

US Army Corps  
of Engineers  
ALBUQUERQUE  
DISTRICT  
Albuquerque, New Mexico



Water Resources  
Landscape Architecture  
Planning

Civil Engineering  
Environmental Sciences

File Name:	EXHIBIT-4
Plot Scale:	1"=100'
	07/14/00
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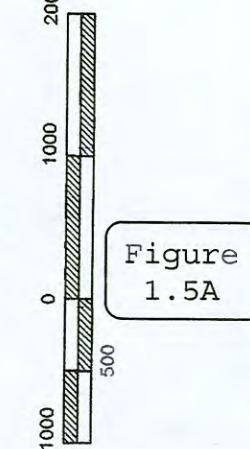
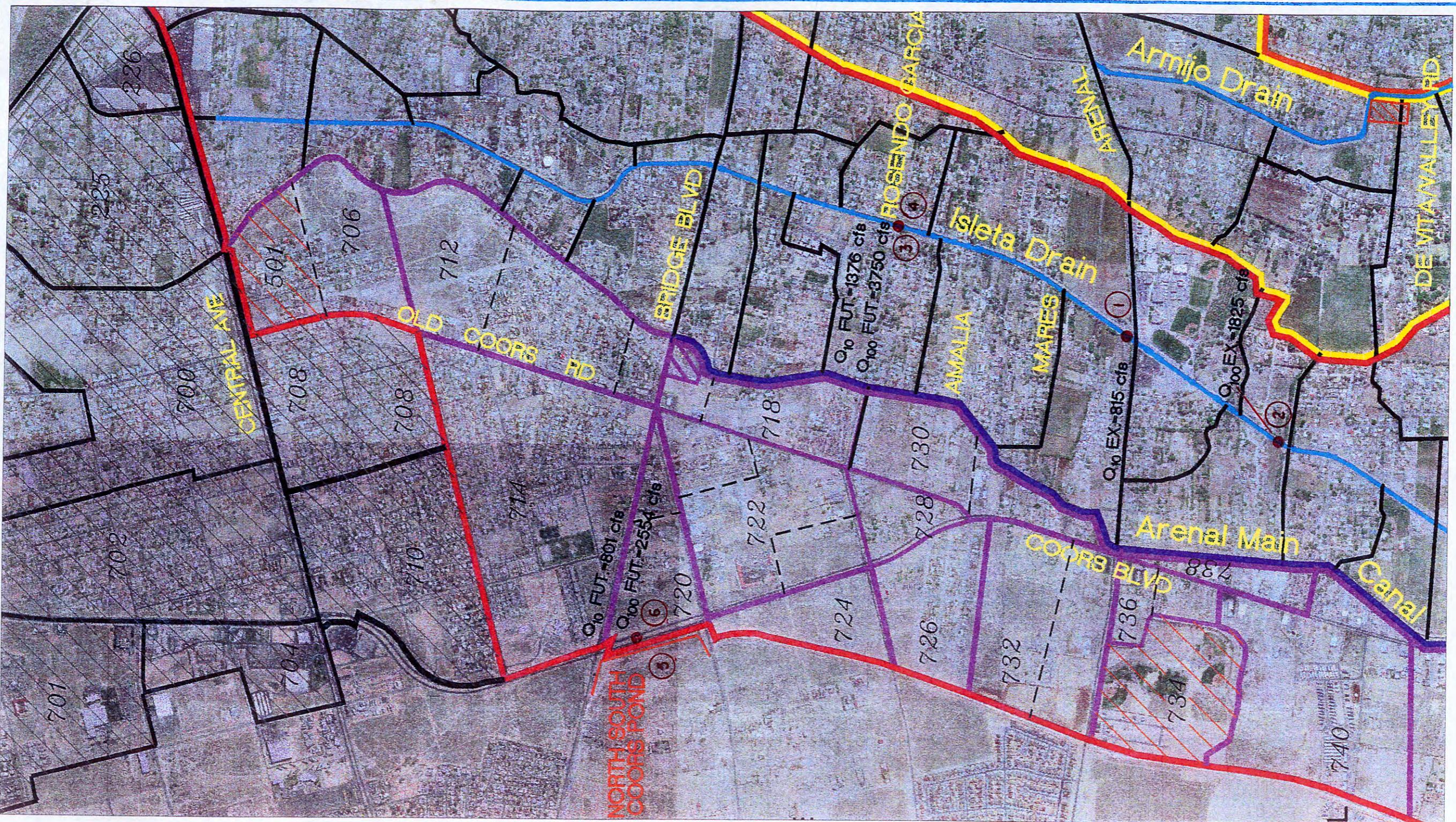


Figure  
1.5A

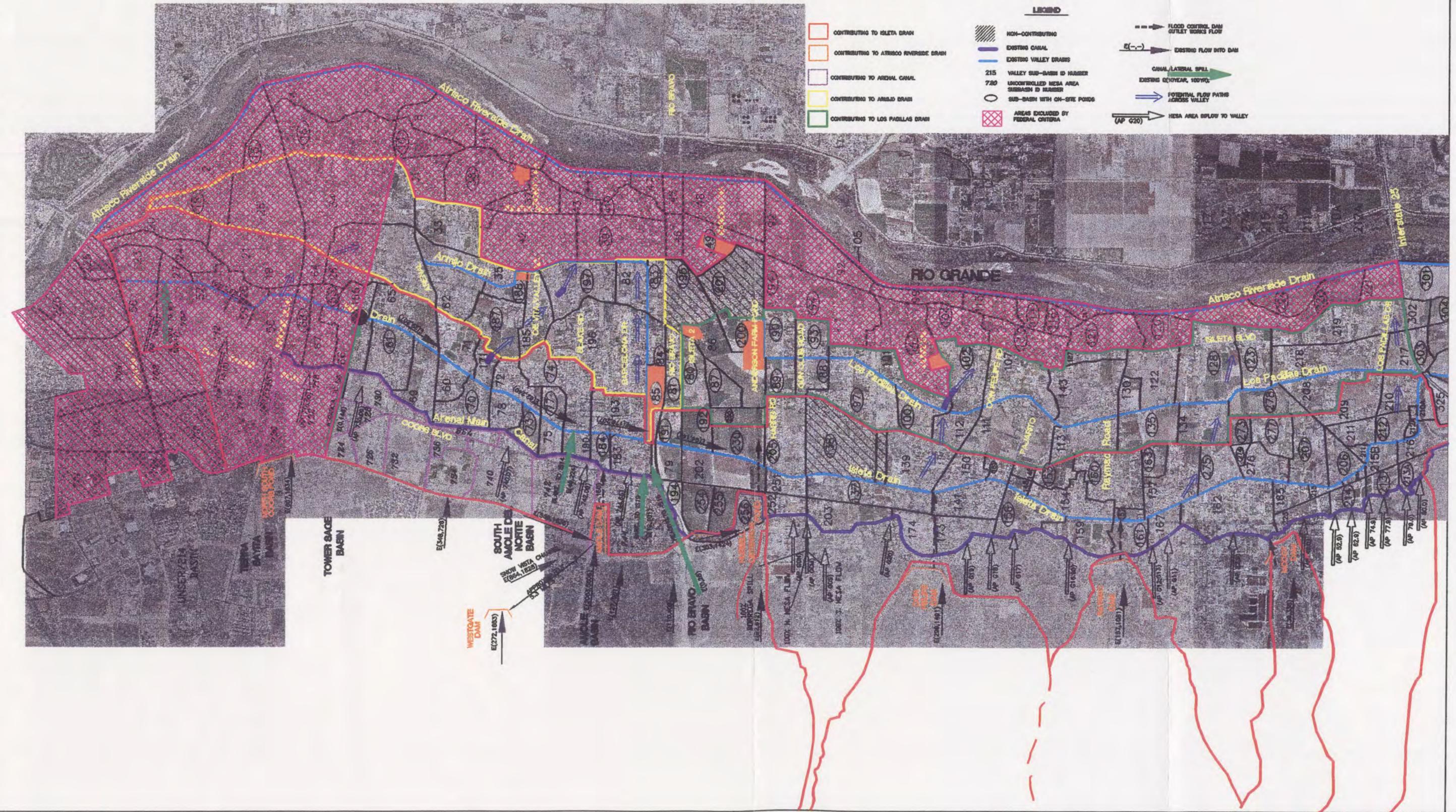


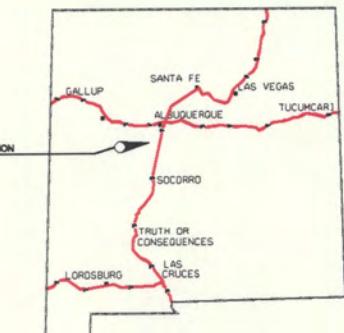
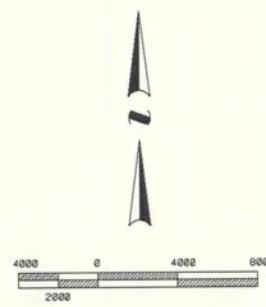


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ALBUQUERQUE  
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Civil Engineering      Water Resources  
Environmental Sciences      Landscape Architecture  
Planning

