

**REVISED MINUTES  
FLOOD CONTROL DISTRICT ADVISORY COMMITTEE/PUBLIC REVIEW  
June 15, 2016**

**Committee Members Present:** James MacAdam, Ken Perry, David Pfordt, Ian Sharp, Kieran Sikdar, Mike Todnem, Mike Zeller

**Flood Control District Staff Present:** Suzanne Shields, P.E., Director; Stephanie Mancine, Administrative Support Specialist; Lynn Orchard, Chief Hydrologist; Brian Jones, Chief Hydrologist

**Others Present:** Paul Baughman, City of Tucson; Kevin Perko, Dibble Engineering

The meeting was held at 201 N. Stone Avenue, Tucson, Arizona, 9<sup>th</sup> Floor Conference Room.

**APPROVAL OF MINUTES**

The committee approved the revised Minutes from the April 20, 2016 as well as the minutes from the May 18, 2016 meeting.

**QUERY TO THE AUDIENCE**

No business.

**NEW BUSINESS**

**Information/Updates from Jurisdictions and/or Members**

No business.

**Maricopa County – Stormwater Harvesting Report**

Kieran Sikdar gave a PowerPoint Presentation on the Maricopa County LID Stormwater Harvesting Report (see attached).

**Elevation Certificate Revision Presentation**

Brian Jones of the Regional Flood Control District gave a brief presentation on the revised FEMA Elevation Certificate. Brian highlights the changes made to the form (see attached).

**District presentation on the new ALERT system**

Lynn Orchard of the Regional Flood Control District gave a PowerPoint presentation of the ALERT system and a brief demonstration of the new web based map (see attached).

**CONTINUING BUSINESS**

**Regulatory Updates – State and Federal**

No business.

**REPORT FROM FLOOD CONTROL DISTRICT STAFF**

**BOS Action Summary**

✓ **May 24, 2016**

Hearing – Review and adoption of the Flood Control District Tentative Budget for Fiscal Year 2016/2017. Approved

✓ **June 7, 2016**

Pictometry International Corp., Amendment No. 1, to provide for aerial photography services and amend contractual language, Flood Control District Fund, contract amount \$81,070.00.  
Approved

Tucson Clean and Beautiful, Inc., to provide for Adopt a Park, Adopt a Wash and Recycling and Waste Reduction Program, Regional Flood Control District/RWRD Fund, contract amount \$80,000.00. Approved

**Regional Flood Control District Projects and Programs Update**

The Pantano Wash Bank Protection (Tanque Verde to just past Glenn) is now out to bid. Construction should begin in the fall.

**CALL TO THE AUDIENCE**

No business.

**AGENDA ITEMS – July 20, 2016 MEETING**

No Items Suggested.

The meeting adjourned at 9:26 a.m.



# *Stormwater Harvesting for Flood Mitigation*

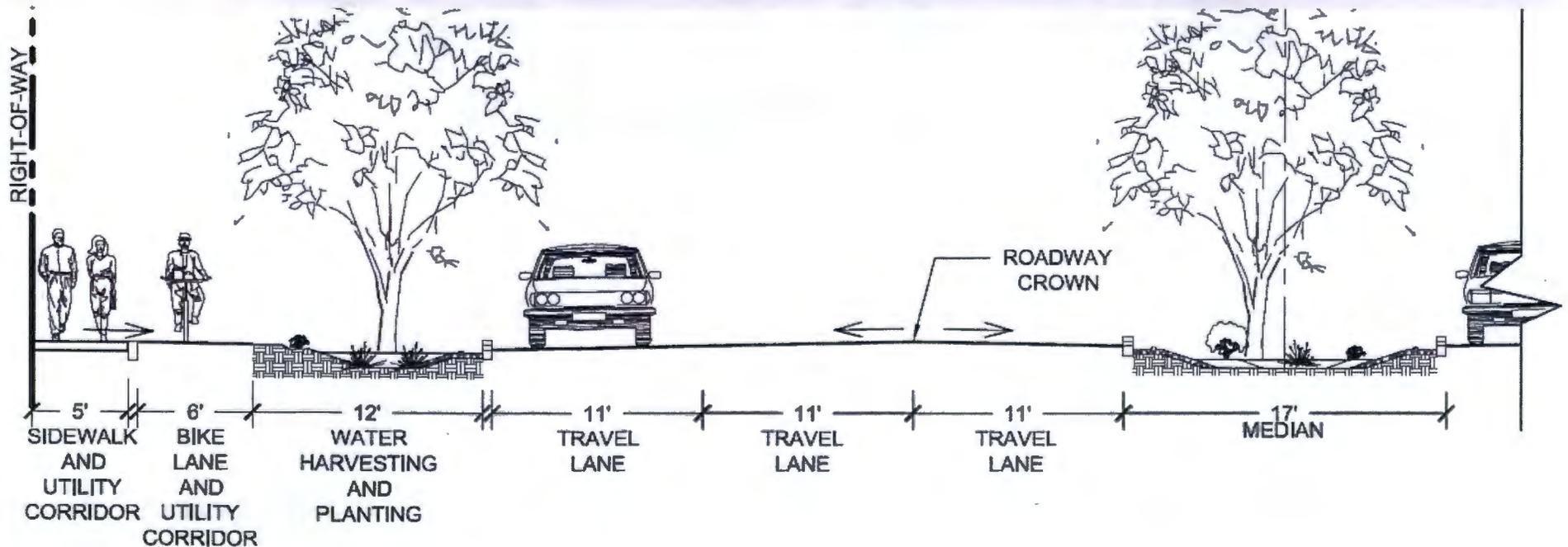
Kieran Sikdar

Certified Floodplain Manager

Green Infrastructure Practice Lead



Watershed Management Group develops and implements community-based solutions to ensure the long-term **prosperity of people and health of the environment**. We provide people with the knowledge, skills, and resources for sustainable livelihoods.









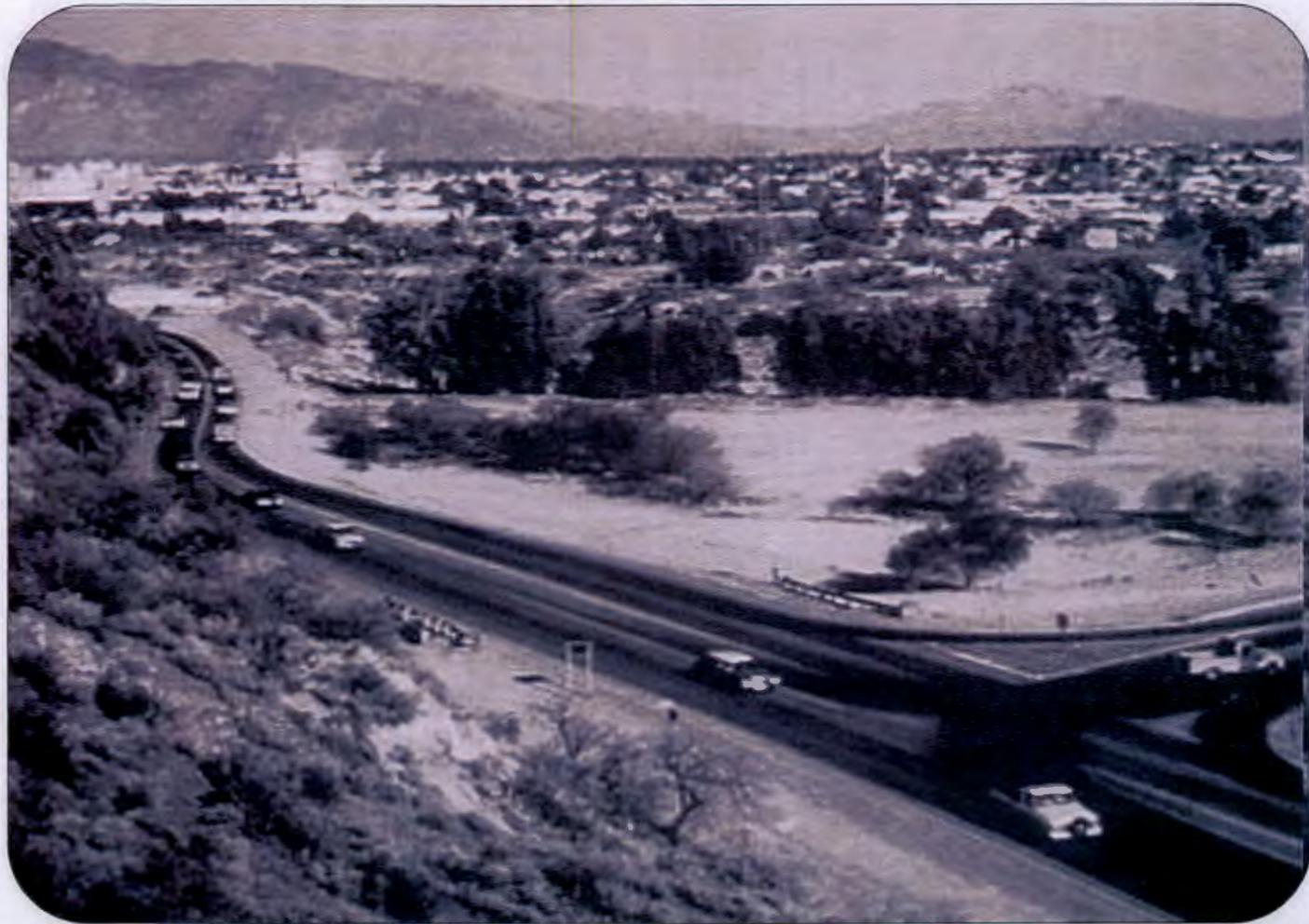








**Santa Cruz River @ Tucson, 1904**



**Santa Cruz River @ Tucson, 1981**



*Which story do you want  
for Sabino Creek?*



**It's your choice.**

[watershedmg.org/rivers](http://watershedmg.org/rivers)

