MARANA AZ
CELEBRATING 45 YEARS

MARANA TOWN COUNCIL
REGULAR COUNCIL MEETING
NOTICE AND AGENDA
11555 W. Civic Center Drive, Marana, Arizona 85653
Council Chambers, November 15, 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 November 15, 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 November 26, 2022 as "Small Business Saturday" (David L. Udall)

MAYOR AND COUNCIL REPORTS: SUMMARY OF CURRENT EVENTS

MANAGER'S REPORT: SUMMARY OF CURRENT EVENTS

PRESENTATIONS

P1 Relating to Budget; presentation of first quarter results (July-September) for the Town's General Fund and other selected major funds for the 2022-2023 fiscal year (Yiannis Kalaitzidis)

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. 2022-117: Relating to Personnel; Approving and adopting amendments to the Town's Personnel Policies and Procedures, revising Chapter 3 - Classification and Compensation, Policy 3-4 "Payroll Procedures" and Policy 3-12 "Employee Disbursements," multiple policy revisions to Chapter 4 Employment Benefits and Leaves, revising Chapter 5 – Work Rules and Employee Discipline, Section 5-5-5 "Grounds for Disciplinary Action," and revising Chapter 7 Safety and Health, Policy 7-5 "Drug- and Alcohol-free Workplace" (Curry C. Hale)

C2 Resolution No. 2022-118: Relating to Water; approving and authorizing the Town Manager or Water Director to execute the Application for a Modification of Designation of Assured Water Supply (DWR No. 86-402254.0002), and to take all other action necessary to obtain the modification (Jing Luo)

C3 Approval of the Regular Council Meeting Summary Minutes of November 1, 2022 (David L. Udall)

LIQUOR LICENSES

BOARDS, COMMISSIONS AND COMMITTEES

COUNCIL ACTION

A1 PUBLIC HEARING: Ordinance No. 2022.016: Relating to Development; approving a rezoning of approximately 165 acres of land located east of Interstate 10, east and west of Adonis Road, and approximately 1.2 miles north of Tangerine Road from Zone E (Transportation Corridor) to R-4 (Residential), R-5 (Residential), and MR-1 (Multi-Family Residential) (Jason Angell)

A2 PUBLIC HEARING: Ordinance No. 2022.025: Relating to Development; approving a modification to Marana Ordinance No. 2003.19, which rezoned approximately 40 acres of land located generally at the northeast corner of Sanders Road and Moore Road, to delete a provision of the ordinance that required the developer to install dual water lines (Jane Fairall)

A3 PUBLIC HEARING: Ordinance No. 2022.026: Relating to Development; adopting revisions to Title 17 "Land Development" of the Marana Town Code, including adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 “Zoning,” revising Chapter 17-6 “General Development Regulations” to add new section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code; and designating an effective date (Travis Lundell)

Resolution No. 2022-119: Relating to Development; declaring as a public record filed with the Town Clerk the amendments adopted by Ordinance No. 2022.026, revisions to Title 17 “Land Development” of the Marana Town Code, including adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 “Zoning,” revising Chapter 17-6 “General Development Regulations” to add new Section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code (Travis Lundell)

A4 Relating to Mayor and Council; administration of the oath of office for Council Members Herb Kai, Jon Post, Patti Comerford, and John Officer (David L. Udall)

ITEMS FOR DISCUSSION / POSSIBLE ACTION

D1 Resolution No. 2022-120: Relating to Flood Control; endorsing the Pima County Regional Flood Control District Santa Cruz River Management Plan (Fausto Burruel)

D2 Relating to Mayor and Council; selection of the Vice Mayor (David L. Udall)

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: 11/15/2022

Date: November 15, 2022

Subject: Proclamation recognizing November 26, 2022 as "Small Business Saturday" (David L. Udall)

Attachments

Proclamation

MARANA AZ
CELEBRATING 45 YEARS

PROCLAMATION
Recognizing November 26, 2022 as "Small Business Saturday"

WHEREAS, the Town of Marana celebrates our local small businesses and the contributions they make to our local economy and community; and

WHEREAS, according to the United States Small Business Administration: there are 32.5 million small businesses in the United States, small businesses represent 99.7% of firms with paid employees, small businesses are responsible for 62% of net new jobs created since 1995, and small businesses employ 46.8% of the employees in the private sector in the United States; and

WHEREAS, 79% of consumers understand the importance of supporting the small businesses in their community on Small Business Saturday, 70% report the day makes them want to encourage others to shop at small, independently-owned retailers, and 66% report that the day encourages them to Shop Small all year long; and

WHEREAS, 58% of shoppers reported they shopped online with a small business and 54% reported they dined or ordered takeout from a small restaurant, bar, or café on Small Business Saturday in 2021; and

WHEREAS, the Town supports our local businesses that create jobs, boost our local economy, and preserve our communities; and

WHEREAS, advocacy groups, as well as public and private organizations, across the country have endorsed the Saturday after Thanksgiving as Small Business Saturday.

NOW, THEREFORE, Mayor Honea and the Marana Town Council do hereby proclaim November 26, 2022 as **"Small Business Saturday"** in the Town of Marana and invite the residents of our community, and communities across the country, to support small businesses and merchants on Small Business Saturday and throughout the year.

Dated this 15th day of November 2022.

ATTEST:

David L. Udall, Town Clerk

Ed Honea, Mayor

Council-Regular Meeting **P1**

Meeting Date: 11/15/2022

To: Mayor and Council

From: Yiannis Kalaitzidis, Finance Director

Date: November 15, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: Relating to Budget; presentation of first quarter results (July-September) for the Town's General Fund and other selected major funds for the 2022-2023 fiscal year (Yiannis Kalaitzidis)

Discussion:

The purpose of this item is to present a summary of the Town's first quarter financial results (July-September) for the Town's General Fund and other selected major funds for fiscal year 2022-2023. It is important to note that these results are preliminary, unaudited and subject to change based upon adjusting entries, as necessary. The attached provides a high-level revenue and expenditure summary at the end of the current quarter.

Revenue

Overall, revenues are within or above expectations for all funds at this time of the year.

- Revenues for the General Fund are better than expected due to better than anticipated sales taxes in most categories with construction related taxes above forecasts.
- HURF fund and Bed Tax Fund revenues are within expectations, while Half Cent Sales Tax fund revenues which will be used for the multi-generational community and aquatics center is averaging $600,000 per month since its inception.
- Transportation fund revenues are significantly above expectations at this time of year as builders complete home construction and due to a number of large commercial projects. We anticipate this area of revenue to return to lower, normal, levels over the next few quarters.

- Charges for services revenues in the enterprise funds are within expectations for this time of year.

Additional detail on these variances is included within the visualization slides attached to this item.

Expenditures

Expenditures in all funds are at or below expectations. This is partly due to the timing of one-time projects and programs which are expected to occur in future quarters. The Water and Water reclamation funds are within expectations when excluding debt service payments that happen during the first quarter of the fiscal year.

Staff Recommendation:

Presentation of first quarter results only.

Suggested Motion:

Presentation of first quarter results only.

Attachments

FY2022-2023 First Quarter Financial Update

Financial Brief: First Quarter

Fiscal Year

2022 – 2023

Prepared by: Finance Department

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FISCAL YEAR 2022 - 2023 FIRST QUARTER FINANCIAL BRIEF

This financial brief is intended to provide a broad overview and status of revenues and expenditures for the Town's selected major funds through the first quarter of fiscal year 2023 (July 2022 - September 2022). Major funds included in this financial brief are the General Fund, Highway User Revenue Fund (HURF), Bed Tax Fund, Half Cent Sales Tax Fund and Transportation Fund. Also included are the enterprise funds Airport, Water, and Water Reclamation. Please note that all amounts are preliminary, un-audited and subject to change based upon adjusting entries, as necessary.

The table below shows an overview for each fund.

	REVENUES			EXPENDITURES			OVER/UNDER
Fund	FY 2023 Budget	Actual	% Budget	FY 2023 Budget	Actual	% Budget	YTD Over/Under
GENERAL FUND	67,126,259	17,853,132	27%	88,640,610	17,483,418	20%	369,714
HURF	4,807,629	1,149,965	24%	5,358,694	551,224	10%	598,741
TRANSPORTATION FUND	6,850,000	3,221,298	47%	26,964,539	1,723,289	6%	1,498,009
BED TAX FUND	1,338,158	292,553	22%	1,338,158	685,121	51%	-392,568
1/2 CENT SALES TAX	6,000,000	1,809,158	30%	12,000,000	21,070	0%	1,788,088
WATER FUND	9,526,712	2,073,545	22%	12,232,915	2,305,866	19%	-232,321
WATER RECLAMATION FUND	3,862,945	664,056	17%	5,619,363	448,885	8%	215,171
AIRPORT FUND	629,423	72,343	11%	629,423	136,983	22%	-64,640

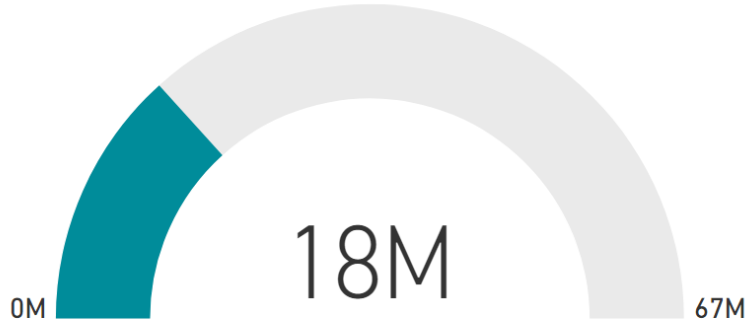
Click HERE for a User Guide and FAQ about this report

FY 2022-2023 FIRST QUARTER: GENERAL FUND REVENUES

Select Revenue or Expense

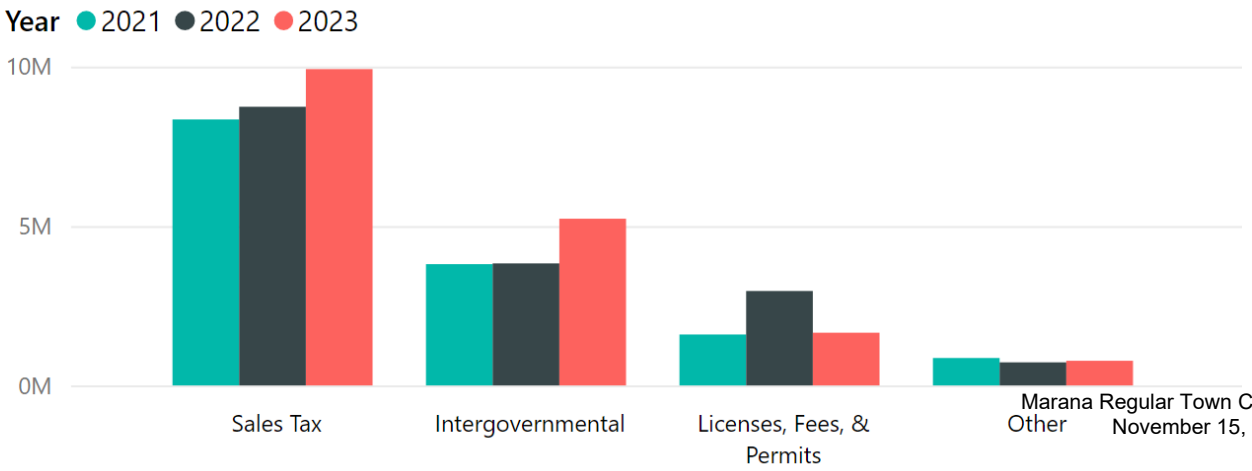
- ☐ EXPENSES
- ■ REVENUES

Category	FY 2023 Budget	Actual	% Budget
Sales Tax	36,215,052	9,920,528	27%
Intergovernmental	20,148,736	5,228,433	26%
Licenses, Fees, & Permits	8,633,000	1,652,615	19%
Charges for Services	807,000	278,955	35%
Other	1,322,471	772,601	58%
Total	**67,126,259**	**17,853,132**	**27%**



General Fund Relevant Information

The General Fund is the Town's primary operating fund. Sales Tax, Intergovernmental Revenues and Licenses, Fees, & Permits make up over 95% of budgeted revenues for the fund. Overall, collections are above expected levels through the first quarter of FY 2023 due to stronger than anticipated sales tax and high contracting taxes which will moderate later in the year. Intergovernmental Revenues include amounts received from the State's shared revenue program and are distributed based upon population estimates and economic conditions. Licenses, Fees, & Permits include Single Family Residential (SFR) permit revenue which is below expectations due to a drop in permits issuance. Other revenues, comprised of various



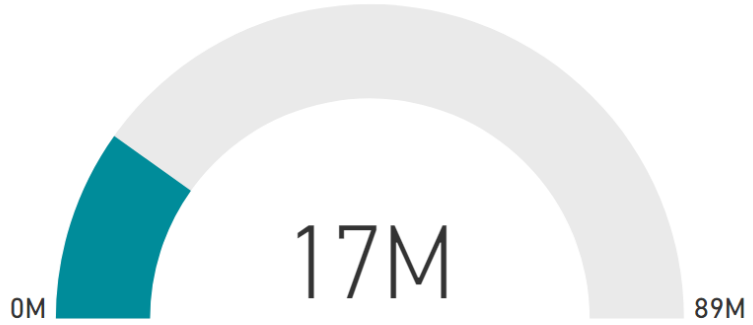
Category	2021	2022	2023
Sales Tax	8,341,938	8,739,534	9,920,528
Intergovernmental	3,803,001	3,826,584	5,228,433
Licenses, Fees, & Permits	1,596,507	2,961,094	1,652,615
Charges for Services	114,132	288,318	278,955
Other	859,253	723,288	772,601
Total	**14,714,831**	**16,538,817**	**17,853,132**

FY 2022-2023 FIRST QUARTER: GENERAL FUND EXPENSES

Select Revenue or Expense

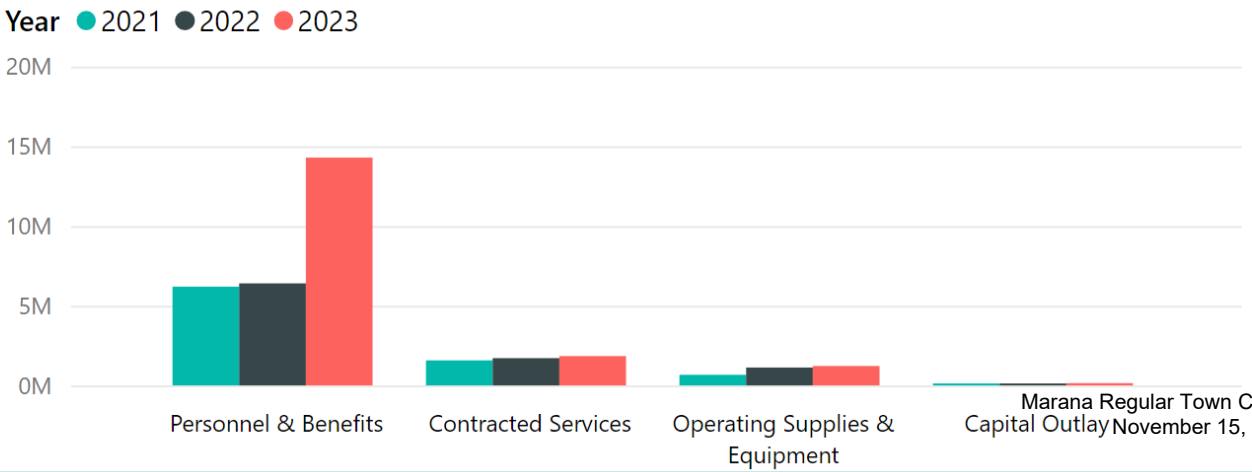
- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Personnel & Benefits	45,770,799	14,288,678	31%
Contracted Services	8,907,208	1,838,098	21%
Operating Supplies & Equipment	7,763,240	1,216,083	16%
Capital Outlay	5,313,023	140,559	3%
Other Financing Uses	20,886,340		
Total	**88,640,610**	**17,483,418**	**20%**



General Fund Relevant Information

General Fund expenses through the first quarter of FY2023 are overall as expected. Personnel & Benefits is currently higher than historical levels due to a one-time $6.0M payment to PSPRS, but also as a result of higher payroll resulting from the Town's compensation study. Capital Outlay is associated with a number of projects and capital equipment purchases many of which will happen later in the fiscal year. Other Financing Uses is related to budgeted transfers which will occur later in the fiscal year.



Category	2021	2022	2023
Personnel & Benefits	6,194,093	6,400,524	14,288,678
Contracted Services	1,570,380	1,709,389	1,838,098
Operating Supplies & Equipm...	665,374	1,120,891	1,216,083
Capital Outlay	13,700	43,175	140,559
Other Financing Uses	6,000	46,411	
Total	**8,449,547**	**9,320,390**	**17,483,418**

FY 2022-2023 FIRST QUARTER: HURF REVENUES

Select Revenue or Expense

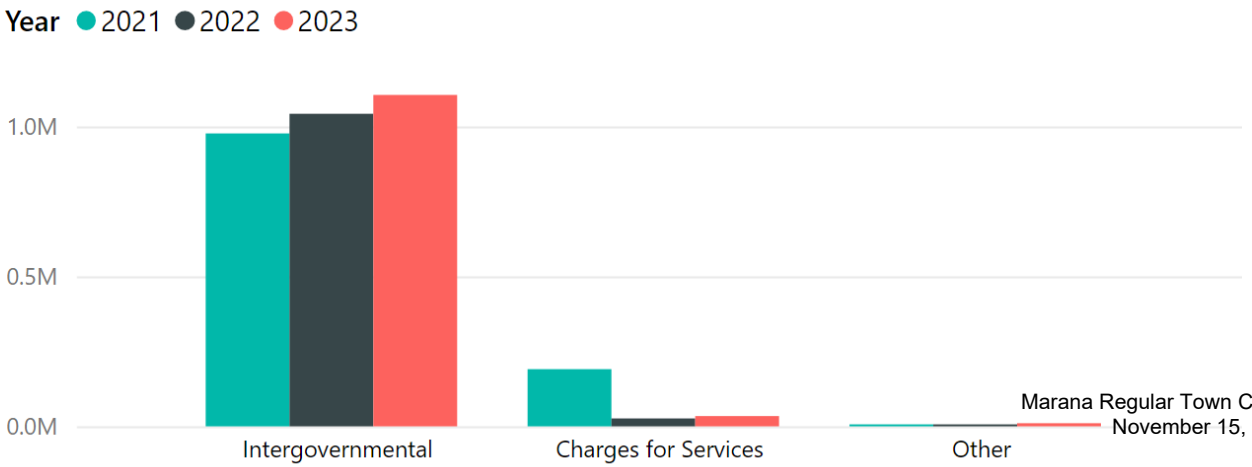
- ☐ EXPENSES
- ■ REVENUES

Category	FY 2023 Budget	Actual	% Budget
Intergovernmental	4,802,629	1,105,388	23%
Charges for Services	0	34,202	0%
Other	5,000	10,375	207%
Total	**4,807,629**	**1,149,965**	**24%**



HURF Relevant Information

The Highway User Revenue Fund or HURF is set by the collection of fees and taxes from users of the State's roads and highways which the State collects. Cities and towns receive a percentage of revenues based on population estimates and gasoline sales within each county. First quarter HURF revenue collections are overall at forecasted levels. Charges for services are payment in lieu of fees collected from third parties to be expended for the preservation of roads. Other revenue is comprised of investment income.



Category	2021	2022	2023
Intergovernmental	976,963	1,042,533	1,105,388
Charges for Services	190,631	26,290	34,202
Other	306	38	10,375
Total	**1,167,900**	**1,068,861**	**1,149,965**

FY 2022-2023 FIRST QUARTER: HURF EXPENSES

Select Revenue or Expense

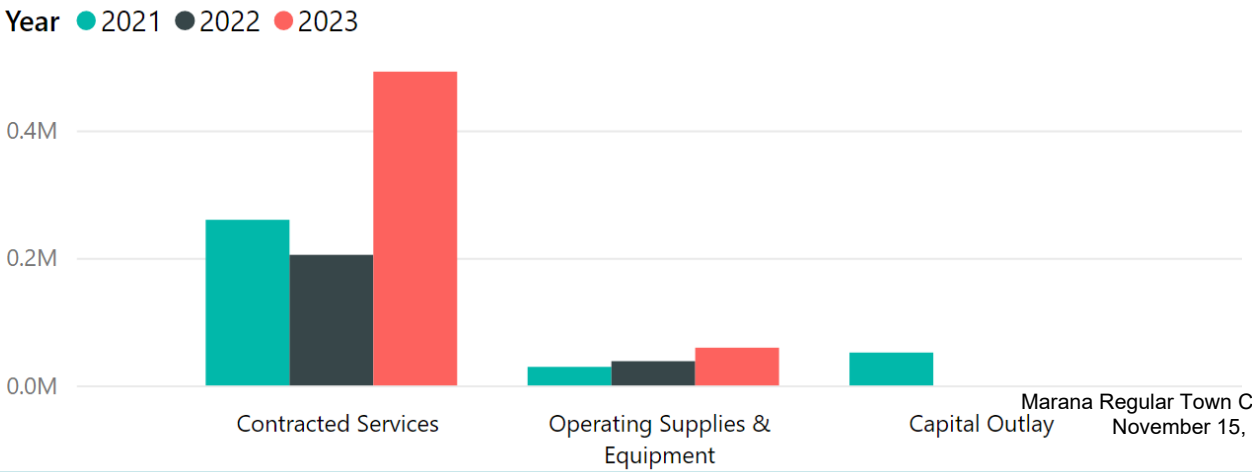
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Category	FY 2023 Budget	Actual	% Budget
Contracted Services	3,939,894	492,070	12%
Operating Supplies & Equipment	287,950	59,155	21%
Capital Outlay	930,850		
Other Financing Uses	200,000		
Total	**5,358,694**	**551,224**	**10%**



HURF Relevant Information

HURF expenses are below budgeted amounts through the first quarter of FY2023. Contracted Services is below budget due to the timing of the Town's Pavement Preservation Program, a portion of which was carried over from the prior year due to material shortages. Operating Supplies & Equipment are in line with expectations as the Town continues the multi-year process of converting to LED street lamps which generate savings in utility costs. Capital Outlay is associated with vehicle/equipment purchases which should be recorded later in the fiscal year. Other Financing Uses is restricted budget for possible monsoon storm damage or other unanticipated needs.



Category	2021	2022	2023
Contracted Services	259,702	204,753	492,070
Operating Supplies & Equipm...	29,070	37,980	59,155
Capital Outlay	51,505		
Total	**340,277**	**242,733**	**551,224**

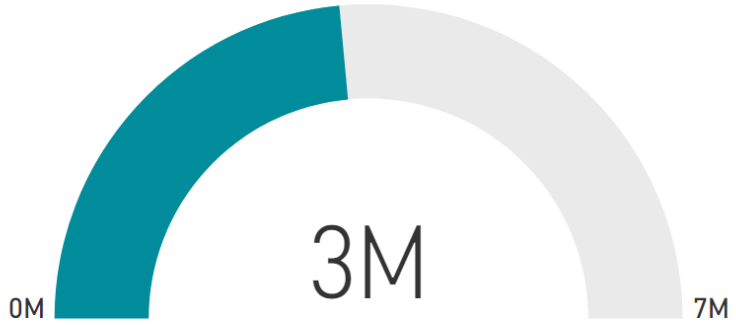
FY 2022-2023 FIRST QUARTER: TRANSPORTATION FUND

REVENUES

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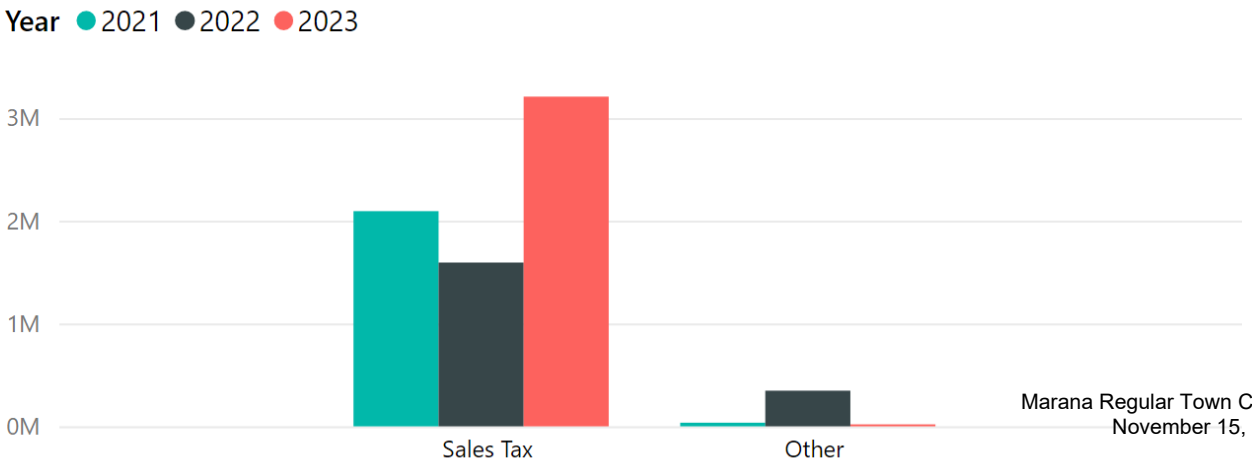
- ☐ EXPENSES
- ■ REVENUES

Category	FY 2023 Budget	Actual	% Budget
Sales Tax	6,750,000	3,207,440	48%
Other	100,000	13,858	14%
Total	**6,850,000**	**3,221,298**	**47%**



Transportation Fund Relevant Information

The Transportation Fund is comprised of 75% of all contracting taxes collected by the Town and is to be used for new road construction and reconstruction projects. First quarter revenue collections are above expectations due to high construction activity throughout the Town as home builders complete home construction. However, permit issuance for Residential housing is 2/3 lower than the same period in the prior year, and as such revenues in this fund should reflect this reduction in future quarters. Other budgeted revenue is comprised of investment income and one-time third party contributions.



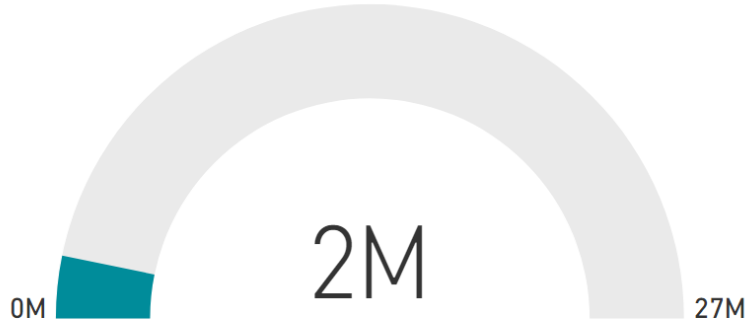
Category	2021	2022	2023
Sales Tax	2,093,305	1,593,309	3,207,440
Other	35,194	346,706	13,858
Total	**2,128,499**	**1,940,015**	**3,221,298**

FY 2022-2023 FIRST QUARTER: TRANSPORTATION FUND EXPENSES

Select Revenue or Expense

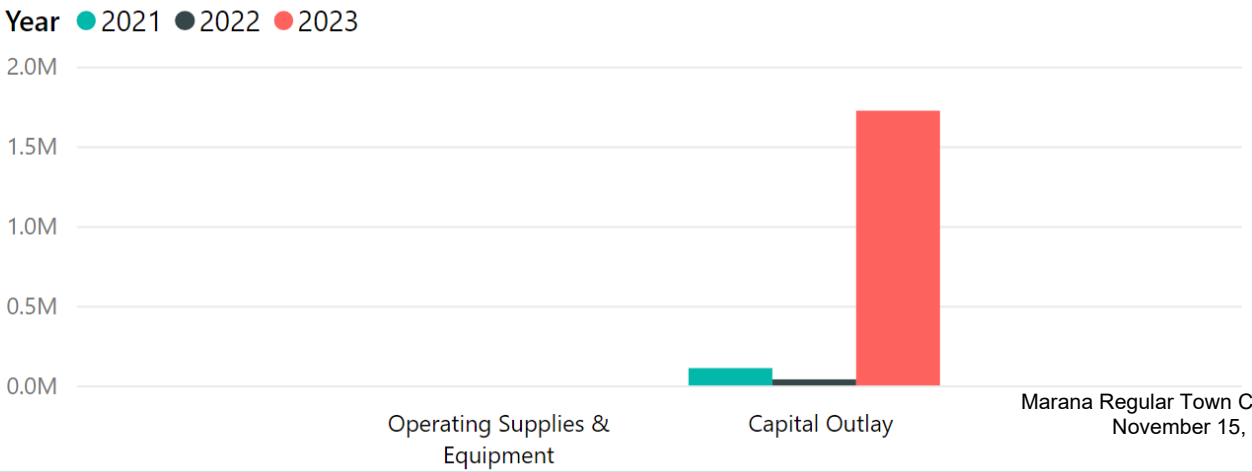
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Category	FY 2023 Budget	Actual	% Budget
Operating Supplies & Equipment	738,500		
Capital Outlay	24,956,356	1,723,188	7%
Debt Service	10,000	100	1%
Other Financing Uses	1,259,683		
Total	**26,964,539**	**1,723,289**	**6%**



Transportation Fund Relevant Information

Transportation Fund expenses are below budgeted levels through the first quarter of FY2023. Operating Supplies & Equipment is associated with ongoing developer reimbursements paid on a semi-annual basis. Capital Outlay is associated with CIP projects which are getting underway. Other Financing Uses is associated with planned transfers related to debt service.



Category	2021	2022	2023
Operating Supplies & Equipm...	0		
Capital Outlay	108,446	37,974	1,723,188
Debt Service	811	798	100
Total	**109,257**	**38,772**	**1,723,289**

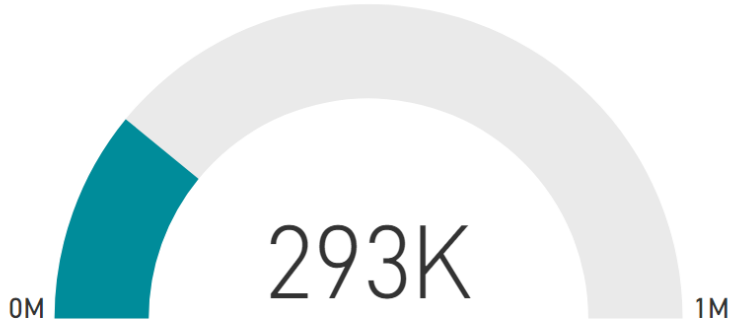
FY 2022-2023 FIRST QUARTER: BED TAX FUND

REVENUES

Select Revenue or Expense

- ☐ EXPENSES
- ■ REVENUES

Category	FY 2023 Budget	Actual	% Budget
Sales Tax	1,338,158	292,553	22%
Total	**1,338,158**	**292,553**	**22%**



Bed Tax Fund Relevant Information

The Bed Tax Fund accounts for the collection of the discriminatory portion of revenues restricted for tourism initiatives. First quarter revenue collections for FY2023 are currently above expectations, as the majority of the Fund's revenue is accumulated during the winter months. Recent month trends indicate these revenues will likely be stabilizing with revenues likely to resemble pre-pandemic levels over the next few months.



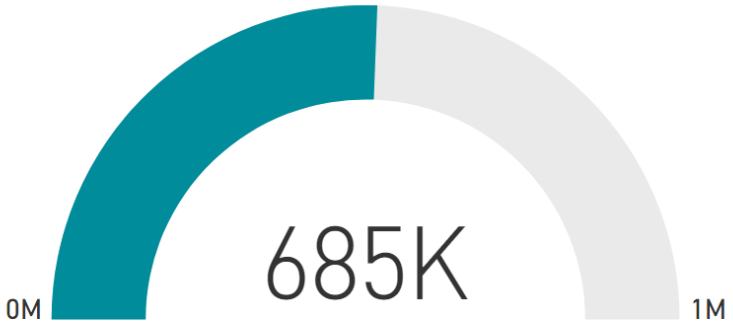
Category	2021	2022	2023
Sales Tax	382,627	312,218	292,553
Total	**382,627**	**312,218**	**292,553**

FY 2022-2023 FIRST QUARTER: BED TAX FUND

EXPENSES

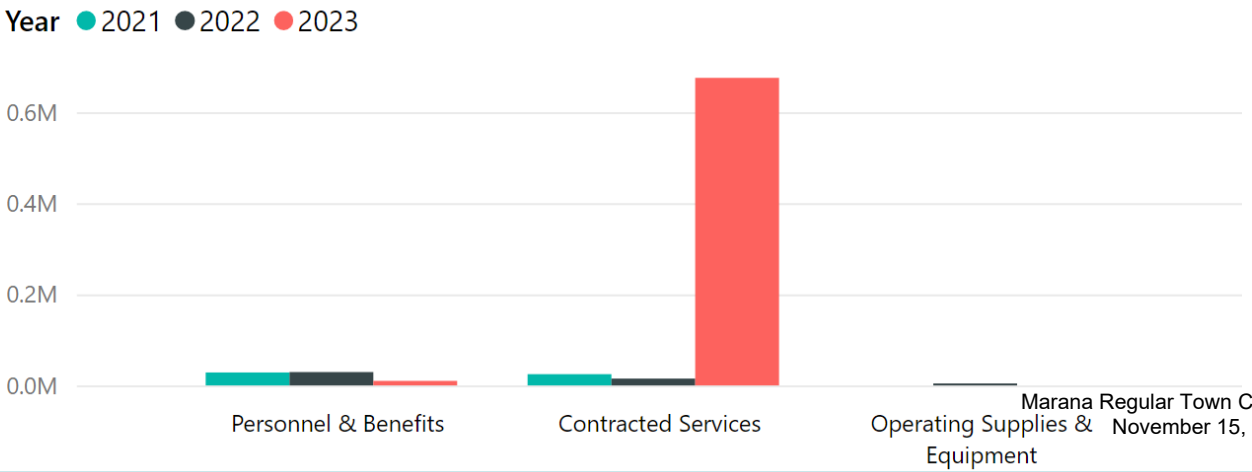
Select Revenue or Expense
- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Personnel & Benefits	152,880	9,892	6%
Contracted Services	957,242	675,228	71%
Operating Supplies & Equipment	145,044		
Other Financing Uses	82,992		
Total	**1,338,158**	**685,121**	**51%**



Bed Tax Fund Relevant Information

As a whole, the Bed Tax Fund is spending it's resources as expected through the first quarter of FY2023. Personnel costs are below expectations due to a vacant position funded with bed tax funding. Increased costs in contracted services is related to the annual State Land lease payment, which was made made in the first quarter this year. Other Financing Uses is restricted budget for unanticipated needs.



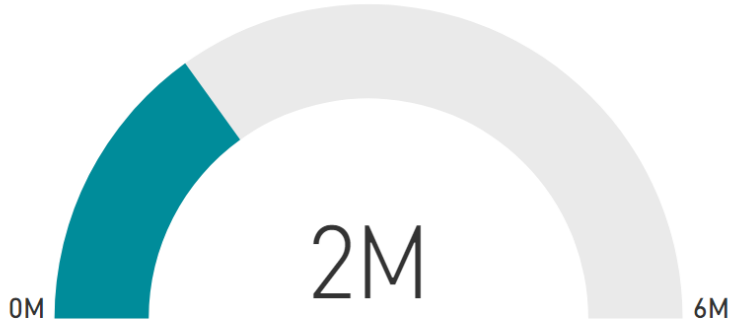
Category	2021	2022	2023
Personnel & Benefits	28,394	29,283	9,892
Contracted Services	24,645	14,982	675,228
Operating Supplies & Equipment		30	
Total	**53,039**	**44,294**	**685,121**

FY 2022-2023 FIRST QUARTER: HALF CENT SALES TAX FUND

REVENUES

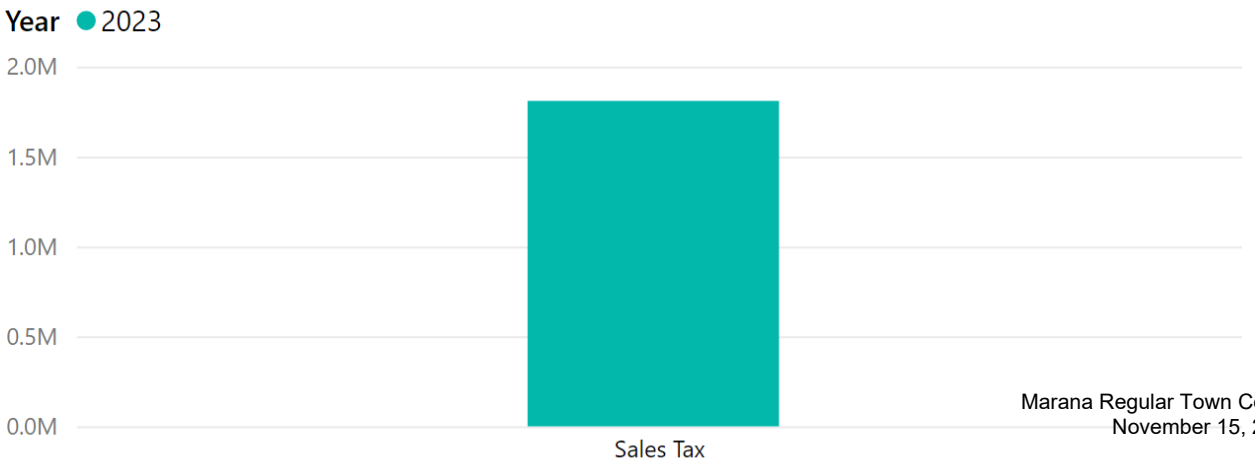
Select Revenue or Expense
- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Sales Tax	6,000,000	1,809,158	30%
Total	**6,000,000**	**1,809,158**	**30%**



1/2 Cent Sales Tax Fund Relevant Information

Town Council adopted Ordinance 2021.022 to amend the Town Tax Code by increasing the tax rate on certain activities by one-half cent for a new multi-general recreation facility. To date, a total of $4.8 million has been collected at a monthly average of about $600,000.



Category	2023
Sales Tax	1,809,158
Total	**1,809,158**

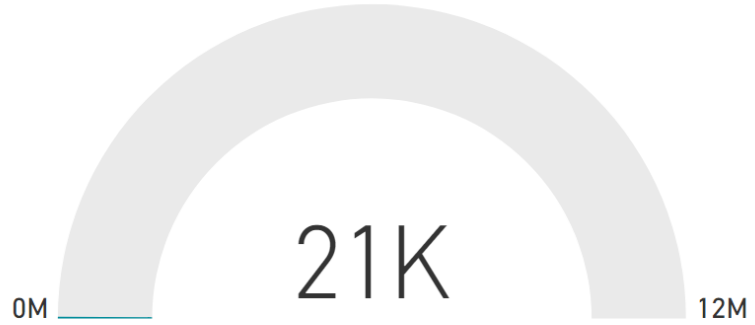
FY 2022-2023 FIRST QUARTER: HALF CENT SALES TAX FUND

EXPENSES

Select Revenue or Expense

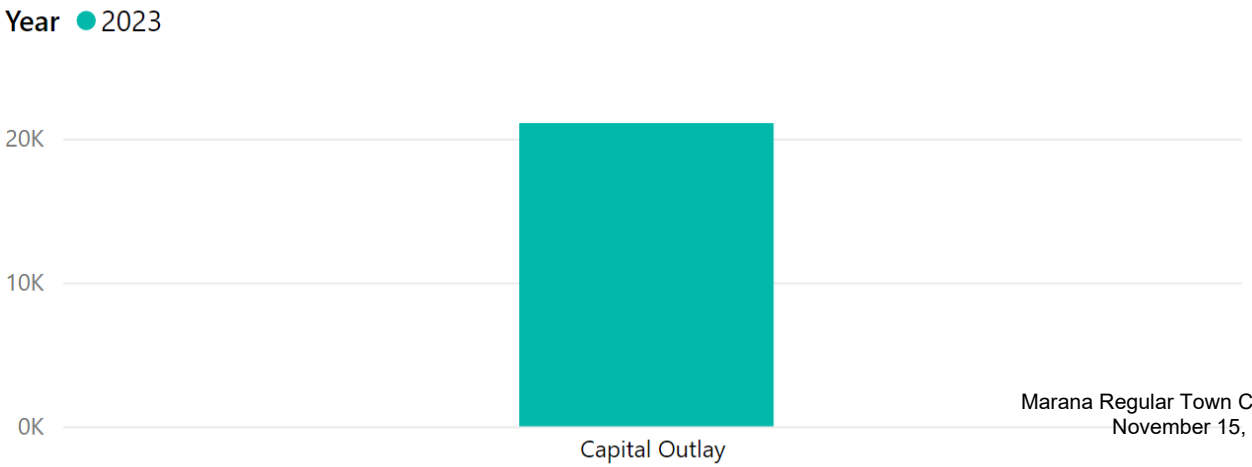
- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Capital Outlay	12,000,000	21,070	0%
Total	**12,000,000**	**21,070**	**0%**



1/2 Cent Sales Tax Fund Relevant Information

The FY2023 budgeted is associated with the design and construction of a new multi-generational recreation facility. As the project gets under way, additional costs will be shown here. Currently the project is in the planning and design phase. Related costs will be reflected in the next fiscal quarter.



Category	2023
Capital Outlay	21,070
Total	**21,070**

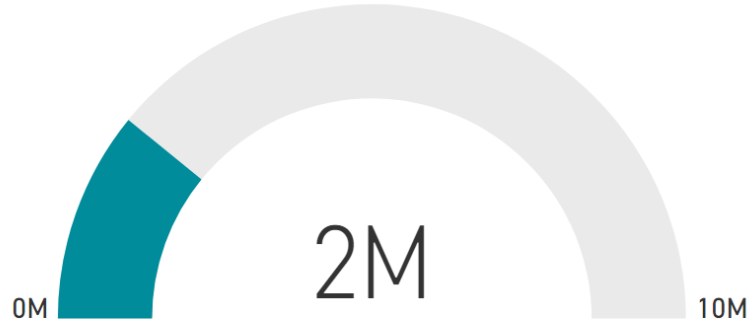
FY 2022-2023 FIRST QUARTER: WATER OPERATING FUND

REVENUES

Select Revenue or Expense

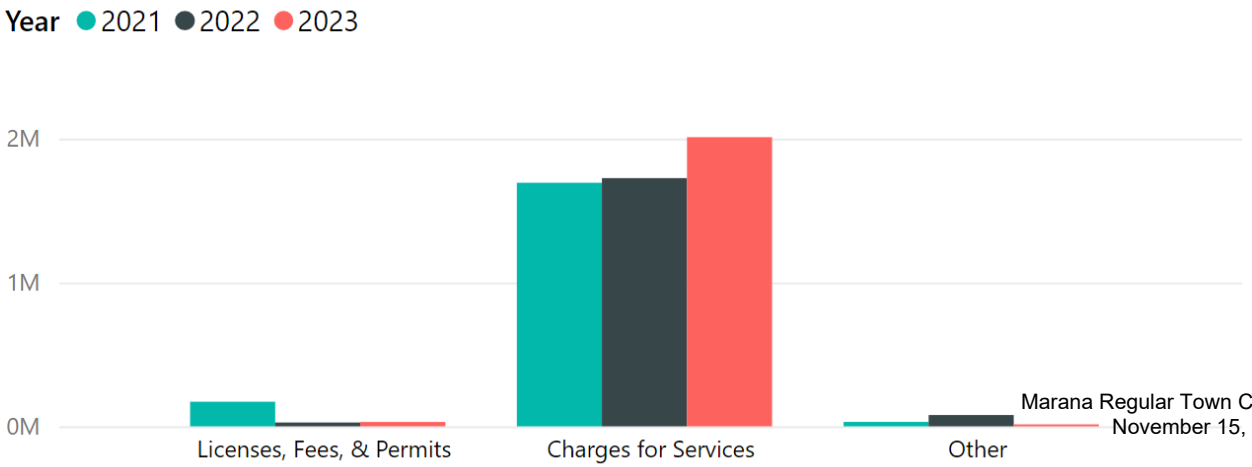
- ☐ EXPENSES
- ■ REVENUES

Category	FY 2023 Budget	Actual	% Budget
Intergovernmental	172,000	0	0%
Licenses, Fees, & Permits	130,000	30,304	23%
Charges for Services	7,856,634	2,031,190	26%
Other	1,368,078	12,051	1%
Total	**9,526,712**	**2,073,545**	**22%**



Water Fund Relevant Information

The current rates and fees for Marana Water customers can be found at - http://www.maranaaz.gov/water-rates-and-fees. Charges for Services (water sales) comprise the majority of the revenue for the fund. First quarter revenue collections are within expectations for FY2023. Other revenue is primarily comprised of planned interfund transfers used for debt service payments.



Category	2021	2022	2023
Licenses, Fees, & Permits	170,888	26,490	30,304
Charges for Services	1,704,077	1,740,154	2,031,190
Other	30,715	78,475	12,051
Total	**1,905,680**	**1,845,119**	**2,073,545**

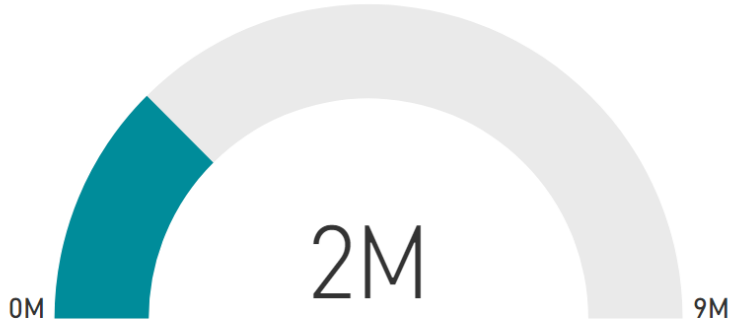
FY 2022-2023 FIRST QUARTER: WATER OPERATING FUND

EXPENSES

Select Revenue or Expense

- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Personnel & Benefits	3,202,451	590,751	18%
Contracted Services	2,140,641	231,543	11%
Operating Supplies & Equipment	2,313,504	365,862	16%
Capital Outlay	54,396	7,200	13%
Debt Service	1,494,030	1,110,510	74%
Other Financing Uses	3,027,893		
Total	**12,232,915**	**2,305,866**	**19%**



Water Fund Relevant Information

Overall, FY2023 first quarter expenses for the Water Operating Fund are slightly below expected levels but in line with prior year expenses. Personnel & Benefits are below expectations due to turnover and perstistent vacancies in a number of positions. Debt Service is related to WIFA loan payments made in the first quarter of FY2023. Capital costs associated with infrastructure and CIP projects are captured in separate funds. Other Financing Uses is associated with planned transfers to the Water Capital fund for the construction of capital projects and restricted funding for emergency needs or third party passthrough payments.

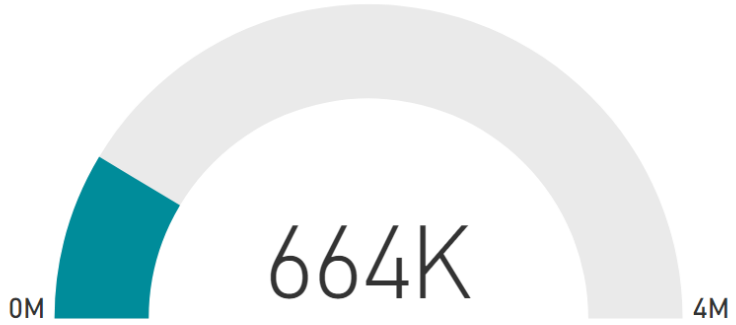


Category	2021	2022	2023
Personnel & Benefits	450,353	480,135	590,751
Contracted Services	208,977	369,593	231,543
Operating Supplies & Equipm...	451,279	367,295	365,862
Capital Outlay	56	13,000	7,200
Debt Service	1,032,791	1,085,612	1,110,510
Total	**2,143,456**	**2,315,634**	**2,305,866**

FY 2022-2023 FIRST QUARTER: WATER RECLAMATION OPERATING FUND REVENUES

Select Revenue or Expense
- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Licenses, Fees, & Permits	130,000	1,249	1%
Charges for Services	2,923,375	661,206	23%
Other	809,570	1,602	0%
Total	**3,862,945**	**664,056**	**17%**



Water Reclamation Fund Relevant Information

The current rates and fees for Marana Sewer customers can be found at - http://www.maranaaz.gov/water-rates-and-fees. Charges for Services (sewer rates) comprise the majority of the revenue for the fund. Overall, preliminary FY2023 first quarter revenue collections meet expectations with the exception of inspection fees revenues which are now anticipated to be lower than originally forecasted as fewer permits are being issued for residential activity. The majority of Other planned revenue is related to budgeted transfers between funds for debt service payments.



Category	2021	2022	2023
Licenses, Fees, & Permits	37,106	41,021	1,249
Charges for Services	490,877	610,054	661,206
Other	55	12,209	1,602
Total	**528,038**	**663,284**	**664,056**

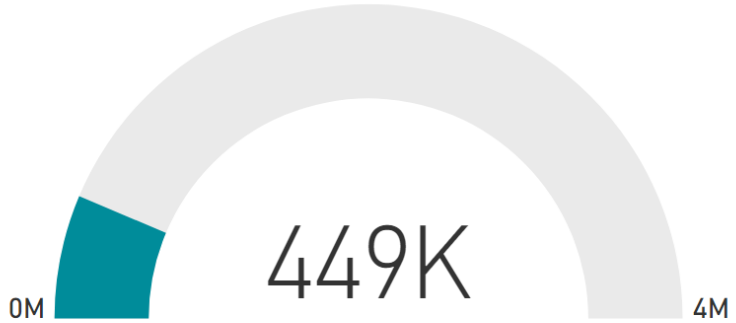
FY 2022-2023 FIRST QUARTER: WATER RECLAMATION OPERATING FUND

EXPENSES

Select Revenue or Expense

- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Personnel & Benefits	761,501	136,741	18%
Contracted Services	1,447,983	219,232	15%
Operating Supplies & Equipment	381,511	53,510	14%
Capital Outlay	73,400		
Debt Service	866,998	39,401	5%
Other Financing Uses	2,087,970		
Total	**5,619,363**	**448,885**	**8%**



Water Reclamation Fund Relevant Information

Overall, first quarter expenses for the Water Reclamation Operating Fund are within expectations at this time of year. Debt Service is related to annual WIFA loan payments. Capital costs associated with infrastructure and CIP projects are captured in separate funds. Other Financing Uses is associated with transfers for capital improvement projects.



Category	2021	2022	2023
Personnel & Benefits	109,471	123,447	136,741
Contracted Services	57,163	152,742	219,232
Operating Supplies & Equipm...	73,698	89,703	53,510
Debt Service	29,711	44,325	39,401
Total	**270,043**	**410,217**	**448,885**

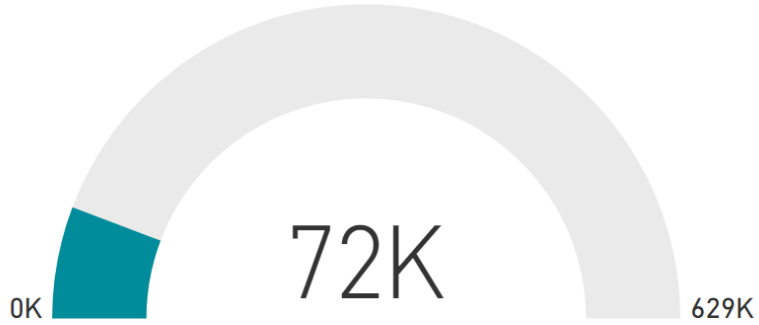
FY 2022-2023 FIRST QUARTER: AIRPORT OPERATING FUND

REVENUES

Select Revenue or Expense

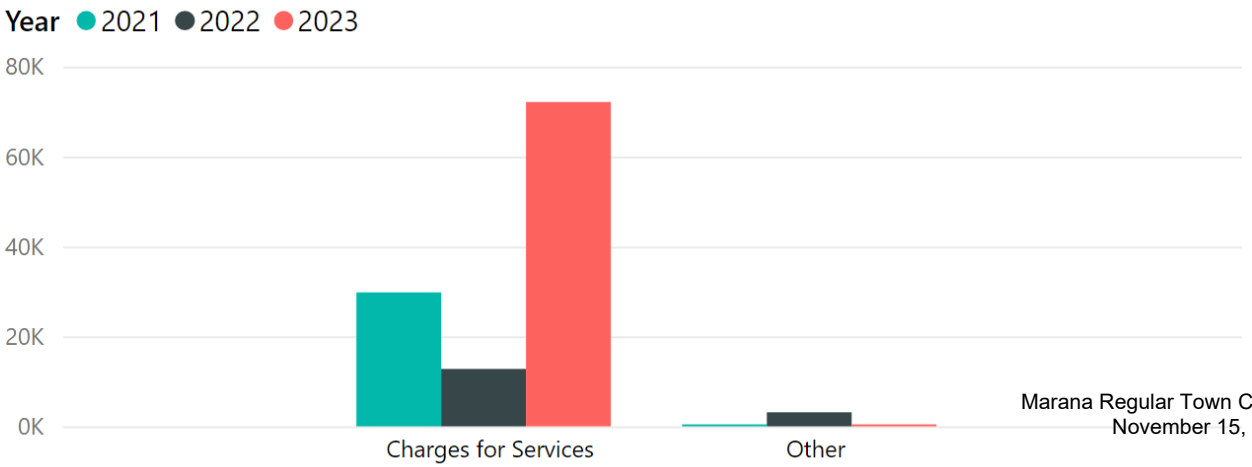
- ☐ EXPENSES
- ■ REVENUES

Category	FY 2023 Budget	Actual	% Budget
Charges for Services	347,672	72,118	21%
Other	281,751	225	0%
Total	**629,423**	**72,343**	**11%**



Airport Fund Relevant Information

Overall, preliminary first quarter revenue collections for the Airport Fund are in line with expectations. Other revenue is primarily comprised of miscellaneous revenues and transfers between funds scheduled to be completed as the Town reconciles and closes the books for the year.



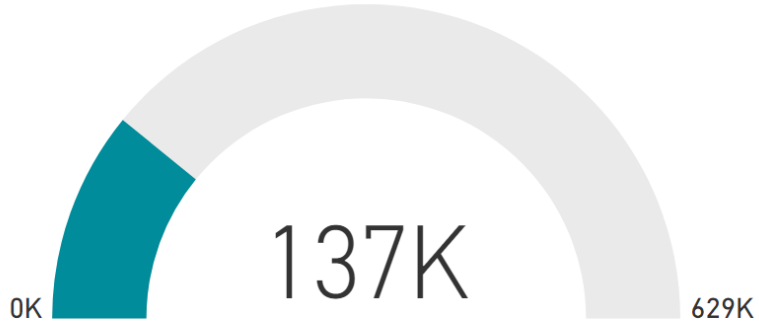
Category	2021	2022	2023
Charges for Services	29,784	12,764	72,118
Other	266	3,120	225
Total	**30,051**	**15,884**	**72,343**

FY 2022-2023 FIRST QUARTER: AIRPORT OPERATING FUND

EXPENSES

Select Revenue or Expense
- EXPENSES
- REVENUES

Category	FY 2023 Budget	Actual	% Budget
Personnel & Benefits	303,228	70,093	23%
Contracted Services	243,215	54,644	22%
Operating Supplies & Equipment	63,400	12,246	19%
Capital Outlay	19,580		
Total	**629,423**	**136,983**	**22%**



Airport Fund Relevant Information

Overall, expenses for the Airport Fund are in line with expectations through the first quarter of FY2023. Costs related to CIP projects are captured in other funds.



Category	2021	2022	2023
Personnel & Benefits	59,315	60,623	70,093
Contracted Services	6,406	100,021	54,644
Operating Supplies & Equipm...	10,541	10,189	12,246
Total	**76,263**	**170,833**	**136,983**

Council-Regular Meeting **C1**

Meeting Date: 11/15/2022

To: Mayor and Council

Submitted For: Curry C. Hale, Human Resources Director

From: Libby Shelton, Deputy Town Attorney

Date: November 15, 2022

Strategic Plan Focus Area:
Proactive Public Services

Subject: Resolution No. 2022-117: Relating to Personnel; Approving and adopting amendments to the Town's Personnel Policies and Procedures, revising Chapter 3 - Classification and Compensation, Policy 3-4 "Payroll Procedures" and Policy 3-12 "Employee Disbursements," multiple policy revisions to Chapter 4 Employment Benefits and Leaves, revising Chapter 5 – Work Rules and Employee Discipline, Section 5-5-5 "Grounds for Disciplinary Action," and revising Chapter 7 Safety and Health, Policy 7-5 "Drug- and Alcohol-free Workplace" (Curry C. Hale)

Discussion:

The proposed revisions to the Town's Personnel Policies in Chapter 3 - Classification and Compensation and multiple revisions in Chapter 4 - Employment Benefits and Leaves are requested due to payroll moving from the Finance Department to the Human Resources Department.

Additionally, Section 4-1-5, entitled "Request for Vacation Leave," is revised to allow Department Heads to have discretion to approve a vacation leave request for new employees prior to 180 days of employment.

The proposed revisions to Chapter 7, Safety and Health, remove the operational details of the Town's Drug- and Alcohol-Free Workplace policy from the Town's Personnel Policies and Procedures. The revision also authorizes implementation of an

Administrative Directive to address implementation of the Town's Drug- and Alcohol-Free Workplace Policy. The proposed revision to Section 5-5-5(C) correspondingly adds that a violation of the Town's Drug and Alcohol-Free Workplace Policy can result in disciplinary action.

Lastly, Section 5-5-5(C), entitled "Grounds for Disciplinary Action," adds that a supervisor's failure to effectively supervise an employee can result in disciplinary action. This revision aims to ensure that supervisors promptly address issues with the employees that they supervise.

Staff Recommendation:

Staff recommends approval of the Resolution adopting amendments to the Personnel Policies and Procedures.

Suggested Motion:

I move to adopt Resolution No. 2022-117, approving and adopting amendments to the Town's Personnel Policies and Procedures, revising Chapter 3 - Classification and Compensation, Policy 3-4 “Payroll Procedures” and Policy 3-12 “Employee Disbursements,” multiple policy revisions to Chapter 4 Employment Benefits and Leaves, revising Chapter 5 – Work Rules and Employee Discipline, Section 5-5-5 “Grounds for Disciplinary Action,” and revising Chapter 7 Safety and Health, Policy 7-5 “Drug- and Alcohol-free Workplace”.

Attachments

Resolution No. 2022-117
Exhibit A to Resolution
Exhibit B to Resolution
Exhibit C to Resolution
Exhibit D to Resolution

MARANA RESOLUTION NO. 2022-117

RELATING TO PERSONNEL; APPROVING AND ADOPTING AMENDMENTS TO THE TOWN'S PERSONNEL POLICIES AND PROCEDURES, REVISING CHAPTER 3 - CLASSIFICATION AND COMPENSATION, POLICY 3-4 "PAYROLL PROCEDURES" AND POLICY 3-12 "EMPLOYEE DISBURSEMENTS," MULTIPLE POLICY REVISIONS TO CHAPTER 4 EMPLOYMENT BENEFITS AND LEAVES, REVISING CHAPTER 5 – WORK RULES AND EMPLOYEE DISCIPLINE, SECTION 5-5-5 "GROUNDS FOR DISCIPLINARY ACTION," AND REVISING CHAPTER 7 SAFETY AND HEALTH, POLICY 7-5 "DRUG- AND ALCOHOL-FREE WORKPLACE"

WHEREAS Chapter 3-3 of the Marana Town Code provides that the Town Council may adopt personnel policies, rules, and regulations that follow the generally accepted principles of good personnel administration and which may be modified or changed from time to time; and

WHEREAS the Town Council adopted Personnel Policies and Procedures via Town of Marana Ordinance 99.12 and Resolution 99-38 on May 18, 1999; and

WHEREAS the Council finds that adoption of the amendments to the Town's Personnel Policies and Procedures as set forth in this resolution is in the best interests of the Town and its employees.

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

SECTION 1. Policy 3-4, entitled "Payroll Procedures," and Policy 3-12, entitled "Employee Disbursements," of the Town's Personnel Policies and Procedures are hereby amended as set forth in Exhibit A attached to this resolution, with deletions shown with ~~strikeouts~~ and additions shown with double underlining.

SECTION 2. Policy 4-1, entitled "Vacation Leave," Policy 4-7, entitled "Family and Medical Leave," Policy 4-8, entitled "Administrative Leave," Policy 4-11, entitled "Workers' Compensation," and Policy 4-12, entitled "Supplemental Benefits Plan for Public Safety Employees," of the Town's Personnel Policies and Procedures are hereby amended as set forth in Exhibit B attached to this resolution, with deletions shown with ~~strikeouts~~ and additions shown with double underlining.

SECTION 3. Section 5-5-5, entitled "Grounds for Disciplinary Action," of the Town's Personnel Policies and Procedures is hereby amended as set forth in Exhibit C attached to this resolution, with additions shown with double underlining.

SECTION 4. Policy 7-5, entitled "Drug- and Alcohol-Free Workplace," of the Town's Personnel Policies and Procedures is hereby amended as set forth in Exhibit D attached to this resolution, with deletions shown with ~~strikeouts~~ and additions shown with double underlining.

SECTION 5. All ordinances, resolutions, or motions and parts of ordinances, resolutions, or motions of the Council in conflict with the provisions of this resolution are hereby repealed, effective as of the effective date of this resolution.

SECTION 6. 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 the aforementioned amendments.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 15th day of November, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

[NO CHANGES TO POLICIES 3-1 THROUGH 3-3]

POLICY 3-4 PAYROLL PROCEDURES

Regular Town employees are paid biweekly. There are 26 pay periods in the calendar year.

Section 3-4-1 Time Entry and Payroll

A. Employees shall use the Town's current approved time entry system for all time entry and leave requests.

B. All non-exempt employees shall submit documentation of the number of hours worked, as well as any leave taken, in each pay period. The employee's direct supervisor shall verify and approve or disapprove the employee's hours worked and leave taken.

C. All exempt employees shall submit documentation of leave taken each pay period. The employee's direct supervisor shall verify and approve or disapprove any leave taken.

D. Payroll records shall be maintained by the Town in accordance with the Town's records retention schedule.

E. The ~~Finance~~ Human Resources Department is responsible for answering inquiries concerning payroll matters~~. The Finance Department~~ and ~~the Human Resources Department~~ will ~~work collaboratively to~~ resolve pay inquiries in an expeditious manner.

F. Falsification of time entry and leave taken is grounds for disciplinary action, up to and including termination

[No Revisions to Sections 3-4-2 through 3-4-4]

Section 3-4-5 Payroll Errors

Occasionally, a payroll error will occur regarding an employee's wages. If an employee becomes aware of a payroll error, either an overpayment or an underpayment of wages, the employee shall provide written notice to the employee's supervisor and to the ~~Finance~~ Human Resources Director or designee as soon as the employee becomes aware of the error. Likewise, the Human Resources ~~Finance~~ Director or designee shall provide written notice to an employee of a payroll error as soon as the ~~Finance~~Human Resources Department becomes aware of the error. Once an error has been discovered, the ~~Finance~~Human Resources Department will initiate a correction as follows:

A. If the employee has been underpaid due to an error made by the ~~Finance~~Human Resources Department, the ~~Finance~~Human Resources Department will run a special payroll as soon as practical.

B. If the employee has been underpaid due to an error made by the employee or the department payroll liaison, the ~~Finance~~Human Resources Department will make the appropriate adjustment in pay at the next regular pay cycle.

C. If the employee has been overpaid due to an error made by the employee, the department payroll liaison or the ~~Finance~~Human Resources Department, the employee will be required to reimburse the Town for the overpayment. The ~~Finance~~Human Resources Department will make every effort to establish a repayment schedule that meets the ~~Finance~~Human Resources Department's responsibility to recoup public funds in a timely manner and incorporates consideration for the employee's ability to repay.

[NO CHANGES TO POLICIES 3-5 THROUGH 3-11]

POLICY 3-12 EMPLOYEE DISBURSEMENTS

All other disbursements made by the ~~Finance~~Human Resources Department to Town employees shall be through direct deposit.

[NO CHANGES TO POLICY 3-13]

MARANA AZ

CHAPTER 4

EMPLOYMENT BENEFITS AND LEAVES

POLICY 4-1 VACATION LEAVE

The Town of Marana provides vacation leave with pay to eligible employees.

[No changes to Sections 4-1-1 through 4-1-3]

Section 4-1-4 Maximum Accrued Hours Permitted

A. Except as provided in paragraph D below, an employee's accrued vacation leave balance shall not be permitted to exceed the hours designated on the following schedule:

Maximum Vacation Hours	
Length of Service	Maximum Accrued Vacation Hours
0 to 5 years	180 hours
> 5 - 10 years	200 hours
> 10 years	240 hours

B. Employees shall not be credited for vacation leave in excess of the maximum accrued hours permitted based on their length of service. Employees who are approaching the maximum accrued vacation hour cut-off shall be notified by the ~~Finance~~Human Resources Department of their vacation leave balance and given the opportunity to request vacation leave before vacation leave hours are forfeited.

C. In extenuating circumstances, the Town Manager may approve an exception to this provision and grant an employee an additional 90 calendar days to come into compliance with the maximum accrued vacation-hour rule without forfeiting any vacation leave. This exception will only be granted once per rolling 12-month period. If the employee fails to come into compliance with the maximum accrued vacation-hour rule within the additional 90-day period, the employee will forfeit all accrued vacation leave in excess of the maximum accrued hours.

D. Employees in the following categories shall be permitted to accrue a maximum of 240 hours of vacation, regardless of length of service:

1. Deputy or Assistant Town Managers
2. General Managers
3. Department Heads
4. Deputy or Assistant Department Heads with management responsibilities including supervision of staff.

MARANA AZ

CHAPTER 4

EMPLOYMENT BENEFITS AND LEAVES

Section 4-1-5 Request for Vacation Leave

A. Eligible employees may request to use vacation leave after 180 days of employment. The Department Head has discretion to approve a request for vacation leave prior to 180 days of employment.

   1. If an eligible employee is approved for administrative leave for medical purposes prior to completing 180 days of employment, the employee may request to use vacation leave.

B. Employees shall submit vacation leave requests to their supervisor before taking any time off. Requests will be reviewed based on a number of factors, including Town needs and staffing requirements.

[No changes to Sections 4-1-6 and 4-1-7]

[NO CHANGES TO POLICIES 4-2 THROUGH 4-6]

POLICY 4-7 FAMILY AND MEDICAL LEAVE

In accordance with the Family and Medical Leave Act (FMLA) of 1993 and the National Defense Authorization Acts (NDAA) of 2008 and 2010, the Town of Marana provides job-protected family and medical leaves of absence without pay to eligible employees who are temporarily unable to work due to an FMLA-qualifying reason.

The provisions of this policy are not intended to conflict with or supersede federal law, nor should they be interpreted or construed to do so. If any provision of this policy conflicts with federal law, federal law shall control.

[No Changes to Sections 4-7-1 through 4-7-14]

Section 4-7-15 Maintenance of Other Benefits

A. The Town has no obligation to maintain insurance and other benefits, such as life insurance or disability insurance, that are not considered to be a "group health plan", while an employee is on FMLA leave. The Town will meet its responsibilities to provide equivalent benefits to the employee upon return from FMLA leave.

B. An employee who is on paid FMLA leave via the use of paid leave balances shall continue to pay his or her share of any non-group health plan insurance premiums through payroll deductions.

C. An employee who is on unpaid FMLA leave must make payment arrangements with the Human Resources ~~and Finance~~ Departments for his or her share of any non-group health plan insurances premiums. If payment is more than 30 days overdue, the Town shall provide written notice to the employee that payment has not been received and that

coverage will be dropped. The notice shall be mailed to the employee at least 15 days before coverage is to be dropped. If the Town pays any of the employee's share of non-group health plan premiums, the Town may require the employee to reimburse the Town for the employee's share. If coverage is dropped, it shall be dropped retroactively to the date the unpaid premium payment was due.

[No changes in Sections 4-7-16 through 4-7-19]

POLICY 4-8 ADMINISTRATIVE LEAVE

The Town of Marana may provide administrative leave with or without pay to eligible employees as described in this policy.

[No changes is Sections 4-8-1 through 4-8-5]

Section 4-8-6 Maintenance of Benefits

A. An employee who is on paid administrative leave via the use of paid leave balances shall continue to pay his or her share of any group health plan and other insurance premiums through payroll deductions.

B. An employee who is on unpaid administrative leave must pay both the employee's and the Town's share of any group health plan and other insurance premiums in order to maintain coverage. The employee must make payment arrangements with the Human Resources ~~and Finance~~ Department~~s~~. If payment is more than 30 days overdue, the Town shall provide written notice to the employee that payment has not been received and that coverage will be dropped. The notice shall be mailed to the employee at least 15 days before coverage is to be dropped. If the Town pays any of the employee's or the Town's share of group health plan or other premiums in order to maintain coverage, the Town may require the employee to reimburse the Town. If coverage is dropped, it shall be dropped retroactively to the date the unpaid premium payment was due and the provisions of the federal COBRA law shall apply.

[No changes to Sections 4-8-7 through 4-8-9]

[NO CHANGES TO POLICIES 4-9 AND 4-10]

POLICY 4-11 WORKERS' COMPENSATION

Under Arizona law, it is mandatory for employers to secure workers' compensation insurance for their employees. Workers' compensation is a "no fault" system in which an injured or ill

employee is entitled to receive benefits for a job-related injury or illness, no matter who caused the injury or illness. If an illness or injury is job-related, then the injured employee is eligible to receive medical benefits and may receive temporary compensation, if eligibility requirements are met. In some cases, a claimant may also receive permanent compensation benefits, job retraining, and supportive medical care.

The provisions of this policy are not intended to conflict with or supersede state law, nor should they be interpreted or construed to do so. If any provision of this policy conflicts with state law, state law shall control.

[No Changes to Sections 4-11-1 through 4-11-4]

Section 4-11-5 Maintenance of Benefits

A. An employee who uses paid leave balances to supplement compensation benefits for lost wages due to a job-related injury or illness shall continue to pay his or her share of any group health plan and other insurance premiums through payroll deductions.

B. An employee who does not use paid leave balances to supplement compensation benefits for lost wages due to a job-related injury or illness shall make arrangements with the Human Resources ~~and Finance~~ Department~~s~~ to make payments for his or her share of any group health plan and other insurance premiums. If payment is more than 30 days overdue, the Town shall provide written notice to the employee that payment has not been received and that coverage will be dropped. The notice shall be mailed to the employee at least 15 days before coverage is to be dropped. If the Town pays any of the employee's share of group health plan or other premiums in order to maintain coverage, the Town may require the employee to reimburse the Town. If coverage is dropped, it shall be dropped retroactively to the date the unpaid premium payment was due and the provisions of the federal COBRA law shall apply.

No Changes to Sections 4-11-6 and 4-11-7

POLICY 4-12 SUPPLEMENTAL BENEFITS PLAN FOR PUBLIC SAFETY EMPLOYEES

Pursuant to A.R.S. §38-961, the Town of Marana is required to provide a supplemental benefits plan for eligible public safety employees who are injured on the job and unable to perform the functions of their position.

The provisions of this policy are not intended to conflict with or supersede state law, nor should they be interpreted or construed to do so. If any provision of this policy conflicts with state law, state law shall control.

[No Changes to Sections 4-12-1 through 4-12-4]

Section 4-12-5 Maintenance of Benefits

A. The Town shall maintain group health plan benefits for employees participating in the supplemental benefits plan on the same terms as if the employee continued to work. Thus, the Town shall continue to pay its share of any group health plan insurance premium and the employee shall continue to pay his or her share, if any.

   1. The employee shall continue to pay his or her share of any group health plan benefits through payroll deductions if the employee is receiving sufficient compensation from the Town to cover his or her share of the premium.

   2. If the employee is not receiving sufficient compensation from the Town to cover his or her share of the premium, the employee shall make arrangements with the Human Resources ~~and Finance~~ Department~~s~~ to make payments for his or her share of the premium. If payment is more than 30 days overdue, the Town shall provide written notice to the employee that payment has not been received and that coverage will be dropped. The notice shall be mailed to the employee at least 15 days before coverage is to be dropped. If the Town pays any of the employee's share of group health plan premiums, the Town may require the employee to reimburse the Town for the employee's share. If coverage is dropped, it shall be dropped retroactively to the date the unpaid premium payment was due and the provisions of the federal COBRA law shall apply.

B. While the employee is participating in the supplemental benefits plan, the Town shall pay both the employer and employee contributions to PSPRS or CORP, as applicable, based on the employee's pre-injury salary, unless the employee is no longer actively contributing to PSPRS or CORP. In such a case, the Town shall continue to pay the employer contribution to the employee's retirement system and the employee shall continue to pay the employee contribution.

C. An employee participating in the supplemental benefits plan is responsible for paying for any elective health care plan deductions, health related optional deductions, optional life insurance deductions or any other optional, employee-elected benefits.

[No Changes to Sections 4-12-6 and 4-12-7]

[NO CHANGES TO POLICIES 4-13 THROUGH 4-16]

MARANA AZ

CHAPTER 5

WORK RULES AND EMPLOYEE DISCIPLINE

[NO CHANGES TO POLICIES 5-1 THROUGH 5-4]

POLICY 5-5 DISCIPLINE SYSTEM

Each supervisor shall have the responsibility and authority, with the approval of the Department Head and/or General Manager, to administer appropriate discipline to subordinates using a positive progressive discipline process as a corrective measure.

[No revisions to Sections 5-5-1 through 5-5-4]

Section 5-5-5 Grounds For Disciplinary Action

Grounds for disciplinary action, up to and including termination, include, but are not limited to, the following:

A. Dishonesty, including, but not limited to, intentionally giving false information, intentionally falsifying records or making false statements when applying for employment, lying to supervisors in connection with the employee's job, or an investigation, giving false information or lying about the reason for an absence from work, or falsifying time entries or leave requests.

B. Discrimination or failure to abide by Equal Employment Opportunity regulations, including sexual or other harassment of a protected class.

C. Reporting to work under the influence of alcohol or drugs or using such substances while on Town property or other violation of the Town's Drug- and Alcohol-Free Workplace Policy.

D. Theft or removal of Town money, merchandise or property, including property in the custody of the Town, without permission.

E. Unauthorized or unlawful possession of firearms, other weapons or explosives in Town facilities or while on Town business.

F. Conviction of a criminal offense.

G. Acts of workplace violence, including violence or threats of violence in the workplace or against other employees or members of the public.

H. Insubordination; failure to follow the orders of one's supervisor(s).

I. Failure to maintain the minimum qualifications of the employee's position.

J. Inability to perform the full essential functions of the employee's regular position, with or without a reasonable accommodation, for greater than 12 months in a 24-month period, as defined in these Personnel Policies and Procedures.

K. Failure to uphold the Town's Cultural Values.

L. Being absent from work without permission or failure to report to the supervisor, Department Head or General Manager when one is absent.

M. Being habitually absent or tardy for any reason.

N. Making recordings of conversations or other activities in the workplace without authorization or explicit consent to the recording.

O. Inability or unwillingness to perform the assigned job; failure to perform assigned work in an efficient or effective manner.

P. Participation in prohibited political activities.

Q. Acceptance of fees, gifts or other valuable items in the performance of the employee's official duties for the Town.

R. Any action, on or off the job, bringing discredit to the Town.

S. Violation of any Town policies, administrative directives, or ordinances, or state or federal law.

T. Violating safety rules and regulations; being wasteful of material, property or working time; failure to observe proper security or safety procedures.

U. Inability to get along with fellow employees so that the work being done is hindered and not up to required levels; speaking critically or making derogatory or false accusations so as to discredit other employees or supervisors.

V. The use of profanity or abusive language towards a fellow employee or member of the general public while performing official duties as a Town employee.

W. Divulging or misusing confidential information, including removal from Town premises without proper authorization of any employee lists, records, designs, drawings or confidential information of any type.

X. Improper use of the Town's electronic storage and communications equipment, as set forth in these Personnel Policies and Procedures and any administrative directives established by the Town Manager.

Y. Failure to effectively supervise employees. Supervisors are responsible for the proper conduct of their assigned employees and the functional work activities under their control. As necessary, supervisors should strive to review, document, and take appropriate action in matters within 30 working days, or as soon as practicable.

Z. Such other act, error or omission detrimental to the mission of the Town.

MARANA AZ

CHAPTER 5

WORK RULES AND EMPLOYEE DISCIPLINE

[No revisions to Sections 5-5-6 through 5-5-8]

[NO CHANGES TO POLICIES 5-6 THROUGH 5-8]

CHAPTER 7

SAFETY AND HEALTH

[NO CHANGES TO POLICIES 7-1 THROUGH 7-4]

POLICY 7-5 DRUG- AND ALCOHOL-FREE WORKPLACE POLICY

It is the policy of the Town of Marana to maintain a drug- and alcohol-free workplace~~that its employees be free of substance and alcohol abuse~~. Consequently, the use of illegal drugs by employees is prohibited. Further, employees shall not use alcohol during work hours. ~~or engage in "prohibited conduct" as defined in this policy.~~ The overall goals of this policy ~~are~~is to ~~ensure a drug-free and alcohol-free work environment and to~~ reduce accidents, injuries and fatalities. The Town Manager may establish an administrative directive regarding the Drug- and Alcohol-free Workplace Policy.

~~Section 7-5-1 Consequences of Prohibited Conduct~~

~~Illegal drug use, alcohol abuse and failure to participate are grounds for discipline up to and including discharge, even for a first offense.~~

~~Section 7-5-2 Definitions of Prohibited Conduct~~

~~A. Illegal Drug Use includes possessing, using, purchasing, distributing, or selling illegal drugs, or reporting to work impaired by illegal drugs. Under this policy, "illegal drugs" include any drug or drug-like substance that:~~

~~1. Is not legally obtainable;~~

~~2. May be legally obtainable but has not been legally obtained; or~~

~~3. Is being used in a manner or for a purpose other than as prescribed.~~

~~B. Alcohol Abuse includes possessing, using, purchasing, distributing, or selling alcoholic beverages at any time during the hours between the beginning and ending of the employee's work day, or reporting to work or working while impaired by alcohol in any way.~~

~~C. Failure to Participate in the Town's drug and alcohol testing policy includes:~~

~~1. Failure to submit to drug or alcohol testing;~~

~~2. Failure to report immediately for drug or alcohol testing when requested to do so;~~

~~3. Refusal to sign all appropriate consent forms; or~~

~~4. Any other failure to cooperate to the Town's complete satisfaction.~~

~~Section 7-5-3 Use of Legal Drugs~~

~~A. While this policy does not prohibit the use of legal drugs, employees are required to notify their supervisors if the use of any legal drug may endanger their safety or the safety of others. For example, an employee should tell their supervisor if they are using any legal drug that warns about drowsiness or cautions against operating heavy machinery after use.~~

~~B. "Legal drugs" as used in this policy include prescribed and over-the-counter drugs or medications that have been legally obtained and are being used only for the purpose for which they were prescribed or manufactured.~~

~~C. Anyone who fails to notify his or her supervisor about his use of legal drugs will be subject to disciplinary action up to and including discharge, even for a first offense.~~

~~Section 7-5-4 Types of Tests~~

~~The Town has implemented four circumstances for drug and alcohol testing.~~

~~A. Pre-Employment Testing~~

~~Candidates selected for employee positions must normally submit to a drug test. Any potential hire who tests positive for drug use will be ineligible for employment with the Town.~~

~~B. Post-Accident Testing for Commercial Driver's License Holders~~

~~1. Any employee who is required to hold a commercial driver's license (CDL) for the position held by the employee is subject to drug and alcohol testing any time he or she is involved in an accident where:~~

~~a. A fatality is involved;~~

~~b. The driver receives a citation for a moving violation arising from an accident where anyone involved requires immediate treatment for an injury away from the accident scene; or~~

~~c. Any vehicle involved incurs "disabling damage" (for example, must be towed away).~~

~~Following any accident, the CDL holder must notify the Town as soon as possible.~~

~~2. Any time a post-accident drug or alcohol test is required, it must be performed as soon as possible following the accident. If no alcohol test can be made within 8 hours, attempts to perform an alcohol test shall cease. If no urine collection can be obtained for purposes of post-accident drug testing within 32 hours, attempts to make such collection shall cease.~~

3. In the event that federal, state or local officials conduct tests for the use of alcohol or controlled substances following an accident, these tests may meet the requirements of this policy, provided the tests conform to applicable federal, state or local requirements. The Town may request or require testing documentation from such agencies and may ask or require the employee to sign a release allowing the Town to obtain such test results.

4. In the event a driver is so seriously injured that he or she cannot provide a sample of urine, blood, breath or saliva at the time of the accident, the driver must provide necessary authorization for the Town to obtain hospital records or other documents that would indicate the presence of controlled substances or alcohol in the driver's system at the time of the accident.

C. Random Testing for Safety-Sensitive Employees

1. Any employee who holds a safety-sensitive position shall be subject to random drug and alcohol testing. The Town or its agents will submit all safety-sensitive employees' names to a random selection system. The random selection system provides an equal chance for each employee to be selected each time random selection occurs. Random selections will be reasonably spread throughout the year.

   a. To meet DOT requirements, the Town will test the average number of employee positions requiring a CDL in each calendar year at a rate established by the Department of Transportation (DOT) for the given year.

2. Random selection, by its very nature, may result in employees being selected in successive selection or more than once a calendar year. Alternatively, some employees may not be selected in a calendar year.

3. If an employee is selected at random for either drug or alcohol testing, a Town supervisor will notify the employee. Once notified, every action the employee takes must lead to a collection. If the employee engages in conduct that does not lead to a collection as soon as possible after notification, such conduct may be considered a refusal to test.

D. Reasonable Suspicion Testing

The Town will require an employee to submit to alcohol and/or drug testing when there is reasonable suspicion to believe that the employee is engaged in illegal drug use or alcohol abuse.

1. For purposes of this policy, "reasonable suspicion" will be based on specific observations concerning the appearance, behavior, speech or body odors of an employee, including, without limitation, slurred speech, red eyes, dilated pupils, incoherence, unsteadiness, unexplained carelessness or accidents, erratic behavior, inability to perform the job and other unexplained behavioral changes.

2. These observations will be made by a supervisor, a police officer or other Town official who has been trained to recognize signs of alcohol and/or drug use.

Section 7-5-5 Authorization for Previous Test Records of CDL Holders

As a condition of employment, any employee who is required to hold a commercial driver's license (CDL) for the position shall sign a release authorizing the Town to obtain drug and alcohol testing records from the employee's previous employers for the previous two years. The Town will verify that no prior employer of the employee has records indicating a violation of any DOT rule pertaining to controlled substance or alcohol use within the previous two years.

Section 7-5-6 Drug Testing

Drug testing will be performed through urinalysis or blood testing. Urinalysis or blood testing will test for the presence of drugs and/or metabolites of the following controlled substances: marijuana, cocaine, opiates, amphetamines, phenacyclidine (PCP) and all other controlled substances.

A. Laboratory Testing

The procedure starts with the collection of a urine or blood specimen.

1. Specimens will be submitted to a Substance Abuse Mental Health Services Administration (SAMHSA) certified laboratory for testing.
2. As part of the collection process, the specimen provided will be split into two vials; a primary vial and a secondary vial.
3. The SAMHSA-certified laboratory will perform initial screening on all primary vials.
4. In the event that the primary specimen tests positive, a confirmation test of that the primary specimen will be performed prior to the laboratory reporting the results to the Town.

B. Laboratory Results

All laboratory results will be reported by the laboratory to the Human Resources Director for the Town. At the Human Resources Director's sole discretion, a determination will be made as to whether a result is positive or negative.

1. Negative test results will be reported to the Town Manager.
2. Before reporting a positive test result to the Town Manager or designee, the Human Resources Director will attempt to contact the employee to discuss the test results. If the Human Resources Director is unable to contact the employee directly, the Human Resources Director will notify the Town Manager or designee, who shall contact the

employee and direct the employee to contact the Human Resources Director. Upon being so directed, the employee shall contact the Human Resources Director immediately. If the employee fails to contact the Human Resources Director within 5 days after notification, the Human Resources Director may verify the test as positive.

3. After any positive verification, the employee may petition the Human Resources Director to reopen the case for reconsideration.

C. Confidentiality

Individual test results for employees will be released to the Town and will be kept strictly confidential unless consent for the release of the test results has been obtained from the employee.

D. Request for Results and Re-Test

1. Any individual who has submitted to drug testing in compliance with this policy is entitled to receive the results of the drug testing upon timely written request.

2. An individual who tests positive may make a request of the Human Resources Director to have the secondary vial tested. The request for testing of a secondary specimen is timely if it is made to the Human Resources Director within 72 hours of the individual being notified by the Town of a positive test result.

3. The secondary vial must be tested by a different SAMHSA-certified laboratory than tested the primary specimen.

4. The individual making the request for a test of the second specimen must pre-pay all costs associated with the test.

Section 7-5-7 Alcohol Testing

A. The Town will perform alcohol testing using a device that is on the National Highway Traffic Safety Administration's (NHTSA) Conforming Products List (CPL) and meets the DOT's testing requirements. This may be a breath testing device, a saliva-testing device or any other approved devise and may be provided through a trained supervisor or the Marana Police Department.

1. The device will be operated by a technician who is certified and trained on the specific device he or she will be operating.

2. The employee shall report to the alcohol testing site as notified by the Town. The employee shall follow all instructions given by the alcohol technician.

B. Any initial test indicating a Blood Alcohol Concentration (BAC) of .02 or greater will be confirmed on a breath testing device. The confirmation test will be performed no sooner than 15 minutes and no later than 30 minutes following the completion of the initial test.

1. In the event the confirmation test indicates a BAC of .02 to .0399, the employee shall be removed from duty for 24 hours or until his/her next scheduled on-duty time, whichever is longer.
2. Employees with tests indicating a BAC of .04 or greater are considered to have engaged in prohibited conduct, which may result in disciplinary action up to and including termination, even for a first offense.

C. All alcohol tests shall be performed just prior to, during or just after duty.

Section 7-5-8 Substance Abuse Evaluation, Return-to-Duty, and Follow-Up Testing

A. Any employee who engages in prohibited conduct shall be provided with the names, addresses and telephone numbers of qualified Substance Abuse Professionals (SAPs). If the employee desires to become requalified for employment with the Town, the employee must be evaluated by a SAP and submit to any treatment the SAP prescribes.

B. Following evaluation and treatment, if any, in order to become requalified for employment with the Town, an employee must submit to and successfully complete a return-to-duty drug and/or alcohol test.

C. The employee is also subject to follow-up testing. Follow-up testing is separate from and in addition to the Town's reasonable suspicion, post-accident and random testing procedures. The schedule for follow-up testing shall be unannounced and in accordance with the instructions of the SAP. Follow-up testing may continue for a period of up to 60 months following the employee's return to duty. No fewer than 6 tests shall be performed in the first 12 months of follow-up testing.

D. The costs of any SAP evaluation of prescribed treatment shall be borne by the employee. The Town does not guarantee or promise a position to the employee should he/she regain qualified status.

Section 7-5-9 Discipline and Appeals

A. The disciplinary procedures included in this policy are subject to the notice provisions of the Discipline System Policy and appeal provisions included in the Problem Resolution Policy.

B. The disciplinary guidelines contained in this policy supersede the progressive discipline policies of the Discipline System Policy.

Section 7-5-10 Contractors and Visitors

Contractors and their employees or representatives and visitors will be notified that the Town of Marana prohibits the use, possession, sale or distribution of drugs or alcohol on its property

~~or at its work sites. Any person who is reasonably suspected to have drugs in his or her system or to be impaired by alcohol while on Town of Marana property or work site is in violation of this policy. Contractors and their employees or representatives and visitors violating this policy will be refused entry onto Town property or Town work sites. In addition, appropriate legal entities may be contacted as required and appropriate.~~

~~Section 7-5-11 Not a Contract~~

~~This policy **is not** intended nor should it be construed as a contract between the Town and the employee. This policy may be changed at any time at the sole discretion of the Town Council.~~

Council-Regular Meeting **C2**

Meeting Date: 11/15/2022

To: Mayor and Council

Submitted For: Jing Luo, Water Director

From: Asia Philbin, Water Resources Coordinator

Date: November 15, 2022

Strategic Plan Focus Area:
Vibrant Community

Subject: Resolution No. 2022-118: Relating to Water; approving and authorizing the Town Manager or Water Director to execute the Application for a Modification of Designation of Assured Water Supply (DWR No. 86-402254.0002), and to take all other action necessary to obtain the modification (Jing Luo)

Discussion:

Pursuant to planned activities discussed in the study session on August 24, 2021, and pursuant to subsequent one-on-one meetings with Council Members, Marana Water Department staff and consultants prepared an application to modify the Town's Designation of Assured Water Supply (DAWS). The application to modify is intended to address accelerated platting and growth anticipated within the Marana Water service area and to cover build-out of developments in Development Services' planning process. The Town proposes to increase its designation volume from 7,580 acre-feet per year to 15,660 acre-feet per year, to add to renewable supplies recognized in the existing designation, and to extend the designation period through 2041.

Marana Water Director Jing Luo signed the application, which was submitted to the Arizona Department of Water Resources ("ADWR") on May 26, 2022. The application package included Resolution No. 2000-31, which provides authorization for the Town Manager or Water Director to sign applications to modify the Town's DAWS.

ADWR has reviewed the application for modification and informed the Town it needs

to provide an up-to-date resolution from the Town Council authorizing the Water Director to sign the application. If adopted, the resolution accompanying this agenda item will provide such authorization.

Staff Recommendation:

Staff recommends approval of Resolution No. 2022-118.

Suggested Motion:

I move to adopt Resolution No. 2022-118, Relating to Water; approving and authorizing the Town Manager or Water Director to execute the Application for a Modification of Designation of Assured Water Supply (DWR No. 86-402254.0002), and to take all other action necessary to obtain the modification.

Attachments

Resolution No. 2022-118

Submitted Application

MARANA RESOLUTION NO. 2022-118

RELATING TO WATER; APPROVING AND AUTHORIZING THE TOWN MANAGER OR WATER DIRECTOR TO EXECUTE THE APPLICATION FOR A MODIFICATION OF DESIGNATION OF ASSURED WATER SUPPLY (DWR NO. 86-402254.0002), AND TO TAKE ALL OTHER ACTION NECESSARY TO OBTAIN THE MODIFICATION

WHEREAS on August 1, 1995, the Marana Town Council adopted Marana Resolution No. 95-46, authorizing the Town to obtain a Designation of Assured Water Supply (DAWS) for its water utility service area; and

WHEREAS on March 28, 2000, the Town Council adopted Marana Resolution No. 2000-31, authorizing the "Town Manager or the Town's Utility Director to execute periodic modifications relating to the Town's designation as a water utility service area in order to maintain its Assured Water Supply as required by the Arizona Department of Water Resources [ADWR]"; and

WHEREAS in May of 2022, the Marana Water Department submitted an application for a modification of its DAWS to ADWR and included a copy of Marana Resolution No. 2000-31; and

WHEREAS ADWR has requested a more up-to-date resolution authorizing execution of the application; and

WHEREAS the Mayor and Council find that this resolution is in the best interests of the Town and its residents.

NOW, THEREFORE, BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, that the Town Manager or Water Director are hereby authorized to execute the Town's Application for a Modification of Designation of Assured Water Supply (DWR No. 86-402254.0002) and to undertake all other and further tasks required or beneficial to obtaining the DAWS modification.

PASSED AND ADOPTED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, this 15th day of November 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

DOUGLAS A. DUCEY
Governor

THOMAS BUSCHATZKE
Director

ARIZONA DEPARTMENT OF WATER RESOURCES

1110 W Washington St, Ste 310
PHOENIX, ARIZONA 85007-2954
(602) 771-8500

Application for a Designation of Assured Water Supply or a Modification of a Designation of Assured Water Supply

This application

This application is to obtain a Designation of Assured Water Supply (Designation) or a Modification of a Designation of Assured Water Supply (Modification). Developers who obtain a written commitment of service from a designated municipal provider are not required to obtain individual Certificates of Assured Water supply for their subdivisions. Municipal providers may obtain a modification of the existing designation for their water service areas. Designations are issued based on the current, committed and projected water demand for the service area for a period of years.

The Department strongly encourages a pre-application meeting prior to filing an application for a designation or modification of a designation of assured water supply. To arrange a pre-application meeting, please contact the Assured and Adequate Water Supply Program at (602) 771-8599.

Please submit one copy of all application materials. If there is not enough room provided on this form for answers to any questions, please attach separate sheets as necessary.

Technical Registration Requirements

The Arizona Department of Water Resources requires hydrologic and engineering reports, studies, drawings and maps, specifications, analyses or related data submitted to support the evaluation of this application to be signed and sealed by a professional geologist or qualified professional engineer who is registered in the State of Arizona under the authority of A.R.S. Title 32, Chapter 1. For additional details regarding this requirement please refer to "Notification of Professional Registration Requirements for Persons Submitting Hydrologic Reports and Related Data to the Arizona Department of Water Resources to Support Applications for Permits or Approvals". This notice is on the Department's website in the category "Permits, Forms and Applications" and can be found under the heading "Professional registration requirements for persons filing hydrogeologic and engineering studies".

Time Frames for Review of Your Application

Within two hundred and ten (210) days after receipt of your application, the Department will determine whether your application should be granted or denied, unless this time frame is extended as described below. In processing your application, the Department will first determine whether the application is administratively complete (administrative completeness review), and then whether the application meets the substantive criteria established by statute or rule (substantive review). Each of these reviews will be completed within the times stated below. The time for the administrative completeness review plus the time for the substantive review is referred to the overall time frame.

1) Administrative Completeness Review Time Frame

Within one hundred and fifty (150) days after receipt of your application, the Department will determine whether your application is complete. After your application is complete, the Department will proceed with substantive review.

If the Department determines that your application is incomplete, the Department will provide a written notice, including a comprehensive list of specific deficiencies. Until the missing information is received, both the administrative completeness review and the overall time frames will be suspended. When the Department receives the missing information, the administrative completeness review and overall time frames will resume. Your application will not be complete until all of the requested information is received. If you do not supply the missing information within sixty (60) days of receiving the written notice, your application may be denied.

2) Substantive Review Time Frame

Within sixty (60) days after the Department determines that the application is complete, the Department will review your application to determine whether it meets the substantive criteria required by statute or rule. By mutual written agreement between you and the Department, the time for substantive review may be extended by up to 52 days, which is twenty five (25) percent of the overall time frame as provided in A.R.S. § 41-1075 (B).

During the substantive review, the Department may make one written request for additional information. You may also agree in writing to allow the Department to submit supplemental requests for additional information. If additional information is requested by the Department, both the substantive review and overall time frames will be suspended. When the additional information is received, the substantive review and overall time frames will resume.

At the end of the Department's substantive review, the Department will send you a written notice either granting or denying your application. If your application is denied, the notice will included the justification for the denial and an explanation of your right to appeal the denial.

NOTICE

A.R.S. § 41-1030(B), (D), (E) and (F) provide as follows:

B. An agency shall not base a licensing decision in whole or in part on a licensing requirement or condition that is not specifically authorized by statute, rule or state tribal gaming compact. A general grant of authority in statute does not constitute a basis for imposing a licensing requirement or condition unless a rule is made pursuant to that general grant of authority that specifically authorizes the requirement or condition.

D. This section may be enforced in a private civil action and relief may be awarded against the state. The court may award reasonable attorney fees, damages and all fees associated with the license application to a party that prevails in an action against the state for a violation of this section.

E. A state employee may not intentionally or knowingly violate this section. A violation of this section is cause for disciplinary action or dismissal pursuant to the agency's adopted personnel policy.

F. This section does not abrogate the immunity provided by section 12-820.01 or 12-820.02.

If you have any questions or require additional information, please contact:

Office of Assured & Adequate Water Supply
1110 W Washington St, Ste 310
Phoenix, Arizona 85007-2954
Telephone: 602-771-8599
Fax: 602-771-8689
Email: assuredadequate@azwater.gov

ARIZONA DEPARTMENT OF WATER RESOURCES OFFICE OF ASSURED AND ADEQUATE WATER SUPPLY 1110 W Washington St, Ste 310 PHOENIX, ARIZONA 85007-2954 (602) 771-8599 Fax: (602) 771-8689 assuredadequate@azwater.gov	DATE RECEIVED:
APPLICATION NO:	

DESIGNATION OR MODIFICATION OF DESIGNATION OF ASSURED WATER SUPPLY APPLICATION

PART A - GENERAL INFORMATION

1. This is an application for: ☐ New Designation ☒ Modification of an existing Designation

If this is a modification of an existing designation, you may expressly reference items submitted in support of a previous application rather than resubmitting identical items. However, please provide updated documentation if more recent information is available.

2. Name of municipal provider: Town of Marana AMA: Tucson

ADWR No. 56- 56-000107.0000 County: Pima

3. Name and address of person representing the municipal provider:

Name: Jing Luo

Title: Water Director E-Mail: jluo@maranaaz.gov

Address: 11555 W. Civic Center Dr. Marana, AZ 85653 Phone: 520-382-2560 Fax:

4. Contact person for questions regarding this application:

Name: Asia Philbin

Company: Town of Marana Water Department E-Mail: aphilbin@maranaaz.gov

Address: 11555 W. Civic Center Dr. Marana, AZ 85653 Phone: 520-382-2502 Fax:

5. If not already on file with the Department, provide a map of the service area that includes the current and proposed distribution system and any treatment or storage facilities and reference as an attachment.

Up-to-date service area map on file with the Department	☐	
Hard copy of service area map attached	☐	Attachment:
Electronic copy of service area map attached	☑	Attachment: A5 ServiceAreaMap

I DO HEREBY certify that the information contained in **this application and all information accompanying it is true and correct to the best of my knowledge and belief. NOTE:** If the applicant is a city or town, include a resolution of the governing body of the city or town authorizing the person to sign the application.

Jing Luo, PhD, PE	Water Director
Printed Name	Title
Cuo Jing	5/19/2022
Signature	Date

PART B - DEMAND ESTIMATE

Please use the Designation demand spreadsheet provided by the Department to document the estimated water demand in the service area. See the Department's website at http://www.azwater.gov and click on Permits / Reporting to download a copy of the Designation demand spreadsheet **OR** provide a detailed explanation of the assumptions used in estimating the water demand for the water service area and reference the demand spreadsheet and/or the assumptions used as an attachment and complete Table B below. Attachment: B_DesignationDemandWorksheet.

Requested Term of Designation: 20 years; 2021-2041 (not less than two years after issuance).

CURRENT ANNUAL DEMAND: 2,922 acre-feet per year **YEAR**: 2021

The current demand is the total water production for the most recent completed calendar year. This includes both potable and non-potable water sources, as well as water that is lost or unaccounted for.

COMMITTED DEMAND: 2,626 acre-feet per year

The committed demand is the estimated demand for recorded, but unbuilt lots within the water service area.

PROJECTED DEMAND: 10,112 acre-feet per year **YEAR**: 2041

The projected demand is the demand, at build-out, of lots that will be recorded and other customers expected to be added during the term of the designation. The projected demand should equal the difference between the total amount of water projected to be delivered in the projected calendar year you are seeking to be designated through, minus the current demand.

TOTAL ANNUAL DEMAND: 15,660 acre-feet per year **YEAR**: 2041

The total annual demand is the sum of the current demand, committed demand and projected demand provided above.

TABLE B:
SUM OF CURRENT, COMMITTED, AND PROJECTED DEMAND FOR THE WATER SERVICE AREA FOR THE CURRENT YEAR PLUS EACH SUBSEQUENT YEAR FOR THE NEXT TEN YEARS

Year	1	2	3	4	5	6	7	8	9	10
Population										
Current Demand (af/yr)										
Committed demand (af/yr)										
Projected demand (af/yr)										
Total Demand (af-yr)										

(If proposed term of Designation is greater than 10 years, please provide this information on a separate sheet.)

PART C- PHYSICAL AVAILABILITY OF SOURCE WATER

1. A comprehensive hydrologic study must be submitted with this application, unless the Department has previously reviewed the hydrologic conditions for this area and has issued a valid Letter of Water Availability, Physical Availability Determination or Analysis of Assured Water Supply. The Department has adopted a substantive policy statement to provide guidelines for preparing a new hydrologic study. The policy statement is available on the Department's website at http://www.azwater.gov under the Permits, Forms and Applications page.

   Please indicate the evidence of physical availability and reference as an attachment: C1_Report_TownofMarana_DAWS

☐ Water Availability Letter ☐ Physical Availability Determination

☒ New Hydrologic Study ☐ Other, please specify: _____

Technical Registration Requirements

The Arizona Department of Water Resources requires hydrologic and engineering reports, studies, drawings and maps, specifications, analyses or related data submitted to support the evaluation of this application to be signed and sealed by a professional geologist or qualified professional engineer who is registered in the State of Arizona under the authority of A.R.S. Title 32, Chapter 1.

2. If not already included in the attachment under Part C, question 1 above, please attach a list of all existing service area wells including the well registration numbers, legal description (township, range, section, 180, 40, 10 quarter sections) and pump capacity of each well in gallons per minute. If your application includes proposed wells, please provide the legal description (township, range, section, 180, 40, 10 quarter sections) of each proposed well and the anticipated pump capacity of each proposed well in gallons per minute. Attachment C2_List of Wells

3. If you had a pre-application meeting with the Department, please indicate the date of that meeting: 1/12/2022.

4. If you submitted a hydrologic study proposal to the Department's Hydrology Division for their review prior to submitting this application, please indicate the date of submittal of the hydrologic study proposal: N/A.

PART D- CONTINUOUS AVAILABILITY AND LEGAL AVAILABILITY OF SOURCE WATER

1. If the municipal provider has not yet established a service area right, please attach a copy of the Initial Petition to Establish New Water Service Area as submitted to the AMA. N/A

2. If applicant is a private water company, attach a copy of any Decision and Order from the Arizona Corporation Commission establishing the CC&N or extension of CC&N. Reference as attachment: N/A.

3. To complete the table below, multiply the Total Annual Demand computed in Part B by 100 to obtain the 100-year demand and enter at the bottom of the chart. Enter the appropriate 100-year demands for each type of water delivered to the subdivision for each category. See attachment D3_SourceOfSupplyTable

Source of Supply	**100 Year Volume (ac-ft)**
Groundwater	
Central Arizona Project Water: Direct treatment and delivery	
Stored and Recovered water	
Surface Water: Direct treatment and delivery	
Stored and Recovered water	
Effluent: Direct treatment and delivery	
Stored and Recovered water	
Other	
Total 100-yr Volume	

4. See A.A.C. R12-15-717 and R12-15-718 for documentation that should be submitted as evidence of continuous availability and legal availability (respectively) for each source of supply. Please reference attachment(s): D4_Continuous&LegalAvailability

PART E - CONSISTENCY WITH MANAGEMENT PLAN

1. For the municipal or county jurisdiction within which the service area is located, list any water conservation ordinances and briefly describe the sections that apply to the water service area. If they will serve as evidence of your demand projections, please reference as attachment. Attachment: E2_CER2021.

2. Generally describe any other current or proposed conservation practices, rates, fees, restrictions, policies and devices to be utilized within the service area to meet the conservation requirements of the Management Plan and reference as an attachment. Attachment: E2_TownCode14-7.

NOTE: See A.A.C. R12-15-7219A). If demand estimates rely on these conservation requirements, please reference attachment: N/A

PART F - FINANCIAL CAPABILITY

Please check one or more of the following and include attachments as necessary: Attachment F_CFO_Statement

☒ The applicant has constructed adequate delivery, storage, and treatment works.

☐ The applicant has entered into written agreements requiring potential developers to construct adequate delivery, storage, and treatment works. Attachment: N/A.

If the applicant is a city or town, the applicant has:

☒ Adopted a five year capital improvement plan that provides for the construction, or the commencement of construction, of adequate delivery, storage, and treatment works in a timely manner, and has submitted a certification by the applicant's chief financial officer that finances are available to implement that portion of the five-year plan; or

☒ Submitted evidence demonstrating that financing mechanisms are in place to construct adequate delivery, storage, and treatment works in a timely manner.

☐ If the applicant is a private water company, the applicant has received approval from the Arizona Corporation Commission for financing the construction of adequate delivery, storage, and treatment works.

PART G - CONSISTENCY WITH MANAGEMENT GOAL

Please check all that apply below:

☒ Enrollment of the water provider as a member service area in the Central Arizona Groundwater Replenishment District (Phoenix, Tucson and Pinal AMAs **ONLY**).
A separate application for membership must be filed with the Central Arizona Water Conservation District, and the membership documents **must be executed and recorded before** the Designation will be issued.

☒ Extinguishment of grandfathered groundwater rights dedicated to the municipal provider's water service area.
Provide evidence and reference the attachment: G_Extinguishment Credits

☒ Other. Please specify: CAP M&I Water Subcontract, effluent recharge USF permit, water storage permits, recovery well permits.

PART H - WATER QUALITY

1. Are the well or wells from which water will be withdrawn by the municipal provider within one mile of a Water Quality Assurance Revolving Fund (WQARF) or Superfund site? ☐ Yes ☒ No.

   If "Yes", please submit a contaminant migration and mitigation analysis demonstrating that the water supply will continue to meet the water quality requirements in A.A.C. Title 18, Chapter 4, and reference as attachment: _____

2. ■ Municipal provider is or will be regulated by the Arizona Department of Environmental Quality (ADEQ) or another governmental entity with equivalent jurisdiction. If this applies, independent proof of adequate water quality is not required, please skip to Part H.

3. ■ If provider is currently regulated, provider is in compliance with all state and federal water quality regulations.

4. If the municipal provider serves or will serve 15 customers or less, provide current (within the last 60 days) analytical results on water samples taken from a well or wells constructed *within the service area*, demonstrating that the water meets the water quality requirements in A.A.C. Title 18, Chapter 4, and reference as attachment: _____

   NOTE: Information on the required water quality analyses may be found at the ADEQ website http://www.adeq.gov.

PART I – FEES

The initial fee for an Application for a Designation of Assured Water Supply or a Modification of a Designation of Assured Water Supply is $2,000. Total fees for this application are based upon an hourly billable rate, which can be found on the ADWR web site @www.azwater.gov. If the costs of reviewing your application exceed $2,000, you will be invoiced for the difference, up to a maximum total fee of $35,000. Payment may be made by cash, check, or credit card (if you wish to pay by credit card, please contact the Office of Assured and Adequate Water Supply at 602-771-8599). Checks should be made payable to the Arizona Department of Water Resources. In addition to the hourly application fee, the applicant must pay any review-related costs associated with the application and the actual cost of mailing or publishing any legal notice of the application or any notice of a pre-decision administrative hearing on the application. Review-related costs are: (1) costs associated with a pre-decision hearing on the application, such as court reporter services and facility rentals for the hearing, and (2) mileage expenses for a site visit conducted before issuing a decision on the application**. Failure to enclose the initial application fee will cause the application to be returned. Fees for a Designation of Assured Water Supply or a Modification of a Designation of Assured Water Supply Application are authorized by A.R.S. § 45-113 and A.A.C. R12-15-103.**

INITIAL APPLICATION FEE: **$ 2000.00**

Council-Regular Meeting **C3**

Meeting Date: 11/15/2022

To: Mayor and Council

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

From: Richelle Valenzuela, Executive Assistant

Date: November 15, 2022

Subject: Approval of the Regular Council Meeting Summary Minutes of November 1, 2022 (David L. Udall)

Attachments

Regular Council Meeting Summary Minutes, 11/01/2022

MARANA TOWN COUNCIL
REGULAR COUNCIL MEETING

11555 W. Civic Center Drive, Marana, Arizona 85653
Council Chambers, November 1, 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 6:01 PM and directed the Town Clerk to call the roll. **Vice Mayor Post** was excused. All other Council Members were present, constituting a quorum.

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

APPROVAL OF AGENDA

Council Member Ziegler moved to approve the agenda as presented. Council Member Officer seconded the motion. Motion passed, 6-0.

CALL TO THE PUBLIC

PROCLAMATIONS

MAYOR AND COUNCIL REPORTS: SUMMARY OF CURRENT EVENTS

Mayor Honea commented on the recent Arizona Association for Economic Development conference, the Parsons Steel's 50th Anniversary event, and the Cortaro Water Users' Association Customer Appreciation Luncheon event.

Council Member Ziegler commented on the Oro Valley State of the Town and on a donation given to the Oro Valley Chamber of Commerce.

MANAGER'S REPORT: SUMMARY OF CURRENT EVENTS

Town Manager Terry Rozema said the Town issued 38 single-family residential permits in October. Last October, there were 128 permits issued. He commented on the Senior Resource Fair, the upcoming Turkey Trot, and the draining of the El Rio Preserve. **Mr. Rozema** also provided an update on the multi-generational community center and highlighted that Marana was recently featured in the Arizona Golf Insider magazine.

PRESENTATIONS

CONSENT AGENDA

C1 Resolution No. 2022-109: Relating to Development; approving the final plat for Stack Self-Storage, Lots 1 and 2 located north of Silverbell Road and west of Coachline Boulevard within Section 28, Township 12 South and Range 12 East (Brian D. Varney)

C2 Resolution No. 2022-110: Relating to Development; approving and authorizing the Mayor to execute the Termination of Development Agreement between Old Lobo Villagio, LLC and the Town of Marana acknowledging termination of the Tangerine/Thornydale Development Agreement (Jane Fairall)

C3 Resolution No. 2022-111: Relating to Public Works; approving and authorizing the Mayor to execute a termination agreement between the Regional Transportation Authority of Pima County and the Town of Marana to terminate the Wildlife Linkages Amendment to Intergovernmental Transportation Funding Agreement for construction of improvements to Tangerine Road – Dove Mountain Boulevard/Twin Peaks Road to La Cañada Drive (Jane Fairall)

C4 Resolution No. 2022-112: Relating to Utilities; approving and authorizing the Mayor to sign agreements for construction of water and sewer facilities under private contract with Southern Arizona Logistics Center, LLC (David L. Udall)

C5 Resolution No. 2022-113: Relating to Utilities; approving and authorizing the Mayor to sign an amendment to the Intergovernmental Agreement, effective December 1, 2022, between the Town of Marana and Pima County for provision of water consumption data and sewer user account billing services (Jing Luo)

C6 Resolution No. 2022-114: Relating to Real Estate; approving and authorizing the Town Engineer to execute a Temporary Construction Easement granting Pima County the right to enter upon and to construct underground force main sewer pipelines through Town owned properties in the vicinity of the Santa Cruz River Park and El Rio Preserve (George Cardieri)

C7 Approval of the Regular Council Meeting Summary Minutes of October 18, 2022 (David L. Udall)

Council Member Kai moved to approve the Consent Agenda. Council Member Ziegler seconded the motion. Motion passed, 6-0.

LIQUOR LICENSES

BOARDS, COMMISSIONS AND COMMITTEES

COUNCIL ACTION

A1 PUBLIC HEARING: Ordinance No. 2022.024: Relating to Development; approving an amendment to the Sanders Grove Specific Plan, including comprehensive revisions to the Land Use Plan, an increase in the maximum number of residences permitted, and a change of the name of the plan to Ranch House Specific Plan, for the 841-acre specific plan area located north of Marana Road, east of Wentz Road, and west of Sanders Road; and approving a minor amendment to the Marana General Plan to amend the Future Circulation Map as it applies to the specific plan area (Brian D. Varney)

Resolution No. 2022-115: Relating to Development; declaring as a public record filed with the Town Clerk the Ranch House Specific Plan Amendment adopted by Ordinance No. 2022.024 (Brian D. Varney)

Mayor Honea opened the public hearing at 6:11 PM.

Senior Planner Brian Varney presented on this item. A copy of the PowerPoint presentation is on file with the Town Clerk's Office. **Mr. Varney** explained the proposed amendment changes the name of the specific plan from Sanders Grove to Ranch House and proposes the following major changes to the plan:

- New land use concept plan (see presentation slides for depictions)
    - Redesigned traffic circulation and open space
    - Land use categories and area allocations have changed
- Increased number of residential units

- Proposed increase from 2,500 units to 3,200 units, plus up to 300 units to be built as rental homes
- Maximum of 12% (384) of 3,200 units between 3,500 square feet and 4,500 square feet, and only in medium-high density residential (MHDR)
- Remainder of lots must be a minimum of 4,500 square feet

- Allow for attached and detached housing on smaller lots within MHDR

  - Attached and detached housing product on lots between 3,500 square feet and 4,500 square feet in MHDR

- Allow for multi-family residential use within the Commercial (C) land use designation only as a detached rental product

Mr. Varney said the minor General Plan amendment was limited to the Future Circulation Map, which currently specifies a future right-of-way width of 150 feet for Kirby Hughes Road and 190 feet for Hardin Road. However, the Sanders Grove Specific Plan and development agreement specify a right-of-way width of 90 feet for Kirby Hughes Road and 60 feet for Hardin Road. The proposed amendment to the General Plan would reduce the right-of-way width sizes accordingly. For a depiction of the Circulation Map, please see the presentation slides.

Mr. Varney said the Planning Commission considered the proposal on September 28, 2022 and unanimously (6-0) recommended approval to the Town Council, subject to the recommended conditions and with the additional condition of restricting "apartment-style multi-family housing." **Mr. Varney** said this was subsequently interpreted by Town staff as a condition prohibiting attached multi-family, apartment-style housing.

Keri Silvyn with Lazarus & Silvyn, PC presented on behalf of the applicant. A copy of the PowerPoint presentation is on file with the Town Clerk's Office. **Ms. Silvyn** said the request involved increasing the density of the specific plan to 4.2 residences per acre (RAC). She explained the new vision for the specific plan, including the focus on parks and rear-loaded homes, and showed concept depictions that can be viewed in the presentation slides.

Ms. Silvyn explained that in order to avoid the look of narrow, packed-together homes, the 3,500-square-foot lots would maintain the same width as the 4,500-square-foot lots (45 feet) and that the depth of the lots would be reduced. She also clarified that the proposal requesed multi-family residential uses designed as single-family/townhomes be permitted within the Commercial designation and that they be allowed to be attached.

Council Member Comerford expressed concern about grass in the parks. **Ms. Silvyn** explained the applicant would follow the Town's guidelines related to grass. **Randy Bury** with Moderne Communities, LLC said that artificial grass would be used.

Council Member Craig complemented the concept designs and the different and varied sizes of proposed housing products. She asked what the houses would look like. **Mr. Bury** provided a brief explanation of the transitional architecture planned.

Council Member Kai asked about the pricing of the 3,500-square-foot lots as compared to the 4,500-square-foot lots. **Mr. Bury** said there would be a difference in price, but said he could not give specific numbers due to the dynamic housing market conditions.

Council Member Ziegler agreed with **Council Member Craig** on the applicant bringing forward different housing products to the Town. She asked if the homeowners' association (HOA) parks would be open to the public. **Ms. Silvyn** said the HOA parks would be for HOA members and their guests. **Council Member Ziegler** asked about the project timeframe. **Mr. Bury** said his goal was to start development around the end of next year or the first quarter of the following year.

Council Member Officer commented about an experience in a similar community in East Mesa and praised the plan. He requested trails that would connect the parks.

Mayor Honea expressed concern regarding the 3,500-square-foot lot sizes.

Mr. Patrick Lim addressed the Council and asked about potential Section 8 housing in the proposed development. **Mayor Honea** said he does not believe the proposed development will have Section 8 housing.

Mayor Honea closed the public hearing at 6:48 PM.

Council Member Ziegler moved to adopt Ordinance No. 2022.024 and Resolution No. 2022-115. Council Member Comerford seconded the motion.

Town Attorney Jane Fairall reminded the Council about adding the condition requiring minimum lot width for detached product in the MHDR land use designation to be 45 feet.

Council Member Ziegler amended her motion to include Ms. Fairall's recommendation and Council Member Comerford seconded the motion, as amended. Motion to adopt Ordinance No. 2022.024 and Resolution No. 2022-115, as amended to include the condition requiring minimum lot width for detached product in the MHDR land use designation to be 45 feet, passed, 6-0.

A2 PUBLIC HEARING: Relating to Development; public hearing regarding the intent to assess development impact fees for street facilities, park facilities, water facilities, water reclamation facilities, and water resources, pursuant to Arizona Revised Statutes section 9-463.05 (Fausto Burruel, Jim Conroy, Jing Luo)

Public Works Director Fausto Burruel and **Water Director Dr. Jing Luo** presented on this item. Copies of both PowerPoint presentations are on file with the Town Clerk's Office.

Mr. Burruel provided an overview of the next step in the process of adopting impact fees, which is the establishment of the fees.

Mayor Honea opened the public hearing at 6:50 PM.

Mr. Burruel explained that impact fees can only be assessed, and credits given, for new improvements and not for maintenance. They cannot be used to improve existing deficiencies, must be proportionate, and must use current land use assumptions and infrastructure needs for a ten-year cycle. The land use assumptions and infrastructure improvement plans must be updated at lease every five years.

Mr. Burruel then provided a summary of the following:

- Street Impact Fee Calculations
    - Methodology:
        - Determined existing level of service and users of infrastructure
        - Calculated equivalent dwelling unit (EDU) relationships
        - Forecasted growth in the next 10 years
        - Determined infrastructure needed to serve the future growth
        - Determined portion of infrastructure attributable to the growth (the raw cost per EDU)
        - Assigned credits for concurrent revenues (if applicable)
    - **Mr. Burruel** showed a slide comparing the land use assumptions from the 2017 final report with the 2022 final report and said that when the 2022 land use assumptions were developed, the economic climate was a little different from what it is now. He also said that the impact fee process takes place every five years, and indicated it could be initiated earlier if desired. He said the majority of the Town's growth and commercial projects are anticipated to be in northwest Marana.
    - **Mr. Burruel** showed a streets fee service area slide and said the boundaries have not changed. The boundaries are set by geographic features (such as I-10, the Central Arizona Project (CAP) canal, and the Santa Cruz River) and by travel patterns.

- **Mr. Burruel** showed slides outlining the projected transportation projects in the northwest, northeast, and southern areas along with a slide providing a summary of infrastructure costs. Please see the presentation slides for details.
- **Mr Burruel** then provided a summary of the final fee process as follows:
    - The Infrastructure Improvement Plan (IIP) determines what infrastructure is required due to projected growth, but infrastructure provided likely yields more capacity than what is needed.
    - The fee study determines the proportional cost per EDU. This sets the Raw Impact Fee.
    - The fee study must also take into account other revenues that the Town receives and credit them against the Raw Impact Fee. This creates the Base Impact Fee, which is what is published as the "Impact Fee."
    - Should a developer build infrastructure that is part of the original IIP, the cost of that infrastructure is also credited against the Base Impact Fee. **Mr. Burruel** showed a slide providing an example of a construction sales tax credit. For more information, please see the presentation slides.
- **Mr. Burruel** showed a slide with a table providing a detailed summary of the streets facilities fees. For more information, please see the presentation slides.

- Parks Impact Fee Calculations

    - **Mr. Burruel** explained that the Council has already seen the parks impact fees in the documents accompanying the previous presentation of the land use assumptions and IIP. He said there were a few items needing correction, and that the corrections would be brought before Council at the December 6, 2022 Town Council meeting. He showed tables relating to the approved IIP for parks, and a summary of the base park impact fees. Please see the presentation slides for more information.

Mr. Burruel showed a slide summarizing the 2022 proposed base impact fees for streets and parks as compared to the current, 2017 base impact fees. The current impact fees for Northwest Marana streets, Northeast Marana streets, South Marana streets, and parks (Town-wide) are $3,719, $4,291, $4,327, and $2,461, respectively. By comparison, the 2022 proposed impact fees for those same areas are $2,206, $4,739, $4,759, and $2,530, respectively.

Council Member Ziegler asked what the impact fees would be for building a $350,000 home. **Mr. Buruell** explained that it would depend on where the house is located for the

streets and water-related fees. He said there is a GIS map that has been developed to help identify the cost for a particular location. **Council Member Ziegler** asked for an average total cost of what The Town's impact fees are. **Deputy Town Manager Erik Montague** said a fully loaded, 2017 impact fee currently ranges from $13,000 per lot to $16,000 per lot, depending upon where the development occurs.

Council Member Ziegler asked if the Town's impact fees were higher than in Oro Valley and Tucson, and **Mr. Burruel** responded that they are due to different infrastructure needs.

Dr. Luo presented on the water facilities, water reclamation facilities, and water resources impact fees as follows:

- Impact Fee Process Overview
    - The purpose of these fees is to recover infrastructure and resources costs to serve new customers from 2023–2032.
    - Growth and cost projections were completed based on the Town's land use assumptions and recently adopted IIPs.
    - Growth-related costs were capped at existing service levels.
    - The impact fee is a unit cost calculated by: growth-related costs divided by EDUs.

- Two calculation methods for water-related impact fees were utilized:
    - Incremental Method
        - Utilized for new development supported by new infrastructure.
            - Calculation: Projected costs divided by projected new EDUs equals the unit cost for the impact fee.
        - This method was used for the water infrastructure impact fee.
    - Hybrid Method
        - Utilized for new development supported by both existing and new infrastructure (for example: the wastewater treatment facility - has additional capacity that can be used to support new development).
            - Calculation: Costs for existing infrastructure plus the costs of new infrastructure divided by the total benefiting EDUs (existing and future) equals the unit cost for the impact fee
        - This method acknowledges costs already incurred to serve new development and recovers new development's proportionate share.
        - This method was used for the water resources and water reclamation impact fees.

- Water Infrastructure Impact Fee Calculations

- The incremental method was utilized.
- Benefit Areas: North Marana, Twin Peaks, Saguaro Bloom, Palo Verde, and the IGA area.
- The projected new EDUs added within the next ten years are as follows: 8,821 in North Marana, 1,988 in Twin Peaks, 850 in Saguaro Bloom, and 546 in the IGA area; totaling approximately 12,205.
- New infrastructure projects were identified in only two benefit areas: North Marana and Twin Peaks. For capital improvement projects that benefit two areas simultaneously, the cost was allocated proportionately to the EDU increase. For projects specific to a benefit area, the cost was allocated directly to that benefit area.
- Other eligible costs included the Water Master Plan cost, the Impact Fee Study, and the Hartman Vistas debt previously utilized for a project.
- Credit was provided for existing fund balance.
- The fee was calculated per EDU and scaled by AWWA meter capacity ratios.
- **Dr. Luo** showed slides depicting the water infrastructure benefit areas and outlining the water infrastructure impact fee unit cost. Please see the presentation slides for details.

- Water Reclamation Impact Fee Calculations

  - The hybrid method was utilized.
  - Single benefit area: Town Designated Management Area (DMA).
  - Benefiting EDUs for the Water Reclamation Facility (WRF) and Recharge Basin: 21,490 EDUs.
    - Current 1.5mgd capacity will have capacity until 2027
    - New 1.5mgd expansion will provide capacity beyond 2032
    - Total capacity recognizes all customers who will use WRF
    - 3mgd / 139.6gpd per EDU = 21,490 EDUs
  - For the collection system, the incremental method was utilized (9,267 new EDUs).
  - Other eligible costs included the Sewer Master Plan and Impact Fee Study.
  - Credit provided for existing fund balance
  - The fee was calculated per EDU and scaled by AWWA meter capacity ratios.
  - **Dr. Luo** showed slides depicting the sewer service area and outlining the water reclamation unit cost. Please see the presentation slides for details.

- Water Resources Impact Fee Calculations

  - The hybrid method was utilized.

- Single benefit area: entire water service area.
- Benefiting EDUs: 14,467.
  - WRF effluent: 3mgd / 270gpd per EDU = 11,111 EDUs
  - Additional resources acquisitions:
    - NIA/CAP: 242 AFY (216,044 gpd) / 270 gpd per EDU = 800 EDUs
    - Other acquisitions: 773 AFY (690,090 gpd) / 270 gpd per EDU = 2,556 EDUs
  - Total: 14,467 EDUs
- Other eligible costs included the Integrated Water Resources Master Plan and the Impact Fee Study.
- Credit was provided for existing fund balance.
- The fee was calculated per EDU and scaled by AWWA meter capacity ratios.
- **Dr. Luo** showed a table outlining the water resources unit cost. Please see the presentation slides for details.

Dr. Luo showed a slide summarizing the 2022 proposed impact fees for water infrastructure, water reclamation, and water resources as compared to the current, 2017 impact fees. The current water infrastructure impact fees for a five-eighth-inch water meter in the North Marana, Twin Peaks, and Saguaro Bloom benefit areas are $2,331, $2,740, and $838, respectively. The current water resources and water reclamation impact fees for a five-eighth-inch water meter are $3,050 and $3,930, respectively. By comparison, the 2022 proposed water infrastructure impact fees for a five-eighth-inch water meter in the North Marana, Twin Peaks, and Saguaro Bloom benefit areas are $3,356, $4,704, and $838, respectively. The 2022 proposed water resources and water reclamation impact fees for a five-eighth-inch water meter are $5,357 and $4,995, respectively. For current and proposed impact fee rates for other meter sizes, please see the presentation slides.

Dr. Luo explained the primary drivers of the water-related impact fees involved the infrastructure required to meet the rapid growth of the Town, the Council's direction that development should pay for the cost of growth, inflation and increased constriction costs, and the increased cost of water resources. She said the Town has made efforts to reduce the impact fee amounts, and highlighted that the Town expended several million dollars to help fund the NWRRDS projects, phase one of the water reclamation facility, and sewer collection augmentation projects.