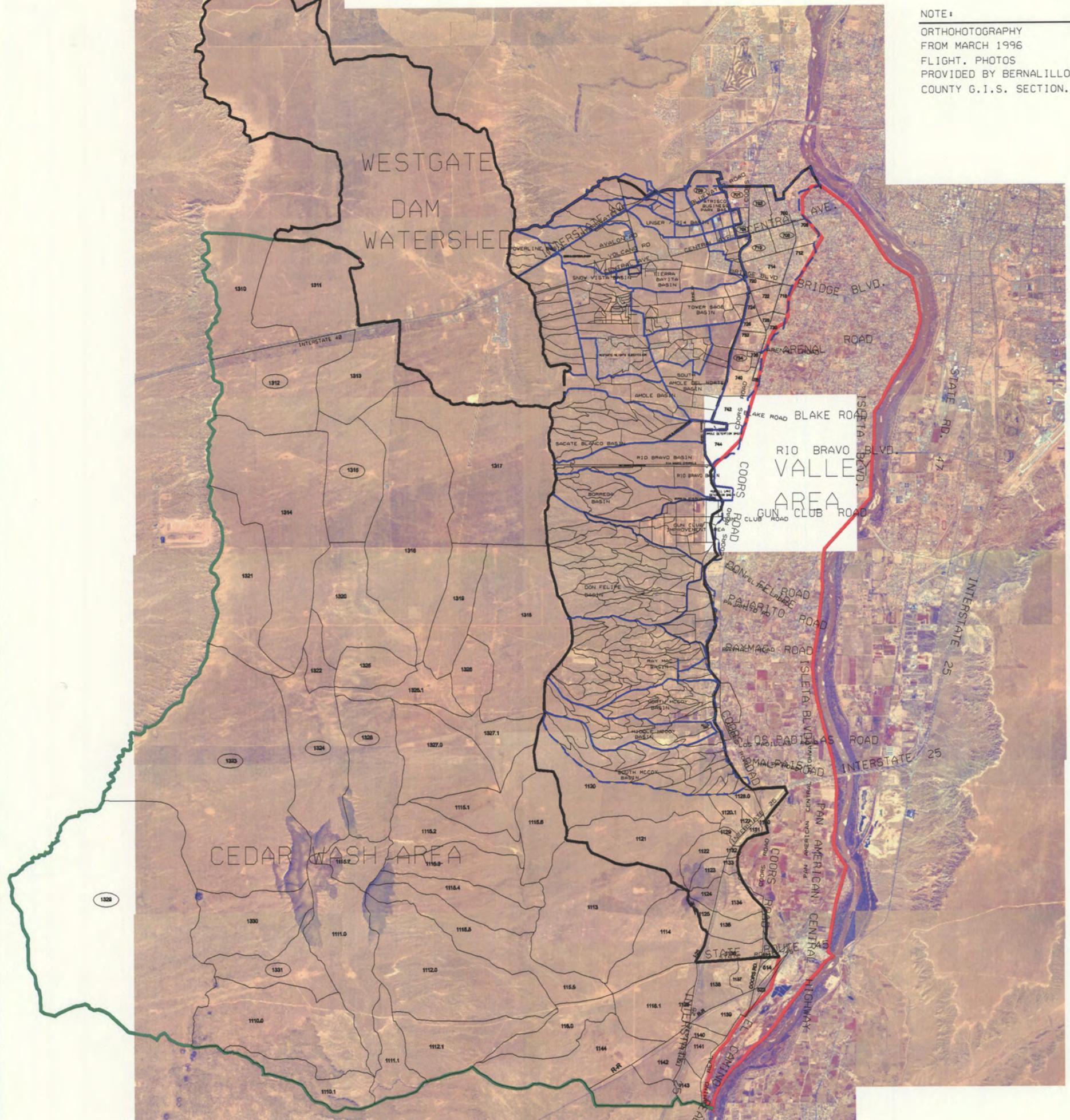
**Recreati<sup>r</sup> Technology, Inc.** Civil Engineering Environmental Sciences Water Resources Landscape Architecture Planning





**STUDY LOCAT**

NOTE :  
ORTHOHOTOGRAPHY  
FROM MARCH 1996  
FLIGHT. PHOTOS  
PROVIDED BY BERNALILLO  
COUNTY G.I.S. SECTION.



EXHIBIT

STUDY AREA BASIN MAP WITH  
WEST MESA AREA SUB-BASINS  
SOUTHWEST VALLEY FLOOD DAMAGE  
REDUCTION FEASIBILITY STUDY BERNALILLO  
COUNTY, NEW MEXICO

FILE NAME:	
PLOT SCALE:	PLOT DATE: 06/25/08
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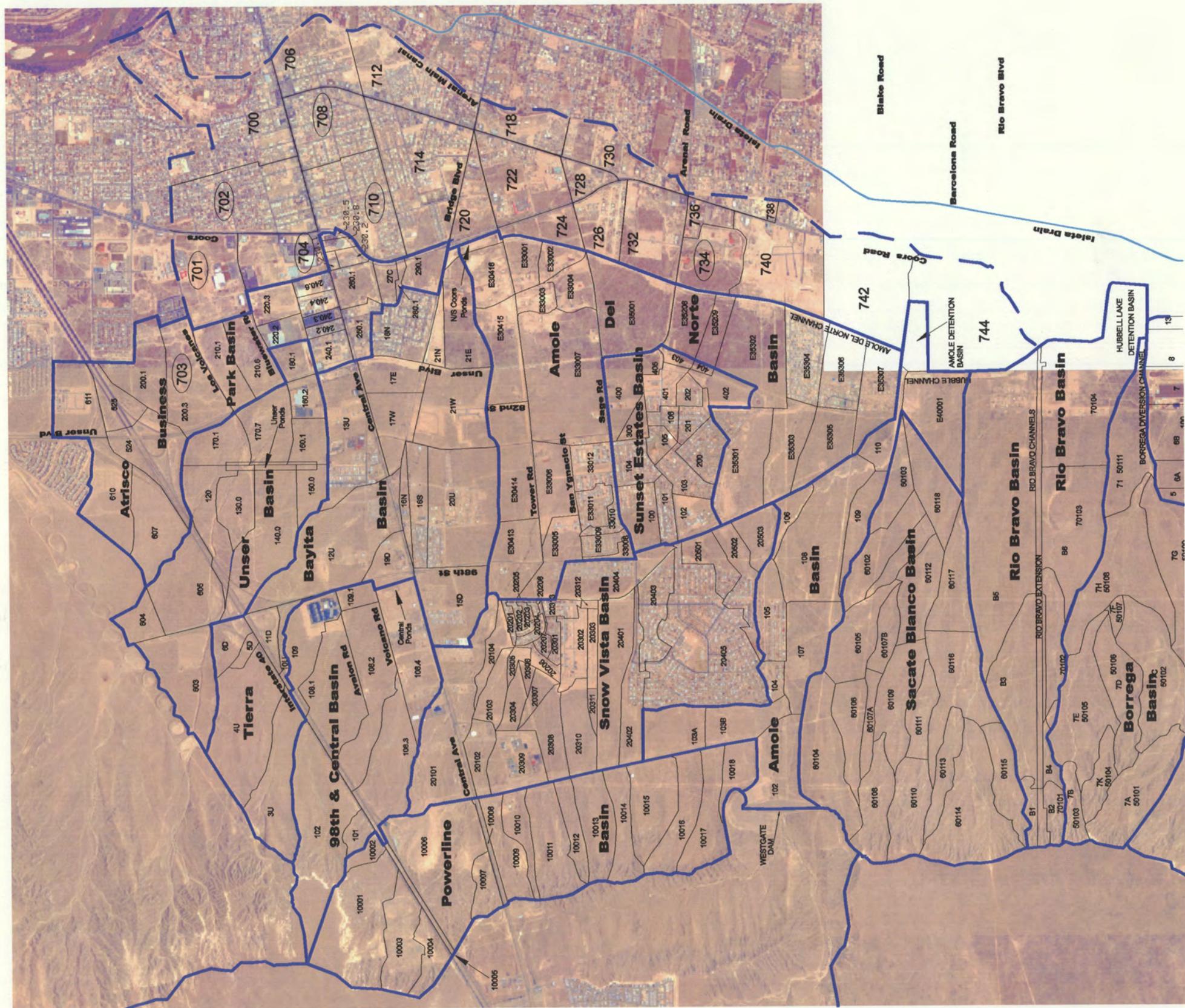
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WATER RESOURCES CIVIL ENGINEERING  
LANDSCAPE ARCHITECTURE ENVIRONMENTAL SCIENCE  
PLANNING





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DISTRICT  
ALBUQUERQUE, NEW MEXICO

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ENVIRONMENTAL SCIENCE PLANNING  
WATER RESOURCES ARCHITECTURE



#### LEGEND

DRAINAGE AREAS WITH  
CONTROLLED RUNOFF TO  
VALLEY AREA.

DRAINAGE AREAS WITH  
UNCONTROLLED RUNOFF TO  
VALLEY AREA.

