FLOOD CONTROL DISTRICT
OF MARICOPA COUNTY

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
WORK ASSIGNMENT NO. 1

DATA COLLECTION REPORT
(INCLUDING BRAINSTORMING IDEAS)

JUNE, 2009

CONTRACT FCD 2008C032

Prepared For:

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Job No. 0808

TABLE OF CONTENTS

1.0 INTRODUCTION 1

1.1 PROJECT DESCRIPTION/BACKGROUND 1
1.2 PURPOSE OF REPORT 1
1.3 STUDY LOCATION 1

2.0 DATA COLLECTION 1

2.1 FLOOD CONTROL DISTRICT 1
2.1.1 Metro Phoenix ADMP 1
2.1.2 Maryvale ADMS/Hydrologic Update 1
2.1.3 Contour Mapping 1
2.1.4 FEMA Flood Hazard Boundary Maps 1
2.1.5 Aerial Photographs 1
2.2 CITY OF PHOENIX 1
2.2.1 Finished Floor Elevation Certificates 1
2.2.2 Letters of Map Revision 2
2.2.3 Flooding Complaints 2
2.2.4 Existing Storm Drain Locations 2
2.3 SALT RIVER PROJECT 2
2.3.1 Water System Maps 2

3.0 HYDROLOGY 2

4.0 FLOODPLAIN DATA MAPS 2

4.1 DATA PRESENTED 2
4.1.1 Depth of Flooding 2
4.1.2 Storm Drains/Detention Basins 2
4.1.3 100-yr Peak Discharges 2
4.1.4 Historic Neighborhoods 2
4.1.5 Grand Canal Drainage Features 3
4.1.6 Flooding Complaints 3
4.2 FLOODPLAIN SUMMARY BY REACH 3
4.2.1 63rd Avenue to 43rd Avenue 3
4.2.2 43rd Avenue to I-17 3
4.2.3 I-17 to 19th Avenue 3
4.2.4 19th Avenue to Central Avenue 3
4.2.5 Central Avenue to SR51 3
4.2.6 SR51 to 32nd Street 3
4.2.7 32nd Street to 34th Street 4
4.2.8 34th Street to 56th Street 4

5.0 BRAINSTORMING / MITIGATION IDEAS 4

6.0 REFERENCES 4

APPENDICES

APPENDIX A: **FLOODPLAIN DATA MAPS**

APPENDIX B: **MATRIX OF BRAINSTORMING IDEAS (OVERALL FLOODPLAIN)**

APPENDIX C: **MATRIX OF BRAINSTORMING IDEAS (INDIVIDUAL REACHES OF THE FLOODPLAIN)**

APPENDIX D: **SUMMARY OF FLOODPLAIN ELEVATION CERTIFICATES**

1.0 INTRODUCTION

1.1 PROJECT DESCRIPTION/BACKGROUND

This project is an addendum to the Metro Phoenix Area Drainage Master Plan (Metro Phoenix ADMP) which was completed in September 2008 for the Flood Control District of Maricopa County (District). The Metro Phoenix ADMP identified significant flooding problems along the Grand Canal (Canal), but was limited in scope to that portion of the floodplain that lies between I-17 and 24th Street. The purpose of this project is to expand the limits of the investigation to the entire length of the floodplain along the Canal that stretches from 63rd Avenue to 56th Street.

The banks of the Canal are above natural ground elevation through much of the City of Phoenix (City) which results in shallow flooding along the upstream side of the Canal. The Federal Emergency Management Agency (FEMA) has designated this as a Zone A floodplain which runs, almost continuously, from 63rd Avenue to 56th Street. There are over 1400 properties that lie within the floodplain boundaries; including approximately 1170 single family homes and about 250 businesses and apartment buildings. The majority of the properties were built prior to the City's Floodplain Ordinance and therefore the developers were not required to raise the finished floor elevations. Consequently, most of the homes and businesses are below the Base Flood Elevation (BFE) which, in most locations, is set equal to the elevation of the top of the Canal bank. Those properties that have been built since the Floodplain Ordinance have finished floor elevations that are at least one foot above the Canal bank which protects them from the flood hazard.

1.2 PURPOSE OF REPORT

The primary purpose of this report is to summarize the data collection effort done to quantify the flood hazards within the Canal's floodplain between 63rd Avenue and 56th Street. A secondary purpose is to summarize the results of a brainstorming meeting that was conducted at the end of the data collection effort.

The data collection effort included the research and summarization of existing floodplain information. This information included the depth of flooding, the number of homes and businesses impacted, the established 100-year peak discharges, existing and proposed storm drains and detention basins, past flooding complaints, and boundaries of historic neighborhoods. The data collected was summarized on Floodplain Data Maps which are included in Appendix A of this report.

At the end of the data collection effort, a brainstorming meeting was conducted by the study team which included staff members from the City, the Salt River Project (SRP), the District and Gavan & Barker, Inc. The purpose of the brainstorming meeting was to develop ideas for mitigating the flood hazards associated with the floodplain. These ideas were summarized in matrices which are included in Appendix B and C of this report.

1.3 STUDY LOCATION

The study area covers the entire floodplain along the Canal which runs from 63rd Avenue to 56th Street for a length of about 16 miles. The upstream end of the floodplain, at 56th Street, is just west of the beginning of the Canal. The downstream end, at 63rd Avenue, is at the Sunset Detention Basin which is the upstream end of the Bethany Home Outfall Channel.

2.0 DATA COLLECTION

The following paragraphs describe the information that was collected as part of this data collection effort.

2.1 FLOOD CONTROL DISTRICT

2.1.1 Metro Phoenix ADMP

Hydrologic data and information regarding the existing and future drainage infrastructure along the Canal was taken from the Metro Phoenix ADMP (Reference 1).

2.1.2 Maryvale ADMS/Hydrologic Update

Hydrologic data was taken from the updated hydrologic model (Reference 11) for the Maryvale Area Drainage Master Study (Maryvale ADMS).

2.1.3 Contour Mapping

Topographic mapping was obtained from the District for the entire length of the floodplain. The contour interval associated with the mapping varies throughout the study reach, but most of the mapping has either a 1 foot contour interval or a 2 foot contour interval. East of SR143, however, the mapping is less detailed with a contour interval of 4 feet.

2.1.4 FEMA Flood Hazard Boundary Maps

Digital files of the Canal floodplain boundaries were obtained from the District and superimposed on the Floodplain Data Maps.

2.1.5 Aerial Photographs

Aerial photography from July 2008 was obtained from the District and used to supplement the Floodplain Data Maps.

2.2 CITY OF PHOENIX

2.2.1 Finished Floor Elevation Certificates

The City has commissioned six different survey projects to determine the finished floor elevations versus the BFE of homes located within the Canal floodplain (References 8, 9, 10, 13, 14, and 15). These survey projects included submittal of elevation certificates to FEMA for those houses that were found to have finished floor elevations that are above the BFE. The data from these elevation certificate projects was summarized in tables and included in this report in Appendix D.

2.2.2 Letters of Map Revision

A request for a Letter of Map Revision (LOMR) was prepared for the portion of the Canal floodplain that lies between 19th Avenue and 7th Avenue (Reference 7). This LOMR, which was approved by the FEMA, significantly reduced the size of the floodplain and established BFEs based on a detailed hydraulic analysis.

2.2.3 Flooding Complaints

The City's drainage complaint files were researched to find past, documented flooding problems located within the Canal floodplain. This effort netted 21 flooding complaints that are spread out over the entire 16 mile long floodplain.

2.2.4 Existing Storm Drain Locations

Storm drain maps, each covering an area of about one square mile, were obtained from the City (Reference 19) that included the location and size of all existing storm drains within the floodplain.

2.3 SALT RIVER PROJECT

2.3.1 Water System Maps

SRP water system maps (Reference 16) were obtained which contain detailed information on the flow within the Canal. This data also includes the location and size of all off-site drainage pipes that enter the Canal. They also include the location where SRP has gates that discharge to the City's storm drain system.

3.0 HYDROLOGY

The 100-year peak discharges presented on the Floodplain Data Maps were taken from the hydrologic model done for the Metro Phoenix ADMP (Reference 22) and an updated hydrologic model for the Maryvale ADMS (Reference 11). The Metro Phoenix ADMP hydrology covers the floodplain areas east of I-17 and the Maryvale ADMS covers the areas west of I-17.

The 100-year peak discharges taken from the hydrologic models include the total estimated flow that crosses over and under the Canal. This includes pipe flow under the Canal and overland flow that will overtop the Canal. In most locations, the overtopping flow values represent total combined flow over half mile wide segments. Depending on location along the Canal, these overtopping, 100-year flows vary from 0 to 870cfs. But between Grand Avenue and 27th Avenue, the overtopping flow is very large; estimated at 2800cfs. However, the source of this large estimate is the updated hydrologic model for the Maryvale ADMS which does not include the floodwater detention basins that ADOT has constructed along Grand Avenue since the time of the original Maryvale ADMS. So, it is likely that this overtopping flow is significantly overstated. The Maryvale ADMS hydrology model could be revised to account for these detention basins which would give a more representative estimate of the flow that overtops the Canal.

Another area where overtopping flows are probably overstated is in the vicinity of the Maryvale Baseball Stadium. Since the time of the Maryvale ADMS, this stadium was built to store the 10-year flood. The updated model, however, does not include the new detention basin. Updating the model to include this basin would probably result in less flow overtopping the Canal and less flow spilling westerly over 55th Avenue.

4.0 FLOODPLAIN DATA MAPS

4.1 DATA PRESENTED

The following paragraphs provide a brief description of the information that is presented on the floodplain data maps.

4.1.1 Depth of Flooding

The depth of flooding is color coded on the maps with different colors representing various depths below the BFE. In some locations, where the City has prepared floodplain elevation certificates, precise depths of water above the finished floor elevations are indicated on the maps. In these cases, the depth of flooding was obtained directly from the field survey data done for the floodplain elevation certificates (References 8, 9, 10, 13, 14 and 15). In other locations where floodplain elevation certificates have not been completed, the depth of flooding was determined using the topographic survey data obtained from the District. In these cases the BFE was set equal to the top of the northern Canal bank; except for the reach between 19th Avenue and 7th Avenue where the BFE was previously established with a LOMR (Reference 7).

4.1.2 Storm Drains/Detention Basins

Existing storm drains and detention basins are shown on the floodplain data maps. The existing storm drain data was obtained from the City's Storm Drain Maps (Reference 19). Future storm drains and detention basins are also shown on the floodplain data maps. These were taken from the Metro Phoenix ADMP recommended plan.

4.1.3 100-yr Peak Discharges

The 100-year peak discharges, as established with the Maryvale ADMS and Metro Phoenix ADMP are shown on the floodplain data maps indicating a total peak discharge entering each reach of the floodplain, typically displayed in half mile segments. This total peak discharge includes the flow contributing from the watershed to the north plus the flow along the Canal that is entering from the east. The peak discharge data also indicates the total amount of flow that is assumed to spill over the Canal within each reach. As explained in section 3.2, these flows appear to be overstated somewhat in some of the reaches west of I-17 because the latest hydrologic model for the Maryvale ADMS does not include ADOT's detention basins along Grand Avenue nor does it include the Maryvale Baseball Stadium detention basin.

4.1.4 Historic Neighborhoods

Boundaries of designated historic neighborhoods were added to the floodplain data maps. Pierson Place historic neighborhood is the only one that exists within the floodplain limits. Its boundaries are roughly located between 7th Avenue and 3rd Avenue.

4.1.5 Grand Canal Drainage Features

The SRP keeps detailed drainage information on their canals which was added to the floodplain data maps. This data includes the location and size of all drainage pipes that enter the Canal. It also includes the location where SRP has gates that discharge to the City's storm drain system. These gates are opened during flooding events to help prevent overtopping of the Canal banks.

4.1.6 Flooding Complaints

There are 21 drainage complaints on file with the City. These are drainage complaints from property owners whose land lies within the floodplain boundaries. The location of each complaint is outlined in red on the Floodplain Data Maps.

4.2 FLOODPLAIN SUMMARY BY REACH

The following is a reach by reach description of the existing floodplain.

4.2.1 63rd Avenue to 43rd Avenue

This reach of the floodplain is highly developed with single family lots, encompassing approximately 700 homes. It also has a well developed system of drainage infrastructure, which includes storm drain laterals paralleling the Canal with large diameter mains in 59th, 51st, and 43rd Avenue. In addition, there are two existing 10-year storm water detention basins; one at 63rd Avenue (Sunset Basin) and the other at 53rd Avenue (Maryvale Baseball Stadium). The City commissioned finished floor elevation surveys for many of the homes within this reach, including the neighborhood that lies between 63rd and 59th Avenue (Reference 8) and the one between 47th and 43rd Avenue (Reference 9).

Although the large number of homes makes this reach susceptible to significant losses during large floods, the highly developed drainage infrastructure appears to protect the majority of homes from the more frequent floods. Moreover, with the existence of the 10-year storm water detention basins, upgrading the storm drain laterals to convey the 10-year flood to the existing detention basins may be enough to provide a consistent 10-year level of protection within the entire reach.

4.2.2 43rd Avenue to I-17

Commercial and industrial properties occupy the floodplain within this reach along the Canal. There are about 100 buildings within the floodplain and, based on the contour mapping, about 35 of them appear to be above the BFE. The most severe flood hazards appear to be in the segment between 43rd Avenue and 36th Avenue, where there are pockets of relatively deep flooding at 42nd Avenue and at 38th Avenue. The problem at 42nd Avenue is well documented in a number of flood complaints from the business owners who experience flooding. The City is currently designing a new storm drain for the downstream end of 42nd Avenue that will discharge to the existing 43rd Avenue storm drain. The new storm drain will provide a 2-year level of protection.

4.2.3 I-17 to 19th Avenue

The existing land use in this reach of the floodplain is primarily multi-family housing. The area encompasses about 43 apartment buildings and many of them, about 34, are above the base flood elevation. The City commissioned finished floor elevation surveys for the portion of the reach that lies between 24th Avenue and Indian School Road (Reference 10).

This reach of the floodplain will benefit significantly from two future storm drainage projects; the Turney Detention Basin and the 21st Avenue storm drain. The future Turney Detention Basin will be built on property owned by the City at 20th Avenue and the Canal. It will serve as an outfall for the future 10-year storm drain in 21st Avenue which is one of the major components identified in the Metro Phoenix ADMP. Together, these two future projects will provide a 10-year level of protection for the area between I-17 and 19th Avenue. It may be necessary, however, to provide a storm drain lateral, that would discharge to the Tourney Basin, to drain the low-lying properties that abut the Canal at about 22nd Avenue.

4.2.4 19th Avenue to Central Avenue

This reach of the floodplain is primarily single family residential housing. It encompasses about 300 homes, 3 apartment buildings and several commercial buildings. The homes between 7th Avenue and 3rd Avenue are located within the boundaries of the Pierson Place Historic Neighborhood. This reach includes a LOMR that was issued by FEMA for the floodplain area that lies between 19th Avenue and 7th Avenue (Reference 7). This LOMR significantly reduced the size of the floodplain and established BFEs based on a detailed hydraulic analysis.

This reach will benefit greatly from the future storm drains in 15th Avenue and 3rd Avenue that were identified as part of the recommended plan in the Metro Phoenix ADMP. Coupled with the existing storm drains in 19th Avenue, 15th Avenue, and 7th Avenue, these future storm drains will provide a 10-year level of protection. However new storm drain laterals will probably be required within the floodplain in order to ensure that the runoff from the 10-year flood that accumulates along the Canal is adequately conveyed to the main storm drains in 19th Avenue, 15th Avenue, 7th Avenue and 3rd Avenue.

4.2.5 Central Avenue to SR51

This reach includes about 100 single family homes, 19 commercial buildings, and 26 apartment buildings. The finished floor elevations of the homes between 7th Street and SR51 were surveyed by the City (Reference 13). Brophy and Xavier College Preparatory Schools are located between Central Avenue and 7th Street. The Roman Catholic Diocese of Phoenix is in the process of acquiring most of the flood prone properties that lie adjacent to Xavier for expansion of the campus. When their acquisitions are complete, there will only be 8 homes remaining in the floodplain between Central Avenue and 7th Street.

The homes that lie just east of 7th Street within the Canal North Neighborhood have experienced repetitive flooding for some time. A potential solution that could provide significant relief for this neighborhood would be to extend a new storm drain in 7th Street from the north side of the Canal, south to ADOT's north tunnel at I-10.

4.2.6 SR51 to 32nd Street

This reach of the floodplain includes approximately 120 single family homes and 30 commercial buildings. The majority of the commercial buildings, however, appear to be above the base flood elevation; so

the primary flood problem appears to be the existing houses. All of the homes in this reach were survey as part of the City's program to provide finished floor elevation certificates (Reference 14).

SRP has excess right-of-way adjacent to the Canal along much of this reach. This excess right-of-way is the land that the abandoned Appropriators Canal used to reside in. This extra right of way provides an opportunity to capture and convey floodwaters. Portions of it are already being used for storm drainage. A potential solution for this reach is to upsize the City's future 2-year storm drain in 28th Street to a 10-year design. This upsized storm drain coupled with new lateral storm drains located in SRP's excess right-of-way could provide a 10-year level of flood protection for a large portion of this reach.

4.2.7 32nd Street to 34th Street

This is a relatively short reach of the floodplain that encompasses 52 single family homes. All of the homes in this reach were survey as part of the City's program to provide finished floor elevation certificates (Reference 15). ADOT has an existing detention basin on the opposite side of the Canal from these homes, between the Canal and the Loop 202, which provides a potential solution to the flooding problem. That solution is a drainage undercrossing of the Canal that would collect runoff in the neighborhood and discharge to ADOT's existing detention basin.

4.2.8 34th Street to 56th Street

This reach of the floodplain is characterized by large commercial buildings which all appear to be above the base flood elevation.

5.0 BRAINSTORMING / MITIGATION IDEAS

A brainstorming meeting was conducted by the study team on May 7, 2009. The purpose was to develop ideas for mitigating the flood hazards along the Canal. Participants included staff members from the City, the SRP, the District, and Gavan & Barker, Inc.

The brainstorming ideas were separated into two main groups. One group of ideas is for the overall floodplain that covers the entire length of the flood hazard area from 63rd Avenue to 34th Street (as described previously, the buildings that lie between 34th Street and 56th Street appear to all be above the BFE so they were excluded from the brainstorming). The other group is for smaller, contiguous reaches of the Canal that were discussed separately in the brainstorming meeting. The thought was that the solution to the flood hazard problem could be a series of different flood mitigating features that vary from reach to reach. Therefore, much of the discussion focused on individual reaches where smaller flood control projects, costing less than an overall solution, might provide the most viable approach to the problem.

Within each group, the brainstorming ideas were separated into five categories: Conveyance/Storage, Grand Canal Modifications, Flood Proofing, Buyout, and Non-Structural. Ideas under the category, Grand Canal Modification, were flood control alternatives that involved modifying the Canal in some way. None of these ideas were acceptable to SRP. SRP did indicate, however, that they would consider the use of their right-of-way for new storm drains that might help mitigate the flooding problems.

The ideas that came out of the brainstorming meeting are summarized in matrices that can be found in Appendix B and C. Included with each idea is a yes/no notation under the column heading "carry forward for further analysis". This notation is the study team's opinion of the merit of the idea and whether it should be further investigated as a potential solution. A no indicates that the study team determined that it does not merit further analysis whereas a yes indicates that it may be a viable solution. In some instances a potential solution might have been given a no vote under an individual reach even though it was determined to be a viable idea for the overall study area. An example of this is the buyout solution which was given a yes for the overall area but given a no for the reach from 63rd Avenue to 43rd Avenue. In this case, the overall idea relates to acquiring properties in certain areas along the Canal where there are a relatively small number of homes that are subject to repetitive flooding. This option is impractical for the individual reach from 63rd to 43rd where there are a large number of homes and the existing drainage system appears to provide a reasonable level of flood protection. There are other reaches along the Canal, however, where acquiring homes was considered a viable solution. An example is the area south of Xavier Preparatory School where there will only be about 8 homes remaining after the campus expansion is completed and at least one of those remaining homeowners have complained of repetitive flooding.

The potential flood migration solutions summarized in this report provide the District and the City with a starting place for further analysis. As an example, say the City determined, based on flooding complaints, that the reach from 63rd Avenue to 43rd Avenue warranted new flood control improvements. In that case, the potential storm drain solutions described in the matrix for that particular reach could be used to form the basis for a scope work for further analysis. That scope of work would include a hydrologic and hydraulic analysis to determine the size and location of storm drain laterals necessary to collect and convey the 10-year flood. Likewise, the potential solutions described for the other reaches could also be used to help develop individual scopes of work for any particular reach.

6.0 REFERENCES

1. Metro Phoenix ADMP; Flood Control District of Maricopa County, Prepared by Engineering and Environmental Consultants, Inc., September 2008.

2. Maryvale Area Drainage Master Study - Floodplain Mitigation Study; Flood Control District of Maricopa County, Prepared by Wood, Patel & Associates, Inc., November 1997.

3. Maryvale Area Flooding Mitigation Project: Pre-Design Report; Flood Control District of Maricopa County, Prepared by Coe & Van Loo Consultants, Inc., April 1995.

4. Maryvale Baseball Park Drainage Report; Flood Control District of Maricopa County in corporation with the City of Phoenix, Prepared by Wood, Patel and Associates, Inc., December 1996.

5. Maryvale Stadium West Inlet Storm Drain: Final Design Report; Flood Control District of Maricopa County, Prepared by Engineering Division, FCDMC, February 2000.

6. Maryvale Stadium West Inlet Storm Drain: 51st Ave to 57th Ave As-Built Drawings; Flood Control District of Maricopa County in corporation with the City of Phoenix, Prepared by Engineering Division, FCDMC, March 2000.

7. Re-Delineation of Grand Canal Floodplain between 7th Avenue and 19th Avenue, Phoenix, Arizona. Letter of Map Revision, Prepared for City of Phoenix, Prepared by Engineering and Environmental Consultants, Inc. (EEC), November 2002.

8. Floodplain Elevation Certificates; Grand Canal Floodplain – *63rd Avenue to 59th Avenue*, City of Phoenix, Prepared by Engineering and Environmental Consultants, Inc. (EEC), February 2006.

9. Floodplain Elevation Certificates; Grand Canal Floodplain – *47th Avenue to 43rd Avenue*, City of Phoenix, Prepared by Prestige Engineering Consultants, August 2008.

10. Floodplain Elevation Certificates; Grand Canal Floodplain – *24th Avenue to Indian School Road*, City of Phoenix, Prepared by Engineering Alliance Inc. (EA), May 1, 2005.

11. Updated Maryvale ADMS Hydrologic Model; Flood Control District of Maricopa County, Originally prepared by CH2M Hill & Wood, Patel & Associates in February 1997, Updated by DMJM, January 2003.

12. Request for Letter of Map Revision; Grand Canal Floodplain – *7th Avenue to 7th Street*, City of Phoenix, Prepared by J2 Engineering and Environmental Design LLC, June 2008.

13. Floodplain Elevation Certificates; Grand Canal Floodplain – *7th Street to State Route 51*, City of Phoenix, Prepared by Wood, Patel & Associates Inc., July 15, 2005.

14. Floodplain Elevation Certificates; Grand Canal Floodplain – *State Route 51 to 32nd Street*, City of Phoenix, Prepared by Coe & Van Loo Consultants Inc., November 8, 2004.

15. Floodplain Elevation Certificates; Grand Canal Floodplain – *32nd Street to 36th Street*, City of Phoenix, Prepared by Landmark Engineering Inc., June 15, 2002.

16. Salt River Valley Water Users' Association, Water Transmission Systems, Water Operations, Salt River Project (SRP): Transmission and Communications Division, 2008.

17. Historic District: Pierson Place; Phoenix Historic Property Register, Prepared by the City of Phoenix Historic Preservation Office, November 2005. <http://www.phoenix.gov/HISTORIC/piersonmap.pdf> Accessed March 2009.

18. Local Drainage Complaints; City of Phoenix Files, Accessed March 2009.

19. Storm Drain Maps; City of Phoenix Engineering & Architectural Services Department, November 2003.

20. Contour Mapping; Flood Control District of Maricopa County.

21. Aerial Photography; Flood Control District of Maricopa County, July 2008.

22. Metro Phoenix ADMP Hydrology Study Report; Flood Control District of Maricopa County, Prepared by Wood, Patel & Associates Inc. in association with Engineering and Environmental Consultants, October 2006.