Dr. Luo presented a slide comparing the 2017 impact fees comprising 4.3% of the average Marana home value to the proposed 2022 impact fees comprising 3.7% of the average Marana home value. Please see the presentation slides for details.

Mr. Burruell provided a timeline on the impact fee process. The impact fees are scheduled to come before Council for Council action at the December 6th, 2022 meeting. If adopted, they will take effect 75 days from that date.

Mr. David Godlewski addressed the Council on behalf of the Southern Arizona Home Builders Association. **Mr. Godlewski** recognized the work Town staff put into the fees and the leadership of the Town Council. He said that, in light of economic uncertainty and increased home prices, the proposed impact fees are concerning. He proposed adopting the parks and streets impact fee studies, but not implementing any increases. He also voiced opposition to the water and sewer impact fee studies as presented.

Mr. Ben Buehler-Garcia addressed the Council on behalf of the Arizona Multihousing Association. **Mr. Buehler-Garcia** said that, in light of the current housing affordability crisis, it is the wrong time to raise fees, especially as high as the water-related impact fees are proposed to be raised.

Council Member Ziegler asked what would happen if the Town did not pass some of the proposed impact fees at this time. She also requested the Council consider whether this was the right time to adopt higher fees. **Council Member Kai** asked if adjustments could be made.

Mr. Burruel explained it was difficult to predict what will happen with a ten-year horizon, but that the impact fee statute required the Town to go through the adoption process every five years. He said there was nothing prohibiting the Town from going through the process more frequently. **Town Attorney Jane Fairall** explained the Town must adopt fees within 30 and 60 days of this hearing. If the Town does not adopt new fees, it may not be able to charge any impact fees. **Ms. Fairall** explained the amount of the impact fees is within the Council's discretion. She said the fees presented were supported by the land use assumptions, the IIPs, and the calculations developed during this impact fee adoption process, and that such a record would not support the adoption of other fees chosen by the Council. She also said the Town does not need to wait five years to start the statutory impact fee adoption process again.

Mayor Honea said that while the Town's impact fees were the highest in Southern Arizona, the Town was also the fastest-growing community in Southern Arizona. He said someone needed to pay for the infrastructure required for new growth. If the fees were not assessed to the new growth, then existing taxpayers would have to pay for it, which could result in less money for police, etc.

Mayor Honea closed the public hearing at 7:52 PM.

A3 Resolution No. 2022-116: Relating to Emergency Management; approving and authorizing implementation of the 2022 Pima County Multi-Jurisdictional Hazard Mitigation Plan (Curry C. Hale)

Human Resources Director Curry Hale, Safety and Emergency Management Coordinator Rita Lebsack, and Sergeant Jose Alvarez presented on this item. A copy of the PowerPoint presentation is on file with the Town Clerk's Office.

Mr. Hale provided a brief introduction. He said the multi-jurisdictional hazard mitigation plan is renewed every five years and that it is required in order for the Town to receive Federal Emergency Management Agency (FEMA) funding.

Ms. Lezback said the purpose of the plan was to identify natural hazards impacting incorporated jurisdictions within Pima County and to develop mitigation strategies to address them.

Sergeant Alvarez provided the following example: On July 10, 2018, a Union Pacific train derailed between Twin Peaks Road and Avra Valley Road due to exceptionally heavy monsoon rains. He said the mitigation response required efforts from multiple jurisdictions in the region.

Council Member Kai moved to adopt Resolution No. 2022-116. Council Member Comerford seconded the motion. Motion passed, 6-0.

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://experience.arcgis.com/experience/9bcda179c412496a8be2a5af29727745/. During the presentation, **Mr. Angell** answered questions about the various projects.

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 Town of Marana v Pulte Home Company, LLC, Pima County Superior Court Case No. C20205095.

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

Council Member Ziegler moved to go into executive session. Council Member Kai seconded the motion. Motion passed, 6-0.

[An executive session on Item E2 was held, beginning at 8:08 PM and concluding at 8:31 PM.]

Mayor Honea stated the meeting was back in open session.

Town Attorney Jane Fairall requested a motion to direct staff to proceed as discussed in the executive session.

Council Member Comerford moved to direct staff to proceed as discussed in the executive session. Council Member Officer seconded the motion. Motion passed, 6-0.

FUTURE AGENDA ITEMS

Mayor Honea asked for future agenda items. There were no future agenda items.

ADJOURNMENT

Mayor Honea asked for a motion to adjourn the meeting.

Council Member Comerford moved to adjourn the meeting. Council Member Kai seconded the motion. Motion passed, 6-0. Meeting adjourned at 8:31 PM.

CERTIFICATION

I hereby certify that the foregoing are the true and correct minutes of the Marana Town Council meeting held on November 1, 2022. I further certify that a quorum was present.

_____

David L. Udall, Town Clerk

Council-Regular Meeting **A1**

Meeting Date: 11/15/2022

To: Mayor and Council

From: Brian Varney, Senior Planner

Date: November 15, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: PUBLIC HEARING: Ordinance No. 2022.016: Relating to Development; approving a rezoning of approximately 165 acres of land located east of Interstate 10, east and west of Adonis Road, and approximately 1.2 miles north of Tangerine Road from Zone E (Transportation Corridor) to R-4 (Residential), R-5 (Residential), and MR-1 (Multi-Family Residential) (Jason Angell)

Discussion:

Request
Paradigm Land Design, LLC is requesting approval to rezone approximately 165 acres of land from Zone E (Transportation Corridor) to R-4 (Residential), R-5 (Residential), and MR-1 (Multi-Family Residential).

Marana General Plan
The 2040 Marana General Plan designates the proposed rezoning area with the land use category of Traditional Neighborhood (TN). Traditional Neighborhood provides a residential density range of two (2) du/ac to eighteen (18) du/ac, and accommodates both single-family and multi-family residential uses.

Surrounding Land Use and Site Characteristics
The rezoning area is bordered to the north by undeveloped, Arizona State Land Department property zoned Agricultural (AG). Adjacent, to the east of the rezoning area, is the Central Arizona Project canal, beyond which is undeveloped

Zone E (Transportation Corridor) land. The south and west boundaries of the rezoning area are adjacent to both the Tortolita Shadows Specific Plan and the Rancho Marana Specific Plan (East), both of which are undeveloped at this time but are currently being master planned with the proposed rezoning area to be known as the Stonegate development.

The topography of the proposed rezoning area is characterized by relatively flat terrain with an average overall cross slope of approximately 1.3% from the northeast to the southwest. Town staff will require the submittal and approval of a drainage study and will evaluate all on-site and off-site drainage in greater detail during the review of the preliminary plats for this area.

Proposed Land Use

The Preliminary Development Plan for Stonegate East proposes both single-family and multi-family residential uses. The anticipated lot configuration shown proposes a mix of residential zoning categories with approximately 10.2 acres of Multi-family (MR-1), 55.6 acres of R-4 (minimum lot size of 4,000 S.F.), and 86.5 acres of R-5 (minimum lot size of 5,000 S.F.). A total of 777 residential units are anticipated within the rezoning area yielding a gross density of 4.7 dwelling units per acre.

The proposed rezoning area is planned to be integrated into the much larger Stonegate Master Plan that includes the portion of the Rancho Marana Specific Plan east of I-10, as well as the existing Tortolita Shadows Specific Plan that was approved by the Town Council in July of 2012. The development of the Stonegate Master Plan will result in the construction of a large amount of infrastructure east of Interstate 10 including major roadways such as the ultimate-width Adonis Road, a portion of Moore Road, a large collector loop road and numerous internal streets with the corresponding utilities and drainage facilities required. The Preliminary Development Plan within the site analysis document illustrates a community park, approximately 5 acres in size, as well as a number of smaller neighborhood parks. Given the rezoning area will not necessarily contain a stand-alone development, and will be integrated into a larger planning area, staff will defer the ultimate park and recreation component of the proposed preliminary development plan to the platting stage of the development. The individual plats within the master plan will be carefully reviewed for compliance with the Town's recreational area standards. Parks, trails, and paths will be coordinated within the larger, master planning area to ensure seamless connectivity not only within Stonegate, but also with the adjacent Mandarina project to the south.

It should be noted that some of the planning areas (blocks) shown on the Preliminary Development Plan extend beyond the boundary of the Rezoning Area and overlap the existing specific plans [Tortolita Shadows and Rancho Marana (East)]. Staff has been working with the applicant on this matter, and it has been determined that the most practical and efficient solution is to perform a minor amendment to the conceptual land use plans for both specific plans, specifically along portions of the perimeter of each plan. This will enable the applicant and the

Town to process forthcoming preliminary and final plats in accordance with the desired layout shown on the master plan and avoid abrupt divisions at the respective boundaries.

Access and Circulation
Access to the rezoning area shall be provided through the Stonegate Master Plan area via the construction of the ultimate-width Adonis Road, and a portion of Moore Road, as well as a collector loop road and various internal streets. The property owners / developers shall be required to build Adonis Road to a four-lane divided roadway within their development. Based on future traffic volumes, property owners/developers will also be required to expand Adonis Road to a four-lane divided roadway, south to Mandarina Boulevard in accordance with review performed by the Town's Traffic Engineering Division. The overall Stonegate Master Plan Traffic Impact Analysis, which includes the proposed rezoning area, is under review and has not yet been approved by the Marana Traffic Engineering Division.

Utilities
The rezoning area is located within the Town of Marana water service area and will be served by the Town. The property owner / developer will be responsible for the extension of the public water system required to serve the area. A proposed plan identifying water use, fire flow requirements and all on-site and off-site water facilities will be required. Water service agreement(s) 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 time of development. Sewer service will be provided to the rezoning area by Marana Water. The property owner / developer will be responsible for onsite sewer infrastructure, including an anticipated lift station, and will be required to provide all necessary sewer plans and models to the Town for review and approval. The rezoning area lies within the service areas of Northwest Fire District, TRICO, Southwest Gas, Century Link and Comcast.

Citizen Participation
There are only three property owners (U.S. Bureau of Reclamation, Mandarina Holdings, LLC, and TMR Investors, LLC) within the general vicinity of the rezoning area. The applicant contacted owners directly by mail, providing a narrative and map of the proposed rezoning, and asked to be contacted directly with any questions or comments regarding the proposal.The applicant has been working directly with Mandarina Holdings, LLC, the property owners directly to the south, throughout the planning and design of the project. No response was received from the other two entities.

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 extending public services and trails and providing additional 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 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 subject property has remained vacant since annexation in to 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:

Staff recommends the Council continue this item to a date certain to allow for more time for the applicant and Town staff to finalize a development agreement.

Suggested Motion:

I move to continue Ordinance No. 2022.016 to the January 17, 2023 Town Council meeting.

Attachments

Ordinance No. 2022.016
Exhibit A to Ordinance
Exhibit B to Ordinance
PCZ2110-003 SGE Map
PCZ2110-003 SGE App
PCZ2110-003 SGE Site Analysis

MARANA ORDINANCE NO. 2022.016

RELATING TO DEVELOPMENT; APPROVING A REZONING OF APPROXIMATELY 165 ACRES OF LAND LOCATED EAST OF INTERSTATE 10, EAST AND WEST OF ADONIS ROAD, AND APPROXIMATELY 1.2 MILES NORTH OF TANGERINE ROAD FROM ZONE E (TRANSPORTATION CORRIDOR) TO R-4 (RESIDENTIAL), R-5 (RESIDENTIAL) AND MR-1 (MULTI-FAMILY RESIDENTIAL)

WHEREAS CLB Real Property Holding Company LLC, and Tangerine PBS LLC, (the "Property Owners"), own approximately 165 acres of land located east of Interstate 10, east and west of Adonis Road, and approximately 1.2 miles north of Tangerine Road within Section 25 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 E (Transportation Corridor) to R-4 (Residential, Single-Family), R-5 (Residential, Single-Family), and MR-1 (Residential, multi-family) ("this Rezoning"); and

WHEREAS the Marana Town Council adopted Ordinance No. 2012.05 on July 17, 2012 approving a Specific Plan for Tortolita Shadows, which includes conditions that directly affect the development of the Rezoning Area and shall remain; and

WHEREAS the Marana Planning Commission held a public hearing to consider this Rezoning on March 30, 2022, and voted unanimously 6-0 to recommend that the Town Council approve this Rezoning subject to the recommended conditions, plus an amended condition, as requested by staff; and

WHEREAS the Marana Mayor and Town Council held a public hearing to consider this Rezoning on November 15, 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 Zone E (Transportation Corridor) to R-4 (Residential, single-family), R-5 (Residential, single-family), and MR-1 (Residential, multi-family), as depicted on Exhibit "B" attached to and incorporated in this ordinance by this reference.

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 preliminary 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 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 Marana 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 Marana Water (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. The maximum number of residential lots within the Rezoning Area shall not exceed 777.
9. 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.
10. 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.
11. 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.
12. The Property Owners shall not cause any lot split of any kind without the written consent of the Town of Marana.
13. Final approval of a Traffic Impact Analysis must be issued by the Traffic Engineering Division prior to the approval of any final subdivision plat within the Rezoning Area.
14. The Property Owners shall be responsible for design and construction of traffic signals at any loop road intersection with Adonis Road within the Rezoning Area, when found warranted by traffic studies, and consistent with Town of Marana Ordinance No. 2012.05.
15. The Property Owners shall be required to build Adonis Road to a four-lane divided roadway within the Stonegate Master Plan development. Based on traffic analyses, the Property Owners will also be required to expand Adonis Road to a four-lane divided roadway south to Mandarina Boulevard in accordance with review performed by the Town's Traffic Engineering Division.

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 15th day of November, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

EXHIBIT A to Marana Ordinance No. 2022.016

LEGAL DESCRIPTION

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

Parcel No. 1: (APN: 217-33-001F and 217-33-001E)

The East half of Section 25, Township 11 South, Range 11 East, Gila and Salt River Base and Meridian, Pima County, Arizona;

EXCEPT the West half of the Southeast quarter;

FURTHER EXCEPT that portion described in Judgment recorded in Docket 7780, Page 3 described as follows:

BEGINNING at the Southeast corner of said Section 25;

THENCE, along the South boundary of said Section 25, South 89 degrees 31 minutes 37 seconds West, a distance of 163.21 feet to a point that bears North 89 degrees 31 minutes 37 seconds East 2482.79 feet from the South quarter corner of said Section 25;

THENCE, leaving said South boundary North 30 degrees 26 minutes 46 seconds West, a distance of 223.94 feet;

THENCE, North 59 degrees 33 minutes 14 seconds East, a distance of 99.99 feet;

THENCE, North 30 degrees 26 minutes 46 seconds West, a distance of 2270.45 feet to a point in the West boundary of the East half of the Southeast quarter of said Section 25;

THENCE, along said West boundary North 00 degrees 28 minutes 01 seconds West, a distance of 427.75 feet to the Northwest corner of said East half of the Southeast quarter;

THENCE, along the North boundary of the South half of said Section 25, South 89 degrees 32 minutes 12 seconds West, a distance of 246.76 feet;

THENCE, leaving said North boundary North 30 degrees 26 minutes 46 seconds West, a distance of 1266.83 feet;

THENCE, South 59 degrees 33 minutes 14 seconds West, a distance of 99.99 feet;

THENCE, North 34 degrees 49 minutes 22 seconds West, a distance of 406.64 feet;

THENCE, North 50 degrees 48 minutes 00 seconds East, a distance of 99.99 feet;

THENCE, North 39 degrees 12 minutes 00 seconds West, a distance of 326.34 feet to a point in the West boundary of said East half of Section 25;

THENCE, along said West boundary North 00 degrees 27 minutes 16 seconds West, a distance of 938.98 feet to the North quarter corner of said Section 25;

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EXHIBIT A
(Continued)

THENCE, along the North boundary of said Section 25 North 89 degrees 33 minutes 18 seconds East, a distance of 913.24 feet to a point that bears South 89 degrees 33 minutes 18 seconds West 1730.47 feet from the Northeast corner of said Section 25;

THENCE, leaving said North boundary South 39 degrees 12 minutes 00 seconds East, a distance of 798.10 feet;

THENCE, South 30 degrees 26 minutes 46 seconds East, a distance of 2464.96 feet to a point in the East boundary of said Section 25 that bears South 00 degrees 28 minutes 45 seconds East 2757.07 feet from the Northeast corner of said Section 25;

THENCE, along said East boundary South 00 degrees 28 minutes 45 seconds East, a distance of 2519.46 feet to the point of BEGINNING.

FURTHER EXCEPT that portion lying Northeasterly of the Northeasterly line of that portion described in Judgment recorded in Docket 7780, Page 3 described as follows:

BEGINNING at the Southeast corner of said Section 25;

THENCE, along the South boundary of said Section 25, South 89 degrees 31 minutes 37 seconds West, a distance of 163.21 feet to a point that bears North 89 degrees 31 minutes 37 seconds East 2482.79 feet from the South quarter corner of said Section 25;

THENCE, leaving said South boundary North 30 degrees 26 minutes 46 seconds West, a distance of 223.94 feet;

THENCE, North 59 degrees 33 minutes 14 seconds East, a distance of 99.99 feet;

THENCE, North 30 degrees 26 minutes 46 seconds West, a distance of 2270.45 feet to a point in the West boundary of the East half of the Southeast quarter of said Section 25;

THENCE, along said West boundary North 00 degrees 28 minutes 01 seconds West, a distance of 427.75 feet to the Northwest corner of said East half of the Southeast quarter;

THENCE, along the North boundary of the South half of said Section 25, South 89 degrees 32 minutes 12 seconds West, a distance of 246.76 feet;

THENCE, leaving said North boundary North 30 degrees 26 minutes 46 seconds West, a distance of 1266.83 feet;

THENCE, South 59 degrees 33 minutes 14 seconds West, a distance of 99.99 feet;

THENCE, North 34 degrees 49 minutes 22 seconds West, a distance of 406.64 feet;

THENCE, North 50 degrees 48 minutes 00 seconds East, a distance of 99.99 feet;

THENCE, North 39 degrees 12 minutes 00 seconds West, a distance of 326.34 feet to a point in the West boundary of said East half of Section 25;

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AMERICAN LAND TITLE ASSOCIATION

EXHIBIT A
(Continued)

THENCE, along said West boundary North 00 degrees 27 minutes 16 seconds West, a distance of 938.98 feet to the North quarter corner of said Section 25;
THENCE, along the North boundary of said Section 25 North 89 degrees 33 minutes 18 seconds East, a distance of 913.24 feet to a point that bears South 89 degrees 33 minutes 18 seconds West 1730.47 feet from the Northeast corner of said Section 25;

THENCE, leaving said North boundary South 39 degrees 12 minutes 00 seconds East, a distance of 798.10 feet;

THENCE, South 30 degrees 26 minutes 46 seconds East, a distance of 2464.96 feet to a point in the East boundary of said Section 25 that bears South 00 degrees 28 minutes 45 seconds East 2757.07 feet from the Northeast corner of said Section 25;

THENCE, along said East boundary South 00 degrees 28 minutes 45 seconds East, a distance of 2519.46 feet to the point of BEGINNING.

(Parcel No. 2 and Parcel No. 3 below comprise APN: 217-33-002Q, 217-33-002N, 217-33-002R, 217-33-002P and 217-33-002K)

Parcel No. 2:

The Northwest quarter of Section 25, Township 11 South, Range 11 East of the Gila and Salt River Base and Meridian, Pima County, Arizona;

EXCEPT any portion of the West half of said Section 25, conveyed in Docket 7659, Page 5, being more particularly described as follows:

BEGINNING at the Northwest corner of said Section 25;

Thence along the North boundary of said Section 25, North 89 degrees 33 minutes 18 seconds East recorded (North 89 degrees 45 minutes 44 seconds West, measured), a distance of 1890.12 feet recorded (1889.77 feet, measured) to the TRUE POINT OF BEGINNING;

Thence continuing along said North boundary, North 89 degrees 33 minutes 18 seconds East recorded (North 89 degrees 45 minutes 44 seconds West, measured), a distance of 753.59 to the Northeast corner of said West half of Section 25;

Thence along the East boundary of said West half, South 00 degrees 27 minutes 16 seconds East recorded (South 00 degrees 12 minutes 48 seconds East, measured), a distance of 938.98 feet to the point that bears North 00 degrees 27 minutes 16 seconds West recorded (North 00 degrees 12 minutes 48 seconds West, measured), 4338.86 feet distant from the South quarter corner of said Section 25;

Thence leaving said East boundary, North 39 degrees 12 minutes 00 seconds West recorded (North 38 degrees 31 minutes 35 seconds West, measured), a distance of 1204.08 feet recorded (1204.24 feet measured) to the TRUE POINT OF BEGINNING; AND

FURTHER EXCEPT that portion conveyed in Docket 9675, Page 1348 described as follows:

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EXHIBIT A
(Continued)

That portion of the West half of Section 25, Township 11 South, Range 11 East of the Gila and Salt River Base and Meridian, Pima County, Arizona, further described as follows:

COMMENCING at the Northwest corner of said Section 25;

Thence South 00 degrees 02 minutes 54 seconds East, along the West line of said Section 25, a distance of 1980.22 feet to the TRUE POINT OF BEGINNING;

Thence North 89 degrees 55 minutes 01 seconds East, 1624.60 feet;

Thence along a curve to the right, being concave to the West, having a radius of 1280.73 feet, a central angle of 29 degrees 58 minutes 59 seconds and arc length of 670.21 feet;

Thence South 10 degrees 00 minutes 00 seconds West, 604.97 feet;

Thence North 80 degrees 00 minutes 00 seconds West, 1453.52 feet to a point of curve:

Thence on a curve to the left, concave to the South, having a radius of 1250.00 feet, a central angle of 6 degrees 41 minutes 34 seconds, an arc length of 146.01 feet to the West Section line of said Section 25;

Thence North 00 degrees 02 minutes 40 seconds West, along the Section line, 324.03 feet to the West quarter corner thereof;

Thence North 00 degrees 02 minutes 54 seconds West, along said Section line, 660.16 feet to the TRUE POINT OF
BEGINNING; AND

FURTHER EXCEPT that portion described as Parcel 3 Docket 8874, Page 1453, described as follows::

That portion of the West half of Section 25, Township 11 South, Range 11 East of the Gila and Salt River Base and Meridian, Pima County, Arizona, described as follows:

BEGINNING at the Northwest comer of said Section 25;

Thence North 89 degrees 56 minutes 32 seconds East along the North line of said Section 25, a distance of 1652.23 feet to the TRUE POINT OF BEGINNING;

Thence North 89 degrees 56 minutes 32 seconds East, a distance of 237.65 feet to a point on the Westerly right of way line of the Central Arizona Project:

Thence South 38 degrees 50 minutes 13 seconds East along said right of way line, a distance of 1203.99 feet to a point on the North and South mid-section line of said Section 25:

Thence South 00 degrees 04 minutes 54 seconds East, along said North and South mid-section line of said Section 25, a distance of 1700.41 feet to the center of said Section 25:

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EXHIBIT A
(Continued)

Thence South 00 degrees 04 minutes 54 seconds East, along said North and South mid-section line of said Section 25, a distance of 785.77 feet to a point;

Thence North 80 degrees 00 minutes 00 seconds West, a distance of 1086.07 feet to a point;

Thence North 10 degrees 00 minutes 00 seconds East, a distance of 604.97 feet to the point of curvature of a 1280.73 foot radius curve concave to the Southwest;

Thence Northerly along said curve through a central angle of 59 degrees 15 minutes 14 seconds, a distance of 1324.50 feet to a point having a radial bearing of South 40 degrees 44 minutes 46 seconds West;

Thence North 26 degrees 37 minutes 26 seconds East, a distance of 880.17 feet to a point;

Thence North 00 degrees 04 minutes 09 seconds West, a distance of 659.86 feet to a point on the North line of said Section 25 and the TRUE POINT OF BEGINNING.

FURTHER EXCEPTING THEREFROM that portion conveyed to the Town of Marana, an Arizona municipal corporation by Special Warranty Deed recorded July 2, 2018 at Recording No. 20181830679.

Parcel No. 3:

That portion of the West Half of Section 25, Township 11 South, Range 11 East of the Gila and Salt River Base and Meridian, Pima County. Arizona, further described as follows:

COMMENCING at the Northwest comer of said Section 25;

Thence North 89 degrees 56 minutes 32 seconds East, along the North Section line, a distance of 1652.23 feet to the TRUE POINT OF BEGINNING:

Thence continuing North 89 degrees 56 minutes 32 seconds East, 237.65 feet:

Thence South 38 degrees 50 minutes 13 seconds East, 1203.99 feet to a point on the center Section line;

Thence South 00 degrees 04 minutes 54 seconds East, along said center Section line, a distance of 1040.26 feet;

Thence South 89 degrees 55 minutes 01 seconds West, 1020.12 feet;

Thence along a curve to the left, concave to the Southwest, having a radius of 1280.73 feet, a central angle of 29 degrees 16 minutes 15 seconds, an arc length of 654.29 feet;

Thence North 26 degrees 37 minutes 26 seconds East, a distance of 880.17 feet;

Thence North 00 degrees 04 minutes 09 seconds West, 659.86 feet to the TRUE POINT OF BEGINNING.

EXCEPTING THEREFROM that portion conveyed to the Town of Marana, an Arizona municipal corporation by Special Warranty Deed recorded July 2, 2018 at Recording No. 20181830679.

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by Fidelity National Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I—Requirements; and Schedule B, Part II—Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.

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EXHIBIT A
(Continued)

APN: **217-33-002L, 217-33-002K, 217-33-002C, 217-33-001E/217-33-001F**

This page is only a part of a 2016 ALTA® Commitment for Title Insurance issued by Fidelity National Title Insurance Company. This Commitment is not valid without the Notice; the Commitment to Issue Policy; the Commitment Conditions; Schedule A; Schedule B, Part I—Requirements; and Schedule B, Part II—Exceptions; and a counter-signature by the Company or its issuing agent that may be in electronic form.

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EXHIBIT B to Marana Ordinance No. 2022.016

R-4 Zoning 62.8± Ac.

MR-1 Zoning 11.0± Ac.

R-5 Zoning 91.4± Ac.

N89°35'31"E 1047.97'

N89°35'31"E 843.29'

L=1128.38', R=1000.00' Δ=64°39'00"

N89°33'09"E 2643.81'

NORTHEAST QUARTER CORNER OF SECTION 25, T11S, R11E

S0°25'27"E 929.57'

L=561.58', R=1000.00' Δ=32°10'30"

N52°23'50"E 214.81'

L=627.03', R=1199.86' Δ=29°56'30"

L=467.32', R=1199.86' Δ=22°19'00"

S0°25'27"E 1051.47'

N18°35'36"W 216.84'

N89°32'39"E 835.07'

N18°35'36"W 94.28'

S9°26'41"E 962.48'

N39°12'04"W 1203.58'

L=212.61', R=1000.00' Δ=12°10'50"

N60°19'04"E 89.92'

N18°35'38"W 362.59'

N33°12'06"W 396.55'

S59°33'14"W 99.99'

N71°05'06"E 1416.48'

N30°26'43"W 1266.81'

N89°32'39"E 296.41'

N89°32'21"E 1075.69'

S0°27'34"E 659.75'

N89°32'39"E 1514.21'

S00°25'23"E 2640.19'

S00°29'04"E 2638.34'

S00°29'18"E 2638.65'

2211.34' S0°28'28"E

N30°26'42"W 2270.42'

N59°33'14"E 99.99'

N30°26'46"W 224.44'

N89°31'08"E 1159.70'

N89°31'08"E 2646.28'

N89°31'29"E 2646.79'

RANCHO MARANA EAST

TORTOLITA SHADOWS

MANDARINA

Grier Road

Moore Road (future)

Adonis Road

CAP Canal

Interstate-10

Moore Road

SOUTHWEST QUARTER CORNER OFSECTION 25, T11S, R11E

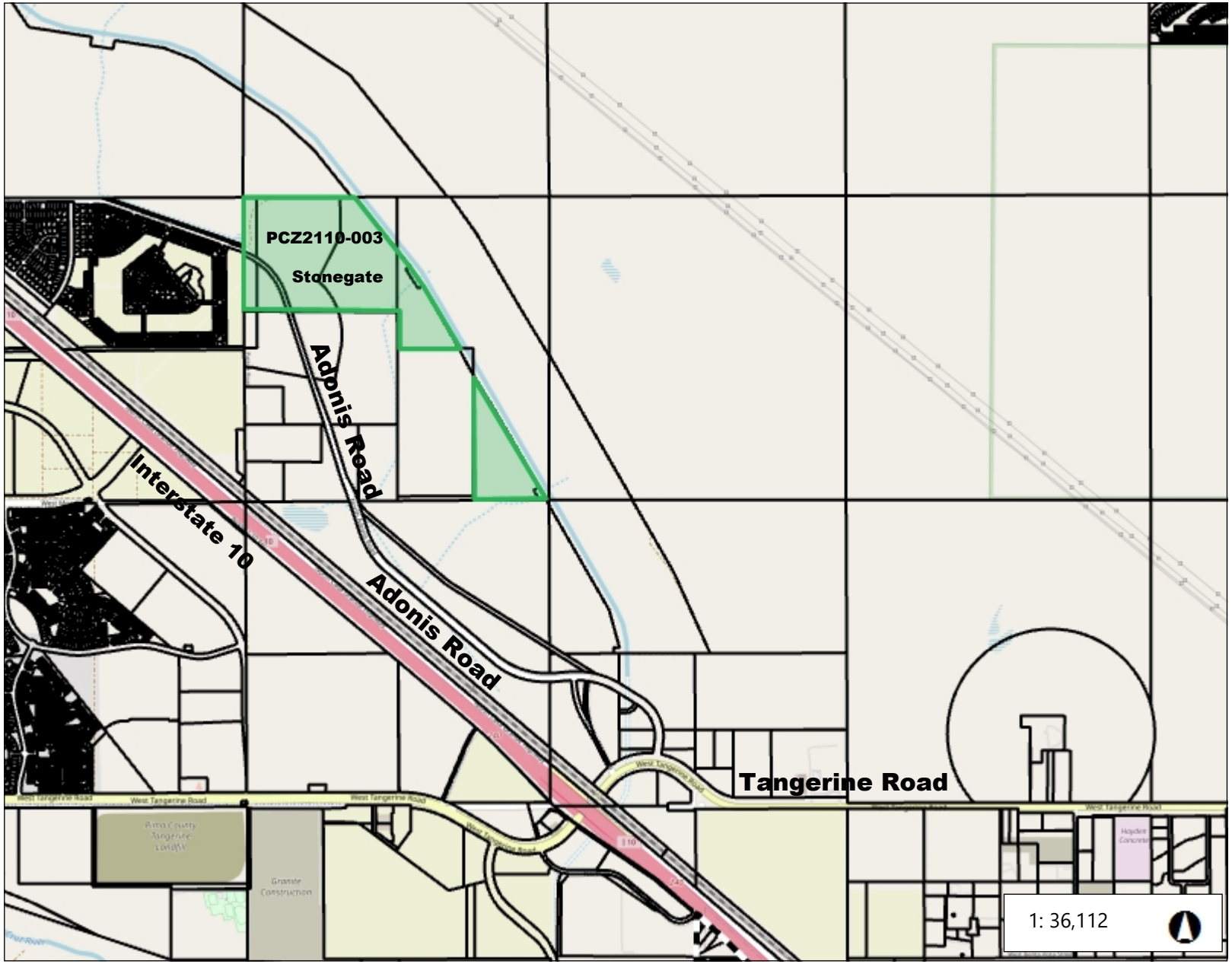
SOUTHEAST CORNER OF SECTION 25, T11S, R11E

R-4 R-5 MR-1 A E F AG LI

N

Town of Marana Planning

PCZ2110-003 Stonegate East Rezoning





Legend

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

Notes

1.1 0 0.57 1.1 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: Tortolita Valley East		
Description of Project: Rezoning	Number of Lots: 777	
Parcel No.(s): Please see attached list	Gross Area (Acres): 165	
Project Address: Please see attached list		
Ref. Project No.:		

CONTACT INFORMATION

Owner: CLB Real Property Holding Company LLC	Contact Name: Carson Brown		
Address: 1121 W Warner Rd #109	City: Tempe	State: AZ	Zip: 85284
Email: Carson@WHoldings.com	Phone No.: (480) 831-2000		
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.)

Paul Oland	Paul Oland Digitally signed by Paul Oland Date: 2021.10.15 16:20:55 -07'00'	10/15/2021
Applicant Name (PRINT)	Signature	Date

FOR OFFICIAL USE ONLY

Project No._____ **Date Received**_____

Revision Date 03/29/2019

STONEGATE EAST
REZONING SITE ANALYSIS
(PCZ2110-003)

PREPARED BY:

PARADIGM LAND DESIGN LLC

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

IN COLLABORATION WITH:

Bowman

SWTE SOUTHWEST TRAFFIC ENGINEERING, LLC

WILDER Landscape Architects

MARCH 2022

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I. INTRODUCTION

A. PROJECT OVERVIEW

The Property subject to this rezoning request (the "Property") is proposed to be developed residentially as part of an assemblage of properties including the existing Tortolita Shadows Specific Plan and Rancho Marana Specific Plan, both of which are adjacent to the Property and both of which allow more intense land uses in areas closer to Interstate-10. The Property is 165 acres and is proposed to house up to 777 units and have an overall density of up to 4.7 homes per acre. In this document the overall assemblage is referred to as the Stonegate Master Plan, and totals approximately 685 acres. The Make Marana 2040 General Plan's "Traditional Neighborhood" designation is appropriate for the Property, as proposed. The Property has been subject to grazing and/or farming for many years and is surrounded by undeveloped parcels.

This document has been prepared in support of a request to rezone the Property from "E Transportation Corridor" to "MR-1 Multi-Family Residential," "R-4 Residential," and "R-5 Residential" in order to allow the development as proposed.

B. PRIMARY OBJECTIVES

- Provide much needed high-quality, energy efficient, single-family detached homes for new residents wishing to live in the Town of Marana. Homebuyers continue to exhibit very strong demand for new homes in this northwest part of the greater Tucson metropolitan area.

- Provide a variety of residential options to accommodate moderate-income families.

- Construct a residential community that is compatible with both existing and future surrounding land uses.

- Provide additional recreational opportunities in this part of Marana.

- By assembling the Stonegate Master Plan, the developers are building on the previous master planning and zoning of the Tortolita Shadows Specific Plan and Rancho Marana East Specific Plan to include what would otherwise be piecemeal development parcels between those two specific plans and the CAP canal.

C. MARANA STRATEGIC PLAN COMPLIANCE

The Town of Marana Strategic Plan calls for new developments and neighborhoods to create areas with meaningful open space, trail connectivity, and active recreation areas. This Property within the Stonegate Master Plan will fulfill all these requirements by providing recreation areas and trail connections in accordance with the Town's recreational design standards.

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, which is comprised of two separate areas, is located between the western edge of the CAP canal and the Tortolita Shadows Specific Plan and Rancho Marana East Specific Plan, approximately one-half mile east of Interstate-10 between the alignments of Moore Road and Grier Road within Section 25, Township 11, Range 11 East, Town of Marana, Arizona. The Property lies along to the north and east of the Tortolita Shadows Specific Plan and totals approximately 165 acres and includes Assessor Parcels 217-33-001E, 217-33-001F, 217-33-002K, 217-33-002N, 217-33-002P, 217-33-002Q & 217-33-002R. See Exhibit II-A-1: Site Location Map.

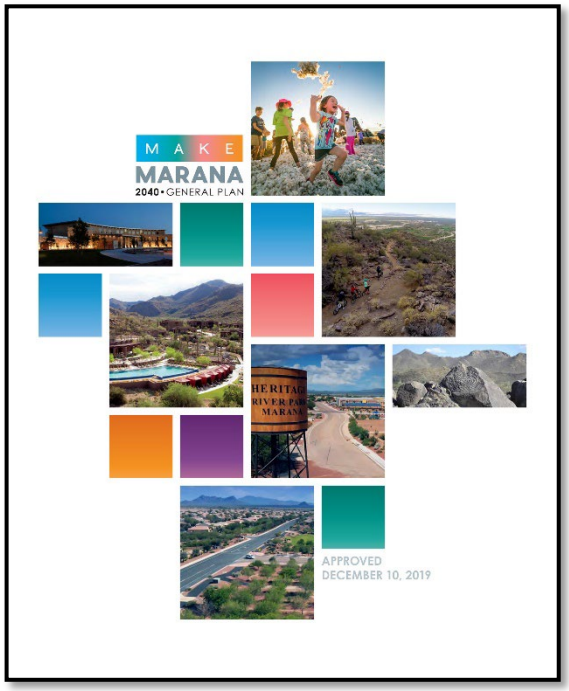
The Project's administrative address is 13106 N. Patton Rd., Marana, AZ 85658.

2. Existing Land Uses, Onsite Zoning & General Plan

The Property is currently undeveloped and vacant. See Exhibit II-A-2: Existing Land Uses.

The Property is currently zoned E (Transportation Corridor). 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. New residential developments such as the Tortolita Shadows Master Plan will help support robust commercial activity throughout Downtown. The Master Plan, including the Property, will provide a variety of housing types and price ranges to promote growth near Downtown Marana. See Exhibit II-A-3: Existing General Plan Land Uses.



3. Existing Adjacent Zoning and Land Uses within ¼-Mile of the Property

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:	A-Small Lot Zone & AG Agricultural
	Existing land use:	CAP Canal & Arizona State Land
NE:	Existing zoning:	A-Small Lot Zone & AG Agricultural
	Existing land use:	CAP Canal & Arizona State Land
E:	Existing zoning:	AG Agricultural
	Existing land use:	CAP Canal & Arizona State Land
SE:	Existing zoning:	AG Agricultural & Specific Plan
	Existing land use:	CAP Canal & Undeveloped
S:	Existing zoning:	Specific Plan
	Existing land use:	Interstate 10 Frontage Road & Undeveloped
SW:	Existing zoning:	Specific Plan
	Existing land use:	Interstate 10 Frontage Road & Artco
W:	Existing zoning:	Specific Plan
	Existing land use:	Artco
NW:	Existing zoning:	AG Agricultural
	Existing land use:	Arizona State Land

b. Surrounding Building Heights

There are no structures nearby the Property.

c. Nearby Pending Rezonings

There are no pending rezonings within one-quarter mile.

d. Nearby Approved Rezonings

The Rancho Marana East Specific Plan is immediately adjacent to the Property's western boundary. The Property is along the Tortolita Shadows Specific Plan's northern and eastern boundaries. Both specific plans are part of the Stonegate Master Plan. The Mandarina Specific Plan is immediately south of the Property.

A Conditional Use Permit (CUP2110-001) was recently approved in the southwest corner of the Stonegate Master Plan to permit single-family homes within 1,000 feet of the Union Pacific Railroad.

e. Nearby Approved Subdivisions & Development Plans

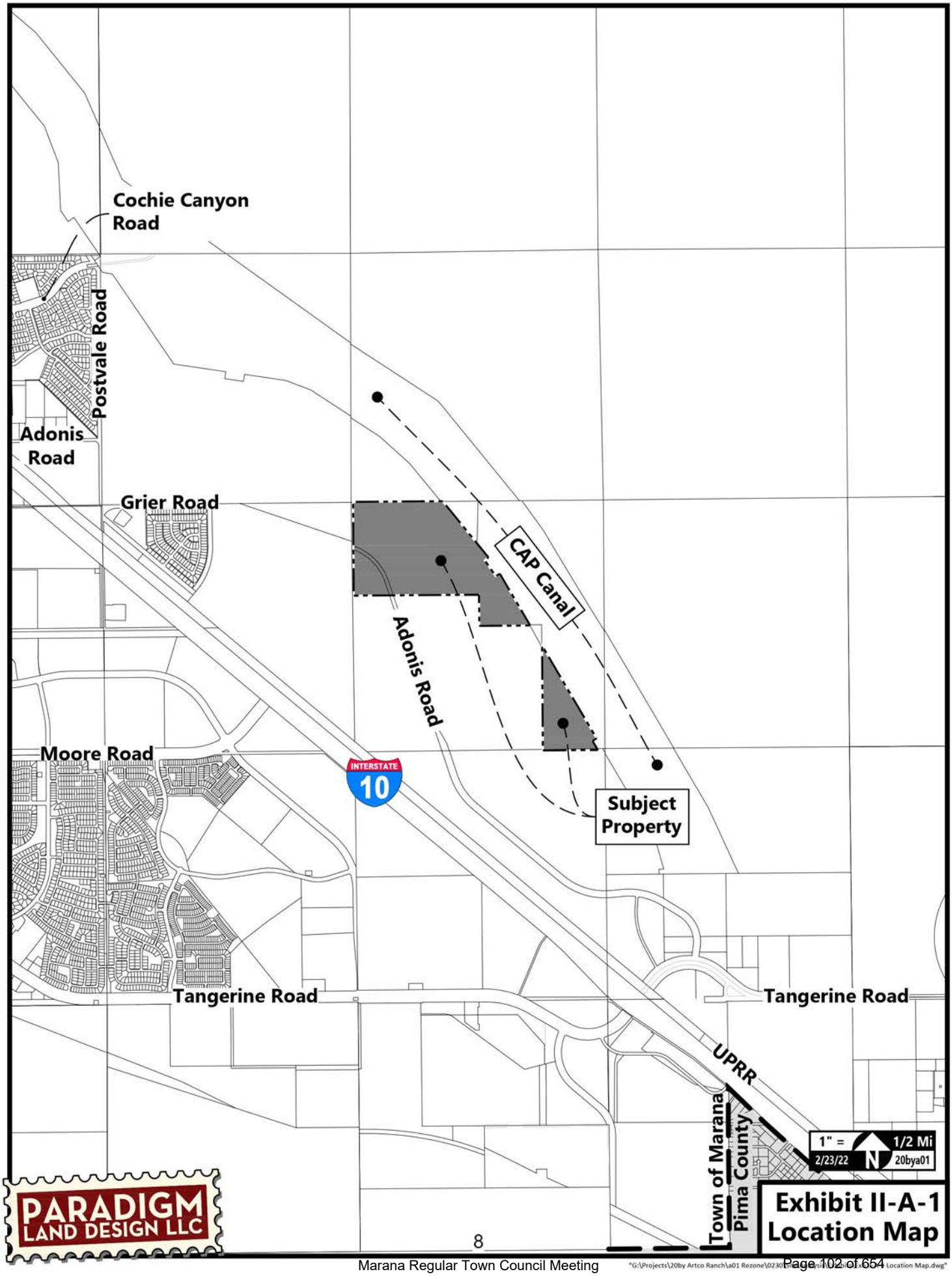
The Adonis Mobile Home Park is a little more than a half-mile west of the Property. A portion of the Rancho Marana East Specific Plan was platted in 1999 as La Mirage Estates, but that plat is planned to be abandoned as part of the development of the overall Stonegate Master Plan.

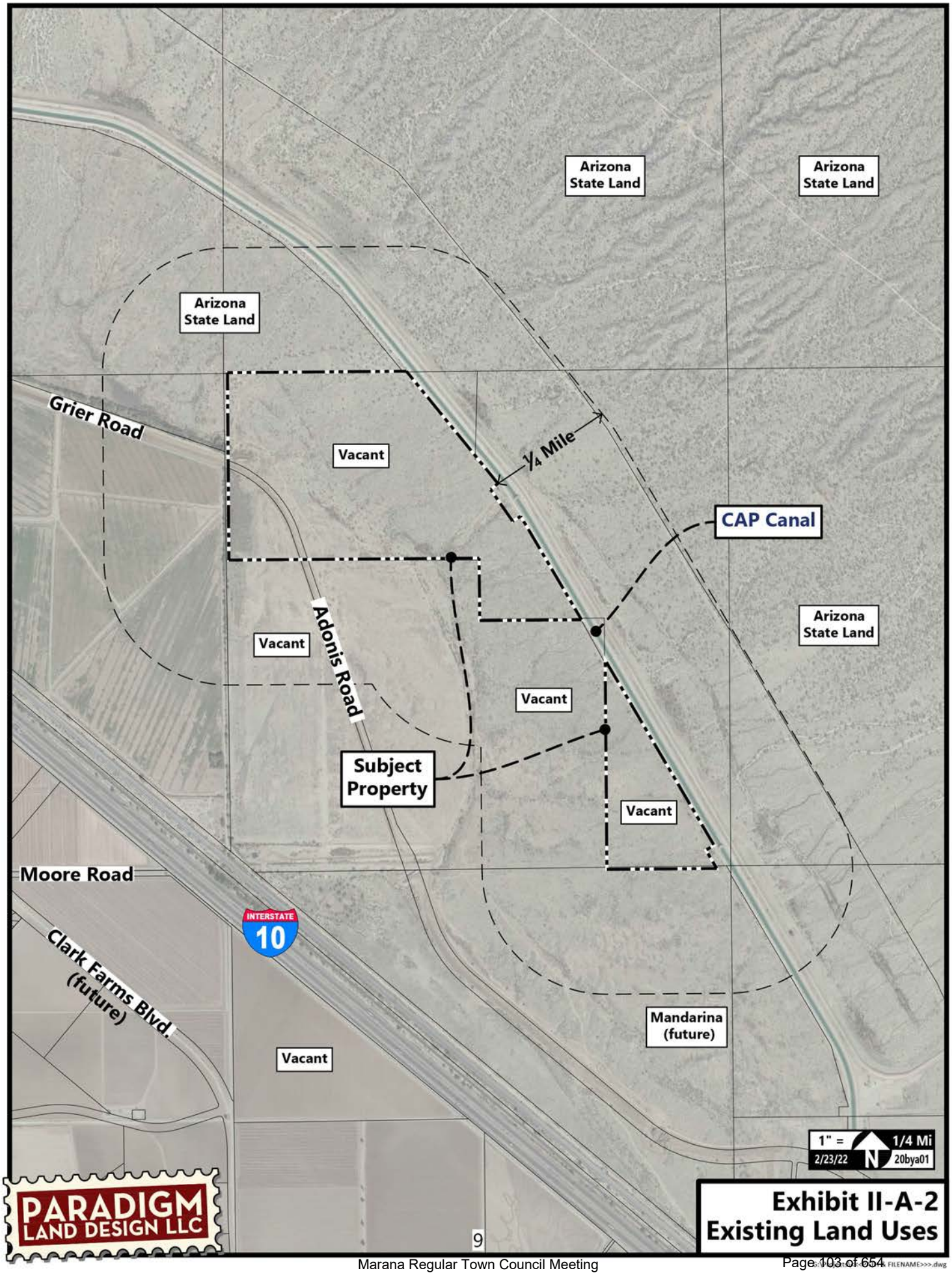
f. Architectural Styles used in Adjacent Properties

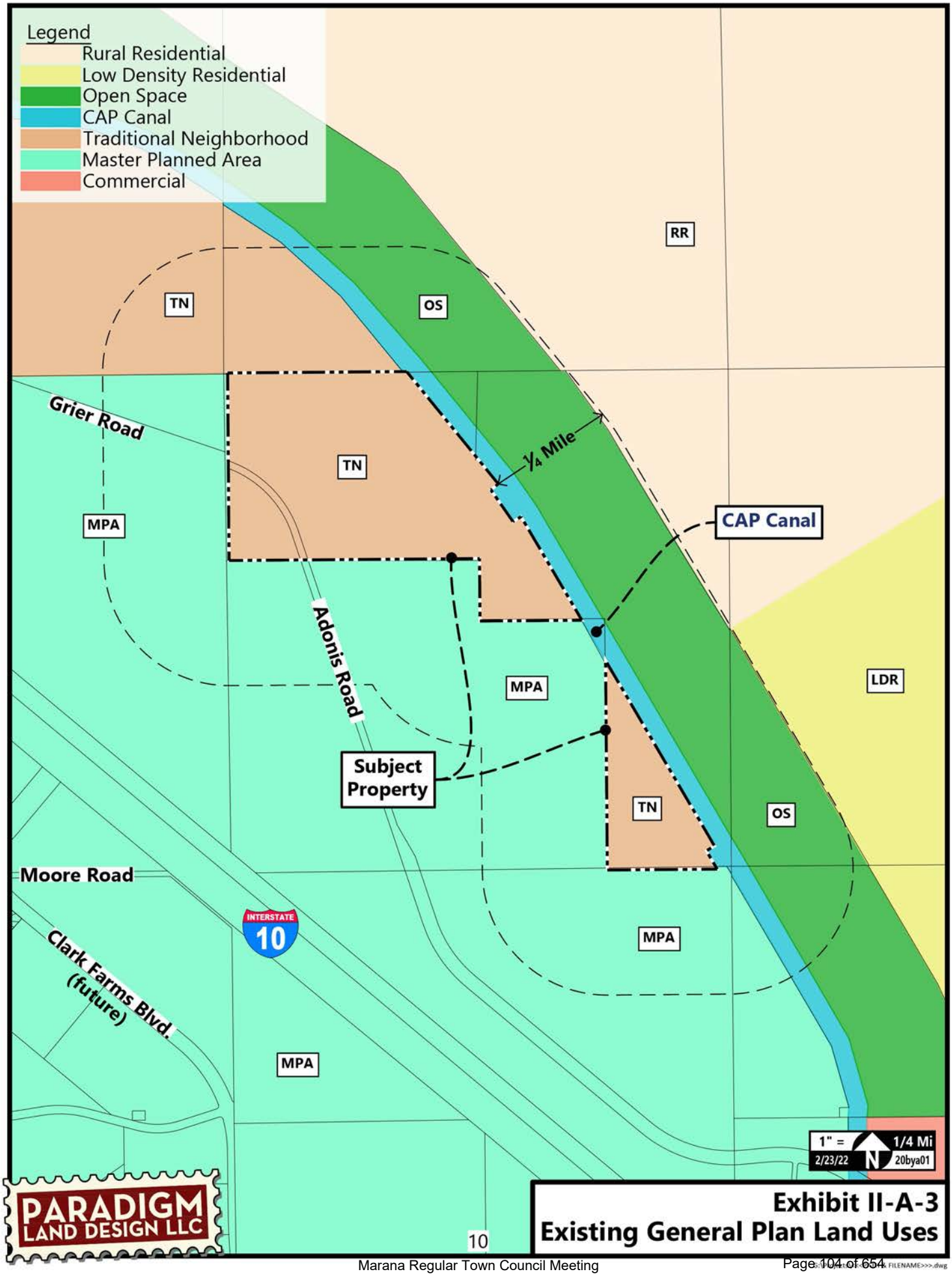
Adjacent properties are not developed. The nearest development is the Adonis Mobile Home Park, which is approximately one-half mile west of the Property. Architectural styles in that development are typical of prefabricated homes.

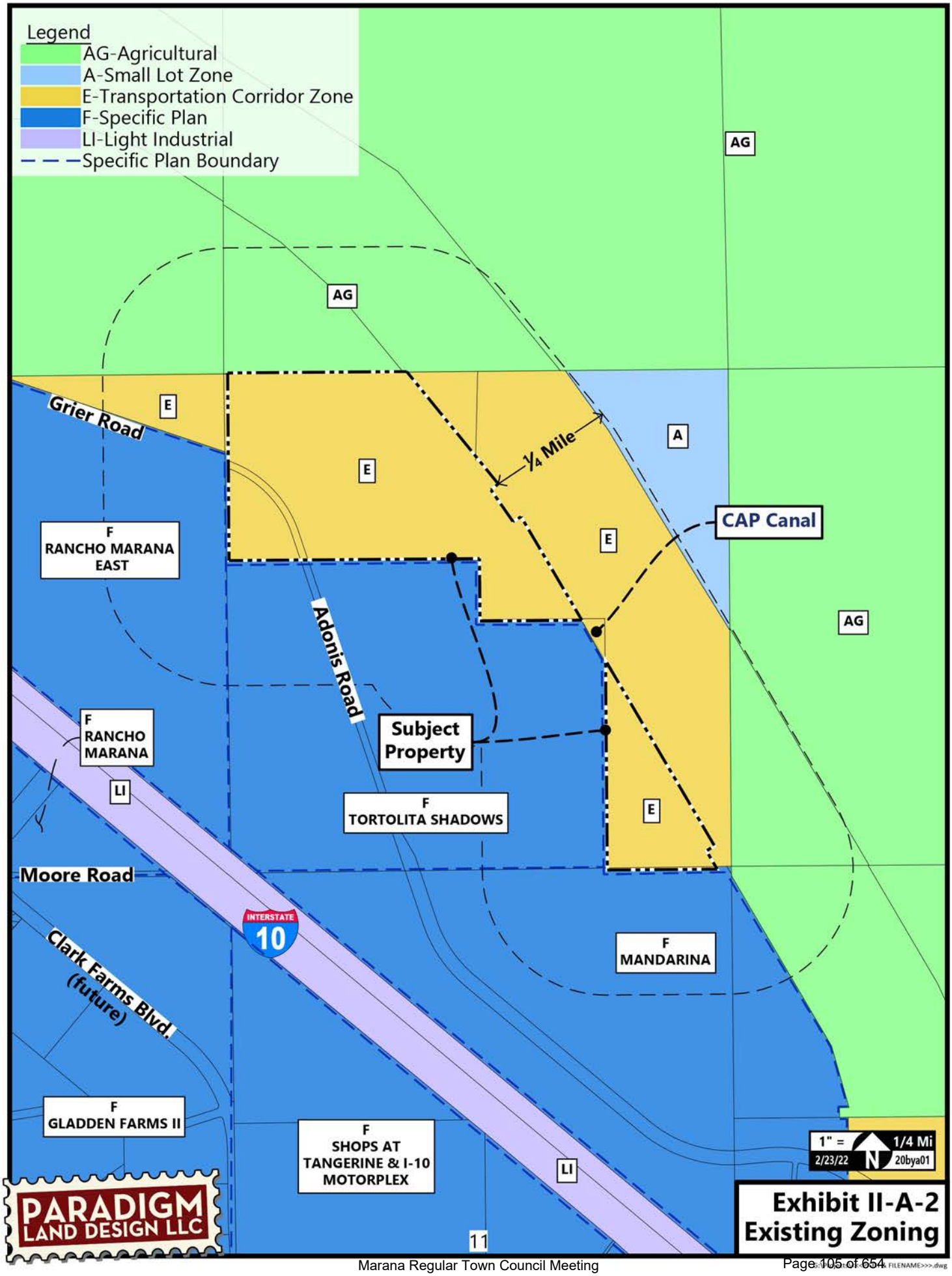
The Adonis Mobile Home Park




Cochie Canyon Road
Postvale Road
Adonis Road
Grier Road
CAP Canal
Adonis Road
Moore Road
INTERSTATE 10
Subject Property
Tangerine Road
Tangerine Road
UPRR
Town of Marana
Pima County
1" = 1/2 Mi
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-A-1
Location Map


Arizona State Land
Arizona State Land
Arizona State Land
Grier Road
Vacant
¼ Mile
CAP Canal
Arizona State Land
Adonis Road
Vacant
Vacant
Subject Property
Vacant
Moore Road
INTERSTATE 10
Clark Farms Blvd. (future)
Mandarina (future)
Vacant
1" = 1/4 Mi
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-A-2
Existing Land Uses


Legend
Rural Residential
Low Density Residential
Open Space
CAP Canal
Traditional Neighborhood
Master Planned Area
Commercial
RR
TN
OS
Grier Road
TN
¼ Mile
MPA
CAP Canal
Adonis Road
MPA
LDR
Subject Property
TN
OS
Moore Road
INTERSTATE 10
MPA
Clark Farms Blvd. (future)
MPA
1" = 1/4 Mi
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-A-3
Existing General Plan Land Uses


Legend
AG-Agricultural
A-Small Lot Zone
E-Transportation Corridor Zone
F-Specific Plan
LI-Light Industrial
Specific Plan Boundary
AG
AG
Grier Road
E
E
¼ Mile
A
CAP Canal
E
F
RANCHO MARANA
EAST
Adonis Road
AG
Subject
Property
F
RANCHO
MARANA
LI
F
TORTOLITA SHADOWS
E
Moore Road
INTERSTATE
10
F
MANDARINA
Clark Farms Blvd.
(future)
F
GLADDEN FARMS II
F
SHOPS AT
TANGERINE & I-10
MOTORPLEX
LI
11
1" =
2/23/22
1/4 Mi
20bya01
PARADIGM
LAND DESIGN LLC
Exhibit II-A-2
Existing Zoning

B. TOPOGRAPHY AND SLOPE

1. Topographic Characteristics

   The topography of the Property is characterized by relatively flat terrain. The property generally slopes gently downward from northeast to southwest. Elevations range from approximately 2,046 feet above sea level at the northeast corner to approximately 2,010 feet above sea level at the southwest 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 1.8%, 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
   (1' x 126,180' x 0.0023) / 165.2 = 1.8%

   b. Average Overall Slope

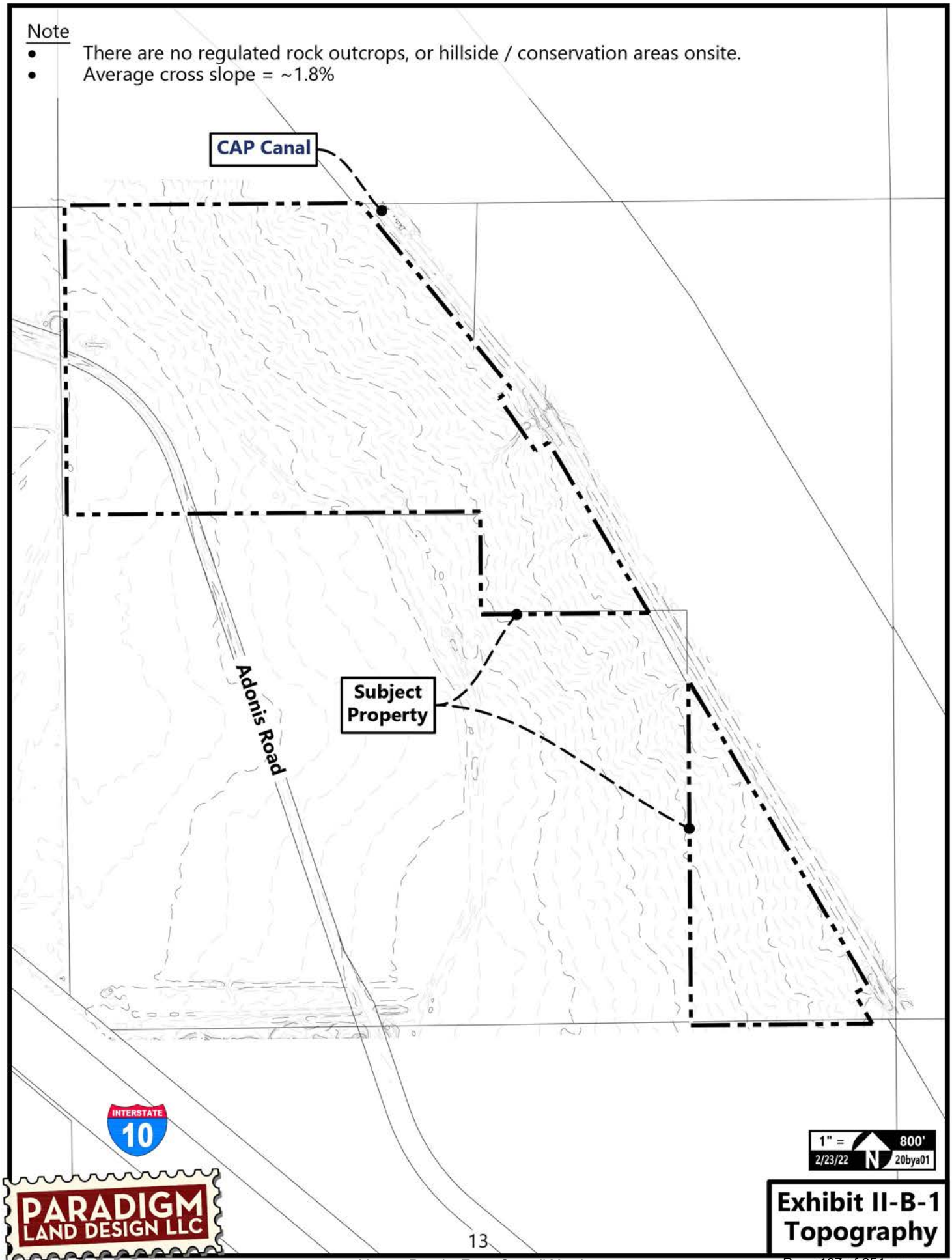
   The pre-development average overall slope is 1.3% from the northeast corner to the southwest corner of the project boundary.

A Relatively Flat Site



Note

- There are no regulated rock outcrops, or hillside / conservation areas onsite.
- Average cross slope = ~1.8%



PARADIGM LAND DESIGN LLC

Exhibit II-B-1
Topography

C. HYDROLOGY

This section of the site analysis was prepared by Bowman Engineering and describes pre-development onsite hydrologic and hydraulic characteristics relative to the overall Stonegate Master Plan because the rezoning property is integrally connected to the overall drainage design.

1. Offsite Features Affecting Site

   There are several drainage features impacting the site drainage conditions. Upstream of the site, there are two drainage crossings of the CAP channel that will discharge at the site boundary. Downstream of the site there are three drainage crossings of the existing Union Pacific Railroad that will divert flow away from the site. Please see Exhibit II-C-1: Onsite Hydrology.

2. Acreage of Upstream Offsite Watersheds

   The offsite watershed contributing area impacting this property on the northerly property limits is approximately 31,000± acres (48± sq. mi.). The offsite watershed is characterized by shallow undeveloped areas, with sparse vegetation draining southwesterly from the Tortolita Mountains before being rerouted southeasterly by the CAP Canal and away from the site. However, a portion of the offsite runoff enters the site at Concentration Points I, II & III. Please see Exhibit II-C-1: Onsite Hydrology.

   The remainder of the watershed runoff is conveyed southeasterly to Tangerine Road where it is routed west onto the I-10 and UPRR facilities. The flow is routed northwesterly from Tangerine Road along the UPRR facilities before entering the site's southwestern corner, adjacent to the future Mandarina development and associated improvements (Concentration Point IV).

   A recent study (Existing Conditions Two-Dimensional Hydraulic Modeling Study Report; CMG Drainage Engineering Inc 2020) for the Town of Marana Northwest Area Drainage Master Plan areas East of the Santa Cruz River calculated the design flows for the upstream watershed and associated concentration points, including the following adjacent to the site:

Concentration Point	Q100 (CFS)
I	319
II	490
III	737
IV	3,207

   This flow is routed across the property, northwesterly along the east side of the adjacent UPRR berm. There are three drainageway crossings that divert some of the flow west and across the I-10 and UPRR rights-of-way (Please see Exhibit II-C-1: Onsite Hydrology, Concentration Point V, VI, VII). The flow exits the site at Concentration Point VIII.

A Floodplain Permit obtained by the Union Pacific RR (Olson 2008) provides the design flows for the diversion flows exiting the site. The diversion concentration points and associated design flows are depicted on Exhibit II-C-1: Onsite Hydrology and summarized as follows:

Concentration Point	Q100 (CFS)
V	75
VI	916
VII	1,695
VIII	2,074

3. Onsite Hydrology Characteristics

The previously mentioned study provided the existing drainage conditions for the site as follows:

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

There are a total of eight floodplain cross-sections provided by the study Flo-2d model within or adjacent to the project site. These floodplain cross-sections provided the associated design flows that are depicted on Exhibit II-C-1: Onsite Hydrology.

b. Areas of Sheet Flooding and Average Depths

Historically, the site and offsite areas have been characterized as sheet flooding areas with depths ranging from 1 to 3 feet (Refer to FEMA FIRM Panels 1014C 1030L & 1035L) depicted on Exhibit II-C-2: FEMA Floodplain. However, The CAP channel concentrates the sheet flooding areas (Within Watershed I) before entering onto the site. Currently the site is impacted by concentrated flows at the drainageway crossings over the CAP channel. The flows then disperse onto narrow sheet flooding areas with a 1-foot depth.

Similarly, the Railroad improvements have concentrated the flow (Within Watershed II) along its easterly berm and conveyed the runoff northwesterly entering the site at the southwesterly corner and exiting the site at the northwesterly corner.

c. Federally mapped floodways and floodplains

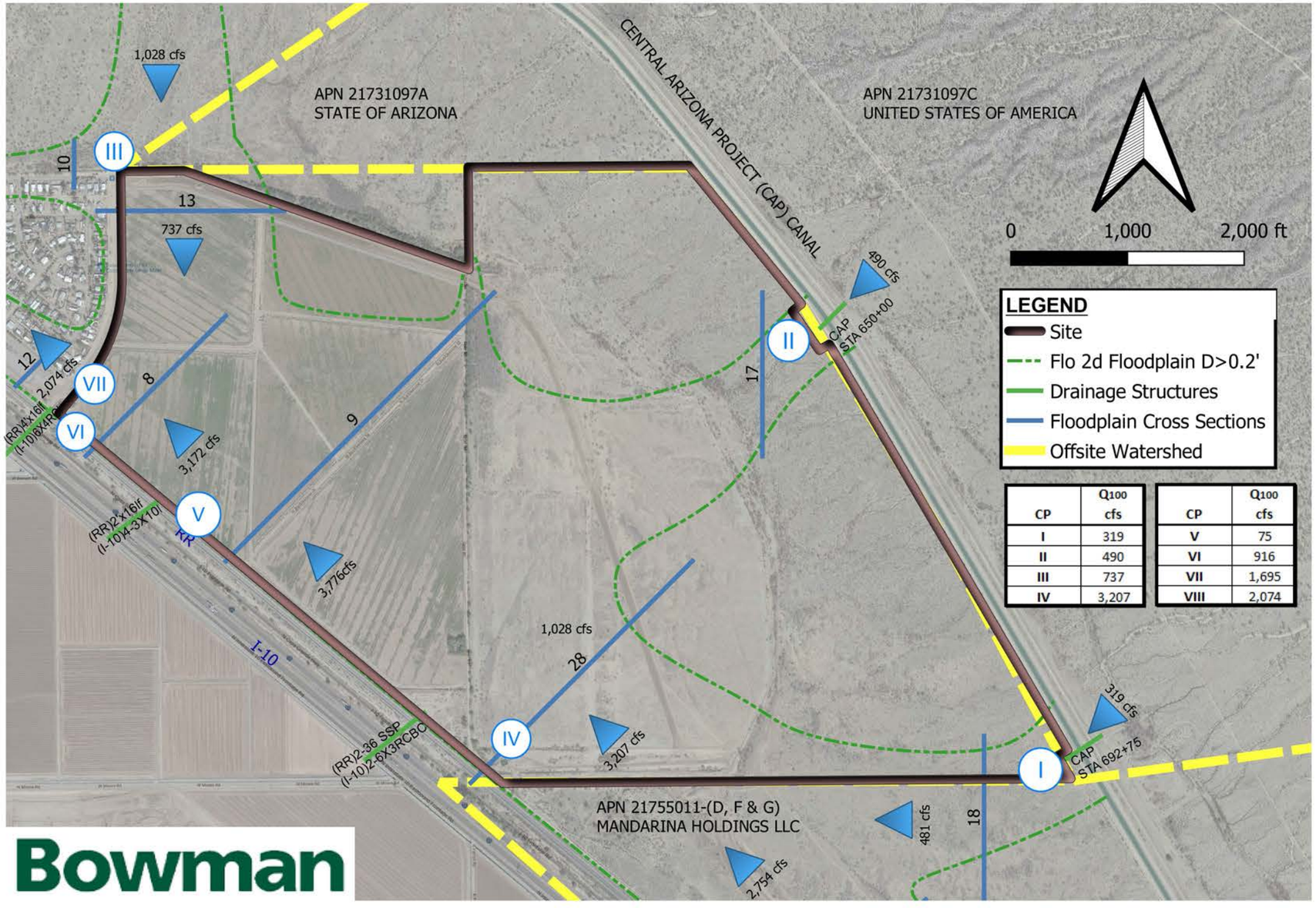
The FEMA Flood Insurance Rate Map Panel 04019C1035L shows most of the Property to be in Zone X which indicates "areas determined to be outside the 0.2% annual chance floodplain". Two small portions of the Property align with existing overshoots crossing the CAP canal, which allow some stormwater to enter the Property. Those areas are designated by FEMA as Zone AO-1 which indicates areas of 1% annual chance flooding with an average depth of 1 foot (usually sheet flow on sloping terrain). Please see Exhibit II-C-2: FEMA Floodplain.

4. Existing Drainage Conditions along the Downstream Property Boundary

There is a (180'+) drainageway owned by the Town of Marana along the southwestern boundary of the Adonis mobile home subdivision that intercepts stormwater runoff from the site and offsite areas and conveys it northwesterly along and adjacent the UPRR right-of-way until it discharges at the Guild Wash (Approximately six miles north of the site). Important to note, there are several side drainageway crossings outlets discharging flow west in the direction of the Interstate-10. Moreover, I-10 contains roadway drainageway crossings that will convey said side flows toward the Santa Cruz Wash.

Culverts Beneath Adonis Rd. at the Northern End of the Adonis MHP Channel



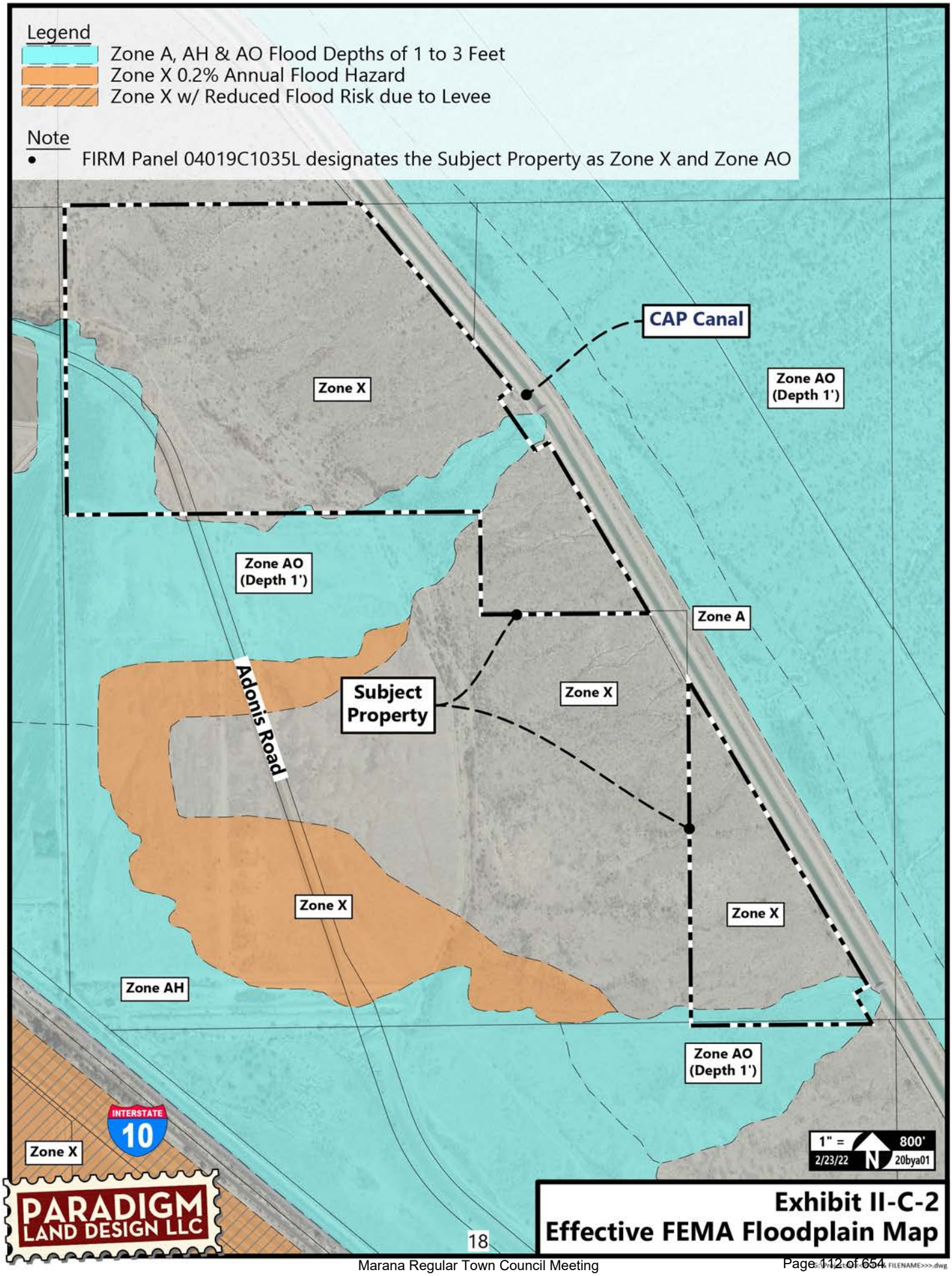


CP	Q100 cfs
I	319
II	490
III	737
IV	3,207

CP	Q100 cfs
V	75
VI	916
VII	1,695
VIII	2,074

Bowman

EXHIBIT II-C-1


Legend
Zone A, AH & AO Flood Depths of 1 to 3 Feet
Zone X 0.2% Annual Flood Hazard
Zone X w/ Reduced Flood Risk due to Levee
Note
• FIRM Panel 04019C1035L designates the Subject Property as Zone X and Zone AO
CAP Canal
Zone X
Zone AO (Depth 1')
Zone AO (Depth 1')
Zone A
Adonis Road
Subject Property
Zone X
Zone X
Zone X
Zone AH
Zone AO (Depth 1')
INTERSTATE 10
Zone X
1" = 800'
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-C-2
Effective FEMA Floodplain Map

D. VEGETATION

1. Onsite Vegetative Communities

   There is sparse native vegetation onsite, consisting mainly of Sonoran Desert Scrub. There are no significant or native species within the limits of the Property.

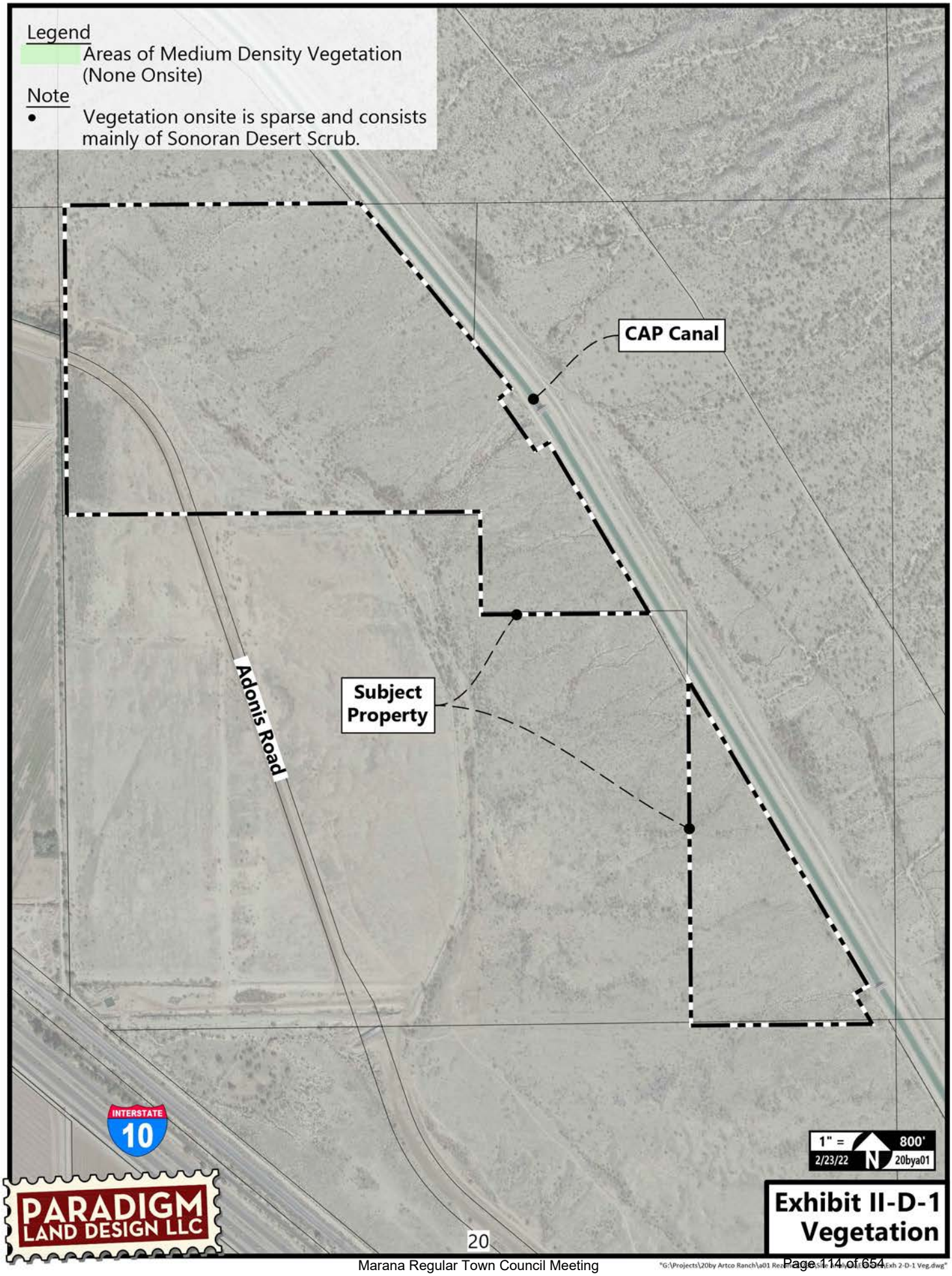
2. Significant, Threatened, or Endangered Flora

   No threatened or endangered flora are known to exist onsite.

3. Vegetative Densities

   Vegetative density of the Property is less than 10% plant cover. See Exhibit II-D-1: Vegetation.




Legend
Areas of Medium Density Vegetation (None Onsite)
Note
• Vegetation onsite is sparse and consists mainly of Sonoran Desert Scrub.
CAP Canal
Subject Property
Adonis Road
INTERSTATE 10
1" = 800'
2/23/22
N
20bya01
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 May 14, 2021, 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:
Artco

Project Description:
Artco

Project Type:
Development Outside Municipalities (Rural Development), Residential subdivision and associated infrastructure, Maintenance/expansion/rehabilitation of existing facilities

Contact Person:
Paul Oland

Organization:
Paradigm Land Design LLC

On Behalf Of:
CONSULTING

Project ID:
HGIS-13506

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 1 of 12

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

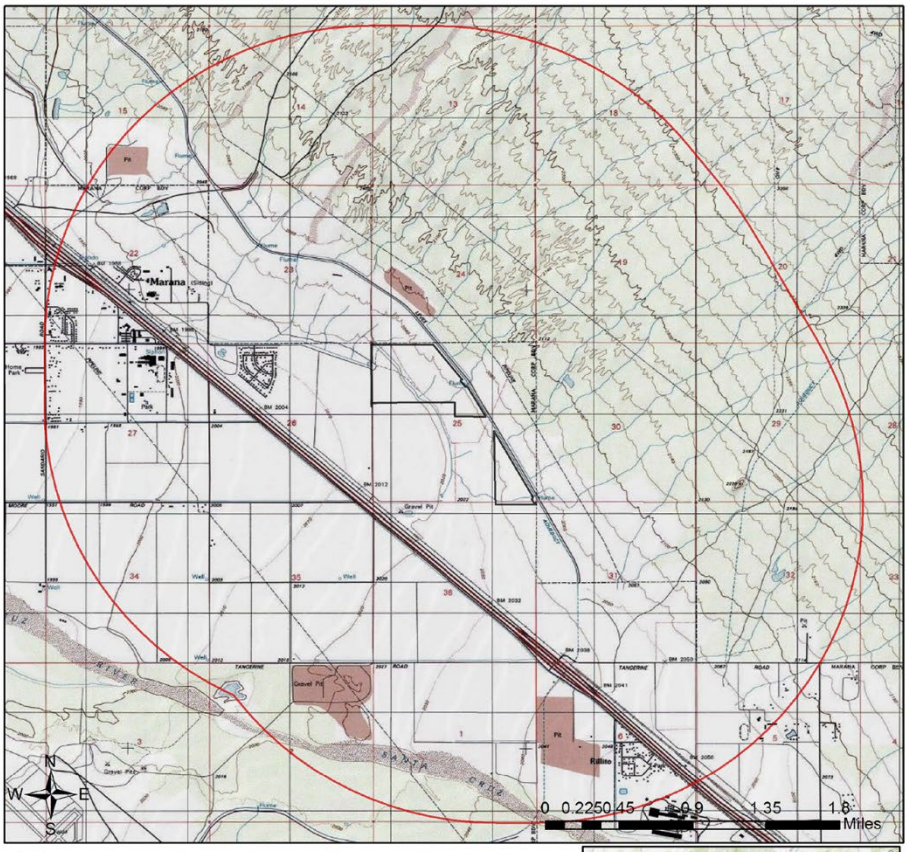
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-13506

project_report_artco_42972_44344.pdf
Review Date: 5/14/2021 03:44:26 PM

Artco

USA Topo Basemap With Locator Map



Project Boundary

Buffered Project Boundary

Project Size (acres): 167.74

Lat/Long (DD): 32.4483 / -111.1758

County(s): Pima

AGFD Region(s): Tucson

Township/Range(s): T11S, R11E; T11S, R12E

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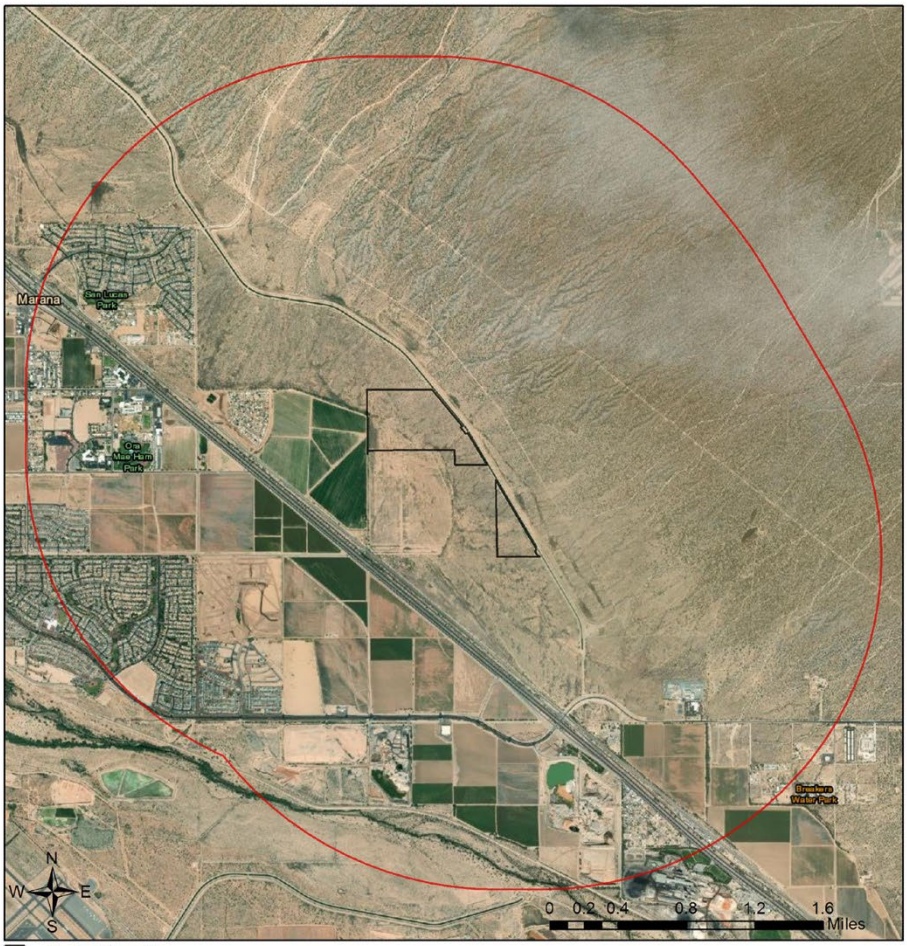
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-13506

project_report_artco_42972_44344.pdf
Review Date: 5/14/2021 03:44:26 PM

Artco

Web Map As Submitted By User



☐ Project Boundary
☐ Buffered Project Boundary

Project Size (acres): 167.74
Lat/Long (DD): 32.4483 / -111.1758
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T11S, R11E; T11S, R12E
USGS Quad(s): MARANA

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

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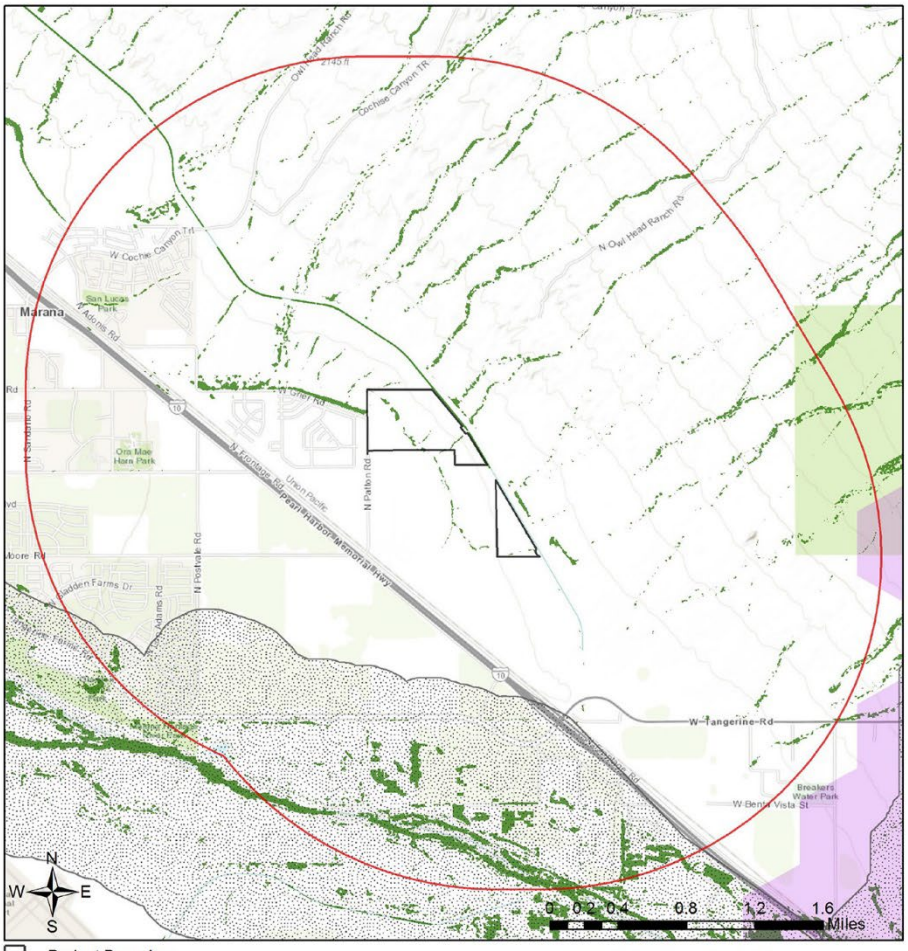
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-13506

project_report_artco_42972_44344.pdf
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Artco

Important Areas



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

Project Size (acres): 167.74
Lat/Long (DD): 32.4483 / -111.1758
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T11S, R11E; T11S, R12E
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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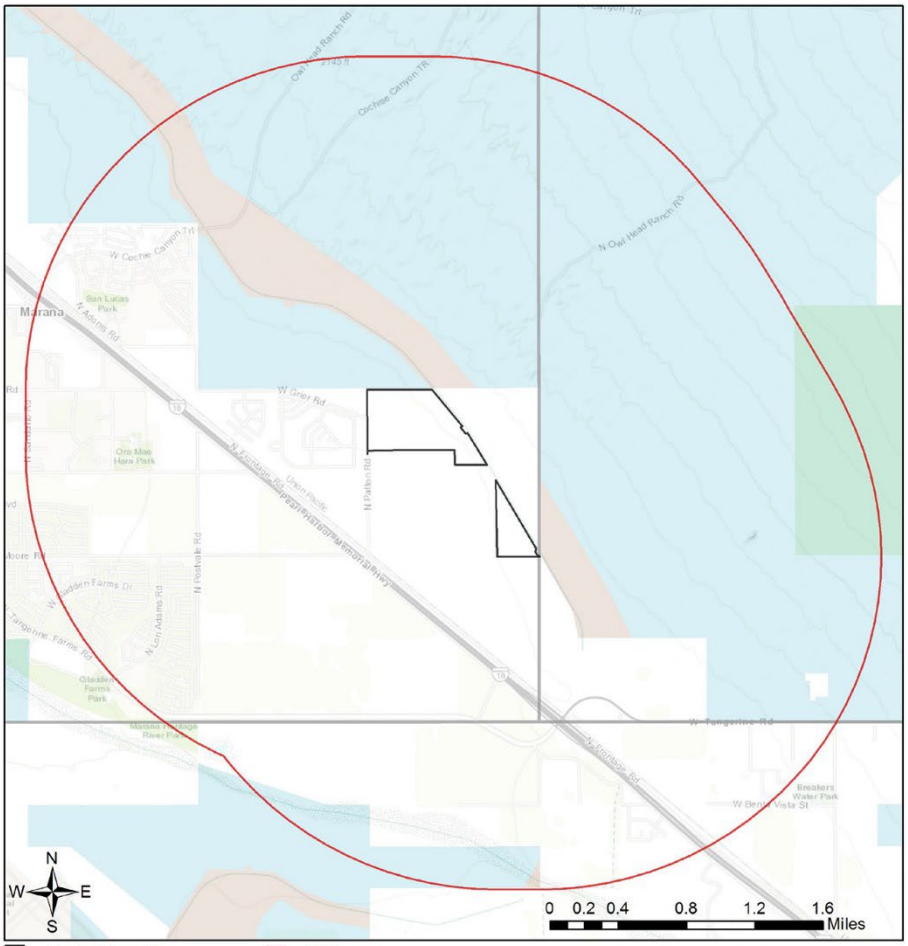
Exhibit II-E-1: AZGFD Report (cont'd)

Arizona Game and Fish Department
Project ID: HGIS-13506

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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): 167.74
Lat/Long (DD): 32.4483 / -111.1758
County(s): Pima
AGFD Region(s): Tucson
Township/Range(s): T11S, R11E; T11S, R12E
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-13506

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Special Status Species Documented within 2 Miles of Project Vicinity

Scientific Name	Common Name	FWS	USFS	BLM	NPL	SGCN
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Glaucidium brasilianum cactorum	Cactus Ferruginous Pygmy-owl	SC	S	S		1B
Sigmodon ochrognathus	Yellow-nosed Cotton Rat	SC				1C

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
CAP Canal	Pima County Wildlife Crossing Area					
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
Anaxyrus retiformis	Sonoran Green Toad			S		1B
Athene cunicularia hypugaea	Western Burrowing Owl	SC	S	S		1B
Buteo regalis	Ferruginous Hawk	SC		S		1B
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
Dipodomys spectabilis	Banner-tailed Kangaroo Rat			S		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	SC	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-13506

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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
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
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
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
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
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					

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

Arizona Game and Fish Department
Project ID: HGIS-13506

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Project Type: Development Outside Municipalities (Rural Development), Residential subdivision and associated infrastructure, Maintenance/expansion/rehabilitation of existing facilities

Project Type Recommendations:
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.

Follow manufacturer's recommended application guidelines for all chemical treatments. The U.S. Fish and Wildlife Service, Region 2, Environmental Contaminants Program has a reference document that serves as their regional pesticide recommendations for protecting wildlife and fisheries resources, titled "Recommended Protection Measures for Pesticide Applications in Region 2 of the USFWS", http://www.fws.gov/southwest/es/arizona/Documents/ECReports/RPMPA_2007.pdf. The Department recommends that direct or indirect impacts to sensitive species and their forage base from the application of chemical pesticides or herbicides be considered carefully.

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.

Page 10 of 12

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

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 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.

Project Location and/or Species Recommendations:
Analysis indicates that your project is located in the vicinity of an identified ***wildlife habitat connectivity feature***. The **County-level Stakeholder Assessments** contain five categories of data (Barrier/Development, Wildlife Crossing Area, Wildlife Movement Area- Diffuse, Wildlife movement Area- Landscape, Wildlife Movement Area- Riparian/Washes) that provide a context of select anthropogenic barriers, and potential connectivity. The reports provide recommendations for opportunities to preserve or enhance permeability. Project planning and implementation efforts should focus on maintaining and improving opportunities for wildlife permeability. For information pertaining to the linkage assessment and wildlife species that may be affected, please refer to: https://www.azgfd.com/wildlife/planning/habitatconnectivity/identifying-corridors/.
Please contact the Project Evaluation Program (pep@azgfd.gov) for specific project recommendations.

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

Arizona Game and Fish Department
Project ID: HGIS-13506

project_report_artco_42972_44344.pdf
Review Date: 5/14/2021 03:44:26 PM

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.

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/.

Page 12 of 12

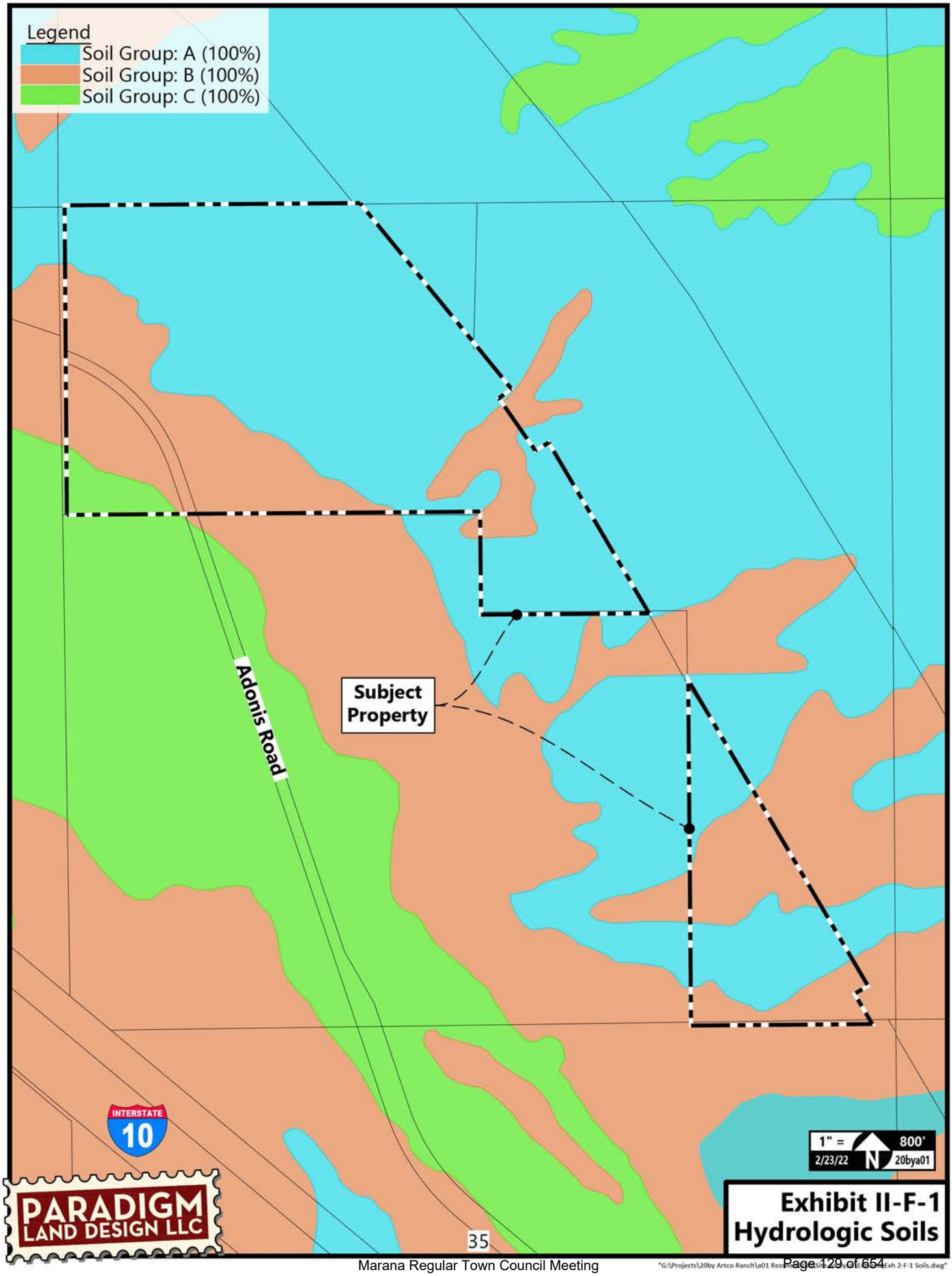
F. SOILS AND GEOLOGY

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), 100% "Soil Group B" hydrologic soil group (Agua very fine sandy loam and Gila loam, 0 to 1 percent slopes), and 100% "Soil Group C" (sandy clay loam). 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%)
Soil Group: C (100%)
Adonis Road
Subject Property
INTERSTATE
10
1" = 800'
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-F-1
Hydrologic Soils
35
"G:\Projects\20by Artco Ranch\a01 Rezone\Site Analysis\Exh 2-F-1 Soils.dwg"

G. VIEWSHEDS

1. Viewsheds from Adjacent Properties

   Primary views from the Property are of flat sandy stretches scattered with desert brush, Tortolita Mountains and Catalina Mountains to the northeast and the Tucson Mountains to the south. 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 Northeast Across the Property Toward the Tortolita Mountains & Catalina 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 the Property are excellent and have only minor sight restrictions across the entire property. However, from the east, there is some restriction of site visibility due to the berm bordering the CAP canal.

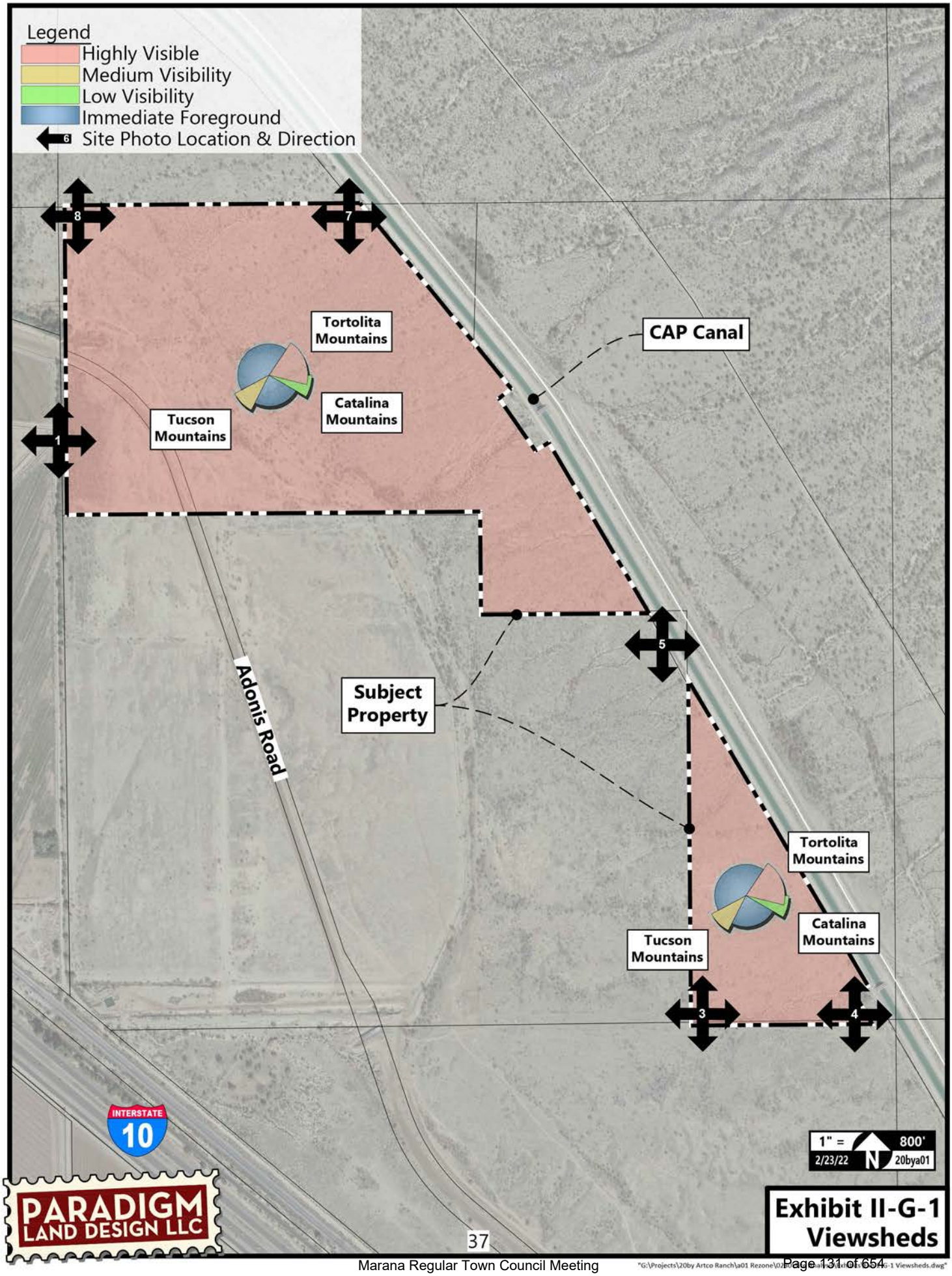

Legend
Highly Visible
Medium Visibility
Low Visibility
Immediate Foreground
6 Site Photo Location & Direction
8
7
1
5
3
4
Tortolita Mountains
Catalina Mountains
Tucson Mountains
CAP Canal
Subject Property
Adonis Road
Tortolita Mountains
Catalina Mountains
Tucson Mountains
INTERSTATE 10
1" = 800'
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-G-1 Viewsheds

Exhibit II-G-2: Viewshed Photographs

Photo Location #1: Looking North along the Western Boundary of the Northern Portion of the Property



Photo Location #1: Looking Northeast into the Northern Portion of the Property



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

Photo Location #1: Looking East into the Northern Portion of the Property



Photo Location #1: Looking South along the Western Boundary of the Northern Portion of the Property



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

Photo Location #3: Looking North along the Western Edge of the southern Portion of the Property



Photo Location #3: Looking Northeast into the southern Portion of the Property



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

Photo Location #3: Looking East along the Southern Edge of the southern Portion of the Property



Photo Location #3: Looking South from the Southwest Corner of the southern Portion of the Property



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

Photo Location #3: Looking West from the Southwest Corner of the southern Portion of the Property



Photo Location #4: Looking North from the Southeast Corner of the Southern Portion of the Property. The CAP Canal Berm is Clearly Visible.



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

Photo Location #4: Looking East from the Southeast Corner of the Southern Portion of the Property. The CAP Canal Berm is Clearly Visible.



Photo Location #4: Looking South from the Southeast Corner of the Southern Portion of the Property



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

Photo Location #4: Looking West along the Southern Boundary of the Southern Portion of the Property



Photo Location #4: Looking Northwest into the Property from the Southeast Corner of the Southern Portion of the Property



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

Photo Location #4: A US Bureau of Reclamation Survey Monument along the CAP Canal



Photo Location #5: Looking North from a Point Near the Center of the Property's Eastern Edge Along the CAP Canal



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

Photo Location #5: Looking East from a Point Near the Center of the Property's Eastern Edge Along the CAP Canal



Photo Location #5: Looking Southeast Along the Eastern Edge of the Southern Portion of the Property



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

Photo Location #5: Looking South into the Southern Portion of the Property



Photo Location #5: Looking West from a Point Near the Center of the Property's Eastern Edge



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

Photo Location #5: Looking Northwest into the Northern Portion of the Property



Photo Location #7: Looking North from the Northeast Corner of the Northern Portion of the Property



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

Photo Location #7: Looking East from the Northeast Corner of the Northern Portion of the Property



Photo Location #7: Looking Southeast Along the Eastern Edge of the Northern Portion of the Property



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

Photo Location #7: Looking South into the Northern Portion of the Property from its Northeast Corner



Photo Location #7: Looking Southwest into the Northern Portion of the Property from its Northeast Corner



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

Photo Location #7: Looking West Along the Northern Edge of the Northern Portion of the Property



Photo Location #8: Looking North from the Northwest Corner of the Northern Portion of the Property



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

Photo Location #8: Looking Northeast from the Northwest Corner of the Northern Portion of the Property



Photo Location #8: Looking East Along the Northern Edge of the Northern Portion of the Property



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

Photo Location #8: Looking Southeast into the Northern Portion of the Property from its Northwest Corner



Photo Location #8: Looking South Along the Western Edge of the Northern Portion of the Property



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

Photo Location #8: Looking West from the Northwest Corner of the Northern Portion of the Property



Photo Location #8: Looking Northwest away from the Property from the Northwest Corner of the Northern Portion of the Property



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

Photo Location #8: Marana Survey Monument near the Northwest Corner of the Northern Portion of the Property



Adonis Road Entering the Western Edge of the Northern Portion of the Property



H. TRAFFIC

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

Grier Road extends from Postvale Road to Patton Road. East of Postvale the roadway is known as Adonis Road and extends south to Tangerine Road in a temporary condition including one lane in each direction. The Mandarina development to the south of the Stonegate Master Plan will be improving their portion of Adonis to its ultimate design cross-section. The Town or private developers will be extending Adonis Road from the southern end of Mandarina across the CAP syphon to Tangerine Road.

Grier Rd. West of the Project



2. Nearby Arterial Streets

All the traffic generated by this project will be accommodated by Adonis Road, Tangerine Road, Postvale Road, Cochie Canyon Road, Moore Road, and Interstate-10. An analysis of capacity by Southwest Traffic Engineering has been submitted as a standalone report.

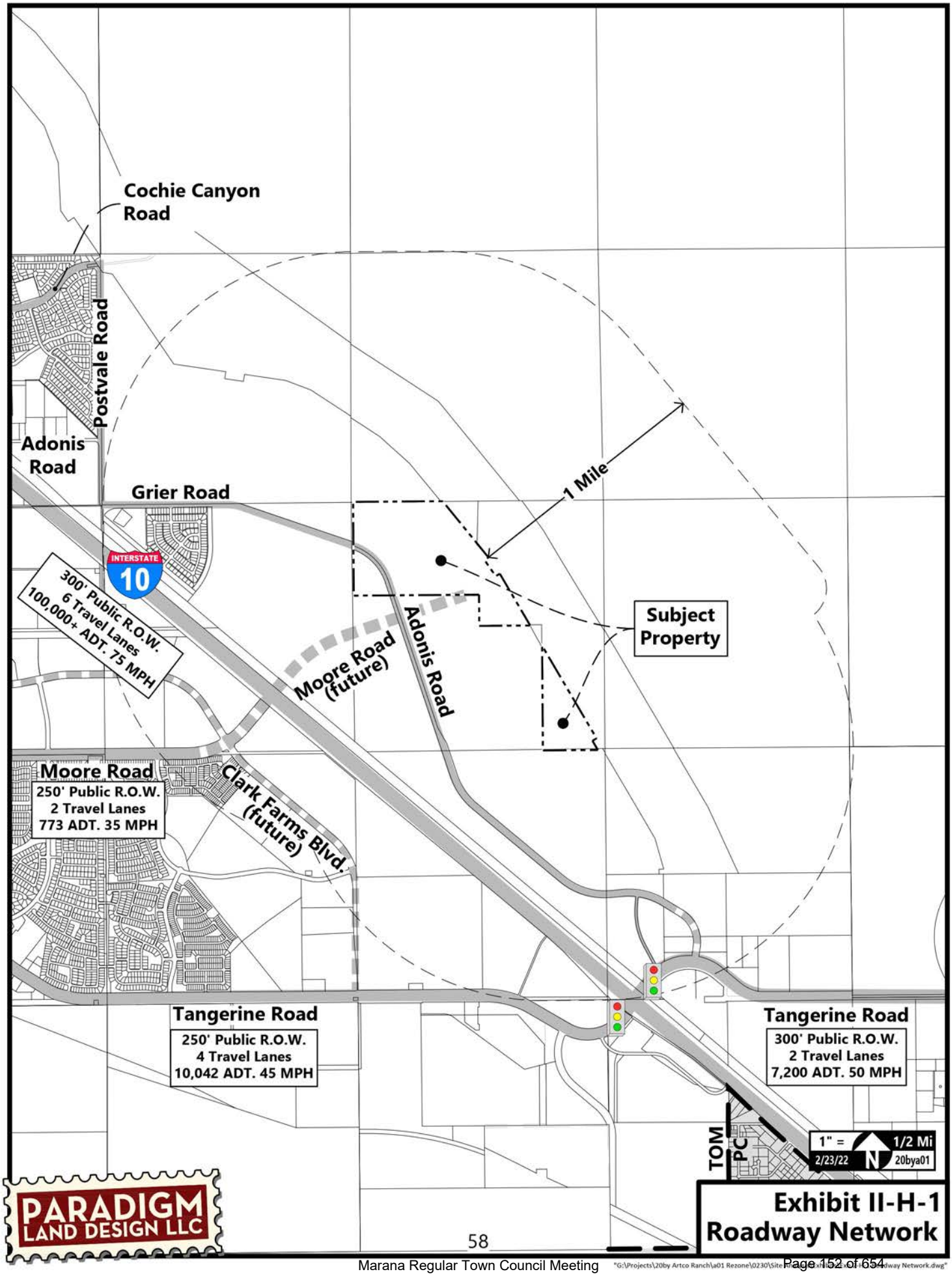
Roadway Name	Planned Right-of-Way Width	Exist. Lanes	Median Type	Speed Limit	General Plan Designation
Adonis Rd. (Thru Project)	250′	2	None	45 mph	Prop. Arterial
Adonis Rd. (NW of Project)	60′	2	None	35 mph	None
Grier Rd.	150′	2	None	25 mph	Exist. Arterial
Tangerine Rd.	300′	2	None	40-50 mph	Exist. Arterial
Postvale Rd.	95′	2	None	35 mph	Exist. Collector
Cochie Canyon Rd.	190′	3	None	40 mph	Exist. Arterial
Moore Rd.	150′ – 250′	0	None	n/a	Prop. Arterial
Interstate 10	Varies	6	Depressed	75 mph	Interstate

3. Nearby Arterial Intersections

   Two arterial intersections that will carry traffic generated by this development exist within a mile of the Property: Adonis Road / Moore Road and Adonis Road / Tangerine Road. Neither intersection exists today, bu both are planned to be signalized in the future.

4. Nearby Bicycle / Pedestrian Ways

   As with much of the area immediately east of Interstate-10, pedestrian facilities are currently lacking.

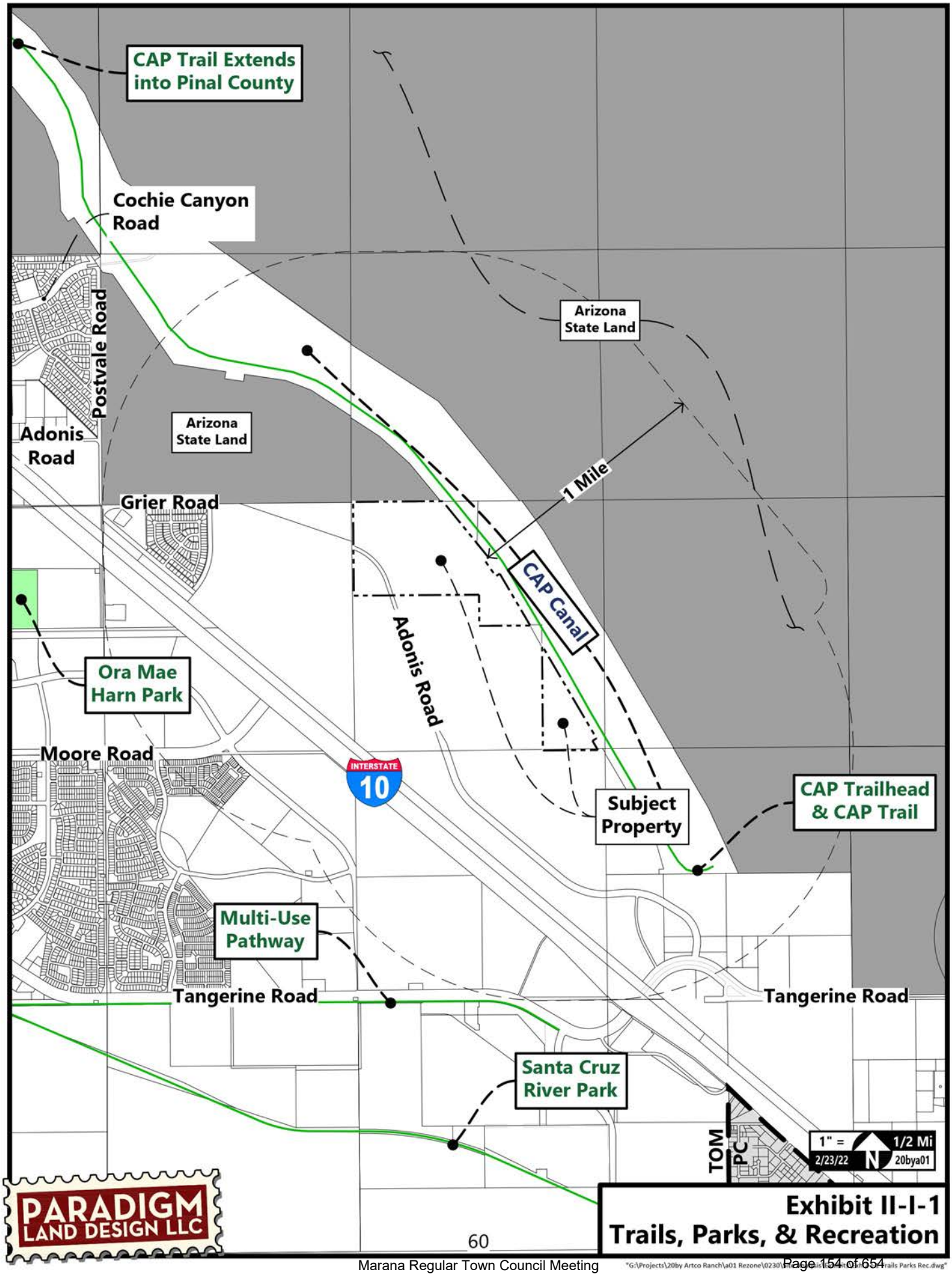

Cochie Canyon Road
Postvale Road
Adonis Road
Grier Road
1 Mile
INTERSTATE 10
300' Public R.O.W.
6 Travel Lanes
100,000+ ADT. 75 MPH
Moore Road (future)
Adonis Road
Subject Property
Moore Road
250' Public R.O.W.
2 Travel Lanes
773 ADT. 35 MPH
Clark Farms Blvd. (future)
Tangerine Road
250' Public R.O.W.
4 Travel Lanes
10,042 ADT. 45 MPH
Tangerine Road
300' Public R.O.W.
2 Travel Lanes
7,200 ADT. 50 MPH
TOM
PC
1" = 1/2 Mi
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-H-1
Roadway Network

I. RECREATION AND TRAILS

Although the Ora Mae Harn District Park is only 1.25 miles due west of the Property (and only 0.6 miles west of the Stonegate Master Plan), the Union Pacific Railroad and Interstate-10 significantly impede convenient access to it. As such, a significant need exists to provide community parks on this side of Interstate-10. The Mandarina Specific Plan just south of the Property acknowledges this fact and will include a community park. Similarly, the Tortolita Shadows Specific Plan, which is part of the Stonegate Master Plan, will include two community parks that will provide nearby recreational amenities to the Property.

The Town recently opened the Central Arizona Project Trailhead located off of Adonis Road, approximately one quarter mile north of Tangerine Road. The Town's Parks & Recreation website describes the trailhead as "the gateway to the CAP trail system that runs north from Marana 17 miles into Pinal County".

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


CAP Trail Extends into Pinal County
Cochie Canyon Road
Postvale Road
Arizona State Land
Adonis Road
Arizona State Land
1 Mile
Grier Road
CAP Canal
Adonis Road
Ora Mae Harn Park
Moore Road
INTERSTATE 10
Subject Property
CAP Trailhead & CAP Trail
Multi-Use Pathway
Tangerine Road
Tangerine Road
Santa Cruz River Park
TOM
PC
1" = 1/2 Mi
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-I-1
Trails, Parks, & Recreation
"G:\Projects\20by Artco Ranch\a01 Rezone\0230\...Trails Parks Rec.dwg"

J. CULTURAL, ARCHAEOLOGICAL, AND HISTORIC RESOURCES

1. Onsite Resources

   Four previously identified cultural resource sites were known to exist on the Property prior to this project's commencement. Any cultural resources that are located during construction will be dealt with in accordance with State and local antiquities laws and protocols.

2. Archaeological Records

   The Property was surveyed for cultural resources by WestLand Resources in May 2021. Six sites of potential significance were identified and are currently the subject of further study in coordination with the Town of Marana's Environmental Services Department.

Exhibit II-E-1: WestLand Resources Cultural Resources Report

A CULTURAL RESOURCES INVENTORY FOR THE PROPOSED 656-ACRE ADONIS ROAD DEVELOPMENT IN MARANA, PIMA COUNTY, ARIZONA

W Holdings /Tortolita Shadows

Prepared by:
Paul M. Miller

Reviewed and submitted by:
Jennifer Hushour

Cultural Resources Report 2021-69
ASM Accession No. 2021-0179

May 13, 2021
Project Number: 2233.01



WestLand Resources

WestLand Resources, Inc. • 4001 E. Paradise Falls Drive • Tucson, Arizona 85712 • 520•206•9585

K. EXISTING INFRASTRUCTURE AND PUBLIC FACILITIES

1. Sewer

   The Property is within the Marana Wastewater service area. A sewer line is currently being constructed under Interstate-10 and the UPRR by the developer of the Mandarina Specific Plan. In addition, downstream line capacity improvements are planned by the Town in the next couple years, which should result in adequate capacity to accept wastewater from this project and others along the east side of Interstate-10. The developer will provide a sewer master plan model to confirm all applicable system capacities prior to improvement plan submittal. No septic systems are known to be within 100 feet of the Property. See Exhibit II-K-1: Existing Wells & Septic Systems.

2. Water

   The Property is within the Marana Water intended service area. No public or private wells are believed to exist within 100 feet of the Property. Two wells are believed to exist within the overall Stonegate Master Plan (55-622115 & 55-634058). See Exhibit II-K-1: Existing Wells & Septic Systems.

3. Natural Gas

   The Property is located within the Southwest Gas service area.

4. Electric

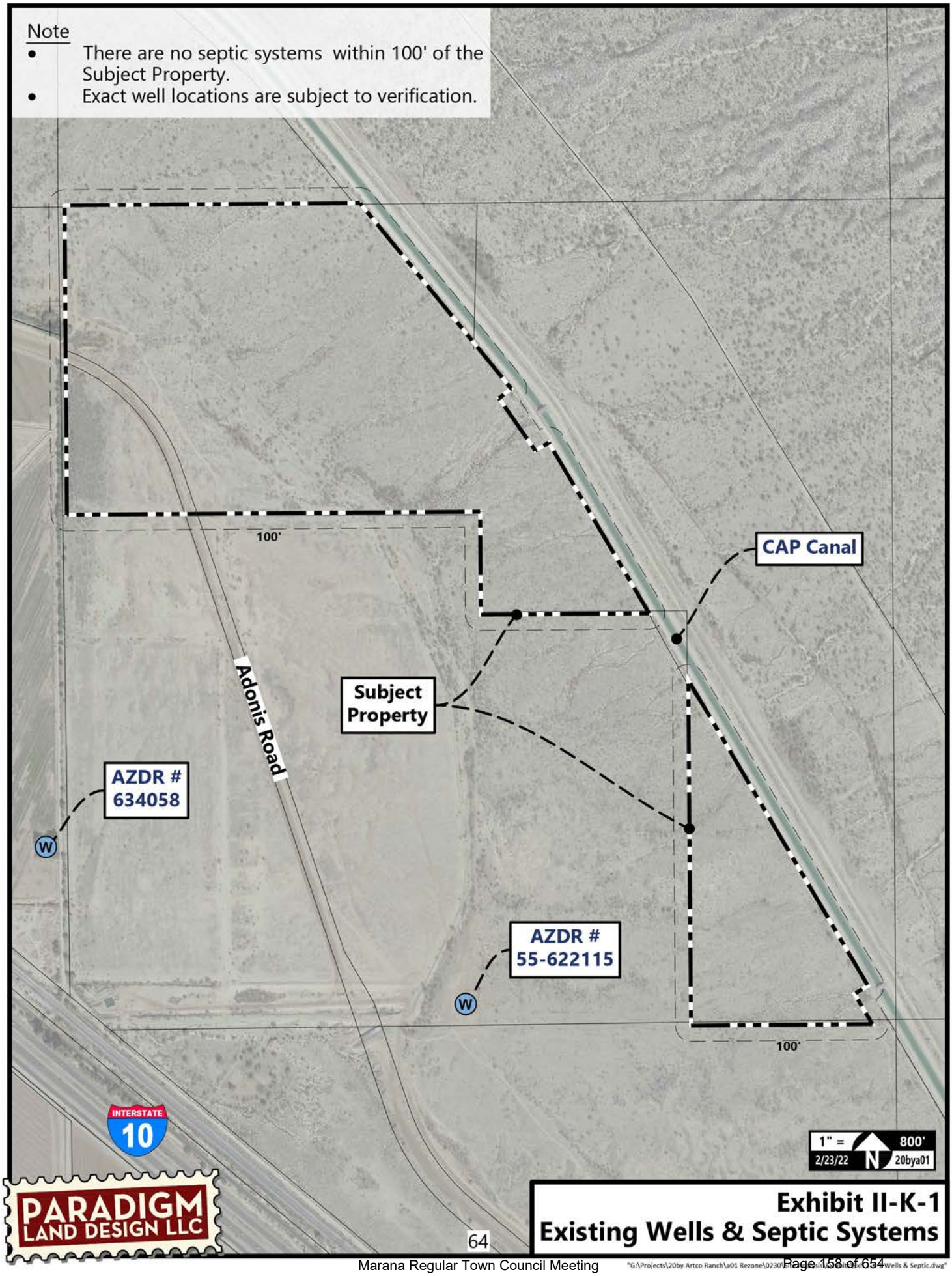
   The Property is located within the TRICO service area.

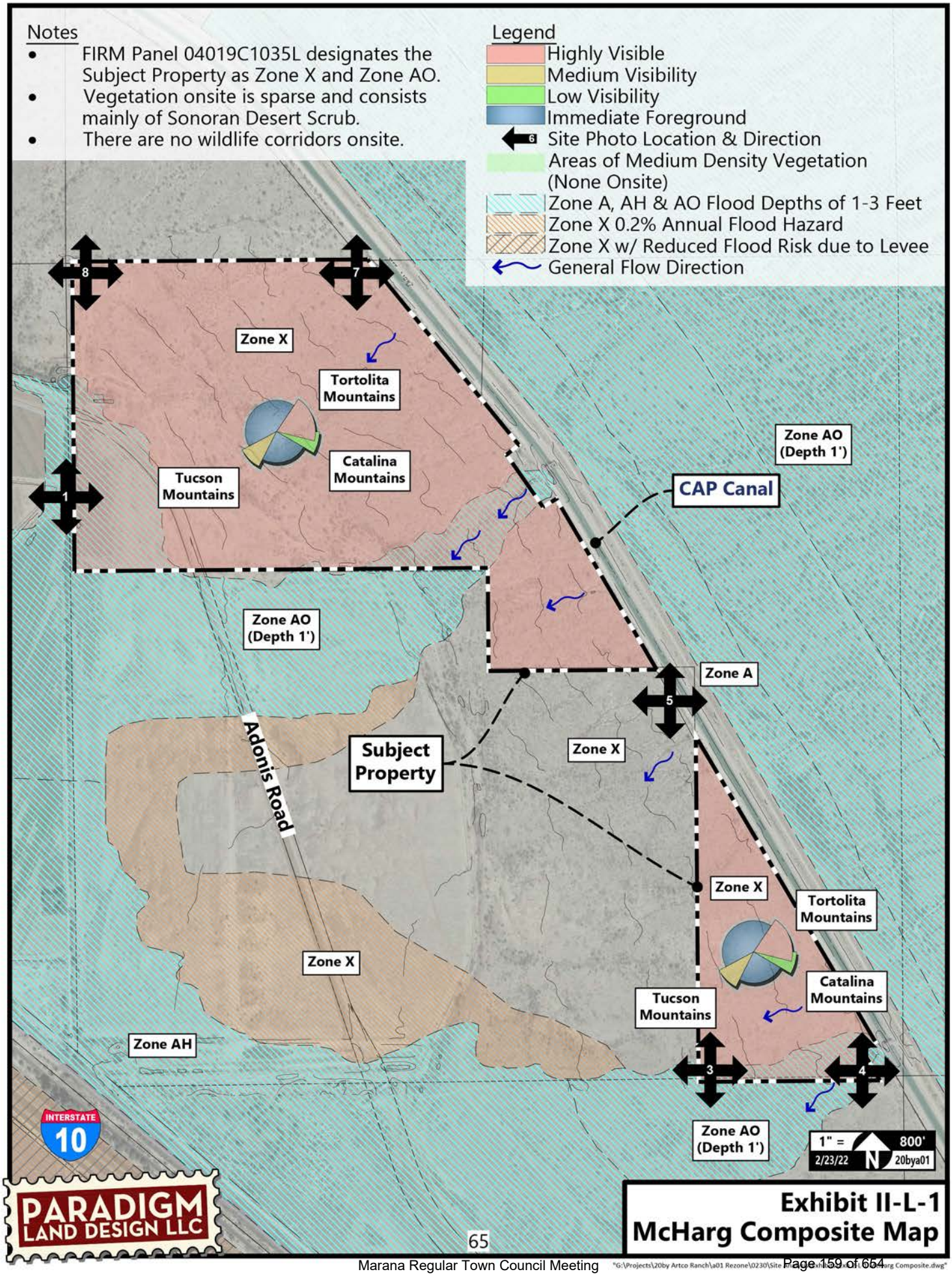
5. Fire Service

   Northwest Fire District has indicated that they can serve the property if the Districts boundary is expanded to include the Property, which will occur during the platting phase.