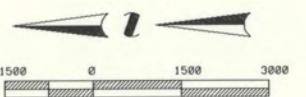
SUB-BASIN BOUNDARY

ISLETA DRAIN

SUB-BASIN ID. NUMBER  
MESA MODELS ONLY

SUB-BASIN ID. NUMBER  
ALL OTHER MODELS

NON CONTRIBUTING SUB-BASIN ID  
ON-SITE PONDING



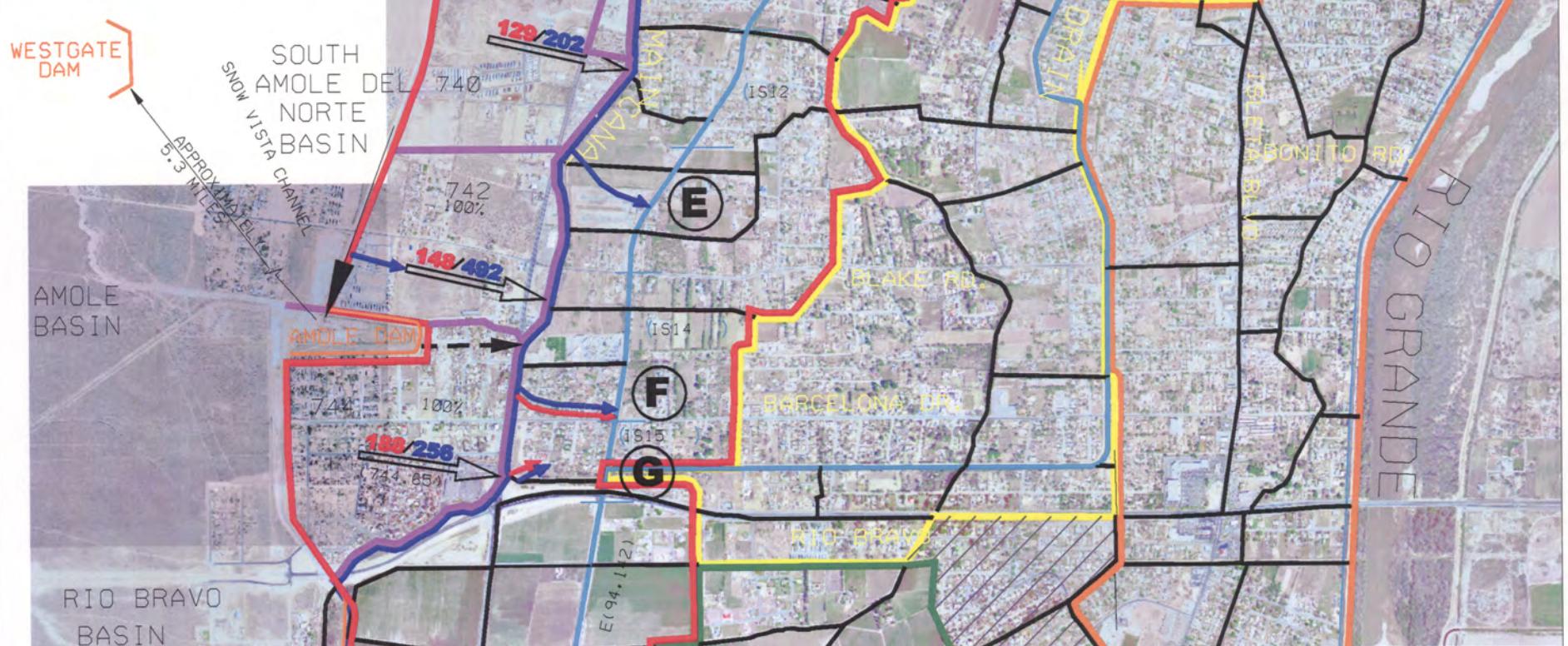
#### MESA MODEL BASINS

SOUTHWEST VALLEY FLOOD DAMAGE  
REDUCTION FEASIBILITY STUDY  
BERNALILLO COUNTY, NEW MEXICO

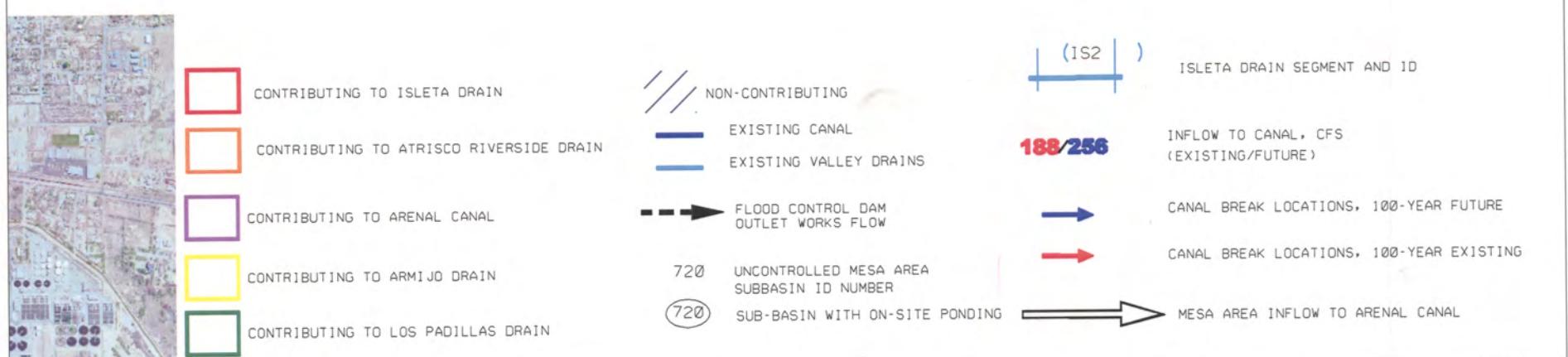
FIGURE 1

ARENAL MAIN CANAL FLOW RATES	
A	
B	
C	
D	
E	
F	
G	

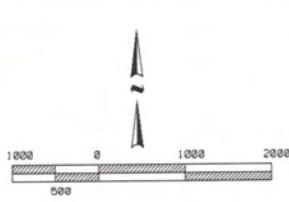
NOTE: FLOW RATES IN GRAY BOXES ARE CONTAINED WITHIN THE ARENAL MAIN CANAL IN THE SPECIFIED EVENT.



#### LEGEND



ARENAL MAIN CANAL OVERFLOWS  
SOUTHWEST VALLEY FLOOD DAMAGE REDUCTION FEASIBILITY STUDY  
BERNALILLO COUNTY, NEW MEXICO

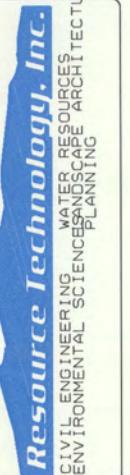


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PLANNING

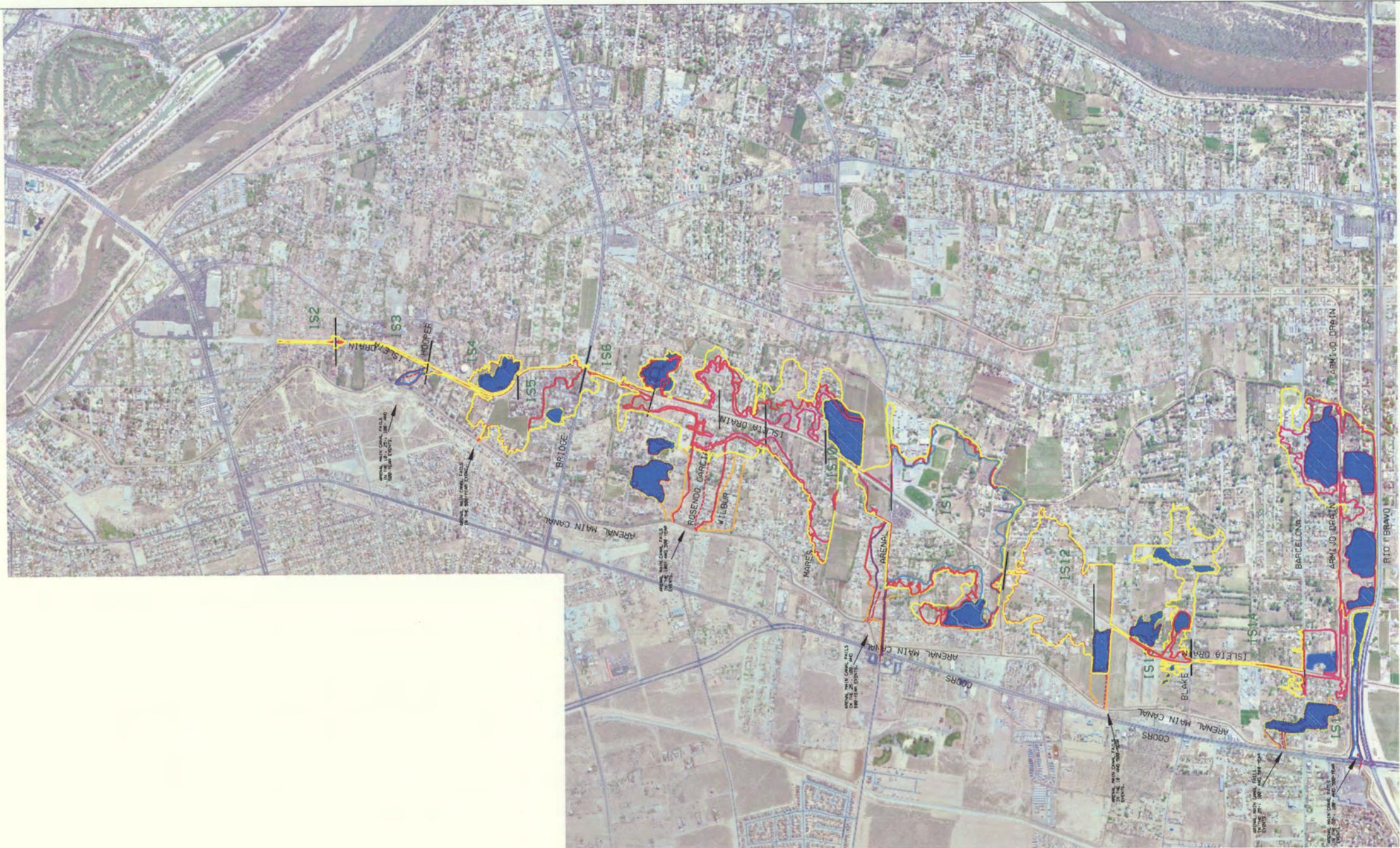
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ALBUQUERQUE DISTRICT  
NEW MEXICO



S Army Corps  
Engineers  
ALBUQUERQUE  
DISTRICT



EXISTING CONDITIONS WITHOUT  
PROJECT  
ISLETA DRAIN FLOODPLAIN MAP



- 500 YEAR FLOODING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS
- 100 YEAR FLOODING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS
- 25 YEAR FLOODING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS
- 10 YEAR FLOODING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS

