimate).

Table 5. Socioeconomic Totals (2022 – 2032)

	2022		2032		Increase	
	Employees	Population	Employees	Population	Employees	Population
Northwest	2,130	11,100	6,537	26,290	4,407	15,190
Northeast	1,415	13,047	2,526	24,746	1,111	11,700
South	10,747	30,786	13,813	37,205	3,066	6,419
Townwide Totals	**14,292**	**54,932**	**22,876**	**88,241**	**8,584**	**33,309**

6. REFERENCES

[1] https://www.census.gov/quickfacts/fact/dashboard/maranatownarizona/PST045221 accessed August 2022.

[2] https://data.census.gov/cedsci/table?q=marana%20arizona%20Employment&tid=ACSDP5Y2020.DP03 accessed August 2022.

[3] https://www.azcommerce.com/oeo/population/population-projections/, accessed August 2022

Appendix A

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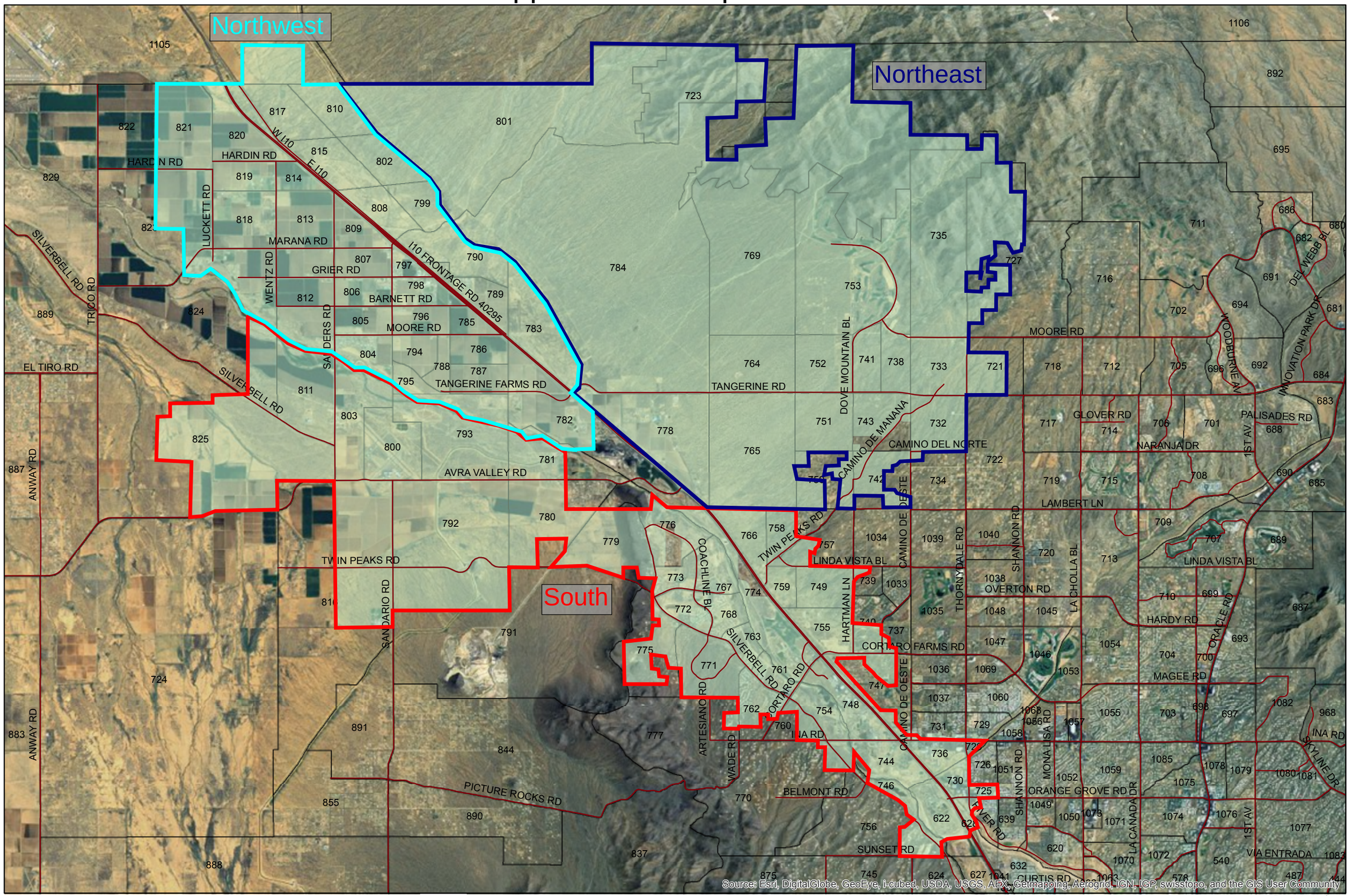
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Appendix B - Map of TAZs



Appendix C

Population and Employment by TAZ

Northwest Benefit Area						
TAZ	2022		2032		Increase	
	Employees	Population	Employees	Population	Employees	Population
782	312	168	4,468	169	4,156	1
783	0	0	0	3,846	0	3,846
785	0	0	0	0	0	0
786	0	1,102	9	1,102	9	0
787	0	981	0	981	0	0
788	14	1,249	156	1,542	142	292
789	0	313	8	2,410	8	2,097
790	90	861	93	1,126	3	265
794	58	1,808	58	2,714	0	906
795	0	0	1	69	1	69
796	0	616	4	3,898	4	3,281
797	198	198	438	198	240	0
798	1,383	551	1,488	551	105	0
799	0	315	0	1,064	0	749
802	0	0	0	0	0	0
804	11	1,011	13	942	2	-69
805	0	832	15	2,299	15	1,467
806	37	684	50	812	13	128
807	38	3	99	3	61	0
808	0	285	0	285	0	0
809	0	0	1,232	461	1,232	461
810	0	0	0	0	0	0
812	18	13	96	13	78	0
813	0	0	0	1,076	0	1,076
814	0	0	0	598	0	598
815	0	0	0	0	0	0
817	0	0	0	0	0	0
818	62	81	62	81	0	0
819	6	17	6	17	0	0
820	7	0	7	0	0	0
821	0	2	0	2	0	0
823	10	22	10	23	0	1
824	59	229	59	306	0	77
TOTALS	**2,303**	**11,342**	**8,372**	**26,586**	**6,069**	**15,245**

South Benefit Area						
TAZ	2022		2032		Increase	
	Employees	Population	Employees	Population	Employees	Population
622	69	3	117	9	48	6
628	639	999	653	1,146	14	147
725	318	970	320	1,318	2	348
728	401	0	401	0	0	0
729	478	959	487	962	9	3
730	1,539	0	1,994	0	455	0
731	837	1,810	852	1,860	15	50
736	1,401	1,687	1,401	2,320	0	633
737	115	2,113	115	2,119	0	6
739	0	1,727	26	1,742	26	15
740	100	1,541	102	1,683	2	142
744	193	0	206	541	13	541
746	0	40	10	47	10	7
747	144	1,887	169	2,010	25	123
748	2,982	21	3,243	19	261	-2
749	15	1,205	18	2,374	3	1,169
754	172	0	433	410	261	410
755	71	864	313	941	242	77
756	12	858	19	1,084	7	226
757	0	531	82	595	82	64
758	1	207	1	200	0	-7
759	803	607	1,787	423	984	-185
760	79	1,067	82	1,499	3	432
761	366	1,448	367	1,503	1	55
762	18	953	21	1,048	3	96
763	17	1,272	17	1,361	0	89
766	0	0	4	0	4	0
767	15	1,374	15	1,303	0	-71
768	214	2,123	214	1,979	0	-144
770	125	791	129	939	4	148
771	444	4,450	444	4,450	0	0
772	164	2,627	665	3,044	501	418
773	13	1,228	13	1,911	0	683
774	910	866	960	1,697	50	831
775	55	1,610	55	1,013	0	-597
776	0	1,065	11	1,357	11	292
777	26	272	26	289	0	17
779	9	3,731	12	4,683	3	952
780	37	241	44	698	7	457
781	45	0	45	0	0	0
791	50	61	51	61	1	0
792	0	0	0	0	0	0
793	0	0	56	0	56	0
800	68	0	152	0	84	0
803	16	3	60	3	44	0
811	85	473	85	473	0	0
816	199	400	199	620	0	220
825	35	49	35	49	0	0
TOTALS	**13,280**	**44,134**	**16,510**	**51,782**	**3,230**	**7,648**

Northeast Benefit Area						
TAZ	**2022**		**2032**		**Increase**	
	Employees	**Population**	**Employees**	**Population**	**Employees**	**Population**
721	416	831	460	833	44	2
723	0	0	0	0	0	0
727	31	336	31	354	0	18
732	4	692	5	1,897	1	1,205
733	45	209	45	508	0	299
734	27	315	28	318	1	3
735	1	261	1	2,447	0	2,186
738	11	1,560	11	2,437	0	877
741	166	1,132	166	2,324	0	1,192
742	0	555	11	756	11	201
743	16	469	20	1,105	4	636
750	2	513	3	763	1	250
751	0	0	0	0	0	0
752	1	1,044	1	1,468	0	424
753	625	4,832	692	7,918	67	3,086
764	0	0	0	0	0	0
765	0	0	0	0	0	0
769	56	1,564	57	2,370	1	806
778	167	103	1,180	198	1,013	95
784	145	123	145	872	0	749
801	0	0	0	0	0	0
TOTALS	**1,713**	**14,539**	**2,858**	**26,568**	**1,145**	**12,029**

TAZ Totals	**2022**		**2032**		**Increase**	
	Employees	**Population**	**Employees**	**Population**	**Employees**	**Population**
	17,296	70,015	27,740	104,936	10,444	34,922

Town Totals	**2022**		**2032**		**Increase**	
	Employees	**Population**	**Employees**	**Population**	**Employees**	**Population**
	14,292	54,932	22,876	88,241	8,584	33,309

Town of Marana

Impact Fee Study

Streets Facilities

Infrastructure Improvements Plan



Public Report

FINAL

As approved by the Marana Town Council, September 20, 2022

Prepared by

PSOMAS

333 East Wetmore Road, Suite 450

Tucson, AZ 85705

Prepared for

MARANA AZ

CELEBRATING 40 YEARS

11555 West Civic Center Drive

Marana, AZ 85653

Psomas Project No. 7TMA150123

September 20, 2022

Town of Marana Mayor and Council

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Jon Post – Vice Mayor

Patti Comerford – Councilmember

Herb Kai – Councilmember

Roxanne Ziegler – Councilmember

John Officer – Councilmember

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1. INTRODUCTION

The Town of Marana collects development impact fees to help offset some of the infrastructure costs associated with growth, as many jurisdictions do. In order to continue charging impact fees, the Town must comply with Arizona Revised Statute (ARS) §9-463.05, which includes the preparation of development fee studies, project lists, and fee schedules. Prior to establishing fees, a land use assumptions document and an infrastructure improvement plan (IIP) must be prepared.

This report identifies the infrastructure needs for the street facilities in the Town. The analysis only includes arterials and major collectors, since roadways with lower classifications are generally internal to development and are constructed during the development process. This analysis will be used in the subsequent calculation of impact fee rates. This report is an update of the Streets Facilities IIP approved and adopted by Town Council action in September 2017.

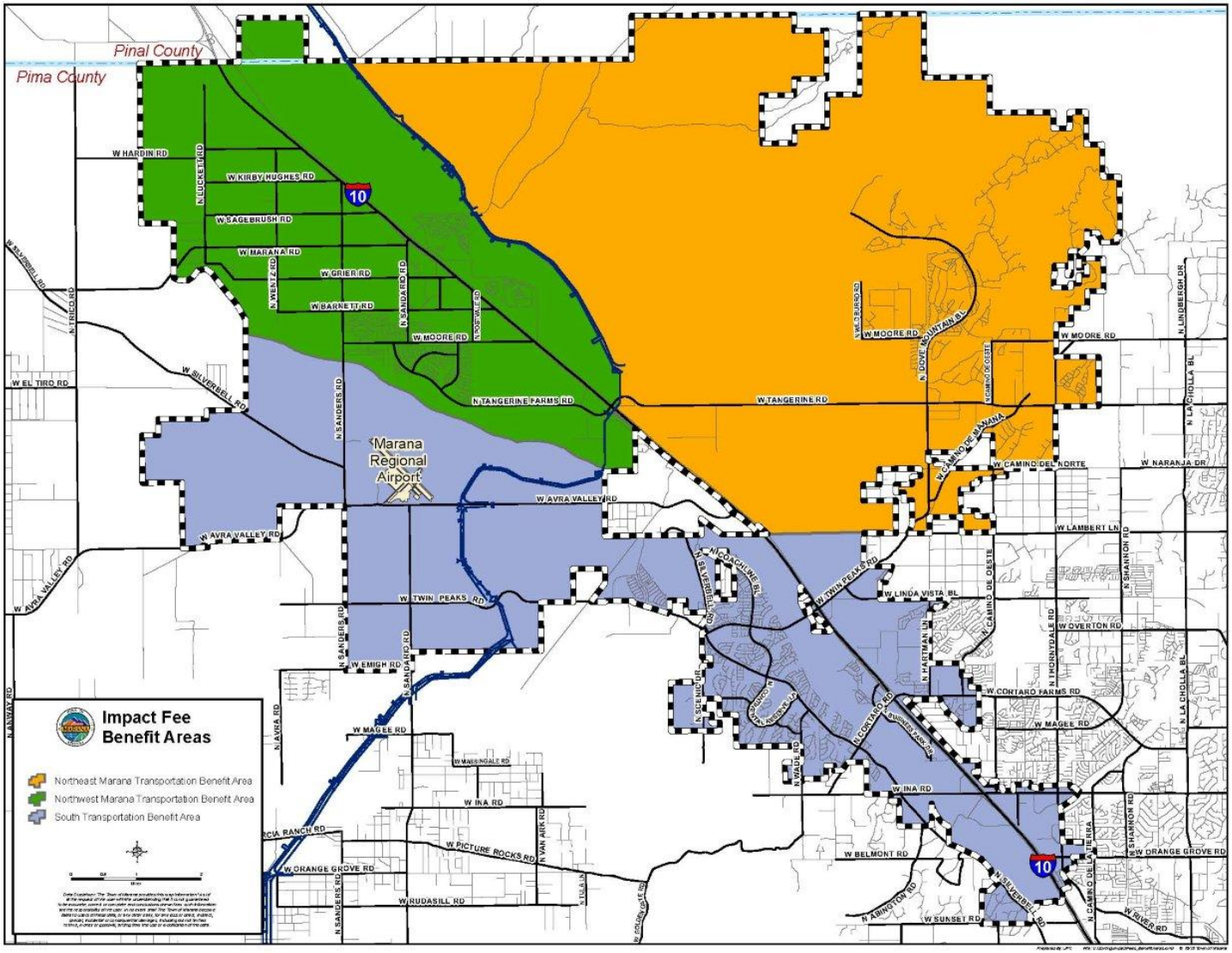
The land uses that are used in this report to evaluate infrastructure needs are documented separately in the Land Use Assumptions report developed by the Town of Marana. The Land Use Assumptions report provides a quantification of expected future development within each of the service areas for which impact fees will be assessed.

1.1. ALLOCATION OF GROWTH WITHIN SERVICE AREAS

A “service area” is defined in ARS §9-463.05 (T)9 as “any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services of facility expansions and the development being served as prescribed in the infrastructure improvement plan.”

The Town of Marana currently has three service areas for streets: Northeast, Northwest, and South. The Town will continue to use the current service areas, which are shown in Figure 1.

Figure 1. Streets Facilities Service Areas



2. NECESSARY PUBLIC SERVICES

2.1. EXISTING NEEDS

For each necessary public service for which impact fees will be used, this document shall include the following:

Per ARS §9-463.05(E)1:

- "A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."

Per ARS §9-463.05(E)2:

- "An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."

The Town of Marana has identified the roadway projects which will be included in the development fee study as necessary public services. These projects, shown in Table 1, are necessary mainly due to the expected growth which was documented in the Land Use Assumptions report. The projects fall into three primary categories:

- New roadways/intersections
- Widening/improvement of existing roadways or intersections
- Legacy projects – projects already constructed by the Town or a developer with excess capacity to be used by new development (per ARS 9-463.05 (B)(7)(b))

Table 1 includes the total costs for each project, as well as the cost attributable to new development. The costs for each project were derived from various sources (as indicated in the table) and fluctuate depending on the current status of the project (planning/design/construction/completed) and on various site-specific conditions such as drainage, right-of-way and environmental issues. The primary sources of data are:

- Actual costs (debt service or impact fee credits) for legacy projects already constructed by the Town or by developers.
- Project-specific estimates for projects already in the design stage.

Table 1. Necessary Streets Facilities, Existing and Future

	Road Project	Limits		# of Lanes	Length (mi)	Construction Cost		Non-Construction Costs*	Total Capital Cost - New/ Improvements	Legacy Cost	Cost Attributable to Development**	Source / Notes
						Per Lane-Mile	Total					
Northwest	Marana Main Street	Sandario	Grier	2	0.54	$2,100,000	$2,268,000	$986,580	$3,255,000		$3,255,000	Lane mile costs from RTA Bids
	Marana Main Street	Tangerine Farms Rd	Sandario	2	0.35					$873,000	$873,000	Town of Marana / Debt Service
	Tangerine Farms Road	I-10 (Tangerine TI)	Clark Farms	4	4.1					$3,018,397	$3,018,397	Outstanding Impact Fee Credits (built by developer)
	Clark Farms	Riccati Dr	Despain Dr	3	0.7							
	Tangerine Farms Road	Clark Farms	I-10 (Marana TI)	4	1.2	$2,100,000	$10,080,000	$5,896,800	$15,977,000		$7,484,400	Lane mile costs from RTA Bids
	Marana Road Interchange, Phase 1	N/A	N/A	N/A	N/A				$6,753,000		$6,753,000	Town of Marana / prelim estimate
	Clark Farms	Despain Dr	Lon Adams Rd	3	0.5	$2,100,000	$3,150,000	$1,370,250	$4,520,000		$3,365,622	Lane mile costs from RTA Bids
	Clark Farms	Lon Adams Rd	Tangerine Farms Rd	4	2.1	$2,100,000	$17,640,000	$7,673,400	$25,313,000		$11,774,700	Lane mile costs from RTA Bids
	Adonis Road	Grier Rd	Tangerine Rd	2	3.0	$2,100,000	$12,600,000	$8,001,000	$20,601,000		$14,465,963	Lane mile costs from RTA Bids
	Tangerine Road Interchange	N/A	N/A	N/A	N/A				$4,500,000		$4,500,000	Town of Marana / prelim estimate (Cost split with NE)
Northeast	Tangerine Road, Phase 1	Dove Mountain Blvd	Town Limits	4	2.4				$6,189,000		$1,896,029	Town of Marana / Shortfall in impact fees at time of construction
	Tangerine Road, Phase 2	I-10 (Tangerine TI)	Dove Mountain Blvd	4	4.6				$42,537,000		$13,936,211	Town of Marana / Calculated cost based on Phase 1 costs, less RTA and State funding
	Twin Peaks Road	Lambert Ln	Tangerine Rd	4	2.1					$3,642,259	$3,642,259	Town of Marana / Debt Service
	Moore Road	Camino de Oeste	Thornydale Rd	2	1.3					$291,788	$291,788	Town of Marana / Outstanding cost
	Cayton Road	Dove Mountain Blvd	Thornydale Rd	2	1.1	$2,100,000	$4,620,000	$2,009,700	$6,630,000		$6,630,000	Lane mile costs from RTA Bids
	Tangerine Road Interchange	N/A	N/A		N/A				$1,500,000		$1,500,000	Town of Marana / prelim estimate (Cost split with NW)
South	Twin Peaks Interchange	N/A	N/A	N/A	N/A					$3,757,886	$3,757,886	Town of Marana / Debt Service
	Twin Peaks Road	I-10	Lambert Ln	4	1.3							
	Twin Peaks Road/ Rattlesnake Pass	Saguaro Highlands Dr	Silverbell Rd	4	1.5				$18,001,838		$7,506,111	Town of Marana / prelim estimate
	Cortaro Road	I-10	Camino de Oeste	4	1.7				$8,134,735		$2,319,081	Town of Marana / Construction Cost
	Silverbell Road	Ina Rd	Cortaro Rd	4	1.0				$21,068,682		$8,023,017	Town of Marana / Construction Cost
	Ina Road	I-10	Silverbell Rd	4	1.1				$9,000,000		$3,006,062	Town of Marana / Construction Cost
	Silverbell Road	Sunset Rd	Ina Rd	4	3.2				$8,013,159		$2,625,316	Town of Marana / RTA estimates of difference between 3-lane and 4-lane for Marana portion of project

Total (New/Improvement Facilities)	$201,993,414	
Total (Legacy Facilities)		$11,583,330
TOTAL (ALL FACILITIES)	**$213,576,744**	

* Includes ROW, environmental mitigation, drainage, design, construction management, financing costs

** See Appendix C for additional detail

- Generalized cost per lane-mile (from similar projects) for projects that have not advanced past the preliminary planning stage.

Based on the 10-year framework required by the ARS, the analysis years include 2023 through 2032. The roadway projects for that period include 70.8 lane-miles of new and improved roadways, three traffic interchanges along Interstate 10 (at Twin Peaks Road, Tangerine Road, and Marana Road), and 50.6 lane-miles of legacy facilities reserved for development. Traffic volumes for each roadway project in 2022 and 2032 are provided in Table 2. The development of the traffic volumes in the table are further discussed in the following section.

2.2. PAG MODELING METHODOLOGY

The Pima Association of Governments (PAG) maintains a travel demand model that estimates the future volumes for the Tucson metropolitan area. A new 2031 model was developed for this study based on employment, population, and facility inputs provided by the project team in collaboration with the Town. Note that the results of this model (and the 2021 model, also provided by PAG) do not represent official PAG forecasts but are instead a special product developed by PAG for the Town of Marana. The model results were further adjusted to better represent 2022 and 2032 conditions considering the considerable growth in the Town in 2021 and early 2022.

The PAG model does not directly include ITE trip generation rates (which are typically used to determine how much traffic a development will generate). Instead, the model develops trip generation based on the characteristics of each Traffic Analysis Zone (TAZ), such as employment and population. Trips are then distributed on the surrounding roadway network based on origins and destinations, trip length, travel time, and available roadway capacity. Employment and population estimates were provided by Psomas based on previous model inputs, official PAG model inputs, and information provided by the Town.

The resulting volumes are shown on Table 2. In some cases, existing and/or future volumes were adjusted beyond what was provided in the PAG models based on recent traffic counts and other available information. In addition, volumes were adjusted to better represent 2022 and 2032 conditions.

Table 2. Current and Future Traffic Volumes

	Road Project	Limits		Speed Limit (mph)	Existing Volume (veh/day)[1]	Existing Volume Adjusted[2]	Existing Capacity (veh/day)[3]	Future Volume (veh/day)[4]	Future Volume Adjusted[5]	Future Capacity (veh/day)[6]
Northwest	Marana Main Street	Sandario Rd	Grier Rd	25	0		N/A	1,000	3,000	13,990
	Marana Main Street	Tangerine Farms Rd	Sandario Rd	25	1,000		16,730	300	4,300	16,730
	Tangerine Farms Road	I-10 (Tangerine TI)	Clark Farms	45	13,500		37,610	27,500		37,610
	Clark Farms	Riccati Dr	Despain Dr	40	3,200		17,567	8,700		17,567
	Tangerine Farms Road	Clark Farms	I-10 (Marana TI)	45	0		N/A	10,000		30,620
	Marana Road Interchange, Phase 1	N/A	N/A	N/A	N/A		N/A	N/A		N/A
	Clark Farms	Despain Dr	Lon Adams Rd	35	0		N/A	10,000		14,690
	Clark Farms	Lon Adams Rd	Tangerine Farms Rd	35	0		N/A	9,000		30,620
	Adonis Road	Grier Rd	Tangerine Rd	45	0		N/A	10,000		15,930
	Tangerine Road Interchange	N/A	N/A	N/A	N/A		N/A	N/A		N/A
Northeast	Tangerine Road, Phase 1	Dove Mountain Blvd	Town Limits	50	10,000	15,400	37,610	15,000	20,400	37,610
	Tangerine Road, Phase 2	I-10 (Tangerine TI)	Dove Mountain Blvd	50	8,000		16,730	14,000		37,610
	Twin Peaks Road	Lambert Ln	Tangerine Rd	45	16,000		37,610	23,500		37,610
	Moore Road	Camino De Oeste	Thornydale Rd	30	3,000		13,990	7,000		16,730
	Cayton Road	Dove Mountain Blvd	Thornydale Rd	30	0		N/A	5,400		13,990
	Tangerine Road Interchange	N/A	N/A	N/A	N/A		N/A	N/A		N/A
South	Twin Peaks Interchange	N/A	N/A	N/A	N/A		N/A	N/A		N/A
	Twin Peaks Road	I-10	Lambert Ln	45	18,000	22,000	37,610	29,000	33,000	37,610
	Twin Peaks Road/Rattlesnake Pass	Saguaro Highlands Dr	Silverbell Rd	45	12,500		16,730	16,000	22,700	37,610
	Cortaro Road	I-10	Camino de Oeste	40	25,000		37,610	29,000		37,610
	Silverbell Road	Ina Rd	Cortaro Rd	45	22,000	14,000	37,610	22,500		37,610
	Ina Road	I-10	Silverbell Rd	45	26,000		16,730	22,000	32,300	37,610
	Silverbell Road	Ina Rd	Sunset Rd	45	10,000		16,730	16,000		37,610

[1] From PAG 2021 Travel Demand Model using Marana Land Use Assumptions

[2] Used recent traffic count if significant differences between 2021 PAG Model and recent traffic counts

[3] Based on current road section and FDOT Capacity Tables

[4] From PAG Travel Demand Model using Marana 2031 Land Use Assumptions and regional growth factor

[5] Adjusted to better reflect anticipated volumes based on existing and planned developments

[6] Based on 2032 road section and FDOT Capacity Tables

To estimate the necessary public services, the daily roadway capacity for one lane-mile of arterial roadway was calculated. The general daily capacity for a single lane ranges from 7,000 to 9,000 vehicles per day (vpd), depending on the roadway type, vehicular access control, and whether the roadway is in an urban or a rural area. The Town uses performance criteria based on daily service volumes included in their 2017 *Transportation Impact Analysis* guidelines[1] to evaluate roadway Level of Service (LOS). LOS D is the performance standard for most areas and will be used in this study.

The often-used Florida Department of Transportation (FDOT) standards[2] for LOS D are similar to those used by the Town of Marana. It is recommended that the FDOT standards for LOS D for each roadway type be adopted for this study. The appropriate roadway capacities are shown in Table 2.

2.3. PROJECTED NEEDS

ARS §9-463.05(E)3 requires that this document shall include:

> "A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including an forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."

As shown in Table 1, there are approximately 70.8 lane-miles of new roadway attributable to new development, three traffic interchanges along I-10, and 50.6 miles of legacy facilities reserved for development, with an estimated total cost attributable to development of $110,623,843 (see Appendix C). The cost of preparing updates to the impact fee documents twice during the 10-year study period, based on the cost of this study, is $180,000 ($90,000 per update). Therefore, the total cost for providing these necessary public services associated with streets is $110,803,843 during the 10-year time period.

3. TRAVEL DEMAND PER DEMAND UNIT – METHODOLOGY

ARS §9-463.05(E)4 requires that this document shall include:

> "A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."

Town staff provided a list of land uses which will be used in calculating the trip generation for future development projects. Each of these land uses has documented trip rates in the *ITE Trip Generation Manual*[3]. There have been some minor changes in the land uses since the adoption of the 2017 IIP to better fit Town policies and projected development. Table 3 shows the estimated roadway demand per unit of land use, and a description of the factors is included in the following sections.

3.1. AVERAGE TRIP LENGTH

The average trip length shown in Table 3 is based on trip length data from the Table 5 of the 2017 National Household Travel Survey[4] (NHTS). The survey data is collected from a sample of U.S. households and is expanded to provide national estimates of trips and travel distance by travel mode, trip purpose, and a number of household characteristics. The trip length for primary trips to high-traffic retail locations (such as gas stations and fast-food restaurants) was estimated to be half of the general retail trip length.

3.2. ITE TRIP GENERATION RATES

The ITE *Trip Generation Manual* contains trip generation rates for a wide variety of land uses by unit of land use measurement (i.e. per residential unit for residential developments, per 1,000 square feet for commercial, etc.). The 10th Edition, published in 2017, was referenced for this work. The PM peak hour rates were applied in the demand unit calculations. The PM peak hour rates were used because that period is typically the busiest period of the day and is generally what drives the need for additional capacity.

Table 3. Estimate of Streets Facility Demand per Unit of Land Use

Land Use Category	Unit	% Primary Trips	Average PM Peak Hour Trip Rate per Unit	Average Trip Length (mi)	% Travel Demand on Marana Arterial Network	Vehicle Miles of Travel Demand per Unit	Representative ITE Category	EDUs
Residential								
Single Family Residential	Dwelling Unit	100%	0.99	10.7	48%	5.1	210	1.0
Multi-Family	Dwelling Unit	100%	0.56	10.7	48%	2.9	220	0.6
Hotel/Motel	Rooms	100%	0.49	10.7	48%	2.5	310, 320	0.5
Congregate Care	Dwelling Unit	100%	0.18	10.7	48%	0.9	253	0.2
Single Family Residential (age restricted)	Dwelling Unit	100%	0.30	10.7	60%	1.9	251	0.4
Multi-Family (age restricted)	Dwelling Unit	100%	0.26	10.7	60%	1.7	252	0.3
Retail and Services								
< 15,000 sf	1000 sf	19%	8.90	7.1	40%	4.8	820	0.9
> 15,000 sf	1000 sf	66%	3.81	7.1	40%	7.1	820	1.4
High Traffic Retail	1000 sf	23%	29.14	3.6	40%	9.5	853, 912, 930, 934	1.9
Industrial	1000 sf	70%	0.72	10.7	40%	2.2	110, 151, 155	0.4
Office	1000 sf	75%	1.15	11.5	40%	4.0	710	0.8
Medical Facility	1000 sf	60%	2.13	10.7	40%	5.5	610, 630	1.1
Institutional	1000 sf	50%	1.17	6.4	40%	1.5	520, 530	0.3
Recreation	1000 sf	34%	1.16	10.4	40%	1.6	411, 495	0.3

3.3. PRIMARY TRIPS

Primary trips are trips to and from a specified land use which a driver intended to make without making other stops along the way. Drivers may also choose to divert from their originally intended path to make a secondary stop or may choose to make a stop along their original path. These trips are called diverted trips and pass-by trips, respectively. The calculations for determining impact fees are based solely on primary trips, so diverted trip and pass-by trip data in the ITE *Trip Generation Manual* was used to determine what percentage of trips are primary trips for each land use, with two exceptions. The manual does not include pass-by trip information for recreational uses such as a gym or rec center, so it was assumed that those uses would have a travel pattern similar to a gas station where many users stop by between home and work/school/etc. For the school uses, the primary trip percentage was estimated based on previous experience and is consistent with the percentage used in the *Pima County Street Facilities Infrastructure Improvements Plan*[5].

3.4. TRAVEL DEMAND ON THE ARTERIAL AND MAJOR COLLECTOR ROAD NETWORK

As previously discussed, only trips on the arterial and major collector roadways are considered in the development of impact fees. A general assumption, matching that in the 2017 IIP, is that 80% of travel occurs on the arterial/major collector system for most land use types. As the Town has grown, it is assumed that 60% of all residential trips are on Town roadways. For most of the other land uses, half of the generated trips will occur on Town roadways, while the other half will occur outside Town limits or on non-town roadways (such as I-10). Trips generated by age restricted residential developments are expected to include a higher percentage on Town roadways.

4. PROJECTED SERVICE UNITS FOR NEW DEVELOPMENT

ARS §9-463.05(E)5 requires that this document shall include:

> "The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."

In addition, ARS §9-463.05(E)6 requires that this document shall include:

> "The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."

The land use assumptions estimate that growth between 2023 and 2032 will include 13,942 new residential units (single family and multi-family combined) and 439 acres of non-residential development, estimated to include 3.8 million square feet of non-residential building area. The calculation assumes a non-residential floor area ratio (FAR) of 0.2.

5. REVENUE CONSIDERATIONS

Considering revenue, ARS §9-463.05(E)7 states that the IIP should include:

> "A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."

In order to provide an equitable obligation of transportation impact fees, both costs and credits must be considered. New development must be given credit for contributions to the various forms of funding which may be used for roadway improvements, such as the contribution of a development impact fee. Other sources of roadway infrastructure funding which can be identified as coming from a new development must be considered as credits for that development.

Further, the costs associated with correcting existing deficiencies cannot be placed as a burden on new development. Any money spent from common improvement funds to address a deficiency must consider credits to new development for which the improvement is associated. At this time, the only continuing revenue source which may be considered as credits to new development is the construction sales tax.

The Town currently has a 4.0% construction sales tax. The construction sales tax is nominally collected at the rate of 65% of the contract value, which is the presumptive proportion of the contract related to taxable building materials. The 4% rate includes the Town's base rate of 2% plus an additional 2% specific to contracting activities.

For example, a typical new 2,000-square-foot single family home would have an estimated construction cost of $325,912[6], and a related construction tax of $7,951.68. However, only half of the tax is creditable against the development fee, so the credit is $3,975.84, which is rounded up to $3,976.

The calculation methodology and complete table of construction sales tax credits by impact fee category are included in Appendix B of this report.

Note that the construction sales tax credit will be split between the streets facilities fee and the park fee in the development of the fee studies for the two infrastructure categories, as shown in Appendix B.

The Town utilizes its HURF/VLT allocation solely for maintenance. Therefore, no credit will be provided for HURF/VLT funds. In addition, the Town does not have a property tax, and other state and federal revenues are undeterminable and intermittent. Therefore, the construction sales tax credit is the only source of credits considered in this study.

6. REFERENCES

[1] *Transportation Impact Analysis.* Town of Marana, November 2017.

[2] *Florida Quality and Level of Service Tables.* Florida Department of Transportation, 2020.

[3] *Trip Generation, 10th Edition*. Institute of Transportation Engineers (ITE). Washington, D.C., 2017.

[4] *Summary of Travel Trends, 2009 National Household Travel Survey*. Federal Highway Administration, July 2018. https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf, accessed August 2022.

[5] *Street Facilities Infrastructure Improvements Plan, Final Public Report.* Pima County, January 2020.

[6] *Building Valuation Data – February 2022.* International Code Council, https://www.iccsafe.org/products-and-services/i-codes/code-development-process/building-valuation-data/, accessed March 2022.

Appendix A
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Appendix B

Methodology for Construction Sales Tax Credit

1. Assuming typical building materials for each representative impact fee category, construction costs were determined using the International Code Council cost valuation tables.
2. The construction sales tax is based on a state formula[1] which includes the Town construction sales tax (4%), the total tax rate for the area (10.1% in Pima County[2]), and a percentage of the actual construction cost (65%)
    a. First, the formula includes a calculation of a tax factor on the overall tax burden:

        (65% x 10.1%) / (1 + (65% x 10.1%)) = 0.0616056

    b. Next, the formula multiplies this factor by the portion of the total sales tax that is the Town's to determine an adjusted sales tax rate

        0.0616056 x (4% / 10.1%) = 2.4398%
3. State law requires that all tax revenue received above the Town's normal sales tax be credited against the development impact fees. For the Town, the normal sales tax is 2%, compared to the overall construction sales tax of 4%. Therefore, 50% of the construction sales tax should be applied as a credit against the impact fees.
4. For impact fee categories which are unit based, representative building sizes were used to develop estimated construction costs and associated taxes. The following average square footages include residential living areas and additional accompanying areas.
    a. Single family residence (general and age-restricted) – 2,000 sq ft of living space, 400 sq ft garage
    b. Multi-family residence (general and age-restricted) – 1,115 sq ft total space per unit (rental)
    c. Hotel/motel – 550 sq ft of total space per unit (room)
    d. Congregate care – 350 sq ft of total space per unit (bed)
5. All other impact fees categories use 1,000 sq ft of construction for the construction tax credit, related directly to the impact fee burden, which is also calculated based on 1,000 sq ft.

[1] Formula is provided by the Arizona Department of Revenue (https://www.azdor.gov)
[2] Total tax rate is 5.6% for the state + 4% for Marana construction + 0.5% for the RTA = 10.1%

Construction Sales Tax Credit by Impact Fee Category

Impact Fee Category	ICC Building Group	ICC Construction Type	ICC Cost per sq ft	Average	Typical sq ft	Construction Cost	Total Construction sales tax	Creditable Construction Sales Tax	Credit Amount for Parks Fee	Credit Amount for Streets Fee
Single Family Residence	R3 - residential one and two family	5b	$150.87	$150.87	2,000	$325,912.00	$7,951.68	$3,976.00	$500.00	$3,476.00
	U - utility (garage)	5b	$60.43	$60.43	400					
Multi-Family Residence	R2 - residential multi-family	5b	$139.06	$139.06	1,115	$155,051.90	$3,783.00	$1,892.00	$500.00	$1,392.00
Single Family Residential (age restricted)	R3 - residential one and two family	5b	$150.87	$150.87	2,000	$325,912.00	$7,951.68	$3,976.00	$500.00	$3,476.00
	U - utility (garage)	5b	$60.43	$60.43	400					
Multi-Family (age restricted)	N/A	5b	$139.06	$139.06	1,115	$155,051.90	$3,783.00	$1,892.00	$500.00	$1,392.00
Hotel/Motel	R1 - residential hotels	5b	$178.00	$178.00	550	$97,900.00	$2,388.59	$1,195.00	$100.00	$1,095.00
Congregate Care	I2 - institutional, nursing homes	3a	$354.29	$267.77	355	$95,058.35	$2,319.26	$1,160.00	$100.00	$1,060.00
	R4 - care/assisted living	5a	$181.25							
Retail Services	M - mercantile	3b	$137.88	$137.88	1,000	$137,880.00	$3,364.03	$1,683.00	$100.00	$1,583.00
High Traffic Retail	B - business	3b	$187.36	$187.36	1,000	$187,360.00	$4,571.26	$2,286.00	$100.00	$2,186.00
Industrial	B - business	3b	$187.36	$187.36	1,000	$187,360.00	$4,571.26	$2,286.00	$100.00	$2,186.00
Office	B - business	3b	$187.36	$187.36	1,000	$187,360.00	$4,571.26	$2,286.00	$100.00	$2,186.00
Medical	I2 - institutional, hospitals	1b	$392.40	$392.40	1,000	$392,400.00	$9,573.88	$4,787.00	$100.00	$4,687.00
Institutional	A3 - assembly, churches	3b	$234.07	$210.47	1,000	$210,466.67	$5,135.02	$2,568.00	$100.00	$2,468.00
	E - educational	3b	$205.54							
	A3 - assembly, libraries, museums, community halls, general	3b	$191.79							
Recreation	A3 - museums, libraries	3b	$191.79	$191.79	1,000	$191,790.00	$4,679.34	$2,340.00	$100.00	$2,240.00

Appendix C

Assessed Costs by Project and Service Area

	Road Project	Limits		Project Type	# of Lanes	Classification	Volume Before Improvements	Existing Volume (veh/day)	Existing Capacity (veh/day)	Future Volume (veh/day)	Future Capacity (veh/day)	Traffic from Development	% of Capacity used by development	Total Improvement Costs	Cost of New Two-Lane Roadway	Outstanding Impact Fee Credits / Debt Service	Cost of Vehicular Improv (80%)	Cost of bike/ped improv (20%)	Cost Attributable to Develoment = (Vehicular Cost * % Capacity used) + 100% of ped/bike improvements
Northwest	Marana Main Street	Sandario Rd	Grier Rd	New	2	Collector	0	0	N/A	3,000	13,990	3,000	21%	$ 3,255,000					$ 3,255,000
	Marana Main Street	Tangerine Farms Rd	Sandario Rd	Legacy	2	Collector	0	1,000	16,730	4,300	16,730	3,300	20%			$ 873,000			$ 873,000
	Tangerine Farms Road	I-10 (Tangerine TI)	Clark Farms	Legacy	4	Arterial	0	13,500	37,610	27,500	37,610	14,000	37%			$ 3,018,397			$ 3,018,397
	Clark Farms	Riccati Dr	Despain Dr	Legacy	3	Collector	0	3,200	17,567	8,700	17,567	5,500	31%						
	Tangerine Farms Road	Clark Farms	I-10 (Marana TI)	New	4	Arterial	0	0	N/A	10,000	30,620	10,000	33%	$ 15,977,000	$ 7,484,400				$ 7,484,400
	Marana Road Interchange, Phase 1	N/A	N/A	Interchange Reconstruct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	$ 6,753,000					$ 6,753,000
	Clark Farms	Despain Dr	Lon Adams Rd	New	3	Collector	0	0	N/A	10,000	14,690	10,000	68%	$ 4,520,000			$ 3,616,000	$ 904,000	$ 3,365,622
	Clark Farms	Lon Adams Rd	Tangerine Farms Rd	New	4	Collector	0	0	N/A	9,000	30,620	9,000	29%	$ 25,313,000	$ 11,774,700				$ 11,774,700
	Adonis Road	Grier Rd	Tangerine Rd	New	2	Collector	0	0	N/A	10,000	15,930	10,000	63%	$ 20,601,000			$ 16,480,800	$ 4,120,200	$ 14,465,963
	Tangerine Road Interchange	N/A	N/A	Interchange Reconstruct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	$ 4,500,000					$ 4,500,000
Northeast	Tangerine Road, Phase 1	Dove Mountain Blvd	Town Limits	Completed Capacity	4	Arterial	14,444	15,400	37,610	20,400	37,610	5,000	13%	$ 6,189,000			$ 4,951,200	$ 1,237,800	$ 1,896,029
	Tangerine Road, Phase 2	I-10 (Tangerine TI)	Dove Mountain Blvd	Improvement	4	Arterial	N/A	8,000	16,730	14,000	37,610	6,000	16%	$ 42,537,000			$ 34,029,600	$ 8,507,400	$ 13,936,211
	Twin Peaks Road	Lambert Ln	Tangerine Rd	Completed Capacity	4	Arterial	0	16,000	37,610	23,500	37,610	23,500	62%			$ 3,642,259			$ 3,642,259
	Moore Road	Camino De Oeste	Thornydale Rd	Completed Capacity	2	Collector	0	3,000	13,990	7,000	16,730	7,000	42%			$ 291,788			$ 291,788
	Cayton Road	Dove Mountain Blvd	Thornydale Rd	New	2	Collector	0	0	N/A	5,400	13,990	5,400	39%	$ 6,630,000					$ 6,630,000
	Tangerine Road Interchange	N/A	N/A	Interchange Reconstruct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	$ 1,500,000					$ 1,500,000
South	Twin Peaks Interchange	N/A	N/A	Legacy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%			$ 3,757,886			$ 3,757,886
	Twin Peaks Road	I-10	Lambert Ln	Legacy	4	Arterial	0	22,000	37,610	33,000	37,610	11,000	29%						
	Twin Peaks Road/ Rattlesnake Pass	Saguaro Highlands Dr	Silverbell Rd	Expansion	4	Collector	N/A	12,500	16,730	22,700	37,610	10,200	27%	$ 18,001,838			$ 14,401,470	$ 3,600,368	$ 7,506,111
	Cortaro Road	I-10	Camino de Oeste	Completed Capacity	4	Arterial	23,000	25,000	37,610	29,000	37,610	4,000	11%	$ 8,134,735			$ 6,507,788	$ 1,626,947	$ 2,319,081
	Silverbell Road	Ina Rd	Cortaro Rd	Completed Capacity	4	Arterial	9,800	14,000	37,610	22,500	37,610	8,500	23%	$ 21,068,682			$ 16,854,946	$ 4,213,736	$ 8,023,017
	Ina Road	I-10	Silverbell Rd	Completed Capacity	4	Arterial	12,848	26,000	16,730	32,300	37,610	6,300	17%	$ 9,000,000			$ 7,200,000	$ 1,800,000	$ 3,006,062
	Silverbell Road	Ina Rd	Sunset Rd	Expansion	4	Arterial	N/A	10,000	16,730	16,000	37,610	6,000	16%	$ 8,013,159			$ 6,410,527	$ 1,602,632	$ 2,625,316

Town of Marana

Impact Fee Study

Streets Facilities

Infrastructure Improvements Plan

Public Report

FINAL

As approved by the Marana Town Council, September 20, 2022

Prepared by

PSOMAS

333 East Wetmore Road, Suite 450

Tucson, AZ 85705

Prepared for

MARANA AZ

CELEBRATING 40 YEARS

11555 West Civic Center Drive

Marana, AZ 85653

Psomas Project No. 7TMA150123

September 20, 2022

Town of Marana Mayor and Council

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1. INTRODUCTION

The Town of Marana collects development impact fees to help offset some of the infrastructure costs associated with growth, as many jurisdictions do. In order to continue charging impact fees, the Town must comply with Arizona Revised Statute (ARS) §9-463.05, which includes the preparation of development fee studies, project lists, and fee schedules. Prior to establishing fees, a land use assumptions document and an infrastructure improvement plan (IIP) must be prepared.

This report identifies the infrastructure needs for the street facilities in the Town. The analysis only includes arterials and major collectors, since roadways with lower classifications are generally internal to development and are constructed during the development process. This analysis will be used in the subsequent calculation of impact fee rates. This report is an update of the Streets Facilities IIP approved and adopted by Town Council action in September 2017.

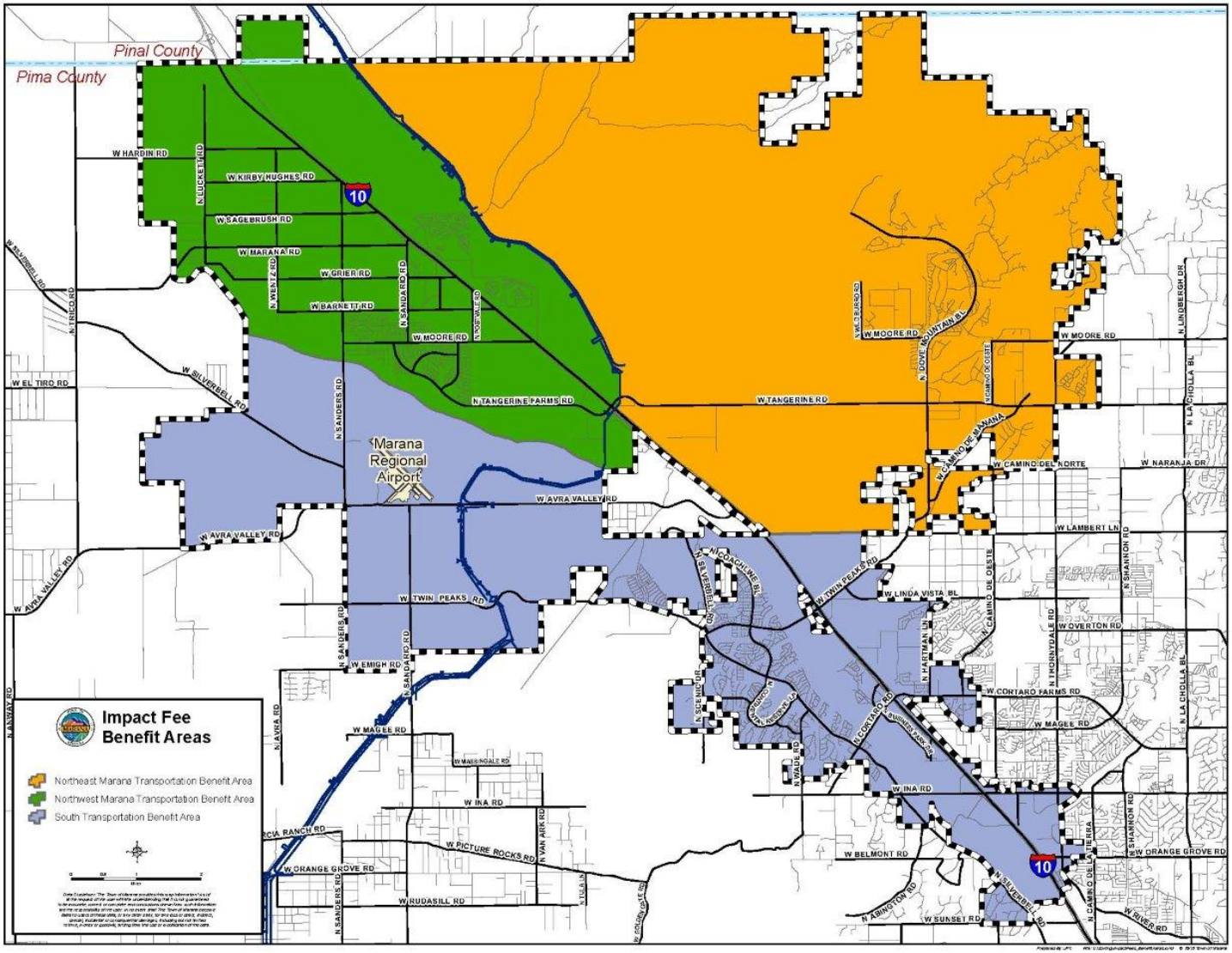
The land uses that are used in this report to evaluate infrastructure needs are documented separately in the Land Use Assumptions report developed by the Town of Marana. The Land Use Assumptions report provides a quantification of expected future development within each of the service areas for which impact fees will be assessed.

1.1. ALLOCATION OF GROWTH WITHIN SERVICE AREAS

A "service area" is defined in ARS §9-463.05 (T)9 as "any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services of facility expansions and the development being served as prescribed in the infrastructure improvement plan."

The Town of Marana currently has three service areas for streets: Northeast, Northwest, and South. The Town will continue to use the current service areas, which are shown in Figure 1.

Figure 1. Streets Facilities Service Areas



2. NECESSARY PUBLIC SERVICES

2.1. EXISTING NEEDS

For each necessary public service for which impact fees will be used, this document shall include the following:

Per ARS §9-463.05(E)1:

- "A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."

Per ARS §9-463.05(E)2:

- "An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."

The Town of Marana has identified the roadway projects which will be included in the development fee study as necessary public services. These projects, shown in Table 1, are necessary mainly due to the expected growth which was documented in the Land Use Assumptions report. The projects fall into three primary categories:

- New roadways/intersections
- Widening/improvement of existing roadways or intersections
- Legacy projects – projects already constructed by the Town or a developer with excess capacity to be used by new development (per ARS 9-463.05 (B)(7)(b))

Table 1 includes the total costs for each project, as well as the cost attributable to new development. The costs for each project were derived from various sources (as indicated in the table) and fluctuate depending on the current status of the project (planning/design/construction/completed) and on various site-specific conditions such as drainage, right-of-way and environmental issues. The primary sources of data are:

- Actual costs (debt service or impact fee credits) for legacy projects already constructed by the Town or by developers.
- Project-specific estimates for projects already in the design stage.