Appendix A: ***Floodplain Data Maps***

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

GRAND CANAL

FLOODPLAIN ALTERNATIVE ANALYSIS
WORK ASSIGNMENT NO.1: DATA COLLECTION
FCD CONTRACT NO. 2008C032

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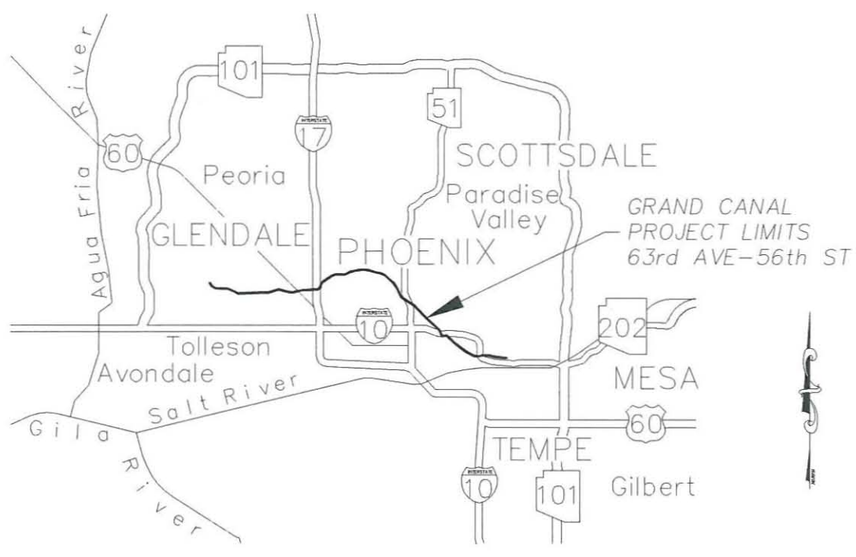
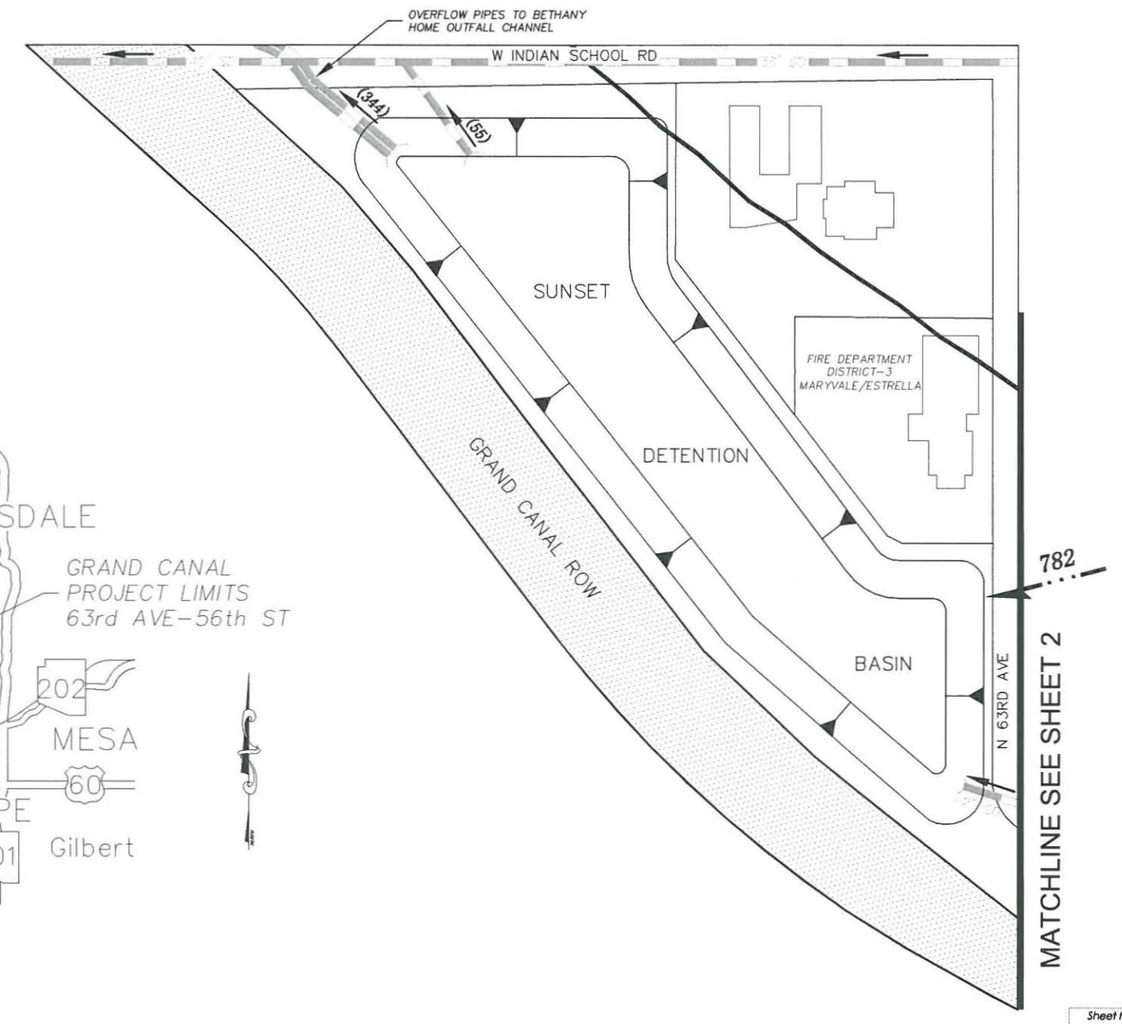
SHEET INDEX

DESCRIPTION	SHEET NO.
COVER SHEET / SUNSET DETENTION BASIN	1
63RD AVE TO 59TH AVE	2
59TH AVE TO 55TH AVE	3
55TH AVE TO 51ST AVE	4
51ST AVE TO 47TH AVE	5
47TH AVE TO 43RD AVE	6
43RD AVE TO 39TH AVE	7
39TH AVE TO 35TH AVE	8
35TH AVE TO 31ST AVE	9
31ST AVE TO 27TH AVE	10
27TH AVE TO 24TH AVE	11
24TH AVE TO 22ND AVE	12
22ND AVE TO 19TH AVE	13
19TH AVE TO 15TH AVE	14
15TH AVE TO 7TH AVE	15
7TH AVE TO CENTRAL AVE	16
CENTRAL AVE TO 7TH ST	17
7TH ST TO 12TH ST	18
12TH ST TO 15TH ST	19
15TH ST TO 18TH ST	20
18TH ST TO 20TH ST	21
20TH ST TO 23RD ST	22
23RD ST TO 26TH ST	23
26TH ST TO 29TH ST	24
29TH ST TO 32ND ST	25
32ND ST TO 35TH ST	26
35TH ST TO 38TH ST	27
38TH ST TO 41ST PL	28
41ST PL TO 45TH ST	29
45TH ST TO 48TH ST	30
48TH ST TO LOOP 202	31
LOOP 202 TO 56TH ST	32



VICINITY MAP



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Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 06-19-09
Drawn By: OK
Checked By: MTG

Notes :

Sheet Title :
AERIAL
63RD AVE
TO
59TH AVE

Sheet Number:
2
2 of 32

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 1

MATCHLINE SEE SHEET 3

LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade
####	Data Not Available

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1102	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
495	100-yr Peak-Discharge (cfs)
	Existing Storm Drain
	Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 63rd AVENUE AND 59th AVENUE.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY EEC FOR THE CITY OF PHOENIX, DATED FEBRUARY 2006.*

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Submittal :	
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Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA 63RD AVE TO 59TH AVE

Sheet Number:

2

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CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 06-19-09
Drawn By: OK
Checked By: MTG

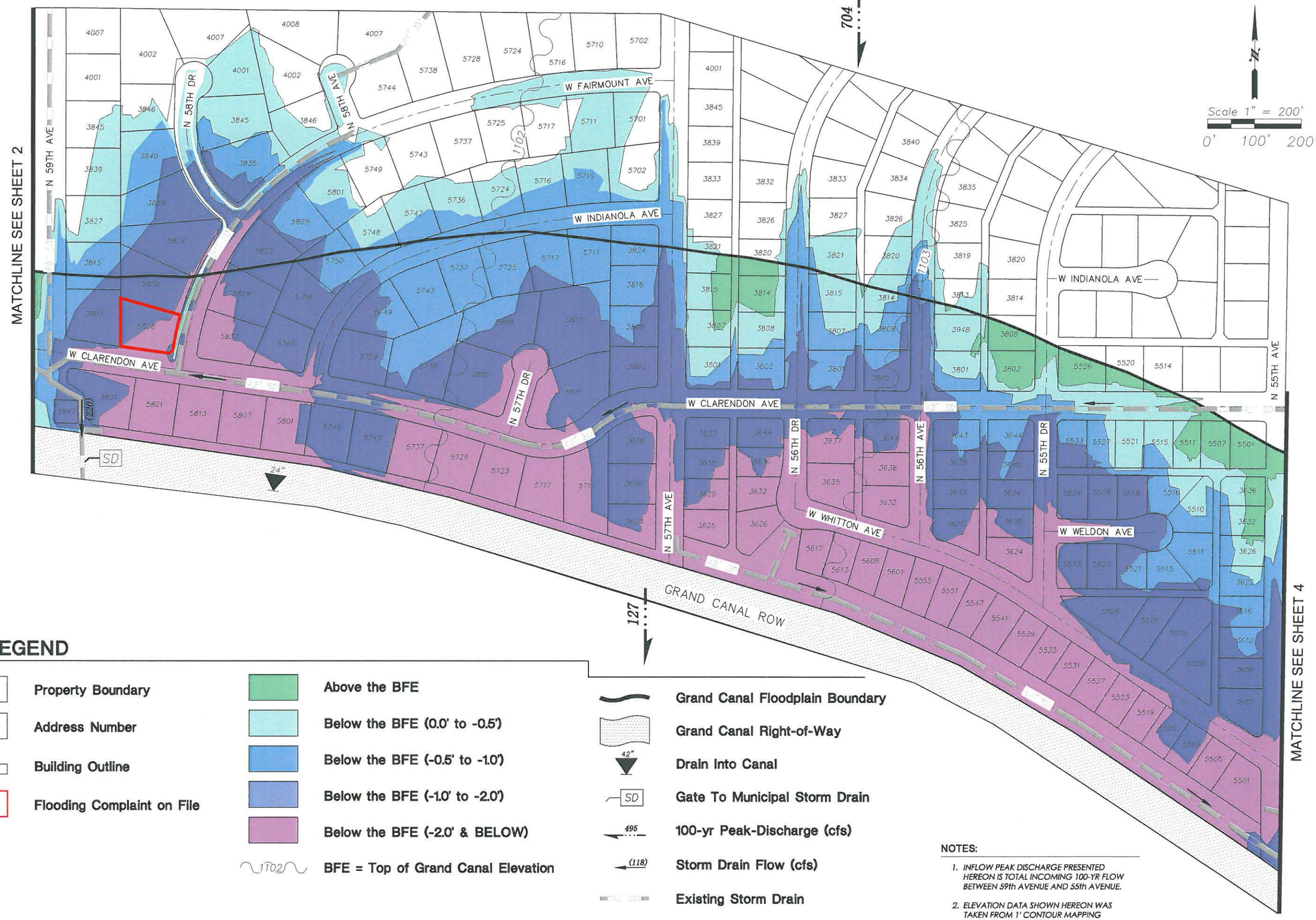
Notes :

Sheet Title :
AERIAL
59TH AVE
TO
55TH AVE

Sheet Number:
3
3 of 32

MATCHLINE SEE SHEET 2

MATCHLINE SEE SHEET 4



LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1702 BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- SD Gate To Municipal Storm Drain
- 495 100-yr Peak-Discharge (cfs)
- (118) Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 59th AVENUE AND 55th AVENUE.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.

Gavan & Barker Inc.

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Civil Engineering
Landscape Architecture

Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
59TH AVE
TO
55TH AVE

Sheet Number:

3

Gavan & Barker Inc.
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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 06-19-09
Drawn By: CK
Checked By: MTG

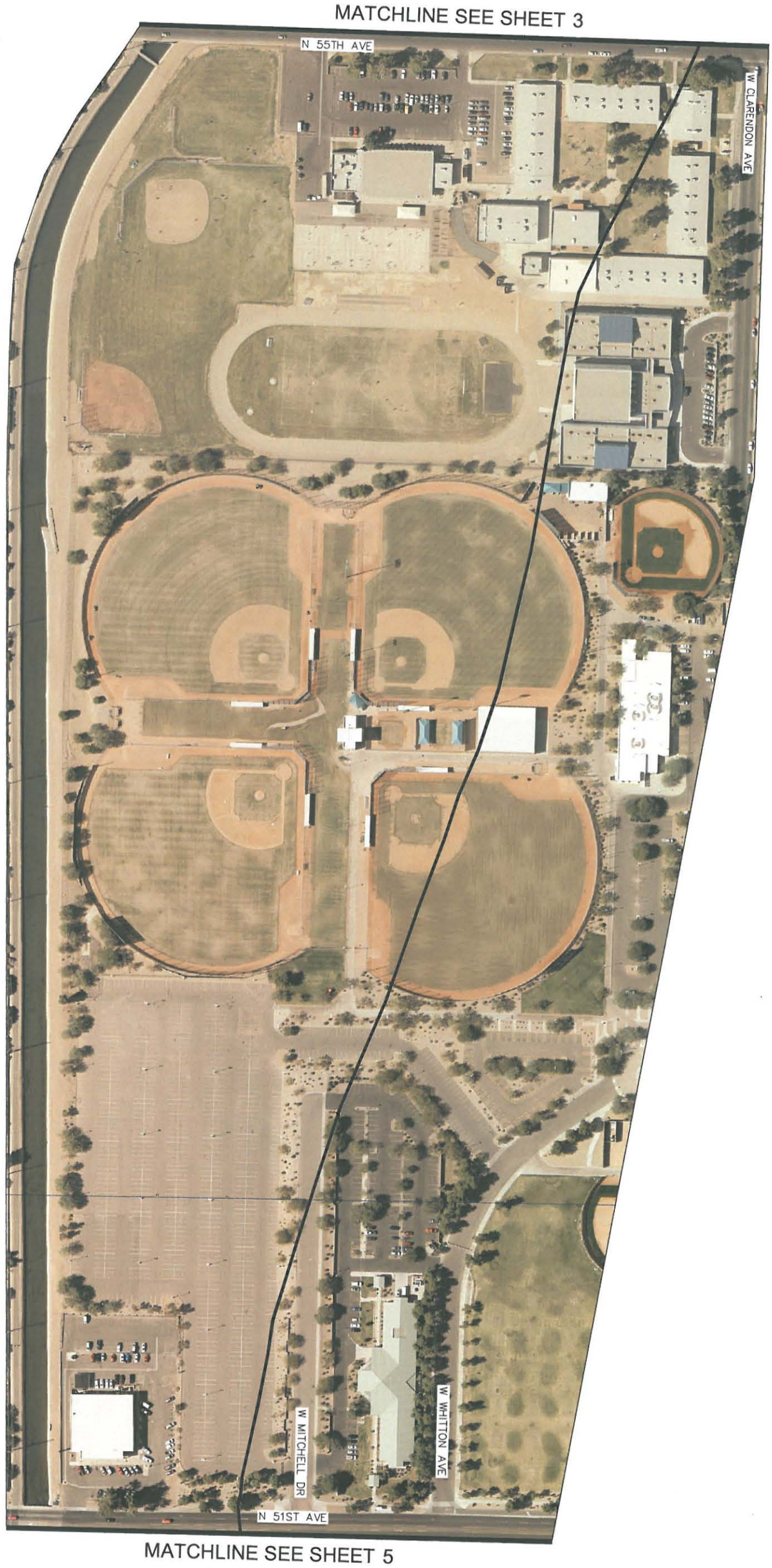
Notes :

Sheet Title :
AERIAL
55TH AVE
TO
51ST AVE

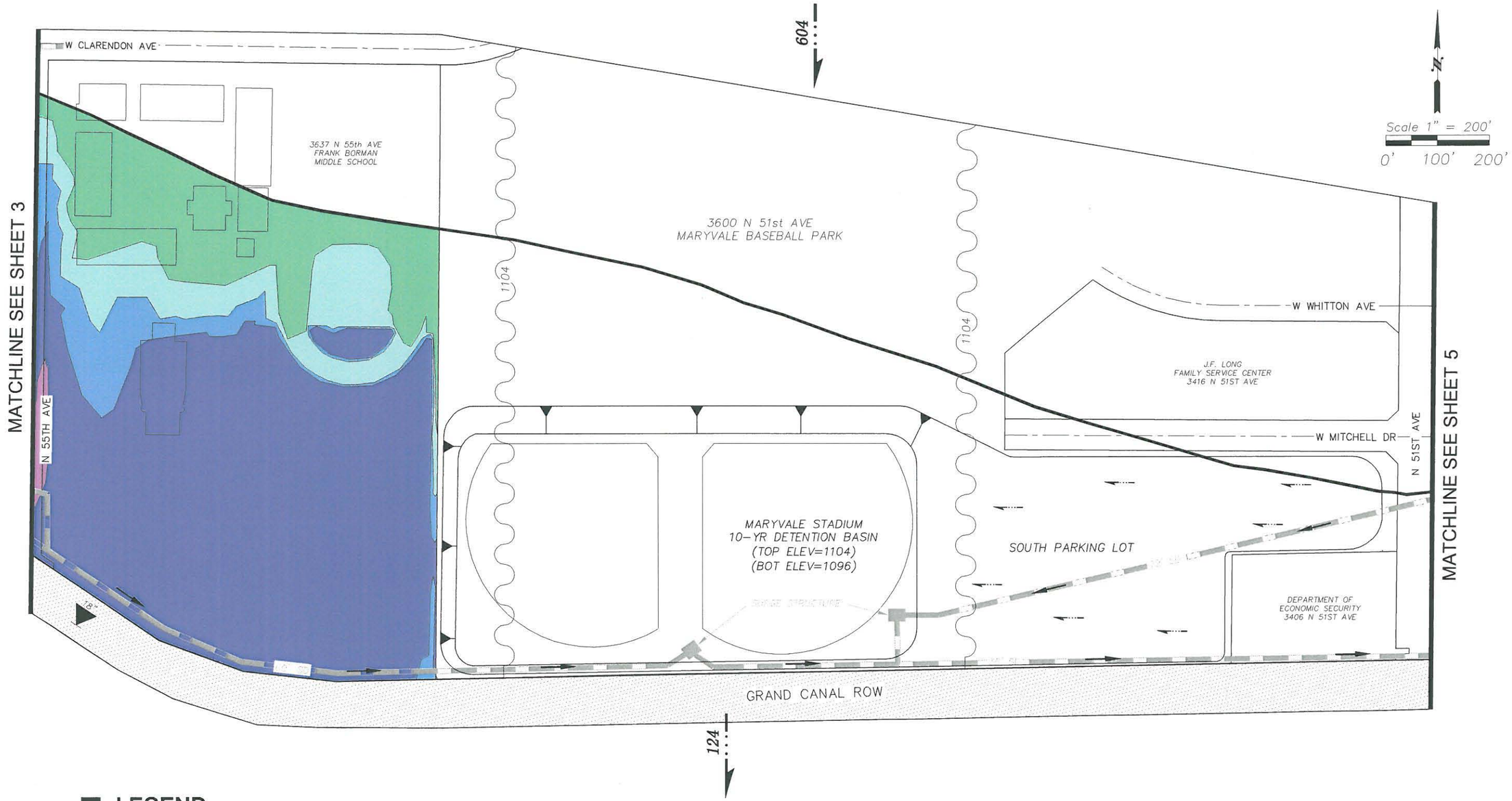
Sheet Number:
4
4 of 32

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 3



MATCHLINE SEE SHEET 5



LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 55th AVENUE AND 51st AVENUE.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.
3. DRAINAGE DATA FOR MARYVALE STADIUM WAS TAKEN FROM "MARYVALE BASEBALL PARK DRAINAGE REPORT" PREPARED BY WOOD-PATEL, 1996.

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Project :

GRAND CANAL
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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
55TH AVE
TO
51ST AVE

Sheet Number:

4

Gavan & Barker Inc.
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GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 04-19-09
Drawn By: OK
Checked By: MTG

Notes :

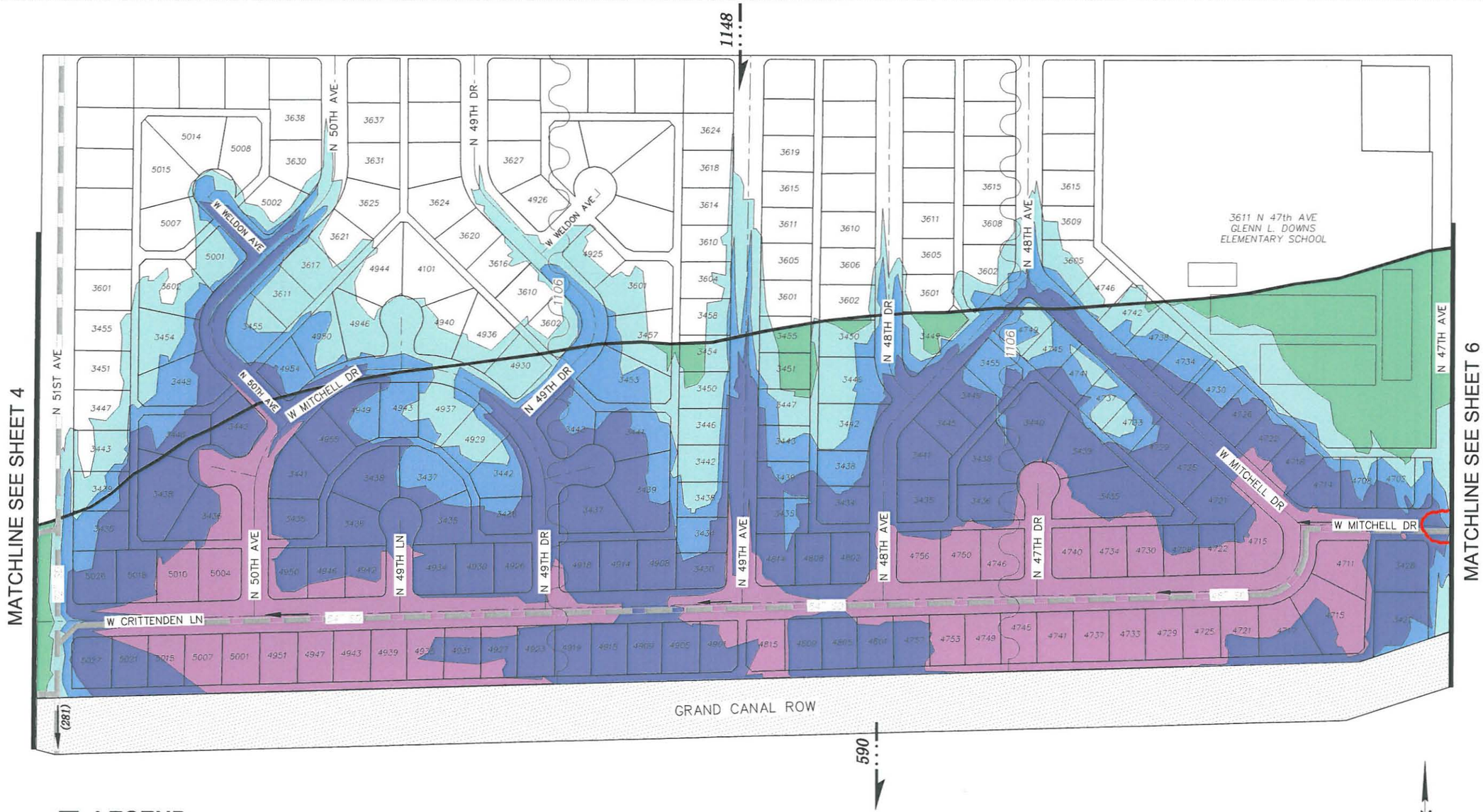
Sheet Title :
AERIAL
51ST AVE
TO
47TH AVE

Sheet Number:
5
5 of 32

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 4

MATCHLINE SEE SHEET 6



LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 495 100-yr Peak-Discharge (cfs)
- (118) Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 51st AVENUE AND 47th AVENUE.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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Project :

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FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
51ST AVE
TO
47TH AVE

Sheet Number:

5

Gavan & Barker Inc.