# Living Lab and Learning Center



# What is Stormwater Harvesting, Green Infrastructure/Low Impact Development?

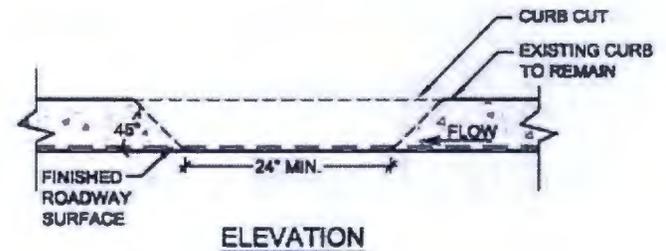
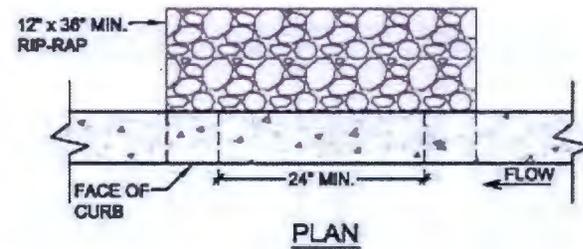
## **Our definition:**

**“constructed features that use living, natural systems to provide environmental services, such as capturing, cleaning and infiltrating stormwater; shading and cooling streets and buildings; and calming traffic.”**



# Tools for Green Infrastructure

## Curb Cuts

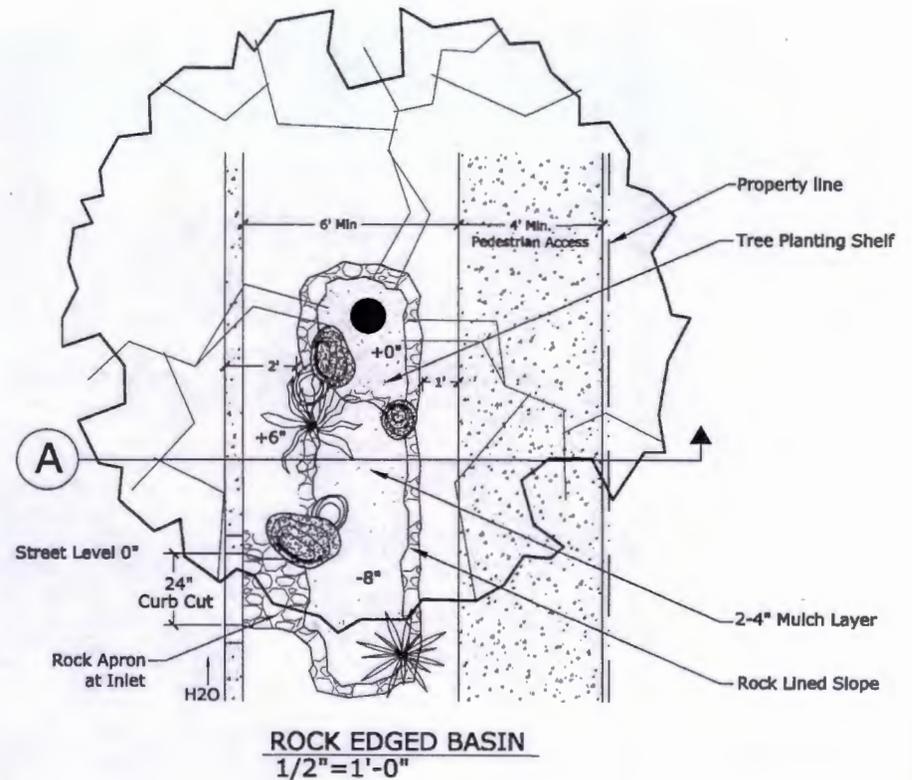


### **CURB CUT DETAIL**

SCALE: N.T.S.

# Tools for Green Infrastructure

## Street-side Basins



# Tools for Green Infrastructure



## Permeable Pavement



# Can Green Infrastructure Solve Chronic Flooding Challenges Cost Effectively?



**Project Goal:** To create a green stormwater infrastructure plan to address flooding and water quality issues

**Partners:** City of Tucson, Pima County Regional Flood Control District, CMG Drainage Engineering

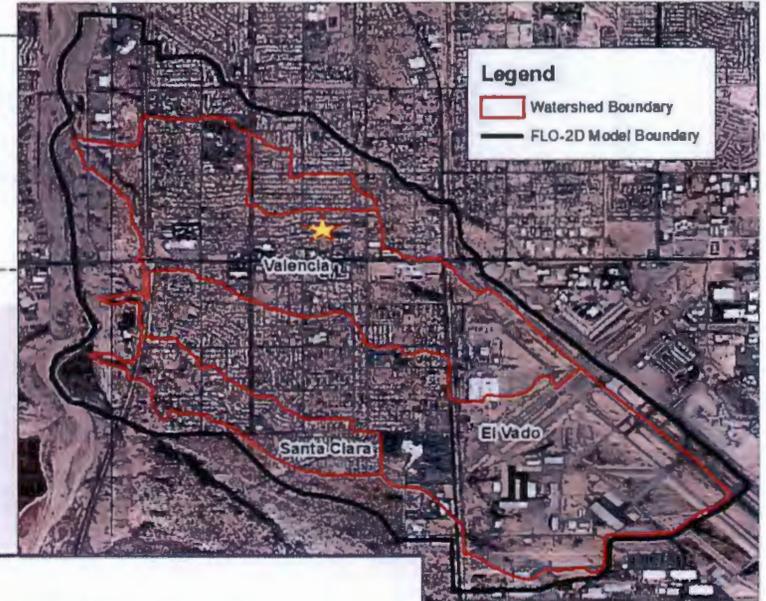
**Funder:** Arizona Water Infrastructure Finance Authority



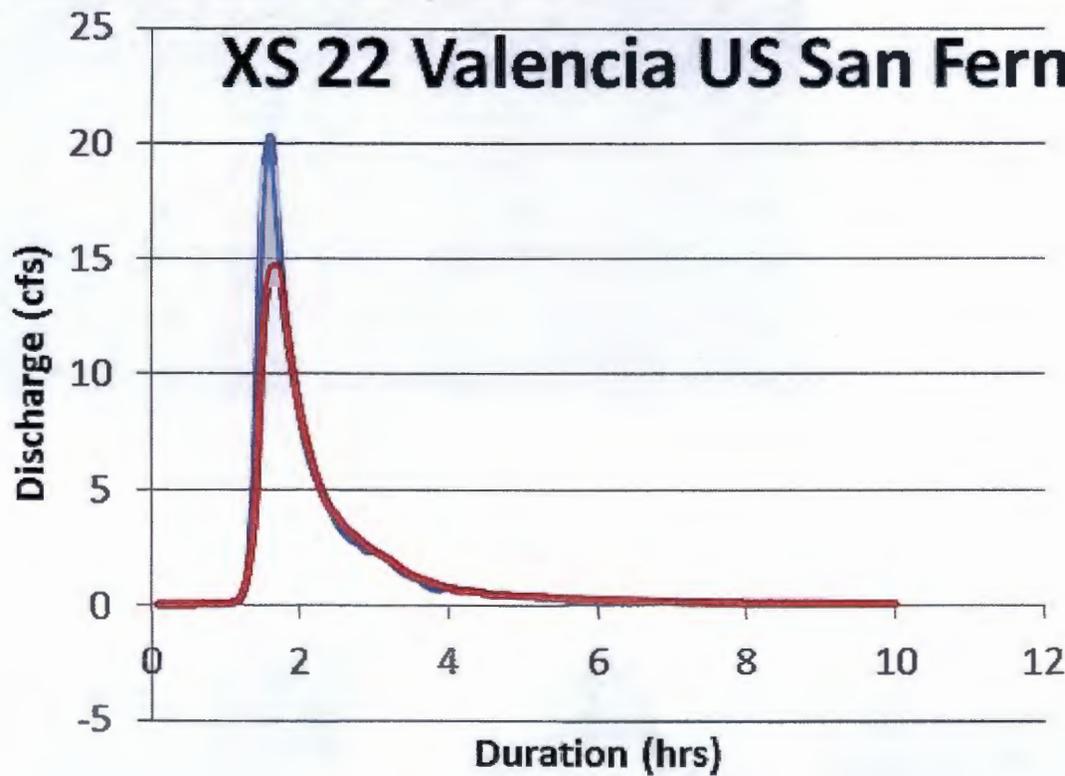
El Vado wash flooding near Santa Clara and Medina (Hope Church). Photo: Provided by City of Tucson