Table 1. Necessary Streets Facilities, Existing and Future

	Road Project	Limits		# of Lanes	Length (mi)	Construction Cost		Non-Construction Costs*	Total Capital Cost - New/ Improvements	Legacy Cost	Cost Attributable to Development**	Source / Notes
						Per Lane-Mile	Total					
Northwest	Marana Main Street	Sandario	Grier	2	0.54	$2,100,000	$2,268,000	$986,580	$3,255,000		$3,255,000	Lane mile costs from RTA Bids
	Marana Main Street	Tangerine Farms Rd	Sandario	2	0.35					$873,000	$873,000	Town of Marana / Debt Service
	Tangerine Farms Road	I-10 (Tangerine TI)	Clark Farms	4	4.1					$3,018,397	$3,018,397	Outstanding Impact Fee Credits (built by developer)
	Clark Farms	Riccati Dr	Despain Dr	3	0.7							
	Tangerine Farms Road	Clark Farms	I-10 (Marana TI)	4	1.2	$2,100,000	$10,080,000	$5,896,800	$15,977,000		$7,484,400	Lane mile costs from RTA Bids
	Marana Road Interchange, Phase 1	N/A	N/A	N/A	N/A				$6,753,000		$6,753,000	Town of Marana / prelim estimate
	Clark Farms	Despain Dr	Lon Adams Rd	3	0.5	$2,100,000	$3,150,000	$1,370,250	$4,520,000		$3,365,622	Lane mile costs from RTA Bids
	Clark Farms	Lon Adams Rd	Tangerine Farms Rd	4	2.1	$2,100,000	$17,640,000	$7,673,400	$25,313,000		$11,774,700	Lane mile costs from RTA Bids
	Adonis Road	Grier Rd	Tangerine Rd	2	3.0	$2,100,000	$12,600,000	$8,001,000	$20,601,000		$14,465,963	Lane mile costs from RTA Bids
	Tangerine Road Interchange	N/A	N/A	N/A	N/A				$4,500,000		$4,500,000	Town of Marana / prelim estimate (Cost split with NE)
Northeast	Tangerine Road, Phase 1	Dove Mountain Blvd	Town Limits	4	2.4				$6,189,000		$1,896,029	Town of Marana / Shortfall in impact fees at time of construction
	Tangerine Road, Phase 2	I-10 (Tangerine TI)	Dove Mountain Blvd	4	4.6				$42,537,000		$13,936,211	Town of Marana / Calculated cost based on Phase 1 costs, less RTA and State funding
	Twin Peaks Road	Lambert Ln	Tangerine Rd	4	2.1					$3,642,259	$3,642,259	Town of Marana / Debt Service
	Moore Road	Camino de Oeste	Thornydale Rd	2	1.3					$291,788	$291,788	Town of Marana / Outstanding cost
	Cayton Road	Dove Mountain Blvd	Thornydale Rd	2	1.1	$2,100,000	$4,620,000	$2,009,700	$6,630,000		$6,630,000	Lane mile costs from RTA Bids
	Tangerine Road Interchange	N/A	N/A		N/A				$1,500,000		$1,500,000	Town of Marana / prelim estimate (Cost split with NW)
South	Twin Peaks Interchange	N/A	N/A	N/A	N/A					$3,757,886	$3,757,886	Town of Marana / Debt Service
	Twin Peaks Road	I-10	Lambert Ln	4	1.3							
	Twin Peaks Road/ Rattlesnake Pass	Saguaro Highlands Dr	Silverbell Rd	4	1.5				$18,001,838		$7,506,111	Town of Marana / prelim estimate
	Cortaro Road	I-10	Camino de Oeste	4	1.7				$8,134,735		$2,319,081	Town of Marana / Construction Cost
	Silverbell Road	Ina Rd	Cortaro Rd	4	1.0				$21,068,682		$8,023,017	Town of Marana / Construction Cost
	Ina Road	I-10	Silverbell Rd	4	1.1				$9,000,000		$3,006,062	Town of Marana / Construction Cost
	Silverbell Road	Sunset Rd	Ina Rd	4	3.2				$8,013,159		$2,625,316	Town of Marana / RTA estimates of difference between 3-lane and 4-lane for Marana portion of project

Total (New/Improvement Facilities)	$201,993,414	
Total (Legacy Facilities)		$11,583,330
TOTAL (ALL FACILITIES)	**$213,576,744**	

* Includes ROW, environmental mitigation, drainage, design, construction management, financing costs

** See Appendix C for additional detail

- Generalized cost per lane-mile (from similar projects) for projects that have not advanced past the preliminary planning stage.

Based on the 10-year framework required by the ARS, the analysis years include 2023 through 2032. The roadway projects for that period include 70.8 lane-miles of new and improved roadways, three traffic interchanges along Interstate 10 (at Twin Peaks Road, Tangerine Road, and Marana Road), and 50.6 lane-miles of legacy facilities reserved for development. Traffic volumes for each roadway project in 2022 and 2032 are provided in Table 2. The development of the traffic volumes in the table are further discussed in the following section.

2.2. PAG MODELING METHODOLOGY

The Pima Association of Governments (PAG) maintains a travel demand model that estimates the future volumes for the Tucson metropolitan area. A new 2031 model was developed for this study based on employment, population, and facility inputs provided by the project team in collaboration with the Town. Note that the results of this model (and the 2021 model, also provided by PAG) do not represent official PAG forecasts but are instead a special product developed by PAG for the Town of Marana. The model results were further adjusted to better represent 2022 and 2032 conditions considering the considerable growth in the Town in 2021 and early 2022.

The PAG model does not directly include ITE trip generation rates (which are typically used to determine how much traffic a development will generate). Instead, the model develops trip generation based on the characteristics of each Traffic Analysis Zone (TAZ), such as employment and population. Trips are then distributed on the surrounding roadway network based on origins and destinations, trip length, travel time, and available roadway capacity. Employment and population estimates were provided by Psomas based on previous model inputs, official PAG model inputs, and information provided by the Town.

The resulting volumes are shown on Table 2. In some cases, existing and/or future volumes were adjusted beyond what was provided in the PAG models based on recent traffic counts and other available information. In addition, volumes were adjusted to better represent 2022 and 2032 conditions.

Table 2. Current and Future Traffic Volumes

	Road Project	Limits		Speed Limit (mph)	Existing Volume (veh/day)[1]	Existing Volume Adjusted[2]	Existing Capacity (veh/day)[3]	Future Volume (veh/day)[4]	Future Volume Adjusted[5]	Future Capacity (veh/day)[6]
Northwest	Marana Main Street	Sandario Rd	Grier Rd	25	0		N/A	1,000	3,000	13,990
	Marana Main Street	Tangerine Farms Rd	Sandario Rd	25	1,000		16,730	300	4,300	16,730
	Tangerine Farms Road	I-10 (Tangerine TI)	Clark Farms	45	13,500		37,610	27,500		37,610
	Clark Farms	Riccati Dr	Despain Dr	40	3,200		17,567	8,700		17,567
	Tangerine Farms Road	Clark Farms	I-10 (Marana TI)	45	0		N/A	10,000		30,620
	Marana Road Interchange, Phase 1	N/A	N/A	N/A	N/A		N/A	N/A		N/A
	Clark Farms	Despain Dr	Lon Adams Rd	35	0		N/A	10,000		14,690
	Clark Farms	Lon Adams Rd	Tangerine Farms Rd	35	0		N/A	9,000		30,620
	Adonis Road	Grier Rd	Tangerine Rd	45	0		N/A	10,000		15,930
	Tangerine Road Interchange	N/A	N/A	N/A	N/A		N/A	N/A		N/A
Northeast	Tangerine Road, Phase 1	Dove Mountain Blvd	Town Limits	50	10,000	15,400	37,610	15,000	20,400	37,610
	Tangerine Road, Phase 2	I-10 (Tangerine TI)	Dove Mountain Blvd	50	8,000		16,730	14,000		37,610
	Twin Peaks Road	Lambert Ln	Tangerine Rd	45	16,000		37,610	23,500		37,610
	Moore Road	Camino De Oeste	Thornydale Rd	30	3,000		13,990	7,000		16,730
	Cayton Road	Dove Mountain Blvd	Thornydale Rd	30	0		N/A	5,400		13,990
	Tangerine Road Interchange	N/A	N/A	N/A	N/A		N/A	N/A		N/A
South	Twin Peaks Interchange	N/A	N/A	N/A	N/A		N/A	N/A		N/A
	Twin Peaks Road	I-10	Lambert Ln	45	18,000	22,000	37,610	29,000	33,000	37,610
	Twin Peaks Road/Rattlesnake Pass	Saguaro Highlands Dr	Silverbell Rd	45	12,500		16,730	16,000	22,700	37,610
	Cortaro Road	I-10	Camino de Oeste	40	25,000		37,610	29,000		37,610
	Silverbell Road	Ina Rd	Cortaro Rd	45	22,000	14,000	37,610	22,500		37,610
	Ina Road	I-10	Silverbell Rd	45	26,000		16,730	22,000	32,300	37,610
	Silverbell Road	Ina Rd	Sunset Rd	45	10,000		16,730	16,000		37,610

[1] From PAG 2021 Travel Demand Model using Marana Land Use Assumptions

[2] Used recent traffic count if significant differences between 2021 PAG Model and recent traffic counts

[3] Based on current road section and FDOT Capacity Tables

[4] From PAG Travel Demand Model using Marana 2031 Land Use Assumptions and regional growth factor

[5] Adjusted to better reflect anticipated volumes based on existing and planned developments

[6] Based on 2032 road section and FDOT Capacity Tables

To estimate the necessary public services, the daily roadway capacity for one lane-mile of arterial roadway was calculated. The general daily capacity for a single lane ranges from 7,000 to 9,000 vehicles per day (vpd), depending on the roadway type, vehicular access control, and whether the roadway is in an urban or a rural area. The Town uses performance criteria based on daily service volumes included in their 2017 *Transportation Impact Analysis* guidelines[1] to evaluate roadway Level of Service (LOS). LOS D is the performance standard for most areas and will be used in this study.

The often-used Florida Department of Transportation (FDOT) standards[2] for LOS D are similar to those used by the Town of Marana. It is recommended that the FDOT standards for LOS D for each roadway type be adopted for this study. The appropriate roadway capacities are shown in Table 2.

2.3. PROJECTED NEEDS

ARS §9-463.05(E)3 requires that this document shall include:

> "A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including an forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."

As shown in Table 1, there are approximately 70.8 lane-miles of new roadway attributable to new development, three traffic interchanges along I-10, and 50.6 miles of legacy facilities reserved for development, with an estimated total cost attributable to development of $110,623,843 (see Appendix C). The cost of preparing updates to the impact fee documents twice during the 10-year study period, based on the cost of this study, is $180,000 ($90,000 per update). Therefore, the total cost for providing these necessary public services associated with streets is $110,803,843 during the 10-year time period.

3. TRAVEL DEMAND PER DEMAND UNIT – METHODOLOGY

ARS §9-463.05(E)4 requires that this document shall include:

> "A table establishing the specific level or quantity of use, consumption, generation or discharge of a service unit for each category of necessary public services or facility expansions and an equivalency or conversion table establishing the ratio of a service unit to various types of land uses, including residential, commercial and industrial."

Town staff provided a list of land uses which will be used in calculating the trip generation for future development projects. Each of these land uses has documented trip rates in the *ITE Trip Generation Manual*[3]. There have been some minor changes in the land uses since the adoption of the 2017 IIP to better fit Town policies and projected development. Table 3 shows the estimated roadway demand per unit of land use, and a description of the factors is included in the following sections.

3.1. AVERAGE TRIP LENGTH

The average trip length shown in Table 3 is based on trip length data from the Table 5 of the 2017 National Household Travel Survey[4] (NHTS). The survey data is collected from a sample of U.S. households and is expanded to provide national estimates of trips and travel distance by travel mode, trip purpose, and a number of household characteristics. The trip length for primary trips to high-traffic retail locations (such as gas stations and fast-food restaurants) was estimated to be half of the general retail trip length.

3.2. ITE TRIP GENERATION RATES

The ITE *Trip Generation Manual* contains trip generation rates for a wide variety of land uses by unit of land use measurement (i.e. per residential unit for residential developments, per 1,000 square feet for commercial, etc.). The 10th Edition, published in 2017, was referenced for this work. The PM peak hour rates were applied in the demand unit calculations. The PM peak hour rates were used because that period is typically the busiest period of the day and is generally what drives the need for additional capacity.

Table 3. Estimate of Streets Facility Demand per Unit of Land Use

Land Use Category	Unit	% Primary Trips	Average PM Peak Hour Trip Rate per Unit	Average Trip Length (mi)	% Travel Demand on Marana Arterial Network	Vehicle Miles of Travel Demand per Unit	Representative ITE Category	EDUs
Residential								
Single Family Residential	Dwelling Unit	100%	0.99	10.7	48%	5.1	210	1.0
Multi-Family	Dwelling Unit	100%	0.56	10.7	48%	2.9	220	0.6
Hotel/Motel	Rooms	100%	0.49	10.7	48%	2.5	310, 320	0.5
Congregate Care	Dwelling Unit	100%	0.18	10.7	48%	0.9	253	0.2
Single Family Residential (age restricted)	Dwelling Unit	100%	0.30	10.7	60%	1.9	251	0.4
Multi-Family (age restricted)	Dwelling Unit	100%	0.26	10.7	60%	1.7	252	0.3
Retail and Services								
< 15,000 sf	1000 sf	19%	8.90	7.1	40%	4.8	820	0.9
> 15,000 sf	1000 sf	66%	3.81	7.1	40%	7.1	820	1.4
High Traffic Retail	1000 sf	23%	29.14	3.6	40%	9.5	853, 912, 930, 934	1.9
Industrial	1000 sf	70%	0.72	10.7	40%	2.2	110, 151, 155	0.4
Office	1000 sf	75%	1.15	11.5	40%	4.0	710	0.8
Medical Facility	1000 sf	60%	2.13	10.7	40%	5.5	610, 630	1.1
Institutional	1000 sf	50%	1.17	6.4	40%	1.5	520, 530	0.3
Recreation	1000 sf	34%	1.16	10.4	40%	1.6	411, 495	0.3

3.3. PRIMARY TRIPS

Primary trips are trips to and from a specified land use which a driver intended to make without making other stops along the way. Drivers may also choose to divert from their originally intended path to make a secondary stop or may choose to make a stop along their original path. These trips are called diverted trips and pass-by trips, respectively. The calculations for determining impact fees are based solely on primary trips, so diverted trip and pass-by trip data in the ITE *Trip Generation Manual* was used to determine what percentage of trips are primary trips for each land use, with two exceptions. The manual does not include pass-by trip information for recreational uses such as a gym or rec center, so it was assumed that those uses would have a travel pattern similar to a gas station where many users stop by between home and work/school/etc. For the school uses, the primary trip percentage was estimated based on previous experience and is consistent with the percentage used in the *Pima County Street Facilities Infrastructure Improvements Plan*[5].

3.4. TRAVEL DEMAND ON THE ARTERIAL AND MAJOR COLLECTOR ROAD NETWORK

As previously discussed, only trips on the arterial and major collector roadways are considered in the development of impact fees. A general assumption, matching that in the 2017 IIP, is that 80% of travel occurs on the arterial/major collector system for most land use types. As the Town has grown, it is assumed that 60% of all residential trips are on Town roadways. For most of the other land uses, half of the generated trips will occur on Town roadways, while the other half will occur outside Town limits or on non-town roadways (such as I-10). Trips generated by age restricted residential developments are expected to include a higher percentage on Town roadways.

4. PROJECTED SERVICE UNITS FOR NEW DEVELOPMENT

ARS §9-463.05(E)5 requires that this document shall include:

> "The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."

In addition, ARS §9-463.05(E)6 requires that this document shall include:

> "The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."

The land use assumptions estimate that growth between 2023 and 2032 will include 13,942 new residential units (single family and multi-family combined) and 439 acres of non-residential development, estimated to include 3.8 million square feet of non-residential building area. The calculation assumes a non-residential floor area ratio (FAR) of 0.2.

5. REVENUE CONSIDERATIONS

Considering revenue, ARS §9-463.05(E)7 states that the IIP should include:

> "A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."

In order to provide an equitable obligation of transportation impact fees, both costs and credits must be considered. New development must be given credit for contributions to the various forms of funding which may be used for roadway improvements, such as the contribution of a development impact fee. Other sources of roadway infrastructure funding which can be identified as coming from a new development must be considered as credits for that development.

Further, the costs associated with correcting existing deficiencies cannot be placed as a burden on new development. Any money spent from common improvement funds to address a deficiency must consider credits to new development for which the improvement is associated. At this time, the only continuing revenue source which may be considered as credits to new development is the construction sales tax.

The Town currently has a 4.0% construction sales tax. The construction sales tax is nominally collected at the rate of 65% of the contract value, which is the presumptive proportion of the contract related to taxable building materials. The 4% rate includes the Town's base rate of 2% plus an additional 2% specific to contracting activities.

For example, a typical new 2,000-square-foot single family home would have an estimated construction cost of $325,912[6], and a related construction tax of $7,951.68. However, only half of the tax is creditable against the development fee, so the credit is $3,975.84, which is rounded up to $3,976.

The calculation methodology and complete table of construction sales tax credits by impact fee category are included in Appendix B of this report.

Note that the construction sales tax credit will be split between the streets facilities fee and the park fee in the development of the fee studies for the two infrastructure categories, as shown in Appendix B.

The Town utilizes its HURF/VLT allocation solely for maintenance. Therefore, no credit will be provided for HURF/VLT funds. In addition, the Town does not have a property tax, and other state and federal revenues are undeterminable and intermittent. Therefore, the construction sales tax credit is the only source of credits considered in this study.

6. REFERENCES

[1] *Transportation Impact Analysis.* Town of Marana, November 2017.

[2] *Florida Quality and Level of Service Tables.* Florida Department of Transportation, 2020.

[3] *Trip Generation, 10th Edition*. Institute of Transportation Engineers (ITE). Washington, D.C., 2017.

[4] *Summary of Travel Trends, 2009 National Household Travel Survey*. Federal Highway Administration, July 2018. https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf, accessed August 2022.

[5] *Street Facilities Infrastructure Improvements Plan, Final Public Report.* Pima County, January 2020.

[6] *Building Valuation Data – February 2022.* International Code Council, https://www.iccsafe.org/products-and-services/i-codes/code-development-process/building-valuation-data/, accessed March 2022.

Appendix A

List of Preparers

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Appendix B

Methodology for Construction Sales Tax Credit

1. Assuming typical building materials for each representative impact fee category, construction costs were determined using the International Code Council cost valuation tables.
2. The construction sales tax is based on a state formula[1] which includes the Town construction sales tax (4%), the total tax rate for the area (10.1% in Pima County[2]), and a percentage of the actual construction cost (65%)
    a. First, the formula includes a calculation of a tax factor on the overall tax burden:

        (65% x 10.1%) / (1 + (65% x 10.1%)) = 0.0616056

    b. Next, the formula multiplies this factor by the portion of the total sales tax that is the Town's to determine an adjusted sales tax rate

        0.0616056 x (4% / 10.1%) = 2.4398%
3. State law requires that all tax revenue received above the Town's normal sales tax be credited against the development impact fees. For the Town, the normal sales tax is 2%, compared to the overall construction sales tax of 4%. Therefore, 50% of the construction sales tax should be applied as a credit against the impact fees.
4. For impact fee categories which are unit based, representative building sizes were used to develop estimated construction costs and associated taxes. The following average square footages include residential living areas and additional accompanying areas.
    a. Single family residence (general and age-restricted) – 2,000 sq ft of living space, 400 sq ft garage
    b. Multi-family residence (general and age-restricted) – 1,115 sq ft total space per unit (rental)
    c. Hotel/motel – 550 sq ft of total space per unit (room)
    d. Congregate care – 350 sq ft of total space per unit (bed)
5. All other impact fees categories use 1,000 sq ft of construction for the construction tax credit, related directly to the impact fee burden, which is also calculated based on 1,000 sq ft.

[1] Formula is provided by the Arizona Department of Revenue (https://www.azdor.gov)
[2] Total tax rate is 5.6% for the state + 4% for Marana construction + 0.5% for the RTA = 10.1%

Construction Sales Tax Credit by Impact Fee Category

Impact Fee Category	ICC Building Group	ICC Construction Type	ICC Cost per sq ft	Average	Typical sq ft	Construction Cost	Total Construction sales tax	Creditable Construction Sales Tax	Credit Amount for Parks Fee	Credit Amount for Streets Fee
Single Family Residence	R3 - residential one and two family	5b	$150.87	$150.87	2,000	$325,912.00	$7,951.68	$3,976.00	$500.00	$3,476.00
	U - utility (garage)	5b	$60.43	$60.43	400					
Multi-Family Residence	R2 - residential multi-family	5b	$139.06	$139.06	1,115	$155,051.90	$3,783.00	$1,892.00	$500.00	$1,392.00
Single Family Residential (age restricted)	R3 - residential one and two family	5b	$150.87	$150.87	2,000	$325,912.00	$7,951.68	$3,976.00	$500.00	$3,476.00
	U - utility (garage)	5b	$60.43	$60.43	400					
Multi-Family (age restricted)	N/A	5b	$139.06	$139.06	1,115	$155,051.90	$3,783.00	$1,892.00	$500.00	$1,392.00
Hotel/Motel	R1 - residential hotels	5b	$178.00	$178.00	550	$97,900.00	$2,388.59	$1,195.00	$100.00	$1,095.00
Congregate Care	I2 - institutional, nursing homes	3a	$354.29	$267.77	355	$95,058.35	$2,319.26	$1,160.00	$100.00	$1,060.00
	R4 - care/assisted living	5a	$181.25							
Retail Services	M - mercantile	3b	$137.88	$137.88	1,000	$137,880.00	$3,364.03	$1,683.00	$100.00	$1,583.00
High Traffic Retail	B - business	3b	$187.36	$187.36	1,000	$187,360.00	$4,571.26	$2,286.00	$100.00	$2,186.00
Industrial	B - business	3b	$187.36	$187.36	1,000	$187,360.00	$4,571.26	$2,286.00	$100.00	$2,186.00
Office	B - business	3b	$187.36	$187.36	1,000	$187,360.00	$4,571.26	$2,286.00	$100.00	$2,186.00
Medical	I2 - institutional, hospitals	1b	$392.40	$392.40	1,000	$392,400.00	$9,573.88	$4,787.00	$100.00	$4,687.00
Institutional	A3 - assembly, churches	3b	$234.07	$210.47	1,000	$210,466.67	$5,135.02	$2,568.00	$100.00	$2,468.00
	E - educational	3b	$205.54							
	A3 - assembly, libraries, museums, community halls, general	3b	$191.79							
Recreation	A3 - museums, libraries	3b	$191.79	$191.79	1,000	$191,790.00	$4,679.34	$2,340.00	$100.00	$2,240.00

Appendix C

Assessed Costs by Project and Service Area

	Road Project	Limits		Project Type	# of Lanes	Classification	Volume Before Improvements	Existing Volume (veh/day)	Existing Capacity (veh/day)	Future Volume (veh/day)	Future Capacity (veh/day)	Traffic from Development	% of Capacity used by development	Total Improvement Costs	Cost of New Two-Lane Roadway	Outstanding Impact Fee Credits / Debt Service	Cost of Vehicular Improv (80%)	Cost of bike/ped improv (20%)	Cost Attributable to Develoment = (Vehicular Cost * % Capacity used) + 100% of ped/bike improvements
Northwest	Marana Main Street	Sandario Rd	Grier Rd	New	2	Collector	0	0	N/A	3,000	13,990	3,000	21%	$ 3,255,000					$ 3,255,000
	Marana Main Street	Tangerine Farms Rd	Sandario Rd	Legacy	2	Collector	0	1,000	16,730	4,300	16,730	3,300	20%			$ 873,000			$ 873,000
	Tangerine Farms Road	I-10 (Tangerine TI)	Clark Farms	Legacy	4	Arterial	0	13,500	37,610	27,500	37,610	14,000	37%			$ 3,018,397			$ 3,018,397
	Clark Farms	Riccati Dr	Despain Dr	Legacy	3	Collector	0	3,200	17,567	8,700	17,567	5,500	31%						
	Tangerine Farms Road	Clark Farms	I-10 (Marana TI)	New	4	Arterial	0	0	N/A	10,000	30,620	10,000	33%	$ 15,977,000	$ 7,484,400				$ 7,484,400
	Marana Road Interchange, Phase 1	N/A	N/A	Interchange Reconstruct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	$ 6,753,000					$ 6,753,000
	Clark Farms	Despain Dr	Lon Adams Rd	New	3	Collector	0	0	N/A	10,000	14,690	10,000	68%	$ 4,520,000			$ 3,616,000	$ 904,000	$ 3,365,622
	Clark Farms	Lon Adams Rd	Tangerine Farms Rd	New	4	Collector	0	0	N/A	9,000	30,620	9,000	29%	$ 25,313,000	$ 11,774,700				$ 11,774,700
	Adonis Road	Grier Rd	Tangerine Rd	New	2	Collector	0	0	N/A	10,000	15,930	10,000	63%	$ 20,601,000			$ 16,480,800	$ 4,120,200	$ 14,465,963
	Tangerine Road Interchange	N/A	N/A	Interchange Reconstruct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	$ 4,500,000					$ 4,500,000
Northeast	Tangerine Road, Phase 1	Dove Mountain Blvd	Town Limits	Completed Capacity	4	Arterial	14,444	15,400	37,610	20,400	37,610	5,000	13%	$ 6,189,000			$ 4,951,200	$ 1,237,800	$ 1,896,029
	Tangerine Road, Phase 2	I-10 (Tangerine TI)	Dove Mountain Blvd	Improvement	4	Arterial	N/A	8,000	16,730	14,000	37,610	6,000	16%	$ 42,537,000			$ 34,029,600	$ 8,507,400	$ 13,936,211
	Twin Peaks Road	Lambert Ln	Tangerine Rd	Completed Capacity	4	Arterial	0	16,000	37,610	23,500	37,610	23,500	62%			$ 3,642,259			$ 3,642,259
	Moore Road	Camino De Oeste	Thornydale Rd	Completed Capacity	2	Collector	0	3,000	13,990	7,000	16,730	7,000	42%			$ 291,788			$ 291,788
	Cayton Road	Dove Mountain Blvd	Thornydale Rd	New	2	Collector	0	0	N/A	5,400	13,990	5,400	39%	$ 6,630,000					$ 6,630,000
	Tangerine Road Interchange	N/A	N/A	Interchange Reconstruct	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%	$ 1,500,000					$ 1,500,000
South	Twin Peaks Interchange	N/A	N/A	Legacy	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100%			$ 3,757,886			$ 3,757,886
	Twin Peaks Road	I-10	Lambert Ln	Legacy	4	Arterial	0	22,000	37,610	33,000	37,610	11,000	29%						
	Twin Peaks Road/ Rattlesnake Pass	Saguaro Highlands Dr	Silverbell Rd	Expansion	4	Collector	N/A	12,500	16,730	22,700	37,610	10,200	27%	$ 18,001,838			$ 14,401,470	$ 3,600,368	$ 7,506,111
	Cortaro Road	I-10	Camino de Oeste	Completed Capacity	4	Arterial	23,000	25,000	37,610	29,000	37,610	4,000	11%	$ 8,134,735			$ 6,507,788	$ 1,626,947	$ 2,319,081
	Silverbell Road	Ina Rd	Cortaro Rd	Completed Capacity	4	Arterial	9,800	14,000	37,610	22,500	37,610	8,500	23%	$ 21,068,682			$ 16,854,946	$ 4,213,736	$ 8,023,017
	Ina Road	I-10	Silverbell Rd	Completed Capacity	4	Arterial	12,848	26,000	16,730	32,300	37,610	6,300	17%	$ 9,000,000			$ 7,200,000	$ 1,800,000	$ 3,006,062
	Silverbell Road	Ina Rd	Sunset Rd	Expansion	4	Arterial	N/A	10,000	16,730	16,000	37,610	6,000	16%	$ 8,013,159			$ 6,410,527	$ 1,602,632	$ 2,625,316

Town of Marana

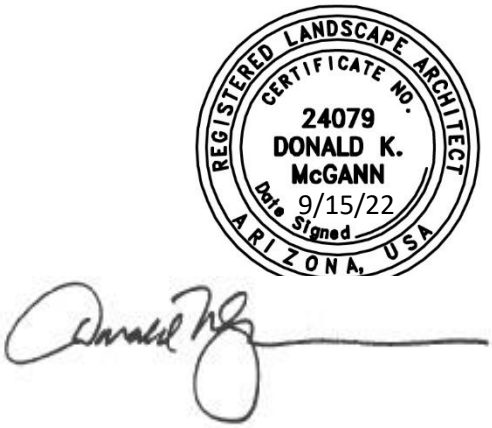
Impact Fee Study Update and Parks Infrastructure Improvement Plan

Public Report – FINAL

As approved by Marana Town Council September 20, 2022

Prepared by
Town of Marana Parks and Recreation Department
Town of Marana Engineering Division
McGann & Associates, Landscape Architects
September 20, 2022

Town of Marana



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Jon Post – Vice Mayor
Patti Comerford – Councilmember
Herb Kai – Councilmember
Roxanne Ziegler – Councilmember
John Officer – Councilmember
Jackie Craig – Councilmember

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Town of Marana
Impact Fee Study Update and
Parks Infrastructure Improvement Plan

Part 1
Introduction and Methodology

Introduction:

In accordance with Arizona Revised Statute (ARS) §9-463.05 the Town of Marana assesses and collects Development Impact Fees to help pay for the construction of new parks and recreational facilities as needed to meet the increased demands placed on the municipal park system by new development.

As a precedent to the collection of Development Impact Fees, §9-463.05 requires that an Infrastructure Improvement Plan (IIP) be prepared to identify the required improvements. Per the subject statute, the IIP is defined as:

> *"…. a written plan that identifies each necessary public service or facility expansion that is proposed to be the subject of a development fee and otherwise complies with the requirements of this section and may be the municipality's capital improvements plan."*

Included in this document is the Town of Marana's updated Park Infrastructure Improvement Plan. This new IIP replaces the 2017 IIP which was adopted by Marana Resolution 2017-090 on September 19, 2017. This new plan includes fee schedules and a list of capital improvements that are projected to be constructed over the next ten years.

Methodology:

This Impact Fee Study Update employs an incremental expansion method that identifies the Town's existing level of service and projects the level of service assumptions over the next ten years as the community grows. The existing level of service for parks and recreation facilities is assigned a value based on the cost of replacement. The value of the parks and recreation system is adjusted to subtract outstanding debt on existing facilities, the balance collected, unspent impact fees, developer fee credits and the cost of the Impact Fee Study.

Demand for an expanded park system will be driven by both residential and non- residential development. The primary driver will be residential development. As new homes are built in the community, the residents that occupy these homes will use the various park resources available to them. The secondary driver will be new non-residential development. As offices, retail outlets, medical offices, and other non-residential facilities are constructed, these facilities will create jobs for individuals including those living outside of the Town. These employees will use Town Park facilities before or after work or during lunch-time breaks.

Based on the above, the service units for residential development will be Equivalent Dwelling Units (EDU's). The service unit for non-residential development will be 1,000 S.F. of Non-Residential Development.

The adjusted value of the existing parks and recreation facilities is then distributed across the existing level of community development to calculate a value of the existing parks system per service unit. The adjusted value of the existing parks and recreation facilities relative to current development is then projected onto new development using estimates for future development found in the Town's land use assumptions.

Using this methodology, the Town's existing level of parks and recreation service is maintained as the community grows and the expansion of parks and recreation facilities necessary to meet the demand of growth has a supplemental funding source in development impact fees.

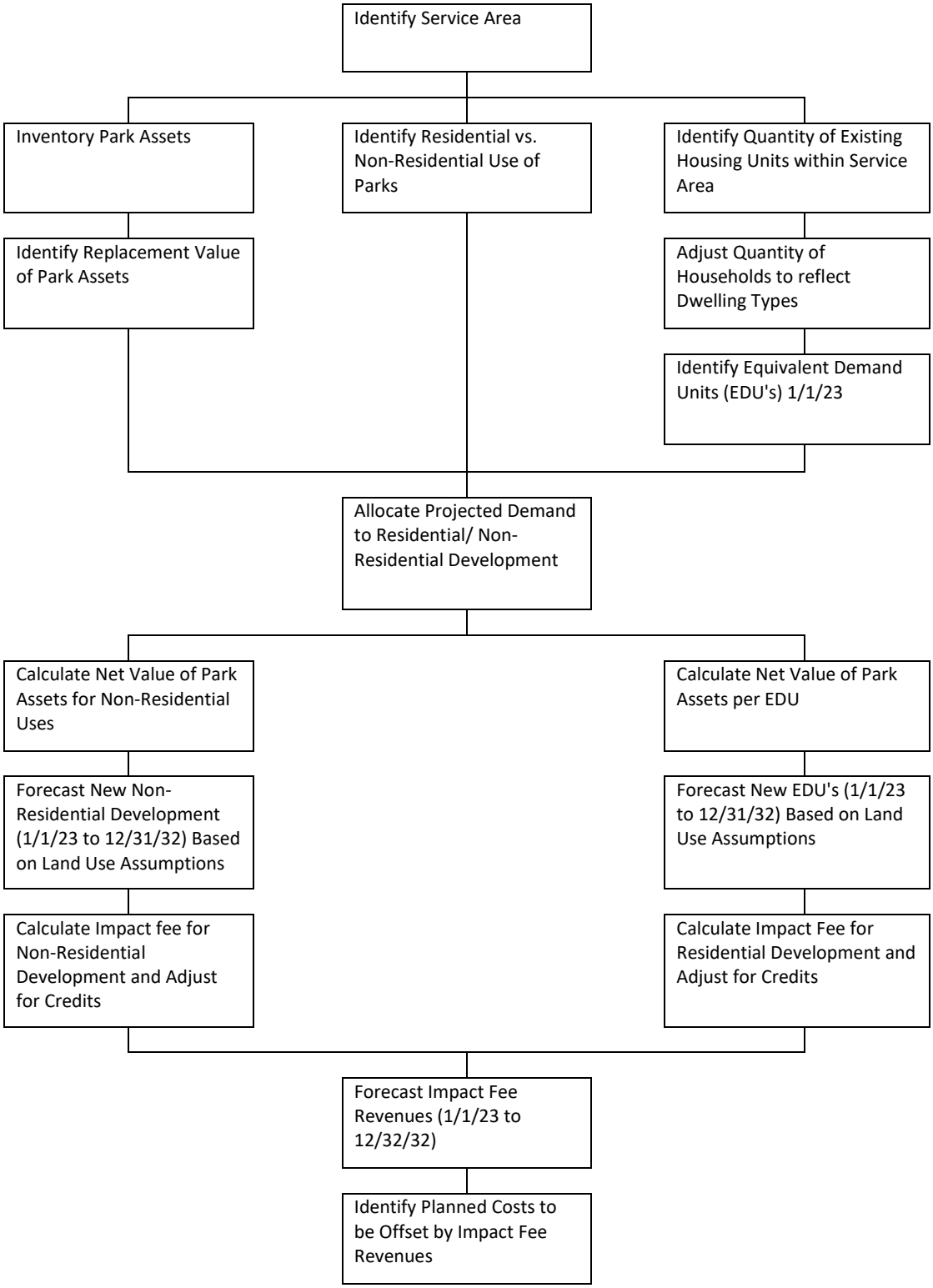
The advantages of using this incremental expansion method over other methods (e.g., a general standards based or plan-based method), include the following:

- The fee is based on the existing level of service provided by the Town instead of a national standard that fails to account for local jurisdictional variations.

- The incremental expansion method more accurately identifies the value of existing level of service compared to estimating a general cost per acre of developed parkland. Existing level of service is valued by assigning replacement costs to inventoried park assets.

- The incremental expansion method is flexible because the impact fee is based on existing level of service. Consequently, the Town may fine tune capital improvements identified in the IIP to meet changing community recreation needs. A standards-based approach based on the Parks and Recreation Master Plan would require an update to the Master Plan and a re-calculation of the impact fees to meet changing community needs.

Figure 1: Methodology Flow Chart



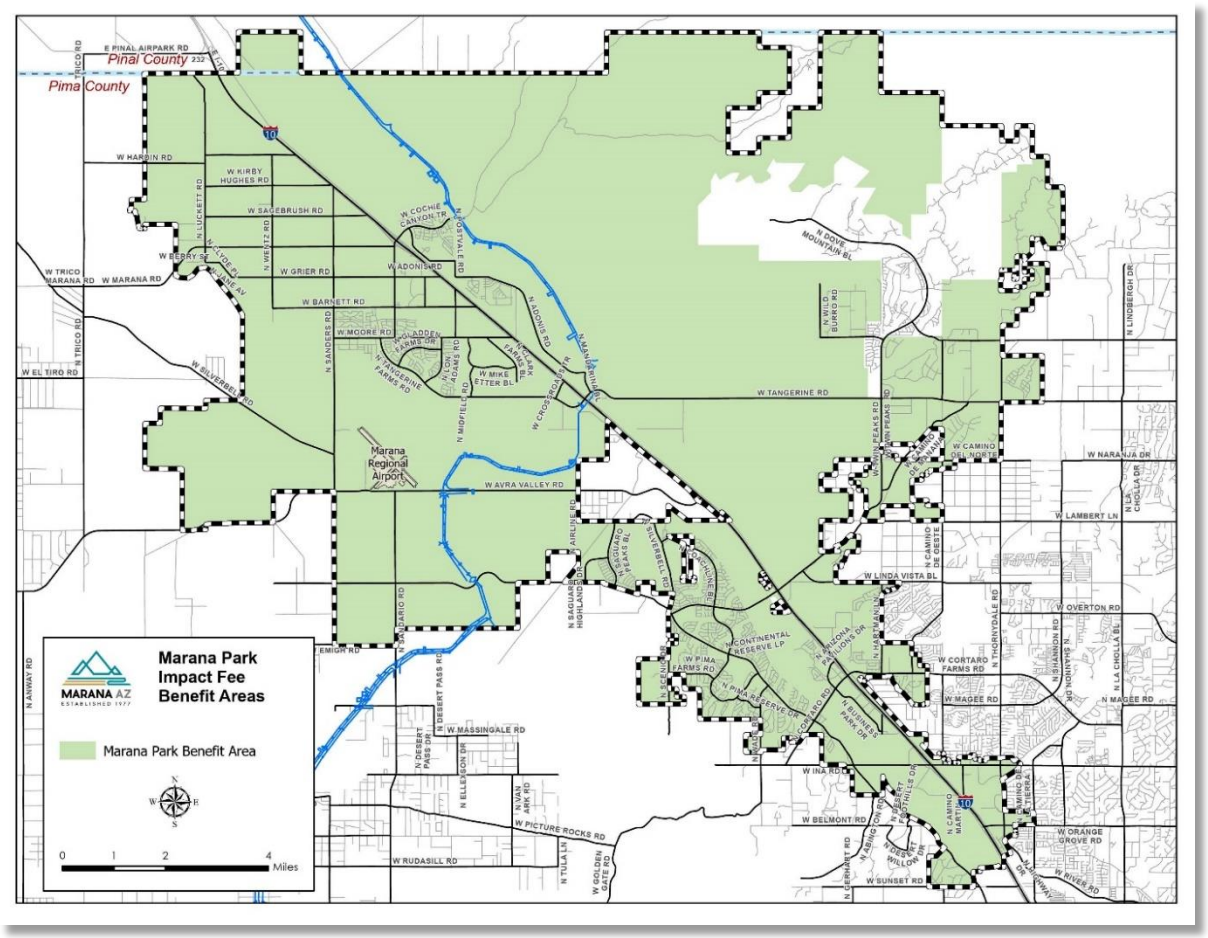
Service Area:

Service areas are defined in ARS §9-463.05 (T)9 as:

> *"… any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services or facility expansions and the development being served as prescribed in the infrastructure improvements plan."*

For purposes of this Impact Fee Study Update, there is one service area identified for the Town of Marana. This service area is shown in Figure 2, below. The service area includes all areas within the jurisdictional boundaries of the Town with the exception of lands within the Dove Mountain Specific Plan boundary. The Dove Mountain area is excluded based on a Town approved Development Agreement. For the remainder of the Town, the most densely developed areas are where existing municipal parks and recreation facilities are located. These densely developed areas are served by the Town's existing parks and other recreation facilities. It is in areas of new development that park and recreation facility expansion is needed to meet the demands created by growth.

Figure 2: Service Area



Consequently, new facilities that expand the parks and recreation system will directly benefit residents in areas of new growth in keeping with the legislative requirements for collecting development impact fees. There is, however, a need for additional trails to serve the developed areas of Marana. Since the Town is committed to providing a uniform level of service across the entire town, a single service area will be used.

Inventory of Existing Parks:

Provided on the following pages is a chart that summarizes the assets associated with the Town of Marana's existing park system. It includes only improvement types that would be eligible for impact fee funding and excludes items not eligible based on ARS §9-463.05. Per ARS §9-463.05.A, development impact fees may be used:

> *"… to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvement plan."*

Per ARS §9-463.05.B and 9-463.05.T., development impact fees may not be used for:

> *"Construction, acquisition or expansion of public facilities or assets other than necessary public services or facility expansions identified in the infrastructure improvements plan."*
>
> *"Repair, operation or maintenance of existing or new necessary public services or facility expansions."*
>
> *"Upgrading, updating, expanding, correcting or replacing existing necessary public services to serve existing development in order to meet stricter safety, efficiency, environmental or regulatory standards."*
>
> *"Upgrading, updating, expanding, correcting or replacing existing necessary public services to provide a higher level of service to existing development."*
>
> *"Administrative, maintenance or operating costs of the municipality."*
>
> *"… vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools."*

Replacement Value:

Replacement values as shown on the following chart are based on:

- Replacement values identified in the 2017 plan escalated to reflect inflation in construction costs through January 1, 2023.
- Recent park construction project bids for similar facilities.
- Published construction cost data reports.

Figure 3: Inventory Table - Existing Parks and Replacement Value	Continental Ranch Park	Continental Reserve park	Crossroads at Silverbell Park	El Rio Neighborhood Park	Gladden Farms Park	Honea Heights Park	Ora Mae Harn Park	Saguaro Bloom Park	San Lucas Park	Tangerine Sky Park	Wade McLean Park	Wild Burro Trailhead	Sanders Road Trailhead	North Coachline Boulevard Trailhead	Total Facility Units	Replacement Value Per Unit	**Total Replacement Valve**
Acres (Total)	11.9	9.23	48.27	1.3	25.7	1.0	34.72	22.0	13.49	17.98	4.23	2.0	0.8	1.5	194.12		
Acres (Eligible)	11.9	9.23	30.0	1.3	25.7	1.0	30.0	22.0	13.49	17.98	4.24	2.0	0.8	1.5	171.14		
Real Property																	
Real Property - Eligible Park Sites	11.9	9.23	30.00	1.3	25.7	1	30.0	22.0	13.49	17.98	4.23	2.0	0.8	1.5	171.14	$30,000.00	$5,134,200.00
Buildings and Structures:																	
Community Center - Allowable Portion (SF)							3,000	1							3,000	$450.00	$1,350,000.00
Restroom Buildings	1	1	3		3		3		1	1	1	1			16	$165,000.00	$2,640,000.00
Concessions	1	1	1				1				1				5	$235,000.00	$1,175,000.00
Operations and Maintenance Building			1						1						2	$470,000.00	$940,000.00
Storage Building	1	1													2	$180,000.00	$360,000.00
Group Ramada (+/- 30' x 60' - Site Built or Pre-Eng.))			1				1			1					3	$130,000.00	$390,000.00
Picnic Ramada - (+/- 30' x 30' - Site Built or Pre-Eng.)		1	5		1	1	1	1	2	2	1			1	16	$85,000.00	$1,360,000.00
Picnic Ramada - Small - (Pre-Engineered)	4			1		1	6		2	2	1	1	1		17	$15,000.00	$255,000.00
Fields:																	
Multi-Sport Rectangular Fields with Lights			2		2		1								5	$400,000.00	$2,000,000.00
Multi-Sport Rectangular Fields w/o Lights									2		1				3	$150,000.00	$450,000.00
Slow Pitch Softball Fields with Lights			1				1								2	$560,000.00	$1,120,000.00
Fast Pitch Softball Fields with Lights			2				4								6	$355,000.00	$2,130,000.00
Fast Pitch Softball Fields w/o Lights	4	2									1				9	$200,000.00	$1,800,000.00
Courts:																	
Basketball Courts - with Lights	2	1	2				1		1	1					8	$150,000.00	$1,200,000.00
Basketball Courts - w/o Lights				.5		.5		1							2	$70,000.00	$140,000.00
Tennis Courts - with Lights	2	1	1				1								5	$150,000.00	$750,000.00
Tennis Courts - w/o Lights								1							1	$95,000.00	$95,000.00
Pickleball Courts - with Lights							3								3	$65,000.00	$195,000.00
Pickleball Courts - w/o Lights															0	$40,000.00	$0.00
Sand Volleyball Courts - with Lights			2						1						3	$36,000.00	$108,000.00
Sand Volleyball Courts - w/o Lights								1							1	$17,000.00	$17,000.00
Playgrounds and Play Structures:																	
Play Structures / Surfacing (2-5 Year)	1	1	2	1	1		2	1	1	1					11	$165,000.00	$1,815,000.00
Play Structures / Surfacing (5-12 Year)	1	1	1		1	1	1	1	1	1					9	$125,000.00	$1,125,000.00
Swings / Surfacing		1	1	1	1	1	1	1	1	1					9	$50,000.00	$450,000.00
Zip Line										1					1	$80,000.00	$80,000.00
Fabric Shade Canopies	2			1	2	1	8	2	2	1					19	$30,000.00	$570,000.00
Special Use Facilities:																	
Off-Leash Dog Park			1				1	1	1	1					5	$250,000.00	$1,250,000.00
Skate / Wheel Park	1														1	$1,200,000.00	$1,200,000.00
Aquatic Facilities:																	
Swimming Pool							1								1	$5,000,000.00	$5,000,000.00
Splash Pad			1		1										2	$500,000.00	$1,000,000.00

Figure 3: (Continued) Inventory Table - Existing Parks and Replacement Value	Continental Ranch Park	Continental Reserve park	Crossroads at Silverbell Park	El Rio Neighborhood Park	Gladden Farms Park	Honea Heights Park	Ora Mae Harn Park	Saguaro Bloom Park	San Lucas Park	Tangerine Sky Park	Wade McLean Park	Wild Burro Trailhead	Sanders Road Trailhead	North Coachline Blvd. Trailhead	Total Facility Units	Replacement Value Per Unit	**Total Replacement Value**
Miscellaneous Public Use Facilities:																	
Horseshoe Pits	2		2				1								5	$3,000.00	$15,000.00
Benches	10	6	7	1	15		22	10	12	8	4	1		2	98	$750.00	$73,500.00
Picnic Tables	8	10	32	1	14	7	39	4	6	13		1		2	137	$1,450.00	$191,800.00
Barbecue Grills	2	4	8		3	2	9		5	6				1	40	$600.00	$24,000.00
Bleachers	8	2	6		2	1	5				2				26	$3,000.00	$78,000.00
Exercise Stations - Fitness Area		1					10		6						17	$1,500.00	$25,500.00
Trash Receptacles	14	8	43	3	9	4	52	10	10	10	2			1	166	$300.00	$49,800.00
Drinking Fountains	7	4	8	1	3	3	8		3	1	1			1	40	$3,500.00	$140,000.00
Bicycle Racks	1	1	1	1	3	1	1	1	1	1					12	$800.00	$9,600.00
Supporting Infrastructure:																	
Park Access / Circulation Drives (LF)	1,500	430	3,000	107	3,160	400	2,200	1,100	950	1,300				330	14,477	$85.00	$1,230,545.00
Paved Parking Spaces (EA)	133	59	305	9	231	12	202	67	51	60		79	1	27	1,1,243	$1,250.00	$1,553,750.00
Electrical Service - Average (Acre)															171.14	$11,000.00	$1,882,540.00
Potable Water Service - Average (Acre)															171.14	$2,000.00	$342,280.00
Sanitary Sewer System - Private / On-Site (Acre)															171.14	$2,500.00	$427,850.00
Fencing (Acre)															171.14	$7,350.00	$1,257,879.00
Signage (Acre)															171.14	$3,000.00	$513,420.00
Parking Lot and Security Lighting (Acre)															171.14	$14,000.00	$2,395,960.00
Irrigation Booster Pumps		1	1		1				1						4	$10,000.00	$40,000.00
Landscape and Irrigation:																	
Landscape - Turf Areas Other than Fields (Acres)	2.7	1.9	2.34	.32	1.21	.02	9.96	.77	2.68	.97	1.5				24.37	$30,000.00	$731,100.00
Landscape - Trees (EA)	75	40	407	15	239	15	110	25	72	50	24			20	1,092	$300.00	$327,600.00
Turf Irrigation System - Other than Fields (SF)	2.7	1.9	2.34	.32	1.21	.02	9.96	.77	2.68	.97	1.5				24.37	$22,000.00	$536,140.00
Drip Irrigation System (Acres)															171.14	$3,500.00	$598,990.00
Automated Irrigation Control System - Med - Large	1	1	1		1		1	1	1	1				1	9	$7,500.00	$67,500.00
Automated Irrigation Control System - Small				1		1					1			1	4	$2,500.00	$10,000.00
Hardscape / Pedestrian Paving:																	
Accessible Walkways - Concrete (LF)	3,300	1,100	6,500		2,770	520	5,300	2,050	960	2,400				220	25,120	$48,00	$1,205,760.00
HC Ramps	2	2	3		6	1	3	6	2	2				1	28	$900.00	$25,200.00
Pathways and Trails:																	
Loop Shared-Use Pathways															18.22	$400,000.00	$7,288,000.00
Loop Road / Highway Underpasses															3	$300,000.00	$900,000.00
In-Park Shared-Use Pathways - Asphalt (LF)		450	6.850	500	2,600				3,200	3,150					9,900	$15.00	$148,500.00
In-Park Decomposed Granite Pathways (LF)								2,700							2,700	$4.00	$10,800.00
Single Track Trails (Miles)															45.6	$93,500.00	$4,263,600.00
																Total	**$57,329,614.00**

Allocation of Asset Value:

ARS §9-463.05(B)13 provides:

> *If development fees are assessed by a municipality, the fees shall be assessed against commercial, residential and industrial development…*

In-as-much as residential and non-residential development will impact the need for additional parks, it is necessary to allocate asset value to each so that a proportionate share can be assessed to each type of development. This allocation is based on Residential Hours and Non-Resident (Inflow Commuter) Hours each year. The Inflow Commuter Hours are hours non-residents will spend at jobs within the Town.