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
47TH AVE
TO
43RD AVE

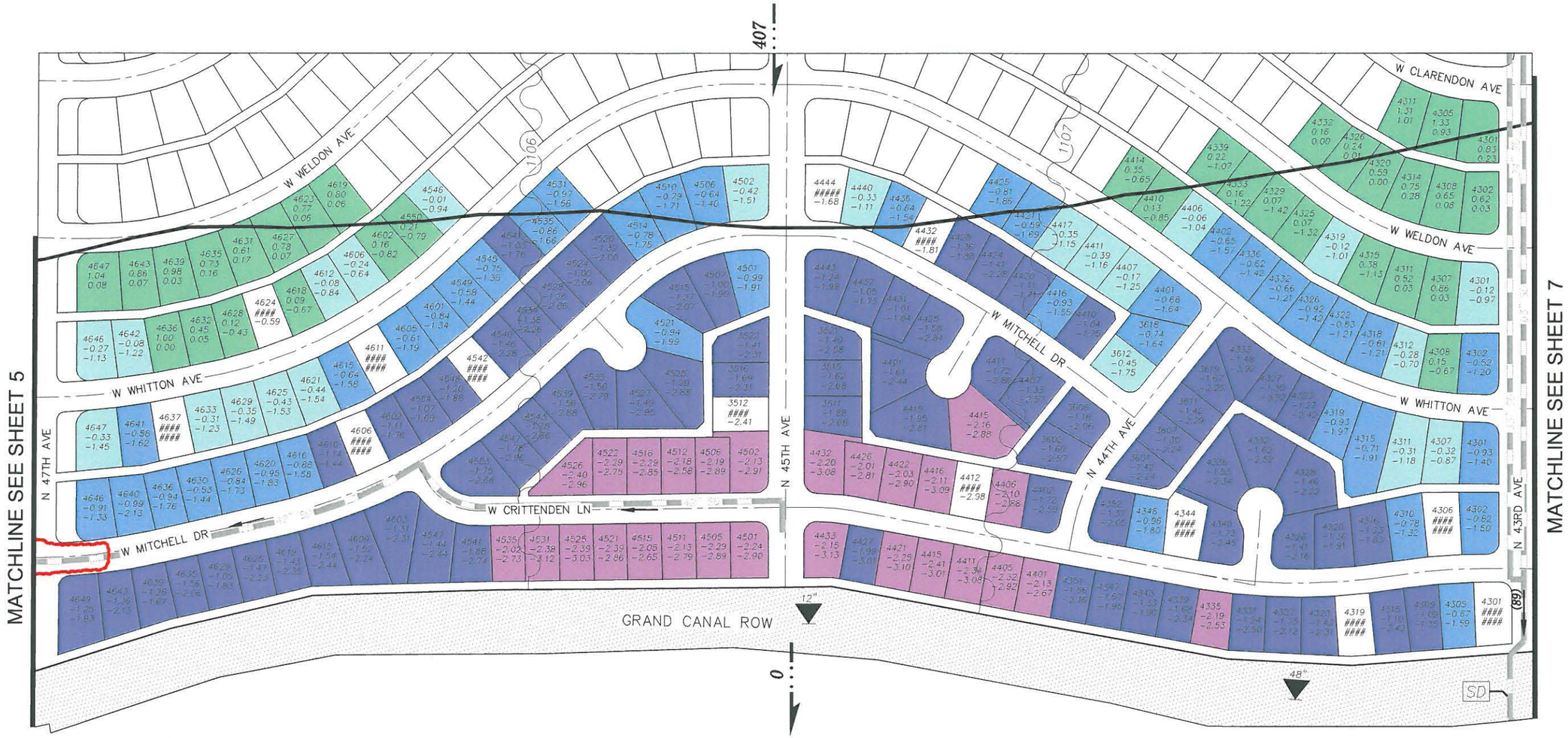
Sheet Number:

6
6 of 32

N

Scale 1" = 200'

0' 100' 200'



LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
	Flooding Complaint on File
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade
####	Data Not Available

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1T02	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
SD	Gate To Municipal Storm Drain
495	100-yr Peak-Discharge (cfs)
(818)	Storm Drain Flow (cfs)
	Existing Storm Drain
	Direction Of Flow

N

Scale 1" = 200'

0 100' 200'

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 47th AVENUE AND 43rd AVENUE.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY PRESTIGE ENGINEERING FOR THE CITY OF PHOENIX, DATED AUGUST 2008.

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GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
47TH AVE
TO
43RD AVE

Sheet Number:

6

Gavan & Barker Inc.

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Project:

GRAND CANAL

FLOODPLAIN ALTERNATIVE ANALYSIS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks:

Submittal:
G&B No. 0808
Issue Date: 06-19-09
Drawn By: OK
Checked By: MTG

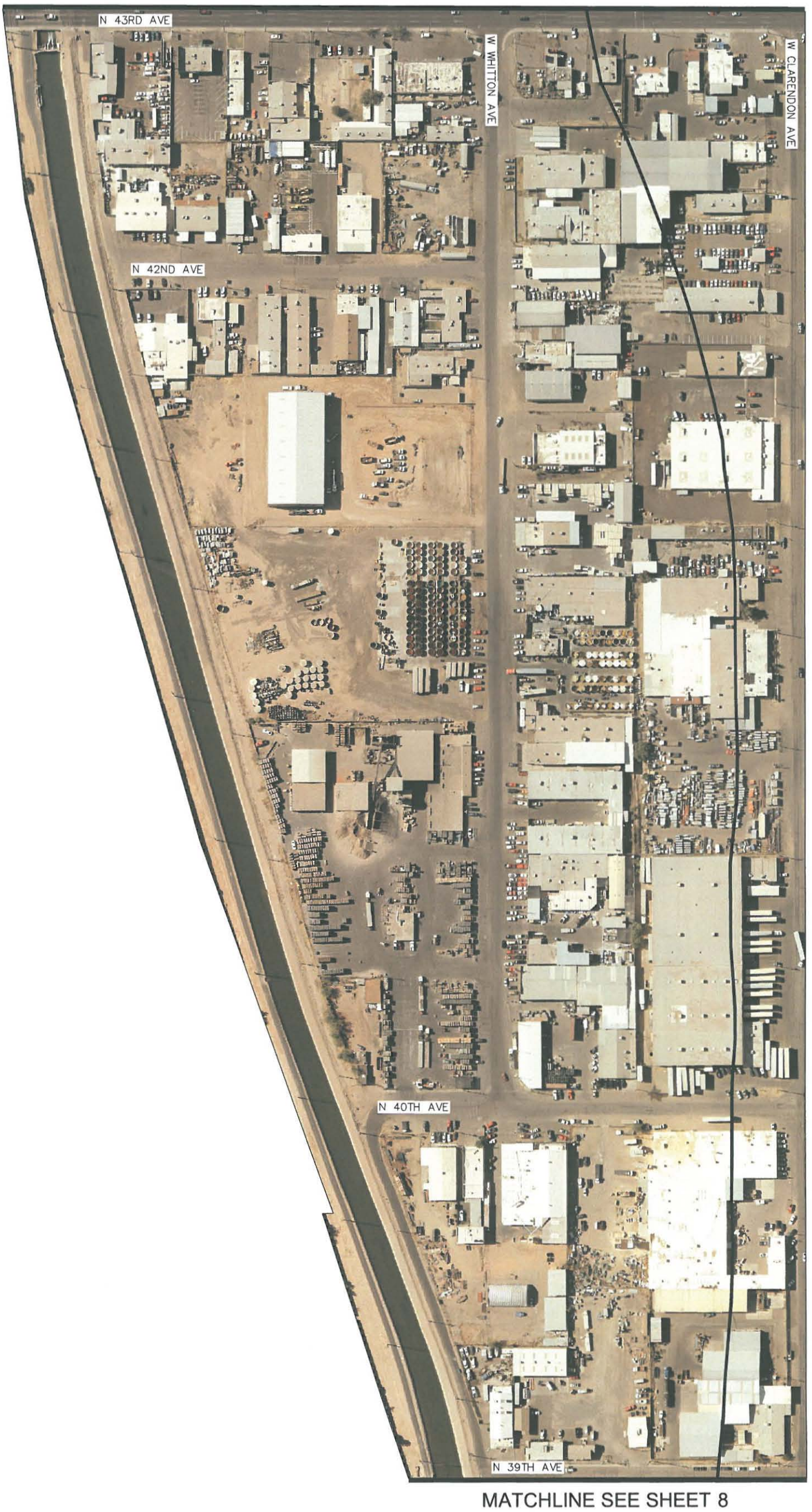
Notes:

Sheet Title:
AERIAL
43RD AVE
TO
39TH AVE

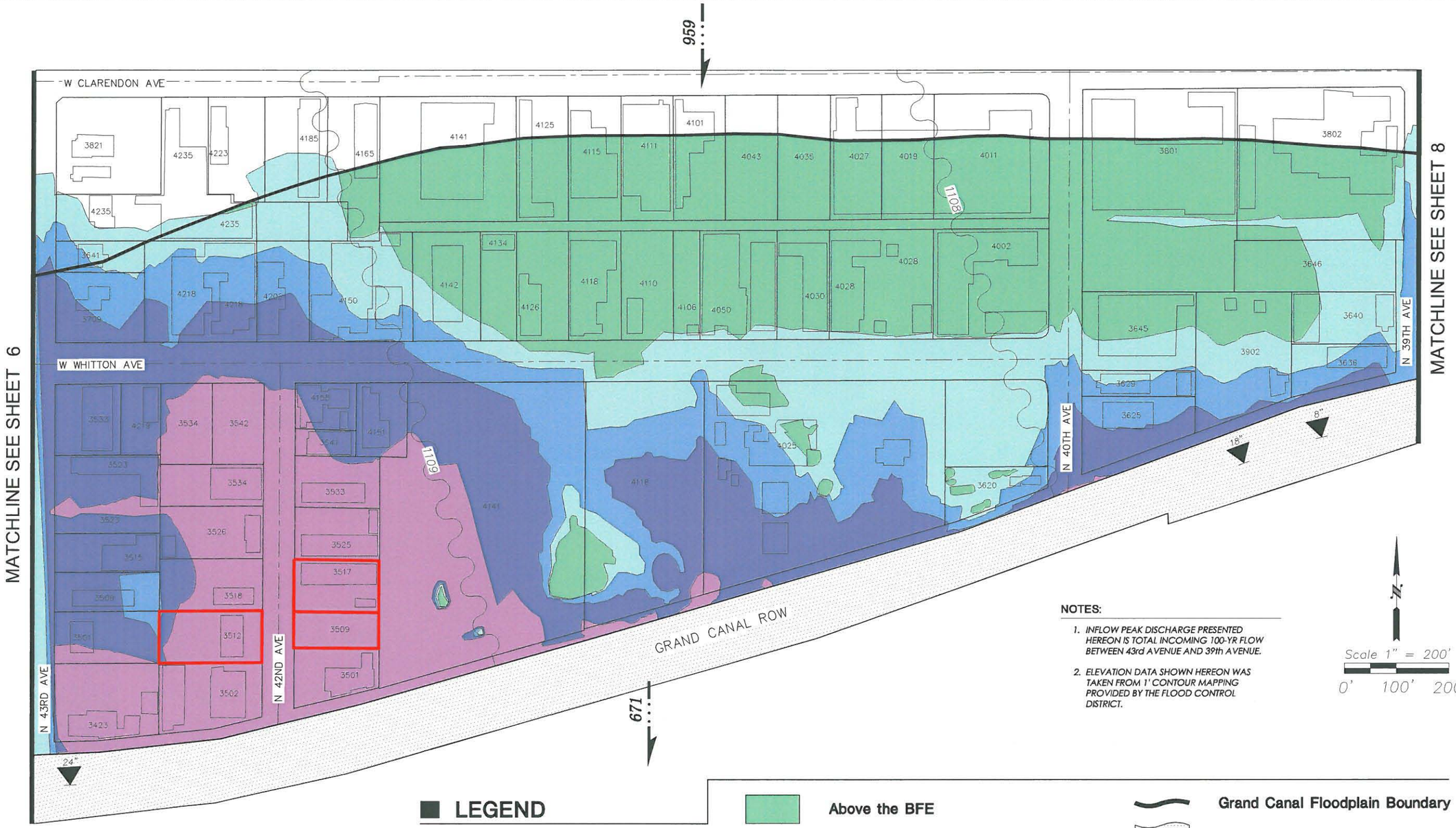
Sheet Number:
7
7 of 32

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 6



MATCHLINE SEE SHEET 8



NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 43rd AVENUE AND 39th AVENUE.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

N

Scale 1" = 200'

0' 100' 200'

LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1702 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- Existing Storm Drain

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Project :

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
43RD AVE
TO
39TH AVE

Sheet Number:

7

Gavan & Barker Inc.
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Civil Engineering
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Project :

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FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 06-19-09
Drawn By: OK
Checked By: MTG

Notes :

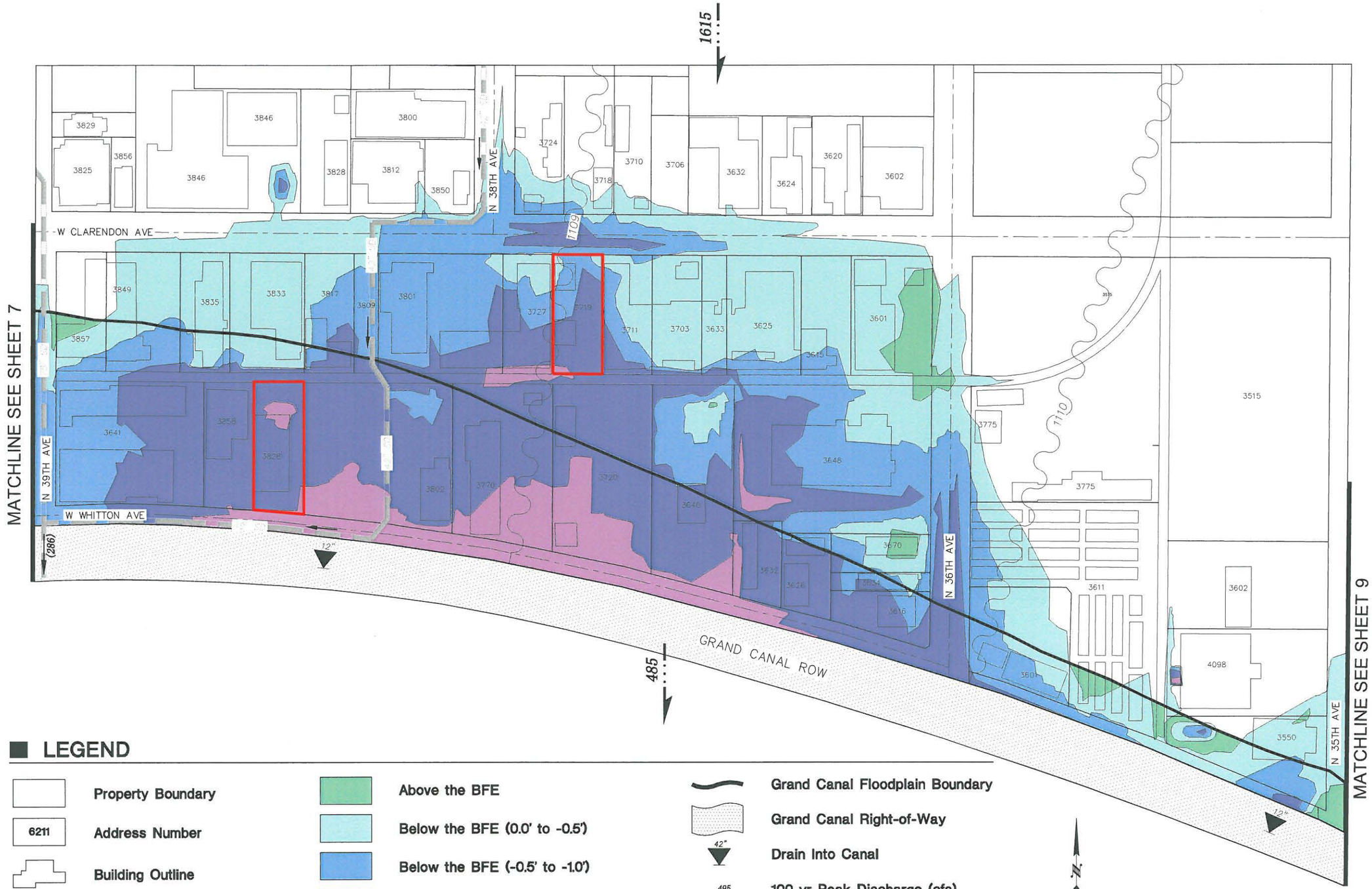
Sheet Title :
AERIAL
39TH AVE
TO
35TH AVE

Sheet Number:
8
8 of 32

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 7

MATCHLINE SEE SHEET 9



LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1702 BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- 495 100-yr Peak-Discharge (cfs)
- (118) Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 39th AVENUE AND 35th AVENUE.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA 39TH AVE TO 35TH AVE

Sheet Number:

8

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Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 06-19-09
Drawn By: CK
Checked By: MTG

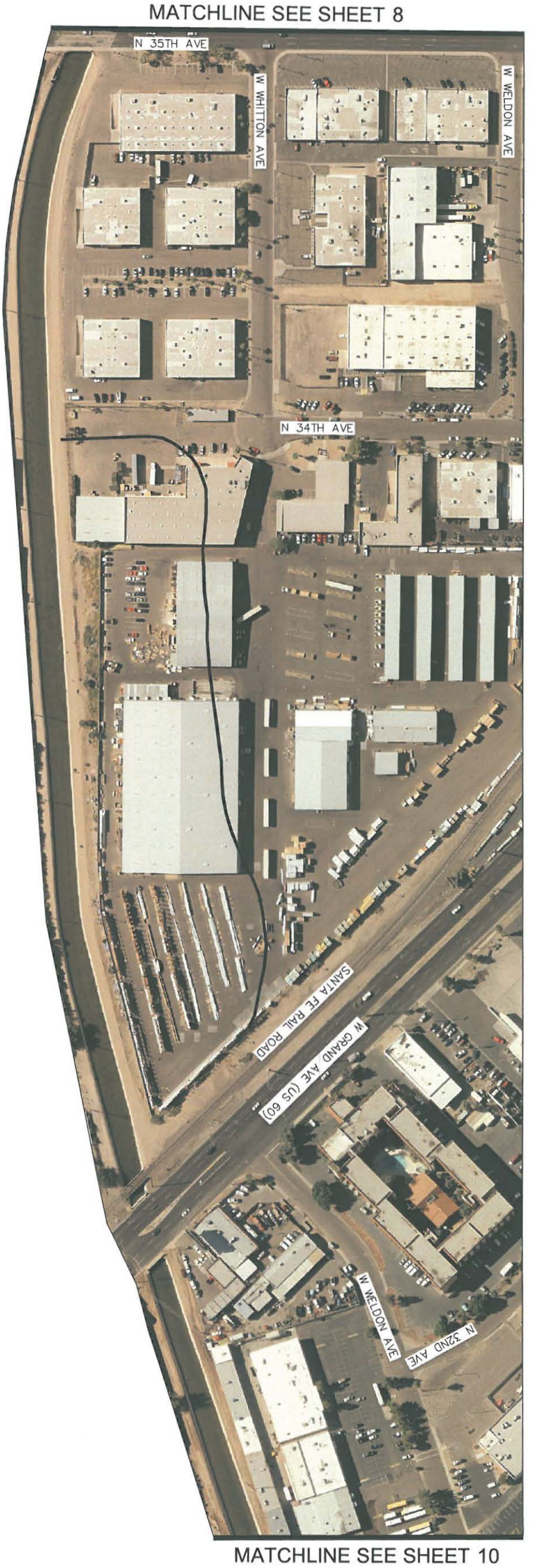
Notes :

Sheet Title :
AERIAL
35TH AVE
TO
31ST AVE

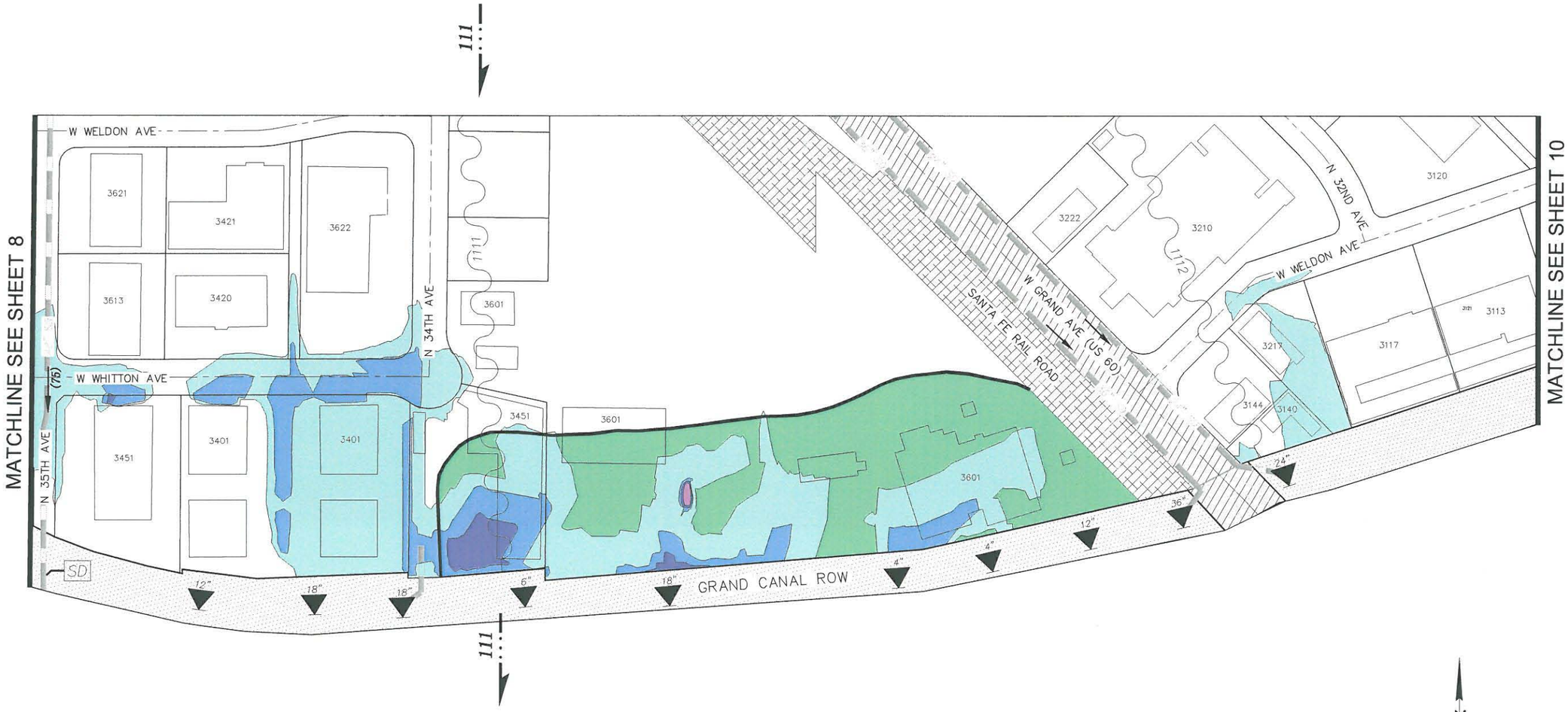
Sheet Number:
9
9 of 32

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 8



MATCHLINE SEE SHEET 10



LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1702 BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- SD Gate To Municipal Storm Drain
- 495 100-yr Peak-Discharge (cfs)
- (118) Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 35th AVENUE AND GRAND AVENUE.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
35TH AVE
TO
31ST AVE

Sheet Number:

9

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GRAND CANAL

FLOODPLAIN ALTERNATIVE ANALYSIS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :
G&B No. 0808
Issue Date: 06-19-09
Drawn By: OK
Checked By: MTG

Notes :

Sheet Title :
AERIAL
31ST AVE
TO
27TH AVE

Sheet Number:
10
10 of 32

MATCHLINE SEE SHEET 9

Scale 1" = 200'
0' 100' 200'

MATCHLINE SEE SHEET 11

LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- 495 100-yr Peak-Discharge (cfs)
- (118) Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN GRAND AVENUE AND I-17.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
31ST AVE
TO
27TH AVE

Sheet Number:

10

Gavan & Barker Inc.

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Landscape Architecture

Project :

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FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
27TH AVE
TO
24TH AVE

Sheet Number:

11
11 of 32

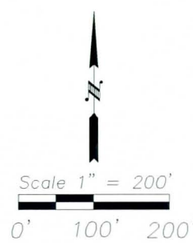
MATCHLINE SEE SHEET 10

MATCHLINE SEE SHEET 12

N

Scale 1" = 200'

0' 100' 200'



LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1702 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- SD — Gate To Municipal Storm Drain
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. *ELEVATION DATA FOR THE AREA WEST OF I-17 WAS TAKEN FROM 1' CONTOUR MAPPING AND ELEVATION DATA EAST OF I-17 WAS TAKEN FROM 2' CONTOUR MAPPING BOTH PROVIDED BY THE FLOOD CONTROL DISTRICT*

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GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
27TH AVE
TO
24TH AVE

Sheet Number:

11

Gavan & Barker Inc.