# Valencia Residential



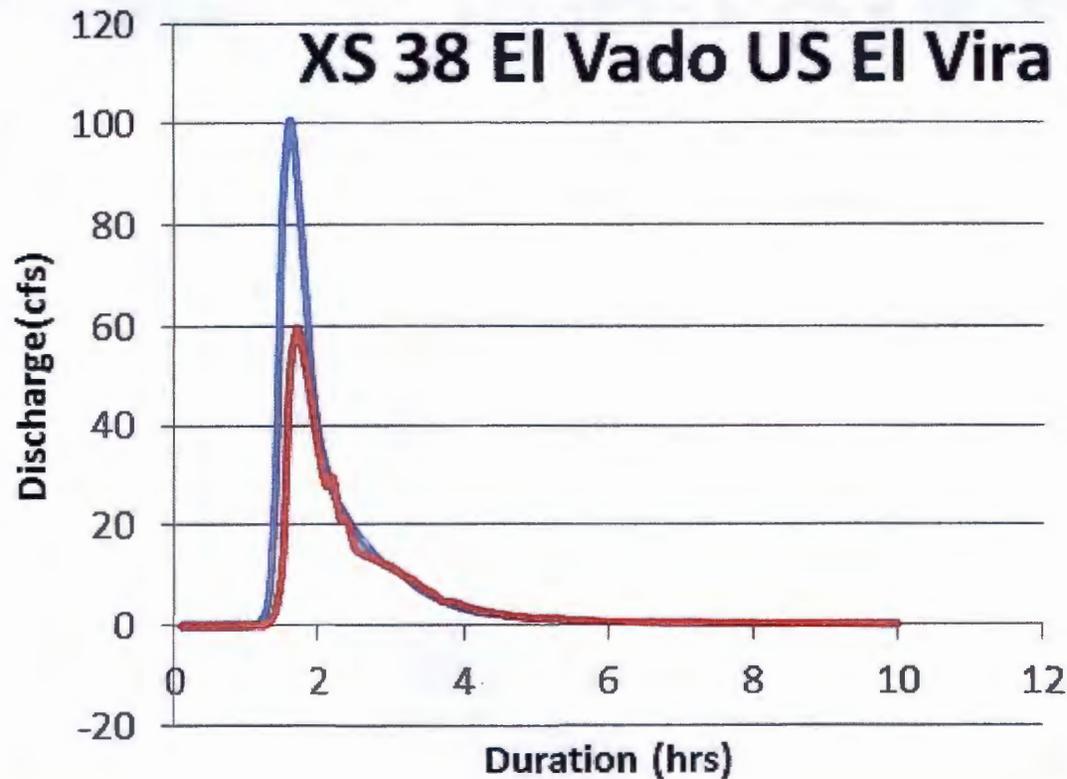
**Drainage Area:  
7 Acres**



# El Vado

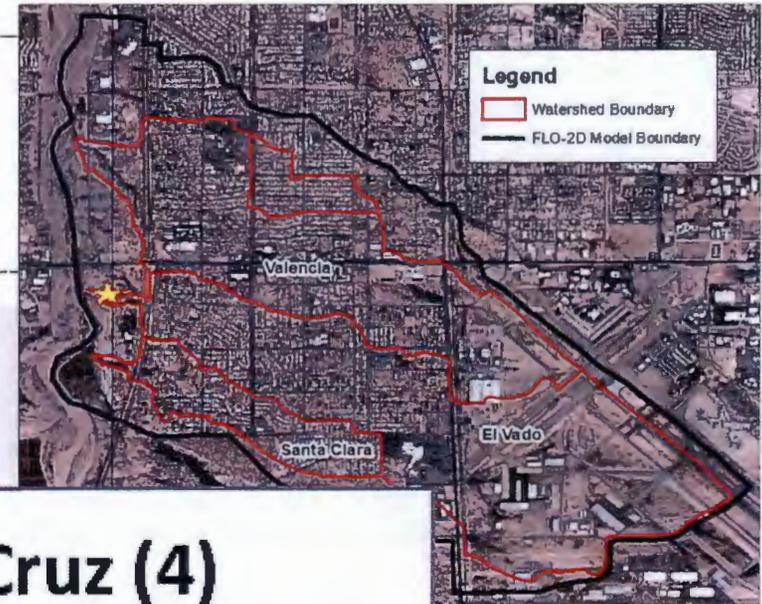


Drainage Area:  
30 acres

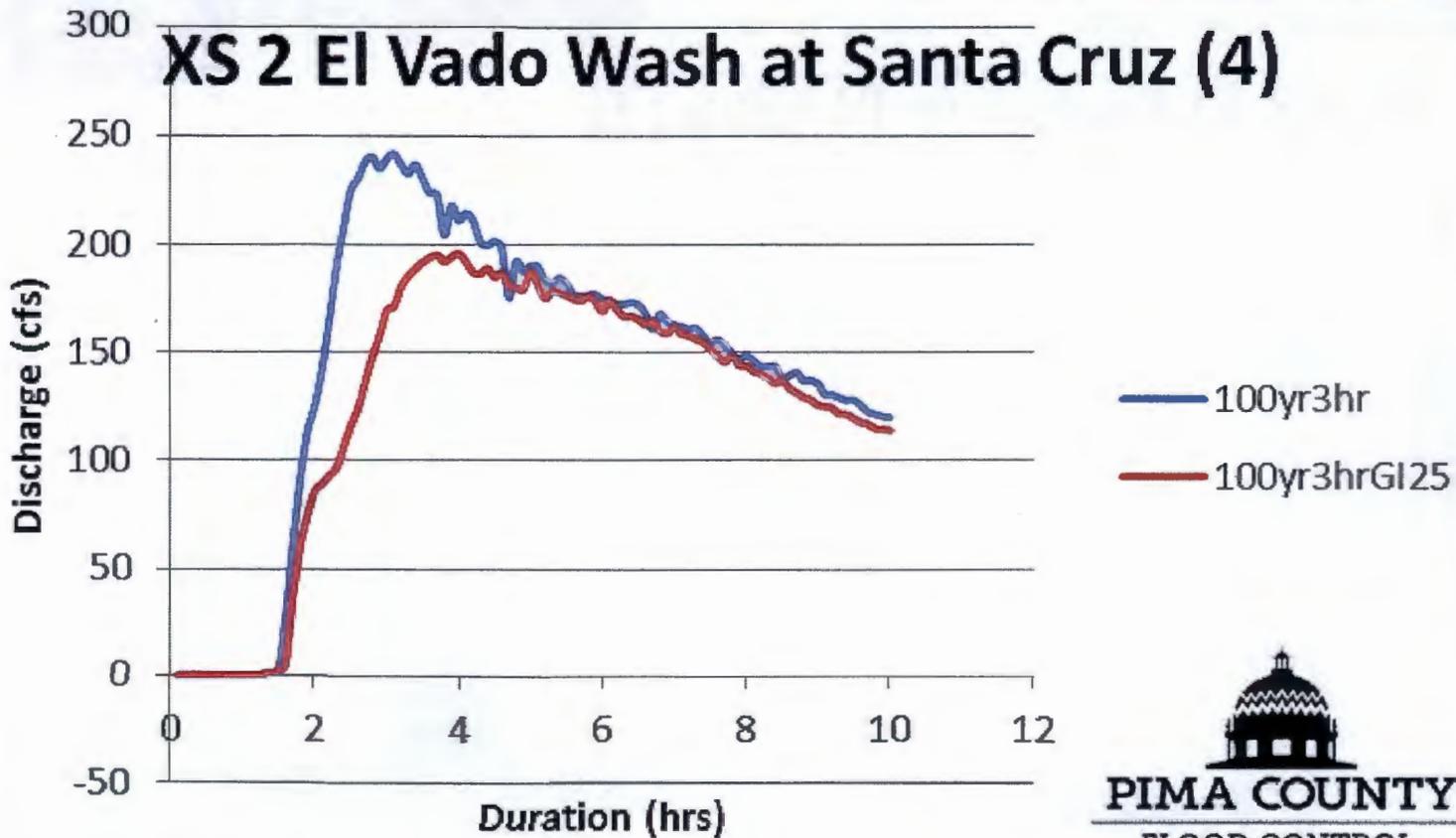


# El Vado at Santa Cruz

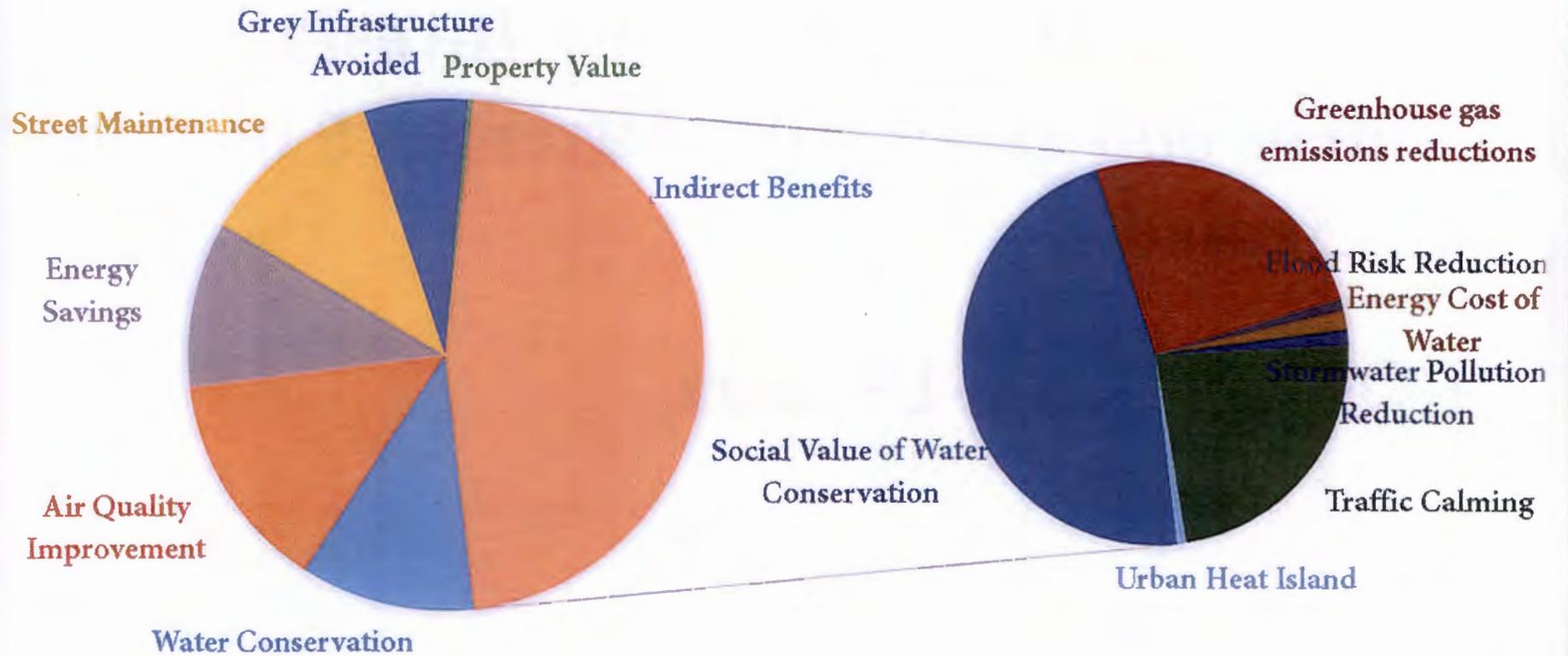
Drainage Area:  
1280 Acres



## XS 2 El Vado Wash at Santa Cruz (4)



# Financial Benefits



# Retrofit Cost Benefit Analysis



- ✓ For **every \$1** a community **invests** in rain gardens and green streets **over \$3-6 of value are created.**
- ✓ ROI typically 6-10 years

# Tempe Area Master Drainage Study



- Does small scale GI/LID have an impact on larger (> 10 yr) storm events?
- How can a detailed FLO-2D model with GI/LID be developed for large watersheds?

# Study Area



# GI/LID Practices Analyzed



- Bio Retention
- Bio Swale
- Pervious Pavement
- Rainwater Harvesting – Rain tanks, cisterns
- Green Roofs



**Table 2.2 FLO-2D Modeling Parameters for LID Basic Controls**

	Method No.	Parameter Name	LID Basic Control				
			Bio Retention	Bio Swale	Pervious Pavement	Rainwater Harvesting	Green Roof
			1	2	3	4	5