According to U.S. Census Bureau web application OnTheMap (2019 US Census), there are 10,640 Inflow Commuters working within the Town of Marana. The 2019 Census also identifies the resident population of Marana to be 49,030. Based on this data, the allocation of asset value is calculated as follows:

Figure 4: Cost Allocation

		Hour Allocation			**Cost Allocation**	
Marana Residents (2019 Census)	Inflow Commuters (2019 Census)	Residential Hours (*)	Non-Residential Hours (**)	Total Hours	Residential	Non-Residential
49,030	10,064	429,502,800	16,102,400	445,605,200	96%	4%

(*) Residential Hours / Year: 8,760 (24 Hours / Day x 365 Days)
(**) Non-Residential Hours / Year: 1,600 (50 Weeks / Year x 4 Days per Week x 8 Hours / Day)

Based on the total park asset value of $57,329,614.00 (See Section 4) and the cost allocation noted above, the asset value allocated to residential and non-residential land uses is as follows:

Figure 5: Asset Value by Land use Type

Land Use Type	**Total Asset Value**	**Cost Allocation (%)**	**Asset Value**
Residential	$57,329,614.00	96%	$55,036,429.
Non-Residential	$57,329,614.00	4%	$2,293,185.

Part 2
Impact Fee Calculation for Residential Development

Town of Marana

Service Units - Residential:

ARS §9-463.05 requires that service units be defined in an impact fee study and used as the basis for impact fee collection. This Impact Fee Study uses an Equivalent Demand Unit (EDU) as the service unit for the park impact fee for residential uses.

To calculate an EDU, housing unit types are weighted in relation to single-family detached housing. The weight of each housing type reflects a park service multiplier derived from the average household size for each housing type based on United States Census Bureau statistics. The average household size for a single-family detached housing unit is 2.7 while the average household size of a multi-family/single-family attached housing unit is 1.8. The park service multiplier for a single-family detached residence is therefore 1.0 while the park service multiplier for a multi-family/single-family attached dwelling unit is 0.67. The sum of these weighted dwelling units by housing type results in total EDUs for the Town.

Unlike impact fee studies for parks improvements, impact fee studies for transportation infrastructure expansion often use land use categories that are identified through analysis of vehicle usage and trip data that is available locally and is part of published transportation planning literature. Because there is no data on visits to existing parks, the Impact Fee Study for Parks and Recreation Facilities makes use of the differentiation between single-family and multi-family residential units and their average household sizes to fine tune the definition of service units for the purpose of establishing a park impact fee.

Figure 6: Service Units as Equivalent Demand Units

Housing Type	Average Household Size (Persons)	Equivalent Demand Units
Single Family Detached	2.7 (*)	1.00
Multi-Family / Single Family Attached	1.8 (*)	0.67

(*) Reference: U.S. Census Bureau

Figure 7: Total Quantity of Existing Equivalent Demand Units (EDU's) - January 1, 2023:

Housing Type	Dwelling Units (January 1, 2023)	Multiplier	Service Units (EDU's) (January 1, 2023)
Single Family Detached	16,679	1.00	16,679
Multi-Family / Attached	2,220	0.67	1,487
		Total - January 1, 2023	**18,166**

Necessary Public Services - Existing:

As required in ARS §9-463.05(E)1, an IIP must include:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

In addition, ARS §9-463.05(E)2 requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

In response to the required analysis of existing, necessary public park services, an inventory of parks and recreation assets throughout the Town of Marana has been compiled. (See Section 4 of this document). The inventory was based on data provided by the Town of Marana Parks and Recreation Department and lists existing park amenities by facility (site) with an identified replacement cost. The inventory excludes park acreage beyond the 30-acre limit referenced in ARS §9463.05(T)7(g).

The existing level of service provided by the Town's current parks and recreation facilities is quantified by distributing the value of the existing parks and recreation facilities over the total number of existing EDUs in the Town. The existing number of EDUs is described in Figure 5. Figure 3 describes the total value of existing parks and recreation infrastructure. The existing level of service provided by the Town of Marana's park infrastructure is quantified by dividing the total value of the existing infrastructure (See Section 4) by the existing number of EDUs (Figure 5).

Figure 8: Existing Park Value by Equivalent Demand Unit

	Credits	Offsets	Total
Total Replacement Value *	$55,036,429.00		
Impact Fee Account Balance	$150.00		
Outstanding Impact Fee Credits		$0.00	
Outstanding Park Debt		$0.00	
Subtotal	$55,036,279.00		
Adjusted Existing Park Value			$55,036,279.00
Divided by EDU			18,166
Net Value per EDU			$3,029.63

(* As allocated to residential development)

Projected Service Units for New Development:

ARS §9-463.05(E)5 requires and IIP to include:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

The Town of Marana has developed Land Use Assumptions that estimate the number of new dwelling units expected over the next ten years. Figure 9 presents the existing and future dwelling units in the 10-year window based on the Town's Land Use Assumptions. The final result is the number of new EDUs expected over the next ten years.

Figure 9: Park Equivalent Demand Units (January 1, 2023 to December 31, 2032)

Housing Type	**Dwelling Units (1/1/23)**	**Park Service Unit Multiplier**	**Service Units - EDU's (1/1/23)**
Single Family Detached	16,679	1.00	16,679
Multi-Family / Single Family Attached	2,220	0.67	1,487
Total EDU's - (1/1/23)			18,166
Housing Type	**Dwelling Units (12/31/32)**	**Park Service Unit Multiplier**	**Service Units - EDU's (12/31/32)**
Single Family Detached	28,361	1.00	28,361
Multi-Family / Single Family Attached	4,480	0.67	3,002
Total EDU's - (12/31/32)			31,363
New EDU's (1/1/23 to 13/31/32)			**13,197**

Projected Park Impact Fee Revenue (January 1, 2023 to December 31, 2032):

ARS §9-463.05(E)6 requires an IIP to include:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Figure 10 calculates the total expected revenue from impact fees collected between January 1, 2023 and December 31, 2032 based on the estimated number of new EDUs (Figure 9) and updated impact fee. The total projected revenue does not include development credits.

Figure 10: Projected Park Impact Fee Revenue - (1/1/23 to 12/31/23) (Before Credits)

Service Area	New EDU's	Impact Fee / EDU (Before Credits)	Projected Revenue 1/1/23 to 12/31/32 (Before Credits)
Town-wide	13,197	$3,029.63	$39,982,027.11

ARS §9-463.05(E)7 requires an IIP to include:

> *"A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."*

The Town of Marana collects no property tax to include in revenue forecasts. However, the Town does collect a 4% construction sales tax and also receives revenue from the state related to gas taxes. It is recommended that **Five Hundred Dollars ($500.00)** of the sales tax be credited on a per EDU basis, resulting in a fee of **Two Thousand Five-Hundred and Twenty-Nine Dollars and Sixty-Three cents ($2,529.63) per EDU**. Figure 11 calculates the projected revenue and percent of planned costs covered by this revenue forecast. The remainder of the sales tax credit would be credited against the yet-to-be-calculated Street Facilities fee.

It is recommended that the credits associated with HURF/VLT be applied fully to the street facilities fee. If approved, no additional credits would be applied to the Parks and Recreational Facilities fee.

Figure 11: Projected Park Impact Fee Revenue - January 1, 2023 to December 31, 2032 (After Credits):

Service Area	New EDU's	Impact Fee / EDU (Less the $500.00 Credit)	Projected Revenue (1/1/23 to 12/31/32)
Town-wide	13,197	$2,529.63	$33,383,527.00

In summary, the Impact Fee Update and Infrastructure Improvement Plan will result in a final calculation of the Impact Fee per EDU of **Two Thousand Five-Hundred and Twenty-Nine Dollars and Sixty-Three Cents ($2,529.63).**

Part 3
Impact Fee Calculation for Non-Residential Development

Service Units – Non-Residential Development:

ARS §9-463.05 requires that service units be defined in an impact fee study and used as the basis for impact fee collection. This Impact Fee Study uses Jobs per 1,000 S.F. as the service unit for non-residential development.

There are several categories of non-residential development, and each will result in a different quantity of jobs per square foot of development. These categories, and the quantity of jobs that will be created per 1,000 square foot of new development, are identified in the Land Use Assumptions (Table 4) and are summarized below.

Figure 12: Jobs per 1,000 S.F. – Non-Residential Land Uses

Non-Residential Land Use Category	S.F. per Job	Jobs per 1,000 S.F. of New Non-Residential Development
Retail	600	1.67
High Traffic Retail	200	5.00
Office	400	2.50
Industrial	500	2.00
Hotel	1,800	0.56
Medical	500	2.00

The Land Use Assumptions (Table 5) also include projections of the quantity of jobs that will be created by new non-residential development. These projections are summarized below:

Figure 13: New Job Projections (January 1, 2023 to December 31, 2032)

Non-Residential Land Use Category	New Jobs (From Land Use Assumptions)
Retail	2,327
High Traffic Retail	2,212
Office	370
Industrial	2,993
Hotel	-
Medical	682
Total New Jobs	**8,584**

Park Impact Fee – Non-Residential Development:

The park expansion and development costs allocated to non-residential development equals 4% of the cost of required improvements or $1,665,918.00. (4% x $41,647,945, the value of required improvement needed to maintain the current level of service). This cost will be borne by the 8,584 new jobs that will be created within the town, resulting in a fee of $194.00 per job.

Figure 14: Non-Residential Impact Fees per Job (Without Development Classification)

Total Cost Allocated to Non-Residential Development	Projected Quantity of New Jobs (1/1/23 to 12/31/32)	Non-Residential Impact Fee per Job
$1,665,918.00	8,584	$194.00

To properly assess this fee, the quantity of jobs must be related to square feet of new development. Figure 15 below summarizes this calculation.

Figure 15: Non-Residential Impact Fees per 1,000 S.F. of Development (Before Credits)

Non-Residential Land Use Category	Jobs per 1,000 S.F. of new Development	Impact Fee per Job	Impact Fee per 1,000 SF of New Non-Residential Development
Retail	1.67	$194.00	$324.00
High Traffic Retail	5.00	$194.00	$970.00
Office	2.50	$194.00	$485.00
Industrial	2.00	$194.00	$388.00
Hotel	0.56	$194.00	$109.0
Medical	2.00	$194.00	$388.00

As noted in Section 9 of this report, the Town collects a 4% construction sales tax with these revenues contributing to park expansion and development. It is recommended that **One Hundred Dollars ($100.00)** of the sales tax revenue be credited on a per 1,000 S.F. of new non-residential development basis. With this credit, the adjusted impact fees, by development type, are identified below.

Figure 16: Non-Residential Impact Fees Per 1,000 S.F. of Development (After Credits)

Non-Residential Land Use Category	Impact Fee per 1,000 S.F. of New Non-Residential Development Prior to $100.00 Adjustment	**Proposed Impact Fee per 1,000 S.F. of New Non-Residential Development**
Retail	$324.00	**$224.00**
High Traffic Retail	$970.00	**$870.00**
Office	$485.00	**$385.00**
Industrial	$388.00	**$288.00**
Hotel	$109.0	**$9.00**
Medical	$388.00	**$288.00**

Projected Park Impact Fee – Non-Residential Development:

The projected revenues to be collected from non-residential development fees for the period between 1/2/23 and 12/32/32 are summarized below.

Figure 17: Projected Impact Fee Revenues – Non-Residential Development

Non-Residential Land Use Category	New Jobs	Jobs per 1,000 S.F.	Development Scope (1,000 S.F.)	Fee per 1,000 S.F.	Projected Revenue
Retail	2,327	1.67	1,393	$224.00	$312,032.00
High Traffic Retail	2,212	5.00	442	$870.00	$384,540.00
Office	370	2.50	148	$385.00	$56,980.00
Industrial	2,993	2.00	1,497	$288.00	$431,136.00
Hotel	-	0.56	0.00	$9.0	$0.00
Medical	682	2.00	341	$288.00	$98,208.00
Total Projected Revenue – Non-Residential Development					**$1,282,896.00**

Part 4
Parks Capital Improvement Program

Projected Park Impact Fee – Residential and Non-Residential Development:

The combined revenues projected to be collected from both residential and non-residential development fees for the period between 1/2/23 and 12/32/32 are summarized below.

Figure 18: Projected Impact fee Revenues – Residential and Non-Residential Development

Projected Revenues – Residential Development	$33,383,527.00
Projected Revenues – Non-Residential Development	$1,282,896.00
Total Revenues (1/1/23 to 12/31/32)	$34,666,423.00

Necessary Public Services - New Development:

ARS §9-463.05(E)3 requires:

> *"A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

In response to the statutory mandate for a description of parks and recreation facility expansion projects required to meet the demand of new growth, the Town of Marana has developed the Ten-Year Capital Improvement Plan for park facilities. This plan is summarized in Figure 19 below. Impact fees that are collected between January 1, 2023 and December 31, 2032 will be directed to the capital improvements identified in Figure 19 with the understanding that A.R.S. §9-463.05 allows that:

> *"…a municipality may amend an infrastructure improvements plan adopted pursuant to this section without a public hearing if the amendment addresses only elements of necessary public services in the existing infrastructure improvements plan and the changes to the plan will not, individually or cumulatively with other amendments adopted pursuant to this subsection, increase the level of service in the service area or cause a development fee increase…".*

Figure 19 - Parks Capital Improvement Plan - January 1, 2023 to December 31, 2032:

Project	Development Cost
El Rio Disc Golf Course	$288,334.00
El Rio Recreation Area - Loop Access Parking Lot	$204,237.00
Gladden Farms Baseball Field Improvements	$660,765.00
Gladden Farms Lighted Soccer Fields	$286,636.00
Tortolita Preserve Trailhead, Trails, and Fencing	$156,181.00
Honea Heights Park - Phase 2 Improvements	$1,261,461.00
Continental Ranch Park to Loop Extension	$420,487.00
New Competition Swimming Pool (50 Meter)	$3,934,557.00
Ora Mae Harn Park Facility Expansion	$1,784,066.00
Saguaro Bloom Park - Phase 1	$1,600,375.00
Saguaro Bloom Park - Phase 2	$4,805,566.00
Gladden Farms Bike Park	$1,201,391.00
Twin Peaks Park District Park - Land Acquisition and Phase 1 Development	$17,415,052.00
Mandarina Community Park	$7,568,766.00
Impact Fee Study	$60,000.00
Total	**$41,467,945.00**
Amount Funded by Parks Impact Fee	**$34,666,423.00**
Amount Funded by Construction Sales Tax Credits	**$6,801,522.00**

Additional Information related to these projects is provided below.

El Rio Disc Golf Course:

This project involves the construction of an 18-hole disc golf course. The course will provide a safe and appropriate location where this activity can occur. It will allow disc golf activities to be moved from other community parks, where it occurs on an informal basis, to this new location. The course will have the capacity to serve both existing users and new / future residents who engage in this recreational activity enabling the Parks and Recreation Department to maintain a consistent level of service.

El Rio Recreation Area – Loop Access Parking Lot:

The El Rio Recreation Area is a district or zone within the Town's Park system that includes (or will include) the El Rio Neighborhood Park, the El Rio Disc Golf Course, and portions of the Loop shared-use pathway. As the community's population grows, there will be increased demand for access to these facilities and other recreational facilities that can be accessed via the Loop. The proposed parking lot will allow the Town to continue to provide safe and legal access to these facilities consistent with the increased demand resulting from anticipated population growth.

Gladden Farms Baseball Field Improvements:

This project involves the installation of field lights and the construction of other related improvements that will change the fields from daytime-only use fields to daytime and evening use fields. The improvements will enable the Town to significantly expand the hours of operation and the number of teams / individuals who can use and benefit from access to this facility. It will help the Parks and Recreation Department to maintain a consistent level of service related baseball / softball field availability.

Gladden Farms Park New Lighted Soccer Fields:

The scope of the project includes the construction of two new natural turf, multi-sport / soccer fields within the existing boundaries of Gladden Farms Park. Improvements will include the fields, field lights to expand the potential hours of operation, and the parking area / restrooms required for public use. The project will increase the quantity of fields available to the community in response the anticipated increase in population and assist the Parks and Recreation Department in their efforts to maintain a consistent level of service related to multi-sport field availability.

Tortolita Preserve Trailhead, Trails, and Fencing:

As the population of the Town grows, there has been a steady increase in the number of residents using the Tortolita Preserve. The proposed Tortolita Preserve trailhead development and trail expansion project will enhance access, extend the length of the trail system, maintain site security, and allow additional residents to use this facility consistent with the increased demand resulting from population growth.

Honea Heights Park – Phase 2 Improvements:

The Honea Heights Park Phase 2 development project will include the construction of two new lighted multi-sport / soccer fields and supporting site improvements. The project will increase the quantity of fields available to the community in response the anticipated increase in population allowing the Parks and Recreation Department to maintain a consistent level of service.

Continental Ranch Park to Loop Connection:

The scope of this project consists of the construction of an accessible shared-use pathway that will connect the Continental Ranch Community Park with the Loop shared-use pathway system. As the community's population grows and the extent of the Loop pathway system expands, there is a need to provide new access facilities to maintain the same level of service for Marana residents. This project will contribute to addressing that need.

New Competition Swimming Pool:

The scope of this project involves the construction of a new competition swimming pools that will allow the Town to continue to provide swimming pool access to the growing number of Marana residents. Improvements will include the pool and the associated mechanical and water filtration / purifications equipment, only.

Ora Mae Harn Park Facility Expansion:

The scope of this project will involve the construction of a new racquet sport area with lighted pickleball and tennis courts. It will also include the construction of a new lighted multi-sport field and the expansion of the park's pathway system. The project will enable the Town to address increased demand for these facilities due to population growth and continue to provide the same level of service.

Saguaro Bloom Park Phase 1:

The new Saguaro Bloom Park (Phase 1) will include sport courts, playgrounds, picnic facilities, restrooms, and related site improvements and is being developed in response to population growth. It will allow the Parks and Recreation Department to provide these basic recreational resources to new residents, consistent with the resources it provides current residents.

Saguaro Bloom Park Phase 2:

Phase 2 of the Saguaro Bloom Park will include two lighted diamond (baseball / softball) fields, a lighted multi-sport / soccer field, an expanded dog park, and related facilities. As with Phase 1 of this project, it will allow the Parks and Recreation Department to provide these basic recreational resources to new residents, consistent with the resources it provides current residents.

Gladden Farms Bike Park:

The Gladden Farms Bike Park will include bike trails, a pump track, and similar features that can be used by Town residents. Outdoor recreation trends indicate that more and more individuals, both children and adults, are now choosing to engage in this recreational activity. Some of these activities currently occur within the Tortolita Preserve but as demand grows, it will be important to expand the areas available to the public so that the same level of service can be maintained.

Twin Peaks District Park Land Acquisition and Phase 1 Development:

The Twin Peaks District Park will be a new park as identified in the Town's Parks and Recreation 2020-2030 Master Plan. The park will be centrally located and will serve existing and new residents from throughout the Marana community. Proposed (Phase 1) facilities will include lighted fields, courts, playgrounds, picnic facilities, a dog park, and the supporting infrastructure. The park will be a component of the park system's expansion as needed to maintain a consistent level of service.

Mandarina Community Park:

Mandarina Community Park will be a new park and will similarly expand the recreational facilities available to residents while maintaining the same level of service for existing and new residents. Improvements planned for the park include lighted multi-sport / soccer fields, sport courts, ramadas, picnic facilities, and the infrastructure needed to support these improvements.

Summary of Projected Revenues and Planned Costs:

Provided below is a summary of projected revenues, projected costs, and Impact fees for various types of new development.

Figure 20: Summary of Projected Revenues and Planned Costs

Projected Revenues – Residential Development Impact Fees (1)	$33,383,527.00
Projected Revenues – Non-Residential Development Impact Fees (2)	$1,282,896.00
Total	**$34,666,423.00**
Planned Costs (3)	**$34,666,423.00**
Revenues as Percent of Planned Costs	**100%**

(1) See Figure 11 – Section 9
(2) See Figure 17 – Section 12
(3) See Figure 19 – Section 14

Figure 21 - Summary of Park Impact Fees:

Residential		
Single Family Residence (1 EDU)	$2,529.63	Per Dwelling Unit
Multi-Family Residential Unit (.67 EDU)	$1,694.85	Per Dwelling Unit
Non-Residential		
Retail	$224.00	Per 1,000 S.F.
High Traffic Retail	$870.00	Per 1,000 S.F
Office	$285.00	Per 1,000 S.F.
Hotel	$9.00	Per 1,000 S.F.
Industrial	$288.00	Per 1,000 S.F.
Medical	$288.00	Per 1,000 S.F.

Town of Marana

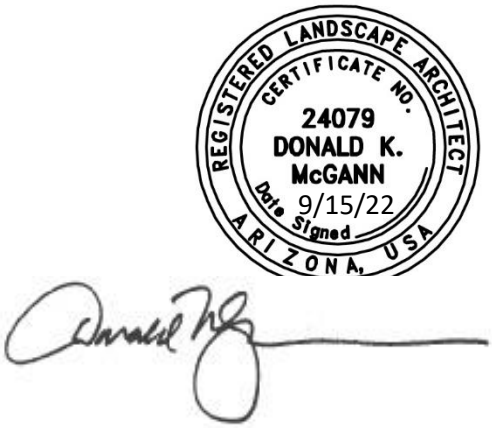
Impact Fee Study Update and Parks Infrastructure Improvement Plan

Public Report – FINAL

As approved by Marana Town Council September 20, 2022

Prepared by
Town of Marana Parks and Recreation Department
Town of Marana Engineering Division
McGann & Associates, Landscape Architects
September 20, 2022

Town of Marana



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Town of Marana
Impact Fee Study Update and
Parks Infrastructure Improvement Plan

Part 1
Introduction and Methodology

Introduction:

In accordance with Arizona Revised Statute (ARS) §9-463.05 the Town of Marana assesses and collects Development Impact Fees to help pay for the construction of new parks and recreational facilities as needed to meet the increased demands placed on the municipal park system by new development.

As a precedent to the collection of Development Impact Fees, §9-463.05 requires that an Infrastructure Improvement Plan (IIP) be prepared to identify the required improvements. Per the subject statute, the IIP is defined as:

> *"…. a written plan that identifies each necessary public service or facility expansion that is proposed to be the subject of a development fee and otherwise complies with the requirements of this section and may be the municipality's capital improvements plan."*

Included in this document is the Town of Marana's updated Park Infrastructure Improvement Plan. This new IIP replaces the 2017 IIP which was adopted by Marana Resolution 2017-090 on September 19, 2017. This new plan includes fee schedules and a list of capital improvements that are projected to be constructed over the next ten years.

Methodology:

This Impact Fee Study Update employs an incremental expansion method that identifies the Town's existing level of service and projects the level of service assumptions over the next ten years as the community grows. The existing level of service for parks and recreation facilities is assigned a value based on the cost of replacement. The value of the parks and recreation system is adjusted to subtract outstanding debt on existing facilities, the balance collected, unspent impact fees, developer fee credits and the cost of the Impact Fee Study.

Demand for an expanded park system will be driven by both residential and non- residential development. The primary driver will be residential development. As new homes are built in the community, the residents that occupy these homes will use the various park resources available to them. The secondary driver will be new non-residential development. As offices, retail outlets, medical offices, and other non-residential facilities are constructed, these facilities will create jobs for individuals including those living outside of the Town. These employees will use Town Park facilities before or after work or during lunch-time breaks.

Based on the above, the service units for residential development will be Equivalent Dwelling Units (EDU's). The service unit for non-residential development will be 1,000 S.F. of Non-Residential Development.

The adjusted value of the existing parks and recreation facilities is then distributed across the existing level of community development to calculate a value of the existing parks system per service unit. The adjusted value of the existing parks and recreation facilities relative to current development is then projected onto new development using estimates for future development found in the Town's land use assumptions.

Using this methodology, the Town's existing level of parks and recreation service is maintained as the community grows and the expansion of parks and recreation facilities necessary to meet the demand of growth has a supplemental funding source in development impact fees.

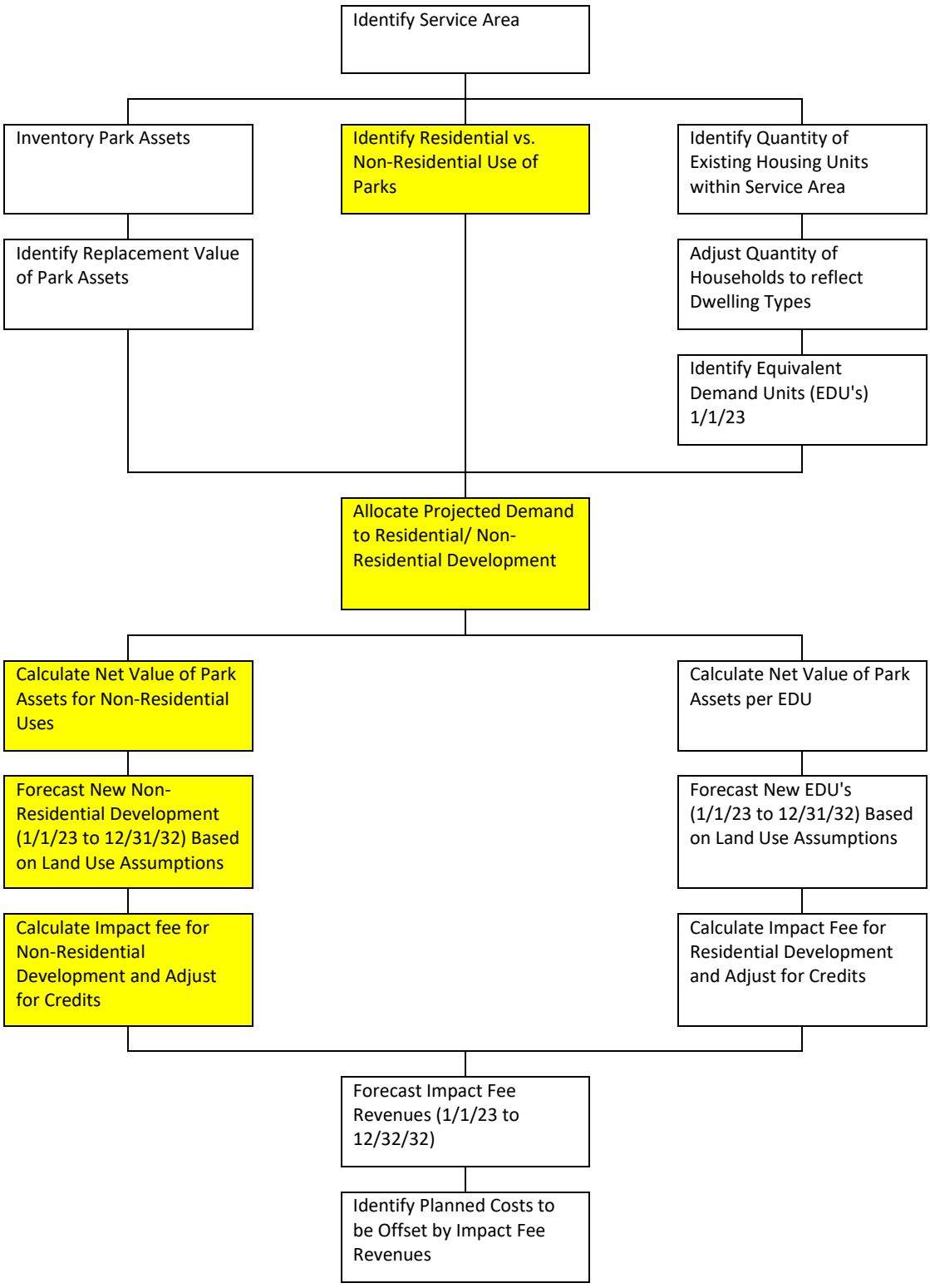
The advantages of using this incremental expansion method over other methods (e.g., a general standards based or plan-based method), include the following:

- The fee is based on the existing level of service provided by the Town instead of a national standard that fails to account for local jurisdictional variations.

- The incremental expansion method more accurately identifies the value of existing level of service compared to estimating a general cost per acre of developed parkland. Existing level of service is valued by assigning replacement costs to inventoried park assets.

- The incremental expansion method is flexible because the impact fee is based on existing level of service. Consequently, the Town may fine tune capital improvements identified in the IIP to meet changing community recreation needs. A standards-based approach based on the Parks and Recreation Master Plan would require an update to the Master Plan and a re-calculation of the impact fees to meet changing community needs.

Figure 1: Methodology Flow Chart



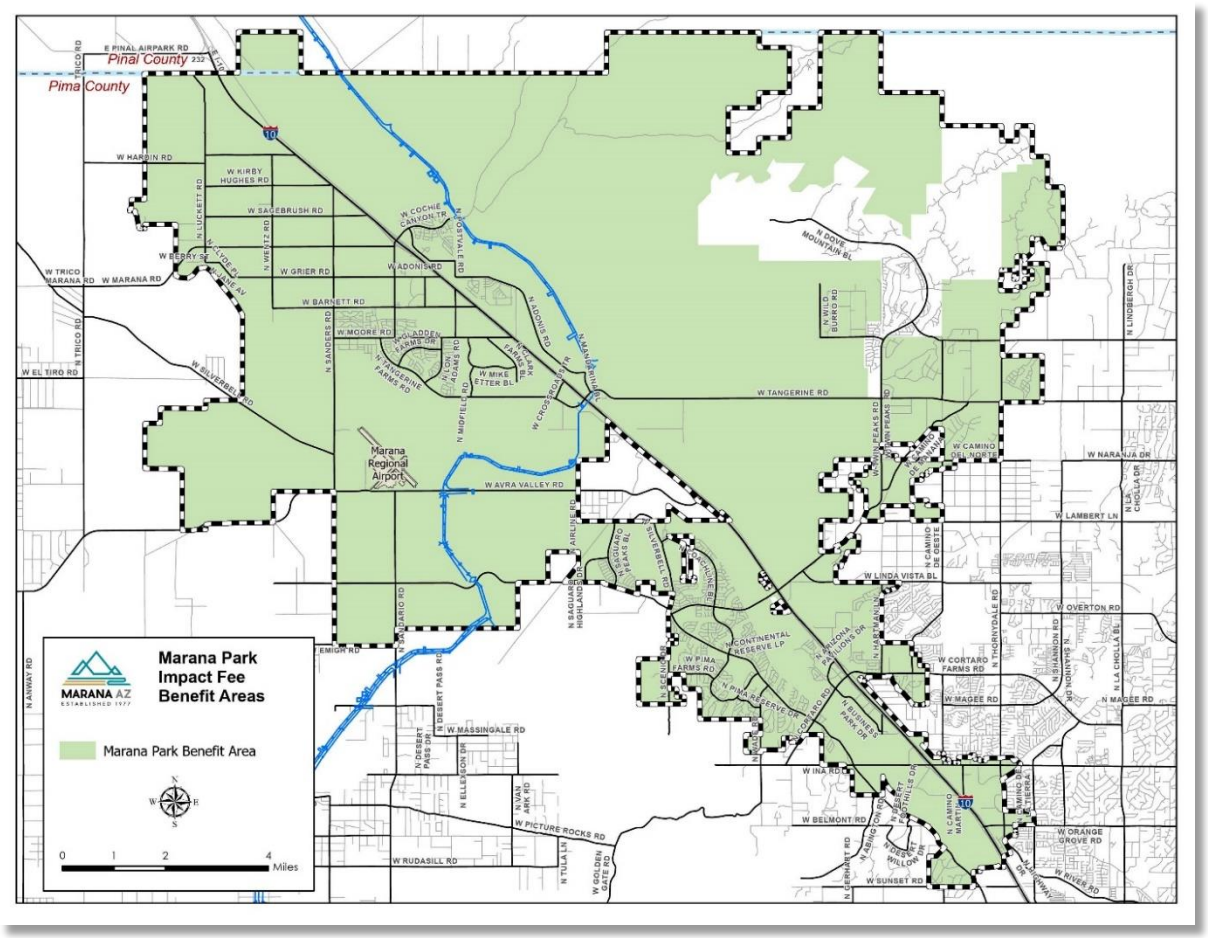
Service Area:

Service areas are defined in ARS §9-463.05 (T)9 as:

> *"… any specified area within the boundaries of a municipality in which development will be served by necessary public services or facility expansions and within which a substantial nexus exists between the necessary public services or facility expansions and the development being served as prescribed in the infrastructure improvements plan."*

For purposes of this Impact Fee Study Update, there is one service area identified for the Town of Marana. This service area is shown in Figure 2, below. The service area includes all areas within the jurisdictional boundaries of the Town with the exception of lands within the Dove Mountain Specific Plan boundary. The Dove Mountain area is excluded based on a Town approved Development Agreement. For the remainder of the Town, the most densely developed areas are where existing municipal parks and recreation facilities are located. These densely developed areas are served by the Town's existing parks and other recreation facilities. It is in areas of new development that park and recreation facility expansion is needed to meet the demands created by growth.

Figure 2: Service Area



Consequently, new facilities that expand the parks and recreation system will directly benefit residents in areas of new growth in keeping with the legislative requirements for collecting development impact fees. There is, however, a need for additional trails to serve the developed areas of Marana. Since the Town is committed to providing a uniform level of service across the entire town, a single service area will be used.

Inventory of Existing Parks:

Provided on the following pages is a chart that summarizes the assets associated with the Town of Marana's existing park system. It includes only improvement types that would be eligible for impact fee funding and excludes items not eligible based on ARS §9-463.05. Per ARS §9-463.05.A, development impact fees may be used:

> *"… to offset costs to the municipality associated with providing necessary public services to a development, including the costs of infrastructure, improvements, real property, engineering and architectural services, financing and professional services required for the preparation or revision of a development fee pursuant to this section, including the relevant portion of the infrastructure improvement plan."*

Per ARS §9-463.05.B and 9-463.05.T., development impact fees may not be used for:

> *"Construction, acquisition or expansion of public facilities or assets other than necessary public services or facility expansions identified in the infrastructure improvements plan."*
>
> *"Repair, operation or maintenance of existing or new necessary public services or facility expansions."*
>
> *"Upgrading, updating, expanding, correcting or replacing existing necessary public services to serve existing development in order to meet stricter safety, efficiency, environmental or regulatory standards."*
>
> *"Upgrading, updating, expanding, correcting or replacing existing necessary public services to provide a higher level of service to existing development."*
>
> *"Administrative, maintenance or operating costs of the municipality."*
>
> *"… vehicles, equipment or that portion of any facility that is used for amusement parks, aquariums, aquatic centers, auditoriums, arenas, arts and cultural facilities, bandstand and orchestra facilities, bathhouses, boathouses, clubhouses, community centers greater than three thousand square feet in floor area, environmental education centers, equestrian facilities, golf course facilities, greenhouses, lakes, museums, theme parks, water reclamation or riparian areas, wetlands, zoo facilities or similar recreational facilities, but may include swimming pools."*

Replacement Value:

Replacement values as shown on the following chart are based on:

- Replacement values identified in the 2017 plan escalated to reflect inflation in construction costs through January 1, 2023.
- Recent park construction project bids for similar facilities.
- Published construction cost data reports.

Figure 3: Inventory Table - Existing Parks and Replacement Value	Continental Ranch Park	Continental Reserve park	Crossroads at Silverbell Park	El Rio Neighborhood Park	Gladden Farms Park	Honea Heights Park	Ora Mae Harn Park	Saguaro Bloom Park	San Lucas Park	Tangerine Sky Park	Wade McLean Park	Wild Burro Trailhead	Sanders Road Trailhead	North Coachline Boulevard Trailhead	Total Facility Units	Replacement Value Per Unit	**Total Replacement Valve**
Acres (Total)	11.9	9.23	48.27	1.3	25.7	1.0	34.72	22.0	13.49	17.98	4.23	2.0	0.8	1.5	194.12		
Acres (Eligible)	11.9	9.23	30.0	1.3	25.7	1.0	30.0	22.0	13.49	17.98	4.24	2.0	0.8	1.5	171.14		
Real Property																	
Real Property - Eligible Park Sites	11.9	9.23	30.00	1.3	25.7	1	30.0	22.0	13.49	17.98	4.23	2.0	0.8	1.5	171.14	$30,000.00	$5,134,200.00
Buildings and Structures:																	
Community Center - Allowable Portion (SF)							3,000	1							3,000	$450.00	$1,350,000.00
Restroom Buildings	1	1	3		3		3		1	1	1	1			16	$165,000.00	$2,640,000.00
Concessions	1	1	1				1				1				5	$235,000.00	$1,175,000.00
Operations and Maintenance Building			1						1						2	$470,000.00	$940,000.00
Storage Building	1	1													2	$180,000.00	$360,000.00
Group Ramada (+/- 30' x 60' - Site Built or Pre-Eng.))			1				1			1					3	$130,000.00	$390,000.00
Picnic Ramada - (+/- 30' x 30' - Site Built or Pre-Eng.)		1	5		1	1	1	1	2	2	1			1	16	$85,000.00	$1,360,000.00
Picnic Ramada - Small - (Pre-Engineered)	4			1		1	6		2	2	1	1	1		17	$15,000.00	$255,000.00
Fields:																	
Multi-Sport Rectangular Fields with Lights			2		2		1								5	$400,000.00	$2,000,000.00
Multi-Sport Rectangular Fields w/o Lights									2		1				3	$150,000.00	$450,000.00
Slow Pitch Softball Fields with Lights			1				1								2	$560,000.00	$1,120,000.00
Fast Pitch Softball Fields with Lights			2				4								6	$355,000.00	$2,130,000.00
Fast Pitch Softball Fields w/o Lights	4	2									1				9	$200,000.00	$1,800,000.00
Courts:																	
Basketball Courts - with Lights	2	1	2				1		1	1					8	$150,000.00	$1,200,000.00
Basketball Courts - w/o Lights				.5		.5		1							2	$70,000.00	$140,000.00
Tennis Courts - with Lights	2	1	1				1								5	$150,000.00	$750,000.00
Tennis Courts - w/o Lights								1							1	$95,000.00	$95,000.00
Pickleball Courts - with Lights							3								3	$65,000.00	$195,000.00
Pickleball Courts - w/o Lights															0	$40,000.00	$0.00
Sand Volleyball Courts - with Lights			2						1						3	$36,000.00	$108,000.00
Sand Volleyball Courts - w/o Lights								1							1	$17,000.00	$17,000.00
Playgrounds and Play Structures:																	
Play Structures / Surfacing (2-5 Year)	1	1	2	1	1		2	1	1	1					11	$165,000.00	$1,815,000.00
Play Structures / Surfacing (5-12 Year)	1	1	1		1	1	1	1	1	1					9	$125,000.00	$1,125,000.00
Swings / Surfacing		1	1	1	1	1	1	1	1	1					9	$50,000.00	$450,000.00
Zip Line										1					1	$80,000.00	$80,000.00
Fabric Shade Canopies	2			1	2	1	8	2	2	1					19	$30,000.00	$570,000.00
Special Use Facilities:																	
Off-Leash Dog Park			1				1	1	1	1					5	$250,000.00	$1,250,000.00
Skate / Wheel Park	1														1	$1,200,000.00	$1,200,000.00
Aquatic Facilities:																	
Swimming Pool							1								1	$5,000,000.00	$5,000,000.00
Splash Pad			1		1										2	$500,000.00	$1,000,000.00

Figure 3: (Continued) Inventory Table - Existing Parks and Replacement Value	Continental Ranch Park	Continental Reserve park	Crossroads at Silverbell Park	El Rio Neighborhood Park	Gladden Farms Park	Honea Heights Park	Ora Mae Harn Park	Saguaro Bloom Park	San Lucas Park	Tangerine Sky Park	Wade McLean Park	Wild Burro Trailhead	Sanders Road Trailhead	North Coachline Blvd. Trailhead	Total Facility Units	Replacement Value Per Unit	**Total Replacement Value**
Miscellaneous Public Use Facilities:																	
Horseshoe Pits	2		2				1								5	$3,000.00	$15,000.00
Benches	10	6	7	1	15		22	10	12	8	4	1		2	98	$750.00	$73,500.00
Picnic Tables	8	10	32	1	14	7	39	4	6	13		1		2	137	$1,450.00	$191,800.00
Barbecue Grills	2	4	8		3	2	9		5	6				1	40	$600.00	$24,000.00
Bleachers	8	2	6		2	1	5				2				26	$3,000.00	$78,000.00
Exercise Stations - Fitness Area		1					10		6						17	$1,500.00	$25,500.00
Trash Receptacles	14	8	43	3	9	4	52	10	10	10	2			1	166	$300.00	$49,800.00
Drinking Fountains	7	4	8	1	3	3	8		3	1	1			1	40	$3,500.00	$140,000.00
Bicycle Racks	1	1	1	1	3	1	1	1	1	1					12	$800.00	$9,600.00
Supporting Infrastructure:																	
Park Access / Circulation Drives (LF)	1,500	430	3,000	107	3,160	400	2,200	1,100	950	1,300				330	14,477	$85.00	$1,230,545.00
Paved Parking Spaces (EA)	133	59	305	9	231	12	202	67	51	60		79	1	27	1,1,243	$1,250.00	$1,553,750.00
Electrical Service - Average (Acre)															171.14	$11,000.00	$1,882,540.00
Potable Water Service - Average (Acre)															171.14	$2,000.00	$342,280.00
Sanitary Sewer System - Private / On-Site (Acre)															171.14	$2,500.00	$427,850.00
Fencing (Acre)															171.14	$7,350.00	$1,257,879.00
Signage (Acre)															171.14	$3,000.00	$513,420.00
Parking Lot and Security Lighting (Acre)															171.14	$14,000.00	$2,395,960.00
Irrigation Booster Pumps		1	1		1				1						4	$10,000.00	$40,000.00
Landscape and Irrigation:																	
Landscape - Turf Areas Other than Fields (Acres)	2.7	1.9	2.34	.32	1.21	.02	9.96	.77	2.68	.97	1.5				24.37	$30,000.00	$731,100.00
Landscape - Trees (EA)	75	40	407	15	239	15	110	25	72	50	24			20	1,092	$300.00	$327,600.00
Turf Irrigation System - Other than Fields (SF)	2.7	1.9	2.34	.32	1.21	.02	9.96	.77	2.68	.97	1.5				24.37	$22,000.00	$536,140.00
Drip Irrigation System (Acres)															171.14	$3,500.00	$598,990.00
Automated Irrigation Control System - Med - Large	1	1	1		1		1	1	1	1				1	9	$7,500.00	$67,500.00
Automated Irrigation Control System - Small				1		1					1			1	4	$2,500.00	$10,000.00
Hardscape / Pedestrian Paving:																	
Accessible Walkways - Concrete (LF)	3,300	1,100	6,500		2,770	520	5,300	2,050	960	2,400				220	25,120	$48,00	$1,205,760.00
HC Ramps	2	2	3		6	1	3	6	2	2				1	28	$900.00	$25,200.00
Pathways and Trails:																	
Loop Shared-Use Pathways															18.22	$400,000.00	$7,288,000.00
Loop Road / Highway Underpasses															3	$300,000.00	$900,000.00
In-Park Shared-Use Pathways - Asphalt (LF)		450	6.850	500	2,600				3,200	3,150					9,900	$15.00	$148,500.00
In-Park Decomposed Granite Pathways (LF)								2,700							2,700	$4.00	$10,800.00
Single Track Trails (Miles)															45.6	$93,500.00	$4,263,600.00
																Total	**$57,329,614.00**

5. Allocation of Asset Value to Residential and Non-Residential Land-Uses

Allocation of Asset Value:

ARS §9-463.05(B)13 provides:

> *If development fees are assessed by a municipality, the fees shall be assessed against commercial, residential and industrial development…*

In-as-much as residential and non-residential development will impact the need for additional parks, it is necessary to allocate asset value to each so that a proportionate share can be assessed to each type of development. This allocation is based on Residential Hours and Non-Resident (Inflow Commuter) Hours each year. The Inflow Commuter Hours are hours non-residents will spend at jobs within the Town.

According to U.S. Census Bureau web application OnTheMap (2019 US Census), there are 10,640 Inflow Commuters working within the Town of Marana. The 2019 Census also identifies the resident population of Marana to be 49,030. Based on this data, the allocation of asset value is calculated as follows:

Figure 4: Cost Allocation

		Hour Allocation			**Cost Allocation**	
Marana Residents (2019 Census)	Inflow Commuters (2019 Census)	Residential Hours (*)	Non-Residential Hours (**)	Total Hours	Residential	Non-Residential
49,030	10,064	429,502,800	16,102,400	445,605,200	96%	4%

(*) Residential Hours / Year: 8,760 (24 Hours / Day x 365 Days)
(**) Non-Residential Hours / Year: 1,600 (50 Weeks / Year x 4 Days per Week x 8 Hours / Day)

Based on the total park asset value of $57,329,614.00 (See Section 4) and the cost allocation noted above, the asset value allocated to residential and non-residential land uses is as follows:

Figure 5: Asset Value by Land use Type

Land Use Type	**Total Asset Value**	**Cost Allocation (%)**	**Asset Value**
Residential	$57,329,614.00	96%	$55,036,429.
Non-Residential	$57,329,614.00	4%	$2,293,185.

Part 2
Impact Fee Calculation for Residential Development

Town of Marana

Service Units - Residential:

ARS §9-463.05 requires that service units be defined in an impact fee study and used as the basis for impact fee collection. This Impact Fee Study uses an Equivalent Demand Unit (EDU) as the service unit for the park impact fee for residential uses.

To calculate an EDU, housing unit types are weighted in relation to single-family detached housing. The weight of each housing type reflects a park service multiplier derived from the average household size for each housing type based on United States Census Bureau statistics. The average household size for a single-family detached housing unit is 2.7 while the average household size of a multi-family/single-family attached housing unit is 1.8. The park service multiplier for a single-family detached residence is therefore 1.0 while the park service multiplier for a multi-family/single-family attached dwelling unit is 0.67. The sum of these weighted dwelling units by housing type results in total EDUs for the Town.

Unlike impact fee studies for parks improvements, impact fee studies for transportation infrastructure expansion often use land use categories that are identified through analysis of vehicle usage and trip data that is available locally and is part of published transportation planning literature. Because there is no data on visits to existing parks, the Impact Fee Study for Parks and Recreation Facilities makes use of the differentiation between single-family and multi-family residential units and their average household sizes to fine tune the definition of service units for the purpose of establishing a park impact fee.

Figure 6: Service Units as Equivalent Demand Units

Housing Type	Average Household Size (Persons)	Equivalent Demand Units
Single Family Detached	2.7 (*)	1.00
Multi-Family / Single Family Attached	1.8 (*)	0.67

(*) Reference: U.S. Census Bureau

Figure 7: Total Quantity of Existing Equivalent Demand Units (EDU's) - January 1, 2023:

Housing Type	Dwelling Units (January 1, 2023)	Multiplier	Service Units (EDU's) (January 1, 2023)
Single Family Detached	16,679	1.00	16,679
Multi-Family / Attached	2,220	0.67	1,487
		Total - January 1, 2023	**18,166**

Necessary Public Services - Existing:

As required in ARS §9-463.05(E)1, an IIP must include:

> *"A description of the existing necessary public services in the service area and the costs to upgrade, update, improve, expand, correct or replace those necessary public services to meet existing needs and usage and stricter safety, efficiency, environmental or regulatory standards, which shall be prepared by qualified professionals licensed in this state, as applicable."*

In addition, ARS §9-463.05(E)2 requires:

> *"An analysis of the total capacity, the level of current usage and commitments for usage of capacity of the existing necessary public services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

In response to the required analysis of existing, necessary public park services, an inventory of parks and recreation assets throughout the Town of Marana has been compiled. (See Section 4 of this document). The inventory was based on data provided by the Town of Marana Parks and Recreation Department and lists existing park amenities by facility (site) with an identified replacement cost. The inventory excludes park acreage beyond the 30-acre limit referenced in ARS §9463.05(T)7(g).

The existing level of service provided by the Town's current parks and recreation facilities is quantified by distributing the value of the existing parks and recreation facilities over the total number of existing EDUs in the Town. The existing number of EDUs is described in Figure 5. Figure 3 describes the total value of existing parks and recreation infrastructure. The existing level of service provided by the Town of Marana's park infrastructure is quantified by dividing the total value of the existing infrastructure (See Section 4) by the existing number of EDUs (Figure 5).

Figure 8: Existing Park Value by Equivalent Demand Unit

	Credits	Offsets	Total
Total Replacement Value *	$55,036,429.00		
Impact Fee Account Balance	$150.00		
Outstanding Impact Fee Credits		$0.00	
Outstanding Park Debt		$0.00	
Subtotal	$55,036,279.00		
Adjusted Existing Park Value			$55,036,279.00
Divided by EDU			18,166
Net Value per EDU			$3,029.63

(* As allocated to residential development)

Projected Service Units for New Development:

ARS §9-463.05(E)5 requires and IIP to include:

> *"The total number of projected service units necessitated by and attributable to new development in the service area based on the approved land use assumptions and calculated pursuant to generally accepted engineering and planning criteria."*

The Town of Marana has developed Land Use Assumptions that estimate the number of new dwelling units expected over the next ten years. Figure 9 presents the existing and future dwelling units in the 10-year window based on the Town's Land Use Assumptions. The final result is the number of new EDUs expected over the next ten years.

Figure 9: Park Equivalent Demand Units (January 1, 2023 to December 31, 2032)

Housing Type	**Dwelling Units (1/1/23)**	**Park Service Unit Multiplier**	**Service Units - EDU's (1/1/23)**
Single Family Detached	16,679	1.00	16,679
Multi-Family / Single Family Attached	2,220	0.67	1,487
Total EDU's - (1/1/23)			18,166
Housing Type	**Dwelling Units (12/31/32)**	**Park Service Unit Multiplier**	**Service Units - EDU's (12/31/32)**
Single Family Detached	28,361	1.00	28,361
Multi-Family / Single Family Attached	4,480	0.67	3,002
Total EDU's - (12/31/32)			31,363
New EDU's (1/1/23 to 13/31/32)			**13,197**

Projected Park Impact Fee Revenue (January 1, 2023 to December 31, 2032):

ARS §9-463.05(E)6 requires an IIP to include:

> *"The projected demand for necessary public services or facility expansions required by new service units for a period not to exceed ten years."*

Figure 10 calculates the total expected revenue from impact fees collected between January 1, 2023 and December 31, 2032 based on the estimated number of new EDUs (Figure 9) and updated impact fee. The total projected revenue does not include development credits.