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GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Scale 1" = 200'

0' 100' 200'

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

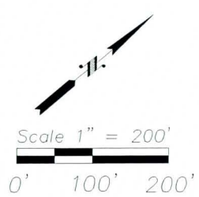
Notes :

Sheet Title :

AERIAL
24TH AVE
TO
22ND AVE

Sheet Number:

12
12 of 32



LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade
####	Data Not Available

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1102	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
495	100-yr Peak-Discharge (cfs)
	Existing Storm Drain
	Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN I-17 AND 23rd AVENUE.*
2. *ELEVATION DATA SOUTH OF INDIAN SCHOOL ROAD WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY ENGINEERING ALLIANCE FOR THE CITY OF PHOENIX, DATED MAY 2005.*
3. *ELEVATION DATA NORTH OF INDIAN SCHOOL ROAD WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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Civil Engineering
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Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
24TH AVE
TO
22ND AVE

Sheet Number:

12

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CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
22ND AVE
TO
19TH AVE

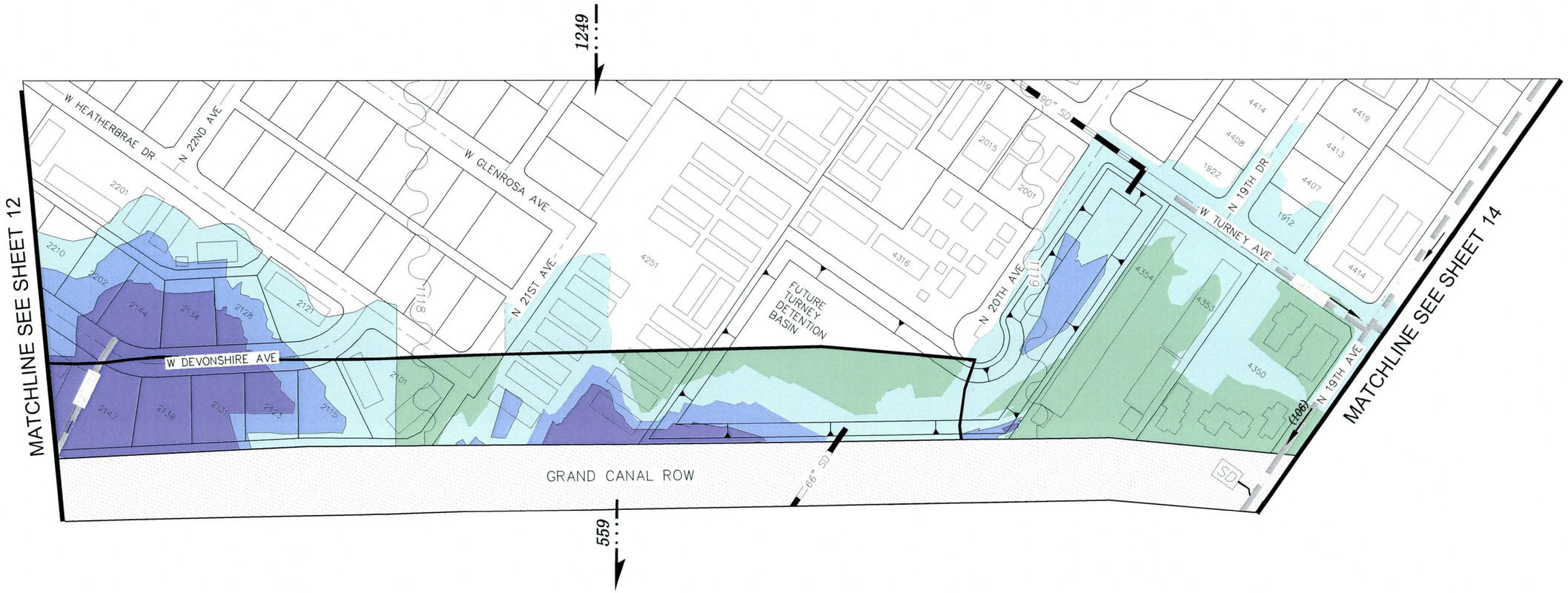
Sheet Number:

13
13 of 32

N

Scale 1" = 200'

0' 100' 200'



LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- SD — Gate To Municipal Storm Drain
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- 42" SD — Future Storm Drain
- Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 23rd AVENUE AND 19th AVENUE.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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G&B No.	0808
Issue Date:	06-19-09
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Sheet Title :

FLOODPLAIN DATA 22ND AVE TO 19TH AVE

Sheet Number:

13

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
19TH AVE
TO
15TH AVE

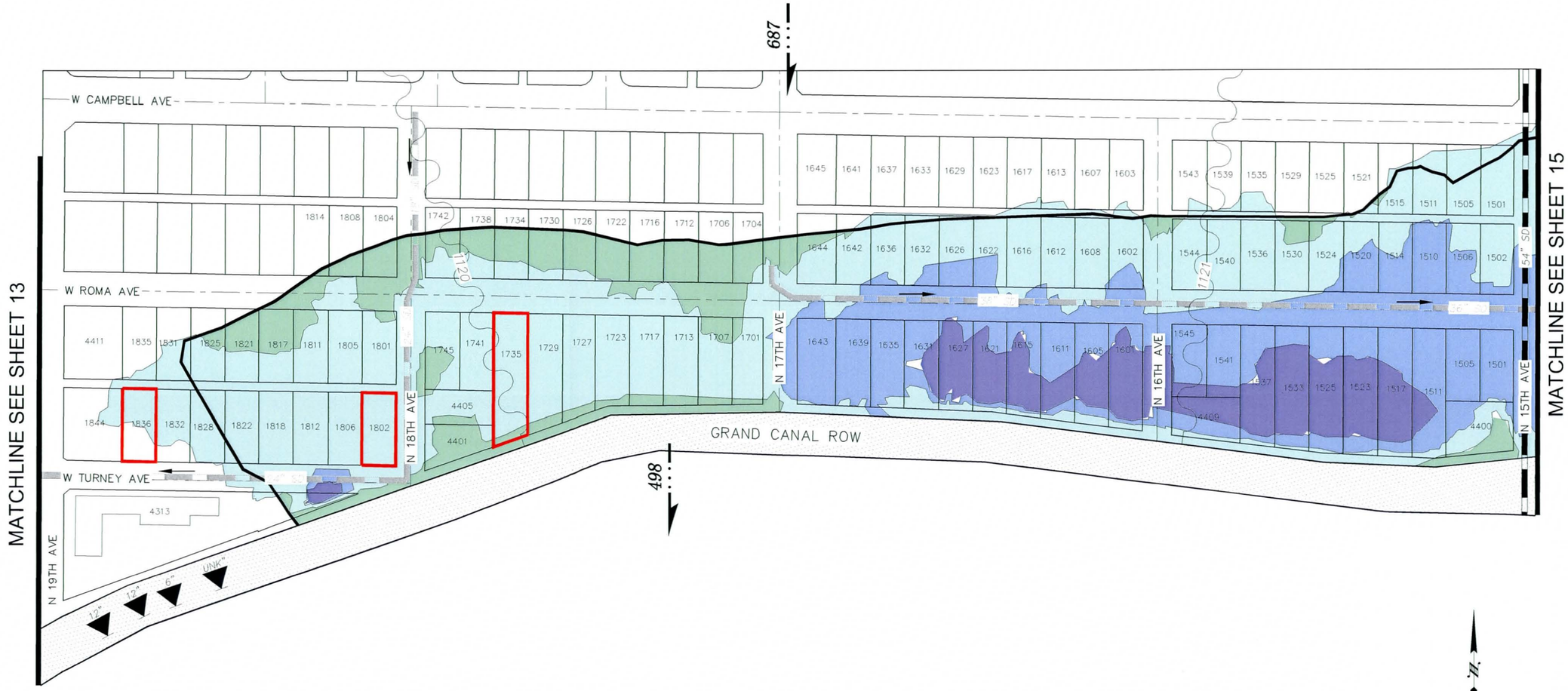
Sheet Number:

14

N

Scale 1" = 200'

0' 100' 200'



LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1702 BFE from LOMR (2003)
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- 495 100-yr Peak-Discharge (cfs)
- Existing Storm Drain
- 42" SD Future Storm Drain
- Direction Of Flow

N

Scale 1" = 200'

0' 100' 200'

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 19th AVENUE AND 15th AVENUE.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.
3. BFE'S WERE TAKEN FROM THE LOMR FOR THE GRAND CANAL FLOODPLAIN BETWEEN 19th AVE AND 7th AVENUE, PREPARED BY EEC.

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

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Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA
19TH AVE
TO
15TH AVE

Sheet Number:

14

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GRAND CANAL

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

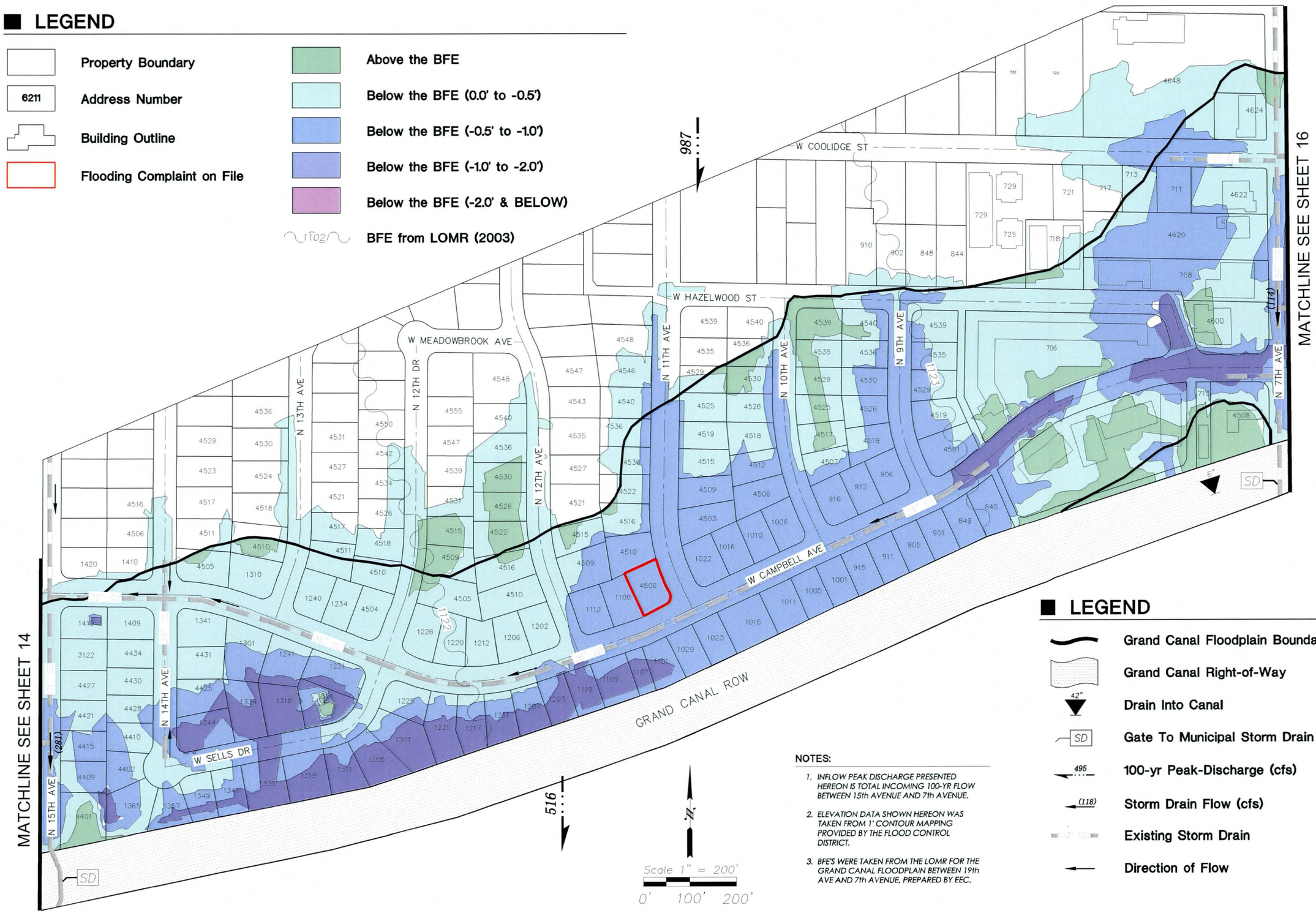
AERIAL
15TH AVE
TO
7TH AVE

Sheet Number:

15
15 of 32

LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 BFE from LOMR (2003)



LEGEND

- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- SD Gate To Municipal Storm Drain
- 495 100-yr Peak-Discharge (cfs)
- (118) Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction of Flow

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 15th AVENUE AND 7th AVENUE.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.
3. BFE'S WERE TAKEN FROM THE LOMR FOR THE GRAND CANAL FLOODPLAIN BETWEEN 19th AVE AND 7th AVENUE, PREPARED BY EEC.

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA
15TH AVE
TO
7TH AVE

Sheet Number:

15

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GRAND CANAL

FLOODPLAIN ALTERNATIVE ANALYSIS

FLOOD CONTROL DISTRICT OF MARICOPA COUNTY

CONTRACT NO. FCD-2008C032

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Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
7TH AVE
TO
CENTRAL AVE

Sheet Number:

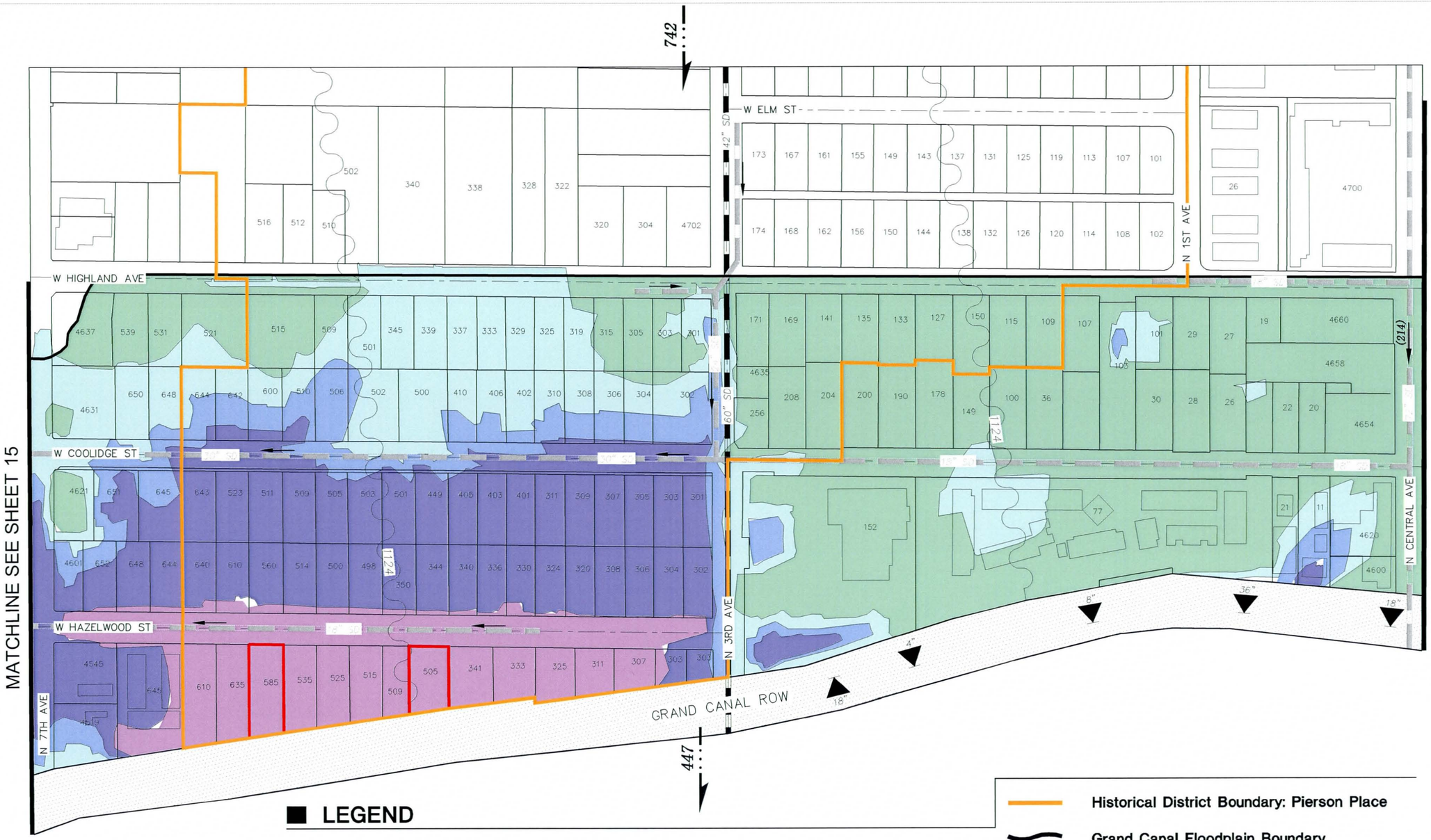
16

16 of 32

N

Scale 1" = 200'

0' 100' 200'



LEGEND

- Property Boundary
- 6211 Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 BFE = Top of Grand Canal Elevation
- Historical District Boundary: Pierson Place
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" Drain Into Canal
- 495 100-yr Peak-Discharge (cfs)
- Existing Storm Drain
- 42" SD Future Storm Drain
- Direction Of Flow

Scale 1" = 200'
0' 100' 200'

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 7th AVENUE AND CENTRAL AVENUE.
2. ELEVATION DATA BETWEEN 7th AVE AND 3rd AVE WAS TAKEN FROM 1' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.
3. ELEVATION DATA BETWEEN 3rd AVE AND CENTRAL AVE WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :
FLOODPLAIN DATA
7TH AVE
TO
CENTRAL AVE

Sheet Number:
16

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
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Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
CENTRAL AVE
TO
7TH ST

Sheet Number:

17
17 of 32

LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Flooding Complaint on File
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN CENTRAL AVENUE AND 7th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

N

Scale 1" = 200'

0' 100' 200'

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA
CENTRAL AVE
TO
7TH ST

Sheet Number:

17

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

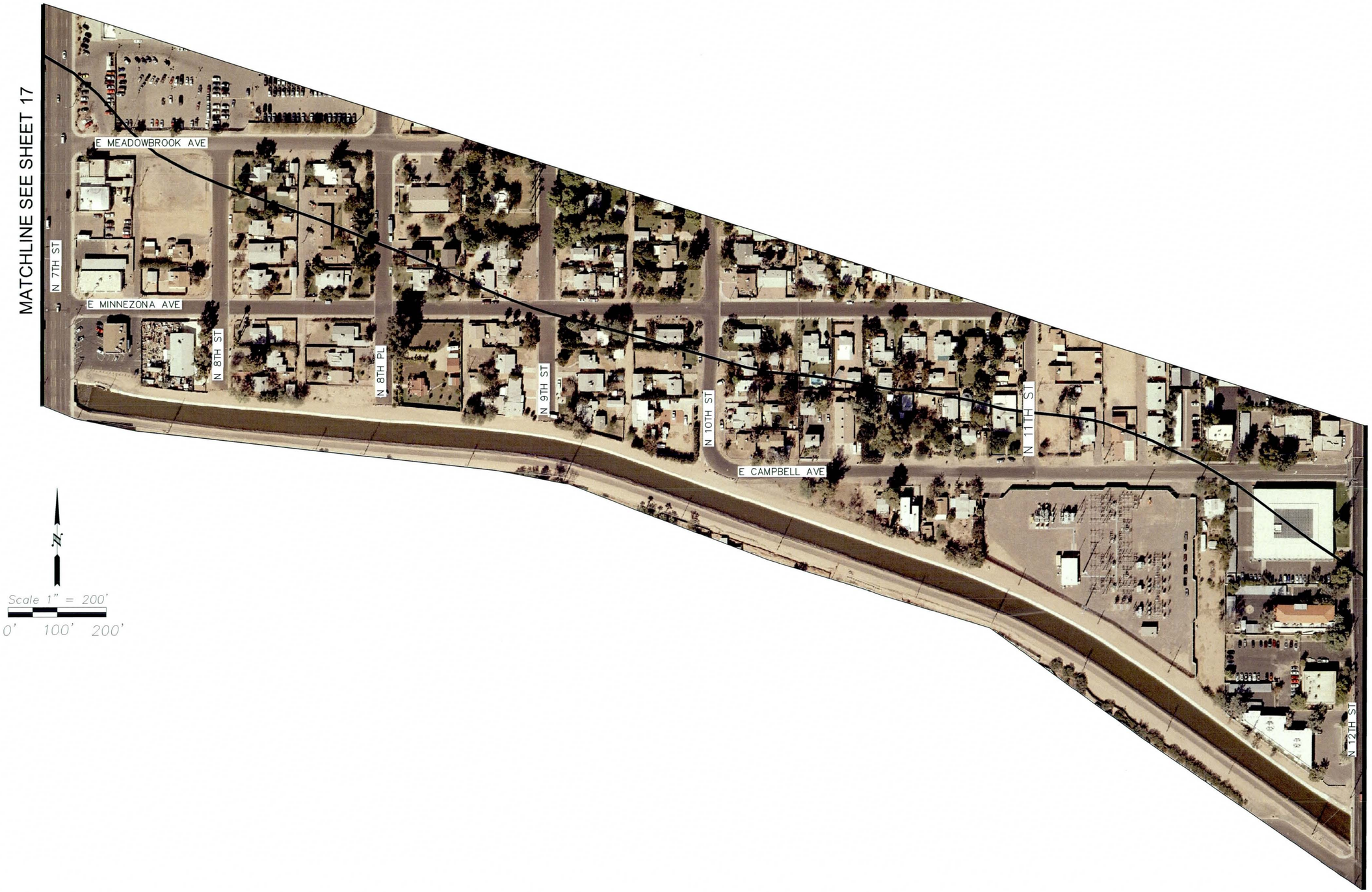
Notes :

Sheet Title :

AERIAL
7TH ST
TO
12TH ST

Sheet Number:

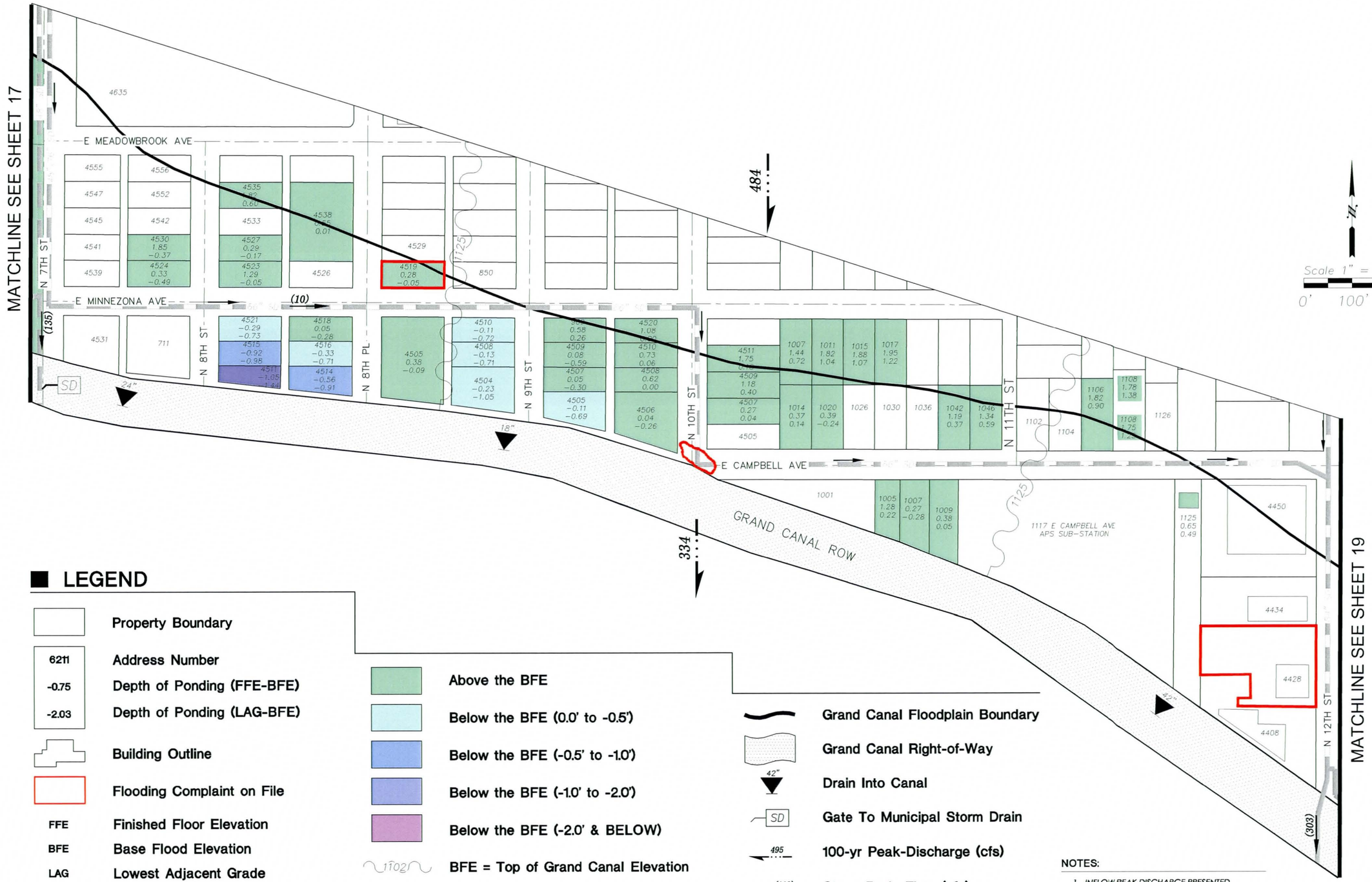
18
18 of 32



N

Scale 1" = 200'

0' 100' 200'



LEGEND

- Property Boundary
- 6211 — Address Number
- -0.75 — Depth of Ponding (FFE-BFE)
- -2.03 — Depth of Ponding (LAG-BFE)
- Building Outline
- Flooding Complaint on File
- FFE — Finished Floor Elevation
- BFE — Base Flood Elevation
- LAG — Lowest Adjacent Grade
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- SD — Gate To Municipal Storm Drain
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 7th STREET AND 12th STREET.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY WOOD, PATEL FOR THE CITY OF PHOENIX, DATED JULY 2005.