Potential Modeling Parameters	A	Grid elevation adjustment	X	X	X	X	
	B	Initial loss IA adjustment	X	X	X	X	X
	C	TOL value adjustment	X	X	X	X	X
	D	Infiltration rate adjustment	X	X	X	X	
	E	Limiting soil depth	X	X	X	X	
	F	Spatially variable rainfall	X	X	X	X	X
	G	Diversion by structure	X	X	X	X	X
	H	Boundary outflow grid	X	X	X	X	X
	I	Use of artificial WRF	X	X	X		X
	J	Use of artificial levee	X	X	X		
	K	Use of artificial storm drain	X	X	X	X	X
	L	Others/IRAIN-BUILDING				X	X



**Table 4.1 FLO-2D Modeling Methods for LID Basic Controls**

LID Basic Control	Possible Modeling Methods			
	Grid elevation adjustment	Initial loss IA adjustment	Infiltration rate/Soil depth adjustment	Use of artificial storm drain
Bio Retention	X	X	X	X
Bio Swale	X	X	X	X
Pervious Pavement	X	X	X	X
Rainwater Harvesting		X	X	X
Green Roof		X		X

# GI/LID Practice Flood Mitigation Benefits



- Bio Retention 
- Bio Swale 
- Pervious Pavement 
- Rainwater Harvesting – Rain tanks, cisterns 
- Green Roofs 

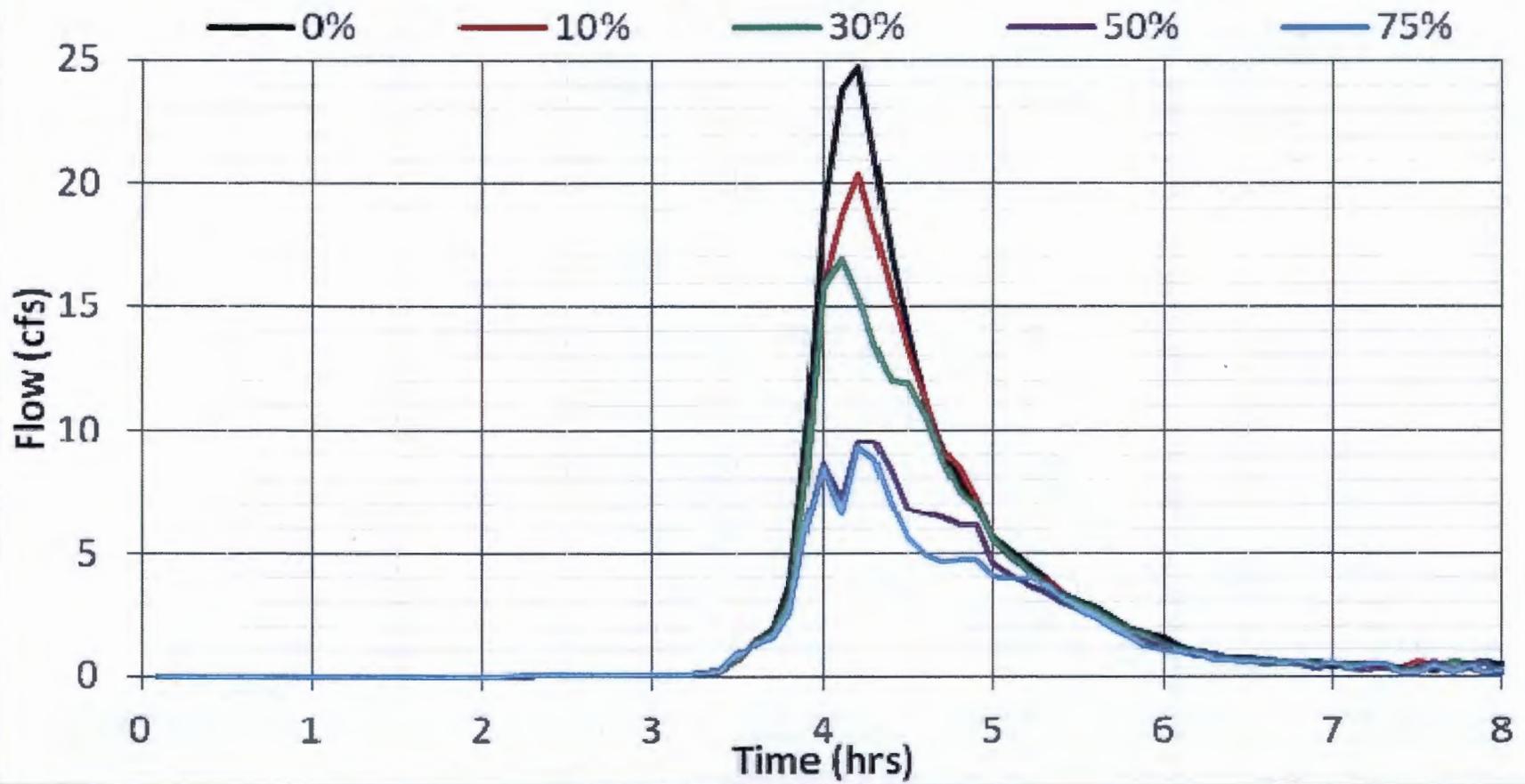


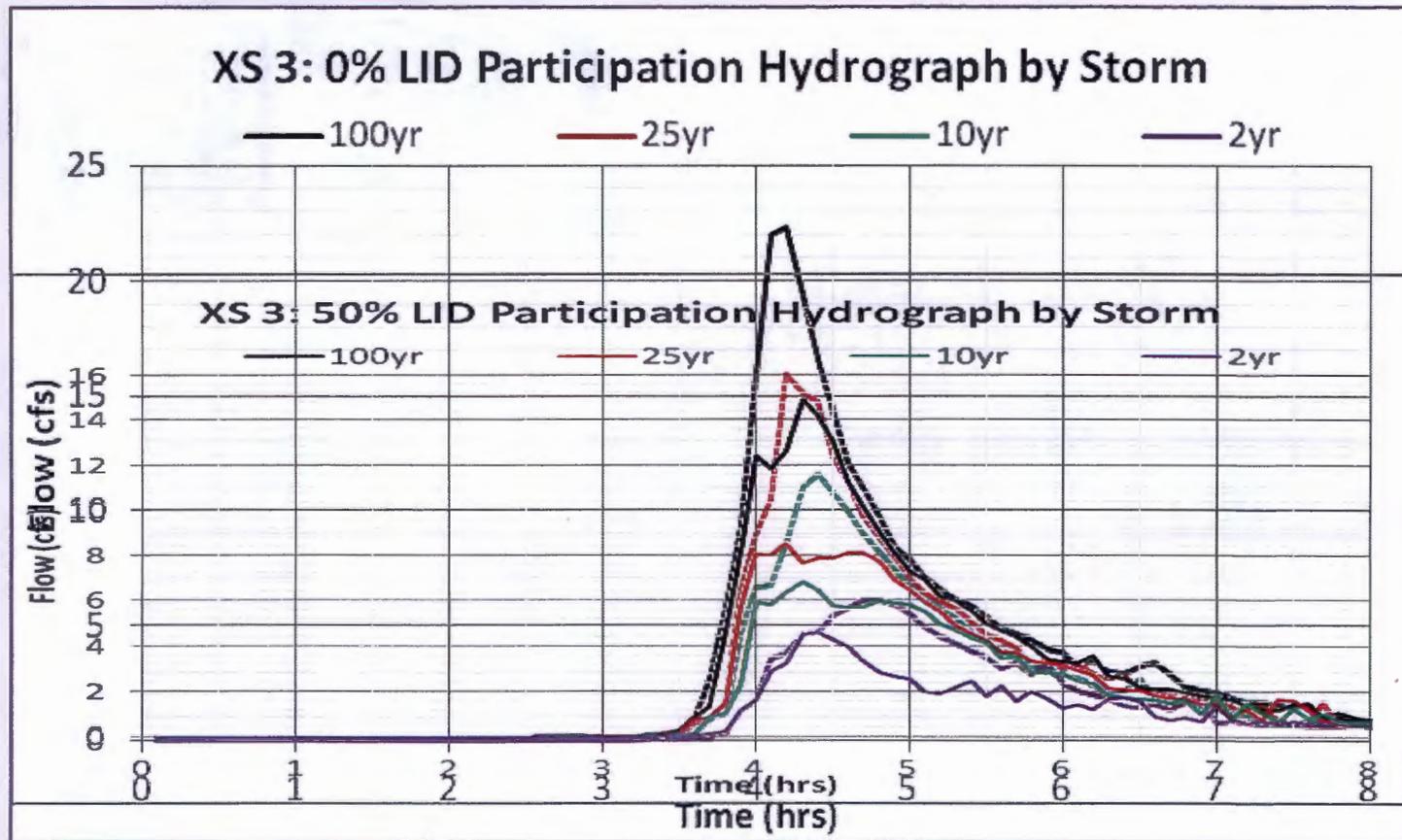
**Table 6.1 Land Use Zoning and LID Design Capacities**