Figure 10: Projected Park Impact Fee Revenue - (1/1/23 to 12/31/23) (Before Credits)

Service Area	New EDU's	Impact Fee / EDU (Before Credits)	Projected Revenue 1/1/23 to 12/31/32 (Before Credits)
Town-wide	13,197	$3,029.63	$39,982,027.11

ARS §9-463.05(E)7 requires an IIP to include:

> *"A forecast of revenues generated by new service units other than development fees, which shall include estimated state-shared revenue, highway users revenue, federal revenue, ad valorem property taxes, construction contracting or similar excise taxes and the capital recovery portion of utility fees attributable to development based on the approved land use assumptions, and a plan to include these contributions in determining the extent of the burden imposed by the development as required in subsection B, paragraph 12 of this section."*

The Town of Marana collects no property tax to include in revenue forecasts. However, the Town does collect a 4% construction sales tax and also receives revenue from the state related to gas taxes. It is recommended that **Five Hundred Dollars ($500.00)** of the sales tax be credited on a per EDU basis, resulting in a fee of **Two Thousand Five-Hundred and Twenty-Nine Dollars and Sixty-Three cents ($2,529.63) per EDU**. Figure 11 calculates the projected revenue and percent of planned costs covered by this revenue forecast. The remainder of the sales tax credit would be credited against the yet-to-be-calculated Street Facilities fee.

It is recommended that the credits associated with HURF/VLT be applied fully to the street facilities fee. If approved, no additional credits would be applied to the Parks and Recreational Facilities fee.

Figure 11: Projected Park Impact Fee Revenue - January 1, 2023 to December 31, 2032 (After Credits):

Service Area	New EDU's	Impact Fee / EDU (Less the $500.00 Credit)	Projected Revenue (1/1/23 to 12/31/32)
Town-wide	13,197	$2,529.63	$33,383,527.00

In summary, the Impact Fee Update and Infrastructure Improvement Plan will result in a final calculation of the Impact Fee per EDU of **Two Thousand Five-Hundred and Twenty-Nine Dollars and Sixty-Three Cents ($2,529.63).**

Part 3
Impact Fee Calculation for Non-Residential Development

Service Units – Non-Residential Development:

ARS §9-463.05 requires that service units be defined in an impact fee study and used as the basis for impact fee collection. This Impact Fee Study uses Jobs per 1,000 S.F. as the service unit for non-residential development.

There are several categories of non-residential development, and each will result in a different quantity of jobs per square foot of development. These categories, and the quantity of jobs that will be created per 1,000 square foot of new development, are identified in the Land Use Assumptions (Table 4) and are summarized below.

Figure 12: Jobs per 1,000 S.F. – Non-Residential Land Uses

Non-Residential Land Use Category	S.F. per Job	Jobs per 1,000 S.F. of New Non-Residential Development
Retail	600	1.67
High Traffic Retail	200	5.00
Office	400	2.50
Industrial	500	2.00
Hotel	1,800	0.56
Medical	500	2.00

The Land Use Assumptions (Table 5) also include projections of the quantity of jobs that will be created by new non-residential development. These projections are summarized below:

Figure 13: New Job Projections (January 1, 2023 to December 31, 2032)

Non-Residential Land Use Category	New Jobs (From Land Use Assumptions)
Retail	2,327
High Traffic Retail	2,212
Office	370
Industrial	2,993
Hotel	-
Medical	682
Total New Jobs	**8,584**

Park Impact Fee – Non-Residential Development:

The park expansion and development costs allocated to non-residential development equals 4% of the cost of required improvements or $1,665,918.00. (4% x $41,647,945, the value of required improvement needed to maintain the current level of service). This cost will be borne by the 8,584 new jobs that will be created within the town, resulting in a fee of $194.00 per job.

Figure 14: Non-Residential Impact Fees per Job (Without Development Classification)

Total Cost Allocated to Non-Residential Development	Projected Quantity of New Jobs (1/1/23 to 12/31/32)	Non-Residential Impact Fee per Job
$1,665,918.00	8,584	$194.00

To properly assess this fee, the quantity of jobs must be related to square feet of new development. Figure 15 below summarizes this calculation.

Figure 15: Non-Residential Impact Fees per 1,000 S.F. of Development (Before Credits)

Non-Residential Land Use Category	Jobs per 1,000 S.F. of new Development	Impact Fee per Job	Impact Fee per 1,000 SF of New Non-Residential Development
Retail	1.67	$194.00	$324.00
High Traffic Retail	5.00	$194.00	$970.00
Office	2.50	$194.00	$485.00
Industrial	2.00	$194.00	$388.00
Hotel	0.56	$194.00	$109.0
Medical	2.00	$194.00	$388.00

As noted in Section 9 of this report, the Town collects a 4% construction sales tax with these revenues contributing to park expansion and development. It is recommended that **One Hundred Dollars ($100.00)** of the sales tax revenue be credited on a per 1,000 S.F. of new non-residential development basis. With this credit, the adjusted impact fees, by development type, are identified below.

Figure 16: Non-Residential Impact Fees Per 1,000 S.F. of Development (After Credits)

Non-Residential Land Use Category	Impact Fee per 1,000 S.F. of New Non-Residential Development Prior to $100.00 Adjustment	**Proposed Impact Fee per 1,000 S.F. of New Non-Residential Development**
Retail	$324.00	**$224.00**
High Traffic Retail	$970.00	**$870.00**
Office	$485.00	**$385.00**
Industrial	$388.00	**$288.00**
Hotel	$109.0	**$9.00**
Medical	$388.00	**$288.00**

Projected Park Impact Fee – Non-Residential Development:

The projected revenues to be collected from non-residential development fees for the period between 1/2/23 and 12/32/32 are summarized below.

Figure 17: Projected Impact Fee Revenues – Non-Residential Development

Non-Residential Land Use Category	New Jobs	Jobs per 1,000 S.F.	Development Scope (1,000 S.F.)	Fee per 1,000 S.F.	Projected Revenue
Retail	2,327	1.67	1,393	$224.00	$312,032.00
High Traffic Retail	2,212	5.00	442	$870.00	$384,540.00
Office	370	2.50	148	$385.00	$56,980.00
Industrial	2,993	2.00	1,497	$288.00	$431,136.00
Hotel	-	0.56	0.00	$9.0	$0.00
Medical	682	2.00	341	$288.00	$98,208.00
Total Projected Revenue – Non-Residential Development					**$1,282,896.00**

Part 4
Parks Capital Improvement Program

Projected Park Impact Fee – Residential and Non-Residential Development:

The combined revenues projected to be collected from both residential and non-residential development fees for the period between 1/2/23 and 12/32/32 are summarized below.

Figure 18: Projected Impact fee Revenues – Residential and Non-Residential Development

Projected Revenues – Residential Development	$33,383,527.00
Projected Revenues – Non-Residential Development	$1,282,896.00
Total Revenues (1/1/23 to 12/31/32)	$34,666,423.00

Necessary Public Services - New Development:

ARS §9-463.05(E)3 requires:

> *"A description of all or the parts of the necessary public services or facility expansions and their costs necessitated by and attributable to development in the service area based on the approved land use assumptions, including a forecast of the costs of infrastructure, improvements, real property, financing, engineering and architectural services, which shall be prepared by qualified professionals licensed in this state, as applicable."*

In response to the statutory mandate for a description of parks and recreation facility expansion projects required to meet the demand of new growth, the Town of Marana has developed the Ten-Year Capital Improvement Plan for park facilities. This plan is summarized in Figure 19 below. Impact fees that are collected between January 1, 2023 and December 31, 2032 will be directed to the capital improvements identified in Figure 19 with the understanding that A.R.S. §9-463.05 allows that:

> *"…a municipality may amend an infrastructure improvements plan adopted pursuant to this section without a public hearing if the amendment addresses only elements of necessary public services in the existing infrastructure improvements plan and the changes to the plan will not, individually or cumulatively with other amendments adopted pursuant to this subsection, increase the level of service in the service area or cause a development fee increase…".*

Figure 19 - Parks Capital Improvement Plan - January 1, 2023 to December 31, 2032:

Project	Development Cost
El Rio Disc Golf Course	$288,334.00
El Rio Recreation Area - Loop Access Parking Lot	$204,237.00
Gladden Farms Baseball Field Improvements	$660,765.00
Gladden Farms Lighted Soccer Fields	$286,636.00
Tortolita Preserve Trailhead, Trails, and Fencing	$156,181.00
Honea Heights Park - Phase 2 Improvements	$1,261,461.00
Continental Ranch Park to Loop Extension	$420,487.00
New Competition Swimming Pool (50 Meter)	$3,934,557.00
Ora Mae Harn Park Facility Expansion	$1,784,066.00
Saguaro Bloom Park - Phase 1	$1,600,375.00
Saguaro Bloom Park - Phase 2	$4,805,566.00
Gladden Farms Bike Park	$1,201,391.00
Twin Peaks Park District Park - Land Acquisition and Phase 1 Development	$17,415,052.00
Mandarina Community Park	$7,568,766.00
Impact Fee Study	$60,000.00
Total	**$41,467,945.00**
Amount Funded by Parks Impact Fee	**$34,666,423.00**
Amount Funded by Construction Sales Tax Credits	**$6,801,522.00**

Additional Information related to these projects is provided below.

El Rio Disc Golf Course:

This project involves the construction of an 18-hole disc golf course. The course will provide a safe and appropriate location where this activity can occur. It will allow disc golf activities to be moved from other community parks, where it occurs on an informal basis, to this new location. The course will have the capacity to serve both existing users and new / future residents who engage in this recreational activity enabling the Parks and Recreation Department to maintain a consistent level of service.

El Rio Recreation Area – Loop Access Parking Lot:

The El Rio Recreation Area is a district or zone within the Town's Park system that includes (or will include) the El Rio Neighborhood Park, the El Rio Disc Golf Course, and portions of the Loop shared-use pathway. As the community's population grows, there will be increased demand for access to these facilities and other recreational facilities that can be accessed via the Loop. The proposed parking lot will allow the Town to continue to provide safe and legal access to these facilities consistent with the increased demand resulting from anticipated population growth.

Gladden Farms Baseball Field Improvements:

This project involves the installation of field lights and the construction of other related improvements that will change the fields from daytime-only use fields to daytime and evening use fields. The improvements will enable the Town to significantly expand the hours of operation and the number of teams / individuals who can use and benefit from access to this facility. It will help the Parks and Recreation Department to maintain a consistent level of service related baseball / softball field availability.

Gladden Farms Park New Lighted Soccer Fields:

The scope of the project includes the construction of two new natural turf, multi-sport / soccer fields within the existing boundaries of Gladden Farms Park. Improvements will include the fields, field lights to expand the potential hours of operation, and the parking area / restrooms required for public use. The project will increase the quantity of fields available to the community in response the anticipated increase in population and assist the Parks and Recreation Department in their efforts to maintain a consistent level of service related to multi-sport field availability.

Tortolita Preserve Trailhead, Trails, and Fencing:

As the population of the Town grows, there has been a steady increase in the number of residents using the Tortolita Preserve. The proposed Tortolita Preserve trailhead development and trail expansion project will enhance access, extend the length of the trail system, maintain site security, and allow additional residents to use this facility consistent with the increased demand resulting from population growth.

Honea Heights Park – Phase 2 Improvements:

The Honea Heights Park Phase 2 development project will include the construction of two new lighted multi-sport / soccer fields and supporting site improvements. The project will increase the quantity of fields available to the community in response the anticipated increase in population allowing the Parks and Recreation Department to maintain a consistent level of service.

Continental Ranch Park to Loop Connection:

The scope of this project consists of the construction of an accessible shared-use pathway that will connect the Continental Ranch Community Park with the Loop shared-use pathway system. As the community's population grows and the extent of the Loop pathway system expands, there is a need to provide new access facilities to maintain the same level of service for Marana residents. This project will contribute to addressing that need.

New Competition Swimming Pool:

The scope of this project involves the construction of a new competition swimming pools that will allow the Town to continue to provide swimming pool access to the growing number of Marana residents. Improvements will include the pool and the associated mechanical and water filtration / purifications equipment, only.

Ora Mae Harn Park Facility Expansion:

The scope of this project will involve the construction of a new racquet sport area with lighted pickleball and tennis courts. It will also include the construction of a new lighted multi-sport field and the expansion of the park's pathway system. The project will enable the Town to address increased demand for these facilities due to population growth and continue to provide the same level of service.

Saguaro Bloom Park Phase 1:

The new Saguaro Bloom Park (Phase 1) will include sport courts, playgrounds, picnic facilities, restrooms, and related site improvements and is being developed in response to population growth. It will allow the Parks and Recreation Department to provide these basic recreational resources to new residents, consistent with the resources it provides current residents.

Saguaro Bloom Park Phase 2:

Phase 2 of the Saguaro Bloom Park will include two lighted diamond (baseball / softball) fields, a lighted multi-sport / soccer field, an expanded dog park, and related facilities. As with Phase 1 of this project, it will allow the Parks and Recreation Department to provide these basic recreational resources to new residents, consistent with the resources it provides current residents.

Gladden Farms Bike Park:

The Gladden Farms Bike Park will include bike trails, a pump track, and similar features that can be used by Town residents. Outdoor recreation trends indicate that more and more individuals, both children and adults, are now choosing to engage in this recreational activity. Some of these activities currently occur within the Tortolita Preserve but as demand grows, it will be important to expand the areas available to the public so that the same level of service can be maintained.

Twin Peaks District Park Land Acquisition and Phase 1 Development:

The Twin Peaks District Park will be a new park as identified in the Town's Parks and Recreation 2020-2030 Master Plan. The park will be centrally located and will serve existing and new residents from throughout the Marana community. Proposed (Phase 1) facilities will include lighted fields, courts, playgrounds, picnic facilities, a dog park, and the supporting infrastructure. The park will be a component of the park system's expansion as needed to maintain a consistent level of service.

Mandarina Community Park:

Mandarina Community Park will be a new park and will similarly expand the recreational facilities available to residents while maintaining the same level of service for existing and new residents. Improvements planned for the park include lighted multi-sport / soccer fields, sport courts, ramadas, picnic facilities, and the infrastructure needed to support these improvements.

Summary of Projected Revenues and Planned Costs:

Provided below is a summary of projected revenues, projected costs, and Impact fees for various types of new development.

Figure 20: Summary of Projected Revenues and Planned Costs

Projected Revenues – Residential Development Impact Fees (1)	$33,383,527.00
Projected Revenues – Non-Residential Development Impact Fees (2)	$1,282,896.00
Total	**$34,666,423.00**
Planned Costs (3)	**$34,666,423.00**
Revenues as Percent of Planned Costs	**100%**

(1) See Figure 11 – Section 9
(2) See Figure 17 – Section 12
(3) See Figure 19 – Section 14

Figure 21 - Summary of Park Impact Fees:

Residential		
Single Family Residence (1 EDU)	$2,529.63	Per Dwelling Unit
Multi-Family Residential Unit (.67 EDU)	$1,694.85	Per Dwelling Unit
Non-Residential		
Retail	$224.00	Per 1,000 S.F.
High Traffic Retail	$870.00	Per 1,000 S.F
Office	$285.00	Per 1,000 S.F.
Hotel	$9.00	Per 1,000 S.F.
Industrial	$288.00	Per 1,000 S.F.
Medical	$288.00	Per 1,000 S.F.

Town of Marana

Impact Fee Study

Water Facilities

Infrastructure Improvements Plan

Public Report

FINAL

As approved by the Marana Town Council, September 20, 2022

Prepared by

WestLand Resources, Inc.
Engineering and Environmental Consultants

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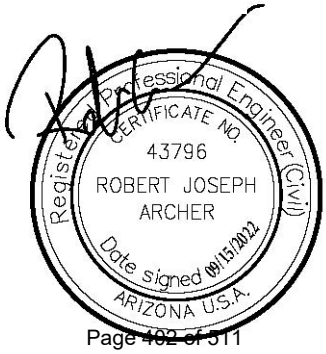
Prepared by

MARANA AZ
CELEBRATING 40 YEARS

11555 West Civic Center Drive
Marana, Arizona 85653

WestLand Resources, Inc. Project No. 527.141

September 20, 2022



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APPENDICES

Appendix A. Opinions of Probable Construction Cost and Site Plans
Appendix B. Marana and Oro Valley Service Overlap Area

1. INTRODUCTION

The Town of Marana (Town) through the Marana Water Department (Marana Water) serves water to the area shown in blue and orange in **Figure 1**. Marana Water's service to the areas in orange is enabled by water wheeled through Tucson Water's water system, pursuant to an Intergovernmental Agreement (IGA) with the City of Tucson. In addition, the Town provides renewable water resources to reconcile water use in several areas served by Tucson Water through an IGA with City of Tucson (**Figure 1**).

Currently, the Town has a designation of assured water supply (DAWS) from the Arizona Department of Water Resources (ADWR) which allows the Town to approve water supply for new development. To supply new development, Marana Water will expand its renewable water resources portfolio.

The water system is categorized into seven independent water systems as shown in **Figure 2**. Each water system is further defined by water pressure zones (**Figure 2**) so that all customers receive water at a reasonable pressure (between approximately 40 and 85 pounds per square inch [psi]).

There are seven individual water systems in the Marana Water Service Area:

- North Marana Water System
- Tangerine Business Park Water System
- Hartman Vistas Water System
- Picture Rocks Water System
- Saguaro Bloom Water System
- Marana Airport Water System
- Palo Verde Water System

The purpose of the Infrastructure Improvement Plan (IIP) is to determine the capital improvements and renewable water resource acquisitions required to meet the demands associated with the next 10 years of growth, and to estimate the costs of those improvements and acquisitions.

2. BENEFIT AREAS

Benefit areas are areas that derive benefit from unused existing capacity or proposed capacity improvements to the water system including water rights acquisition. **Figure 3** shows the approximate location of the five benefit areas defined in this IIP. New developments are subject to fees associated with the benefit area that is defined by the water system the new development is connecting to.

Some improvements will benefit multiple areas. For example, the acquisition of renewable water resources benefits all eleven benefit areas. The eleven benefit areas are:

- North Marana Benefit Area – developments connecting to the North Marana Water System or the Tangerine Business Park Water System.
- Twin Peaks Benefit Area – developments connecting to the Hartman Vistas Water System, Picture Rocks Water System, or the Marana Airport Water System.
- Saguaro Bloom Benefit Area – developments connecting to the Saguaro Bloom Water System.
- Palo Verde Benefit Area – developments connecting to the Palo Verde Water System.
- IGA Benefit Area – developments connecting to Tucson Water's water system through IGA with Marana, in one of two ways: 1) as a customer of Marana Water, in the Marana Water Wheeling Service Area or 2) as a customer of Tucson Water in the Tucson Non-Contracted Service Area.

3. LEVEL OF SERVICE

This section describes the level of service of the water supply, storage, and distribution system for each of the benefit areas, and for existing and future customers.

3.1. LEVEL OF SERVICE FOR EXISTING CUSTOMERS

The level of service for existing customers is generally:

- Storage Capacity > 1.5 times the average day demand (ADD) plus fire flow storage requirement, where the fire flow storage requirement is equal to the fire flow rate requirement times the fire flow duration requirement. For example, if the fire flow rate requirement is 1,000 gallons per minute (gpm) and the fire flow duration requirement is 2 hours (120 minutes), then the fire flow storage requirement is 1,000 gpm times 120 minutes, or 120,000 gallons.
- Well Capacity > peak day demand (PDD) with the largest well out of service, unless otherwise noted for specific zones. PDD = 2 times ADD.
  - The Hartman Vistas Water System is interconnected with the Oro Valley Water Utility, and since this interconnection can be used if a well is out of service, the well requirement for the Hartman Vista Water System is that the total well capacity must be greater than PDD.
  - The well capacity requirement for the Palo Verde and Tangerine Business Park Water Systems is that the well capacity be greater than PDD; there is no requirement for redundant well capacity currently.
- Booster Capacity

  - For a pressure zone or zones without gravity storage, the booster requirement is the greater of PDD plus the fire flow rate requirement or peak hour demand (PHD), where PHD = 3.5 times ADD if ADD <= 1,000 gpm, and 3.0 times ADD if ADD > 1,000 gpm.
  - For pressure zones with gravity storage sufficient to meet the greater of PDD plus fire flow or PHD, the booster capacity requirement is PDD. Under existing conditions, only the Twin Peaks Y and Z pressure zones have sufficient gravity capacity to supply PDD plus fire flow.

- Distribution System Capacity
  - During normal flow conditions, customers should receive water at between approximately 40 psi and 85 psi pressure.
  - The potable water distribution system must be capable of providing peak flow throughout the system while maintaining a minimum of 20 psi pressure throughout the system. Peak flow is the greater of PHD or PDD plus fire flow. If PDD plus fire flow is used, the system is modeled assuming an appropriate fire flow at all points in the system.

The fire flow rate and duration requirements are set by the fire marshal and are based on the International Fire Code (IFC) for each new development. The fire flow for a specific pressure zone is equal to the greatest individual fire flow/duration requirement within the pressure zone. If multiple pressure zones share a resource, such as storage, then the fire flow requirement is based on the largest fire flow/duration requirement within the connected pressure zones. **Table 1** shows the fire flow requirements for specific zones for the existing water system.

Table 1. Fire Flow Requirements for Existing Customers

Water System	Water Pressure Zone	Fire Flow (gpm)	Fire Flow Duration (hours)
North Marana	W+	2,875	2
	X	1,000	2
Tangerine Business Park	Y	1,750	2
Picture Rocks	CR	2,875	3
	PR	700	2
	Y	2,500	2
	Z	1,000	2
Hartman Vistas	Y	4,000	4
	Y+	1,875	4
	Z	1,000	2
Saguaro Bloom	X	2,000	2
Palo Verde	PV	Note 1	Note 1
Marana Airport	X	2,750	2

Notes: 1. Palo Verde Water System does not have a fire flow requirement.

3.2. LEVEL OF SERVICE FOR FUTURE CUSTOMERS

The level of service in terms of water system engineering design criteria will be the same as stated above for all water systems. The Town will not address the lack of redundant well capacity or change the level of service for the Palo Verde Water System, and there is no growth projected for this area. Proposed projects will provide redundant well capacity in the Tangerine Business Park Water System; however, the purpose of these projects was to provide sufficient well capacity for future growth. No changes to fire flow and duration requirements are anticipated over the next 10 years.

4. 10-YEAR LAND USE ASSUMPTIONS

The Town provided land use assumptions for the 10-year study period including growth projections from 2023 through 2027 and from 2028 through 2032. The land use assumptions are in Equivalent Dwelling Units (EDU), where one EDU is equivalent to the water demand for one single-family residence.

Table 2 shows each development with the appropriate assignment of EDU. **Table 3** also shows which water system the development is assigned to. The location of each development is shown in **Figure 4**.

Table 2. Projected Growth in Equivalent Dwelling Units by Development Area

Development Area	Water System	Projected Growth, EDUs		
		2023-2027	2028-2032	2023-2032
Crossroads At Gladden	North Marana	160	328	488
Custom Homes		15	15	30
Cypress Gardens		100	117	217
Gladden Farms II		1,421	0	1,421
Heritage Park Shoppes		16	20	36
Mandarina (MU)		532	810	1,342
Mandarina South (MU)		40	150	190
Marana & I10 (Dahlstrom Commercial)		12	100	112
Marana Main St. (Commercial)		16	24	40
Marana Towne Center (MU)		40	80	120
Payson Farms (Remington Ranch)		457	0	457
Rancho Marana - West (MU)		150	4	154
Rancho Marana Town Center (Commercial)		0	20	20
Sanders Grove		100	600	700
Stonegate		300	700	1,000
Tangerine Commerce Park		60	60	120
Uptown		0	300	300

Development Area	Water System	Projected Growth, EDUs		
		2023-2027	2028-2032	2023-2032
Vanderbilt Farms (Monarch)		500	1,000	1,500
Villages of Barnett		50	0	50
Villages of Tortolita		0	300	300
Breakers Rd Industrial	Tangerine Business Park	160	0	160
Marana Technology Campus		36	0	36
Tangerine Business Park (Commercial)		20	8	28
Cortaro Ranch (Commercial)	Hartman Vistas	36	0	36
De Anza		150	0	150
Joplin Estates (MU)		0	185	185
Linda Vista Village (MU)		500	193	693
Marana Spectrum/Center (MU)		160	188	348
Preserve at Twin Peaks (Lennar)		50	0	50
Twin Peaks Crossing (Cardinal)(MU)		0	154	154
Twin Peaks Estates (Tivera)		82	0	82
Twin Peaks Rd (Future Rezones)		0	100	100
Twin Peaks Vista		58	0	58
Pima Farms North (Commercial)	Picture Rocks	88	4	92
La Puerta del Norte East (Summerset)	Saguaro Bloom	150	0	150
Saguaro Bloom		700	0	700
Airport	Marana Airport	20	20	40
Orange Grove Industrial (Commercial)	IGA	4	8	12
Riverside @ Silverbell (SE Ina/SB) (MU)		92	0	92
Silverbell Ridge (SW of Ina)		56	0	56
Sonoran Preserve at Bajada		14	0	14
Tang Thornydale SW Corner Rezone (MU)		145	40	185
Tangerine Thornydale (Villagio, HSL) (MU)		107	0	107
Tortolita 30 Rezone		40	0	40
Tortolita Vistas		40	0	40
	Total	**6,677**	**5,528**	**12,205**

Table 3 shows the 10-year projected growth in EDUs for each of the benefit areas with projected growth.

Table 3. 10-year Projected Growth by Benefit Area

Benefit Area	Projected Growth, EDUs		
	2023-2027	2028-2032	2023-2032
North Marana	4,185	4,636	8,821
Twin Peaks	1,144	844	1,988
Saguaro Bloom	850	0	850
Palo Verde	0	0	0
IGA	498	48	546
Total	**6,677**	**5,528**	**12,205**

Table 4 shows the projected annual growth in EDUs for each benefit area with projected growth. The annual growth is based on the number of existing EDUs and 5- and 10-year projected EDUs provided by the Town. The growth rate for intermediate years was estimated using a constant growth rate for each 5-year period and adjusted so each year has a whole number of EDUs.

Table 4. Projected Annual Growth for Each Benefit Area

Benefit Area	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	Total
North Marana	837	837	837	837	837	927	927	927	927	928	8,821
Twin Peaks	228	229	229	229	229	168	169	169	169	169	1,988
Saguaro Bloom	170	170	170	170	170	0	0	0	0	0	850
Palo Verde	0	0	0	0	0	0	0	0	0	0	0
IGA	99	99	100	100	100	9	9	10	10	10	546
Total	**1,334**	**1,335**	**1,336**	**1,336**	**1,336**	**1,104**	**1,105**	**1,106**	**1,106**	**1,107**	**12,205**

5. EXISTING CAPACITY REQUIREMENTS

In this section, the storage, well, and booster capacities are compared to existing demands. The existing water infrastructure is shown in **Figure 5**.

The following assumptions are used to calculate the flows generated from each EDU.

- Each EDU represents 2.7 persons per dwelling unit (ppdu) of equivalent population.
- The average demand per person or equivalent person is 100 gallons per capita per day (gpcd).
- The ADD per EDU is 2.7 ppdu times 100 gpcd or 270 gpd/EDU.
- The PDD is 2 times ADD or 540 gpd/EDU.
- The PHD is 3.5 times ADD or 945 gpd/EDU if ADD is <= 1,000 gpd, and 3.0 times ADD or 810 gpd/EDU if ADD > 1,000 gpd. For some areas, the PHD is based on an instantaneous demand requirement for the pressure zone.

Unless otherwise noted, the system requirements are:

- Storage capacity > 1.5 times ADD plus fire flow storage.

- Well capacity > PDD with the largest well out of service or PDD if interconnected with another water system.
- Booster capacity (without gravity storage) greater of PDD plus fire flow or PHD. Booster capacity (with gravity storage) is equal to PDD.
- During normal flow conditions, customers should receive water at between approximately 40 psi and 85 psi pressure.
- The distribution system must be capable of providing peak flow while maintaining 20 psi throughout the system.

Table 5 shows the existing EDUs in each Water System and pressure zone. The "existing" EDU value is based on the Town's estimate of existing plus projected growth through November 2022.

Table 5. Existing Equivalent Dwelling Units

Water System	Water Pressure Zone	Existing EDUs
North Marana	W+	5,259
	X	195
Tangerine Business Park	Y	14
Picture Rocks	CR	2,322
	PR	233
	Y	114
	Z	86
Hartman Vistas	A	62
	A+	91
	Y	1,158
	Y+	687
	Z	359
Saguaro Bloom	X	1,699
Palo Verde	PV	60
Marana Airport	X	40
	Total	**12,383**

5.1. EXISTING DEMANDS

Based on historical flow data, the average demand for the Marana water system is approximately 270 gpd per EDU. **Table 6** shows the existing ADD, PDD, and PHD for the system broken down by Water System and pressure zone.

Table 6. Existing Demands

Water System	Water Pressure Zone	Average Day Demand (gpd)	Peak Day Demand (gpm)	Peak Hour Demand (gpm)
North Marana	W+	1,419,930	1,972	3,451
	X	52,650	73	128
Tangerine Business Park	Y	3,780	5	9
Picture Rocks	CR	626,940	871	1,524
	PR	62,910	87	153
	Y	30,780	43	75
	Z	23,220	32	56
Hartman Vistas	Y	1,158	434	760
	Y+	687	258	451
	Z	359	135	236
	A	16,740	23	41
	A+	24,570	34	60
Saguaro Bloom	X	458,730	637	1,115
Palo Verde	PV	16,200	23	39
Marana Airport	X	11,880	17	29
Total		**3,343,410**	**4,644**	**8,126**

5.2. EXISTING STORAGE CAPACITY

The required minimum storage reservoir requirement is equal to 1.5 times ADD plus the fire flow/duration requirement. The fire flow requirement is equal to flowrate times duration which results in a volume of water. For example, 1,000 gpm for 2 hours (120 minutes) is 120,000 gallons. The Palo Verde Water System does not have a fire flow requirement.

If storage is shared by two or more zones, the highest fire flow requirement of the zones is used to calculate the storage requirement.

Table 7 shows the fire flow requirement (flow and duration), the current storage reservoir requirement, the existing reservoir capacity, and the amount of excess capacity for each pressure zone. Excess storage in a red font and parenthesis indicates a negative value, which means a deficiency in storage.

Table 7. Existing Storage Capacity

Water System	Zone	Potable Storage Required (gallons)	Fire Flow Storage Required (gallons)	Total Storage Required (gallons)	Total Available Storage (gallons)	Excess Storage (gallons)
North Marana	W+, X	2,208,870	345,000	2,553,870	2,084,000	(469,870)
Tangerine Business Park	Y	5,670	210,000	215,670	500,000	284,330
Picture Rocks	CR, PR, Z	1,069,605	517,500	1,587,105	1,250,000	(337,105)
	Y	46,170	300,000	346,170	1,000,000	653,830
Hartman Vistas	All	954,585	960,000	1,914,585	2,385,000	470,415
Saguaro Bloom	X	688,095	240,000	928,095	1,928,000	999,905
Palo Verde	PV	24,300	Note 1	24,300	45,000	20,700
Marana Airport	X	17,820	330,000	347,820	500,000	152,180

Notes: 1. Palo Verde Water System does not have a fire flow requirement.

All the zones have excess storage capacity except for the Picture Rocks CR and PR-Zones, which have a deficiency of 337,105 gallons, and North Marana Water System, which has a deficiency of 469,870 gallons.

5.3. Existing Well Capacity

The minimum required well capacity is equal to PDD with the largest well out of service; however, the Tangerine Business Park Water System and the Palo Verde Water System do not require redundant well capacity and each is served by a single well. **Table 8** shows the current well capacity requirement, the existing well capacity, and the amount of excess capacity for each pressure zone.

Table 8. Existing Well Capacity

Water System	Required Capacity (gpm)	Total Well Capacity (gpm)	Largest Well (gpm)	Net Well Capacity (gpm)	Excess Well Capacity (gpm)
North Marana	2,045	2,721	1,009	1,712	(333)
Tangerine Business Park	5	55	Note 1	55	50
Picture Rocks	1,033	2,411	1,374	1,037	4
Hartman Vistas	884	2,590	986	1,604	720
Saguaro Bloom	637	1,522	1,100	422	(215)
Palo Verde	23	273	Note 2	273	250
Marana Airport	17	4,034	2,034	2,000	1,983

Notes: 1. Under current Marana Water policy, the Tangerine Business Park Water System does not require a redundant well.
2. Under current Marana Water policy, the Palo Verde Water System does not require a redundant well.

The North Marana Water System has a source deficiency of 333 gpm, and the Saguaro Bloom Water System has a source deficiency of 215 gpm.

5.4. EXISTING BOOSTER CAPACITY

The booster capacity requirement is the greater of PHD or PDD plus fire flow. If the pressure zone is served by gravity storage (Twin Peaks Y and Z Zones), then the booster capacity requirement is the combined PDD of the zones downstream of the current zone. **Table 9** shows the required booster capacity, the existing booster capacity, and the excess booster capacity for each zone. There is currently one booster deficiency of 446 gpm in the Picture Rocks CR Zone.

Table 9. Existing Booster Capacity

Water System	Zone	Required Booster Capacity (gpm)	Existing Booster Capacity (gpm)	Excess Booster Capacity (gpm)
North Marana	W+	4,847	5,520	673
	X	1,073	1,300	227
Tangerine Business Park	Y	1,755	1,850	95
Picture Rocks	CR	3,746	3,300	(446)
	PR	787	1,900	1,113
	Y	2,543	3,100	557
	Z	1,032	1,320	288
Hartman Vistas	Y	434	2,100	1,666
	Y+	258	2,100	1,842
	Z	1,135	2,500	1,365
	A	1,557	1,850	293
	A+			
Saguaro Bloom	X	2,637	4,430	1,793
Palo Verde	X	145	308	163
Airport	X	2,767	3,205	438

6. PROJECTED CAPACITY REQUIREMENTS AND UTILIZATION OF EXISTING FACILITIES

This section includes the projected capacity requirements and utilization of existing infrastructure over the 10-year study period ending in 2032. Water system infrastructure requirements are based on the level of service noted in **Section 3.2**.

6.1. PROJECTED 10-YEAR EDUS

The future land use from **Table 2** in **Section 4** was combined with the Water Systems and water pressure zones from **Figure 2**. The results were added to the existing EDUs from **Table 5** in **Section 5** to get the total EDUs by water pressure zone. The results are presented in **Table 10**.

Table 10. Projected Equivalent Dwelling Units

Water System	Water Pressure Zone	Existing EDUs	Projected Growth, EDU[1]		Existing and Projected10-Year EDUs
			2023-2027	2028-2032	
North Marana	W+	5,259	3,037	2,908	11,204
	X-north	195			195
	X-south		932	1,720	2,652
Tangerine Business Park	Y	14	20	8	42
	X	0	196		196
Picture Rocks	CR	2,322	88	4	2,414
	Z	86			86
	PR	233			233
	Y	114			114
Hartman Vistas	Y	1,158	535	518	2,211
	Y+	687	156		843
	Z	359	155	48	562
	A	62	58	10	130
	A+	91	50		141
	B		82	25	107
	C			219	219
Saguaro Bloom	X	1,699	850		2,549
Palo Verde	PV	60	0		60
Marana Airport	X	44	20	20	84
Total		**12,383**	**6,179[1]**	**5,480[1]**	**24,042**

[1] Does not include IGA projection growth.

6.2. PROJECTED DEMANDS

Table 11 shows the projected demands for each water pressure zone. Projected demands are ADD, PDD, and PHD.

Table 11. Projected Demands

Water System	Water Pressure Zone	Average Day Demand (gpd)	Peak Day Demand (gpm)	Peak Hour Demand (gpm)
North Marana	W+	3,025,080	4,202	6,302
	X-north	52,650	73	128
	X-south	716,040	995	1,740
Tangerine Business Park	Y	11,340	90	28
	X	52,920	74	129
Picture Rocks	CR	651,780	905	1,584
	Z	23,220	32	56
	PR	62,910	87	153
	Y	30,780	43	75
Hartman Vistas	Y	596,970	829	1,451
	Y+	227,610	316	553
	Z	151,740	211	369
	A	35,100	49	85
	A+	38,070	53	93
	B	28,890	40	70
	C	59,130	82	144
Saguaro Bloom	X	688,230	956	1,673
Palo Verde	PV	16,200	23	39
Marana Airport	X	22,680	32	55
Total		**6,491,340**	**9,090**	**14,727**

6.3. PROJECTED STORAGE CAPACITY

The minimum storage reservoir requirement is equal to 1.5 times ADD plus fire flow. There are no plans to add fire flow requirements to the Palo Verde Water System, therefore its reservoir requirement is 1.5 times ADD. If storage is for more than one zone, the highest fire flow requirement of the multiple zones is used to calculate the storage requirement.

Table 12 shows the projected storage reservoir requirement, the existing reservoir capacity, and the amount of excess capacity for each pressure zone. Excess storage in a red font and parenthesis indicates a negative value, which means a deficiency in storage. It is projected that the North Marana Water System will have a 3,951,655-gallon storage deficiency, the Picture Rocks Water System will have a 374,365-gallon storage deficiency and the Hartman Vistas Water System will have a 281,265-gallon storage deficiency.

Table 12. Projected Storage Capacity

Water System	Water Pressure Zone	Required Storage (gallons)	Existing Storage (gallons)	Excess Storage (gallons)
North Marana	W+, X	5,690,655	2,084,000	(3,951,655)
Tangerine Business Park	X, Y	96,390	500,000	193,610
Picture Rocks	CR, PR, Z	1,106,865	1,250,000	(374,365)
	Y	46,170	1,000,000	653,830
Hartman Vistas	All	1,706,265	2,385,000	(281,265)
Saguaro Bloom	X	1,032,345	1,928,000	655,655
Palo Verde	PV	24,300	45,000	20,700
Marana Airport	X	34,020	500,000	135,980

6.4. PROJECTED WELL CAPACITY

The minimum required well capacity is equal to PDD with the largest well out of service; however, the Tangerine Water System and the Palo Verde Water System will not require redundant well capacity by 2032. **Table 13** shows the projected well capacity requirement, the existing well capacity, and the projected excess capacity for each pressure zone. Excess well capacity in a red font and parenthesis indicates a negative value, which means a deficiency in well capacity. The North Marana Water System will have a 3,557-gpm deficiency, the Tangerine Business Park Water System will have a 35-gpm deficiency, the Picture Rocks Water System will have a 31-gpm deficiency, and the Saguaro Bloom Water System will have a 533-gpm deficiency.

Table 13. Projected Well Capacity

Water System	Water Pressure Zone	Required Well Capacity (gpm)	Total Existing Well Capacity (gpm)	Largest Well (gpm)	Net Well Capacity (gpm)	Excess Well Capacity (gpm)
North Marana	W+	4,202	2,721	1,009	1,712	(3,557)
	X-north	73				
	X-south	995				
Tangerine Business Park	Y, X	90	55	Note 1	55	(35)
Picture Rocks	CR	905	2,411	1,374	1,037	(31)
	Z	32				
	PR	87				
	Y	43				
Hartman Vistas	Y	829	2,590	986	1,604	357
	Y+	316				
	Z	211				
	A	49				
	A+	53				
	B	40				
	C	82				
Saguaro Bloom	X	956	1,522	1,100	422	(534)
Palo Verde	PV	23	273	Note 2	273	251
Marana Airport	X	32	4,034	2,034	2,000	1,969

Notes 1. Tangerine Business Park Water System does not have redundant well requirement.
2. Palo Verde Water System does not have redundant well requirement.

6.5. PROJECTED BOOSTER CAPACITY

The booster capacity requirement is the greater of PHD or PDD plus fire flow. If the pressure zone is served by gravity storage (Hartman Vistas Y, Y+, and Z-Zones), then the booster capacity requirement is the combined PDD of the zones downstream of the zone being evaluated. **Table 14** shows the projected required booster capacity, the existing booster capacity, and the excess booster capacity for each zone. Excess booster capacity in a red font and parenthesis indicates a negative value, which means a deficiency in well capacity.

Table 14. Projected Booster Capacity

Water System	Water Pressure Zone	Fire Flow (gpm)	Required Booster Capacity (gpm)	Existing Booster Capacity (gpm)	Excess Booster Capacity (gpm)
North Marana	W+	2875	7,077	5,520	(1,557)
	X-north	1,000	1,073	1,300	227
	X-south	2,000	2,995	3,000	5
Tangerine Business Park	Y, X	1,750	1,914	1,850	(64)
Picture Rocks	CR	2,875	3,813	3,300	(513)
	Z	1,000	1,032	1,320	288
	PR	700	830	1,900	1,070
	Y	2,500	2,543	3,100	557
Hartman Vistas	Y	4,000	829	2,100	1,271
	Y+	1,500	316	2,100	1,784
	Z	1,000	2,103	2,500	397
	A	1,500	1,892	1,580	(42)
	A+	1,500			
	B	1,000	1,122	0	(1,122)
	C	1,000	1,082	0	(1,082)
Saguaro Bloom	X	2,000	2,956	4,780	1,474
Palo Verde	PV	N/A	145	308	163
Marana Airport	X	2,750	2,782	3,205	424

It is projected that four water systems will have booster deficiencies: North Marana Water System, Tangerine Business Park Water System, Picture Rocks Water System, and Hartman Vistas Water System.

6.6. Other Distribution System Deficiencies

In addition to having adequate storage capacity, well capacity, and booster capacity, the distribution system must have adequate capacity to move water to the projected development areas while maintaining a minimum of 20 psi throughout the system. There are projected distribution system deficiencies in the North Marana Water System and the Hartman Vistas Water System. It is projected that an increased pipe capacity is required to connect the southern and northern portions of the North Marana Water System along Sanders Road. Developments in the Hartman Vistas will require a distribution pipe from the proposed B-Zone booster.

6.7. Additional Renewable Resource Acquisitions

An average of 270 gpd (approximately 0.3 acre-feet/year) of renewable water resources is required for each EDU. **Table 15** shows the projected additional renewable water resource required for each

benefit area. Projected growth over the next 10 years will require approximately 3,662 acre-feet (per year) of additional renewable water resource acquisitions.

Table 15. Projected Additional Renewable Resources Required for 2032

Benefit Area	Projected Growth (EDU)	Renewable Resource (acre-feet)
North Marana	8,821	2,646
Twin Peaks	1,988	596
Saguaro Bloom	850	255
Palo Verde	0	0
IGA	546	164
Total	**12,205**	**3,662**

6.8. SUMMARY OF PROJECTED CAPACITY DEFICIENCIES

Table 16 contains a summary of the projected infrastructure deficiencies in storage, well, and booster capacity for each benefit area. In addition to the infrastructure deficiencies shown in **Table 16**, 3,662 acre-feet of renewable water resources will be required to offset the ADWR safe yield requirements.

Table 16. Summary of Projected Infrastructure Deficiencies by Benefit Area

Benefit Area	Storage Capacity Deficiency (gallons)	Well Capacity Deficiency (gpm)	Booster Capacity Deficiency (gpm)	Other Deficiencies
North Marana	3,951,655	3,592	1,621	Note 1
Twin Peaks	655,630	0	2,759	Note 2
Saguaro Bloom		534		

1 North Marana Benefit Area will not meet the 20-psi pressure requirement for all flow conditions.
2 Twin Peaks Benefit Area will require new delivery pipeline from proposed B-Zone Booster.

7. CAPITAL INFRASTRUCTURE IMPROVEMENTS

Figure 7 shows the location of the 15 capital projects that are intended to make up the projected deficiencies discussed in **Sections 7.3** through **7.6.** The capital projects make up projected deficiencies in two of the defined benefit areas. Projects that are associated with water resources acquisition are presented in **Section 9.2**. **Table 17** shows each project, the benefit area or areas benefiting from each project, and the projected EDUs affected by the project. See **Section 3** for the level of service associated with each benefit area.

Table 17. Proposed Capital Improvements

Capital Improvement Project	Benefit Area Affected					Total Benefit EDUs
	North Marana	Twin Peaks	Saguaro Bloom	Palo Verde	IGA	
Airport Connection to NWRRDS Pipeline	✓	✓				10,809
Partnered NWRRDS Project	✓	✓				10,809
Marana Booster at NWRRDS	✓	✓				10,809
NWRRDS Blending Plan	✓	✓				10,809
B-Zone Booster and Transmission Line	✓	✓				10,809
B-Zone Reservoir	✓	✓				10,809
C-Zone Booster		✓				1,988
Tangerine 16" with Break Tanks	✓					8,821
Tangerine 16" at I-10	✓					8,821
Marana Park Well	✓					8,821
Marana Park Reservoir	✓					8,821
Sanders Road 24" Pipeline	✓					8,821
Twin Peaks Interconnect		✓				1,988
Picture Rocks Interconnect		✓				1,988
Honea East Improvements	✓					8,821
Heritage Park Water Plant	✓					8,821

Each of the projects is described in more detail in the following subsections. Seven of the projects create a loop that can move water from the Airport Water System to the Hartman Vistas Water System, the Tangerine Business Park Water System, and the North Marana Water System.

- Airport Connection to NWRRDS Pipeline
- Partnered NWRRDS Project
- Marana Booster at NWRRDS
- NWRRDS Blending Plan
- B-Zone Booster and Transmission Line
- B-Zone Reservoir
- Tangerine 16" with Break Tanks
- Tangerine 16" at I-10

The purpose of the loop is to address source (well) and storage deficiencies in the North Marana Benefit Area and the Twin Peaks Benefit area. Portions of the loop also address booster and delivery deficiencies in the Twin Peaks Benefit Area.

The Twin Peaks Interconnect and the Picture Rocks Interconnect combine to connect the existing Hartman Vistas Water System and the Picture Rocks Water System. The purpose of the Picture Rocks Interconnect is to adjust the zone boundaries, so the water pressure zones in the Picture Rocks Water System match the water pressure zones in the Hartman Vistas Water System. The purpose of the Twin Peaks Interconnect and the Picture Rocks Interconnect is to address the storage, well, and booster deficiencies in the Twin Peaks Benefit Area.

7.1. Airport Connection to NWRRDS Pipeline

The purpose of the Airport Connection to the Northwest Recharge, Recovery, and Delivery System (NWRRDS) Pipeline is to supply an average of 1,500 gpm from the Airport wells into the Partnered NWRRDS Project. The project includes a 1,500-gpm booster station, suction, and pressure side hydropneumatic tanks, upgrade of the existing booster station, upgrade of the existing southeast well, site piping, and controls.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana and Twin Peaks Benefit Areas by addressing projected storage and well capacity deficiencies.

Fifty percent of the cost of the Airport Connection to the NWRRDS Pipeline will be assigned to the IIP.

7.2. Partnered NWRRDS Project

The Partnered NWRRDS Project is designed to take recovered recharged water from the area around the airport and deliver it to the three partners. The partners are Marana, Oro Valley, and Metro Water. The project includes a delivery pipeline and reservoir. Marana is responsible for 23 percent of the project cost, with 50 percent of Marana's portion being assigned to new development in this IIP.

The project includes a pipeline and one-million-gallon storage reservoir. Marana Water's portion of the storage reservoir is 230,000 gallons.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana and Twin Peaks Benefit Areas by addressing projected storage and well capacity deficiencies.

7.3. MARANA BOOSTER AT NWRRDS

The Marana Booster at NWRRDS will transfer water from the Partnered NWRRDS Project reservoir to Marana Water's Hartman Vista Water System. The Marana Booster at NWRRDS consists of a 1,500-gpm booster station and water main to connect to the water system.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana and Twin Peaks Benefit Areas by addressing projected storage and well capacity deficiencies.

Fifty percent of the cost of the Marana Booster at NWRRDS will be assigned to the IIP.

7.4. NWRRDS BLENDING PLAN

A blending plan, with an estimated cost of $120,000, is required to ensure water quality is not degraded after connection of the NWRRDS source.

Fifty percent of the cost of the NWRRDS will be assigned to the IIP.

7.5. B-ZONE BOOSTER AND TRANSMISSION LINE

The purpose of the B-Zone Booster and Transmission Line is to move water from the Blue Bonnet Reservoir north to the proposed B-Zone reservoir near Tangerine Road. B-Zone Booster and Transmission Line consists of a 3,000-gpm booster station and approximately 9,000 feet of 16-inch diameter water main.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana and Twin Peaks Benefit Areas by addressing projected storage and well capacity deficiencies. This project also addresses projected booster and distribution deficiencies in the Twin Peaks Benefit Area.

7.6. B-ZONE RESERVOIR

The 210,000-gallon B-Zone Reservoir serves as part of the loop supplying the North Marana and Tangerine Business Park Systems, gravity storage for the B-Zone of the Hartman Vistas Water System, and as a forebay for the C-Zone Booster.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana and Twin Peaks Benefit Areas by addressing projected storage and well capacity deficiencies.

7.7. C-ZONE BOOSTER

The 1,200-gpm C-Zone Booster supports the Hartman Vistas Water System and consists of booster pumps and supporting equipment. This project addresses a projected booster deficiency in the Twin Peaks Benefit Area.

7.8. TANGERINE 16" WITH BREAK TANKS

The Tangerine 16-inch with Break Tanks project consists of 16,750 feet of 16-inch diameter water main and two 50,000-gallon water storage reservoirs or break tanks. The Tangerine 16-inch with Break Tanks is part of the loop from the Airport Water System to the North Marana Water System.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana Benefit Area by addressing projected well capacity deficiencies and storage deficiencies.

7.9. TANGERINE 16" AT INTERSTATE-10

The Tangerine 16-inch at Interstate 10 project consists of 6,547 feet of 16-inch water main and is part of the loop connecting the Airport Water System to the North Marana Water System.

As part of the loop connecting the Airport Water System to the North Marana Water System, this project benefits the North Marana Benefit Area by addressing projected well capacity and storage deficiencies.

7.10. MARANA PARK WELL

The proposed Marana Park 800-gpm well will provide groundwater to the North Marana Service Area and Tangerine Business Park Water System.

This project will benefit the North Marana Benefit Area by addressing projected well capacity deficiencies.

7.11. MARANA PARK RESERVOIR

The proposed Marana Park 1.5-million-gallon storage reservoir will address a portion of the storage deficiency in the North Marana Service Area.