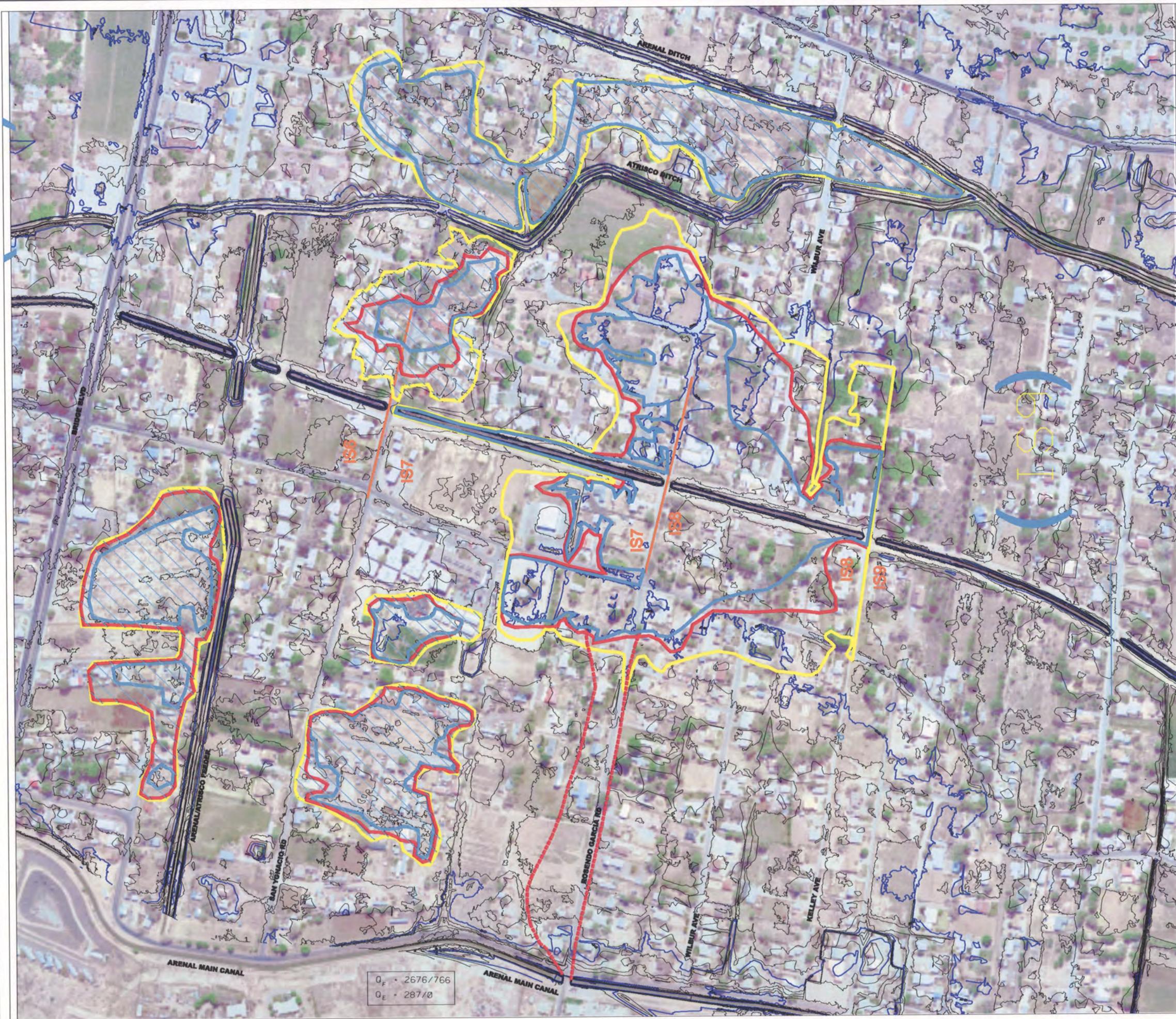
- - - - - 500 YEAR SHEET FLOW FLOODING FROM  
 ARENAL CANAL BREAKOUTS  
 - - - - - 100 YEAR SHEET FLOW FLOODING FROM  
 ARENAL CANAL BREAKOUTS  
 - - - - - 25 YEAR SHEET FLOW FLOODING FROM  
 ARENAL CANAL BREAKOUTS  
 - - - - - 10 YEAR SHEET FLOW FLOODING FROM  
 ARENAL CANAL BREAKOUTS

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Albuquerque, New Mexico

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ENVIRONMENTAL SCIENCE AND PLANNING



## LEGEND

- 500 YEAR EVENT BOUNDARY
- 100 YEAR EVENT BOUNDARY
- 25 YEAR EVENT BOUNDARY
- 10 YEAR EVENT BOUNDARY
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- STREET OR WATER CONVEYANCE NAME
- SUB-BASIN ON-SITE PONDING
- ISLETA DRAIN SEGMENT ID
- FLOWPATH OF ARENAL MAIN CANAL OVERFLOW, 100 YEAR EXISTING CONDITIONS
- FLOWPATH OF ARENAL MAIN CANAL OVERFLOW, 100 YEAR EXISTING CONDITIONS

## EXISTING CONDITIONS FLOOD PLAINS

SOUTHWEST VALLEY FLOOD DAMAGE  
REDUCTION FEASIBILITY STUDY  
BERNALILLO COUNTY, NEW MEXICO

Figure: 3.A



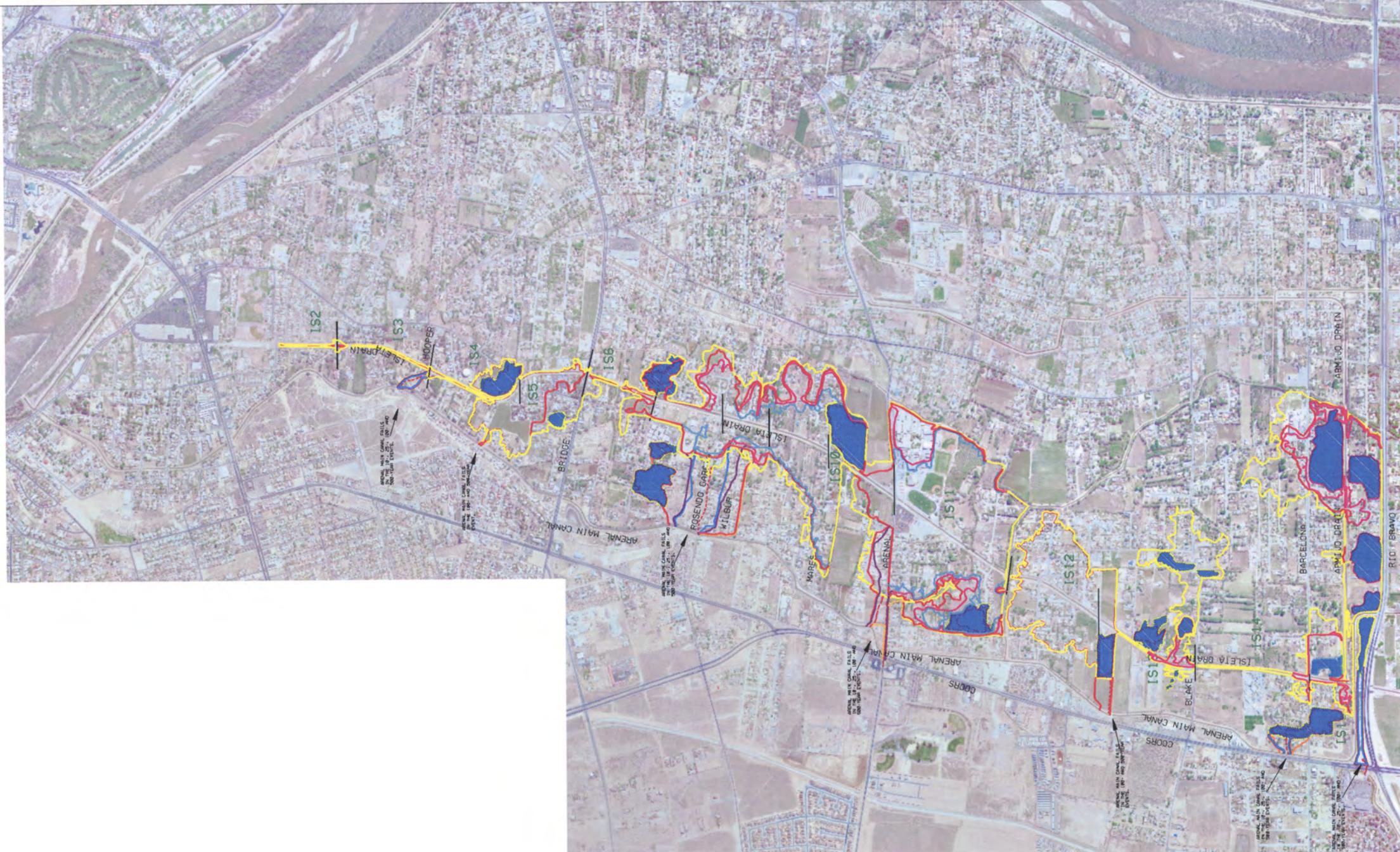
US Army Corps  
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DISTRICT  
Albuquerque, New Mexico

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ENVIRONMENTAL SCIENCES LANDSCAPE ARCHITECTURE

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0  
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FUTURE CONDITIONS WITHOUT  
PROJECT  
ISLETA DRAIN FLOODPLAIN MAP

EXHIBIT:  
22.2



500 YEAR PONDING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS  
  
100 YEAR PONDING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS  
  
25 YEAR PONDING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS  
  
10 YEAR PONDING ELEVATION LIMITS  
FROM ISLETA DRAIN OVERFLOWS

500 YEAR PONDING ELEVATION LIMITS  
FROM OTHER SOURCES  
  
100 YEAR PONDING ELEVATION LIMITS  
FROM OTHER SOURCES  
  
25 YEAR PONDING ELEVATION LIMITS  
FROM OTHER SOURCES  
  
10 YEAR PONDING ELEVATION LIMITS  
FROM OTHER SOURCES

500 YEAR SHEET FLOW FLOODING FROM  
ARENAL CANAL BREAKOUTS  
  
100 YEAR SHEET FLOW FLOODING FROM  
ARENAL CANAL BREAKOUTS  
  
25 YEAR SHEET FLOW FLOODING FROM  
ARENAL CANAL BREAKOUTS  
  
10 YEAR SHEET FLOW FLOODING FROM  
ARENAL CANAL BREAKOUTS

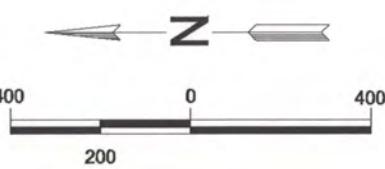


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ENVIRONMENTAL SCIENCE LANDSCAPE ARCHITECTURE  
PLANNING

### LEGEND

- 500 YEAR EVENT BOUNDARY
- 100 YEAR EVENT BOUNDARY
- 25 YEAR EVENT BOUNDARY
- 10 YEAR EVENT BOUNDARY
- INDEX CONTOUR
- INTERMEDIATE CONTOUR
- WILBUR AVE STREET OR WATER CONVEYANCE NAME
- SUB-BASIN ON-SITE PONDING
- IS6 ISLETA DRAIN SEGMENT ID
- FLOWPATH OF ARENAL MAIN CANAL OVERFLOW, 100 YEAR FUTURE CONDITIONS
- FLOWPATH OF ARENAL MAIN CANAL OVERFLOW, 10 YEAR FUTURE CONDITIONS



### FUTURE CONDITIONS FLOOD PLAINS

SOUTHWEST VALLEY FLOOD DAMAGE  
REDUCTION FEASIBILITY STUDY  
BERNALILLO COUNTY, NEW MEXICO

Figure:

3.B

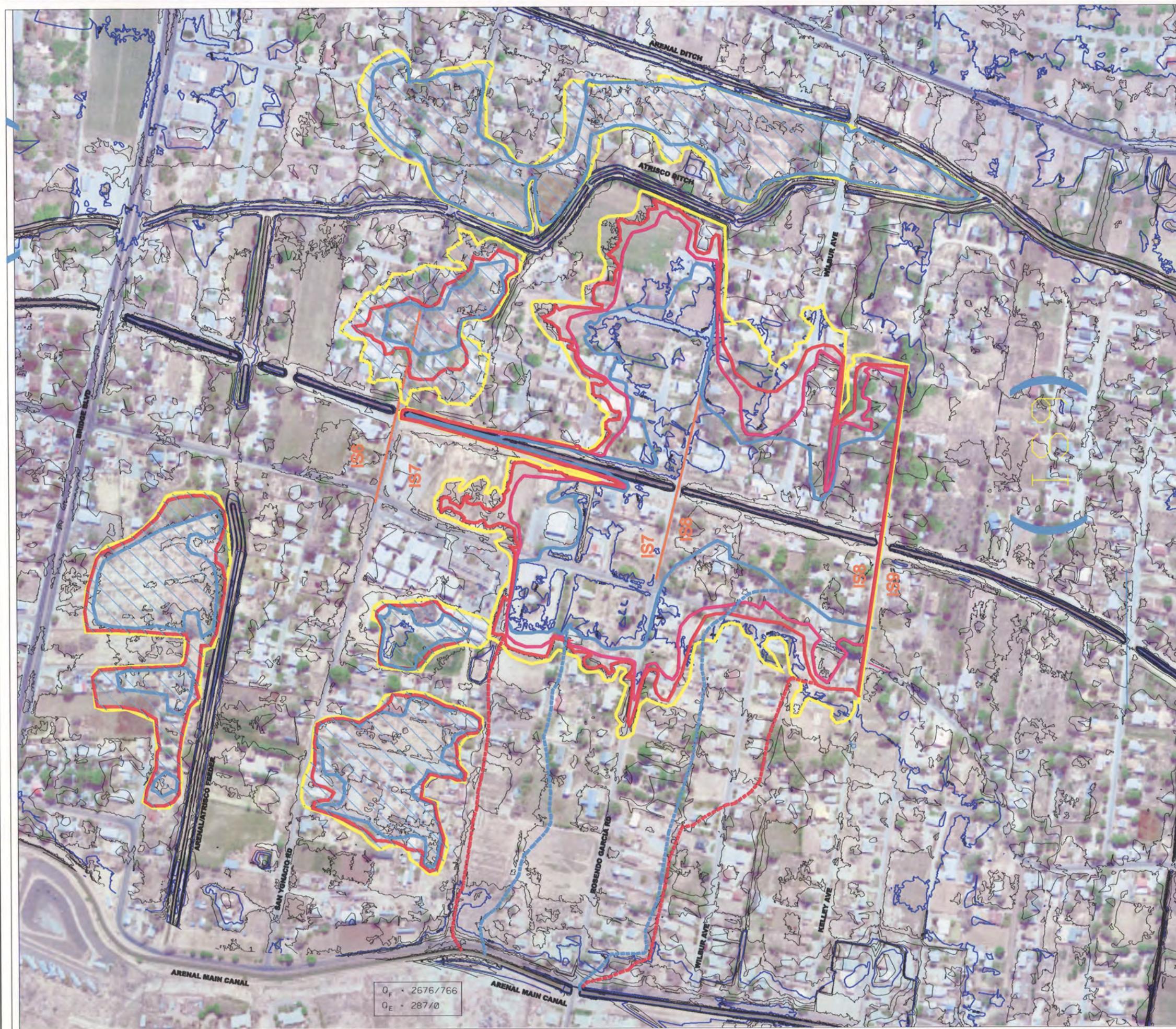
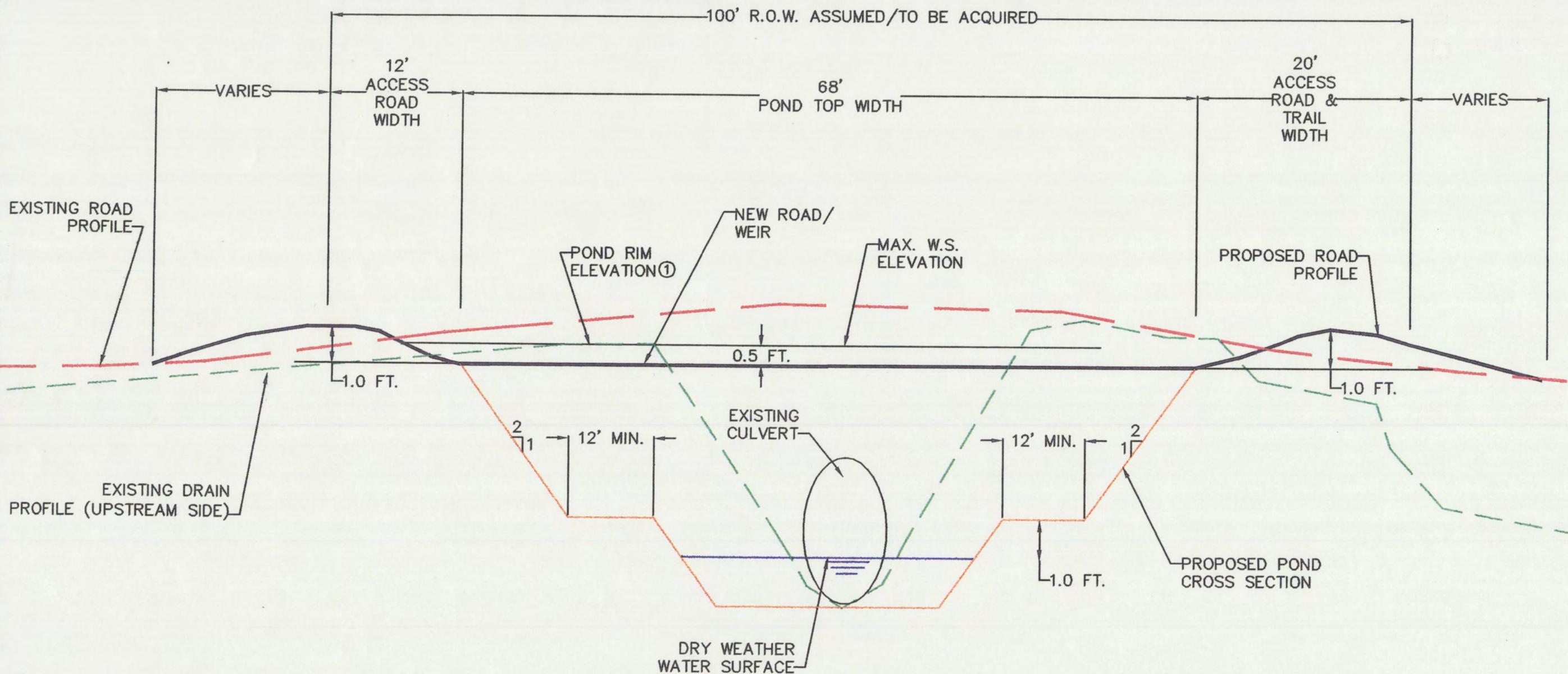