Land Use Zoning No.	LID Land Use		LID Design Capacity	
	Zoning Name	Description	Value	Unit
1	AG	Parks & Golf Course	3500	ft <sup>3</sup> /ac
2	CSS	Commercial	6000	ft <sup>3</sup> /ac
3	R-2	Adjoined homes/duplexes	500	ft <sup>3</sup>
4	R-3	Apartments	4000	ft <sup>3</sup> /ac
5	R1-6	Medium-lot homes	1000	ft <sup>3</sup>
6	RO	Church	5000	ft <sup>3</sup> /ac
7	MU-2	School	4500	ft <sup>3</sup> /ac
8	ST	Street	0	ft <sup>3</sup> /ac



### XS 1: 100yr Hydrograph by LID Participation





...thank you! Any questions?



**Kieran Sikdar**

Certified Floodplain Manager

Green Infrastructure Practice Lead

[ksikdar@watershedmg.org](mailto:ksikdar@watershedmg.org)

520.396.3266 x 3

U.S. DEPARTMENT OF HOMELAND SECURITY  
 FEDERAL EMERGENCY MANAGEMENT AGENCY  
 National Flood Insurance Program

**ELEVATION CERTIFICATE**

OMB Control Number: 1660-0008  
 Expiration: 11/30/2018

**IMPORTANT: FOLLOW THE INSTRUCTIONS ON PAGES 8-15**

Copy all pages of this Elevation Certificate and all attachments for (1) community official, (2) insurance agent/company, and (3) building owner.

SECTION A - PROPERTY INFORMATION				FOR INSURANCE COMPANY USE	
A1. Building Owner's Name				Policy Number:	
A2. Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.				Company NAIC Number:	
City		State		Zip Code	
A3. Property Description (Lot and Block Numbers, Tax Parcel Number, Legal Description, etc.)					
A4. Building Use (e.g., Residential, Non-Residential, Addition, Accessory, etc.)					
A5. Latitude/Longitude: Lat. _____ Long. _____ Horizontal Datum: <input type="radio"/> NAD 1927 <input type="radio"/> NAD 1983					
A6. Attach at least 2 photographs of the building if the Certificate is being used to obtain flood insurance.					
A7. Building Diagram Number _____					
A8. For a building with a crawlspace or enclosure(s):			A9. For a building with an attached garage:		
a) Square footage of crawlspace or enclosure(s) _____ sq ft			a) Square footage of attached garage _____ sq ft		
b) Number of permanent flood openings in the crawlspace or enclosure(s) within 1.0 foot above adjacent grade			b) Number of permanent flood openings in the attached garage within 1.0 foot above adjacent grade		
c) T _____ sq in					
d) E _____					
<div style="border: 2px solid red; padding: 5px; color: red; font-weight: bold;">                     - Page size changed from 8 1/2 X 11 to 8 1/2 X 14                      - Page reformatted to make the form less dense                      - Section D now entirely on second page                 </div>					
B1. NFI					
B4. Map/Panel Number	B5. Suffix	B6. FIRM Index Date	B7. FIRM Panel Effective/ Revised Date	B8. Flood Zone(s)	B9. Base Flood Elevation(s) (Zone AO, use base flood depth)
B10. Indicate the source of the Base Flood Elevation (BFE) data or base flood depth entered in Item B9: <input type="radio"/> FIS Profile <input type="radio"/> FIRM <input type="radio"/> Community Determined <input type="radio"/> Other/Source: _____					
B11. Indicate elevation datum used for BFE in Item B9: <input type="radio"/> NGVD 1929 <input type="radio"/> NAVD 1988 <input type="radio"/> Other/Source: _____					
B12. Is the building located in a Coastal Barrier Resources System (CBRS) area or Otherwise Protected Area (OPA)? <input type="radio"/> Yes <input type="radio"/> No Designation Date: <input type="radio"/> CBRS <input type="radio"/> OPA					
SECTION C - BUILDING ELEVATION INFORMATION (SURVEY REQUIRED)					
C1. Building elevations are based on: <input type="radio"/> Construction Drawings* <input type="radio"/> Building Under Construction* <input type="radio"/> Finished Construction * A new Elevation Certificate will be required when construction of the building is complete.					
C2. Elevations: Zones A1-A30, AE, AH, A (with BFE), VE, V1-V30, V (with BFE), AR, AR/A, AR/AE, AR/A1-A30, AR/AH, AR/AO. Complete Items C2.a-h below according to the building diagram specified in Item A7. In Puerto Rico only, enter meters.					
Benchmark Utilized: _____ Vertical Datum: _____					
Indicate elevation datum used for the elevations in items a) through h) below. <input type="radio"/> NGVD 1929 <input type="radio"/> NAVD 1988 <input type="radio"/> Other/Source: _____					
Datum used for building elevations must be the same as that used for the BFE.				Check the measurement used.	
a) Top of bottom floor (including basement, crawlspace, or enclosure floor)	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
b) Top of the next higher floor	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
c) Bottom of the lowest horizontal structural member (V Zones only)	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
d) Attached garage (top of slab)	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
e) Lowest elevation of machinery or equipment servicing the building (Describe type of equipment and location in Comments)	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
f) Lowest adjacent (finished) grade next to building (LAG)	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
g) Highest adjacent (finished) grade next to building (HAG)	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters
h) Lowest adjacent grade at lowest elevation of deck or stairs, including structural support	_____ . _____			<input type="radio"/> feet	<input type="radio"/> meters

**ELEVATION CERTIFICATE, page 2**

OMB Control Number: 1660-0008  
Expiration: 11/30/2018

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>			FOR INSURANCE COMPANY USE		
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.			Policy Number:		
City	State	Zip Code	Company NAIC Number:		
<b>SECTION D - SURVEYOR, ENGINEER, OR ARCHITECT CERTIFICATION</b>					
This certification is to be signed and sealed by a land surveyor, engineer, or architect authorized by law to certify elevation information. <i>I certify that the information on this Certificate represents my best efforts to interpret the data available. I understand that any false statement may be punishable by fine or imprisonment under 18 U.S. Code, Section 1001.</i>					
<input type="checkbox"/> Check here if attachments.		Were latitude and longitude in Section A provided by a licensed land surveyor? <input type="radio"/> Yes <input type="radio"/> No		<b>PLACE SEAL HERE</b>	
Certifier's Name		License Number			
Title	Company Name				
Address	City	State	Zip Code		
Signature	Date	Telephone			
Copy all pages of this Elevation Certificate for (1) community official, (2) insurance agent/company, and (3) building owner.					
Comments (including type of equipment and location, per C2(e), if applicable)					
<p style="color: red; font-size: 1.2em; margin: 0;">- Section D now entirely on second page</p> <p style="color: red; font-size: 1.2em; margin: 0;">- Surveyor concerns over location of seal</p>					
Signature			Date		
<b>SECTION E - BUILDING ELEVATION INFORMATION (SURVEY NOT REQUIRED) FOR ZONE AO AND ZONE A (WITHOUT BFE)</b>					
For Zones AO and A (without BFE), complete Items E1-E5. If the Certificate is intended to support a LOMA or LOMR-F request, complete Sections A, B, and C. For Items E1-E4, use natural grade, if available. Check the measurement used. In Puerto Rico only, enter meters.					
E1. Provide elevation information for the following and check the appropriate boxes to show whether the elevation is above or below the highest adjacent grade (HAG) and the lowest adjacent grade (LAG).					
a) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ . _____ <input type="radio"/> feet <input type="radio"/> meters <input type="checkbox"/> above or <input type="checkbox"/> below the HAG.					
b) Top of bottom floor (including basement, crawlspace, or enclosure) is _____ . _____ <input type="radio"/> feet <input type="radio"/> meters <input type="checkbox"/> above or <input type="checkbox"/> below the LAG.					
E2. For Building Diagrams 6-9 with permanent flood openings provided in Section A Items 8 and/or 9 (see page 8 of Instructions), the next higher floor (elevation C2.b in the diagrams) of the building is _____ . _____ <input type="radio"/> feet <input type="radio"/> meters <input type="checkbox"/> above or <input type="checkbox"/> below the HAG.					
E3. Attached garage (top of slab) is _____ . _____ <input type="radio"/> feet <input type="radio"/> meters <input type="checkbox"/> above or <input type="checkbox"/> below the HAG.					
E4. Top of platform of machinery and /or equipment servicing the building is _____ . _____ <input type="radio"/> feet <input type="radio"/> meters <input type="checkbox"/> above or <input type="checkbox"/> below the HAG.					
E5. Zone AO only: If no flood depth number is available, is the top of the bottom floor elevated in accordance with the community's floodplain management ordinance? <input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown. The local official must certify this information in Section G.					
<b>SECTION F - PROPERTY OWNER (OR OWNER'S REPRESENTATIVE) CERTIFICATION</b>					
The property owner or owner's authorized representative who completes Sections A, B, and E for Zone A (without a FEMA-issued or community-issued BFE) or Zone AO must sign here. The statements in Sections A, B, and E are correct to the best of my knowledge.					
Property Owner or Owner's Authorized Representative's Name					
Address	City	State	ZIP Code		
Signature	Date	Telephone			
Comments					
<input type="checkbox"/> Check here if attachments.					