This project will benefit the North Marana Benefit Area by addressing projected storage deficiencies.

Water rates will pay for $1,000,000 of the cost of the proposed Marana Park Reservoir.

7.12. SANDERS ROAD 24-INCH PIPELINE

The proposed Sanders Road 24-inch Pipeline will alleviate projected distribution system deficiencies in the North Marana Water System. The improvement will allow the movement of water from source wells and storage reservoirs to and from new development areas during peak use periods, while maintaining a minimum 20-psi pressure throughout the system.

This project will benefit the North Marana Benefit Area by addressing projected distribution system deficiencies.

7.13. TWIN PEAKS INTERCONNECT

The proposed 24-inch Twin Peaks/Continental Reserve Interconnect will connect the Hartman Vistas and Picture Rocks Service Areas. The design has been completed and only the construction costs are included.

This project addresses projected storage and well capacity deficiencies in the Twin Peaks Benefit Area.

7.14. PICTURE ROCKS INTERCONNECT

The proposed Twin Peaks/Continental Reserve Interconnect will require a change in the pressure zone boundary between the Picture Rocks CR and PR pressure zones as the majority of the CR pressure zone becomes a Y pressure zone. With the connection of the two areas, the water pressure of about 222 existing customers would fall below the 40-psi minimum pressure during normal flow conditions. The proposed Picture Rocks Interconnect is required to maintain the existing level of service for existing customers that would be affected by the proposed Twin Peaks/Continental Reserve Interconnect.

This project addresses storage and projected well capacity deficiencies in the Twin Peaks Benefit Area.

7.15. HONEA EAST WELL

The Honea East Well project consists of reequipping the well with a new pump and motor to increase the well capacity by 250 gpm.

This project will benefit the North Marana Benefit Area by addressing projected well capacity deficiencies.

7.16. HERITAGE PARK WATER PLANT

The Heritage Park Water Plan Project consists of 1,800,000-gallon storage reservoir, a 1,000-gpm well, and a 1,200-gpm booster. The project will benefit the North Marana Benefit Area by addressing projected storage, well, and booster deficiencies.

8. COST OF CAPITAL IMPROVEMENTS AND WATER RESOURCE ACQUISITIONS

This section covers costs associated with infrastructure, water rights acquisitions, and Section 23 fees.

8.1. INFRASTRUCTURE

The discussion of infrastructure costs is divided into three sections: 1) the cost associated with planning for growth, 2) reimbursements for existing infrastructure, and 3) the costs associated with the capital infrastructure improvements presented in **Section 7**.

8.1.1. Planning

An update of the 2020 Potable Water Master Plan of the Marana water system will be completed in 2030 at an estimated cost of $150,000. Master planning is performed periodically to plan for future growth.

8.1.2. Reimbursements

There are existing reimbursements required for the construction of infrastructure in the Hartman Vistas Water System, which comprises the Hartman Vistas Water System. The infrastructure was financed by the Town and $1,573,010 in debt service payments are required during the 10-year impact fee period.

8.1.3. Infrastructure

Appendix A contains a detailed cost breakdown for each capital improvement. **Table 18** contains the portion of the capital improvement cost assigned to the impact fee and the period the cost will be realized. The second column contains the cost breakdown for years 2023 through 2027, and the third column contains the cost breakdown for years 2028 through 2032.

Table 18. Portion of Improvement Costs Assigned to Impact Fee

Capital Project	2023-2027	2028-2032
50% Airport Connection to NWRRDS Pipeline[1]	$2,025,081	
50% Partnered NWRRDS Project[1]	$3,735,894	
50% Marana Booster at NWRRDS[1]	2,107,775	
50% Blending Plan[1]	$60,000	
B-Zone Booster and Transmission Line		$4,413,278
B-Zone Reservoir		$617,700
C-Zone Booster		$1,819,375
Tangerine 16" with Break Tanks		$5,307,960
Tangerine 16" at I-10	$2,634,128	
Marana Park Well	$991,302	
Marana Park Reservoir[2]	$3,566,723	
Sanders Road 24" Pipeline		$4,878,502
Twin Peaks Interconnect	$2,901,250	
Picture Rocks Interconnect		$1,554,163
Honea East Well	$216,550	
Heritage Park Water Plant	$5,328,123	
Water Master Plan		$150,000
Total	**$23,566,826**	**$18,740,978**

[1]50 percent of OPCC applied to IIP
[2]$1,000,000 of the cost of the Marana Park Reservoir will be paid by water rates.

8.2. RENEWABLE WATER RESOURCE ACQUISITIONS

Currently, there are three sources of renewable water resources foreseen in the next 10 years: Reallocated Non-Indian Agricultural (NIA) Priority Central Arizona Project (CAP) water, Municipal and Industrial (M&I) Priority CAP water, and effluent from two sources: the Marana Water Reclamation Facility (WRF) and Pima County's Tres Rios WRF.

The Town is a member service area of the Central Arizona Groundwater Replenishment District (CAGRD). Reliance on the CAGRD is an important alternative and backstop to the Town acquiring its own supplies. However, the Town having direct control and ownership of its water supplies is more beneficial and cost effective.

8.2.1. Integrated Water Resources Plan

An Integrated Water Resources Plan will be completed during the 2023 through 2032 period for a cost of $435,000, which will be applied to all benefit areas. The Integrated Water Resources Plan will produce a long-term planning report to provide comprehensive guidelines for water supply, support modification to the Town's designation of assured water supply, support acquisition of additional renewable water supplies as needed, and support external communications regarding water resources.

8.2.2. Water Resource Acquisition

Water resource impact fees are applied to new development in all the benefit areas including the IGA Benefit Area. The projected growth from 2023 to 2032 is 12,205 EDUs. **Table 19** shows the water required for existing customers and future growth, the existing renewable supplies, the renewable water resources available due to the projects included in the IIP for each year from 2023 through 2032, and the renewable supplies that will need to be purchased by IIP projects.

Existing renewable resources are recognized in the Town's designation of assured water supply and include an entitlement to 2,336 acre-feet per year of M&I Priority CAP water, the incidental recharge ADWR will credit to the Town's groundwater allowance based on 4 percent of existing demand, long-term storage credits held at the start of 2020 (assuming average annual use over 100 years) and Marana WRF effluent (discussed further below). While not included in the designation of assured water supply, the Town also anticipates using its entitlement to Tres Rios WRF effluent to supply existing and future customers. The effluent entitlement is based on deliveries to customers within the Tres Rios sewershed and is used to accrue storage credits in the Lower Santa Cruz River Managed Recharge Project (LSCRMRP).

Acquisitions include estimated volume of recharged effluent from the Marana WRF (calculated based on existing and future EDUs contributing to Marana WRF influent) and supplies to cover the remaining renewable resource required (discussed below).

Table 19. Renewable Resource Requirements and Sources for Impact Fee Period

Year	Water Required (acre-feet)	M&I Priority CAP Water (acre-feet)	Incidental Recharge Credit to Groundwater Allowance (acre-feet)	Long-Term Storage Credits (acre-feet)	Marana WRF Effluent	Tres Rios Effluent (acre-feet)	Remaining Renewable Resource Required (acre-feet)
2023	4,109	2,336	163	148	1,680	152	(370)
2024	4,509	2,336	174	148	1,680	161	10
2025	4,910	2,336	186	148	1,680	169	391
2026	5,311	2,336	195	148	1,680	176	776
2027	5,712	2,336	205	148	1,680	182	1,161
2028	6,043	2,336	215	148	1,680	189	1,475
2029	6,374	2,336	225	148	3,361	195	109
2030	6,707	2,336	235	148	3,361	202	425
2031	7,039	2,336	282	148	3,361	209	703
2032	7,371	2,336	295	148	3,361	216	1,015

In 2012, the Town purchased a 0.5 million gallon per day (mgd) Biolac® secondary treatment system form Pima County with a total of $34,527,164 including debt service. Since the Marana WRF was

acquired for water reclamation as well as water resource recovery, future water customers will pay for one-half the cost of the acquisition plus debt service, and future sewer customers will pay for one-half the acquisition plus debt service.

In 2018, a 1.5-mgd expansion to the Marana WRF was constructed, including replacement of the existing 0.5-mgd Biolac® secondary treatment system. Since the Marana WRF was acquired for water reclamation as well as water resource recovery, future water customers will pay for one-half the cost of the expansion and associated debt service, and future sewer customers will pay for one-half the cost of the expansion and associated debt service.

To account for the contributions made by the current customer base toward the existing utilized capacity in the Biolac® secondary treatment system and acquisition of the WRF, the Town has contributed approximately $3.0 million toward the cost to finance the expansion. This funding provided by the Town was not included and will not be reimbursed by new customers through impact fees. Additionally, while the Biolac® will not be utilized as part of the secondary treatment process in the current expansion of the WRF, it will not be clean closed at the time of the expansion to allow further consideration for its proposed future use.

A second WRF plant expansion is scheduled to start in 2024 with a design cost of $2,900,823, half of which will be assigned to the water resource fee ($1,450,411.50). Construction is scheduled to begin in 2027 with an estimated construction cost of $36,260,290, half of which plus debt service will be assigned to the water resource fee, and half will be assigned to water reclamation fee ($18,130,145).

Recharge basins were constructed for Marana WRF effluent. The recharge basins allow purified water to be recharged, and to then become available as groundwater recharge credits to offset groundwater pumping. Therefore, half of the cost, plus debt service will be assigned to the water resource fee, and half will be assigned to water reclamation fee. The total cost of the recharge basins was $2,932,388.

An expansion of the recharge basins is planned during the next ten years and is projected to cost $4,004,766.

The remaining renewable resource required to meet growth is 1,015 acre-feet, which will be supplied by two sources: 1) the purchase of NIA CAP water and 2) the purchase of another source or sources that have not been determined.

An NIA allocation of 515 acre-feet will be purchased; however, availability from year to year is uncertain. In 2012, ADWR estimated NIA supply as 43 to 67% available, with zero supply in some years. On March 2, 2021, CAP staff presented updated information related to contracting and availability for NIA. CAP presented that forecasting the future availability of NIA is not possible due to several factors, each of which has considerable uncertainty. However, staff from CAP presented

modeling scenarios and assumptions that indicated that over the next 25 years, the NIA may be only 18% available (averaging model traces with unfavorable assumptions) or may be up to 83% available (at the upper end of favorable assumptions). The average modeling results indicate availability between 44 and 63% and the mean for all modeled traces was presented as 47% available (CAP 2021).

Assuming NIA has a 47% availability, the 515 acre-feet of NIA water will cover 242 acre-feet of the remaining renewable resource requirement of 1,015 acre-feet of renewable resource. NIA water has a cost of $1,072,743 spread over 5 years.

The current market cost for renewable water is $11,000 to $12,000 per acre-foot for a 100-year lease of the water based upon current negotiations between several Arizona Municipalities and entities owning groundwater outside of the AMA that have the legal right to deliver groundwater into the AMA. For the remaining 773 acre-feet required, an assumed cost of $11,500 per acre-foot was used to calculate a cost for the IIP. The total cost for 773 acre-feet of renewable water or equivalent long-term storage credits, based on $11,500 per acre-foot is $8,889,500. Purchases will be made as supplies are available and contracts are negotiated. The costs of capital projects that are particularly designed and constructed to generate long-term water credits shall also be considered as eligible expenses for water resources acquisition.

8.3. SECTION 23 FEES

Pursuant to an IGA between Marana and Oro Valley dated April 3, 2001 (Marana Resolution 2001-36), Marana and Oro Valley share an overlapping service area. The area of overlap is shown in **Appendix B**, and is located within a portion of Section 23, Township 12 South, Range 12 East. Connections in the overlap area pay a fee in addition to the Twin Peaks Benefit Area impact fee. The additional fee was $750 per EDU in 2001 and has increased by 3% per year every year thereafter. **Table 20** shows the fee over the next 10 years to the nearest dollar.

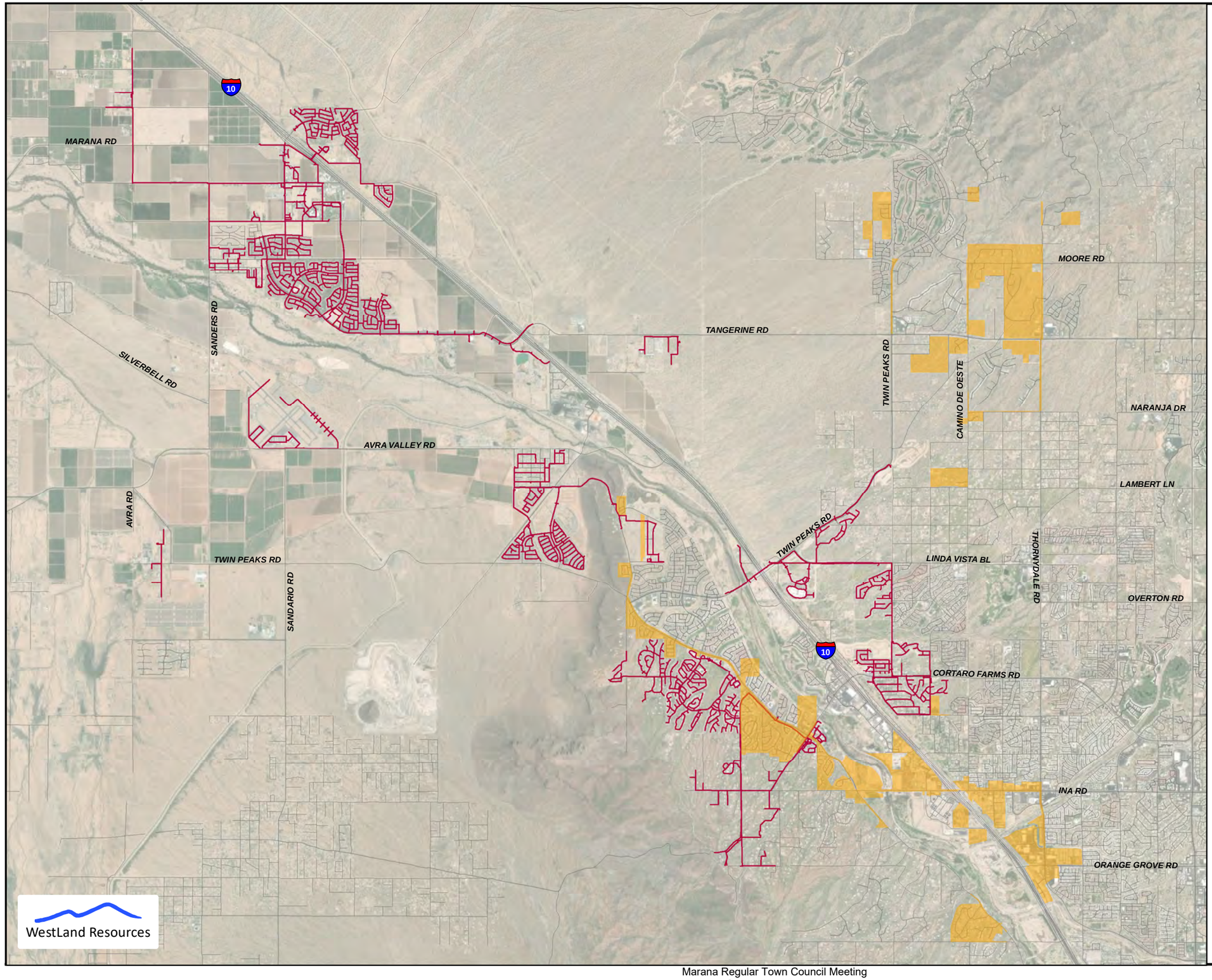
Table 20. Additional Section 23 Fees by Year

Year	Section 23 Fee	Year	Section 23 Fee
2023	$1,437	2028	$1,666
2024	$1,480	2029	$1,715
2025	$1,525	2030	$1,767
2026	$1,570	2031	$1,820
2027	$1,617	2032	$1,875

9. REFERENCES

Central Arizona Project (CAP). 2021. Stakeholder Meetings: NIA Briefing – March 2, 2021. https://www.cap-az.com/stakeholer-meetings. Accessed June 9, 2021.

FIGURES



WestLand Resources

Legend

- Water Mains
- Streets
- IGA Areas

IGA Areas Include:

1) Marana Water Wheeling Service Area

2) Tucson Water Non-Contracted Service Area

N

0 3,000 6,000 Feet

0 800 1,600 Meters

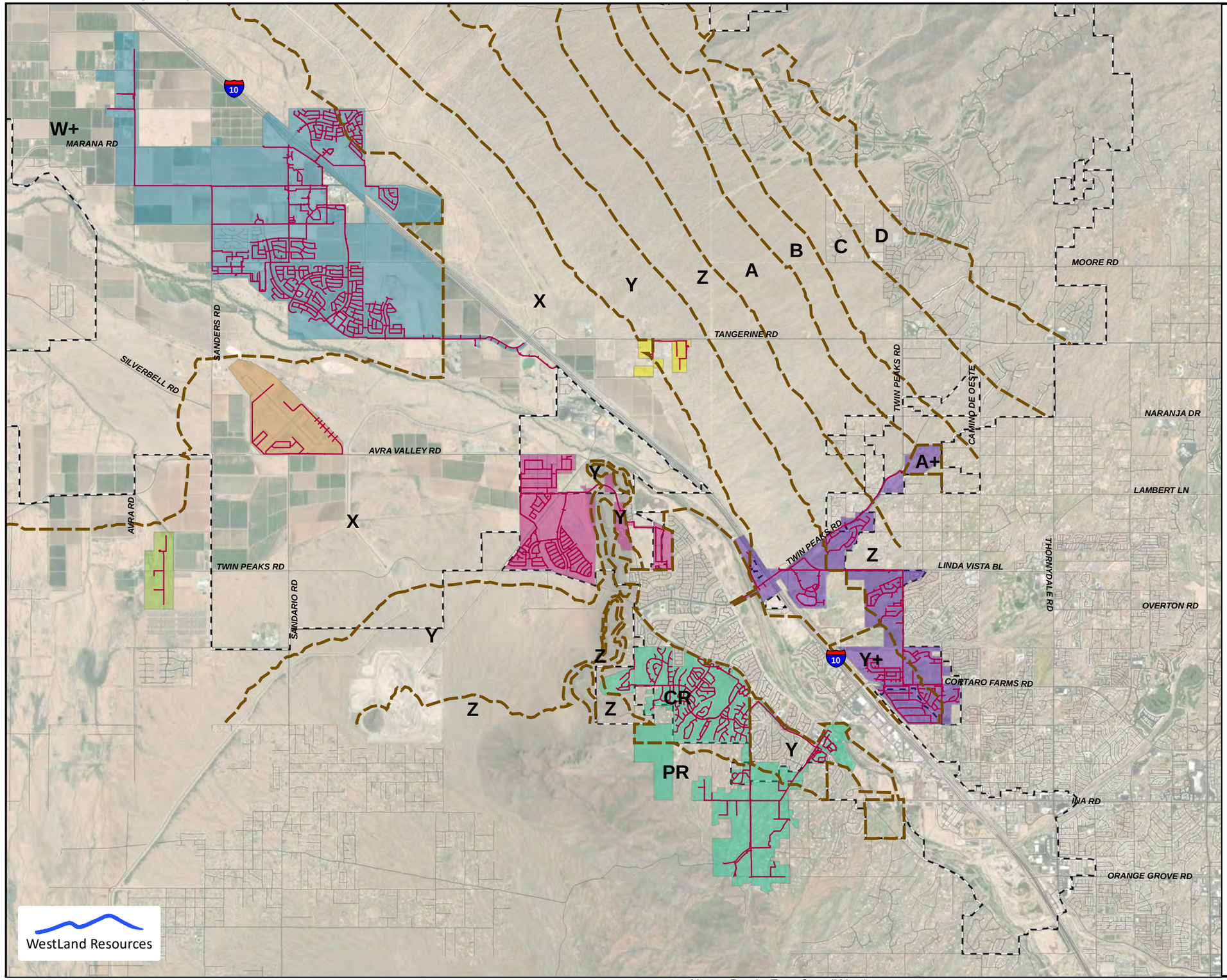
MARANA AZ

MARANA WATER DEPARTMENT

2022 Infrastructure Improvement Plan

EXISTING WATER SERVICE AREA

Figure 1



Legend

Water System

- Saguaro Bloom
- Hartman Vistas
- Marana Airport
- North Marana
- Palo Verde
- Picture Rocks
- Tangerine Business Park
- Pressure Zone Boundary
- W+ Pressure Zone
- Water Mains
- Marana Town Limits
- Streets

N

0 3,000 6,000 Feet

0 800 1,600 Meters

MARANA AZ

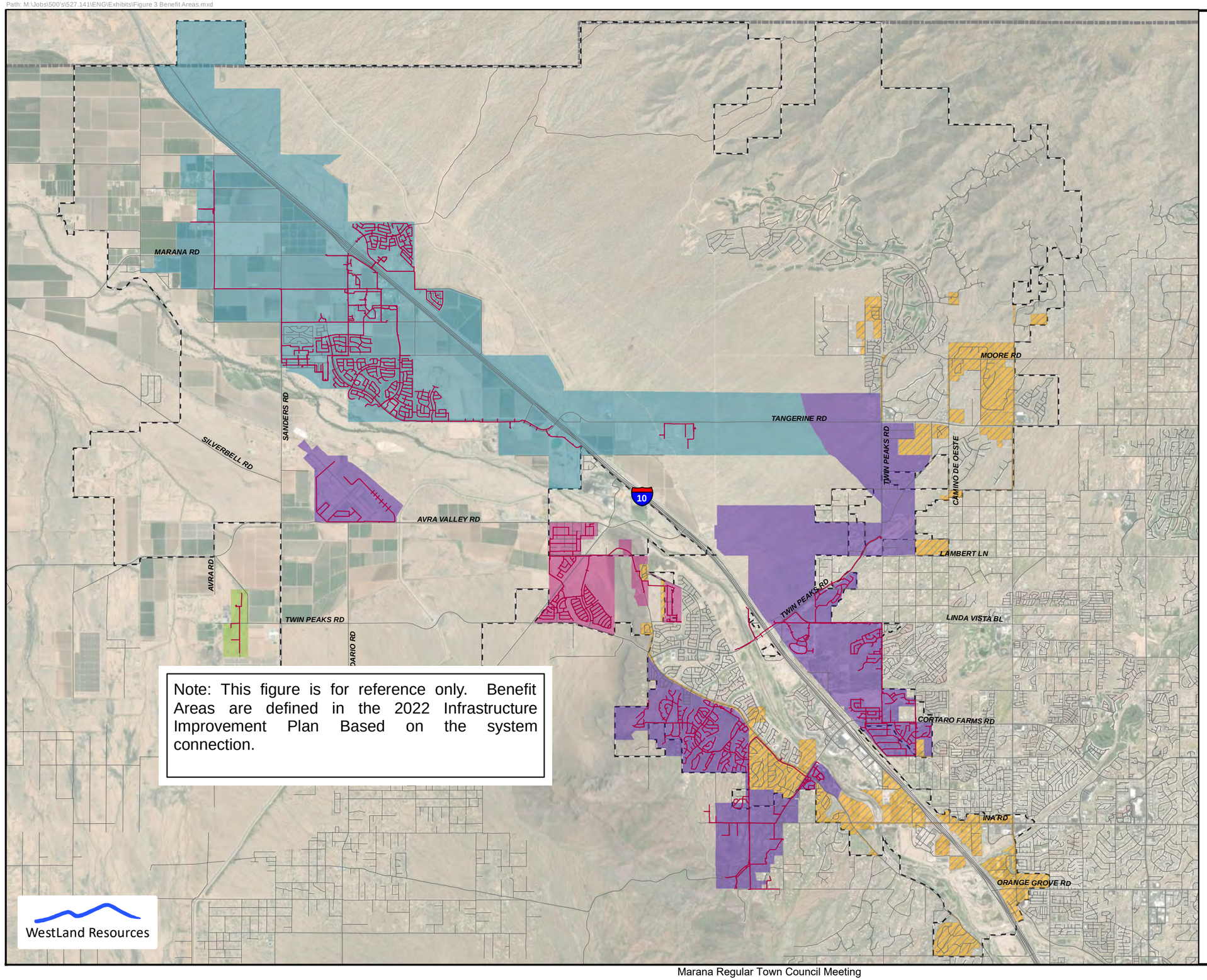
MARANA WATER DEPARTMENT

2022 Infrastructure Improvement Plan

EXISTING WATER SYSTEMS & PRESSURE ZONES

Figure 2

WestLand Resources



Note: This figure is for reference only. Benefit Areas are defined in the 2022 Infrastructure Improvement Plan Based on the system connection.

WestLand Resources

Legend

Benefit Area

- IGA
- North Marana
- Palo Verde
- Twin Peaks
- Saguaro Bloom
- Water Mains
- Marana Town Limits
- Streets

N

0 3,000 6,000 Feet

0 800 1,600 Meters

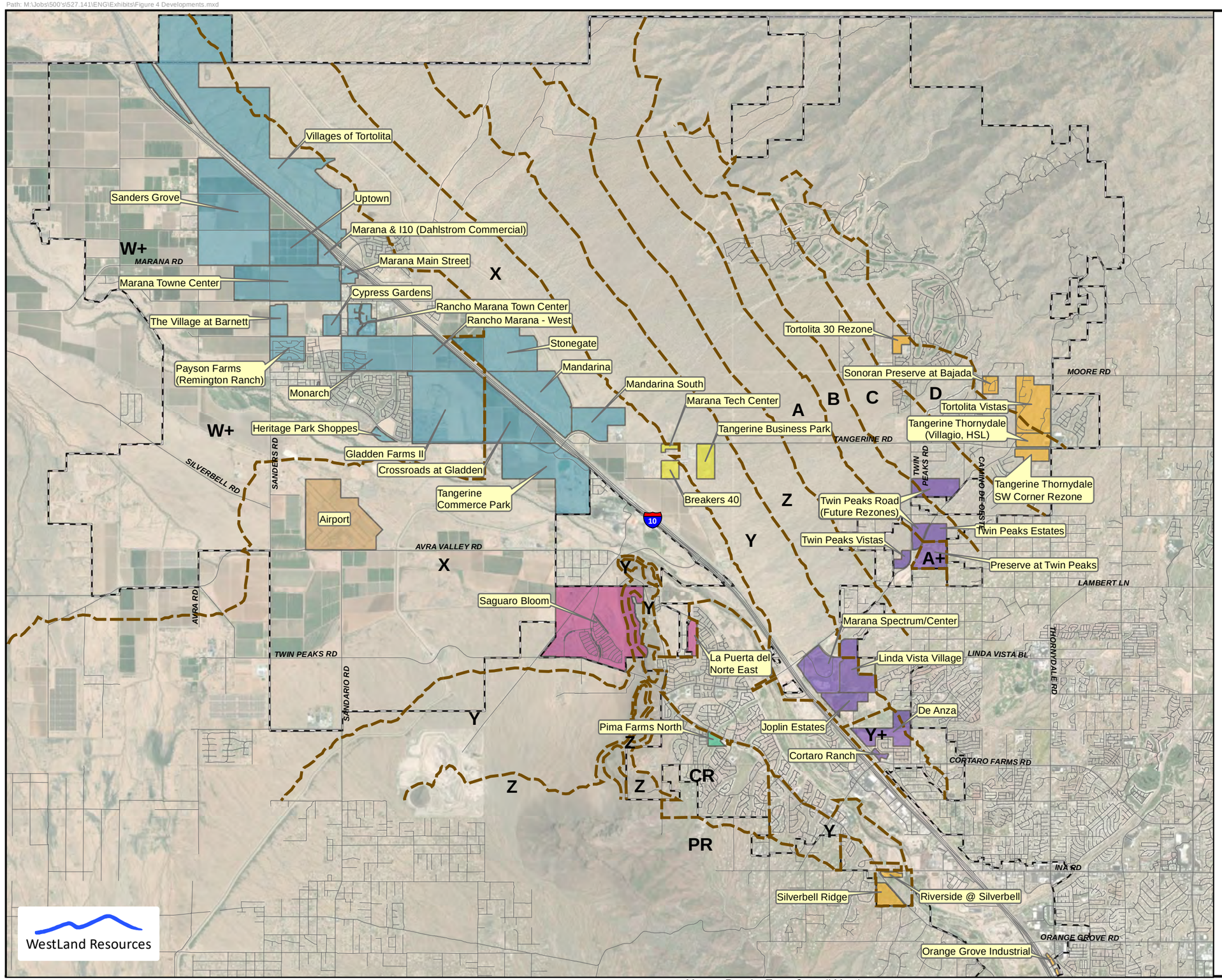
MARANA AZ

MARANA WATER DEPARTMENT

2022 Infrastructure Improvement Plan

BENEFIT AREAS

Figure 3



WestLand Resources

Legend

- Marana Town Limits
- Streets

Planned Developments

Water System

- Saguaro Bloom
- Hartman Vistas
- IGA
- Marana Airport
- North Marana
- Picture Rocks
- Tangerine Business Park
- Pressure Zone Boundary

N

0 3,000 6,000 Feet

0 800 1,600 Meters

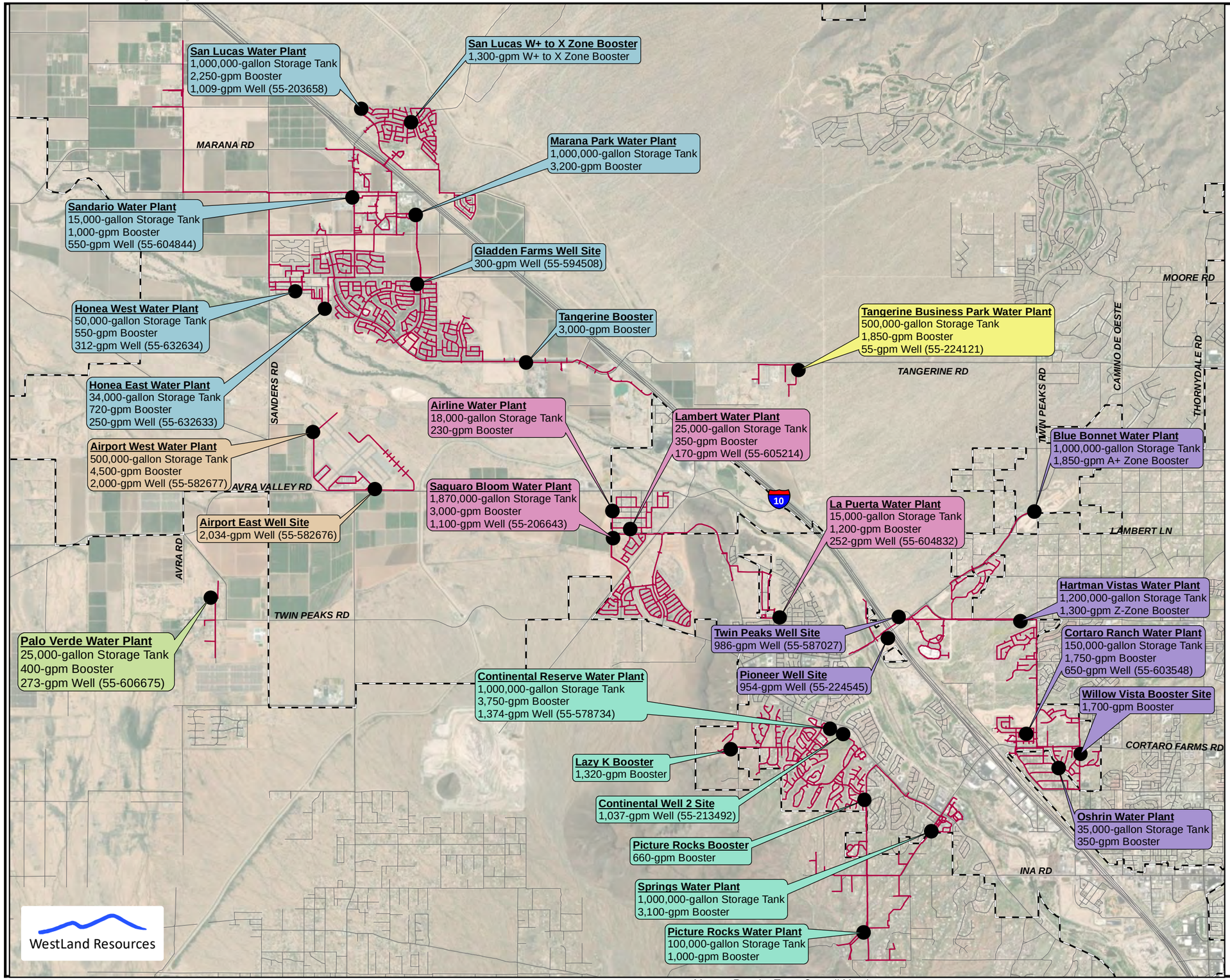
MARANA AZ

MARANA WATER DEPARTMENT

2022 Infrastructure Improvement Plan

PLANNED DEVELOPMENT AREAS

Figure 4



Legend

- Water Plants and Wells
- Water Mains
- Marana Town Limits

Label Color by Water System

- North Marana
- Picture Rocks
- Hartman Vistas
- Saguaro Bloom
- Palo Verde
- Marana Airport
- Tangerine Business Park

N

0 3,000 6,000 Feet

0 800 1,600 Meters

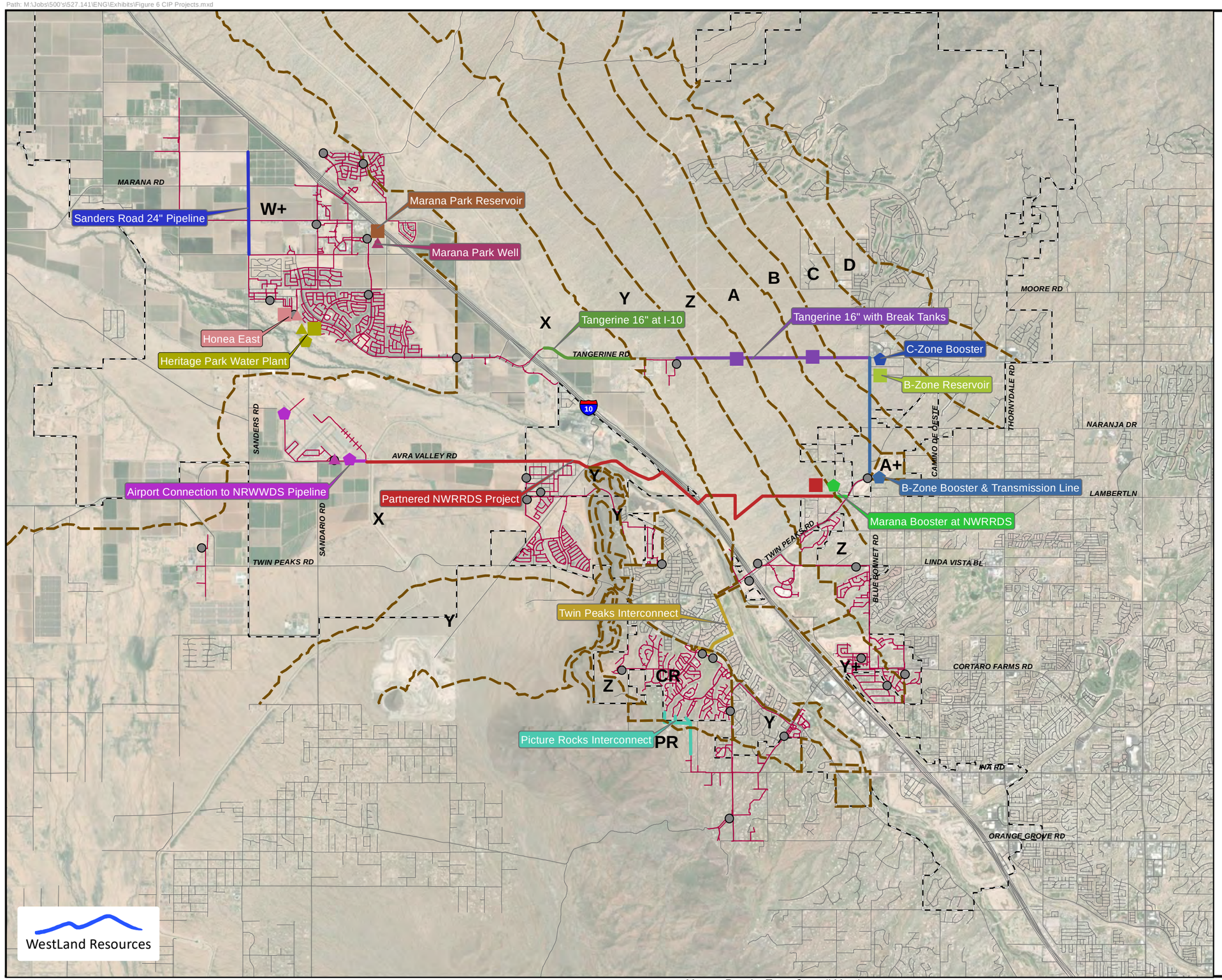
MARANA AZ

MARANA WATER DEPARTMENT

2022 Infrastructure Improvement Plan

EXISTING INFRASTRUCTURE

Exhibit 5



Legend

- Water Mains
- Marana Town Limits
- Streets
- Pressure Zone Boundary

Existing Water Plants

Proposed Infrastructure

- Well
- Reservoir
- Booster

N

0 3,000 6,000 Feet

0 800 1,600 Meters

MARANA AZ

MARANA WATER DEPARTMENT

2022 Infrastructure Improvement Plan

CAPITAL IMPROVEMENT PROJECTS

Figure 6

APPENDIX A

Opinions of Probable Construction Cost and Site Plans

Project Name:	Marana CIP	**Prepared by:**	EDC	**Date:**	4/8/22	
Project No.	527.141	**Checked by:**		**Date:**	3/1/22	
Location:	Town of Marana, AZ	**Client:**	Town of Marana			
Description:	Airport Connection to NWRRDS Pipeline					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Mobilization	LS	2	$31,250	$62,500	
2	Site Preparation	LS	2	$108,750	$217,500	Includes masonry wall and steel gate.
3	Yard Piping - above and below ground	LS	2	$147,500	$295,000	Connnection to existing suction and distribution system
4	1,500-gpm NWWRDS booster station	LS	1	$318,750	$318,750	
5	3,300-gpm Airport booster station	LS	1	$540,000	$540,000	
5	10,000-gallon Hydropneumatic Tank	LS	1	$137,500	$137,500	150 psi with appurtenances
6	5,000-gallon Hydropneumatic Tank	LS	1	$106,250	$106,250	300 psi with appurtenances
7	12-inch diameter DIP	LF	350	$212.50	$74,375	
8	Site Electrical and control	LS	2	$312,500	$625,000	NWWRDS Booster Site
9	Southeast Well Upgrades	LS	1	$475,352	$475,352	
	Subtotal				**$2,852,227**	
	Design/Engineering (15%)				$427,834	
	Inspection (2%)				$57,045	
	Contingency (25%)				$713,057	
TOTAL					**$4,050,163**	

Project Name:	Marana CIP		**Prepared by:**	EDC	**Date:**	4/8/22
Project No.	527.141		**Checked by:**		**Date:**	
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	Partnered NWRRDS Project					

Item No	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Design and Construction	LS	1	7,471,788	$7,471,788	Estimate Provided by Town of Marana
	TOTAL				**$7,471,788**	

Project Name: Marana CIP | **Prepared by:** EDC | **Date:** 4/8/22

Project No. 527.141 | **Checked by:** | **Date:**

Location: Town of Marana, AZ | **Client:** Town of Marana

Description: Marana Booster at NWRRDS

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Design and Construction	LS	1	4,215,549	$4,215,549	Estimate Provided by Town of Marana
TOTAL					**$4,215,549**	

Project Name:	Marana CIP		**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141		**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	B-Zone Booster and Transmission Line					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Mobilization	LS	1	$31,250	$31,250	
2	Site Preparation	LS	1	$108,750	$108,750	
3	New Booster Station with pad and shade structure	LS	1	$418,750	$418,750	
4	Yard Piping - above and below ground	LS	1	$147,500	$147,500	
5	Site Electrical and Control	LS	1	$450,000	$450,000	Includes RTU
6	200 KVA Generator and automatic transfer switch	LS	1	$100,000	$100,000	
7	5,000-gallon Hydropneumatic Tank	LS	1	$81,250	$81,250	
8	16-inch water main	LF	8,920	$206	$1,837,520	
	Subtotal				**$3,175,020**	
	Design/Engineering (12%)				$381,002	
	Inspection (2%)				$63,500	
	Contingency (25%)				$793,755	
TOTAL					**$4,413,278**	

Project Name:	Marana CIP		**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141		**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	B-Zone reservoir					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Install 210,000 gallon Reservoir	LS	210,000	$1.88	$393,750	
2	120X120 Parcel Acquisition	LS	1	$18,750	$18,750	
3	Site Piping	LS	1	$22,500	$22,500	
	Subtotal				**$435,000**	
	Design/Engineering (15%)				$65,250	
	Inspection (2%)				$8,700	
	Contingency (25%)				$108,750	
TOTAL					**$617,700**	

Project Name:	Marana CIP			**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141			**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ			**Client:**	Town of Marana		
Description:	C-Zone Booster						

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Mobilization	LS	1	$31,250	$31,250	
2	Site Preparation	LS	1	$108,750	$108,750	
3	New 1200 gpm Booster Station with Shade Structure	LS	1	$362,500	$362,500	
4	Yard Piping - above and below ground	LS	1	$147,500	$147,500	
5	Site Electrical and Control	LS	1	$450,000	$450,000	includes RTU
6	200 KVA Generator and automatic transfer switch	LS	1	$100,000	$100,000	
7	5,000-gallon Hydropneumatic Tank	LS	1	$81,250	$81,250	
	Subtotal				**$1,281,250**	
	Design/Engineering (15%)				$192,188	
	Inspection (2%)				$25,625	
	Contingency (25%)				$320,313	
TOTAL					**$1,819,375**	

Project Name:	Marana CIP			**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141			**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ			**Client:**	Town of Marana		
Description:	Tangerine 16-inch with Break Tanks						

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	16-inch water main	LF	16,750	$206	$3,450,500	
2	50,000 Gallon Break Tank	EA	2	$93,750	$187,500	
3	Parcel Acquisition	EA	2	$50,000	$100,000	
	Subtotal				**$3,738,000**	
	Design/Engineering (15%)				$560,700	
	Inspection (2%)				$74,760	
	Contingency (10%)				$934,500	
TOTAL					**$5,307,960**	

Project Name:	Marana CIP		**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141		**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	Tangerine 16-inch at I-10					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	16-inch water main	LF	8,920	$206	$1,837,520	
2	Tie into existing water main	EA	2	$6,875	$13,750	
3	Pavement removal and replacement	LS	2	$1,875	$3,750	
	Subtotal				**$1,855,020**	
	Design/Engineering (15%)				$278,253	
	Inspection (2%)				$37,100	
	Contingency (25%)				$463,755	
TOTAL					**$2,634,128**	

Project Name:	Marana CIP		**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141		**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	Marana Park Well					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
Marana Park Reservoir						
1	Well Drilling	LS	1	$488,100	$488,100	
2	Vertical Turbine Pump	LS	1	$81,250	$81,250	
3	8" DIP site piping and manifold	LS	1	$78,750	$78,750	
4	Electric and Controls	LS	1	$50,000	$50,000	Includes pump panel (no RTU)
	Subtotal				**$698,100**	
	Design/Engineering (15%)				$104,715	
	Inspection (2%)				$13,962	
	Contingency (25%)				$174,525	
TOTAL					**$991,302**	

Project Name:	Marana CIP			**Prepared by:**	MDO	**Date:** 3/1/22
Project No.	527.141			**Checked by:**	EDC	**Date:** 3/1/22
Location:	Town of Marana, AZ			**Client:**	Town of Marana	
Description:	Marana Park Reservoir					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Mobilization and Demobilization	LS	2	$43,750	$87,500	
2	Demolition	LS	1	$18,750	$18,750	
3	Tank and ring wall	Gall	1,500,000	$1.88	$2,820,000	
4	Site Piping	LS	1	$280,000	$280,000	
5	Site Grading and imported materials	LS	1	$130,258	$130,258	
6	Chlorinator	LS	1	$46,250	$46,250	
7	**Subtotal**				**$3,382,758**	
	Design/Engineering (8%)				$270,621	
	Inspection (2%)				$67,655	
	Contingency (25%)				$845,689	
	TOTAL				$4,566,723	

Project Name: Marana CIP | **Prepared by:** MDO | **Date:** 3/1/22

Project No. 527.141 | **Checked by:** EDC | **Date:** 3/1/22

Location: Town of Marana, AZ | **Client:** Town of Marana

Description: Sanders 24-inch Pipeline

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	24-inch water main	LF	8,700	$406	$3,532,200	Excludes hard rock excavation
2	Tie into existing water main	EA	2	$14,375	$28,750	
	Subtotal				**$3,560,950**	
	Design/Engineering (10%)				$356,095	
	Inspection (2%)				$71,219	
	Contingency (25%)				$890,238	
TOTAL					**$4,878,502**	

Project Name:	Marana CIP		**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141		**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	Twin Peaks Interconnect					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Construction	LS	1	2,901,250	$2,901,250	Estimate Provided by Town of Marana
TOTAL		**$2,901,250**				

Project Name:	Marana CIP	**Prepared by:**	MDO	**Date:**	3/1/22	
Project No.	527.141	**Checked by:**	EDC	**Date:**	3/1/22	
Location:	Town of Marana, AZ	**Client:**	Town of Marana			
Description:	Picture Rocks Interconnect					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
Picture Rocks Interconnect						
1	12-inch water main	LF	9,000	$135	$1,215,000	
2	Tie into existing water main	EA	1	$6,875	$6,875	
3	Pavement removal and replacement	LS	1	$1,875	$1,875	
	Subtotal				**$1,223,750**	
	Design/Engineering (15%)				$183,563	
	Inspection (2%)				$24,475	
	Contingency (25%)				$122,375	
	TOTAL				**$1,554,163**	

Project Name:	Marana CIP		**Prepared by:**	MDO	**Date:**	3/1/22
Project No.	527.141		**Checked by:**	EDC	**Date:**	3/1/22
Location:	Town of Marana, AZ		**Client:**	Town of Marana		
Description:	Honea East Well					

Item No.	Item Description	Unit	Quantity	Unit Price	Amount	Remarks
1	Re-equip well to add 250 gpm	LS	1	$75,000	$75,000	250 gpm pump inc starter cabinet
2	Pump and Motor	LS	1	$15,000	$15,000	Grundfos
3	Piping	LS	1	$62,500	$62,500	
Subtotal					**$152,500**	
Design/Engineering (15%)					$22,875	
Inspection (2%)					$3,050	
Contingency (25%)					$38,125	
TOTAL					**$216,550**	

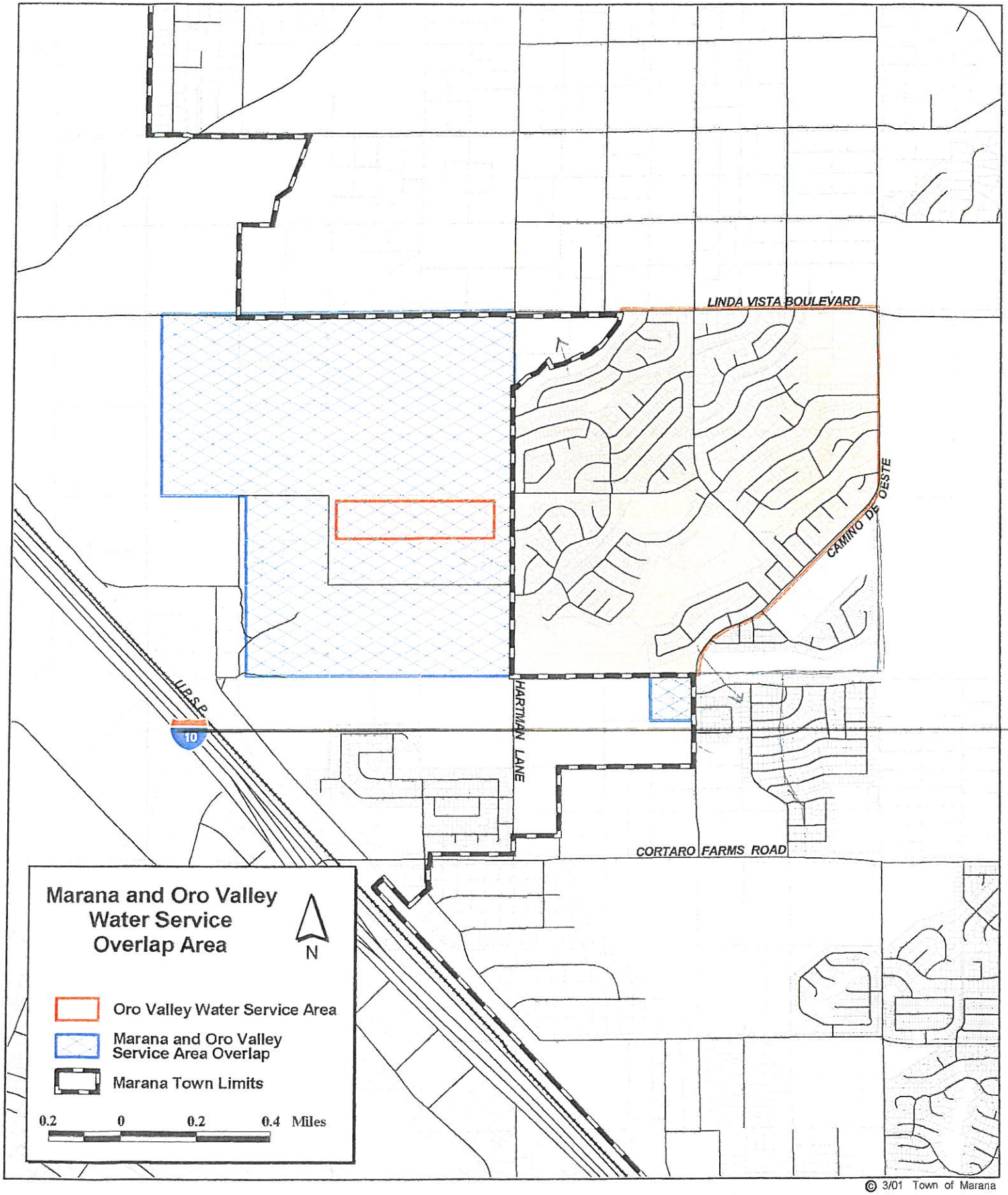
Project Name:	Marana CIP			**Prepared by:**	MDO	**Date:** 3/1/22
Project No.	527.141			**Checked by:**	EDC	**Date:** 3/1/22
Location:	Town of Marana, AZ			**Client:**	Town of Marana	
Description:	Heritage Park Water Plant					

Item No.	Item Description	Units	Quantity	Unit Price	Amount	Remarks
1	Mobilization and Demobilization	LS	2	$43,750	$87,500	
2	Demolition	LS	1	$18,750	$18,750	
3	Tank and ring wall	Gall	1,800,000	$1.88	$3,384,000	
4	Site Piping	LS	1	$280,000	$280,000	
5	Site Grading and imported materials	LS	1	$130,258	$130,258	
6	Chlorinator	LS	1	$46,250	$46,250	
7	New 1250 gpm Booster Station with Shade Structure	LS	1	$362,500	$362,500	
8	Yard Piping - above and below ground	LS	1	$147,500	$147,500	
9	Site Electrical and Control	LS	1	$450,000	$450,000	includes RTU
10	200 KVA Generator and automatic transfer switch	LS	1	$100,000	$100,000	
11	5,000-gallon Hydropneumatic Tank	LS	1	$81,250	$81,250	
12	Well Drilling	LS	1	$488,108	$488,108	
13	1000 gpm Vertical Turbine Pump	LS	1	$81,250	$81,250	
14	8" DIP site piping and manifold	LS	1	$78,750	$78,750	
15	Electric and Controls	LS	1	$50,000	$50,000	Includes pump panel (no RTU)
16	**Subtotal**				**$3,946,758**	
	Design/Engineering (8%)				$315,741	
	Inspection (2%)				$78,935	
	Contingency (25%)				$986,689	
TOTAL					**$5,328,123**	

APPENDIX B

Marana and Oro Valley Water Service Overlap Area

EXHIBIT A


LINDA VISTA BOULEVARD
CAMINO DE OESTE
HARTMAN LANE
CORTARO FARMS ROAD
U.P.R.R.
10
Marana and Oro Valley
Water Service
Overlap Area
N
Oro Valley Water Service Area
Marana and Oro Valley
Service Area Overlap
Marana Town Limits
0.2 0 0.2 0.4 Miles
© 3/01 Town of Marana

Town of Marana

Impact Fee Study

Wastewater Facilities

Infrastructure Improvements Plan

Public Report

FINAL

As approved by the Marana Town Council, September 20, 2022

Prepared by

1 South Church Avenue, Suite 1400
Tucson, AZ 85701

Prepared for

MARANA AZ
CELEBRATING 40 YEARS

11555 West Civic Center Drive
Marana, AZ 85653

September 20, 2022



Town of Marana Mayor and Council

Ed Honea – Mayor

Jon Post – Vice Mayor

Patti Comerford – Councilmember

Herb Kai – Councilmember

Roxanne Ziegler – Councilmember

John Officer – Councilmember

Jackie Craig – Councilmember

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Appendix A: Sewer Capacity Tables

Appendix B: Sewer Pipe Capacity Figures

Appendix C: CIP Cost Tables

1 Introduction

As of July 2021, the Town of Marana Water Department (Marana Water) owns and operates a sewer collection system that currently serves approximately 5,200 sewer connections and conveys approximately 695,000 gallons per day (gpd) of sewage to the Marana Water Reclamation Facility (WRF). The Town of Marana (Town) is expected to grow rapidly in the upcoming years with an anticipated additional 10,362 new sewer connections in the next 10 years.