6. Police Service

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


Note
There are no septic systems within 100' of the Subject Property.
Exact well locations are subject to verification.
100'
CAP Canal
Adonis Road
Subject Property
AZDR # 634058
AZDR # 55-622115
100'
INTERSTATE 10
1" = 800'
2/23/22
N
20bya01
PARADIGM LAND DESIGN LLC
Exhibit II-K-1
Existing Wells & Septic Systems


Notes
• FIRM Panel 04019C1035L designates the Subject Property as Zone X and Zone AO.
• Vegetation onsite is sparse and consists mainly of Sonoran Desert Scrub.
• There are no wildlife corridors onsite.
Legend
Highly Visible
Medium Visibility
Low Visibility
Immediate Foreground
6 Site Photo Location & Direction
Areas of Medium Density Vegetation (None Onsite)
Zone A, AH & AO Flood Depths of 1-3 Feet
Zone X 0.2% Annual Flood Hazard
Zone X w/ Reduced Flood Risk due to Levee
General Flow Direction
Zone X
Tortolita Mountains
Catalina Mountains
Tucson Mountains
Zone AO (Depth 1')
CAP Canal
Zone AO (Depth 1')
Zone A
Subject Property
Adonis Road
Zone X
Zone X
Tortolita Mountains
Catalina Mountains
Tucson Mountains
Zone X
Zone AH
Zone AO (Depth 1')
INTERSTATE 10
1" = 800'
2/23/22
N
20bya01
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 permits a wide range of densities: 2-18 homes per acre. Other projects in the vicinity, including the Tortolita Shadows Specific Plan, the Rancho Marana Specific Plan, and the Mandarina Specific Plan have densities within this range or higher. Development of the Stonegate Master Plan, including this Property, will result in construction of significant public traffic, utility, and drainage infrastructure at the developer's cost, thus helping to fulfill the long-term land use vision set forth in Make Marana 2040.

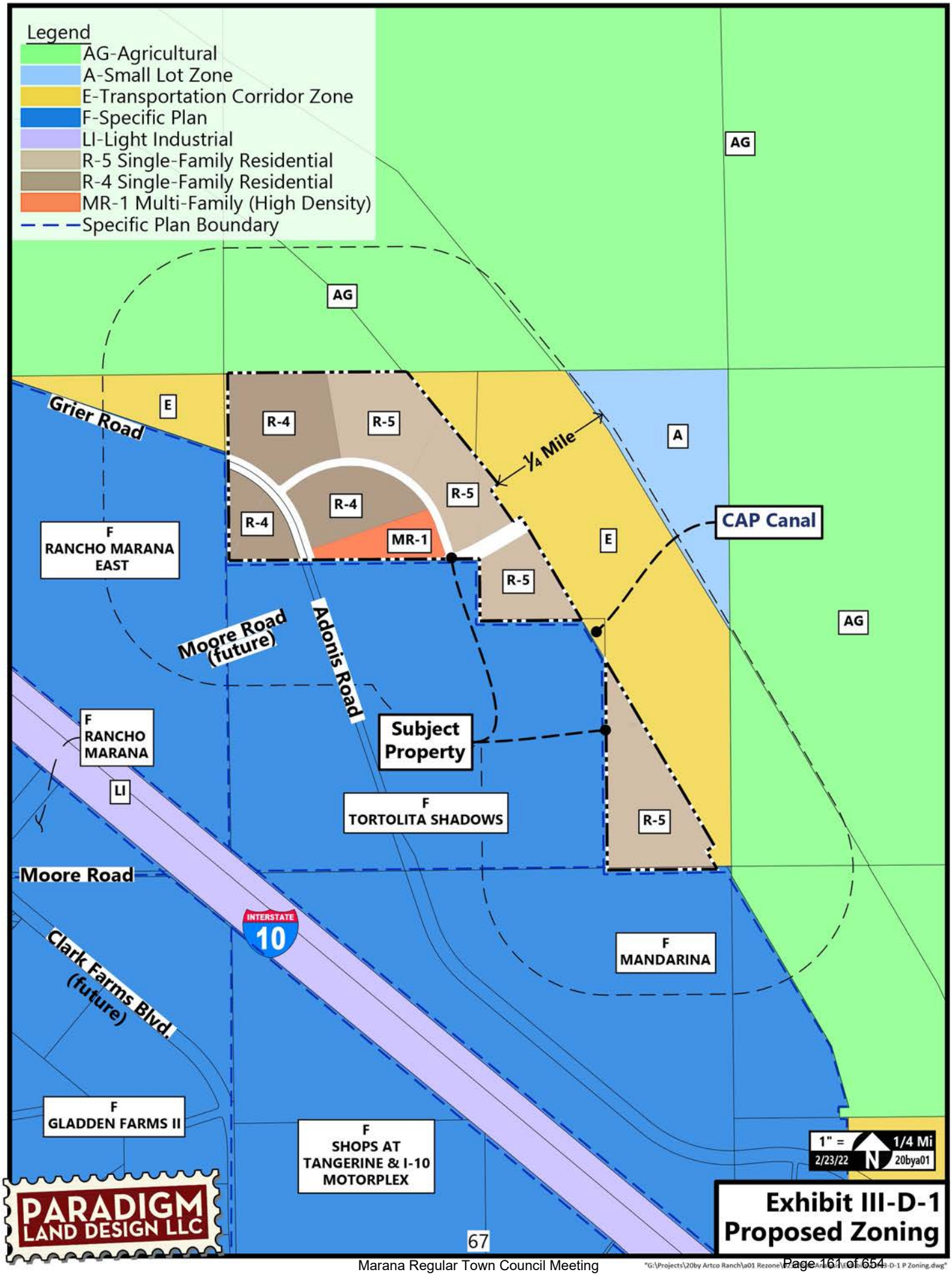
The Town of Marana Strategic Plan calls for new developments and neighborhoods to create areas with meaningful open space, trail connectivity, and active recreation areas. This Property within the Stonegate Master Plan will fulfill all these requirements by providing recreation areas and trail connections in accordance with the Town's recreational design standards.

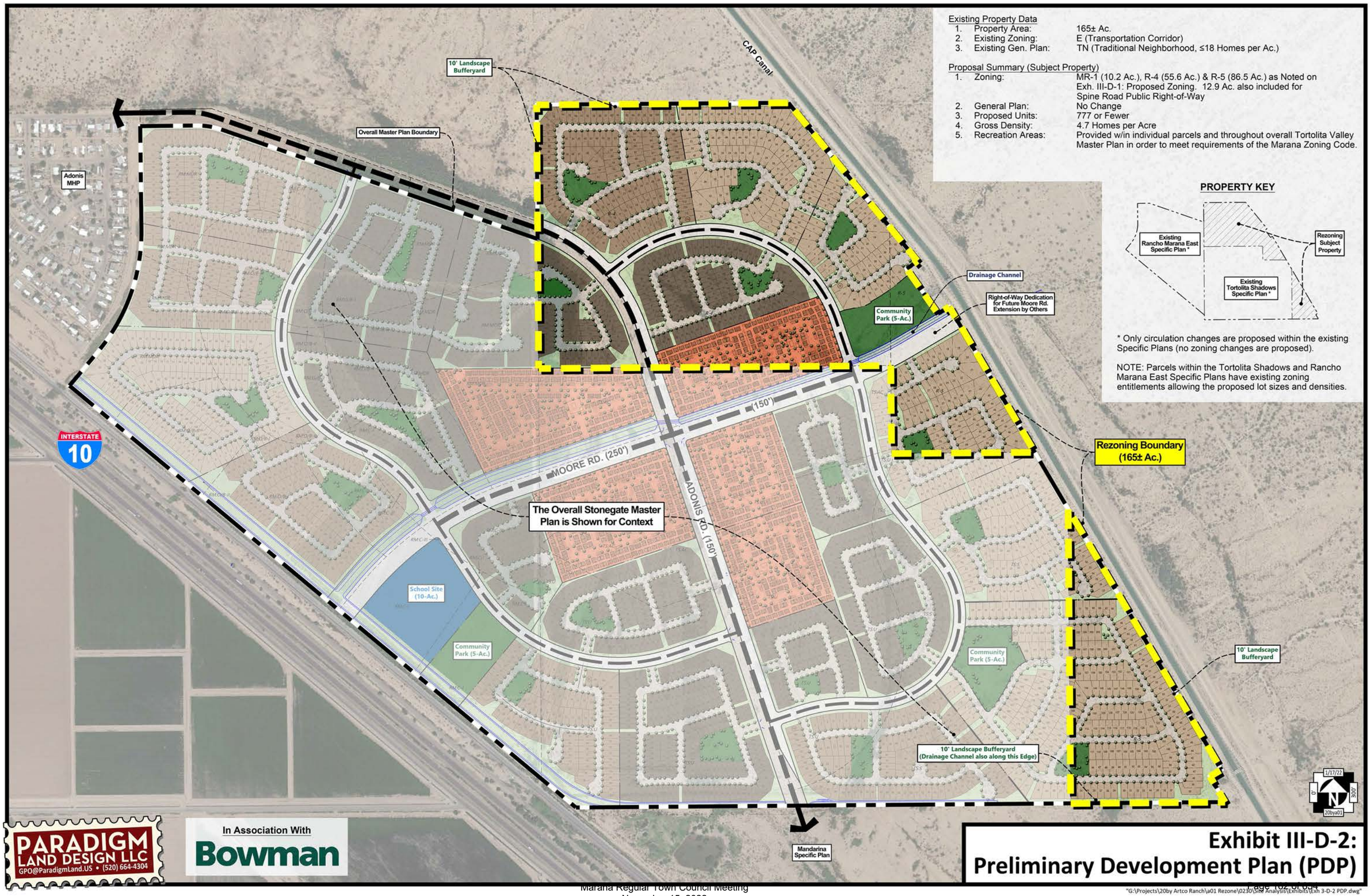
C. COMPATIBILITY TO ADJOINING DEVELOPMENT

The Property's lack of adjacent residential areas minimizes the potential for this development to impact nearby landowners.

D. LAND USE PROPOSAL

This rezoning is designed to blend with and be part of the overall Stonegate Master Plan which includes the previously approved Tortolita Shadows Specific Plan and Rancho Marana Specific Plan. Residences built within this Project will be subject to the Town of Marana Residential Design Standards. The Master Plan includes a mix of residential densities as allowed by the existing Specific Plans and will also include a comprehensive open space system that will provide convenient access to a variety of recreational amenities that currently are not available in this part of Marana east of Interstate-10. The development of the Master Plan will also include construction of the ultimate Adonis Road design cross-section, a length of Moore Road, a collector loop road, regional drainage infrastructure, and extensions of the public utility systems. Some residential lots within the Master Plan cross the boundaries between this rezoning area and the two adjacent Specific Plans. Working with Town Staff it was agreed that a minor amendment to the appropriate Specific Plan will be completed prior to approval of a plat or development plan for any affected lot or parcel.


Legend
AG-Agricultural
A-Small Lot Zone
E-Transportation Corridor Zone
F-Specific Plan
LI-Light Industrial
R-5 Single-Family Residential
R-4 Single-Family Residential
MR-1 Multi-Family (High Density)
Specific Plan Boundary
AG
Grier Road
E
R-4
R-5
¼ Mile
A
CAP Canal
F
RANCHO MARANA
EAST
MR-1
Moore Road
(future)
Adonis Road
Subject
Property
F
RANCHO
MARANA
LI
F
TORTOLITA SHADOWS
Moore Road
INTERSTATE
10
Clark Farms Blvd.
(future)
F
MANDARINA
F
GLADDEN FARMS II
F
SHOPS AT
TANGERINE & I-10
MOTORPLEX
1" =
1/4 Mi
2/23/22
N
20bya01
PARADIGM
LAND DESIGN LLC
Exhibit III-D-1
Proposed Zoning
67


Existing Property Data
1. Property Area: 165± Ac.
2. Existing Zoning: E (Transportation Corridor)
3. Existing Gen. Plan: TN (Traditional Neighborhood, ≤18 Homes per Ac.)
Proposal Summary (Subject Property)
1. Zoning: MR-1 (10.2 Ac.), R-4 (55.6 Ac.) & R-5 (86.5 Ac.) as Noted on Exh. III-D-1: Proposed Zoning. 12.9 Ac. also included for Spine Road Public Right-of-Way
2. General Plan: No Change
3. Proposed Units: 777 or Fewer
4. Gross Density: 4.7 Homes per Acre
5. Recreation Areas: Provided w/in individual parcels and throughout overall Tortolita Valley Master Plan in order to meet requirements of the Marana Zoning Code.
PROPERTY KEY
Existing Rancho Marana East Specific Plan *
Rezoning Subject Property
Existing Tortolita Shadows Specific Plan *
* Only circulation changes are proposed within the existing Specific Plans (no zoning changes are proposed).
NOTE: Parcels within the Tortolita Shadows and Rancho Marana East Specific Plans have existing zoning entitlements allowing the proposed lot sizes and densities.
10' Landscape Bufferyard
Overall Master Plan Boundary
CAP Canal
Adonis MHP
Drainage Channel
Right-of-Way Dedication for Future Moore Rd. Extension by Others
Community Park (5-Ac.)
Rezoning Boundary (165± Ac.)
INTERSTATE 10
MOORE RD. (250')
(150')
ADONIS RD. (150')
The Overall Stonegate Master Plan is Shown for Context
School Site (10-Ac.)
Community Park (5-Ac.)
Community Park (5-Ac.)
10' Landscape Bufferyard
10' Landscape Bufferyard (Drainage Channel also along this Edge)
Mandarina Specific Plan
1/17/22
0'
300'
20bya01
PARADIGM LAND DESIGN LLC
GPO@ParadigmLand.US • (520) 664-4304
In Association With
Bowman
Exhibit III-D-2:
Preliminary Development Plan (PDP)
"G:\Projects\20by Artco Ranch\a01 Rezone\0230\Site Analysis\Exhibits\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. During development the Property will be mass graded in coordination with the rest of the Stonegate Master Plan in order to balance the earthwork and provide the necessary slopes for stormwater drainage and wastewater flow.

F. POST-DEVELOPMENT HYDROLOGY

This section of the site analysis was prepared by Bowman Engineering and describes post-development onsite hydrologic and hydraulic characteristics relative to the overall Stonegate Master Plan because the rezoning property is integrally connected to the overall drainage design.

Conveyance of the offsite flows through the development will be provided via new constructed channels, culverts, and basins. 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.

Important to note, the existing drainage pattern and existing design flows will remain unchanged by discharging some of offsite flows through the existing diversion drainage facilities along the UPRR right-of-way before the remainder offsite flows drain onto the northwest corner of the project. Even so, due to the critical basin retention/detention requirements and in accordance with the Marana design criteria, onsite flow storage will be located throughout the project, to capture the 100-year and 10-year storm events. Said basins have the added benefit of providing more visual access to common areas.

The flow storage basins will ensure the attenuation of the volumetric runoff across the downstream property lines of the site. The large size of the offsite watershed results in a significant time lag of over 20 hours between onsite and offsite time to peak flows. There will be no significant rate runoff flow attenuation at the downstream of the project. Nevertheless, the proposed drainage facilities for the offsite flows and the proposed onsite flow storage basins for the site will avoid any 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 1 foot above adjacent 100-year flood elevations.

See Exhibit III-F-1: Post-Development Hydrology.

Q100=737
EXISTING
CHANNEL

(100YR+10YR)
RETENTION TO
BE PROVIDED
FOR ALL BLOCKS
AND ROADWAYS
IMPROVEMENTS

Q100=1,695
CFS
EXISTING
DRAINAGEWAY
CROSSING

MOORE ROAD

Q100=490
CFS
CHANNEL

CULVERT
CROSSING

ADONIS ROAD

Q100=916
CFS
EXISTING
DRAINAGEWAY
CROSSING

NEW
DRAINAGE
EASEMENT

Q100=319
CFS
CHANNEL

Q100=75
CFS
EXISTING
DRAINAGEWAY
CROSSING

Q100=3,207
CFS
CHANNEL

CULVERT
CROSSING

N

800 400 0 800 1600

GRAPHIC SCALE
1" = 800'

LEGEND

CHANNEL

PROJECT
BOUNDARY

Bowman

POST-DEVELOPMENT
HYDROLOGY MAP
EXHIBIT III-F-1

G. VEGETATION & LANDSCAPING

The Marana Land Development Code, Environmental Resource Preservation, Native Plant and Landscape Requirements, allows for this type of subdivision development. Having been subject to agricultural use for many years, this Property has no existing significant native vegetation anywhere onsite. Native plants will be reintroduced throughout the subdivisions and open space areas in accordance with the Town's landscape design guidelines. A landscape plan will be submitted at the time of plat review. All native plant preservation and landscaping standards will be addressed in accordance with the Town of Marana Town Code.

Open space is primarily located in a number of recreational and drainage-related open spaces throughout the development, all connecting to the regional drainage improvements proposed as part of the Stonegate Master Plan. Landscaping will be installed throughout the open spaces 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.

H. WILDLIFE

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

At least 30 days before grading, a 100% area survey must be completed by a qualified wildlife biologist, for the Sonoran Desert Tortoise and Western Burrowing Owl, with a copy of the survey form send to the Town prior to issuance of a grading permit.

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 mitigate the project's minimal impacts to surrounding viewsheds.

J. TRAFFIC

As part of the development of the Stonegate Master Plan this project will participate in the construction of Adonis Road, a stretch of Moore Road, and a new collector loop road. This new collector road will serve as the main circulation spine for the proposed subdivisions to access Adonis and Moore. Internal neighborhood streets have been designed to create safe traffic movements throughout the neighborhood. This rezoning is expected to generate up to approximately 7,770 total daily trips based on an estimated ten daily trips per household, which will be accommodated by widening of Adonis Road and construction of Moore Road and the collector loop roads. The expected traffic associated with other parts of the Stonegate Master Plan has been addressed as part of the rezonings of the Tortolita Shadows Specific Plan and Rancho Marana East Specific Plan. However, as the entire Stonegate Master Plan is now proposed for development, the "Stonegate Master Plan Traffic Impact Analysis" by Southwest Traffic Engineering has been prepared and submitted to the Town as a standalone report. The report details phasing of required roadway improvements. The executive summary is shown on the following pages.

Grier Road West of the Property



Traffic Impact Analysis Executive Summary

TORTALITA SHADOWS
MOORE ROAD/ADONIS ROAD
TRAFFIC IMPACT ANALYSIS

Executive Summary

The purpose of this traffic study is to evaluate the current and future transportation system within the project study area surrounding the site without and with the proposed Tortalita Shadows project.

Existing and Future Traffic Data Without and With the Project
The intersection of Tangerine Road/Interstate 10 (I-10) Eastbound Ramps currently experiences delay during the weekday AM peak hour. This delay is expected to continue in 2022, 2027, 2032, 2037, and 2042 without and with traffic from the project.

The intersection of Tangerine Road/I-10 Westbound Ramps is expected to begin experiencing delay during the weekday AM peak hour in 2027 without the project. This delay is expected to continue in 2032, 2037, and 2042 without traffic from the project. The delay is expected to begin in 2022 with traffic from the project and is expected to continue in 2027, 2032, 2037, and 2042.

Cochie Canyon Trail/I-10 Eastbound Ramps are expected to experience inadequate delay in 2022 with the project. This delay is expected to continue in 2027, 2032, 2037, and 2042 with traffic from the project.

The intersection of Cochie Canyon Trail/I-10 Westbound Ramps is expected to operate at an inadequate LOS in 2032, 2037, and 2042 without the project while the delay is expected to begin in 2022 with traffic from the project.

Manderina Boulevard/Tangerine Road is expected to experience delay beginning in 2022 and continue in 2027, 2032, 2037, and 2042 with traffic from the project.

South East Loop Road/Adonis Road is expected to operate at an inadequate LOS in 2022 with traffic from the project. This delay is expected to continue in 2027, 2032, 2037, and 2042 with traffic from the project.

The following intersections are expected to experience delay beginning in 2032 and continuing through 2037 and 2042:

- Adonis Road/Cochie Canyon Trail
- Moore Road/Adonis Road
- Access 7/Adonis Road
- South West Loop Road/Adonis Road
- Access 8/Adonis Road
- South East Loop Road/Adonis Road

Traffic Impact Analysis Executive Summary (cont'd)

The remaining study intersections currently operate and are expected to continue operating at an adequate LOS during the 20-year study period without and with the project.

Turn Lane Analysis
A northbound right turn lane is warranted at Adonis Road/Cochie Canyon Trail. This turn lane will require 1,150 feet of storage; however, a turn lane of this length is unrealistic to be constructed.

A southbound right turn lane is warranted at Manderina Boulevard/Tangerine Road. This turn lane should be constructed to provide 150 feet of storage with a 180-foot taper to meet Town of Marana (TOM) guidelines.

Eastbound right turn lanes are warranted at Moore Road, Access 7, Access 8, and South East Loop Road on Adonis Road. These turn lanes should be constructed to provide 150 feet of storage with a 180-foot taper to meet TOM guidelines.

The turn lanes at Adonis Road/Cochie Canyon Trail and Manderina Boulevard/Tangerine Road are expected to provide adequate storage for turning vehicles.

Traffic Signal Warrant Analysis
Traffic signal warrant #1 is expected to be met at the intersection of Adonis Road/Cochie Canyon Trail in 2042 with traffic from the project.

Traffic signal warrants #1 and #2 are expected to be met in 2022, 2027, 2032, 2037, and 2042 with traffic from the project at Manderina Boulevard/Tangerine Road.

Mitigation
Mitigation options at the existing I-10 traffic interchanges (TI's) at Cochie Canyon Trail and Tangerine Roads are limited due to the lack of available information about improvements to them being completed by the Arizona Department of Transportation (ADOT) at an unspecified future date. It is expected that once these junctions are reconstructed into modern TI's, the levels of service will improve.

To reduce the delay experienced internally at the project site, roundabouts should be installed at the key intersections along Adonis Road. By installing roundabouts, delays at these intersections are expected be reduced to acceptable levels. Additionally, the impact caused by future project site traffic redirection due to a new TI at Moore Road/I-10 will be reduced due to the omni-directional effeciency such roundabouts can provide.

Recommendations
A westbound right turn lane should be installed at Manderina Boulevard/Tangerine Road.

An eastbound right turn lane should be installed at Adonis Road/Cochie Canyon Trail. These turn lanes should be constructed to provide 150 feet of storage with a 180-foot taper to meet TOM guidelines.

Traffic Impact Analysis Executive Summary (cont'd)

Due to the uncertainty of future traffic flow conditions, the traffic signals warranted at Adonis Road/Cochie Canyon Trail and Manderina Boulevard/Tangerine Road should not be installed. Upon the construction of the Moore Road TI and the subsequent redirection of project site traffic away from the existing study intersections, these warranted traffic signals may no longer be warranted. These intersections should be monitored and reanalyzed when this occurs.

It should be noted that depending on the location and design of the new Tangerine Road TI with I-10, there is a good chance that Manderina Boulevard/Tangerine Road will become a right in/right out only intersection or will require complete removal due to the spanning of the adjacent railroad tracks. Consideration should be given, or plans should be made, to continuing Adonis Road east of Manderina Boulevard, across the Central Arizona Project Canal (CAP) alignment to an intersection at last one quarter mile east of I-10.

During the first phase of the project, Adonis Road and Moore Road will both be constructed as three-lane roadways: a though lane in both directions separated by a two-way center left turn lane. Right-of-way will be set aside on the east side of Adonis Road for future widening to a five-lane roadway cross-section. As Moore Road may not be widened for quite some time, right turn lanes at key intersections along the roadway should be installed during Phase 1. Right of way should be set aside for a five-lane roadway cross section on Moore Road if a new interchange is constructed at I-10 in the future. The southbound right turn lanes on the west side of Adonis Road should also be installed at key intersections during this phase, as the roadway will be widened to the east.

During the second phase of the project, Adonis Road will be widened to a five-lane roadway cross-section: two through lanes in both directions separated by a raised median. This will be done by transitioning the two-way center left turn lane into a southbound through lane, reconstructing the northbound through lane to a raised median, and constructing two northbound through lanes. Northbound right turn lanes at key intersections on the east side of Adonis Road should be installed at this time.

K. PUBLIC UTILITIES

1. Water

   Marana Water will serve this subdivision. An extension of Marana's public water system will be required to be constructed by the developer as part of the development of the overall Stonegate Master Plan. See Exhibit III-K-1: Preliminary Potable Water Plan.

2. Sewer

   Much of the Stonegate Master Plan, including a portion of this Property, will gravity sewer to the recently installed manhole at the Master Plan's southwest corner along Interstate-10. The remainder, also including a portion of this Property, will gravity sewer to a new public lift station to be located southeast of the intersection of Interstate-10 and Moore Road. The wastewater will be pumped from that location to aforementioned manhole. The Town of Marana will be undertaking sewer line capacity improvements further downstream. The developer will provide a sewer master plan model to confirm all system capacities prior to improvement plan submittal. A sewer capacity letter was requested on 12/15/2021 but a response has not yet been received. See Exhibit III-K-2: Preliminary Sewer Plan.

3. Electric

   The property is located within the TRICO service area.

Existing TRICO Electric Lines along the Western Property Boundary

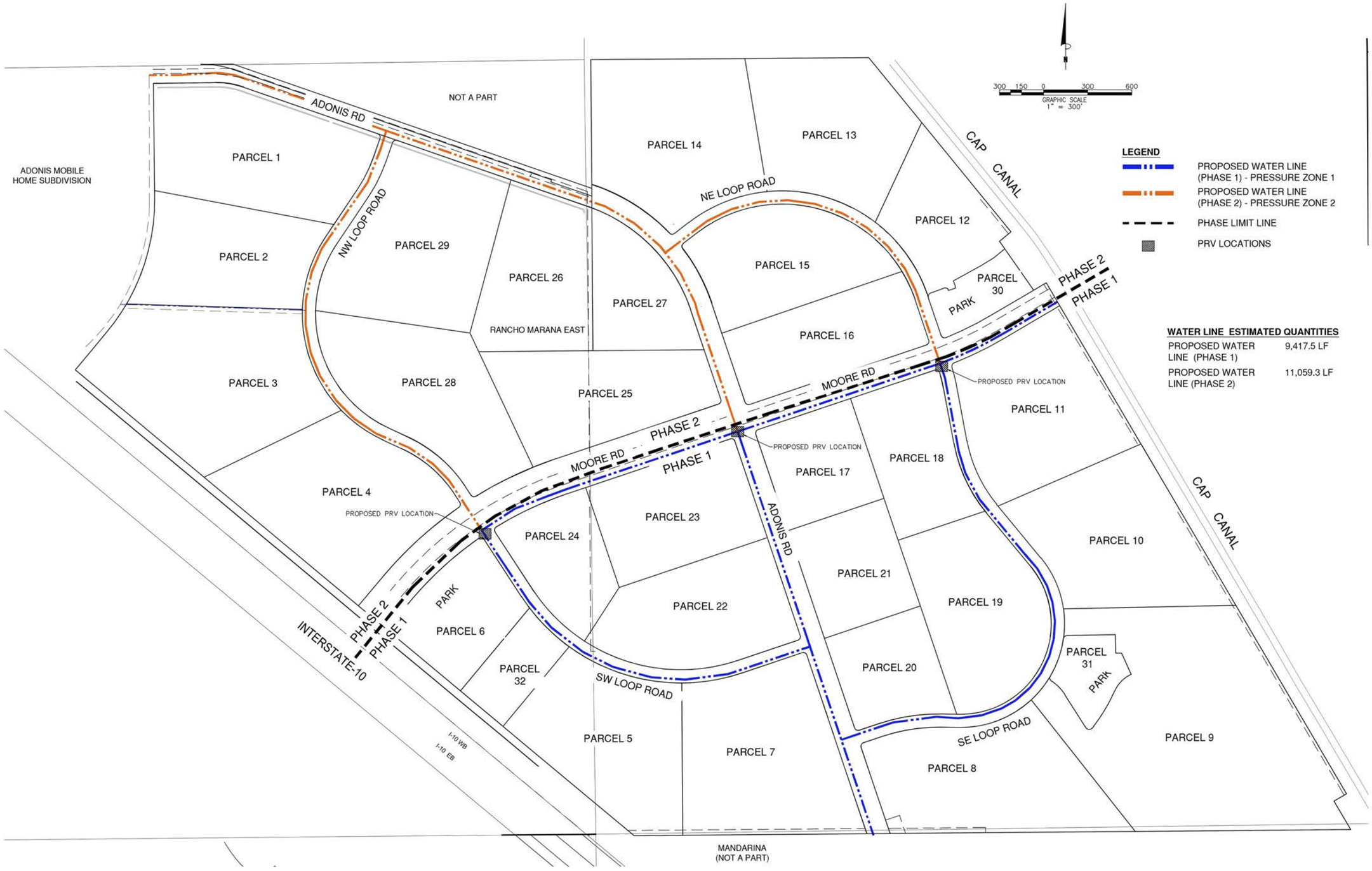


4. Natural Gas

   Southwest Gas will supply natural gas services to this development.

5. Telecommunications

   The development is within the Century Link service area.



WATER LINE ESTIMATED QUANTITIES

PROPOSED WATER LINE (PHASE 1)	9,417.5 LF
PROPOSED WATER LINE (PHASE 2)	11,059.3 LF

Bowman CONSULTING

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Tempe, Arizona 85281
Phone: (480) 629-8830
www.bowmanconsulting.com
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PRELIMINARY POTABLE WATER PLAN

STONEGATE

EXHITBIT III-K-1

MARANA, AZ

PIMA COUNTY

PROJECT NUMBER

PLAN STATUS

DATE	DESCRIPTION

BTH DESIGN	BTH DRAWN	RS CHKD
SCALE	H: 1"=300' V: N/A	
JOB No. 050985-01-001		
DATE : 01/12/22		

SHEET 1 OF 1

CAD FILE NAME: V:\050985 - Tortolita Shadows-Rancho Marana-\050985-01-001 (ENG) - Tortolita Shadows-Rancho Marana\Engineering\Exhibits\050985 Water Exhibit 113021.dwg 01/12/2022



Bowman CONSULTING

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Phone: (480) 629-8830
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PRELIMINARY SEWER PLAN

STONEGATE

EXHIBIT III-K-2

PIMA COUNTY

MARANA, AZ

PROJECT NUMBER

PLAN STATUS

DATE	DESCRIPTION	
BTH DESIGN	BTH DRAWN	RS CHKD
SCALE	H: 1"=300' V: N/A	
JOB No. 050985-01-001		
DATE : 01/12/22		

SHEET 1 OF 1

CAD FILE NAME: V:\050985 - Tortolita Shadows-Rancho Marana-\050985-01-001 (ENG) - Tortolita Shadows-Rancho Marana\Engineering\Exhibits\050985-Sewer Exhibit 122021.dwg 01/12/2022

L. PUBLIC SERVICE IMPACTS

1. Police

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

2. Fire

   This project will be protected by the Northwest Fire District once it is annexed into the District.

3. Trash & Recycling

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

4. Schools

   The Marana Unified School District uses a student generation factor of 0.25 per home for elementary students and 0.1 per home for secondary students. The District has indicated that is has capacity to serve this development at Estes Elementary School, Marana Middle School and Marana High School. See Exhibit III-L-1: School District Letter, which confirms that nearby Marana school District facilities have capacity for more houses than are currently proposed within this development.

5. Parks

   As discussed in Section I. of this site analysis, recreational opportunities are currently minimal on this side of Interstate-10 in Marana. In response, the Stonegate Master Plan will include a number of neighborhood and community parks to serve the recreational needs of future residents. Please see Section III.M.

Exhibit III-L-1: School District 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

July 27, 2021

Paul Oland
Paradigm Land Design

RE: Proposed Development 908 Homes NE of Moore and I-10

Dear Mr. Oland,

Thank you for informing us of the proposed 908 home development NE of Moore Rd. and I-10. Marana Unified School District currently uses a factor of .25 students per home for elementary and .1 students per home for secondary. The 908 homes could generate about 227 elementary and 90 secondary students.

These future potential students would be supported by the following schools with their current enrollment/capacity numbers shown; Estes (514/787), Marana Middle School (1013/1434) and Marana High School (2044/2385). While all schools have capacity for the impact of this proposed development at this time, current growth trends are indicating that future school sites at both the elementary and secondary level may be needed in the near future.

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

M. RECREATION & TRAILS



Image Courtesy the Marana Website

Subdivisions within the Property will include neighborhood parks conveniently located for their future residents and an internal connected network of trails and paths of varying sizes and surface materials that meet Town standards. Public trail easements may be dedicated by future subdivision plats to ensure that the general public has perpetual access through the project area

The Mandarina Specific Plan just south of the Property will include a community park. Similarly, the Tortolita Shadows Specific Plan, which is part of the Stonegate Master Plan, will include two community parks that will provide nearby recreational amenities to the Property. Developers of this project will coordinate with adjoining developments to ensure a seamless trail/path network.

The Town recently opened the Central Arizona Project Trailhead located off of Adonis Road, approximately one quarter mile north of Tangerine Road. The Town's Parks & Recreation website describes the trailhead as "the gateway to the CAP trail system that runs north from Marana 17 miles into Pinal County".

Future development within the rezoning area will comply with the recreational area requirements of Section 17-5-3.12 of the Marana Town Code, and a Recreational Area Plan will be submitted at the time of subdivision plat review.

N. CULTURAL, ARCHAEOLOGICAL & HISTORIC RESOURCES

The Property was surveyed for cultural resources by WestLand Resources in May 2021. Six sites of potential significance were identified and are currently the subject of further study in coordination with the Town of Marana's Environmental Services Department.

Council-Regular Meeting **A2**

Meeting Date: 11/15/2022

To: Mayor and Council

From: Jane Fairall, Town Attorney

Date: November 15, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: PUBLIC HEARING: Ordinance No. 2022.025: Relating to Development; approving a modification to Marana Ordinance No. 2003.19, which rezoned approximately 40 acres of land located generally at the northeast corner of Sanders Road and Moore Road, to delete a provision of the ordinance that required the developer to install dual water lines (Jane Fairall)

Discussion:

The Mayor and Council adopted Ordinance No. 2003.19 on August 19, 2003, approving a rezoning of approximately 50 acres of land located generally at the northeast corner of Sanders Road and Moore Road to R-6 (Single-Family Residential) and NC (Neighborhood Commercial) (the "Rezoning Area"). Approval of the rezoning was subject to a number of conditions, including condition 9 which provides that the developer is required to install dual water lines per the Northwest Marana Area Plan. On March 7, 2006, the Town Council issued a policy decision interpreting the dual water line provision of the Northwest Marana Area Plan to require developer-installed non-potable water system infrastructure to serve all common areas, parks, and other shared or public areas with significant landscape water requirements, and not to require the infrastructure to be installed to each individual residential lot. The Northwest Marana Area Plan has since been superseded by adoption of subsequent Marana General Plans from time to time, most recently the Make Marana 2040 General Plan, adopted by the Town Council on December 10, 2019, and ratified by Marana voters at the August 4, 2020 election.

The Town of Marana and the Cortaro-Marana Irrigation District (CMID) entered into

an Intergovernmental Agreement effective December 10, 2013, for the transfer of ownership and operation of the North Marana Non-Potable Water Systems from the Town to CMID (the "Non-Potable IGA"). Pursuant to the Non-Potable IGA, CMID was designated as the non-potable service provider for all future developments located within areas where the Town and CMID service areas overlap and where it is economically feasible for the developer to extend the non-potable system to the proposed development. The Rezoning Area has been developed in two parts, as Fianchetto Farms, a 29.52-acre residential subdivision, and as SC Ranch, a 10.77-acre residential subdivision. During the development of the subdivisions, CMID and the Town determined that it was not economically feasible for the developers of SC Ranch and Fianchetto Farms to extend the non-potable system to their developments due to their distance from CMID infrastructure, and in the case of SC Ranch, due to the small size of the subdivision and its limited need for non-potable water.

The proposed ordinance will modify Ordinance No. 2003.19 to delete condition 9 requiring the developer to install dual water lines per the Northwest Marana Area Plan.

Staff Recommendation:

Staff recommends approval of the ordinance.

Suggested Motion:

I move to adopt Ordinance No. 2022.025, approving a modification to Marana Ordinance No. 2003.19, which rezoned approximately 40 acres of land located generally at the northeast corner of Sanders Road and Moore Road, to delete a provision of the ordinance that required the developer to install dual water lines.

Attachments

Ordinance No. 2022.025

Ordinance 2003.19

MARANA ORDINANCE NO. 2022.025

RELATING TO DEVELOPMENT; APPROVING A MODIFICATION TO MARANA ORDINANCE NO. 2003.19, WHICH REZONED APPROXIMATELY 40 ACRES OF LAND LOCATED GENERALLY AT THE NORTHEAST CORNER OF SANDERS ROAD AND MOORE ROAD, TO DELETE A PROVISION OF THE ORDINANCE THAT REQUIRED THE DEVELOPER TO INSTALL DUAL WATER LINES

WHEREAS the Mayor and Council of the Town of Marana adopted Ordinance No. 2003.19 on August 19, 2003, approving a rezoning of approximately 50 acres of land located generally at the northeast corner of Sanders Road and Moore Road to R-6 (Single-Family Residential) and NC (Neighborhood Commercial) (the "Rezoning Area"); and

WHEREAS approval of the rezoning was subject to a number of conditions, including condition 9 which provides that the developer is required to install dual water lines per the Northwest Marana Area Plan; and

WHEREAS on March 7, 2006, the Town Council issued a policy decision interpreting the dual water line provision of the Northwest Marana Area Plan to require developer-installed non-potable water system infrastructure to serve all common areas, parks, and other shared or public areas with significant landscape water requirements, and not to require the infrastructure to be installed to each individual residential lot; and

WHEREAS the Northwest Marana Area Plan has since been superseded by adoption of subsequent Marana General Plans from time to time, most recently the Make Marana 2040 General Plan, adopted by the Town Council on December 10, 2019, and ratified by Marana voters at the August 4, 2020 election; and

WHEREAS the Town of Marana and the Cortaro-Marana Irrigation District (CMID) entered into an Intergovernmental Agreement effective December 10, 2013, as recorded in the records of the Pima County Recorder at sequence 20133440257, for the transfer of ownership and operation of the North Marana Non-Potable Water Systems from the Town to CMID (the "Non-Potable IGA"); and

WHEREAS pursuant to the Non-Potable IGA, CMID was designated as the non-potable service provider for all future developments located within areas where the Town and CMID service areas overlap and where it is economically feasible for the developer to extend the non-potable system to the proposed development; and

WHEREAS the Rezoning Area is located within an area where the Town and CMID service areas overlap; and

WHEREAS the Rezoning Area has been developed in two parts, as Fianchetto Farms, a 29.52-acre residential subdivision according to the final plat recorded in the Pima County Recorder's Office at Book 60, Page 97, and as SC Ranch, a 10.77-acre residential subdivision according to the final plat recorded in the Pima County Recorder's Office at Sequence 20210220045; and

WHEREAS CMID and the Town determined that it was not economically feasible for the developers of SC Ranch and Fianchetto Farms to extend the non-potable system to their developments due to their distance from CMID infrastructure, and in the case of SC Ranch, due to the small size of the subdivision and its limited need for non-potable water; and

WHEREAS the Mayor and Council find that this condition modification is insubstantial enough not to require or benefit from Planning Commission consideration, and that this ordinance is in the best interests of the Town and its citizens.

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

Section 1. Section 2, condition 9 of Marana Ordinance No. 2003.19 is hereby deleted.

Section 2. All ordinances or parts of ordinances in conflict with the provisions of this ordinance are repealed as of the effective date of this ordinance; provided, however, that this repeal shall not affect the rights and duties that matured or penalties that were incurred and proceedings that were begun before the effective date of the repeal.

Section 3. 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.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 15th day of November, 2022.

_____
Mayor Ed Honea

ATTEST:

_____
David L. Udall, Town Clerk

APPROVED AS TO FORM:

_____
Jane Fairall, Town Attorney

F. ANN RODRIGUEZ, RECORDER
RECORDED BY: LAM
DEPUTY RECORDER
6545 PE4

SMARA
TOWN OF MARANA
ATTN: TOWN CLERK
13251 N LON ADAMS RD
MARANA AZ 85653

DOCKET: 12322
PAGE: 1336
NO. OF PAGES: 10
SEQUENCE: 20041140284
06/14/2004
ORDIN 14:46

MAIL

AMOUNT PAID $ 10.50

RE-RECORDING

OF

MARANA ORDINANCE NO. 2003.19

Marana Ordinance No. 2003.19, recorded by the Pima County Recorder on August 22, 2003, in Docket 12120, pages 6540 through 6548, is being re-recorded to correct a scrivener's error. The date the ordinance was passed and adopted was incorrect. The changes are as follows:

Page 4:

IS:

PASSED.....19th day of August, 2003

WAS:

PASSED.....3rd day of June, 2003

RECORDED AGAIN

F. ANN RODRIGUEZ, RECORDER
RECORDED BY: PSG
DEPUTY RECORDER
9394 PE1

SMARA
TOWN OF MARANA
ATTN: TOWN CLERK
13251 N LON ADAMS RD
MARANA AZ 85653

DOCKET: 12120
PAGE: 6540
NO. OF PAGES: 9
SEQUENCE: 20031631581
08/22/2003
ORDIN 16:31

MAIL

AMOUNT PAID $ 10.00

MARANA ORDINANCE NO. 2003.19

AN ORDINANCE OF THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, APPROVING A REZONE REQUEST BY SUSAN HERNANDEZ AND SC RANCH HOLDINGS, L.L.C. TO REZONE APPROXIMATELY 40 ACRES OF LAND FROM "A" (SMALL LOT ZONE) TO "R-6" (SINGLE FAMILY RESIDENTIAL/ 6000 SQ. FT. MINIMUM LOT SIZE) AND "NC" (NEIGHBORHOOD COMMERCIAL) CREATING A 30 ACRE RESIDENTIAL NEIGHBORHOOD WITH 10 ACRES OF COMMERCIAL. THE SUBJECT PROPERTY IS GENERALLY LOCATED AT THE NORTHEAST CORNER OF SANDERS ROAD AND MOORE ROAD, WITHIN SECTION 28, TOWNSHIP 11 SOUTH, RANGE 11 EAST.

WHEREAS, Susan Hernandez and SC Ranch Holdings, L.L.C. are the owners of approximately 40 acres of land generally located at the northeast corner of Sanders Road and Moore Road, within Section 28, Township 11 South, Range 11 East, as depicted on Exhibit "A", attached hereto and incorporated herein by this reference; and

WHEREAS, the Marana Planning Commission held a public hearing June 25, 2003 and voted 6-0 to recommend that the Town Council approve said rezone, adopting the recommended staff conditions; and

WHEREAS, the Marana Town Council heard from representatives of the owner, staff and members of the public at the regular Town Council meeting held August 19, 2003 and has determined that the rezoning is in conformity with the General Plan and should be approved, subject to conditions.

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

Section 1. The zoning of approximately 40 acres generally located at the northeast corner of Sanders Road and Moore Road, within Section 28, Township 11 South, Range 11 East is hereby changed from "A" (Small Lot Zone) to "R-6" (Single Family Residential/ 6000 sq. ft. minimum lot size) and "NC" (Neighborhood Commercial) creating a 30 acre residential neighborhood with 10 acres of commercial.

Section 2. The purpose of this rezoning is to allow the creation of a residential neighborhood and neighborhood commercial services, subject to the following conditions:

1. Compliance with all provisions of the Town's Codes, Ordinances, and policies of the General Plan current at the time of any subsequent development including, but not limited to, requirements for public improvements.
2. The design of all streets and circulation related facilities shall be accepted by the Northwest Fire District and the Town prior to the Planning and Zoning Commission's consideration of the preliminary plat. The applicant shall provide annexation acceptance into the Northwest Fire District with the submittal of a preliminary plat.
3. This rezoning is valid for five (5) years from the date of Town Council approval provided that if the developer fails to have a final plat recorded prior to the five (5) years, the property shall revert to the original zoning without further action by the Town Council.
4. The preliminary plat shall be in general conformance with the tentative land use plan as adopted by Mayor and Council.
5. No approval, permit, or authorization of the Town of Marana authorizes the applicant and or landowner to violate any applicable federal or state laws or regulations, or relieves the applicant and or landowner from the responsibility to ensure compliance with all applicable federal and state laws and regulations, including the Endangered Species Act and the Clean Water Act. You are hereby advised to retain appropriate expert and or consult with federal and state agencies to determine any action necessary to assure compliance with applicable laws and regulations.
6. The applicant shall enter into a Water Service Agreement with the Town of Marana prior to the Town Council's consideration of the final plat.
7. The applicant agrees to enter a financial contract establishing their "fair share" contribution for regional transportation, schools, and parks. The contribution shall be recorded through a mutually acceptable Development Agreement. The Agreement shall reflect the applicant's responsibility to indemnify the project's impact upon the identified public services and amenities. The Development Agreement must be recorded prior to Town Council consideration of any preliminary platting request related to the change in zoning requested herein.
8. Special landscape and design treatments shall be provided at project entry ways, as well as perimeter walls, which create an individual identity for the project and consistency with the Northwest Marana Area Plan.
9. Installation of Dual Water lines shall be required per the Northwest Marana Area Plan, as adopted October 17, 2000.
10. "Southwest" architectural styles should be used to design neighborhood commercial villages that harmonize with the overall character of Northwest Marana as described in the Northwest Marana Area Plan as adopted October 17, 2000.

11. High-traffic pedestrian activity corridors shall utilize accent pavement and specialty lighting as described in the Northwest Marana Area Plan, adopted October 17, 2000.

12. If the applicant elects to limit or prohibit on-street parking in the residential portion of the project then adequate common guest lots shall be provided through out the residential portion of the project. Total guest parking should be no fewer than 1 space per dwelling unit.

13. The site shall be surveyed for archaeological resources before any ground disturbing activities take place.

14. The Developer shall dedicate Sanders Road to a 75-foot half-width right-of-way and Moore Road to a 75-foot half-width right-of-way for street purposes, or as accepted by the Town. In the event an infrastructure development project requiring additional right-of-way along Sanders or Moore is programmed in the approved Capital Improvement Plan for the Town, the developer shall convey the subject right-of-way upon demand by the Town.

15. A sewer service agreement and master sewer plan must be submitted, by the Developer, and accepted by Pima County Wastewater Management and the Town Engineer prior to the approval of the first preliminary plat by the Town Council.

16. The property owner shall transfer with the final plat, by the appropriate Arizona Department of Water Resources form, those water rights being IGR, Type I or Type II to the Town of Marana for the Town providing designation of assured water supply and water service to said property. If Type I or Type II are needed on said property, the Town and developer/landowner shall arrive at an agreeable solution to the use of those water rights appurtenant to said land.

17. Prior to the issuance of a building permit and pursuant to Marana Ordinance No. 99.02 the property owner(s) within the Lower Santa Cruz River Levee Benefit Area shall enter into a Development Agreement with the Town of Marana to reimburse the Town for this project's proportionate share for the cost of construction of the levee.

18. Potential buyers shall be notified that some or all of the property in this rezoning is subject to an annual tax and assessment by Cortaro Marana Irrigation District and Cortaro Water Users' Association.

19. The rezoning shall comply with the adopted Subdivision Design Standards at the time of development.

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 Ordinance No. 2003.19.

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 hereof.

PASSED AND ADOPTED by the Mayor and Council of the Town of Marana, Arizona, this 19th day of August, 2003.

ATTEST:

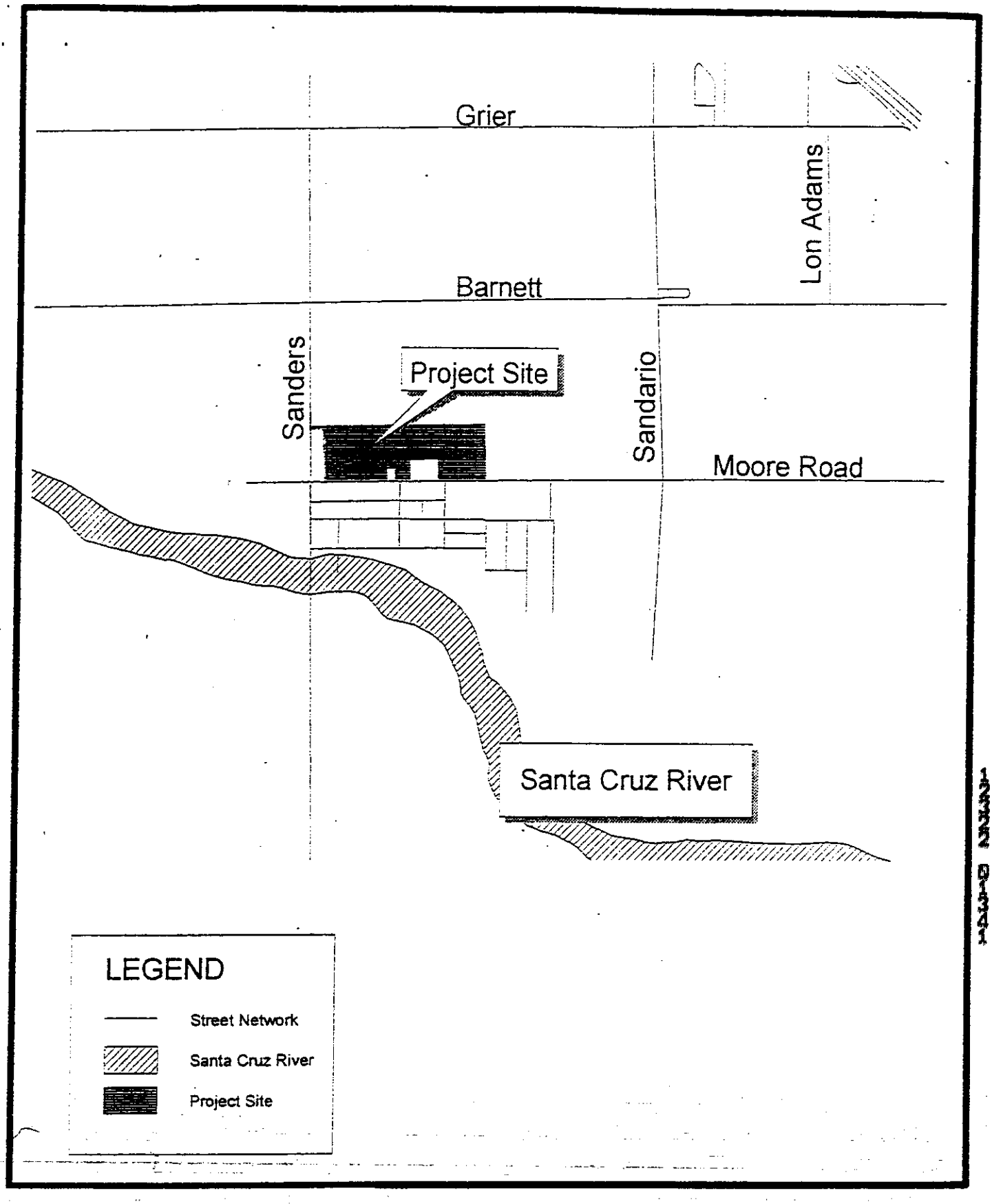
Mayor BOBBY SUTTON, JR.

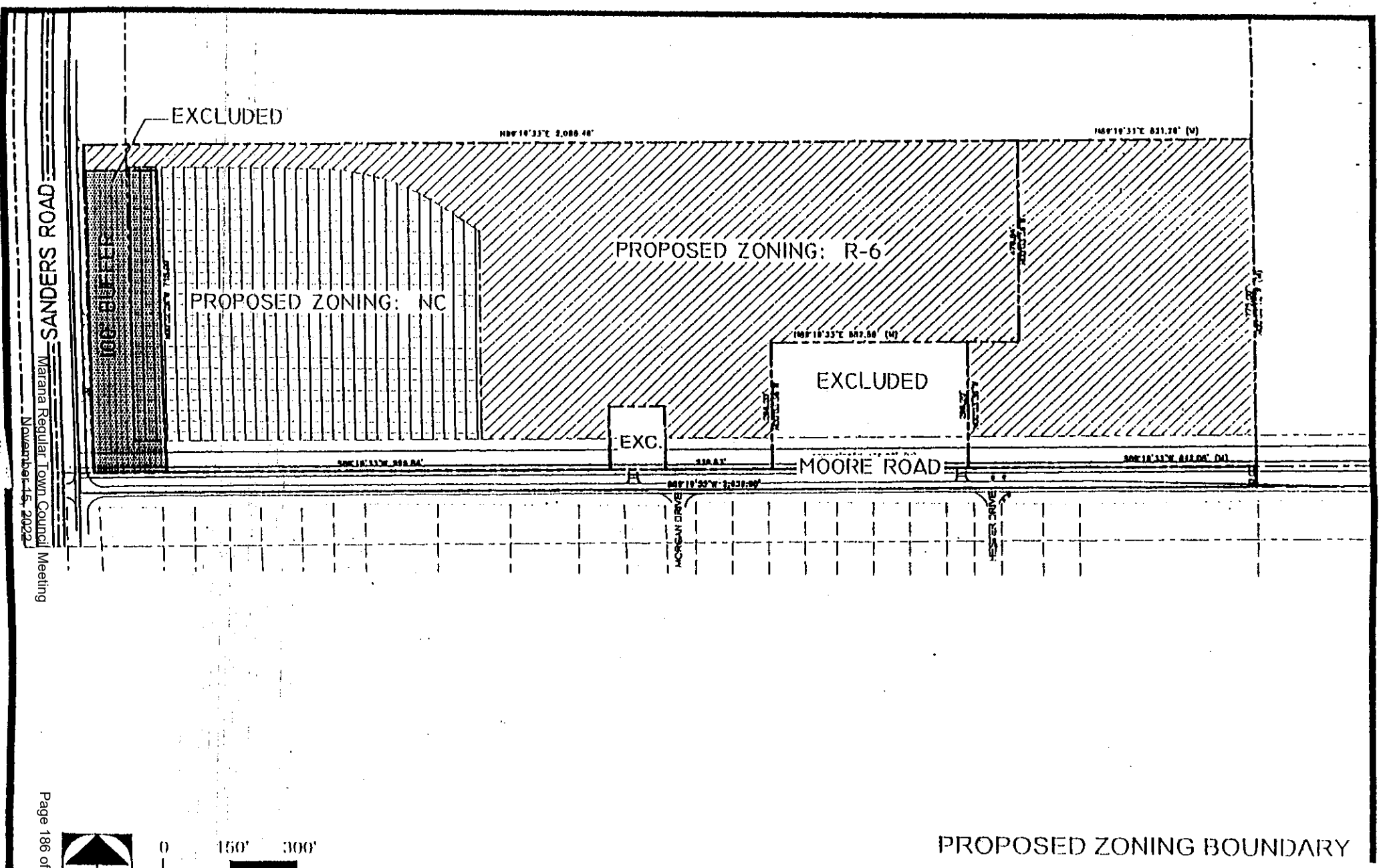
Jocelyn C. Bronson
Town Clerk

TOWN OF MARANA CORPORATE SEAL ARIZ. 1977

APPROVED AS TO FORM:

Frank Cassidy
As Town Attorney and not personally


Grier
Lon Adams
Barnett
Sanders
Project Site
Sandario
Moore Road
Santa Cruz River
LEGEND
Street Network
Santa Cruz River
Project Site



PROPOSED ZONING BOUNDARY

Escrow No. 30006635-MS
Title Order No. 30006635

EXHIBIT "A"

PARCEL E:

That portion of the parcel of land described in Docket 7942, page 1501 of Pima County Records, being a portion of the South 825 feet of the Southwest quarter of Section 28, Township 11 South, Range 11 East, Gila and Salt River Base and Meridian, Pima County, Arizona described as follows:

Commencing at the Southeast corner of said Southwest quarter;

Thence North 00°31'48" West, along the East line of said Southwest quarter, a distance of 50.00 feet to the Southeast corner of said parcel, said point being the Point of Beginning;

Thence South 89°19'27" West, along the South line of said parcel, a distance of 642.08 feet;

Thence North 00°03'36" West, a distance of 298.20 feet;

Thence North 89°19'27" East, a distance of 114.35 feet;

Thence North 00°03'36" West a distance of 476.84 feet to a point on the North line of said parcel;

Thence North 89°19'27" East, along said North line, a distance of 521.38 feet to the Northeast corner of said parcel;

Thence South 00°31'48" East, along the East line of said parcel, a distance of 775.00 feet to the Point of Beginning.

SUBJECT TO AND TOGETHER WITH an easement for ingress, egress and utilities over the North 15 feet of the South 825 feet of the Southwest quarter.

(portion of jv arb: 71)

Escrow No. 60007379-SML
Title Order No. 60007679

EXHIBIT "A"

The South 825 feet of the South half of the Southwest quarter of Section 28, Township 11 South, Range 11 East, Gila and Salt River Base and Meridian, Pima County, Arizona;

EXCEPT the South 50 feet; and

EXCEPT the East 125 feet of the North 150 feet of the South 200 feet of the Southwest quarter of the Southwest quarter; and

EXCEPT the East 165 feet of the West 195 feet of the North 715 feet of the South 765 feet of the Southwest quarter of the Southwest quarter; and

EXCEPT any portion thereof lying within Sander Road and/or Moore Road, as they now exist;

AND EXCEPT the following described parcel:

That portion of the parcel of land described in Docket 7942, Page 1501 of Pima County Records, being a portion of the South 825 feet of the Southwest quarter of Section 28, Township 11 South, Range 11 East, Gila and Salt River Base and Meridian, Pima County, Arizona, described as follows:

Commencing at the Southeast corner of said Southwest quarter;

Thence North 00°31'48" West, along the East line of said Southwest quarter, a distance of 50.00 feet to the Southeast corner of said parcel;

Thence South 89°19'27" West along the South line of said parcel, a distance of 642.08 feet to the Point of Beginning;

Thence continuing South 89°19'27" West, along said south line, a distance of 438.23 feet;

Thence North 00°03'36" West a distance of 298.20 feet;

Thence North 89°19'27" East a distance of 438.23 feet;

Thence South 00°03'36" East a distance of 298.20 feet to the Point of Beginning.

AND EXCEPT the following described parcel:

That portion of the parcel of land described in Docket 7942, Page 1501 of Pima County Records, being a portion of the South 825 feet of the Southwest quarter of Section 28, Township 11 South, Range 11 East, Gila and Salt River Base and Meridian, Pima County, Arizona, described as follows:

Commencing at the Southeast corner of said Southwest quarter;

Thence North 00°31'48" West, along the East line of said Southwest quarter, a distance of 50.00 feet to the Southeast corner of said parcel, said point being the POINT OF BEGINNING;

Thence South 89°19'27" West, along the South line of said Parcel, a distance of 642.08 feet;

Thence North 00°03'36" West, a distance of 298.20 feet;

Thence North 89°19'27" East, a distance of 114.35 feet;

Thence North 00°03'36" West, a distance of 476.84 feet to a point on the North line of said parcel;

Thence North 89°19'27" East, along said North line, a distance of 521.38 feet to the Northeast corner of said parcel;

Thence South 00°31'48" East, along the East line of said parcel, a distance of 775.00 feet to the POINT OF BEGINNING. SUBJECT TO AND TOGETHER WITH an easement for ingress, egress and utilities over the North 15 feet of the South 825 feet of the Southwest quarter.

RECORDED AT REQUEST OF
12120 6516

Council-Regular Meeting **A3**

Meeting Date: 11/15/2022

To: Mayor and Council

From: Travis Lundell, Planner

Date: November 15, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: PUBLIC HEARING: Ordinance No. 2022.026: Relating to Development; adopting revisions to Title 17 "Land Development" of the Marana Town Code, including adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 "Zoning," revising Chapter 17-6 "General Development Regulations" to add new section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code; and designating an effective date (Travis Lundell)

Resolution No. 2022-119: Relating to Development; declaring as a public record filed with the Town Clerk the amendments adopted by Ordinance No. 2022.026, revisions to Title 17 "Land Development" of the Marana Town Code, including adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 "Zoning," revising Chapter 17-6 "General Development Regulations" to add new Section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code (Travis Lundell)

Discussion:

REQUEST
Staff is requesting the approval of amendments to various chapters of Title 17 (Land Development Code) of the Marana Town Code, which would add provisions regarding solar energy systems and energy storage facilities. The proposed changes include the following: adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 "Zoning", revising Chapter 17-6 "General Development Regulations" to add new section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code.

OVERVIEW
The Town has received inquiries regarding zoning requirements and development standards for solar energy systems and energy storage facilities. The current Town Code does not specifically address solar energy systems and energy storage facilities. The proposed changes will implement development standards for energy storage facilities and solar energy systems and other minor, miscellaneous revisions.

The list below highlights and describes many of the proposed amendments.

Section 17-1 "Title, Intent, Purpose and Definitions"
- 17-1-6. Definitions

  Adds definitions for solar energy systems, energy storage and electric utility. Also, changes the definitions of power plant and utility facility to exclude solar power and energy storage facilities.

Chapter 17-4 "Zoning"
- 17-4-2. Use matrix table 2

  Solar energy system, energy storage facility, and accessory storage facility have been added to the Land Use Matrix table 2. Power plant is changed to reflect separation from solar power.
- 17-4-2. Use matrix table 3

  Adds conditions per use for accessory energy storage facility.

- 17-4-19. Zone C - large lot zone

  Clarifies use of energy storage facilities in Zone C - Large Lot Zone

Chapter 17-6 "General Development Regulations"
17-6. Renames Chapter to "General and Miscellaneous Development Regulations"
- 17-6-11. Solar energy systems and energy storage facilities

  Provides development standards and guidelines for solar energy systems and energy storage facilities including:
- Site area
- Setbacks

- Structure height
- Buffers
- Decommissioning
- Maintenance

Town staff reached out to TEP and Trico and provided copies of the proposed Code revisions. Trico provided the Town with the attached letter commenting on the proposed revisions. The letter was received close in time to the publication of the agenda. Staff will evaluate Trico's comments and provide any feedback regarding those comments to Council during the public hearing on this matter.

Staff Recommendation:

Staff recommends adoption of Ordinance No. 2022.026 and Resolution No. 2022-119, approving amendments to various chapters of Title 17 "Land Development" of the Marana Town Code.

Planning Commission Recommendation:

The Planning Commission heard the request for the proposed amendments on September 28, 2022. By a vote of 7-0, the Planning Commission voted to recommend approval of the proposed Town Code amendments to the Town Council.

Suggested Motion:

I move to adopt Ordinance 2022.026, amendments to various chapters of Title 17 "Land Development" of the Marana Town Code, and Resolution 2022-119 declaring the amendments a public record.

Attachments

Ordinance No. 2022.026

Resolution No. 2022-119

Exhibit A to Resolution - Code Changes

Buffer Map

Letter from Trico

MARANA ORDINANCE NO. 2022.026

RELATING TO DEVELOPMENT; ADOPTING REVISIONS TO TITLE 17 "LAND DEVELOPMENT" OF THE MARANA TOWN CODE, INCLUDING ADDING DEFINITIONS FOR SOLAR ENERGY SYSTEMS AND ENERGY STORAGE TO SECTION 17-1-6 (DEFINITIONS), ADDING ZONING PROVISIONS FOR SOLAR ENERGY SYSTEMS AND ENERGY STORAGE TO CHAPTER 17-4 "ZONING," REVISING CHAPTER 17-6 "GENERAL DEVELOPMENT REGULATIONS" TO ADD NEW SECTION 17-6-11 (SOLAR ENERGY SYSTEMS AND ENERGY STORAGE FACILITIES); AND OTHER VARIOUS REVISIONS TO TITLE 17 OF THE MARANA TOWN CODE; AND DESIGNATING AN EFFECTIVE DATE

BE IT ORDAINED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, as follows:

SECTION 1. The revisions to Title 17 "Land Development" of the Marana Town Code, including adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 "Zoning," revising Chapter 17-6 "General Development Regulations" to add new section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code, one paper copy and one electronic copy of which are on file in the office of the Town Clerk, which were made a public record by and attached as Exhibit A to Resolution No. 2022-119 of the Town of Marana, Arizona, are hereby referred to, adopted and made a part of this ordinance as if fully set out here.

SECTION 2. The various town officers and employees are authorized and directed to perform all acts necessary or desirable to give effect to this ordinance.

SECTION 3. 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 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, the decision shall not affect the validity of the remaining portions of this ordinance.

SECTION 5. This ordinance is effective on the 31st day after its adoption.

PASSED AND ADOPTED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, this 15th day of November, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

MARANA RESOLUTION NO. 2022-119

RELATING TO DEVELOPMENT; DECLARING AS A PUBLIC RECORD FILED WITH THE TOWN CLERK THE AMENDMENTS ADOPTED BY ORDINANCE NO. 2022.026, REVISIONS TO TITLE 17 "LAND DEVELOPMENT" OF THE MARANA TOWN CODE, INCLUDING ADDING DEFINITIONS FOR SOLAR ENERGY SYSTEMS AND ENERGY STORAGE TO SECTION 17-1-6 (DEFINITIONS), ADDING ZONING PROVISIONS FOR SOLAR ENERGY SYSTEMS AND ENERGY STORAGE TO CHAPTER 17-4 "ZONING," REVISING CHAPTER 17-6 "GENERAL DEVELOPMENT REGULATIONS" TO ADD NEW SECTION 17-6-11 (SOLAR ENERGY SYSTEMS AND ENERGY STORAGE FACILITIES); AND OTHER VARIOUS REVISIONS TO TITLE 17 OF THE MARANA TOWN CODE

BE IT RESOLVED BY THE MAYOR AND COUNCIL OF THE TOWN OF MARANA, ARIZONA, that the revisions to Title 17 "Land Development" of the Marana Town Code, adding definitions for solar energy systems and energy storage to Section 17-1-6 (Definitions), adding zoning provisions for solar energy systems and energy storage to Chapter 17-4 "Zoning," revising Chapter 17-6 "General Development Regulations" to add new section 17-6-11 (Solar energy systems and energy storage facilities); and other various revisions to Title 17 of the Marana Town Code, a copy of which is attached to and incorporated in this resolution as Exhibit A and one paper copy and one electronic copy of which are on file in the office of the Town Clerk, are 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 15th day of November, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

SECTION 1. Section 17-1-6 (Definitions) of the Marana Town Code is hereby revised as follows (with additions shown with double underlining and deletions shown with ~~strikeouts~~):

17-1-6 Definitions

A. The following definitions are used in this title, unless a different meaning is clearly indicated by the context or by a more specific definition:

[No revisions to subparagraphs 1 through 66]

67. Electric utility: A business providing ancillary services, electric distribution services, electric generation services, electric transmission services and other services related to providing electricity to retail customers.

68. Energy storage: Technologies that capture or absorb electricity, store it as another form of energy (chemical, thermal, mechanical), and then release it for use when it is needed.

69. Energy storage facility: Building, structure, or land used for energy storage.

[No revisions to existing subparagraphs 67 through 150 which are hereby renumbered as subparagraphs 70 through 153]

~~151~~ 154. Power plant: A facility that converts one or more energy sources, including but not limited to water power, fossil fuels, or nuclear power~~, or solar power,~~ into electrical energy or steam. A power generation plant may also perform either or both of the following: (a) operation of a transmission system that conveys the energy or steam from the generation facility to a power distribution system; (b) operation of a distribution system that conveys energy or steam from the generation facility or the transmission system to final consumers.

[No revisions to existing subparagraphs 152 through 182 which are hereby renumbered as subparagraphs 155 through 185]

186. Solar energy system or solar power plant: A utility scale device or series of mechanisms designed primarily to provide heating, to provide cooling, to produce electrical power, to produce mechanical power, or to provide any combination of the foregoing by means of collecting and transferring solar generated energy into such uses either by active or passive means.

[No revisions to existing subparagraphs 183 through 209 which are hereby renumbered as subparagraphs 187 through 213]

~~210~~ 214. Utility facility: Building, structure, or land used by a utility, railroad, or governmental agency for uses such as, but not necessarily limited to, water or sewage treatment plants or pumping stations,

substations, telephone exchanges, and resource recovery facilities, but not including a power plant, a solar energy system or solar power plant, an energy storage facility, and land, buildings, or structures used solely for storage and maintenance of equipment and materials.

[No revisions to existing subparagraphs 211 through 218 which are hereby renumbered as subparagraphs 215 through 222]

[No revisions to paragraphs B and C]

SECTION 2. Chapter 17-4 "Zoning" of the Marana Town Code is hereby revised as follows (with additions shown with double underlining and deletions shown with ~~strikeouts~~):

[No revisions to section 17-4-1]

17-4-2 Use matrix

[No revisions to paragraphs A through C]

Table 2. Use matrix (only amendments to Table 2 are shown; the remainder of Table 2 is unchanged)

Uses	AG	RA	ER	NR	GR	MR	RR	NC	VC	LI	HI
Utilities											
Accessory energy storage facility	U	X	X	X	X	X	X	X	X	U	U
Energy storage facility	C	X	X	X	X	X	X	X	X	C	C
Power plant	C	~~C~~X	X	X	X	X	X	X	X	C	C
Solar energy system/solar power plant	C	C	X	X	X	X	X	X	X	C	C

17-4-3 Use conditions matrix

The following table lists the conditions that apply to uses marked with a "U" in Table 2 (Use matrix). Where a zoning group is listed in the "zone(s)" column, the conditions apply to all zoning districts in that zoning group.

Table 3. Conditions per use (only amendments to Table 3 are shown; the remainder of Table 3 is unchanged)

Use	Zone(s)	Condition(s)
Accessory energy storage facility	AG, LI, HI	Must comply with all development standards for energy storage facilities, as set forth in section 17-6-11 Must be accessory to an electric utility facility Shall consist of a maximum of 10% of total land use per parcel

[No revisions to section 17-4-4 through 17-4-18]

17-4-19 Zone C – large lot zone

[No revisions to paragraphs A through D]

E. Energy storage facilities. Energy storage facilities may be permitted in zone C subject to the issuance of a conditional use permit pursuant to the procedure set forth in section 17-3-2 (conditional use permits), and in compliance with all development standards for energy storage facilities set forth in section 17-6-11

[No revisions to sections 17-4-20 through 17-4-26]

SECTION 3. Chapter 17-6 of the Marana Town Code is hereby renamed as "General and Miscellaneous Development Regulations."

SECTION 4. Chapter 17-6 of the Marana Town Code, renamed as "General and Miscellaneous Development Regulations" by section 3 of this ordinance, is hereby revised by adding new section 17-6-11 (Solar energy systems and energy storage) as follows:

17-6-11 Solar energy systems and energy storage facilities

A. The minimum requirements of this section, including the development standards set forth in Table 1 (Development standards for solar energy systems or energy storage facilities) below, shall apply to any solar energy system or energy storage facility located in any zoning district.

Table 1. Development standards for solar energy systems or energy storage facilities		
Development Standard	**Solar energy systems**	**Energy storage facilities**
Maximum site area	200 acres	100 acres
Setbacks (minimum)	AG zone: 40 foot perimeter LI and HI zones: 30 foot perimeter	AG zone: 40 foot perimeter LI and HI zones: 40 foot perimeter
Maximum structure height	16 feet	16 feet
Buffers (minimum)	Parcels containing other solar energy systems: 2,000 feet* Major roadways‡ Interstate 10 (I-10) - Pinal county line south to Twin Peaks Road interchange: 1 mile Tangerine Road – Dove Mountain Boulevard west to I-10: ½ mile Twin Peaks Road - Saguaro Highlands Drive west to town boundary: ½ mile Avra Valley Road – within town's boundaries: ½ mile	Parcels containing other energy storage facilities: 2,000 feet* Major roadways‡ Interstate 10 (I-10) - Pinal county line south to Twin Peaks Road interchange: 1 mile Tangerine Road – Dove Mountain Boulevard west to I-10: ½ mile Twin Peaks Road - Saguaro Highlands Drive west to town boundary: ½ mile Avra Valley Road – within town's boundaries: ½ mile Residential zoned parcel: 500 feet* Abutting an existing residential dwelling: 1,000 feet*

* Measured in a straight line from the boundary of each parcel
‡ Measured from right-of-way centerline on both sides

B. The developer of a solar energy system or energy storage facility must provide the town with a decommissioning plan for the site at the time of development plan review. The plan must include the necessary funding assurances to ensure the property is returned to its pre-development condition, flat state or better, including remediating any environmental issue caused by the solar energy system or energy storage facility.

C. If title to the solar energy system or energy storage facility is vested in a special purpose entity, a written guaranty from its parent company must be included with the decommissioning plan required by paragraph B, above, fully binding the parent company to all the terms and conditions of the decommissioning plan. If the solar energy system or energy storage facility is leased, sold, or conveyed, the guaranty shall be fully binding upon the successors and assigns of the special purpose entity and parent company, as well as any other subsequent owner/operator of the solar energy system or energy storage facility.

D. Solar energy systems and energy storage facilities shall be maintained in good working order and in accordance with manufacturer and industry standards. Any solar energy system or energy storage facility, or any component of a system or facility, which becomes inoperable shall be made operational or shall be removed from the property within one year of the date the system or facility became inoperable, all at the owner's expense.

E. Approval granted to an individual property owner of a solar energy system shall not be construed to bar owners or tenants of any adjacent property from ordinary or permitted building, landscaping, or other accessory improvements, even if such improvements may diminish the function of the solar energy system.

Buffer Map

I-10, Tangerine Rd, Avra Valley Rd, and Twin Peaks Rd

MARANA AZ

0 0.5 1 2 Miles

Pinal County
Pima County

1-10
1 Mile Buffer

Tangerine Rd
1/2 Mile Buffer

Avra Valley Rd
1/2 Mile Buffer

Twin Peaks Rd
1/2 Mile Buffer

Pinal Airpark Rd
I-10
Luckett Rd
Hardin Rd
Kirby Hughes Rd
Sagebrush Rd
Marana Rd
Berry St
Wentz Rd
Barnett Rd
Boundary
Silverbell Rd
Town of Marana
Sanders Rd
Grier Rd
Sandario Rd
Cochie Canyon Tr
Adonis Rd
Lon Adams Rd
Barnett
Postvale
Moore Rd
Gladden Farms Dr
Tangerine Farms Rd
Midfield Rd
Mike Etter Bl
Clark Farms
Marana Rd
Dove Mountain Blvd
Wild Burro Rd
Moore Rd
Camino de Oeste
Tangerine Rd
W Tangerine Rd
Twin Peaks Rd
Camino de Mañana
Camino del Norte
Interstate 10
Avra Valley Rd
Airline Rd
Lambert Ln
Saguaro Highlands Dr
Saguaro Peaks Bl
Coachline Blvd
Twin Peaks Rd
Linda Vista Blvd
Hartman Ln
Silverbell Rd
Scenic Dr
Pima Farms Rd
Continental Reserve L p
Pima Reserve Dr
Wade Rd
Cortaro Rd
Business Park Dr
Cortaro Farms Rd
Magee Rd
Ina Rd
Camino Martin
Avra Rd
Emigh Rd
Desert Pass Rd
Massingale Rd
Ellexson Dr
Van Ark Rd

November 2, 2022

Travis Lundell, Planner
Town of Marana
11555 W Civic Center Drive
Marana, Arizona 85653
Via e-mail: tlundell@maranaaz.gov

RE: Trico Comments on Proposed Amendments to Marana Town Code, Title 17 "Land Development"

I am writing on behalf of Trico Electric Cooperative, Inc. (Trico) in response to your e-mail dated October 18, 2022. The following are Trico's comments and suggested changes to the above proposed amendments. Please let me know if you have any questions, or if it would be helpful for Trico to provide additional information or attend the Council meeting where this is presented.

As written, the code changes could limit Trico from implementing strategic projects designed to meet the public needs and from taking advantage of trends in the electric utility industry that will result in more reliable service, more options for customers (as a non-profit, cooperative we call them Members), and cost savings for Members.

Utility Scale

In the proposed definition (186) of "Solar energy system or solar power plant," there is a reference to "utility scale device." Also, "energy storage facility" is included in the definition of Utility facility, indicating it is meant to refer to "utility scale" storage facilities. However, there is no definition of what "utility scale" means.

Trico recognizes that larger projects will necessitate more significant buffers and setbacks, but it is important to recognize that battery technology and improved solar panel technology allow for efficient, right-sized projects that can fit safely and aesthetically within communities (and there are significant benefits to putting them close to the load).

The National Renewable Energy Lab (NREL) uses 5MW or greater as the definition of "utility scale" and other organizations use a range of values for that definition. For context, a big-box store could approach 1MW and for modeling purposes, Trico engineers typically use 5kW for a single residence (i.e. a 1MW solar farm/storage could power about 200 homes).

We suggest that the code should include a sliding scale and account for the differences between a solar facility and an energy storage facility. As described below, an energy storage facility of substantial size can be placed on a relatively small property. For a solar facility, we recommend a

sliding scale based on the project area size, rather than MW size. For your reference, our most recent project has 10MW of solar panels on about 80 acres of land.

We think it would be reasonable to have different requirements for solar projects that are 10 acres or less, 50 acres or less, 100 acres or less, and over 100 acres.

Energy Storage Facility

Energy storage facility is defined broadly in the proposed definition #69. Looking at the Use matrix (Table 2 to 17-4-2) it appears that energy storage facilities would be limited to properties zoned AG, LI or HI (essentially agriculture and industrial only).

Trico foresees, and has had Members express interest in, utility installed battery systems in or near subdivisions and commercial developments. These systems and related microgrids can offer reliability support, protection against issues on the regional grid, costs savings, and support for the integration of renewable resources. A few examples of potential projects include a reliability battery in a subdivision that would provide backup in the event of an outage, a battery in a subdivision where Members could store excess energy produced by their rooftop solar, or a battery that would allow Trico to buy and store power when it is least expensive and then discharge it when prices are high (saving Members money).

The latest battery technology is built with safety as a priority and designed to be safely used in populated areas. Given this fact, the setbacks described in Section 17-6-11(A) Table 1 can be safely reduced. Specifically, the proposed setbacks of 500 feet from a residential zoned parcel and 1,000 feet from a dwelling can be reduced.

Trico recently completed its Chirreon Solar and Battery Storage Facility in Pinal County. The facility includes a 15MW/30MWh battery energy storage system (BESS). The BESS consists of 12 battery packs located on about an acre of land (including security wall, transformers, inverters, and space for potential expansion. In other words, it is possible to fit a good size BESS on a relatively small piece of property.

One positive aspect of battery technology is the ability to locate it close to the load, and serve Members without long distribution or transmission lines. We believe that a 1MW-5MW battery system could be located near a subdivision (integrated in the aesthetics of the subdivision) and provide significant benefits.

Our recommendation is as follows:

1. Create a sliding scale of buffers and setbacks based on the acreage required for the BESS (e.g. up to .5 acre, up to 1 acre, up to 5 acre, 5 acre and above). For the smaller energy storage facilities (up to 1 acre), allow the systems to be located on properties zoned AG,

LI, HI, RA, NR, ER, MR, NC and VC (of all our proposed changes, the flexibility to site battery systems on properties beyond just AG, LI and HI, is probably the most important).

We think it would make sense to meet and discuss the code changes so we can understand your goals and the purpose of the changes, and provide you with more detail about Trico's future plans. This is an important issue and there is a significant amount of federal funding available for projects including microgrids and battery resiliency projects. We want to make sure the building code supports safe, aesthetic, and cost-effective uses for solar and storage purposes, and ensures there are no unintended consequences that prevent Trico and Marana from implementing innovative projects that will spur economic development.

Please let me know if we can set up a meeting. Also, if you would like to tour our battery facility (to visualize the scope of the batteries), we would be happy to take you out to Chirreon.

Thank you for involving Trico in this process. Please let us know however we can be of assistance.

Sincerely,

/s/ Eric Hawkins

Eric Hawkins
COO and General Counsel

Council-Regular Meeting **A4**

Meeting Date: 11/15/2022

To: Mayor and Council

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

Date: November 15, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: Relating to Mayor and Council; administration of the oath of office for Council Members Herb Kai, Jon Post, Patti Comerford, and John Officer (David L. Udall)

Discussion:

Staff Recommendation:

Suggested Motion:

Attachments

No file(s) attached.

Council-Regular Meeting **D1**

Meeting Date: 11/15/2022

To: Mayor and Council

Submitted For: Fausto Burruel, Public Works Director

From: Fausto Burruel, Public Works Director

Date: November 15, 2022

Strategic Plan Focus Area:
Proactive Public Services

Strategic Plan Focus Area Additional Info:
GOAL: PRIORITIZE INFRASTRUCTURE AND MAINTENANCE THAT SUPPORT NEW GROWTH AND DEVELOPMENT IN A PROACTIVE AND SUSTAINABLE MANNER.
STRATEGY: Establish standard principles and practices for designing drainage facilities in the Town.

While not directly tied to the Town's strategy to establish standard principles and practices for designing drainage facilities; the Santa Cruz River is the ultimate outfall for the majority of flows throughout the town. As such, any plans that promote evaluation of this watercourse, including maintaining, upgrading deficiencies, and revising Flood Insurance Rate Maps (FIRM) ties directly to the Towns long term drainage plans.

Subject: Resolution No. 2022-120: Relating to Flood Control; endorsing the Pima County Regional Flood Control District Santa Cruz River Management Plan (Fausto Burruel)

Discussion:

The Pima County Regional Flood Control District (District) is requesting the Town of Marana to endorse the Santa Cruz River Management Plan as summarized in the attached Summary Report. The same request was made to the Pima County Board of Supervisors and a resolution was passed and adopted on September 20, 2022. The Santa Cruz River Management Plan (SCRMP) is a large-scale planning study that provides updated drainage and flood hazard information in Pima County and in municipal jurisdictions. The limits of the plan begins at Grant Road to the south and extends north to the Pinal County Line, overlapping both Town of Marana and City of Tucson corporate limits along with many other stakeholders' areas of interest.

Several projects have been identified in the SCRMP plan leading to an implementation plan designed to prioritize the projects, place them in a planning period, identify possible funding sources and be a budgeting tool for the public agencies in the corridor. Projects were placed in one of three planning periods: Short-term, Mid-term and Long-term. With no dedicated funding source, this implementation plan is dependent upon the creative nature of the agencies that will participate in implementation. Some projects are currently moving forward and available funding will drive the schedule of the remaining projects.

Endorsement of the Plan does not obligate the Town of Marana to projects identified in the Santa Cruz River Management Plan.

Staff Recommendation:

Staff recommends adoption of Resolution No. 2022-120, endorsing the Pima County Regional Flood Control District Santa Cruz River Management Plan.

Suggested Motion:

I move to adopt Resolution No. 2022-120, endorsing the Pima County Regional Flood Control District Santa Cruz River Management Plan.

Attachments

Resolution No. 2022-120

SCRMP Summary Report

FCD Resolution to Endorse SCRMP

MARANA RESOLUTION NO. 2022-120

RELATING TO FLOOD CONTROL; ENDORSING THE PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT SANTA CRUZ RIVER MANAGEMENT PLAN

WHEREAS the Pima County Flood Control District (District) is authorized to provide regional support regarding the assessment, planning, design, and construction of drainage and flood control improvements that reduce or mitigate flood hazards; and

WHEREAS the District's long-term goal is to establish operational control of the regional watercourses, including the Santa Cruz River, Rillito Creek, Canada del Oro, and Pantano Wash, and the District has acquired the majority of the Santa Cruz River north of Grant Road to Avra Valley Road; and

WHEREAS in February 2018, the Pima County Flood Control District Board authorized the District to develop a regional management plan for the Santa Cruz River from Grant Road to the Pinal County line for the purposes of balancing flood risk management, water recharge, recreation, public safety, education opportunity, and riparian habitat preservation; and

WHEREAS in September 2019, the District completed the floodplain modeling using updated technique and current topographic information, an assessment of the existing infrastructure to determine maintenance and repair needs and to identify deficiencies, and identify property ownership gaps where the District lacks operation control; and

WHEREAS the District established a comprehensive group of stakeholders to discuss the various competing priorities on the Santa Cruz River and through a very detailed process that included identifying problems and opportunities on different portions of the river, the stakeholders and the District arrived at a list of potential project alternatives; and

WHEREAS the District conducted a public survey online through January 2021 which elicited 1,180 responses, which showed 83% of the public agreed with, or partially agreed with, the proposed improvements; and

WHEREAS the final phase, the Implementation Plan, was completed in December 2021 and prioritizes the projects, places them in planning periods, and identifies potential funding sources; and

WHEREAS it will be up to the jurisdictions, the District, and the various stakeholders to identify funding sources; however, the Plan establishes a common vision for the Santa Cruz River; and

WHEREAS the Pima County Regional Flood Control District's Advisory Committee endorsed the Santa Cruz River Management Plan Grant Road to Pinal County and its implementation on December 15, 2021 in a unanimous vote; and

WHEREAS the Pima County Flood Control District Board approved Resolution No. 2022-FC3 on September 20, 2022, endorsing the Santa Cruz River Management Plan Grant to Pinal County and its components, the Existing Conditions Report, the Infrastructure Assessment and Maintenance Evaluation Report, the Technical Support Data Notebook and the Alternative Selection Report; directing the District to implement the recommendations from these reports, including maintaining, repairing and upgrading any deficiencies to District facilities, and revising the Flood Insurance Rate Maps; and endorsing the Implementation Plan and directing the District to work with stakeholders to creatively identify funding sources to implement the final alternatives.

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

SECTION 1. The Mayor and Council of the Town of Marana hereby endorse the Santa Cruz River Management Plan Grant to Pinal County and its components, as set forth in the agenda materials accompanying this resolution.

SECTION 2. 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 15th day of November, 2022.

Mayor Ed Honea

ATTEST:

David L. Udall, Town Clerk

APPROVED AS TO FORM:

Jane Fairall, Town Attorney

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.



Summary Report

SANTA CRUZ RIVER MANAGEMENT PLAN

Grant Road *to* Trico Road



Dec. 2021
Job No.
18-006 5SCLIV

SUMMARY REPORT

5SCLIV
Santa Cruz River Management Plan
Volume 6 of 6

Prepared for:

PIMA COUNTY
FLOOD CONTROL

Pima County Regional Flood Control District
201 N Stone Ave, 9th Floor
Tucson, AZ 85701

Prepared by:

CMG DRAINAGE ENGINEERING, INC.

3555 N Mountain Avenue
Tucson, Arizona 85719

CMG Project No. 18-006
December 21, 2021

RIVER MANAGEMENT PLAN – LIST OF REPORTS

Volume 1 – Existing Conditions Report
Volume 2 – Infrastructure Assessment and Maintenance Evaluation Report (IAMER)
Volume 3 – Technical Support Data Notebook
Volume 4 – Alternatives Selection Report
Volume 5 – Implementation Plan Report
VOLUME 6 – SUMMARY REPORT

VOLUME 6 - TABLE OF CONTENTS

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LIST OF ACRONYMS

1D	One Dimensional
2D	Two Dimensional
ALT	Alternative
ASR	Alternative Selection Report
CAP	Central Arizona Project (canal)
CFS	Cubic Feet Per Second
CMG	CMG Drainage Engineering, Inc.
EA	Each
FEMA	Federal Emergency Management Agency
FHWA	Federal Highways Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FLAP	Floodprone Land Acquisition Program
FMP	Floodplain Management Plan
GIS	Geographic Information Systems
HEC-RAS	Hydraulic Engineering Center's River Analysis System
IAMER	Infrastructure Assessment and Maintenance Evaluation Report
JEF	JE Fuller Hydrology & Geomorphology
JOC	Job Order Contractor
KHA	Kimley-Horn and Associates
LIDAR	Light Detection and Ranging
LOMR	Letter of Map Revision
LSCR	Lower Santa Cruz River
MCDA	Multi-criteria Decision Analysis
MUMO	Multi-use Multi-objective
PAG	Pima Association of Governments
PAYGO	Pay-As-You-Go
RFCD	Pima County Regional Flood Control District
RTA	Regional Transportation Authority
Q_{100}	100-Year Flood Discharge
SWG	Stakeholder Working Group
TAP	Transportation Alternatives Program
TSDN	Technical Support Data Notebook
TDOT	Tucson Department of Transportation
TOM	Town of Marana
USACE	United States Army Corps of Engineers
WIFA	Water Infrastructure Finance Authority
WRF	Waste Reclamation Facility

EXECUTIVE SUMMARY

The Santa Cruz River Management Plan from Grant Rd. to Pinal County joins a growing list of large-scale planning studies undertaken in recent years by the Pima County Regional Flood Control District (District) to update drainage and flood hazard information in Pima County and the municipal jurisdictions. These studies have been carried out in cooperation with the local jurisdictions in which the study areas are located. The Santa Cruz River Management Plan study area overlaps both Town of Marana and City of Tucson's corporate limits and many other Stakeholders' areas of interest. It was precisely why the District pursued this document was to provide a singular management strategy to the Santa Cruz River as it drains through multiple jurisdictions.

The District commissioned a regional river management plan for the Santa Cruz River, Grant Rd to Trico Rd, in February of 2018 with the objective to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation, public safety, education opportunities and riparian habitat preservation. Later on, the study limits were extended to Pinal County Line because of the need for a terminus for the floodplain modeling.

The need for this study originated from the District participation in the *A Living River: Charting Wetland Conditions of the Lower Santa Cruz River* project and their understanding of the competing land-uses along this corridor. As the primary agency charged with regulating the use of land within this floodplain, the District became the natural agency to lead this project.

The Santa Cruz River is one of the largest watercourses in Southern Arizona by watershed size at 3,503 square miles. The headwaters of the Santa Cruz River drain south into Mexico from the San Raphael Valley in eastern Santa Cruz County and eventually turns west and then back north to flow into the United States and Arizona, before flowing through the study area affectionately known as the Lower Santa Cruz River. The Santa Cruz River has been the lifeblood of civilization in the region now known as Southern Arizona for centuries and continues to be source of life for habitat, species, and the human population.

To plan a 25-mile river corridor (75 square mile area) the project team began with researching and collecting data on what has been done, recognizing that certain stakeholders have their own plan for the river. An extensive data collection effort created awareness of prior planning efforts, active land-uses, proposed land uses, infrastructure inventory and documented problems in the corridor. The results were summarized in the Existing Conditions Report (Vol. 1).

Following the Existing Conditions Report, the Project Team embarked on concurrent tasks of infrastructure assessment, maintenance evaluation, and floodplain mapping. The Infrastructure Assessment and Maintenance Evaluation Report (IAMER) (Vol. 2) summarized the condition and functionality of flood control infrastructure. This analysis could not be done without re-analyzing the hydraulics of the Santa Cruz River to evaluate the impacts that evolving land-use, changing

topography, and new infrastructure had on the flood risk inundation of the river. The hydraulics were modeled using HEC-RAS software in both 1D and 2D where appropriate to provide a seamless updated hydraulic model for District use in regulating the corridor. The results of the hydraulic analysis were documented in a report call the Technical Support Data Notebook (Vol. 3).

The Project Team conducted a comprehensive stakeholder involvement process that went on throughout the life of the project and was especially influential in the alternative selection process. Input from corridor stakeholders came in the way of problems and opportunities that they marked on maps at working group meetings. It also came from visioning charrettes and interactive weighting and ranking exercises. The stakeholder feedback, in combination with the reports, became the driving force for developing the problems and opportunities list which started at 110 items and was subsequently narrowed to 54 items on the Alternative Seed List. The stakeholder involvement process is detailed in its own separate document entitled Stakeholder Engagement Summary Memo.

The alternatives analysis component of the project was the longest duration, beginning with identifying problems and opportunities and finishing with the selection of sixteen structural and 4 non-structural alternatives. Final selected structural alternatives were advanced to a conceptual design and associated construction cost estimate. The Alternative Selection Report (Vol. 4) summarizes the stakeholder's involvement, the selection of ranking criteria, the application of the ranking criteria and the resulting projects, both structural and non-structural, to be moved forward for implementation.

Finally, the Project Team prepared an Implementation Plan (Vol. 5) that was designed to prioritize the projects, place them in a planning period, identify possible funding sources and be a budgeting tool for the public agencies in the corridor. Projects were placed in one of three planning periods: Short-term, Mid-term and Long-term. With no dedicated funding source, this implementation plan is dependent upon the creative nature of the agencies that will participate in implementation. Some projects are already moving forward at writing of this report, and clearly, available funding will drive the schedule of the remaining projects.

SECTION 1 INTRODUCTION

1.1 Project Purpose

The Pima County Regional Flood Control District (District) commissioned a regional river management plan in 2018 for the Santa Cruz River, Grant Rd to Pinal County, with the objective to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation, education opportunities, public safety, and riparian habitat preservation.

The District selected CMG Drainage Engineering, Inc. (CMG) and subconsultants JE Fuller and Kimley-Horn to conduct this study, with CMG serving as the prime consultant. The study entitled Santa Cruz River Management Plan (5SCLIV) included five main deliverables developed by the team over a 3-year period and a comprehensive and transparent stakeholder engagement process that contributed to the successful evaluation and advancement of projects in the final deliverables. The need for this study originated from the District participation in the *A Living River: Charting Wetland Conditions of the Lower Santa Cruz River* project and their understanding of the competing land-uses along this corridor. As the primary agency charged with regulating the use of land within this floodplain, the District was the natural agency to lead this project. This Summary Report is intended to be the most practical volume of the plan and should be the go-to resource for decision makers in the corridor to understand the background of the plan.

1.2 Study Area Description

The study area for this project was within three distinct management areas of the Lower Santa Cruz River, which were first identified in the Living River Project, named: Three Rivers, Cortaro Narrows, and Marana Flats. The Three Rivers reach extends from the Tres Rios Wastewater Reclamation Facility (WRF) Outfall to the Agua Nueva WRF Outfall. The Cortaro Narrows reach extends from the Tres Rios WRF Outfall to Avra Valley Road. The Marana Flats reach extends from Avra Valley Road to Trico Road.

This project was executed in two phases: Phase 1: updated flood hazard areas; identified drainage conveyance and maintenance deficiencies. Phase 2 developed a management strategy by: identifying flood control alternatives with multi-objective criteria, this included structural and non-structural alternatives; reaching out to stakeholders and the public; preparing concept level plans and cost estimates for selected alternatives; and preparing an implementation plan.

The study area is the river corridor bounded on the west by Silverbell Road, on the south by Grant Road, on the east by Interstate-10 and on the north by Pinal County Line. The Santa Cruz River flows to the north and west, to the confluence with the Brawley Wash. The total corridor area is approximately 75 square miles. The focus for Phase II alternative identification was limited to the

area within the regulatory floodplain. A location map for the project study area is provided on Figure 1.

SECTION 2 EXISTING CONDITIONS REPORT

The Existing Conditions Report (5SCLIV Volume 1 of 6) includes background information about the study area, including existing land ownership and land use. The major objective of the Existing Conditions Report was data collection. A large study area such as the Santa Cruz River has a wealth of historical, modern and current data. Other data collection efforts focused on gathering information from a field review and reviewing the drainage complaint logs. An inventory was also conducted to quantify the drainage infrastructure and multi-objective amenities within the study area. A description of the major components of the Existing Conditions Report follows this section.

2.1 Land-Use

Land-use was more specifically described throughout the existing conditions with a summary of Land Ownership, Existing and Proposed Land-Use, and Utilities in the corridor. The corridor has a mixture of public and privately owned lands in the planning area, with private ownership being the predominant ownership. Land-use varies by planning reach and a breakdown of the various uses of the corridor was provided. While a parcel ownership summary helps understand the patchwork of access and suitability for management, it did not define the primary manager of the corridor which is the District, the agency that manages the land-use of the property overlayed by the regulatory floodplain. The project team acknowledged that the District was not the only stakeholder with a plan for the corridor and much of the existing land-use was driven by the culture and history of the corridor, making it imperative that Stakeholders need to have a significant involvement in the direction of the management plan. See Figure 2, Land Ownership and Maintenance Responsibility.

2.2 Data Collection

The project team needed to know everything about the corridor before planning its future. The most effective way to become educated is through data collection efforts. The following items were the focus of the data collection phase:

- Previous Drainage, Flood Insurance Studies and River Corridor Plans
- Ongoing Parallel Studies
- Previous Drainage Complaints
- Historical Flooding Records
- Construction Plans and As-builts
- Gage Data
- Field Review
- Stakeholder Outreach
- Previously Identified or Designed Projects

The result of the data collection efforts is presented on the Figure 3, Data Collection Exhibit.

2.3 Flood Control Infrastructure

The Existing Conditions Report prepared an inventory of infrastructure in the corridor by study reach. The Santa Cruz River exhibited an improved, natural, and hybrid state depending upon the location along the river. Flood control features such as bank protection, levees, grade control structures, and bridge abutment protection all serve to stabilize the channel and prevent lateral migration. Bridges, while not flood control infrastructure, also have a significant impact on the hydraulics of the channel and were included in the infrastructure inventory. Table 1, Composite Infrastructure Inventory summarizes the inventory of the study area.

Table 1, Composite Flood Control Infrastructure Inventory

Infrastructure Type	Unit	Quantity*
Soil Cement Bank Protection (includes levees)	mi	38.0
Levee	mi	13.1
Bridges (Public)	ea	10
Grade Control Structure on Santa Cruz Only	ea	1

* The Existing Conditions Report breaks quantity down by reach.

2.4 Multi-use Amenities

The inventory of the corridor amenities revealed that flood control conveyance was not the only use of the corridor. The amenities included other constructed features like recharge basins, river-parks, riparian bosques, and parks. Table 2, Composite Multi-Use Amenity Inventory summarizes the statistics of non-flood control features in the study corridor.

Table 2, Composite Multi-Use Amenity Inventory

Infrastructure Type	Unit	Quantity
Recharge Facilities	ea	5
Riverpark	mi	30.1
Constructed Riparian Bosques/Wetlands	ea	2
Parks (Active Recreation)	ea	7

SECTION 3 INFRASTRUCTURE ASSESSMENT & MAINTENANCE EVALUATION REPORT (IAMER)

The Infrastructure Assessment & Maintenance Evaluation Report (IAMER) (Volume 2 of 6) was one component of the study that was prepared for the District to document the condition and functionality of existing flood control infrastructure along with maintenance needs within the study corridor to serve as the basis for identifying flood control alternatives.

3.1 Infrastructure Assessment

The project team assessed the functionality and integrity of river infrastructure and the proximity of land-uses that are not always compatible with floodplain. The following items were the focus of the assessment phase:

- Levee freeboard assessment
- Critical facilities (as defined by Pima County's Code Title 16) in the 500-year floodplain
- Toe-downs on bank protection and Levees
- Proximity to sand & gravel operations
- Channel reach conveyance
- Bridge Scour Protection and Debris Loading

The result of the assessment revealed that there were areas of inadequate functionality, inadequate compliance, areas where competing land-uses have encroached, and a list of areas where improvements to infrastructure were required. This assessment and its findings were a large contributor to the Alternative Seed List. See Figure 4, Infrastructure Assessment Overview.

3.2 Maintenance

The Project Team and the District met on November 20, 2018 to discuss maintenance hot spots and repetitive maintenance issues. Repetitive maintenance issues ranged from homeless camps, flap gates being silted shut, to bank protection toe-downs becoming exposed. Other items of maintenance focus were vegetation and sedimentation control along the constructed portions of the Santa Cruz River channel.

Since maintenance is an ongoing/repetitive function of the District, many of the maintenance issues were being addressed or in process of being addressed. The information about problem areas from a maintenance standpoint was mostly used to help confirm the results of our other assessments and justify alternatives moving into the alternative analysis. The main areas of maintenance described in the IAMER were as follows:

- Maintenance due to effluent in the river
- The naturally occurring geomorphology of the river and its propensity to migrate and erode banks

- Restoring conveyance in constructed portions of the channel where vegetation/habitat creation and sedimentation had occurred.

SECTION 4 TECHNICAL DATA NOTEBOOK

The Technical Data Notebook (TDN) (Volume 3 of 6) is the flood control industry-wide standard for documenting flood hazards. This TDN was prepared for the District based on 2015 topography to update the effective flood hazard modeling in the corridor which was a patchwork of hydraulics ranging from models prepared in the 1990s to newer models in the 2000s. The purpose of the TDN was to provide a comprehensive and seamless flood hazard modeling effort from Grant Road to Pinal County line. Results from this effort were the baseline from which hydraulic conveyance and freeboard estimates were determined.

4.1 Hydrology

The District directed the project team to not develop new hydrology, instead, established hydrology for the Santa Cruz River was used for hydraulic floodplain mapping. Discharges for the 10, 2, 1, and 0.2 percent annual chance floods are published in the Flood Insurance Study (FIS) for Pima County (Reference 1). Another resource for discharge values came from a 2001 USACE Watershed Management Study (Reference 2). Discharges for the 20 and 5 percent annual chance floods from this study were used in floodplain mapping. A summary of discharges used for floodplain mapping can be seen below in Table 3, Hydrology Summary.

Table 3, Hydrology Summary

Peak Discharges by Percent Annual Chance Flood (cfs)						
Location	**20%[1]**	**10%[1]**	**5%[2]**	**2%[1]**	**1%[1]**	**0.2%[1]**
Upstream of Confluence with Rillito Creek	9,500	16,800	20,000	41,000	60,000	93,000
Downstream of Confluence with Rillito Creek	13,000	21,800	28,000	48,000	70,000	107,400

Sources: [1] FEMA FIS for Pima County
[2] U.S.A.C.E 2001 Watershed Management Study

4.2 Hydraulics

The hydraulic analysis limit was from Grant Road to the Pinal County line. The effective FEMA mapping within this study reach contained Floodway, Zone AE, Zone Shaded X (areas with reduced flood risk due to levee), and Zone X (0.2 percent annual chance flood hazard). This study only included floodplain mapping for the Santa Cruz River, no tributaries were mapped as a part of this study.

The Santa Cruz River is mostly bank protected with soil cement and a natural bottom from Grant Road to Camino Del Cerro and again from Ina Road to El Rio Preserve (about 2 miles downstream of Twin Peaks Road). Downstream of El Rio Preserve to Sanders Rd, bank protection only exists on the right bank. Downstream of Sanders Road has minimal bank protection, mostly near Trico-Marana and Trico Roads. The overbank areas within the study area are diverse, there are commercial areas, industrial areas, such as wastewater treatment plants and sand and gravel pits, residential areas, open space, and agricultural areas. Due to effluent being discharged by the wastewater treatment plants, a large plant community thrives, causing dense vegetation in certain reaches of the river.

HEC-RAS, Version 5.0.5 (June 2018, U.S. Army Corps of Engineers) was used to determine the water surface elevations. Two HEC-RAS models were developed, one for the reach from Grant Road to Avra Valley Road, and another model from Avra Valley Road to Pinal County Line. The study area was divided into two modeling areas in order to use two-dimensional (2D) modeling only where it was necessary to properly map the floodplain limits. It was determined to be appropriate to use 2D modeling north of Avra Valley Rd.

The segment from Grant Road to Avra Valley Road was largely channelized with bank protected sides. The majority of the flow in this reach was assumed to be contained within the channel corridor, with little flow in the overbank areas, making it suitable for one-dimensional modeling.

The segment downstream of Avra Valley Road was characterized by a natural, shallow, low-flow channel with relatively flat overbank areas. The floodplain became very wide and distributary as it approached Pinal County Line and inundates many adjacent agricultural fields. It was expected that the majority of the flood flows may occur in the overbank areas. Because of these reasons described above, this reach was determined to be more suitable for two-dimensional modeling methods.

4.3 Workmaps

Workmaps and new hydraulic models were the ultimate deliverable for this effort. The workmaps were developed for the project using Pima County aerial photography and topographic GIS data for the floodplain mapping areas. These maps were generated at a horizontal scale of 1 inch = 300 in the 1-D reach and 1 inch = 500 feet in the 2-D reach. Streets lines and other base information have been provided by Pima County GIS. The GIS data was provided as bare earth LIDAR data (2015), which was used to generate topography with a contour interval of 2 feet. Fifteen (15) sheets in total are required to cover the study limits.

In addition to the information mentioned above, the Hydraulic Workmaps illustrate the following:

- Stream channel center lines / profile base lines;
- HEC-RAS hydraulic cross-section lines with graphic representation of the 1% and 0.2% annual chance flood water surface elevations;

- Proposed 0.2% and 1% annual chance flood floodplain boundaries

One additional by-product of the hydraulic analysis was the inundation boundaries. For each of the flow events listed in Table 3 an inundation boundary was provided to the District within the 2D study limits. These inundation boundaries are linked to their respective recurrence interval and displayed in the Pima County Alert system and can be used as boundaries for warnings/notifications. See Figure 5, Hydraulic Workmap Overview.

SECTION 5 ALTERNATIVES SELECTION REPORT

The Alternatives Selection Report (ASR) (Volume 4 of 6) was the largest effort of the management plan, included a comprehensive Stakeholder driven process, and required the largest contingent of the project team to identify, evaluate, rank and select alternatives for conceptual development and cost estimating.

5.1 Alternatives Selection Process Overview

The process started with the compiling the problems and opportunities from the corridor into a list. In all, 110 problems and opportunities were tabulated from the following sources:

- Stakeholder Working Group input
- IAMER (2019)
- Existing Conditions Report
- District maintenance records
- Collaborative Opportunities Assessment (Sonoran Institute 2018)

From the 110 problems and opportunities, the project team narrowed down the problems and opportunities list to fifty-four (54) alternatives. This list was referred to as the Alternatives Seed List and was presented to Stakeholders in the January 2020 Stakeholder Working Group Meetings.

5.2 Development of Ranking Criteria

The goal of a selection/ranking criteria method for the alternatives was to have a transparent/defensible process that is widely accepted but would also be largely driven by the stakeholder's input. In September of 2019, the team met and laid out multiple criteria processes that had either been suggested by the District or used in similar projects. These methods were presented to the Stakeholders in the October 2019 Stakeholder Working Group (SWG) Meetings. The methods included:

- Envision Rating System
- Multi Criteria Decision Analysis (MCDA)
- Case Studies from Other Similar Projects

The MCDA process, which has been widely used by federal agencies (including the United States Army Corps of Engineers), featured a framework that supported complex decision-making even in situations with multiple and conflicting objectives that were valued differently by stakeholder groups. It also allowed for including direct input from the Stakeholders in the form of weighting. It was selected after receiving feedback from Stakeholders in the SWG Meetings.

The project types and criteria that the stakeholders assigned weights to were developed through collaboration with the District's parallel project the *Floodplain Management Plan*, which has been adopted by the Pima County Board of Supervisors. Tables 4 and 5 summarize the Project Types and Weighting Criteria that were used for ranking.

Table 4, Project Types

Project Type	Description
Flood Control	Projects that prevent flood and erosion damages including ensuring the operability of critical facilities during flood events.
Water Resources	Projects that optimize, protect, preserve, and enhance water quality and availability.
Environment	Projects that identify, protect, and preserve watercourses and the natural floodplain function and riparian habitat associated with them and restore and enhance them where they have been degraded.
Recreation	Projects that encourage flexibility for adaptive, multi-use river management; Projects that increase community connectivity and improve quality of life by promoting outdoor activities.
Community Compatibility	Projects respecting the agricultural history, land ownership and culture of the corridor; Projects demonstrating efficiency and transparency in river management; Projects promoting sustainable and compatible development with consideration for adjacent stakeholders.
Public Safety	Projects that can help in reducing the need for rescue and relief efforts; Projects that aid in the efficiency and effectiveness of rescue and relief efforts.

Table 5, Weighting Criteria Categories

Criterion	Example
Floodplain Management	Reduces flood risk to buildings, improves floodplain hazard mapping, reduces erosion hazard, mitigates debris flow and sedimentation, minimizes sheet flooding, improves channel conveyance, etc.
Transportation	Provides all-weather access, improves emergency response time, enables

Criterion	Example
	transportation improvements, reduces disruptions to normal traffic operations, etc.
Water Security	Improves water quality, reduces spread of contamination, addresses groundwater depletion, addresses water rights, manages surface flows, etc.
Emergency Response	Mitigates life-threatening flood hazards, aids in emergency response time, reduces fire risk, minimizes ponded water and virus vectors, etc.
Natural and Cultural Resources	Addresses invasive species management, improves quality of riparian/aquatic habitat, preserves natural open space, preserves cultural resources, mitigates climate change impacts, etc.
Public Use	Maximizes community connectivity, provides recreational opportunities (linear/active/passive), improves quality of life, improves accessibility, provides wildlife viewing opportunities, etc.
Sustainability	Promotes infill and redevelopment, extends useful life of infrastructure, stimulates sustainable growth and development, minimizes maintenance needs, etc.
Unauthorized Uses	Addresses homeless camps, minimizes off-road disturbance, reduces riparian habitat destruction, addresses illegal dumping activities, etc.
Economic Vitality	Produces economic value for the community; addresses potential zoning conflicts and opportunities, fosters ecotourism, preserves high value land (such as prime farmland), increases development potential, etc.
Feasibility of Implementation	Builds on existing initiatives, partnerships and funding, minimizes disruptions to operations/commerce, improves maintenance access and operations, uses existing right-of-way/public lands, minimizes utility conflicts and permitting constraints, considers costs, etc.

5.3 Final Scores and Rankings

Using the criteria listed above and the stakeholder weightings, the Project Team scored each alternative. Because some projects fell outside the expertise of some of our scorers, scorers were instructed that they did not have to score categories that they were uncomfortable with. The tabulation process did not penalize those alternatives for scorers leaving a category blank; instead, all scores were normalized and weighted prior to final ranking. Table 6, Final Structural Alternative Ranking summarizes the top sixteen (16) structural alternatives that came out of the ranking process. Table 7, Final Non-Structural Alternative Ranking summarizes the the top four (4) non-structural alternatives that came out of the ranking process. See Figure 6, Final Structural Alternative Location Map.

Table 6, Final Structural Alternative Ranking

Final Alt ID	Initial Alt ID	Project Weighted Total	Rank	Reach	Structural Alternative
14	FC-45	37.36	1	Marana Flats	Compound Channel from Sanders to Trico - mitigating lateral migration and containment of 100-year flood
15	FC-27	34.26	2	Marana Flats	Replace Bridge with a bridge that provides 100-year conveyance
12	FC-26	33.53	3	Marana Flats	Replace Bridge with a bridge that provides 100-year conveyance
16	FC-28	32.01	4	Marana Flats	Replace Bridge with a bridge that provides 100-year conveyance
13	FC-36	28.93	5	Marana Flats	Levee with toe-down. See also FC-45
4	E-26c	21.11	6	Three Rivers	TRDN Wetland Concept along Tres Rios WRF
5	FC-46b	20.22	7	Cortaro Narrows	Extend East Bank Soil Cement at 100-year level of protection with terraced MUMO section.
2	R-6	19.99	8	Three Rivers	Provide enhanced pathway on upper terrace along with passive recreation opportunities, interpretive signage, water harvesting & restored habitat on lower terrace
3	FC-2	18.66	9	Three Rivers	Augment soil cement bank protection to 4-feet for 100-feet upstream of bridge and combine with FC-17
	FC-17	17.68	10	Three Rivers	Augment soil cement bank protection to contain 100-year and combine with FC-2
8	FC-20	15.56	11	Marana Flats	Effluent training structures to keep effluent away from soil cement
11	FC-5	14.75	12	Marana Flats	Use wall to meet levee criteria - incorporate with rest node or landscape amenity
6	FC-13a	14.07	13	Cortaro Narrows	Periodic Grade Control and Effluent Training Structures upstream of Twin Peaks Rd
	FC-14a	13.73	14	Cortaro Narrows	Periodic Grade Control and Effluent Training Structures downstream of Twin Peaks Rd

Final Alt ID	Initial Alt ID	Project Weighted Total	Rank	Reach	Structural Alternative
9	E-26a	12.21	15	Marana Flats	TRDN Wetland Concept at CAP crossing
1	E-13	10.70	16	Three Rivers	Litter Traps on Tributaries
7	E-18b	10.68	17	Cortaro Narrows	Constructed wildlife access down low flow bank protection at abandoned I-10 overpass
10	R-1a	10.51	18	Marana Flats	Enhance access to river at Marana Heritage Park and provide a viewing platform of the river with a 'boardwalk'. Include interpretive signage. Enhance riparian vegetation/habitat. Enhance access to river at Gladden Farms Park by providing ramp to riverbed.

Table 7, Final Non-Structural Alternative Ranking

Final Alt ID	Initial Alt ID	Project Weighted Total	Rank	Reach	Non-Structural Alternative
3	E-24	17.95	1	Multiple	Ecologically Valuable Lands Preserved
2	E-28	17.72	3	Multiple	Vegetation Management Plan
1	E-7	17.72	3	Multiple	Organized Trash Cleanups
4	FC-39	11.68	4	Multiple	Letter of Map Revision (LOMR) for Santa Cruz River

5.4 Cost Estimate

Cost estimates were generated consistent with the level of design shown in the Alternative Concepts which is 15% design-level. In order to account for unforeseen and unknown items at the 15% design-level a contingency range of 20-30% was added to the cost. The cost estimate breakdown presents construction bid items, administrative and soft costs and perceived contingency. Table 8 summarizes the estimated bottom-line costs (rounded to the nearest $1000s) for the Structural Alternatives.

Table 8, Alternative Cost Estimates

Alt ID	Alternative Description	Estimated Cost ($)
1	Litter Traps on Tributaries	2,069,000
2	Columbus Park Stream Restoration	5,349,000
3	Camino Del Cerro Soil Cement Augmentation and Freeboard Addition	1,448,000
4	Dybvig Pit Restoration and New Wetland Improvement	8,313,000
5	New MUMO Channel with extension of Bank Protection	5,848,000
6	Grade Control/Effluent Training Structures	7,594,000
7	Wildlife Connectivity	3,005,000
8	Effluent Training Structures	4,853,000
9	New Wetland near CAP Crossing	4,744,000
10	Accessibility Improvements to River	967,000
11	Wall for Freeboard Compliance and Trailhead Enhancements	135,000
12	Sanders Road Bridge Replacement over Santa Cruz River	15,987,000
13	LSCR Levee Extension, Sanders Rd to Trico Rd	28,248,000
14	MUMO Channel, Sanders Rd to Trico Rd	166,221,000
15	Trico/Marana Rd Bridge Replacement over Santa Cruz River	14,002,000
16	Trico/Marana Rd Bridge Replacement over Santa Cruz River	13,740,000

Three of four of the non-structural alternatives have no capital cost. There will be administrative burden to budget for; however, most of these functions are already being performed by the District staff already. The future implementation of these non-structural programs will just become formalized with a process.

The big-ticket item is Non-Structural Alternative #3 which is preserving ecologically valuable lands by acquiring the property. The estimate is $24.5M.

5.5 Recommendations for Implementation

Guidelines for implementation were generated and included the following:

- Prioritizing of projects
- Consider stakeholder survey answers on implementation.
- Selecting an overall horizon for implementation along with implementation periods
- Consider distributing the capital costs by period with historically available funding, if known.
- Consider inflation for project costs beyond year 1.
- Identify other sources of funding for capital projects.
- Place projects with intense design and lengthy permit processes accordingly in the implementation schedule.
- Start the property acquisition process as soon as possible.

SECTION 6 IMPLEMENTATION PLAN

The Santa Cruz River Management Plan was developed with the goal that it would be accepted by the three local jurisdictions; (the City of Tucson, Pima County and the Town of Marana), as a plan to implement a series of projects reflecting a managed river corridor that would be in the best interests of all stakeholders.

The implementation plan was the 6th Volume of the Santa Cruz River Management Plan, and it followed, in sequence, the Alternative Selection Report which provided a detailed description of how projects were selected and why the final projects were diverse.

The sixteen (16) structural projects presented in this document were a reflection of the culture of the reach and the stakeholders that initiated them.

6.1 Implementation Strategy

Priority, timing, and funding are all considerations for successful implementation of a regional plan. This regional plan is not currently funded by bonds or a dedicated funding stream, but when laying out the strategy the goal was to provide a plan with flexibility and consideration for stakeholder feedback. Polling results of our stakeholders helped shape the strategy:

- Project Priority is a big consideration by itself.
- Political Will, by itself, should not drive the project delivery at all, but it does have its place in the process.
- Available Funding, by itself, is not a big consideration but should be a component of project delivery.
- 10–15-year implementation horizon is appropriate; and the closer to 10 years the better.

The result of using the implementation strategy was an implementation schedule, which distributed the projects into appropriate delivery periods and will be useful for annual budgeting exercises.

6.2 Project Data

The final selected alternatives from the *Alternatives Selection Report* are now "projects" to be implemented. In order to be implemented, the projects were advanced to a conceptual stage that would provide enough information to put a planning level cost estimate and timeline for implementation. Sixteen (16) total structural projects were presented.

6.3 Funding Options

With no dedicated funding source for implementation the District will lead the effort by targeting projects eligible for the District's Levy funding with the PAYGO model, but there are other sources of funding that can be explored by governmental agencies, organizations, and private parties. Some of those are listed here:

- Private Funding

- Financing
- Special Taxing Districts
- Federal Programs/Grants
- Permit/Fee Revenue
- State Programs/Grants
- Property Acquisition Funding

6.4 Project Delivery

Recent policy changes on Job Order Contracting (JOC) limits have provided more flexibility in delivering projects. Considering these contracting limits and the funding sources from Section 3 the following implementation breakdown was developed to provide some awareness on schedule, possible delivery method, and specific funding options for the the sixteen (16) structural projects and one (1) non-structural project.

Table 9, Implementation Breakdown

5SCLIV - SANTA CRUZ RIVER MANAGEMENT PLAN

Alternative ID	Description	Phase	Cost ($)[2]	Permitting Schedule (months)	Construction Schedule (Months)	JOC Eligible*	Potential Funding Methods
Alt 1	Litter Traps	Const	$1,800,000	4	6.3	x[1]	WIFA (City of Tucson as applicant)
Alt 2	Stream Restoration	Const	$4,900,000	18	9.6		Section 206 Acquatic Grant
Alt 3	Soil Cement and Freeboard Addition	Const	$1,320,000	4	5.8	x	Flood Control Levy Fund
Alt 4	New Wetland (Dybvig)	Const	$7,620,000	18	12.6		Section 206 Acquatic Grant
Alt 5	New Bank Protection	Const	$5,270,000	12	10.0		Flood Control Levy Fund/Developer Contributions
Alt 6	Grade Control/Effluent Training Structures	Design/Const	$7,600,000	12	12.5	x[1]	Flood Control Levy Fund
Alt 7	Wildlife Connectivity	Design/Const	$3,000,000	N/A	7.6		Flood Control Levy Fund, RTA (non Flood Components)
Alt 8	Effluent training structures	Design/Const	$4,850,000	a	9.6	x[1]	Flood Control Levy Fund
Alt 9	New Wetland	Design/Const	$4,745,000	12	9.5		Section 206 Acquatic Grant
Alt 10	Accessibility Improvements to River	Design/Const	$967,000	4	5.4	x	Recreational Trails Program (FHWA), Transportation Alternatives Program (TAP)
Alt 11	Wall for Freeboard Compliance & Trailhead Imps	Design/Const	$135,000	N/A	4.5	x	Flood Control Levy Fund
Alt 12	New Bridge @ Sanders Rd	Design/Const	$16,000,000	4	21.6		State & Federal Transportation $, Development Impact Fees
Alt 13	New Levee (Sanders to Trico Rd)	Design/Const	$28,300,000	24	24.0		Developer Contributions, Community Facilities District, Improvement District
Alt 14	New MUMO Channel (Sanders to Trico Rd)	Design/Const	$166,200,000	24	36.0		Developer Contributions, Community Facilities District, Improvement District
Alt 15	New Bridge @ Trico-Marana Rd	Design/Const	$14,000,000	4	19.5		State & Federal Transportation $, Development Impact Fees
Alt 16	New Bridge @ Trico Rd	Design/Const	$13,700,000	4	19.1		State & Federal Transportation $, Development Impact Fees
NS-Alt 3	Ecologically Sensitive Lands Preserved	Acquisition	$24,500,000	N/A	N/A		FLAP, Open Space Bonds

* JOC Individual Job Order maximum is $2,000,000
1 Improvements can be phased delivery, constructing one feature at a time.
2 Cost is in 2021 U.S. dollars. No inflation is included for projects at this time.

It is encouraged to use this breakdown for the annual budgeting process, with consideration that projects delivered beyond 1-year timeframe should have their costs inflated at 3% annually. The District has a working spreadsheet which includes inflation estimates for each project over the project horizon. No property acquisition costs are included where public projects are proposed on private property. Implementation budgeting should consider the additional right-of-way costs.

SECTION 7 STAKEHOLDER AND PUBLIC OUTREACH

Stakeholder outreach was a District led process that was supported by the Project Team. Public Outreach was led by Project Team member Sonoran Institute and supported by the remainder of the Project Team. Two stand-alone documents were prepared to summarize these efforts:

- Public Input for Pima County - Santa Cruz River Management Plan 2019–2021 (Sonoran Institute June 2021 - Appendix A)
- Stakeholder Engagement Summary Memo (CMG 2021- Appendix B)

7.1 Interactive Outreach

Stakeholder outreach was conducted at the Combined Stakeholder level, Stakeholder Working Group level and during Individual Stakeholder Follow-Up meetings. Meetings included both in-person meetings and virtual meetings. The stakeholder invite list was developed by the District and morphed during the 3-year process to include stakeholders that the project team became aware either wanted or needed to contribute to the process.

Public outreach began with Community Workshops and, with adaptation to the Covid 19 pandemic, became a virtual process finalized with a Public Survey on the Santa Cruz River Management Plan and proposed projects.

7.2 Input Process

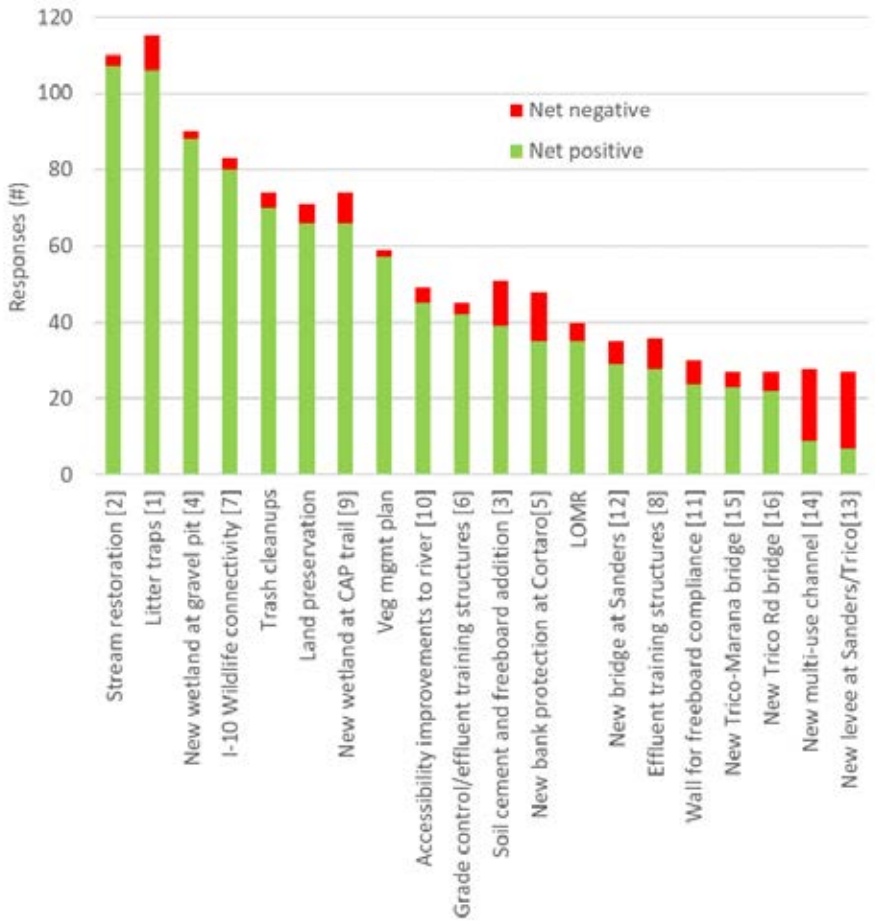
Seven total Stakeholder meetings of various composition, in-person exercises, and virtual polling all contributed to the Stakeholder input portion of the project.

The Public was invited to participate in one round of Community Workshops and also in an On-line Public Survey.