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CONTRACT NO. FCD-2008C032

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA
7TH ST
TO
12TH ST

Sheet Number:

18

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Remarks :

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
12TH ST
TO
15TH ST

Sheet Number:

19
19 of 32

Scale 1" = 200'

0' 100' 200'

LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1702	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
495	100-yr Peak-Discharge (cfs)
	Existing Storm Drain
	Direction Of Flow

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 12th STREET AND 16th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY WOOD, PATEL FOR THE CITY OF PHOENIX, DATED JULY 2005.*

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CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA 12TH ST TO 15TH ST

Sheet Number:

19

Gavan & Barker Inc.

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Remarks :

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
15TH ST
TO
18TH ST

Sheet Number:

20
20 of 32

Scale 1" = 200'

0' 100' 200'

LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1702	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
SD	Gate To Municipal Storm Drain
495	100-yr Peak-Discharge (cfs)
(118)	Storm Drain Flow (cfs)
	Existing Storm Drain
	Direction Of Flow

Scale 1" = 200'

0' 100' 200'

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 16th STREET AND SR-51.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY WOOD, PATEL FOR THE CITY OF PHOENIX, DATED JULY 2005.

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G&B No.	0808
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Sheet Title :

FLOODPLAIN DATA
15TH ST
TO
18TH ST

Sheet Number:

20

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Remarks :

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Issue Date:	06-19-09
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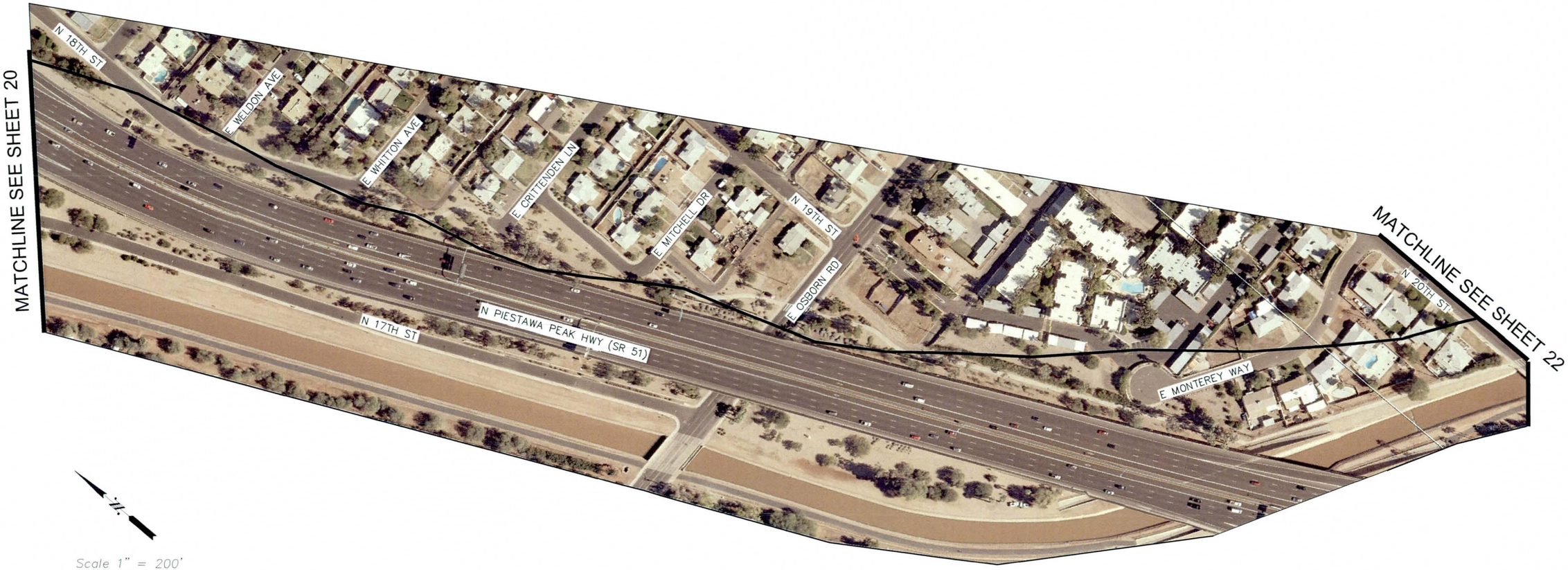
Notes :

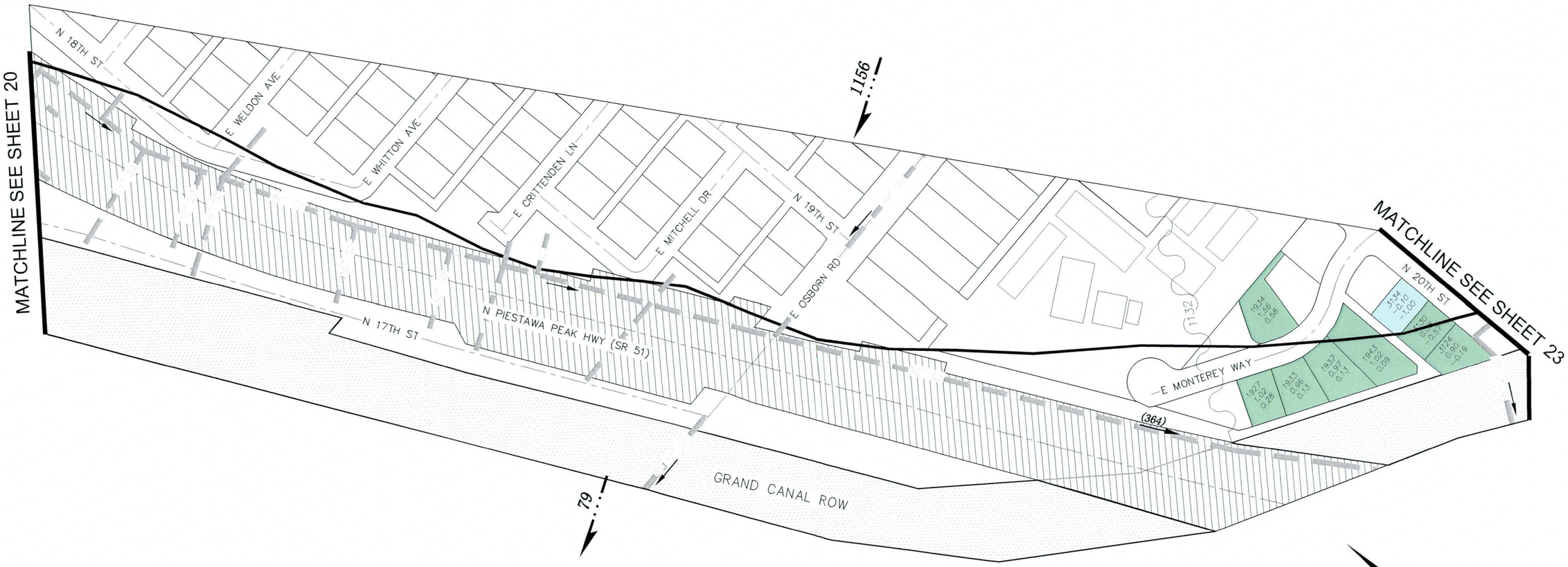
Sheet Title :

AERIAL
18TH ST
TO
20TH ST

Sheet Number:

21
21 of 32





LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1102	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
495	100-yr Peak-Discharge (cfs)
(118)	Storm Drain Flow (cfs)
	Existing Storm Drain
	Direction Of Flow

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN SR-51 AND 20th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY COE & VAN LOO FOR THE CITY OF PHOENIX, DATED NOVEMBER 2004.*

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Civil Engineering
Landscape Architecture

Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
18TH ST
TO
20TH ST

Sheet Number:

21
21 of 32

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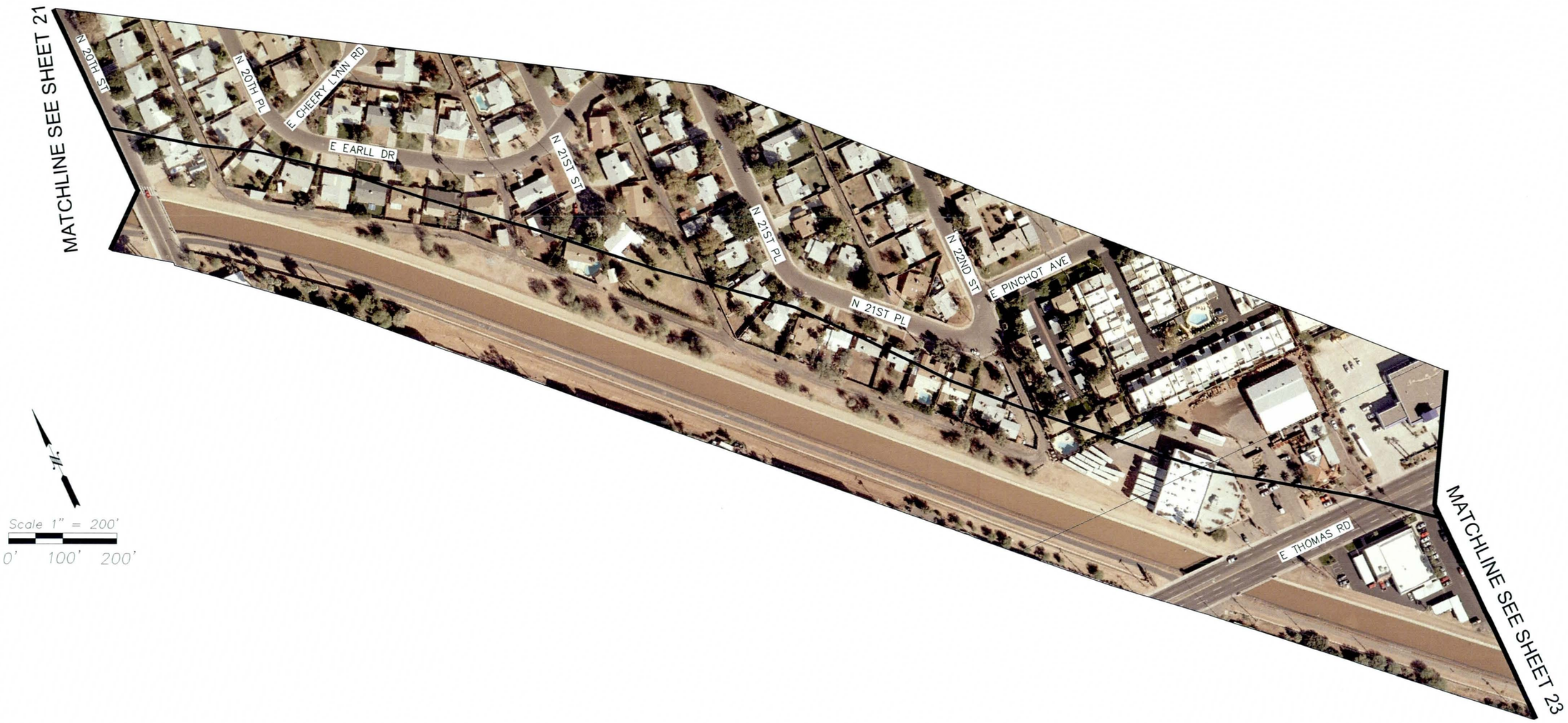
Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032



Scale 1" = 200'
0' 100' 200'

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

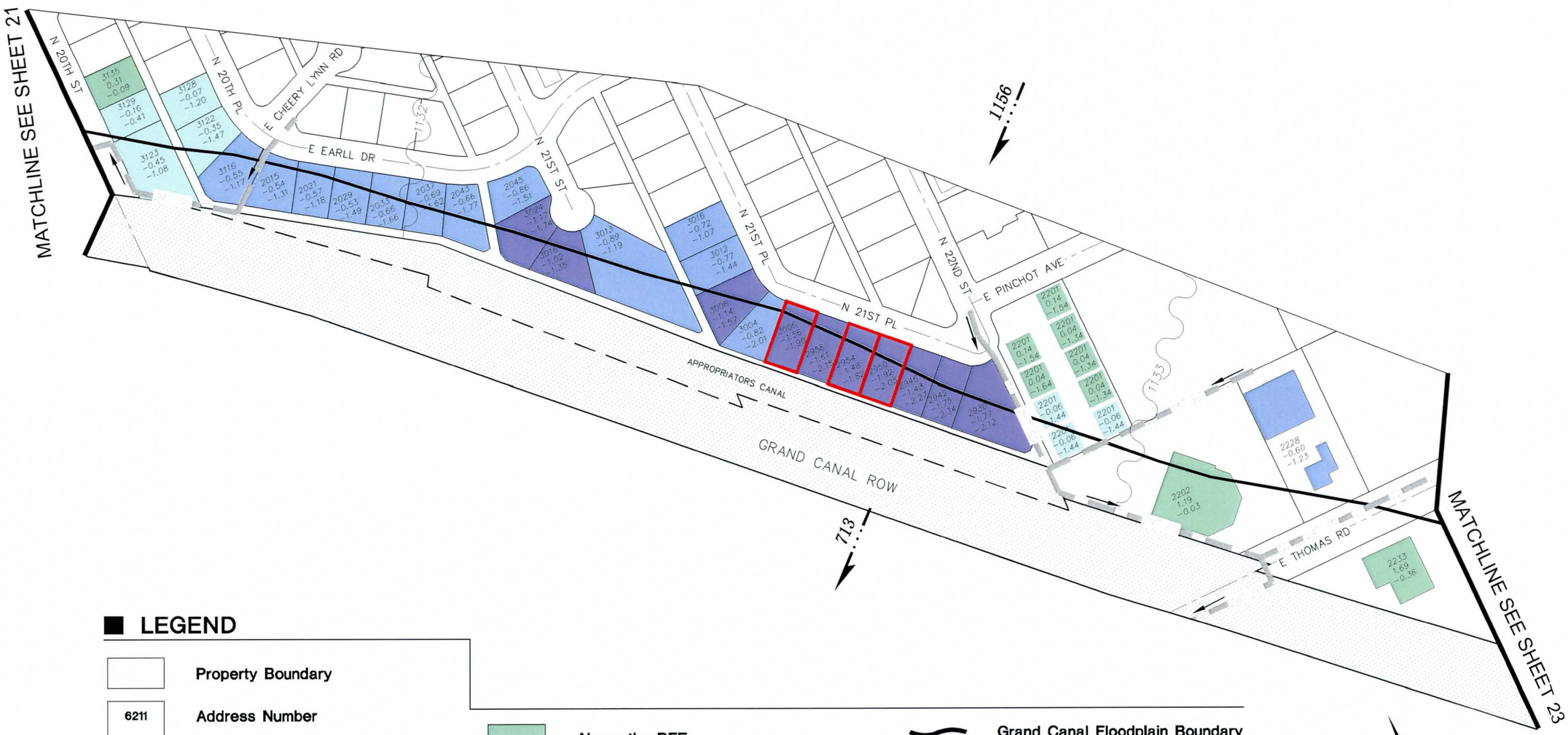
Notes :

Sheet Title :

AERIAL
20TH ST
TO
23RD ST

Sheet Number:

22
22 of 32



LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
	Flooding Complaint on File
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1702	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
495	100-yr Peak-Discharge (cfs)
	Existing Storm Drain
	Direction of Flow

Scale 1" = 200'

0' 100' 200'

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 20th STREET AND 24th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY COE & VAN LOO FOR THE CITY OF PHOENIX, DATED NOVEMBER 2004.*

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
20TH ST
TO
23RD ST

Sheet Number:

22

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CONTRACT NO. FCD-2008C032

Remarks :

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

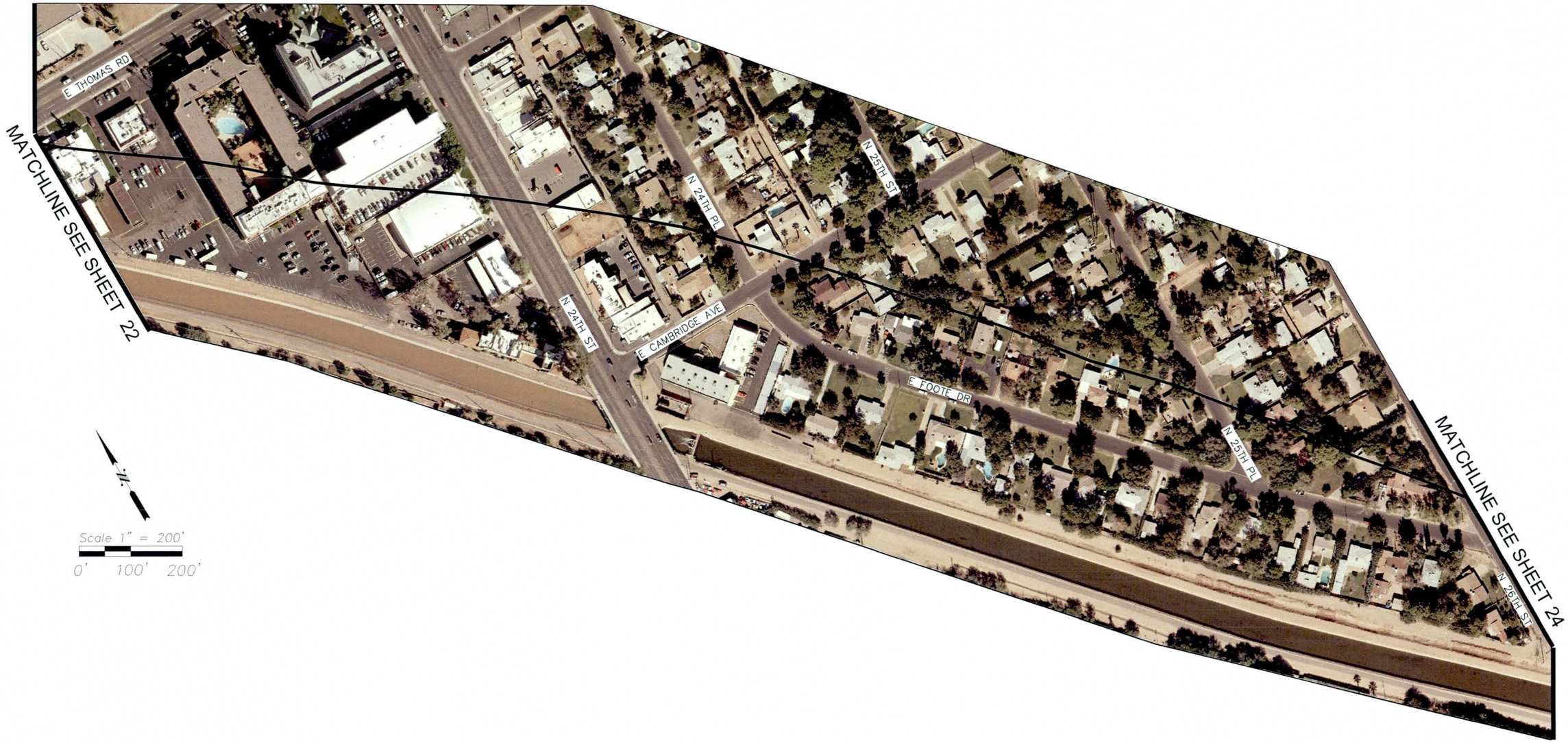
Notes :

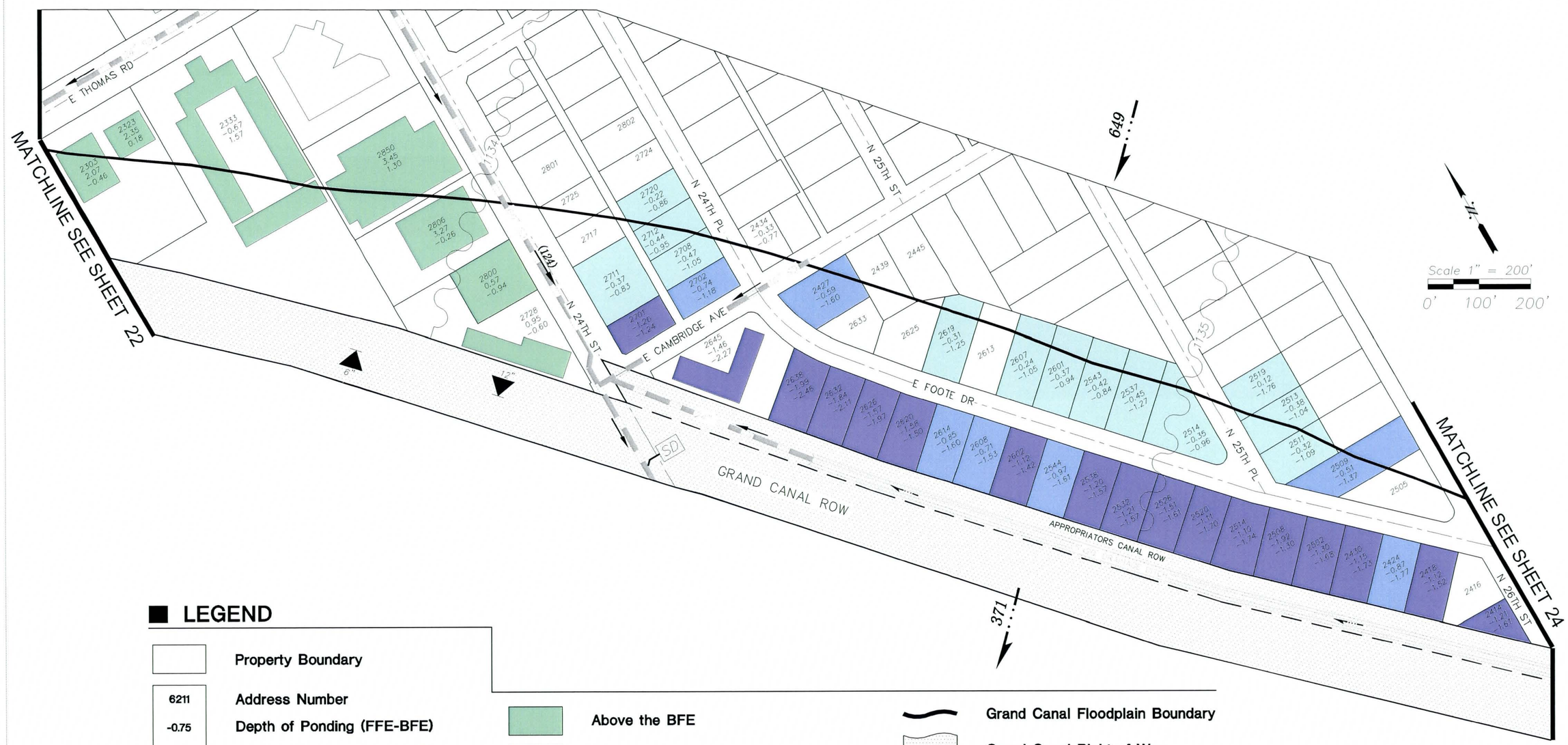
Sheet Title :

AERIAL
23RD ST
TO
26TH ST

Sheet Number:

23
23 of 32





LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade
	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1102	BFE = Top of Grand Canal Elevation
	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
SD	Gate To Municipal Storm Drain
495	100-yr Peak-Discharge (cfs)
(118)	Storm Drain Flow (cfs)
	Existing Storm Drain
	Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 24th STREET AND 28th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY COE & VAN LOO FOR THE CITY OF PHOENIX, DATED NOVEMBER 2004.*

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA 23RD ST TO 26TH ST

Sheet Number:

23

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CONTRACT NO. FCD-2008C032

Remarks :