**ELEVATION CERTIFICATE, page 3**

OMB Control Number: 1660-0008  
Expiration: 11/30/2018

<b>IMPORTANT: In these spaces, copy the corresponding information from Section A.</b>		<b>FOR INSURANCE COMPANY USE</b>	
Building Street Address (including Apt., Unit, Suite, and/or Bldg. No.) or P.O. Route and Box No.		Policy Number:	
City	State	Zip Code	Company NAIC Number:
<b>SECTION G - COMMUNITY INFORMATION (OPTIONAL)</b>			
<p>The local official who is authorized by law or ordinance to administer the community's floodplain management ordinance can complete Sections A, B, C (or E), and G of this Elevation Certificate. Complete the applicable item(s) and sign below. Check the measurement used in Items G8-G10. In Puerto Rico only, enter meters.</p>			
<p>G1. <input type="checkbox"/> The information in Section C was taken from other documentation that has been signed and sealed by a licensed surveyor, engineer, or architect who is authorized by law to certify elevation information. (Indicate the source and date of the elevation data in the Comments area below.)</p>			
<p>G2. <input type="checkbox"/> A community official completed Section E for a building located in Zone A (without a FEMA-issued or community-issued BFE) or Zone AO.</p>			
<p>G3. <input type="checkbox"/> The following information (Items G4-G10) is provided for community floodplain management purposes.</p>			
G4. Permit Number	G5. Date Permit Issued	G6. Date Certificate of Compliance/Occupancy Issued	
<p>G7. This permit has been issued for: <input type="radio"/> New Construction <input type="radio"/> Substantial Improvement</p>			
<p>G8. Elevation of as-built lowest floor (including basement) of the building: _____ . _____ <input type="radio"/> feet <input type="radio"/> meters Datum _____</p>			
<p>G9. BFE or (in Zone AO) depth of flooding at the building site: _____ . _____ <input type="radio"/> feet <input type="radio"/> meters Datum _____</p>			
<p>G10. Community's design flood elevation: _____ . _____ <input type="radio"/> feet <input type="radio"/> meters Datum _____</p>			
Local Official's Name		Title	
Community Name		Telephone	
Signature		Date	
<p>Comments (including type of equipment and location, per C2(e), if applicable)</p> <div style="border: 1px solid red; padding: 10px; text-align: center; margin: 10px 0;"> <p style="color: red; font-size: 1.2em;">- More room for comments</p> </div>			
<input type="checkbox"/> Check here if attachments.			

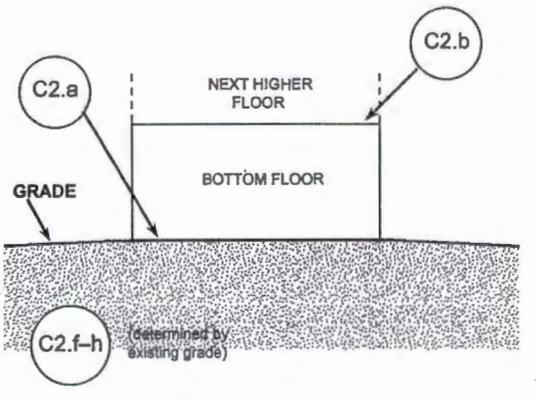
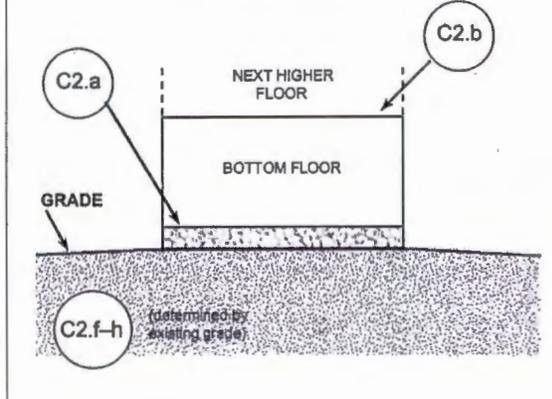
## Instructions for Completing the Elevation Certificate (Continued)

OMB Control Number: 1660-0008  
Expiration: 11/30/2018

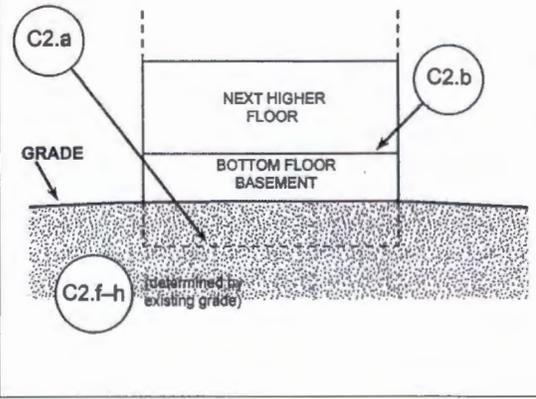
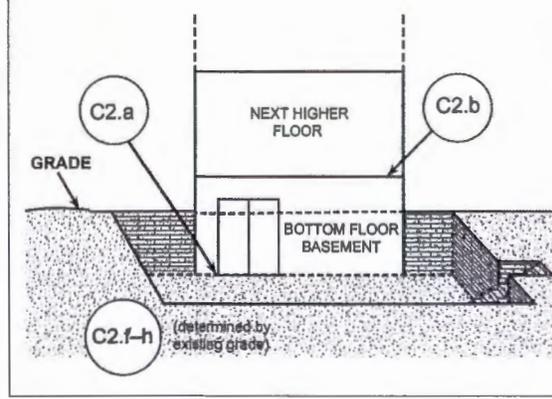
### Building Diagrams

The following diagrams illustrate various types of buildings. Compare the features of the building being certified with the features shown in the diagrams and select the diagram most applicable. Enter the diagram number in Item A7, the square footage of crawlspace or enclosure(s) and the area of flood openings in square inches in Items A8.a-c, the square footage of attached garage and the area of flood openings in square inches in Items A9.a-c, and the elevations in Items C2.a-h.

In A zones, the floor elevation is taken at the top finished surface of the floor indicated; in V zones, the floor elevation is taken at the bottom of the lowest horizontal structural member (see drawing in instructions for Section C).