7.3 Survey Results

The below graphics display the Survey Population’s feelings about the 16 structural projects and 4 non-structural projects (Sonoran Institute 2021).

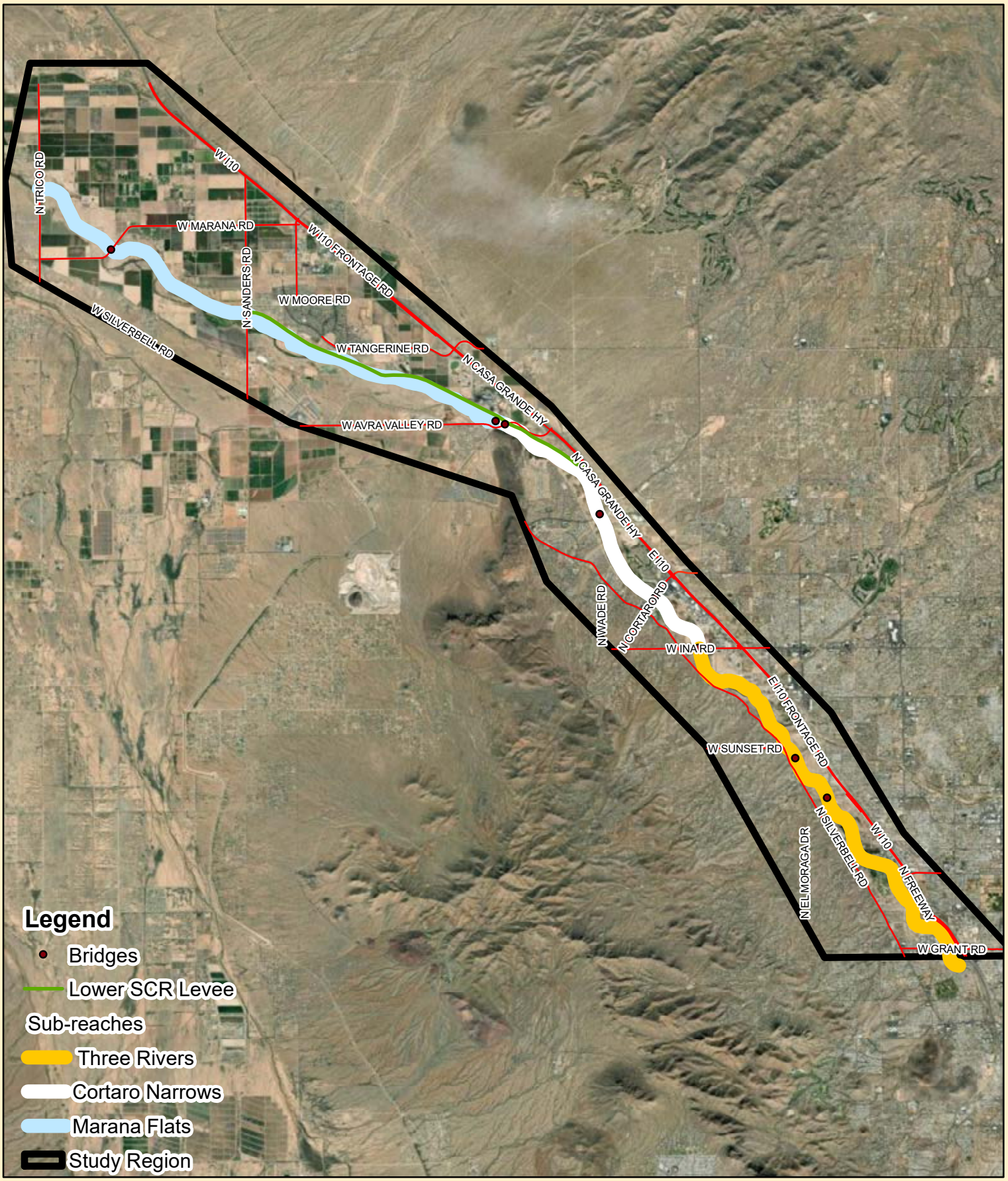
Reach	Project	Project #	What type(s) of benefits do you want to see in this project? Community compatibility	Envt'l	Flood control	Public safety	Recreation/ access	Water resource protection/ enhancement
Three Rivers	Litter traps	1	37%	83%	16%	35%	23%	60%
Three Rivers	Stream restoration	2	45%	84%	35%	19%	57%	63%
Three Rivers	Soil cement and freeboard addition	3	30%	44%	70%	31%	43%	24%
Three Rivers	New wetland at gravel pit	4	65%	87%	31%	19%	85%	68%
Cortaro Narrows	New bank protection	5	38%	54%	56%	30%	46%	40%
Cortaro Narrows	Grade control/effluent training structures	6	25%	69%	67%	31%	21%	63%
Cortaro Narrows	Wildlife connectivity at I-10	7	37%	93%	6%	18%	20%	24%
Marana Flats	Effluent training structures	8	18%	46%	77%	33%	3%	51%
Marana Flats	New wetland at CAP trail	9	51%	90%	27%	17%	73%	68%
Marana Flats	Accessibility improvements to river	10	78%	60%	8%	20%	92%	32%
Marana Flats	Wall for freeboard compliance	11	38%	34%	72%	50%	34%	31%
Marana Flats	New bridge at Sanders Rd	12	31%	21%	51%	74%	8%	33%
Marana Flats	New Sanders/Trico Rd. levee	13	22%	38%	28%	19%	9%	2%
Marana Flats	New Sanders/Trico Rd. multi-use channel	14	33%	39%	30%	12%	33%	33%
Marana Flats	New Trico-Marana bridge	15	31%	28%	45%	72%	3%	17%
Marana Flats	New Trico Rd. bridge	16	33%	20%	40%	70%	7%	17%
All reaches	Trash cleanups	17	66%	95%	16%	50%	39%	66%
All reaches	Veg mgmt plan	18	50%	93%	63%	32%	43%	87%
All reaches	Land preservation	19	61%	88%	43%	21%	69%	76%
All reaches	LOMR	20	48%	4%	71%	62%	12%	36%



SECTION 8 REFERENCES

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5. Pima County Regional Flood Control District, *Title 16 Floodplain Management Ordinance.* 2010.
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9. Sonoran Institute. *Public Input for Pima County Santa Cruz River Management Plan 2019–2021.* June 2021
10. Sonoran Institute. *The Many Benefits of Effluent Flows in the Santa Cruz River Collaborative Opportunities Assessment.* 2018
11. CMG Drainage Engineering, Inc. *Stakeholder Engagement Summary Memo*. 2021

FIGURES



PIMA COUNTY FLOOD CONTROL

Pima County Regional Flood Control District
201 N. Stone Ave - 9th Floor
Tucson, Arizona 85701-1797
(520) 724-4600, FAX: (520)724-4621
http://www.rfcd.pima.gov

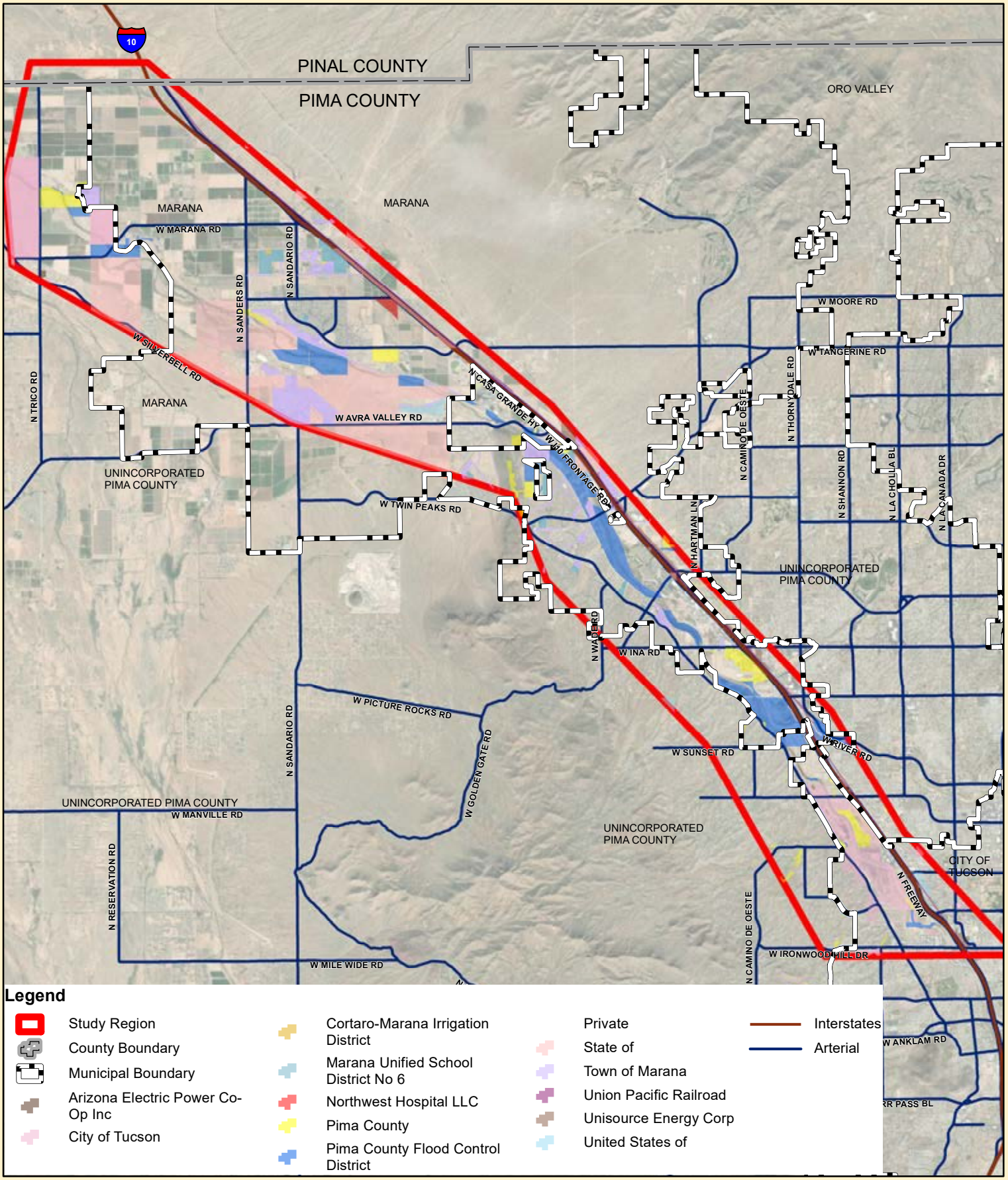
FIGURE 1 - STUDY AREA LOCATION MAP

SANTA CRUZ RIVER MANAGEMENT PLAN (5SCLIV)

0 1.25 2.5 5

CITY OF TUCSON

MARANA AZ
CELEBRATING 40 YEARS



Legend

- Study Region
- County Boundary
- Municipal Boundary
- Arizona Electric Power Co-Op Inc
- City of Tucson
- Cortaro-Marana Irrigation District
- Marana Unified School District No 6
- Northwest Hospital LLC
- Pima County
- Pima County Flood Control District
- Private
- State of
- Town of Marana
- Union Pacific Railroad
- Unisource Energy Corp
- United States of
- Interstates
- Arterial

FIGURE 2 - LAND OWNERSHIP AND MAINTENANCE RESPONSIBILITY

SANTA CRUZ RIVER MANAGEMENT PLAN (5SCLIV)

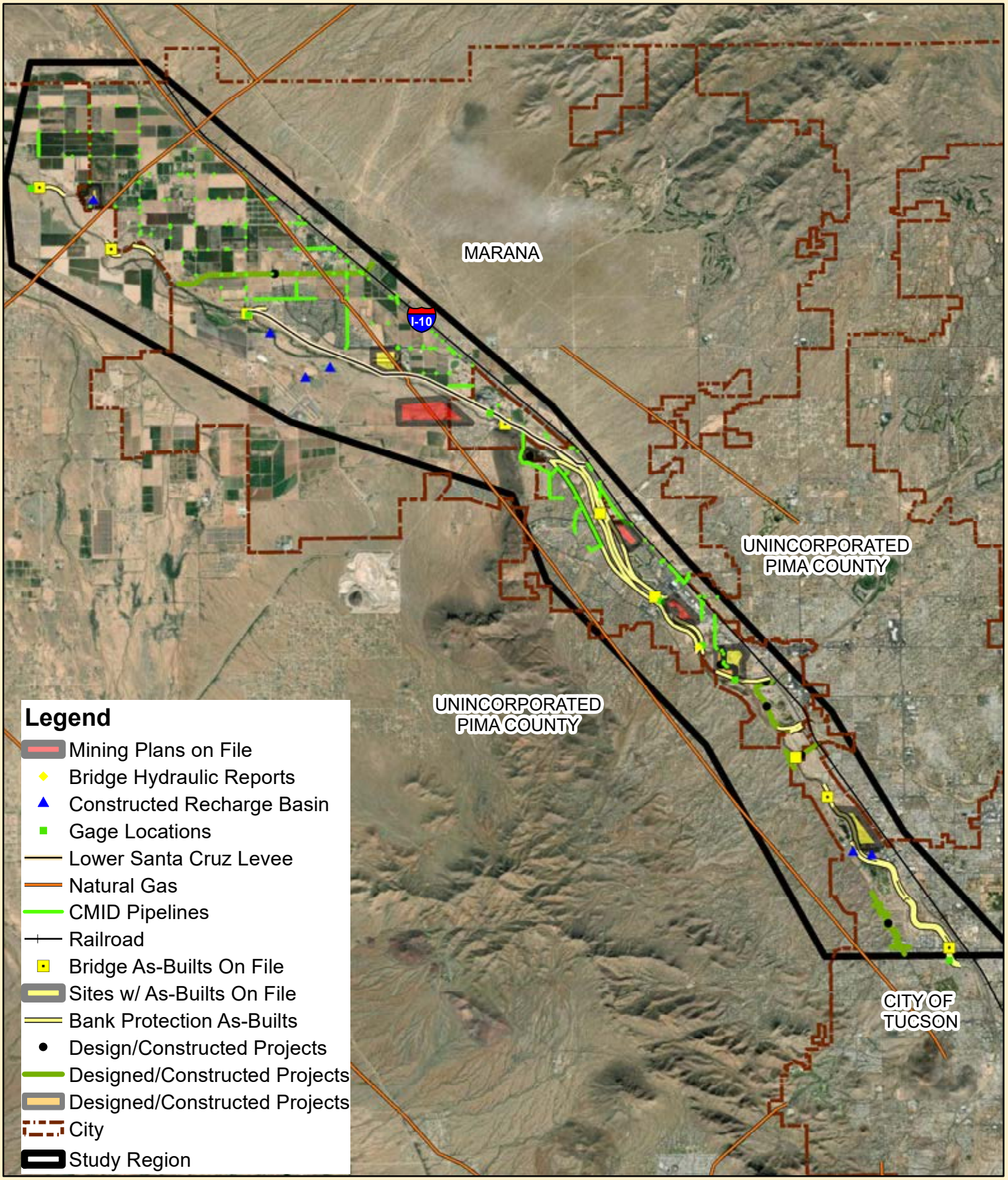
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FIGURE 3 - DATA COLLECTION EXHIBIT

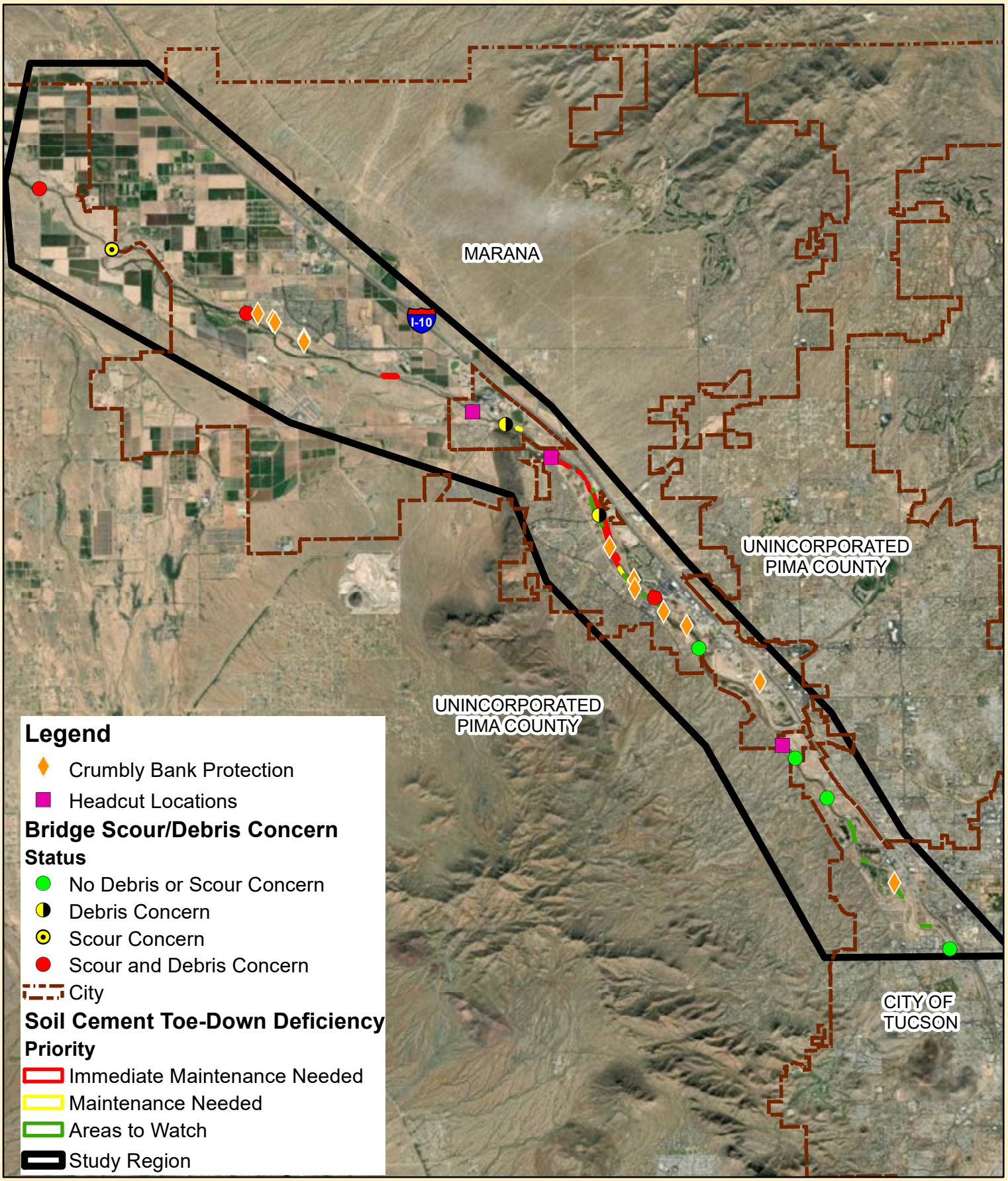
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MARANA AZ
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FIGURE 4 - INFRASTRUCTURE ASSESSMENT OVERVIEW

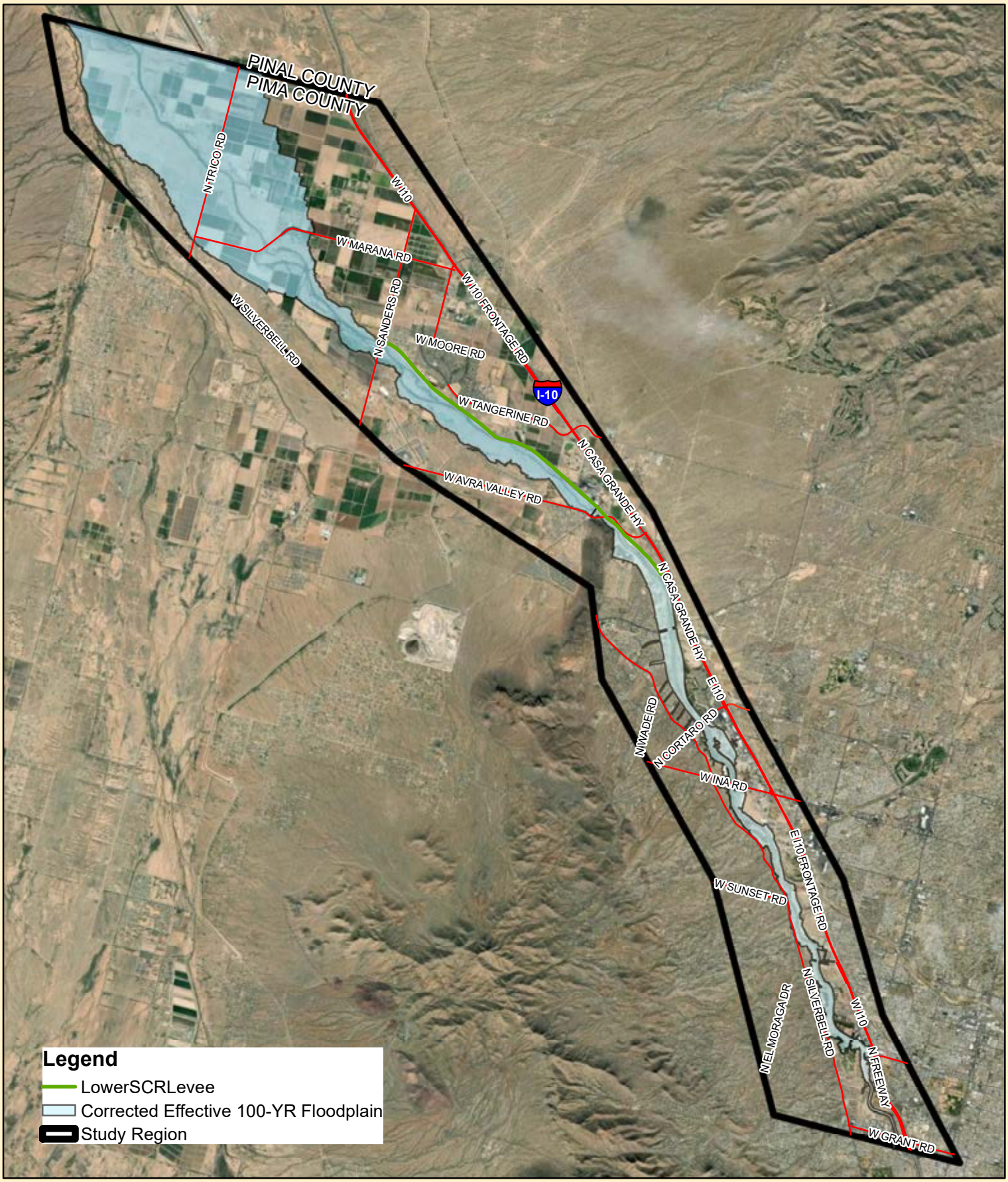
SANTA CRUZ RIVER MANAGEMENT PLAN (5SCLIV)

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(520) 724-4600, FAX: (520)724-4621
http://www.rfcd.pima.gov

FIGURE 5 - HYDRAULIC WORKMAP OVERVIEW

SANTA CRUZ RIVER MANAGEMENT PLAN (5SCLIV)

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CITY OF TUCSON

MARANA AZ
CELEBRATING 40 YEARS



Alternative ID	Description	Cost ($)
Alt 1	Litter Traps	$1,800,000
Alt 2	Stream Restoration	$4,900,000
Alt 3	Soil Cement and Freeboard Addition	$1,320,000
Alt 4	New Wetland (Dybvig)	$7,620,000
Alt 5	New Bank Protection	$5,270,000
Alt 6	Grade Control/Effluent Training Structures	$7,600,000
Alt 7	Wildlife Connectivity	$3,000,000
Alt 8	Effluent training structures	$4,850,000
Alt 9	New Wetland	$4,745,000
Alt 10	Accessibility Improvements to River	$967,000
Alt 11	Wall for Freeboard Compliance & Trailhead Imps	$135,000
Alt 12	New Bridge @ Sanders Rd	$16,000,000
Alt 13	New Levee (Sanders to Trico Rd)	$28,300,000
Alt 14	New MUMO Channel (Sanders to Trico Rd)	$166,200,000
Alt 15	New Bridge @ Trico-Marana Rd	$14,000,000
Alt 16	New Bridge @ Trico Rd	$13,700,000

Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID

Regional Flood Control District
201 N Stone Ave, 9th Floor
Tucson, AZ 85701

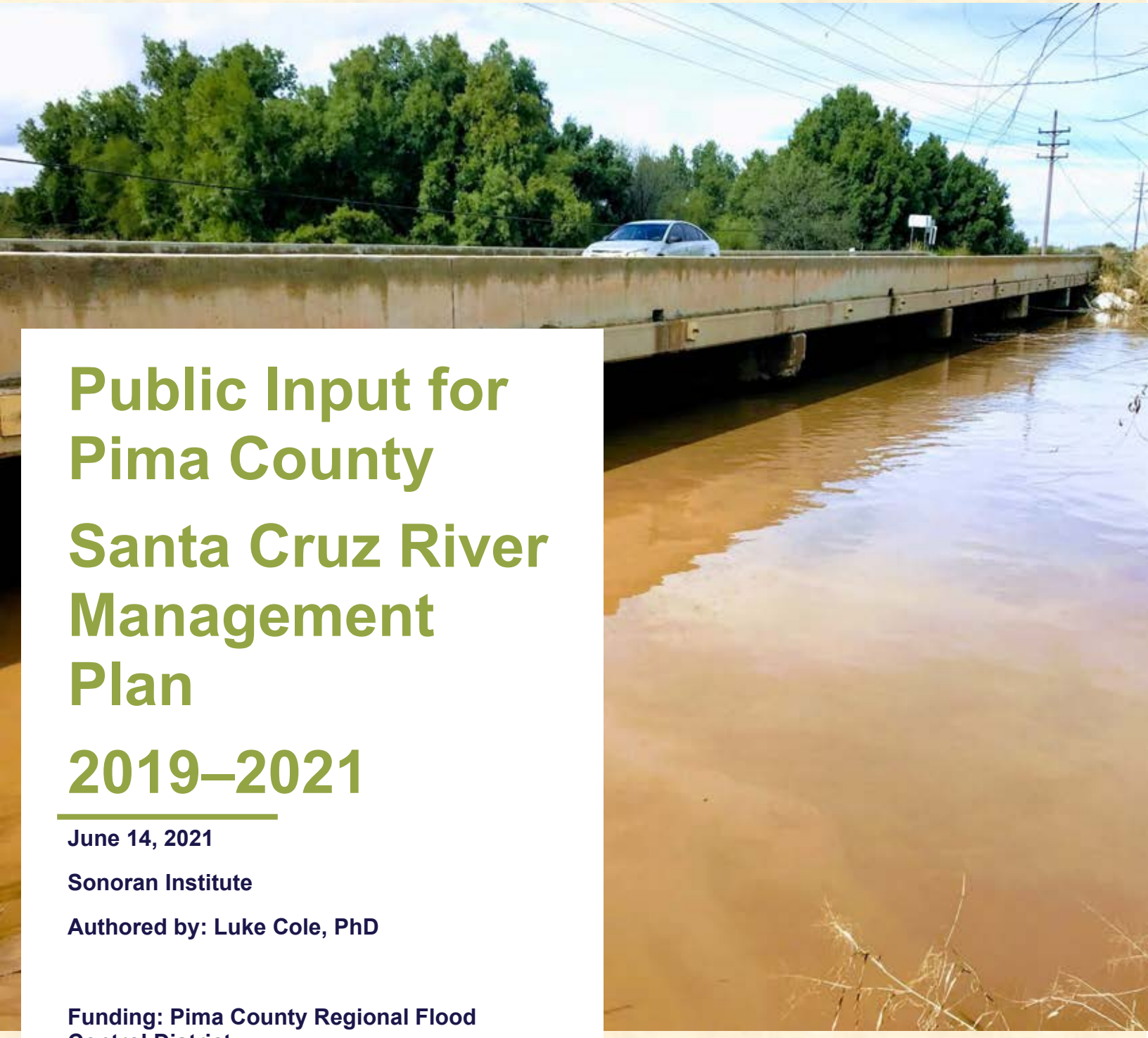
PIMA COUNTY FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N Mountain Ave -Tucson, Arizona 85719

FIGURE 6
FINAL STRUCTURAL ALTERNATIVES LOCATION MAP
SANTA CRUZ RIVER MANAGEMENT PLAN

PROJECT NO. 18-006.1
11/30/2021
SHEET 1 OF 1

APPENDIX A
PUBLIC PARTICIPATION REPORT



Public Input for Pima County

Santa Cruz River Management Plan

2019–2021

June 14, 2021

Sonoran Institute

Authored by: Luke Cole, PhD

Funding: Pima County Regional Flood Control District

Project lead: Evan Canfield, PhD, P.E., CFM
Pima County Regional Flood Control District

SONORAN INSTITUTE

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EXECUTIVE SUMMARY

Online surveys provide Pima County with an opportunity to reach a broad section of the county, particularly when supported by social media and traditional on-air media. Initial in-person workshops in 2019 were crafted to complement the stakeholder working sessions and 6,667 residences in three zip codes received postcard invitations. Input from those attendees were used in conjunction with the stakeholder workshops to winnow the project list down from 115 to 16 structural projects and 4 non-structural projects (i.e., plans). To solicit input from Pima County residents, the *Public Input on Proposed Santa Cruz River Projects* online survey was built using the ESRI Survey 123 platform and was launched on October 1, 2020 and ran until January 10, 2021. Nearly 300 Pima County residents across 37 zip codes took the online survey and combined, provided 1,181 reviews of the 20 project proposals.

Project categories that involved river restoration, trash capture, wetland creation, and wildlife connectivity received the most positive reviews. Project categories that involved levee creation, bank protection, and channel modification were the most negative reviews.

Of the 20 project proposals, 18 received highly favorable scores, indicating that the project winnowing/ consolidation process yielded viable, supportable projects. Viewed together, the 18 net highly favorable projects averaged 86% positive scores in response to the prompt “This project is important and should be prioritized.” The clarity of the two net negative projects (New multi-use channel and New levee at Sanders/Trico) provides Pima County with an opportunity to address resident concerns and garner support.

Survey takers overwhelmingly preferred to see Environmental benefits included in projects wherever possible. Flood control, Public Safety, and Recreation/Access were also top-ranked benefits. These results suggest that Pima County can use this benefits prioritization analysis as a guide for implementation, press releases, social media, and future projects.

PROJECT BACKGROUND

Pima County Regional Flood Control District (District) launched the first series of presentations and feedback sessions for the Santa Cruz River Management Plan (RMP) in October 2019. Initial sessions were designed to present the concepts and timeline of the RMP to stakeholder groups in each of the three sections identified in the plan. Facilitation strategies and the resultant feedback from the stakeholder sessions provided Sonoran Institute with a thematic template upon which we could solicit feedback from the public. With the assistance of stakeholder representatives and public input, the District developed a series of built and dispersed alternatives (prospective projects) for future improvements along the Santa Cruz.

Public input *process*

Public input was solicited between December 2019 and January 2021. The first round of public engagement was an "inform and solicit" open-house format. The District, Sonoran Institute, CMG Drainage, JE Fuller, and Kimley-Horn project team hosted three sessions (one per reach) during December 2019.

In advance, a postcard was sent to residences throughout the project area to provide the recipient with the purpose of the plan, a call to action, and information about the resident input workshops (figure 1). The 6,667 postcards were mailed in November 2019 and reached residences in the following zip codes:

- 85743: 4,817 residences
- 85753: 1,787 residences
- 85745: 63 residences

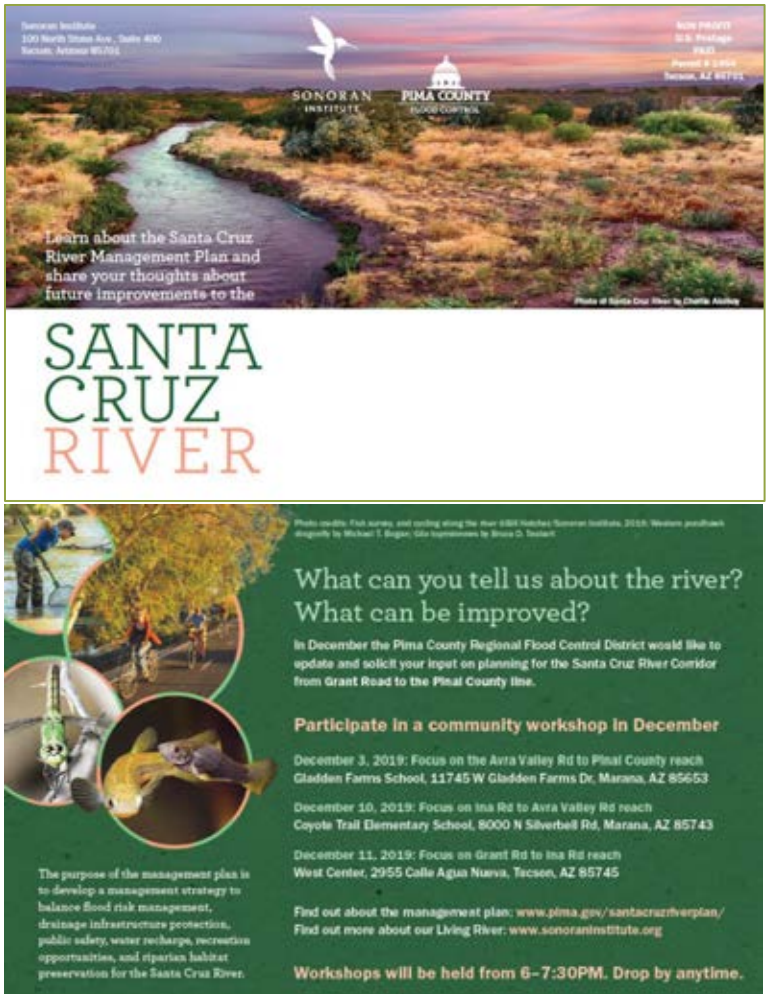


Figure 1. Postcard sent to 6,667 residences between Grant Rd. and the Pinal Co. line (zip codes: 85743, 85653, 85745).

At the in-person "inform and solicit" public meetings in December 2019, the project team presented poster-size maps for attendees to peruse and identify locations of importance and concern using colored stickers. For each identified location, a datasheet record was created that collected the participant's information, preferences, and whether the identified point represented a problem or opportunity (Appendix A). In total, 17 residents attended the working sessions, most of whom found out about the sessions from the mailed postcard.

Public survey process

From January to May 2020, the project team reviewed stakeholder and public input and narrowed the 115 possible alternatives down to 16 structural and 4 non-structural alternatives.
In May 2020, the stakeholder engagement meeting series solicited feedback on project type (categories: flood control, water resources, environment, recreation, community compatibility, and public safety) and value (floodplain management, water security, public use, economic vitality, *among others*) by reach. These preference and weighting assessments guided the project team to develop 15% plans and renderings which were the foundation of the public survey.
The public survey was built by Sonoran Institute using ESRI software (ArcGIS Online and Survey 123). The online survey was launched on October 1, 2020 and remains open, though the data presented here are from (October 1, 2020 to January 10, 2021).
The online dashboard "Public survey for the Santa Cruz River Management Plan—Grant Road to Pinal County" was built by Sonoran Institute and refined with both project team and beta tester input. The dashboard interface included the following:

- **User instructions**
- **Survey purpose**: The purpose of this survey is for you to give us your thoughts on projects to improve the Santa Cruz River to better reflect the needs, desires, and values of the community.
- **Project background**: Pima County is considering some future improvement projects in the Santa Cruz River and its floodplain over the next 10–20 years between Grant Road and the Pima–Pinal County line.
  The projects incorporate preferences and priorities for the Santa Cruz River identified by the public in a previous survey and reflect Pima County's goals for floodplain management in the recently adopted Floodplain Management Plan. Over the last year, the Flood Control District and stakeholders have identified a **wide-ranging set of improvements** that have the potential to be implemented along the river with future budget allocations. These projects would make **upgrades to flood control structures** while benefiting public safety, the environment, recreation, water resources, and community compatibility.
  For more information on the Santa Cruz River Management Plan, visit Pima County's project website.
  For more information on the Santa Cruz River, visit Sonoran Institute's *Living River* reporting series.
- **Georeferenced map**
- **Project summary**
  - Project number or plan
  - Reach
  - Selected project name
  - Selected project purpose
  - What will it do?
  - Link to the 15% plan rendering

The dashboard also included a survey function where, for each project selected, the user was prompted with the following:

- To begin the survey, please enter your zip code
- Choose the project you're commenting on

- This project is important and should be prioritized.
    - Subheading: This question will be used to gauge public support for different projects, which will in turn be useful for prioritizing and phasing
    - Prompts:
        - Agree
        - Somewhat agree
        - Somewhat disagree
        - Disagree
        - Not applicable to me
- What type(s) of benefits do you want to see in this project?
    - Subheading: This question will help us incorporate public preference when concept plans are refined into construction plans.
    - Prompts:
        - Compatibility with the community
        - Environmental
        - Flood control
        - Public safety
        - Recreation/access
        - Water resource protection/enhancement
- Comments/questions

Data collected through the public survey interface were analyzed in Microsoft Excel. Exported datasets will be shared separately for Pima County Regional Flood Control District use and distribution.

SURVEY RESULTS

The *Public survey for the Santa Cruz River Management Plan—Grant Road to Pinal County* interface was launched on October 1, 2020 and though still live, the last recorded survey was taken on January 10, 2021. Overall, the survey was taken by 297 unique users representing 37 Pima County zip codes. In total, the 297 unique users provided 1,180 project reviews. Of all reviews, 11% came from the 85745 zip code, which borders the west side of the Santa Cruz River from the Heritage Project outfall north to Sunset Rd. River-adjacent zip codes were 4 of the 5 top zip codes (#1: 85745, #3: 85743, #4: 85705, #5: 85742)—the outlier is #2: 85716, representing midtown Tucson (table 1).

Table 1. Zip codes ranked by the number of projects reviewed.

Zip code	# of projects reviewed	Zip code	# of projects reviewed
85745	134	85749	16
85716	108	85733	13
85743	101	85747	5
85705	95	85746	5
85742	81	85614	4
85750	67	85715	3
85704	66	85756	3
85713	60	85741	2
85719	55	85730	2
85712	50	85739	2
85718	48	85624	2
85710	48	85702	1
85658	48	85735	1
85755	35	85179	1
85737	28	85641	1
85701	26	85622	1
85711	25	85706	1
85748	21	85650	1
85653	21		

Response rate and usage

Most of the survey use occurred during the first month (figure 2, October 1, 2020–November 1, 2020). 253 unique users (85%) responded, likely as an effect of Sonoran Institute social media posts, the call-to-action in the *Living River* report, Pima County social media, and the October bill insert from Tucson Water. The survey interface had 2 unique users in the 4-week period before and after the Thanksgiving holiday and 23 unique users in the remaining 4 weeks of the survey, which included the Christmas and New Year holidays.

The October water bill insert from Tucson Water (figure 3) was received by customers during the weeks of October 19 and October 26, 2020. Sonoran Institute reinforced the messaging from the bill insert with Facebook social media posts on October 18, 2020 and October 26, 2020. The uptick in mid-December responses coincides with an Arizona Public Media interview about the state of the Santa Cruz River (Checking in on the health of the Santa Cruz River: Upgrades to the county's wastewater treatment continue to improve the vitality of the river and the wildlife it supports, AZPM, December 17, 2020, tinyurl.com/yjgekkqp) in which Sonoran Institute provided a summary of the 2020 (WY 2019) *Living River* report and reinforced the call to action for Pima County residents to participate in the public survey.

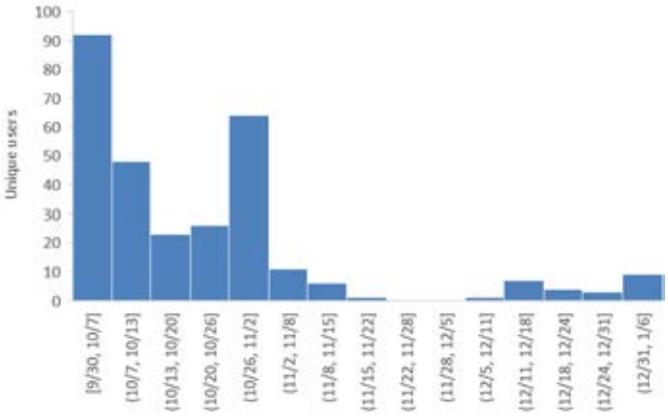


Figure 2. Histogram of unique survey participants grouped by week.

Survey findings, general

This project is important and should be prioritized.

Survey respondents overwhelmingly supported the 16 structural and 4 non-structural projects proposed in the Santa Cruz River Management Plan. Combining all 1,180 project responses to the question of whether the project is important and should be prioritized showed a high favorability (i.e., combining "Agree" and "Somewhat agree") of 83%: 65% agree, 18% partly

agree (figure 4). Low favorability was 12% (6% Somewhat disagree, 6% Disagree) and not applicable responses were 5% of all survey responses. These responses indicate that the ranking and winnowing of the initial 110+ proposed alternatives yielded a portfolio of projects was generally supported by Pima County residents.

What type(s) of benefits do you want to see in this project?

Survey takers were able to select one or more benefits for each project. The most frequent benefit that was identified in the survey was Environmental (71%). The only other benefit to occur in most responses was Water Resource Protection/Enhancement (52%). The four other benefits constituted 32%–45% of responses (figure 5).

Survey findings, specific projects

This project is important and should be prioritized.

The 16 structural and 4 non-structural projects were evaluated to understand the priorities, preferred benefits, and customized input of the residents of Pima County. 18 of 20 projects received net highly favorable (i.e., combining "Agree" and "Somewhat agree") and 11 of 20 projects "Agree" score was > 50% (figure 6). Only two projects received low favorable scores (i.e., combining "Somewhat disagree" and "Disagree"), specifically proj. 13: Sanders/Trico Levee, proj. 14: Sanders/Trico MUMO).

Projects were ranked by the net number of positive and negative responses (figure 7). The three projects with the highest number of positive reviews were the three Three Rivers projects (stream restoration (proj. 2), litter traps (proj. 1), and new wetland at the gravel pit (proj. 3)). The three projects with the most negative responses

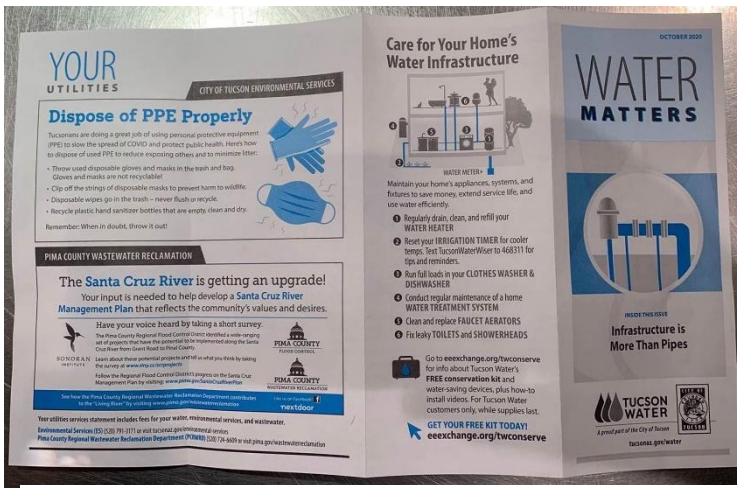


Figure 3. Tucson Water October bill insert featuring a call-to-action for the Public Survey.

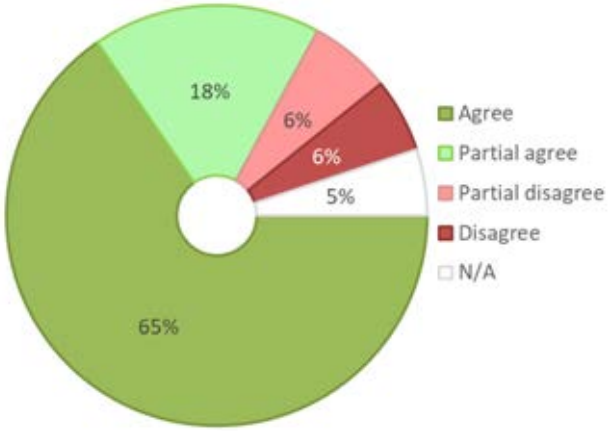


Figure 4. Summary of all public survey responses as a gauge of general support of the Santa Cruz River Management Plan proposed projects.

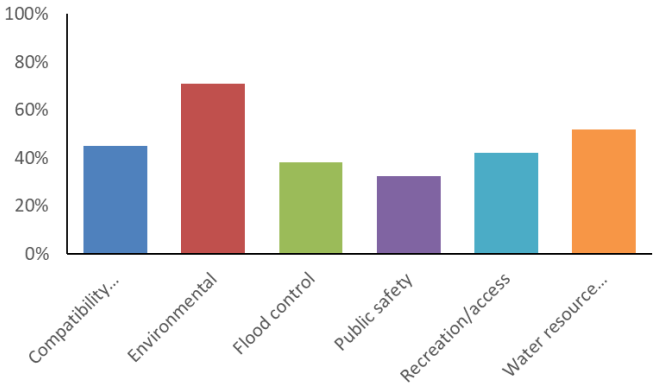


Figure 5. Survey participants' responses indicate the types of benefits they would prefer to see. Data presented are for all projects. Benefits: Compatibility with the community, Environmental, Flood control, Public safety, Recreation/access, Water resource protection/enhancement

were the new levee at Sanders/Trico (proj. 13), the MUMO (proj. 14), and the new bank protection at Cortaro (proj 5).

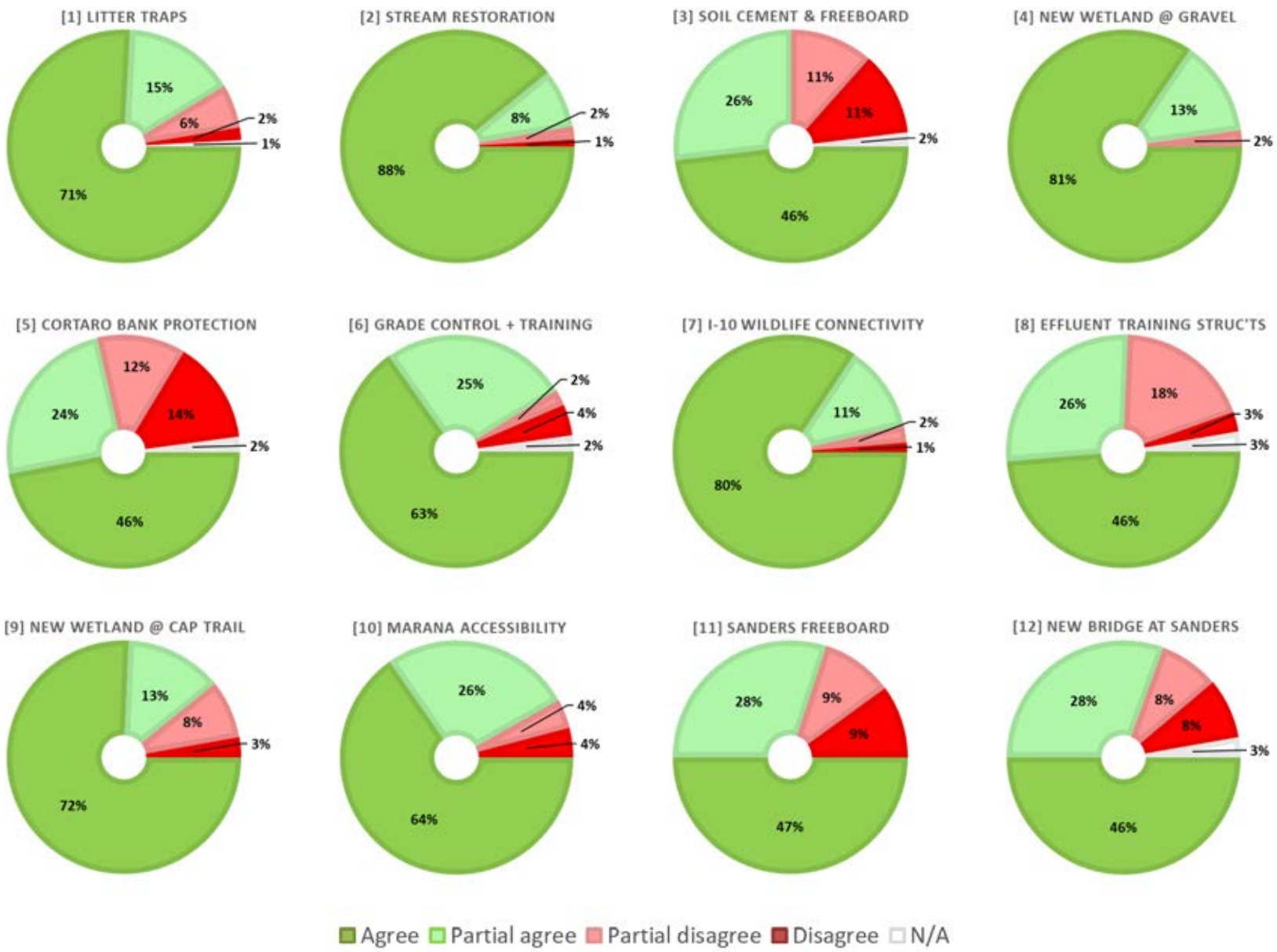

[1] LITTER TRAPS
15%
6%
2%
1%
71%
[2] STREAM RESTORATION
8%
2%
1%
88%
[3] SOIL CEMENT & FREEBOARD
11%
11%
26%
2%
46%
[4] NEW WETLAND @ GRAVEL
13%
2%
81%
[5] CORTARO BANK PROTECTION
12%
24%
14%
2%
46%
[6] GRADE CONTROL + TRAINING
25%
2%
4%
2%
63%
[7] I-10 WILDLIFE CONNECTIVITY
11%
2%
1%
80%
[8] EFFLUENT TRAINING STRUC'TS
26%
18%
3%
3%
46%
[9] NEW WETLAND @ CAP TRAIL
13%
8%
3%
72%
[10] MARANA ACCESSIBILITY
26%
4%
4%
64%
[11] SANDERS FREEBOARD
28%
9%
9%
47%
[12] NEW BRIDGE AT SANDERS
28%
8%
8%
3%
46%
Agree
Partial agree
Partial disagree
Disagree
N/A

Figure 6. Responses of Pima County residents to individual project concepts proposed in the Santa Cruz River Management Plan. Continued on next page.

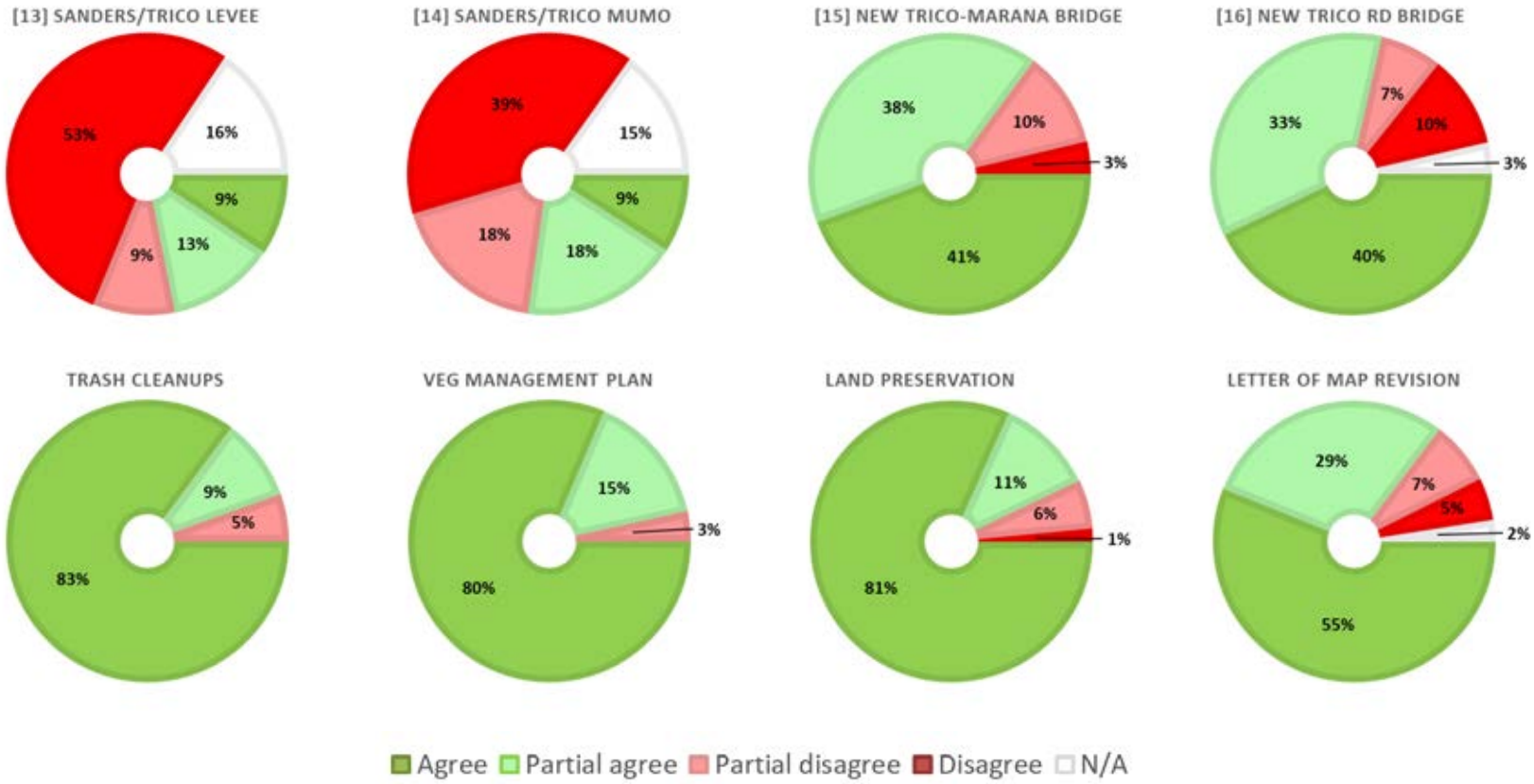


Figure 6 (cont'd). Responses of Pima County residents to individual project concepts proposed in the Santa Cruz River Management Plan.

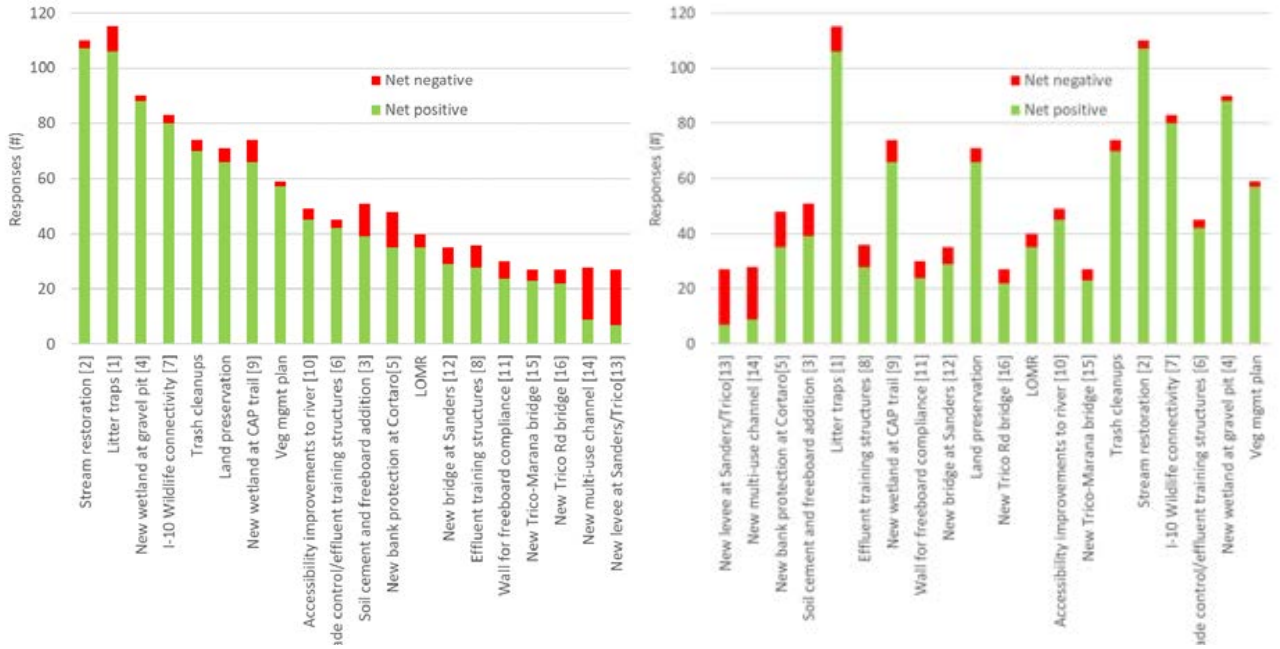


Figure 7. Ordinal ranking of projects by the total number of positive (left) and negative (right) responses.

Survey findings, specific projects

What type(s) of benefits do you want to see in this project?

Survey takers were able to include all 6 benefit categories when answering this prompt. The most prevalent benefit identified by survey takers was "environmental," and was ranked as the most important benefit in 11 of the 20 projects (table 2). Flood control, public safety, and recreation/access were also top-ranked benefits. All six benefit types were ranked at least once in every project, indicating that Pima County residents value a variety of benefits across the spectrum of projects.

Another approach to understand the benefit types that were most important to survey takers is to assess those benefits that occurred >50% of the time. A benefit with a frequency over 50% can be used as a general consideration of values held by Pima County residents. Looking across the 20 projects, the following benefits received a >50% frequency: Environmental (11 projects), Water Resource Protection/Enhancement (9), Flood Control (8), Recreation/Access (5), Community Compatibility (5), Public Safety (4). Interestingly, Water Resource Protection/Enhancement, despite being the second-most frequent benefit >50%, was not the highest-ranked benefit in any one project.

The two projects that received a net negative on the "this project is important and should be prioritized" question (13: new levee at Sanders/Trico and 14: New MUMO) did not score a >50% return on any one of the six benefits. To the contrary, projects 4, 9, and 19 (new wetland at gravel pit, new wetland at CAP trail, and land preservation, respectively) had 4 benefit types that were scored at >50%.

Comments/questions

Users were prompted to enter any questions or comments they had on the projects. A total of 416

comments were received across all 20 projects. (Appendix B & C). The 5 most frequently occurring words were 1) river, 2) flood, 3) public, 4) wildlife, and 5) project. The most frequently occurring words in each project are presented as “keywords” in table 3.

Table 2. Preferred benefits associated with proposed projects in the River Management Plan. Green boxes indicate the benefit with the highest response rate.

			What type(s) of benefits do you want to see in this project?					
Reach	Project	Project #	Community compatibility	Envt'l	Flood control	Public safety	Recreation/ access	Water resource protection/ enhancement
Three Rivers	Litter traps	1	37%	83%	16%	35%	23%	60%
Three Rivers	Stream restoration	2	45%	84%	35%	19%	57%	63%
Three Rivers	Soil cement and freeboard addition	3	30%	44%	70%	31%	43%	24%
Three Rivers	New wetland at gravel pit	4	65%	87%	31%	19%	85%	68%
Cortaro Narrows	New bank protection	5	38%	54%	56%	30%	46%	40%
Cortaro Narrows	Grade control/effluent training structures	6	25%	69%	67%	31%	21%	63%
Cortaro Narrows	Wildlife connectivity at I-10	7	37%	93%	6%	18%	20%	24%
Marana Flats	Effluent training structures	8	18%	46%	77%	33%	3%	51%
Marana Flats	New wetland at CAP trail	9	51%	90%	27%	17%	73%	68%
Marana Flats	Accessibility improvements to river	10	78%	60%	8%	20%	92%	32%
Marana Flats	Wall for freeboard compliance	11	38%	34%	72%	50%	34%	31%
Marana Flats	New bridge at Sanders Rd	12	31%	21%	51%	74%	8%	33%
Marana Flats	New Sanders/Trico Rd. levee	13	22%	38%	28%	19%	9%	2%
Marana Flats	New Sanders/Trico Rd. multi-use channel	14	33%	39%	30%	12%	33%	33%
Marana Flats	New Trico-Marana bridge	15	31%	28%	45%	72%	3%	17%
Marana Flats	New Trico Rd. bridge	16	33%	20%	40%	70%	7%	17%
All reaches	Trash cleanups	17	66%	95%	16%	50%	39%	66%
All reaches	Veg mgmt plan	18	50%	93%	63%	32%	43%	87%
All reaches	Land preservation	19	61%	88%	43%	21%	69%	76%
All reaches	LOMR	20	48%	4%	71%	62%	12%	36%

Table 3. Highest-frequency keywords that appeared in the "Comments and Questions" prompt.

				Keywords		
Project	Reach	Project #	Comments received (#)	1	2	3
Litter traps	Three Rivers	1	49	Trash	Santa Cruz	Survey
Stream restoration	Three Rivers	2	35	River	Tucson	Natural
Soil cement and freeboard addition	Three Rivers	3	16	Flood	Survey	Completely
New wetland	Three Rivers	4	34	River	People	Santa Cruz
New bank protection	Cortaro Narrows	5	18	Flood	Gravel	Area
Grade control/effluent training structures	Cortaro Narrows	6	13	Project	Area	Wildlife
Wildlife connectivity	Cortaro Narrows	7	30	Wildlife	Support	Animals
Effluent training structures	Marana Flats	8	13	Soil	Cement	River
New wetland	Marana Flats	9	27	Great	Wetlands	Water
Accessibility improvements to river	Marana Flats	10	15	Marana	Benefit	Water
Wall for freeboard compliance	Marana Flats	11	8	FEMA	Recommend	Standards
New bridge	Marana Flats	12	13	River	Important	Town
New levee	Marana Flats	13	14	Land	River	Residential
New multi-use channel	Marana Flats	14	17	Land	River	Support
New bridge	Marana Flats	15	8	Access	Public	Priority
New bridge	Marana Flats	16	8	Bridge	People	Access
Trash cleanups	All reaches	17	31	Trash	River	People
Veg mgmt plan	All reaches	18	20	Vegetation	River	Water
Land preservation	All reaches	19	32	River	Land	Support
LOMR	All reaches	20	15	Flood	River	Land

Appendix A. Survey sheets from 2019 in-person Pima County resident workshops

Evan, Joe, and Scott can access the accompanying maps at:
https://sonoraninstitute.sharepoint.com/:f:/s/SLCteammeetings/ElZcZJ1quPBChcrdeB9it2ABTFFFmyBdL2ylz8DJ1UZZwA?e=6VmoCu

Appendix B. List of online survey questions and comments received from October 1, 2020–January 10, 2021

Appendix C. Project specific word clouds generated from online survey questions and comments received from October 1, 2020–January 10, 2021

APPENDIX B
STAKEHOLDER ENGAGEMENT SUMMARY MEMO

CMG DRAINAGE ENGINEERING, INC.

PIMA COUNTY FLOOD CONTROL

Technical Memorandum

To: Evan Canfield, P.E., CFM, Project Manager, RFCD

CC:

From: Scott Altherr, P.E, CFM, CMG Drainage Engineering, Inc.

Date: 12/1/2021

Re: **5SCLIV – Stakeholder Engagement Process Summary**

This memorandum serves to document the stakeholder outreach effort and the process that was used to engage stakeholders during the alternatives analysis task.

BACKGROUND

The stakeholder engagement throughout the alternative selection/development process was extensive. To make the process meet stakeholder needs, separate stakeholder workgroup meetings were held by each of the three management reaches. A combined stakeholder meeting was also held once each year. The first combined stakeholder meeting was held in May 2018. Reach-based stakeholder workgroups initiated in October 2019. Stakeholder engagement ended with a combined stakeholder meeting in May of 2021.

What follows is a brief summary of the stakeholder involvement as it relates to the Alternative Development process:

- A Combined Stakeholder Meeting was held on May 31, 2018. The Pima County Regional Flood Control District (District) invited a broad spectrum of stakeholders with the purpose of acquainting stakeholders with the project.
- A Combined Stakeholder Meeting was held on May 22, 2019. The District invited stakeholders to show them results of the following three reports characterizing existing conditions (Phase I of the project):
    - Existing Conditions
    - Floodplain Mapping
    - Infrastructure Assessment and Maintenance

  Stakeholders were then asked to participate in stakeholder workgroups for each of the three planning reaches.

- Stakeholder Working Groups met by planning reach in October 2019 and offered their input on problems and opportunities in the reach and sketched their vision during a free-hand drawing exercise. With the Stakeholders help a Problems and Opportunities list was generated with 110 items.
- Stakeholder Working Groups met by planning reach in January 2020 and were presented the alternative ranking process criteria and asked to provide input. Additionally, the project team presented an Alternative Seed list which consisted of 43 potential structural and 11 non-

structural alternatives to address the problems and opportunities that had been generated with the Stakeholders' help. Stakeholders weighted the criteria and project types in an exercise at the meeting and results of the weighting were provided on the fly to them.

- Stakeholders from all planning reaches met in a virtual setting in May of 2020 (due to the Covid 19 pandemic) and were presented the sixteen (16) top ranked structural alternatives and four (4) non-structural alternatives that their weighting and the project team's ranking produced. The Stakeholders were also polled, using Zoom's polling capability, on eight different questions surrounding project representation, stakeholder representation, and project delivery.
- The project team met with specific stakeholders throughout the entire study reach during the alternative development process that were particularly impacted by the final alternatives to determine if there was any specific input that they wanted to give us as concepts were developed. These meetings totaled eleven (11) separate virtual meetings.
- The project team met with the Stakeholder Working Groups, by planning reach, again in October 2020 and presented alternative concepts (15% engineered and rendered drawings) for the final sixteen (16) structural alternatives. Stakeholders also participated in the on-line public survey and gave feedback on the language presented to the public.

Overall, the stakeholders were integral in forming the alternatives, providing their influence on projects to move forward into development, and providing specific feedback on how to make certain alternatives a better concept. Figure 2 shows the process in flowchart fashion of stakeholder engagement following the existing conditions assessment.

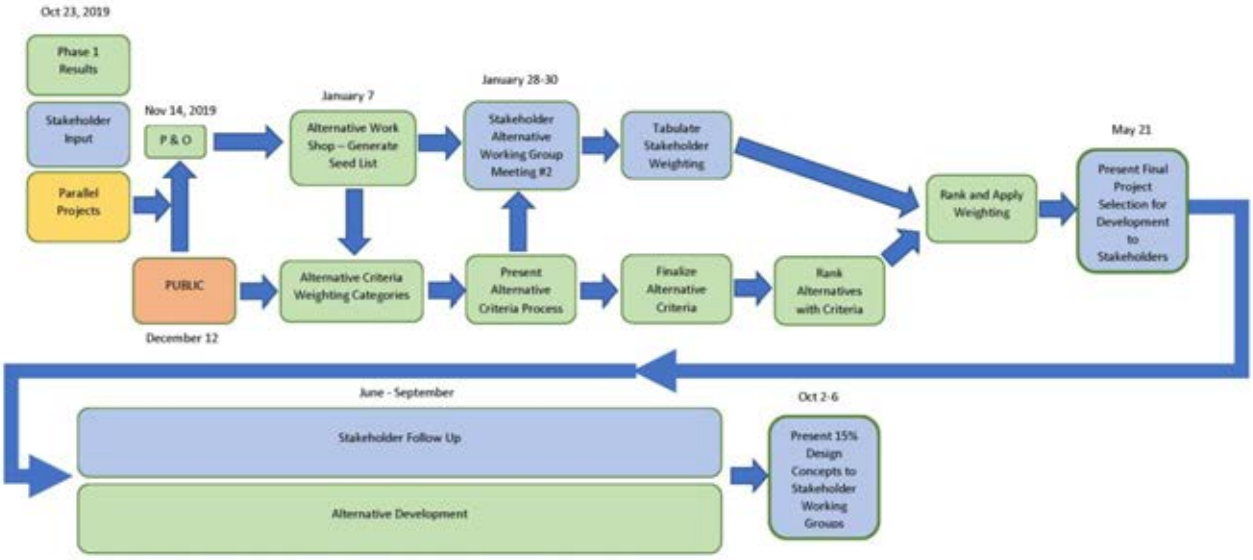


Figure 2, Stakeholder Participation in the Alternative Analysis Process

The Stakeholder process will be expanded upon below into each working group and combined stakeholder meeting.

INITIAL STAKEHOLDER MEETING (May 2018)

Date held: 05/31/18
Locations: WEST Center
Organizations Invited:
Attendance: See Attendance Sheets
Agenda: Meeting Agenda
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits
Summary of Comments: Comments

Purpose: The purpose of this meeting was to acquaint stakeholders with the goals and timeline of the project, and receive input from interested stakeholders regarding the project

Summary: This 2-hour meeting included a presentation, discussion of the project objectives and asked stakeholders to provide comments on overall project objectives.

COMBINED WORKGROUP MEETING (May 2019)

Date held: 05/22/19
Locations: WEST Center
Attendance: See Attendance Sheets
Agenda: Meeting Agenda
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits
Comment Forms: Comments

Purpose: The purpose of this meeting was to present the findings of the existing conditions assessment, solicit feedback on priority concerns and invite stakeholders to participate in stakeholder workgroups.

Summary: This 2-hour meeting presented the scope of work for Phase I, which identified the existing conditions of the Santa Cruz River from Grant Rd. to Trico Rd, presented the timeline for development of a River Management Plan and solicited comments from the stakeholders.

STAKEHOLDER WORKING GROUP MEETINGS (October 2019)

Dates held: 10/22 – 10/24/19
Locations: Marana Flats Meeting – Marana Town Hall; Cortaro Narrows – Pima County Regional Flood Control District Conference Room; Three Rivers - Pima County Regional Flood Control District Conference Room
Attendance: See Attendance Sheets
Agenda: Meeting Agendas
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits

Purpose: The purpose of these meetings was to gather reach-specific stakeholders to understand stakeholders expectations for improvements to the reach, and identify potential future projects.

Summary: These 3-hour working group sessions presented the goals of the projects and solicited feedback from the stakeholders of each planning reach. Feedback came from marking problems/opportunities on large scale maps and also came from capturing the vision from the planning charette that everyone participated in. The feedback helped to populate the Problem/Opportunity list which eventually became the alternative seed list.

STAKEHOLDER WORKING GROUP MEETINGS (January 2020)

Dates held: 1/28 – 1/30/20
Locations: Marana Flats Meeting – Marana Town Hall; Cortaro Narrows – Pima County Regional Flood Control District Basement Conference Room; Three Rivers - Pima County Regional Flood Control District Basement Conference Room
Attendance: See Attendance Sheets
Agenda: Meeting Agendas
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits

Purpose: The purpose of these meetings was to develop criteria and ranking that could be used to select future projects from the longer list of possible projects identified in the first reach-specific stakeholder workgroup meeting.

Summary: This 3-hour working group session presented the alternative ranking criteria to the Stakeholder. The stakeholder participated in ranking project types and Criteria. The feedback helped to provide the stakeholder weighting for final ranking of the projects. Stakeholders were also presented large maps with Alternative locations from the alternative seed list.

COMBINED STAKEHOLDER MEETING (May 2020)

Dates held: 5/21/20
Location: Virtual Meeting held using Zoom Media.
Attendance: See Attendance Sheets
Agenda: Meeting Agendas
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits

Purpose: The purpose of this meeting was to combine participants of all three stakeholder working groups and familiarize all participants on with the potential projects and the weighting criteria used in the three planning reaches.

Summary: This 3-hour combined stakeholder session presented the final alternative rankings and the list of the top 16 projects to be moved forward into implementation. The stakeholder participated in polling of the project and questions surrounded how well projects represented the perceived need and what their thoughts on implementation participation and timelines were.

STAKEHOLDER WORKING GROUP MEETINGS (October 2020)

Dates held: 10/2 – 10/6/20
Locations: Virtual Meetings – Windows Teams format
Attendance: See Attendance Sheets
Agenda: Meeting Agendas
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits

Purpose: The purpose of these meetings was to present structural and non-structural alternatives for the planning reach and concepts developed for these concepts.

Summary: This 2-hour working group session presented the final alternative concepts/renderings and costs to the stakeholder working groups for each reach. The non-structural alternatives were also presented to each of the working groups. Stakeholders also gave feedback by participating in the Public survey prepared by Sonoran Institute.

COMBINED STAKEHOLDER MEETING (FINAL) (June 2021)

Dates held: 6/16/21
Location: Virtual Meeting - Windows Teams format
Attendance: See Attendance Sheets
Agenda: Meeting Agendas
Presentation: Power Point Presentation
Exhibits from the Meeting: Exhibits

Purpose: The purpose of this meeting was to present the collection of selected alternatives to all stakeholders and to describe the implementation plans for potential projects.

Summary: This 3-hour combined stakeholder session presented the final engineering concepts and renderings an also discussed the plan for implementation periods and priority. Potential funding sources were also provided.

INITIAL STAKEHOLDER MEETING (May 2018)

Attendance

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River management Plan Stakeholders Meeting

SIGN-IN SHEET

May 31, 2018

Name	Business Name	Address	Phone Number	Email Address
RACHEL MARRA	BKW FARMS	MARANA	520.307.2398	RMARRA@BKWFARMS.COM
Trevor Hare	Watershed MG	1137 N. Dodge Blvd	520 906-9854	
Mike Cubrera	RFCD	201 N. Stone Ave		mike.cubrera@pima.gov
Doug Greenland	CMID	12253 W Grier Road	682-3233	cmid12253@comcast.net
Allyson Solomon	Metro Pima Alliance	2E. Congress		allyson@mpaaz.org

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River management Plan Stakeholders Meeting

SIGN-IN SHEET

May 31, 2018

Name	Business Name	Address	Phone Number	Email Address
Marie Light	PDEQ	33 N. Stone Ave, Suite 700	520-724-7457	marie.light@pima.gov
Roy Flores	RWRD	201 N. Stone Ave, 3rd Flr	520-724-6372	rogelio.flores@pima.gov
MILO FRANCESE	KINDER MORGAN		520-631-3235	MILO_FRANCESE@KINDERMORGAN.com
TROY EIFFERT	KINDER MORGAN	3841 E REFINERY WAY	480-797-4550	eiffertt@kindermorgan.com
Paul Baughman	Tucson Water	310 w Alameda	520-837-2048	paul.baughman@tucsonaz.gov
Kelley Sims	Kinder Morgan - EPNG	5151 E Broadway #1680	(520) 663-4223	kelley_sims@kindermorgan.com
John Spiker	Pima County RFCD	201 N. Stone 9th	724-4600	John.Spiker@Pima.gov
F. Eric Holler	Citizen	6285 N. Carapan Pl	520 460 9564	feric54@gmail
Jim DuBois	RWRD		520-724-6009	james.dubois@pima.gov
MARGARET SNYDER	TW	301 W ALAMEDA ST	837-2234	MARGARET.SNYDER@TUCSONAZ.GOV
Ivy Schwartz	Comm Watch Coal.	3211 W Westwood Pl	237-6530	ischwartz3211@cox.net
Michael Bogan	U of A	1064 E. Lowell St	621-1086	mbogan@email.arizona.edu.
Jay Cederberg	USGS	520 Park Ave	670-3320	cederber@usgs.gov
Claire Zugmeyer	Sonoran Institute	#100 N Stone Ave	290-0828 x1143	Czugmeyer@sonoraninstitute.org
Sarah Launius	City of Tucson Ward 3			sarah.launius@tucsonaz.gov
DAVE CROCKETT	FWCD	3901 N. FAIRVIEW	887 4192	dcrockett@fwcd.org
Mead Miller	PAG	1 E Broadway	7921093	mmiller@pagregion.com

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River management Plan Stakeholders Meeting

SIGN-IN SHEET

May 31, 2018

Name	Business Name	Address	Phone Number	Email Address
Nicole gillett	Tucson Audubon	1505-2 E Prospect Lane Tucson 85719	425-736-6864	ngillett@tucsonaudubon.org
JULIA FONSECA	PIMA Co	201 N Stone Ave	724-6460	Julia.Fonseca@pima.gov
Keith Brann	Marana	11555 W Civic Center, MARANA 85653	382-2600	Kbrann@maranaaz.gov
Kevin GROVE	USACE	3636 N. Central Ave Phx	602-230-6957	KEVIN.W.GROVE@USACE.ARMY.MIL
COLBY FRYAR	FC	201 N. STONE AVE	520-724-4663	COLBY.FRYAR@PIMA.GOV
Ann Marie Jefferson	City of Tucson	900 S. Randolph Way	520-631-8736	annmarie.jefferson@tucsonaz.gov
Tom Meixner	U Arizona	Rm122 Bldg 11	520 6261532	tmeixner@email.arizona.edu
Karl Pereira	U Arizona	" "	520 3586851	karlpereira@email.arizona.edu
TOM COLLAZOO		1213 W. ONTARIO ST.	882-3824	tomcollazo@aol.com
ASIA PHILBIN	MARANA WATER	5100 W INA RD	382-2502	aphilbin@maranaaz.gov
Greg Wesley	Kai Properties	6088 W Az Paw Dr	477-8500	GregWesley@Hotmail.
Kristen Randall	USGS AZ	520 N. Park Ave	520-670-6671	krandall@gmail.com
JONATHAN HORST	TUCSON AUDUBON	300 W Univ Blvd #120	520 971 6238	jhorst@tucsonaudubon.org
Amanda Smith	Sonoran Institute	100 N Stone #400	5202900828	asmith@sonoraninstitute.org
Elizabeth Leibold	City of Tucson TDOT	201 N Stone Ave 4th Flr	8374934	elizabeth.leibold@tucsonaz.gov
Dan Casmer	ADOT	1221 S. 2nd Ave	520-720-4109	dcasmer@azdot.gov
Melanie Nolan	Community Watershed Coalition			melanienolan2010@gmail.com

Agenda

5SCLIV Stakeholder Meeting Agenda:

9 – 9:30 AM Meet and Greet

9:30 Evan to introduce Sonoran Institute

9:31 – 9:40 Sonoran Institute (Amanda) to give brief presentation on what they are doing

9:40 – 9:50 Introductions (If reasonable)

9:50 – 10:15 Presentation on 5SCLIV

10:15 – Stakeholder Comment Forms

Presentation

Santa Cruz River Management Plan

05-31-18



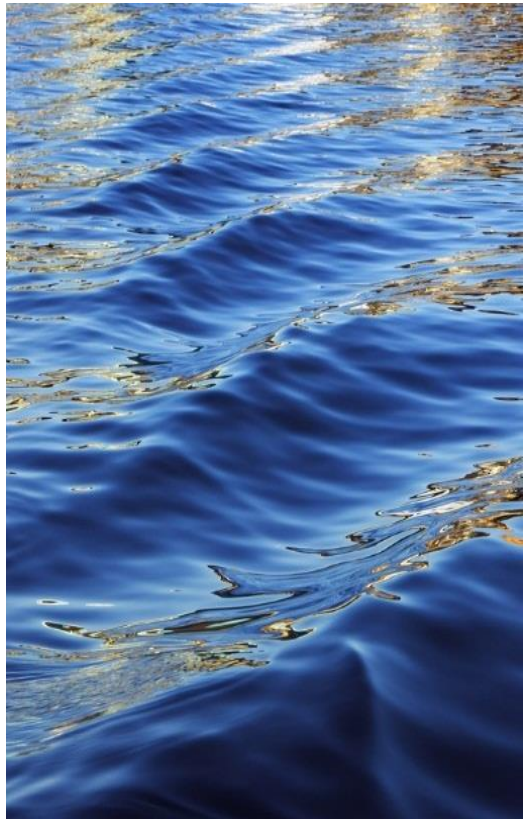
Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

JE FULLER



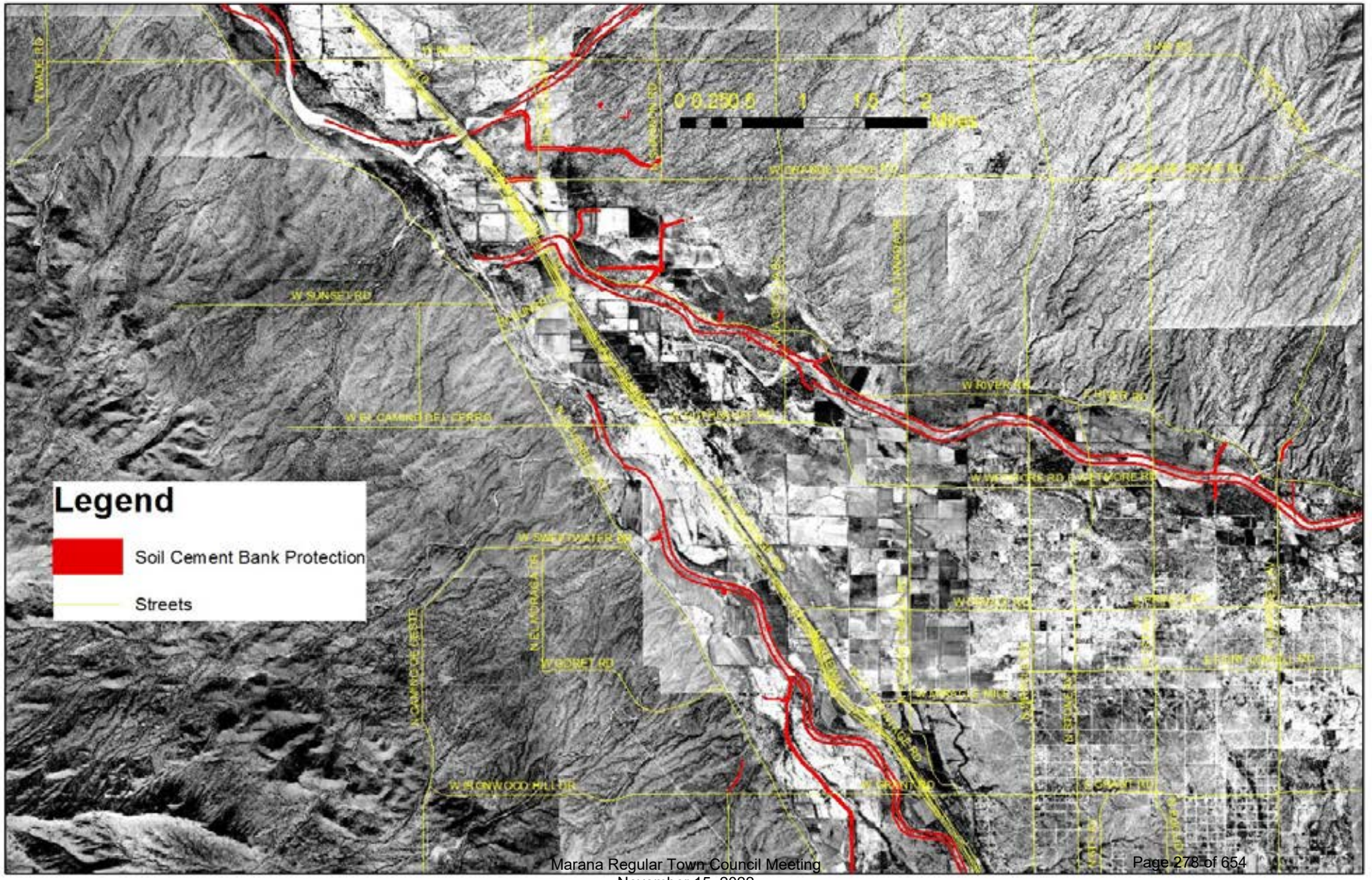


Santa Cruz River Mgt Plan – Grant to Trico

- ***The purpose of this project*** is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to Trico.

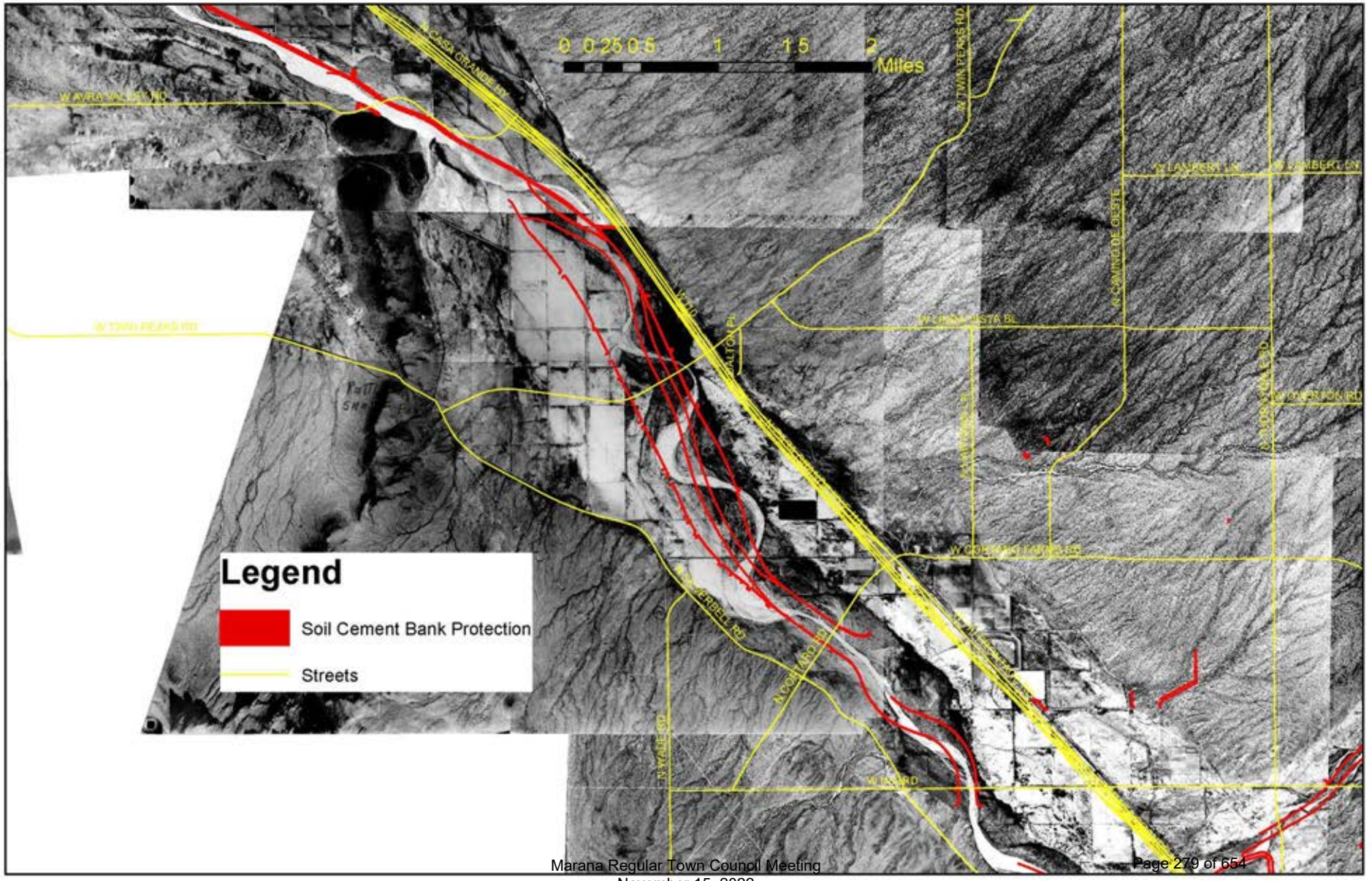
1936 to Present Comparison (Grant to Ina)

Living River 'Three Rivers Reach'



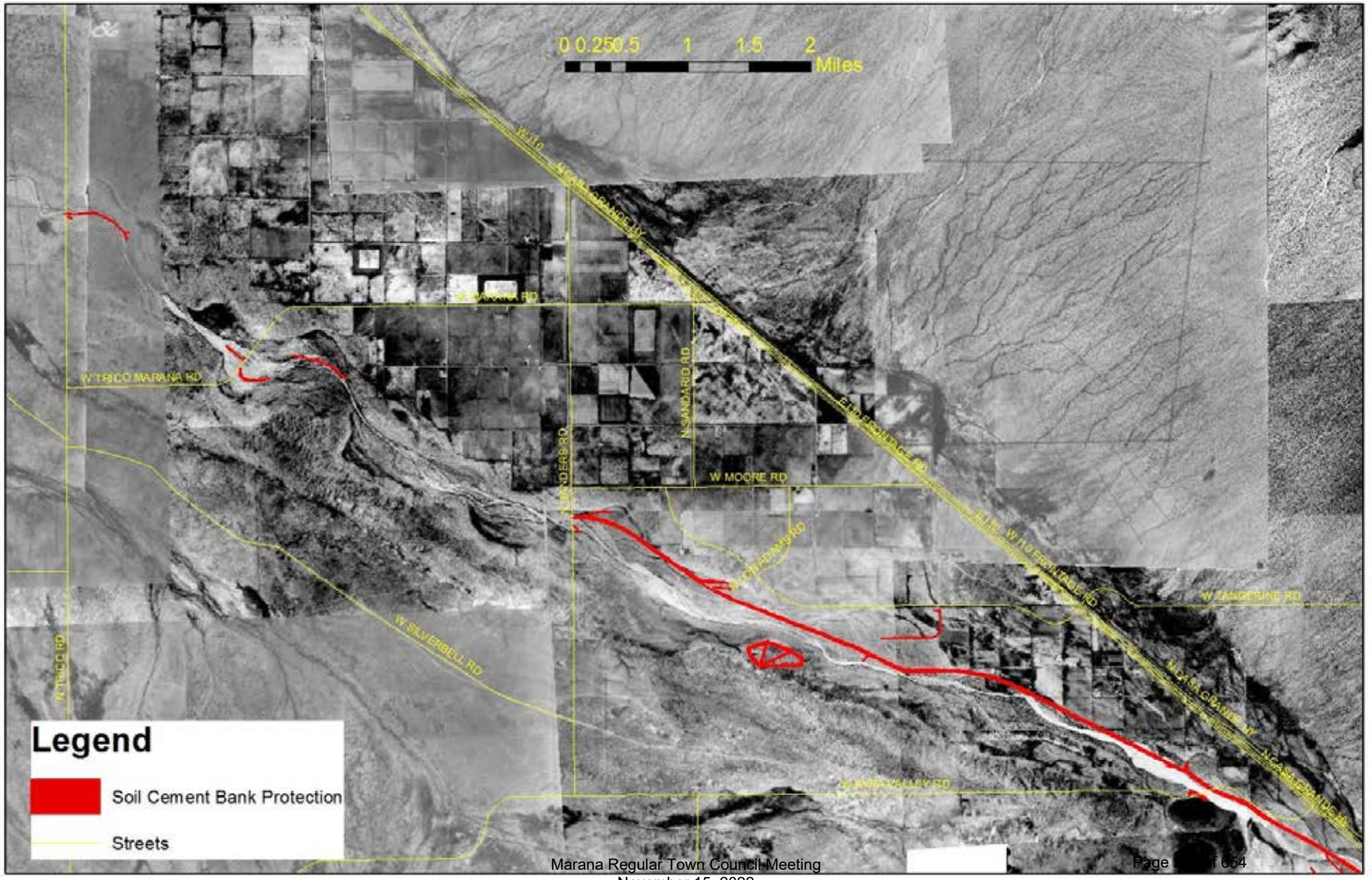
1936 to Present Comparison (Ina to Avra Valley Rd)

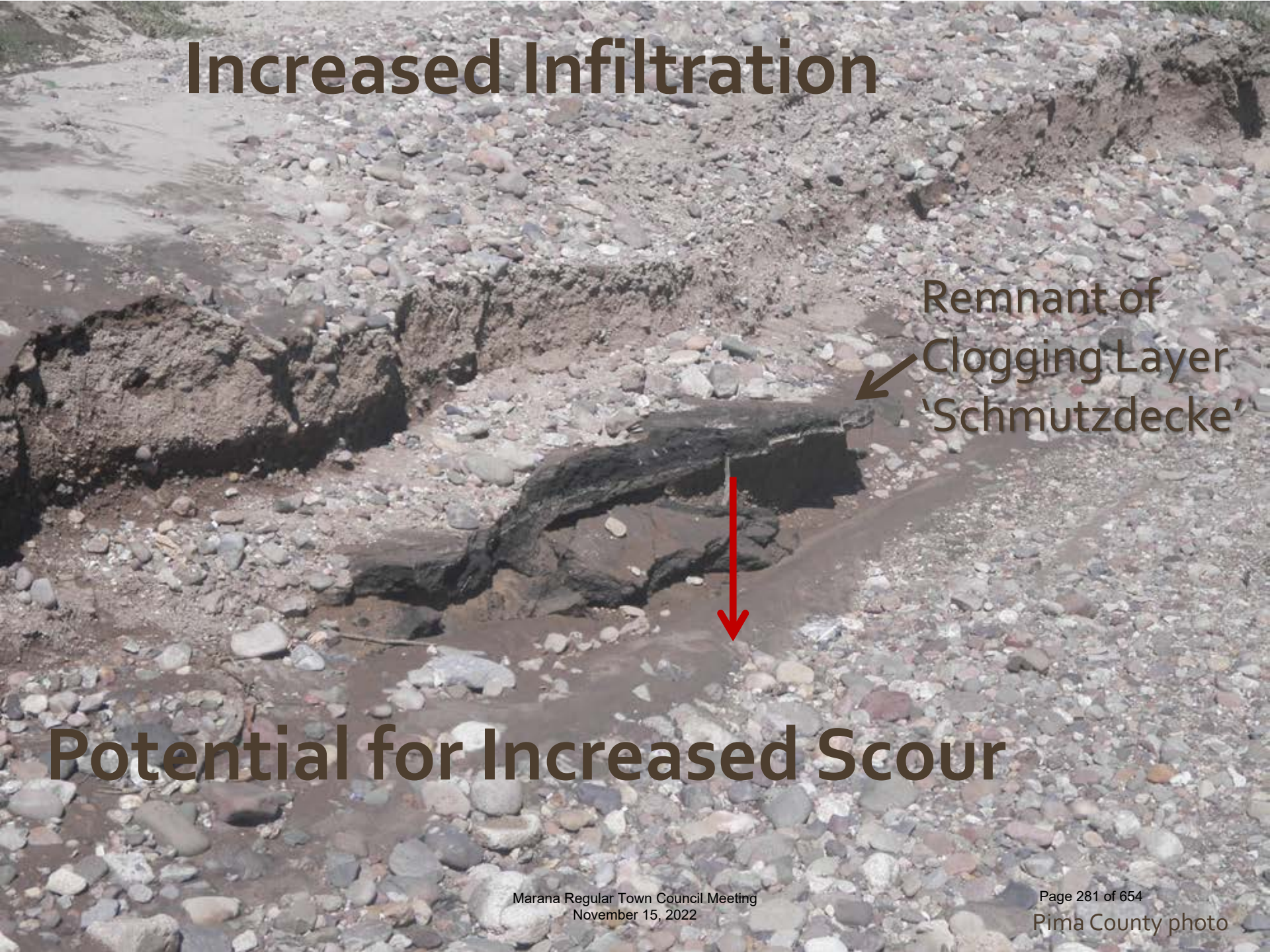
Living River 'Cortaro Narrows Reach'



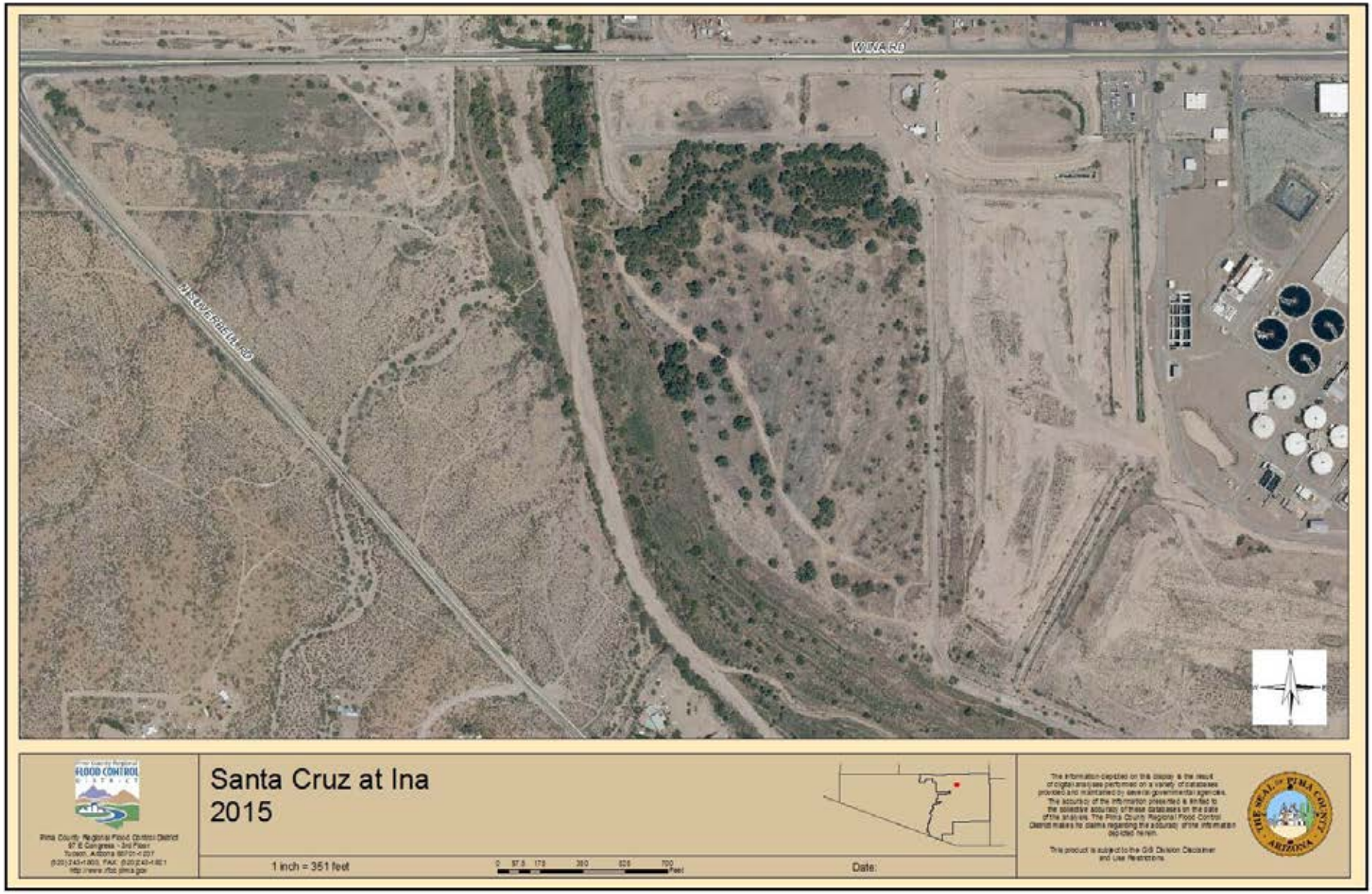
1936 to Present Comparison (North of Avra Valley Rd)

Living River 'Marana Flats Reach'



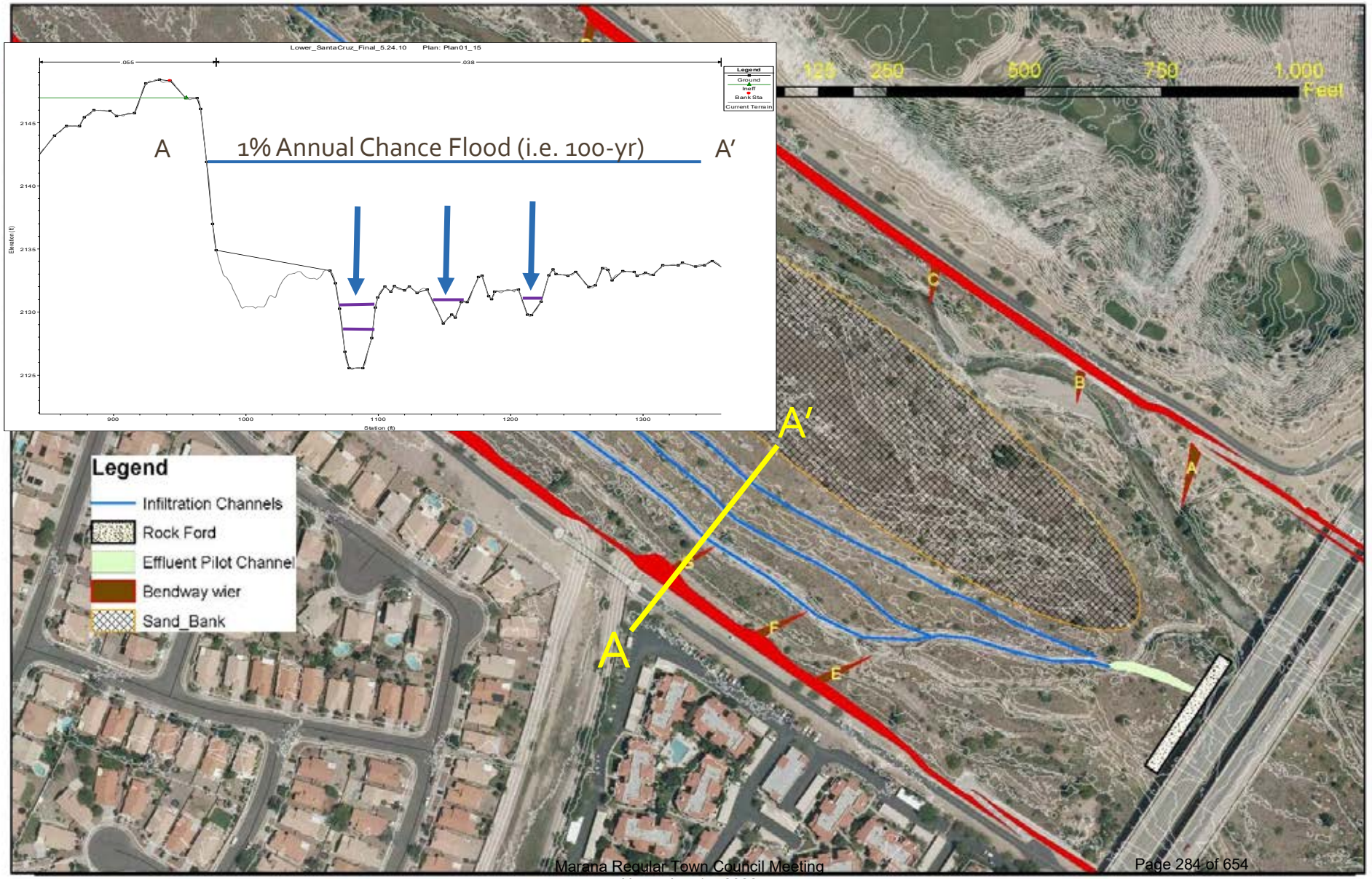


Pima County photo


WILMOT RD
Santa Cruz at Ina
2015
1 inch = 351 feet
Date:



Concept for a Multibenefit Habitat Project



'Awareness Level' Economic Valuation of Priorities (CMG in Partnership with Earth Economics)

- **Task 1 – Ecosystem Services Framework**:
  - Water supply
  - Habitat
  - Flood control
  - Nutrient management
  - Cultural benefits.
- **Task 2 – Ecosystem Service Valuation**:
  - Evaluation of 21 indicators
  - Valuation for 50 year of services
- **Task 3 – Opportunities for Additional Analysis**:

Tasks & Timeline – Phase I (to June 30, 2019)

- ***E1: Existing Conditions Analysis:*** Collect and review previous studies, collect and review ongoing development activity within project limits, identify on-going drainage complaints, survey of structures, and identify critical facilities.

- ***E2: Floodplain Delineations:*** Floodplains should be re-delineated where the existing mapping is inaccurate using the existing FEMA FIS Discharge Values.

- ***E3: FEMA Letter of Map Revision:*** A Letter of Map Revision (LOMR) may be required to re-delineate Base Flood Elevations, the Floodway, and the 500-yr floodplain. (likely to be in review after June 30, 2019)

- ***E4: Evaluation of Infrastructure Deficiency and Maintenance***: Floodplain conditions shall be evaluated to determine where maintenance is required to provide conveyance of the 1% annual chance flood with freeboard, or improvements are required to provide or improve reliability of the associated infrastructure (such as bank protection or levees) under flood conditions. Consultant shall identify areas of erosion hazards.

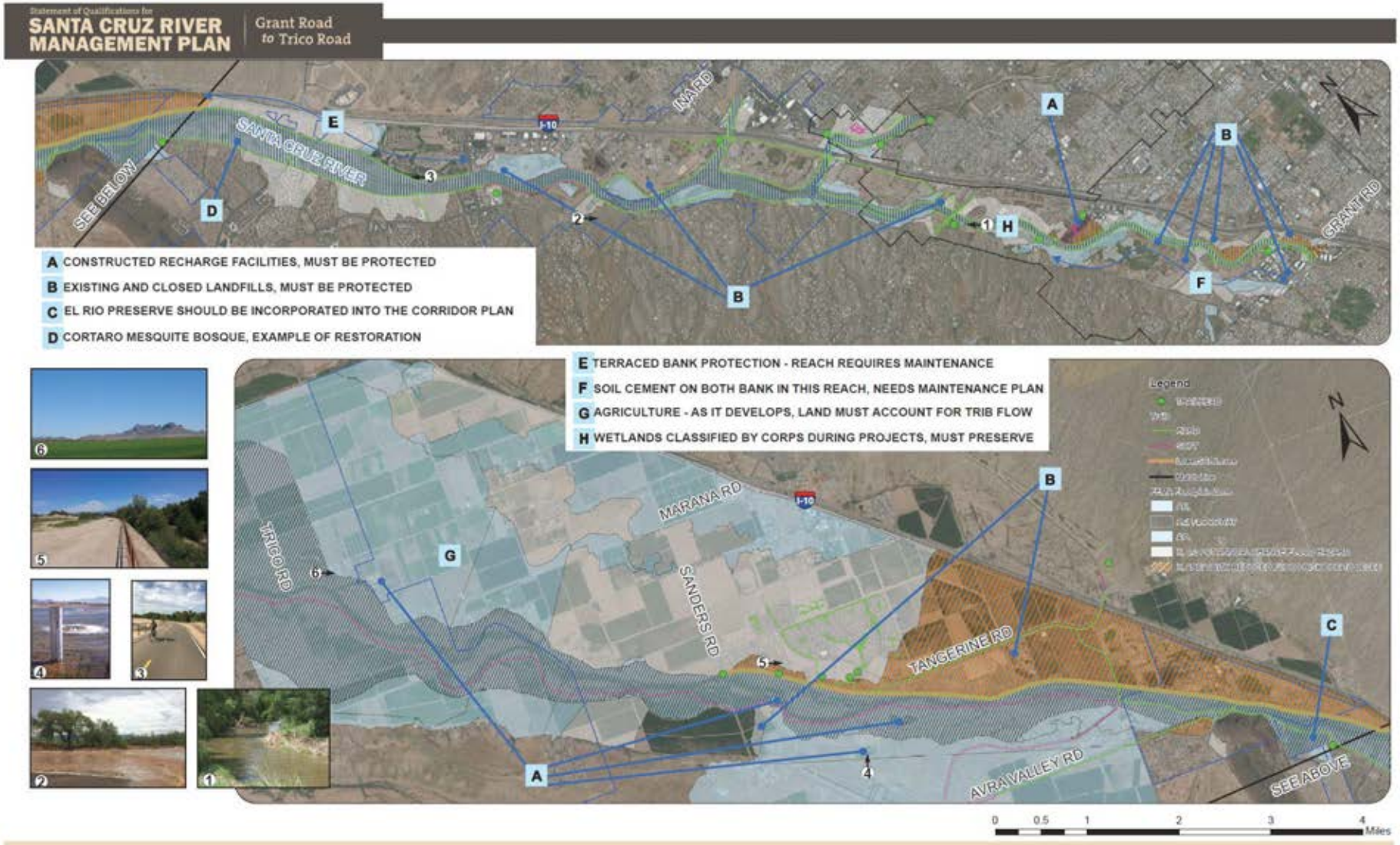
- ***E5: Stakeholder Engagement:*** Stakeholders will be engaged to coordinate the multiple interests in management of the Santa Cruz River at the start of Phase 1. They will also be gathered at the completion of the floodplain mapping.
  - ***May, 2018 - Initial Meeting***
  - May 2019 – Post Floodplain Mapping and Infrastructure Deficiency Evaluation

Tasks - Phase II (after July 1, 2019)

- ***The following information are anticipated to be available at the initiation of Phase:*** and will provide further certainty as to what alternatives and implementation are feasible.
  - Sonoran Institute Conservation Priorities Mapping.
  - Concepts for Marana Drainage Master Plan
  - PAG Impaired Waters mitigation strategy.
  - Clarity on whether managed recharge of effluent will be credited similar to recharge of Central Arizona Project water.

- ***E6: Alternatives Analysis and Recommended Solutions:*** Both structural and non-structural alternatives will be evaluated.
- ***E7: Stakeholder Engagement:*** Stakeholders will weigh in on the recommended alternatives and implementation plan.
- ***E8: Public information.***
- ***E9: Implementation Plan.***

Phase 1: Existing Conditions



Phase 1: Existing Conditions
Flood Hazards are Real



Phase 1: Existing Conditions
August 2006 Storm Photo



Phase 1: Existing Conditions
Effective FEMA floodplain



Phase 1: Existing Conditions
Sharing the Floodplain - Regulations

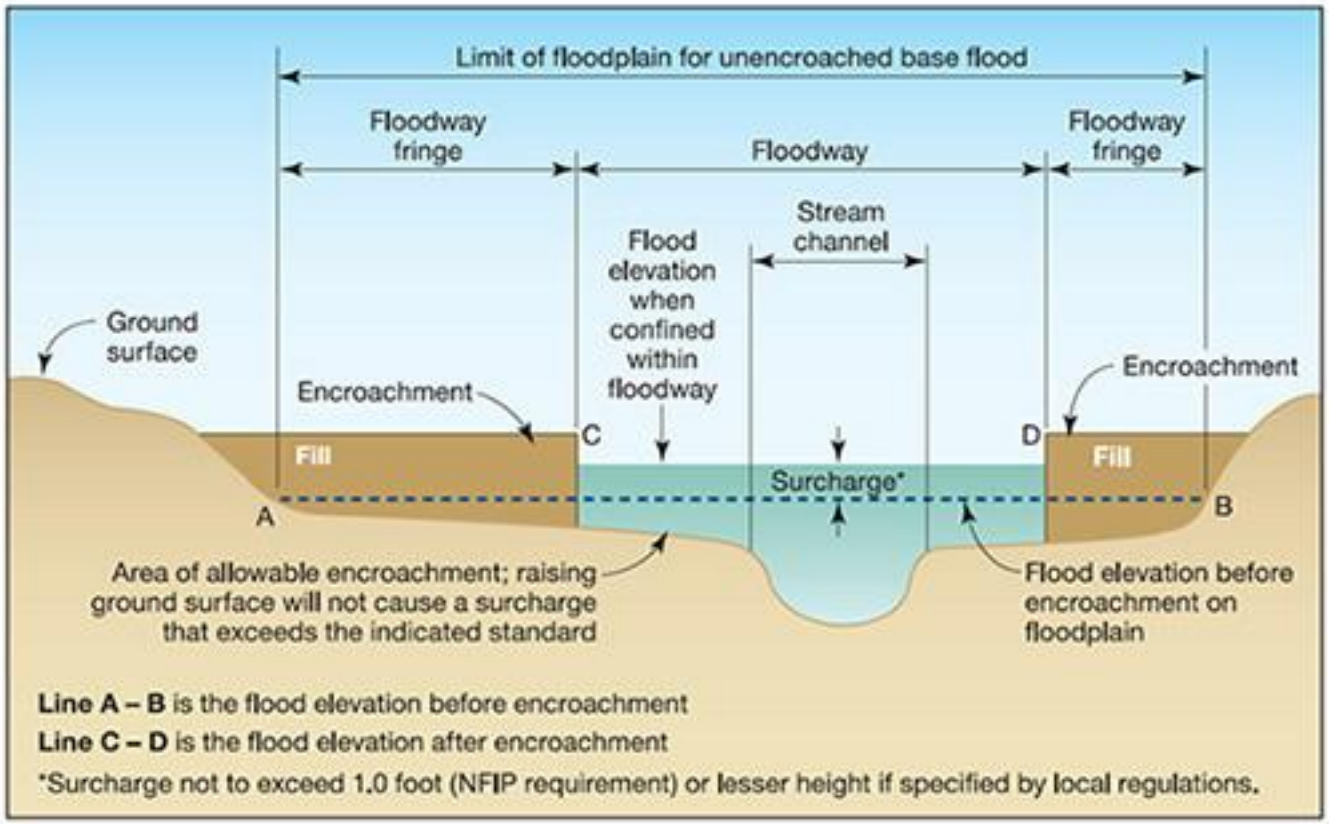
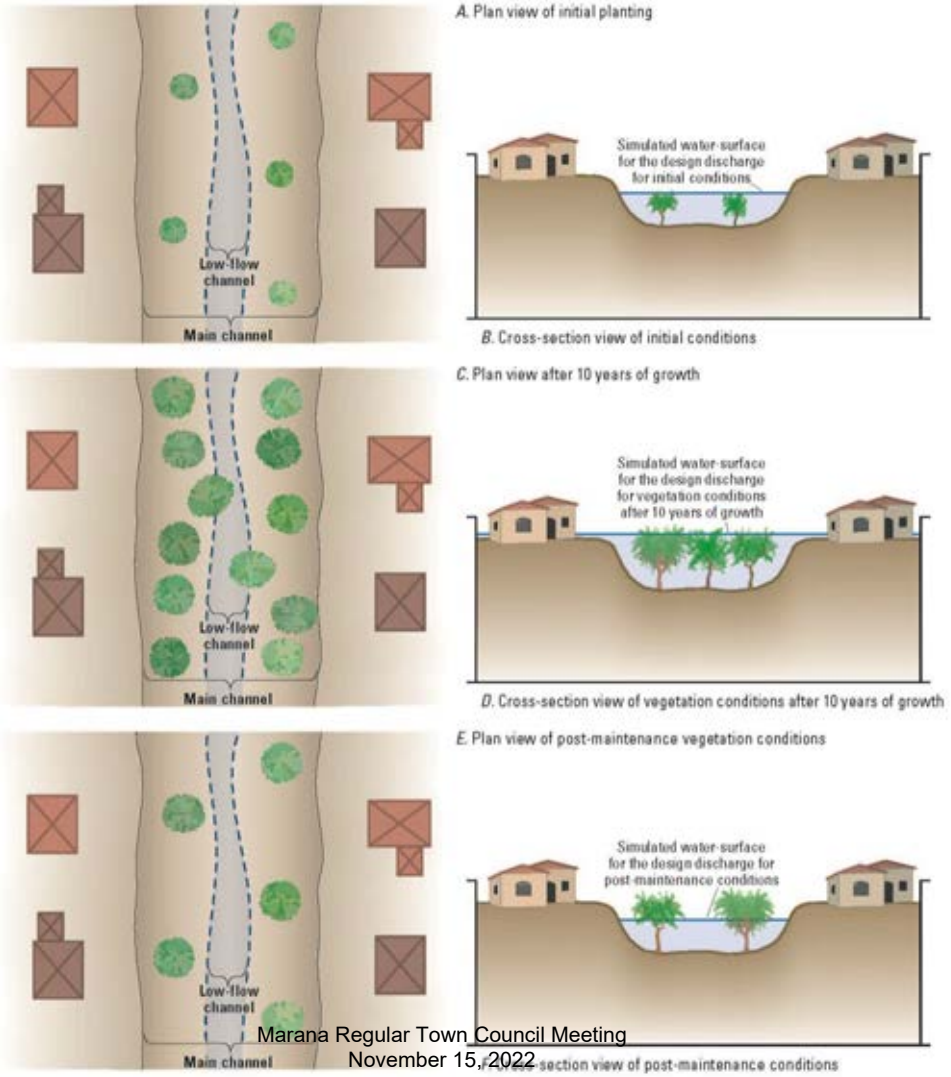
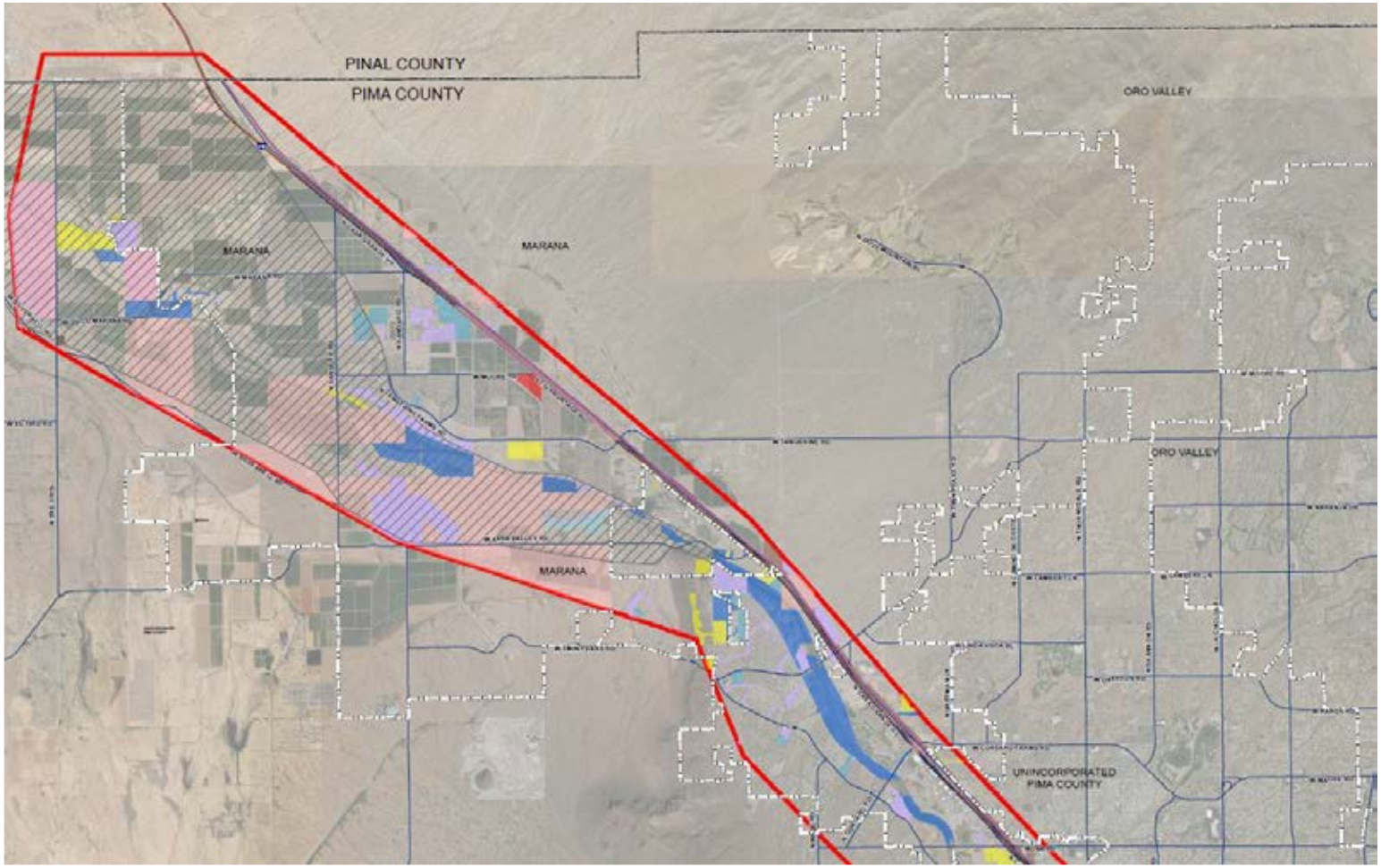


Figure 2-3. Typical riverine floodplain cross section

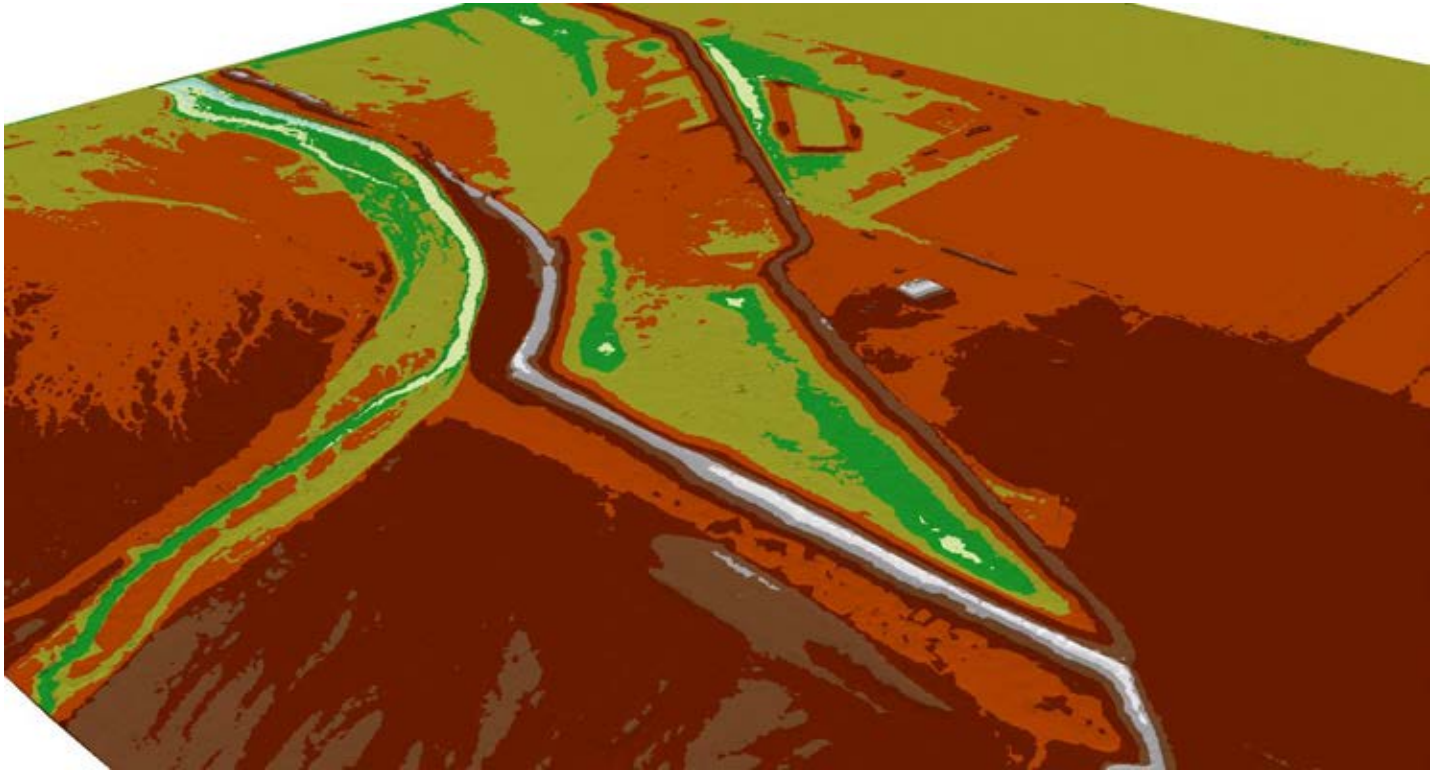
Phase 1: Existing Conditions
Sharing the Floodplain - Parameters



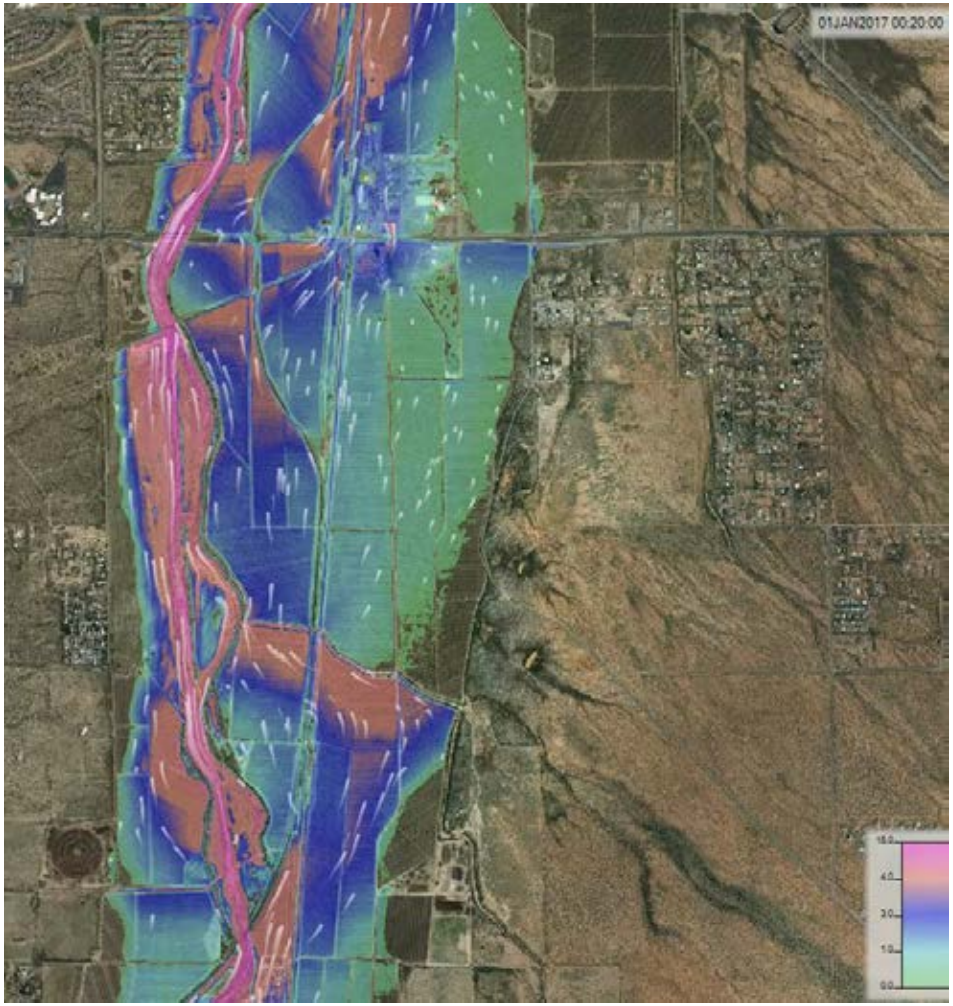
Phase 1: Existing Conditions
Re-analyzing the flood hazard with better technology



Phase 1: Existing Conditions
Terrain: the foundation for modeling

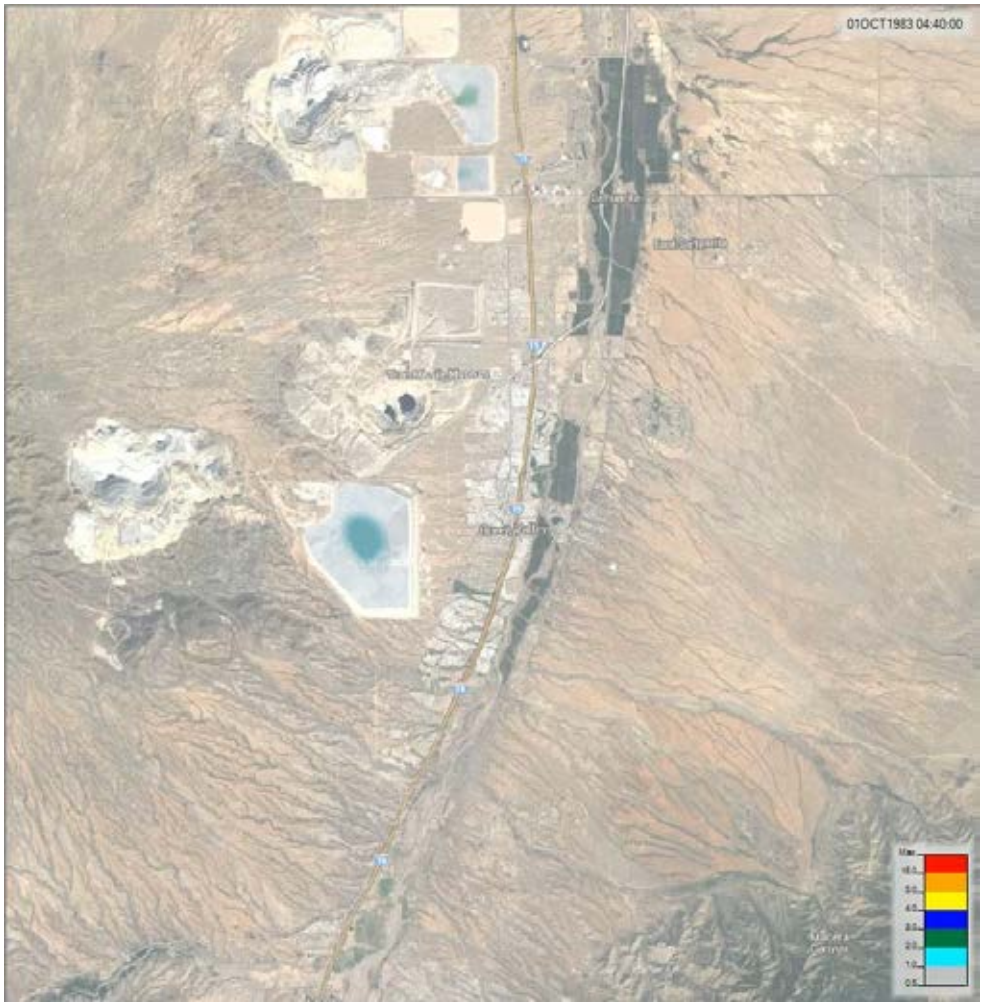


Phase 1: Existing Conditions
2D Modeling Capabilities



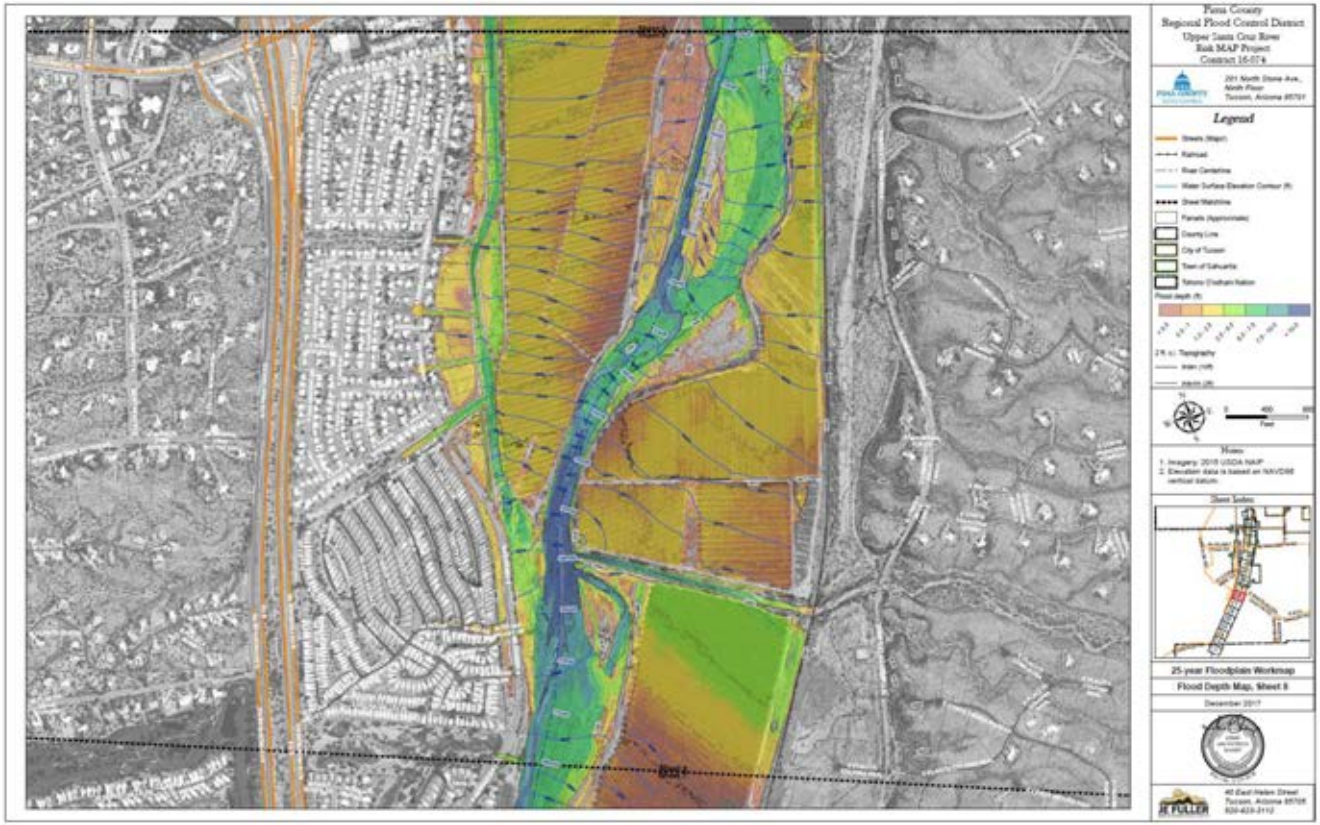
HEC-RAS 2D modeling reflects velocity and flow distribution is more dynamic than what is shown on the current FIRMs

Phase 1: Existing Conditions
2D Modeling Capabilities



HEC-RAS 2D simulation of Santa Cruz River with record flood hydrograph.