Arizona Revised Statutes (ARS) §9-463.05 require that Development Impact Fees be based on adopted land use assumptions and an adopted Infrastructure Improvements Plan (IIP). To support the Town in meeting these requirements, Marana Water contracted with HDR to update the Town's IIP which details the Town's existing sewer collection and treatment infrastructure, available capacity, units of demand, and planning for new infrastructure required to serve future proposed development.

The purpose of this IIP update is to summarize the capital improvements required for the Town to meet the demands associated with the next 10 years of growth and to provide the estimated costs of the improvements.

2 Existing Sewer Collection and Treatment Facilities

The Marana collection system has approximately 84.3 miles of gravity mains ranging in size from 8-inch to 24-inch diameter. In addition to gravity pipe, the collection system also has approximately 1,729 manholes and 1.7 miles of 8-inch diameter force main.

Marana Water operates multiple lift stations including the Rillito Vista Lift Station (LS) and the Saguaro Bloom LS. The Rillito Vista LS serves the Rillito Vista development and the Saguaro Bloom LS serves the active service area south of the Santa Cruz River. Marana Water also recently purchased the Adonis Sewer System and has constructed a new lift station and forcemain to provide service for this area. There are 153 active sewer connections in Adonis. The average daily flow is approximately 18,000 gallons per day (gpd).

Marana Water operates the Marana Water Reclamation Facility (WRF) which has a current treatment capacity of 1.5 million gallons per day (MGD) and treats the wastewater collected within the Marana sewer system service area. Through expansion the existing Marana WRF can provide a future treatment capacity of up to 4.5 MGD.

Marana Water also operates the Airport Sewer System which is a small standalone system consisting of approximately 5,000 linear feet (LF) of collection lines, 12 manholes and a septic tank / leach field disposal system rated for a treatment capacity of 19,000 gpd. There are currently no active connections to the Airport Sewer System.

3 Designated Management Area and Active Sewer Service Area

Marana Water is the Designated Management Agency providing wastewater service for the Designated Management Area (DMA) which mainly consists of the western portion of the Town and areas beyond the Town limits to the west and south. The sewer DMA which is served by the existing Marana WRF includes only a portion of the Town's population. Many residential and commercial developments within the Town are located outside the DMA.

Within Marana Water's DMA, the current active sewer service area is generally located along the I-10 corridor north of the Santa Cruz River except for the Saguaro Bloom area which is located south of the Santa Cruz River.

The eastern portion of the Town is outside the Marana DMA and is served by Pima County Regional Wastewater Reclamation Department (PCRWRD) facilities.

The Town and Marana Water's DMA limits are shown in Figure 3-1. Figure 3-2 shows the current active sewer service area.

Figure 3-1. Town and Marana Water's DMA Limits

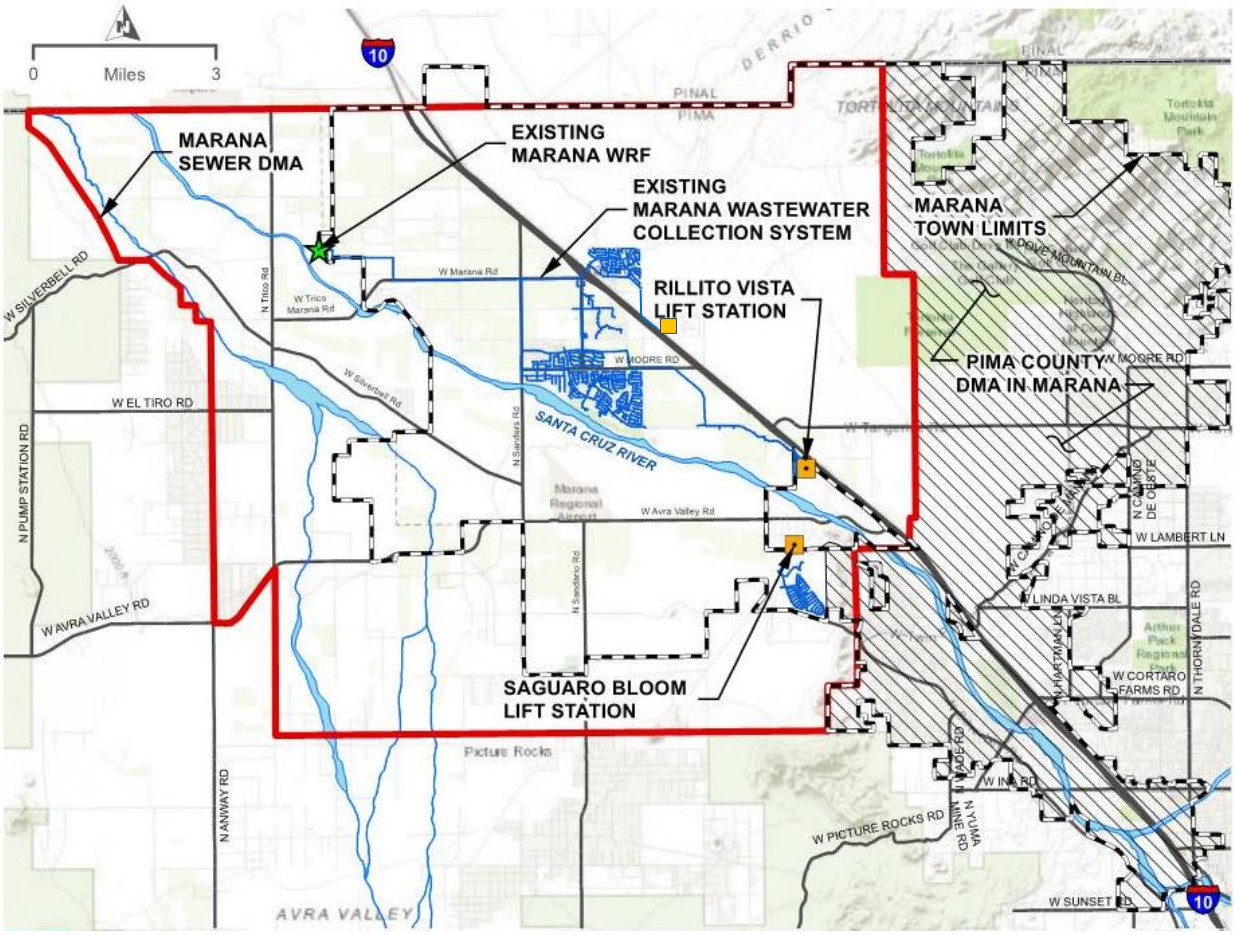
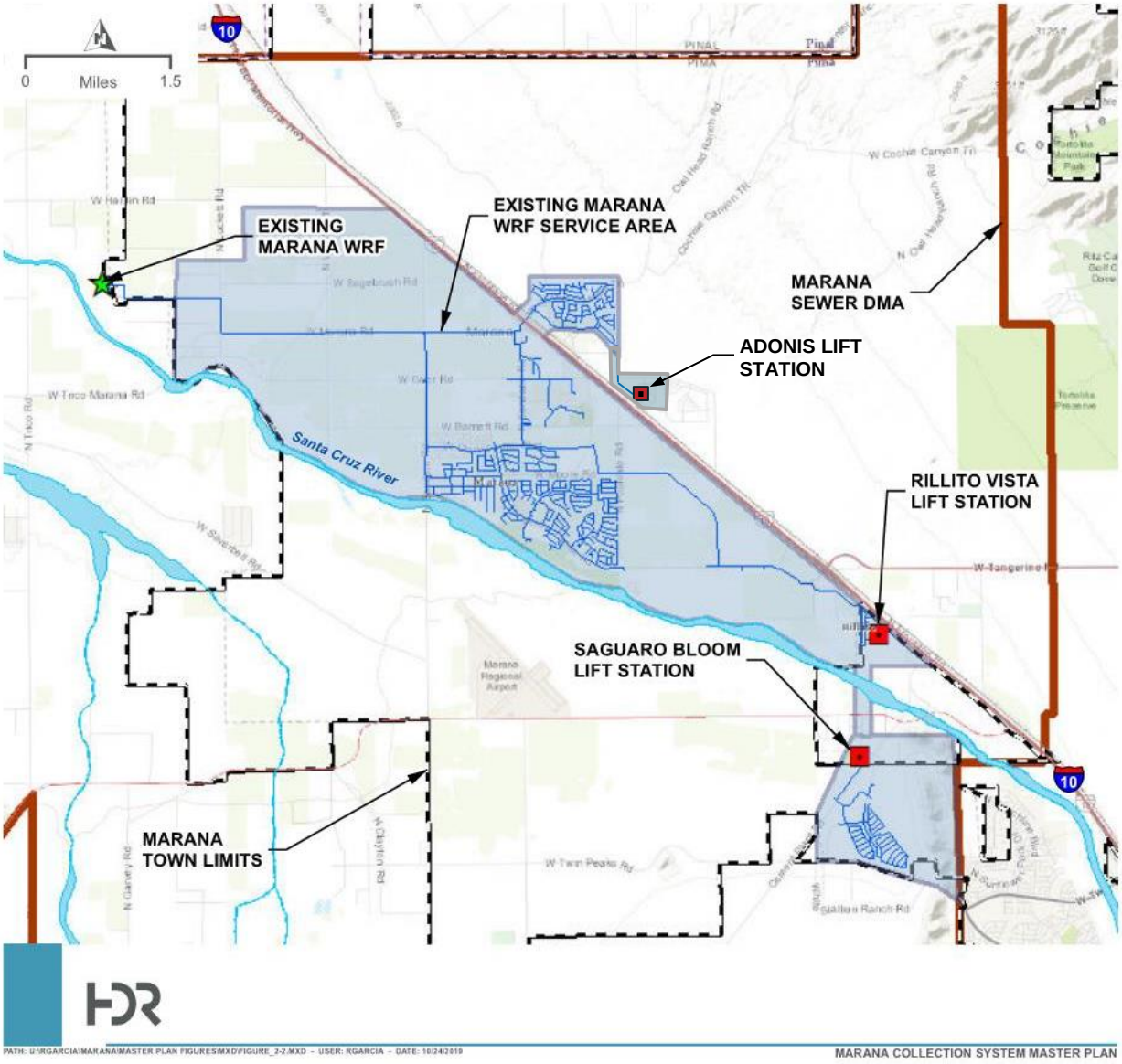


Figure 3-2. Active Sewer Service Area



4 Level of Service

The Town provides sewer collection and treatment for customers within the active sewer service area. The level of service can be defined by the design criteria established by the Town for these systems.

The sewer mains in the collection system are designed to convey the peak wet-weather flow (PWWF). Sewer mains are considered to have adequate capacity if they're able to convey the PWWF with the pipes flowing at depth to diameter (d/D) ratio of 75% or less and without any surcharging.

The Marana WRF is designed to treat the average dry-weather flow (ADWF) for the system and the facility is designed to produce Class A+ reclaimed water as defined by the Arizona Department of Environmental Quality (ADEQ). The treated effluent can be reused, recharged, or discharged to a tributary of the Santa Cruz River.

The level of service provided is the same for both existing and future customers within the active sewer service area.

5 Projected 10-Year Land Use

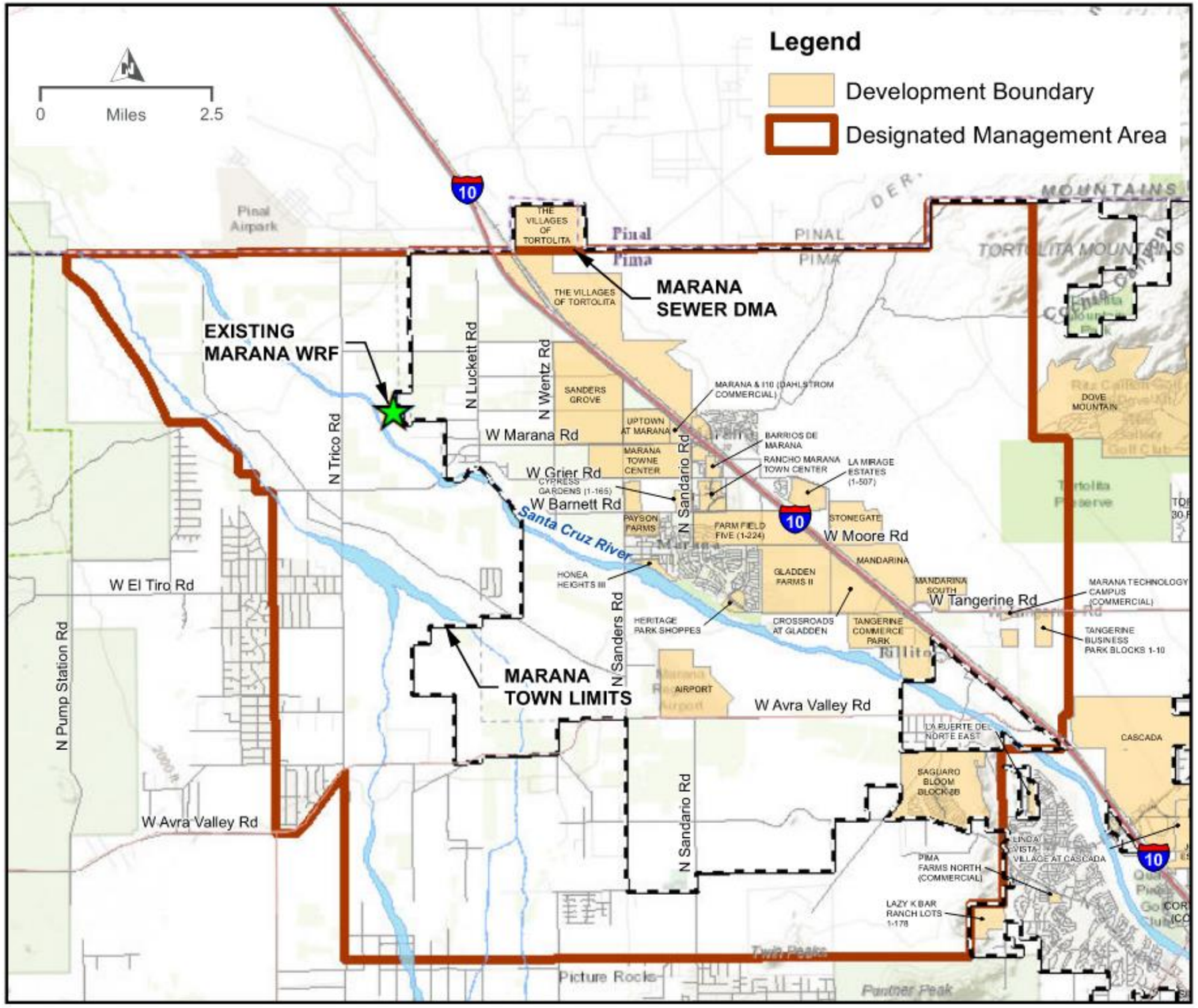
HDR completed the Sewer Conveyance Master Plan in June 2020 based on future development projections available at that time. Following the completion of the Sewer Conveyance Master Plan the Town has continued to update the projections for the future growth areas, so a revised summary of the commercial and residential developments within the DMA for the 10-year planning horizon associated with this IIP update was provided. The future growth areas for the Town are shown in Figure 5-1, and the estimated additional DUs to be added to the active sewer service area through Year 2032 are summarized in Table 5-1.

Table 5-1. Future Developments and Estimated DU's

Development	Buildout DUs[a,b]	Existing DUs	Projected DUs from Jul 2021 – Nov 2022	Additional DUs to be Assigned	Year 2023 – 2027	Year 2028 – 2032	Year 2033+
Mandarina	2,544	-	-	2,544	532	810	1,202
Mandarina South	830	-	-	830	40	150	640
Stonegate	3,138	-	-	3,138	300	700	2,138
Villages of Tortolita	6,500	-	-	6,500	-	300	6,200
Subtotal East of I-10	**13,012**	**0**	**0**	**13,012**	**872**	**1,960**	**10,180**
Crossroads at Gladden	672	-	-	672	160	328	184
Cypress Gardens	217	-	-	217	100	117	-
Gladden Farms II	2,539	599	351	1,589	1,421	-	168
Gladden Farms Commercial	88	-	-	88	-	-	88
Heritage Park Shoppes	72	-	-	72	16	20	36
Marana & I-10	148	-	-	148	12	100	36
Marana Main Street	80	-	-	80	16	24	40
Marana Towne Center	4,048	-	-	4,048	40	80	3,928
Payson Farms	457	-	-	457	457	-	-
Rancho Marana – West	536	307	59	170	150	4	16
Rancho Marana Town Center	164	-	-	164	-	20	144
Saguaro Bloom	2,509	1,245	564	700	700	-	-
Sanders Grove	2,500	-	-	2,500	100	600	1,800
Tangerine Commerce Park	188	-	-	188	60	60	68
Uptown at Marana	930	-	-	930	-	300	630
Vanderbilt Farms	1,945	224	-	1,721	500	1,000	221
Villages of Barnett	251	-	81	170	50	-	120
Subtotal West of I-10	**17,344**	**2,375**	**1,055**	**13,914**	**3,782**	**2,653**	**7,479**
Airport	200	-	-	200	20	20	160
Subtotal Airport	**200**	**0**	**0**	**200**	**20**	**20**	**160**
Total	**30,556**	**2,375**	**1,055**	**27,126**	**4,674**	**4,633**	**17,819**

[a] Buildout is only within the service areas of the existing WRF and proposed WRF east of I-10
[b] Includes commercial developments with assumed density of 4 DUs per acre.

Figure 5-1. Development Activity



6 Existing System Capacity

This section provides an analysis of the existing system capacity as well as the current level of usage and commitments for usage of capacity for the existing wastewater collection and treatment systems.

6.1 Unit Wastewater Flow Rates

The initial step in evaluating the system capacity is establishing the estimated unit wastewater generation rate for the existing sewer collection and treatment system and an equivalency establishing the ratio of a service unit to the various types of land uses (i.e., residential, commercial and industrial, etc.) within the service area.

As part of the Sewer Conveyance Master Plan, HDR developed unit wastewater flow rates for each customer type based on a review of manhole flow monitoring data as well as applicable design and construction criteria contained in the Pima County Regional Wastewater Reclamation Department Engineering Design Standards and the Arizona Administrative Code (AAC).

The following provides a summary of the recommended parameters from the Sewer Conveyance Master Plan.

Gravity Conveyance System:

- Residential unit flow = 216 gpd/DU[1]
- Commercial unit flow rate = 1,466 gpd per connection
- PWWF = 499.5 gpd/DU[2]

Forcemains and Lift Stations:

- Lift stations should be capable of operating at minimum flows and maximum flows:
    - PWWF = 499.5 gpd/DU

Treatment Capacity:

- Average Dry Weather Flow (ADWF)** at 127.6 gal/DU. However, based on the last six months (September 2021 – February 2022) of influent data to the Marana

[1] From Pima County Engineering Design Standards, i.e., 2.7 residents per DU x 80 gallons per capita per day

[2] Per AAC R18-9-E301(D)(b)(i) for estimated population of 9,500 in sewer collection area, the Peak Dry Weather Peaking Factor is 1.85. This is multiplied against the PWWF peaking factor of 1.25, for a combined peaking factor of 2.31. Note that PWWF peaking factors are not specified in the AAC, Pima County Engineering Design Standards, or in ADEQ Bulletin 11. Recent developer estimates have used a PWWF peaking factor of 25% above PDWF. For the purposes of this IIP, 25% above PDWF was assumed.

WRF and most recent count of residential customer connections this, the ADWF for future forecasting has been revised to 139.6 gal/DU[3].

** Note that per ADEQ Bulletin 11 – Minimum Requirements for Design, Submission of Plans and Specifications for Sewage Works and AAC R18-9-B202(A)(9)(a), the design of treatment works should be based on the annual average rate which is based on actual flow rates.

6.2 Existing Treatment System – Required Capacity

A summary of the existing influents flows and available treatment capacity for the Marana WRF is provided in Table 6-1. Influent flows to the Marana WRF have steadily been increasing over the last year, increasing from approximately 550,000 gallons per day (gpd) to over 695,000 gpd as experienced in May 2021 which used as the baseline flow for this report noting that the Town's future development projections are based on a July 2021 starting point.

In anticipation of future growth, the existing Marana WRF recently underwent an expansion from 0.5 MGD to 1.5 MGD. With further expansion the build-out capacity of the Marana WRF is 4.5 MGD.

Based on the existing flows and available treatment capacity, the treatment system has approximately 805,000 gpd of excess capacity to support additional future growth.

Table 6-1. Marana WRF – Existing Wastewater Flows and Available Capacity

Location	Existing Wastewater Flow (gpd) as of July 2021
East of I-10	119,561[a]
West of I-10	575,439[b]
Total Existing Wastewater Flow (gpd)	**695,000[c]**
Marana WRF Treatment Capacity (gpd)	**1,500,000**
Excess Treatment Capacity Available (gpd)	**805,000**

[a] Estimated based on 784 DUs in San Lucas and 153 DUs in Adonis at ADWF of 127.6 gal/DU
[b] Estimated as difference between Marana WRF flows minus flows from east of I-10
[c] Based on average influent flows to the Marana WRF in May 2021, as reported by the Town

6.3 Existing Sewer Collection System - Required Capacity

The sewer collection system tributary to the Marana WRF is served by 12 main sewer interceptors that have been labeled A through L. Each interceptor is divided into segments that consist of one or more pipes. For the purposes of evaluating the existing sewer collection system capacity as required for the IIP, the interceptors were broken up into segments based on where wastewater loads are allocated to the system.

The sewer capacity tables are provided in Appendix A. Table A-1 shows the calculated PWWF, the resulting depth to diameter (d/D) ratio for the PWWF, the existing pipe

[3] ADWF estimated based on highest average monthly flow (792,000 gal/day in January 2022) and residential customer count of 5,672.

capacity, and the excess pipe capacity available for each interceptor segment. The existing capacity is based on the pipe flowing at 100% full. Excess capacity was determined as the difference between the existing PWWF and existing capacity of the pipe. As shown in the table, all pipes have sufficient capacity to convey the existing wastewater flows and have significant excess capacity available for future growth. However, there are multiple segments in Branches D, J, and K which are at or above 50% capacity and are expected to exceed a d/D ratio above 75% in the coming five years. For the purposes of this analysis, HDR identified pipes with d/D ratios of above 0.70 as potentially requiring capacity improvements. See Appendix B, Figure B-1 for the existing sewer capacity.

7 Projected Capacity Requirements

This section provides a summary of the number of projected service units and the projected wastewater loads necessitated by and attributable to new development in the active sewer service area for the period encompassing the next ten years (i.e., 2023 to 2032). The projected capacity requirements for the 10-year projected growth are also compared with the utilization and available capacity of the existing treatment and sewer collection system infrastructure.

7.1 Treatment Capacity Requirements

Table 7-1 provides a summary of the projected flows from future growth for the period between 2023 to 2027 (5 Year) and 2028 to 2032 (10 Year). The Airport Sewer System has a standalone treatment system and will not be conveyed to the Marana WRF. Table 7-2 provides a summary of the existing wastewater flows, additional flows associated with future growth and a comparison with available treatment capacity at the Marana WRF.

As shown in Table 7-2, the Marana WRF is projected to receive an additional ADWF of 796,977 gpd by the end of 2027 and 1,440,952 gpd by the end of 2032.

- The total expected ADWF at the Marana WRF in November 2027 will be 1.49 MGD as compared to the available capacity of 1.5 MGD, which represents approximately 99% of total capacity.
- The total expected ADWRF at the Marana WRF in November 2032 will be 2.14 MGD as compared to the available capacity of 1.5 MGD, which represents approximately 143% of capacity.

In anticipation of future growth, the existing Marana WRF recently underwent an expansion from 0.5 MGD to 1.5 MGD and with further expansion the build-out capacity of the Marana WRF is 4.5 MGD. The additional flows through Year 2027 take the Marana WRF approximately to its rated capacity, and additional flows through Year 2032 are beyond the Marana WRF current capacity. Design of the expansion of the Marana WRF should begin when ADWF exceeds 75% of capacity, which is expected to occur by early-2025. The expansion phasing for the existing WRF is shown in Figure 7-1, with flows

after 2032 based on projections summarized in Table 6-1 and construction of a new WRF east of I-10 as identified in the 2020 Sewer Master Plan[4].

Table 7-1. Marana WRF – Future Estimated DU's and Influent Wastewater Flows

Development	Existing DUs	Projected DUs from Jul 2021 – Nov 2022	Total DUs to be Assigned 2023 – 2032	Year 2023 - 2027		Year 2028 - 2032	
				Additional DUs	Additional ADWF (gpd)[b]	Additional DUs	Additional ADWF (gpd)[b]
Mandarina	-	-	1,342	532	74,267	810	113,076
Mandarina South	-	-	190	40	5,584	150	20,940
Stonegate	-	-	1,000	300	41,880	700	97,720
Villages of Tortolita	-	-	300	-	-	300	41,880
Subtotal East of I-10	**0**	**0**	**2,832**	**872**	**121,731**	**1,960**	**273,616**
Crossroads at Gladden	-	-	488	160	22,336	328	45,789
Cypress Gardens	-	-	217	100	13,960	117	16,333
Gladden Farms II	599	351	1,421	1,421	198,372	-	-
Gladden Farms Commercial	-	-	-	-	-	-	-
Heritage Park Shoppes	-	-	36	16	2,234	20	2,792
Marana & I-10	-	-	112	12	1,675	100	13,960
Marana Main Street	-	-	40	16	2,234	24	3,350
Marana Towne Center	-	-	120	40	5,584	80	11,168
Payson Farms	-	-	457	457	63,797	-	-
Rancho Marana – West	307	59	154	150	20,940	4	558
Rancho Marana Town Center	-	-	20	-	-	20	2,792
Saguaro Bloom	1,245	564	700	700	97,720	-	-
Sanders Grove	-	-	700	100	13,960	600	83,760
Tangerine Commerce Park	-	-	120	60	8,376	60	8,376
Uptown at Marana	-	-	300	-	-	300	41,880
Vanderbilt Farms	224	-	1,500	500	69,800	1,000	139,600
Villages of Barnett	-	81	50	50	6,980	-	-
Subtotal West of I-10	**2,375**	**1,055**	**6,435**	**3,782**	**527,967**	**2,653**	**370,359**
Total	**2,375**	**1,055**	**9,267**	**4,654**	**649,698**	**4,613**	**643,975**
Airport Sewer System[a]	-	-	40	20	2,792	20	2,792
Subtotal Airport Sewer System	**0**	**0**	**40**	**20**	**2,792**	**20**	**2,792**

[a] The Airport Sewer System has a standalone treatment system and will not be conveyed to the Marana WRF.

[b] Future ADWF projections based on 139.6 gal/DU

[4] The 2020 Master Plan recommends flows from Villages of Tortolita, Adonis, and San Lucas be diverted to a new WRF located east of I-10 by 2035, and that by 2050 flows from all developments east of I-10 be diverted to the new WRF. High and low projections reflect a range of future residential housing density between 0.5 to 2 DUs per acre within 3,600 acres located west of I-10.

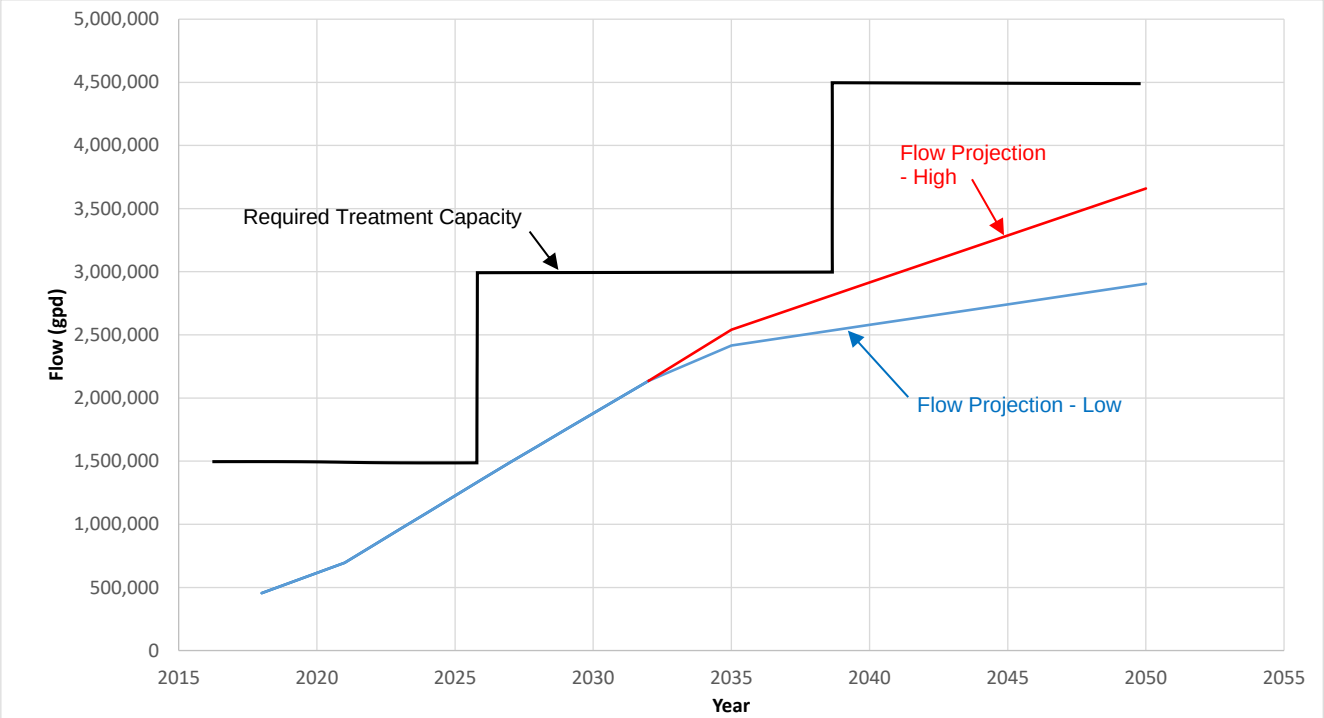
Table 7-2. Marana WRF – Treatment Capacity Summary

Period	Existing & Projected Wastewater Flow (gpd)	Additional ADWF (gpd)[b]		Total Wastewater Flow (gpd)	Available Treatment Capacity (gpd)	Excess Treatment Capacity Available (gpd)
		East of I-10	West of I-10			
Jul 2021 – Nov 2022	695,000	0	147,278[a]	842,278	1,500,000	657,722
2023-2027 (5 Year)	842,278	121,731	527,967	1,491,976	1,500,000	8,024
2028-2032 (10 Year)	1,491,976	273,616	370,359	2,135,951	1,500,000	(635,951)

[a] Includes Gladden Farms II – 351 DUs, Rancho Marana West – 59 DUs, Saguaro Bloom – 564 DUs, Villages of Barnett – 81 DUs for a total of 1,055 DUs as shown in Table 7-1. When multiplied by ADWF projection of 139.6 gal/DU, the total projected flow for these developments is 139,042 gpd.

[b] ADWF projections based on 139.6 gal/DU

Figure 7-1. Phased Expansion of the Existing WRF



7.2 Sewer Collection System Capacity Requirements

Pipe capacity tables for future scenarios are shown in Appendix A and shows the capacity of the existing sewer collection system to accommodate the growth from 2023 to 2027 if no improvements were made. Appendix A shows the projected flow (i.e., PWWF), the resulting d/D ratio for the PWWF, the existing pipe capacity, and the excess pipe capacity available for each interceptor segment for the 2023 to 2027 and 2028 to 2032 planning periods, respectively.

For the 2023 – 2027 planning period, Appendix A shows that the pipe capacity is 1.00 for portions of Branches I, J, and K, indicating surcharged conditions if no improvements

were made. There are a three pipe segments in Branch D that are above 0.70 but are not exacerbated by future growth. Based on these results, 2023 - 2027 improvements were identified (see Section 8.1) to alleviate the surcharging in the identified pipe segments. For the 2023 to 2027 planning period, the proposed gravity sewer improvements result in no pipes experiencing a d/D ratio above 0.70, other than the segments in Branch D which are slightly above 0.70.

For the 2028 to 2032 planning period, Appendix A shows the pipe capacity is 1.00 for portions of Branches B and G, indicating surcharged conditions. There are some pipe segments in Branch B with d/D values between 0.70 and 0.75 but are not exacerbated by future growth and were not susceptible to surcharging, so no future improvements were identified. Based on these results, improvements were identified (see Section 8.2) to alleviate the surcharging in the identified pipe segments. For the 2028 to 2032 planning period, the proposed gravity sewer improvements result in a reduction of d/D ratio from 1.00 to approximately 0.70 – 0.77, with no surcharging occurring anywhere in the system.

Figures showing the location of the pipes with insufficient capacity are included in Appendix B.

8 Capital Improvements

The Town of Marana is expected to develop rapidly over the next 10-15 years, requiring significant investment in infrastructure. HDR has identified several sewer infrastructure capital improvements that will provide Marana Water sufficient conveyance and treatment capacity to accommodate the Town's anticipated growth through the Year 2030 and beyond. The capital improvements required to support the Town's anticipated future growth are described in the following sections.

8.1 2023 – 2027 (5 Year) Infrastructure Improvements

Based on the results of model analysis completed for the Sewer Conveyance Master Plan it was determined the existing sewer collection system has available capacity to convey current peak wet weather flows while maintaining pipes at less than 75% capacity and without surcharging. However, new developments are anticipated east of I-10 in the 10 Year planning period and there is currently no infrastructure in place to support sewer service to these areas. The infrastructure improvements required for the 2023 to 2027 (5 Year) planning phase include gravity lines, lift stations, and force mains that are associated with new infrastructure needed to support sewer service to these new developments and infrastructure needed to increase the capacity of the existing gravity network west of I-10. The existing WRF has insufficient capacity to accommodate the projected growth for the (5 Year) planning phase and will require expansion.

Adonis

There are currently 153 DUs in Adonis, with sewer flows collected at two sewage lagoons located northwest of the development. Marana Water has constructed a new lift station and forcemain to direct flows from Adonis to the San Lucas gravity system. With the addition of the Adonis flows to the gravity system, there is sufficient capacity

available in the gravity main that connects San Lucas to the collection system west of I-10 to accommodate an additional 600 DUs before it surcharges. Since the lift station and force main have already been constructed, the capital costs associated with Adonis are not included as part of the CIP.

Stonegate, Mandarina, and Mandarina South (Improvement 1) – Complete

The new lift station and forcemain serving Adonis was not sized to receive flows from Stonegate, Mandarina, and Mandarina South. Improvements will be required to support any future growth associated with Mandarina and other southeast developments.

A new 15-inch gravity line was constructed by Mandarina LLC to convey flows across I-10 and connect to the Town's existing gravity network west of I-10. The new 15-inch pipe was installed along West Moore Road and connects to the existing 18-inch north-south gravity sewer line at the intersection of West Moore Road and North Clark Farms Boulevard that connects to the existing gravity line from Saguaro Bloom. It is anticipated the new 15-inch gravity line was sized for ultimate buildout in conjunction with other improvements and will have capacity to serve up to 1,000 DUs associated with Mandarina and other southeast developments.

The existing gravity network west of I-10 has sufficient capacity to accommodate up to 250 DUs from these southeast developments, in addition to the anticipated growth on the west side of I-10, before additional gravity conveyance capacity to the existing WRF is required.

Reducing Flows Along Sandario Road (Improvements 2 and 3)

Improvements 2 and 3 are associated with increasing the capacity of the existing gravity network west of I-10. These improvements will also reduce flows flowing north on Sandario Road and provide flow relief to Branch F (see Figure A-2) which would exceed its maximum design capacity without these improvements.

Approximately 4,600 linear feet of 21-inch gravity lines will be required to augment the existing gravity network. A new 21-inch line will tie into the stubbed out gravity line at Tangerine Farms Road at Clark Farms Road and will continue north to Barnett Road (Improvement 2). The 21-inch line will continue west on Barnett Road to Sanders Road and tie into the existing sewer line on Sanders Road (Improvement 3).

Gravity System Improvements Along Sanders Road and Marana Road (Improvements 4 – 7)

The model results in Table A-1 show that without improvements, future sewer flows along Sanders Road and Marana Road will cause the existing sewer interceptors to surcharge. Approximately 19,300 linear feet of new gravity lines will be required to augment the existing gravity network.

The Town requested HDR evaluate two options for augmenting the sewer line along Sanders Road:

- Option 1: Install a parallel 21-inch sewer line from Barnett Road to Marana Road to augment the existing 15-inch sewer line.

- Option 2: Replace the existing 15-inch sewer line from Barnett Road to Marana Road with a new 27-inch sewer line. This option would be beneficial to the Town in not having to maintain two parallel lines, and also because it would eliminate the need for the Town to rehabilitate the existing manholes on the 15-inch line which the Town projects will cost $731,282.

HDR evaluated the 21-inch and 27-inch options on Sanders Road, which are presented in Tables 8-1 and 8-2, respectively. As shown on Table 8-2, the 27-inch consolidated line will be lower in cost with the added benefit of fewer manholes and less pipe for the Town to maintain. HDR recommends this as the preferred option.

For augmenting the existing sewer capacity along Marana Road west of Sanders Road, the 2020 Sewer Conveyance Master Plan proposed a 27-inch new gravity line run north to Sagebrush Road, and then turn west, tying into the 24-inch existing gravity line at Luckett Road.

The new 27-inch gravity lines on Sanders Road and Sagebrush Road (Improvements 4, 5, 6 and 7) are expected to be required by 2024. As indicated by the results of the existing capacity evaluation (see Table A-1), Branches K and L will surcharge by the end of the 2023 – 2027 (5 Year) planning phase without improvements being made. The improvements are shown on Figure 8-1.

Marana WRF Expansion (Improvement 8)

If all projected development within the 10 year planning period occurs, the influent to the existing Marana WRF is anticipated to reach 99% of the current capacity of 1.5 MGD by November 2027. As such it's recommended the WRF expansion to 3.0 MGD be completed before then.

The Town's approach is to begin designing and constructing a new phase of expansion for its treatment facilities when the influent flow reaches 75% of the capacity of the facility. Per the current flow projections, by early 2025 the influent flow to the WRF will reach 1.125 MGD which is 75.0% of the WRF capacity, the regulatory point for beginning design.

Construction of the WRF expansion should begin prior to reaching 90% of capacity, which is expected to occur by late 2026. The influent flows are expected to reach 1.5 MGD by late 2027 and, assuming two years for construction, construction of the WRF expansion would need to start in late 2025. HDR estimates a 12 – 18 month design period prior to construction and recommends starting design in mid-2024.

A summary of the required sewer system improvements with estimated construction costs are provided in Table 8-1. The improvements are shown on Figure 8-1 and are designated with an Improvement ID number.

Table 8-1. 2023 – 2027 (5 Year) Capital Improvement Summary, with Parallel 15-inch and 21-inch Lines on Sanders Rd (Improvement 5)

Improvement ID	Infrastructure Component		Construction Cost[a]
1	Gravity Pipe	15-inch x 3,334 LF	$0[b]
2	Gravity Pipe	21-inch x 800 LF	$325,297[c]
3	Gravity Pipe	21-inch x 3,600 LF	$2,463,177
4	Gravity Pipe	21-inch[e] x 5,300 LF	$3,613,417[d]
5	Gravity Pipe	27-inch x 2,800 LF	$1,696,982
6	Gravity Pipe	27-inch x 5,300 LF	$3,034,513
7	Gravity Pipe	27-inch x 5,900 LF	$3,371,261
8	Existing WRF Design and Construction	1.5 MGD	$39,161,113
TOTAL			**$53,665,760**

[a] These are total estimated project costs including direct construction costs, contingency, contractor fees, design fees, and other direct costs. Fully loaded costs for each improvement project are provided in Appendix C.

[b] See construction drawings for Town of Marana Public Sewer Improvement Plan Mandarina Offsite Sewer S-2020-007 / ENG2002-003. Project will be funded by developer, so costs are not included in the CIP.

[c] Construction cost of $309,807 provided by Meritage Homes, escalated by 5% per the Town's request.

[d] Cost of the 21-inch line does not include the $731,282 maintenance cost associated with rehabilitating the existing 15-inch line.

[e] Flows along Sanders Road will be conveyed by a new 21-inch pipeline and parallel existing 15-inch pipeline.

Table 8-2. 2023 – 2027 (5 Year) Capital Improvement Summary, with Consolidated 27-inch Line on Sanders Road (Improvement 5)

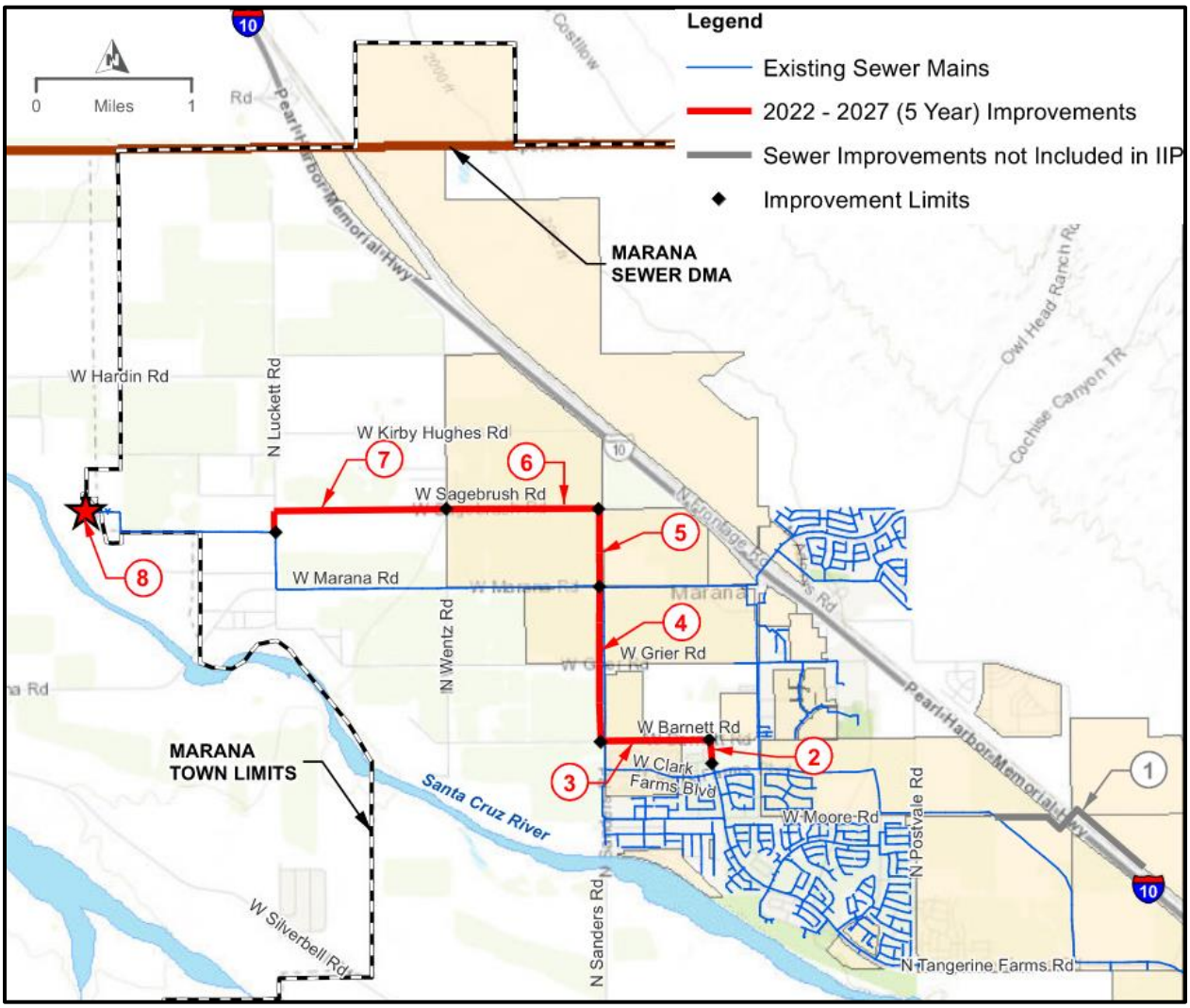
Improvement ID	Infrastructure Component		Construction Cost[a]
1	Gravity Pipe	15-inch x 3,334 LF	$0
2	Gravity Pipe	21-inch x 800 LF	$325,297[b]
3	Gravity Pipe	24-inch x 3,600 LF	$2,745,062
4	Gravity Pipe	27-inch x 5,300 LF	$3,066,315[c]
5	Gravity Pipe	27-inch x 2,800 LF	$1,696,982
6	Gravity Pipe	27-inch x 5,300 LF	$3,034,513
7	Gravity Pipe	27-inch x 5,900 LF	$3,371,261
8	Existing WRF Design and Construction	1.5 MGD	$39,161,113
TOTAL			**$53,075,246**

[a] These are total estimated project costs including direct construction costs, contingency, contractor fees, design fees, and other direct costs. Fully loaded costs for each improvement project are provided in Appendix C.

[b] Construction cost of $309,807 provided by Meritage Homes, escalated by 5% per the Town's request.

[c] The total cost of constructing Improvement 4 is $4,443,935. The proportional flow from the existing 15-inch line that would be replaced by Improvement 4 represents approximately 31% of the total flow capacity. Therefore, on a capacity basis $3,066,315 would be assigned to the 27-inch line and $1,377,620 to the existing 15-inch line.

Figure 8-1. 2023 – 2027 (5 Year) Capital Improvement Projects



8.2 2028 – 2032 (10 Year) Infrastructure Improvements

The infrastructure improvements required for the 2023 to 2027 (5 Year) planning phase include gravity lines, lift stations, and force mains that are associated with new infrastructure needed to support sewer service to these new developments and infrastructure needed to increase the capacity of the existing gravity network west of I-10.

Based on the results of model analysis, new developments located southeast of I-10 (Stonegate, Mandarina, Mandarina South) will result in flows that are in excess of the available capacity, specifically along the 15-inch and 18-inch sewer main that serve Saguaro Bloom. Furthermore, new developments located northeast of I-10 (Villages of Tortolita) will need to be conveyed to the existing sewer lines serving the Adonis and San Lucas development. The combined additional flows from developments located east of I-10 will require a new parallel pipe from the terminus of Improvement 7 to the existing WRF. The expanded WRF (Improvement 8) will have sufficient capacity to accommodate the projected growth for 10 Year planning phase.

New Parallel Gravity Main to Existing WRF (Improvement 9)

The existing 24-inch gravity main feeding the WRF will begin surcharging after developments both east and west of I-10 exceed 10,000 EDUs. This will require adding a new parallel 27-inch gravity line.

New Parallel Gravity Main Along Saguaro Bloom Transmission Line (Improvement 10)

Per the 2020 Master Plan, sewer flows from developments southeast of I-10 (Stonegate, Mandarina, Mandarina South) were to be conveyed to a new WRF located northeast of I-10 after exceeding 1,000 EDUs. The revised development projections show that the southeast developments will exceed 2,500 EDUs by 2032. The existing 15-inch gravity line (see Improvement 1) has sufficient capacity to convey new development flows through 2032, but these flows will result in surcharging along the 15-inch and 18-inch gravity lines downstream of the 15-inch connection point. This will require adding a new parallel 15-inch gravity line.