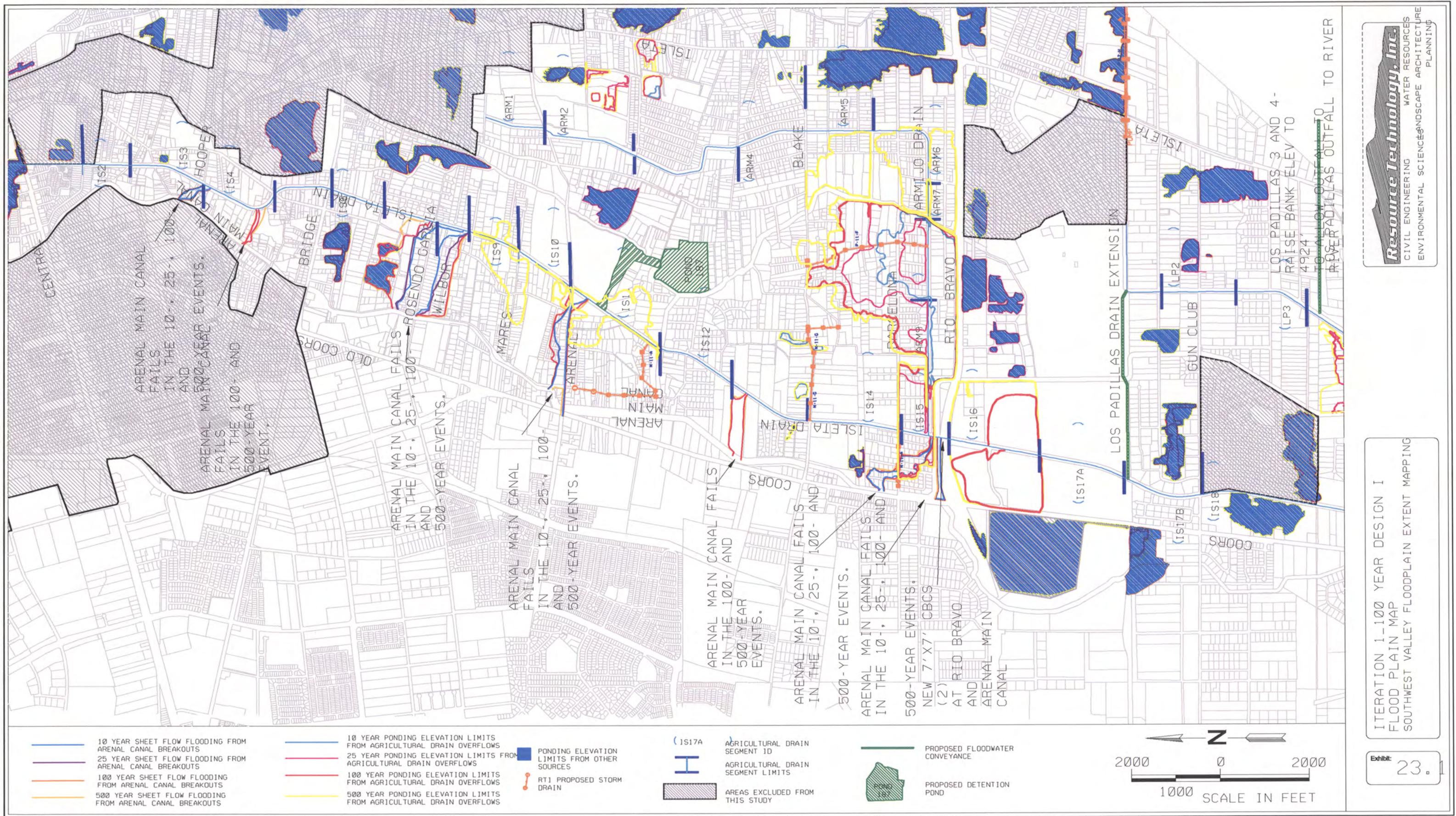
Figure-3.dwg 10/22/2003 01:43:04 PM

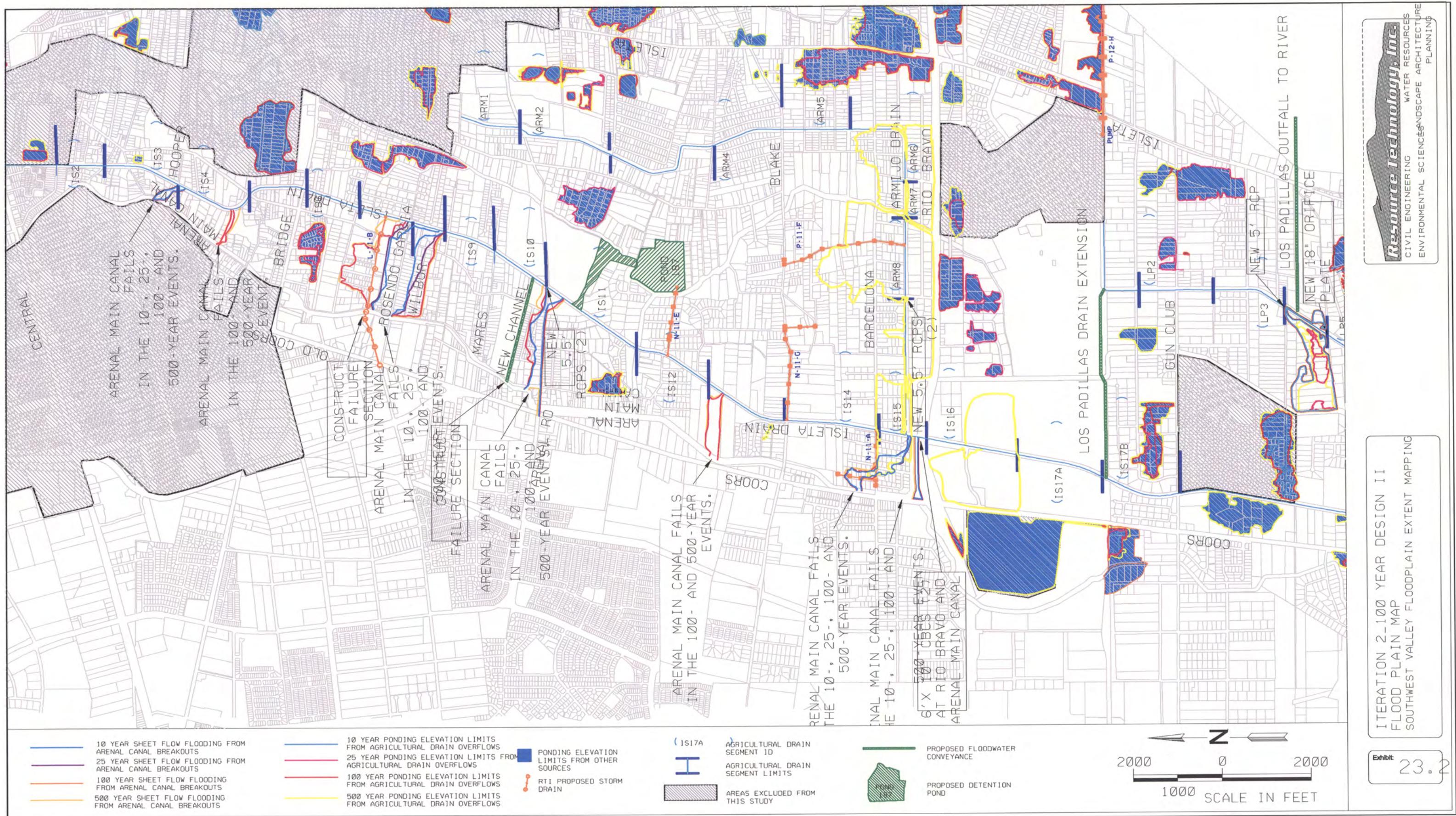
**ISLETA DRAIN  
TYPICAL ROAD CROSSING**

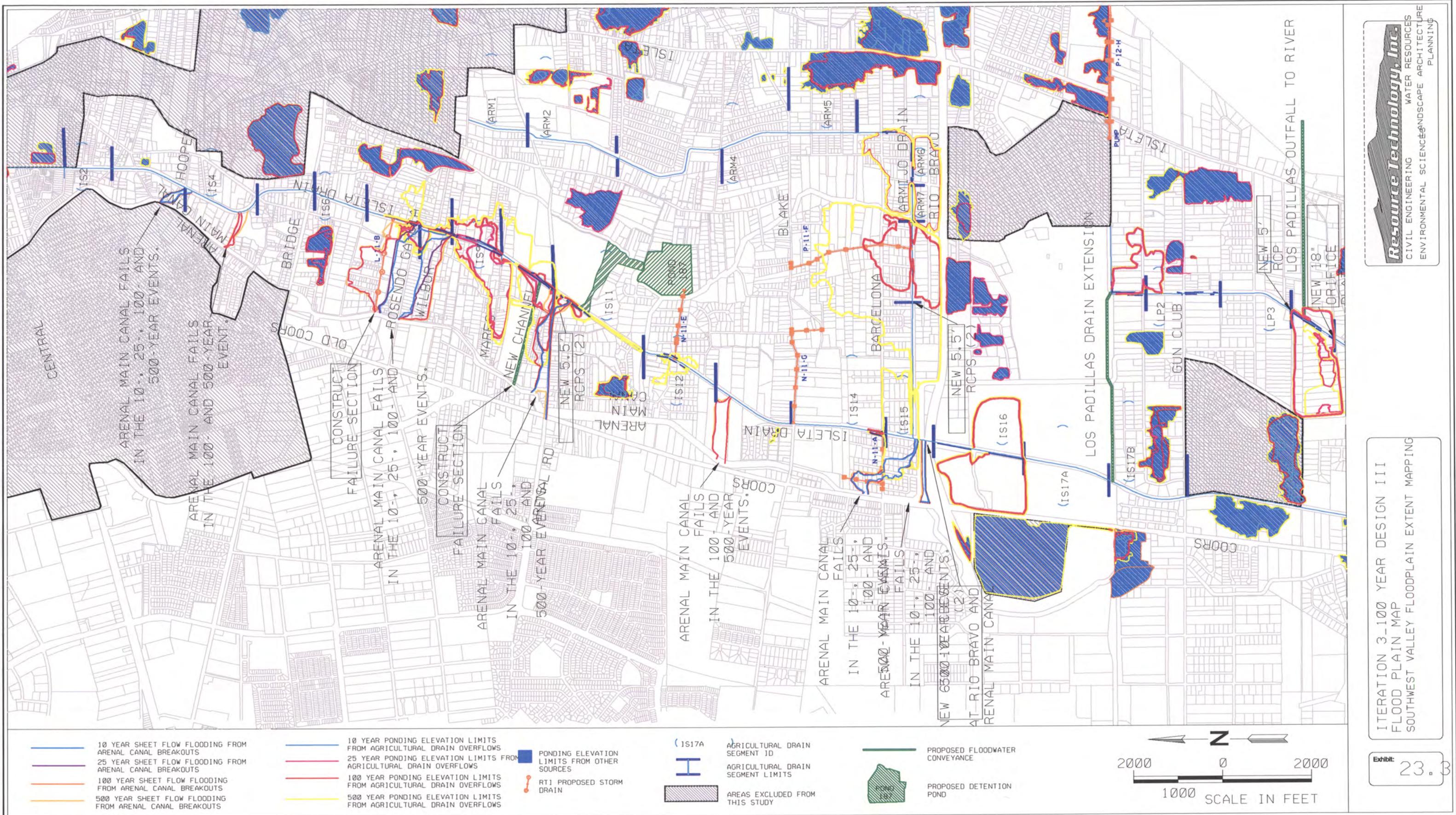


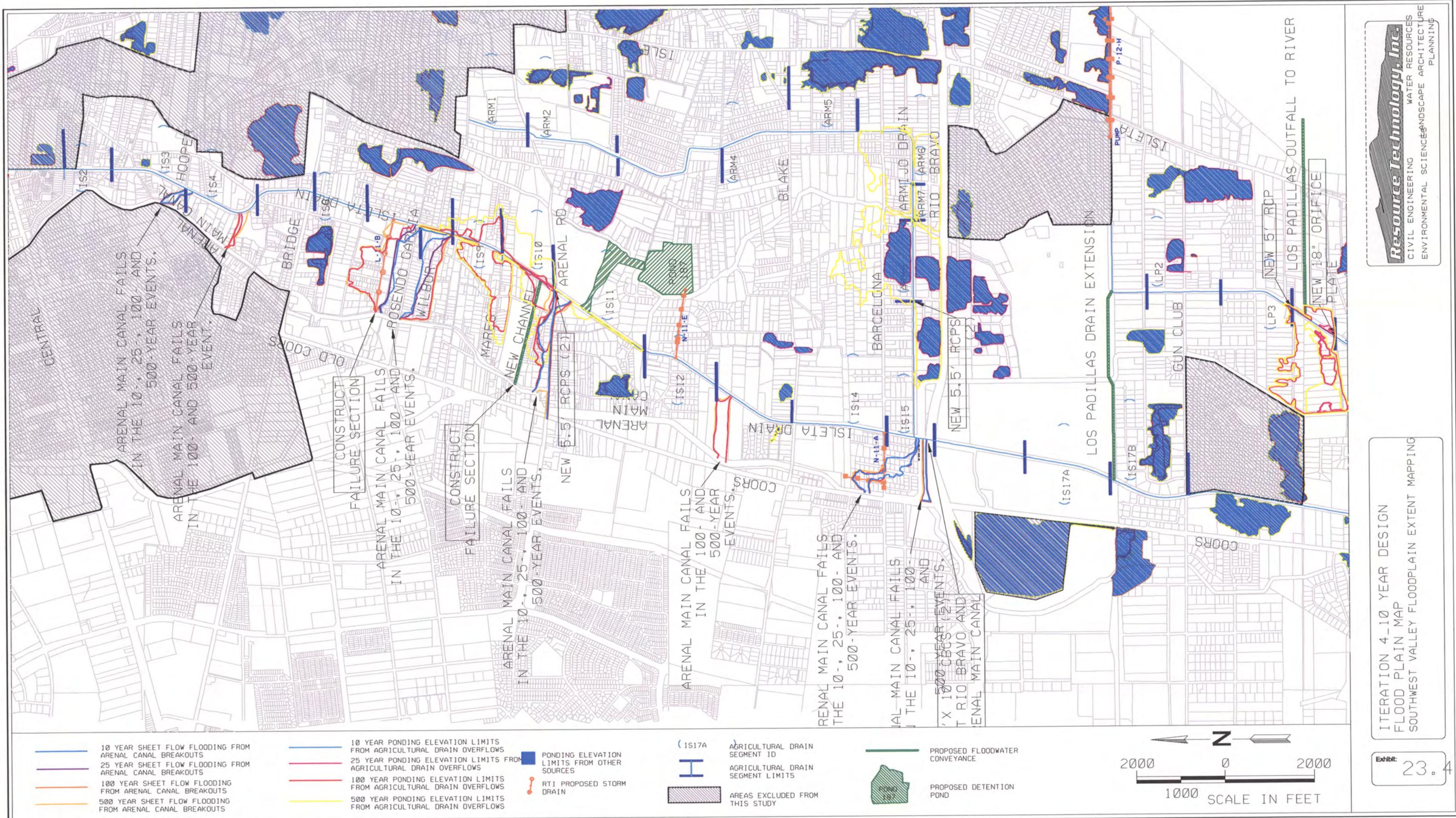
① MINIMUM ELEVATION ON POND PERIMETER.  
THIS ELEVATION WILL BE RAISED WITH  
ENGINEERED FILL TO PROVIDE 1.0 FT. FREEBOARD  
ON POND PERIMETER.

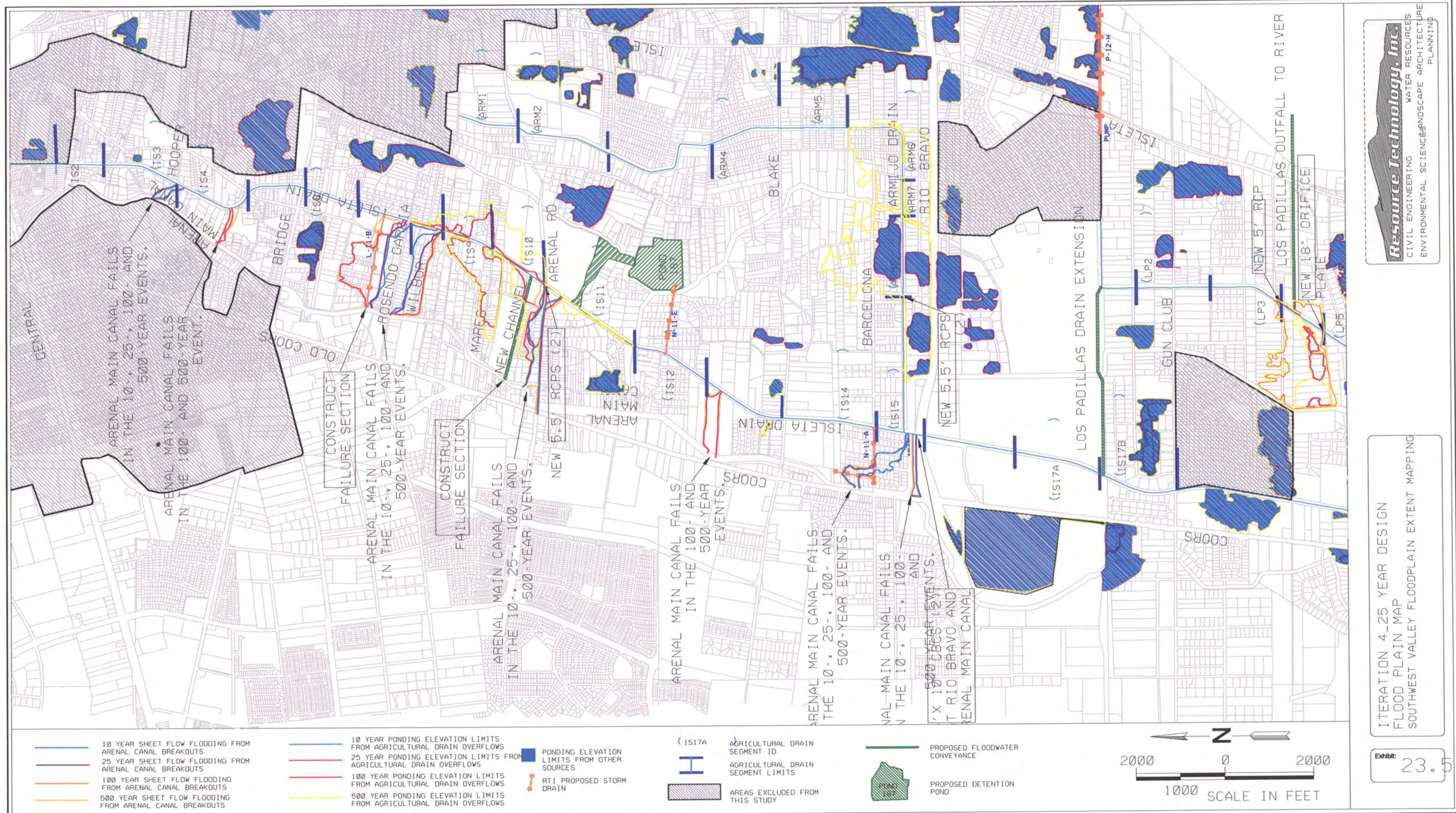
FIGURE  
XXXX











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10 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS  
25 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS  
100 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS  
500 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS

10 YEAR PONDING ELEVATION LIMITS FROM AGRICULTURAL DRAIN OVERFLOWS  
25 YEAR PONDING ELEVATION LIMITS FROM AGRICULTURAL DRAIN OVERFLOWS  
100 YEAR PONDING ELEVATION LIMITS FROM AGRICULTURAL DRAIN OVERFLOWS  
500 YEAR PONDING ELEVATION LIMITS FROM AGRICULTURAL DRAIN OVERFLOWS



10 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES  
25 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES  
100 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES  
500 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES



AGRICULTURAL DRAIN SEGMENT ID  
AGRICULTURAL DRAIN SEGMENT LIMITS  
AREAS EXCLUDED FROM THIS STUDY



PROPOSED STORM DRAIN AND ID  
PROPOSED FLOODWATER CONVEYANCE  
PROPOSED DETENTION POND

US Army Corps  
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ALBUQUERQUE  
DISTRICT  
Albuquerque, New Mexico

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LANDSCAPE ARCHITECTURE  
PLANNING

FLOODPLAIN MAP  
FUTURE DEVELOPMENT CONDITIONS  
WITH PROJECT OPTION 1 -  
ITERATION 2  
SOUTHWEST VALLEY FLOOD DAMAGE REDUCTION STUDY