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

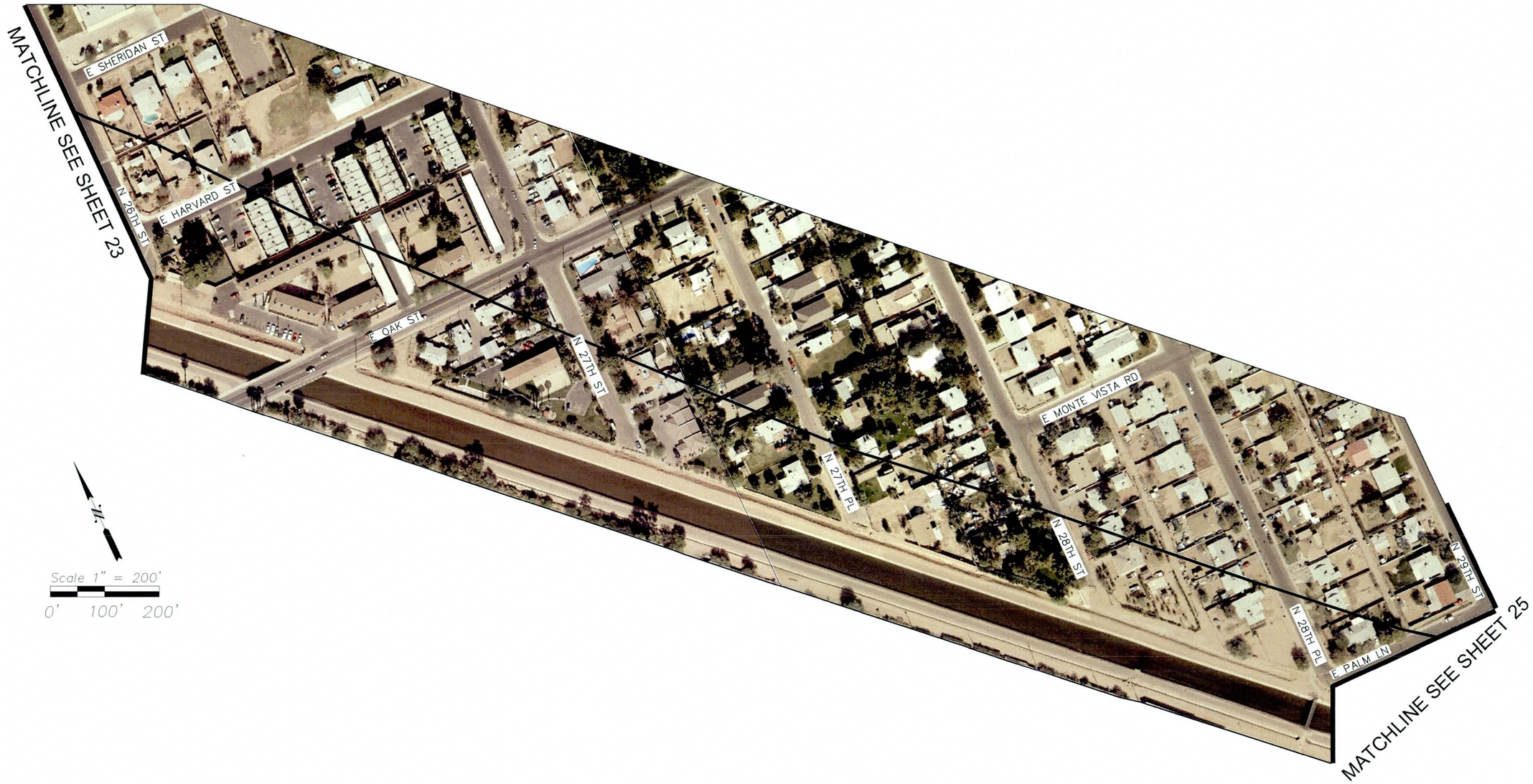
Notes :

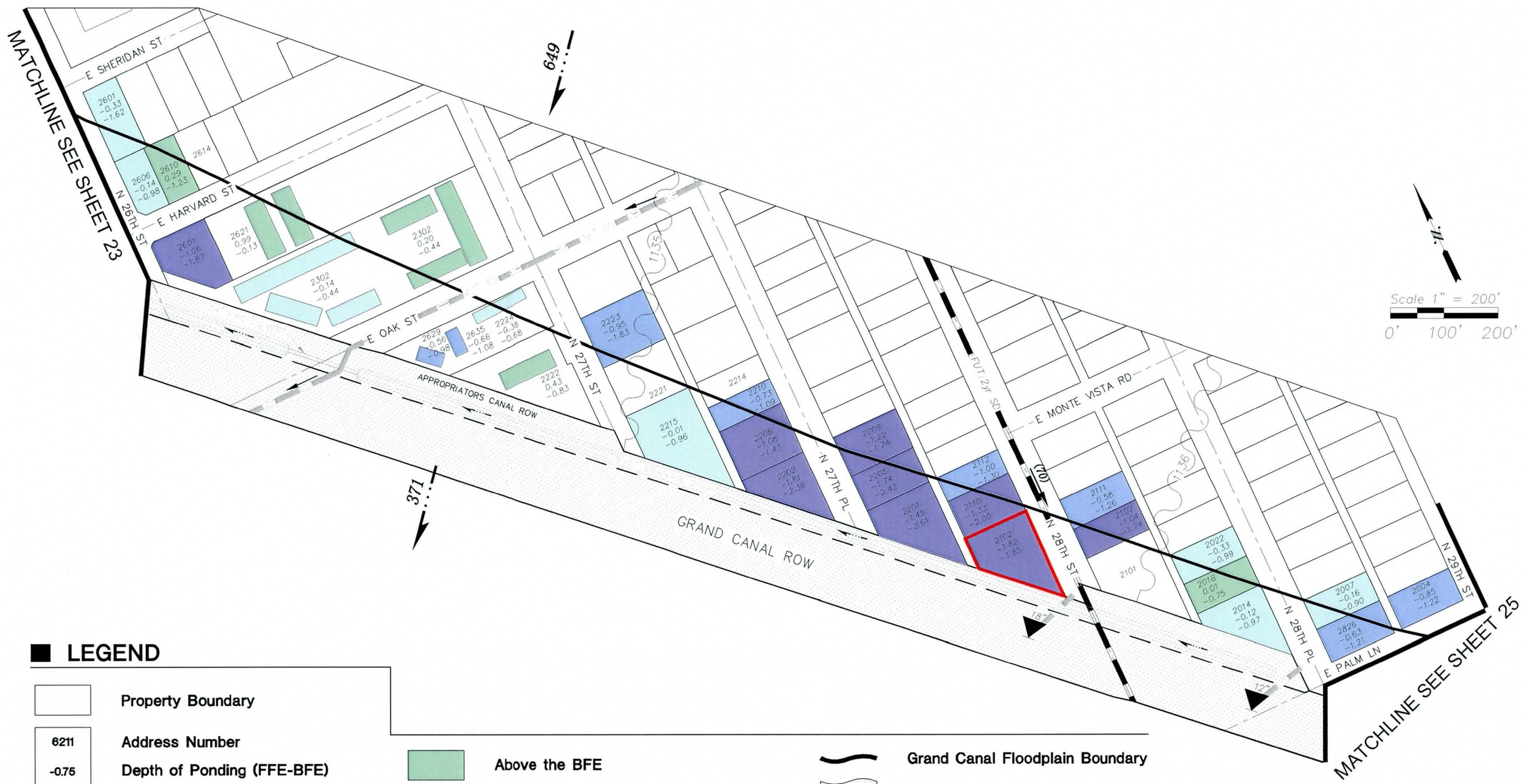
Sheet Title :

AERIAL
26TH ST
TO
29TH ST

Sheet Number:

24
24 of 32





LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
	Flooding Complaint on File
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade
	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1102	BFE = Top of Grand Canal Elevation
	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
495	100-yr Peak-Discharge (cfs)
(118)	Storm Drain Flow (cfs)
	Existing Storm Drain
42" SD	Future Storm Drain
	Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 24th STREET AND 28th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY COE & VAN LOO FOR THE CITY OF PHOENIX, DATED NOVEMBER 2004.*

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CONTRACT NO. FCD-2008C032

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA 26TH ST TO 29TH ST

Sheet Number:

24

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CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

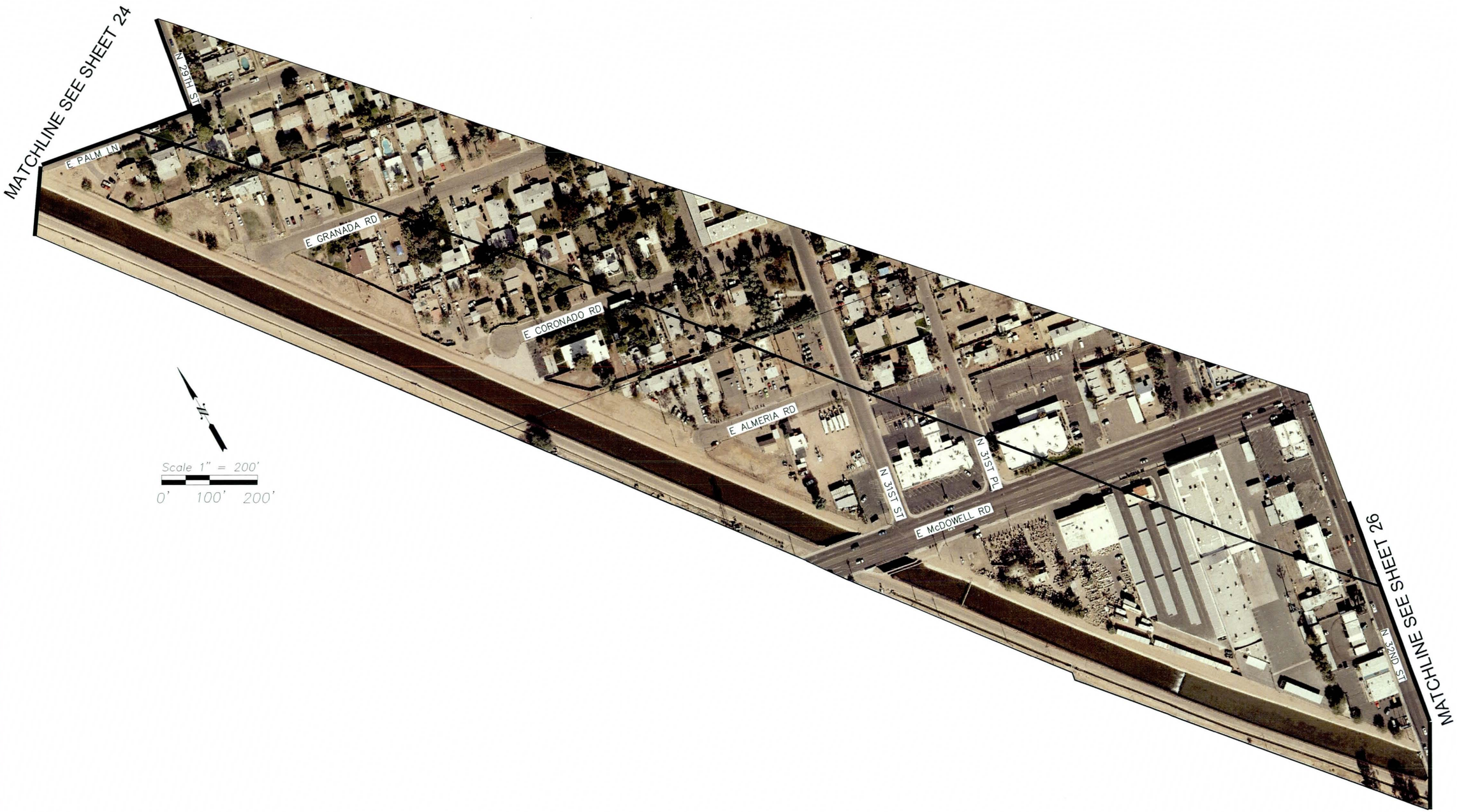
Notes :

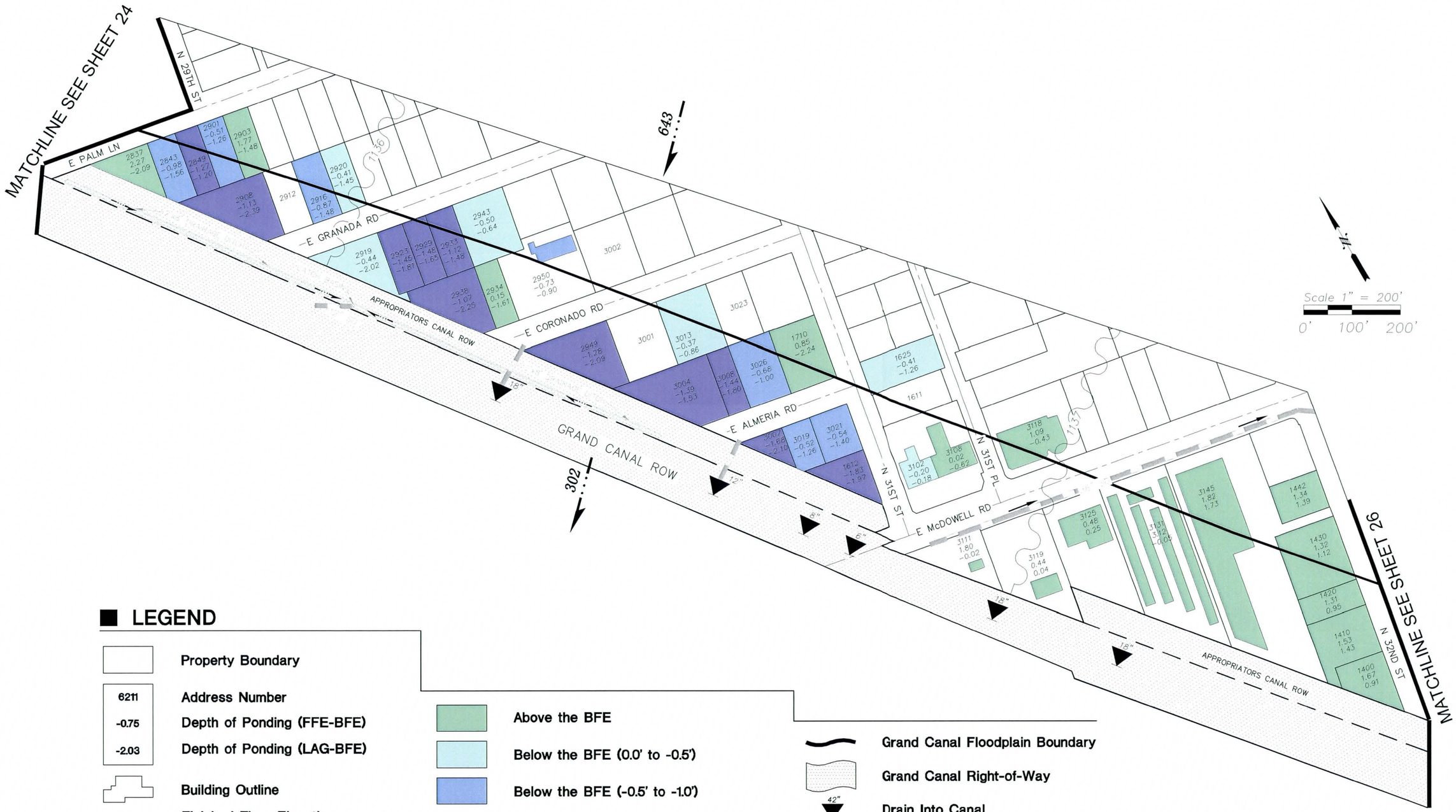
Sheet Title :

AERIAL
29TH ST
TO
32ND ST

Sheet Number:

25
25 of 32





LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1702	BFE = Top of Grand Canal Elevation

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
42"	Drain Into Canal
495	100-yr Peak-Discharge (cfs)
(118)	Storm Drain Flow (cfs)
	Existing Storm Drain
	Direction Of Flow

NOTES:

1. INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 28th STREET AND 32nd STREET.
2. ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY COE & VAN LOO FOR THE CITY OF PHOENIX, DATED NOVEMBER 2004.

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GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA
29TH ST
TO
32ND ST

Sheet Number:

25
25 of 32

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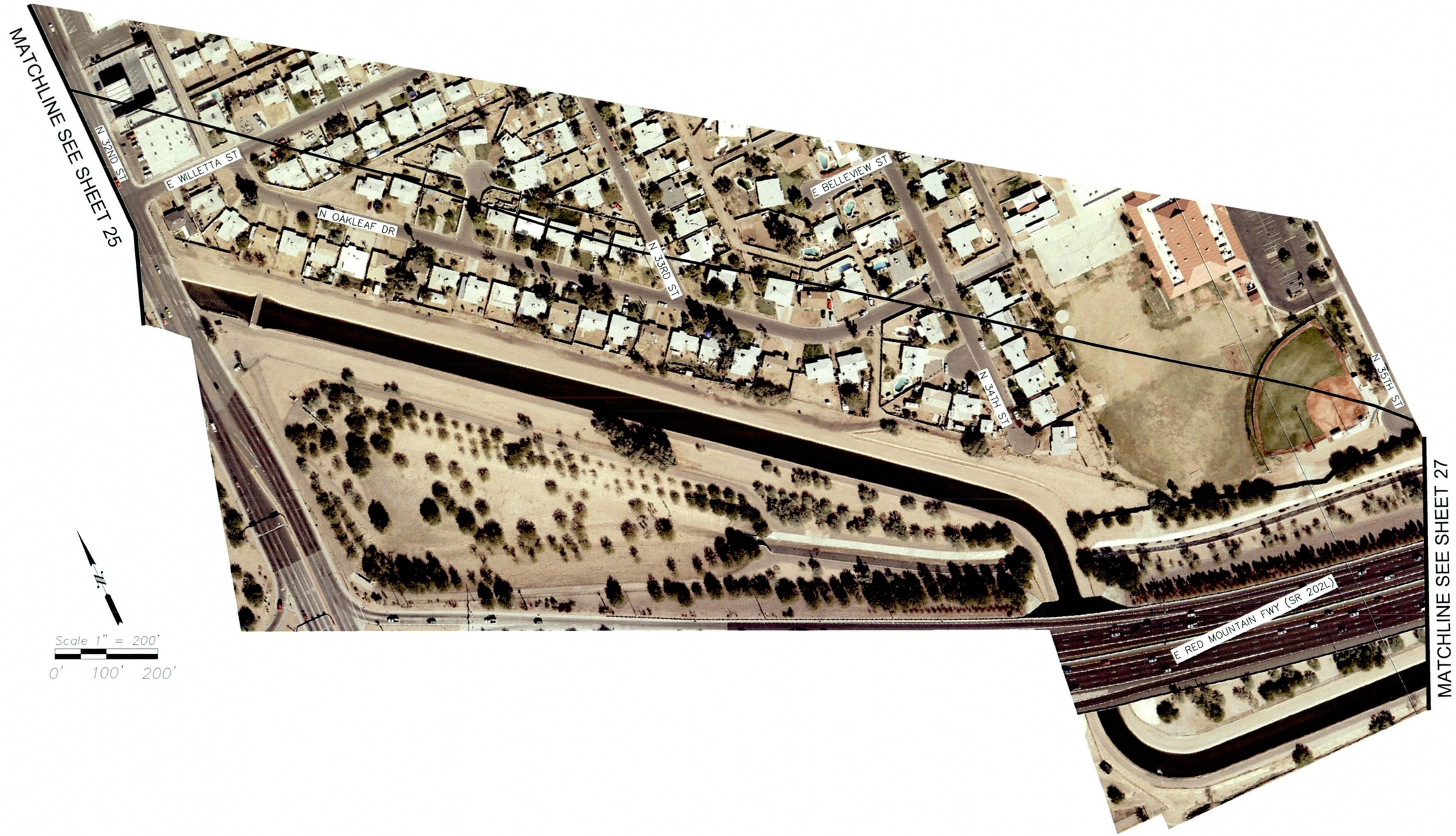
Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :



Scale 1" = 200'

0' 100' 200'

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G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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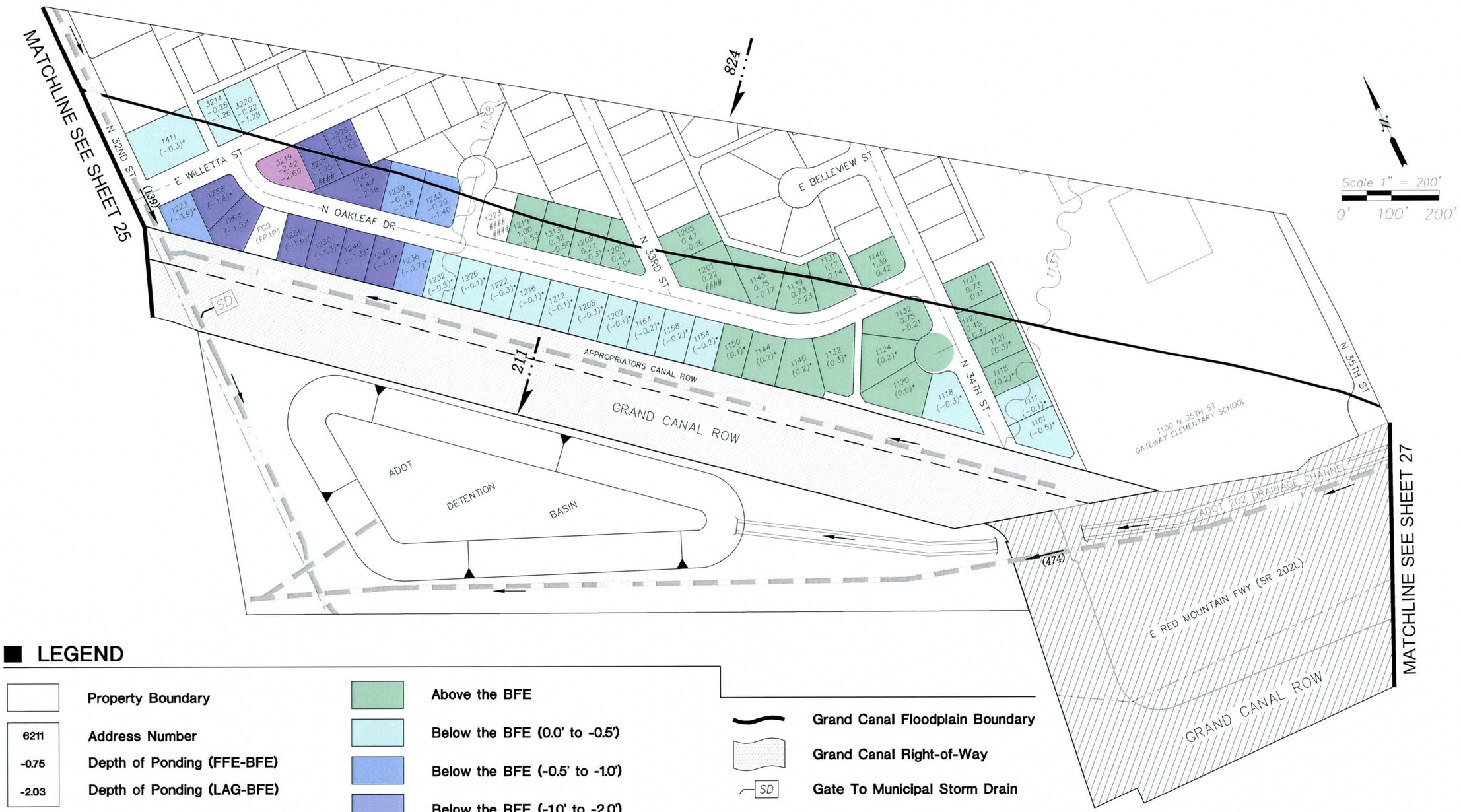
Notes :

Sheet Title :

AERIAL
32ND ST
TO
35TH ST

Sheet Number:

26
26 of 32



LEGEND

	Property Boundary
6211	Address Number
-0.75	Depth of Ponding (FFE-BFE)
-2.03	Depth of Ponding (LAG-BFE)
	Building Outline
FFE	Finished Floor Elevation
BFE	Base Flood Elevation
LAG	Lowest Adjacent Grade

	Above the BFE
	Below the BFE (0.0' to -0.5')
	Below the BFE (-0.5' to -1.0')
	Below the BFE (-1.0' to -2.0')
	Below the BFE (-2.0' & BELOW)
1702	BFE = Top of Grand Canal Elevation
(-0.9)*	Interpolated Depth of Ponding

	Grand Canal Floodplain Boundary
	Grand Canal Right-of-Way
SD	Gate To Municipal Storm Drain
495	100-yr Peak-Discharge (cfs)
(118)	Storm Drain Flow (cfs)
	Existing Storm Drain
	Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 32nd STREET AND 36th STREET.*
2. *ELEVATION DATA SHOWN HEREON WAS TAKEN FROM ELEVATION CERTIFICATES PREPARED BY LANDMARK ENGINEERING FOR THE CITY OF PHOENIX, DATED JUNE 2002.*

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
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Sheet Title :

FLOODPLAIN DATA 32ND ST TO 35TH ST

Sheet Number:

26

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FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