Phase 1: Existing Conditions
2D Modeling Capabilities



HEC-RAS 2D modeling produces maps that better reflect flood risk

Questions?

Phase 1: Existing Condition Stakeholder Comment Form

- Related Ongoing or Future Projects
- Considerations for Phase II of the Study
- Follow-Up Request



Website

Evan Canfield
Pima County Regional Flood Control District
evan.canfield@pima.gov

Scott Altherr
CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com

Meeting Exhibits



A CONSTRUCTED RECHARGE FACILITIES, MUST BE PROTECTED

B EXISTING AND CLOSED LANDFILLS, MUST BE PROTECTED

C EL RIO PRESERVE SHOULD BE INCORPORATED INTO THE CORRIDOR PLAN

D CORTARO MESQUITE BOSQUE, EXAMPLE OF RESTORATION

E TERRACED BANK PROTECTION - REACH REQUIRES MAINTENANCE

F SOIL CEMENT ON BOTH BANK IN THIS REACH, NEEDS MAINTENANCE PLAN

G AGRICULTURE - AS IT DEVELOPS, LAND MUST ACCOUNT FOR TRIB FLOW

H WETLANDS CLASSIFIED BY CORPS DURING PROJECTS, MUST PRESERVE













Summary of Comments

PIMA COUNTY

FLOOD CONTROL

Stakeholder Comment Form 05-31-18

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

The purpose of this project is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to Trico

Name:	Organization	Email Address
~~Amanda~~ S	Sonoran Institute	ASmith@SonoranInstitute.org

What is your vested interest in this Project Study Reach?

Maximizing the value of the SCR for the Region
Improving the "PR" of the river

Do you have any projects, ongoing or planned, within this Project Study Reach?

~~Conser~~ Opportunities Assessment for ~~Effluent~~ Recycled water in the SCR - What is valued & where are those qualities best exhibited

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

- Pairing the economic study w/ our Opportunities Assessment Results to identify mutual interests & co-benefiting scenarios
- Community involvement improves the process by adding relevant perspectives AND helps to educate public on management processes

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

PIMA COUNTY

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Name:	Organization	Email Address
Claire Zugmeyer	Sonoran Institute	CZugmeyer@sonoraninstitute.org

What is your vested interest in this Project Study Reach?

We have long-term partnership with Pima County that has been tracking/communicating conditions of river in this reach - Living River work which started in 2008 in Santa Cruz County + expanded to Pima County in 2012

Do you have any projects, ongoing or planned, within this Project Study Reach?

- determining community values + management preferences for river
- identifying priority areas along the river that have high social, ecological + cultural value

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

- community perspective so we can find best balance of competing and diverse desires/needs
- involve all stakeholders so we can get best alternatives
- try to consider future scenarios + how this influences alternatives ie. movement of water, CAP shortage etc.

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

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Name:	Organization	Email Address
Michael Bogan	University of Arizona	mbogan@email.arizona.edu

What is your vested interest in this Project Study Reach?

Riparian and aquatic habitat in the river channel; flow variation and

mesophytic and other zones

Do you have any projects, ongoing or planned, within this Project Study Reach?

Yes - monitoring of flow extent + level, macroinvertebrate and fish populations

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

Not sure at this stage

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

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Name:	Organization	Email Address
Kevin. W. Grove	U.S. A.C.E.	KEVIN.W.GROVE@USACE.ARMY.mil

What is your vested interest in this Project Study Reach?

Project Manager, Area of Responsibility with Corps.

Do you have any projects, ongoing or planned, within this Project Study Reach?

Regulatory authority of waters of the US

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

CWA 404 Permitting

CWA 401 Compliance

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

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Evan.Canfield@.pima.gov

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Name:	Organization	Email Address
Mark Mar	PAG	[illegible]

What is your vested interest in this Project Study Reach?

ensuring integrated (hazard+planning) & regional (cross-jx) planning for greatest benefit & project value
Very good to see economics (triple bottom line) & community values included.

Do you have any projects, ongoing or planned, within this Project Study Reach?

RTA is looking at bridges & crossings for the next Regional Mobility + Accessibility Plan to guide RTA continuation vote (2024). PCDOT (Kathryn Skinner) will provide the projects recommended by PC (submitted this month).

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope? – Value of keeping natural floodplain functioning
- CAP/CAGRD partners - aquifer recharge?
- Region Study - climate change considerations
- Farmers, Re Nature & investment partners as stakeholders
- Upland watershed to prevent sediments
- Cost comparison to buy out houses in flood zones

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

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Evan.Canfield@.pima.gov

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Name:	Organization	Email Address
JULIA FONSECA	PIMA COUNTY	julia.fonseca@pima.gov

What is your vested interest in this Project Study Reach?

Habitat for wildlife
Refugee during drought for veg + wildlife
Ecosystem - functions, biogeochemical processing, sediment storage, flood adaptation

Do you have any projects, ongoing or planned, within this Project Study Reach?

Living River Project
New section 52 Arizona Trail on floodplain

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope? - constructed alt should not segregate + remove
- n-values should be high enough to allow for natural growth + minimal need for maintenance (see back) ⇒
- alt should allow for sediment storage over long term
- maximize low velocity zones and unimpacted for habitat value certain + flood storage.

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)? 724-3400

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@pima.gov

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Name:	Organization	Email Address
Tom Meixner	Univ Ariz,	Tmeixner@email.arizona.edu

What is your vested interest in this Project Study Reach?

Interested in researching arid / semi-arid rivers

Do you have any projects, ongoing or planned, within this Project Study Reach?

Continuing study of CLOSSIS, flow, sediment interactions

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

potential for lose flood events to evolve the channel

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

NO

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Evan.Canfield@.pima.gov

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Name:	Organization	Email Address
Keith Brann	Marana	

What is your vested interest in this Project Study Reach?

Jurisdiction in the corridor

Do you have any projects, ongoing or planned, within this Project Study Reach?

drainage study, recharge facility, nature preserve / Lake

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

defined flowline / grade control structures

maintenance plan to control vegetation / maximum roughness coefficient

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

we'll be in touch / Stakeholder

You may email your follow up request to:

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Evan.Canfield@.pima.gov

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Name:	Organization	Email Address
MARGARET SNYDER	TUCSON WATER	MARGARET.SNYDER @ TUCSONAZ.GOV

What is your vested interest in this Project Study Reach?

INCREASED CREDIT FOR MANAGED RECHARGE PROJECTS VS CONSTRUCTED
HABITAT RESTORATION VS FLOOD SAFETY
COMMUNITY RECREATION AND ENJOYMENT

Do you have any projects, ongoing or planned, within this Project Study Reach?

LOWER SANTA CRUZ
SANTA CRUZ MANAGED RECHARGE PROJECT

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

SLOPE STABILITY SAFETY
MAXIMIZING AMOUNT OF RECHARGE WITHIN REACH BY SLOWING FLOW

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

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Evan.Canfield@.pima.gov

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Stakeholder Comment Form 05-31-18

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

The purpose of this project is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to Trico

Name:	Organization	Email Address
Marnie Light	PDEQ	marnie.light@pima.gov

What is your vested interest in this Project Study Reach?

Healthy ecosystem functions in a watershed is equivalent to good surface water quality, for which I am responsible as Pima County's stormwater manager.

Do you have any projects, ongoing or planned, within this Project Study Reach?

No

Knowing this Project's Porpose, What items should we consider when crafting the Alternatives Phase Study Scope?

Sediment transport due to increased stream erosion in next 50 years. Higher temperatures (+4% ~ 1895) are expected to change plant communities at higher elevations. Consider impacts of fires, (bark beetle infestation, buffle grass) and less plant cover resulting in higher amounts of silt/sediment entering waterways.

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

Yes, planning for future water needs.

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District. River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

PIMA COUNTY

FLOOD CONTROL

Stakeholder Comment Form 05-31-18

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

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Name:	Organization	Email Address
Roy Flores	RWRD Utility Coordination	rogelio.flores@pima.gov

What is your vested interest in this Project Study Reach?

Any potential impacts and mitigation strategies to the public sanitary sewer systems that crosses the Santa Cruz or runs parallel.

Do you have any projects, ongoing or planned, within this Project Study Reach?

Yes. Second Continental Ranch Force Main ~~the~~ that will travel on the west bank of the Santa Cruz River from Continental Ranch to the Tres Rios wastewater treatment plant on Ina Rd.

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

Avoid impacting public sanitary sewer facilities. Send construction/maintenance plans to RWRD utility coordination as soon as possible in order to provide comments if necessary. review and

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

Yes. (520) 724-6372

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

PIMA COUNTY

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Name:	Organization	Email Address
COLBY FRYAR	RFCD	CFryar@pima.gov

What is your vested interest in this Project Study Reach?

MAINTENANCE

Do you have any projects, ongoing or planned, within this Project Study Reach?

- COUPLE - LSCR DS OF CORTARO BANK REPAIR/RECHARGE
- SCR SPEEDWAY TO GRANT SEL. REMOVAL.

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

- AFFECT OF EFFLUENT - CONTINUED DEGRADATION.
- WATERSHED MANAGEMENT OF SEDIMENT
- AREAS TO FOCUS ON FOR MAINT.

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

NO

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@pima.gov

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Name:	Organization	Email Address
Dan Casmer	ADOT	dcasmer@azdot.gov

What is your vested interest in this Project Study Reach?

I-10 Corridor that parallels the river

Do you have any projects, ongoing or planned, within this Project Study Reach?

Ina Road (Marana's project) over SC River (ongoing) + Ina/I-10 TI
Ruthrauff Rd / I-10 TI (Planned 2019)
Ruthrauff to Orange Grove mainline I-10 widening (Planned)

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

PIMA COUNTY

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Name:	Organization	Email Address
Paul Baughman	Tucson Water	paul.baughman@tucsonaz.gov

What is your vested interest in this Project Study Reach?

Reclaim Water from treatment plants
Recreational facilities @ River crossings

Do you have any projects, ongoing or planned, within this Project Study Reach?

Using water from Agua Nueva @ Houghton & Drexel & @ Cushing & 22nd street & Santa Cruz River.

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

How to manage vegetative levels with reduced flows from treatment plants

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

PIMA COUNTY

FLOOD CONTROL

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Name:	**Organization**	**Email Address**
Kelley Sims	El Paso Natural Gas / Kindermorgan	Kelley_Sims@Kindermorgan.com

What is your vested interest in this Project Study Reach?

EPNG has two pipelines crossing the Santa Cruz River, and they are shown on the two maps attached

Do you have any projects, ongoing or planned, within this Project Study Reach?

No new pipelines are planned, but ongoing maintenance of the existing pipelines is necessary

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

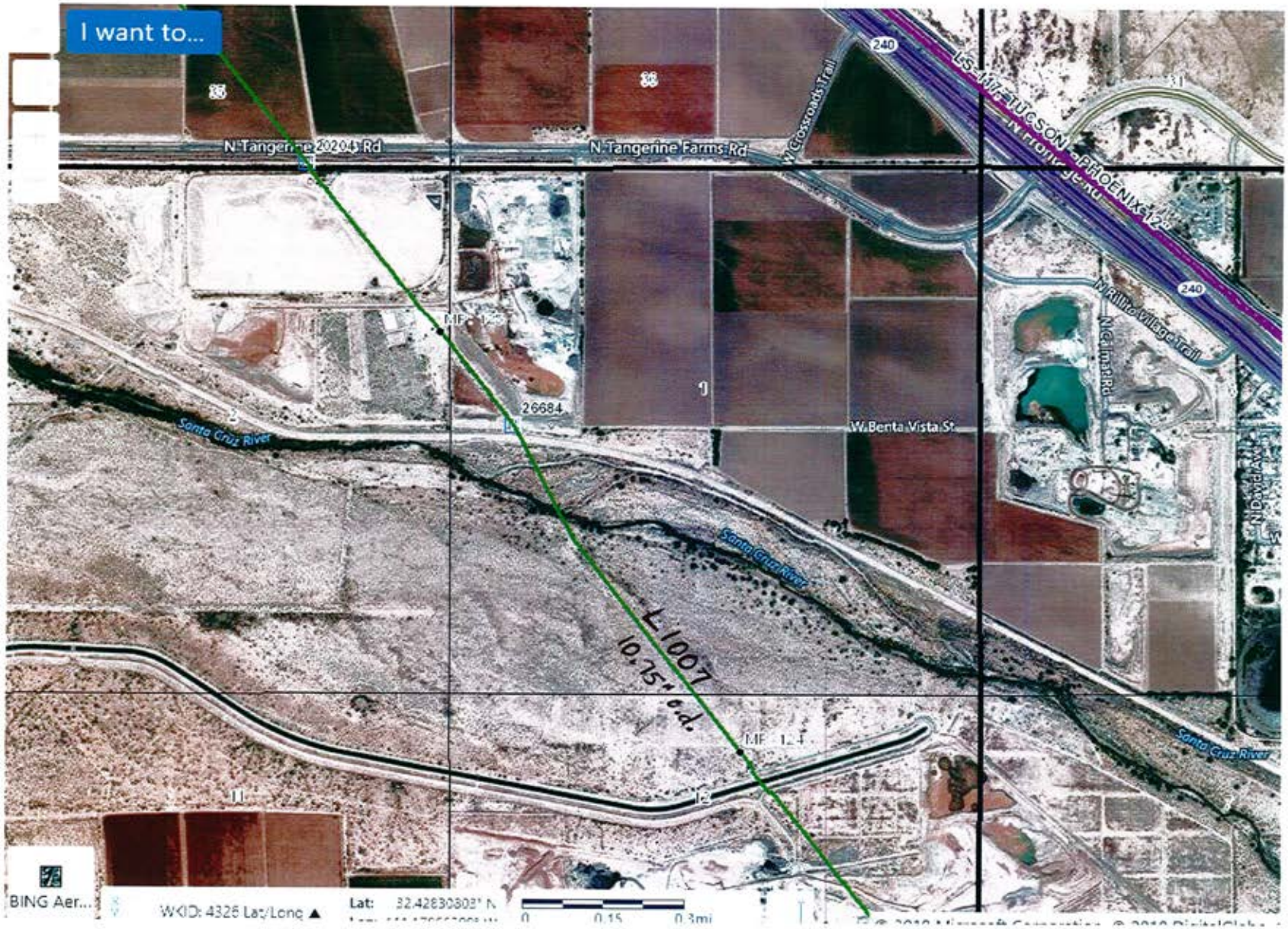
(*) limiting erosion around the pipelines and ways of keeping the pipelines buried below the surface of the ground will increase the safety of these two, high-pressure natural gas lines.

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

No. Thank you for including us in this meeting.

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov


I want to...
N Tangerine Farms Rd
N Crossroads Trail
240
LS-MIF-TUCSON-PHOENIX-1
N Rillito Village Trail
N Dawn Ave
26684
W Benta Vista St
Santa Cruz River
L 1007
10.75' e.d.
BING Aer...
WKID: 4326 Lat/Long
Lat:
0
0.15
0.3mi


I want to...
W Kirby Hughes Rd
W Treatment Plant Rd
W Treatment Plant Rd
27304
W Valles Ln
W Valles Ln
Santa Cruz River
026111-LINE FROM CALIFORNIA LINE TO MAGMA PLANT VALVE 0 TO VALVE 1
26764
W Marana Rd
W Linda Ln
John Ln
W Imogene Pl
Sonoran Desert
Santa Cruz River
W Tricol Marana Rd
BING Aer...
WKID: 4326 Lat/Long
Lat: 32.47248957° N
Lon: 111.2605450° W
0
0.15
0.3mi
© 2018 Microsoft Corporati

2 of 2
EPNG

PIMA COUNTY

FLOOD CONTROL

Stakeholder Comment Form 05-31-18

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Name:	Organization	Email Address
Joey Greenland	Cortaro Marana Irrigation District	cmid12253@gmail.com

What is your vested interest in this Project Study Reach?

Flood Control - Water Delivery canals in the area. Including a pipeline that crosses the Santa Cruz River

Do you have any projects, ongoing or planned, within this Project Study Reach?

Pipeline & Canal Maintenance

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

How Can we help you with Flood control - Using our system of Canals.

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

520-682-3233

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

PIMA COUNTY

FLOOD CONTROL

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Name:	Organization	Email Address
John Spiker	Pima County RFCD	John.Spiker@pima.gov

What is your vested interest in this Project Study Reach?

Recreation and access

Do you have any projects, ongoing or planned, within this Project Study Reach?

Corazon Bank Protection
Ted Walker Park / SCR Pathway re-vegetation
SCR Pathway: Avra Valley Road to Beard House
Ina Road Landfill Closure

Knowing this Project's Purpose, What items should we consider when crafting the Alternatives Phase Study Scope?

Regional Park Space
Event Parking and Access

Do you need to discuss your interests further in person or via a phone call (provide phone number if you want us to call)?

No

You may email your follow up request to:

ATTN: Evan Canfield, Pima County Regional Flood Control District, River and Basin Management Studies Section Manager
Evan.Canfield@.pima.gov

COMBINED WORKGROUP MEETING (May, 2019)

Attendance

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River management Plan Stakeholders Meeting

SIGN-IN SHEET

May 22, 2019

Name	Business Name	Address	Phone Number	Email Address
Claire Zugmeyer	Sonoran Institute	100 N Stone Suite 400	520-290-0828	C.Zugmeyer@sonoraninstitute.org
CYRUS MILLER	JE FULLER	40 E BROADWAY ST	520-623-7116	Cyrus@jefuller.com
Melissa Manzy	Ward 6 CoT	3202 E 1st St	520-661-1484	melissa.manzy@tucsonaz.gov
George Kuck	FWNACC	6862 N. De Chelly Loop	520-471-6408	george5356@hotmail.com
Jon Post		13801 W. Kirby Hughes Rd	520-404-2004	jonpost@AOL.com
Ben McBride	McBride Group	4680 N. Campbell Center	440 609 1200	ben@vonmcbride.com
TOM MELTZER	UofA	1133 E James E Rogers	520 626 1532	TMeltzer@email.arizona.edu
Jim DuBois	RWRD		520-724-6009	james.dubois@pima.gov
Doug Greenland	CMID	12253 W Grier Rd	520-682-3233	cmid12253@comcast.net
Frank Postillon	Citizen	POB 41193 Tucson AZ 85717	520-325-1713	postem@juno.com
VAL LITTLE	Water CASA	on file	on file	vlittle@email.arizona.edu
KATHY CHAVEZ	PIMA COUNTY	on file	~~~~	on file
Sarah Launius	Ward 3 COT	1510 E Grant Rd	791-4711	Sarah.Launius@tucsonaz.gov
Keith Brann	Merrill	11535 W Civic Center Dr	382-2600	
Kevin W. Grove	USACE	3636 N. Central Ave Phx	602-359-1297	Kevin.W.Grove@usace.army.mil
Carol Breckta	PCDOT	201 N. Stone	724-6442	Carol.Breckta@pima.gov

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River management Plan Stakeholders Meeting

SIGN-IN SHEET

May 22, 2019

Name	Business Name	Address	Phone Number	Email Address
RACHAEL NOCK	CMG DRAINAGE	3555 N. MOUNTAIN AVE		RNOCK@CMGDRAINAGE.com
JOHN WALLACE	JE FULLER	40 E. HELEN ST.	520-623-3112	JOHN@JEFULLER.com
GUS MYERS	TOWN OF MARANA	11555 N CIVIL CENTER	520.382.2672	gmyers@marana az.gov
Amanda Smith	Sonoran Institute	100 N Stone #400	5202900828	asmith@sonoraninstitute.org
MO EL-ALI	Town of Marana	5100 W. Ina Rd 85743	520 382-2630	mel-ali@ marana az.gov
RYAN WILLIS	WILLIS PROPERTY	3850 E. BASELINE #118 MESA	480-220-2091	RYAN@WILLISPROPERTY.com
O/C Kihl	Crown West	333 E. Wetmore #250	520-888-3962	orihl@crownwest.com
Luke Cole	SONORAN INSTITUTE	100 N STONE AVE, Ste 400		lcole@sonoraninstitute.org
JONATHAN HORST	TUCSON AUDUBON	300 E University #120	520 971.6238	jhorst@tucsonaudubon.org
PATRICK GOWAN	TUCSON FIRE DEPT	310 Fire Center Pkwy, 85701	520 791-4512	PATRICK.GOWAN@TUCSONAZ.GOV
CATLOW SNIPER	Watershed Mgmt Grp	1137 N Dodge Blvd	520-396-3266	catlow@watershedmg.org
On the Phone				
Eve Halper - USBOR				
~~Nathan Lehman - USBOR~~				
Marie Light - PCDEQ				
Michael Bogan - UA				

Name	Company	How Many
Thomas Meixner		1
Kathy Chavez	RWWM	1
Mead Mier	PAG	1
Wally Wilson	Metro Water	
Deirdre Brosnihan	Flood Control	1
Kenny Vargas	TEP	1
Ok Rihl	Crown West	1
Paul Oland	WLB	1
Jay Cederberg	US Geological Svc	1
Jason Tankersley	The Fairfax Comp	1
Sarah Launius	Ward 3 offic	1
Claire Zugmeyer	Sonoran Institude	1
Kely Sims	El Paso Natural Gas	1
Mo-El Ali	Town of Marana	1
Ryan Willis	Willis Property	1
Rory Blakemore	Willis Property	1
Thane Traasdahl	Willis Property	1
Jonathan Horst	Tucson Audubon	1
Ben McRae	McRae Group	1

Agenda

PIMA COUNTY
FLOOD CONTROL

Stakeholder Meeting

Santa Cruz River Management Plan – Grant to Trico

WEST Center
2955 W. Calle Agua Nueva
Tucson, AZ 85745

9:00 to 11:00 May 22, 2019

Refreshments will be served starting at 9:00.

Meeting Agenda

1. ***Introduction***

2. ***Purpose of this Meeting***

3. ***Progress on the Existing Conditions Assessment Phase***
   a. Flood Hazard Mapping
   b. Infrastructure Assessment

4. ***Introduction to the Alternatives Development Phase***
   a. Three Management Reaches
   b. Need for Stakeholder Input

5. ***Developing Alternatives Workgroups for the Three Reaches***

Staff and Consultant Team members will be available before and after the presentation.

The purpose of this project is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to Trico.

Website
http://www.webcms.pima.gov/government/flood_control/reports/santa_cruz_river_management_plan/

District Contact
Evan Canfield evan.canfield@pima.gov

Suzanne Shields, P.E., Director
201 N. Stone Avenue, 9th Floor, Tucson, Arizona 85701-1207 • Phone: 520-724-4600 • Fax: 520-724-4621

Presentation

Santa Cruz River Management Plan

05-22-19



Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

JE FULLER





Santa Cruz River Mgt Plan – Grant to Trico

- ***Introduction***
- ***Purpose of this Meeting***
- ***Progress on the Existing Conditions Assessment Phase***
  - Flood Hazard Mapping
  - Infrastructure Assessment
- ***Introduction to the Alternatives Development Phase***
  - Three Management Reaches
  - Need for Stakeholder Input
- ***Developing Alternatives Workgroups for the Three Reaches***

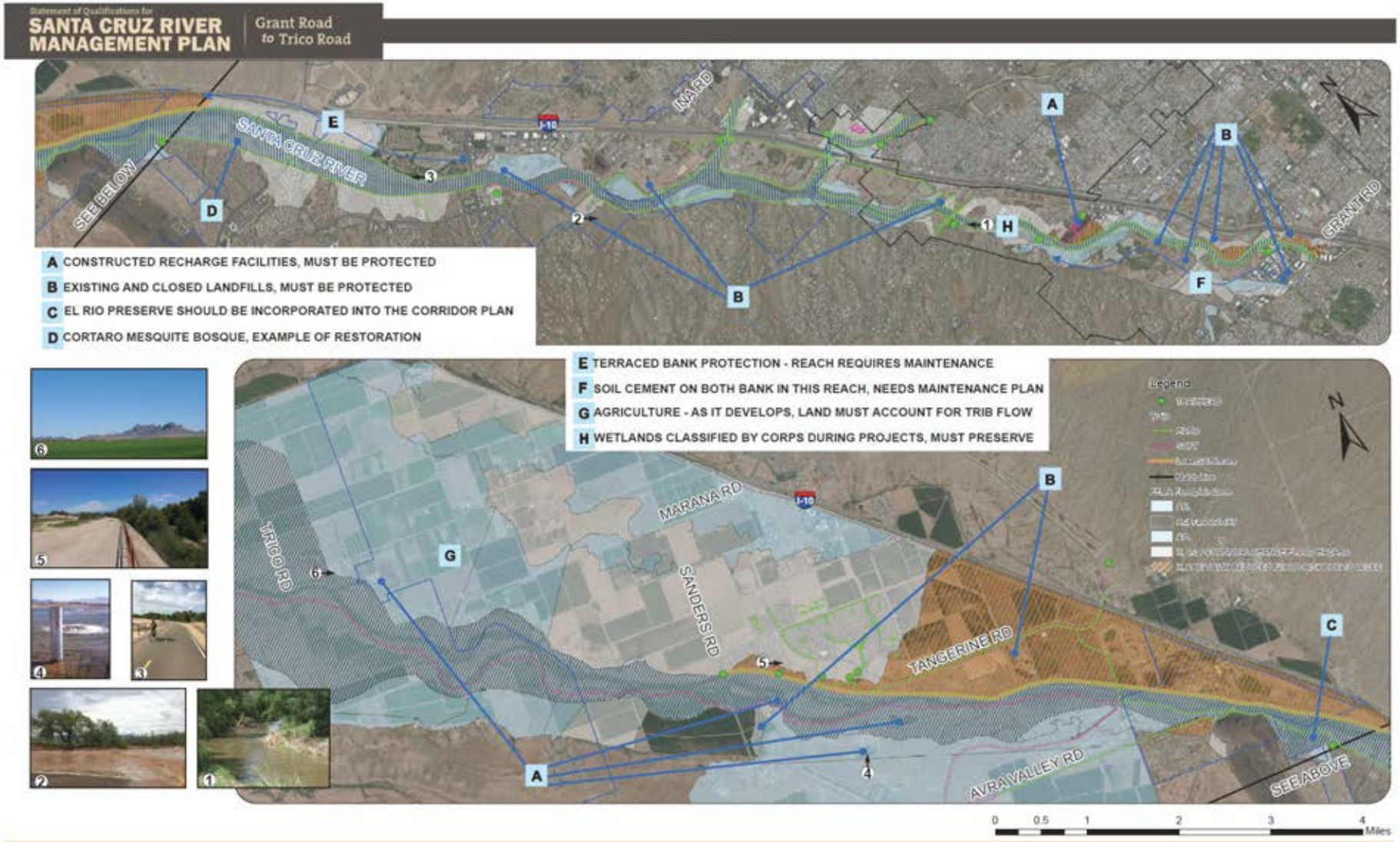
Santa Cruz River Mgt Plan – Grant to Trico

- ***The purpose of this project*** is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to Trico.

Goals of this Meeting

- Update
- Look Ahead
- Get Stakeholder involvement

Current Phase: Update



Current Phase Deliverables

- Technical Data Notebook for Floodplain mapping
- Infrastructure Assessment
- Existing Conditions Report

Flood Hazard Mapping



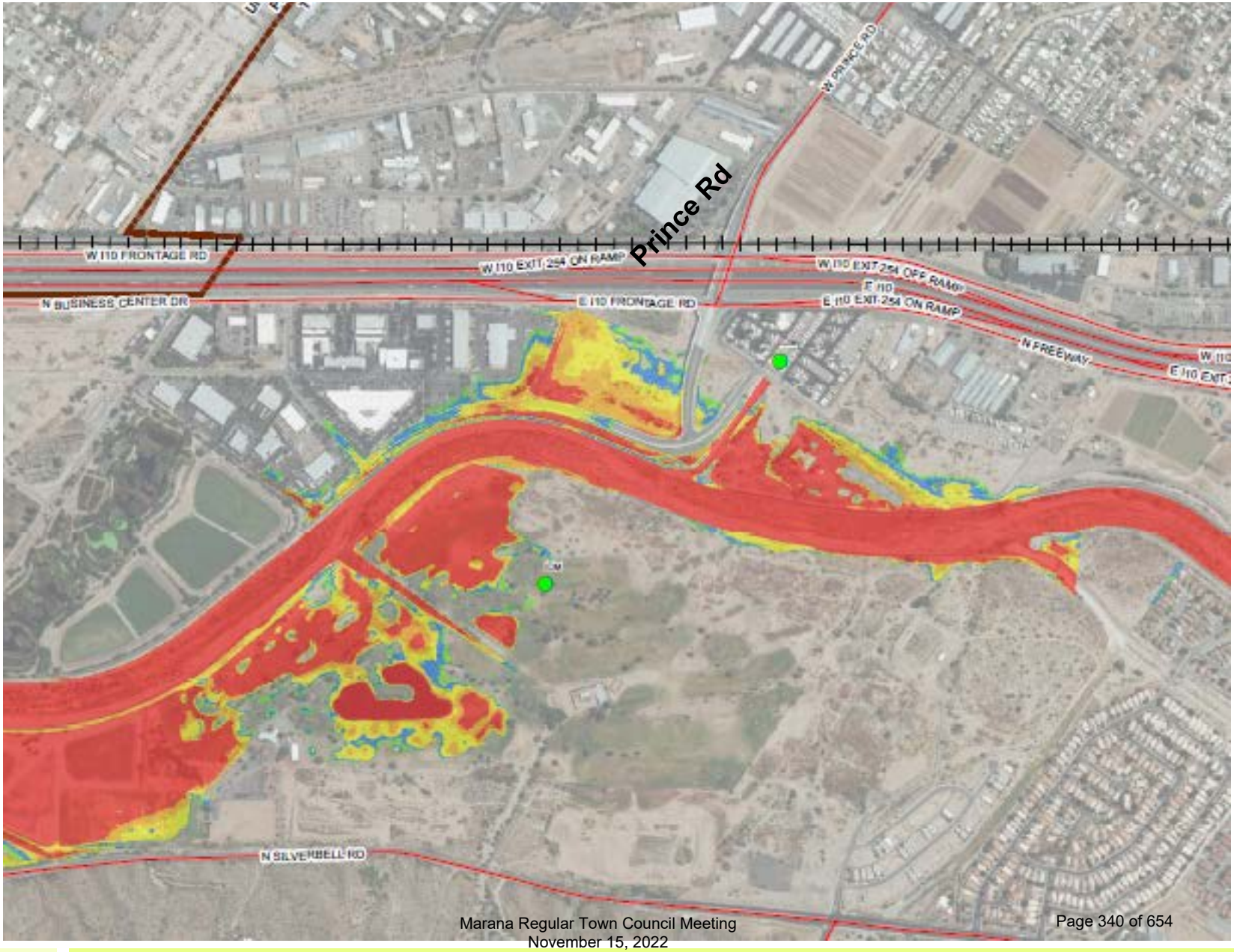
PRELIMINARY/DRAFT

1-D Mapping



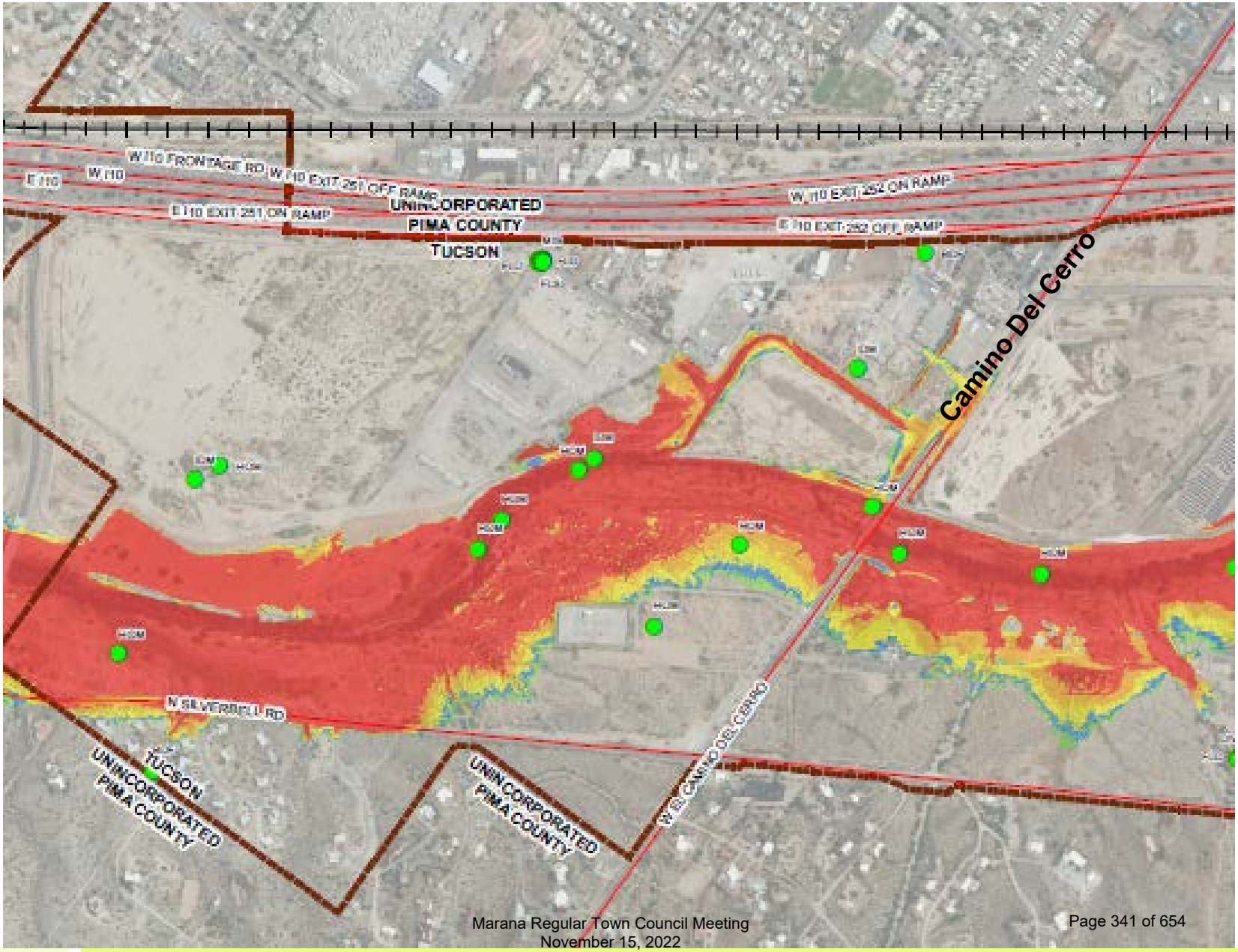
PRELIMINARY/DRAFT

1-D Mapping



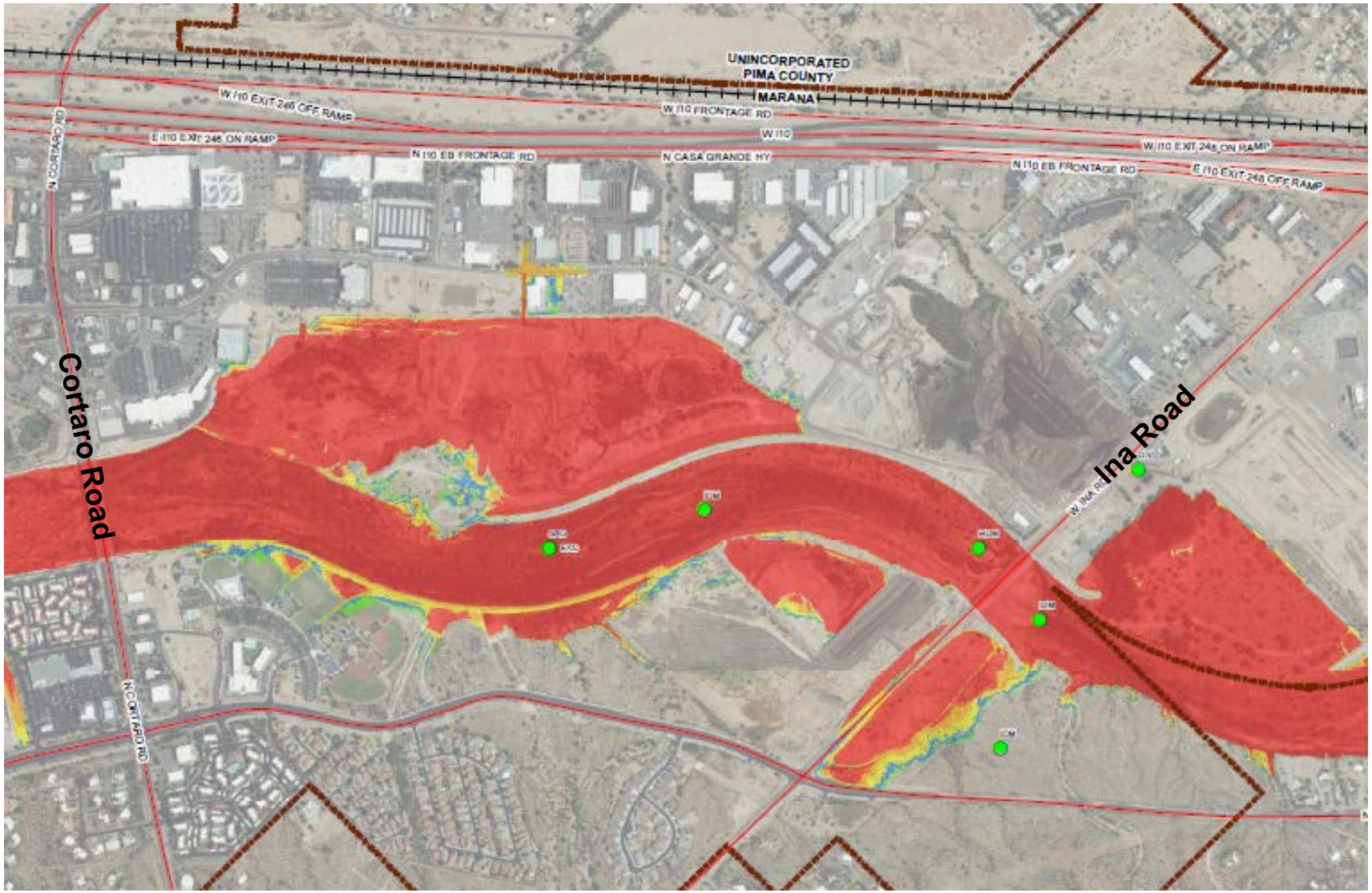
PRELIMINARY/DRAFT

1-D Mapping



PRELIMINARY/DRAFT

1-D Mapping

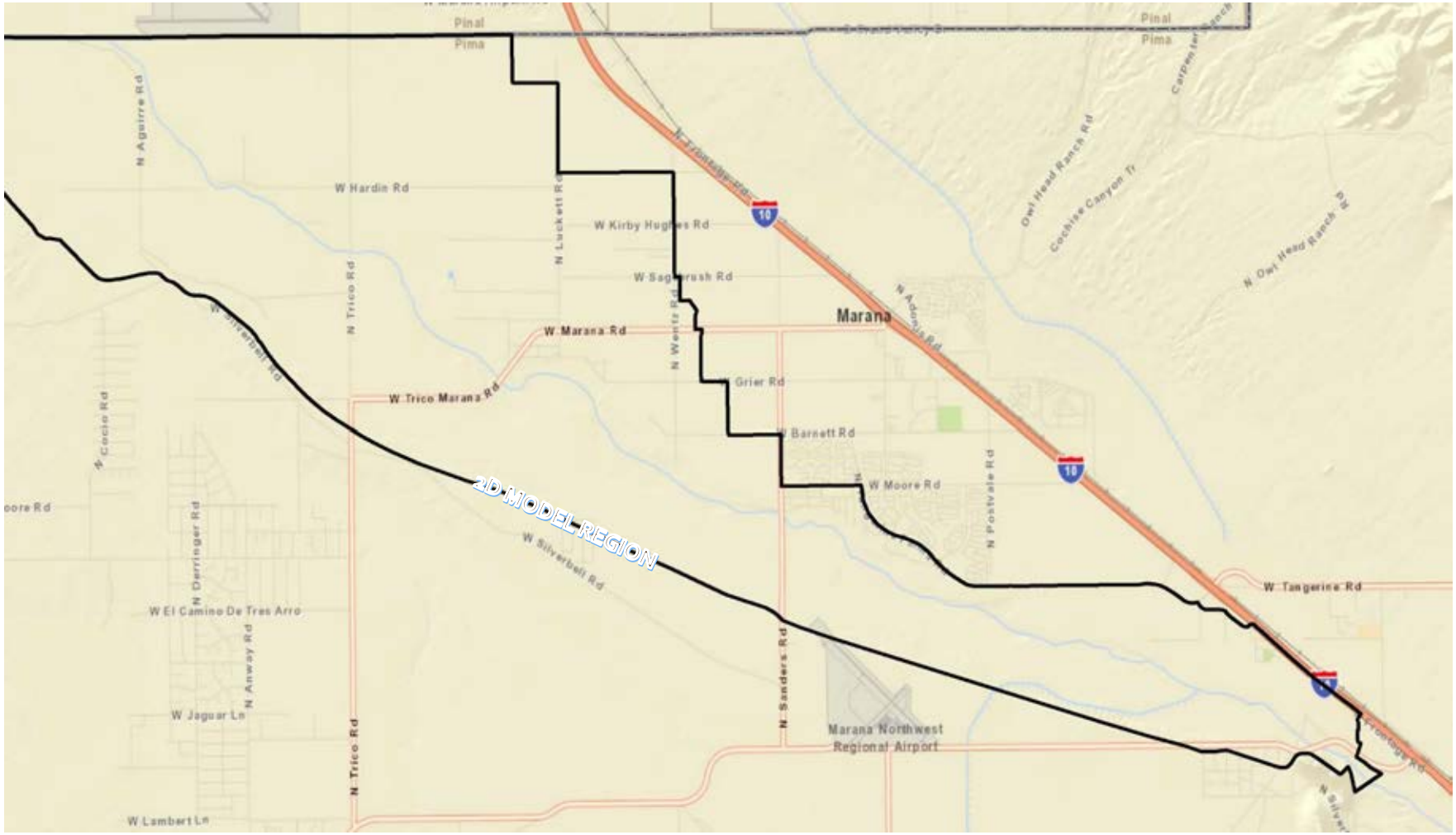


PRELIMINARY/DRAFT

2D Mapping and Videos

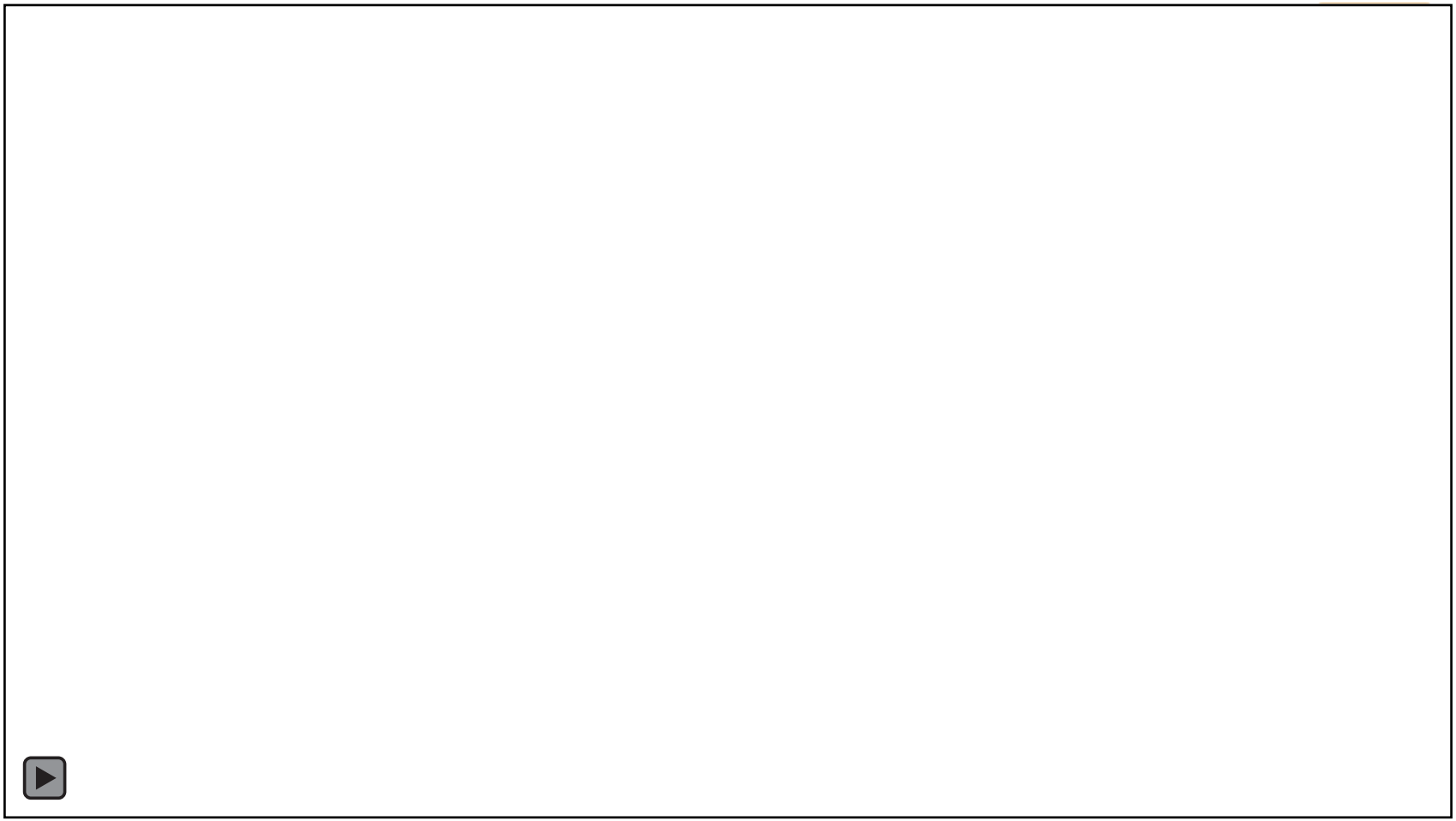
Videos are available upon request

2D Model Region Map



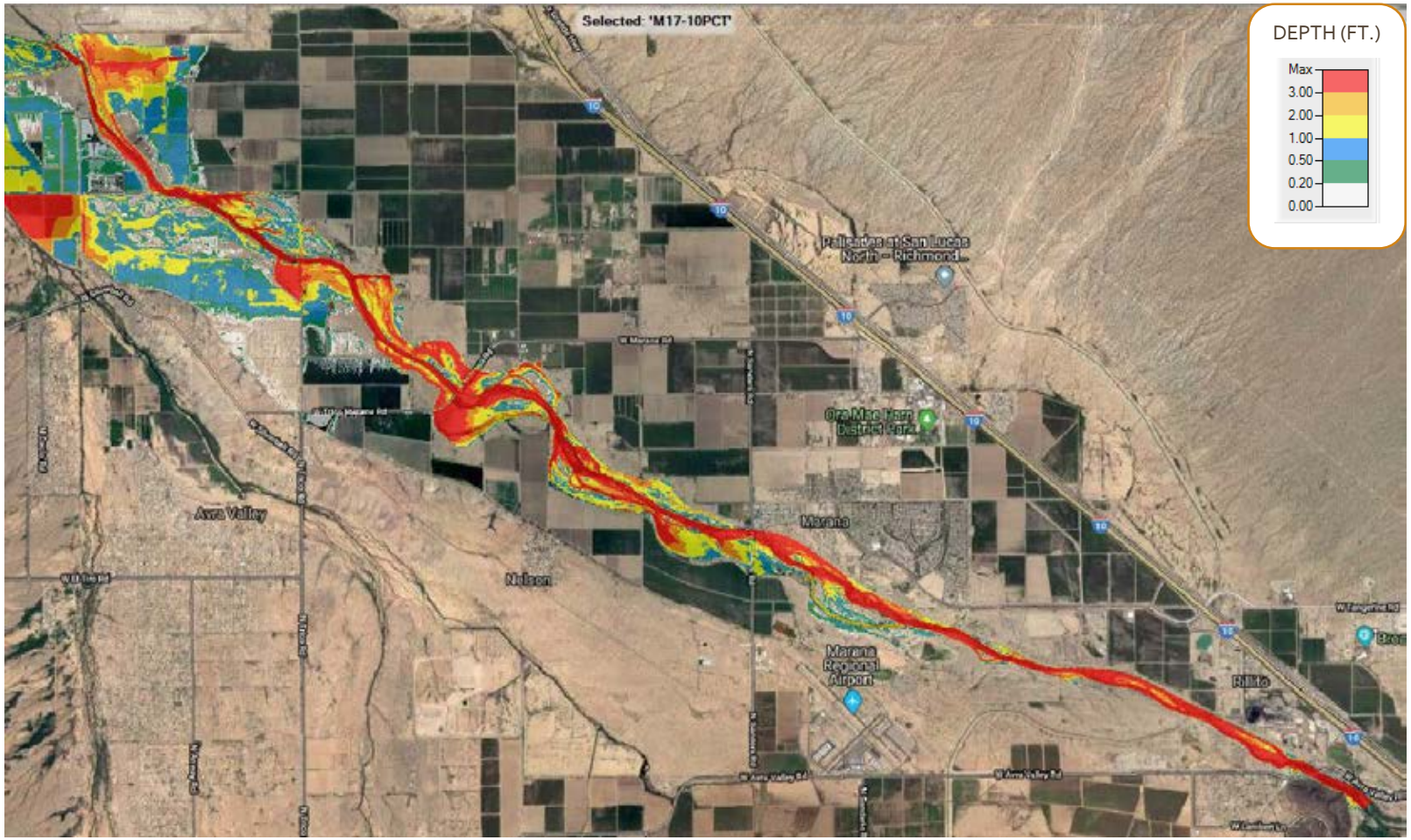
PRELIMINARY/DRAFT

Location: At Trico Marana Road Bridge



PRELIMINARY/DRAFT

10% Chance (10-year) Flood Inundation



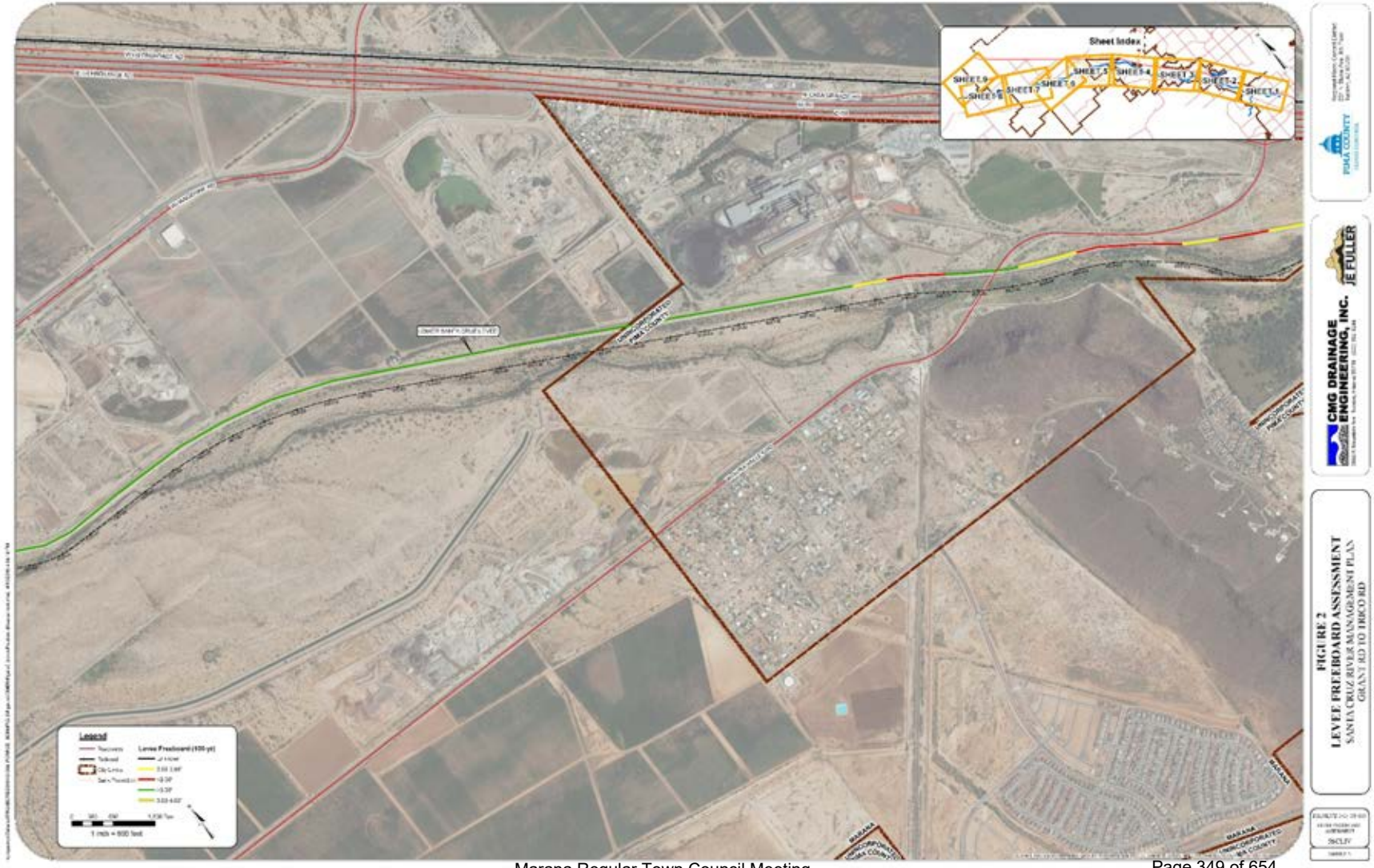
PRELIMINARY/DRAFT

Evaluation of Infrastructure and Maintenance Needs

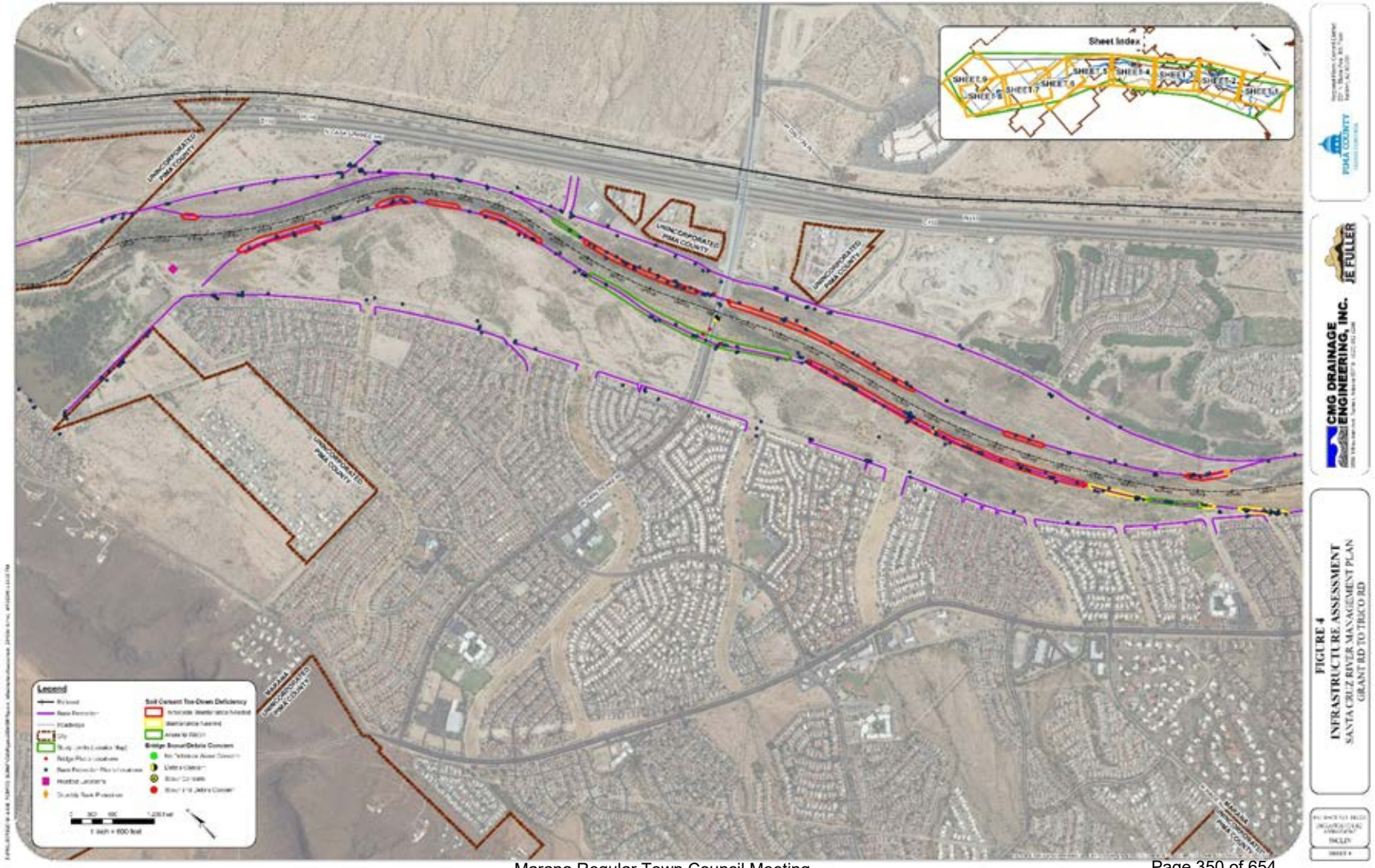
Levee freeboard



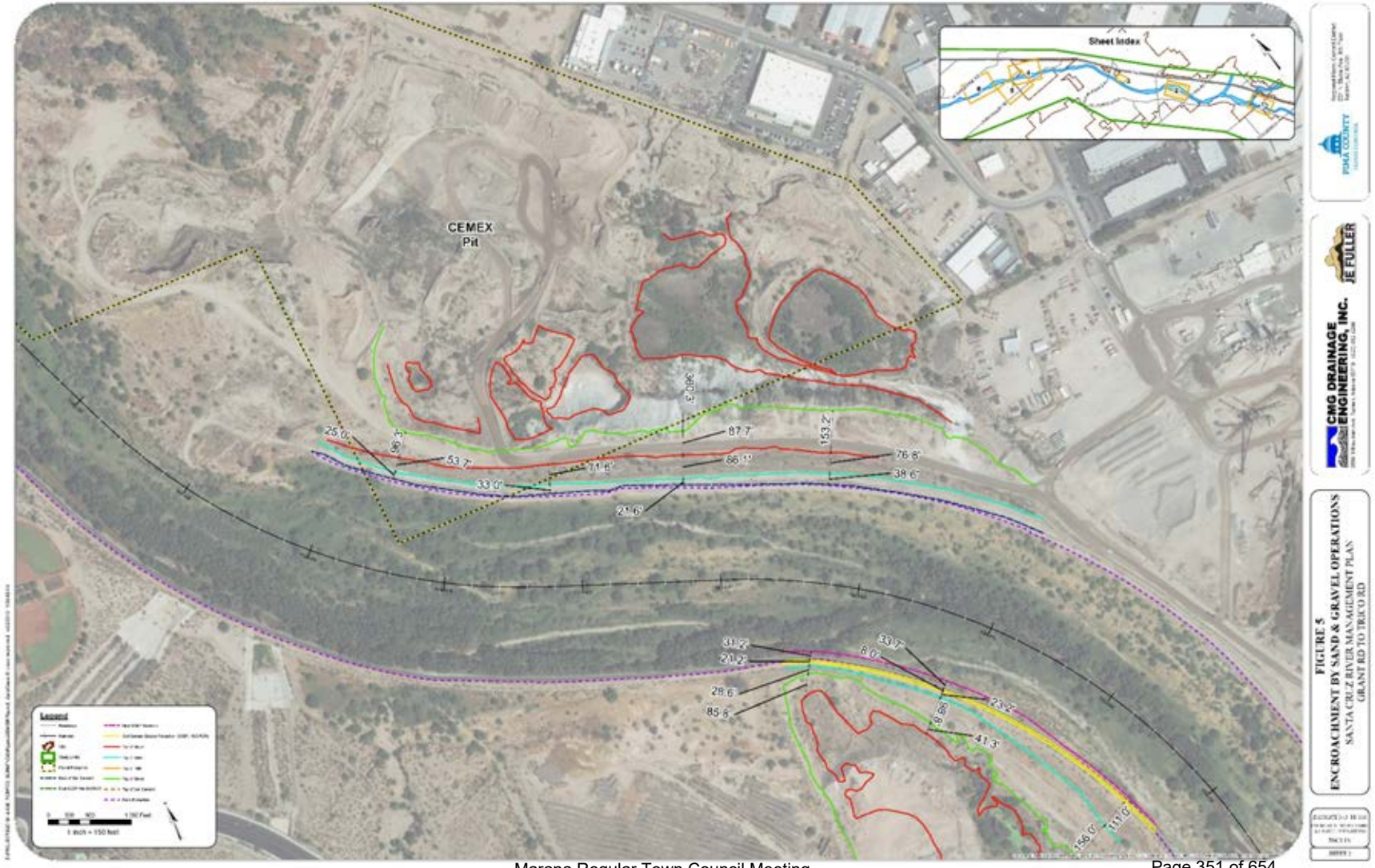
Levee freeboard (cont.)



Infrastructure Assessment



Sand & Gravel Operations



Current Phase Deliverable Timeline

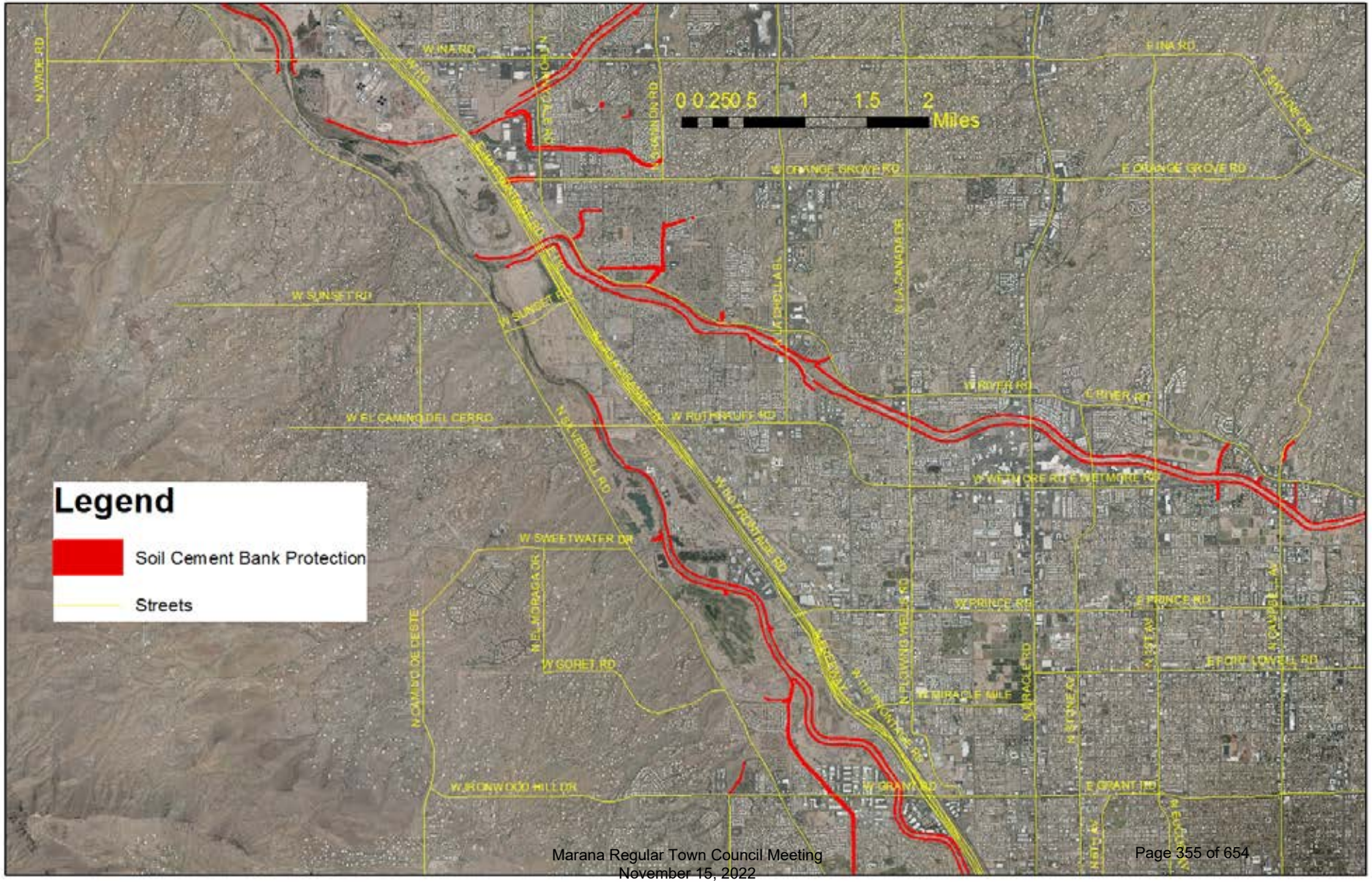
- Existing Conditions Report – Prior to end of June, 2019.
- Infrastructure Assessment and Maintenance Report – Prior to end of June, 2019
- Technical Data Notebook (TDN) – end of August 2019

Questions?

Alternatives Development Phase: Scope (approximately 2 years)

- Developing Recommended Alternatives By Management Reach
- Implementation Plan
- Public and Stakeholder Engagement Report
- Adoption of plan by Jurisdictions

Grant to Ina
Living River 'Three Rivers Reach'


0 0.250.5 1 1.5 2
Miles
Legend
Soil Cement Bank Protection
Streets
W INA RD
E INA RD
W ORANGE GROVE RD
E ORANGE GROVE RD
W SUNSET RD
W RIVER RD
E RIVER RD
W EL CAMINO DEL CERRO
W RUTHRAUFF RD
E WETMORE RD
W SWEETWATER DR
W PRINCE RD
E PRINCE RD
W GORET RD
E FORT LOWELL RD
W MIRACLE MILE
E GRANT RD
W IRONWOOD HILL DR
N WILDE RD
N SILVERBELL RD
N LA CANADA DR
N THORNYDALE RD
N SHANNON RD
N ORACLE RD
N COMMERCE PARK DR
N FRONTAGE RD
N LA CHOLLA BLVD
N ORACLE RD
N ORACLE RD
N ORACLE R


N
WALKER RD.
P
THORNYDALE RD.
CDO Wash
UPRR
INTERSTATE
ARIZONA
10
RIVER RD.
Santa Cruz River
SILVERBELL RD.
Rillito Creek
SUNSET RD.
Existing
Existing trailheads
Project limits
Psomas - adjacent project under design




WIVA RD
SILVERBELL RD
Santa Cruz at Ina
2015
1 inch = 351 feet
Date:

River Restoration

Santa Cruz River

PIMA COUNTY
FLOOD CONTROL



Meandering River with Native Vegetation



Wildlife Diversity



Photo Credit: Michael Borgan



Ramadas



Gila Topminnow
Photo Credit: Michael Borgan

Sonoran Mud Turtle
Photo Credit: Dean Knuth



Bird Watching



Bicycling Along
the Santa Cruz
Photo Credit: Visittucson.org



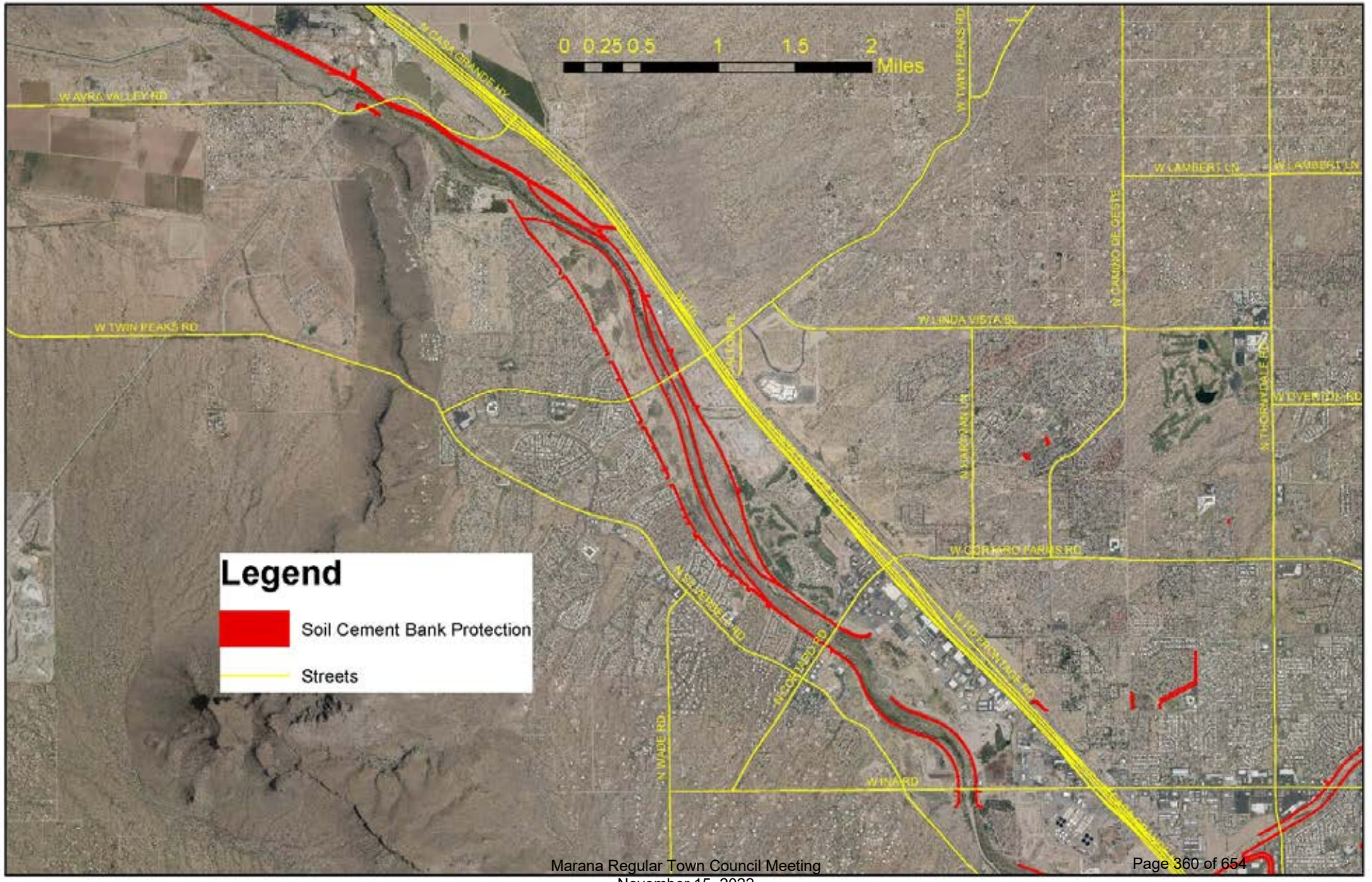
Living River of Words Youth Program
Photo Credit: PCNRPR

Three Rivers Reach Issues and Developments (A Preliminary List)

- Reduced flows out of Agua Nueva
- County Priority for Corazon del Tres Rios Del Norte Multibenefit Projects
  - Soil Cement Bank Protection of the Orange Grove Pit
- Connecting the Loop with two pedestrian bridges
  - Over the Rillito
  - Over the Canada Del Oro
- Habitat Restoration and Enhancement (endangered Gila Topminnow)
- Sunset Innovation Campus
- Trash and Illegal Dumping
- Homeless Populations

Ina to Avra Valley Rd

Living River 'Cortaro Narrows Reach'



Collapsed Low-Flow Bank Protection





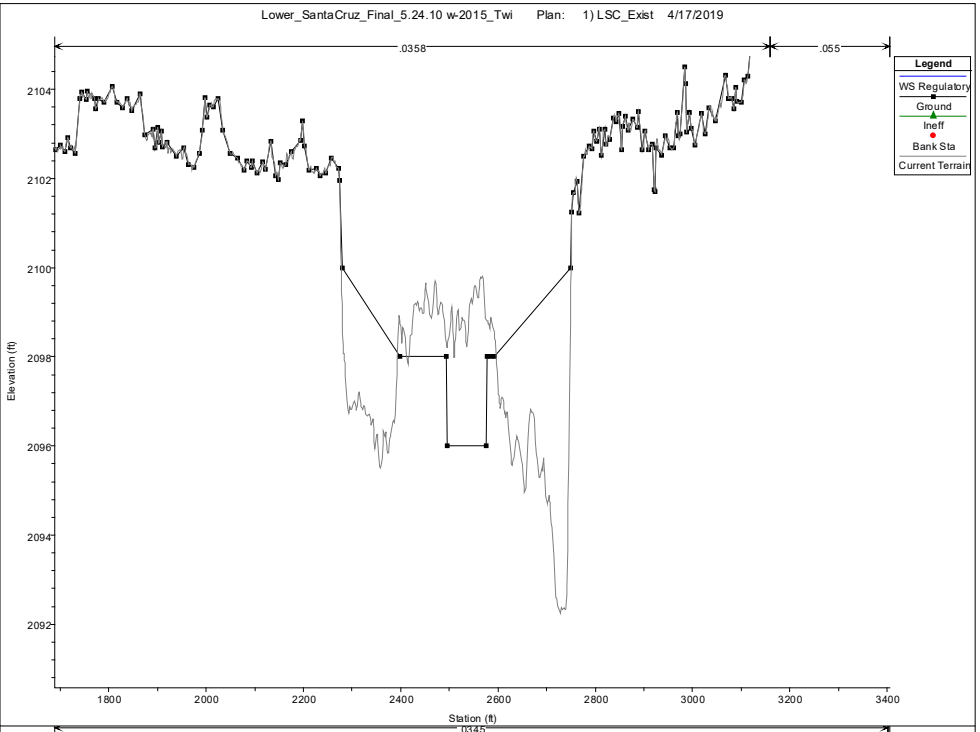


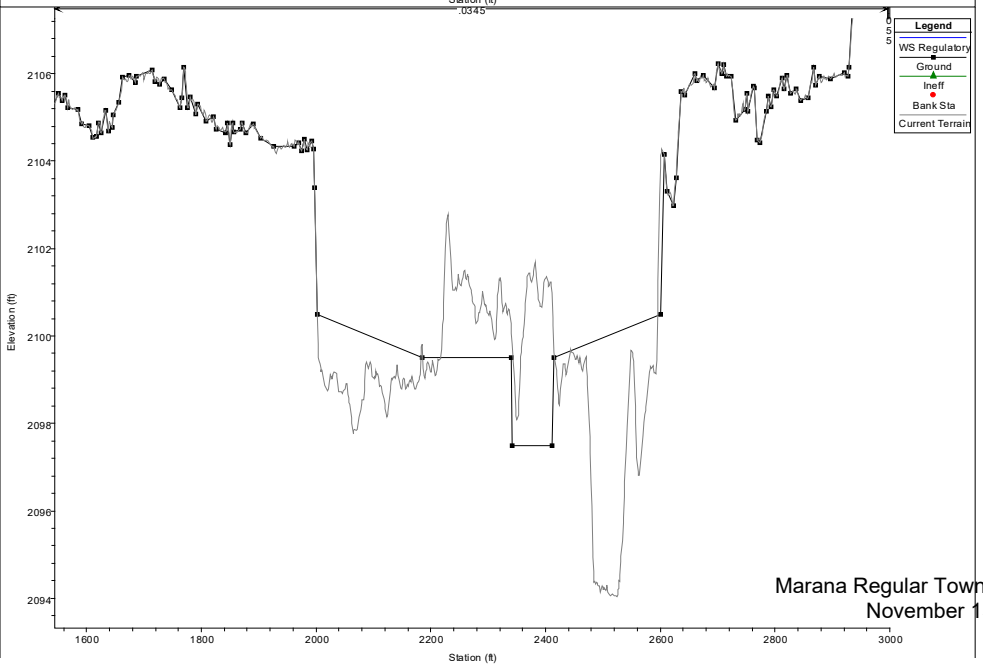
Combined Concept for Cortaro

(Bendway Weirs, Infiltration Channels, Rock Fords)


0
125
250
500
750
1,000
Feet

Grade Control Concept at Twin Peaks





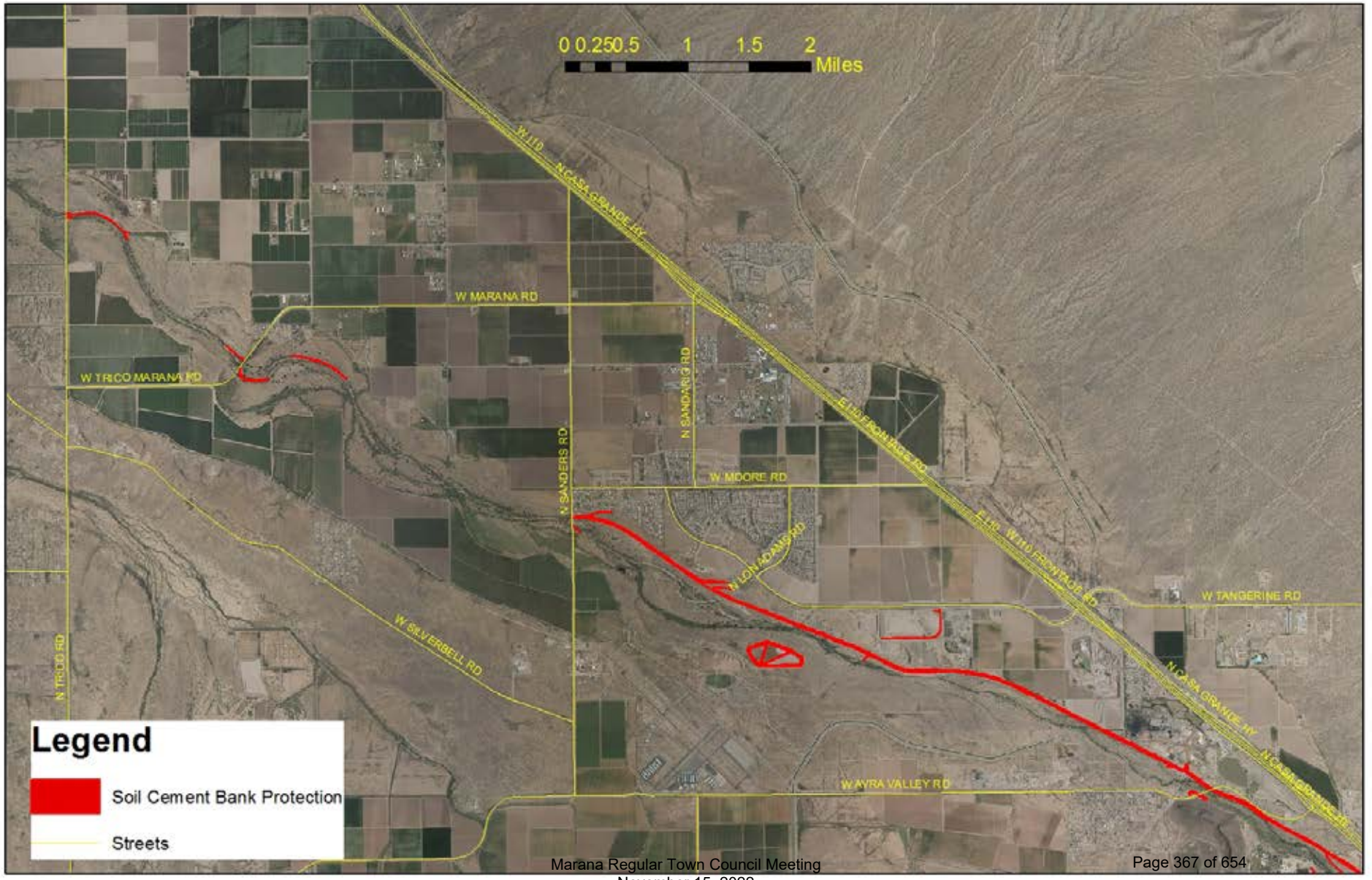


Cortaro Narrows Issues and Developments (A Preliminary List)

- Channel Flow Against the Bank Protection
- Expanding recreational opportunities (Loop and El Rio Preserve)
- Need to improve channel conveyance in some areas
- Incising effluent channel requires repeat maintenance of low flow bank protection

North of Avra Valley Rd

Living River 'Marana Flats Reach'



High Plains Recharge Basins

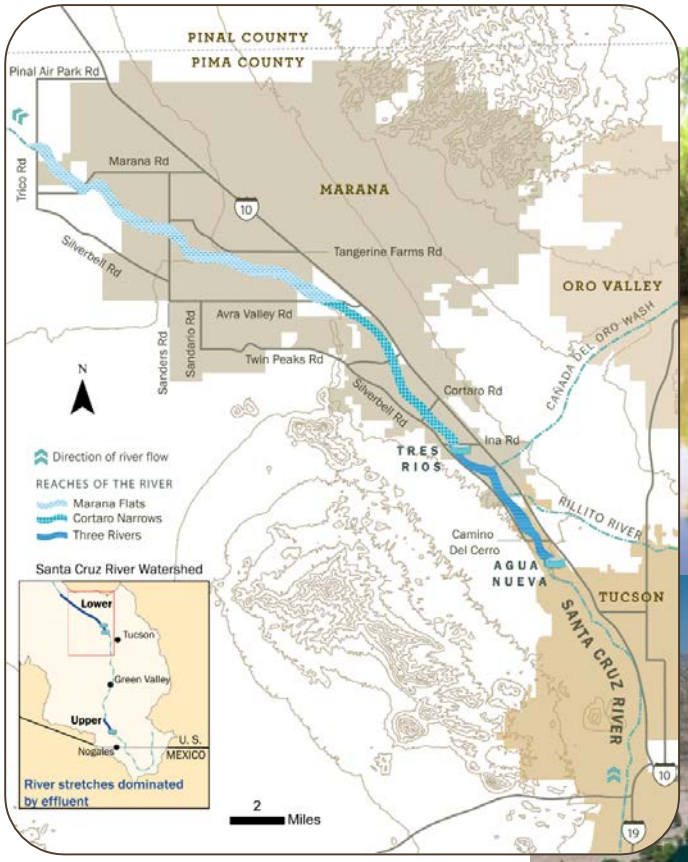






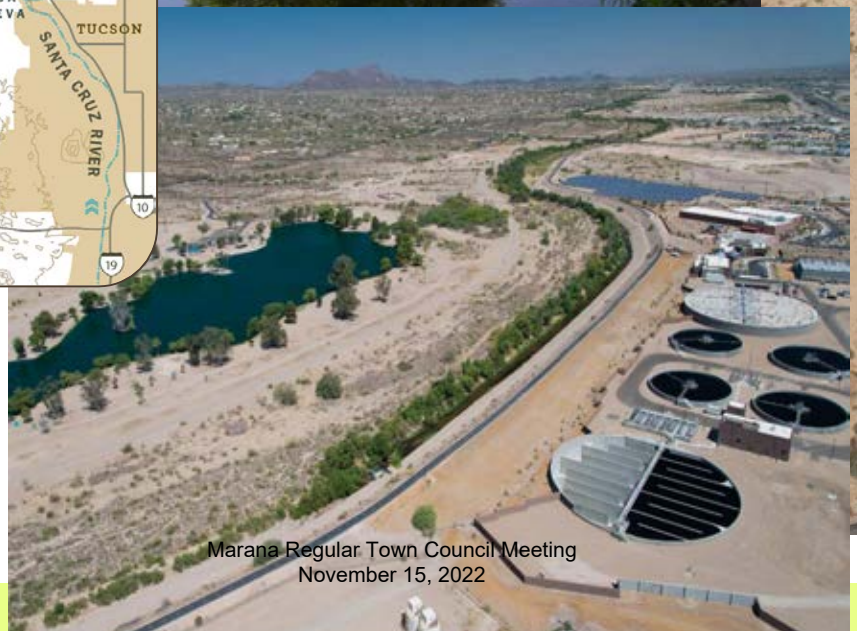


Santa Cruz River Managed Recharge









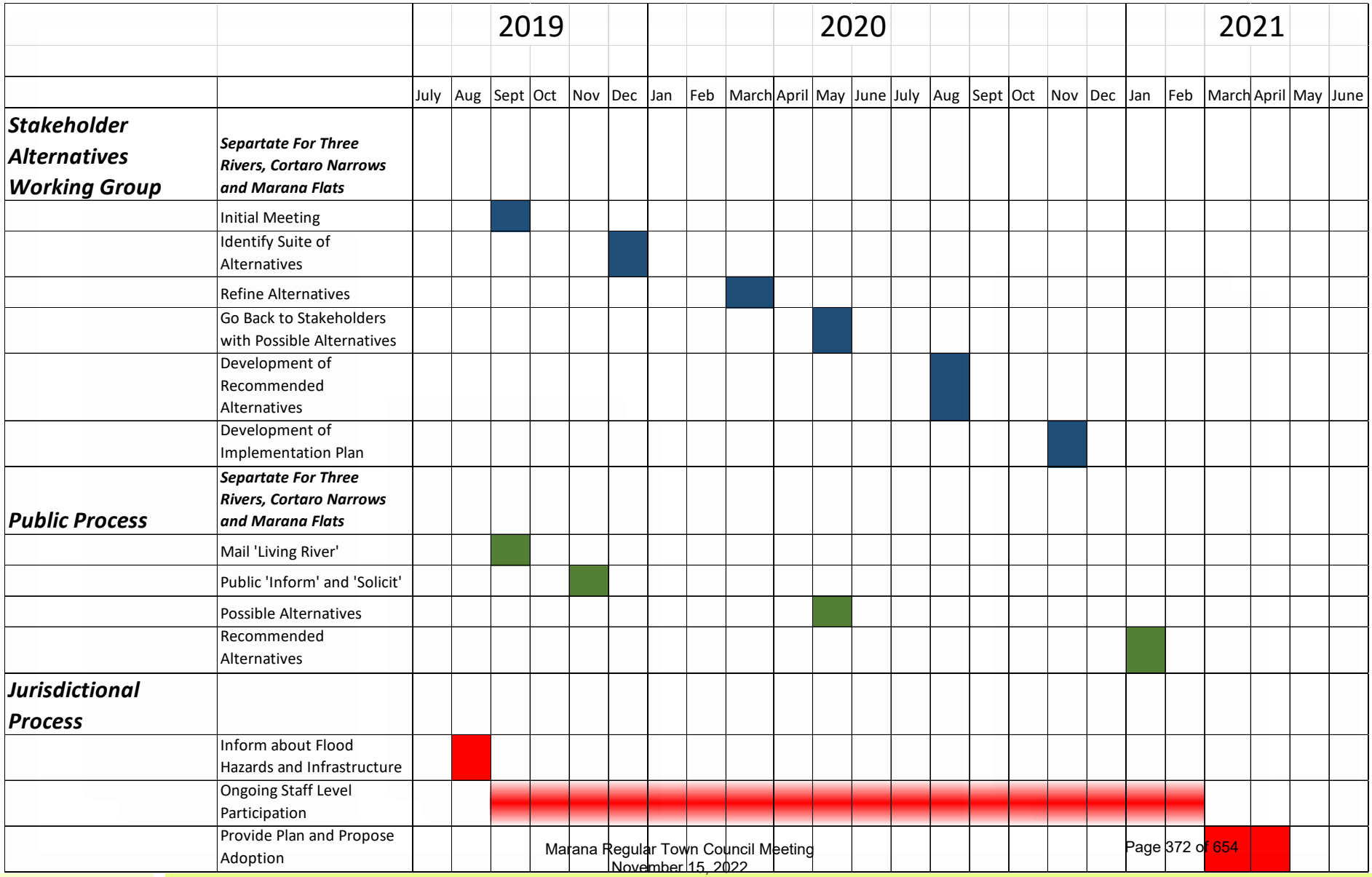
Marana Flats Issues and Developments (A Preliminary List)

- Complex wide floodplain, especially north of Sanders Rd
- Interest in Subdivision Development
- Terminus of Managed Recharge Project
- Proposed Marana Drainage Master Plan Improvements
- Older homes in high risk flood areas at Trico-Marana Rd

Alternatives Identification Task - Stakeholder Working Groups By Management Reach (3 Groups

- Purpose
  - Help develop an appropriate set of reach specific alternatives
- Size
  - Less than 10 people per workgroup
- Representation
  - Jurisdictions
  - Consultant Team
  - Water Owners
  - Community Water Coalition
- Level of Effort
  - 2-3 Hour Meetings on Quarterly Basis

Proposed Timeline for Alternatives Selection Phase



Stakeholder Participation Form

PIMA COUNTY
FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☐ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☐ **Other** _____

Would you like to nominate someone for a role on the Stakeholder Working Group?
Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

Questions?



Evan Canfield
Pima County Regional Flood Control District
evan.canfield@pima.gov

Scott Altherr
CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com

Meeting Exhibits


Santa Cruz River
Management Plan

Comment Forms

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Catlow Shipek	WMG	catlow@watershedmg.org

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☑ **Habitat Preservation** Trevor
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☑ **Water Resources** Catlow
- ☐ **Other** _____

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?

Name: Catlow Shipek & Trevor Hare
Interest Area: Effluent & stormwater recharge and floodplain protection
Organization: WMG and the into Sonoita Watershed Restoration Plan
Email Address: THARE@WATERSHEDMG.ORG ; CATLOW@WATERSHEDMG.ORG

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

where most needed

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
GUS MYERS	TOWN OF MARANA	gmyers@maranaaz.gov

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☐ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management** (2)
- ☒ **Drainage Infrastructure Protection** (1)
- ☐ **Water Resources**
- ☐ **Other** _____

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?

Name: ME

Interest Area: DRAINAGE INFRA. PROTECTION + FLOOD RISK MGT

Organization:

Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☒ **Cortaro Narrows (Ina to Avra Valley)**
- ☒ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Doug Greenland	Cortaro-Marana-Irrigation	cmid12253@comcast.net

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- [X] **Land Entitlements/Property Rights**
- [ ] **Habitat Preservation**
- [ ] **Recreation Opportunities**
- [X] **Flood Risk Management**
- [X] **Drainage Infrastructure Protection**
- [X] **Water Resources**
- [ ] **Other** _____

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?
Name: Self
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- [ ] **Three Rivers (Grant to Ina)**
- [X] **Cortaro Narrows (Ina to Avra Valley)**
- [X] **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Jovaughn Hoest	Tucson Audubon	jhoest@tucsonaudubon.org

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

- probably Eric Holler, Christine M. Vie, Nicole Gillett

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☒ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☐ **Other** _____

Would you like to nominate someone for a role on the Stakeholder Working Group?

Name: Nicole Gillett, Chris McVie, Eric Holler for Tucson Audubon at CMRG-SAZ
Interest Area: mostly habitat + flood risk + water resources
Organization: TA / CMRG-SAZ
Email Address: already have

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

pretty equal interest

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Amanda S	SI	

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☐ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☐ **Other** _____

* Consider allowing new professionals to "witness" peanut gallery style - this many experts together is a good opportunity for learning. ~~Could~~ Should be just coworkers of the nominees. ~~or tutors of.~~
* Thank you for going the extra mile to ensure this is a transparent & engaged process. Glad to have people like you & your team working on these issues.

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?
Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Claire Zygmeyer	Sonoran Institute	Czygmeyer@sonoraninstitute.org

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☒ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☐ **Other** _____

Maybe Kendall Kroesen @ Mission Gardens
interest birding + wildlife Habitat

Michael Bogan @ UA
interest in aquatic habitat macro + fish

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?

Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Patrick Quinn	Tucson Fire Dept.	pat.quinn@tucsonaz.gov

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☐ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☒ **Other** Public Safety Emergency Services

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?
Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☑ **Three Rivers (Grant to Ina)**
- ☑ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Tom Mayers	UofA	tmeyers@email.arizona.edu

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☑ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☐ **Other** _____

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?

Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☑ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Melissa Mauzy	City of Tucson Ward 6	melissa.mauzy@tucsonaz.gov

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☒ **Habitat Preservation**
- ☒ **Recreation Opportunities**
- ☒ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☒ **Water Resources**
- ☐ **Other** _____

Would you like to nominate someone for a role on the Stakeholder Working Group?
Name: Melissa Mauzy (self)
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☒ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Jon Post	T.O.M. Post Land C.M.I.D. Co. LLC	jonpost@AOL.com

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- [x] **Land Entitlements/Property Rights**
- [ ] **Habitat Preservation**
- [x] **Recreation Opportunities**
- [x] **Flood Risk Management**
- [x] **Drainage Infrastructure Protection**
- [ ] **Water Resources**
- [ ] **Other** _____

Would you like to nominate someone for a role on the Stakeholder Working Group?
Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- [ ] **Three Rivers (Grant to Ina)**
- [ ] **Cortaro Narrows (Ina to Avra Valley)**
- [x] **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Jim Cowan	Town of Marana	JCowan@Marana.gov

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☐ **Habitat Preservation**
- ☒ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☐ **Water Resources**
- ☐ **Other** _____

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?

Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the nominee?

- ☐ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
George Kuhl	Flowing Wells Neighborhood Association + Community Coalition for Water	george5356@hotmail.com

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☒ **Habitat Preservation**
- ☒ **Recreation Opportunities**
- ☒ **Flood Risk Management**
- ☒ **Drainage Infrastructure Protection**
- ☒ **Water Resources**
- ☐ **Other** loop

Would you like to <u>nominate</u> someone for a role on the Stakeholder Working Group?

Name:
Interest Area:
Organization:
Email Address:

Which of the following river reaches has the highest interest for you or the uominee?

- ☒ **Three Rivers (Grant to Ina)**
- ☐ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

PIMA COUNTY

FLOOD CONTROL

Stakeholder Participation Form

5SCLIV – Santa Cruz River Management Plan: Grant Rd to Trico Rd

Name:	Organization	Email Address
Frank Postillion	Consultant / Citizen CWC / CoP Landowner	postfere@juno.com

Could you or someone you know serve as a stakeholder in one of the following areas? (Requires a quarterly commitment to meet on a Stakeholder Working Group)

Interest Area

- ☐ **Land Entitlements/Property Rights**
- ☑ **Habitat Preservation**
- ☐ **Recreation Opportunities**
- ☐ **Flood Risk Management**
- ☐ **Drainage Infrastructure Protection**
- ☑ **Water Resources**
- ☐ **Other** _____

Would you like to nominate someone for a role on the Stakeholder Working Group?

Name: ERIC Holler

Interest Area: Natl Resources, ~~Habitat~~ Drainage Infrastructure

Organization: CWC.

Email Address: ~~[illegible]~~ ferlc5th@gmail.com

Which of the following river reaches has the highest interest for you or the nominee?

- ☑ **Three Rivers (Grant to Ina)**
- ☑ **Cortaro Narrows (Ina to Avra Valley)**
- ☐ **Marana Flats (Avra Valley to Trico)**

STAKEHOLDER WORKING GROUP MEETINGS (OCTOBER 2019)

Attendance

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group
Avra Valley to Trico Rd
SIGN-IN SHEET
October 22, 2019

Group #	Name	Business Name	Phone Number	Email Address
1	GUS MYERS	TOWN OF MARANA	520.382.2672	gmyers@maranaaz.gov
2	Scott Althurr	CMG Drainage Engineering	520 882-4244	salthurr@cmgdrainage.com
3	RACHAEL NOCK	CMG DRAINAGE ENGINEERING	520-882-4244	RNOCK@CMGDRAINAGE.COM
1	Grey Saxe	Pima County Flood Control	520-724-4633	grey.saxe@pima.gov
2	Dagger Hughes	Northwest Fire District	520-730-1748	jdhughes@northwestfire.org
3	Janice Hughes	PCRFCD	520 724 4635	jhughes@janice.hughes@pima.gov
1	Evan Canfield	PCRFD	520 724-9678	evan.canfield@pima.gov
2	Terry Hendricks	PC RFCD	520-724-4600	Terry.Hendricks@pima.gov
3	RYAN WILLIS	WILLIS PROPERTY	480.220.2091	RYAN@WILLISPROPERTY.COM
1	MORGAN CONLEY	CONLEY COMPANIES	480-433-3280	morgan@conleyco.com
2	Lem Erie	Erie & Assoc.	(602) 954-6399	erie@waterwiz.net
3	Keith Brann	MARANA	382-2600	kbrann@maranaAZ.gov
1	James Brown	Pima County RWRD	520 724-6033	James.brown@pima.gov
2	Doug Greenland	Cortaro-Marana Irrigation	520-682-3233	cmid12253@comcast.net
3	Jon Post	Town of Marana	404-2006	jonpost@AOL.com
1	BEN CHANGLEAKER!	PIMA COUNTY	724-6940	
2	Jim Conroy	TOM	749-8346	JConroy@MaranaAZ.gov
3	Roy McDaniel	PRI	801-718-6777	mcdanielrb@churchofjesuschrist.org

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group
Avra Valley to Trico Rd
SIGN-IN SHEET
October 22, 2019

Group #	Name	Business Name	Phone Number	Email Address
1	Jonathan Horst	Tucson Audubon	520 971.6238	jhorst@tucsonaudubon.org
2	Paul Oland	Paradigm Land Design	520-664-4304	gpo@paradigmland.us
3	Rebeca Field	Kimley-Horn	520.352.8657	
1				
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3				

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group

Grant Rd to Ina Rd

SIGN-IN SHEET

October 23, 2019

	Group #	Name	Business Name	Phone Number	Email Address
	1	RACHAEL NOCK	CMG DRAINAGE ENGINEERING	520-882-4244	RNOCK@CMGDRAINAGE.COM
	2	Rebea Field	Kimley-Horn	520. 352.8657	Rebeca.field@kimley-horn.com
1	3	JERRY CURLESS	CMG DRAINAGE	882-4244	jcurless@cmgdrainage.com
2	1	PATRICK GUINEY	TUCSON FIRE	520-791-4512	patguiney@tucsonaz.gov
1	2	P. SCOTT PORTER	ENVIRONMENTAL QUALITY (PAG)	520-724-7383	SCOTT.PORTER@PIMA.GOV
2	3	James Brown	PC PW HD	520 7186565	James.brown@Pima.gov
1	1	Joseph Cuffaro	RFCD	724-4600	Joseph.Cuffaro@Pima.gov
	2				
2	3	Fran Canfield	RFCD	724-4636	
1	1	BEN GRANCHAROFF	PIMA COUNTY	724-6940	
2	2	GUS MYERS	TOWN OF MARANA	382 2672	gmyers@maranaaz.gov
1	3	Keith Brann	" "	382-2600	kbrann@maranaAZ.gov
2	1	KATHY CHAVEZ	PIMA COUNTY/OSC	724-6588	on File
1	2	Steve Dolan	Tucson Mtns Assoc.	743-3770	steveclolan@comcast.net
2	3	Fred Felix	Tucson Transportation	837-6620	fred.felix@tucsonaz.gov
1	1	John Spiker	Pima County RFCD	724-4661	John.spiker@pima.gov
2	2	Scott Althaer	CMG Drainage	882-4244	Salthaer@cmgdrainage.com
	3				

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group
Ina Rd to Avra Valley Rd
SIGN-IN SHEET
October 24, 2019

Group #	Name	Business Name	Phone Number	Email Address
1	RACHAEL NOCK	CMG DRAINAGE ENGINEERING	882-4244	RNOCK@CMGDRAINAGE.COM
2	Dugger Hughes	Northwest Fire District	520-330-1748	whughes@nwfirm.org
3	JC GOLDMAN	CWC. SOAZ	743. 7798	jonathangoldman@gmail.com
1	CHRIS LANGHAM	PRE-ECG	520-437-7002	CHRIS@PREECG.COM
2	DEIRDRE BROSNIHAN	RFCD - ENG.	724-4686	DEIRDRE.BROSNIHAN@PIMA.GOV
3	Jim Conroy	(Tom) Town of Marana	382-1968	JConroy@MARANAAZ.gov
1	Ian Murray	Pima County OSC	724 9489	Ian.Murray@pima.gov
2	BEN GHANGHALETI	PIMA COUNTY	724-6940	
3	Jim DuBois	Pima County RWRD	724-6009	
1	Carmen Dandridge	Pima County		Carmen.Dandridge@PIMA.GOV
2	Rebeca Field	Kimley-Horn	520.352.8657	Rebeca.field@kimley-horn.com
3	Alex Stancof	Wheat Design Group	520.884.7911	alex@wheatdesigngroup.com
1	Doug Greenland	Cortaro Marana Irrigation	520-682-3233	cmid12253@comcast.net
2	Keith Brann	Marana	382-2600	kbrann@maranaAZ.gov
3	Sheila Bowen	Metro Water	209-2819	SBowen@Metrowater.com
1	Gary Burchard	Metro Water	575-8100	gburchard@metrowater.com
2	Tim Brunenkant	Marana P.D.	370 7014	TBrunenkant@MARANAAZ.gov
3	Asia Philbin	Marana Water	382 2503	aphilbin@maranaaz.gov
	Kathy Chavez	Pima County/OSC	724-6588	in file
	GUS MYERS	TOWN OF MARANA	382.2672	gmyers@maranaaz.gov
	Evan Canfield	PCRFCD		

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group – Follow Up Meeting
Grant Rd to Ina Rd
SIGN-IN SHEET
October 31, 2019

Group #	Name	Business Name	Phone Number	Email Address
1	Scott Altherr	CMG Drainage Eng	882-4244	Saltherr@cmgdrainage.com
2	MARGARET.SNYDER@TUCSONAZ.GOV	TUCSON WATER	837-2234	
3	Maya Tayechea	TN	837-2232	maya.tayechea@tucsonaz.gov.
1	JONATHON GOLDMAN	CWC. SOAZ	743.7788	jonathangoldman@gmail.com
2	Frank Bonillas	City of Tucson EGSS	419-3336	frankbonillas@tucsonaz.gov
3	George Kuck	FWNACC	471-6408	george5356@hotmail.com
1	Fred Felix	Transportation	837-6620	fred.felix@tucsonaz.gov
2	Eric Holler	CWC SoAZ		
3				
1				
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2				
3				

Agendas

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Kickoff Meeting

Marana Flats
(Avra Valley Rd to Trico Rd)

Tuesday, October 22, 2019 - 9 AM to 12:00PM
Marana Municipal Complex, 2nd Floor

1. **Introductions**

2. **Meeting Purpose**

3. **Why you are here**

4. **What is the Project Team's scope/goal/outcome for this meeting?**

5. **What are the major issues/problems that we found for this reach?**

6. **What are some additional opportunities/problems that you'd like to share?**

(Break)

7. **Breakout Exercise (3 Groups) - Envision the Santa Cruz River as an Amenity and each team must draw, on easel pads, 4 symbols/features/components that would represent the River Corridor Reach in an optimal scenario.**
    A. Each group will have a representative explain why they chose the symbols that they did
    B. Identify Common Ground & Unique interests that came from the exercise

8. **How do we objectively rank alternatives?**
    A. Previously used ranking criteria
    B. Defensible and widely accepted
    C. What criteria is out there that meets these two objectives?

(Break)

9. **Other Planning Efforts**

10. Take Away

New Action Item	Responsible Party

11. Next Meeting

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Kickoff Meeting

Three Rivers Reach
(Grant Rd to Ina Rd)

Wednesday, October 23, 2019 - 9 AM to 12:00PM
Pima County Regional Flood Control District, 201 N Stone, 9th Floor

1. **Introductions**

2. **Meeting Purpose**

3. **Why you are here**

4. **What is the Project Team's scope/goal/outcome for this meeting?**

5. **What are the major issues/problems that we found for this reach?**

6. **What are some additional opportunities/problems that you'd like to share?**

(Break)

7. **Breakout Exercise (3 Groups) - Envision the Santa Cruz River as an Amenity and each team must draw, on easel pads, 4 symbols/features/components that would represent the River Corridor Reach in an optimal scenario.**
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    B. Defensible and widely accepted
    C. What criteria is out there that meets these two objectives?

(Break)

9. **Other Planning Efforts**

10. Take Away

New Action Item	Responsible Party

11. Next Meeting

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Kickoff Meeting

Cortaro Narrows Reach
(Ina Rd to Avra Valley Rd)

Thursday, October 24, 2019 - 9 AM to 12:00 PM
Pima County Regional Flood Control District, 201 N Stone, 9th Floor

1. **Introductions**

2. **Meeting Purpose**

3. **Why you are here**

4. **What is the Project Team's scope/goal/outcome for this meeting?**

5. **What are the major issues/problems that we found for this reach?**

6. **What are some additional opportunities/problems that you'd like to share?**

(Break)

7. **Breakout Exercise (3 Groups) - Envision the Santa Cruz River as an Amenity and each team must draw, on easel pads, 4 symbols/features/components that would represent the River Corridor Reach in an optimal scenario.**
    A. Each group will have a representative explain why they chose the symbols that they did
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8. **How do we objectively rank alternatives?**
    A. Previously used ranking criteria
    B. Defensible and widely accepted
    C. What criteria is out there that meets these two objectives?

(Break)

9. **Other Planning Efforts**

10. Take Away

New Action Item	Responsible Party

11. Next Meeting

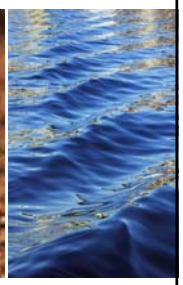
Presentation

Santa Cruz River Management Plan

10-22-19

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.





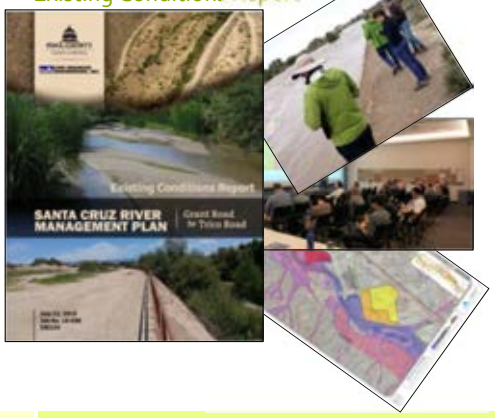
Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Introductions***

Phase 1 Deliverables

- Existing Conditions Report
- Infrastructure Assessment
- Technical Support Data Notebook for Floodplain Mapping

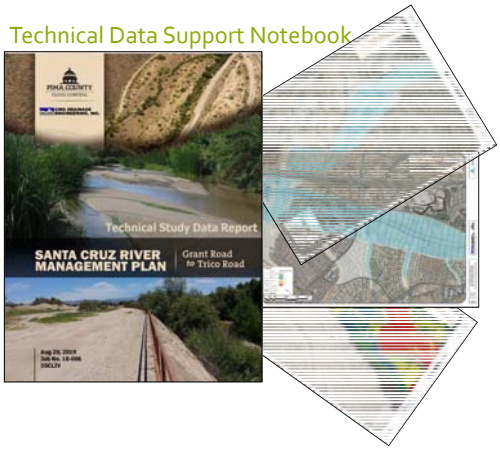
Existing Conditions Report



Infrastructure Assessment



Technical Data Support Notebook



100-Year Flood Model Simulation



PRELIMINARY/DRAFT

Location: Between Sanders Road Bridge And Trico Marana Road Bridge



PRELIMINARY/DRAFT

Location: At Trico Marana Road Bridge



PRELIMINARY/DRAFT

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***The purpose of this meeting*** is to …

Proposed Timeline for Alternatives Selection Phase

		2019										2020										2021			
		July	Aug.	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Stakeholder Alternatives Working Group	***Separate For Three Rivers, Cortaro Narrows and Marana Flats***																								
	Initial Meeting																								
	Identify Suite of Alternatives																								
	Refine Alternatives																								
	Go Back to Stakeholders with Possible Alternatives																								
	Development of Recommended Alternatives																								
	Development of Implementation Plan																								
Public Process	***Separate For Three Rivers, Cortaro Narrows and Marana Flats***																								
	Mail 'Living River'																								
	Public 'Inform' and 'Solicit'																								
	Possible Alternatives																								
	Recommended Alternatives																								
Jurisdictional Process																									
	Inform about Flood Hazards and Infrastructure																								
	Ongoing Staff Level Participation																								
	Provide Plan and Propose Adoption																								

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Why are you here?***

Alternatives Identification Task
- Stakeholder Working Groups By Management Reach (3 Groups

- Purpose
  - Help develop an appropriate set of reach specific alternatives
- Representation
  - Community Groups
  - Community Water Coalition of So. AZ
  - Jurisdictions
  - Landowners
  - Public Safety
  - Water Owners
- Level of Effort
  - 2-3 Hour Meetings on Quarterly Basis

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Project Teams's Scope/Goal/Outcome for this meeting***

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Known issues in this Reach***
  - *Older Residential Flooding*
  - *Widespread/Complex flooding downstream of Sanders*
  - *Bridges Closed during large events*
  - *Limited Recreational facilities and connectivity*
  - *Critical Facility in the floodplain*
  - *A prevalence for Recharge Projects*
  - *Debris load is heavy*
  - *Vegetative growth vs Flood Carrying Capacity*
  - *Land Development Interest*
  - *Tributary Flow from Tortolita Fan*

Older Residential Home Flooding



Bridges Closed during large events



Critical Facility in the floodplain



Debris load is heavy



Flood Hazards are Real



August 2006 Storm Photo



Santa Cruz River Managed Recharge



Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Additional Opportunities/Problems that you'd like to share?***

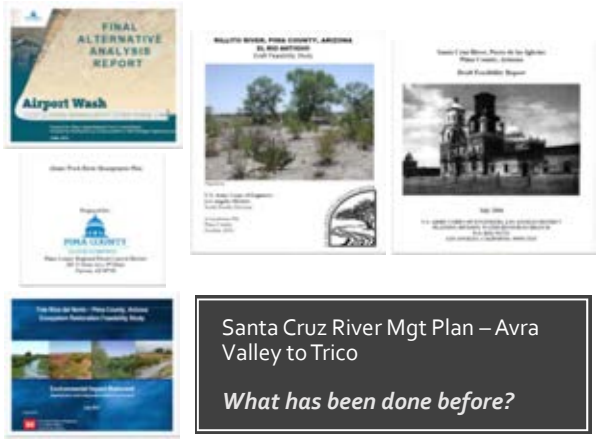
Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Breakout Exercise***

Envision the Santa Cruz River as an Amenity and each team must draw, on easel pads, 4 symbols/features/components that would represent the River Corridor Reach in an optimal scenario

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***How do we objectively rank alternatives?***



Santa Cruz River Mgt Plan – Avra Valley to Trico

What has been done before?

Santa Cruz River Mgt Plan – Avra Valley to Trico

THE ENVISION™ RATING SYSTEM

ACEC Arizona

APWA

ASCE

Who uses Envision?

What is defensible and widely accepted?

Envision (64 Credits)

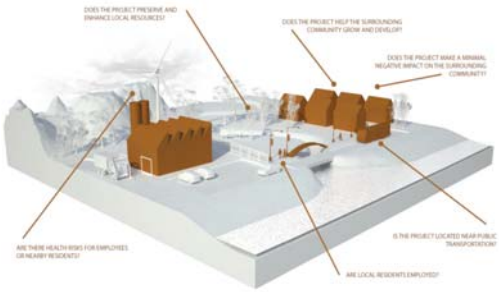
- ✓ ***Quality of Life***
- ✓ ***Leadership***
- ✓ ***Resource Allocation***
- ✓ ***Natural World***
- ✓ ***Climate & Resilience***

Santa Cruz River Mgt Plan – Avra Valley to Trico



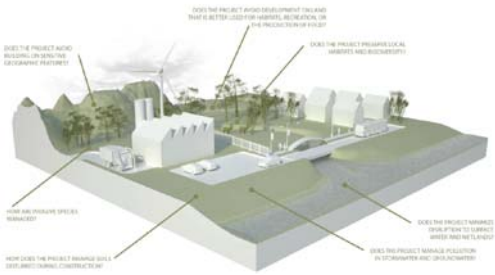
Santa Cruz River Mgt Plan – Avra Valley to Trico

QUALITY OF LIFE



Santa Cruz River Mgt Plan – Avra Valley to Trico

NATURAL WORLD



Santa Cruz River Mgt Plan – Avra Valley to Trico

US Army Corps of Engineers

What is defensible and widely accepted?

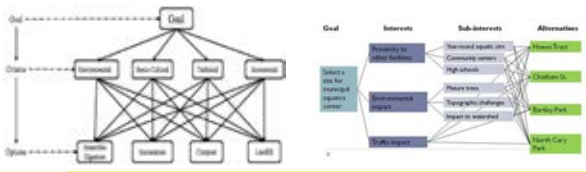
Multi-Criteria Decision Analysis (MCDA)

- ✓*Goal*
- ✓*Preferences*
- ✓*Criteria (Interests)*
- ✓*Outcomes*

Who uses MCDA?

Santa Cruz River Mgt Plan – Avra Valley to Trico

- *Define the context (Goal)*
- *Identify Stakeholder Interests (Preferences)*
- *Build a Decision Framework (Criteria)*



Santa Cruz River Mgt Plan – Avra Valley to Trico

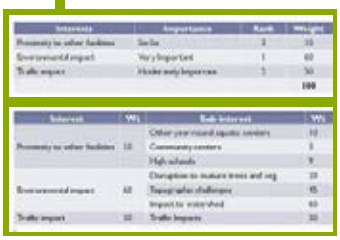
- ***Rate the Alternatives***
- *Weight Stakeholder Interests*
- *Score the Alternatives*



- ❑ Technical Task
- ❑ Two Scales: Relative or Ordinal

Santa Cruz River Mgt Plan – Avra Valley to Trico

- *Rate the Alternatives*
- ***Weight Stakeholder Interests***
- *Score the Alternatives*



- ❑ Personal preference
- ❑ Assign weights

Santa Cruz River Mgt Plan – Avra Valley to Trico

- *Rate the Alternatives*
- *Weight Stakeholder Interests*
- ***Score the Alternatives***



- ❑ Discuss results, re-score
- ❑ Discuss again, decide

Santa Cruz River Mgt Plan – Avra Valley to Trico

What criteria is out there that meets these two objectives?

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Other Planning Efforts***

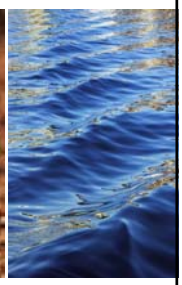


Santa Cruz River Management Plan

10-23-19

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.





Santa Cruz River Mgt Plan – Grant to Ina

- ***Introductions***

Santa Cruz River Mgt Plan – Grant to Pinal County line

- ***The purpose of this project*** is to develop a management strategy to balance flood risk management, drainage infrastructure protection, public safety, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to the Pinal County line.

Phase 1 Deliverables

- Existing Conditions Report
- Infrastructure Assessment
- Technical Support Data Notebook for Floodplain Mapping

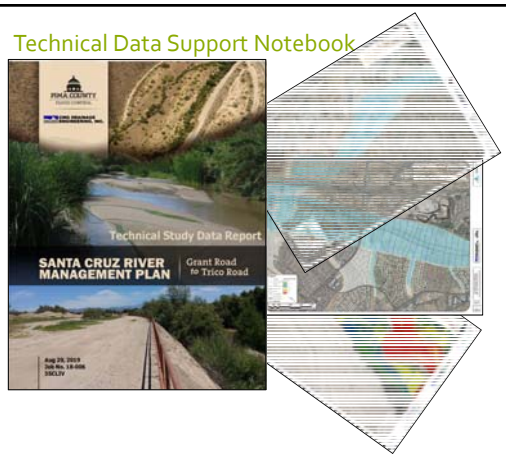
Existing Conditions Report



Infrastructure Assessment



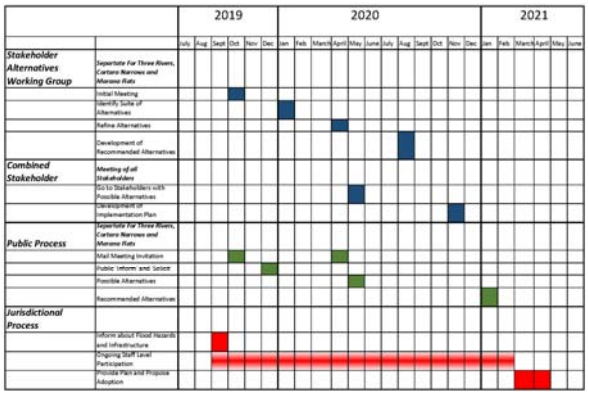
Technical Data Support Notebook



Santa Cruz River Mgt Plan – Grant to Ina

- ***The purpose of this meeting*** is to …

Proposed Timeline for Alternatives Selection Phase



Santa Cruz River Mgt Plan – Grant to Ina

- ***Why are you here?***

Alternatives Identification Task - Stakeholder Working Groups By Management Reach (3 Groups

- Purpose
  - Help develop an appropriate set of reach specific alternatives
- Representation
  - Community Groups
  - Community Water Coalition of So. AZ
  - Jurisdictions
  - Landowners
  - Public Safety
  - Water Owners
- Level of Effort
  - 2-3 Hour Meetings on Quarterly Basis

Santa Cruz River Mgt Plan – Grant to Ina

- ***Project Teams's Scope/Goal/Outcome for this meeting***

Santa Cruz River Mgt Plan – Grant to Ina

- ***Known issues in this Reach***
  - *Homelessness*
  - *Loss of flood conveyance*
  - *Off-road vehicle use*
  - *Loss of effluent flow between the Canada Del Oro and Ina Road*
  - *Public safety concerns related to crime and fire*
  - *Illegal dumping*
  - *El Corazón planning concept*
  - *Access to recreation and open space*
  - *Critical Facilities in floodplain*

Homelessness



Public Safety Concern



Loss of Effluent South of Ina Rd









Santa Cruz River Mgt Plan – Grant to Ina

- ***Additional Opportunities/Problems that you'd like to share?***

Santa Cruz River Mgt Plan – Grant to Ina

- ***Breakout Exercise***

Envision the Santa Cruz River as an Amenity and each team must draw, on easel pads, 4 symbols/features/components that would represent the River Corridor Reach in an optimal scenario

Santa Cruz River Mgt Plan – Grant to Ina

- ***How do we objectively rank alternatives?***







Santa Cruz River Mgt Plan – Avra Valley to Trico

What has been done before?