Villages of Tortolita (Improvement 11)

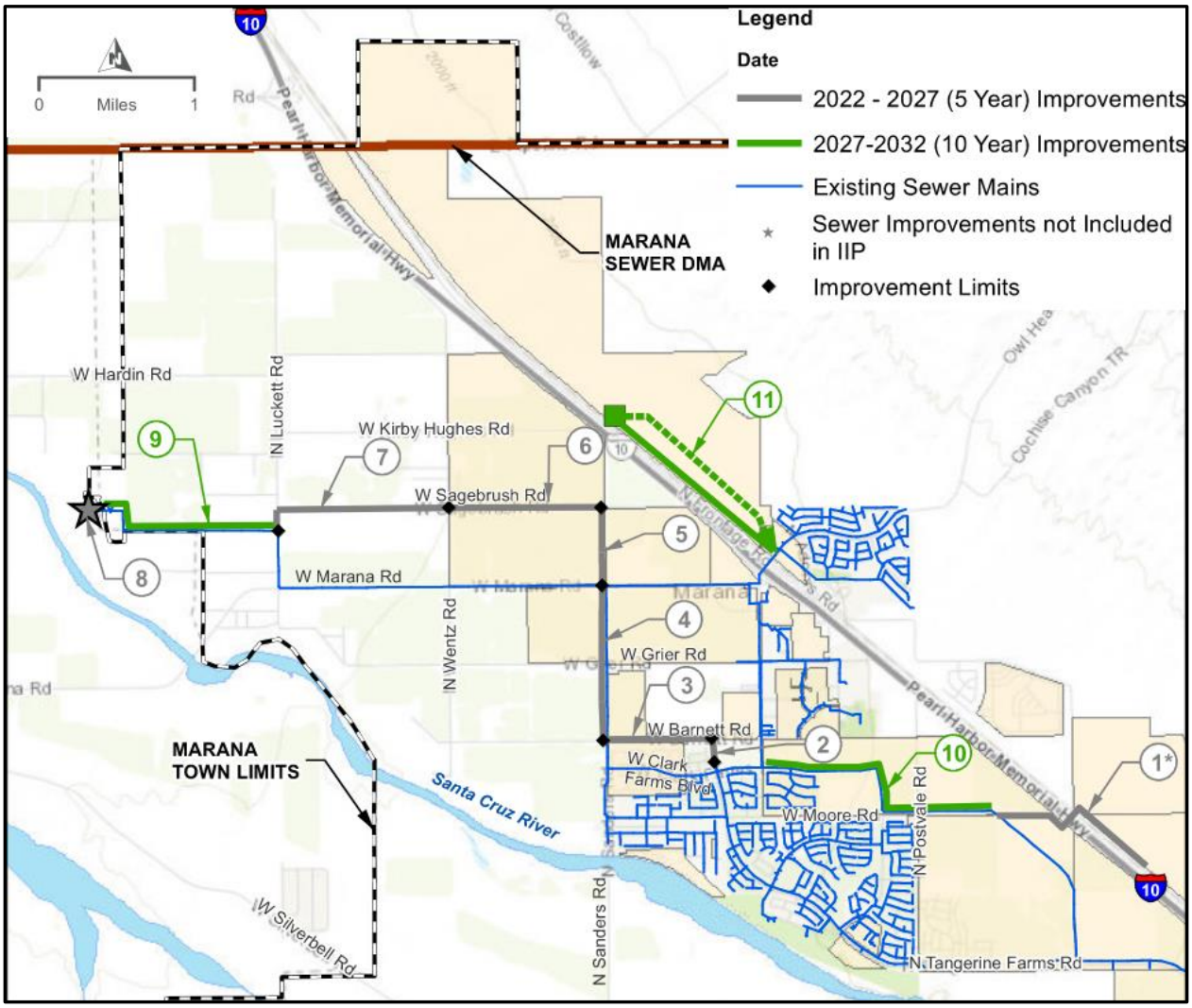
Initial growth is anticipated in the southern portion of the Villages of Tortolita. Sewer flows from the south will flow by gravity through an 18-inch line northwest towards a lift station and will be pumped back via a 6-inch force main to the existing gravity system serving San Lucas. The maximum size of the lift station is limited to serving approximately 600 EDUs from the Villages of Tortolita before surcharging the San Lucas and Adonis service line under I-10, or approximately 210 gpm pumping capacity. It should be noted the 18-inch gravity line is sized to accommodate ultimate buildout when flows from San Lucas, Adonis, and new developments to the southeast will be directed to the future WRF that will serve all developments on the east side of I-10.

Table 8-3. 2028 – 2032 (10 Year) Capital Improvement Summary

Improvement ID	Infrastructure Component	Size / Quality	Construction Cost[1]
9	Gravity Pipe	27-inch x 5,300 LF	$3,034,513
10	Gravity Pipe	15-inch x 11,500 LF	$5,809,844
11	Gravity Pipe Lift Station Force Main	18-inch x 6,800 LF 210 gpm capacity 6-inch x 6,800 LF	$4,500,690
TOTAL			**$13,345,048**

[1] These are total estimated project costs including direct construction costs, contingency, contractor fees, design fees, and other direct costs. Fully loaded costs for each improvement project are provided in Appendix C.

Figure 8-2. 2028 – 2032 (10 Year) Capital Improvement Projects



Appendix A: Pipe Capacity Tables

Appendix A

Town of Marana
Sewer Infrastructure Improvement Plan (IIP)

Sewer Pipe Capacity Tables

					Existing System				2022 to 2027 (5 Year) without Improvements				2022 to 2027 (5 Year) with Improvements				2027 to 2032 (10 Year) without Improvements				2027 to 2032 (10 Year) with Improvements				
Interceptor Branch	Segment	Model ID	Diameter (in)	Length (ft)	Existing Flow (MGD)	d/D	Existing Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Improvement Notes
A	1	193	12	186	0.33	0.29	1.80	1.47	0.41	0.33	1.71	1.30	0.41	0.33	1.71	1.30	0.41	0.33	1.71	1.30	0.41	0.33	1.71	1.30	
A	2	194	12	296	0.33	0.30	1.63	1.30	0.41	0.34	1.63	1.22	0.41	0.34	1.63	1.22	0.60	0.42	1.63	1.02	0.60	0.42	1.63	1.02	
A	3	964	12	558	0.33	0.29	1.74	1.41	0.41	0.33	1.73	1.32	0.41	0.33	1.73	1.32	0.60	0.41	1.73	1.13	0.60	0.41	1.73	1.13	
A	4	85	12	285	0.33	0.32	1.52	1.19	0.41	0.35	1.52	1.11	0.41	0.35	1.52	1.11	0.60	0.44	1.52	0.92	0.60	0.44	1.52	0.92	
A	5	84	12	64	0.33	0.31	1.58	1.25	0.41	0.31	1.94	1.53	0.41	0.31	1.94	1.53	0.60	0.38	1.94	1.34	0.60	0.38	1.94	1.34	
A	6	83	12	282	0.33	0.31	1.58	1.25	0.41	0.35	1.56	1.16	0.41	0.35	1.56	1.16	0.60	0.43	1.56	0.96	0.60	0.43	1.56	0.96	
A	7	82	12	88	0.33	0.30	1.63	1.30	0.41	0.34	1.62	1.22	0.41	0.34	1.62	1.22	0.60	0.42	1.62	1.02	0.60	0.42	1.62	1.02	
A_NEW	1	5080	18	6,745																	0.20	0.16	3.61	3.41	New Pipe - 2027 to 2032 (10 Year)
B	1	69296	15	49	0.40	0.32	1.80	1.40	0.94	0.53	1.72	0.78	0.94	0.53	1.72	0.78	0.96	0.54	1.72	0.75	0.96	0.54	1.72	0.75	
B	2	90512	12	43	0.40	0.40	1.16	0.76	0.94	0.68	1.17	0.23	0.94	0.68	1.17	0.23	0.96	0.69	1.17	0.20	0.96	0.69	1.17	0.20	
B	3	90513	12	205	0.40	0.41	1.13	0.73	0.94	0.69	1.14	0.20	0.94	0.69	1.14	0.20	0.96	**0.71**	1.14	0.17	0.96	**0.71**	1.14	0.17	
B	4	90514	12	205	0.40	0.41	1.13	0.73	0.94	0.70	1.12	0.19	0.94	0.70	1.12	0.19	0.96	**0.71**	1.12	0.16	0.96	**0.71**	1.12	0.16	
B	5	90515	12	240	0.40	0.41	1.13	0.73	0.94	0.69	1.14	0.20	0.94	0.69	1.14	0.20	0.96	**0.71**	1.14	0.17	0.96	**0.71**	1.14	0.17	
B	6	90516	12	410	0.40	0.41	1.13	0.73	0.94	0.69	1.13	0.19	0.94	0.69	1.13	0.19	0.96	**0.71**	1.13	0.16	0.96	**0.71**	1.13	0.16	
B	7	90517	12	410	0.40	0.41	1.15	0.75	0.94	0.69	1.15	0.21	0.94	0.69	1.15	0.21	0.96	0.70	1.15	0.18	0.96	0.70	1.15	0.18	
B	8	90518	12	162	0.40	0.40	1.19	0.79	0.94	0.67	1.18	0.25	0.94	0.67	1.18	0.25	0.96	0.69	1.18	0.22	0.96	0.69	1.18	0.22	
B	9	90519	12	163	0.40	0.40	1.19	0.79	0.98	0.70	1.19	0.20	0.98	0.70	1.19	0.20	1.05	**0.73**	1.19	0.13	1.05	**0.73**	1.19	0.13	
B	10	90520	12	305	0.40	0.40	1.19	0.79	0.98	0.70	1.19	0.20	0.98	0.70	1.19	0.20	1.05	**0.73**	1.19	0.13	1.05	**0.73**	1.19	0.13	
B	11	90521	12	283	0.40	0.40	1.19	0.79	0.98	0.69	1.19	0.20	0.98	0.69	1.19	0.20	1.05	**0.73**	1.19	0.14	1.05	**0.73**	1.19	0.14	
B	12	90522	12	343	0.40	0.40	1.18	0.78	0.98	0.69	1.19	0.21	0.98	0.69	1.19	0.21	1.05	**0.73**	1.19	0.14	1.05	**0.73**	1.19	0.14	
B	13	90523	12	63	0.40	0.40	1.20	0.80	0.98	0.70	1.18	0.20	0.98	0.70	1.18	0.20	1.05	**0.73**	1.18	0.13	1.05	**0.73**	1.18	0.13	
B	14	90524	12	265	0.40	0.40	1.19	0.79	0.98	0.70	1.18	0.20	0.98	0.70	1.18	0.20	1.05	**0.73**	1.18	0.13	1.05	**0.73**	1.18	0.13	
B	15	90525	12	84	0.40	0.40	1.18	0.78	0.98	0.70	1.18	0.19	0.98	0.70	1.18	0.19	1.05	**0.74**	1.18	0.13	1.05	**0.74**	1.18	0.13	
B	16	90526	12	269	0.40	0.40	1.19	0.79	0.98	0.69	1.21	0.22	0.98	0.69	1.21	0.22	1.05	**0.72**	1.21	0.15	1.05	**0.72**	1.21	0.15	
B	17	90527	12	264	0.40	0.40	1.19	0.79	0.98	0.70	1.18	0.20	0.98	0.70	1.18	0.20	1.05	**0.73**	1.18	0.13	1.05	**0.73**	1.18	0.13	
B	18	90511	12	286	0.40	0.40	1.18	0.78	0.98	0.70	1.18	0.19	0.98	0.70	1.18	0.19	1.05	**0.74**	1.18	0.13	1.05	**0.74**	1.18	0.13	
B	19	69295	15	487	0.40	0.29	2.16	1.76	0.98	0.47	2.16	1.17	0.98	0.47	2.16	1.17	1.05	0.49	2.16	1.10	1.05	0.49	2.16	1.10	
B	20	69294	15	361	0.40	0.26	2.74	2.35	0.98	0.41	2.73	1.75	0.98	0.41	2.73	1.75	1.05	0.43	2.73	1.68	1.05	0.43	2.73	1.68	
B	21	69293	15	173	0.40	0.26	2.61	2.21	0.98	0.43	2.61	1.63	0.98	0.43	2.61	1.63	1.05	0.44	2.61	1.56	1.05	0.44	2.61	1.56	
B	22	69292	15	172	0.40	0.24	3.13	2.73	0.98	0.38	3.14	2.16	0.98	0.38	3.14	2.16	1.05	0.40	3.14	2.09	1.05	0.40	3.14	2.09	
B	23	69291	15	400	0.40	0.30	2.01	1.61	1.18	0.55	2.00	0.83	1.18	0.55	2.00	0.83	1.59	0.67	2.00	0.41	1.59	0.67	2.00	0.41	
B	24	69290	15	390	0.40	0.26	2.72	2.32	1.18	0.46	2.73	1.55	1.18	0.46	2.73	1.55	1.59	0.55	2.73	1.14	1.59	0.55	2.73	1.14	
B	25	69289	15	251	0.41	0.27	2.55	2.14	1.18	0.48	2.55	1.37	1.18	0.48	2.55	1.37	1.59	0.57	2.55	0.96	1.59	0.57	2.55	0.96	
B	26	69288	15	500	0.41	0.28	2.37	1.96	1.18	0.50	2.36	1.18	1.18	0.50	2.36	1.18	1.59	0.60	2.36	0.77	1.59	0.60	2.36	0.77	
B	27	69287	15	500	0.41	0.28	2.37	1.96	1.18	0.50	2.38	1.20	1.18	0.50	2.38	1.20	1.59	0.60	2.38	0.78	1.59	0.60	2.38	0.78	
B	28	69286	15	386	0.41	0.28	2.44	2.03	1.18	0.49	2.42	1.24	1.18	0.49	2.42	1.24	1.59	0.59	2.42	0.83	1.59	0.59	2.42	0.83	
B	29	69285	15	391	0.41	0.28	2.33	1.92	1.18	0.50	2.33	1.15	1.18	0.50	2.33	1.15	1.59	0.61	2.33	0.74	1.59	0.61	2.33	0.74	
B	30	69284	15	385	0.41	0.27	2.54	2.14	1.18	0.48	2.54	1.36	1.18	0.48	2.54	1.36	1.59	0.57	2.54	0.94	1.59	0.57	2.54	0.94	
B	31	69283	15	95	0.41	0.21	4.16	3.75	1.18	0.37	4.10	2.91	1.18	0.37	4.10	2.91	1.59	0.43	4.10	2.50	1.59	0.43	4.10	2.50	
B	32	69282	15	336	0.41	0.27	2.47	2.07	1.18	0.48	2.49	1.31	1.18	0.48	2.49	1.31	1.59	0.58	2.49	0.90	1.59	0.58	2.49	0.90	
B	33	69281	15	315	0.41	0.28	2.37	1.97	1.18	0.50	2.34	1.16	1.18	0.50	2.34	1.16	1.59	0.61	2.34	0.74	1.59	0.61	2.34	0.74	
B	34	69280	15	496	0.41	0.28	2.37	1.96	1.18	0.50	2.37	1.19	1.18	0.50	2.37	1.19	1.59	0.60	2.37	0.78	1.59	0.60	2.37	0.78	
B	35	69279	15	258	0.41	0.31	1.92	1.51	1.18	0.57	1.92	0.74	1.18	0.57	1.92	0.74	1.59	0.69	1.92	0.33	1.59	0.69	1.92	0.33	
B	36	69278	15	476	0.41	0.31	2.00	1.60	1.18	0.55	2.01	0.83	1.18	0.55	2.01	0.83	1.59	0.67	2.01	0.41	1.59	0.67	2.01	0.41	
B	37	69277	15	475	0.41	0.28	2.37	1.96	1.18	0.50	2.36	1.18	1.18	0.50	2.36	1.18	1.59	0.60	2.36	0.76	1.59	0.60	2.36	0.76	
B	38	69276	15	213	0.41	0.25	2.90	2.49	1.18	0.44	2.94	1.75	1.18	0.44	2.94	1.75	1.59	0.53	2.94	1.34	1.59	0.53	2.94	1.34	
B	39	69275	18	304	0.41	0.26	2.73	2.33	1.18	0.46	2.71	1.53	1.18	0.46	2.71	1.53	1.59	0.55	2.71	1.12	1.59	0.55	2.71	1.12	
B	40	69274	18	398	0.41	0.25	2.98	2.57	1.18	0.44	2.99	1.81	1.18	0.44	2.99	1.81	1.59	0.52	2.99	1.39	1.59	0.52	2.99	1.39	
B	41	69273	18	600	0.41	0.26	2.72	2.32	1.18	0.46	2.72	1.54	1.18	0.46	2.72	1.54	1.59	0.55	2.72	1.13	1.59	0.55	2.72	1.13	
B	42	69272	18	597	0.41	0.25	3.04	2.63	1.18	0.43	3.03	1.85	1.18	0.43	3.03	1.85	1.59	0.51	3.03	1.44	1.59	0.51	3.03	1.44	
B	43	69271	18	446	0.41	0.26	2.72	2.31	1.18	0.46	2.71	1.53	1.18	0.46	2.71	1.53	1.59	0.55	2.71	1.12	1.59	0.55	2.71	1.12	
B	44	69270	18	600	0.41	0.25	2.97	2.56	1.18	0.44	2.96	1.78	1.18	0.44	2.96	1.78	1.59	0.52	2.96	1.36	1.59	0.52	2.96	1.36	
B	45	69269	18	409	0.41	0.25	3.05	2.64	1.18	0.43	3.06	1.88	1.18	0.43	3.06	1.88	1.59	0.51	3.06	1.47	1.59	0.51	3.06	1.47	
B	46	69268	18	375	0.41	0.24	3.26	2.86	1.63	0.50	3.28	1.65	1.63	0.50	3.28	1.65	2.79	**0.71**	3.28	0.50	1.51	0.48	3.28	1.77	
B	47	69267	18	291	0.41	0.23	3.48	3.07	1.63	0.48	3.47	1.84	1.63	0.48	3.47	1.84	2.79	0.68	3.47	0.69	1.57	0.47	3.47	1.90	
B	48	69266	18	598	0.41	0.25	2.97	2.57	1.63	0.53	2.96	1.33	1.63	0.53	2.96	1.33	2.79	**0.77**	2.96	0.17	1.57	0.52	2.96	1.38	
B	49	69265	18	601	0.41	0.25	2.89	2.48	1.63	0.54	2.90	1.27	1.63	0.54	2.90	1.27	2.79	**0.79**	2.90	0.12	1.57	0.52	2.90	1.33	
B	50	69264	18	498	0.41	0.26	2.81	2.41	2.06	0.64	2.80	0.74	2.06	0.64	2.80	0.74	3.18	**1.00**	2.80	-0.38	1.99	0.62	2.80	0.82	
B	51	69262	18	500	0.41	0.25	3.04	2.64	2.29	0.65	3.04	0.75	2.29	0.65	3.04	0.75	3.84	**1.00**	3.04	-0.80	2.66	**0.72**	3.04	0.38	
B	52	69261	18	560	0.41	0.25	3.02	2.61	2.29	0.65	3.02	0.73	2.29	0.65	3.02	0.73	3.84	**1.00**	3.02	-0.82	2.66	**0.73**	3.02	0.36	
B	53	75260	18	600	0.41	0.24	3.12	2.71	2.29	0.64	3.11	0.82	2.29	0.64	3.11	0.82	3.84	**1.00**	3.11	-0.73	2.66	**0.71**	3.11	0.45	
B	54	75271	18	92	0.41	0.25	2.93	2.52	2.29	0.66	2.95	0.66	2.29	0.66	2.95	0.66	3.84	**1.00**	2.95	-0.89	2.66	**0.74**	2.95	0.29	
B	55	75270	18	279	0.41	0.25	2.91	2.51	2.29	0.67	2.91	0.61	2.29	0.67	2.91	0.61	3.84	**1.00**	2.91	-0.94	2.66	**0.75**	2.91	0.24	
B	56	75269	18	238	0.41	0.25	2.93	2.52	2.29	0.67	2.92	0.63	2.29	0.67	2.92	0.63	3.84	**1.00**	2.92	-0.92	2.66	**0.75**	2.92	0.26	
B	57	75268	18	273	0.41	0.25	2.91	2.51	2.29	0.67	2.92	0.63	2.29	0.67	2.92	0.63	3.84	**1.00**	2.92	-0.92	2.66	**0.75**	2.92	0.26	
B	58	75267	18	599	0.41	0.25	2.92	2.51	2.29	0.67	2.92	0.62	2.29	0.67	2.92	0.62	3.84	**1.00**	2.92	-0.92	2.66	**0.75**	2.92	0.26	
B	59	75266	18	66	0.41	0.25	2.90	2.50	2.29	0.68	2.87	0.58	2.29	0.68	2.87	0.58	3.84	**1.00**	2.87	-0.97	2.66	**0.76**	2.87	0.21	
B	60	75265	18	167	0.41	0.25	2.93	2.52	2.29	0.66	2.99	0.69	2.29	0.66	2.99	0.69	3.84	**1.00**	2.99	-0.86	2.66	**0.74**	2.99	0.32	
B	61	75264	18	346	0.41	0.25	2.93	2.52	2.29	0.67	2.92	0.62	2.29	0.67	2.92	0.62	3.84	**1.00**	2.92	-0.93	2.66	**0.75**	2.92	0.25	
B	62	75263	18	600	0.41	0.25	2.92	2.51	2.29	0.67	2.92	0.62	2.29	0.67	2.92	0.62	3.84	**1.00**	2.92	-0.93	2.66	**0.75**	2.92	0.26	
B	63	75262	18	600	0.41	0.25	2.92	2.51	2.29	0.67	2.91	0.62	2.29	0.67	2.91	0.62	3.84	**1.00**	2.91	-0.93	2.66	**0.75**	2.91	0.25	
B	64	75261	18	599	0.41	0.25	2.92	2.51	2.29	0.67	2.92	0.62	2.29	0.67	2.92	0.62	3.84	**1.00**	2.92	-0.92	2.66	**0.75**	2.92	0.26	
B	65	331	18	600	0.41	0.25	2.92	2.51	2.29	0.68	2.86	0.56	2.29	0.68	2.86	0.56	3.84	**1.00**	2.86	-0.99	2.66	**0.76**	2.86	0.19	
B	66	333	18	600	0.46	0.27	2.92	2.46	2.33	0.68	2.91	0.58	2.33	0.68	2.91	0.58	3.88	**1.00**	2.91	-0.96	2.70	**0.76**	2.91	0.22	
B	67	332	18	298	0.46	0.27	2.93	2.47	2.33	0.68	2.88	0.55	2.33	0.68	2.88	0.55	3.88	**1.00**	2.88	-1.00	2.70	**0.77**	2.88	0.18	

Appendix A

Town of Marana
Sewer Infrastructure Improvement Plan (IIP)

Sewer Pipe Capacity Tables

					Existing System				2022 to 2027 (5 Year) without Improvements				2022 to 2027 (5 Year) with Improvements				2027 to 2032 (10 Year) without Improvements				2027 to 2032 (10 Year) with Improvements				
Interceptor Branch	Segment	Model ID	Diameter (in)	Length (ft)	Existing Flow (MGD)	d/D	Existing Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Improvement Notes
B_NEW	1	5106	15	350																	1.28	0.57	2.05	0.77	New Pipe - 2027 to 2032 (10 Year)
B_NEW	2	5108	15	3,682																	1.34	0.63	1.84	0.50	New Pipe - 2027 to 2032 (10 Year)
B_NEW	3	5110	15	780																	1.34	0.63	1.84	0.49	New Pipe - 2027 to 2032 (10 Year)
B_NEW	4	5112	15	733																	1.34	0.69	1.62	0.28	New Pipe - 2027 to 2032 (10 Year)
B_NEW	5	5114	15	625																	1.34	0.71	1.59	0.25	New Pipe - 2027 to 2032 (10 Year)
B_NEW	6	5116	15	1,807																	1.34	0.65	1.76	0.42	New Pipe - 2027 to 2032 (10 Year)
B_NEW	7	5118	15	1,181																	1.34	0.66	1.72	0.38	New Pipe - 2027 to 2032 (10 Year)
C	1	987	12	459	0.00	0.00	1.08	1.08	0.51	0.49	1.08	0.57	0.51	0.49	1.08	0.57	0.51	0.49	1.08	0.57	0.51	0.49	1.08	0.57	
C	2	600	12	428	0.00	0.00	1.00	1.00	0.51	0.50	1.01	0.49	0.51	0.50	1.01	0.49	0.51	0.50	1.01	0.49	0.51	0.50	1.01	0.49	
C	3	608	12	251	0.00	0.00	1.10	1.10	0.51	0.48	1.10	0.59	0.51	0.48	1.10	0.59	0.51	0.48	1.10	0.59	0.51	0.48	1.10	0.59	
C	4	607	12	364	0.00	0.00	1.01	1.01	0.51	0.50	1.01	0.50	0.51	0.50	1.01	0.50	0.51	0.50	1.01	0.50	0.51	0.50	1.01	0.50	
C	5	606	12	396	0.06	0.17	1.00	0.94	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	
C	6	605	12	217	0.06	0.17	1.02	0.95	0.55	0.53	1.02	0.46	0.55	0.53	1.02	0.46	0.55	0.53	1.02	0.46	0.55	0.53	1.02	0.46	
C	7	604	12	301	0.06	0.17	1.00	0.94	0.55	0.53	1.01	0.45	0.55	0.53	1.01	0.45	0.55	0.53	1.01	0.45	0.55	0.53	1.01	0.45	
C	8	603	12	246	0.06	0.17	1.01	0.95	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	
C	9	602	12	335	0.06	0.17	1.00	0.94	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	0.55	0.53	1.00	0.45	
C	10	601	12	146	0.06	0.17	1.01	0.95	0.55	0.53	1.02	0.46	0.55	0.53	1.02	0.46	0.55	0.53	1.02	0.46	0.55	0.53	1.02	0.46	
C	11	901	15	23	0.19	0.17	2.92	2.73	0.67	0.33	2.87	2.20	0.67	0.33	2.87	2.20	0.67	0.33	2.87	2.20	0.67	0.33	2.87	2.20	
C	12	887	15	489	0.19	0.23	1.60	1.41	0.67	0.44	1.64	0.97	0.67	0.44	1.64	0.97	0.67	0.44	1.64	0.97	0.67	0.44	1.64	0.97	
C	13	895	15	259	0.19	0.24	1.56	1.37	0.67	0.47	1.50	0.83	0.67	0.47	1.50	0.83	0.67	0.47	1.50	0.83	0.67	0.47	1.50	0.83	
C	14	894	15	48	0.19	0.23	1.60	1.41	0.67	0.46	1.57	0.90	0.67	0.46	1.57	0.90	0.67	0.46	1.57	0.90	0.67	0.46	1.57	0.90	
C	15	618	15	214	0.20	0.24	1.54	1.34	0.68	0.47	1.53	0.85	0.68	0.47	1.53	0.85	0.68	0.47	1.53	0.85	0.68	0.47	1.53	0.85	
C	16	893	15	263	0.20	0.23	1.67	1.47	0.68	0.44	1.68	1.00	0.68	0.44	1.68	1.00	0.68	0.44	1.68	1.00	0.68	0.44	1.68	1.00	
C	17	892	15	263	0.20	0.24	1.59	1.39	0.68	0.46	1.59	0.91	0.68	0.46	1.59	0.91	0.68	0.46	1.59	0.91	0.68	0.46	1.59	0.91	
C	18	891	15	262	0.24	0.26	1.57	1.33	0.72	0.48	1.57	0.85	0.72	0.48	1.57	0.85	0.72	0.48	1.57	0.85	0.72	0.48	1.57	0.85	
C	19	890	15	359	0.24	0.25	1.74	1.50	0.72	0.45	1.74	1.02	0.72	0.45	1.74	1.02	0.72	0.45	1.74	1.02	0.72	0.45	1.74	1.02	
C	20	889	15	268	0.26	0.27	1.58	1.32	0.74	0.48	1.57	0.83	0.74	0.48	1.57	0.83	0.74	0.48	1.57	0.83	0.74	0.48	1.57	0.83	
C	21	877	15	363	0.26	0.27	1.64	1.39	0.74	0.47	1.65	0.91	0.74	0.47	1.65	0.91	0.74	0.47	1.65	0.91	0.74	0.47	1.65	0.91	
C	22	696	15	191	0.58	0.42	1.60	1.02	1.08	0.60	1.60	0.52	1.08	0.60	1.60	0.52	1.08	0.60	1.60	0.52	1.08	0.60	1.60	0.52	
C	23	983	15	500	0.58	0.45	1.40	0.82	1.08	0.66	1.40	0.32	1.08	0.66	1.40	0.32	1.08	0.66	1.40	0.32	1.08	0.66	1.40	0.32	
C	24	587	15	397	0.58	0.43	1.53	0.95	1.08	0.62	1.53	0.45	1.08	0.62	1.53	0.45	1.08	0.62	1.53	0.45	1.08	0.62	1.53	0.45	
C	25	586	15	251	0.59	0.41	1.63	1.04	1.08	0.60	1.63	0.55	1.08	0.60	1.63	0.55	1.08	0.60	1.63	0.55	1.08	0.60	1.63	0.55	
C	26	585	15	270	0.59	0.46	1.37	0.79	1.08	0.67	1.38	0.29	1.08	0.67	1.38	0.29	1.08	0.67	1.38	0.29	1.08	0.67	1.38	0.29	
C	27	584	15	271	0.59	0.46	1.35	0.76	1.08	0.68	1.34	0.26	1.08	0.68	1.34	0.26	1.08	0.68	1.34	0.26	1.08	0.68	1.34	0.26	
C	28	546	15	27	0.59	0.42	1.62	1.03	1.08	0.60	1.62	0.54	1.08	0.60	1.62	0.54	1.08	0.60	1.62	0.54	1.08	0.60	1.62	0.54	
C	29	583	15	224	0.60	0.42	1.63	1.03	1.10	0.60	1.64	0.54	1.10	0.60	1.64	0.54	1.10	0.60	1.64	0.54	1.10	0.60	1.64	0.54	
C	30	582	15	500	0.60	0.47	1.32	0.72	1.10	0.70	1.32	0.22	1.10	0.70	1.32	0.22	1.10	0.70	1.32	0.22	1.10	0.70	1.32	0.22	
C	31	581	15	250	0.65	0.43	1.67	1.02	1.16	0.61	1.67	0.52	1.16	0.61	1.67	0.52	1.16	0.61	1.67	0.52	1.16	0.61	1.67	0.52	
C	1	5046	12	2,675									0.51	0.40	1.51	1.00	0.51	0.40	1.51	1.00	0.51	0.40	1.51	1.00	New Pipe - 2022 to 2027 (5 Year)
D	1	580	12	105	0.46	0.30	2.40	1.94	0.80	0.40	2.41	1.60	0.80	0.40	2.41	1.60	0.80	0.40	2.41	1.60	0.80	0.40	2.41	1.60	
D	2	571	12	346	0.47	0.43	1.22	0.74	0.83	0.61	1.22	0.39	0.83	0.61	1.22	0.39	0.83	0.61	1.22	0.39	0.83	0.61	1.22	0.39	
D	3	577	12	500	0.47	0.47	1.04	0.57	0.83	0.68	1.04	0.21	0.83	0.68	1.04	0.21	0.83	0.68	1.04	0.21	0.83	0.68	1.04	0.21	
D	4	576	12	500	0.47	0.47	1.04	0.56	0.83	0.68	1.04	0.21	0.83	0.68	1.04	0.21	0.83	0.68	1.04	0.21	0.83	0.68	1.04	0.21	
D	5	575	12	470	0.48	0.48	1.01	0.53	0.83	0.69	1.01	0.18	0.83	0.69	1.01	0.18	0.83	0.69	1.01	0.18	0.83	0.69	1.01	0.18	
D	6	574	12	29	0.48	0.50	0.96	0.48	0.83	0.72	0.96	0.13	0.83	0.72	0.96	0.13	0.83	0.72	0.96	0.13	0.83	0.72	0.96	0.13	
D	7	543	12	471	0.49	0.49	1.00	0.51	0.84	0.70	1.00	0.15	0.84	0.70	1.00	0.15	0.84	0.70	1.00	0.15	0.84	0.70	1.00	0.15	
D	8	578	12	297	0.49	0.49	1.00	0.52	0.84	0.70	1.00	0.16	0.84	0.70	1.00	0.16	0.84	0.70	1.00	0.16	0.84	0.70	1.00	0.16	
D	9	544	12	168	0.50	0.50	0.99	0.49	0.86	0.72	0.99	0.13	0.86	0.72	0.99	0.13	0.86	0.72	0.99	0.13	0.86	0.72	0.99	0.13	
D	10	573	12	205	0.50	0.49	1.02	0.52	0.86	0.70	1.02	0.17	0.86	0.70	1.02	0.17	0.86	0.70	1.02	0.17	0.86	0.70	1.02	0.17	
D	11	545	12	239	0.51	0.50	1.01	0.50	0.86	0.71	1.01	0.15	0.86	0.71	1.01	0.15	0.86	0.71	1.01	0.15	0.86	0.71	1.01	0.15	
D	12	572	12	501	0.51	0.50	1.03	0.52	0.87	0.70	1.03	0.17	0.87	0.70	1.03	0.17	0.87	0.70	1.03	0.17	0.87	0.70	1.03	0.17	
D	13	579	12	31	0.51	0.50	1.02	0.51	0.87	0.69	1.06	0.20	0.87	0.69	1.06	0.20	0.87	0.69	1.06	0.20	0.87	0.69	1.06	0.20	
D	14	570	12	205	0.51	0.50	1.03	0.52	0.87	0.70	1.03	0.16	0.87	0.70	1.03	0.16	0.87	0.70	1.03	0.16	0.87	0.70	1.03	0.16	
D	15	977	15	69	0.51	0.36	1.81	1.30	0.87	0.49	1.81	0.94	0.87	0.49	1.81	0.94	0.87	0.49	1.81	0.94	0.87	0.49	1.81	0.94	
D	16	380	15	12	0.53	0.34	2.09	1.56	0.89	0.47	1.98	1.09	0.89	0.47	1.98	1.09	0.89	0.47	1.98	1.09	0.89	0.47	1.98	1.09	
D	17	504	15	74	0.53	0.35	2.01	1.48	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	
D	18	502	15	490	0.53	0.36	1.87	1.35	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	
D	19	503	15	490	0.53	0.36	1.87	1.35	0.89	0.48	1.88	0.99	0.89	0.48	1.88	0.99	0.89	0.48	1.88	0.99	0.89	0.48	1.88	0.99	
D	20	975	15	134	0.53	0.36	1.88	1.35	0.89	0.49	1.84	0.95	0.89	0.49	1.84	0.95	0.89	0.49	1.84	0.95	0.89	0.49	1.84	0.95	
D	21	443	15	352	0.53	0.36	1.87	1.34	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	0.89	0.49	1.87	0.98	
D	22	381	15	141	0.53	0.38	1.69	1.17	0.89	0.51	1.72	0.83	0.89	0.51	1.72	0.83	0.89	0.51	1.72	0.83	0.89	0.51	1.72	0.83	

Appendix A

Town of Marana
Sewer Infrastructure Improvement Plan (IIP)

Sewer Pipe Capacity Tables

					Existing System				2022 to 2027 (5 Year) without Improvements				2022 to 2027 (5 Year) with Improvements				2027 to 2032 (10 Year) without Improvements				2027 to 2032 (10 Year) with Improvements				
Interceptor Branch	Segment	Model ID	Diameter (in)	Length (ft)	Existing Flow (MGD)	d/D	Existing Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Improvement Notes
E	1	287	12	85	0.19	0.30	0.97	0.78	0.47	0.45	1.11	0.64	0.47	0.45	1.11	0.64	0.39	0.41	1.11	0.72	0.27	0.34	1.11	0.84	
E	2	403	12	500	0.19	0.30	1.01	0.81	0.52	0.51	1.01	0.49	0.52	0.51	1.01	0.49	0.46	0.48	1.01	0.54	0.33	0.39	1.01	0.68	
E	3	402	12	500	0.19	0.30	1.01	0.81	0.52	0.51	1.01	0.49	0.52	0.51	1.01	0.49	0.46	0.48	1.01	0.54	0.33	0.39	1.01	0.68	
E	4	409	12	500	0.19	0.30	1.01	0.81	0.52	0.51	1.01	0.49	0.52	0.51	1.01	0.49	0.46	0.48	1.01	0.54	0.33	0.39	1.01	0.68	
E	5	408	12	500	0.19	0.30	1.01	0.81	0.52	0.51	1.01	0.49	0.52	0.51	1.01	0.49	0.46	0.48	1.01	0.54	0.33	0.39	1.01	0.68	
E	6	407	12	500	0.19	0.30	1.01	0.81	0.57	0.54	1.01	0.43	0.57	0.54	1.01	0.43	0.58	0.54	1.01	0.43	0.45	0.47	1.01	0.56	
E	7	406	12	500	0.19	0.30	1.01	0.81	0.57	0.54	1.01	0.43	0.57	0.54	1.01	0.43	0.58	0.54	1.01	0.43	0.45	0.47	1.01	0.56	
E	8	405	12	487	0.19	0.25	1.38	1.18	0.57	0.45	1.38	0.80	0.57	0.45	1.38	0.80	0.58	0.45	1.38	0.80	0.45	0.39	1.38	0.93	
E	9	404	12	39	0.21	0.32	0.98	0.76	0.58	0.56	0.98	0.40	0.58	0.56	0.98	0.40	0.59	0.56	0.98	0.39	0.46	0.48	0.98	0.52	
E	10	4004	12	24	0.23	0.32	1.05	0.83	0.60	0.45	1.41	0.81	0.60	0.45	1.41	0.81	0.61	0.46	1.41	0.80	0.47	0.40	1.41	0.94	
E	11	400	12	23	0.23	0.31	1.09	0.85	0.60	0.53	1.08	0.48	0.60	0.53	1.08	0.48	0.61	0.54	1.08	0.47	0.48	0.47	1.08	0.60	
E	12	965	12	337	0.29	0.39	0.92	0.63	0.65	0.62	0.93	0.28	0.65	0.62	0.93	0.28	0.67	0.63	0.93	0.26	0.54	0.55	0.93	0.39	
E	13	86	12	158	0.31	0.40	0.92	0.61	0.66	0.63	0.92	0.25	0.66	0.63	0.92	0.25	0.68	0.64	0.92	0.24	0.55	0.56	0.92	0.37	
E	14	91	12	355	0.31	0.40	0.92	0.61	0.66	0.63	0.92	0.25	0.66	0.63	0.92	0.25	0.68	0.64	0.92	0.24	0.55	0.56	0.92	0.37	
E	15	90	12	465	0.31	0.40	0.92	0.61	0.66	0.63	0.92	0.26	0.66	0.63	0.92	0.26	0.68	0.64	0.92	0.24	0.55	0.56	0.92	0.37	
E	16	89	12	299	0.35	0.42	0.93	0.58	0.70	0.66	0.92	0.21	0.70	0.66	0.92	0.21	0.72	0.67	0.92	0.20	0.59	0.58	0.92	0.33	
E	17	88	12	349	0.35	0.43	0.92	0.57	0.72	0.66	0.94	0.22	0.72	0.66	0.94	0.22	0.79	**0.71**	0.94	0.14	0.67	0.62	0.94	0.27	
E	18	87	12	335	0.35	0.43	0.92	0.56	0.72	0.67	0.92	0.20	0.72	0.67	0.92	0.20	0.80	**0.72**	0.92	0.12	0.67	0.63	0.92	0.25	
E	19	96	12	319	0.36	0.43	0.92	0.57	0.73	0.68	0.91	0.18	0.73	0.68	0.91	0.18	0.80	**0.73**	0.91	0.11	0.68	0.64	0.91	0.23	
E	20	81	15	288	0.37	0.32	1.67	1.31	0.74	0.46	1.71	0.97	0.74	0.46	1.71	0.97	0.81	0.48	1.71	0.90	0.68	0.44	1.71	1.03	
E	21	80	15	84	0.37	0.32	1.65	1.28	0.74	0.47	1.66	0.92	0.74	0.47	1.66	0.92	0.81	0.49	1.66	0.84	0.69	0.45	1.66	0.97	
F	1	79	15	448	0.65	0.43	1.73	1.08	1.08	0.57	1.74	0.66	1.08	0.57	1.74	0.66	1.35	0.66	1.74	0.39	1.22	0.62	1.74	0.52	
F	2	78	15	501	0.65	0.42	1.76	1.10	1.08	0.57	1.75	0.68	1.08	0.57	1.75	0.68	1.35	0.66	1.75	0.41	1.22	0.61	1.75	0.53	
F	3	77	15	500	0.65	0.42	1.82	1.16	1.08	0.55	1.82	0.74	1.08	0.55	1.82	0.74	1.35	0.64	1.82	0.47	1.22	0.60	1.82	0.60	
F	4	76	15	500	0.65	0.41	1.89	1.24	1.08	0.54	1.89	0.81	1.08	0.54	1.89	0.81	1.35	0.62	1.89	0.54	1.22	0.59	1.89	0.67	
F	5	75	15	501	0.65	0.42	1.75	1.10	1.08	0.57	1.76	0.68	1.08	0.57	1.76	0.68	1.35	0.66	1.76	0.41	1.22	0.61	1.76	0.54	
F	6	74	15	500	0.65	0.43	1.73	1.07	1.08	0.57	1.73	0.65	1.08	0.57	1.73	0.65	1.35	0.66	1.73	0.38	1.22	0.62	1.73	0.51	
F	7	73	15	499	0.65	0.41	1.83	1.17	1.08	0.55	1.83	0.76	1.08	0.55	1.83	0.76	1.35	0.64	1.83	0.49	1.22	0.60	1.83	0.61	
F	8	72	15	500	0.65	0.42	1.75	1.09	1.08	0.57	1.74	0.66	1.08	0.57	1.74	0.66	1.35	0.66	1.74	0.40	1.22	0.62	1.74	0.52	
F	9	71	15	499	0.65	0.40	1.90	1.25	1.08	0.54	1.90	0.82	1.08	0.54	1.90	0.82	1.35	0.62	1.90	0.56	1.22	0.58	1.90	0.68	
F	10	962	15	476	0.65	0.43	1.70	1.05	1.08	0.58	1.70	0.63	1.08	0.58	1.70	0.63	1.35	0.67	1.70	0.36	1.22	0.63	1.70	0.48	
G	1	970	18	563	0.27	0.20	3.08	2.81	1.87	0.55	3.19	1.33	1.87	0.55	3.19	1.33	3.49	**1.00**	3.19	-0.30	2.43	0.65	3.19	0.76	
G	2	461	18	500	0.28	0.21	2.97	2.69	1.89	0.58	2.97	1.07	1.89	0.58	2.97	1.07	3.51	**1.00**	2.97	-0.55	2.45	0.69	2.97	0.52	
G	3	460	18	477	0.28	0.20	3.09	2.81	1.99	0.58	3.08	1.09	1.99	0.58	3.08	1.09	3.61	**1.00**	3.08	-0.53	2.54	0.69	3.08	0.54	
G	4	5064	18	80	0.28	0.13	7.66	7.39	1.99	0.40	5.99	4.00													Replaced by Improvement
G	1	459	18	57									1.99	0.49	4.13	2.14	3.61	**0.72**	4.13	0.52	2.54	0.57	4.13	1.59	New Pipe - 2022 to 2027 (5 Year)
G_NEW	2	5120	15	1,369																	1.34	0.64	1.82	0.48	New Pipe - 2027 to 2032 (10 Year)
G_NEW	3	5122	15	516																	1.34	0.61	1.93	0.59	New Pipe - 2027 to 2032 (10 Year)
H	1	978	15	499	0.20	0.24	1.61	1.41	0.35	0.32	1.61	1.26	0.35	0.32	1.61	1.26	0.35	0.32	1.61	1.26	0.35	0.32	1.61	1.26	
H	2	458	15	387	0.23	0.16	3.95	3.72	0.40	0.21	3.96	3.56	0.40	0.21	3.96	3.56	0.40	0.21	3.96	3.56	0.40	0.21	3.96	3.56	
H	3	457	15	394	0.29	0.28	1.65	1.36	0.47	0.36	1.65	1.18	0.47	0.36	1.65	1.18	0.47	0.36	1.65	1.18	0.47	0.36	1.65	1.18	
H	4	456	21	337	0.29	0.19	3.67	3.38	0.47	0.24	3.66	3.20	0.47	0.24	3.66	3.20	0.47	0.24	3.66	3.20	0.47	0.24	3.66	3.20	
H	5	484	12	48	0.29	0.29	1.62	1.33	0.47	0.37	1.63	1.16	0.26	0.27	1.63	1.37	0.26	0.27	1.63	1.37	0.26	0.27	1.63	1.37	
I	1	499	12	349	0.55	0.46	1.26	0.71	2.36	**1.00**	1.26	-1.10	0.28	0.32	1.26	0.98	0.28	0.32	1.26	0.98	0.28	0.32	1.26	0.98	
I	2	498	12	211	0.55	0.45	1.31	0.77	2.36	**1.00**	1.31	-1.05	0.28	0.31	1.31	1.03	0.28	0.31	1.31	1.03	0.28	0.31	1.31	1.03	
I	3	487	15	273	0.59	0.41	1.66	1.07	2.41	**1.00**	1.63	-0.78	0.34	0.31	1.63	1.29	0.34	0.31	1.63	1.29	0.34	0.31	1.63	1.29	
I	4	497	15	400	0.59	0.43	1.57	0.97	2.41	**1.00**	1.57	-0.84	0.34	0.31	1.57	1.23	0.34	0.31	1.57	1.23	0.34	0.31	1.57	1.23	
I	5	496	15	164	0.61	0.42	1.64	1.03	2.42	**1.00**	1.63	-0.79	0.35	0.31	1.63	1.28	0.35	0.31	1.63	1.28	0.35	0.31	1.63	1.28	
I	6	495	15	380	0.61	0.41	1.70	1.10	2.42	**1.00**	1.70	-0.72	0.35	0.31	1.70	1.35	0.35	0.31	1.70	1.35	0.35	0.31	1.70	1.35	
I	7	494	15	406	0.61	0.42	1.65	1.04	2.42	**1.00**	1.65	-0.77	0.35	0.31	1.65	1.30	0.35	0.31	1.65	1.30	0.35	0.31	1.65	1.30	
I	8	493	15	171	0.61	0.43	1.60	1.00	2.42	**1.00**	1.61	-0.81	0.35	0.32	1.61	1.26	0.35	0.32	1.61	1.26	0.35	0.32	1.61	1.26	
I	9	492	15	219	0.61	0.43	1.57	0.97	2.63	**1.00**	1.57	-1.06	0.59	0.42	1.57	0.98	0.59	0.42	1.57	0.98	0.59	0.42	1.57	0.98	
I	10	491	15	500	0.61	0.43	1.61	1.00	2.63	**1.00**	1.61	-1.02	0.59	0.42	1.61	1.02	0.59	0.42	1.61	1.02	0.59	0.42	1.61	1.02	
I	11	490	15	500	0.61	0.43	1.59	0.98	2.63	**1.00**	1.58	-1.04	0.59	0.42	1.58	0.99	0.59	0.42	1.58	0.99	0.59	0.42	1.58	0.99	
I	12	489	15	131	0.61	0.40	1.83	1.22	2.63	**1.00**	1.80	-0.83	0.59	0.39	1.80	1.21	0.59	0.39	1.80	1.21	0.59	0.39	1.80	1.21	
I	13	488	15	40	0.61	0.34	2.38	1.77	2.63	**1.00**	2.50	-0.13	0.59	0.33	2.50	1.91	0.59	0.33	2.50	1.91	0.59	0.33	2.50	1.91	
I_NEW	1	500	21	77									0.21	0.15	4.06	3.85	0.21	0.15	4.06	3.85	0.21	0.15	4.06	3.85	New Pipe - 2022 to 2027 (5 Year)
I_NEW	2	455	21	318									2.16	0.51	4.11	1.96	3.76	**0.75**	4.11	0.35	3.88	**0.77**	4.11	0.23	New Pipe - 2022 to 2027 (5 Year)
I_NEW	3	5018	21	815									2.16	0.50	4.38	2.22	3.76	**0.71**	4.38	0.61	3.88	**0.73**	4.38	0.49	New Pipe - 2022 to 2027 (5 Year)
I_NEW	4	5014	21	2,028									2.16	0.44	5.35	3.19	3.76	0.62	5.35	1.58	3.88	0.63	5.35	1.47	New Pipe - 2022 to 2027 (5 Year)
I_NEW	5	5012	21	1,740									2.16	0.44	5.45	3.29	3.76	0.61	5.45	1.68	3.88	0.62	5.45	1.57	New Pipe - 2022 to 2027 (5 Year)
J	1	382	15	359	1.06	0.57	1.74	0.67	3.36	**1.00**	1.87	-1.49	1.38	0.64	1.87	0.49	1.38	0.64	1.87	0.49	1.38	0.64	1.87	0.49	
J	2	383	15	400	1.06	0.51	2.04	0.98	3.36	**1.00**	1.93	-1.43	1.38	0.63	1.93	0.54	1.38	0.63	1.93	0.54	1.38	0.63	1.93	0.54	
J	3	384	15	500	1.06	0.54	1.87	0.81	3.36	**1.00**	1.87	-1.50													Replaced by Improvement
J	4	385	15	500	1.06	0.56	1.77	0.70	3.36	**1.00**	1.77	-1.59													Replaced by Improvement
J	5	442	15	500	1.06	0.52	1.97	0.91	3.36	**1.00**	1.98	-1.39													Replaced by Improvement
J	6	441	15	500	1.06	0.54	1.87	0.81	3.36	**1.00**	1.88	-1.49													Replaced by Improvement
J	7	440	15	500	1.06	0.54	1.87	0.81	3.36	**1.00**	1.87	-1.49													Replaced by Improvement
J	8	439	15	260	1.06	0.51	2.06	1.00	3.36	**1.00**	2.06	-1.30													Replaced by Improvement
J	9	967	15	492	1.07	0.56	1.78	0.71	3.42	**1.00**	1.84	-1.58													Replaced by Improvement
J	10	100	15	500	1.07	0.54	1.87	0.80	3.42	**1.00**	1.81	-1.61													Replaced by Improvement
J	11	99	15	500	1.07	0.54	1.87	0.80	3.42	**1.00**	1.87	-1.55													Replaced by Improvement
J	12	98	15	500	1.07	0.54	1.87	0.80	3.42	**1.00**	1.87	-1.55													Replaced by Improvement
J	13	97	18	537	1.07	0.40	3.18	2.11	3.42	**1.00**	3.18	-0.25													Replaced by Improvement
J	14	963	18	139	1.07	0.48	2.31	1.24	3.42	**1.00**	2.31	-1.11													Replaced by Improvement
J	15	39	18	44	1.07	0.46	2.51	1.44	3.42	**1.00**	2.48	-0.94													Replaced by Improvement