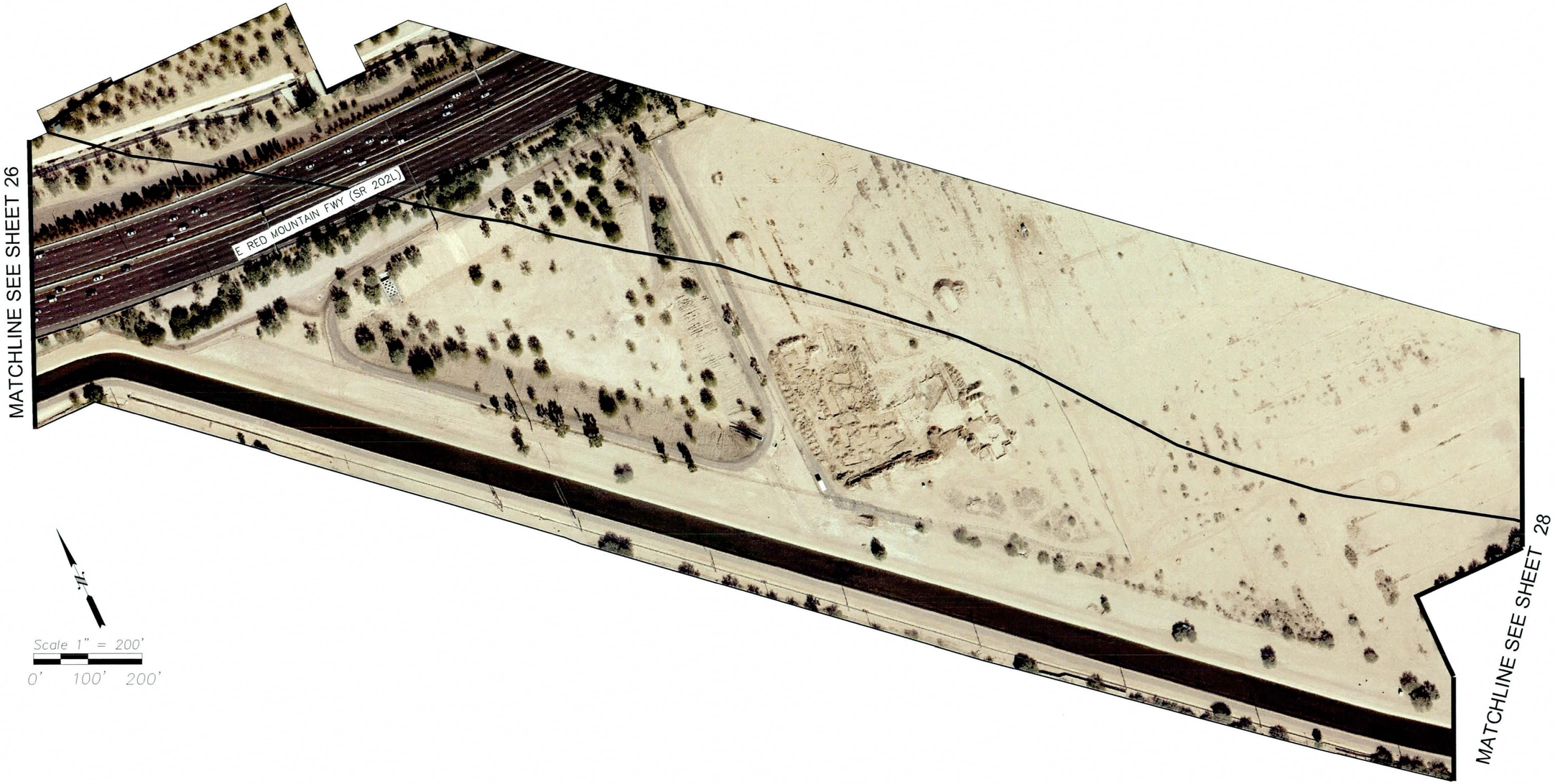
Notes :

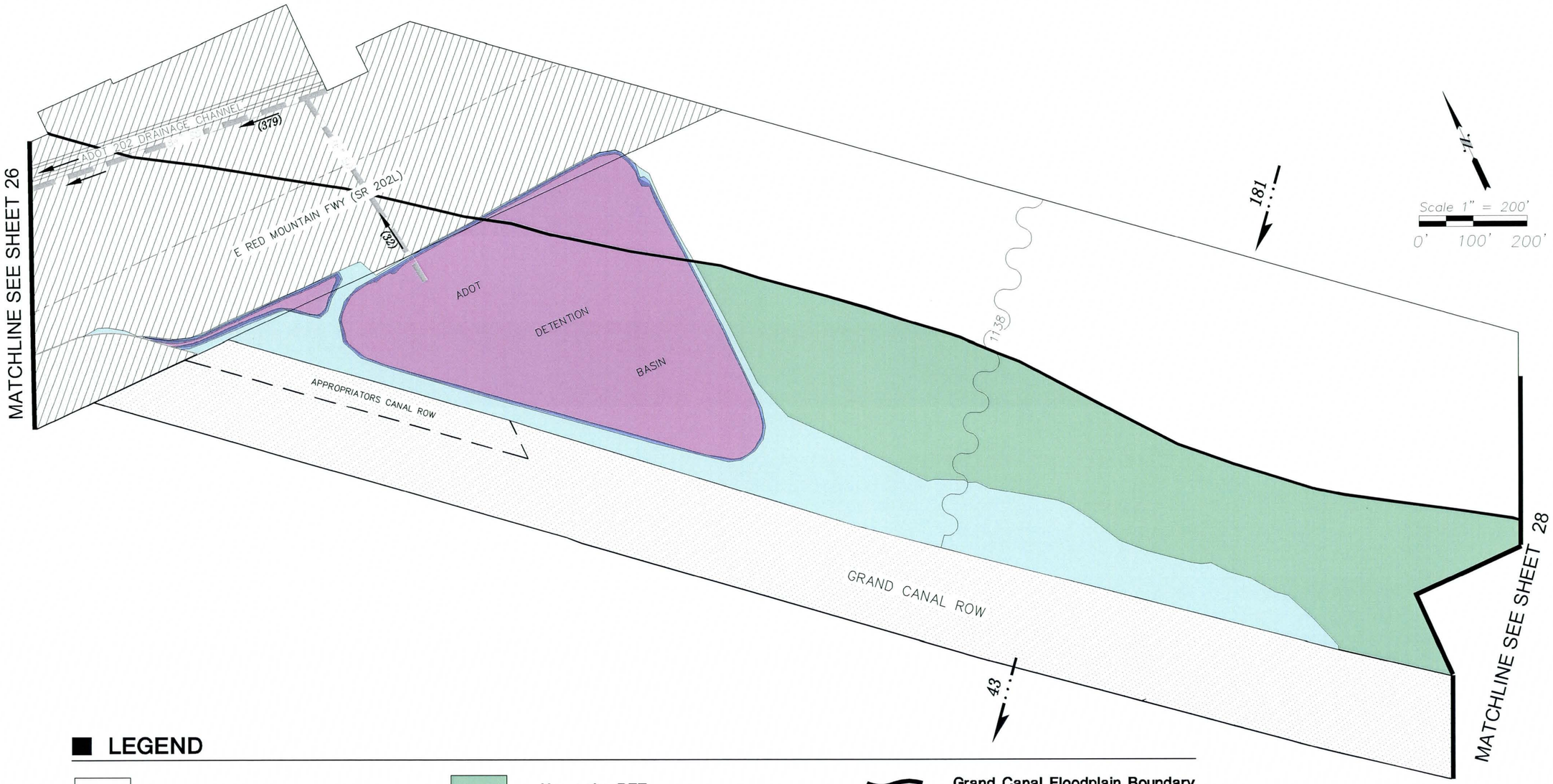
Sheet Title :

AERIAL
35TH ST
TO
38TH ST

Sheet Number:

27
27 of 32





LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 36th STREET AND 40TH STREET.*
2. *ELEVATION DATA SHOWN HERON WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Submittal :	
G&B No.	0808
Issue Date:	06-19-09
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Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
35TH ST
TO
38TH ST

Sheet Number:

27

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CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

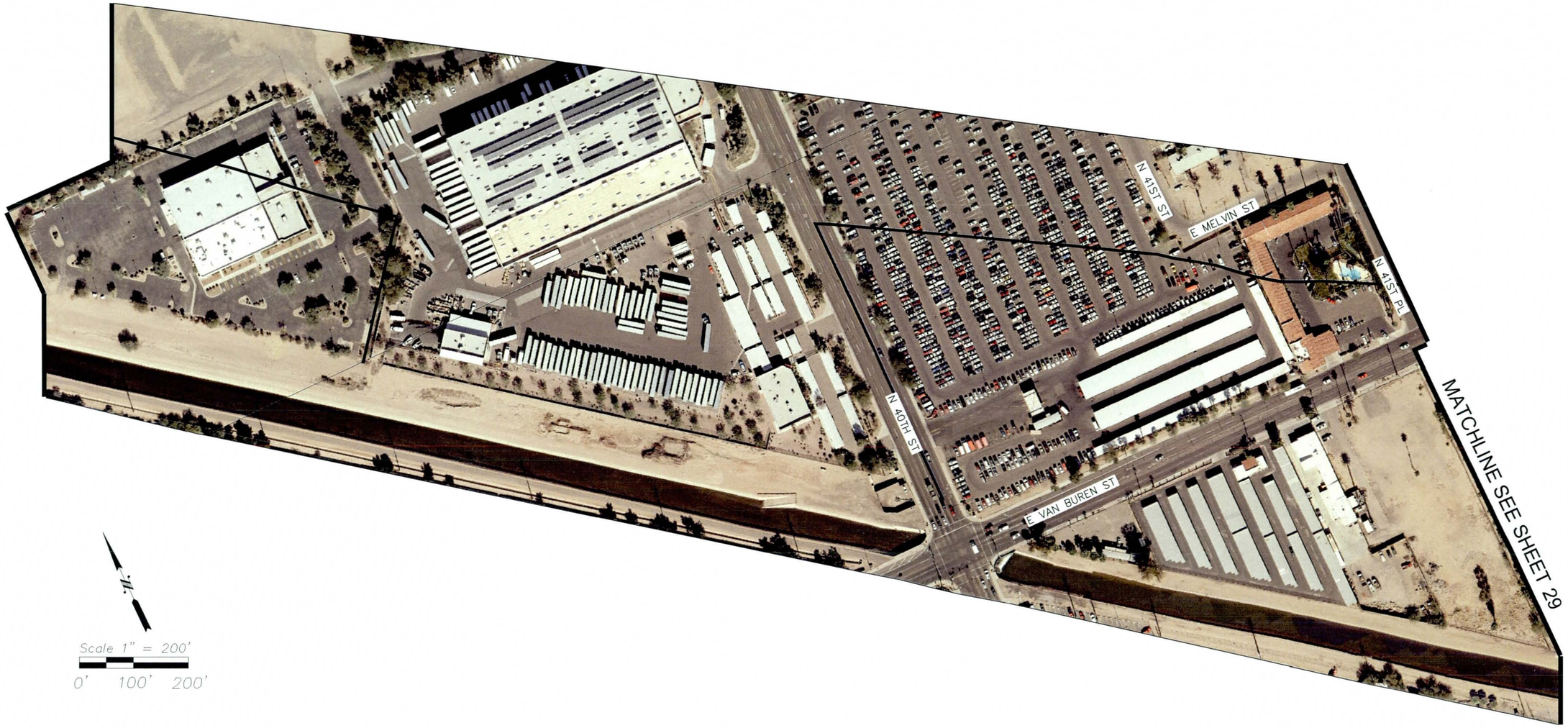
Notes :

Sheet Title :

AERIAL
38TH ST
TO
41ST PL

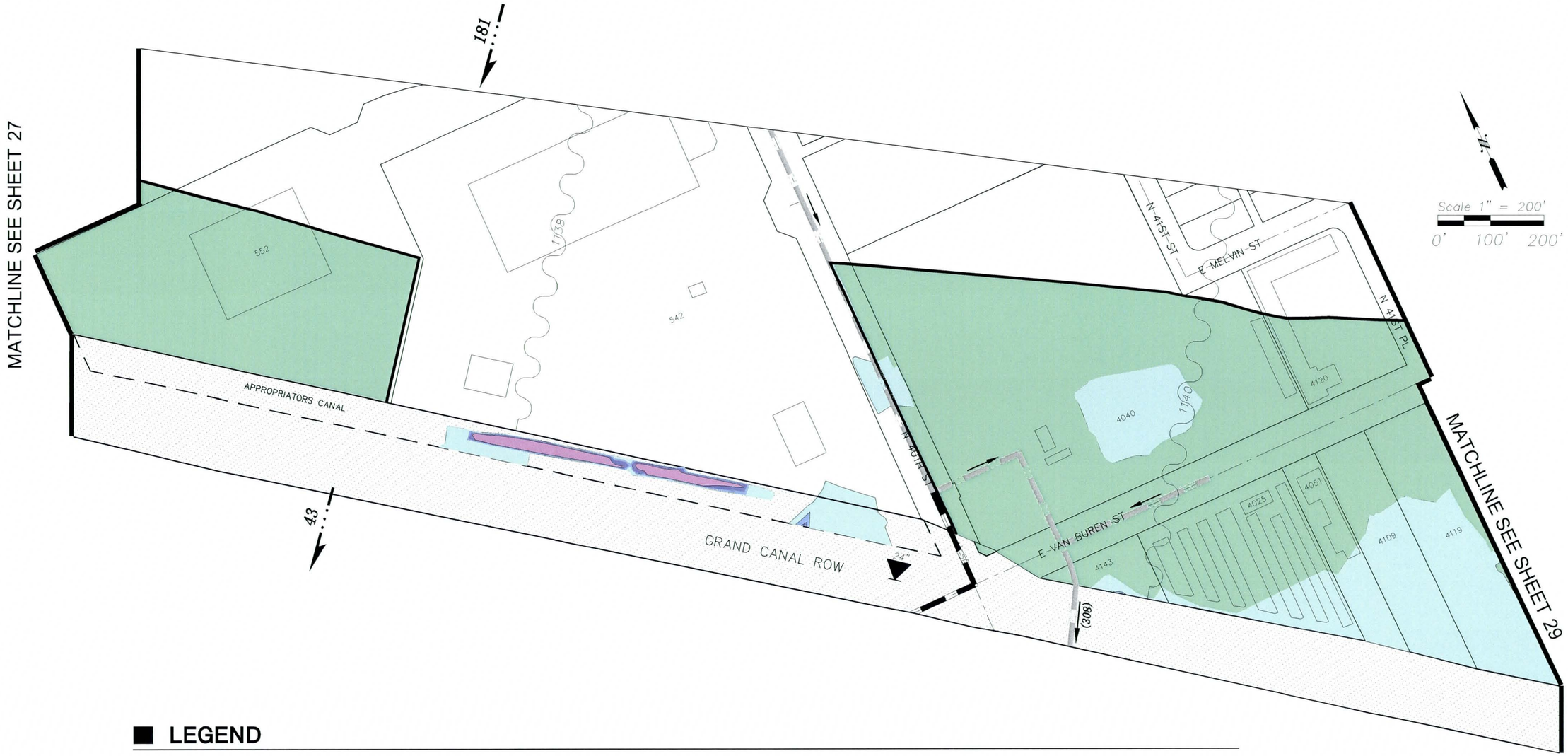
Sheet Number:

28
28 of 32



Scale 1" = 200'

0' 100' 200'



LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- 42" SD — Future Storm Drain
- Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 36th STREET AND 40TH STREET.*
2. *ELEVATION DATA SHOWN HERON WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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Submittal :

G&B No.	0808
Issue Date:	06-19-09
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Sheet Title :

FLOODPLAIN DATA 38TH ST TO 41ST PL

Sheet Number:

28

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Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
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Checked By:	MTG

Notes :

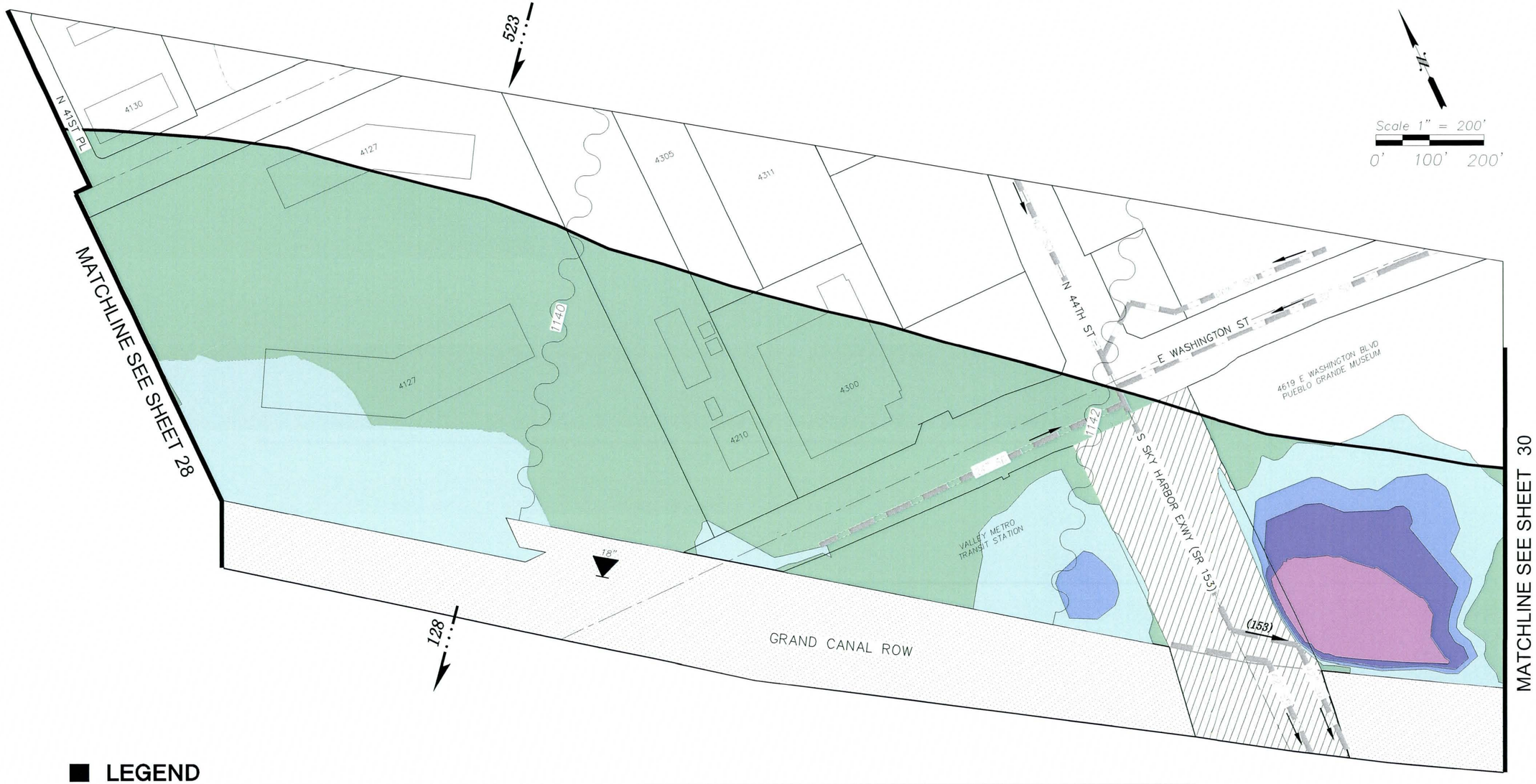
Sheet Title :

AERIAL
41ST PL
TO
45TH ST

Sheet Number:

29
29 of 32

Scale 1" = 200'
0' 100' 200'



LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 40th STREET AND 44TH STREET.*
2. *ELEVATION DATA SHOWN HERON WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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Submittal :

G&B No:	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Sheet Title :

FLOODPLAIN DATA
41ST PL
TO
45TH ST

Sheet Number:

29

Gavan & Barker Inc.

Gavan & Barker, Inc.
3030 N. Central Ave.
Suite 1530
Phoenix, Arizona 85012
Phone: 602-200-0031
Fax: 602-200-0032

Civil Engineering
Landscape Architecture

Project :

GRAND CANAL
FLOODPLAIN ALTERNATIVE ANALYSIS
FLOOD CONTROL DISTRICT OF MARICOPA COUNTY
CONTRACT NO. FCD-2008C032

Remarks :

Submittal :

G&B No.	0808
Issue Date:	06-19-09
Drawn By:	OK
Checked By:	MTG

Notes :

Sheet Title :

AERIAL
45TH ST
TO
48TH ST

Sheet Number:

30
30 of 32

LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN 44th STREET AND SR-143.*
2. *ELEVATION DATA BETWEEN 45th STREET AND SR-143 WAS TAKEN FROM 2' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*
3. *ELEVATION DATA BETWEEN SR-143 AND 48th STREET WAS TAKEN FROM 4' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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FLOODPLAIN DATA
45TH ST
TO
48TH ST

Sheet Number:

30

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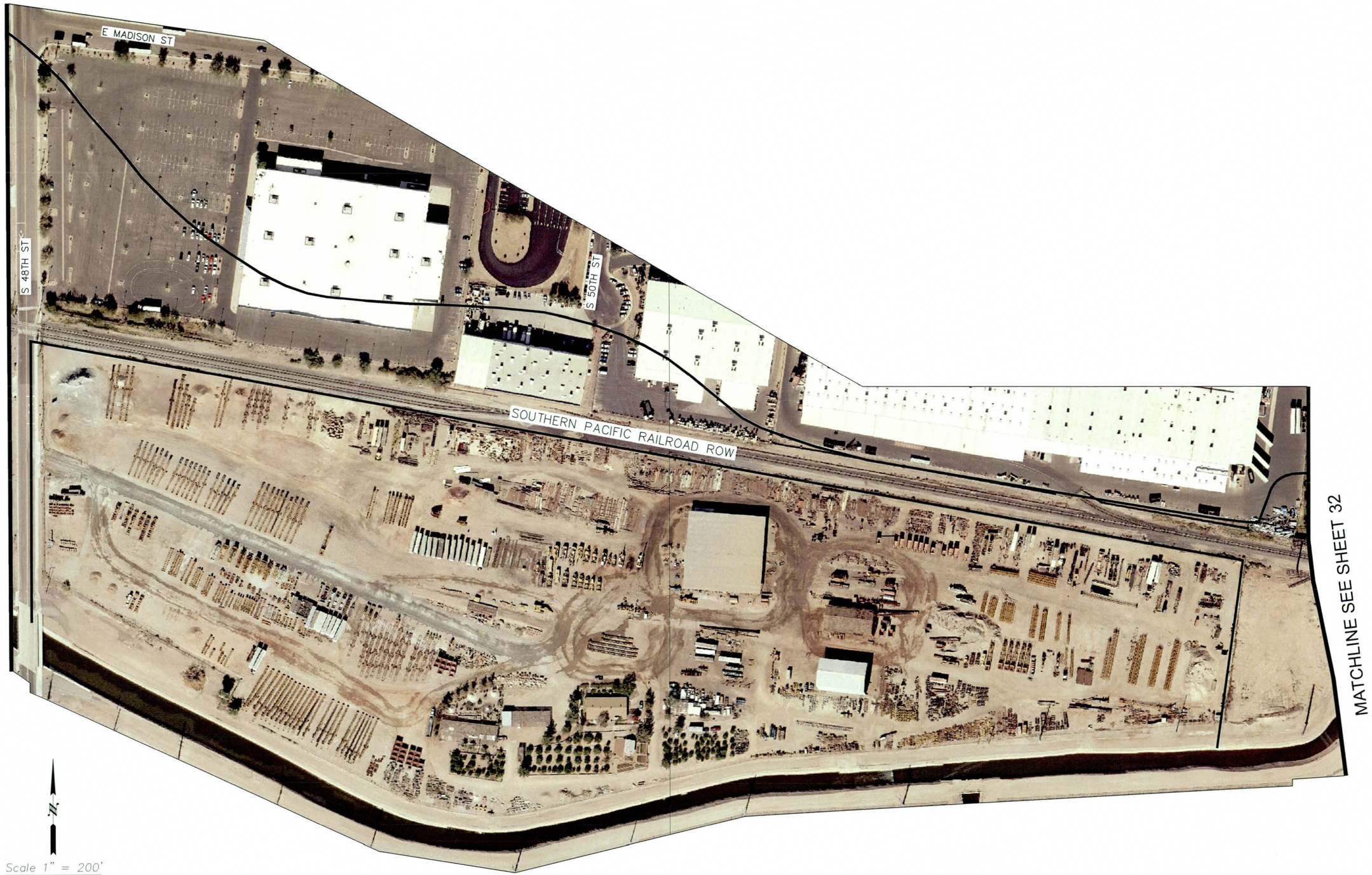
Notes :

Sheet Title :

AERIAL
48TH ST
TO
LOOP 202

Sheet Number:

31
31 of 32



LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 495 — 100-yr Peak-Discharge (cfs)

NOTES:

1. *ELEVATION DATA SHOWN HERON WAS TAKEN FROM 4' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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FLOODPLAIN DATA
48TH ST
TO
LOOP 202