<p style="text-align: center;"><b>DIAGRAM 1A</b></p> <p><b>All slab-on-grade single- and multiple-floor buildings (other than split-level) and high-rise buildings, either detached or row type (e.g., townhouses); with or without attached garage.</b></p> <p><b>Distinguishing Feature</b> - The bottom floor is at or above ground level (grade) on at least 1 side.*</p> 	<p style="text-align: center;"><b>DIAGRAM 1B</b></p> <p><b>All raised-slab-on-grade or slab-on-stem-wall-with-fill single and multiple-floor buildings (other than split-level), either detached or row type (e.g., townhouses); with or without attached garage.</b></p> <p><b>Distinguishing Feature</b> - The bottom floor is at or above ground level (grade) on at least 1 side.*</p> 
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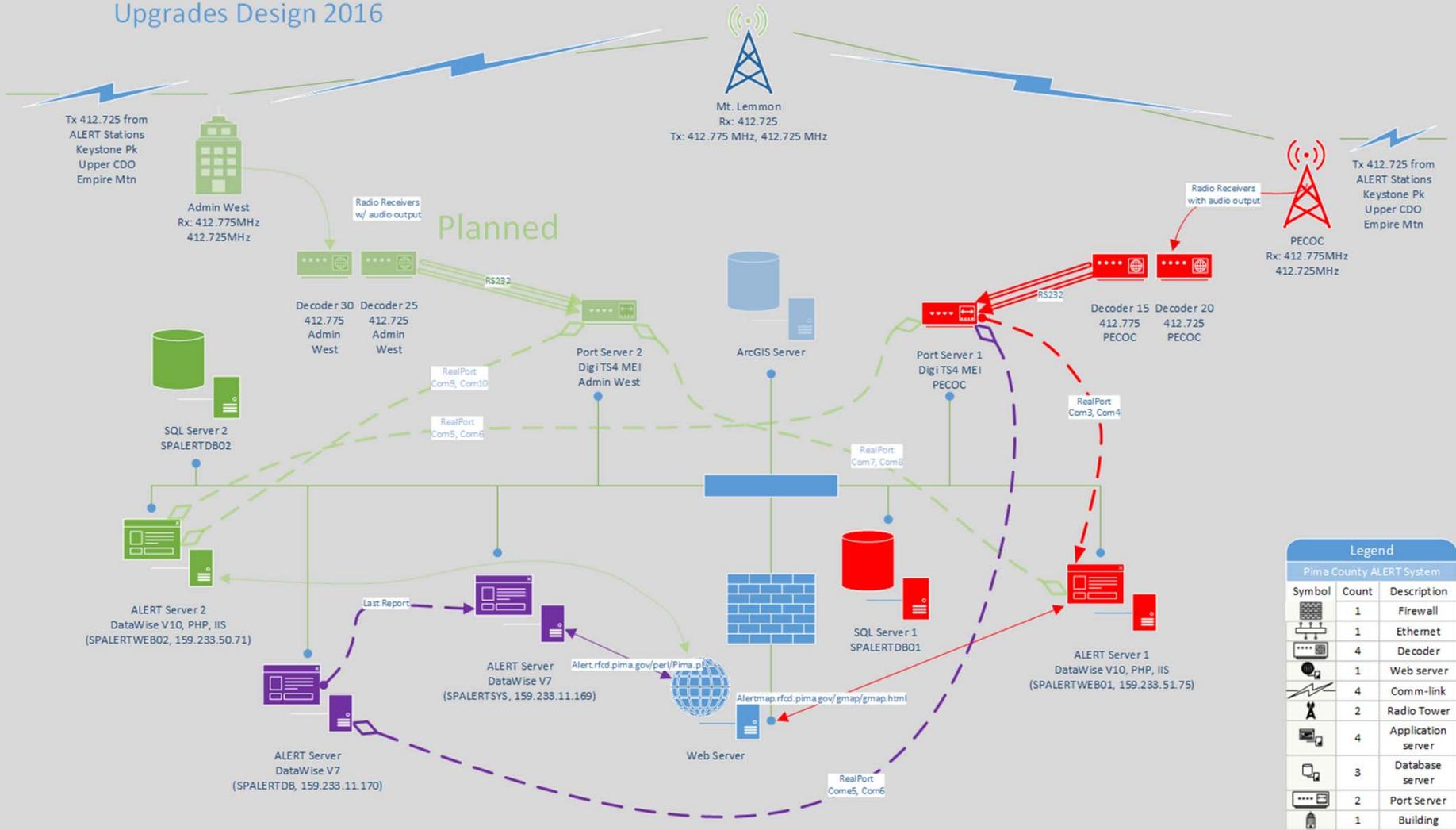
- Building Diagram 2B added  
- Use of Diagram 2B not expected in Pima County

<p style="text-align: center;"><b>DIAGRAM 2A</b></p> <p><b>All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage.</b></p> <p><b>Distinguishing Feature</b> - The bottom floor (basement or underground garage) is below ground level (grade) on all sides.*</p> 	<p style="text-align: center;"><b>DIAGRAM 2B</b></p> <p><b>All single- and multiple-floor buildings with basement (other than split-level) and high-rise buildings with basement, either detached or row type (e.g., townhouses); with or without attached garage).</b></p> <p><b>Distinguishing Feature</b> - The bottom floor (basement or underground garage) is below ground level (grade) on all sides; most of the height of the walls is below ground level on all sides; and the door and area of egress are also below ground level on all sides.*</p> 
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\* A floor that is below ground level (grade) on all sides is considered a basement even if the floor is used for living purposes, or as an office, garage, workshop, etc.

# Pima County ALERT System Upgrades Design 2016

June 13, 2016



Legend		
Pima County ALERT System		
Symbol	Count	Description
[Firewall icon]	1	Firewall
[Ethernet icon]	1	Ethernet
[Decoder icon]	4	Decoder
[Web server icon]	1	Web server
[Comm-link icon]	4	Comm-link
[Radio Tower icon]	2	Radio Tower
[Application server icon]	4	Application server
[Database server icon]	3	Database server
[Port Server icon]	2	Port Server
[Building icon]	1	Building



2008.09.22







SCADALYNX RECEIVER  
MODEL 50386 R  
**HydroLynx**  
POWER  
HYDROLYNX  
MODEL NO. 50386R  
412.775 REPEATER

ON  
OFF  
SCADALYNX RECEIVER  
MODEL 50386 R  
**HydroLynx**  
POWER  
HYDROLYNX  
MODEL NO. 50386R  
412.725, 412.775  
SERIAL NO. 2532  
412.725 OMNI

1B  
#25  
SCADALYNX DECODER  
MODEL 50386 D  
**HydroLynx**  
POWER

2B  
#30  
SCADALYNX DECODER  
MODEL 50386 D  
**HydroLynx**  
POWER

02/26/2016 11:31

## Log Analysis

Select a log to analyze

alert.16.06.06.log  
alert.16.06.07.log  
alert.16.06.08.log  
alert.16.06.09.log  
alert.16.06.10.log  
alert.16.06.11.log  
alert.16.06.12.log  
alert.16.06.13.log

Display Data By

- All Received Data  
 Sensor  
 Comport  
 Socket

Time Range

All Day

Start

End

Display

Requested Data

Export

Date	Type	SensorID	DataValue
06/13/16 00:01:36	com4	4301	83
06/13/16 00:01:37	com4	4302	157
06/13/16 00:01:37	com3	4301	83
06/13/16 00:01:37	com3	4302	157
06/13/16 00:02:12	com3	6375	1568
06/13/16 00:02:12	com3	6373	72
06/13/16 00:02:12	com4	6375	1568
06/13/16 00:02:13	com4	6373	72
06/13/16 00:02:29	com4	6317	1713
06/13/16 00:02:30	com4	6317	1713
06/13/16 00:02:31	com3	6317	1713

## Pima County Regional Flood Control District ALERT System

**DISCLAIMER: ALERT System data come from remote automatic sensors. These data are being supplied for general information only. The Pima County Regional Flood Control District makes no warranty, expressed nor implied, regarding the accuracy of data provided.**

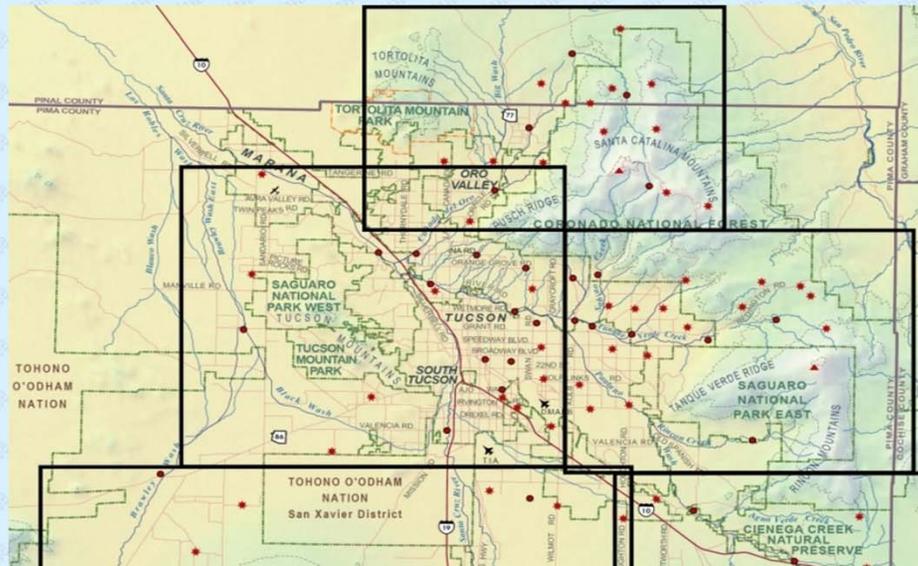
[ALERT System Home Page](#) [Precipitation and Other Data Reports](#)

For the most recent 24 hour precipitation totals, click on an outlined area on the map below.  
For other time periods or other types of sensors, make selections below and press the Set Display Period button.

View  Rainfall  Stage(depth) & WeatherMaps; Ending Date  Ending Time (24 Hr)