Santa Cruz River Mgt Plan – Avra Valley to Trico

THE ENVISION™ RATING SYSTEM

ACEC Arizona

APWA

ASCE

Who uses Envision?

What is defensible and widely accepted?

Envision (64 Credits)
- ✓*Quality of Life*
- ✓*Leadership*
- ✓*Resource Allocation*
- ✓*Natural World*
- ✓*Climate & Resilience*

Santa Cruz River Mgt Plan – Avra Valley to Trico

QUALITY OF LIFE 13 Credits | LEADERSHIP 10 Credits | RESOURCE ALLOCATION 14 Credits | NATURAL WORLD 15 Credits | CLIMATE AND RISK 8 Credits

1 PURPOSE
QL1.1 Improve Community Quality of Life
QL1.2 Stimulate Sustainable Growth & Development
QL1.3 Develop Local Skills & Capabilities

2 WELLBEING
QL2.1 Enhance Public Health & Safety
QL2.2 Minimize Noise and Vibration
QL2.3 Minimize Light Pollution
QL2.4 Improve Community Mobility & Access
QL2.5 Encourage Alternative Modes of Transportation
QL2.6 Improve Accessibility, Safety, & Wayfinding

3 COMMUNITY
QL3.1 Preserve Historic & Cultural Resources
QL3.2 Preserve Views & Local Character
QL3.3 Enhance Public Space

QL0.0 Innovate or Exceed Credit Requirements

1 COLLABORATION
LD1.1 Provide Effective Leadership & Commitment
LD1.2 Establish A Sustainability Management System
LD1.3 Foster Collaboration & Teamwork
LD1.4 Provide for Stakeholder Involvement

2 MANAGEMENT
LD2.1 Pursue By-Product Synergy Opportunities
LD2.2 Improve Infrastructure Integration

3 PLANNING
LD3.1 Plan For Long-Term Monitoring & Maintenance
LD3.2 Address Conflicting Regulations & Policies
LD3.3 Extend Useful Life

LD0.0 Innovate or Exceed Credit Requirements

1 MATERIALS
RA1.1 Reduce Net Embodied Energy
RA1.2 Support Sustainable Procurement Practices
RA1.3 Use Recycled Materials
RA1.4 Use Regional Materials
RA1.5 Divert Waste From Landfills
RA1.6 Reduce Excavated Materials Taken Off Site
RA1.7 Provide For Deconstruction & Recycling

2 ENERGY
RA2.1 Reduce Energy Consumption
RA2.2 Use Renewable Energy
RA2.3 Commission & Monitor Energy Systems

3 WATER
RA3.1 Protect Fresh Water Availability
RA3.2 Reduce Potable Water Consumption
RA3.3 Monitor Water Systems

RA0.0 Innovate or Exceed Credit Requirements

1 SITING
NW1.1 Preserve Prime Habitat
NW1.2 Protect Wetlands & Surface Water
NW1.3 Preserve Prime Farmland
NW1.4 Avoid Adverse Geology
NW1.5 Preserve Floodplain Functions
NW1.6 Avoid Unsuitable Development on Steep Slopes
NW1.7 Preserve Greenfields

2 LAND + WATER
NW2.1 Manage Stormwater
NW2.2 Reduce Pesticide & Fertilizer Impacts
NW2.3 Prevent Surface & Groundwater Contamination

3 BIODIVERSITY
NW3.1 Preserve Species Biodiversity
NW3.2 Control Invasive Species
NW3.3 Restore Disturbed Soils
NW3.4 Maintain Wetland & Surface Water Functions

NW0.0 Innovate or Exceed Credit Requirements

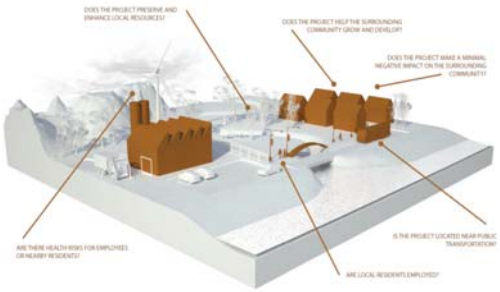
1 EMISSIONS
CR1.1 Reduce Greenhouse Gas Emissions
CR1.2 Reduce Air Pollutant Emissions

2 RESILIENCE
CR2.1 Assess Climate Threat
CR2.2 Avoid Traps & Vulnerabilities
CR2.3 Prepare For Long-Term Adaptability
CR2.4 Prepare For Short-Term Hazards
CR2.5 Manage Heat Island Effects

CR0.0 Innovate or Exceed Credit Requirements

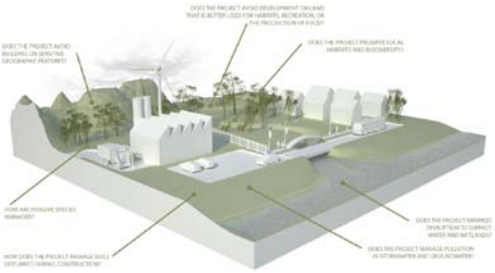
Santa Cruz River Mgt Plan – Avra Valley to Trico

QUALITY OF LIFE



Santa Cruz River Mgt Plan – Avra Valley to Trico

NATURAL WORLD



Santa Cruz River Mgt Plan – Avra Valley to Trico

US Army Corps of Engineers

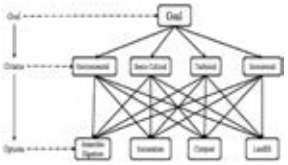
What is defensible and widely accepted?

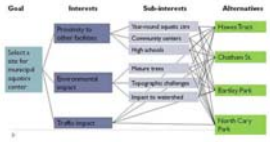
Multi-Criteria Decision Analysis (MCDA)
- ✓ *Goal*
- ✓ *Preferences*
- ✓ *Criteria (Interests)*
- ✓ *Outcomes*

Who uses MCDA?

Santa Cruz River Mgt Plan – Avra Valley to Trico

- ***Define the context (Goal)***
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- ***Build a Decision Framework (Criteria)***





Santa Cruz River Mgt Plan – Avra Valley to Trico

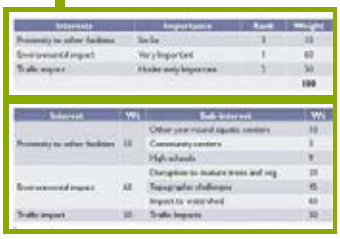
- ***Rate the Alternatives***
- *Weight Stakeholder Interests*
- *Score the Alternatives*



- ❑ Technical Task
- ❑ Two Scales: Relative or Ordinal

Santa Cruz River Mgt Plan – Avra Valley to Trico

- *Rate the Alternatives*
- ***Weight Stakeholder Interests***
- *Score the Alternatives*



- ❑ Personal preference
- ❑ Assign weights

Santa Cruz River Mgt Plan – Avra Valley to Trico

- *Rate the Alternatives*
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- ***Score the Alternatives***



- ❑ Discuss results, re-score
- ❑ Discuss again, decide

Santa Cruz River Mgt Plan – Avra Valley to Trico

What criteria is out there that meets these two objectives?

Santa Cruz River Mgt Plan – Grant to Ina

- ***Other Planning Efforts***

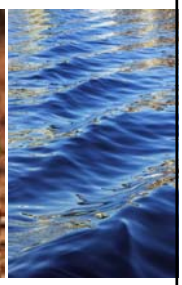


Santa Cruz River Management Plan

10-24-19

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.





Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Introductions***

Santa Cruz River Mgt Plan – Grant to Pinal County line

- ***The purpose of this project*** is to develop a management strategy to balance flood risk management, drainage infrastructure protection, public safety, water recharge, recreation opportunities and riparian habitat preservation for the Santa Cruz River from Grant to the Pinal County line.

Phase 1 Deliverables

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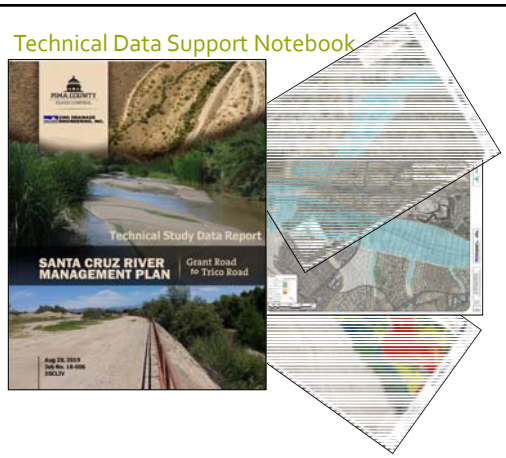
Existing Conditions Report



Infrastructure Assessment



Technical Data Support Notebook



Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***The purpose of this meeting*** is to …

Proposed Timeline for Alternatives Selection Phase



Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Why are you here?***

Alternatives Identification Task
- Stakeholder Working Groups By Management Reach (3 Groups

- Purpose
  - Help develop an appropriate set of reach specific alternatives
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Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Project Teams's Scope/Goal/Outcome for this meeting***

Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Known issues in this Reach***
  - *Limited recreational facilities and connectivity*
  - *Critical facility in the floodplain*
  - *Vegetative growth vs flood conveyance*
  - *Trash Deposition in El Rio Preserve*
  - *Levee freeboard*
  - *Effluent channel degradation and impacts on infrastructure*
  - *Utilities crossing the river*
  - *Recycled Water credits for water owners*

Trash Deposition in El Rio Preserve



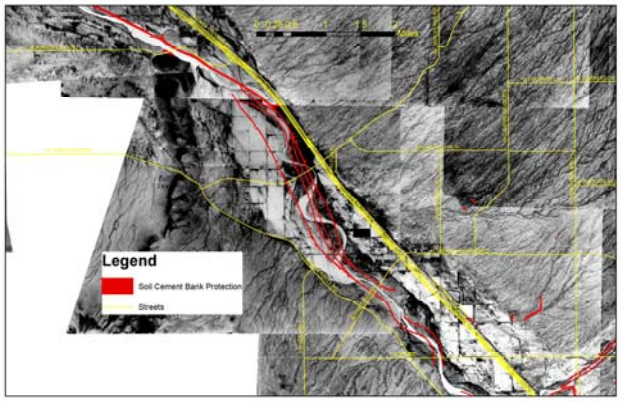
Effluent Channel



Effluent Channel



1936 to Present Comparison (Ina to Avra Valley Rd)
Living River 'Cortaro Narrows Reach'



Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Additional Opportunities/Problems that you'd like to share?***

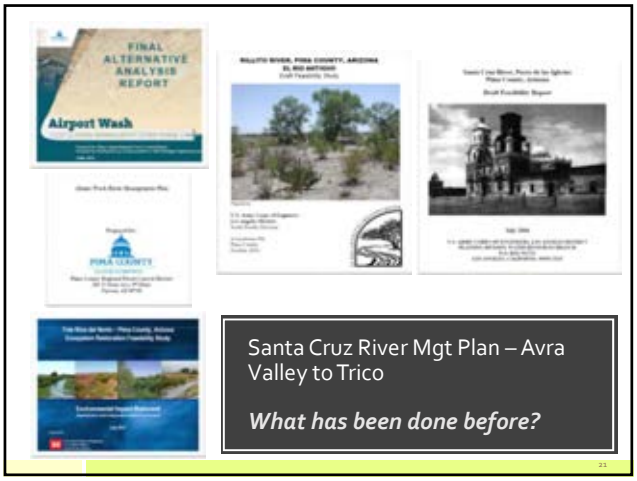
Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Breakout Exercise***

Envision the Santa Cruz River as an Amenity and each team must draw, on easel pads, 4 symbols/features/components that would represent the River Corridor Reach in an optimal scenario

Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***How do we objectively rank alternatives?***



Santa Cruz River Mgt Plan – Avra Valley to Trico

What has been done before?

Santa Cruz River Mgt Plan – Ina to Avra Valley

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Who uses Envision?

What is defensible and widely accepted?

Envision (64 Credits)

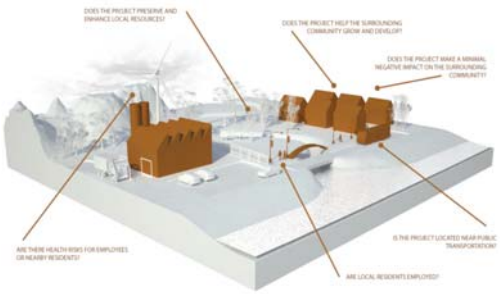
- ✓*Quality of Life*
- ✓*Leadership*
- ✓*Resource Allocation*
- ✓*Natural World*
- ✓*Climate & Resilience*

Santa Cruz River Mgt Plan – Ina to Avra Valley



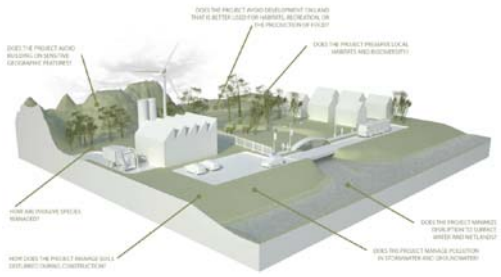
Santa Cruz River Mgt Plan – Ina to Avra Valley

QUALITY OF LIFE



Santa Cruz River Mgt Plan – Ina to Avra Valley

NATURAL WORLD



Santa Cruz River Mgt Plan – Ina to Avra Valley

US Army Corps of Engineers

Who uses MCDA?

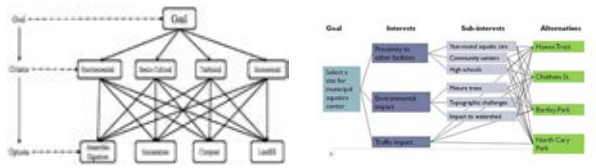
What is defensible and widely accepted?

Multi-Criteria Decision Analysis (MCDA)

- ✓*Goal*
- ✓*Preferences*
- ✓*Criteria (Interests)*
- ✓*Outcomes*

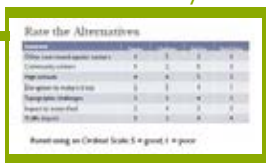
Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Define the context (Goal)***
- ***Identify Stakeholder Interests (Preferences)***
- ***Build a Decision Framework (Criteria)***



Santa Cruz River Mgt Plan – Ina to Avra Valley

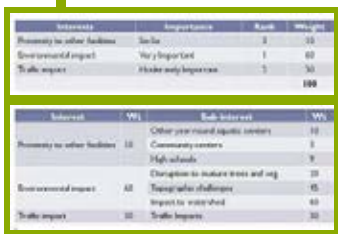
- ***Rate the Alternatives***
- *Weight Stakeholder Interests*
- *Score the Alternatives*



- ❑ Technical Task
- ❑ Two Scales: Relative or Ordinal

Santa Cruz River Mgt Plan – Ina to Avra Valley

- *Rate the Alternatives*
- ***Weight Stakeholder Interests***
- *Score the Alternatives*



- ❑ Personal preference
- ❑ Assign weights

Santa Cruz River Mgt Plan – Ina to Avra Valley

- *Rate the Alternatives*
- *Weight Stakeholder Interests*
- ***Score the Alternatives***



- ❑ Discuss results, re-score
- ❑ Discuss again, decide

Santa Cruz River Mgt Plan – Ina to Avra Valley

What criteria is out there that meets these two objectives?

Santa Cruz River Mgt Plan – Ina to Avra Valley

- ***Other Planning Efforts***


Website: pima.gov/santacruzriverplan
Evan Canfield
Pima County Regional Flood Control District
evan.canfield@pima.gov
Scott Altherr
CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com

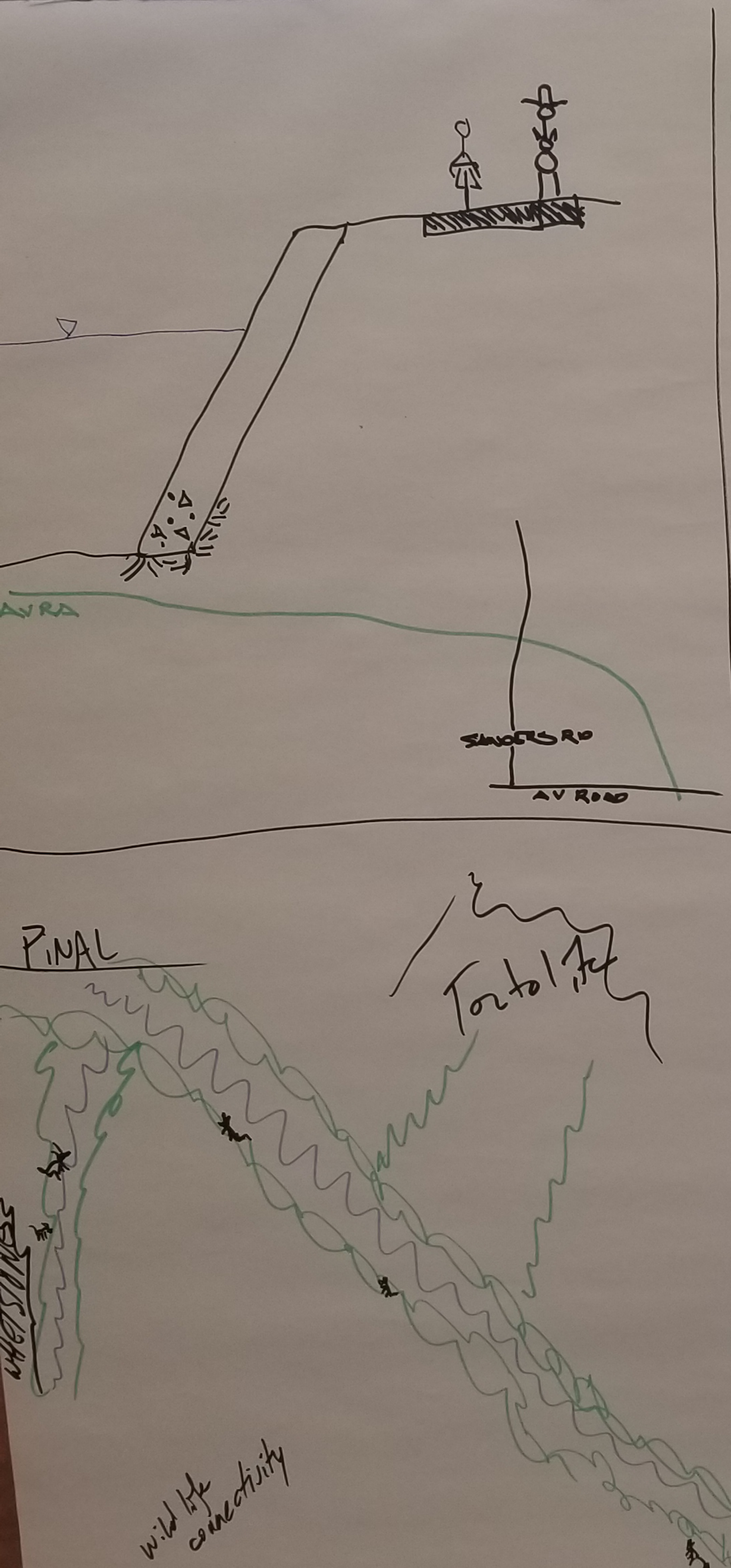
Meeting Exhibits

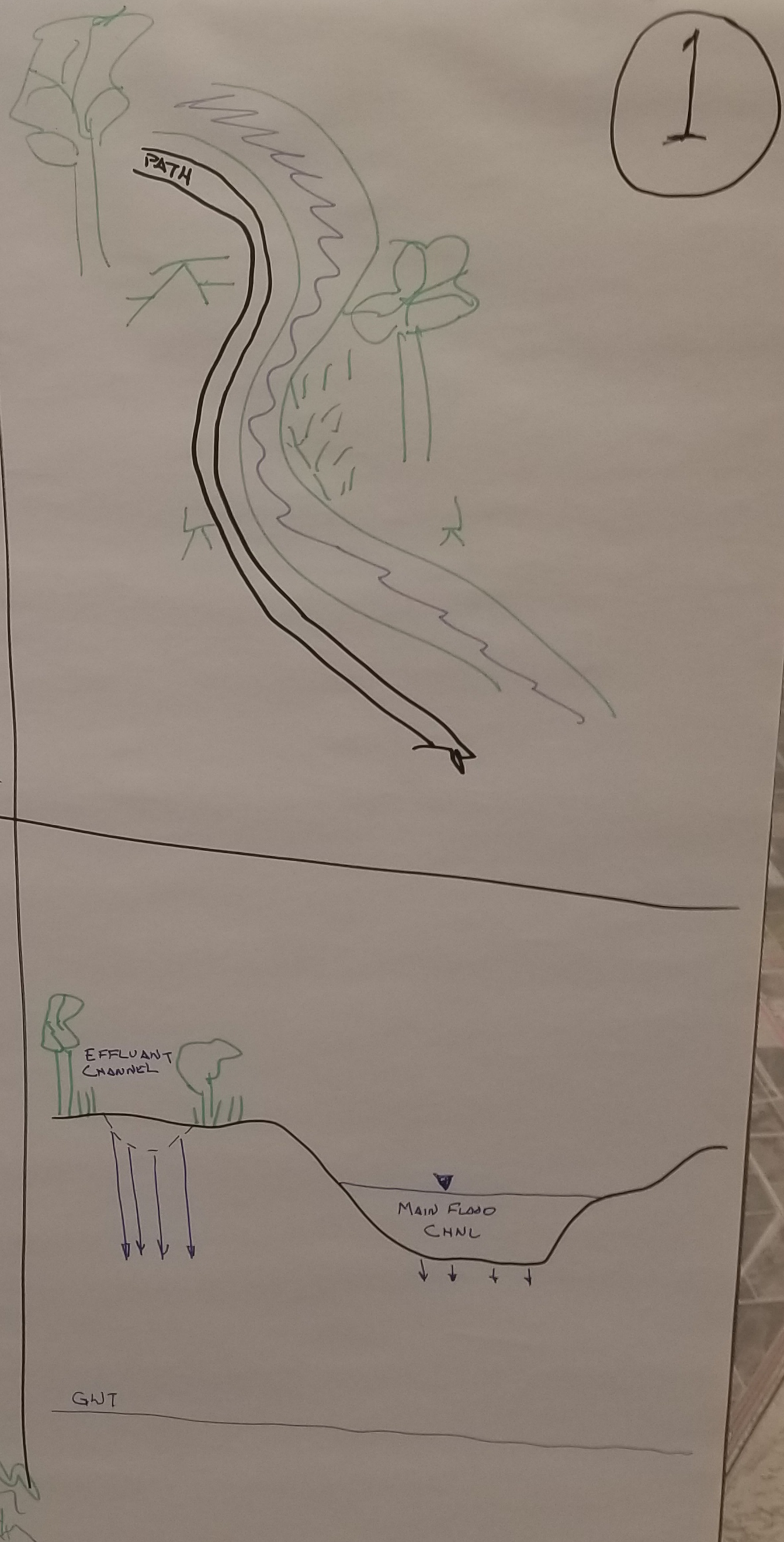
Office DEPOT

self-stick tabletop
easel pad/flipchart

20 sheets
20"x23"
(50.8 cm x 58.4 cm)

ITEM 775-088



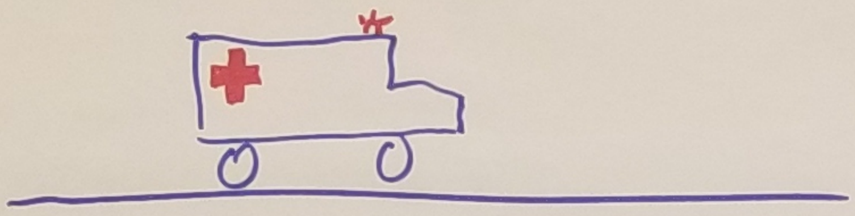


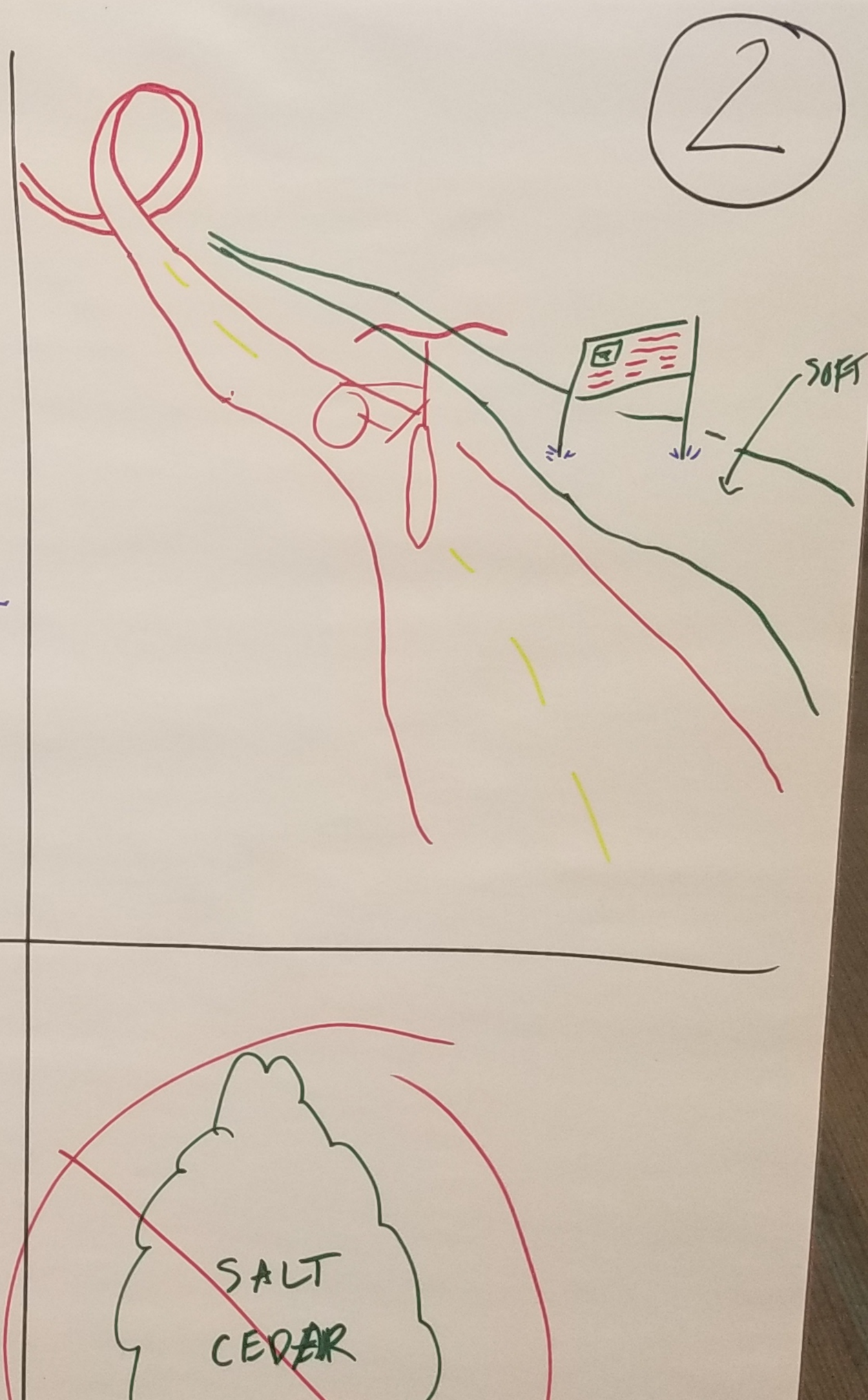
Office DEPOT

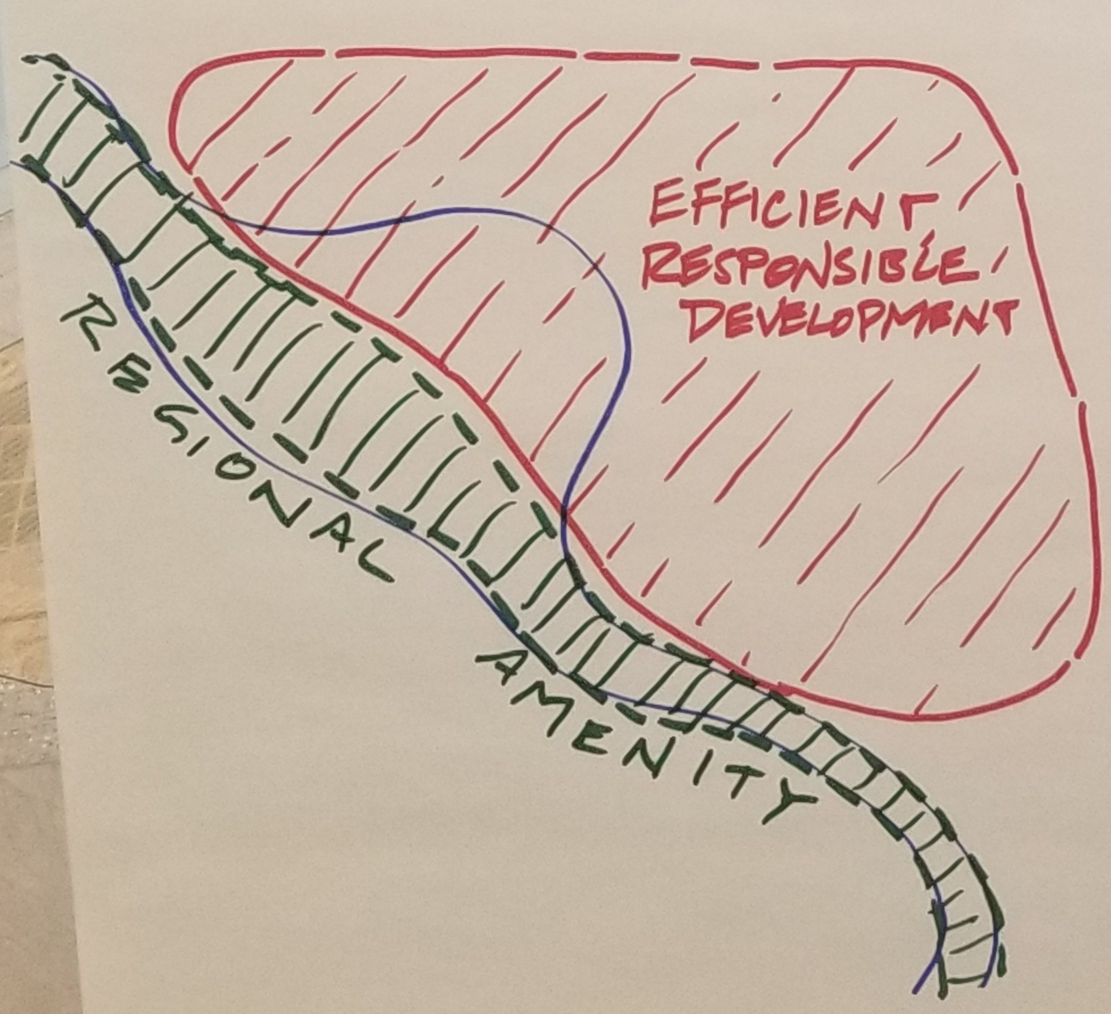
self-stick tabletop
easel pad/flipchart

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20"x23"
(50.8cm x 58.4cm)

ITEM 775-088







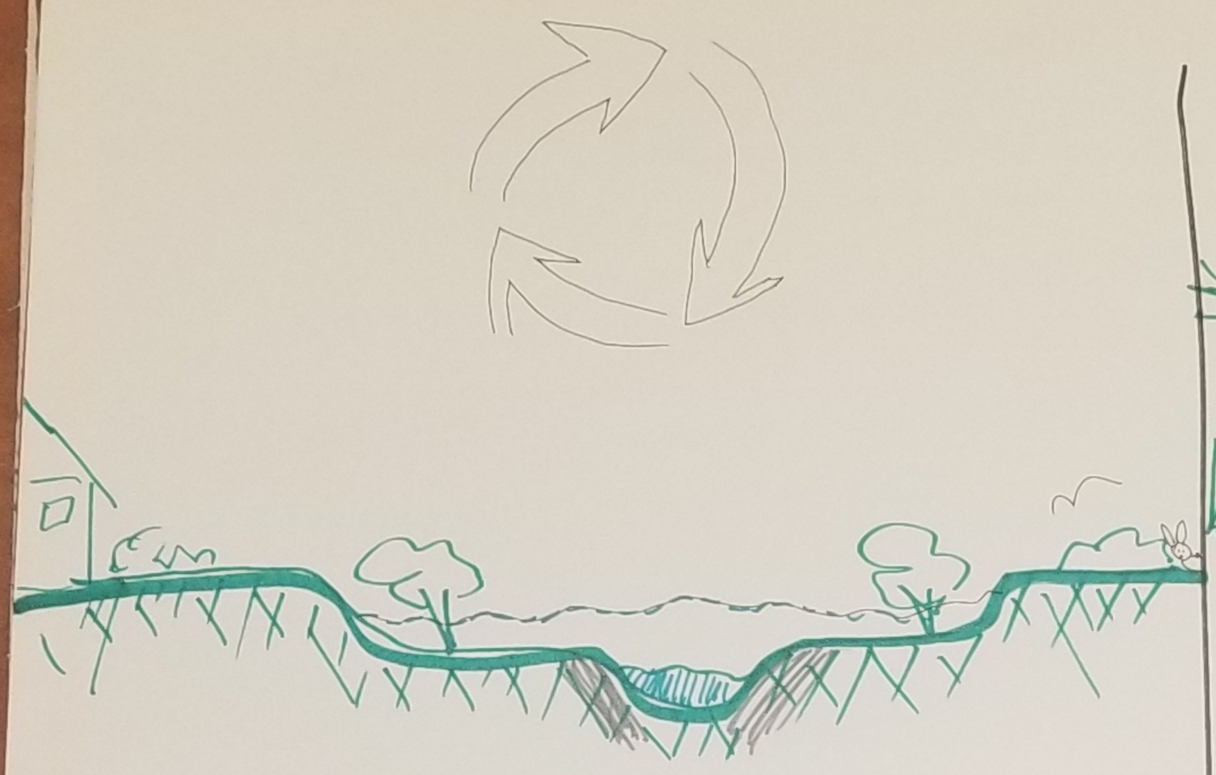
Office DEPOT

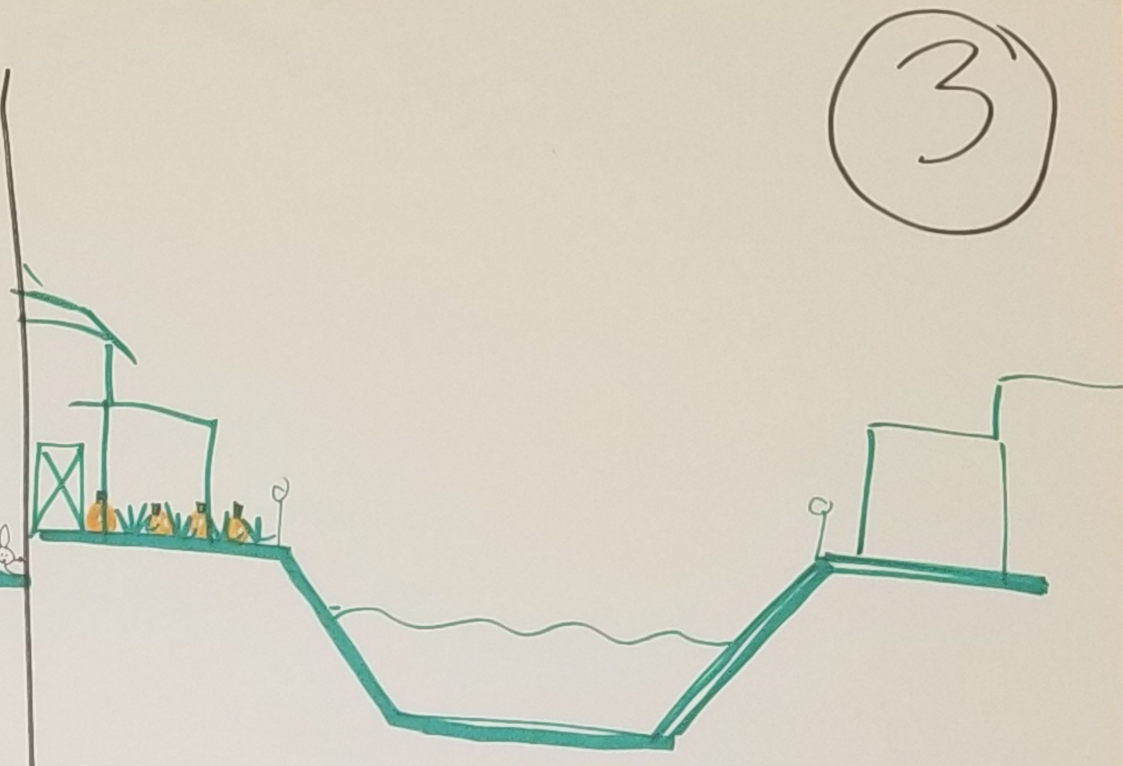
self-stick tabletop
easel pad/flipchart

20 sheets
20"x 23"
(50.8 cm x 58.4 cm)

ITEM 775-088

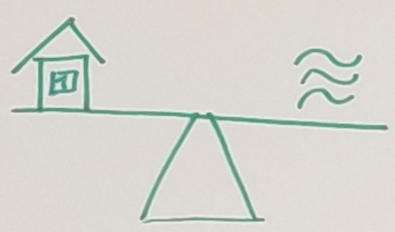
3



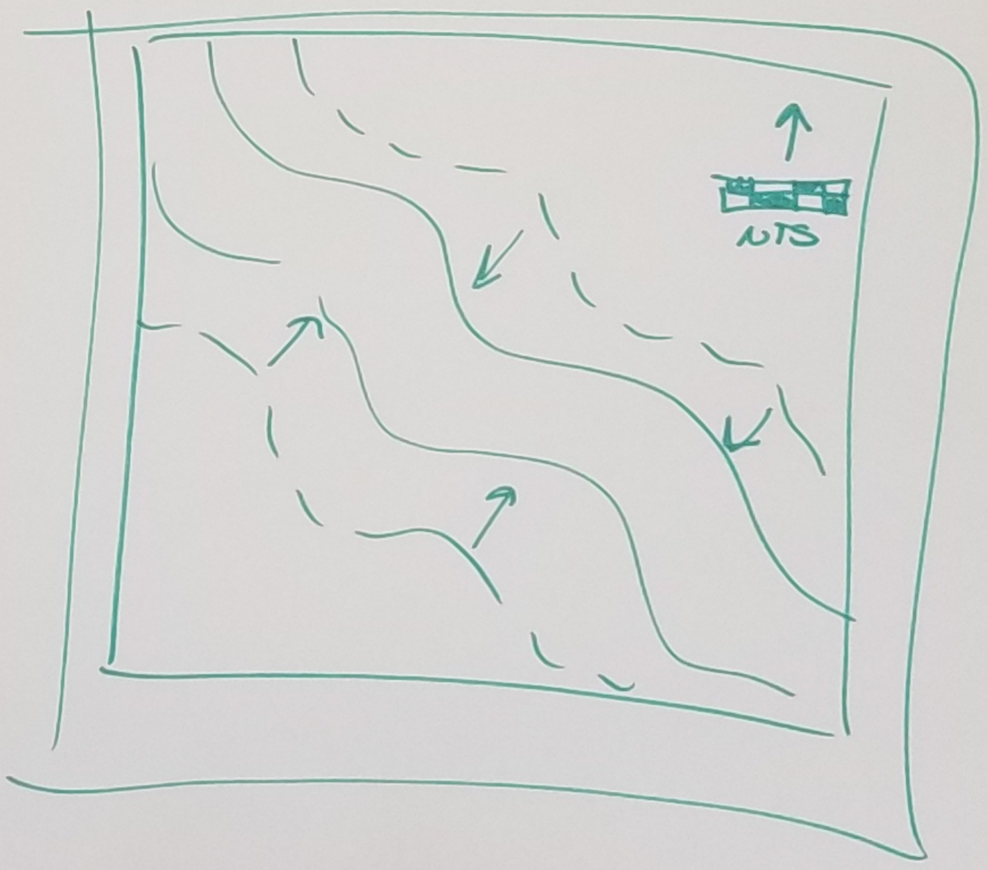


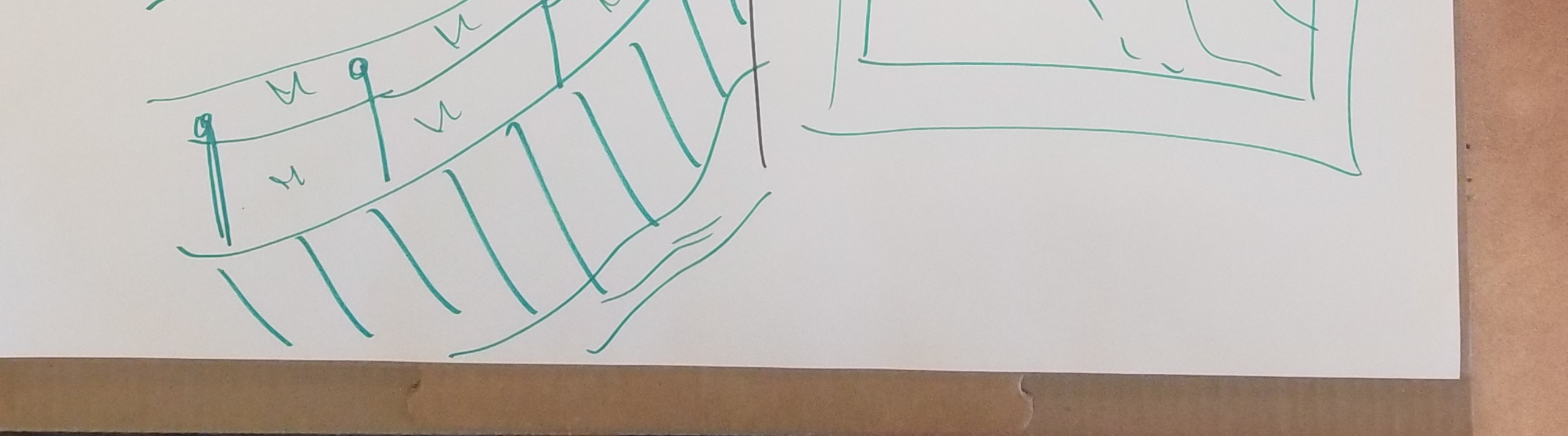
ISOLATED AREAS

- DEVELOPMENT ALREADY PRESENT
- TRANSITION TO BRIDGES

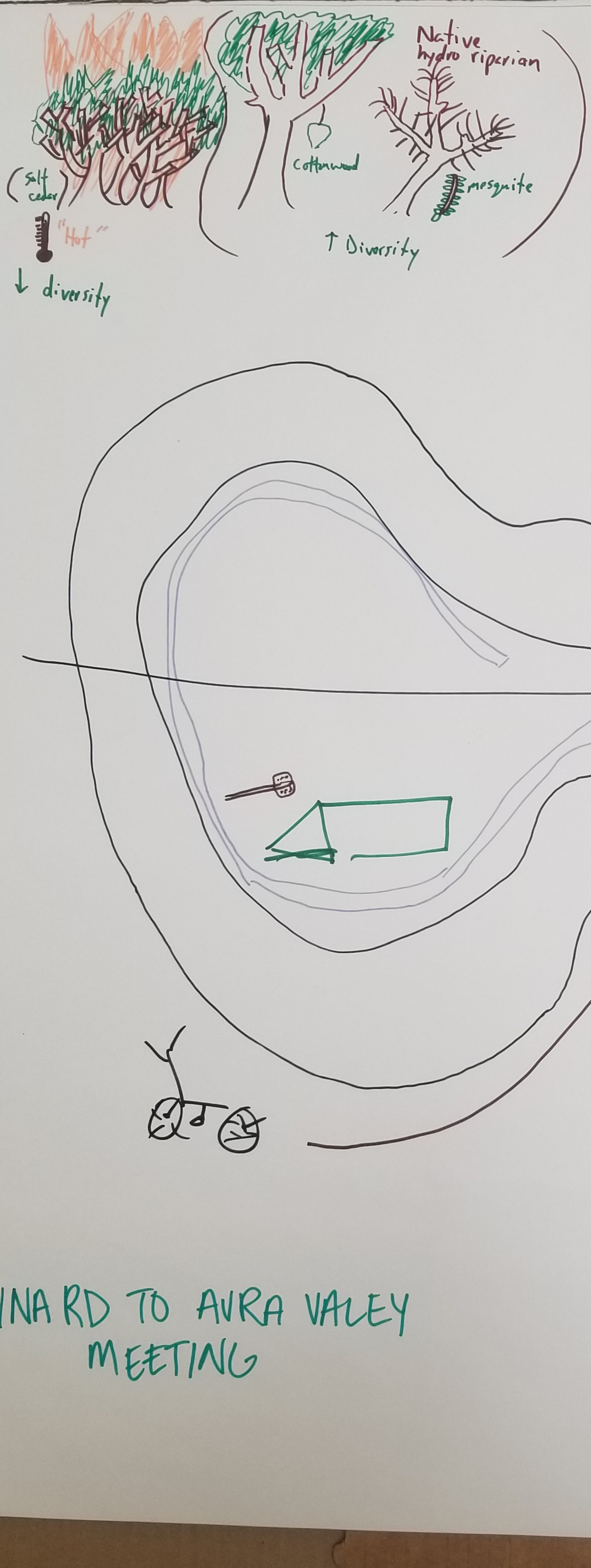


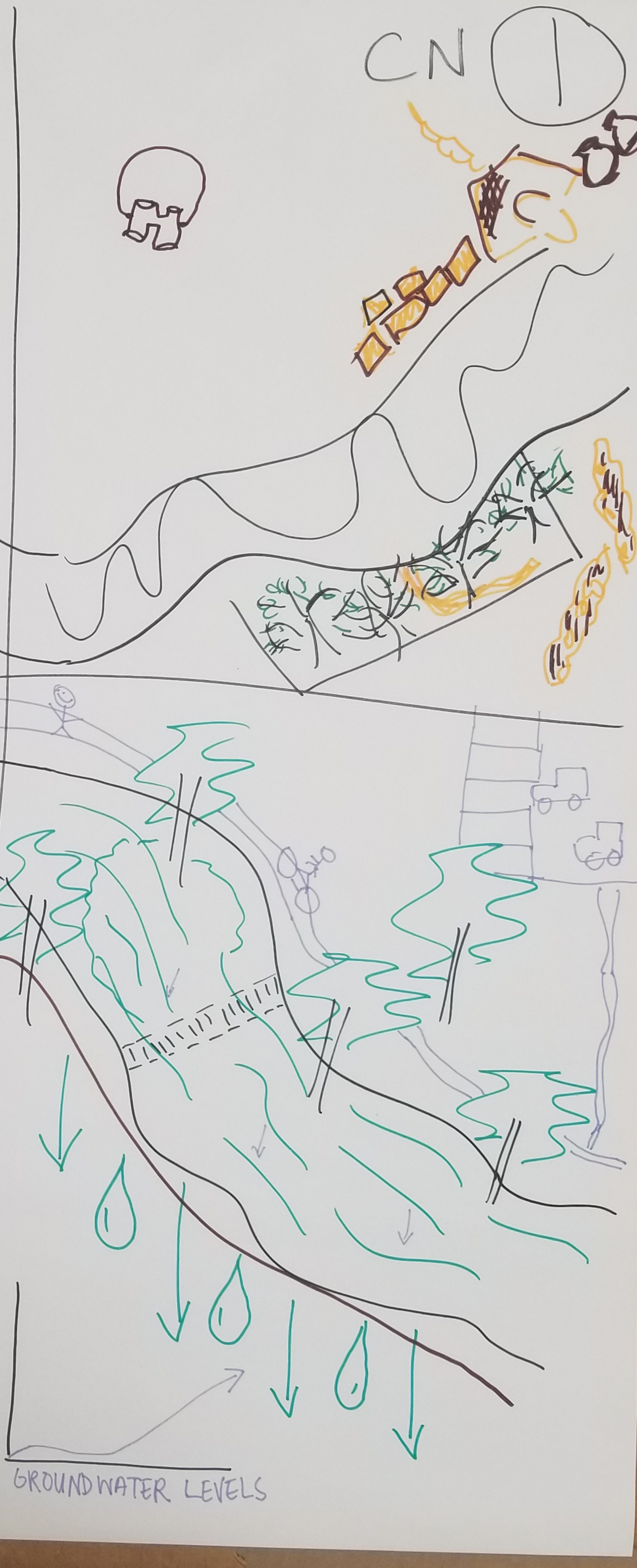






Office DEPOT
self-stick tabletop easel pad/flipchart
20 sheets
20"x23"
(50.8cm x 58.4cm)
ITEM 775-088





INA RD TO AVRA VALEY MEETING

Office DEPOT

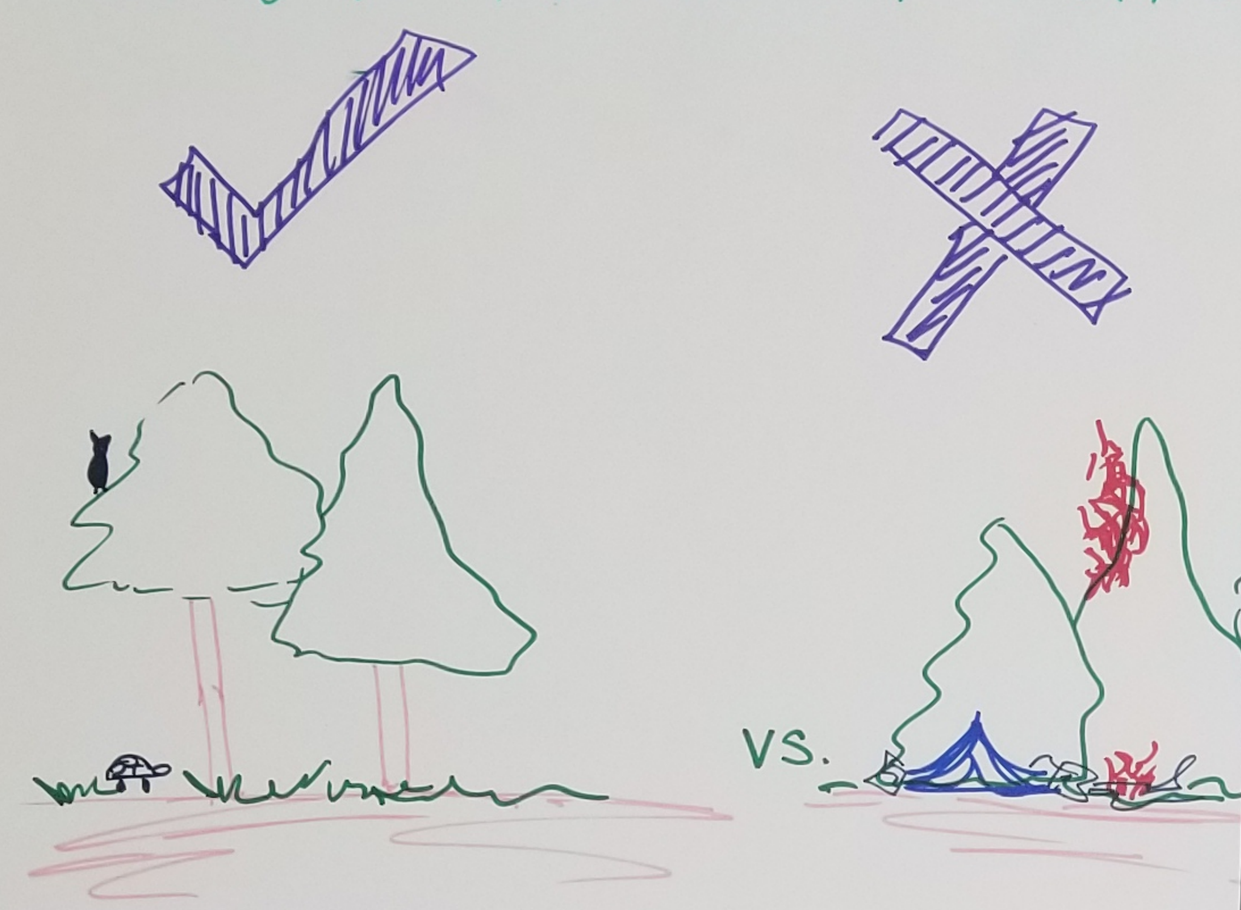
self-stick tabletop easel pad/flipchart

20 sheets
20"x23"
(50.8 cm x 58.4 cm)

ITEM 775-088

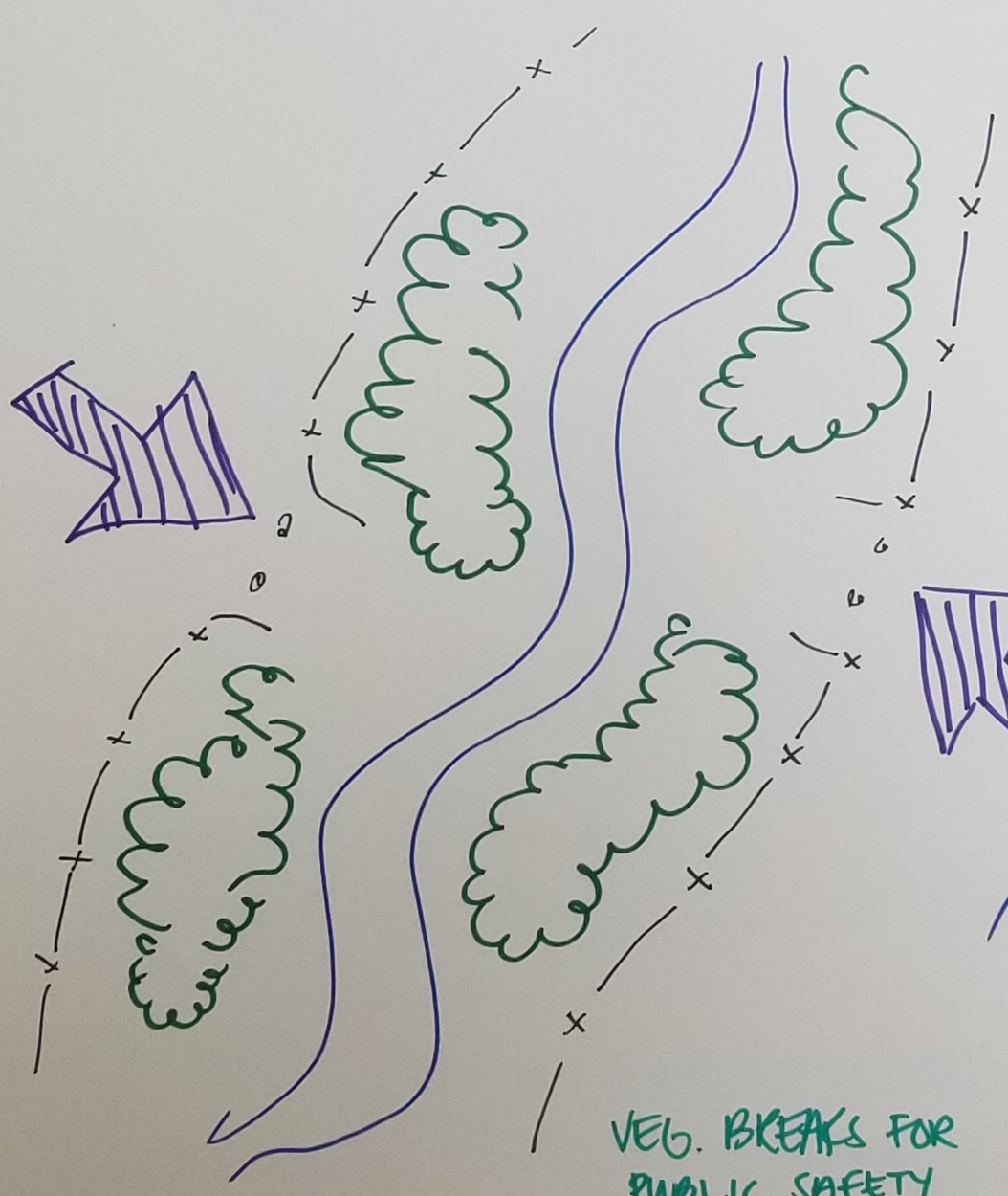
INARO TO AVRA VALLEY MEETING

CN 2

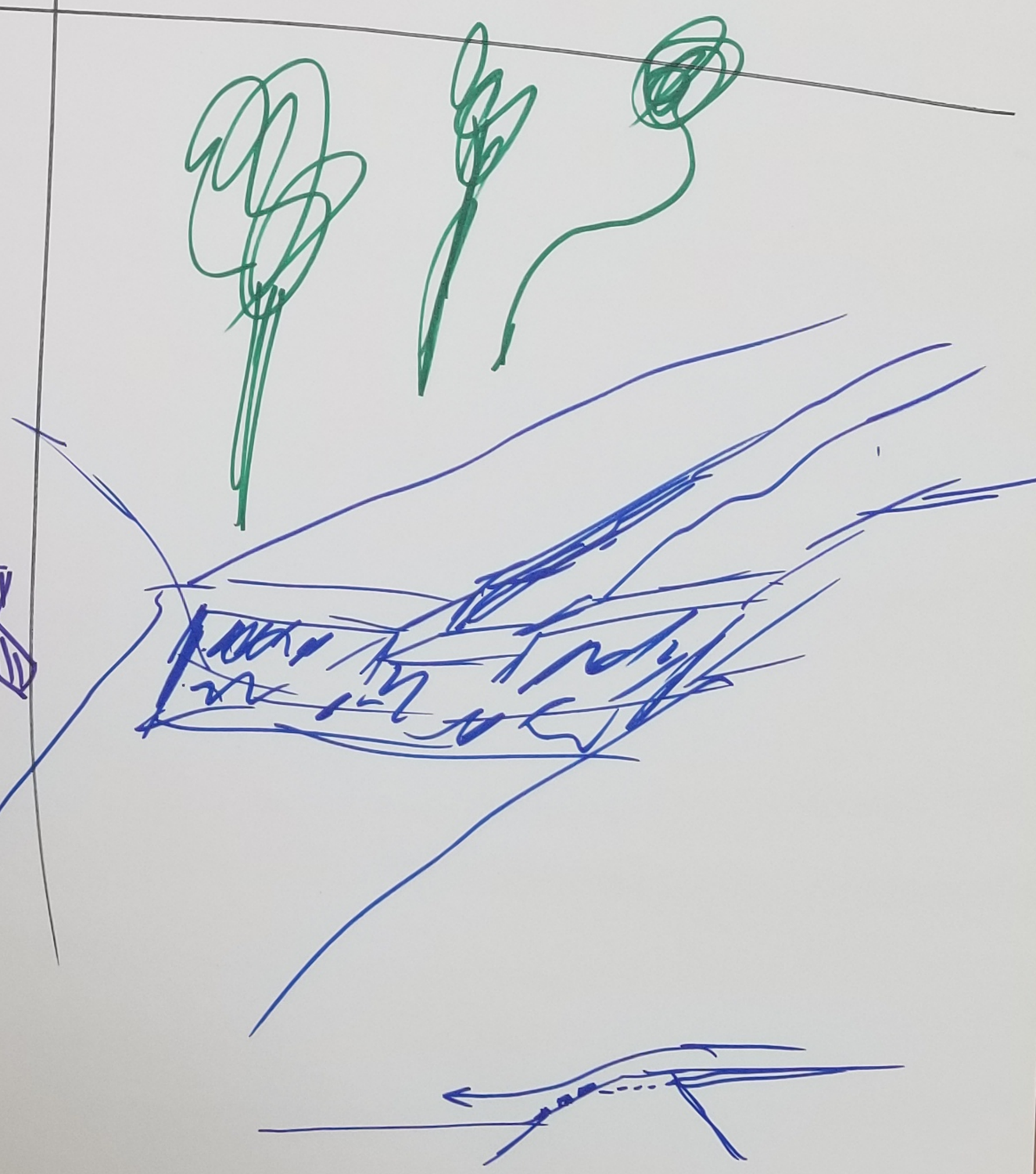


*Trimmed-up veg

*Debris removal



VEG. BREAKS FOR PUBLIC SAFETY



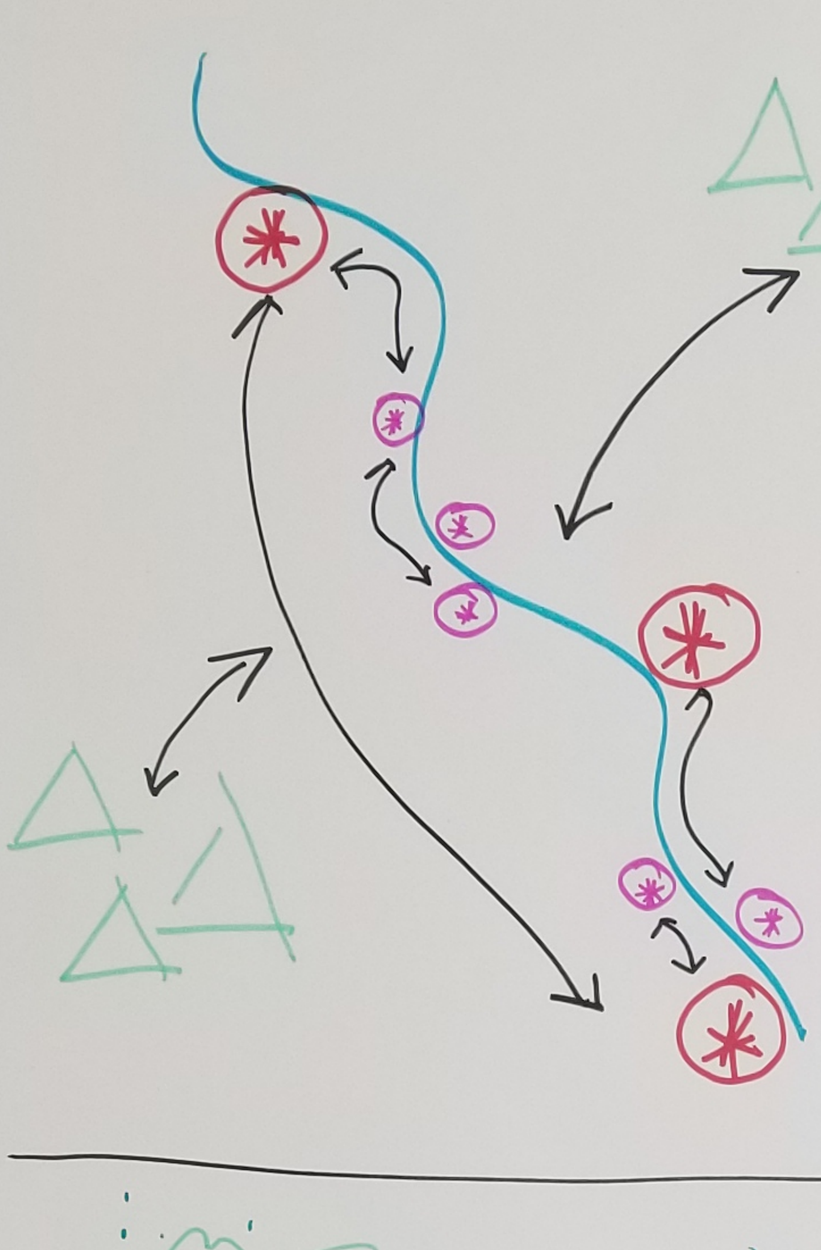
Office DEPOT

self-stick tabletop easel pad/flipchart

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(50.8 cm x 58.4 cm)

ITEM 775-088

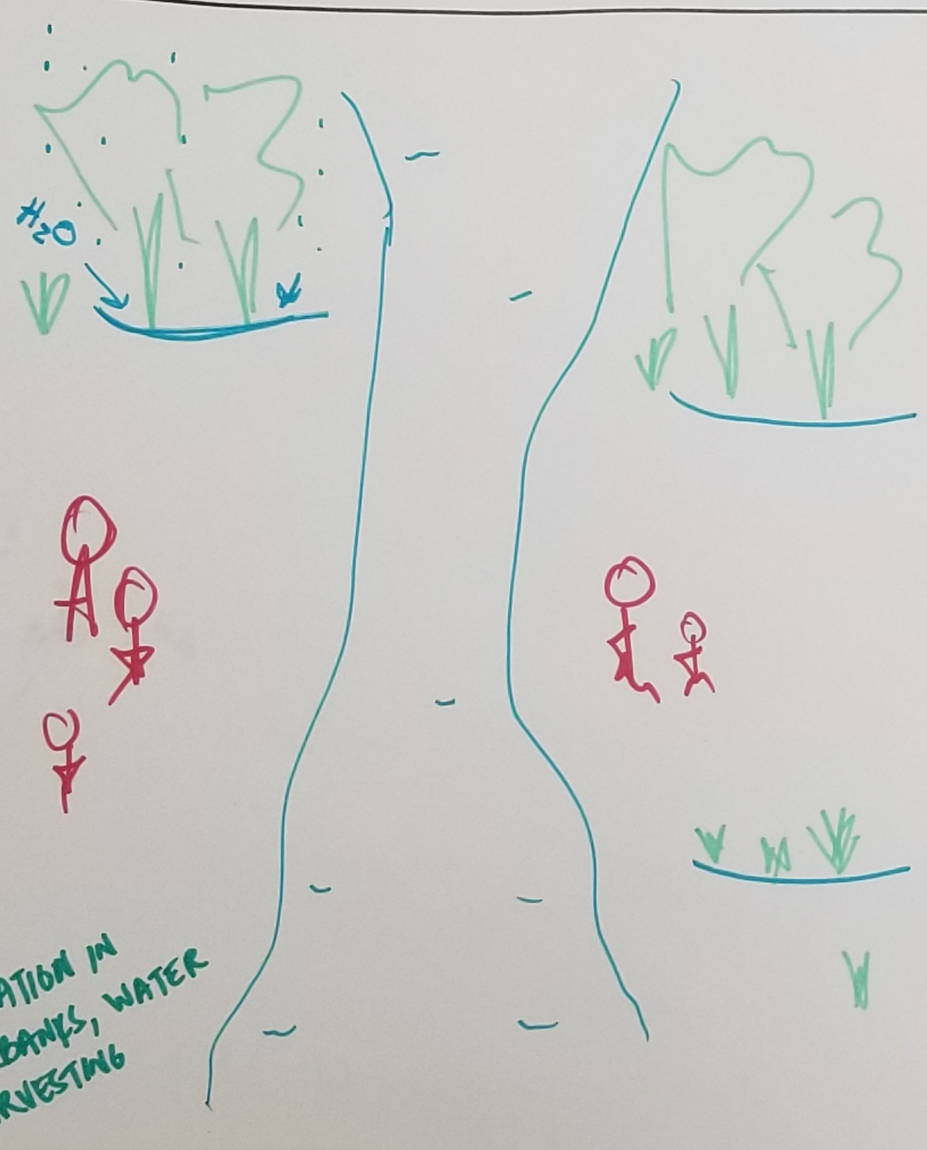
CN 3



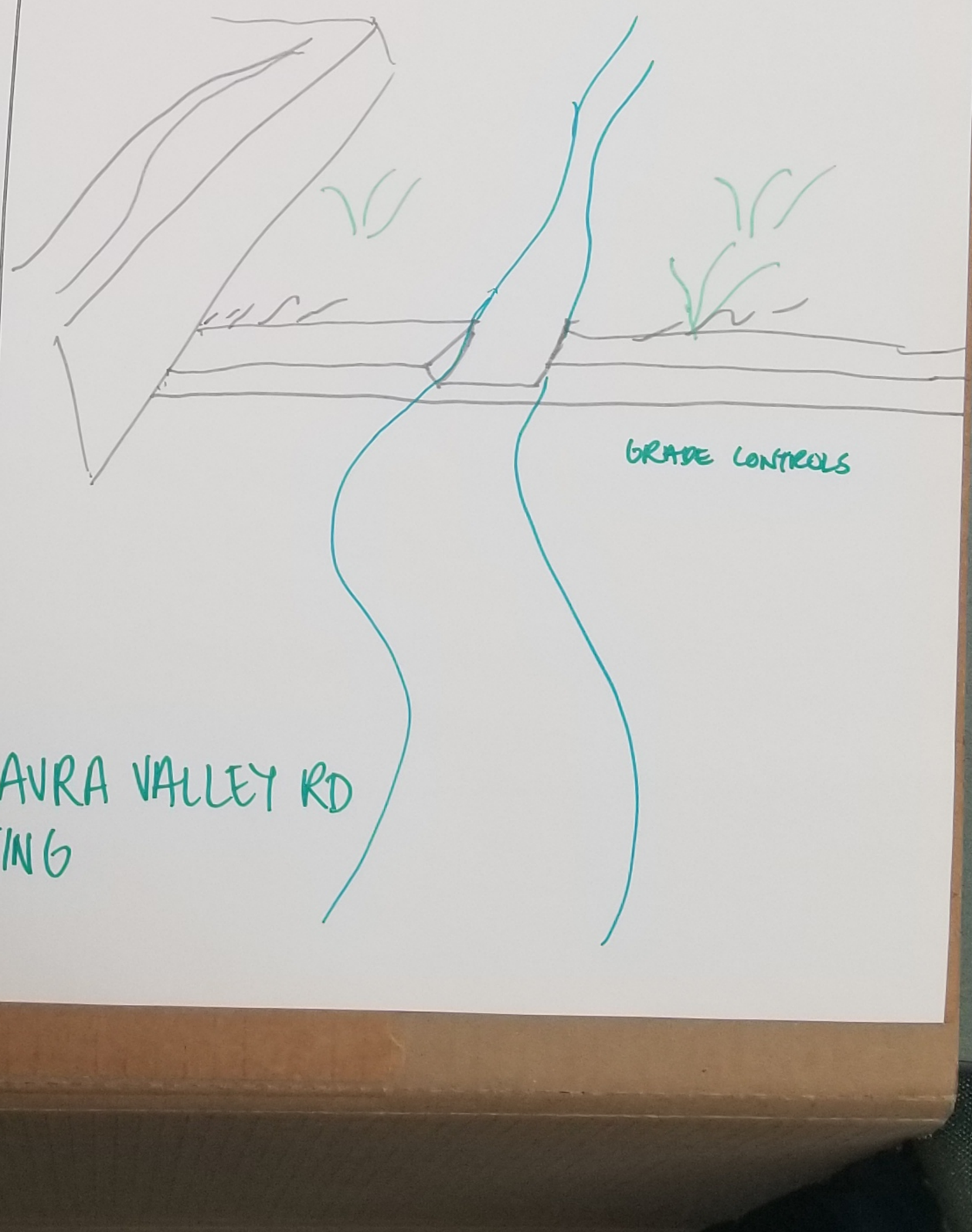
CONNECTING HOT SPOTS TO EACHOTHER AND GETTING PEOPLE TO THE RIVER



GETTING PEOPLE CLOSER TO THE WATER. EDUCATION



RECREATION IN OVERBANKS, WATER HARVESTING



GRADE CONTROLS

INA RD TO AVRA VALLEY RD MEETING

ENTER

NO DUMPING

NO DUMPING

ENTER

ACCESS POINTS

BATHROOMS

RIVER CLEAN UP NEXT WEEK JOIN US!

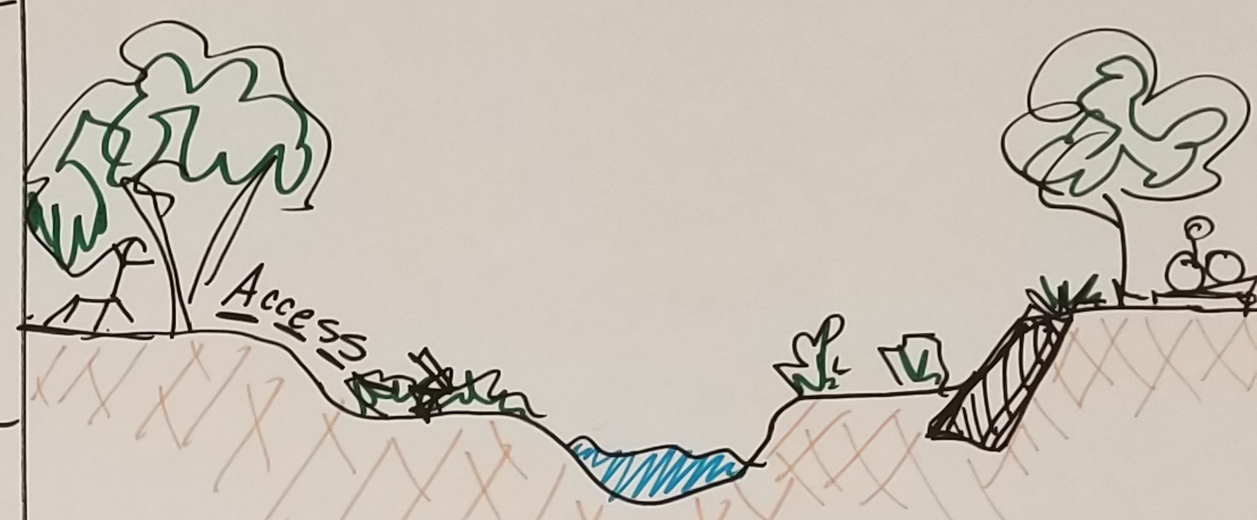
ADOPT A RIVER!
CORRIDER

GRANT TO
IN A MEET

2

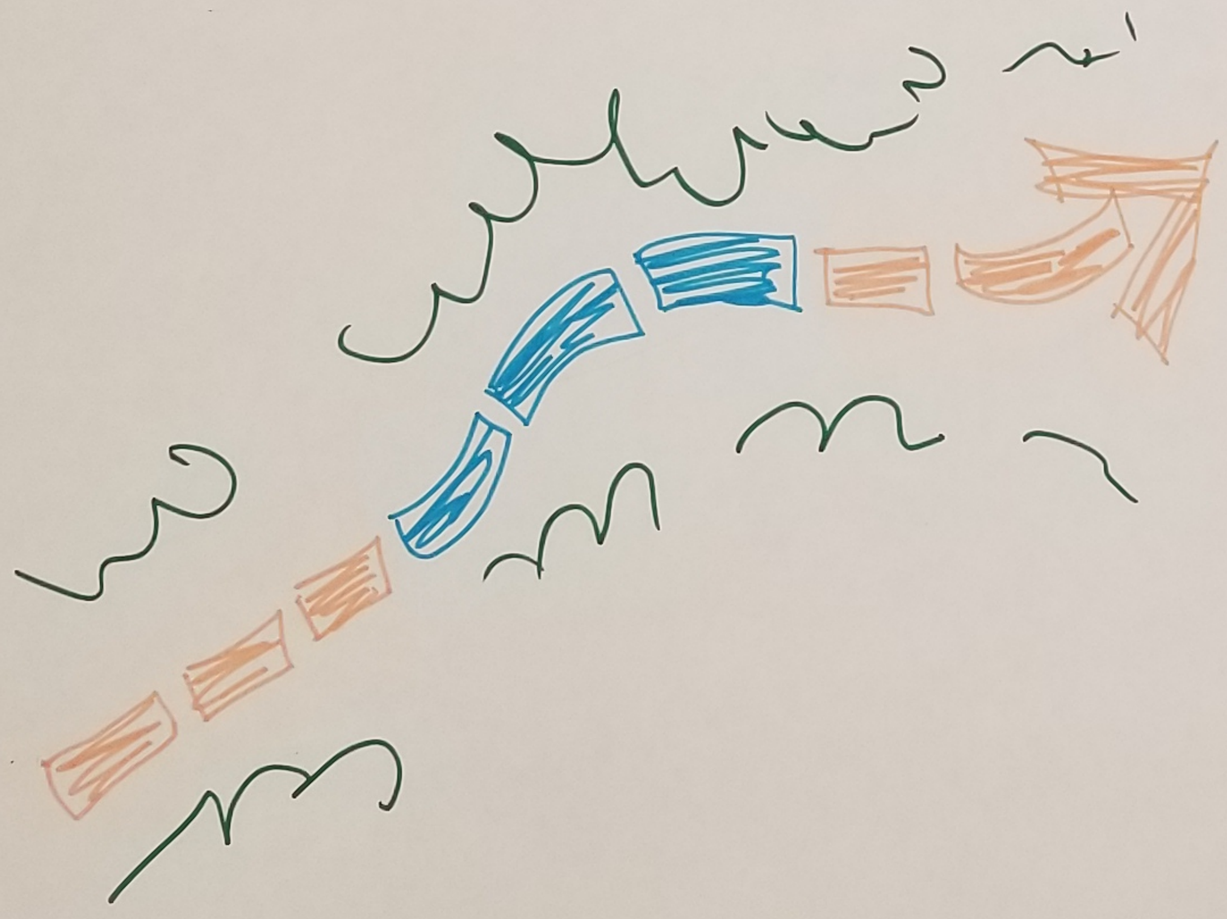
Existing

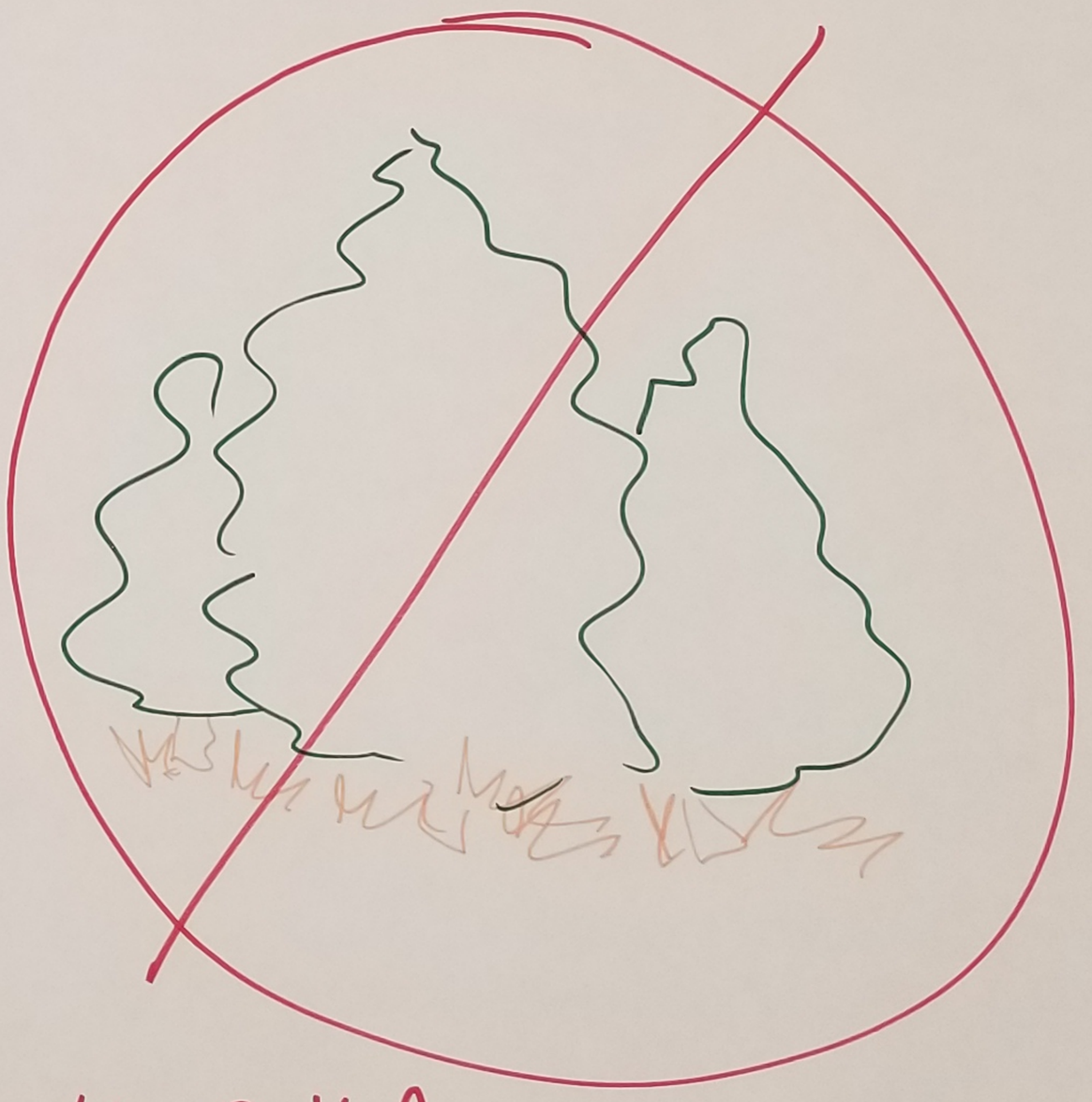
Proposed



*Equestrian

* Interp. Signage





No Salt Cedar
Buffle Grass
Dos. Broom

GRANT TO
MEETING

STAKEHOLDER WORKING GROUP MEETINGS (JANUARY 2020)

Attendance

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group #2
Avra Valley to Pinal County
SIGN-IN SHEET
January 28, 2019

Name	Business Name	Phone Number	Email Address
Scott Altherr	CMG Drainage Engineering	209-1504	Salherre cmgdrainage.com
Zeiad Fadl	Kimley-Horn	355.8657	Zeiad.Fadl@kimley-horn.com
Kevin Boyle	Kimley-Horn	352-2534	Kevin.Boyle@kimley-horn.com
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]			[illegible]
[illegible]			[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
Kathleen Hook	CMG Drainage Engineering	209-1507	khook@cmgdrainage.com
Chris D Otter	JE Fuller	623.3172	[illegible]
Bud Cox	Sundt Construction		[illegible]
Gus Myers	Town of Marana	520 382 2692	gmyers@marana.gov
Paul Conti	Pinal Hydrology	381-4324	[illegible]
Melanie Snider	Farmer Investments	385-210-4705	msnider@farmerdirect.com
Ned Closson		971-645-0197	[illegible]
Joe Mcginnis	Property Resources LLC	PO Box 3695	mcginnisj@cpdi.com
Mario Conti	Fidelity Company	520 325-4201	mario@fidelity.com
Eric Lundgren	Pima County	724-724-8760	[illegible]
Jeff Post	TOM		

PIMA COUNTY

FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group #2
Avra Valley to Pinal County
SIGN-IN SHEET
January 28, 2019

Name	Business Name	Phone Number	Email Address
[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]	[illegible]
KEN ERIE	ERIE & ASSOC.	(602)954-6399	erie@witcanet
CLINT GLASS	CFCD DRAINAGE ENG		

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group #2
Ina Rd to Avra Valley Rd
SIGN-IN SHEET
January ~~29~~ 30, 2019

Name	Business Name	Phone Number	Email Address
JONATHON GOLDMAN	CWC - SOAZ		jmathongoldman@gmail.com
CHRIS LANGHAM	KDS		CHRIS@PRECEG.COM
Dugger Hughes	Northwest Fire	520-~~[illegible]~~-730 1748	whughes@northwestfire.org
DEIRDRE BRESNIHAN	RFCD	520-724-4686	DEIRDRE.BRESNIHAN@PIMA.GOV
WALLY WILSON	METRO WATER	5205738100	WWILSON@METROWATER.COM
CYRUS MILLER	JE FULLER	520-623-3112	Cyrus@jefuller.com
GUS MYERS	TOM	520 382 2672	gmyers@marana.az.gov
James Brown	Pima Co. RWRD Wastewater	520 878 6365	james.brown@pima.gov
Ian Murray	Pima County OSC	520 724 9489	Ian.Murray@pima.gov
Luke Cole	Sonoran Institute		LCole@SonoranInstitute.org
Frank Postillio	Postillio ERS Inc.	(520) 3251713	postero@juno.com
Janne Spencer Glasson	Friends of El Rio Preserve	" 245-6200	janines07@comcast.net
Jim Conroy	TOM	382-1954	J.Conroy@MARANAAZ.GOV
KATHY CHAVEZ	PIMA COUNTY / OSC	on file	on file
Rachael Nock	CMG Drainage Engineering		rnock@cmgdrainage.com
Scott Altherr			
Kevin Payne			
Rebecca Field			
POET CHANDRAKANT	PIMA COUNTY	724-6940	

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group #2
Grant Rd to Ina Rd
SIGN-IN SHEET
January 30, 2019

Name	Business Name	Phone Number	Email Address
GUS MYERS	TOWN OF MARANA	520.382.2672	gmyers@maranaaz.gov
Seth Altherr	CMG Drainage	209-1504	saltherr@cmgdrainage.com
Rebeca Feild	Kimley-Horn	352.8657	Rebeca.Feild@kimley-horn.com
Rachael Mack	CMG Drainage	209-1507	rmack@cmgdrainage.com
Kevin Payne	Kimley-Horn	352-854-4	Kevin.Payne@Kimley-horn.com
Keith Brann	MARANA	382-2605	kbrann@maranaAZ.gov
JERRY CURLESS	CMG DRAINAGE ENG	209-1502	jcurless@cmgdrainage.com
JONATHAN GOLDMAN	CWC-SAHZ		jonathan.goldman@amail.com
George Kuk	FWNACC	520-471-6108	george5356@hotmail.com
BEN CHANGKAKOTI	PIMA COUNTY	520.724-6940	
GREG HILL	PIMA COUNTY	7246567	
James Brown	Pima County RWRD	520 879 4955	james.brown@pima.gov
MARGARET SNYDER	TW	837-2434	MARGARET.SNYDER@TUCSONAZ.GOV
Frank Bonillas	City of Tucson EGSD	837-3814	frankbonillas@tucsonaz.gov
Fred Felix	Tucson Transportation	837-6620	fred.felix@tucsonaz.gov
CY MILLER	JE FULLER	623-3112	cyrus@jefuller.com
Joseph Cuffari	RFCD	724-4600	Joseph.Cuffari@pima.gov
Steve Dolan	Tucson Mtns Assoc.	743-3770	steve.dolan@comcast.net

PIMA COUNTY
FLOOD CONTROL

Santa Cruz River Management Plan - Stakeholders Alternatives Working Group #2
Grant Rd to Ina Rd
SIGN-IN SHEET
January 30, 2019

Name	Business Name	Phone Number	Email Address
KATHY CHAVEZ	PIMA County/OSC	on file	on file
Maya Tejechea	TUCSON Water	837 2232	maya.tejechea@tucsonaz.gov
Andy Dimanian	RFCD	4-46887	
Evan Canfield	RFCD	4-4678	
Luke Cole	SONORAN INSTITUTE		LCOLE@SONORANINSTITUTE.ORG

Agendas

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Meeting #2

Marana Flats Reach
(Avra Valley Rd to Pinal County Line)

Tuesday, January 28, 2020 @ 9 AM
Marana Municipal Complex, 2nd Floor

1. **Introductions**

2. **Background on 1st SWG Mtg**

3. **Why we are here**

4. **Introduce Project Types**

5. **Stakeholders Rank the Project Types**

6. **Understanding the Alternative Seed List**

(Break – 30 minutes) Orient yourselves to the maps and locations of the alternatives

7. **Results of the Project Type Ranking**

8. **Detailed walk through the Alternative Seed List**

(Break – 15 minutes)

9. **Introduce Weighting Criteria**

10. **Stakeholders Rank the Weighting Criteria**

PIMA COUNTY
FLOOD CONTROL

11. Where do we go from here?

New Action Item	Responsible Party

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Meeting #2

Three Rivers Reach
(Grant Rd to Ina Rd)

Wednesday, January 29, 2020 @ 9 AM
Pima County Regional Flood Control District, 201 N Stone,
Basement Conference Room C

1. **Introductions**

2. **Background on 1st SWG Mtg**

3. **Why we are here**

4. **Introduce Project Types**

5. **Stakeholders Rank the Project Types**

6. **Understanding the Alternative Seed List**

(Break – 30 minutes) Orient yourselves to the maps and locations of the alternatives

7. **Results of the Project Type Ranking**

8. **Detailed walk through the Alternative Seed List**

(Break – 15 minutes)

9. **Introduce Weighting Criteria**

10. **Stakeholders Rank the Weighting Criteria**

CMG DRAINAGE ENGINEERING, INC.

PIMA COUNTY
FLOOD CONTROL

11. Where do we go from here?

New Action Item	Responsible Party

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Meeting #2

Cortaro Narrows Reach
(Ina Rd to Avra Valley Rd)

Thursday, January 30, 2020 @ 9 AM
Pima County Regional Flood Control District, 201 N Stone,
Basement Conference Room C

1. **Introductions**

2. **Background on 1st SWG Mtg**

3. **Why we are here**

4. **Introduce Project Types**

5. **Stakeholders Rank the Project Types**

6. **Understanding the Alternative Seed List**

(Break – 30 minutes) Orient yourselves to the maps and locations of the alternatives

7. **Results of the Project Type Ranking**

8. **Detailed walk through the Alternative Seed List**

(Break – 15 minutes)

9. **Introduce Weighting Criteria**

10. **Stakeholders Rank the Weighting Criteria**

CMG DRAINAGE ENGINEERING, INC.

PIMA COUNTY
FLOOD CONTROL

11. Where do we go from here?

New Action Item	Responsible Party

Presentation

CC-2
FC-36

Marana General Plan Densities in Floodplain and Erosion Hazard Areas

Marana Flats



1

E-18

Wildlife Connectivity to River is Needed

All

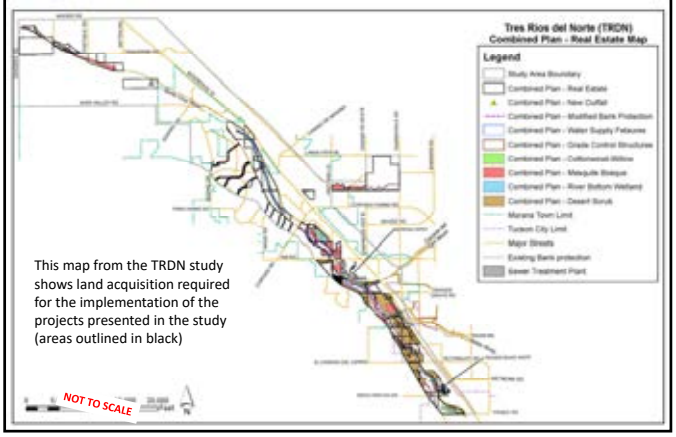


2

E-24

Ecologically Valued Lands Preserved

All



3

E-26

New Wetlands

TRDN Wetland Concept at:

All

a. Near CAP Crossing



b. Downstream of Cortaro Rd



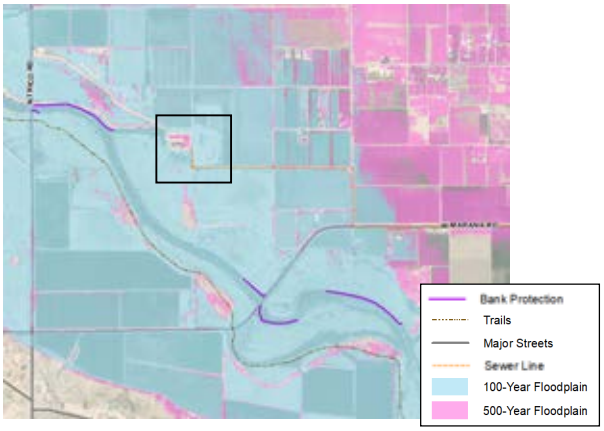
c. Along Tres Rios WRF



4

FC-12 **Critical Facility in the 500-Year Floodplain**
Marana Water Reclamation Facility

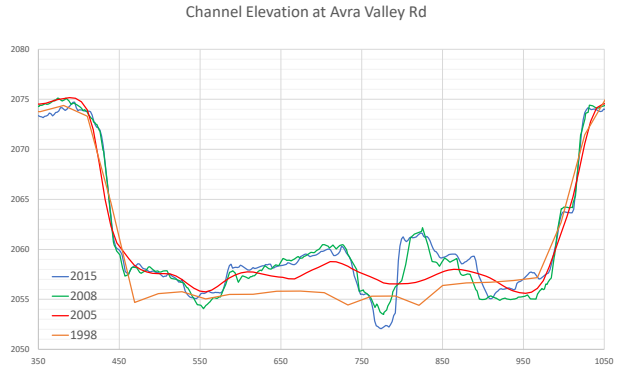
Marana Flats



5

FC-20 **Long Term Degradation Along Effluent Channel**

Marana Flats



6

FC-26
FC-27
FC-28

Hydraulically Deficient Bridges
Sanders Rd, Trico/Marana Rd, Trico Rd

Marana Flats

Existing Bridge Photos







7

CC-2
FC-36

Marana General Plan Densities in Floodplain and Erosion Hazard Areas

Marana Flats



8

FC-45 **Conveyance of Flood within Compound Channel**
with Multi-Use-Multi-Objective (MUMO) Opportunities

Marana Flats



9

FC-4 **Levee Freeboard Deficiency – Conveyor Belt**

Marana Flats



10

PS-2 **Access Control Plan is Needed**

All



11

R-1 **Connectivity and Access to River is Limited**

Marana Flats



12

R-4 **Attract More People to the River** Marana Flats

Promote and Develop the Anza National Historic Trail







13

R-4 **Attract More People to the River** Marana Flats



Educational Opportunities

Example wayside signage – De Anza Trail





Boardwalks to water's edge



14

R-7 **More Trailheads Needed** All

Parking area with bathrooms – Example from Pima County Paseo de las Iglesias Project







15

R-9 **Interpretive Signage** All



Educational Opportunities

Example wayside signage – De Anza Trail



Archaeology & Cultural Resources



QR codes on signs or an app could be developed for users to access extra information



16

WR-6 **New Overbank Recharge Basins Needed**
Expand Marana High Plains Project

Marana Flats



17

E-18b **Wildlife Connectivity to River is Needed** Cortaro Narrows



1

E-20 **Promote Archeology and Ecotourism** Cortaro Narrows







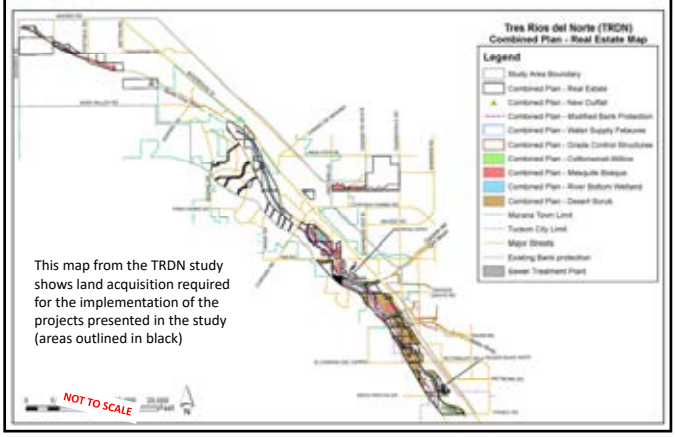
Educational Opportunities
Example wayside signage – Wildlife Habitat





2

E-24 **Ecologically Valued Lands Preserved** All



This map from the TRDN study shows land acquisition required for the implementation of the projects presented in the study (areas outlined in black)

3

E-26 **New Wetlands** All

TRDN Wetland Concept at:

a. Near CAP Crossing



b. Downstream of Cortaro Rd



c. Along Tres Rios WRF



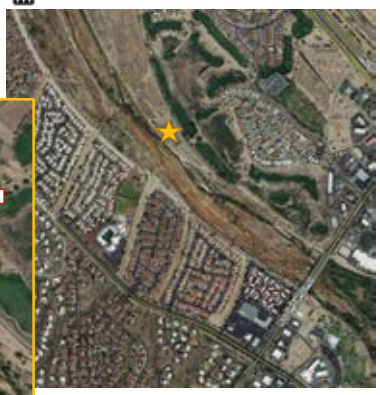


4

E-7 **Trash Capture System** Cortaro Narrows

An offline basin could become a deposit site for trash so it could be removed from a central location





5

FC-13
FC-14 **Effluent Scour at Toe of Low Flow Bank Protection** Cortaro Narrows

Cortaro to Twin Peaks and Twin Peaks to Avra Valley



Concept designs from:
Continental Ranch Area
Low Flow Channel Stabilization
Preliminary Alternatives Analysis
RFCD July 2008



6

FC-15 **Sand & Gravel Encroachment** Cortaro Narrows

United Materials cut slope only 38' from back of soil cement



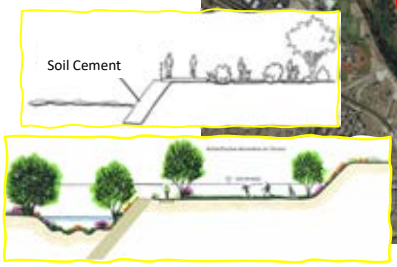


7

FC-46 **Extend Soil Cement Bank Protection on East Bank to Cortaro Rd** Cortaro Narrows

Yellow alignments would require property acquisition but could have terraced MUMO section





8

FC-9 **Critical Facility in 500-Year Floodplain**
Continental Ranch Regional Pump Station

Cortaro Narrows



9

PS-2 **Access Control Plan is Needed**

All



10

R-5 **Educational Opportunities Needed**

Cortaro Narrows



Educational Opportunities

Example wayside signage – wildlife habitat



What can a river teach us?





Photos from Sonoran Institute

11

R-7 **More Trailheads Needed**

All

Parking area with bathrooms – Example from Pima County Paseo de las Iglesias Project







12

R-9 **Interpretive Signage** All



Educational Opportunities

Example wayside signage – De Anza Trail



Archaeology & Cultural Resources



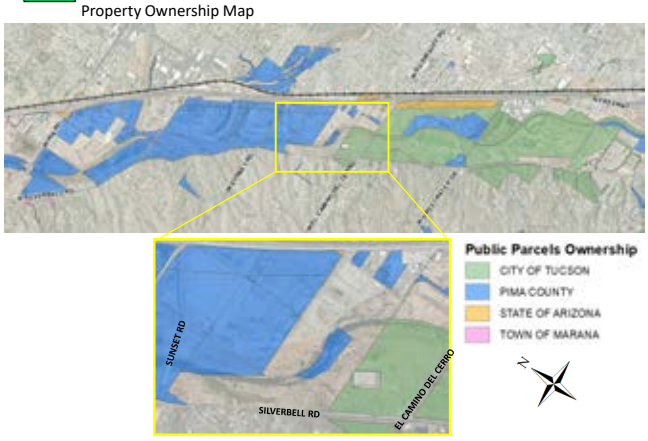
QR codes on signs or an app could be developed for users to access extra information



13

E-11 **Floodplain Function on West Side Needs to be Preserved** Three Rivers

Property Ownership Map



1

E-13 **Trash Capture Mechanism Needed** Three Rivers

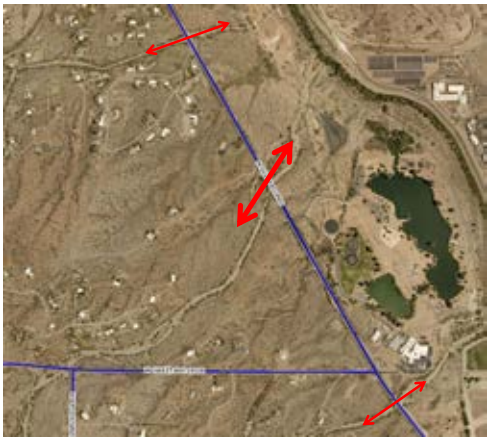


Trash collection systems could be installed on tributary washes before litter reaches the Santa Cruz River

Trash collection system from Storm Water Systems, Inc.

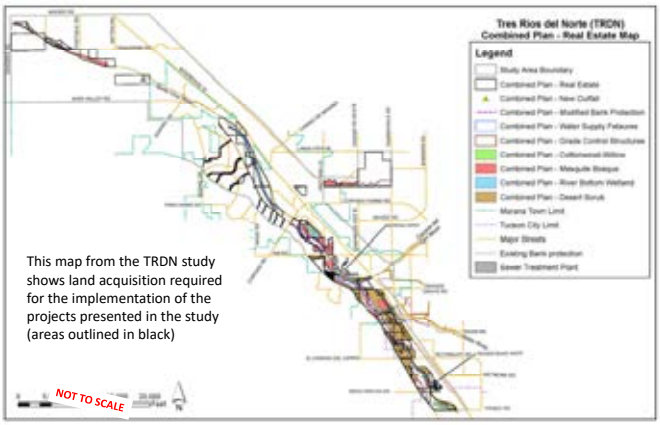
2

E-18a **Wildlife Connectivity to River is Needed** Three Rivers



3

E-24 **Ecologically Valued Lands Preserved** All



This map from the TRDN study shows land acquisition required for the implementation of the projects presented in the study (areas outlined in black)

4

E-26 **New Wetlands** All

TRDN Wetland Concept at:

a. Near CAP Crossing



b. Downstream of Cortaro Rd



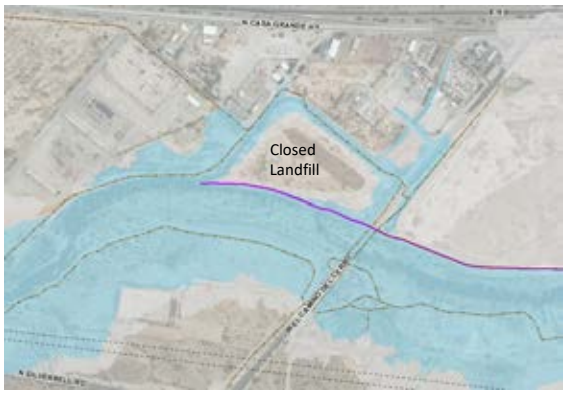
c. Along Tres Rios WRF



5

FC-17 **Channel Capacity** Three Rivers

Flow Breaks Out Near El Camino Del Cerro at Closed Landfill



6

PS-2 **Access Control Plan is Needed** All



7

R-4a **Attract More People to the River** Three Rivers

Promote and Develop the Anza National Historic Trail







8

R-4b **Attract More People to the River**
Complete the Loop on the West side from Sunset to Ina

Three Rivers



Existing Trails
Proposed Alternative
Planned Path

9

R-4 **Attract More People to the River**

Three Rivers



Educational Opportunities
Example wayside signage – De Anza Trail





Boardwalks to water's edge



10

R-5c **Educational Opportunities Needed**
Boardwalk and Viewing Platform at confluence with CDO

Three Rivers



11

R-5 **Educational Opportunities Needed**

Cortaro Narrows/Three Rivers



Educational Opportunities
Example wayside signage – wildlife habitat



What can a river teach us?





Photos from Sonoran Institute

12

R-6 **Multi-Use-Multi-Objective Channel Section** Three Rivers



Overbank Activities: Walking, Biking, Birding, Picnicking

13

R-7 **More Trailheads Needed** All

Parking area with bathrooms – Example from Pima County Paseo de las Iglesias Project







14

R-9 **Interpretive Signage** All



Educational Opportunities

Example wayside signage – De Anza Trail



Archaeology & Cultural Resources



QR codes on signs or an app could be developed for users to access extra information



15

Meeting Exhibits

SANTA CRUZ RIVER MANAGEMENT PLAN
PROJECT TYPES

Step #1: Rank each criteria category from 1 to 6, giving a 1 to the criterion that is most important to you, and a 6 to the least important.

Step #2: Assign each criteria category a group weight by allocating 100 points among the 6 categories. The more important the criterion, the higher its weight.

Project Types	Rank	Group Weight
FLOOD CONTROL (FC) ***Projects that prevent flood and erosion damages including ensuring the operability of critical facilities during flood events.***	**2**	**21.6**
WATER RESOURCES (WR) ***Projects that optimize, protect, preserve and enhance water quality and availability.***	**4**	**16.5**
ENVIRONMENT (E) ***Projects that identify, protect, and preserve watercourses and the natural floodplain function and riparian habitat associated with them, and restore and enhance them where they have been degraded.***	**1**	**24.2**
RECREATION (R) ***Projects that encourage flexibility for adaptive, multi-use river management; Projects that increase community connectivity and improve quality of life by promoting outdoor activities.***	**5**	**12.1**
COMMUNITY COMPATIBILITY (CC) ***Projects respecting the history, land ownership and culture of the corridor; Projects demonstrating efficiency and transparency in river management; Projects promoting sustainable and compatible development with consideration for adjacent stakeholders.***	**6**	**7.7**
PUBLIC SAFETY (PS) ***Projects that can help in reducing the need for rescue and relief efforts; Projects that aid in the efficiency and effectiveness of rescue and relief efforts.***	**3**	**18.0**

Cortaro Narrows

SANTA CRUZ RIVER MANAGEMENT PLAN
PROJECT TYPES

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Project Types	Rank	Group Weight
FLOOD CONTROL (FC) ***Projects that prevent flood and erosion damages including ensuring the operability of critical facilities during flood events.***	**1**	**36.7**
WATER RESOURCES (WR) ***Projects that optimize, protect, preserve and enhance water quality and availability.***	**5**	**11.7**
ENVIRONMENT (E) ***Projects that identify, protect, and preserve watercourses and the natural floodplain function and riparian habitat associated with them, and restore and enhance them where they have been degraded.***	**4**	**12.6**
RECREATION (R) ***Projects that encourage flexibility for adaptive, multi-use river management; Projects that increase community connectivity and improve quality of life by promoting outdoor activities.***	**6**	**8.6**
COMMUNITY COMPATIBILITY (CC) ***Projects respecting the history, land ownership and culture of the corridor; Projects demonstrating efficiency and transparency in river management; Projects promoting sustainable and compatible development with consideration for adjacent stakeholders.***	**2**	**17.3**
PUBLIC SAFETY (PS) ***Projects that can help in reducing the need for rescue and relief efforts; Projects that aid in the efficiency and effectiveness of rescue and relief efforts.***	**3**	**13.2**

SANTA CRUZ RIVER MANAGEMENT PLAN
PROJECT TYPES

Step #1: Rank each criteria category from 1 to 6, giving a 1 to the criterion that is most important to you, and a 6 to the least important.

Step #2: Assign each criteria category a group weight by allocating 100 points among the 6 categories. The more important the criterion, the higher its weight.

Project Types	Rank	Group Weight
FLOOD CONTROL (FC) ***Projects that prevent flood and erosion damages including ensuring the operability of critical facilities during flood events.***	**1**	**32.6**
WATER RESOURCES (WR) ***Projects that optimize, protect, preserve and enhance water quality and availability.***	**3**	**14.1**
ENVIRONMENT (E) ***Projects that identify, protect, and preserve watercourses and the natural floodplain function and riparian habitat associated with them, and restore and enhance them where they have been degraded.***	**2**	**22.8**
RECREATION (R) ***Projects that encourage flexibility for adaptive, multi-use river management; Projects that increase community connectivity and improve quality of life by promoting outdoor activities.***	**5**	**9.6**
COMMUNITY COMPATIBILITY (CC) ***Projects respecting the history, land ownership and culture of the corridor; Projects demonstrating efficiency and transparency in river management; Projects promoting sustainable and compatible development with consideration for adjacent stakeholders.***	**4**	**11.7**
PUBLIC SAFETY (PS) ***Projects that can help in reducing the need for rescue and relief efforts; Projects that aid in the efficiency and effectiveness of rescue and relief efforts.***	**6**	**9.1**

SANTA CRUZ RIVER MANAGEMENT PLAN
WEIGHTING CRITERIA

Step #1: Rank each criteria category from 1 to 10, giving a 1 to the criterion that is most important to you, and a 10 to the least important.

Step #2: Assign each criteria category a group weight by allocating 100 points among the 10 categories. The more important the criterion, the higher its weight.

Weighting Criteria	Rank	Group Weight
FLOODPLAIN MANAGEMENT Evaluation Criteria Examples: *Reduces flood risk to buildings, improves floodplain hazard mapping, reduces erosion hazard, mitigates debris flow and sedimentation, minimizes sheet flooding, improves channel conveyance, etc.*	**1**	**20.9**
TRANSPORTATION Evaluation Criteria Examples: *Provides all-weather access, improves emergency response time, enables transportation improvements, reduces disruptions to normal traffic operations, etc.*	**7**	**6.2**
WATER SECURITY Evaluation Criteria Examples: *Improves water quality, reduces spread of contamination, addresses groundwater depletion, addresses water rights, manages surface flows, etc.*	**4**	**11.0**
EMERGENCY RESPONSE Evaluation Criteria Examples: *Mitigates life-threatening flood hazards, aids in emergency response time, reduces fire risk, minimizes ponded water and virus vectors, etc.*	**3**	**12.7**
NATURAL AND CULTURAL RESOURCES Evaluation Criteria Examples: *Addresses invasive species management, improves quality of riparian/aquatic habitat, preserves natural open space, preserves cultural resources, mitigates climate change impacts, etc.*	**2**	**17.0**
PUBLIC USE Evaluation Criteria Examples: *Maximizes community connectivity, provides recreational opportunities (linear/active/passive), improves quality of life, improves accessibility, provides wildlife viewing opportunities, etc.*	**6**	**7.6**
SUSTAINABILITY Evaluation Criteria Examples: *Extends useful life of infrastructure, stimulates sustainable growth and development, minimizes maintenance needs, promotes infill and redevelopment etc.*	**5**	**9.1**
UNAUTHORIZED USES Evaluation Criteria Examples: *Addresses homeless camps, minimizes off-road disturbance, reduces riparian habitat destruction, addresses illegal dumping activities, etc.*	**9**	**5.3**
ECONOMIC VITALITY Evaluation Criteria Examples: *Produces economic value for the community; addresses potential zoning conflicts and opportunities, fosters ecotourism, preserves high value land (such as prime farm land), increases development potential, etc.*	**10**	**4.8**
FEASIBILITY OF IMPLEMENTATION Evaluation Criteria Examples: *Builds on existing initiatives, partnerships and funding, minimizes disruptions to operations/commerce, improves maintenance access and operations, uses existing right-of-way/public lands, minimizes utility conflicts and permitting constraints, considers costs, etc.*	**8**	**5.5**
		100

SANTA CRUZ RIVER MANAGEMENT PLAN
WEIGHTING CRITERIA

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100

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100

COMBINED STAKEHOLDER MEETINGS (MAY 2020)

Attendance

Meeting ID	Topic	Start Time	End Time	User Email	Duration (M	Participants
86718078424	Santa Cruz River Management Plan Stakeholder Meeting	5/21/2020 8:40	5/21/2020 10:50	saltherr@c	131	59

Name (Original Name)	User Email	Join Time	Leave Time	Duration (Minutes)
Scott Altherr	saltherr@cmgdrainage.com	5/21/2020 8:40	5/21/2020 10:47	128
Jerry		5/21/2020 8:45	5/21/2020 8:49	5
Evan Canfield (evan_)		5/21/2020 8:45	5/21/2020 10:44	119
Steve Dolan (iPad)		5/21/2020 8:46	5/21/2020 10:47	122
Wally Wilson		5/21/2020 8:47	5/21/2020 10:44	118
Rachael Nock		5/21/2020 8:48	5/21/2020 10:50	123
Rebeca Field	rebecafield@gmail.com	5/21/2020 8:48	5/21/2020 10:44	116
Jerry Curless (Jerry Curless)		5/21/2020 8:50	5/21/2020 10:44	115
Jonathon Goldman -- Community Water Coalition of SOAZ (Jonathon Goldman)		5/21/2020 8:50	5/21/2020 10:44	115
U107069		5/21/2020 8:51	5/21/2020 8:52	2
Gus Myers Town of Marana (gus)		5/21/2020 8:51	5/21/2020 10:44	113
Margaret Snyder		5/21/2020 8:54	5/21/2020 10:08	74
Scott phone		5/21/2020 8:54	5/21/2020 8:58	4
kbrann		5/21/2020 8:55	5/21/2020 9:40	46
Ian Murray		5/21/2020 8:55	5/21/2020 10:44	110
Joe Cuffari (u127527)		5/21/2020 8:55	5/21/2020 10:50	115
Dugger Hughes (whughes)		5/21/2020 8:56	5/21/2020 10:44	109
Paul Wassmuth (U107069)		5/21/2020 8:56	5/21/2020 9:22	26
Fred Felix	Fred@calvarytucson.com	5/21/2020 8:56	5/21/2020 8:57	1
Kimberly Baeza (Kimberly)		5/21/2020 8:57	5/21/2020 10:23	87
Frank Bonillas		5/21/2020 8:57	5/21/2020 9:01	5
Asia Philbin (aphilbin)		5/21/2020 8:57	5/21/2020 10:44	108
Greg Hitt		5/21/2020 8:57	5/21/2020 10:44	108
James Brown		5/21/2020 8:57	5/21/2020 10:44	108
Luke Cole (Luke Cole)		5/21/2020 8:58	5/21/2020 10:44	107
Mark Murphy		5/21/2020 8:58	5/21/2020 10:15	78
Fred Felix	Fred@calvarytucson.com	5/21/2020 8:58	5/21/2020 10:44	107
Greg Saxe (Greg Saxe)		5/21/2020 8:58	5/21/2020 9:46	48
Jonathan Horst		5/21/2020 8:58	5/21/2020 10:44	107
Wes Quinton - Farmland Reserve (Wes)		5/21/2020 8:58	5/21/2020 10:44	106
15204193002		5/21/2020 8:58	5/21/2020 10:44	106
Doug Greenland (doug)		5/21/2020 8:59	5/21/2020 10:44	106
Kathy		5/21/2020 8:59	5/21/2020 10:44	105
Chris Langham (clangham)		5/21/2020 8:59	5/21/2020 10:44	105
Cannon Daughtrey (u146326)		5/21/2020 8:59	5/21/2020 10:44	105
Janice Hughes (JH)		5/21/2020 8:59	5/21/2020 10:44	106
Cy Miller (Cy)		5/21/2020 9:00	5/21/2020 10:44	105
Maya Teyechea		5/21/2020 9:00	5/21/2020 10:08	69
Melanie McVicker (melanie)		5/21/2020 9:00	5/21/2020 10:44	105
15206822966		5/21/2020 9:00	5/21/2020 10:44	105
George Kuck		5/21/2020 9:00	5/21/2020 10:44	105
Alexandra Stoicof (Alexandra)		5/21/2020 9:00	5/21/2020 10:44	105
Kevin Payne_Kimley-Horn (Kevin.Payne)		5/21/2020 9:00	5/21/2020 10:44	104
Terry Hendricks		5/21/2020 9:01	5/21/2020 10:44	104
Claire Zugmeyer (CZugmeyer)		5/21/2020 9:01	5/21/2020 10:44	104
Len Erie	erie@waterwiz.net	5/21/2020 9:01	5/21/2020 10:45	104
Frank Bonillas		5/21/2020 9:03	5/21/2020 9:12	10
Christina		5/21/2020 9:06	5/21/2020 10:44	98
15202482750		5/21/2020 9:08	5/21/2020 10:45	98
Frank Bonillas		5/21/2020 9:12	5/21/2020 10:44	93

	15204193330		5/21/2020 9:16	5/21/2020 10:44	89
Jason Tankersley		tank@ffxsite.net	5/21/2020 9:20	5/21/2020 10:44	85
Paul Wassmuth			5/21/2020 9:22	5/21/2020 10:45	83
Monson Cowley		monson@cowleyco.com	5/21/2020 9:38	5/21/2020 9:41	4
Keith Brann			5/21/2020 9:41	5/21/2020 9:44	3
kbrann			5/21/2020 9:42	5/21/2020 10:44	63
Greg Saxe# PCRFCD			5/21/2020 9:50	5/21/2020 10:44	54
Monson Cowley		monson@cowleyco.com	5/21/2020 9:54	5/21/2020 10:44	51
Frank Postillion			5/21/2020 10:24	5/21/2020 10:44	21
Scott Altherr		saltherr@cmgdrainage.com	5/21/2020 10:49	5/21/2020 10:50	2

Agendas

Santa Cruz River Management Plan - Phase II
Stakeholder Meeting #3

Thursday, May 21, 2020 @ 9 AM
Join Zoom Meeting

1. **Introductions**

2. **Background on the Stakeholder Working Group Mtgs**

3. **Why we are here**

4. **Ranking Process**

5. **List of Structural Alternatives Moving Forward**

(Break – 10 minutes)

6. **List of Non-Structural Alternatives Moving Forward**

7. **Three Projects Already under development**
   A. Three Rivers - Aquatic Restoration
   B. Cortaro Narrows - Grade Control and Habitat improvement
   C. Marana Flats - LOMR

8. **Important Activities already underway**
   A. Trash Cleanup Organization
   B. Vegetation Management – coordinate with Tucson Audubon and Northwest Fire

9. **Process Moving into Development and Implementation**
   A. A Process Slide
   B. Implementation

10. **Take Away**

New Action Item	Responsible Party

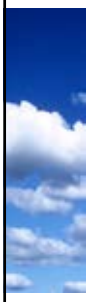
CMG DRAINAGE ENGINEERING, INC.

Presentation

Santa Cruz River Management Plan

5-21-20

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.
Kevin Payne – Kimley-Horn
Rebeca Field – Kimley-Horn





1

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Introduction***
  - Housekeeping
    - *Everyone is on mute*
    - *Use 'Chat' for questions*
    - *Meeting is being recorded*
  - Project Purpose

    The purpose of this project is to develop a management strategy *to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities, public safety and riparian habitat preservation* for the Santa Cruz River from Grant Rd to Pinal County.

2

		2019						2020												2021					
		July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June
Stakeholder Alternatives Working Group	***Separtate For Three Rivers, Cortaro Narrows and Marana Flats***																								
	Initial Meeting																								
	Identify Suite of Alternatives																								
	Refine Alternatives																								
	Development of Recommended Alternatives																								
Combined Stakeholder	***Meeting of all Stakeholders***																								
	Go to Stakeholders with Possible Alternatives																								
	Development of Implementation Plan																								
Public Process	***Separtate For Three Rivers, Cortaro Narrows and Marana Flats***																								
	Advertise Public Survey																								
	Public 'Inform' and 'Solicit'																								
	Advertise Online Survey																								
	Online Survey																								
Jurisdictional Process																									
	Inform about Flood Hazards and Infrastructure																								
	Ongoing Staff Level Participation																								
	Provide Plan for Jurisdiction Acceptance																								

3

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Introduction (cont.)***
  - Participant Polling

4

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

Poll Questions 1 & 2

5

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

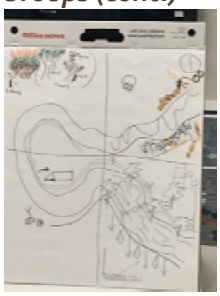
- ***Background on the Stakeholder Working Groups***

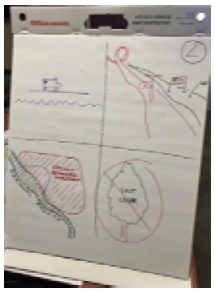


6

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Background on the Stakeholder Working Groups (cont.)***





7

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Background on the Stake Groups (cont.)***





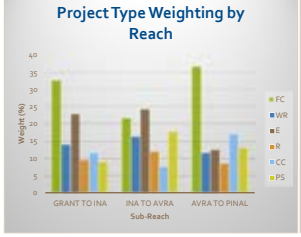
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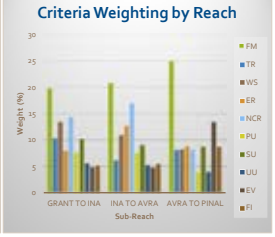
Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Background on the Stakeholder Working Groups (cont.)***

Flood control	FC
Water resources	WR
Environment	E
Recreation	R
Community compatibility	CC
Public safety	PS

Floodplain Management	FM
Transportation	TR
Water Security	WS
Emergency Response	ER
Natural & Cultural Resources	NCR
Public Use	PU
Sustainability	SU
Unauthorized Uses	UU
Economic Vitality	EV
Feasibility of Implementation	FI





9

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

Poll Question 3

10

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Why we are here***



11

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Ranking Process***
- Alternative Seed List
  - Problems & Opportunities
  - Stakeholder Input
- Alternative Weighting
  - Consistent with Recently-Passed Floodplain Management Plan
  - USACE Multi-Criteria Decision Analysis
  - Envision
  - Project Specific

PIMA COUNTY FLOOD CONTROL

Institute for Sustainable Infrastructure

12

Santa Cruz River Management Plan

- Stakeholder Weighting



13

Santa Cruz River Management Plan

- Team Scoring
  - Weighting Applied to Raw Scores

Structural

Alternative ID	Reach	Note
E-13	Three Rivers	
E-18b	Cortaro Narrows	
E-24a	Marana Flats	
E-28c	Three Rivers	
FC-13a	Cortaro Narrows	Combined w/ FC-14a
FC-14a	Cortaro Narrows	Combined w/ FC-13a
FC-17	Three Rivers	Combined w/ FC-2
FC-2	Three Rivers	Combined w/ FC-17
FC-20	Marana Flats	
FC-26	Marana Flats	
FC-27	Marana Flats	
FC-28	Marana Flats	
FC-36	Marana Flats	
FC-45	Marana Flats	
FC-46b	Cortaro Narrows	
FC-5	Marana Flats	
R-1a	Marana Flats	
R-6	Three Rivers	

Non-Structural

Alternative ID	Reach	Note
E-24	Multiple	
E-28	Multiple	
E-7,13	Multiple	
FC-39	Multiple	

14

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- Structural Alternatives

15

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-13 **Trash Capture Mechanism Needed**



Trash collection systems could be installed on tributary washes before litter reaches the Santa Cruz River

Three Rivers

16

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-18b **Wildlife Connectivity to River is Needed**



Three Rivers

17

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-26 **New Wetlands**

TRDN Wetland Concept at:

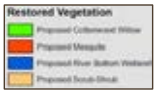
a. Near CAP Crossing



c. Along Tres Rios WRF







Marana Flats / Three Rivers

18

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

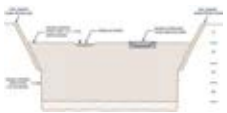
FC-13
FC-14 **Effluent Scour at Toe of Low Flow Bank Protection**

Cortaro to Twin Peaks and Twin Peaks to Avra Valley



Concept designs from: Continental Ranch Area
Low Flow Channel Stabilization
Preliminary Alternatives Analysis
RFCD July 2008





Cortaro Narrows

19

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

FC-17 **Channel Capacity**

Flow Breaks Out Near El Camino Del Cerro at Closed Landfill



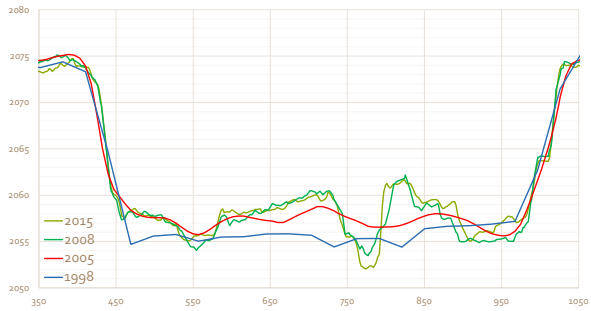
Three Rivers

20

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

FC-20 **Long Term Degradation Along Effluent Channel**

Channel Elevation at Avra Valley Rd



Marana Flats

21

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

FC-26
FC-27
FC-28

Hydraulically Deficient Bridges

Sanders Rd, Trico/Marana Rd, Trico Rd

Existing Bridge Photos







Marana Flats

22

Santa Cruz River Management Plan

FC-36 **Marana Flats Levee**



Marana Flats

23

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

FC-45 **Conveyance of Flood within Compound Channel**
with Multi-Use-Multi-Objective (MUMO) Opportunities



Marana Flats

24

Santa Cruz River Management Plan

FC-46 **Arizona Pavilions Bank Protection**



Cortaro Narrows

25

Santa Cruz River Management Plan

FC-5 **Floodwall at Sanders Road**

Example Floodwall at Grant Road



Marana Flats

26

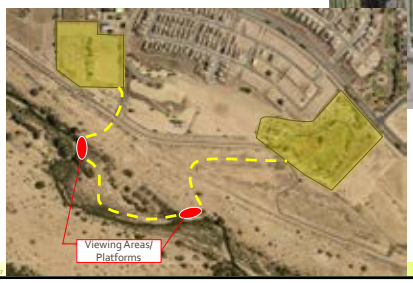
Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

R-1 **Connectivity and Access to River is Limited**





Wildlife Viewing Platforms



Marana Flats

27

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

R-6 **Multi-Use-Multi-Objective Channel Section**



Three Rivers

28

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

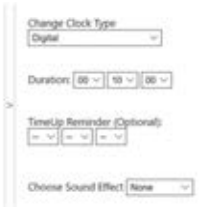
Poll Question 4

29

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

Break (10 Min)

00 : 10 : 00



30

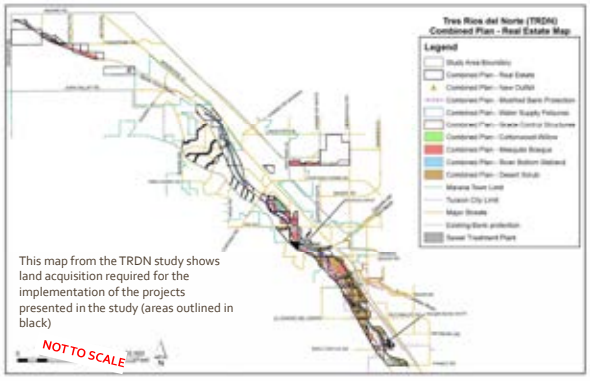
Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- Non-Structural Alternatives

31

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-24 **Ecologically Valued Lands Preserved**



All

32

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-28 **Vegetation Management Plan**







All

33

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-7 **Community Trash Clean Ups**

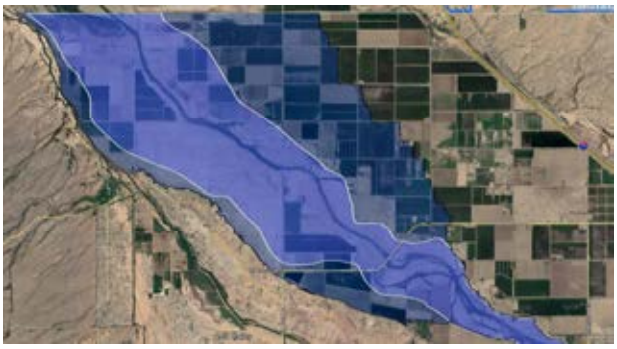


All

34

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

FC-39 **Outdated Floodplain Downstream of Sanders Rd**
FEMA Letter of Map Revision (LOMR)



All

35

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

Poll Question 5

36

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Three Projects Already Under Development***
  - Three Rivers - Aquatic Restoration
  - Cortaro Narrows - Grade Control and Habitat improvement
  - Marana Flats – FEMA Floodplain Remapping (LOMR)

37

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

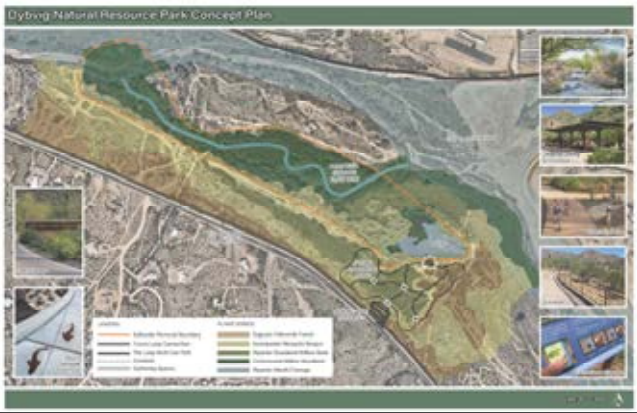
- Three Rivers - Aquatic Restoration



38

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- Three Rivers - Aquatic Restoration



39

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

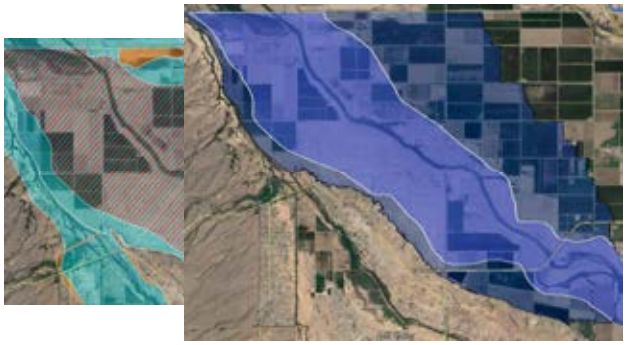
- Cortaro Narrows – Grade Control and Habitat Improvement



40

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- Marana Flats – Letter of Map Revision



41

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Important Activities Already Underway***
  - Trash Cleanup Organization

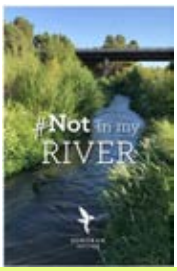
42

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

Community Trash Clean Ups

- Larger trash cleanups planned post-COVID19
  - 4/19 cleanup had to be postponed
- Virtual trash cleanups remain active on social media
  - Sonoran Institute's #NotInMyRiver trash cleanup challenge





43

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Important Activities Already Underway***
  - Vegetation Management – coordinate with Tucson Audubon and Northwest Fire



44

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Process Moving into Development and Implementation***
  - Process
  - Implementation Plan



45

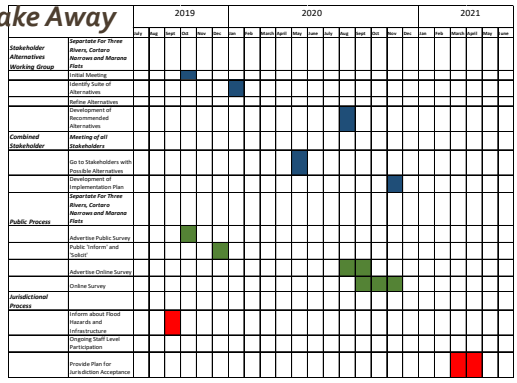
Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

Poll Questions 6-8

46

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Take Away***



47



48

Meeting Exhibits



Benefits of the Santa Cruz River Management Plan

By having an accepted plan across all affected jurisdictions, the District will be able to manage the corridor in a consistent manner, while also addressing the desires of the individual jurisdictions in terms of flood risk management, drainage infrastructure protection, water recharge, recreation opportunities, public safety and riparian habitat preservation.