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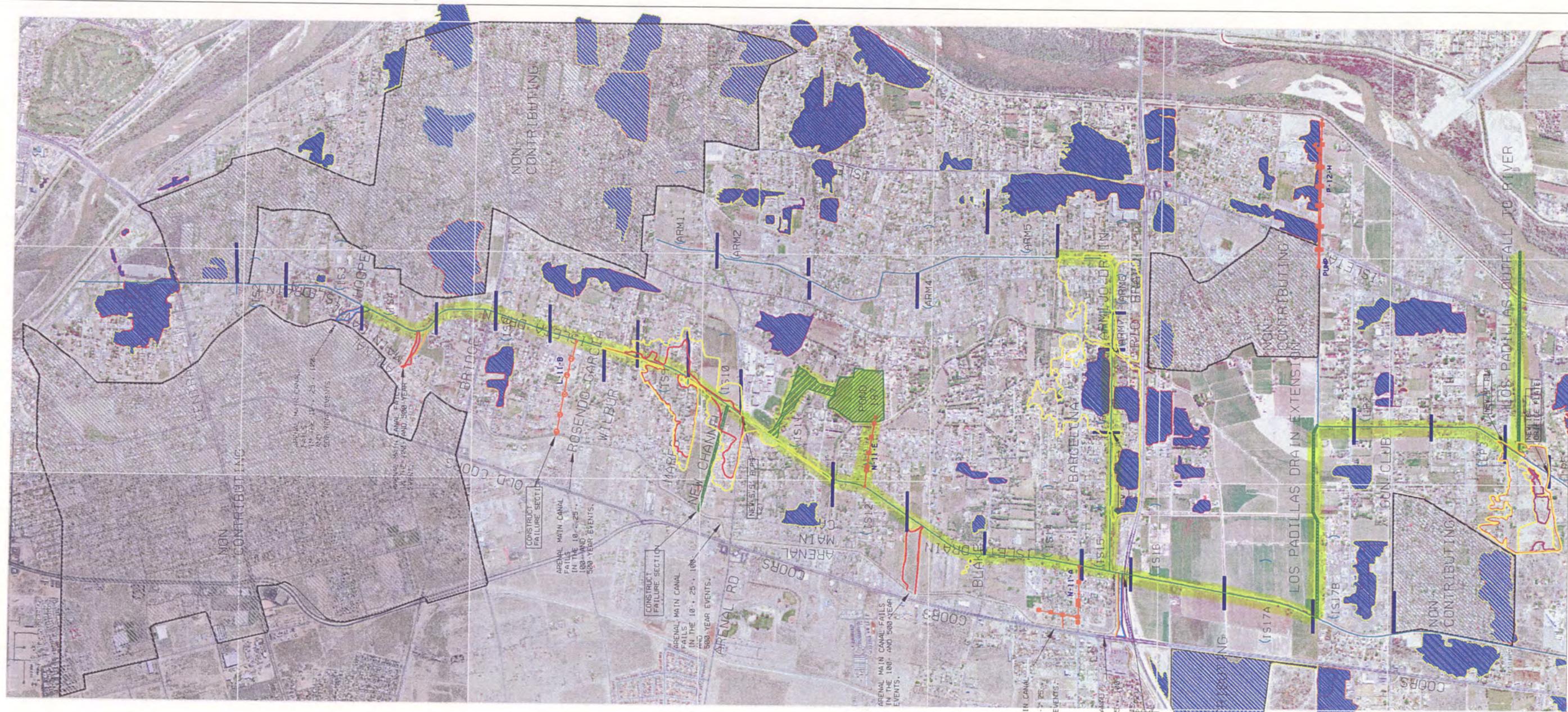
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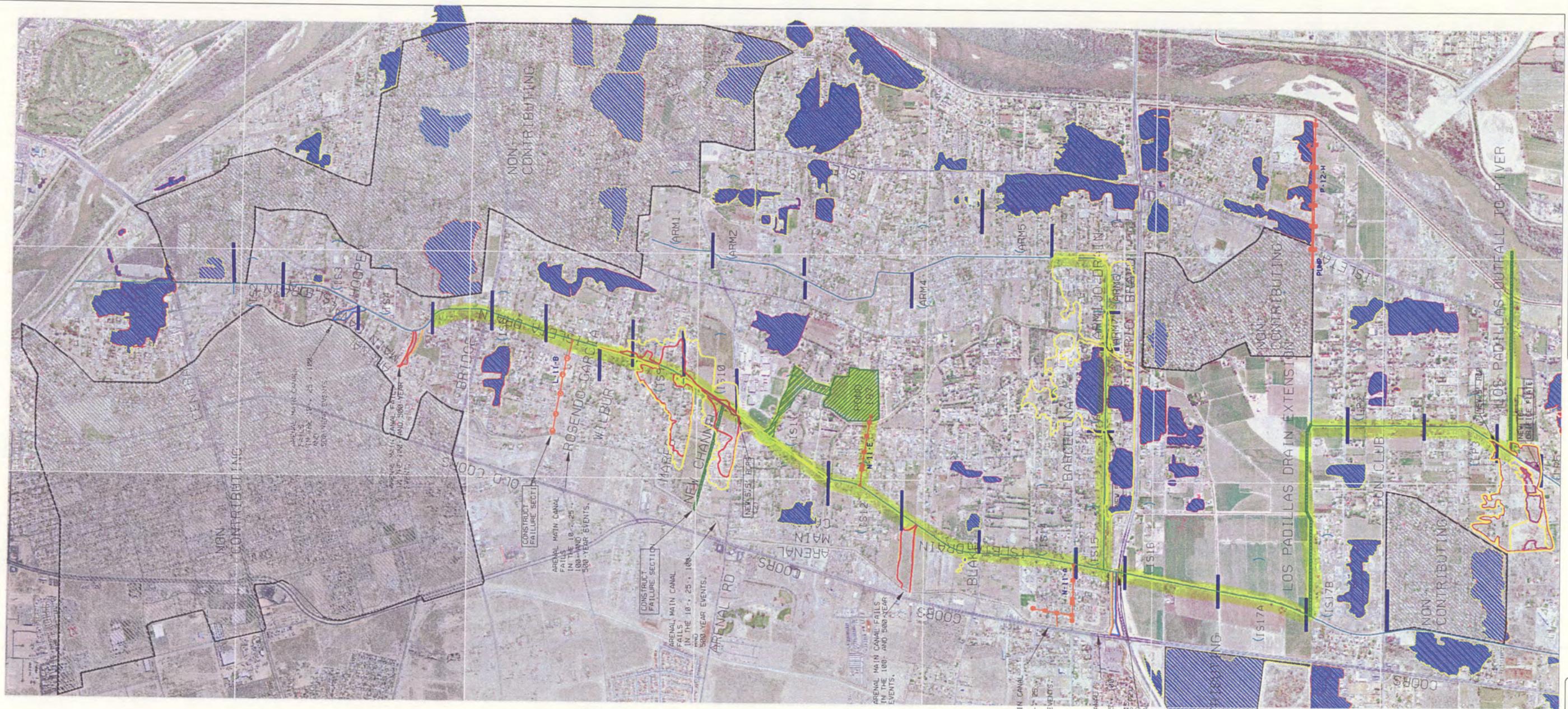
Q



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Q

- 10 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS
  - 25 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS
  - 100 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS
  - 500 YEAR SHEET FLOW FLOODING FROM ARENAL CANAL BREAKOUTS

- 10 YEAR PONDING ELEVATION L  
FROM AGRICULTURAL DRAIN OVER

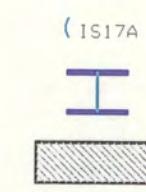
25 YEAR PONDING ELEVATION L  
FROM AGRICULTURAL DRAIN OVER

100 YEAR PONDING ELEVATION  
LIMITS FROM AGRICULTURAL DRA  
OVERFLOWS

500 YEAR PONDING ELEVATION  
LIMITS FROM AGRICULTURAL DRA  
OVERFLOWS



- 10 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES
  - 25 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES
  - 100 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES
  - 500 YEAR PONDING ELEVATION LIMITS FROM OTHER SOURCES



- AGRICULTURAL DRAIN SEGMENT ID  
AGRICULTURAL DRAIN SEGMENT  
LIMITS  
AREAS EXCLUDED FROM THIS STUDY



- PROPOSED STORM DRAIN AND ID  
PROPOSED FLOODWATER CONVEYANCE  
PROPOSED DETENTION POND

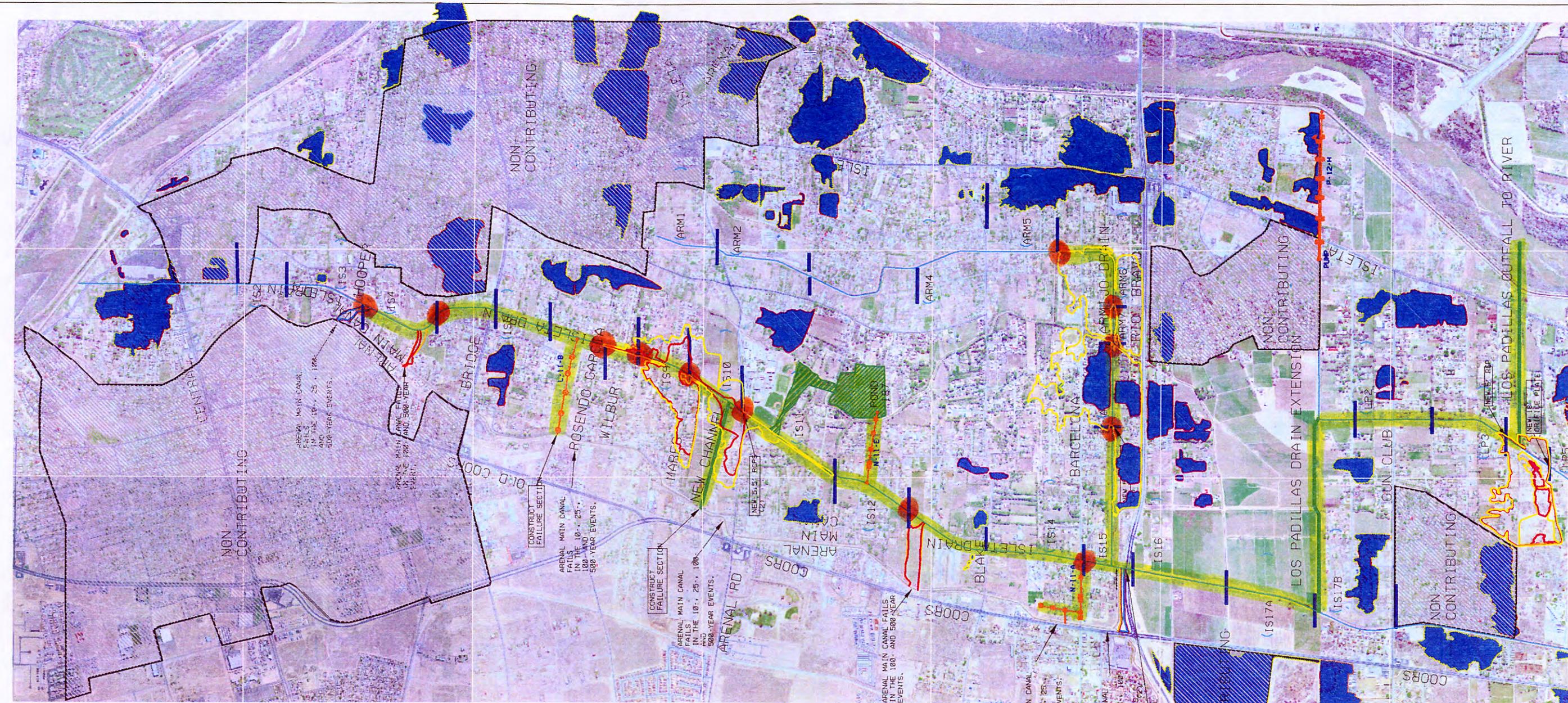
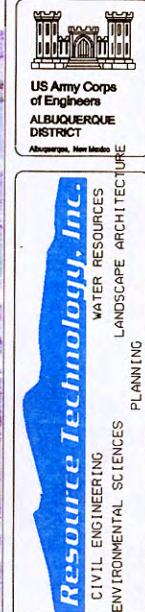
FLOODPLAIN MAP  
FUTURE DEVELOPMENT CONDITIONS  
WITH PROJECT OPTION 3 - ITERATION 4  
SOUTHWEST VALLEY FLOOD DAMAGE REDUCTION STUDY

4 - 10

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FLOODPLAIN MAP  
ALTERNATIVE 4Figure  
5.3D

2000  
0  
1000

2000  
0  
1000