Going Back   Minutes  Hours  Days

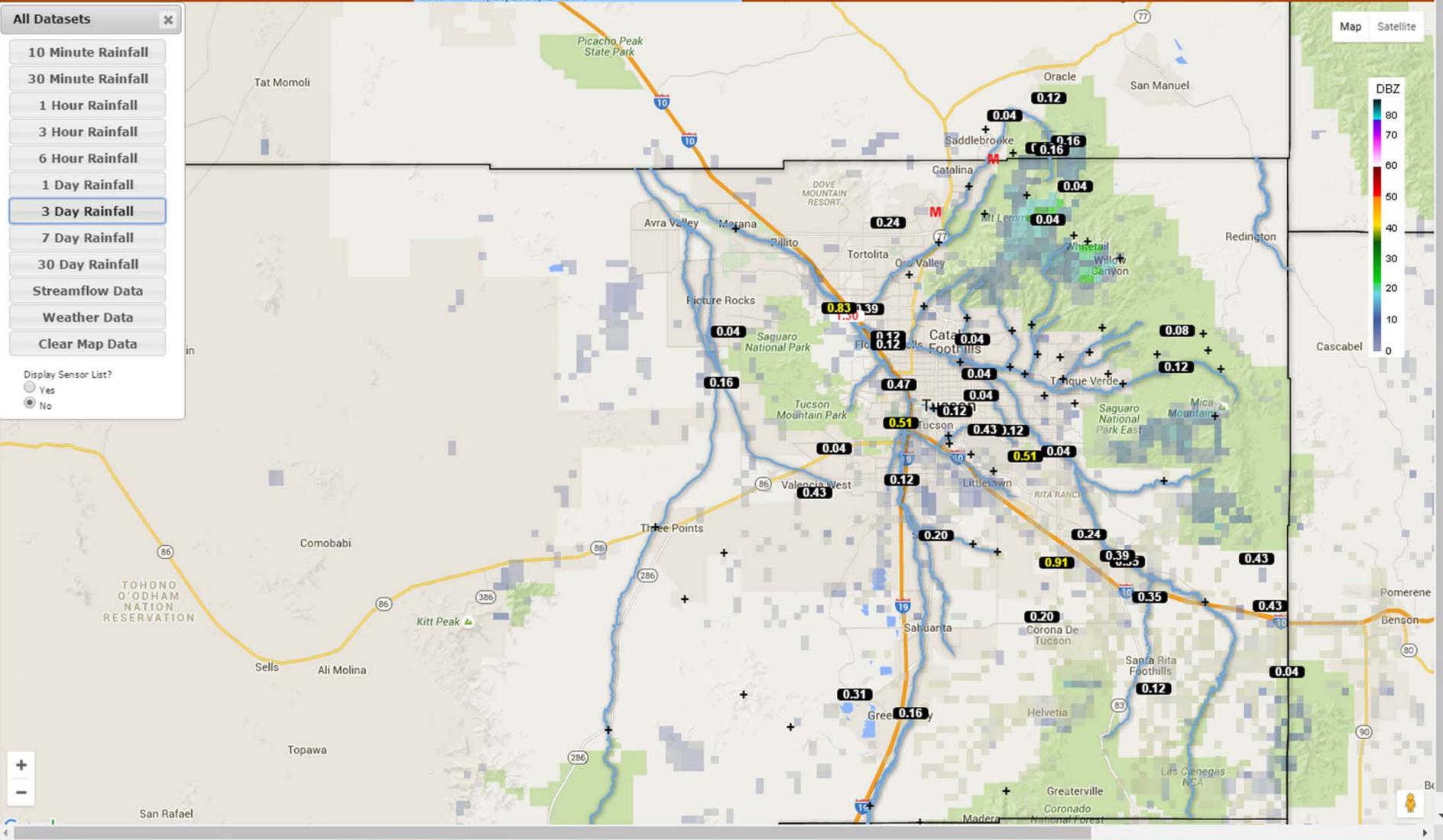
Push Button to Complete



All Datasets

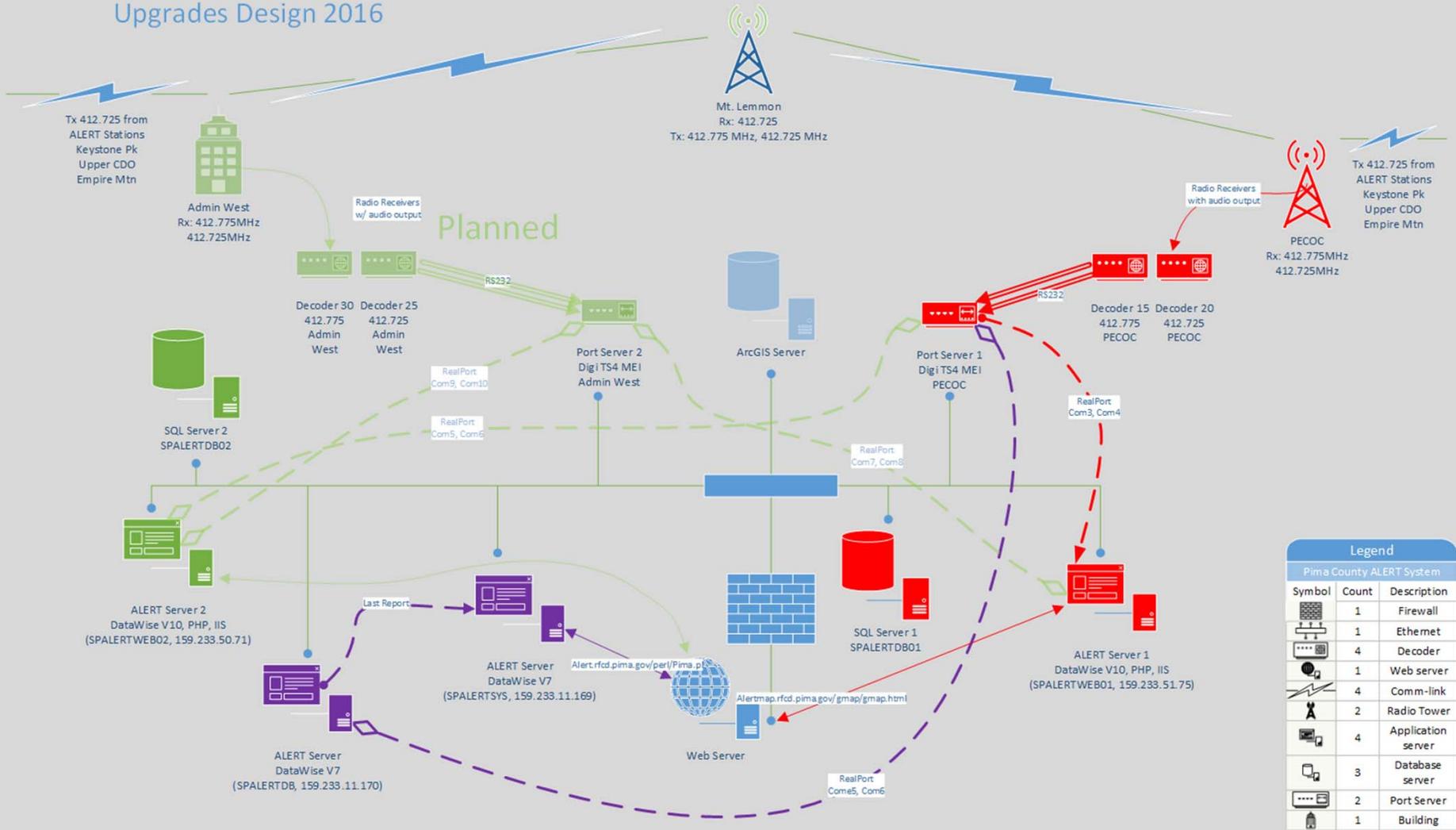
- 10 Minute Rainfall
- 30 Minute Rainfall
- 1 Hour Rainfall
- 3 Hour Rainfall
- 6 Hour Rainfall
- 1 Day Rainfall
- 3 Day Rainfall**
- 7 Day Rainfall
- 30 Day Rainfall
- Streamflow Data
- Weather Data
- Clear Map Data

Display Sensor List?  
 Yes  
 No



# Pima County ALERT System Upgrades Design 2016

June 13, 2016



Set alarm for:

Sensor  Group

Sensor ID:

Actions:

Alarms for selected sensor

MAX value = 3.40 (feet ) | Deadband = 1.50 | Actions 3  
 POS-RATE = 1.50(feet )/1 Hours | Threshold = None | Actions 3

Alarm Values:

Maximum

Minimum

No report   Min(s)  Hr(s)  Day(s)

Rate of Change:  Positive    Min(s)  Hr(s)  Day(s)

Negative    Min(s)  Hr(s)  Day(s)

Use Text Below:

Defined Sensors

- 2093 Tanque verde Creek @ Tanque verde Guest Ranch (3) ^
- 2098 Tanque verde Guest Ranch (0)
- 2100 DEQ Swan (8)
- 2108 DEQ Swan (0)
- 2109 Tanque verde wash @ Tanque verde Road (2)
- 2110 Tanque verde wash @ Tanque verde Rd (1)
- 2118 TV @ TVRD (0)
- 2120 Tanque verde wash @ Sabino Canyon Rd (1)
- 2123 Tanque verde wash @ Sabino Canyon Rd (2)
- 2128 TV @ Sabino Canyon RD (0)
- 2150 whitetail (1)
- 2158 whitetail (0)
- 2160 Sabino Creek @ USFS Dam (1)
- 2163 Sabino Creek @ USFS Dam (2)
- 2168 Sabino @ USFS Dam (0)
- 2170 ventana Canyon wash @ sunrise (1)
- 2173 ventana Canyon wash@ sunrise (2)
- 2178 ventana @ sunrise (0)
- 2190 Al-Marrah (1)
- 2196 AC@Houghton (0)
- 2198 Al-Marrah (0)
- 2199 Agua Caliente wash @ Houghton Rd (2)
- 2200 Agua Caliente wash @ Tanque verde Rd (1)
- 2203 Agua Caliente wash @ Tanque verde Rd (2)
- 2208 AC @ TVRD Bridge (0)
- 2210 Houghton Rd south of Catalina Hwy (1)
- 2218 Catalina Boosters (0)
- 2220 Agua caliente Park (1)
- 2228 Aqua Caliente Park (0)
- 2230 El Camino Rinconado (1)
- 2238 El Camino Rinconada Battery (0)
- 2240 Molino canyon (1)

Defined Alarm Actions:

0 Email alar  1 Email alar  2 Email alar  3 Storm Moni  4 DEQ monito  5 test for i  6 test for p

7 whatever  8 Console al  9 .....  10 .....  11 .....  12 .....  13 .....

14 .....  15 .....  16 .....  17 .....  18 .....  19 .....  20 .....

21 .....  22 .....  23 .....  24 .....  25 .....  26 .....  27 .....

28 .....  29 .....  30 .....  31 .....