Project Contacts

Please contact us if you would like more information or have photos or information on flooding or erosion issues within these watersheds that you would like to share with the District.

Evan Canfield, PhD, PE, Project Manager for the District *evan.canfield@pima.gov*
(520) 724-4600

Scott Altherr, PE, CFM Project Manager for CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com

Past Events

1. On May 7, 2019 the District presented the scope of the project to various stakeholders that represent entities within the project boundaries.
2. The District hosted three different meetings in late October 2019 with key stakeholders within each reach of the project boundary – Grant Rd. to Ina Rd., Ina Rd. to Avra Valley Rd., and Avra Valley Rd. to Pinal County.
3. In January 2020, the District held Stakeholder Working Group meetings and had stakeholders weight their priorities in criteria and project types.

Project Website

https://pima.gov/santacruzriverplan

PIMA COUNTY
FLOOD CONTROL

MARANA AZ

CITY OF TUCSON

Santa Cruz River Management Plan

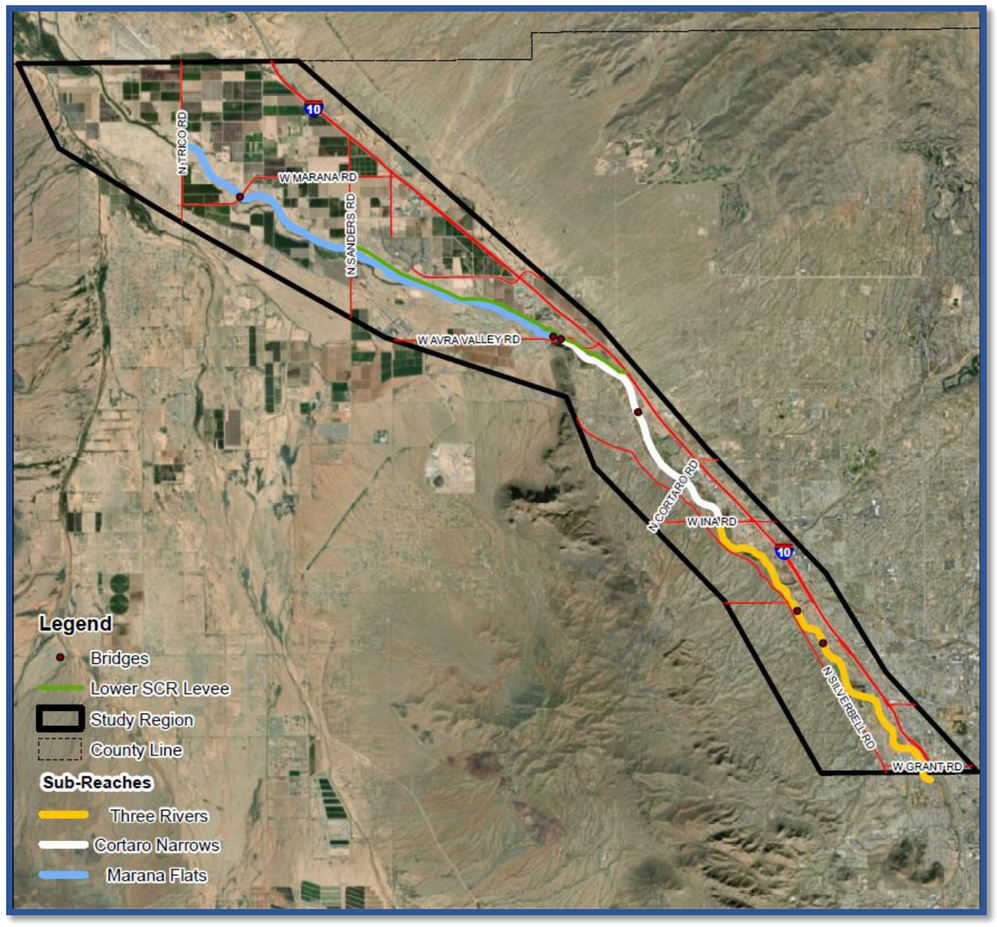
Project Update – May 2020

Project Location

The Santa Cruz River Management Plan is bound by Grant Road on the South and Pinal County Line on the north and generally within the administrative boundaries of the floodplain.

Background

In the Spring of 2018, the Pima County Regional Flood Control District (District) initiated the Santa Cruz River management plan – Grant to Trico, to develop a comprehensive management plan for a part of the river which goes through the City of Tucson, Town of Marana and unincorporated Pima County.



Project Purpose

The purpose of this project is to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities, public safety and riparian habitat preservation for the Santa Cruz River from Grant to Trico.

The first phase of the project was a comprehensive existing conditions assessment of the reach, which was completed in September, 2019 and generated the following:

Existing Conditions Report – This report documents drainage complaints, land ownership, maintenance responsibility, previous studies and projects that have been done in this part of the Santa Cruz River.

Infrastructure Assessment and Maintenance Evaluation Report – This report evaluated the state of infrastructure in the Santa Cruz including the state of the soil cement bank protection and conveyance capacity of the River in a 100-yr flood.

Technical Data Support Notebook for floodplain mapping – This report identified the flood risks along the corridor associated with the 1% annual chance (100-yr) flood and 0.2% chance (500-yr) flood.

The findings of these three reports were used to understand baseline conditions for three sub-reaches of the Santa Cruz River.

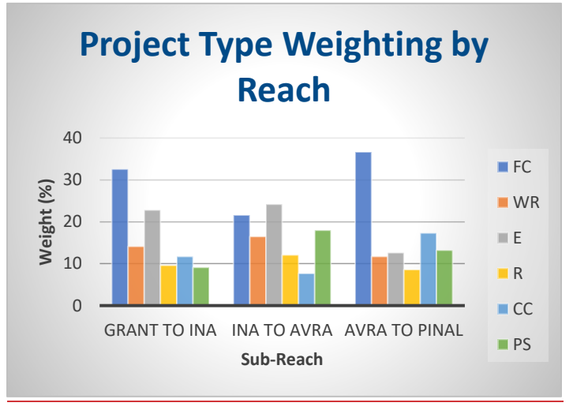
- Grant Rd to Ina Rd Sub-Reach (Three Rivers)
- Ina Rd to Avra Valley Rd Sub-Reach (Cortaro Narrows)
- Avra Valley Rd to Pinal County Sub-Reach (Marana Flats)

Stakeholder Working Groups

After two working groups sessions in October 2019 and January 2020 we have collected input and feedback from Stakeholders and have used their input to form our problems and opportunities list and to weight our ranking of alternatives. See Results Below.

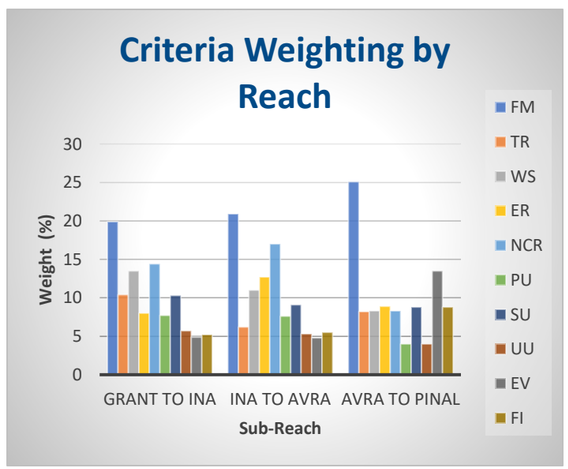
Project Type Legend

Flood control	FC
Water resources	WR
Environment	E
Recreation	R
Community compatibility	CC
Public safety	PS



Criteria Legend

Floodplain Management	FM
Transportation	TR
Water Security	WS
Emergency Response	ER
Natural & Cultural Resources	NCR
Public Use	PU
Sustainability	SU
Unauthorized Uses	UU
Economic Vitality	EV
Feasibility of Implementation	FI

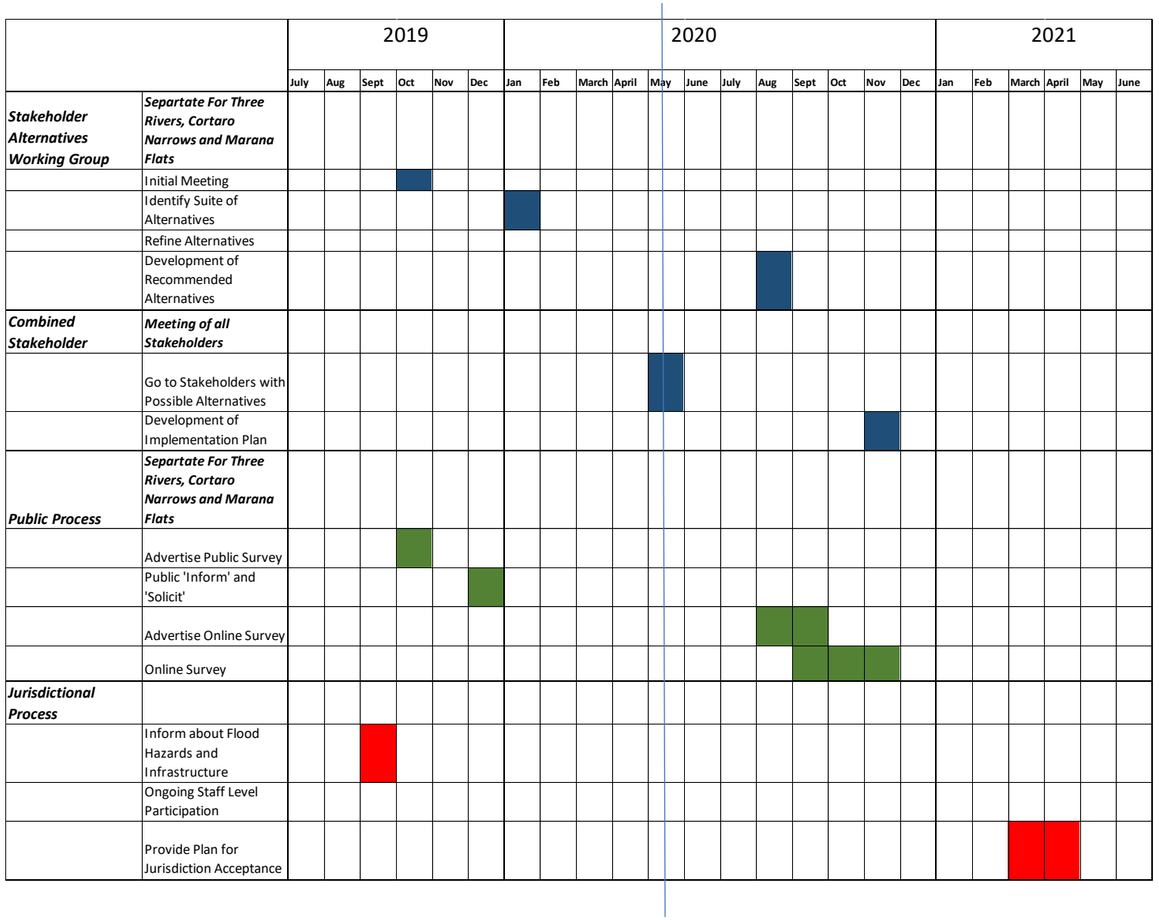


Development of Recommended Alternatives and Implementation Plan

In October of 2019, the District kicked off the second phase of the Santa Cruz River Management Plan, which will identify recommended alternatives and an implementation plan which will incorporate other County and District priorities in the development of multi-benefit solutions. Ultimately, the District proposes to ask the Board of Supervisors, the City of Tucson and the Town of Marana to accept the recommended alternatives and an implementation plan by legislative action.

An Alternative Seed List was presented to Stakeholders in January and with Stakeholder weighting the list was ranked, weighted and will be presented at the May 21, 2020 Stakeholder Meeting. The top 16 structural alternatives and top 4 non-structural alternatives will be advanced over the next 4 months to a 15% design concept and cost estimate. The District will then prepare an implementation plan to help prioritize and deliver the projects based on available funding opportunities.

Timeline



Poll Question 1
I represent the following Stakeholder Type:
Community Groups – (5) 19%
Neighborhood Groups – (1) 4%
Jurisdictions – (11) 41%
Landowners- (2) 7%
Public Safety – (1) 4%
Water Owners – (4) 15%
Other- (3) 11%
27 total votes

Poll Question 2
Which of the Planning Reaches interests you most?
Three Rivers (Grant to Ina) – (3) 11%
Cortaro Narrows (Ina to Avra Valley Rd) – (5) 19%
Marana Flats (Avra Valley Rd to Pinal County Line) – (15) 56%
23 total votes

Poll Question 3
I participated in the Stakeholder Workgroups
Yes – (19) 79%
No – (5) 21%
24 total votes

Poll Question 4
After reviewing the list of structural project, the implementation plan will be filled with projects that adequately represent the needs of the Santa Cruz Rover Corridor from Grant to Trico Rd.
Strongly Agree – (3) 11%
Agree - (20) 74%
Neutral - (4) 15%
Disagree - (0) 0%
Strongly Disagree - (0) 0%
27 total votes

Poll Question 5
After reviewing the list of non-structural project, the implementation plan will be filled with projects that adequately represent the needs of the Santa Cruz Rover Corridor from Grant to Trico Rd.
Strongly Agree – (2) 8%
Agree - (18) 72%
Neutral - (5) 20%

Disagree - (0) 0%
Strongly Disagree – (0) 0%

Poll Question 6
Project delivery should be influenced most by:
Priority – (9) 38%
Political Will - (0) 0%
Funding Availability - (3) 13%
All of the Above – (12) 50%

Poll Question 7
Regardless of an identified funding mechanism, my agency/organization will support the implementation of the Management Plan.
Strongly Agree - (3) 13%
Agree - (11) 46%
Neutral - (9) 38%
Disagree - (1) 4%
Strongly Disagree – (0) 0%
Not Sure – (0) 0%

Poll Question 8
The ideal implementation planning horizon is:
10-years - (14) 58%
15-years – (8) 33%
20-years - (2) 8%

STAKEHOLDER WORKING GROUP MEETINGS (OCTOBER 2020)

Attendance

No official sign-in for this virtual meeting - but Meeting recordings are available upon request.

Agendas

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Meeting #3

Three Rivers Reach
(Grant Rd to Ina Rd)

Monday, October 5, 2020 @ 9 AM
Teams Meeting

1. **Introductions**

2. **How we got here?**

3. **What we're already working on in this reach –**
   - **A. Levee Augmentation**
   - **B. CEP**
   - **C. Grant Rd**
   - **D. LOMR**
   - **E. Section 206**

4. **Conceptually Designed Alternatives**

(Break – 5 minutes)

5. **Public Survey**

6. **What did you think about the Survey?**

7. **Living River/Dragonfly Day/Trash Effort**

8. **Stakeholder Survey Results**

PIMA COUNTY
FLOOD CONTROL

9. Where do we go from here?

New Action Item	Responsible Party

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Meeting #3

Cortaro Narrows Reach
(Ina Rd to Avra Valley Rd)

Monday, October 6, 2020 @ 9 AM
Teams Meeting

1. **Introductions**

2. **How we got here?**

3. **What we're already working on in this reach –**
   - **A. Levee Augmentation**
   - **B. CEP**
   - **C. Grant Rd**
   - **D. LOMR**
   - **E. Section 206**

4. **Conceptually Designed Alternatives**

(Break – 5 minutes)

5. **Public Survey**

6. **What did you think about the Survey?**

7. **Living River/Dragonfly Day/Trash Effort**

8. **Stakeholder Survey Results**

PIMA COUNTY
FLOOD CONTROL

9. Where do we go from here?

New Action Item	Responsible Party

Stakeholder - Alternatives Working Group

Santa Cruz River Management Plan - Phase II
Meeting #3

Marana Flats Reach
(Avra Valley Rd to Pinal County Line)

Monday, October 2, 2020 @ 9 AM
Teams Meeting

1. **Introductions**

2. **How we got here?**

3. **What we're already working on in this reach –**
   - **A. Levee Augmentation**
   - **B. CEP**
   - **C. Grant Rd**
   - **D. LOMR**
   - **E. Section 206**

4. **Conceptually Designed Alternatives**

(Break – 5 minutes)

5. **Public Survey**

6. **What did you think about the Survey?**

7. **Living River/Dragonfly Day/Trash Effort**

8. **Stakeholder Survey Results**

CMG DRAINAGE ENGINEERING, INC.

PIMA COUNTY
FLOOD CONTROL

9. Where do we go from here?

New Action Item	Responsible Party

Presentation



Santa Cruz River Management Plan

10-2-20

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.

PIMA COUNTY FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

Kimley»Horn

JE FULLER



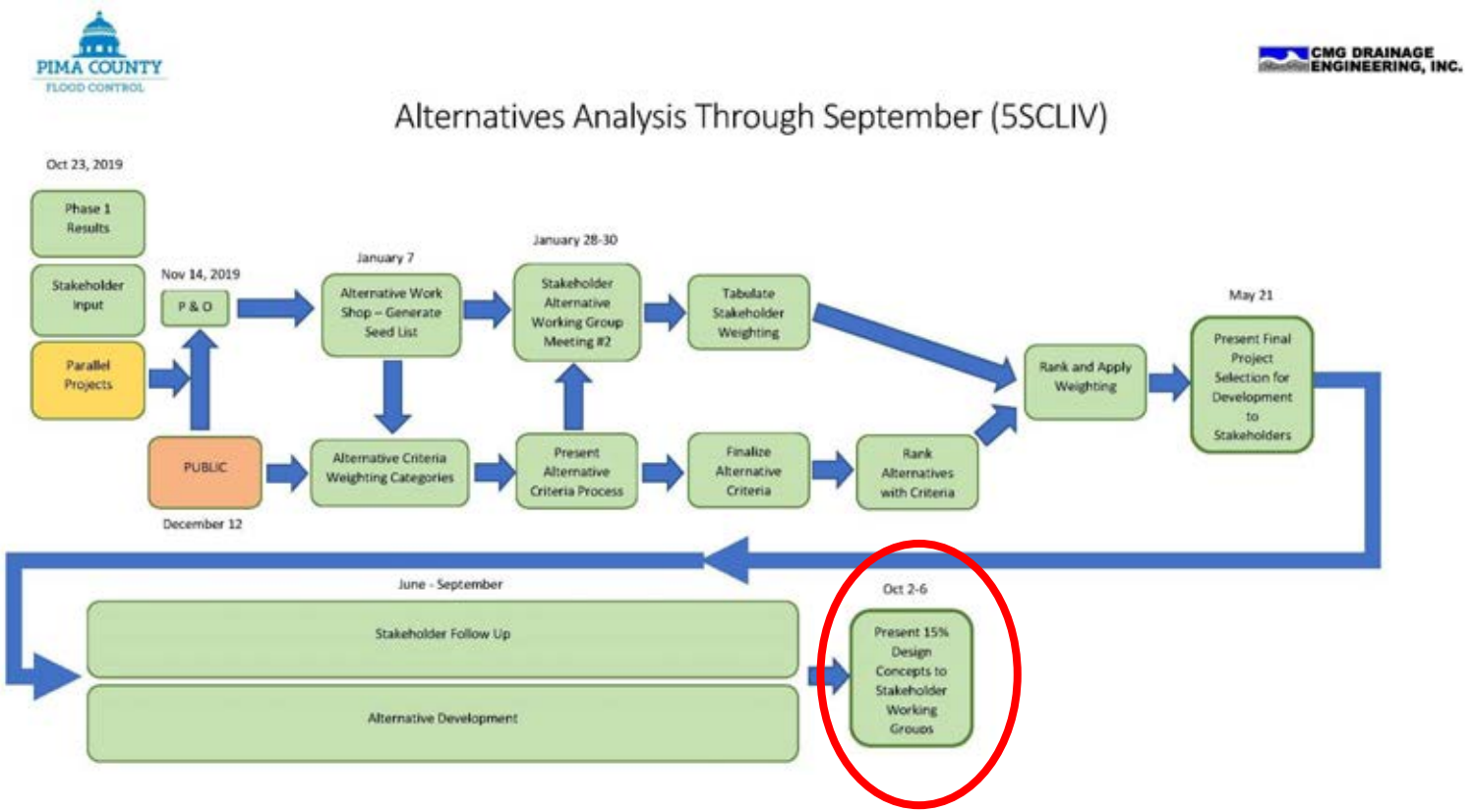


Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***Introductions***
  - *Project Team*
  - *Stakeholders*

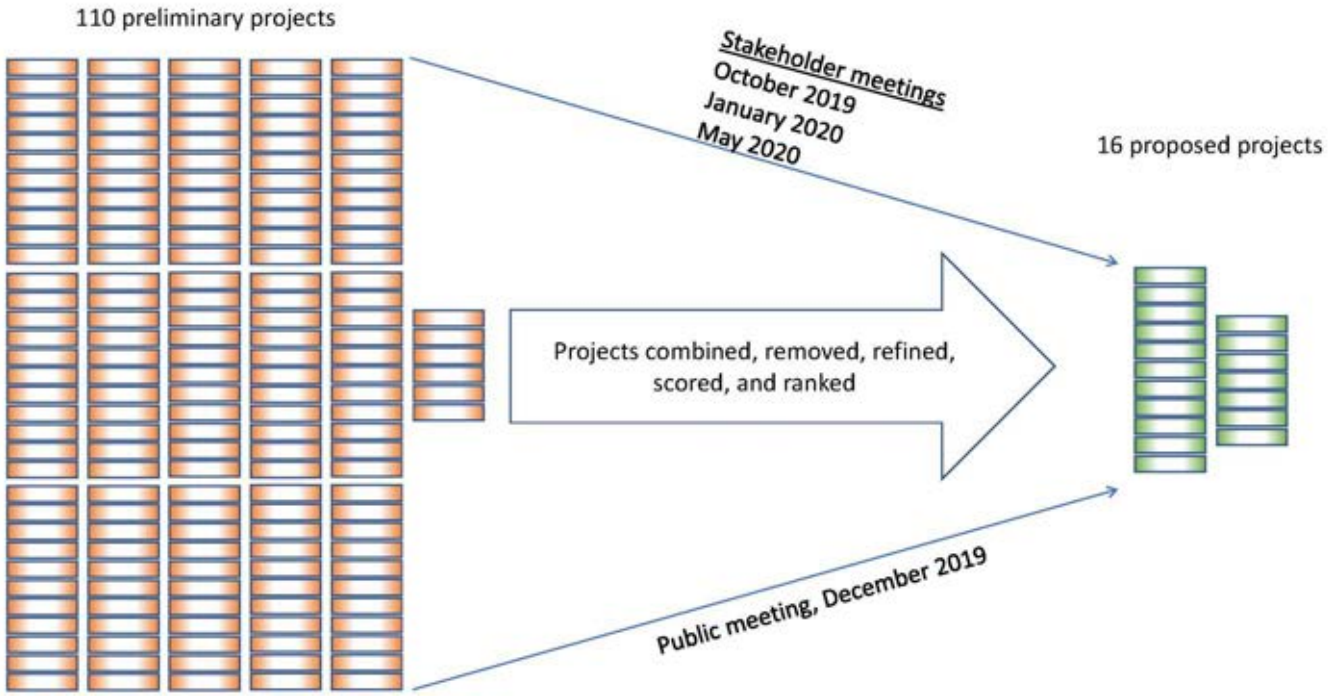
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***



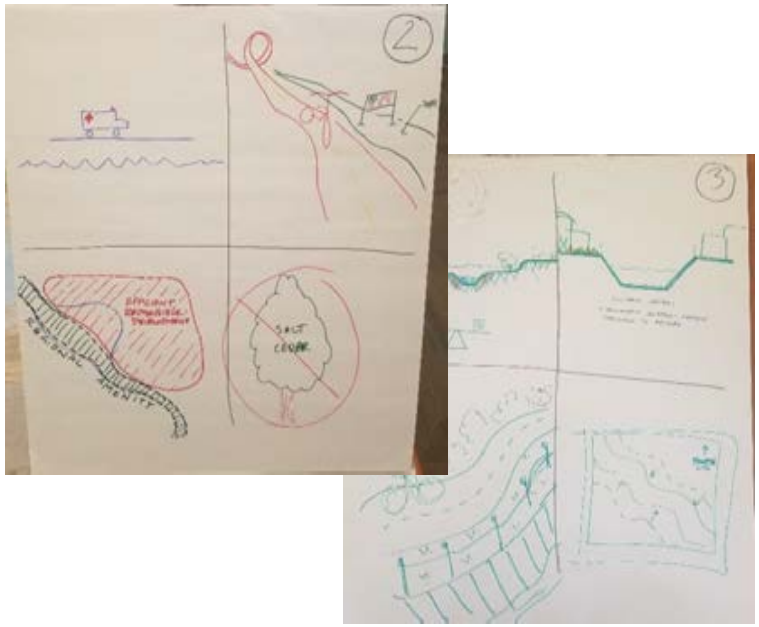
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***



Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***



We asked Stakeholders for their vision for the corridor

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***



We asked Stakeholders for their problems and opportunities

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***

We asked Stakeholders to assign weight to the Project Types and Ten Criteria Categories

SANTA CRUZ RIVER MANAGEMENT PLAN
PROJECT TYPES

Step #1: Rank each criteria category from 1 to 6, giving a 1 to the criterion that is most important to you, and a 6 to the least important.

Step #2: Assign each criteria category a group weight by allocating 100 points among the 6 categories. The more important the criterion, the higher its weight.

Project Types	Rank	Group Weight
FLOOD CONTROL (FC) *Projects that prevent flood and erosion damages including ensuring the operability of critical facilities during flood events.*		
WATER RESOURCES (WR) *Projects that optimize, protect, preserve and enhance water quality and availability.*		
ENVIRONMENT (E) *Projects that identify, protect, and preserve watercourses and the natural floodplain function and riparian habitat associated with them, and restore and enhance them where they have been degraded.*		
RECREATION (R) *Projects that encourage flexibility for adaptive, multi-use river management; Projects that increase community connectivity and improve quality of life by promoting outdoor activities.*		
COMMUNITY COMPATIBILITY (CC) *Projects respecting the agricultural history, land ownership and culture of the corridor; Projects demonstrating efficiency and transparency in river management; Projects promoting sustainable and compatible development with consideration for adjacent stakeholders.*		
PUBLIC SAFETY (PS) *Projects that can help in reducing the need for rescue and relief efforts; Projects that aid in the efficiency and effectiveness of rescue and relief efforts.*		

SANTA CRUZ RIVER MANAGEMENT PLAN
WEIGHTING CRITERIA

Step #1: Rank each criteria category from 1 to 10, giving a 1 to the criterion that is most important to you, and a 10 to the least important.

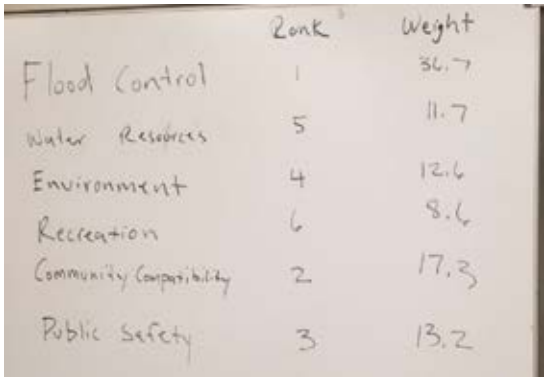
Step #2: Assign each criteria category a group weight by allocating 100 points among the 10 categories. The more important the criterion, the higher its weight.

Weighting Criteria	Rank	Group Weight
FLOODPLAIN MANAGEMENT Evaluation Criteria Examples: *Reduces flood risk to buildings, improves floodplain hazard mapping, reduces erosion hazard, mitigates debris flow and sedimentation, minimizes sheet flooding, improves channel conveyance, etc.*	1	25.1
TRANSPORTATION Evaluation Criteria Examples: *Provides all-weather access, improves emergency response time, enables transportation improvements, reduces disruptions to normal traffic operations, etc.*	8	8.2
WATER SECURITY Evaluation Criteria Examples: *Improves water quality, reduces spread of contamination, addresses groundwater depletion, addresses water rights, manages surface flows, etc.*	6	8.3
EMERGENCY RESPONSE Evaluation Criteria Examples: *Mitigates life-threatening flood hazards, aids in emergency response time, reduces fire risk, minimizes ponded water and virus vectors, etc.*	3	8.9
NATURAL AND CULTURAL RESOURCES Evaluation Criteria Examples: *Addresses invasive species management, improves quality of riparian/aquatic habitat, preserves natural open space, preserves cultural resources, mitigates climate change impacts, etc.*	6	8.3
PUBLIC USE Evaluation Criteria Examples: *Maximizes community connectivity, provides recreational opportunities (linear/active/passive), improves quality of life, improves accessibility, provides wildlife viewing opportunities, etc.*	9	6.1
SUSTAINABILITY Evaluation Criteria Examples: *Extends useful life of infrastructure, stimulates sustainable growth and development, minimizes maintenance needs, promotes infill and redevelopment etc.*	4	8.8
UNAUTHORIZED USES Evaluation Criteria Examples: *Addresses homeless camps, minimizes off-road disturbance, reduces riparian habitat destruction, addresses illegal dumping activities, etc.*	10	4.0
ECONOMIC VITALITY Evaluation Criteria Examples: *Produces economic value for the community; addresses potential zoning conflicts and opportunities, fosters ecotourism, preserves high value land (such as prime farm land), increases development potential, etc.*	2	13.5
FEASIBILITY OF IMPLEMENTATION Evaluation Criteria Examples: *Builds on existing initiatives, partnerships and funding, minimizes disruptions to operations/commerce, improves maintenance access and operations, uses existing right-of-way/public lands, minimizes utility conflicts and permitting constraints, considers costs, etc.*	4	8.8

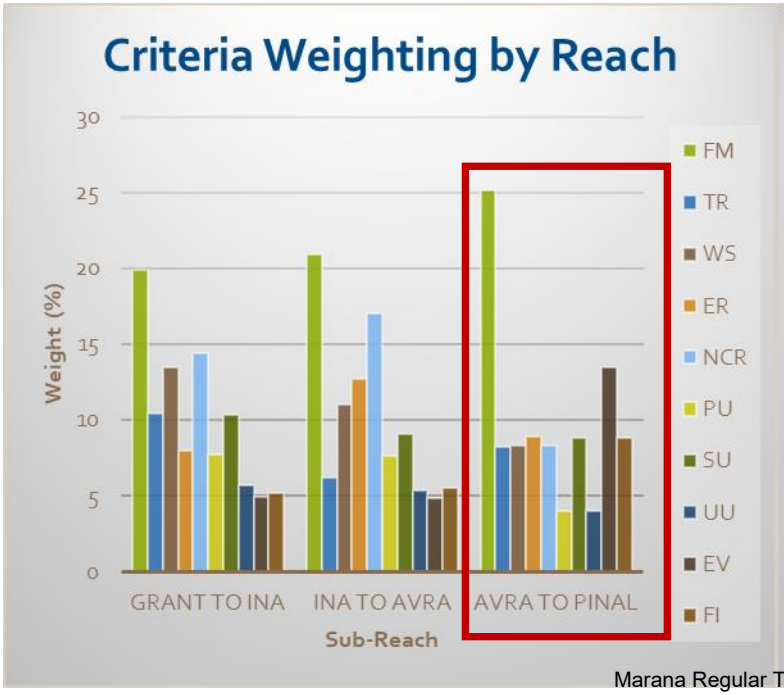
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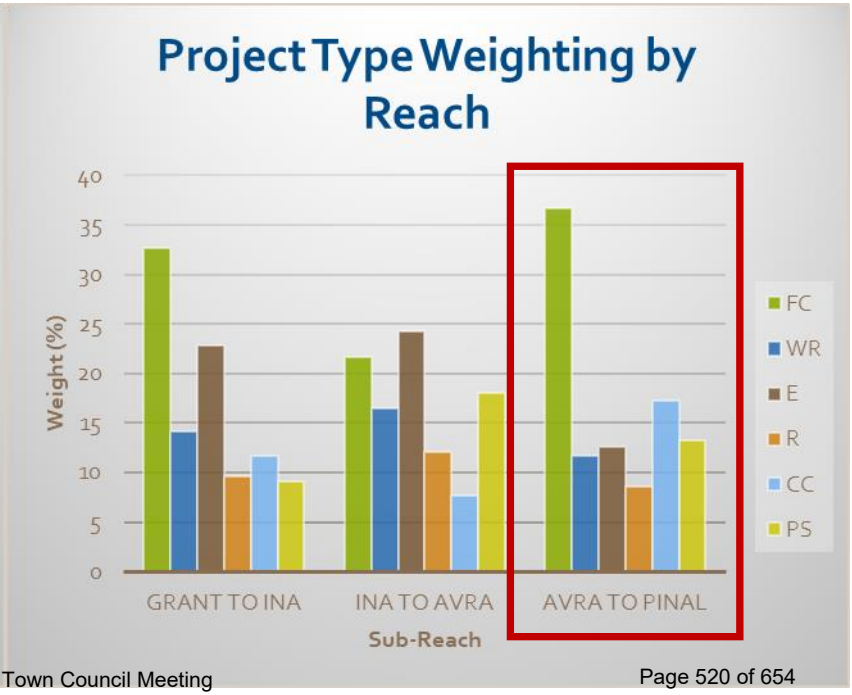
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

Floodplain Management	FM
Transportation	TR
Water Security	WS
Emergency Response	ER
Natural & Cultural Resources	NCR
Public Use	PU
Sustainability	SU
Unauthorized Uses	UU
Economic Vitality	EV
Feasibility of Implementation	FI



Results were reported back to Stakeholders





Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***

	FLOODPLAIN MANAGEMENT				
	Evaluation Criteria:	None	Low	High	Score
1	• Reduces Flood Risk to Buildings	X			0
2	• Reduces Flood Risk to Buildings in FEMA Floodplain (higher score)	X			0
3	• Improves Floodplain Hazard Mapping	X			0
4	• Reduces Erosion Hazard			X	2
5	• Mitigates Debris Flow and Sedimentation		X		1
6	• Minimizes Sheet Flooding			X	2
7	• Improves Channel Conveyance / Stability / Erosion Protection			X	2
				Raw Total	7

	TRANSPORTATION				
	Evaluation Criteria:	None	Low	High	Score
1	• Improves All-weather Access		X		1
2	• Improves Emergency Response		X		1
3	• Reduces Disruptions to Normal Traffic, Public Transit & School Bus Operations	X			0
4	• Improves Regional Connectivity/Circulation		X		1
5	• Compliments Regional Transportation Plan	X			0
6	• Increases Community Connectivity, Access and Use of Multi-modal Transportation			X	2
7	• Enables Transportation Improvements	X			0
				Raw Total	5

Team Scoring:
Weighting Applied to Raw Scores

Structural

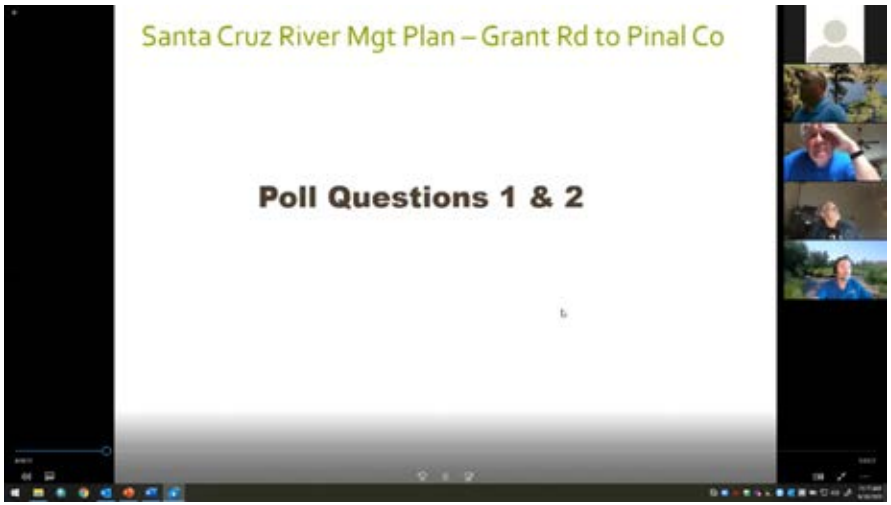
Alternative ID	Reach	Note
E-13	Three Rivers	
E-18b	Cortaro Narrows	
E-26a	Marana Flats	
E-26c	Three Rivers	
FC-13a	Cortaro Narrows	Combined w/ FC-14a
FC-14a	Cortaro Narrows	Combined w/ FC-13a
FC-17	Three Rivers	Combined w/ FC-2
FC-2	Three Rivers	Combined w/ FC-17
FC-20	Marana Flats	
FC-26	Marana Flats	
FC-27	Marana Flats	
FC-28	Marana Flats	
FC-36	Marana Flats	
FC-45	Marana Flats	
FC-46b	Cortaro Narrows	
FC-5	Marana Flats	
R-1a	Marana Flats	
R-6	Three Rivers	

Non-Structural

Alternative ID	Reach	Note
E-24	Multiple	
E-28	Multiple	
E-7,13	Multiple	
FC-39	Multiple	

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

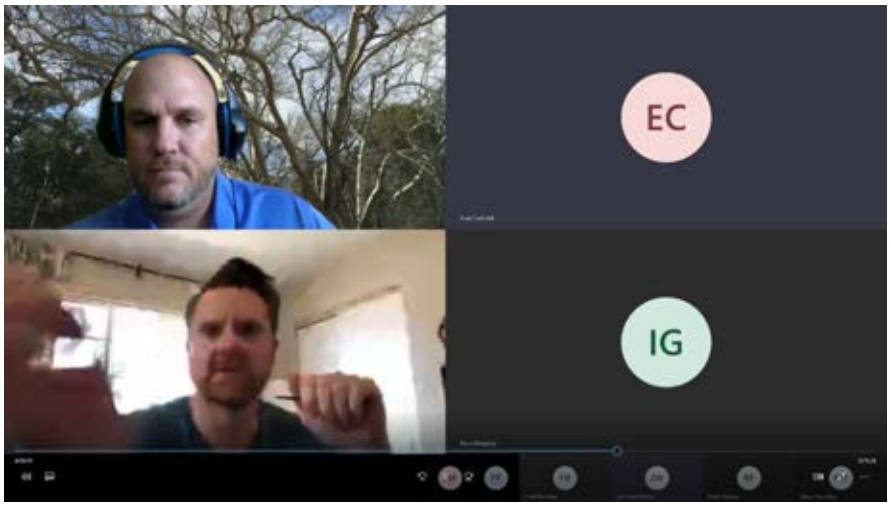
- ***How did we get here?***



In May, We polled Stakeholders online with 8 separate questions relating to representation, feedback on resulting projects to be advanced, project delivery and timeframe.

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***How did we get here?***



From June - Sept, We had eleven (11) follow up meetings to discuss more specifically with stakeholders potentially impacted by the projects to see if they had any input into the alternative development.

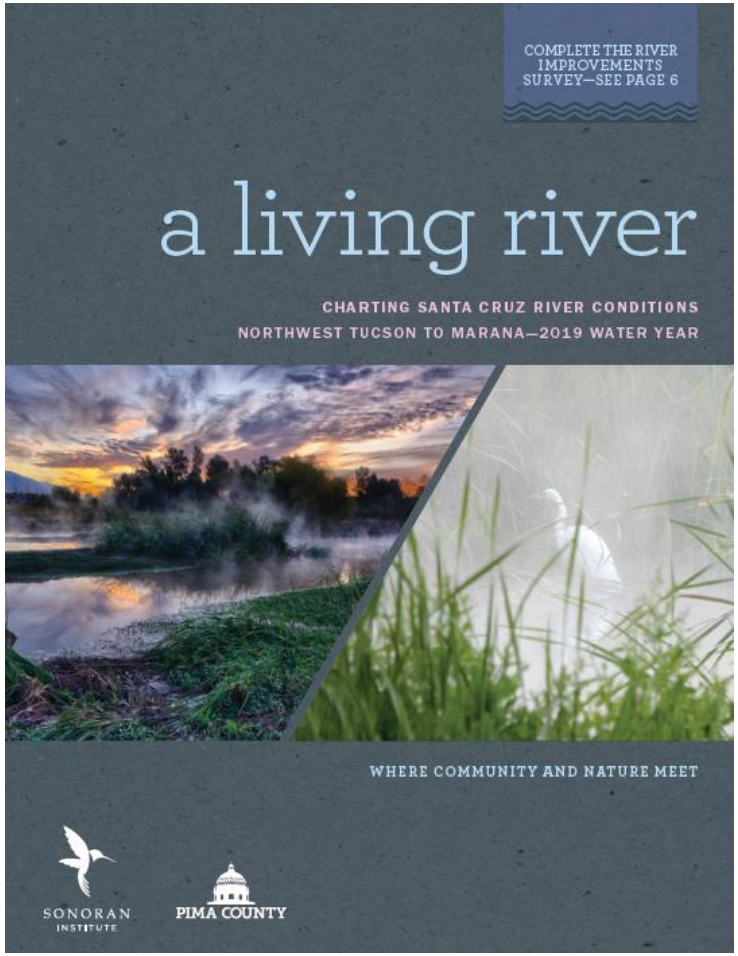
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***What we're already working on in this reach***

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***Current Public Outreach Efforts***
  - 7th Annual Living River Report
  - Public Survey
- ***What we're already working on in this reach***
  - FEMA Remapping north of Sanders Rd (LOMR)
  - Restoring design grade under the Cal Portland Conveyor Belt
  - Augmenting Levee upstream of Avra Valley Rd
  - Dragonfly Day - October 3 at Sanders Rd.
- *Related Efforts*
  - Expansion of the Loop north of Avra Valley Rd
  - The CAP Canal Path
  - The Anza Trail

Santa Cruz River programming



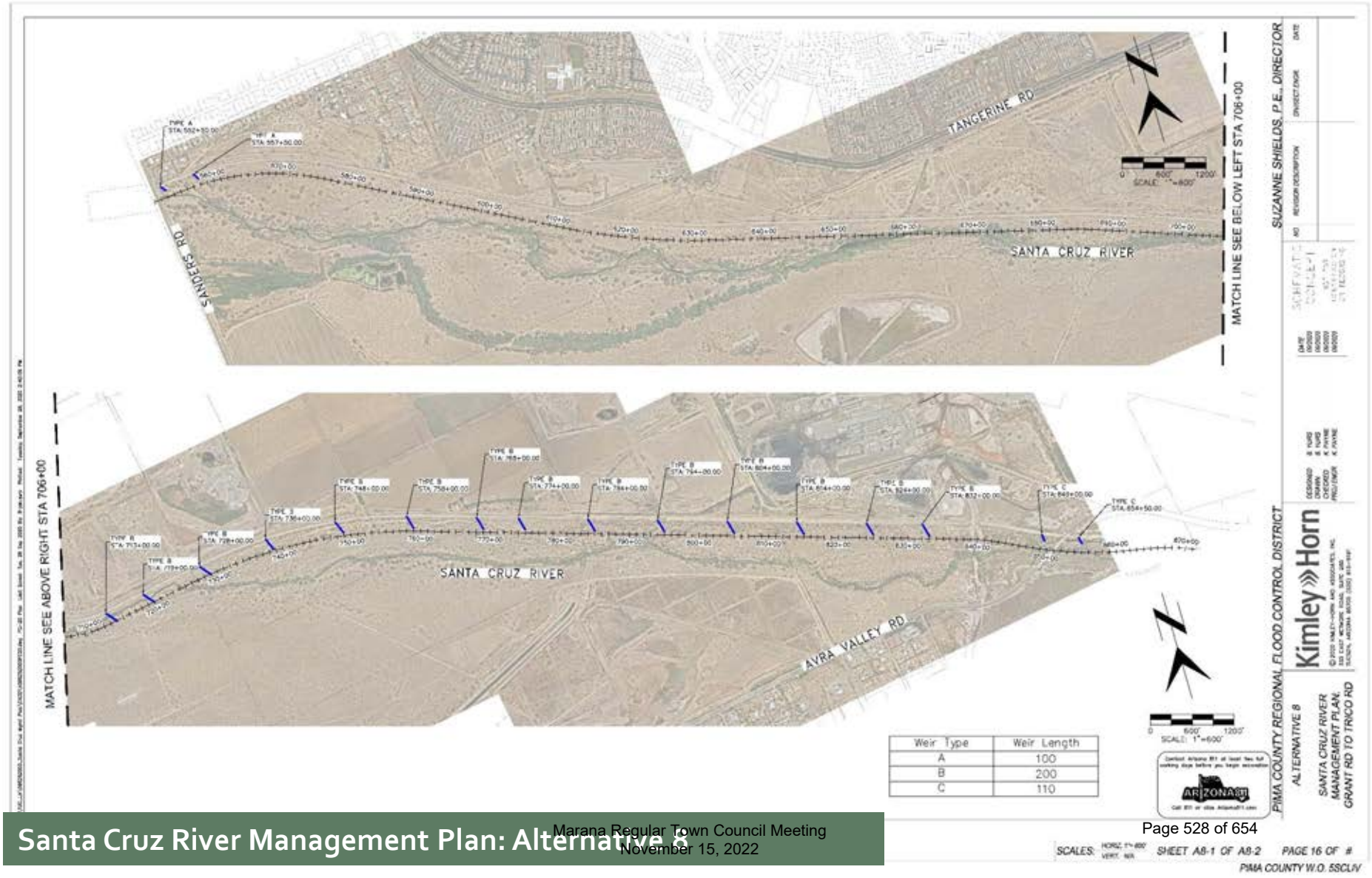




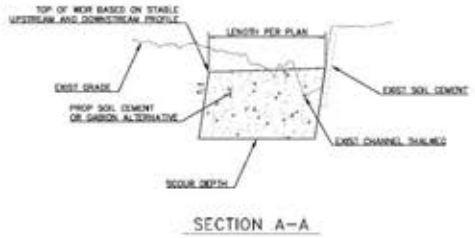
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***Conceptually Designed Alternatives***

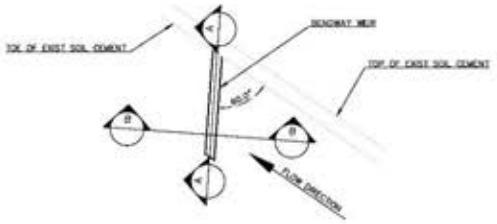
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



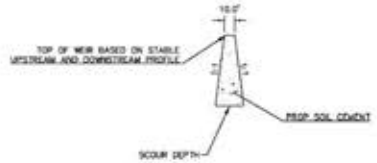
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



SECTION A–A



TYPICAL BENDWAY WEIR LAYOUT



SECTION B–B

SUZANNE SHIELDS, P.E., DIRECTOR

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

ALTERNATIVE 8

SANTA CRUZ RIVER MANAGEMENT PLAN: GRANT RD TO TRICO RD

Kimley»Horn

SCHEMATIC CONCEPT

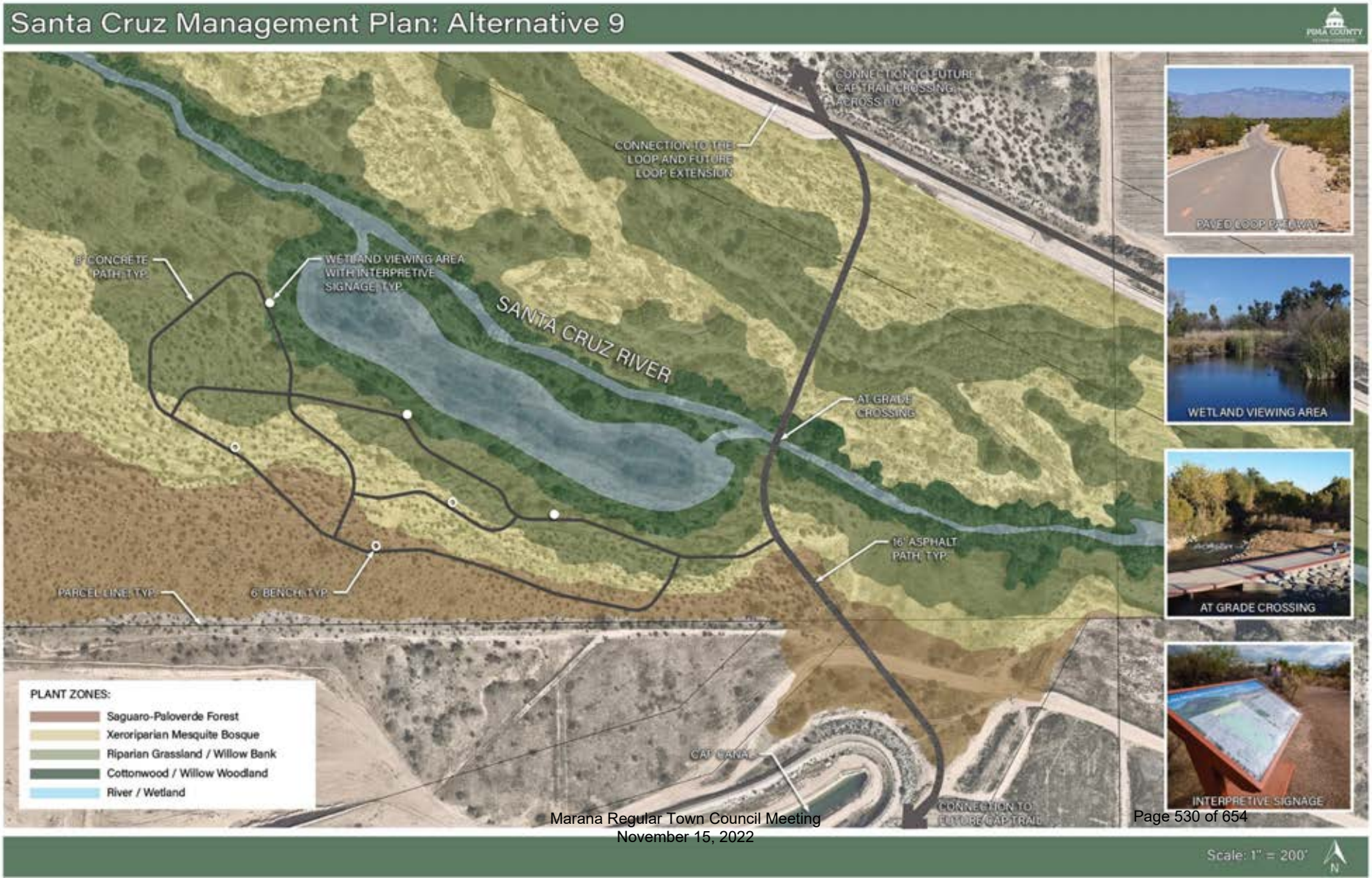
SCALES: HORIZ. N/A VERT. N/A

SHEET A8-2 OF A8-2

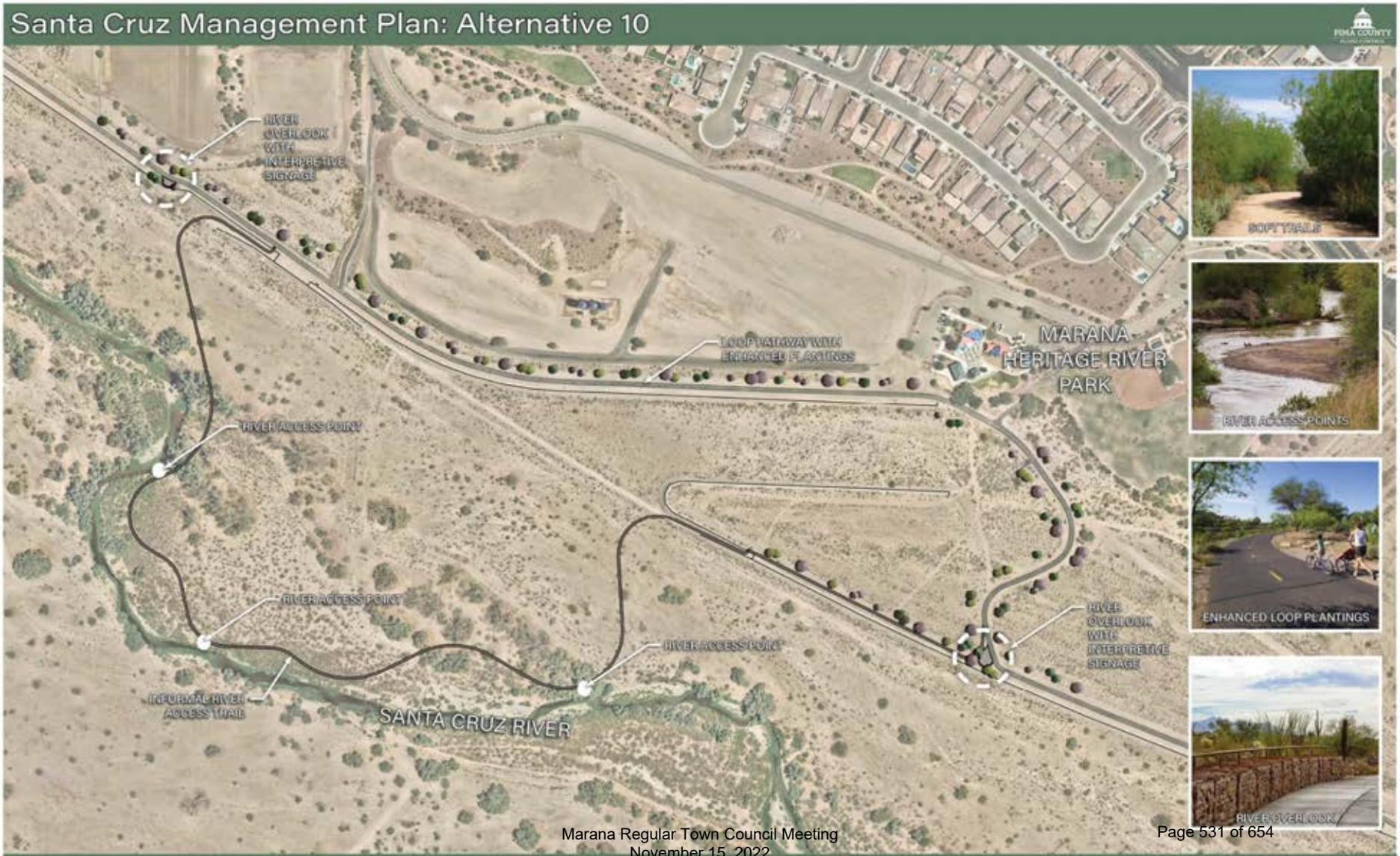
PAGE 17 OF #

PIMA COUNTY W.O. 5SCLIV

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

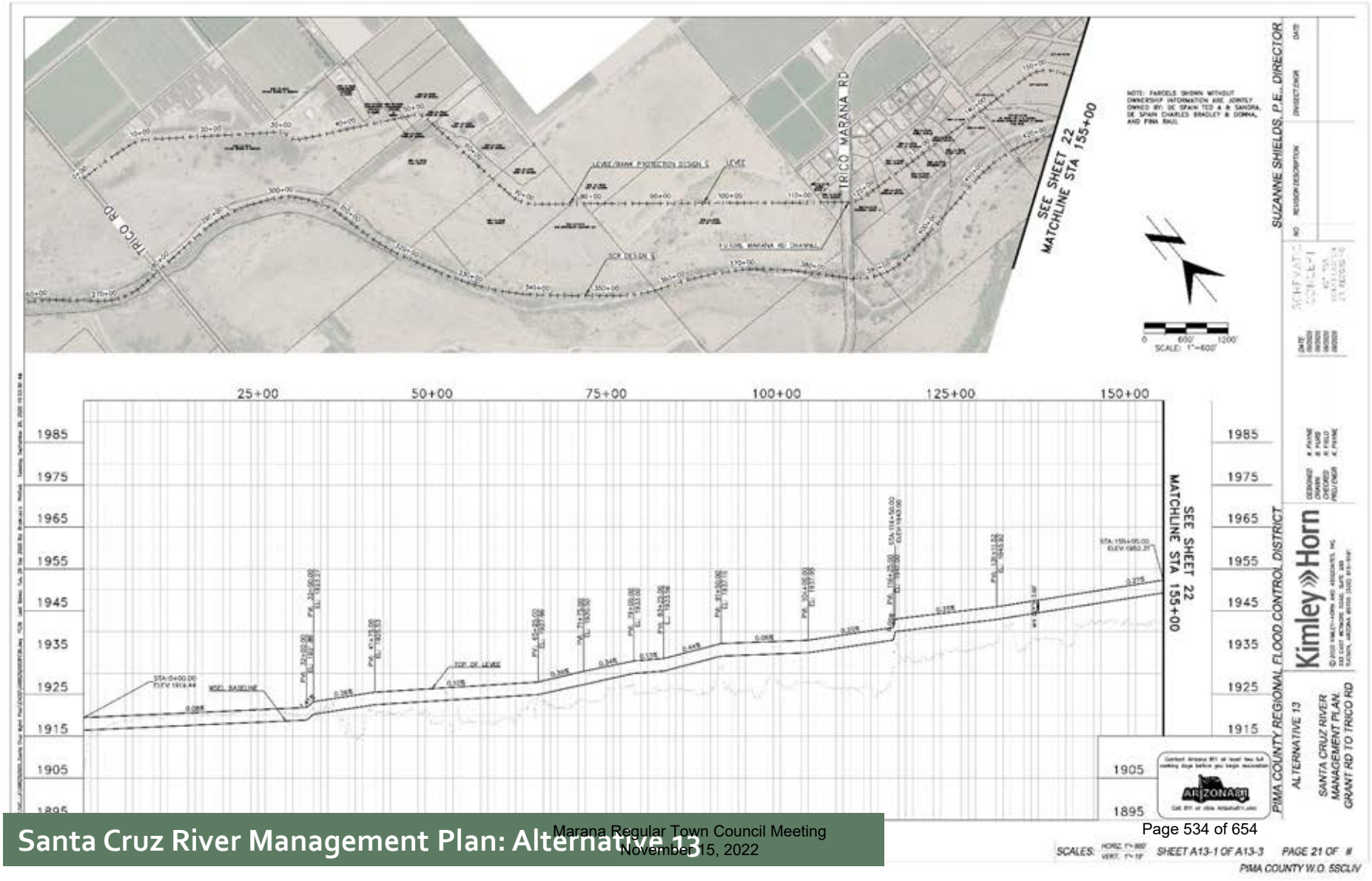


Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



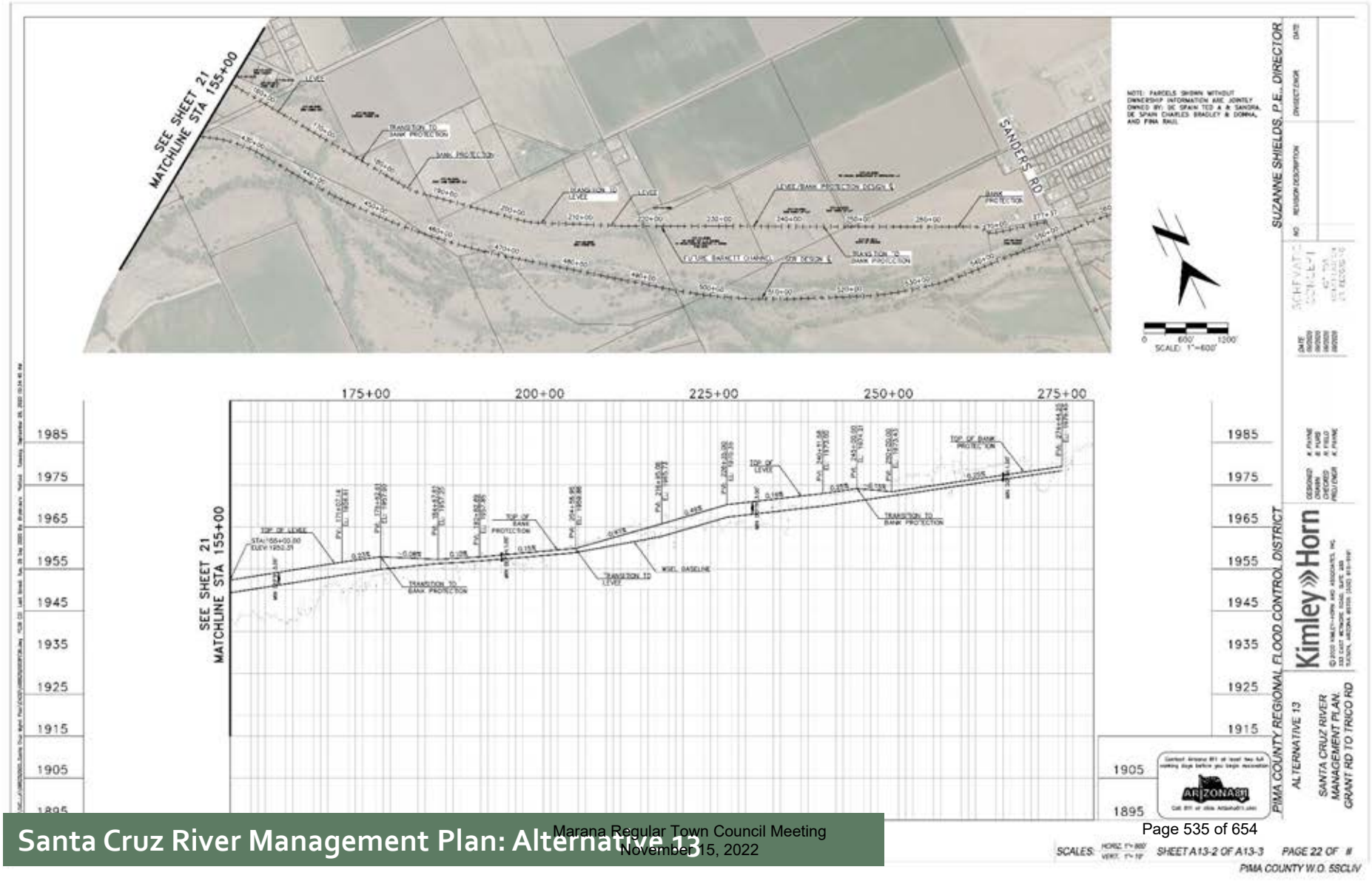
Santa Cruz River Management Plan: Alternative 12

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



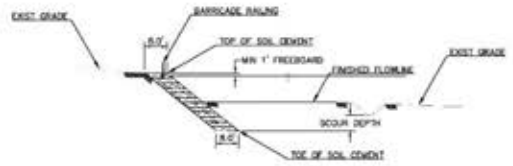
Santa Cruz River Management Plan: Alternative 13

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

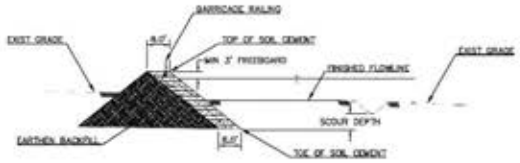


Santa Cruz River Management Plan: Alternative 13

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



TYPICAL SOIL CEMENT BANK PROTECTION SECTION



TYPICAL SOIL CEMENT LEVEE SECTION

SUZANNE SHIELDS, P.E., DIRECTOR

PIMA COUNTY REGIONAL FLOOD CONTROL DISTRICT

ALTERNATIVE 13

SANTA CRUZ RIVER MANAGEMENT PLAN: GRANT RD TO TRICO RD

Kimley»Horn

SCALES: HORIZ. N/A VERT. N/A

SHEET A13-3 OF A13-3

PAGE 23 OF #

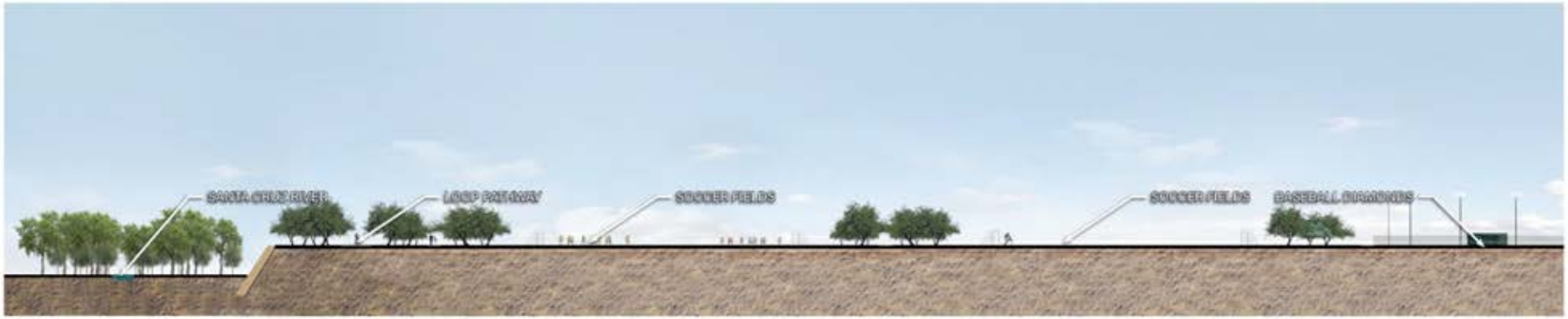
PIMA COUNTY W.O. 5SCLIV

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line





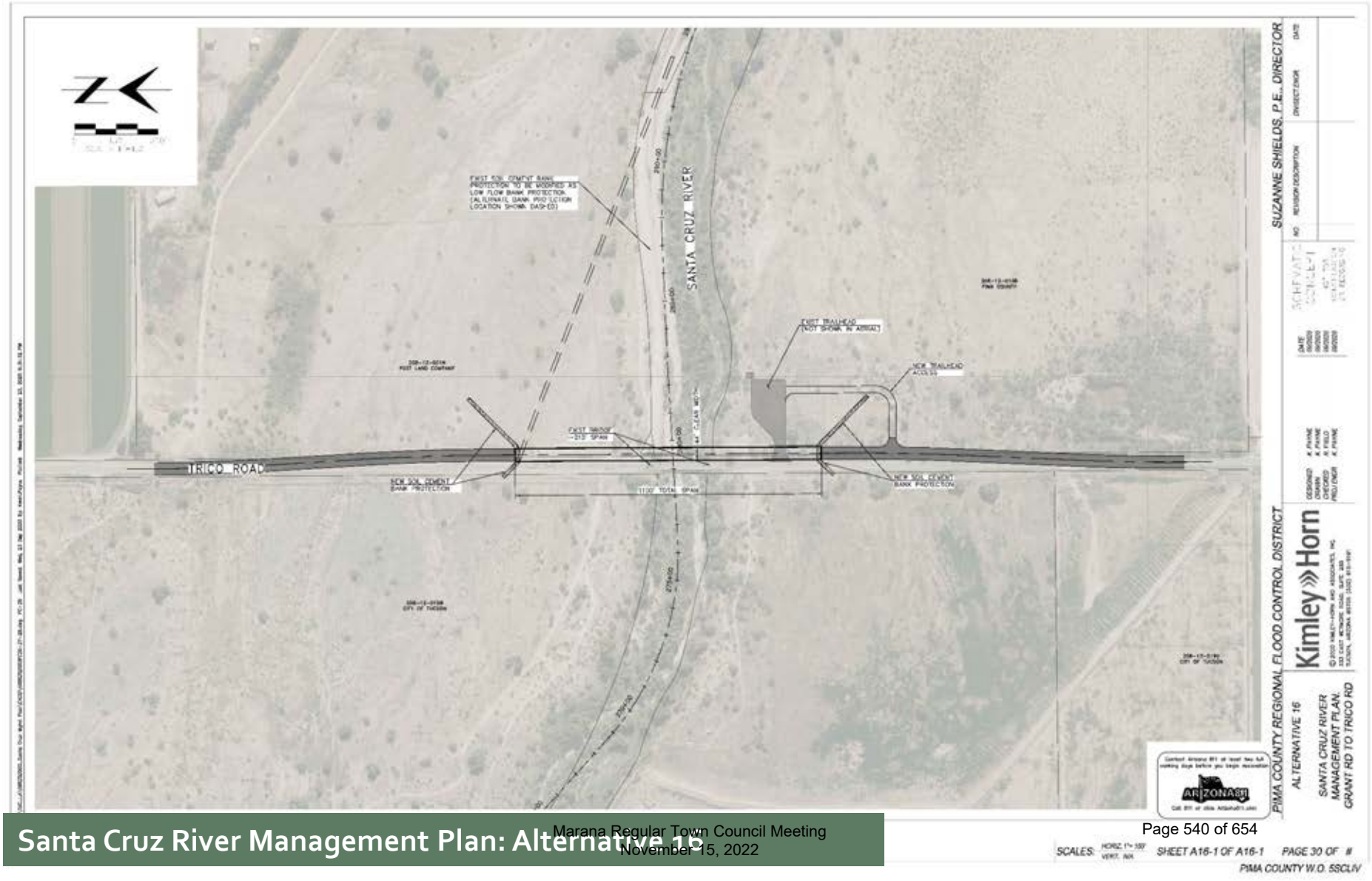
DETAILED SECTION, NORTH BANK

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



Santa Cruz River Management Plan: Alternative 15

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line



E-7

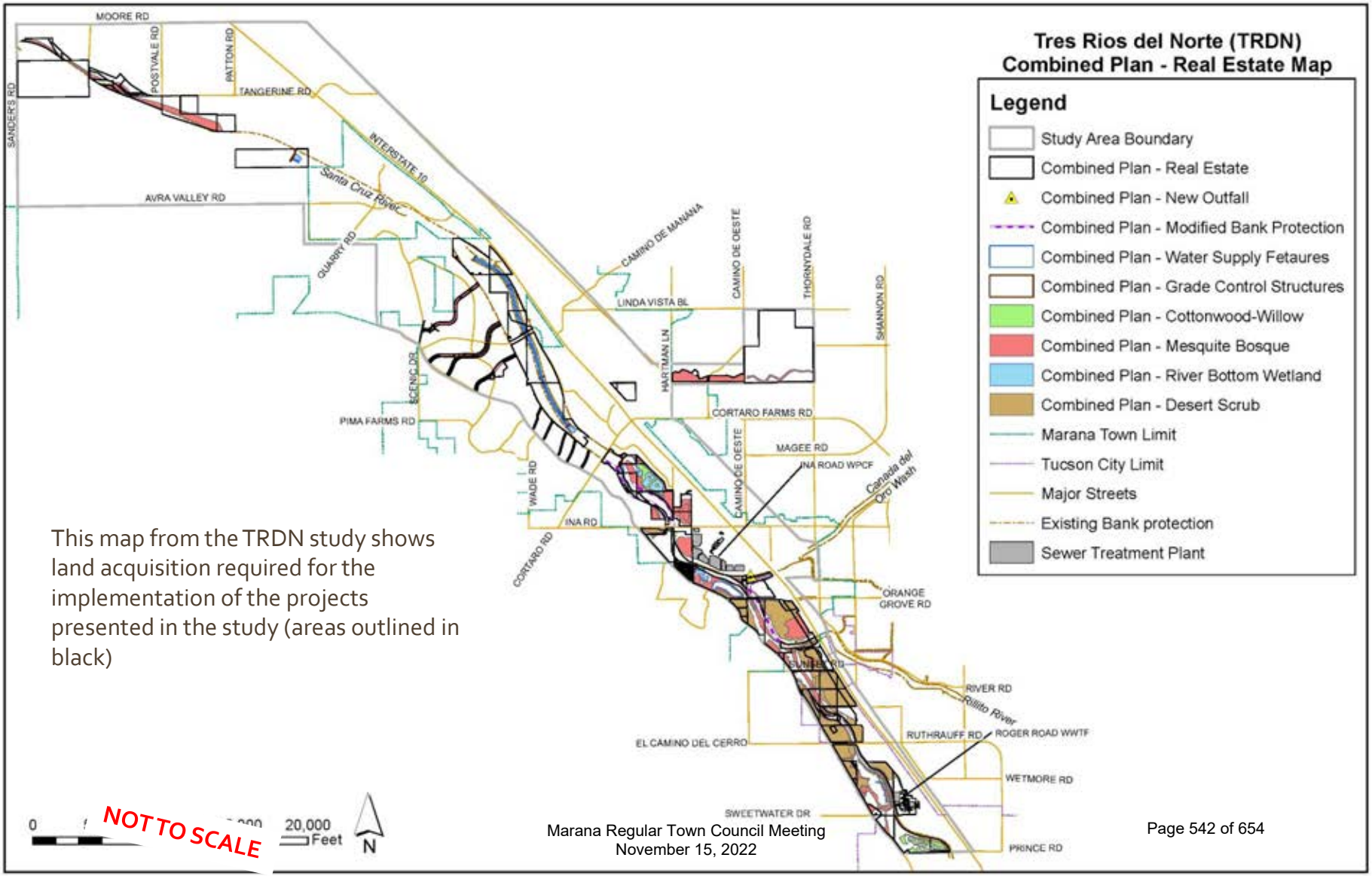
Community Trash Clean Ups



E-24

Ecologically Valued Lands Preserved

All

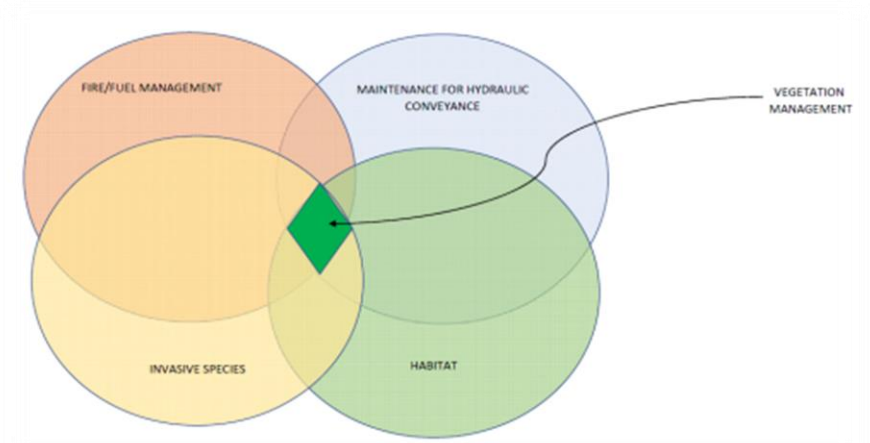


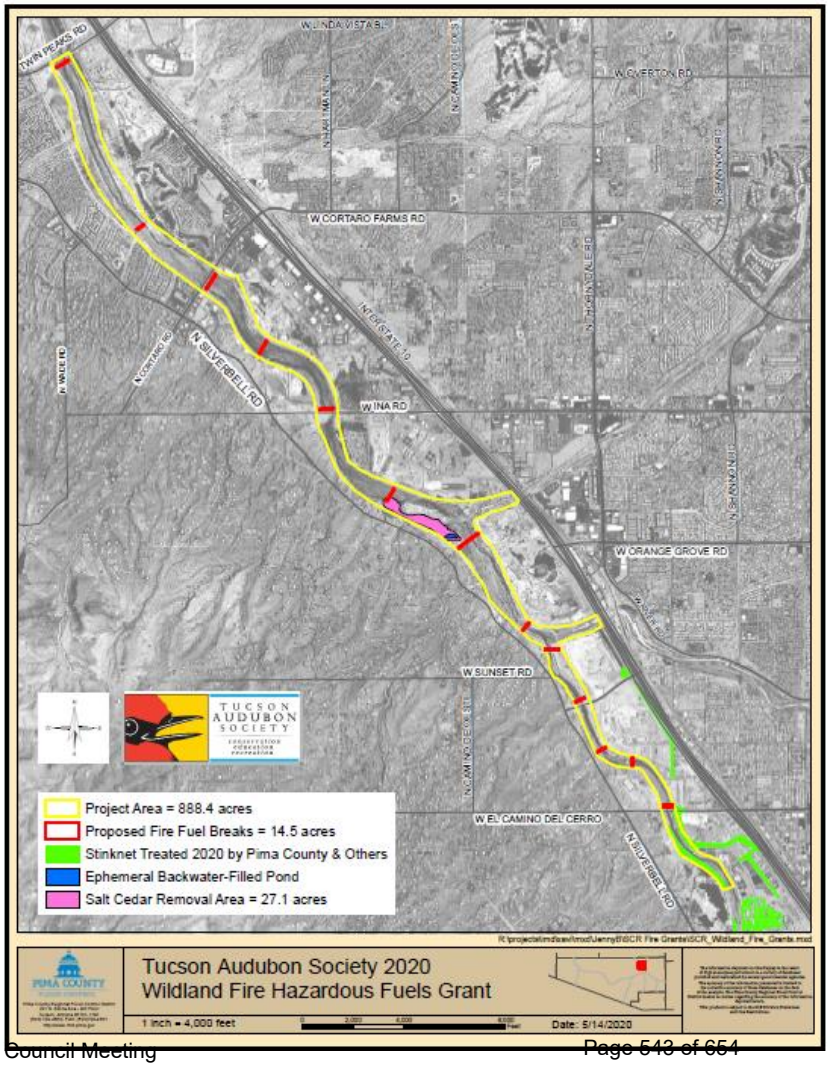
This map from the TRDN study shows land acquisition required for the implementation of the projects presented in the study (areas outlined in black)

E-28

Vegetation Management Plan



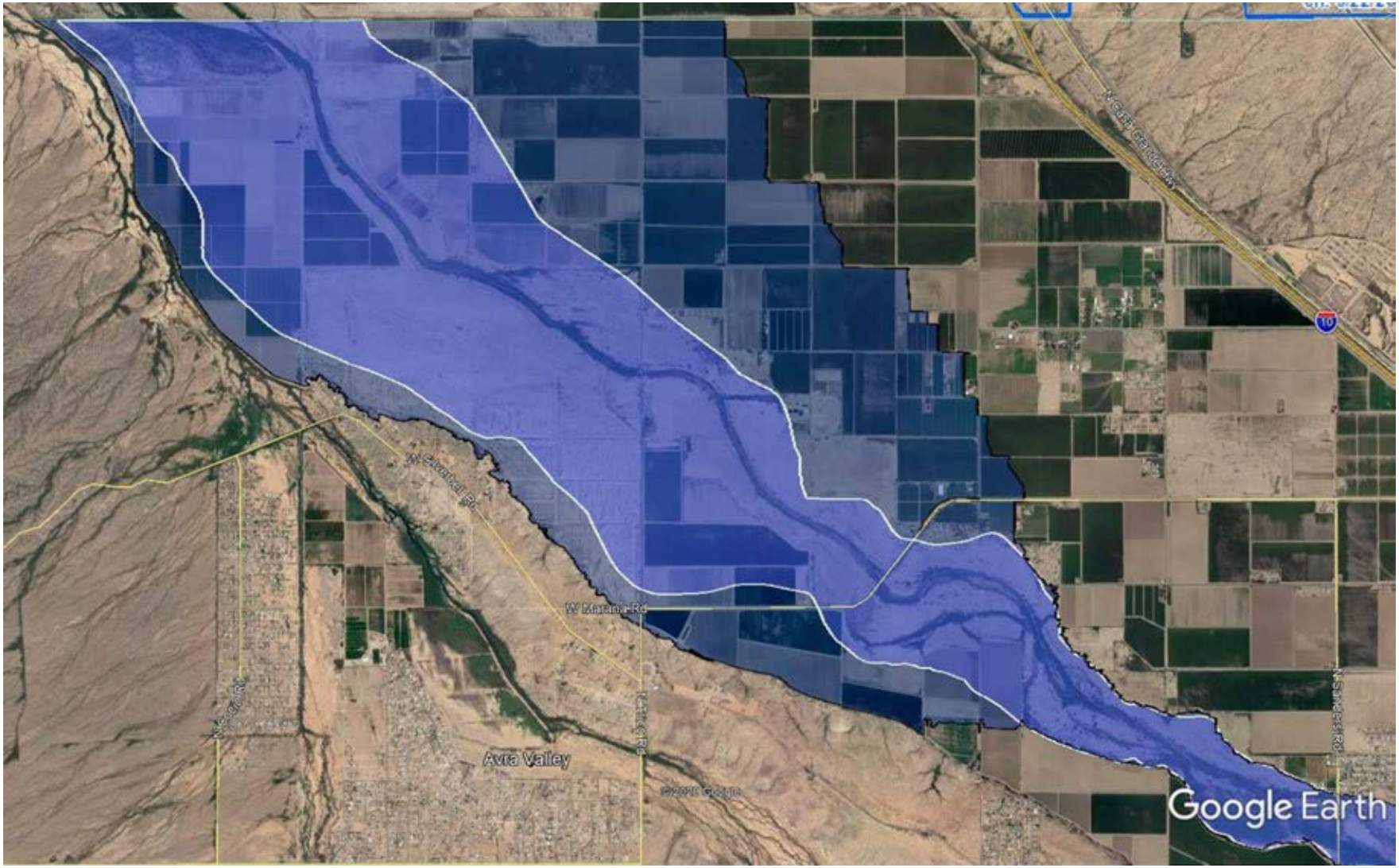




FC-39

Outdated floodplain downstream of Sanders Rd

Marana Flats



Public survey for the River Management Plan

Purpose: **understand your thoughts and feedback** on proposed improvement projects on the Santa Cruz to better reflect the needs, desires, and values of the community.

Background: 16 structural improvements and 4 non-structural improvements are presented

- These improvements have the potential to be implemented along the river with future budget allocations.
- They address one or more of the eight goals identified in Pima County's Floodplain Management Plan (www.pima.gov/fmp).

Please review wording of the survey, and suggest revisions in the comment block.

Accessing the survey (Chrome or Firefox)

In your browser type:

www.tiny.cc/scrprojects



Public survey for the Santa Cruz River Management Plan–Grant Road to Pinal County

Project pull-down: All

START HERE

INSTRUCTIONS

Note: this survey is intended for use on computers and tablets; phones will not display correctly.

1. On the top right, use the **project pull-down** to pick a project or p

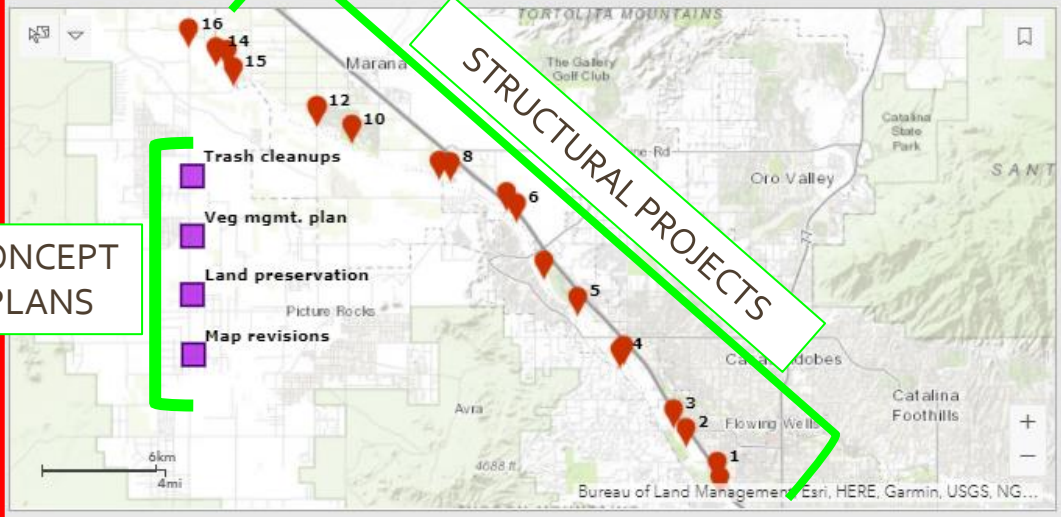
2. In the survey to the right:
   - enter your zip code (you'll only need to do this once)
   - select the project you wish to comment on
   - fill out the survey questions
   - add a comment or question
   - press [Submit]
   - Under the green check mark, press "here" to survey more projects/plans

3. Reset the project pull-down to "All" to display all projects and plans.

4. Repeat step 2 for any other projects you want to comment on.

CONCEPT PLANS

STRUCTURAL PROJECTS



1 of 20

Project/Plan	1
Reach	Three Rivers
Selected project	Litter Traps
Project purpose	Reduce Trash in Santa Cruz River
What will it do?	Employ Trash Capture devices on some tributary channels, so that some of the trash load is collected before being deposited in the Santa Cruz River
Click here to see picture in a separate tab:	https://sonoran.maps.arcgis.com/sharing/rest/content/items/1d30f90863ad4f348e4d0e3479344d48/data

1 of 20



After completing the survey for a project, press the [Submit] button at the bottom to review another project.

Santa

To begin the survey, please enter your zip code*

This is a required question

Choose the project you're commenting on:*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

PURPOSE

The purpose of this survey is for you to give us your thoughts on projects to improve the Santa Cruz River to better reflect the needs, desires, and values of the community.

BACKGROUND

Pima County is considering some future improvement projects in the Santa Cruz River and its floodplain over the next 10-20 years between Grant Road and the Pima-Final County line.

The projects incorporate preferences and priorities for the Santa Cruz River identified by the public in a previous survey, and reflect Pima County's goals for floodplain management in the recently-adopted Floodplain Management Plan.

Take a few minutes to complete the survey

- *Three Rivers: Projects 1–4*
- *Cortaro Narrows: Projects 5–7*
- *Marana Flats: Projects 8–16*

- *All reaches: 4 non-structural*

Your feedback on the survey is important

- ***Was it easier after you evaluated your first project choice?***
- ***How did it function?***
- ***Was anything missing?***

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***Living River/Dragonfly Day/Trash Effort***
  - 7th Annual Living River Report
  - Dragonfly Day - October 3 at Sanders Rd.
  - Trash Cleanup
    - #NotinmyRiver (Joe Cuffari)
    - Partnership with Tucson Clean and Beautiful – Adopt a Wash

Public Survey

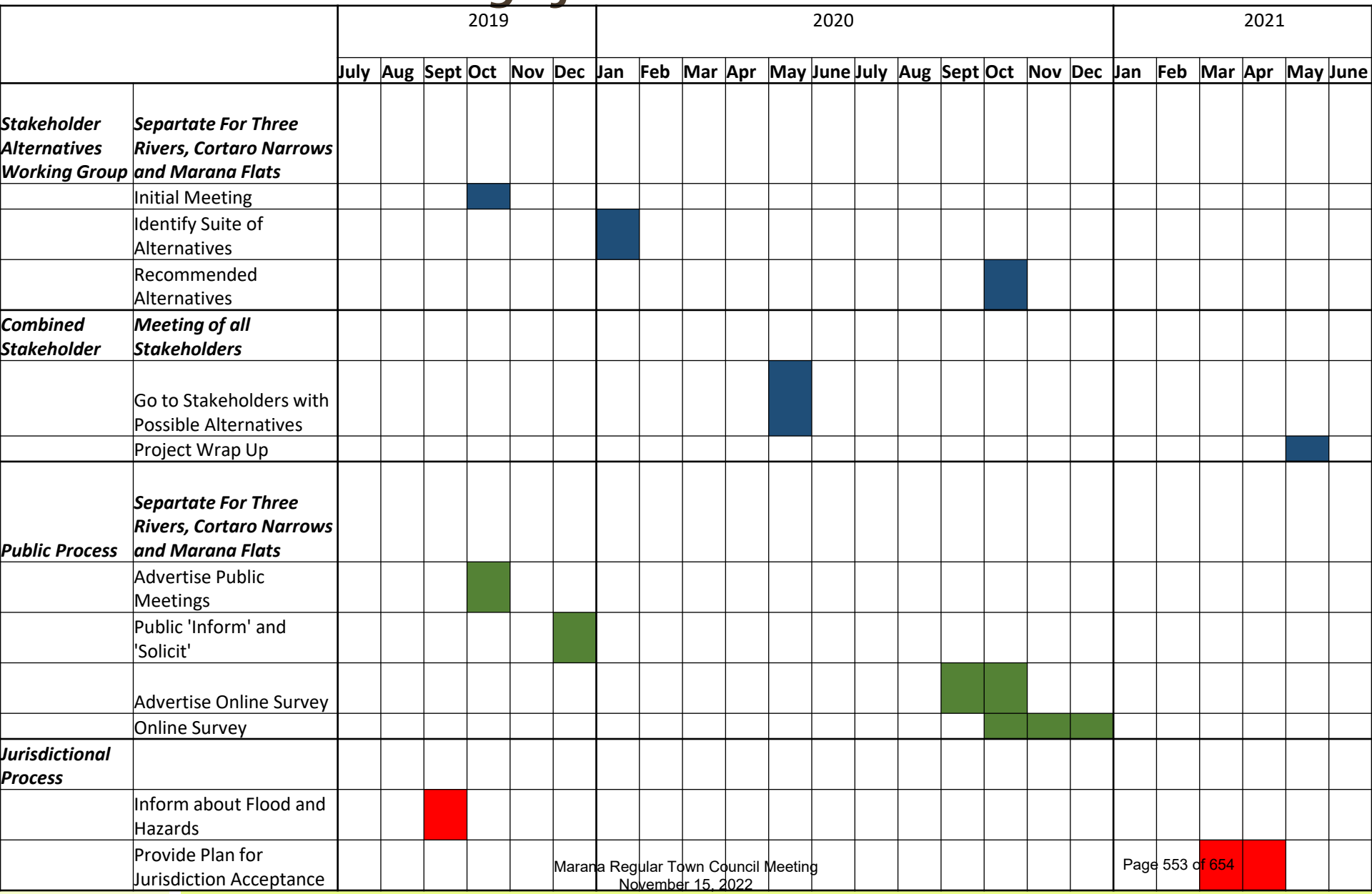
Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***Stakeholder Survey Results***

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line

- ***Where do we go from here?***

Santa Cruz River Mgt Plan – Avra Valley to Pinal County Line - ***Where do we go from here?***



Thank you from the team!

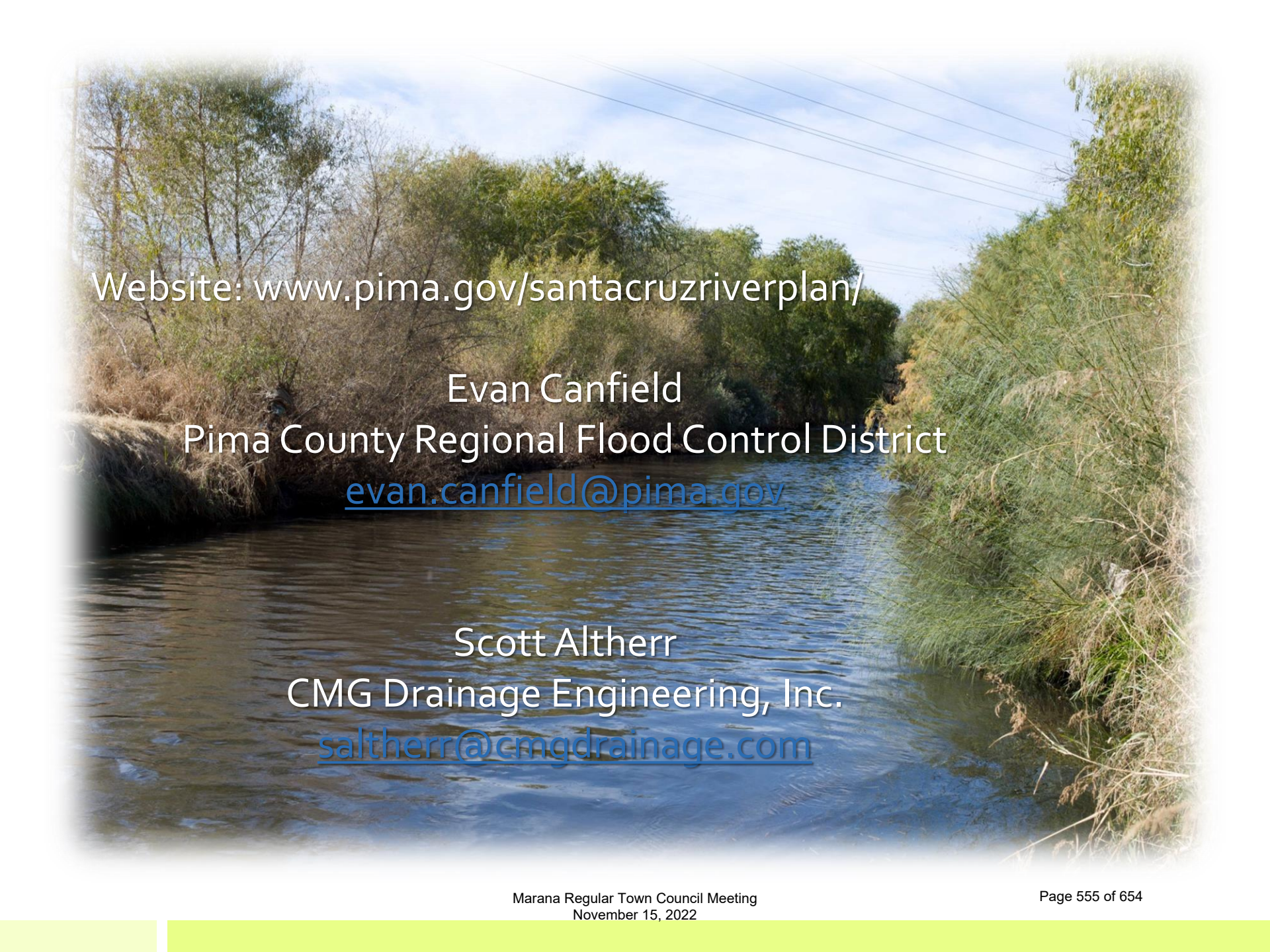
PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

SONORAN INSTITUTE

JE FULLER

Kimley»Horn
Expect More. Experience Better.


Website: www.pima.gov/santacruzriverplan/
Evan Canfield
Pima County Regional Flood Control District
evan.canfield@pima.gov
Scott Altherr
CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com



Santa Cruz River Management Plan

10-6-20

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.

PIMA COUNTY FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

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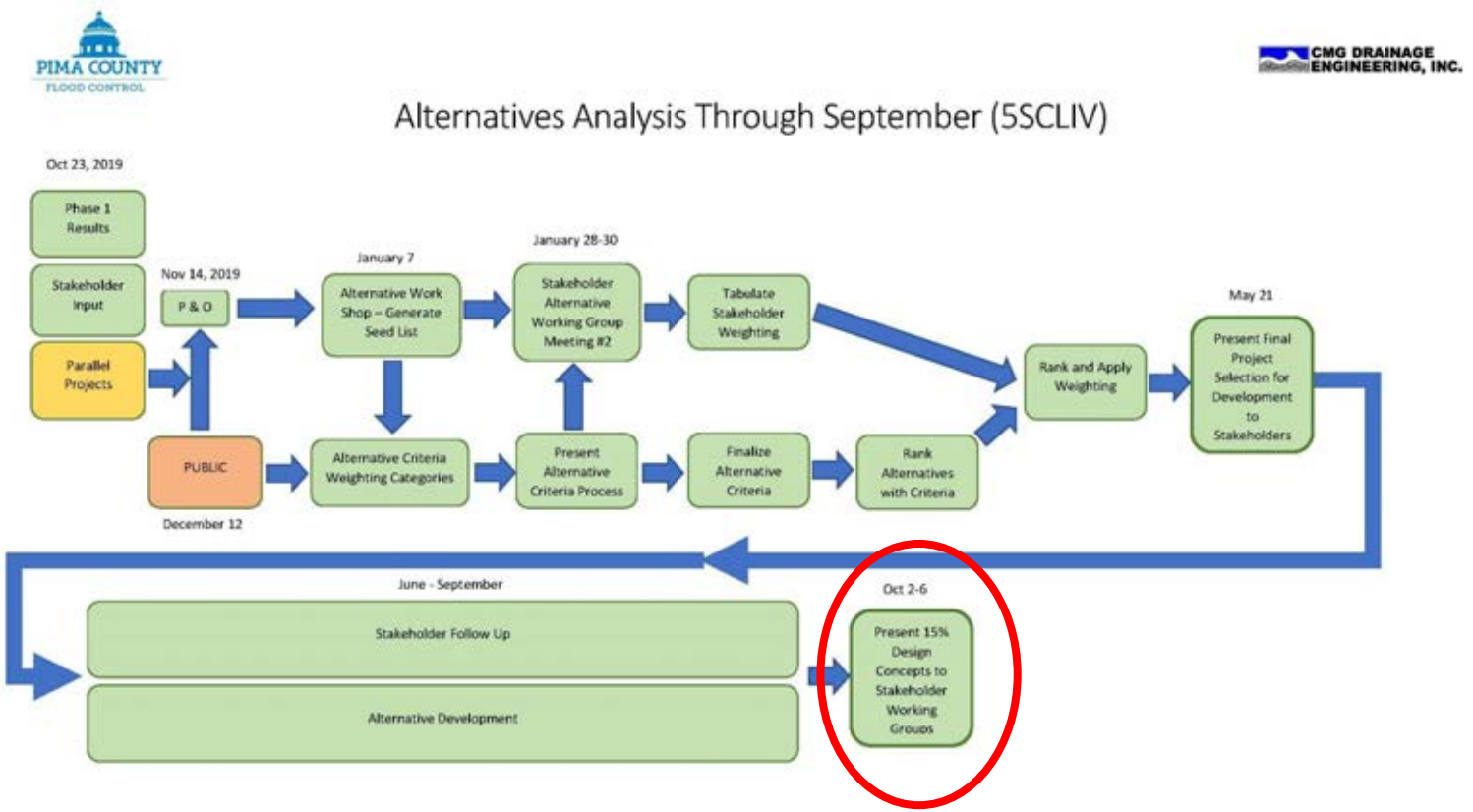


Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***Introductions***
  - *Project Team*
  - *Stakeholders*

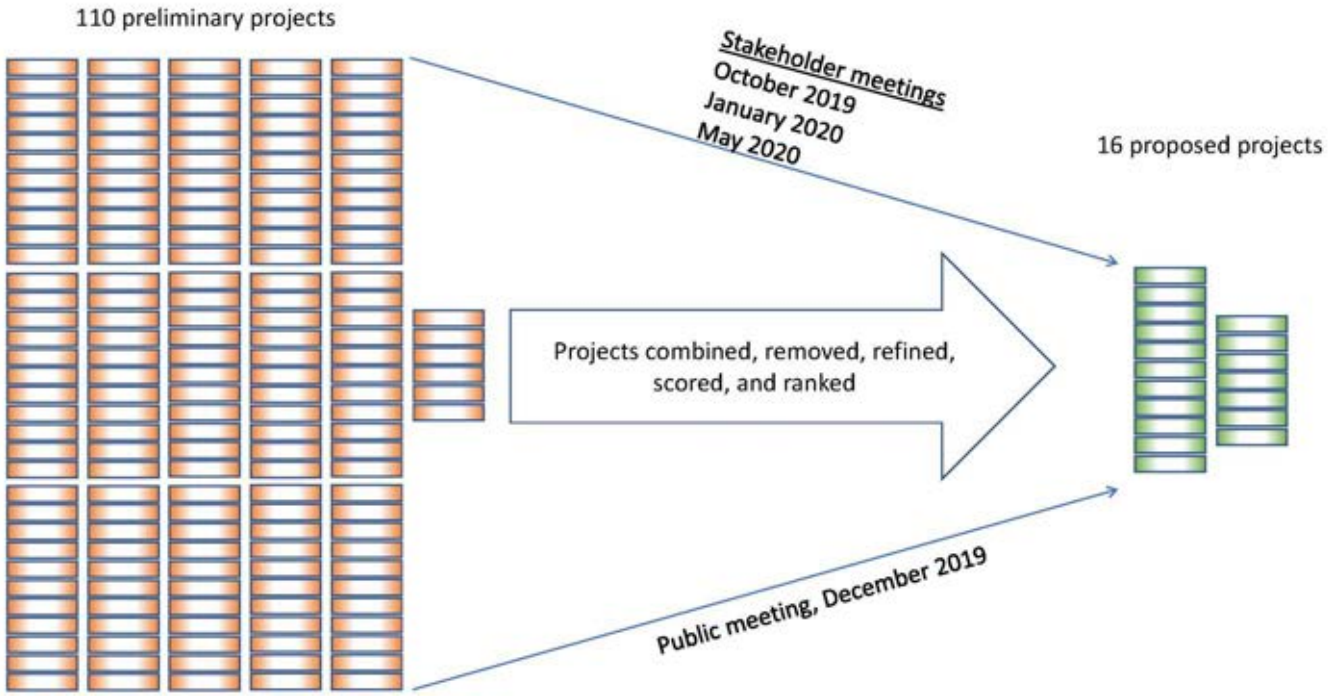
Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***How did we get here?***



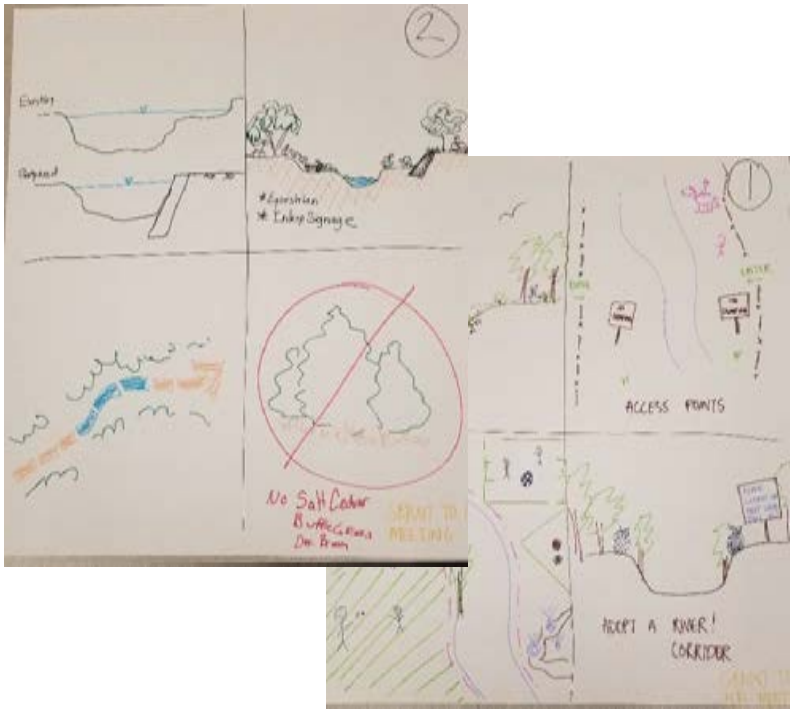
Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***How did we get here?***



Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

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We asked Stakeholders for their vision for the corridor

Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***How did we get here?***



We asked Stakeholders for their problems and opportunities

Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***How did we get here?***

We asked Stakeholders to assign weight to the Project Types and Ten Criteria Categories

SANTA CRUZ RIVER MANAGEMENT PLAN
PROJECT TYPES

Step #1: Rank each criteria category from 1 to 6, giving a 1 to the criterion that is most important to you, and a 6 to the least important.

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Project Types	Rank	Group Weight
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SANTA CRUZ RIVER MANAGEMENT PLAN
WEIGHTING CRITERIA

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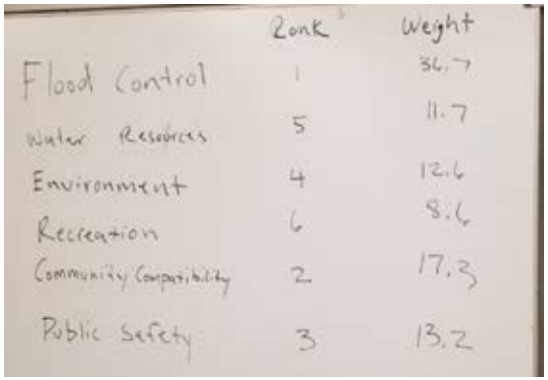
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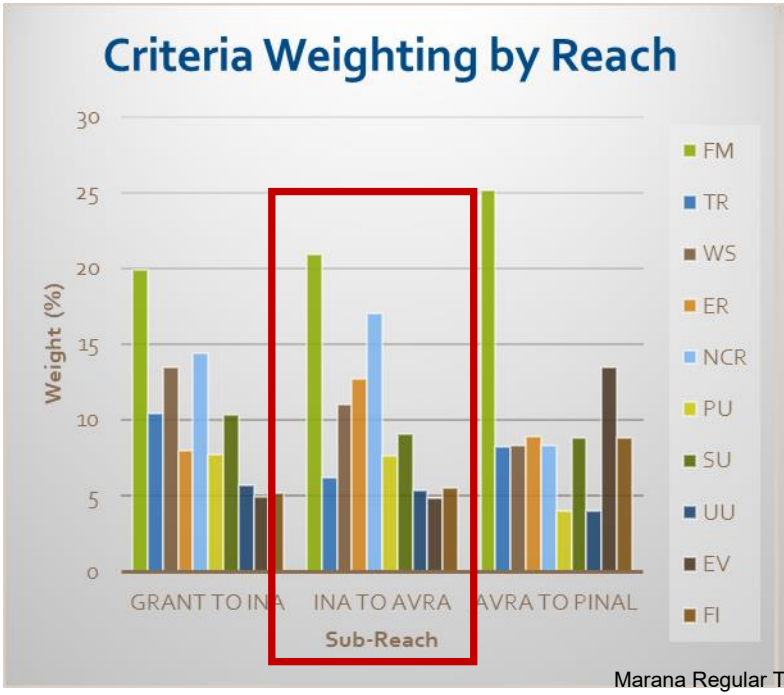
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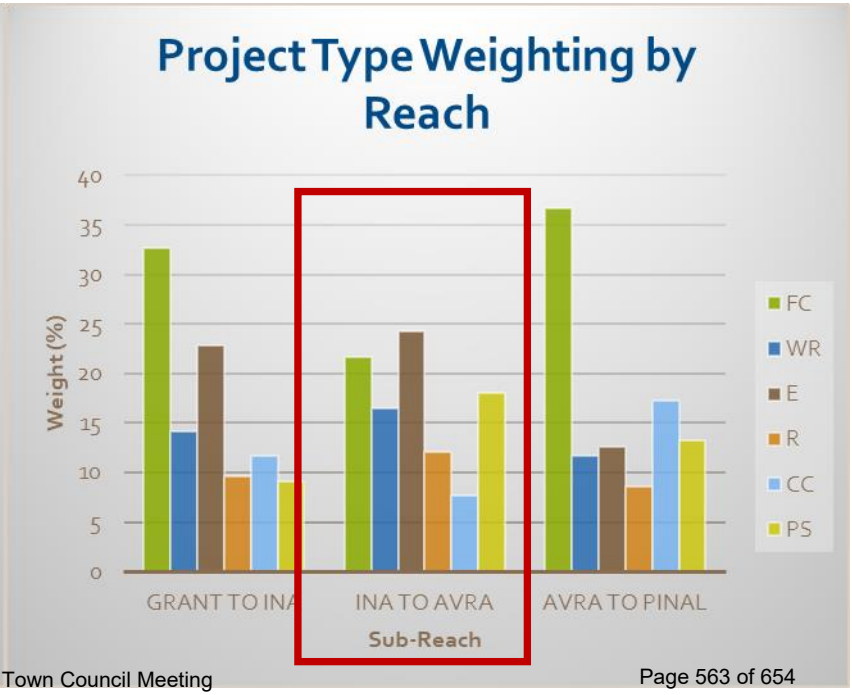
Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

Floodplain Management	FM
Transportation	TR
Water Security	WS
Emergency Response	ER
Natural & Cultural Resources	NCR
Public Use	PU
Sustainability	SU
Unauthorized Uses	UU
Economic Vitality	EV
Feasibility of Implementation	FI



Results were reported back to Stakeholders





Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***How did we get here?***

	FLOODPLAIN MANAGEMENT				
	Evaluation Criteria:	None	Low	High	Score
1	• Reduces Flood Risk to Buildings	X			0
2	• Reduces Flood Risk to Buildings in FEMA Floodplain (higher score)	X			0
3	• Improves Floodplain Hazard Mapping	X			0
4	• Reduces Erosion Hazard			X	2
5	• Mitigates Debris Flow and Sedimentation		X		1
6	• Minimizes Sheet Flooding			X	2
7	• Improves Channel Conveyance / Stability / Erosion Protection			X	2
				Raw Total	7
	TRANSPORTATION				
	Evaluation Criteria:	None	Low	High	Score
1	• Improves All-weather Access		X		1
2	• Improves Emergency Response		X		1
3	• Reduces Disruptions to Normal Traffic, Public Transit & School Bus Operations	X			0
4	• Improves Regional Connectivity/Circulation		X		1
5	• Compliments Regional Transportation Plan	X			0
6	• Increases Community Connectivity, Access and Use of Multi-modal Transportation			X	2
7	• Enables Transportation Improvements	X			0
				Raw Total	5

Team Scoring:
Weighting Applied to Raw Scores

Structural

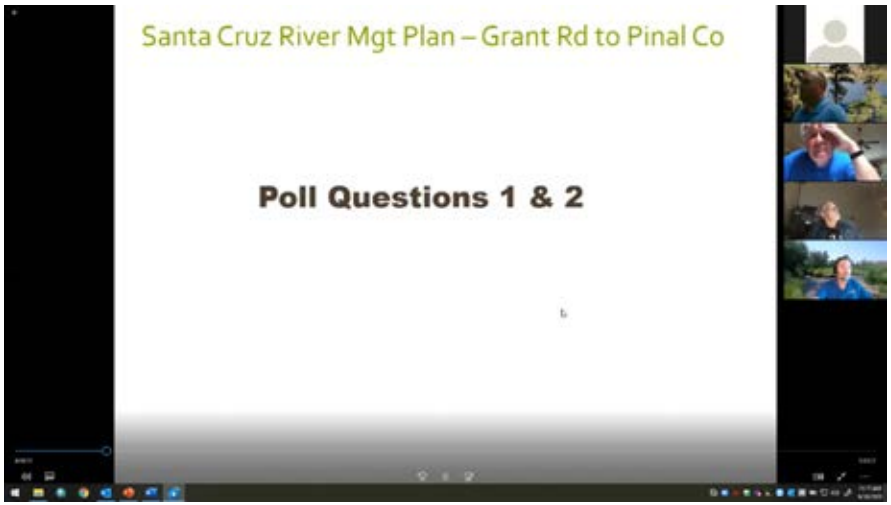
Alternative ID	Reach	Note
E-13	Three Rivers	
E-18b	Cortaro Narrows	
E-26a	Marana Flats	
E-26c	Three Rivers	
FC-13a	Cortaro Narrows	Combined w/ FC-14a
FC-14a	Cortaro Narrows	Combined w/ FC-13a
FC-17	Three Rivers	Combined w/ FC-2
FC-2	Three Rivers	Combined w/ FC-17
FC-20	Marana Flats	
FC-26	Marana Flats	
FC-27	Marana Flats	
FC-28	Marana Flats	
FC-36	Marana Flats	
FC-45	Marana Flats	
FC-46b	Cortaro Narrows	
FC-5	Marana Flats	
R-1a	Marana Flats	
R-6	Three Rivers	

Non-Structural

Alternative ID	Reach	Note
E-24	Multiple	
E-28	Multiple	
E-7,13	Multiple	
FC-39	Multiple	

Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

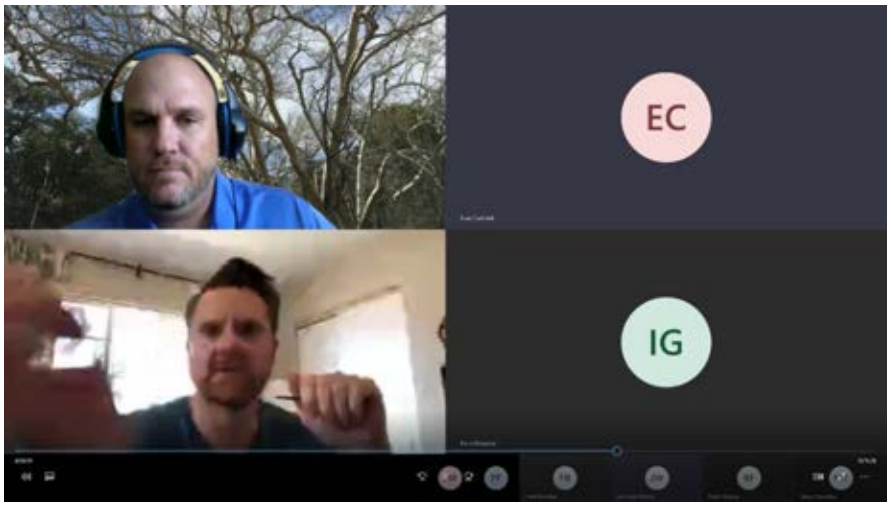
- ***How did we get here?***



In May, We polled Stakeholders online with 8 separate questions relating to representation, feedback on resulting projects to be advanced, project delivery and timeframe.

Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***How did we get here?***



From June - Sept, We had eleven (11) follow up meetings to discuss more specifically with stakeholders potentially impacted by the projects to see if they had any input into the alternative development.

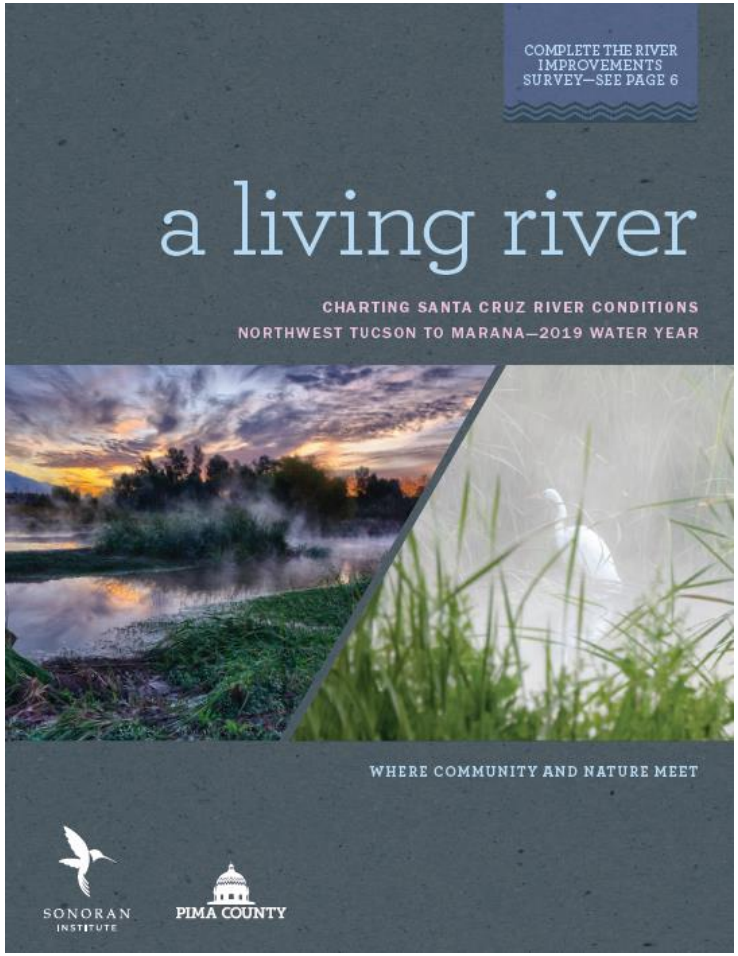
Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***What we're already working on in this reach***

Santa Cruz River Mgt Plan - Ina Rd. to Avra Valley Rd.