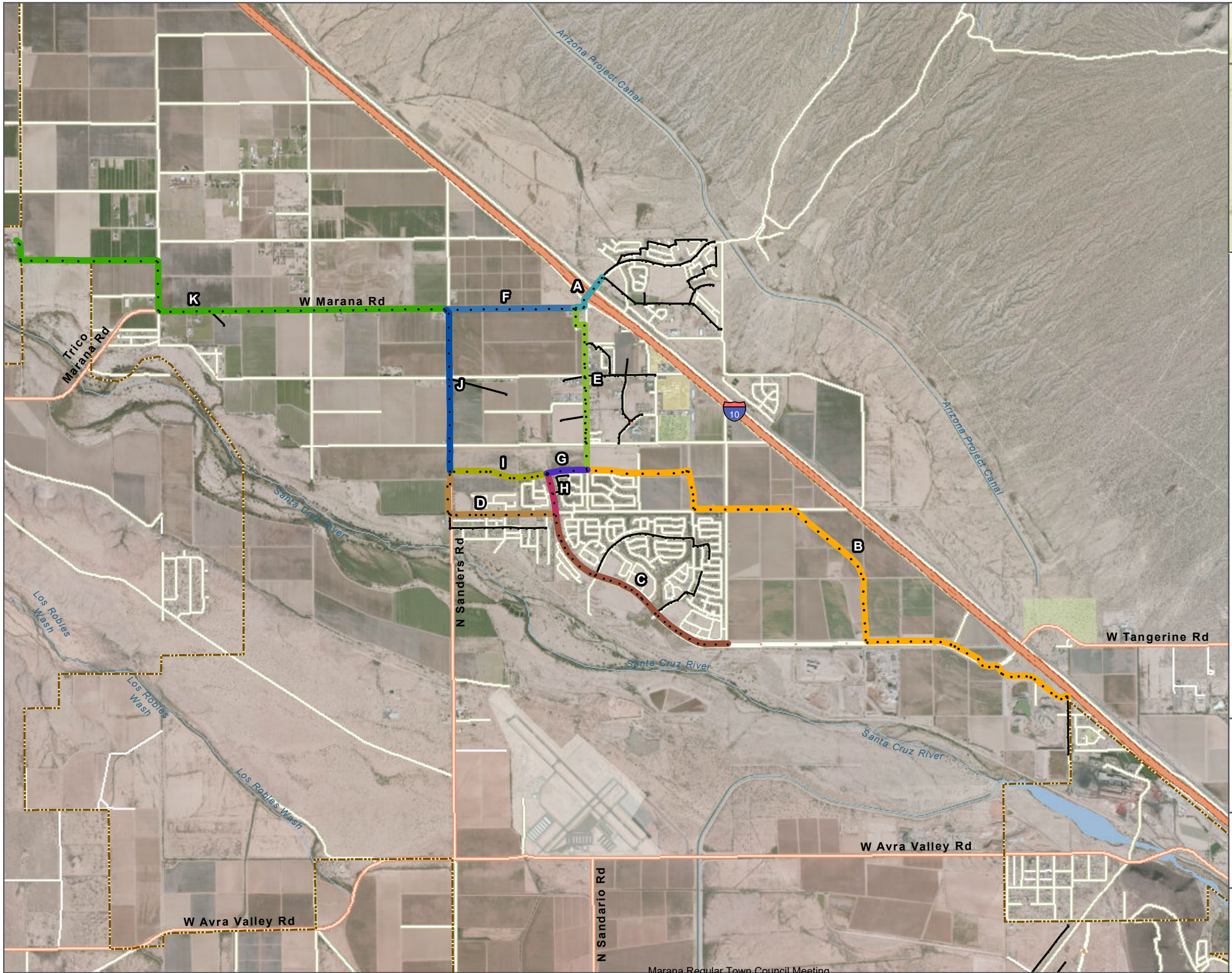
Appendix A

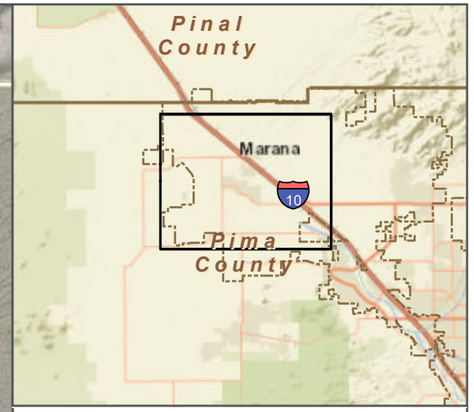
Town of Marana
Sewer Infrastructure Improvement Plan (IIP)

Sewer Pipe Capacity Tables

					Existing System				2022 to 2027 (5 Year) without Improvements				2022 to 2027 (5 Year) with Improvements				2027 to 2032 (10 Year) without Improvements				2027 to 2032 (10 Year) with Improvements				
Interceptor Branch	Segment	Model ID	Diameter (in)	Length (ft)	Existing Flow (MGD)	d/D	Existing Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Projected Flow (MGD)	d/D	Projected Capacity (MGD)	Excess Capacity Available (MGD)	Improvement Notes
J_NEW	1	5104	27	308									1.38	0.16	26.57	25.19	1.38	0.16	26.57	25.19	1.38	0.16	26.57	25.19	New Pipe - 2022 to 2027 (5 Year)
J_NEW	2	5010	27	1,245									3.36	0.46	7.84	4.48	4.92	0.57	7.84	2.92	5.04	0.58	7.84	2.80	New Pipe - 2022 to 2027 (5 Year)
J_NEW	3	5008	27	1,342									3.36	0.47	7.55	4.19	4.92	0.59	7.55	2.63	5.04	0.60	7.55	2.51	New Pipe - 2022 to 2027 (5 Year)
J_NEW	4	5006	27	1,338									3.42	0.46	7.76	4.34	4.98	0.58	7.76	2.78	5.10	0.59	7.76	2.66	New Pipe - 2022 to 2027 (5 Year)
J_NEW	5	5004	27	1,229									3.44	0.48	7.47	4.02	5.03	0.60	7.47	2.43	5.15	0.61	7.47	2.32	New Pipe - 2022 to 2027 (5 Year)
K	1	61	18	49	1.64	0.61	2.38	0.74	4.33	1.00	2.92	-1.40	1.52	0.51	2.92	1.40	2.16	0.64	2.92	0.77	2.16	0.64	2.92	0.77	
K	2	50	18	494	1.64	0.53	2.94	1.30	4.33	1.00	2.89	-1.44	1.64	0.54	2.89	1.24	2.32	0.68	2.89	0.57	2.32	0.68	2.89	0.57	
K	3	59	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.29	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	4	58	18	500	1.64	0.51	3.21	1.57	4.33	1.00	3.06	-1.27	1.64	0.52	3.06	1.42	2.32	0.65	3.06	0.74	2.32	0.65	3.06	0.74	
K	5	57	18	500	1.64	0.54	2.87	1.24	4.33	1.00	3.03	-1.30	1.64	0.52	3.03	1.39	2.32	0.66	3.03	0.71	2.32	0.66	3.03	0.71	
K	6	56	18	500	1.64	0.49	3.40	1.77	4.33	1.00	3.12	-1.21	1.64	0.52	3.12	1.48	2.32	0.64	3.12	0.80	2.32	0.64	3.12	0.80	
K	7	55	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.29	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	8	54	18	500	1.64	0.54	2.89	1.25	4.33	1.00	3.06	-1.27	1.64	0.52	3.06	1.42	2.32	0.65	3.06	0.74	2.32	0.65	3.06	0.74	
K	9	53	18	500	1.64	0.51	3.13	1.50	4.33	1.00	2.98	-1.35	1.64	0.53	2.98	1.34	2.32	0.66	2.98	0.66	2.32	0.66	2.98	0.66	
K	10	52	18	500	1.64	0.56	2.71	1.07	4.33	1.00	2.87	-1.46	1.64	0.54	2.87	1.23	2.32	0.68	2.87	0.55	2.32	0.68	2.87	0.55	
K	11	51	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.29	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	12	961	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.28	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	13	36	18	500	1.64	0.55	2.81	1.17	4.33	1.00	3.02	-1.31	1.64	0.53	3.02	1.38	2.32	0.66	3.02	0.70	2.32	0.66	3.02	0.70	
K	14	35	18	500	1.64	0.53	3.01	1.38	4.33	1.00	2.97	-1.36	1.64	0.53	2.97	1.33	2.32	0.66	2.97	0.65	2.32	0.66	2.97	0.65	
K	15	34	18	500	1.64	0.50	3.29	1.66	4.33	1.00	3.29	-1.04	1.64	0.50	3.29	1.65	2.32	0.62	3.29	0.97	2.32	0.62	3.29	0.97	
K	16	33	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.29	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	17	32	18	500	1.64	0.51	3.21	1.57	4.33	1.00	3.21	-1.12	1.64	0.51	3.21	1.56	2.32	0.63	3.21	0.89	2.32	0.63	3.21	0.89	
K	18	31	18	500	1.64	0.54	2.87	1.24	4.33	1.00	2.88	-1.45	1.64	0.54	2.88	1.23	2.32	0.68	2.88	0.56	2.32	0.68	2.88	0.56	
K	19	30	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.29	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	20	29	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.28	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	21	28	18	500	1.64	0.50	3.28	1.64	4.33	1.00	3.09	-1.24	1.64	0.52	3.09	1.45	2.32	0.65	3.09	0.77	2.32	0.65	3.09	0.77	
K	22	27	18	500	1.64	0.55	2.79	1.15	4.33	1.00	3.15	-1.18	1.64	0.51	3.15	1.51	2.32	0.64	3.15	0.83	2.32	0.64	3.15	0.83	
K	23	26	18	417	1.64	0.52	3.05	1.42	4.33	1.00	3.05	-1.27	1.64	0.52	3.05	1.41	2.32	0.65	3.05	0.73	2.32	0.65	3.05	0.73	
K	24	25	18	72	1.64	0.53	3.01	1.38	4.33	1.00	3.01	-1.32	1.64	0.53	3.01	1.37	2.32	0.66	3.01	0.69	2.32	0.66	3.01	0.69	
K	25	23	18	529	1.64	0.52	3.05	1.41	4.33	1.00	3.05	-1.28	1.64	0.52	3.05	1.41	2.32	0.65	3.05	0.73	2.32	0.65	3.05	0.73	
K	26	22	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.28	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	27	21	18	500	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.28	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.73	2.32	0.65	3.04	0.73	
K	28	20	18	330	1.64	0.52	3.04	1.41	4.33	1.00	3.04	-1.29	1.64	0.52	3.04	1.40	2.32	0.65	3.04	0.72	2.32	0.65	3.04	0.72	
K	29	960	18	62	1.64	0.32	7.20	5.56	4.33	0.56	7.16	2.83	1.64	0.33	7.16	5.52	2.32	0.39	7.16	4.84	2.32	0.39	7.16	4.84	
K	30	2	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.59	1.21	4.39	0.67	5.59	1.20	4.49	0.68	5.59	1.10	4.49	0.68	5.59	1.10	
K	31	9	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.58	1.20	4.39	0.67	5.58	1.19	4.49	0.68	5.58	1.09	4.49	0.68	5.58	1.09	
K	32	8	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.59	1.21	4.39	0.67	5.59	1.20	4.49	0.68	5.59	1.10	4.49	0.68	5.59	1.10	
K	33	7	24	600	1.64	0.37	5.64	4.01	4.37	0.66	5.64	1.27	4.39	0.66	5.64	1.25	4.49	0.67	5.64	1.16	4.49	0.67	5.64	1.16	
K	34	6	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.58	1.21	4.39	0.67	5.58	1.20	4.49	0.68	5.58	1.10	4.49	0.68	5.58	1.10	
K	35	5	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.59	1.21	4.39	0.67	5.59	1.20	4.49	0.68	5.59	1.10	4.49	0.68	5.59	1.10	
K	36	4	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.58	1.21	4.39	0.67	5.58	1.19	4.49	0.68	5.58	1.10	4.49	0.68	5.58	1.10	
K	37	3	24	600	1.64	0.37	5.58	3.95	4.37	0.67	5.58	1.21	4.39	0.67	5.58	1.19	4.49	0.68	5.58	1.09	4.49	0.68	5.58	1.09	
K	38	959	24	406	1.64	0.37	5.59	3.95	4.37	0.67	5.59	1.22	4.39	0.67	5.59	1.20	4.49	0.68	5.59	1.10	4.49	0.68	5.59	1.10	
K	39	14	24	49	1.64	0.37	5.51	3.88	4.37	0.68	5.41	1.04	4.39	0.68	5.41	1.02	4.49	0.69	5.41	0.92	4.49	0.69	5.41	0.92	
K	40	16	24	583	1.64	0.37	5.56	3.93	4.37	0.67	5.57	1.20	4.39	0.67	5.57	1.18	4.49	0.68	5.57	1.08	4.49	0.68	5.57	1.08	
K	41	15	24	54	1.64	0.37	5.63	3.99	4.37	0.66	5.67	1.30	4.39	0.66	5.67	1.28	4.49	0.67	5.67	1.19	4.49	0.67	5.67	1.19	
K	42	4002	24	5	1.64	0.17	25.39	23.76	4.37	0.38	14.42	10.05	4.39	0.38	14.42	10.03	6.58	0.47	14.42	7.84	6.58	0.47	14.42	7.84	
L_NEW	1	5058	27	1,211									2.82	0.44	7.06	4.24	4.01	0.54	7.06	3.06	4.01	0.54	7.06	3.06	New Pipe - 2022 to 2027 (5 Year)
L_NEW	2	5060	27	1,424									2.91	0.43	7.52	4.61	4.25	0.54	7.52	3.27	4.25	0.54	7.52	3.27	New Pipe - 2022 to 2027 (5 Year)
L_NEW	3	5056	27	5,243									2.91	0.43	7.59	4.68	4.25	0.53	7.59	3.34	4.25	0.53	7.59	3.34	New Pipe - 2022 to 2027 (5 Year)
L_NEW	4	5054	27	5,807									2.95	0.36	10.70	7.75	4.55	0.46	10.70	6.15	4.55	0.46	10.70	6.15	New Pipe - 2022 to 2027 (5 Year)
L_NEW	5	5052	27	5,257																	2.27	0.33	9.43	7.16	New Pipe - 2027 to 2032 (10 Year)
L_NEW	1	5100	27	684									2.95	0.38	9.46	6.51	2.28	0.33	9.46	7.19	2.28	0.33	9.46	7.19	New Pipe - 2022 to 2027 (5 Year)

Appendix B: Sewer Collection System Capacity Figures





- Marana Town Limit
- Manhole
- Sewer Line

Sewer Interceptor

- Branch A
- Branch B
- Branch C
- Branch D
- Branch E
- Branch F
- Branch G
- Branch H
- Branch I
- Branch J
- Branch K

SEWER INFRASTRUCTURE IMPROVEMENT PLAN (IIP)

SEWER COLLECTION SYSTEM CAPACITY
EXISTING CONDITIONS

N

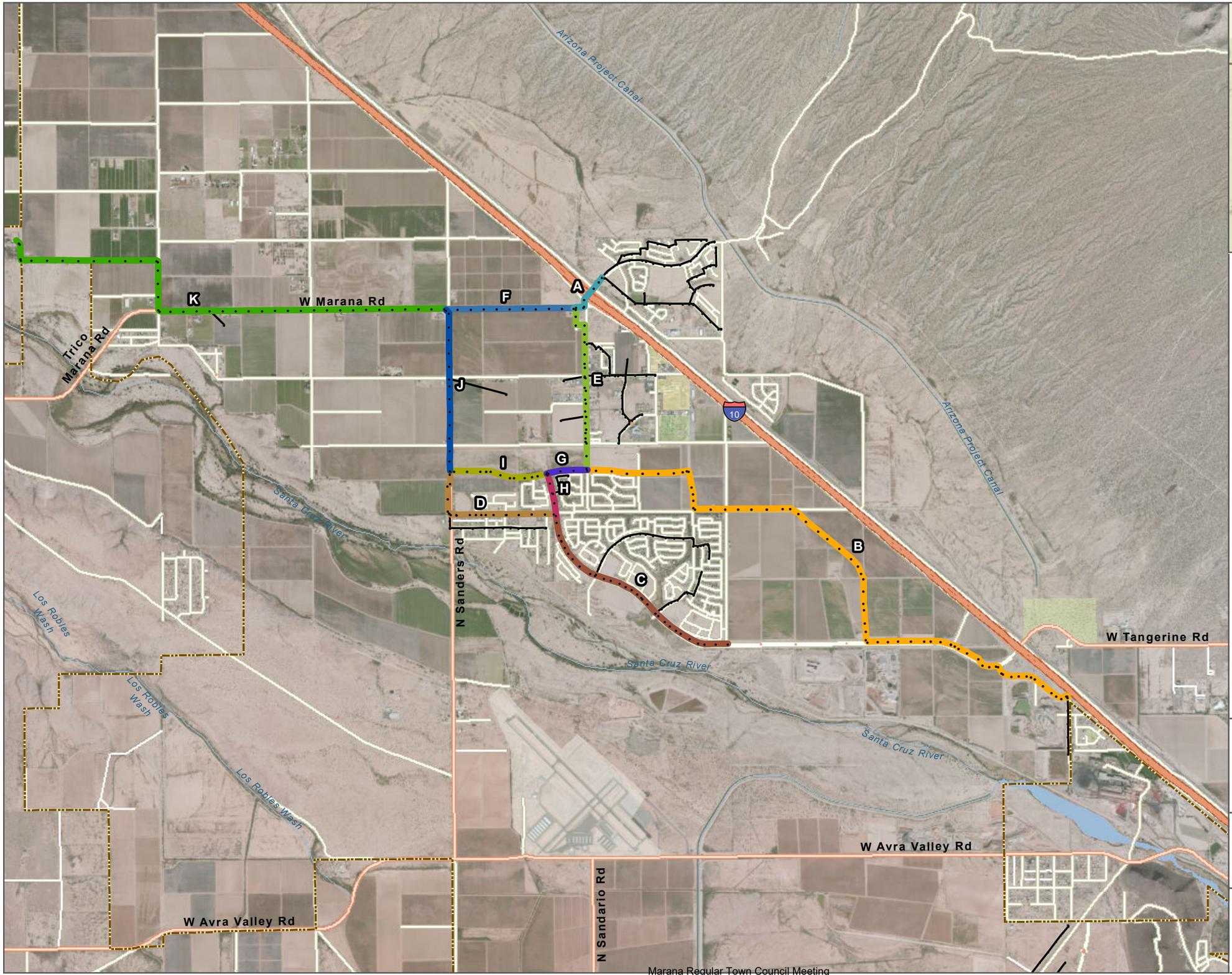
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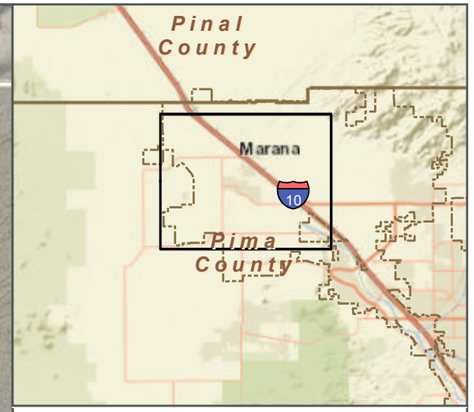
MARANA AZ WATER

HDR

FIGURE A-1

PATH: C:\GABE\PWISE_EXPORT\TEMP\MARANA_SEWERIIP\MARANASEWERIIP_V2.MXD - USER: GALVARAD - DATE: 3/15/2022





- Marana Town Limit
- Manhole
- Sewer Line
- Sewer Interceptor d/D > 0.70

Sewer Interceptor

- Branch A
- Branch B
- Branch C
- Branch D
- Branch E
- Branch F
- Branch G
- Branch H
- Branch I
- Branch J
- Branch K

SEWER INFRASTRUCTURE IMPROVEMENT PLAN (IIP)

SEWER COLLECTION SYSTEM CAPACITY
2022 TO 2027 (5 YEAR)
WITHOUT IMPROVEMENTS

N

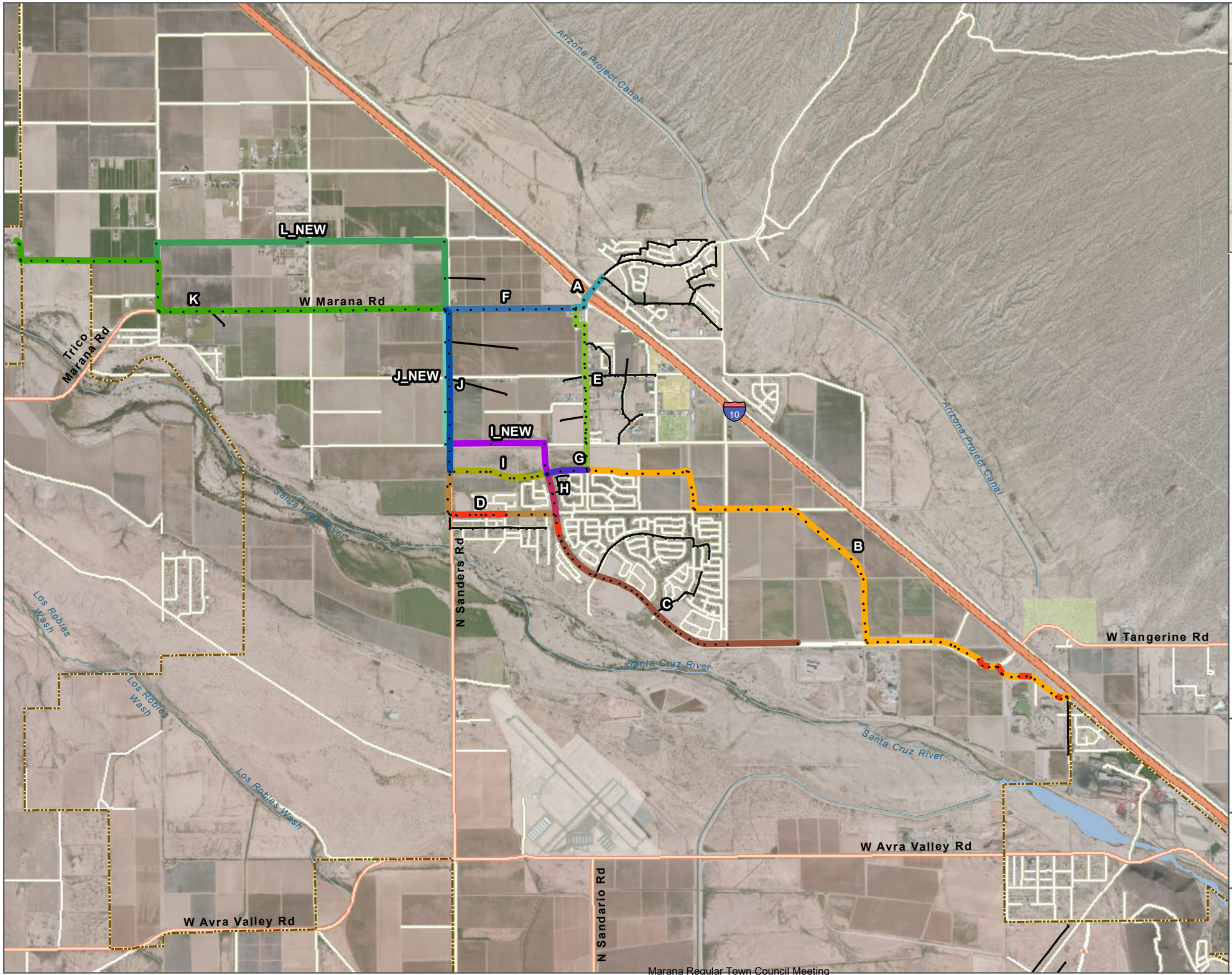
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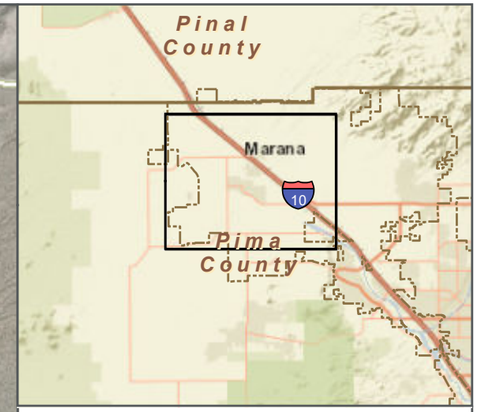
MARANA AZ WATER

HDR

FIGURE A-2

PATH: C:\GABE\PWISE_EXPORT\TEMP\MARANA_SEWERIIP\MARANASEWERIIP_V2.MXD - USER: GALVARAD - DATE: 3/15/2022





- Marana Town Limit
- Manhole
- Sewer Line
- Sewer Interceptor d/D > 0.70

Sewer Interceptor

- Branch A
- Branch B
- Branch C
- Branch D
- Branch E
- Branch F
- Branch G
- Branch H
- Branch I
- New Branch I
- Branch J
- New Branch J
- Branch K
- New Branch L

SEWER INFRASTRUCTURE IMPROVEMENT PLAN (IIP)

SEWER COLLECTION SYSTEM CAPACITY
2022 TO 2027 (5 YEAR)
WITH IMPROVEMENTS

N

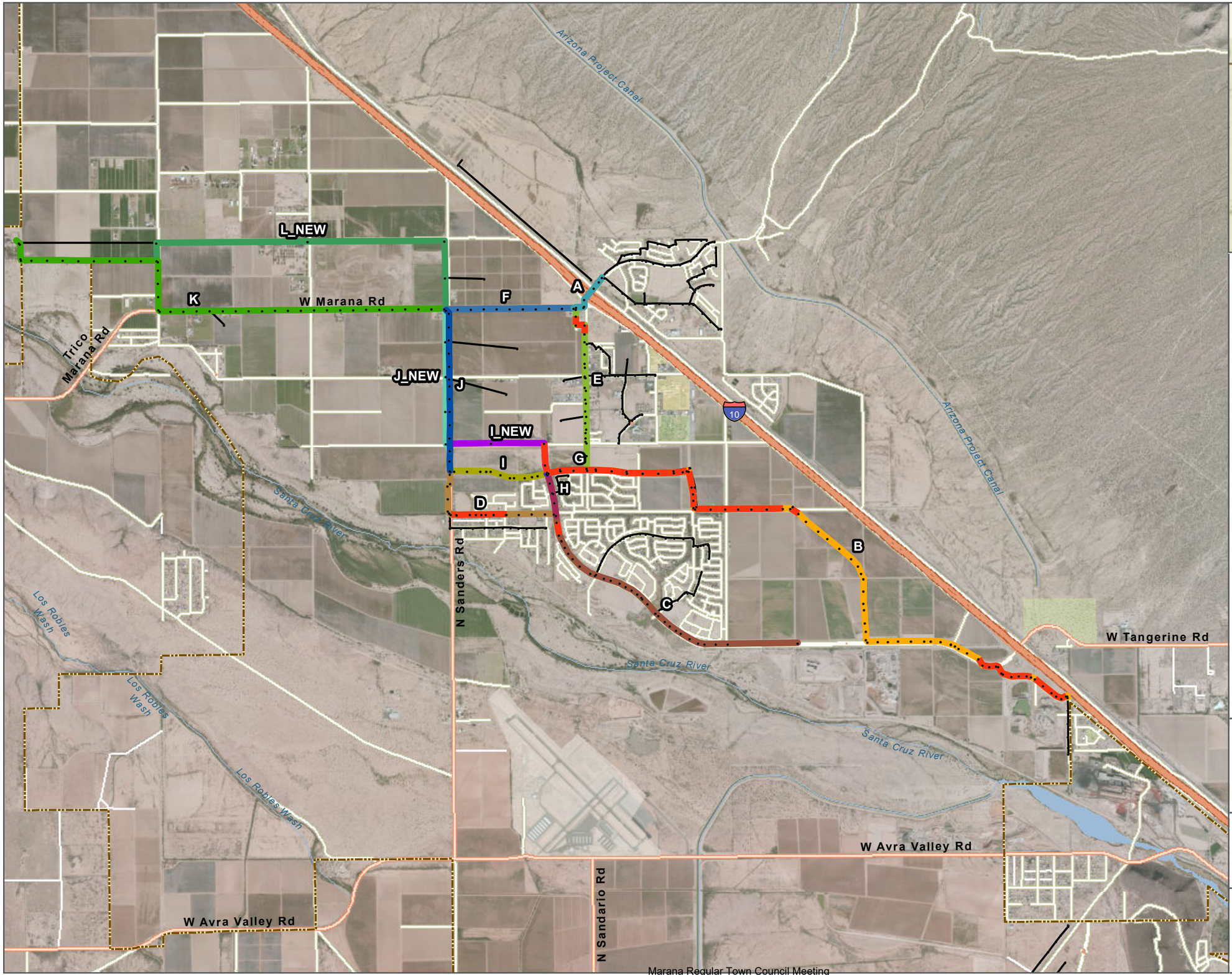
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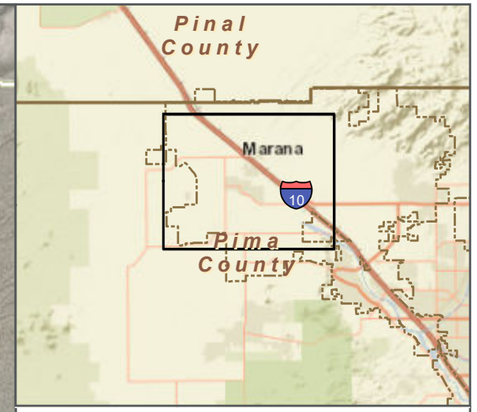
MARANA AZ WATER

HDR

FIGURE A-3

PATH: C:\GABE\PWISE_EXPORT\TEMP\MARANA_SEWERIIP\MARANASEWERIIP_V2.MXD - USER: GALVARAD - DATE: 3/15/2022





- Marana Town Limit
- Manhole
- Sewer Line
- Sewer Interceptor d/D > 0.70

Sewer Interceptor

- Branch A
- Branch B
- Branch C
- Branch D
- Branch E
- Branch F
- Branch G
- Branch H
- Branch I
- New Branch I
- Branch J
- New Branch J
- Branch K
- New Branch L

SEWER INFRASTRUCTURE IMPROVEMENT PLAN (IIP)

SEWER COLLECTION SYSTEM CAPACITY
2027 TO 2032 (10 YEAR)
WITHOUT IMPROVEMENTS

N

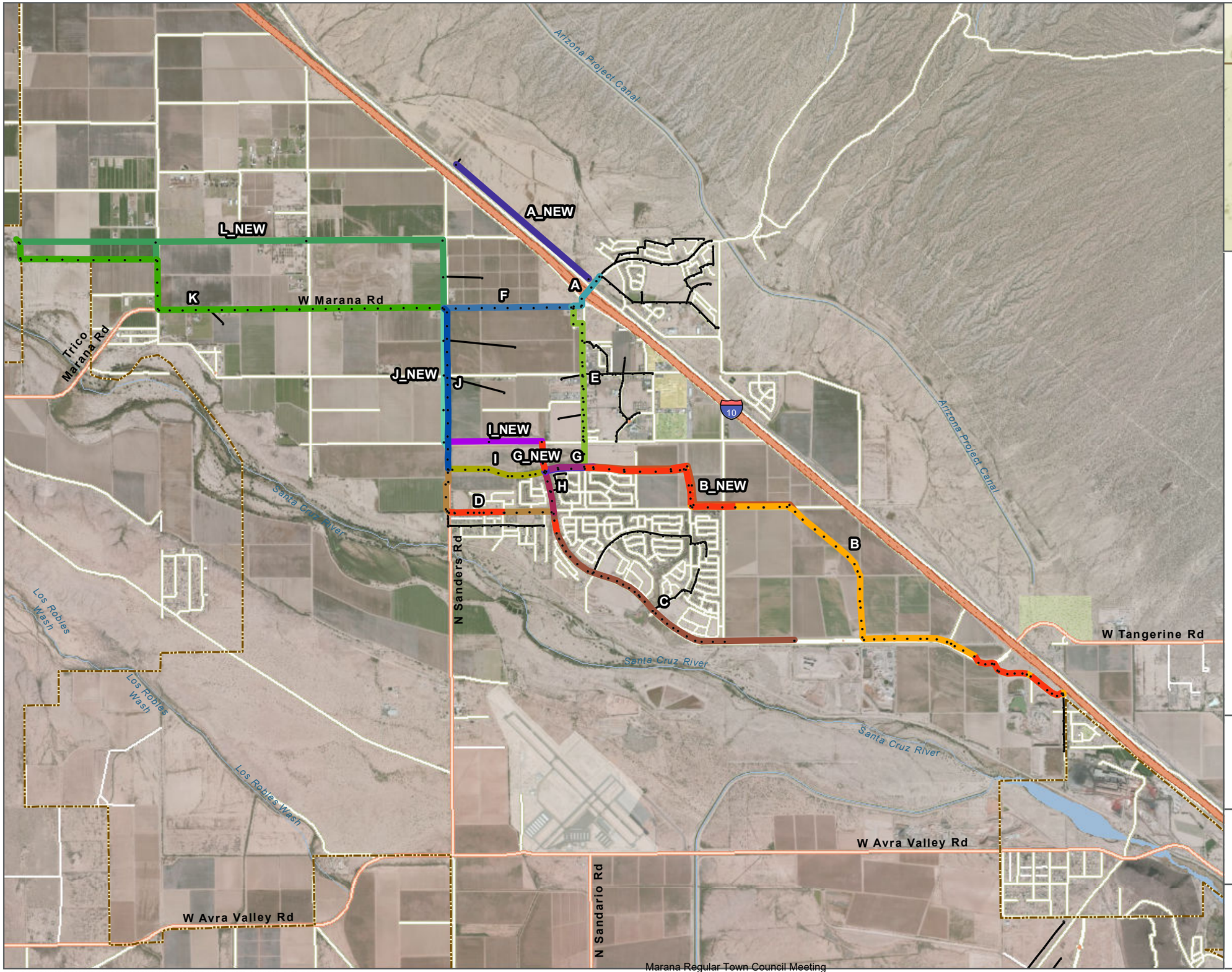
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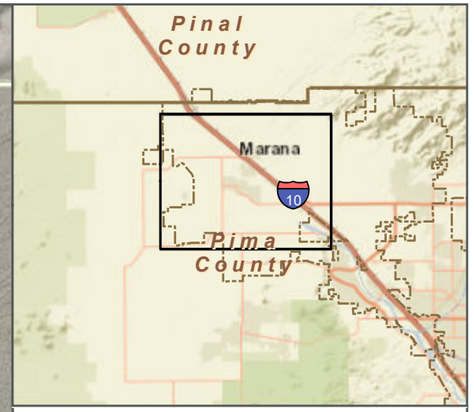
MARANA AZ WATER

HDR

FIGURE A-4

PATH: C:\GABE\PWISE_EXPORT\TEMP\MARANA_SEWERIIP\MARANASEWERIIP_V2.MXD - USER: GALVARAD - DATE: 3/15/2022





- Marana Town Limit
- Manhole
- Sewer Line
- Sewer Interceptor d/D > 0.70

Sewer Interceptor

- Branch A
- New Branch A
- Branch B
- New Branch B
- Branch C
- Branch D
- Branch E
- Branch F
- Branch G
- New Branch G
- Branch H
- Branch I
- New Branch I
- Branch J
- New Branch J
- Branch K
- New Branch L

SEWER INFRASTRUCTURE IMPROVEMENT PLAN (IIP)

SEWER COLLECTION SYSTEM CAPACITY
2027 TO 2032 (10 YEAR)
WITH IMPROVEMENTS

N

0 0.5 1
MILES

MARANA AZ
WATER

HDR

FIGURE A-5

PATH: C:\GABE\PWISE_EXPORT\TEMP\MARANA_SEWERIIP\MARANASEWERIIP_V2.MXD - USER: GALVARAD - DATE: 3/15/2022

Appendix C: CIP Cost Tables

Town of Marana Sewer IIP
CIP Cost Summary

		Construction Costs			Contractor Costs							Other Costs			
			Contingency		Mob/ Demob	General Conditions	Overhead	Bonds + Insurance		Profit		Sales Tax		Design	
Year	ID	Direct Costs	25%	Sub-Total	1%	8%	10%	2%	Sub-Total	6%	Sub-Total	8.1%	Sub-Total	8%	Total
2022-2027	3	$1,451,000	$362,750	**$1,813,750**	$18,138	$145,100	$197,699	$43,494	**$2,218,180**	$133,091	**$2,351,271**	$190,453	**$2,541,724**	$203,338	**$2,745,062**
	4	$1,620,810	$405,203	**$2,026,013**	$20,260	$162,081	$220,835	$48,584	**$2,477,773**	$148,666	**$2,626,439**	$212,742	**$2,839,181**	$227,134	**$3,066,315**
	5	$897,000	$224,250	**$1,121,250**	$11,213	$89,700	$122,216	$26,888	**$1,371,266**	$82,276	**$1,453,542**	$117,737	**$1,571,279**	$125,702	**$1,696,982**
	6	$1,604,000	$401,000	**$2,005,000**	$20,050	$160,400	$218,545	$48,080	**$2,452,075**	$147,124	**$2,599,199**	$210,535	**$2,809,735**	$224,779	**$3,034,513**
	7	$1,782,000	$445,500	**$2,227,500**	$22,275	$178,200	$242,798	$53,415	**$2,724,188**	$163,451	**$2,887,639**	$233,899	**$3,121,538**	$249,723	**$3,371,261**
	8	$20,700,000	$5,175,000	**$25,875,000**	$258,750	$2,070,000	$2,820,375	$620,483	**$31,644,608**	$1,898,676	**$33,543,284**	$2,717,006	**$36,260,290**	$2,900,823	**$39,161,113**
														TOTAL (2022 - 2027)	**$53,075,246**
2027-2032	9	$1,604,000	$401,000	**$2,005,000**	$20,050	$160,400	$218,545	$48,080	**$2,452,075**	$147,124	**$2,599,199**	$210,535	**$2,809,735**	$224,779	**$3,034,513**
	10	$3,071,000	$767,750	**$3,838,750**	$38,388	$307,100	$418,424	$92,053	**$4,694,714**	$281,683	**$4,976,397**	$403,088	**$5,379,486**	$430,359	**$5,809,844**
	11	$2,379,000	$594,750	**$2,973,750**	$29,738	$237,900	$324,139	$71,311	**$3,636,837**	$218,210	**$3,855,047**	$312,259	**$4,167,306**	$333,384	**$4,500,690**
														TOTAL (2027 - 2032)	**$13,345,048**
														TOTAL	**$66,420,294**

Gravity Pipe

Improvement ID: 3

Design Parameters:

Pipe Length	3600 FT
Pipe Size	24 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:		$1,451,000									$1,451,000

Construction Costs	
Construction	$1,451,000
Contingency @ 25%	$362,750
Subtotal Construction Cost	**$1,813,750**
Contractor Costs	
Mob/Demob (1%)	$18,138
General Conditions (8%)	$145,100
Overhead (10%)	$197,699
Bonds + Insurance (2%)	$43,494
Profit (6%)	$133,091
Subtotal Contractor Cost	**$537,521**
Other Costs	
Sales Tax (8.1%)	$190,453
Engineering Design (8%)	$203,338
Subtotal Other Costs	**$393,791**
Total Project Cost	**$2,745,062**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	3600	$331	$1,192,320
Manholes	EA	9	$28,750	$258,750
Sub-Total				**$1,451,000**
Contingency (25%)				$362,750
Subtotal Construction Cost				**$1,813,750**

Gravity Pipe

Improvement ID: 4

Design Parameters:

Pipe Length	5300 FT
Pipe Size	27 IN

Assumptions: 31% of construction costs are assigned to existing 15-inch line, and 69% of construction costs are assigned to the new 27-inch line

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:		$2,349,000									$2,349,000

Construction Costs	
Construction	$1,620,810 (assume 69% of total construction costs)
Contingency @ 25%	$405,203
Subtotal Construction Cost	**$2,026,013**
Contractor Costs	
Mob/Demob (1%)	$20,260
General Conditions (8%)	$162,081
Overhead (10%)	$220,835
Bonds + Insurance (2%)	$48,584
Profit (6%)	$148,666
Subtotal Contractor Cost	**$600,427**
Other Costs	
Sales Tax (8.1%)	$212,742
Engineering Design (8%)	$227,134
Subtotal Other Costs	**$439,876**
Total Project Cost	**$3,066,315**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	5300	$373	$1,974,780
Manholes	EA	13	$28,750	$373,750
Sub-Total				**$2,349,000**
Contingency (25%)				$587,250
Subtotal Construction Cost				**$2,936,250**

Gravity Pipe

Improvement ID: 5

Design Parameters:

Pipe Length	2800 FT
Pipe Size	27 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:		$897,000									$897,000

Construction Costs	
Construction	$897,000
Contingency @ 25%	$224,250
Subtotal Construction Cost	**$1,121,250**
Contractor Costs	
Mob/Demob (1%)	$11,213
General Conditions (8%)	$89,700
Overhead (10%)	$122,216
Bonds + Insurance (2%)	$26,888
Profit (6%)	$82,276
Subtotal Contractor Cost	**$332,292**
Other Costs	
Sales Tax (8.1%)	$117,737
Engineering Design (8%)	$125,702
Subtotal Other Costs	**$243,439**
Total Project Cost	**$1,696,982**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	2800	$248	$695,520
Manholes	EA	7	$28,750	$201,250
Sub-Total				**$897,000**
Contingency (25%)				$224,250
Subtotal Construction Cost				**$1,121,250**

Gravity Pipe

Improvement ID: 6

Design Parameters:

Pipe Length	5300 FT
Pipe Size	27 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:		$1,604,000									$1,604,000

Construction Costs	
Construction	$1,604,000
Contingency @ 25%	$401,000
Subtotal Construction Cost	**$2,005,000**
Contractor Costs	
Mob/Demob (1%)	$20,050
General Conditions (8%)	$160,400
Overhead (10%)	$218,545
Bonds + Insurance (2%)	$48,080
Profit (6%)	$147,124
Subtotal Contractor Cost	**$594,199**
Other Costs	
Sales Tax (8.1%)	$210,535
Engineering Design (8%)	$224,779
Subtotal Other Costs	**$435,314**
Total Project Cost	**$3,034,513**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	5300	$248	$1,316,520
Manholes	EA	10	$28,750	$287,500
Sub-Total				**$1,604,000**
Contingency (25%)				$401,000
Subtotal Construction Cost				**$2,005,000**

Gravity Pipe

Improvement ID: 7

Design Parameters:

Pipe Length	5900 FT
Pipe Size	27 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:		$1,782,000									$1,782,000

Construction Costs	
Construction	$1,782,000
Contingency @ 25%	$445,500
Subtotal Construction Cost	**$2,227,500**
Contractor Costs	
Mob/Demob (1%)	$22,275
General Conditions (8%)	$178,200
Overhead (10%)	$242,798
Bonds + Insurance (2%)	$53,415
Profit (6%)	$163,451
Subtotal Contractor Cost	**$660,139**
Other Costs	
Sales Tax (8.1%)	$233,899
Engineering Design (8%)	$249,723
Subtotal Other Costs	**$483,622**
Total Project Cost	**$3,371,261**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	5900	$248	$1,465,560
Manholes	EA	11	$28,750	$316,250
Sub-Total				**$1,782,000**
Contingency (25%)				$445,500
Subtotal Construction Cost				**$2,227,500**

Marana WRF Expansion

Improvement ID: 8

Design Parameters:

Water Reclamation Facility	1.5 MGD

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:			$2,900,823	$9,000,000	$9,000,000						$20,900,823

Construction Costs	
Construction	$20,700,000
Contingency @ 25%	$5,175,000
Subtotal Construction Cost	**$25,875,000**
Contractor Costs	
Mob/Demob (1%)	$258,750
General Conditions (8%)	$2,070,000
Overhead (10%)	$2,820,375
Bonds + Insurance (2%)	$620,483
Profit (6%)	$1,898,676
Subtotal Contractor Cost	**$7,668,284**
Other Costs	
Sales Tax (8.1%)	$2,717,006
Engineering Design (8%)	$2,900,823
Subtotal Other Costs	**$5,617,829**
Total Project Cost	**$39,161,113**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Treatment	EA	1.5	$13,800,000	$20,700,000
Sub-Total				**$20,700,000**
Contingency (25%)				$5,175,000
Subtotal Construction Cost				**$25,875,000**

Gravity Pipe

Improvement ID: 9

Design Parameters:

Pipe Length	5300 FT
Pipe Size	27 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:									$1,604,000		$1,604,000

Construction Costs	
Construction	$1,604,000
Contingency @ 25%	$401,000
Subtotal Construction Cost	**$2,005,000**
Contractor Costs	
Mob/Demob (1%)	$20,050
General Conditions (8%)	$160,400
Overhead (10%)	$218,545
Bonds + Insurance (2%)	$48,080
Profit (6%)	$147,124
Subtotal Contractor Cost	**$594,199**
Other Costs	
Sales Tax (8.1%)	$210,535
Engineering Design (8%)	$224,779
Subtotal Other Costs	**$435,314**
Total Project Cost	**$3,034,513**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	5300	$248	$1,316,520
Manholes	EA	10	$28,750	$287,500
Sub-Total				**$1,604,000**
Contingency (25%)				$401,000
Subtotal Construction Cost				**$2,005,000**

Gravity Pipe

Improvement ID: 10

Design Parameters:

Pipe Length	11500 FT
Pipe Size	15 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:									$3,071,000		$3,071,000

Construction Costs	
Construction	$3,071,000
Contingency @ 25%	$767,750
Subtotal Construction Cost	**$3,838,750**
Contractor Costs	
Mob/Demob (1%)	$38,388
General Conditions (8%)	$307,100
Overhead (10%)	$418,424
Bonds + Insurance (2%)	$92,053
Profit (6%)	$281,683
Subtotal Contractor Cost	**$1,137,647**
Other Costs	
Sales Tax (8.1%)	$403,088
Engineering Design (8%)	$430,359
Subtotal Other Costs	**$833,447**
Total Project Cost	**$5,809,844**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	11500	$207	$2,380,500
Manholes	EA	24	$28,750	$690,000
Sub-Total				**$3,071,000**
Contingency (25%)				$767,750
Subtotal Construction Cost				**$3,838,750**

Gravity Pipe, Lift Station, and Force Main

Improvement ID: 11

Design Parameters:

Pipe Length	6800 FT
Pipe Size	18 IN
Lift Station	210 gpm
	0.3024 MGD
Force Main	6800 FT
Force Main Size	6 IN

Assumptions:

Fiscal Year:	**22/23**	**23/24**	**24/25**	**25/26**	**26/27**	**27/28**	**28/29**	**29/30**	**30/31**	**31/32**	**Total**
CIP Budget:									$2,379,000		$2,379,000

Construction Costs	
Construction	$2,379,000
Contingency @ 25%	$594,750
Subtotal Construction Cost	**$2,973,750**
Contractor Costs	
Mob/Demob (1%)	$29,738
General Conditions (8%)	$237,900
Overhead (10%)	$324,139
Bonds + Insurance (2%)	$71,311
Profit (6%)	$218,210
Subtotal Contractor Cost	**$881,297**
Other Costs	
Sales Tax (8.1%)	$312,259
Engineering Design (8%)	$333,384
Subtotal Other Costs	**$645,643**
Total Project Cost	**$4,500,690**

Construction Costs	**Unit**	**Quantity**	**Unit Cost**	**Extended Cost**
Gravity Pipe	LF	6800	$248	$1,689,120
Manholes	EA	24	$28,750	$690,000
Lift Station	MGD	0.302	$690,000	$208,656
Force Main	LF	6800	$55	$375,360
Sub-Total				**$2,379,000**
Contingency (25%)				$594,750
Subtotal Construction Cost				**$2,973,750**

Proposed Land Use Assumptions and Infrastructure Improvement Plan Adoption

Fausto Burruel, PE
Public Works Director

September 20, 2022

Background on Impact Fees

- Authorized under ARS §9-463.05
- Can only be used (and credits given) for new improvements, not maintenance
- Can NOT be used to improve existing deficiencies – only build equivalent level of service
- Must be for a proportionate share
- Land use assumptions and infrastructure improvement plans shall be updated at least every five years

Land Use Assumptions

Changes to Land Use Assumptions

1. Table of Contents – date updated.
2. Page 3 – Tables 1 and 2 now reflect most recent census data.
3. Page 4 – date updated.
4. Page 9- date updated; Table 4 Medical use added to table.
5. Page 10 – text added to explain the difference between the estimated future population and Arizona State Demographers; Table 5 – table values have changed slightly

Streets Infrastructure Improvement Plan

Changes to Streets IIP

1. Page 3 – added text for clarification and defines project categories and explanation for Table1, this continues on Page 5.
2. Page 7 – References newly added Table in Appendix C.
3. Page 11 – corrected square footage of non-residential building area.
4. Page 13 – added clarification text for sales tax credit.
5. Appendix B Table – updated last two columns due to Parks IIP update.
6. Appendix C Table – added table to better illustrate cost allocation methodology.

Parks Infrastructure Improvement Plan

Changes to Parks IIP

- All highlighted sections within the document are due to Parks Impact Fees now being associated with non-residential uses.
- Methodology used is similar to Oro Valley and Tucson's.
  - Inflow Commuters vs. Residents to establish cost allocation percentage (96% Residential vs 4% Non-Residential).
  - Service Unit for Non Residential developments is based on jobs.
- SFR Residential Fee identified in the DRAFT document presented on 8/3/2022 reflected $2,656.00/EDU.
- SFR Updated Residential Fee $2,529.63/EDU for SFR.
- New Non-Residential Fees range from $9.00 - $870.00 per 1,000 sqft based on employment level.

Water and Sewer Infrastructure Improvement Plan – No Changes

Summary of Timeline (Updated)

5/13/2022	Publication of Draft LUA and IIP's
6/23/2022	Stakeholder Outreach Meeting
8/3/2022	Public Hearing for LUA and IIP's
9/20/2022	Council Action on LUA and IIP's
9/23/2022	Notice of Intent to Implement Impact Fees
11/1/2022	Public Hearing for Impact Fees
12/6/2022	Council Action for Impact Fees
2/20/2023	Impact Fees Effective (min 75 days from council action)

Questions/Discussion