- ***Current Public Outreach Efforts***
  - 7th Annual Living River Report
  - Public Survey
- ***What we're already working on in this reach***
  - Levee Augmentation
  - Sediment Removal
  - Moving grade control forward for two grade control projects by Twin Peaks Rd
- *Related Efforts*
  - El Rio Preserve construction
  - Force Main plan development

Santa Cruz River programming







Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***Conceptually Designed Alternatives***

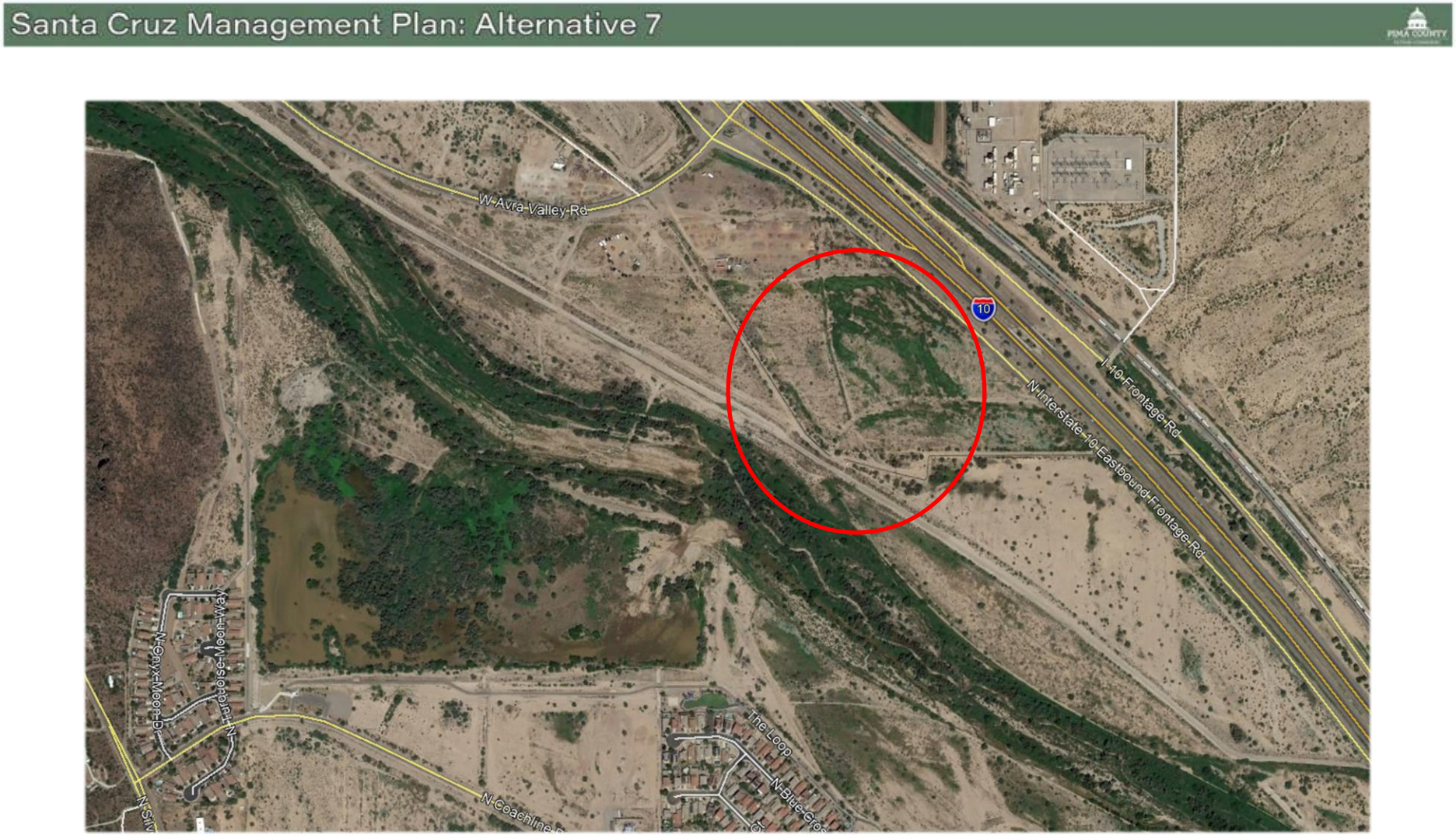
Santa Cruz River Mgt Plan – Ina Road to Avra Valley Road



Santa Cruz River Mgt Plan – Ina Road to Avra Valley Road



Santa Cruz River Mgt Plan – Ina Road to Avra Valley Road



Santa Cruz River Mgt Plan – Ina Road to Avra Valley Road



Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-7

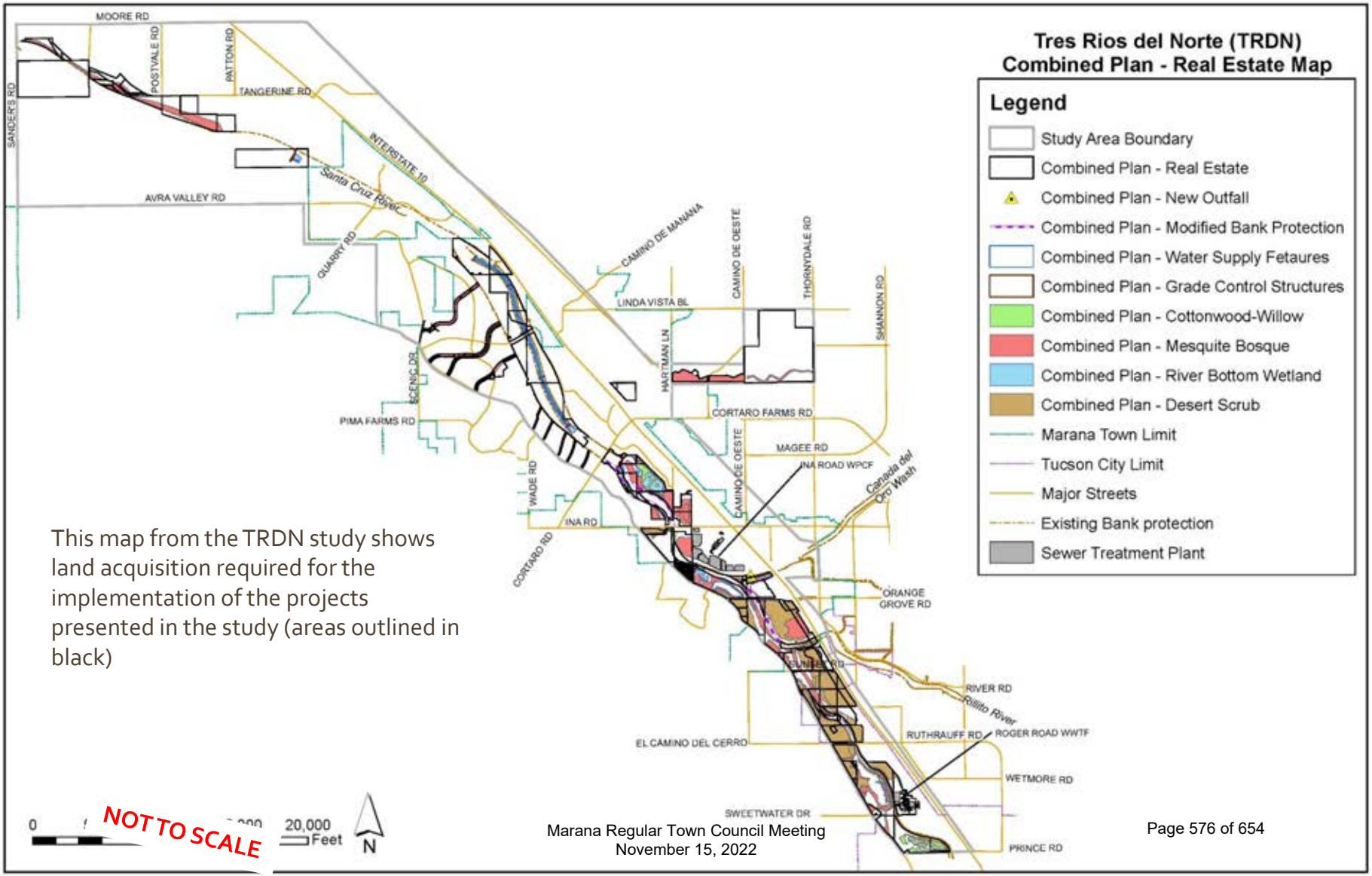
Community Trash Clean Ups



E-24

Ecologically Valued Lands Preserved

All



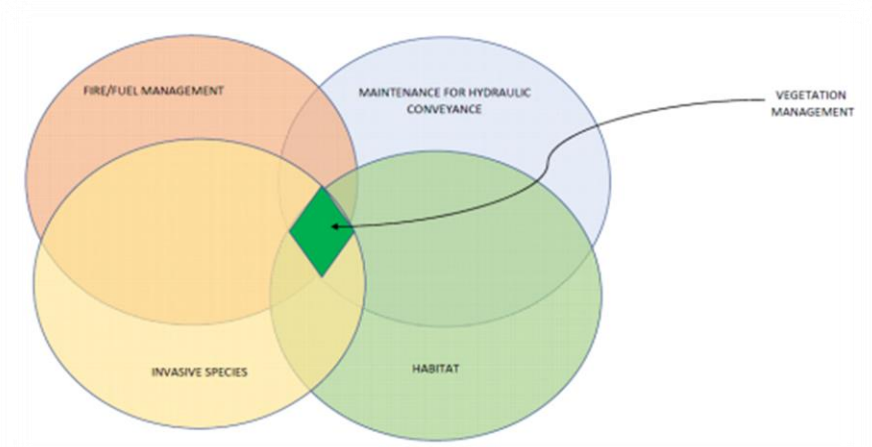
This map from the TRDN study shows land acquisition required for the implementation of the projects presented in the study (areas outlined in black)

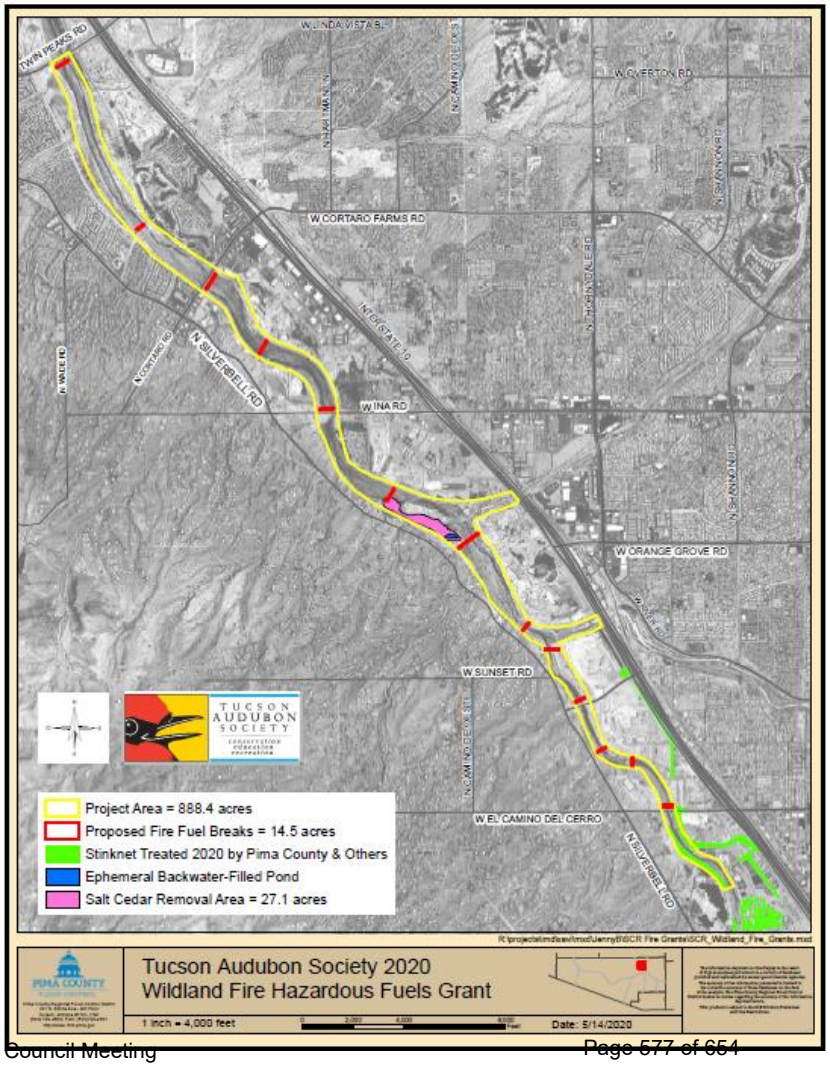
Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-28

Vegetation Management Plan



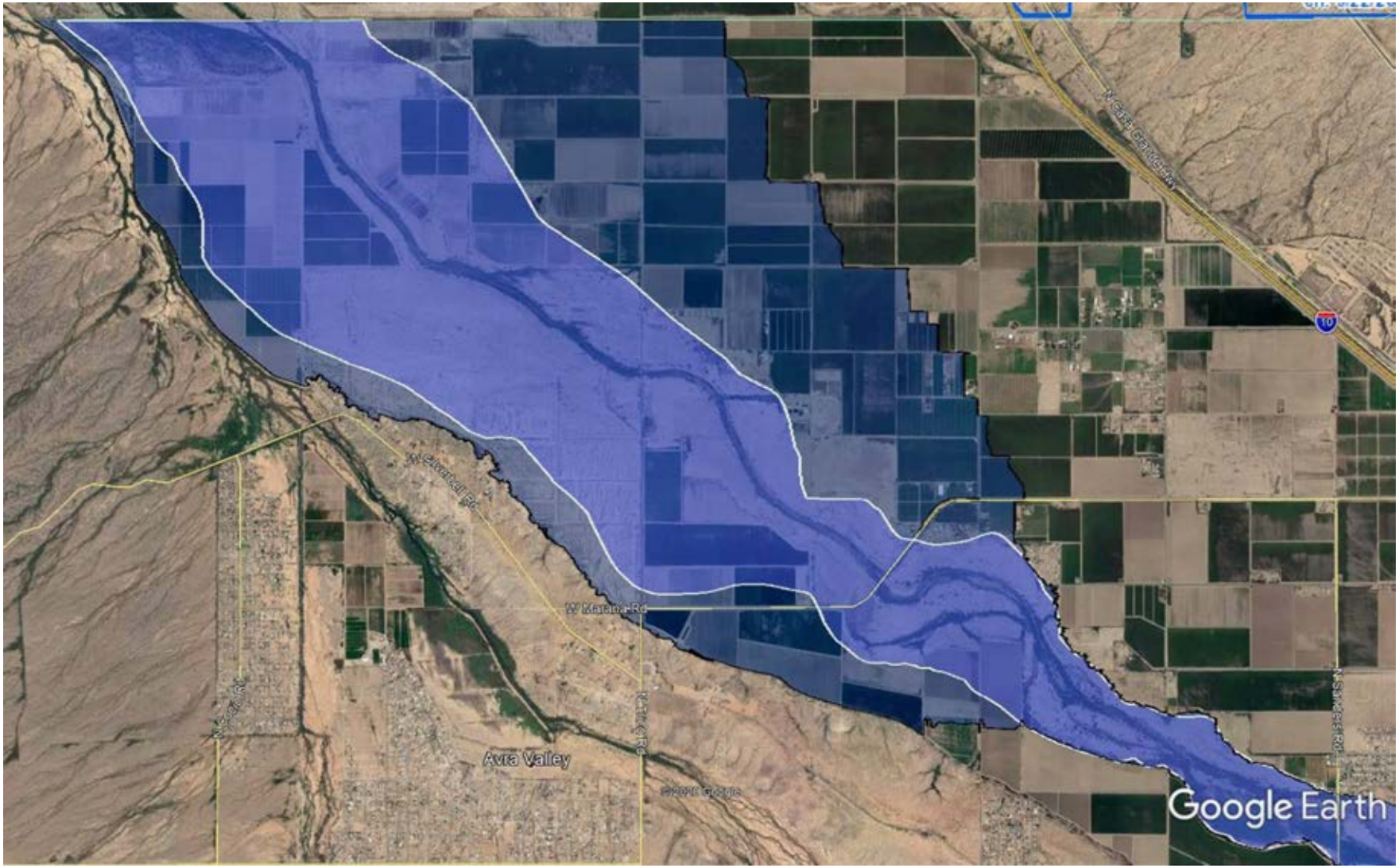




FC-39

Outdated floodplain downstream of Sanders Rd

Marana Flats



Public survey for the River Management Plan

Purpose: **understand your thoughts and feedback** on proposed improvement projects on the Santa Cruz to better reflect the needs, desires, and values of the community.

Background: 16 structural improvements and 4 non-structural improvements are presented

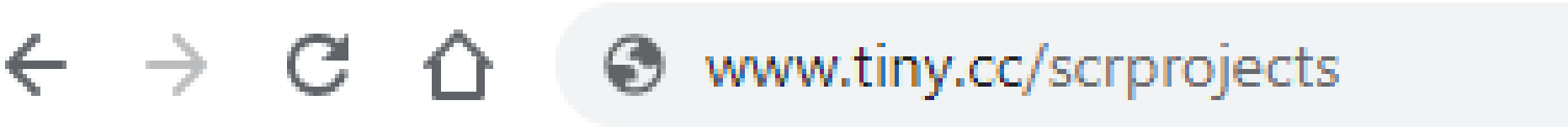
- These improvements have the potential to be implemented along the river with future budget allocations.
- They address one or more of the eight goals identified in Pima County's Floodplain Management Plan (www.pima.gov/fmp).

Please review wording of the survey, and suggest revisions in the comment block.

Accessing the survey (Chrome or Firefox)

In your browser type:

www.tiny.cc/scrprojects



Public survey for the Santa Cruz River Management Plan–Grant Road to Pinal County

Project pull-down: All

START HERE

INSTRUCTIONS

Note: this survey is intended for use on computers and tablets; phones will not display correctly.

1. On the top right, use the **project pull-down** to pick a project or p

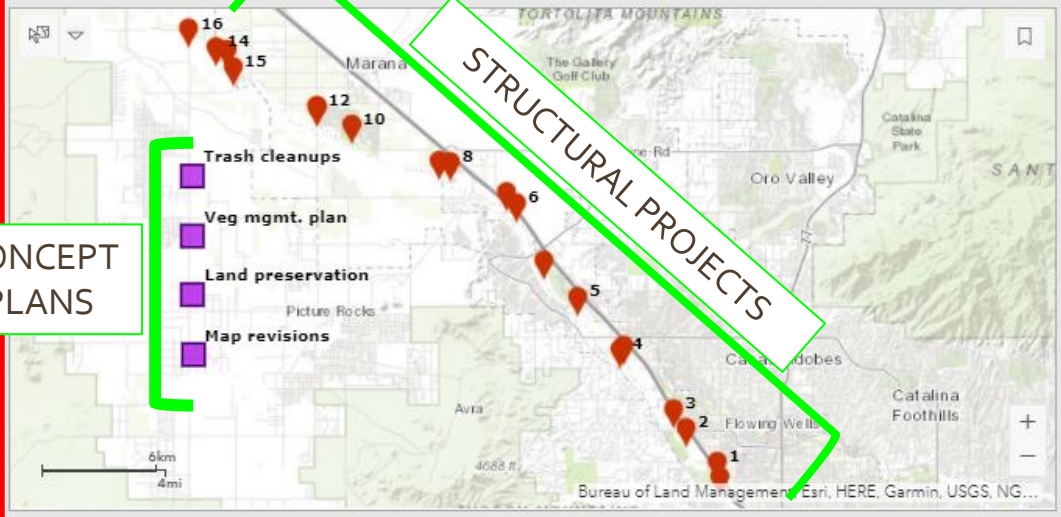
2. In the survey to the right:
   - enter your zip code (you'll only need to do this once)
   - select the project you wish to comment on
   - fill out the survey questions
   - add a comment or question
   - press [Submit]
   - Under the green check mark, press "here" to survey more projects/plans

3. Reset the project pull-down to "All" to display all projects and plans.

4. Repeat step 2 for any other projects you want to comment on.

CONCEPT PLANS

STRUCTURAL PROJECTS



1 of 20

Project/Plan	1
Reach	Three Rivers
Selected project	Litter Traps
Project purpose	Reduce Trash in Santa Cruz River
What will it do?	Employ Trash Capture devices on some tributary channels, so that some of the trash load is collected before being deposited in the Santa Cruz River
Click here to see picture in a separate tab:	https://sonoran.maps.arcgis.com/sharing/rest/content/items/1d30f90863ad4f348e4d0e3479344d48/data

1 of 20



After completing the survey for a project, press the [Submit] button at the bottom to review another project.

Santa

To begin the survey, please enter your zip code*

This is a required question

Choose the project you're commenting on:*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

PURPOSE

The purpose of this survey is for you to give us your thoughts on projects to improve the Santa Cruz River to better reflect the needs, desires, and values of the community.

BACKGROUND

Pima County is considering some future improvement projects in the Santa Cruz River and its floodplain over the next 10-20 years between Grant Road and the Pima-Final County line.

The projects incorporate preferences and priorities for the Santa Cruz River identified by the public in a previous survey, and reflect Pima County's goals for floodplain management in the recently-adopted Floodplain Management Plan.

Take a few minutes to complete the survey

- *Three Rivers: Projects 1–4*
- *Cortaro Narrows: Projects 5–7*
- *Marana Flats: Projects 8–16*

- *All reaches: 4 non-structural*
- *Tiny.cc/scrprojects*

Your feedback on the survey is important

- ***Was it easier after you evaluated your first project choice?***
- ***How did it function?***
- ***Was anything missing?***

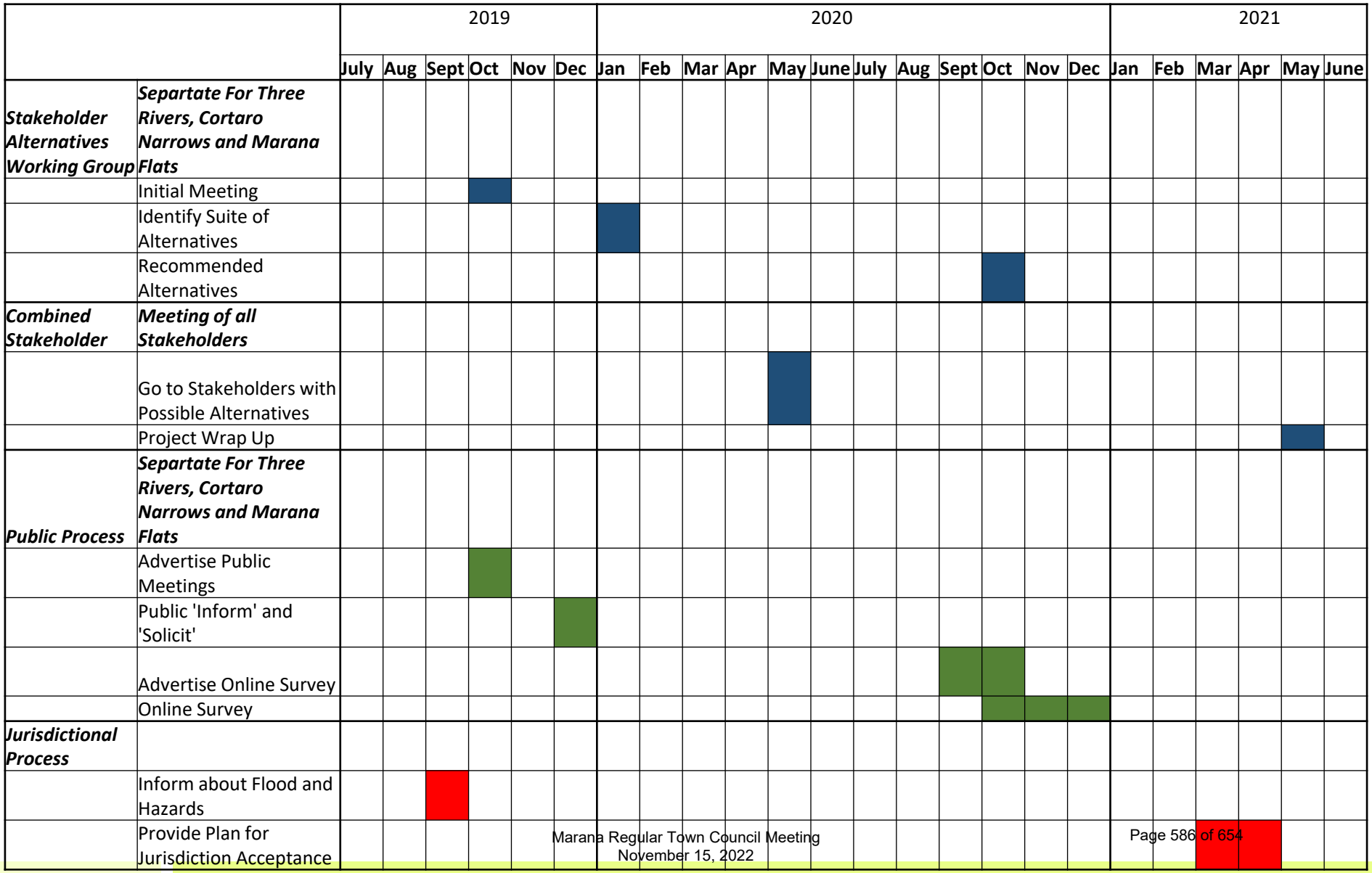
Santa Cruz River Mgt Plan - Ina Rd. to Avra Valley Rd.

- ***Living River/Dragonfly Day/Trash Effort***
  - 7th Annual Living River Report
  - Trash Cleanup
    - #NotinmyRiver
    - Partnership with Tucson Clean and Beautiful – Adopt a Wash
  - Public Survey

Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd

- ***Where do we go from here?***

Santa Cruz River Mgt Plan – Ina Rd to Avra Valley Rd - *Where do we go from here?*



Thank you from the team!

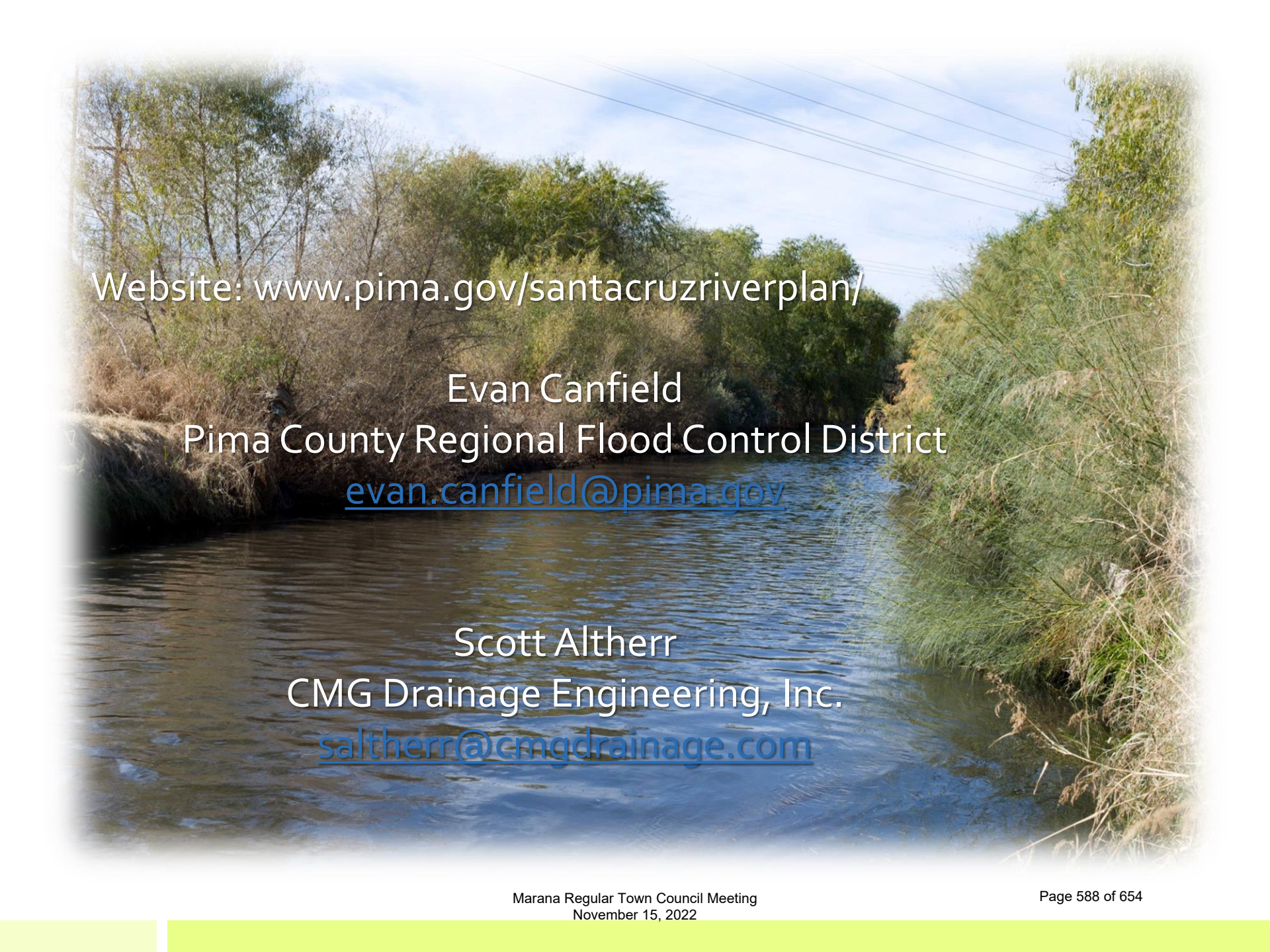
PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

SONORAN INSTITUTE

JE FULLER

Kimley»Horn
Expect More. Experience Better.


Website: www.pima.gov/santacruzriverplan/
Evan Canfield
Pima County Regional Flood Control District
evan.canfield@pima.gov
Scott Altherr
CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com



Santa Cruz River Management Plan

10-5-20

Evan Canfield – Pima County Regional Flood Control District
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PIMA COUNTY FLOOD CONTROL

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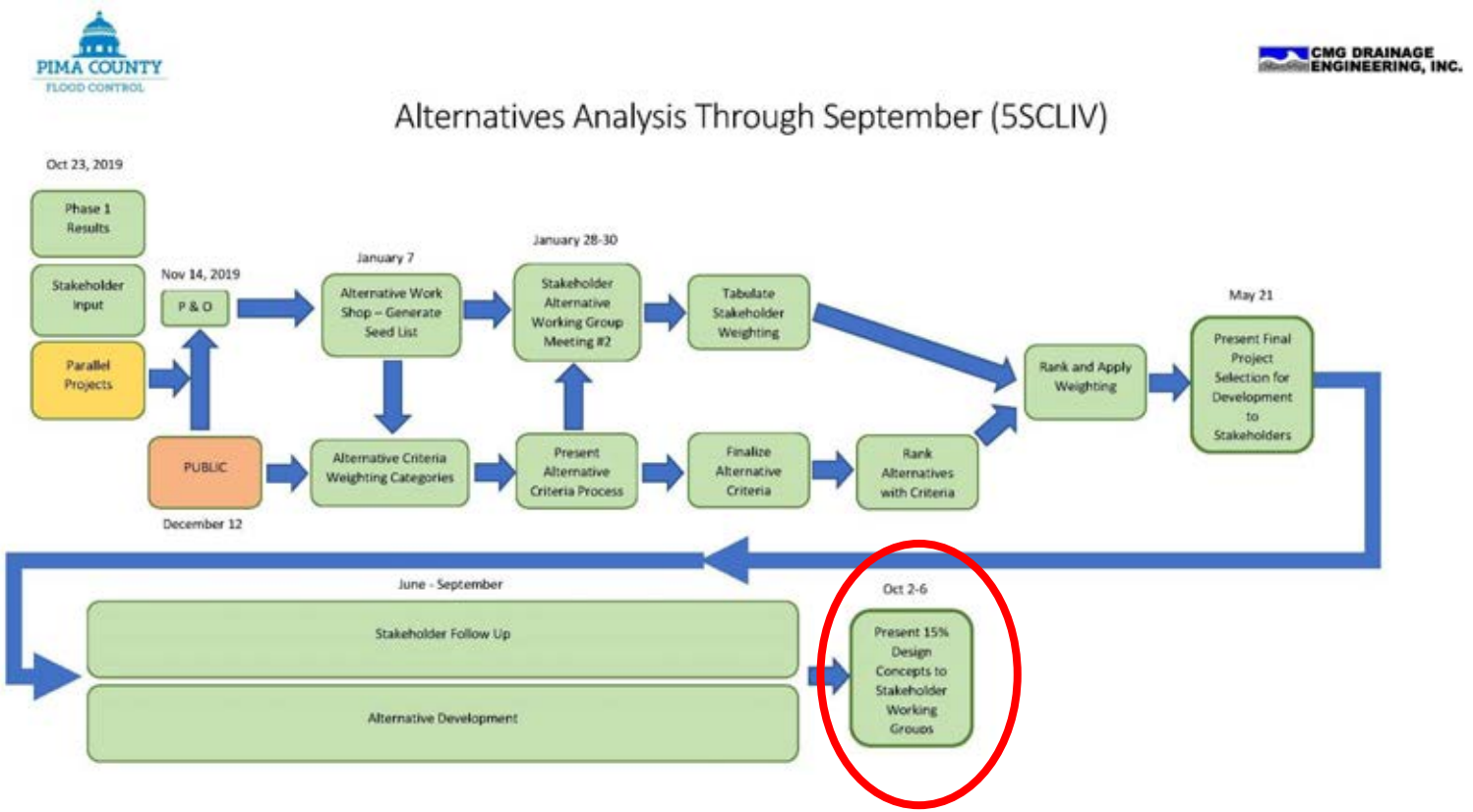


Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

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  - *Project Team*
  - *Stakeholders*

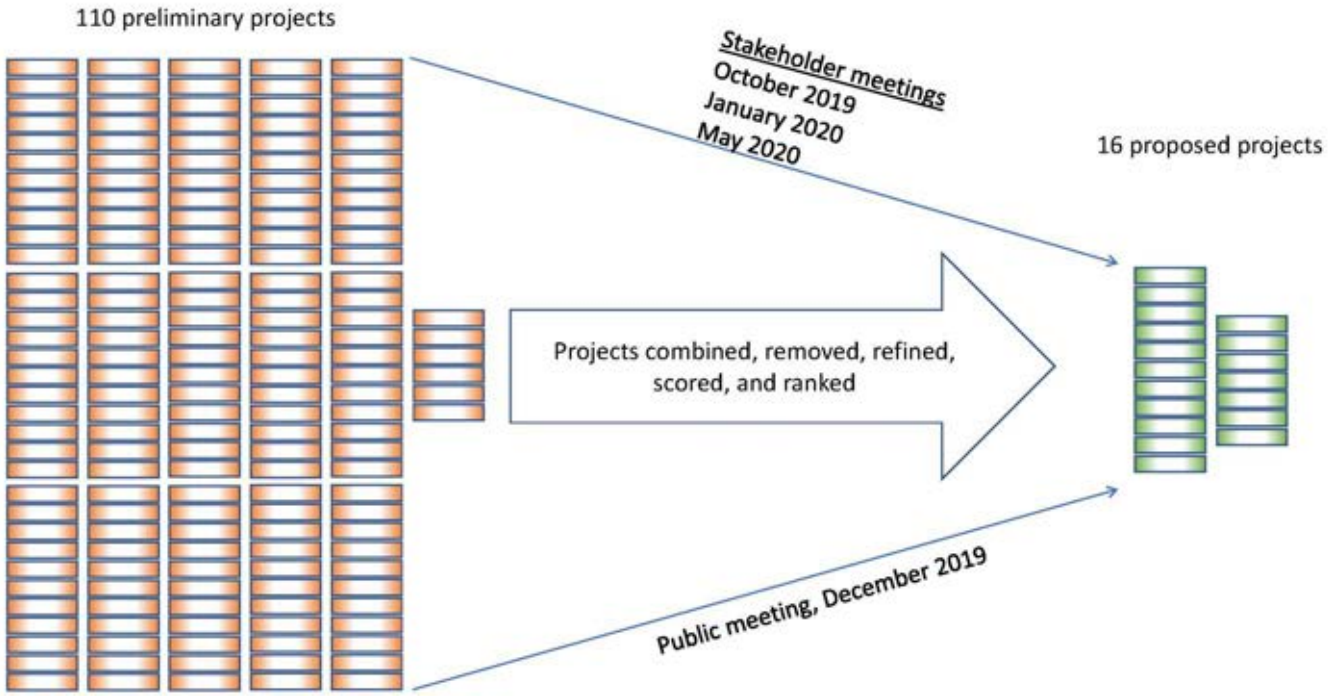
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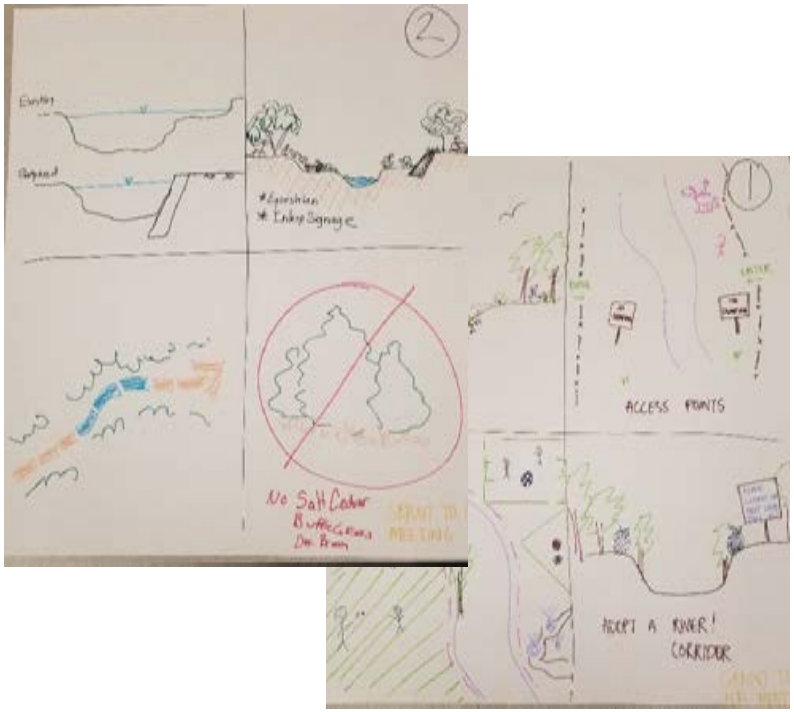
Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

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Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

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Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

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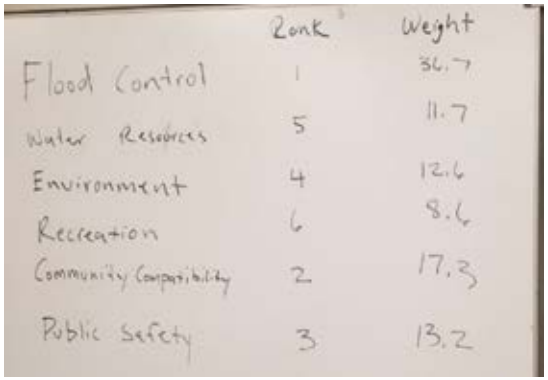
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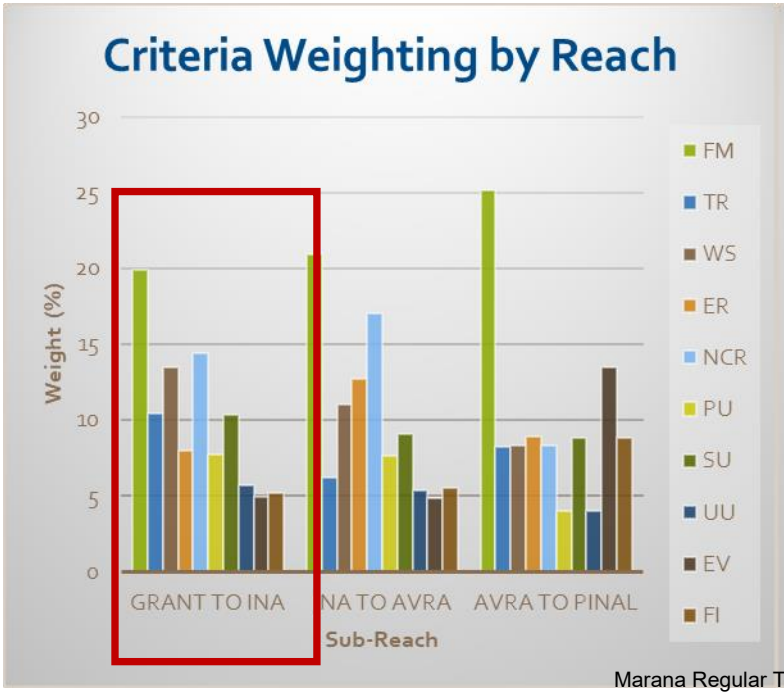
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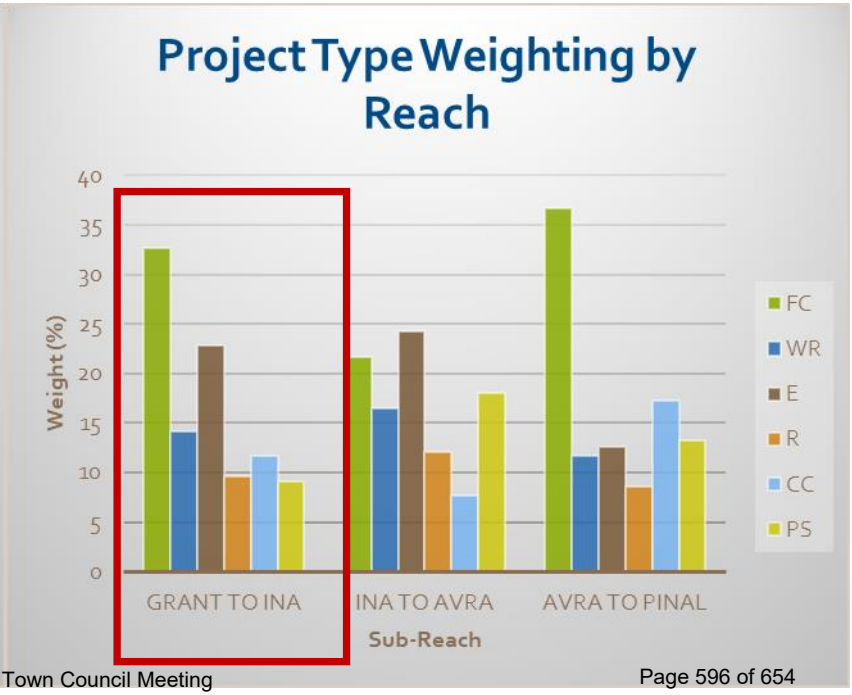
Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

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Sustainability	SU
Unauthorized Uses	UU
Economic Vitality	EV
Feasibility of Implementation	FI



Results were reported back to Stakeholders





Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

- ***How did we get here?***

	FLOODPLAIN MANAGEMENT				
	Evaluation Criteria:	None	Low	High	Score
1	• Reduces Flood Risk to Buildings	X			0
2	• Reduces Flood Risk to Buildings in FEMA Floodplain (higher score)	X			0
3	• Improves Floodplain Hazard Mapping	X			0
4	• Reduces Erosion Hazard			X	2
5	• Mitigates Debris Flow and Sedimentation		X		1
6	• Minimizes Sheet Flooding			X	2
7	• Improves Channel Conveyance / Stability / Erosion Protection			X	2
				Raw Total	7
	TRANSPORTATION				
	Evaluation Criteria:	None	Low	High	Score
1	• Improves All-weather Access		X		1
2	• Improves Emergency Response		X		1
3	• Reduces Disruptions to Normal Traffic, Public Transit & School Bus Operations	X			0
4	• Improves Regional Connectivity/Circulation		X		1
5	• Compliments Regional Transportation Plan	X			0
6	• Increases Community Connectivity, Access and Use of Multi-modal Transportation			X	2
7	• Enables Transportation Improvements	X			0
				Raw Total	5

Team Scoring:
Weighting Applied to Raw Scores

Structural

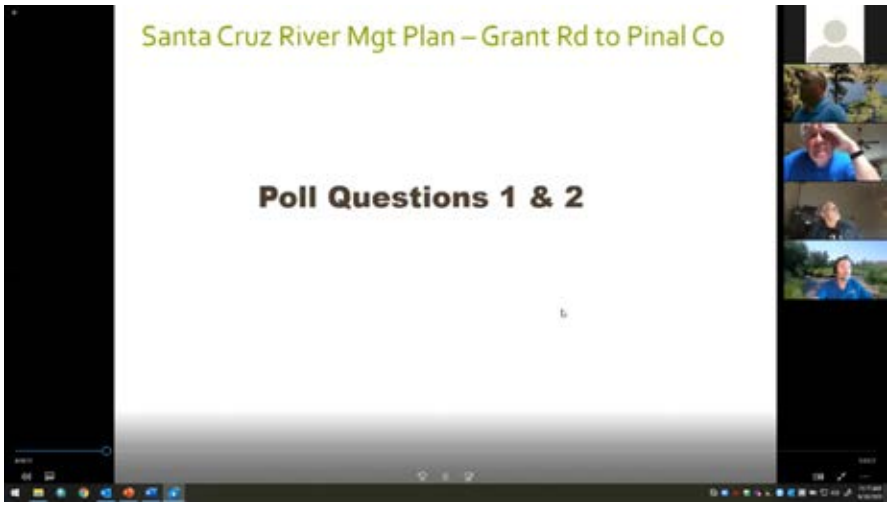
Alternative ID	Reach	Note
E-13	Three Rivers	
E-18b	Cortaro Narrows	
E-26a	Marana Flats	
E-26c	Three Rivers	
FC-13a	Cortaro Narrows	Combined w/ FC-14a
FC-14a	Cortaro Narrows	Combined w/ FC-13a
FC-17	Three Rivers	Combined w/ FC-2
FC-2	Three Rivers	Combined w/ FC-17
FC-20	Marana Flats	
FC-26	Marana Flats	
FC-27	Marana Flats	
FC-28	Marana Flats	
FC-36	Marana Flats	
FC-45	Marana Flats	
FC-46b	Cortaro Narrows	
FC-5	Marana Flats	
R-1a	Marana Flats	
R-6	Three Rivers	

Non-Structural

Alternative ID	Reach	Note
E-24	Multiple	
E-28	Multiple	
E-7,13	Multiple	
FC-39	Multiple	

Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

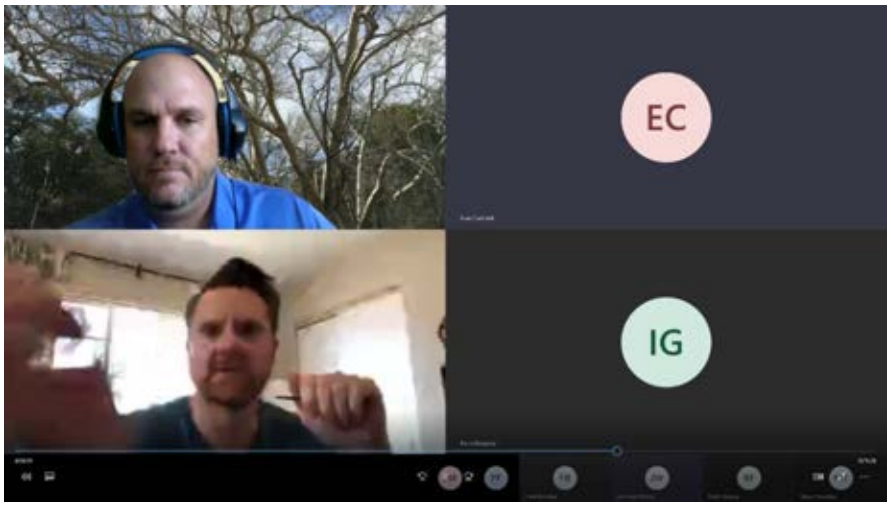
- ***How did we get here?***



In May, We polled Stakeholders online with 8 separate questions relating to representation, feedback on resulting projects to be advanced, project delivery and timeframe.

Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

- ***How did we get here?***



From June - Sept, We had eleven (11) follow up meetings to discuss more specifically with stakeholders potentially impacted by the projects to see if they had any input into the alternative development.

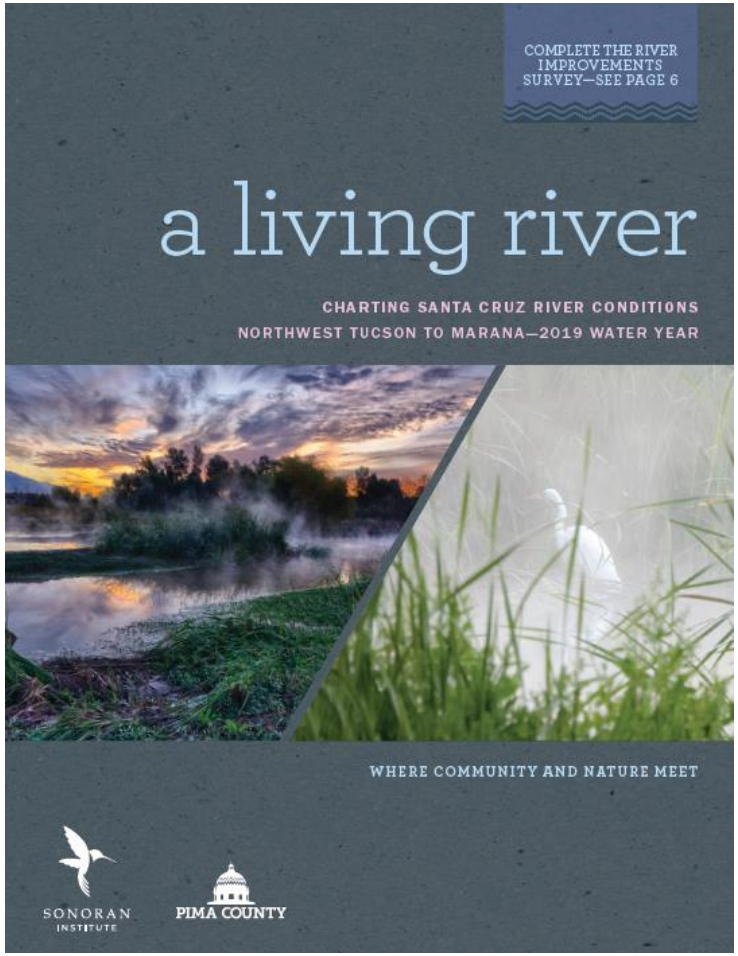
Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

- ***What we're already working on in this reach***

Santa Cruz River Mgt Plan – Grant Rd. to Ina Rd.

- ***Current Public Outreach Efforts***
  - 7th Annual Living River Report
  - Public Survey
- ***What we're already working on in this reach***
  - Section 206 Aquatic Habitat Restoration
  - Conservation Effluent Pool Request
  - Sediment Removal from Grant to Prince - filling Meander Bend Park
- *Related Efforts*
  - Tucson Audubon – Invasive Species/Habitat Grant
  - Living River of Words Site
  - Stinknet weed removal, planting at Romp Channel

Santa Cruz River programming







Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

- ***Conceptually Designed Alternatives***

Santa Cruz River Mgt Plan – Grant Rd to Ina Rd





Santa Cruz River Management Plan: Alternative D

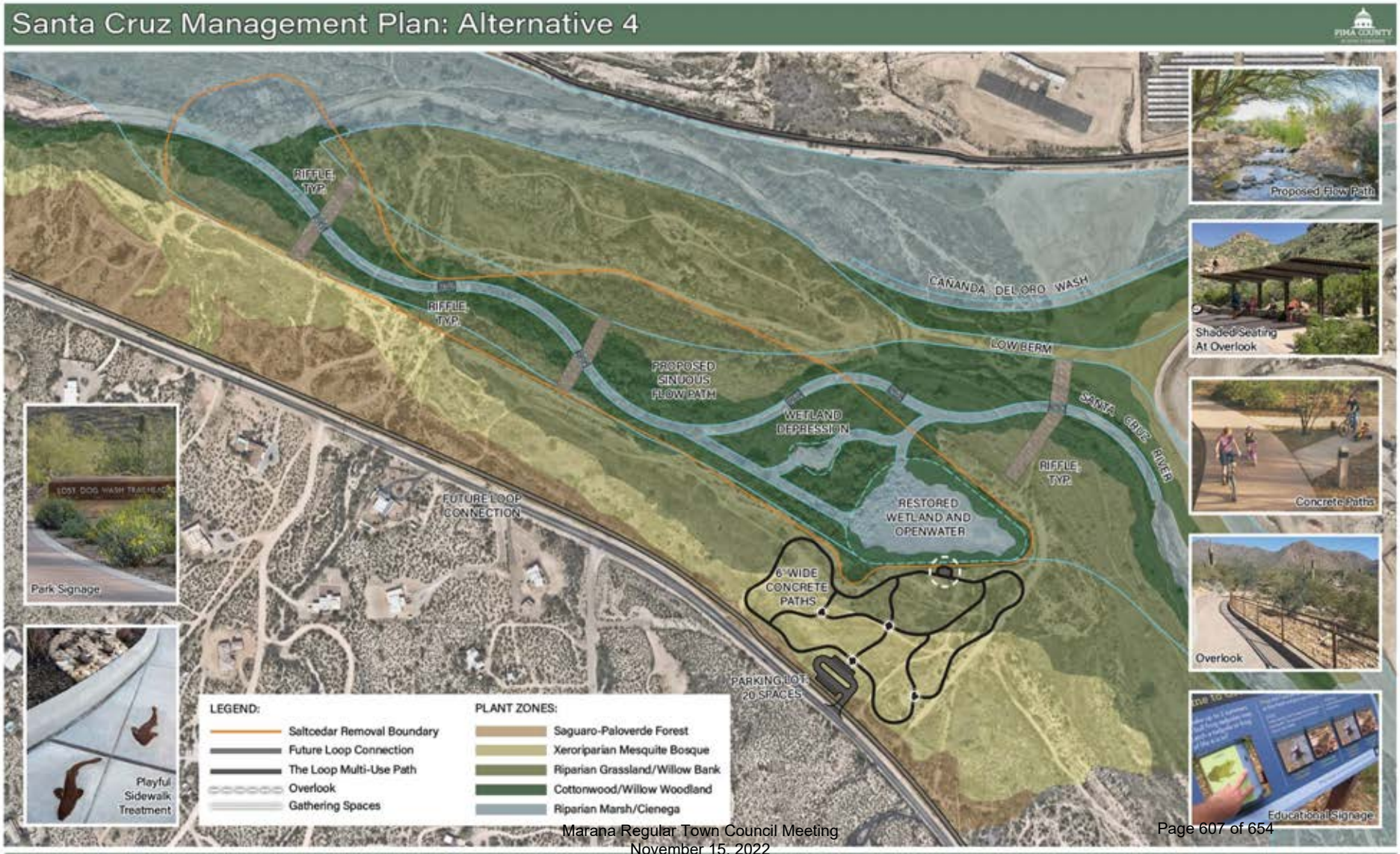
Santa Cruz River Mgt Plan – Grant Rd to Ina Rd



Santa Cruz River Mgt Plan – Grant Rd to Ina Rd



Santa Cruz River Mgt Plan – Grant Rd to Ina Rd



Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-7

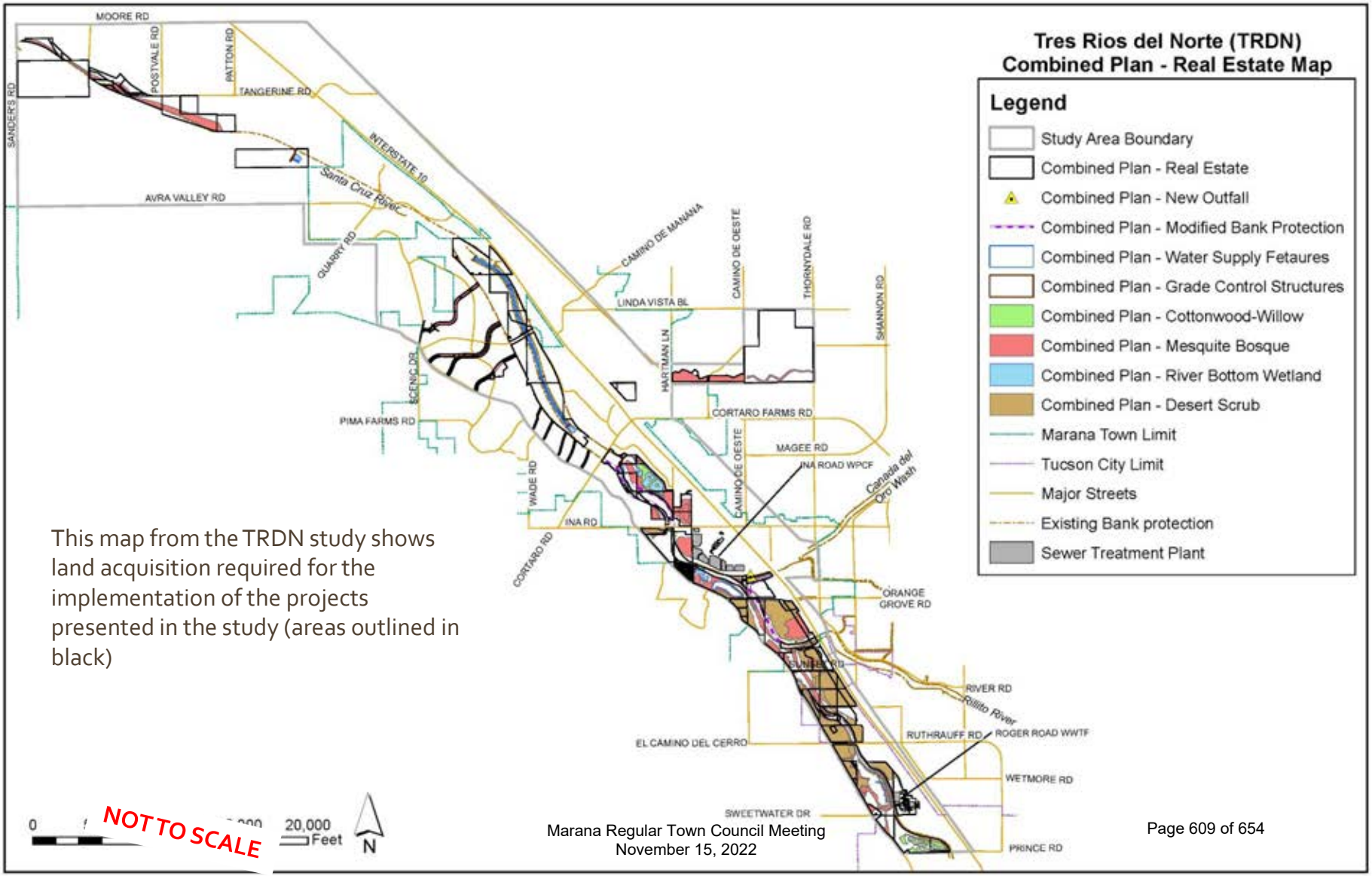
Community Trash Clean Ups



E-24

Ecologically Valued Lands Preserved

All



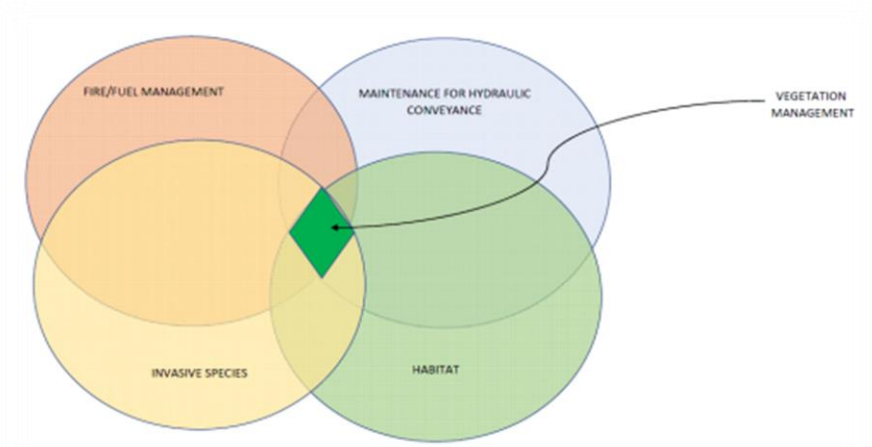
This map from the TRDN study shows land acquisition required for the implementation of the projects presented in the study (areas outlined in black)

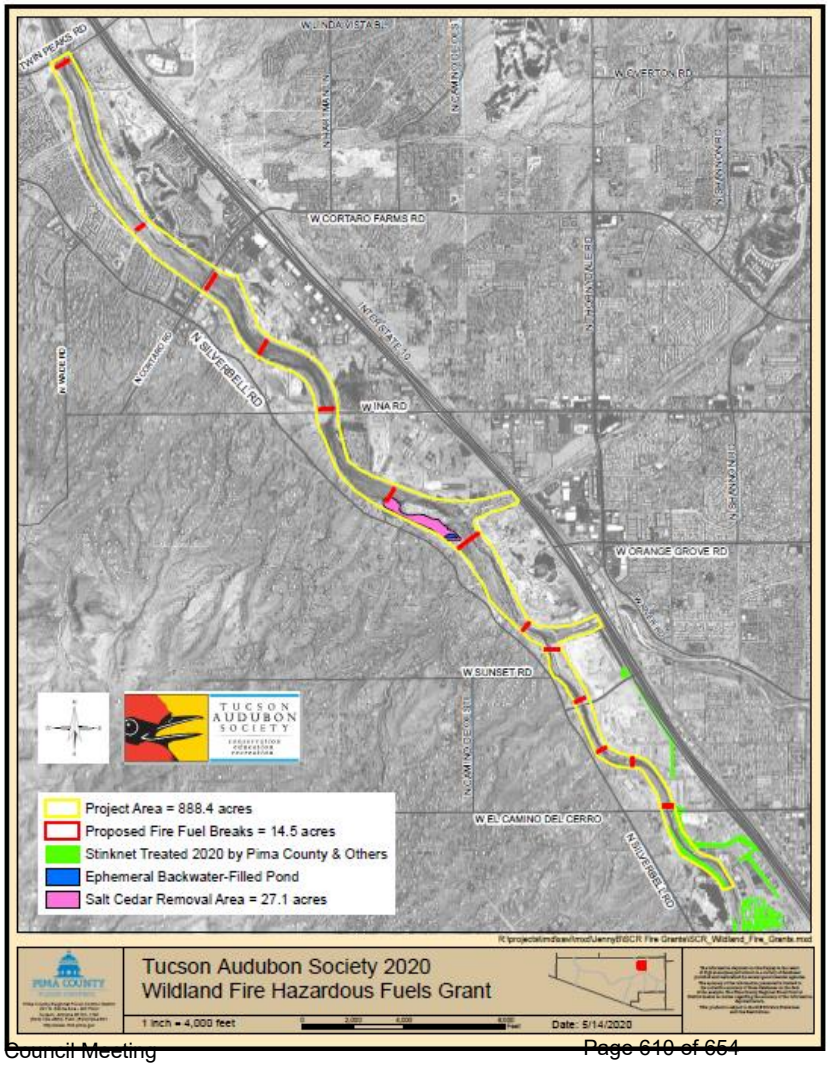
Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

E-28

Vegetation Management Plan



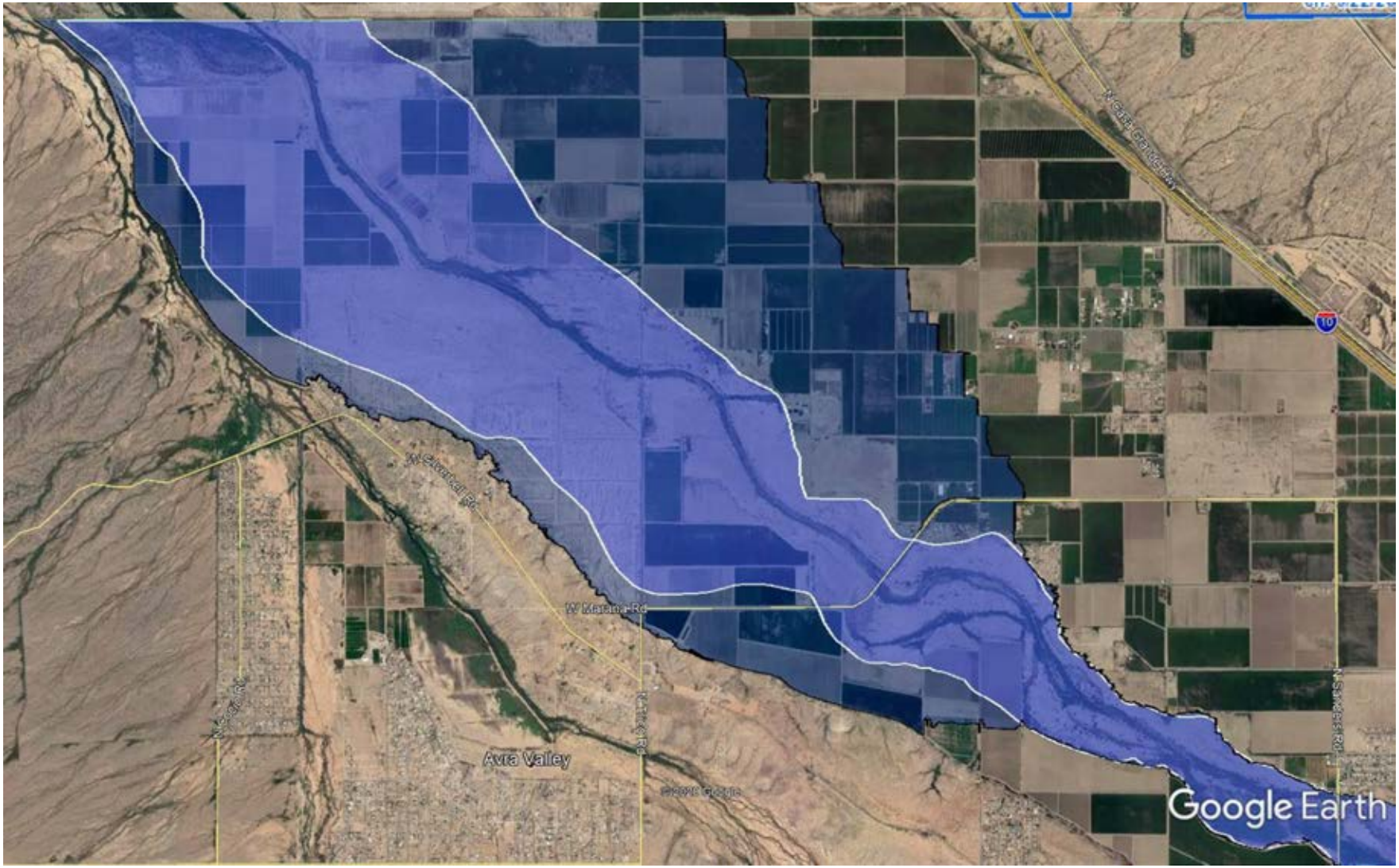




FC-39

Outdated floodplain downstream of Sanders Rd

Marana Flats



Public survey for the River Management Plan

Purpose: **understand your thoughts and feedback** on proposed improvement projects on the Santa Cruz to better reflect the needs, desires, and values of the community.

Background: 16 structural improvements and 4 non-structural improvements are presented

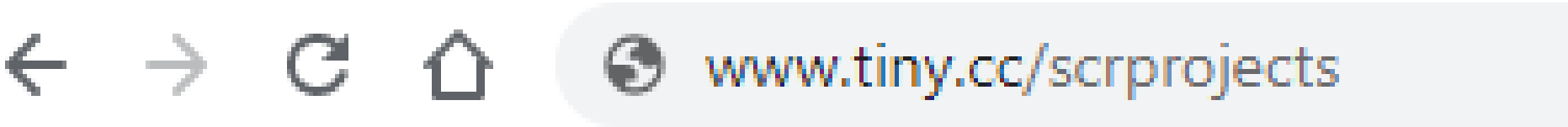
- These improvements have the potential to be implemented along the river with future budget allocations.
- They address one or more of the eight goals identified in Pima County's Floodplain Management Plan (www.pima.gov/fmp).

Please review wording of the survey, and suggest revisions in the comment block.

Accessing the survey (Chrome or Firefox)

In your browser type:

www.tiny.cc/scrprojects



Public survey for the Santa Cruz River Management Plan–Grant Road to Pinal County

Project pull-down: All

START HERE

INSTRUCTIONS

Note: this survey is intended for use on computers and tablets; phones will not display correctly.

1. On the top right, use the **project pull-down** to pick a project or p

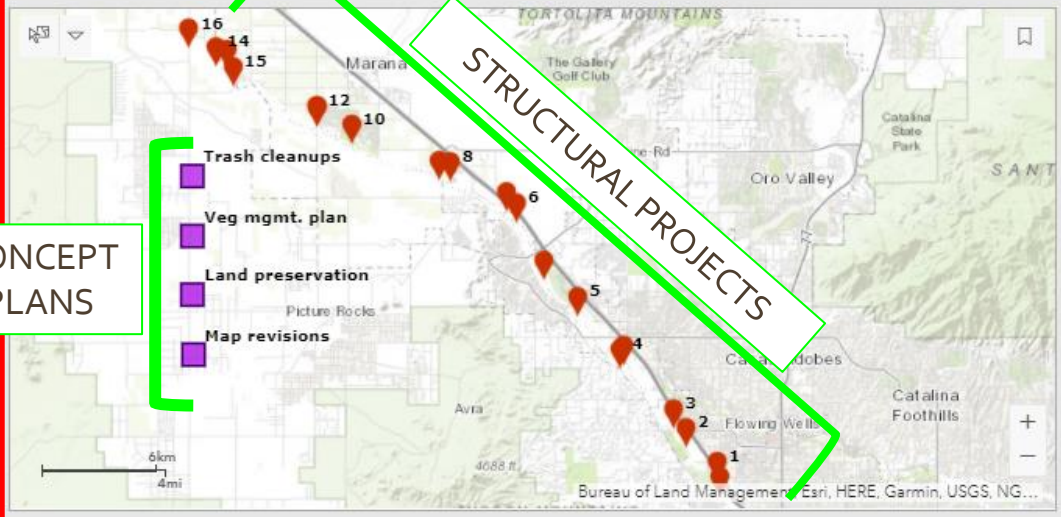
2. In the survey to the right:
   - enter your zip code (you'll only need to do this once)
   - select the project you wish to comment on
   - fill out the survey questions
   - add a comment or question
   - press [Submit]
   - Under the green check mark, press "here" to survey more projects/plans

3. Reset the project pull-down to "All" to display all projects and plans.

4. Repeat step 2 for any other projects you want to comment on.

CONCEPT PLANS

STRUCTURAL PROJECTS



1 of 20

Project/Plan	1
Reach	Three Rivers
Selected project	Litter Traps
Project purpose	Reduce Trash in Santa Cruz River
What will it do?	Employ Trash Capture devices on some tributary channels, so that some of the trash load is collected before being deposited in the Santa Cruz River
Click here to see picture in a separate tab:	https://sonoran.maps.arcgis.com/sharing/rest/content/items/1d30f90863ad4f348e4d0e3479344d48/data

1 of 20



After completing the survey for a project, press the [Submit] button at the bottom to review another project.

Santa

To begin the survey, please enter your zip code*

This is a required question

Choose the project you're commenting on:*

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8

PURPOSE

The purpose of this survey is for you to give us your thoughts on projects to improve the Santa Cruz River to better reflect the needs, desires, and values of the community.

BACKGROUND

Pima County is considering some future improvement projects in the Santa Cruz River and its floodplain over the next 10-20 years between Grant Road and the Pima-Final County line.

The projects incorporate preferences and priorities for the Santa Cruz River identified by the public in a previous survey, and reflect Pima County's goals for floodplain management in the recently-adopted Floodplain Management Plan.

Take a few minutes to complete the survey

- *Three Rivers: Projects 1–4*
- *Cortaro Narrows: Projects 5–7*
- *Marana Flats: Projects 8–16*

- *All reaches: 4 non-structural*

Your feedback on the survey is important

- ***Was it easier after you evaluated your first project choice?***
- ***How did it function?***
- ***Was anything missing?***

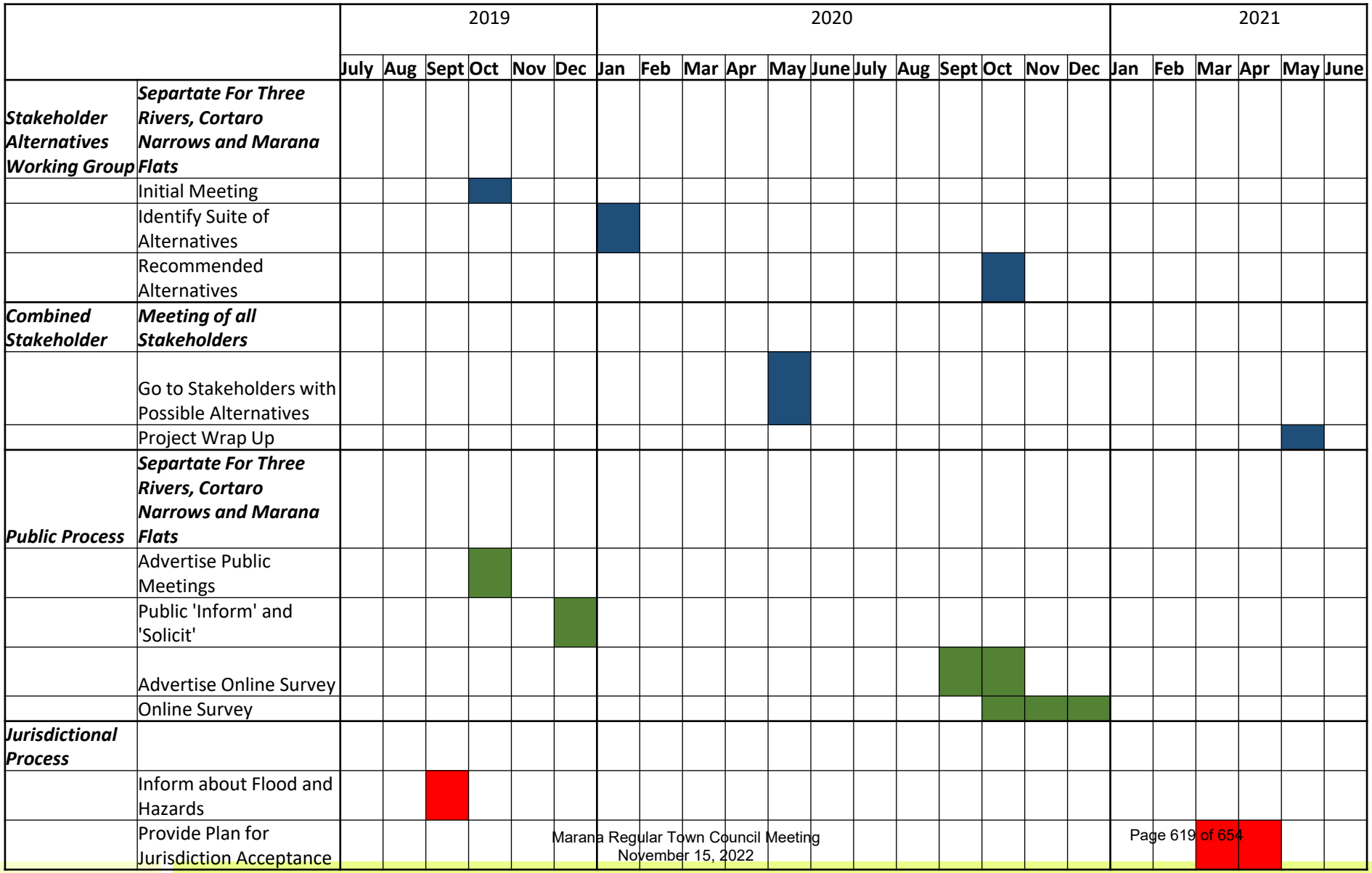
Santa Cruz River Mgt Plan – Santa Cruz River Mgt Plan – Grant Rd. to Ina Rd.

- ***Living River/Dragonfly Day/Trash Effort***
  - 7th Annual Living River Report
  - Trash Cleanup
    - #NotinmyRiver (Joe Cuffari)
    - Partnership with Tucson Clean and Beautiful – Adopt a Wash
  - Public Survey

Santa Cruz River Mgt Plan – Grant Rd to Ina Rd

- ***Where do we go from here?***

Sana Cruz River Mgt Plan – Grant Rd to Ina Rd - ***Where do we go from here?***



Thank you from the team!

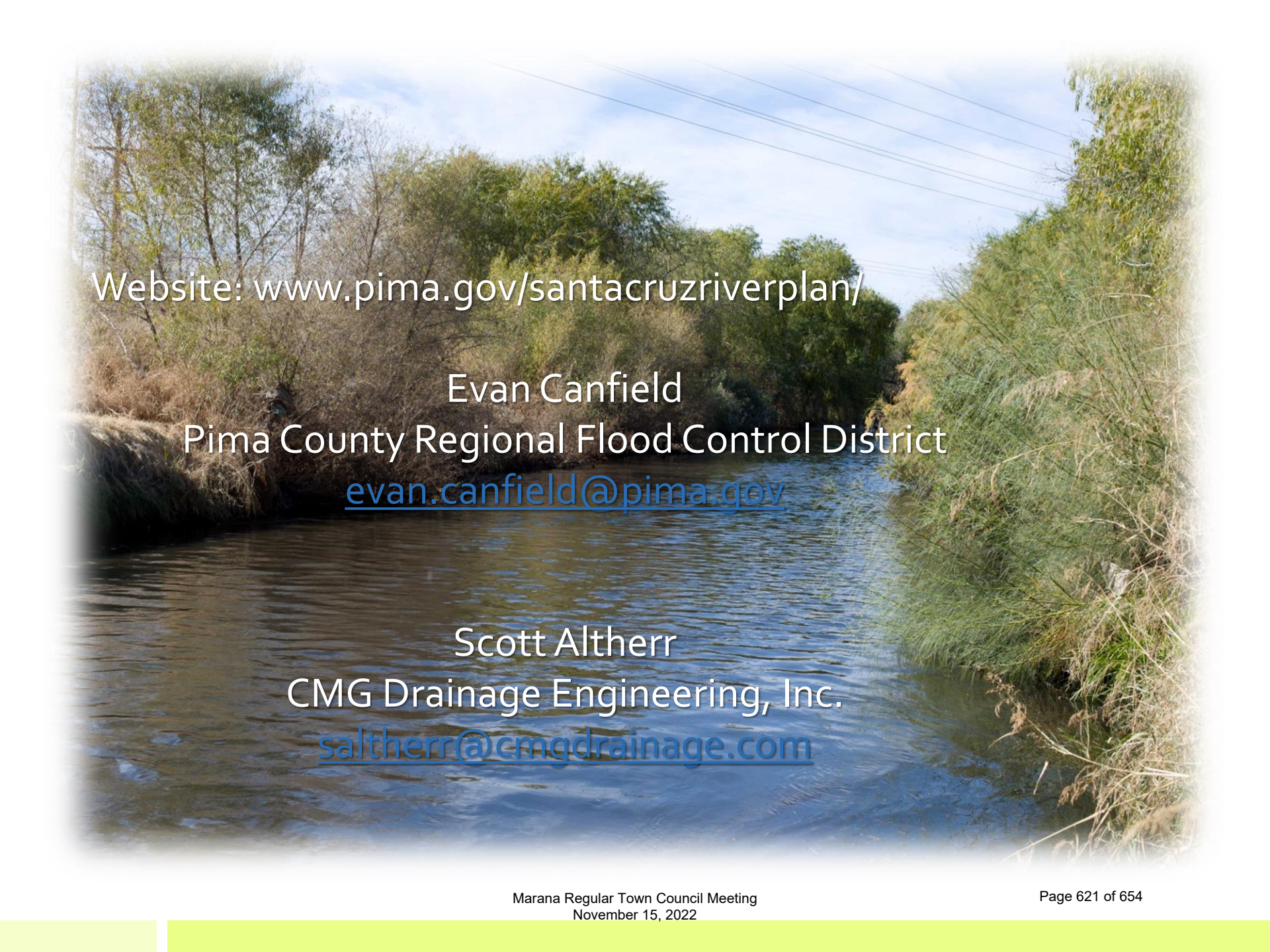
PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.

SONORAN INSTITUTE

JE FULLER

Kimley»Horn
Expect More. Experience Better.


Website: www.pima.gov/santacruzriverplan/
Evan Canfield
Pima County Regional Flood Control District
evan.canfield@pima.gov
Scott Altherr
CMG Drainage Engineering, Inc.
saltherr@cmgdrainage.com

Meeting Exhibits

No exhibits for the record. However, a recording of the virtual meeting is available upon request

COMBINED FINAL STAKEHOLDER MEETING (JUNE 2021)

Attendance

No sign-in sheets for the record. However, a recording of the virtual meeting is available upon request

Agendas

Santa Cruz River Management Plan - Phase II
Final Stakeholder Meeting

Wednesday, June 16, 2020 @ 9 AM
Join Teams Meeting

1. **Introductions**

2. **Background on the Stakeholder Engagement Process**

3. **How did we get here?**

4. **Implementation Plan Summary**

5. **Public Engagement Process**

6. **Projects Already under development**
   A. Three Rivers -
   B. Cortaro Narrows -
   C. Marana Flats -

7. **Process Remaining**
   A. Present to Councils/Decision Makers
   B. Summary Report/Executive Summary

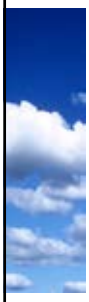
8. **Take Away**

Presentation

Santa Cruz River Management Plan

6-16-21

Evan Canfield – Pima County Regional Flood Control District
Scott Altherr – CMG Drainage Engineering, Inc.





1

Santa Cruz River Mgt Plan – Grant Rd to Pinal Co

- ***Introduction***
  - Housekeeping
    - *Everyone is on mute*
    - *Use 'Chat' for questions*
    - *Meeting is being recorded*
  - Project Purpose

    The purpose of this project is to develop a management strategy *to balance flood risk management, drainage infrastructure protection, water recharge, recreation opportunities, public safety and riparian habitat preservation* for the Santa Cruz River from Grant Rd to Pinal County.

2

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

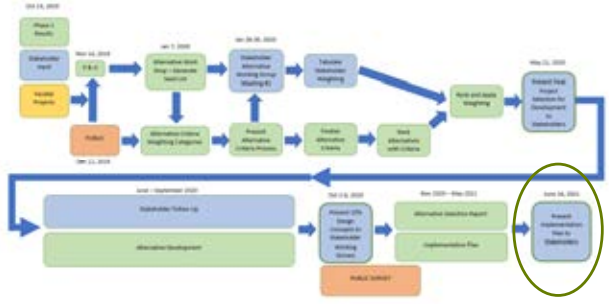
- ***Background on the Stakeholder Engagement Process***



3

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***How did we get here?***



4

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

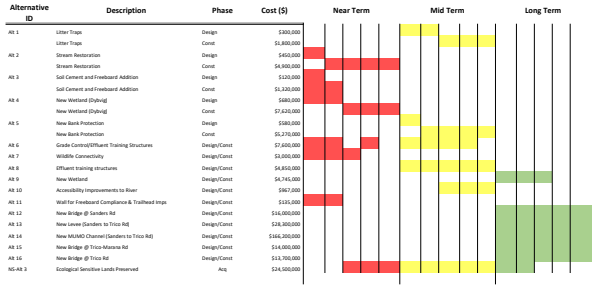
- ***How did we get here?***
  - *15% design-level costs*
  - *Contingency added (20% - 30%)*



5

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***How did we get here?***
  - ***Implementation Schedule was developed***



6

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Implementation Plan Summary***
  - ***Where/When/How Much?***
  - ***Projects discussed from upstream to downstream***
  - ***Potential Funding Sources***

7

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

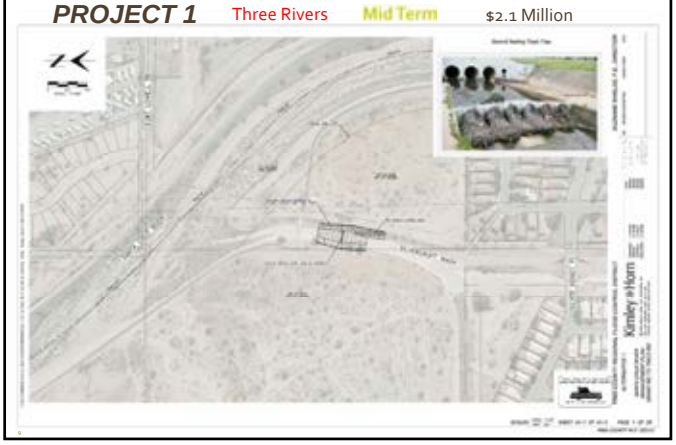
PROJECT 1



8

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 1 Three Rivers Mid Term $2.1 Million



9

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 2



10

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 2 Three Rivers Near Term $5.3 Million



11

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

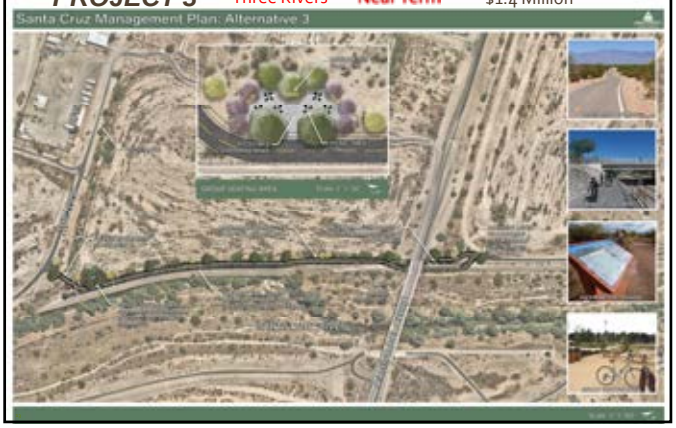
PROJECT 3



12

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 3 Three Rivers **Near Term** $1.4 Million



13

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

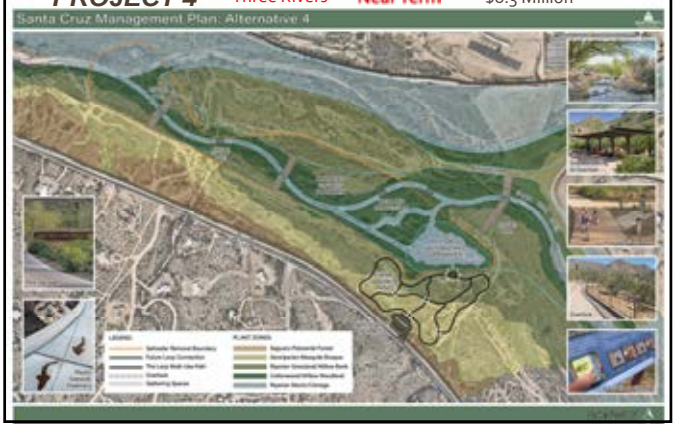
PROJECT 4



14

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 4 Three Rivers **Near Term** $8.3 Million



15

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

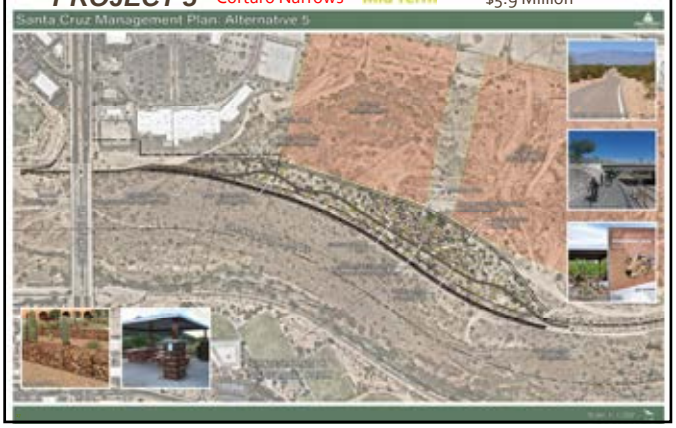
PROJECT 5



16

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 5 Cortaro Narrows Mid Term $5.9 Million



17

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

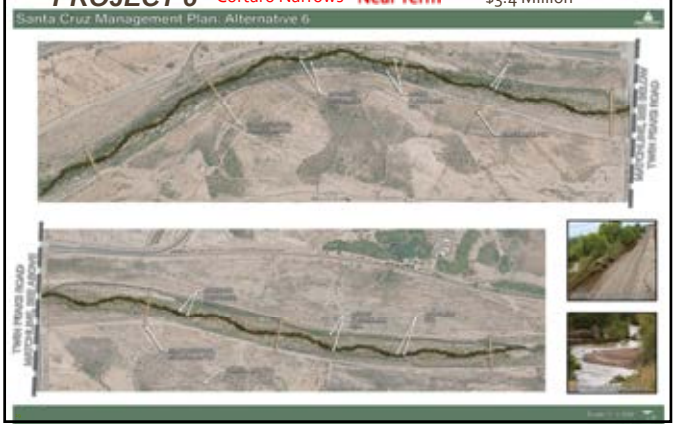
PROJECT 6



18

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 6 Cortaro Narrows Near Term $3.4 Million



19

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

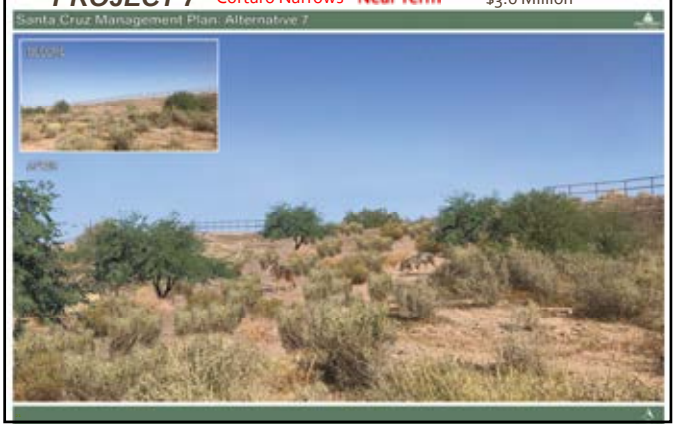
PROJECT 7



20

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 7 Cortaro Narrows **Near Term** $3.0 Million



21

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 8



22

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 8 Marana Flats **Mid Term** $4.9 Million



23

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

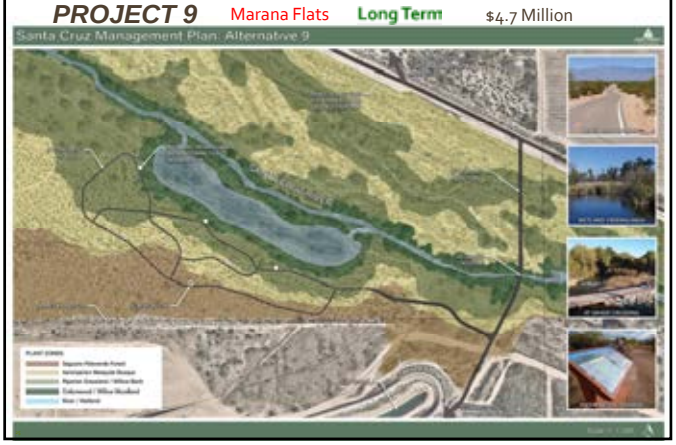
PROJECT 9



24

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 9 Marana Flats **Long Term** $4.7 Million



25

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 10



26

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 10 Marana Flats **Mid Term** $1.0 Million



27

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 11



28

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 11 Marana Flats **Near Term** $135,000



29

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 12



30

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 12 Marana Flats **Long Term** $16 Million



31

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

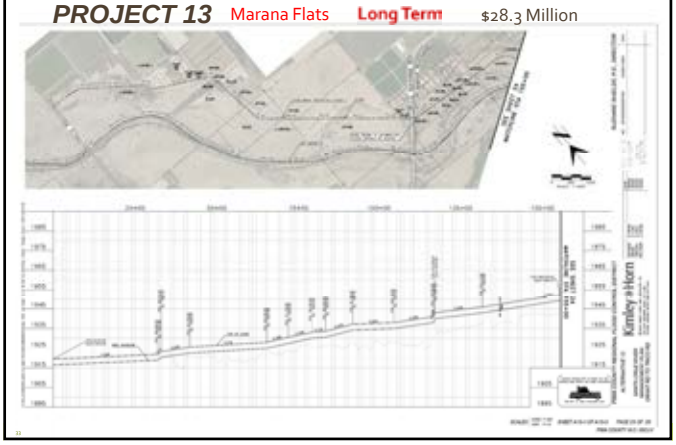
PROJECT 13



32

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

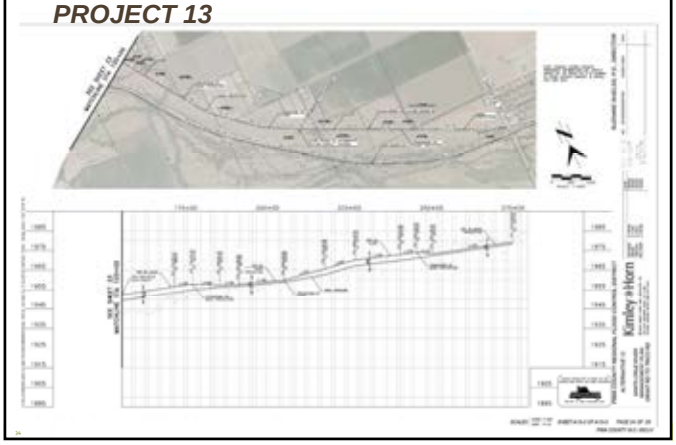
PROJECT 13 Marana Flats **Long Term** $28.3 Million



33

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

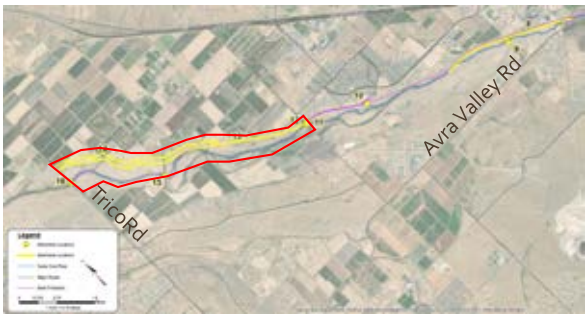
PROJECT 13



34

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 14



35

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

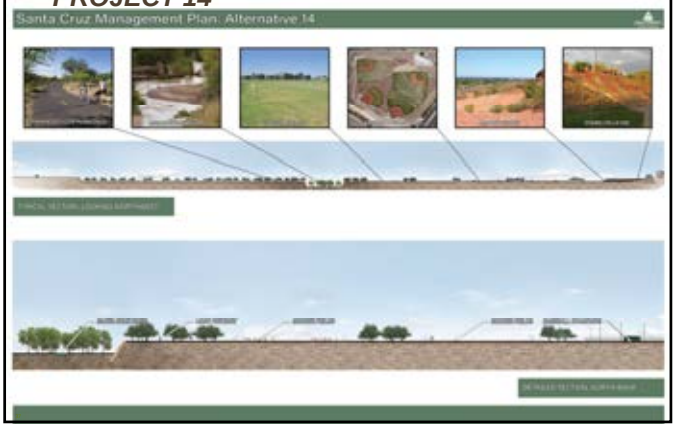
PROJECT 14 Marana Flats **Long Term** $166 Million



36

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 14



37

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 15



38

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 15 Marana Flats **Long Term** $14 Million



39

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

PROJECT 16



40

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

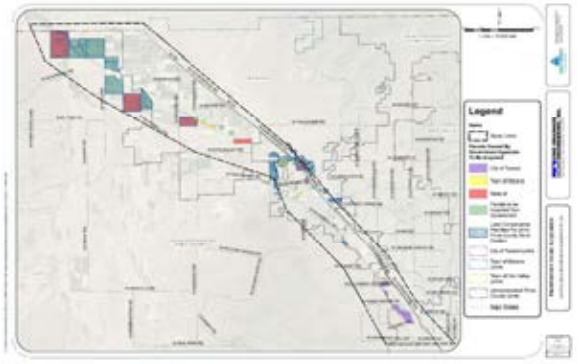
PROJECT 16 Marana Flats **Long Term** $13.7 Million



41

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

NS-3 Multiple Reaches **Multiple Term** $24.5 Million



42

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Potential Funding Sources***
  - Flood Control Tax Levy
  - Private Funding
  - Financing
  - Special Taxing Districts
  - Federal Programs/Grants
  - Permit/Fee Revenue
  - State Programs/Grants
  - Property Acquisition Funding

43

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

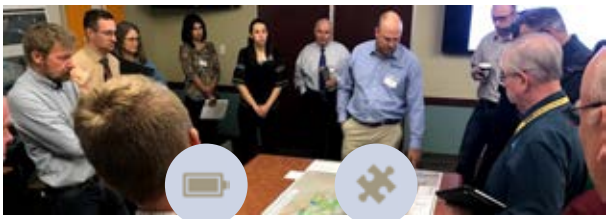
- ***Public Engagement***

44

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Public Engagement***

A 2-year process of stakeholder and public engagement

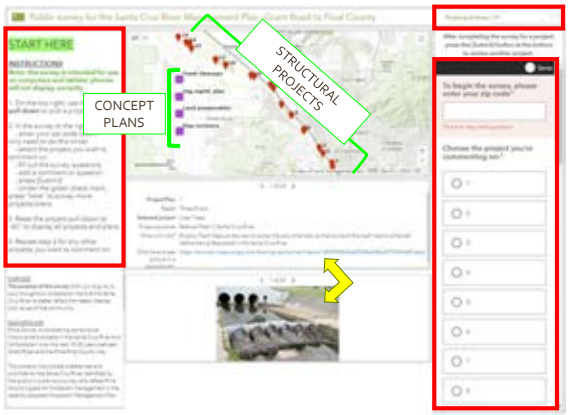


THE CHARGE:
CREATE AN ONLINE SURVEY

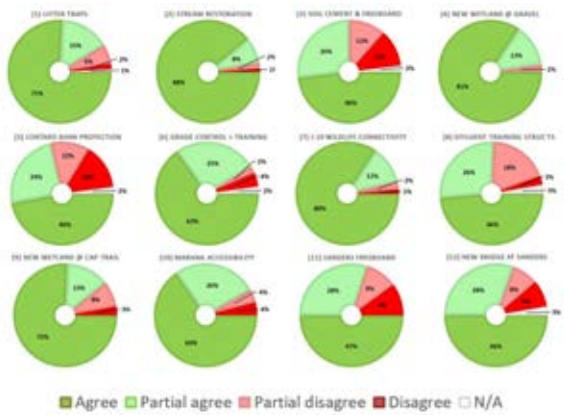
THE CHALLENGE:
ALLOW USERS TO INTERACT WITH AND EVALUATE 20 PROJECTS

45

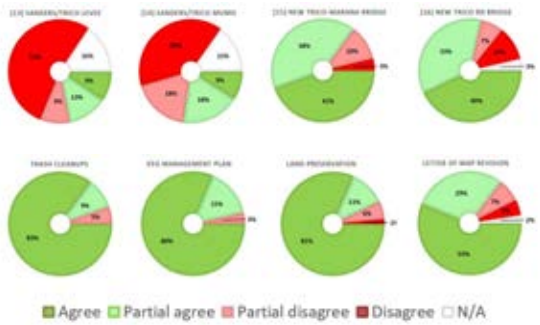
Santa Cruz River Mgt Plan – Grant Rd to Pinal County



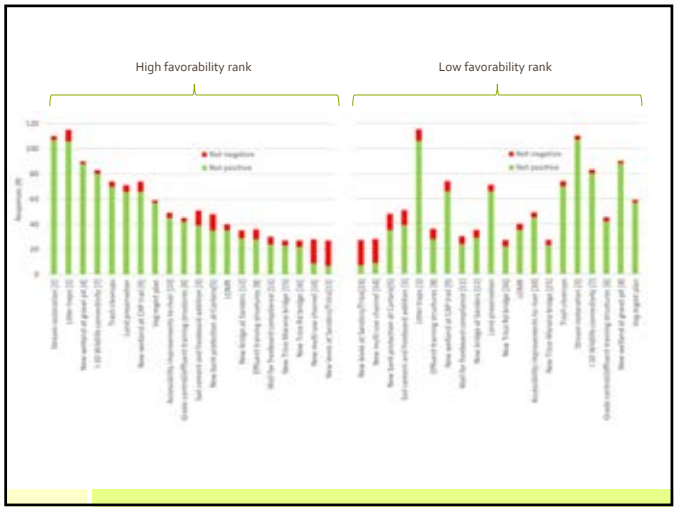
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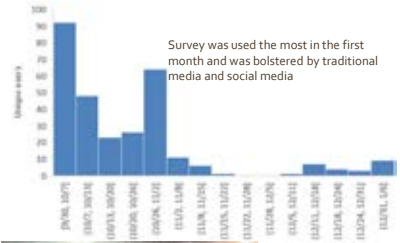
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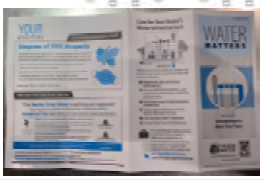
49

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

Zip code	# of projects reviewed	Zip code	# of projects reviewed
85745	134	85749	16
85716	108	85733	13
85743	101	85747	5
85705	95	85746	5
85742	81	85614	4
85750	67	85715	3
85704	66	85756	3
85713	60	85741	2
85719	55	85730	2
85712	50	85739	2
85718	48	85624	2
85710	48	85702	1
85658	48	85735	1
85755	35	85179	1
85737	28	85641	1
85701	26	85622	1
85711	25	85706	1
85748	21	85650	1
85653	21		



Survey was used the most in the first month and was bolstered by traditional media and social media



50

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Projects already under development***
  - ***Three Rivers – 'Corazon' Reach***
  - *Cortaro Narrows*
  - *Marana Flats*

51

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

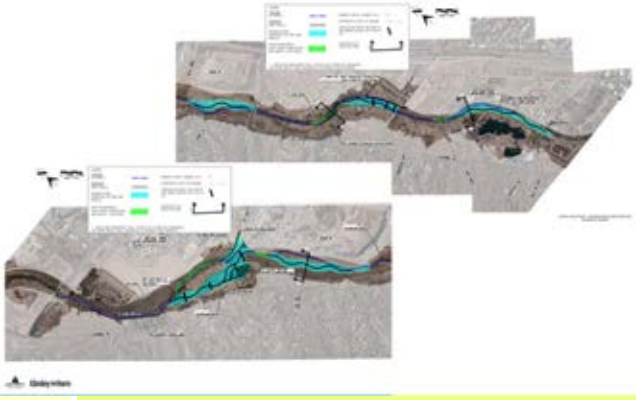
- ***Corazon Reach Stream Restoration***



52

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

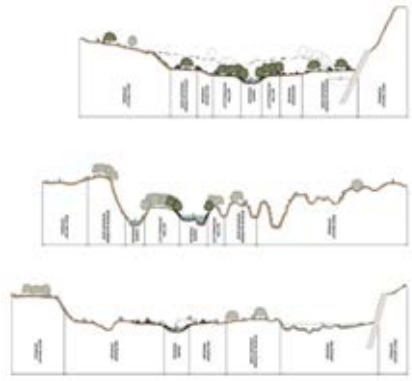
- ***Corazon Reach Stream Restoration***



53

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Corazon Reach Stream Restoration***



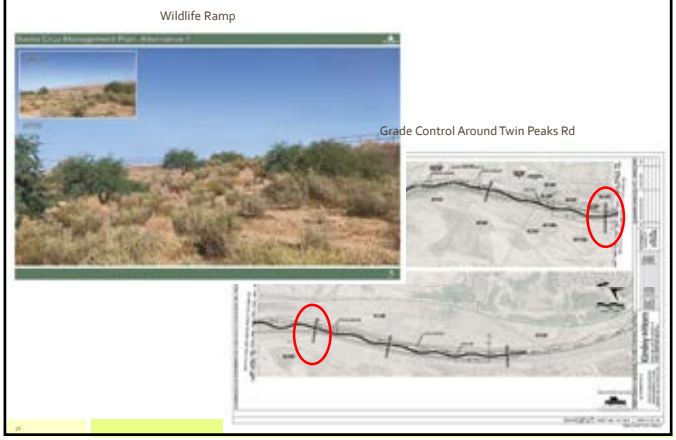
54

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Projects already under development***
  - *Three Rivers – 'Corazon' Reach*
  - ***Cortaro Narrows***
    - ***Wildlife Corridor Project***
    - ***Grade Controls in vicinity of Twin Peaks Rd***
  - *Marana Flats*

55

Cortaro Narrows – Projects Under Development



56

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

- ***Projects already under development***
  - *Three Rivers – 'Corazon' Reach*
  - *Cortaro Narrows*
  - ***Marana Flats***

57

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

Proposed Letter of Map Revision (LOMR)

A **Letter of Map Revision** is FEMA's modification to an effective Flood Insurance Rate Map (FIRM), or Flood Boundary and Floodway Map (FBFM), or both.

- Extents: Santa Cruz River from North Sanders Road to Pima County boundary
- Also includes mapping of Tortolita Mountain runoff sources in floodplain limits reduced along Santa Cruz River
- Package was submitted June 2, 2021
- Case no. 21-09-1382P
- 90 days from June 2 is August 31, expected first response from FEMA
- Generally, 2-D modeling methods characterize floodplain hydraulics more accurately than effective 1-D method

58

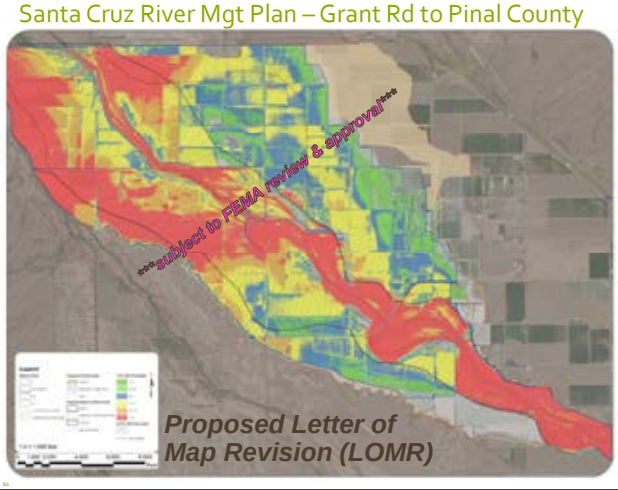
Santa Cruz River Mgt Plan – Grant Rd to Pinal County

Proposed Letter of Map Revision (LOMR)



59

Santa Cruz River Mgt Plan – Grant Rd to Pinal County

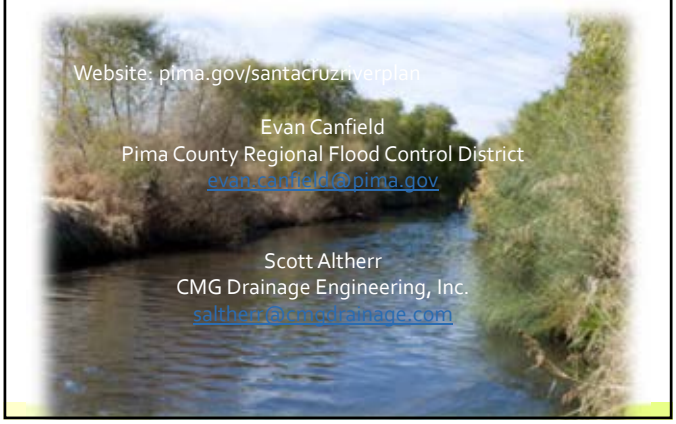


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Santa Cruz River Mgt Plan – Grant Rd to Pinal County

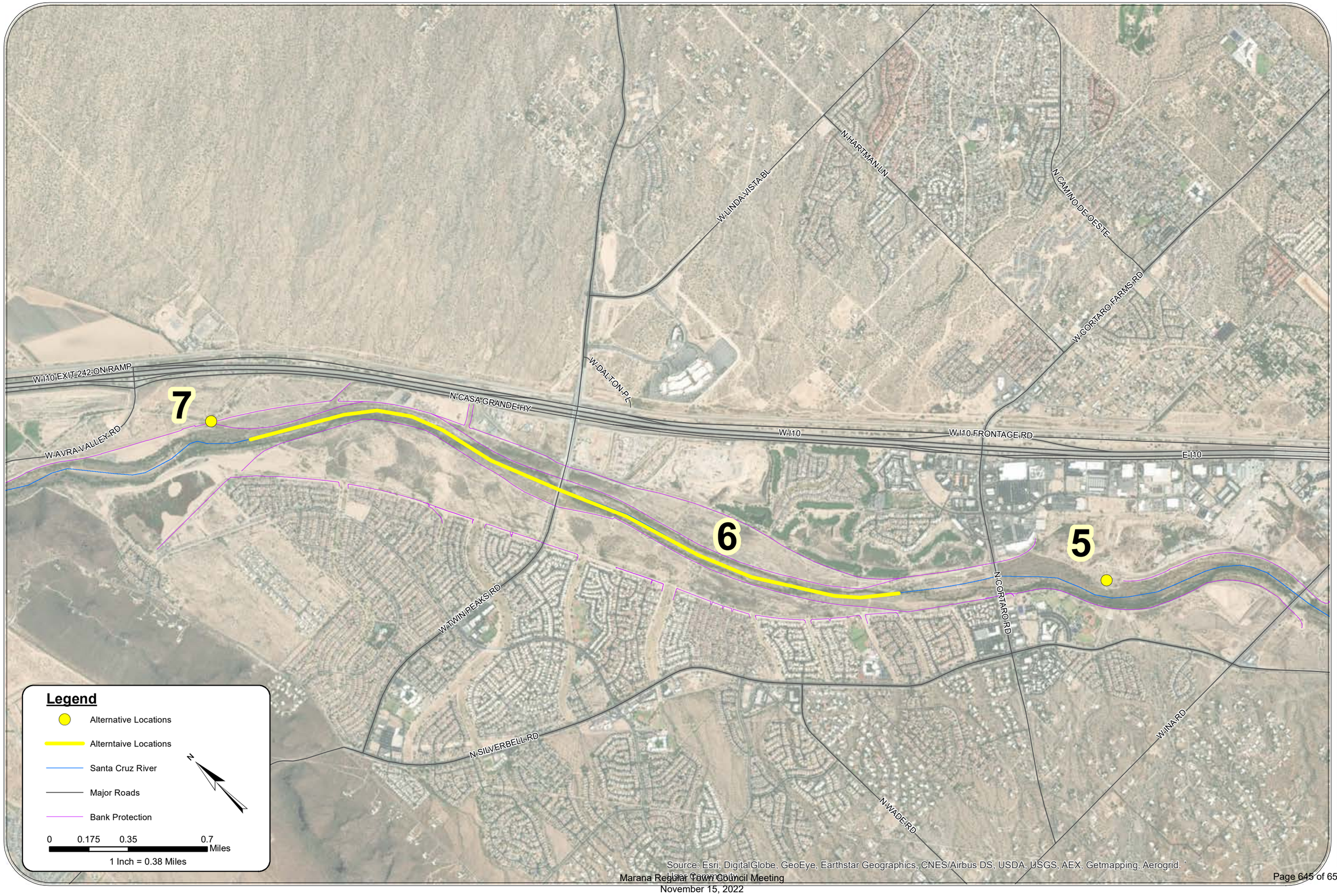
- ***Process Remaining***
  - ***Present to Decision Makers (Fall 2021)***
    - *Marana Town Council*
    - *City of Tucson*
    - *Flood Control District Advisory Committee*
  - ***Completing Remaining Reports***
    - *Implementation Plan – currently Draft Final*
    - *Summary Report*
    - *Stakeholder Engagement Report*
    - *Public Engagement Report*

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Meeting Exhibits



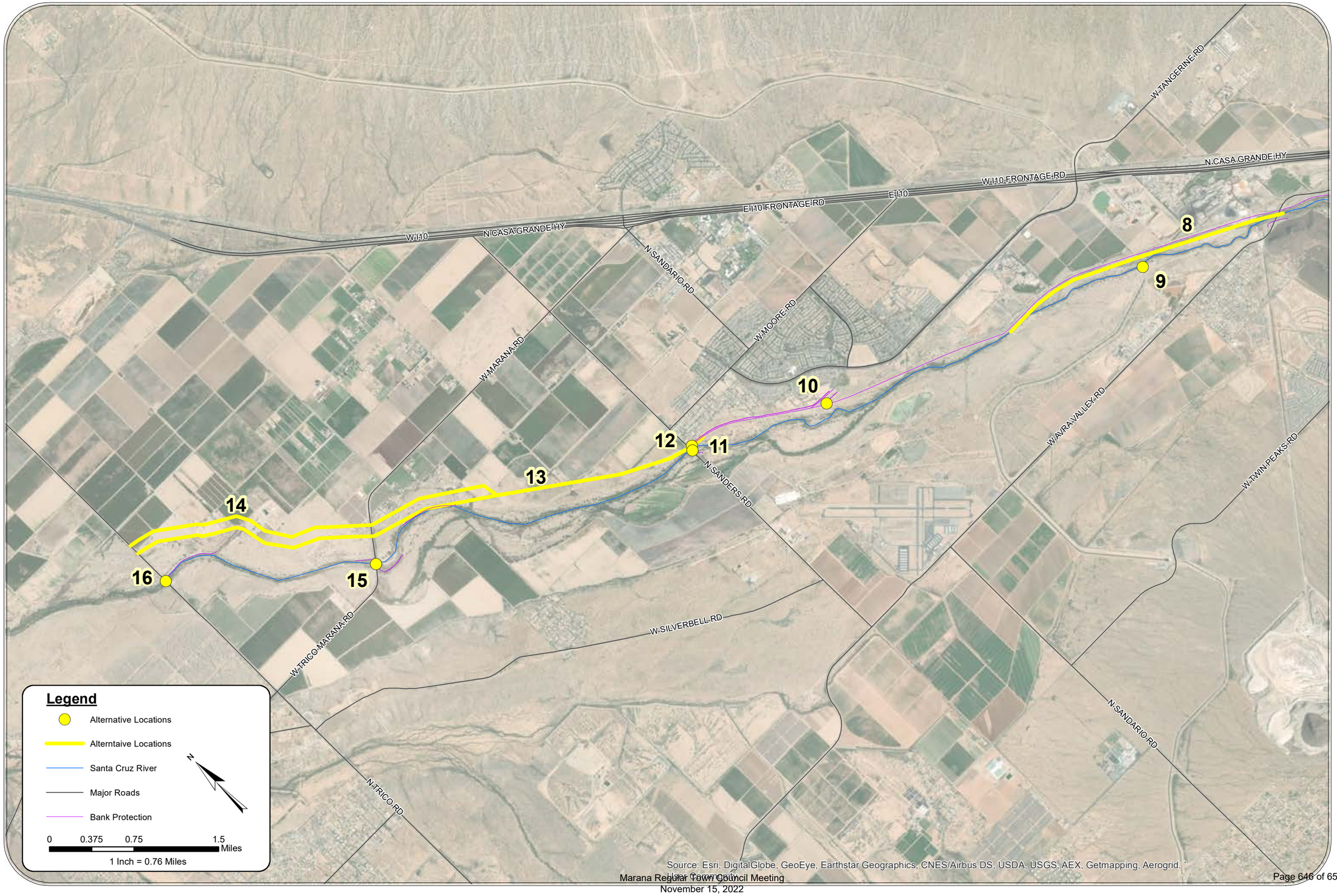
Regional Flood Control District
201 N Stone Ave, 9th Floor
Tucson, AZ 85701

PIMA COUNTY
FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N Mountain Ave -Tucson, Arizona 85719

CORTARO NARROWS
ALTERNATIVES LOCATION MAP
SANTA CRUZ RIVER MANAGEMENT PLAN

PROJECT NO.
18-006.1
12/30/2020
SHEET 1 OF 1



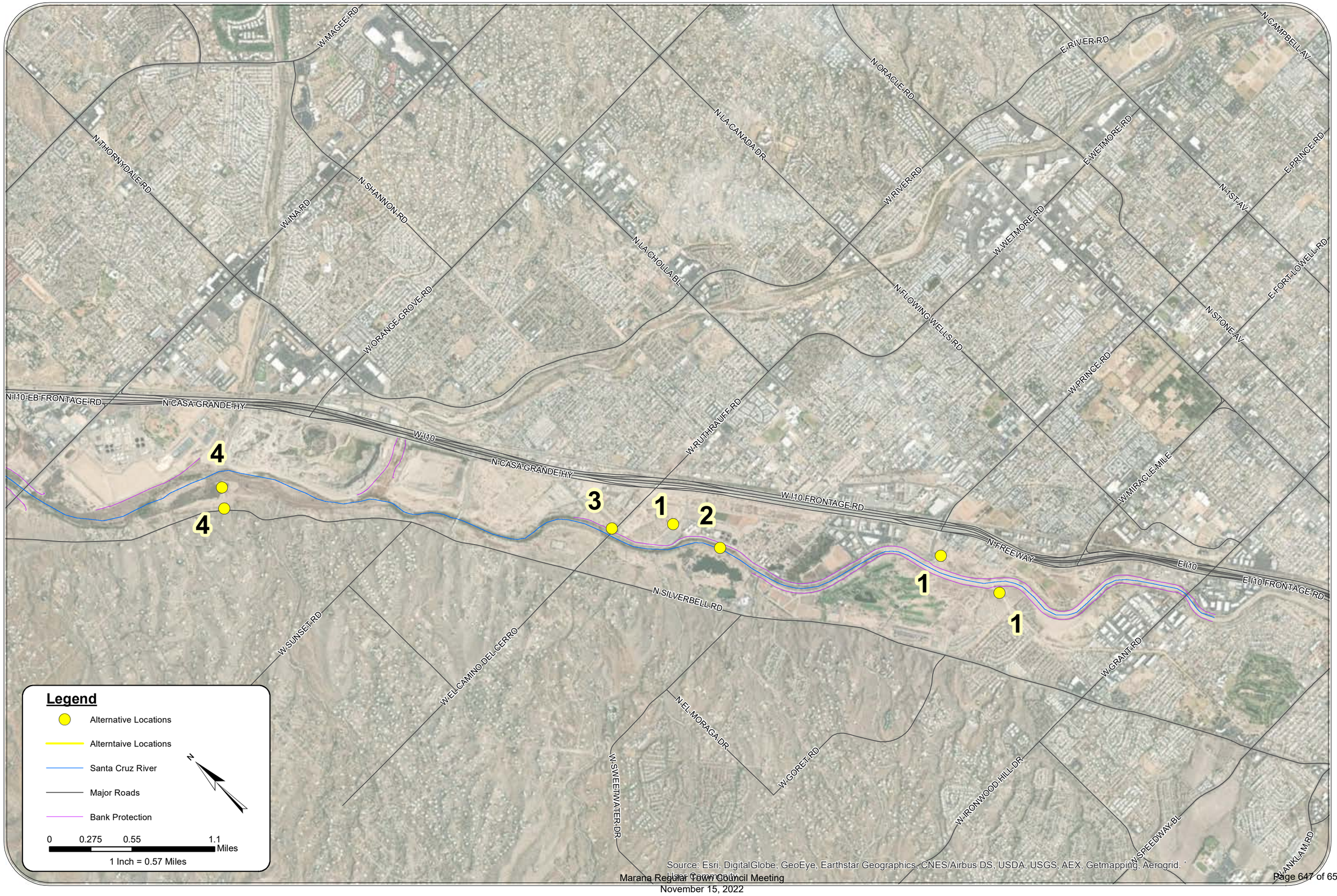
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CORTARO NARROWS
ALTERNATIVES LOCATION MAP
SANTA CRUZ RIVER MANAGEMENT PLAN

PROJECT NO.
18-006.1
12/30/2020
SHEET 1 OF 1



Regional Flood Control District
201 N Stone Ave, 9th Floor
Tucson, AZ 85701

PIMA COUNTY FLOOD CONTROL

CMG DRAINAGE ENGINEERING, INC.
3555 N Mountain Ave -Tucson, Arizona 85719

THREE RIVERS
ALTERNATIVES LOCATION MAP
SANTA CRUZ RIVER MANAGEMENT PLAN

PROJECT NO.
18-006.1
12/30/2020
SHEET 1 OF 1

BOARD OF SUPERVISORS AGENDA ITEM REPORT

Requested Board Meeting Date: 9/20/2022

*= Mandatory, information must be provided

Click or tap the boxes to enter text. If not applicable, indicate "N/A".

*Title:

A RESOLUTION OF THE PIMA COUNTY FLOOD CONTROL DISTRICT BOARD OF DIRECTORS ENDORSING THE SANTA CRUZ RIVER MANAGEMENT PLAN

*Introduction/Background:

The Pima County Regional Flood Control District (District) will ask the Board of Supervisors to endorse the Santa Cruz River Management Plan as summarized in the Summary Report.

The Santa Cruz River Management Plan from Grant Road to Pinal County joins a growing list of large-scale planning studies undertaken in recent years by the District to update drainage and flood hazard information in Pima County and in municipal jurisdictions. These studies have been carried out in cooperation with the local jurisdictions in which the study areas are located. The Santa Cruz River Management Plan study area overlaps both the Town of Marana and City of Tucson's corporate limits and many other stakeholders' areas of interest. The District precisely pursued this document to provide a singular management strategy to the Santa Cruz River as it drains through multiple jurisdictions.

The District commissioned a regional river management plan for the Santa Cruz River, Grant Road to Trico Road, in February of 2018 with the objective to develop a management strategy to balance flood risk management, drainage infrastructure protection, water recharge, recreation, public safety, education opportunities and riparian habitat preservation. Later on, the study limits were extended to the Pinal County Line because of the need for a terminus for the floodplain modeling.

The need for this study originated from the District's participation in the A Living River: Charting Wetland Conditions of the Lower Santa Cruz River project and their understanding of the competing land uses along this corridor. As the primary agency charged with regulating the use of land within this floodplain, the District became the natural agency to lead this project.

*Discussion:

The Santa Cruz River is one of the largest watercourses in Southern Arizona by watershed size at 3,503 square miles. The headwaters of the Santa Cruz River drain south into Mexico from the San Raphael Valley in eastern Santa Cruz County and eventually turns west and then back north to flow into the United States and Arizona, before flowing through the study area affectionately known as the Lower Santa Cruz River. The Santa Cruz River has been the lifeblood of civilization in the region (now known as Southern Arizona) for centuries and continues to be a source of life for habitat, species, and the human population.

Following the Existing Conditions Report, the Project Team embarked on concurrent tasks of infrastructure assessment, maintenance evaluation, and floodplain mapping. The Infrastructure Assessment and Maintenance Evaluation Report (IAMER) (Vol. 2) summarized the condition and functionality of flood control infrastructure. This analysis could not be done without re-analyzing the hydraulics of the Santa Cruz River to evaluate the impacts that evolving land-use, changing topography, and new infrastructure had on the flood risk inundation of

the river. The hydraulics were modeled using HEC-RAS software in both 1D and 2D, where appropriate, to provide a seamless updated hydraulic model for District use in regulating the corridor. The results of the hydraulic analysis were documented in a report call the Technical Support Data Notebook (Vol. 3).

The Project Team conducted a comprehensive stakeholder involvement process that went on throughout the life of the project and was especially influential in the alternative selection process. Input from corridor stakeholders came in the way of problems and opportunities that they marked on maps at working group meetings. It also came from visioning charrettes and interactive weighting and ranking exercises. The stakeholder feedback, in combination with the reports, became the driving force for developing the problems and opportunities list, which started at 110 items and was subsequently narrowed to 54 items on the Alternative Seed List. The stakeholder involvement process is detailed in its own separate document entitled Stakeholder Engagement Summary.

The alternatives analysis component of the project was the longest duration, beginning with identifying problems and opportunities and finishing with the selection of 16 structural and 4 non-structural alternatives. Final selected structural alternatives were advanced to a conceptual design and associated construction cost estimate. The Alternative Selection Report (Vol. 4) summarizes the stakeholder's involvement, the selection of ranking criteria, the application of the ranking criteria and the resulting projects, both structural and non-structural, to be moved forward for implementation.

***Conclusion**:

The Project Team prepared an Implementation Plan (Vol. 5) that was designed to prioritize the projects, place them in a planning period, identify possible funding sources and be a budgeting tool for the public agencies in the corridor. Projects were placed in one of three planning periods: Short-term, Mid-term and Long-term. With no dedicated funding source, this implementation plan is dependent upon the creative nature of the agencies that will participate in implementation. Some projects are already moving forward at writing of this report, and clearly, available funding will drive the schedule of the remaining projects.

***Recommendation**:

The District recommends that the Board of Directors adopt the attached resolution, which:

1. Endorses the Santa Cruz River Management Plan Grant to Pinal County and its components, the Existing Conditions Report, the Infrastructure Assessment and Maintenance Evaluation Report, the Technical Support Data Notebook and the Alternative Selection Report;
2. Directs the District to implement the recommendations from these reports, including maintaining, repairing and upgrading any deficiencies to District facilities, and revising the Flood Insurance Rate Maps.
3. Endorses the Implementation Plan and directs the District to work with stakeholders to creatively identify funding sources to implement the final alternatives. It is understood that the responsibility to fund the alternative does not lie solely with the District or Pima County.

***Fiscal Impact:**

$0

***Board of Supervisor District:**

☐ 1 ☐ 2 ☑ 3 ☐ 4 ☐ 5 ☐ All

Department: Regional Flood Control District Telephone: 520-724-4600

Contact: Evan Canfield Telephone: 520-724-4678

Department Director Signature: _____ Date: 8/12/22

Deputy County Administrator Signature: _____ Date: 8/15/2022

County Administrator Signature: _____ Date: 8/15/2022

RESOLUTION NO. 2022-FC_3

A RESOLUTION OF THE PIMA COUNTY FLOOD CONTROL DISTRICT BOARD OF DIRECTORS ENDORSING THE SANTA CRUZ RIVER MANAGEMENT PLAN:

The Board of Directors of the Pima County Flood Control District finds:

1. The Pima County Flood Control District (District) is authorized to provide regional support regarding the assessment, planning, design, and construction of drainage and flood control improvements that reduce or mitigate flood hazards.

2. The District's long-term goal is to establish operational control of the regional watercourses, including the Santa Cruz River, Rillito Creek, Canada del Oro, and Pantano Wash and has acquired the majority of the Santa Cruz River north of Grant Road to Avra Valley Road.

3. In February 2018, the Board authorized the District to develop a regional management plan for the Santa Cruz River from Grant Road to the Pinal County line for the purposes of balancing flood risk management, water recharge, recreation, public safety, education opportunity, and riparian habitat preservation.

4. In September 2019, the District completed the floodplain modeling using updated technique and current topographic information, an assessment of the existing infrastructure to determine maintenance and repair needs and to identify deficiencies, and identify property ownership gaps where the District lacks operation control. These documents are entitled, the Technical Support Data Notebook, the Infrastructure Assessment and Maintenance Evaluation Report, and the Existing Conditions Report, respectively.

5. The District established a comprehensive group of stakeholders to discuss the various competing priorities on the Santa Cruz River. Through a very detailed process that included identifying problems and opportunities on different portions of the river, the stakeholders and the District arrived at a list of potential project alternatives. This alternative list was further vetted to a final list of sixteen structural and four non-structural improvements. This report, entitled the Alternative Selection Report, was completed in June 2021.

6. The District conducted a public survey online through January, 2021 which elicited 1,180 responses, which showed 83% of the public agreed with, or partially agreed with, the proposed improvements.

7. The final phase, the Implementation Plan, was completed in December 2021 and prioritizes the projects, places them in planning periods and identifies potential funding sources. It will be up to the jurisdictions, District and the various stakeholders to identify funding sources, however, the Plan establishes a common vision for the Santa Cruz River.

8. The Pima County Flood Control District Advisory Committee endorsed the Santa Cruz River Management Plan Grant Rd. to Pinal County and its implementation on December 15, 2021 in a unanimous vote.

NOW, THEREFORE, BE IT RESOLVED, that the Board of Directors hereby:

1. Endorses the Santa Cruz River Management Plan Grant to Pinal County and its components, the Existing Conditions Report, the Infrastructure Assessment and Maintenance Evaluation Report, the Technical Support Data Notebook and the Alternative Selection Report;

2. Directs the District to implement the recommendations from these reports, including maintaining, repairing and upgrading any deficiencies to District facilities, and revising the Flood Insurance Rate Maps.

3. Endorses the Implementation Plan and directs the District to work with stakeholders to creatively identify funding sources to implement the final alternatives. It is understood that the responsibility to fund the alternative does not lie solely with the District or Pima County.

PASSED AND ADOPTED this 20 day of September, 2022.

Sharon Bronson
Chair, Board of Directors SEP 20 2022

ATTEST:

Clerk of the Board

APPROVED AS TO FORM:

Deputy County Attorney

Council-Regular Meeting **D2**

Meeting Date: 11/15/2022

To: Mayor and Council

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

Date: November 15, 2022

Strategic Plan Focus Area:
Not Applicable

Subject: Relating to Mayor and Council; selection of the Vice Mayor (David L. Udall)

Discussion:
Marana's Vice Mayor assumes the duties of Mayor in the absence, disqualification, or resignation of the Mayor. The Vice Mayor is appointed by the Town Council for a term of two years. On November 10, 2020, the Town Council appointed Jon Post to serve as the Town's Vice Mayor.

Section 2-3-1 of the Marana Town Code provides that "not later than December 31 following the date of the general election, or, if no general election is held, following the date the general election would have been held, the council members shall choose a vice mayor from among their number by majority vote."

Any Council Member may make a motion to appoint a certain Council Member to serve as Vice Mayor. The motion must be seconded and then voted upon. In the event there is no second or if the motion fails, the Council may continue making motions until a motion to appoint a Council Member as Vice Mayor is successfully passed by a majority of the Council.

Staff Recommendation:
Council's pleasure.

Suggested Motion:

I move to appoint _____ as Vice Mayor for the Town of Marana.

Attachments

No file(s) attached.