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31
31 of 32

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Notes :

Sheet Title :

AERIAL
LOOP 202
TO
56TH ST

Sheet Number:

32
32 of 32

LEGEND

- Property Boundary
- 6211 — Address Number
- Building Outline
- Grand Canal Floodplain Boundary
- Grand Canal Right-of-Way
- 42" — Drain Into Canal
- 495 — 100-yr Peak-Discharge (cfs)
- (118) — Storm Drain Flow (cfs)
- Existing Storm Drain
- Direction Of Flow

LEGEND

- Above the BFE
- Below the BFE (0.0' to -0.5')
- Below the BFE (-0.5' to -1.0')
- Below the BFE (-1.0' to -2.0')
- Below the BFE (-2.0' & BELOW)
- 1102 — BFE = Top of Grand Canal Elevation

NOTES:

1. *INFLOW PEAK DISCHARGE PRESENTED HEREON IS TOTAL INCOMING 100-YR FLOW BETWEEN LOOP 202 AND PRIEST ROAD.*
2. *ELEVATION DATA SHOWN HERON WAS TAKEN FROM 4' CONTOUR MAPPING PROVIDED BY THE FLOOD CONTROL DISTRICT.*

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Sheet Title :

FLOODPLAIN DATA
LOOP 202
TO
56TH ST

Sheet Number:

32

32 of 32

Appendix B: **Matrix of Brainstorming Ideas (Overall Floodplain)**

Matrix of Brainstorming Ideas

Overall Floodplain

63rd Ave to 34th St (Reach of the Grand Canal Floodplain that is most susceptible to major flooding)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Extend BHOC all the way (Interceptor Channel)	No	Adv: Very good flood protection, opportunities for multi-use and continuous trail system
		Dis: Extremely expensive, significant land acquisition/owner relocation required
Storm drain along Indian School Rd. from I-17 west to a proposed detention basin at Maryvale GC	No	Adv: No land acquisition/owner relocation required, good flood protection
		Dis: Very disruptive during construction, very expensive, questionable agency acceptance (City Parks Department)
Storm drain within the Grand Canal right-of-way, upstream bank	Yes	Adv: Possible use of the SRP Right-of-Way, no land acquisition/owner relocation, good flood protection
		Dis: Constructability, high construction cost, difficulty in conveying water from neighborhoods into storm drain (houses in the way)
Raise intersecting roads and provide culvert crossings (allows the stormwater to pass under major streets and not pond on the upstream side)	No	Adv: No land acquisition/owner relocation required
		Dis: Constructability, disruption during construction, increase in downstream flood hazards
Grand Canal Modification		
Underground the Grand Canal, then use the Canal to convey storm water	No	Adv: Very good flood protection
		Dis: Extremely expensive, no agency acceptance (SRP)
Underground the Grand Canal and build stormwater detention basins above	No	Adv: Very good flood protection, opportunities for multi-use and continuous trail, community acceptance
		Dis: Extremely expensive, no agency acceptance (SRP)
Reconstruct Grand Canal with steeper grade, increase conveyance capacity of Grand Canal, the increase in capacity could be used to carry stormwater	No	Adv: Minimal neighborhood disruption during construction
		Dis: Insufficient capacity, no agency acceptance (SRP)
Floodwall separating Grand Canal (part for irrigation, part for storm water protection)	No	Adv: Minimal neighborhood disruption during construction, relatively inexpensive
		Dis: Current Canal has insufficient capacity to carry BOTH irrigation water and stormwater, no agency acceptance (SRP)
Siphon Grand Canal / lower the roads at major street crossings	No	Adv: No land acquisition required
		Dis: Constructability, increase potential of flooding downstream of Grand Canal, no agency acceptance (SRP)
Consider breaches in worst areas of ponding and the positive impacts upstream	No	Adv: Help with flood protection upstream of Grand Canal
		Dis: No agency acceptance (SRP), increase potential of flooding downstream of the Grand Canal
Flood proofing		
Voluntary flood proofing	Yes	Adv: Low construction cost, no land acquisition/owner relocation required
		Dis: Provides only isolated flood protection, could increase flood potential at non-flood proofed houses
Hopscotch Idea (Progressively raise the finished floors of a neighborhood)	No	Adv: Innovative idea to raising the FF above the BFE
		Dis: Questionable community acceptance, constructability, high construction cost
Buyout		
Public/Private Partnerships to buy existing homes in select floodplain locations and resell to be re-built above the base flood elevation	Yes	Adv: Good potential for financial partnerships (cost sharing), recover cost by re-selling properties for development
		Dis: High land acquisition/owner relocation costs (although could be recouped), questionable community acceptance

Non-structural		
Further elevation certificates	Yes	Adv: Relatively inexpensive, detailed account of flood prone neighborhoods/homes
		Dis: Flooding problems remain "as is"
Study less than 100-yr storms (10-yr storage), assume street storage	No	Adv: Relatively inexpensive
		Dis: Complex analysis, unlikely to result in lower flood potential
Detailed floodplain analysis along Grand Canal	No	Adv: Better define the floodplain boundary, identify flood prone neighborhoods/homes
		Dis: Potential for increasing the floodplain boundary
Higher ranking for properties showing repetitive flooding under current FPAP, or develop separate equations for Zone "A" floodplains	Yes	Adv: May result in more homeowners receiving assistance for flood proofing
		Dis: Provides only isolated flood protection, could increase flood potential at non-flood proofed houses
Do a design study of the "Siphon" concept	No	Adv: Inexpensive
		Dis: No agency acceptance (SRP) for the "Siphon" concept implementation
Subsidize flood insurance	No	Adv: No construction cost, no disturbance during construction
		Dis: Flooding problems remain "as is," no agency acceptance (FCDMC)
No action	Yes	Adv: No cost
		Dis: Flooding problems remain "as is"

Appendix C: ***Matrix of Brainstorming Ideas (Individual Reaches of the Floodplain)***

Matrix of Brainstorming Ideas

Individual Reaches Of The Floodplain

63rd Ave to 43rd Ave (Primarily residential, approx. 700 homes, existing storm drain systems and two existing detention basins-Sunset and Maryvale Baseball Stadium)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Crittenden storm drain (per Maryvale ADMP)	Yes	Adv: No land acquisition/owner relocation cost, good flood protection
		Dis: High construction cost, neighborhood disruption during construction
Proposed storm drain in Clarendon Avenue, west of 59th Ave, that discharges to Sunset detention basin	Yes	Adv: Good flood protection, detention basin already in place
		Dis: Disturbance during construction, high construction cost
Proposed storm drain in Clarendon Avenue, east of 59th Ave, that discharges to Maryvale Stadium detention basin	Yes	Adv: Good flood protection, detention basin already in place
		Dis: Low flows into Maryvale Stadium Basin (sediment buildup), maintenance, bucking grade, high construction cost, capacity of detention basin
Proposed storm drain in Crittenden Lane, west of 43rd or 47th Ave, to Maryvale Stadium detention basin	Yes	Adv: Detention basin already in place, no land acquisition/owner relocation required
		Dis: Low flows into Maryvale Stadium Basin (sediment buildup), maintenance
Lower the Maryvale Stadium detention basin	No	Adv: Would allow a larger drainage area to drain to basin
		Dis: High maintenance cost, questionable agency acceptance (City Parks Department)
Collector channel north of Grand Canal to outfall to the ADOT Channel via a new storm drain in 59th Ave (ADOT channel is approx. 2.0 miles south of Grand Canal at 59th Ave)	Yes	Adv: Agency acceptance (City of Phoenix), good flood protection
		Dis: Relatively expensive, traffic disruption during construction
Increase capacity of overall storm drain system north of the Grand Canal to BHOC (especially in Indian School Rd)	No	Adv: No land acquisition/owner relocation
		Dis: Relatively expensive, traffic disruption during construction, better to outlet to Sunset basin since BHOC pipes slope back towards Sunset basin
Proposed storm drain in Indian School Rd from 43rd Ave to a proposed detention basin at Maryvale GC	No	Adv: No land acquisition/owner relocation,
		Dis: High construction cost, high disruption during construction, questionable agency acceptance (City Parks Department)
Proposed storm drain along Indian School Road to Maryvale Baseball Stadium detention basin	Yes	Adv: Existing detention basin, minimal/no land acquisition required
		Dis: Sediment buildup concern, capacity of existing basin
Proposed storm drain along Indian School Road to Sunset detention basin	Yes	Adv: Good flood protection, detention basin already in place
		Dis: Traffic disturbance during construction, high construction cost
Grand Canal Modification		
Expand the Grand Canal, increase its capacity so that its able to carry stormwater during flood events in addition to the irrigation water already present	No	Adv: Provide high level of flood protection
		Dis: High construction cost, no agency acceptance (SRP)
Lower 43rd Avenue / Siphon Canal at the street crossing	No	Adv: No land acquisition/owner relocation required
		Dis: Constructability, increase potential of flooding DS of Grand Canal, no agency acceptance (SRP)
Flood proofing (no specific ideas for this reach)		
Buyout		
Buyout existing homes that are in the floodplain	No	Adv: Could possibly be used to build new detention basins, multi-use opportunity
		Dis: High land acquisition/relocation costs (large number of homes), only benefits the bought out properties, area already has significant drainage infrastructure
Non-Structural (no specific ideas for this reach)		

43rd Ave to I-17 (Industrial, approx. 100 buildings, most severe problems at 38th and 42nd Ave)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Multiple detention basin opportunities (also consider underground storage, tanks under parking lots)	Yes	Adv: Could provide flood protection for more frequent flood events
		Dis: Disturbance during construction, underground storage would be relatively expensive
Look at using the multiple existing detention basins along Grand Avenue	No	Adv: They are already in place
		Dis: They are already at full capacity
Collector channel/storm drain along Grand Canal from Grand Ave (35th Ave) to 43rd Ave (47th Ave), then south to ADOT Channel	Yes	Adv: Agency acceptance (City of Phoenix), good flood protection
		Dis: Relatively expensive, disruptive during construction
Collector channel/storm drain along Grand Canal, south to proposed detention basin at a school near Osborn Rd	No	Adv: High level of flood protection
		Dis: Difficult to get agency approval (School District), land acquisition/owner relocation
Grand Canal Modification (no specific ideas for this reach)		
Flood proofing		
Flood proofing, including wet flood proofing may be acceptable for business buildings (to be done by others)	Yes	Adv: No land acquisition/owner relocation, minimal construction cost
		Dis: Only isolated flood protection, could increase flood potential at non-flood proofed businesses, maintenance cost, might be hard to get owners buy-in
Buyout		
Buyout buildings in floodplain at 42nd Avenue that are subject to repetitive flooding and build new detention basin	No	Adv: Removes some properties from floodplain and provides some degree of flood protection for remaining properties
		Dis: Industrial properties are expensive to buyout, questionable community acceptance
Non-Structural (no specific ideas for this reach)		

I-17 to Central Ave (Residential, approx 300 homes, 35 apartment buildings, Pierson Place historic district, future 21st, 15th and 3rd Ave Storm Drains, future Turney detention basin)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Implement METRO ADMP (with additional 10-yr storm drains)	Yes	Adv: Plans are already laid out, 10-yr flood protection
		Dis: High construction cost, constructability, disruption during construction
Interim storm drain (as proposed in the METRO ADMP) to detention basin at Turney Ave	Yes	Adv: Part of the METRO ADMP storm drain (minimizes construction cost)
		Dis: Constructability, disruption during construction
Buy out multi-family residential on west side of Turney Detention Basin to expand the storage capacity of the basin	Yes	Adv: Increase the size of the Turney Basin, increase storage capacity, multi-use opportunity, reduces required storm drain capacity downstream of basin
		Dis: Land acquisition/owner relocation costs
Proposed east-west storm drain along Highland Ave with new detention basin west of 7th Ave.	No	Adv: Would increase level of flood protection for historic neighborhood
		Dis: Minimal storage capacity in new detention basin (small lot), land acquisition
Proposed storm drain along Highland Ave, with outfall to new detention basin at Central and Turney	No	Adv: Would increase level of flood protection for historic neighborhood
		Dis: Very expensive land acquisition on Central Ave, disturbance during construction
Possible storm drain down 3rd Ave to a proposed detention basin at Central Ave and Turney Ave	No	Adv: Would increase level of flood protection for historic neighborhood
		Dis: Very expensive land acquisition on Central Ave, disturbance during construction
Additional proposed detention basin at Central Ave and Coolidge St	No	Adv: Would increase level of flood protection for historic neighborhood
		Dis: Very expensive land acquisition on Central Ave,
Grand Canal Modification (no specific ideas for this reach)		
Flood proofing (no specific ideas for this reach)		
Buyout		
Public/Private Partnerships to buy existing homes in select floodplain locations and resell to be re-built above the base flood elevation	Yes	Adv: Good potential for financial partnerships (cost sharing), recover cost by re-selling properties for development
		Dis: High land acquisition/owner relocation costs (although could be recouped), questionable community acceptance
Non-Structural		
Investigate flood proofing historic homes (dry flood proofing, investigate as a whole neighborhood, not just individual homes)	Yes	Adv: Consider flood proofing that will blend in to the historic neighborhood, might gain community acceptance
		Dis: Provides only isolated flood protection, could increase flood potential at non-flood proofed houses

Central Ave to SR-51 (Single and Multi-Family residential, approx. 105 homes, 43 apartment buildings, 19 commercial buildings, Brophy and Xavier College Prep)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Buy blocks of homes for a new regional detention basin	Yes	Adv: Removes homes from floodplain, multi-use opportunity
		Dis: Questionable community acceptance, high land acquisition/owner relocation cost
Improve existing 7th St storm drain capacity	Yes	Adv: 10-yr flood protection, relieve undersized storm drain within Minnezona Ave and Campbell Ave
		Dis: Disruption during construction, constructability, construction cost
Incorporate Central HS football field into a detention basin	No	Adv: Could provide high level of flood protection
		Dis: Difficult to obtain agency approval (School District), constructability, disruption during construction
Brophy College Prep, multi use land at 7th St and Highland Ave	Yes	Adv: Could provide significant level of flood protection
		Dis: Difficult to obtain agency approval (School Board), investigate current intent of the site (Indoor athletics? Indoor pool?)
Proposed storm drain in Minnezona Ave and Campbell Ave east to new detention basin at 16th St. (Middle School athletic field)	No	Adv: Could provide significant level of flood protection
		Dis: Very expensive, difficult to construct, difficult to obtain agency approval (School District)
Grand Canal Modification		
Siphon Grand Canal at 7th Street / lower 7th Street	No	Adv: No land acquisition/owner relocation required
		Dis: Constructability, increase potential of flooding downstream of Grand Canal, no agency acceptance (SRP)
Underground the Canal and provide a detention basin above	No	Adv: High level of flood protection, multi-use opportunity
		Dis: Extremely expensive, no agency approval (SRP)
Flood proofing (no specific ideas for this reach)		
Buyout		
Public/Private Partnerships to buy existing homes in select floodplain locations and resell to be re-built above the base flood elevation	Yes	Adv: Good potential for financial partnerships (cost sharing), recover cost by re-selling properties for development
		Dis: High land acquisition/owner relocation costs (although could be recouped), questionable community acceptance
Non-Structural		
Encourage Xavier to buy all the homes south of the school, west of 7th street (50-50 opportunity for cost sharing)	Yes	Adv: Potential for financial partnerships, solves flooding issue in neighborhood
		Dis: Questionable community acceptance, high land acquisition/owner relocation costs

SR-51 to 32nd St (Approx. 117 homes, 30 commercial buildings, future 28th St. Storm Drain, Appropriators Canal R/W)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Increase capacity of the future storm drain in 28th St from the Grand Canal to the LOOP 202	Yes	Adv: Increase in capacity would be relatively inexpensive (2-yr SD is already in design), 10-yr flood protection, tentative agency acceptance (City of Phoenix)
		Dis: Constructability, disruption during construction, increased cost of construction
Utilize the Appropriators Canal ROW to construct a storm drain/open channel along the Grand Canal and connect to the 28th St storm drain	Yes	Adv: No land acquisition/owner relocation, agency acceptance (SRP)
		Dis: Constructability (existing utilities)
Grand Canal Modification (no specific ideas for this reach)		
Flood proofing (no specific ideas for this reach)		
Buyout		
Public/Private Partnerships to buy existing homes in select floodplain locations and resell to be re-built above the base flood elevation	Yes	Adv: Good potential for financial partnerships (cost sharing), recover cost by re-selling properties for development
		Dis: High land acquisition/owner relocation costs (although could be recouped), questionable community acceptance
Non-Structural (no specific ideas for this reach)		

32nd St to 34th St (Approx. 52 homes, Appropriators Canal R/W, ADOT Basin south of Grand Canal)

Conveyance/Storage	Carry Forward For Further Analysis (Y/N)	Advantages/Disadvantages
Proposed storm drain north of the Grand Canal in the Appropriators Canal ROW, discharge to ADOT basin south of the Grand Canal	Yes	Adv: Relatively inexpensive, minimal disturbance during construction
		Dis: Constructability, requires acceptance from ADOT and SRP
Build a detention basin at the Gateway Middle School on 35th St	No	Adv: Could provide a relatively high level of flood protection
		Dis: Constructability, disturbance during construction, difficult to get agency acceptance (School District),
Grand Canal Modification (no specific ideas for this reach)		
Flood proofing (no specific ideas for this reach)		
Buyout		
Public/Private Partnerships to buy existing homes in select floodplain locations and resell to be re-built above the base flood elevation	Yes	Adv: Good potential for financial partnerships (cost sharing), recover cost by re-selling properties for development
		Dis: High land acquisition/owner relocation costs (although could be recouped), questionable community acceptance
Non-Structural (no specific ideas for this reach)		

Appendix D: ***Summary of Floodplain Elevation Certificates***

SUMMARY OF FLOODPLAIN ELEVATION CERTIFICATES

Floodplain Elevation Certificate - 63rd Avenue to 59th Avenue

Address	Assessors Parcel Number	Finished Floor Elevation (FFE)	Lowest Adjacent Grade (LAG)	Base Flood Elevation (BFE)	Depth (FFE-BFE)	Depth (LAG-BFE)
3802 N. 59th Ave	103-36-123	1101.94	1100.44	1100.25	1.69	0.19
3801 N. 59th Dr.	103-36-066	1100.22	1099.33	1099.15	1.07	0.18
3805 N. 59th Dr.	103-36-067	1100.60	1099.04	1099.27	1.33	-0.23
3811 N. 59th Dr.	103-36-068	1100.97	1099.73	1099.32	1.65	0.41
3802 N. 62nd Dr.	103-35-081	1098.89	1098.17	1099.42	-0.53	-1.25
3808 N. 62nd Dr.	103-35-082	1099.12	1097.80	1099.13	-0.01	-1.33
3820 N. 62nd Dr.	103-35-083	1099.33	1098.27	1099.21	0.12	-0.94
3826 N. 62nd Dr.	103-35-084	1099.30	1098.23	1099.10	0.20	-0.87
3834 N. 62nd Dr.	103-35-085	1099.92	1098.75	1099.09	0.83	-0.34
4002 N. 62nd Dr.	103-35-086	1099.99	1099.06	1099.15	0.84	-0.09
3813 N. 63rd Ave	103-35-012	1098.71	1097.93	1099.12	-0.41	-1.19
3819 N. 63rd Ave	103-35-011	1099.07	1098.07	1099.04	0.03	-0.97
3825 N. 63rd Ave	103-35-010	1099.12	N/A	1099.17	-0.05	N/A
3833 N. 63rd Ave	103-35-009	1099.50	1098.78	1099.00	0.50	-0.22
4001 N. 63rd Ave	103-35-008	1099.58	1098.57	1098.85	0.73	-0.28
4007 N. 63rd Ave	103-35-007	1099.54	1098.93	1098.85	0.69	0.08
4013 N. 63rd Ave	103-35-006	1099.64	1098.99	1098.85	0.79	0.14
5901 W. Clarendon Ave	103-36-010	1101.06	1100.43	1100.24	0.82	0.19
5905 W. Clarendon Ave	103-36-011	1100.99	1100.12	1099.96	1.03	0.16
5911 W. Clarendon Ave	103-36-012	1100.67	1099.63	1099.58	1.09	0.05
5917 W. Clarendon Ave	103-36-013	1100.47	1098.59	1099.31	1.16	-0.72
5923 W. Clarendon Ave	103-36-014	1100.21	1099.26	1099.12	1.09	0.14
5929 W. Clarendon Ave	103-36-015	1100.17	1098.68	1099.72	0.45	-1.04
5935 W. Clarendon Ave	103-36-016	1100.11	1098.61	1099.59	0.52	-0.98
5936 W. Clarendon Ave	103-36-034	1100.38	1099.01	1099.60	0.78	-0.59
6001 W. Clarendon Ave	103-36-017	1100.06	1099.26	1099.47	0.59	-0.21
6002 W. Clarendon Ave	103-36-033	1100.32	1099.21	1099.51	0.81	-0.30
6005 W. Clarendon Ave	103-36-018	1099.97	1098.87	1099.47	0.50	-0.60
6006 W. Clarendon Ave	103-36-032	1100.22	1099.15	1099.44	0.78	-0.29
6011 W. Clarendon Ave	103-36-019	1099.93	1098.06	1099.48	0.45	-1.42
6012 W. Clarendon Ave	103-36-031	1100.01	1099.10	1099.47	0.54	-0.37
6017 W. Clarendon Ave	103-36-020	1099.84	1098.99	1099.40	0.44	-0.41
6018 W. Clarendon Ave	103-36-030	1099.94	1099.27	1099.40	0.54	-0.13
6023 W. Clarendon Ave	103-36-021	1100.05	1098.90	1099.79	0.26	-0.89
6024 W. Clarendon Ave	103-36-029	1099.96	1099.24	1099.79	0.17	-0.55
6029 W. Clarendon Ave	103-36-022	1100.07	1099.33	1099.93	0.14	-0.60
6030 W. Clarendon Ave	103-36-028	1100.04	1099.24	1099.95	0.09	-0.71
6035 W. Clarendon Ave	103-36-023	1100.14	1099.16	1100.14	0.00	-0.98
6036 W. Clarendon Ave	103-36-027	1100.27	1099.14	1100.11	0.16	-0.97
6041 W. Clarendon Ave	103-36-024	1099.94	1099.01	1100.00	-0.06	-0.99
6042 W. Clarendon Ave	103-36-026	1100.41	1099.21	1099.99	0.42	-0.78
6047 W. Clarendon Ave	103-35-029	1100.10	1098.52	1099.89	0.21	-1.37
6101 W. Clarendon Ave	103-35-028	1100.09	1098.29	1099.81	0.28	-1.52
6102 W. Clarendon Ave	103-35-030	1099.98	1099.06	1099.79	0.19	-0.73
6105 W. Clarendon Ave	103-35-027	1099.90	1098.15	1099.92	-0.02	-1.77
6106 W. Clarendon Ave	103-35-031	1100.02	1099.58	1099.79	0.23	-0.21
6112 W. Clarendon Ave	103-35-032	1099.90	1098.79	1099.76	0.14	-0.97
6115 W. Clarendon Ave	103-35-026	1099.80	N/A	1099.75	0.05	N/A
6118 W. Clarendon Ave	103-35-033	1099.70	1098.83	1099.94	-0.24	-1.11
6123 W. Clarendon Ave	103-35-025	1099.62	1098.09	1100.12	-0.50	-2.03
6124 W. Clarendon Ave	103-35-034	1099.58	1098.86	1100.03	-0.45	-1.17
6129 W. Clarendon Ave	103-35-024	1099.29	1097.80	1100.04	-0.75	-2.24
6130 W. Clarendon Ave	103-35-035	1099.41	1098.50	1100.22	-0.81	-1.72
6135 W. Clarendon Ave	103-35-023	1099.29	1098.35	1100.44	-1.15	-2.09
6136 W. Clarendon Ave	103-35-036	1099.35	1098.27	1100.51	-1.16	-2.24
6201 W. Clarendon Ave	103-35-022	1099.13	1098.11	1100.49	-1.36	-2.38
6202 W. Clarendon Ave	103-35-037	1099.25	1098.28	1100.12	-0.87	-1.84
6206 W. Clarendon Ave	103-35-038	1099.10	1098.42	1099.97	-0.87	-1.55
6211 W. Clarendon Ave	103-35-020	1099.02	1098.26	1099.96	-0.94	-1.70
6212 W. Clarendon Ave	103-35-039	1099.16	1098.12	1099.92	-0.76	-1.80
6217 W. Clarendon Ave	103-35-018	1098.96	1098.15	1100.03	-1.07	-1.88
6218 W. Clarendon Ave	103-35-040	1099.23	1097.70	1100.01	-0.78	-2.31
6223 W. Clarendon Ave	103-35-017	1099.01	1097.29	1099.95	-0.94	-2.66
6224 W. Clarendon Ave	103-35-041	1099.25	1098.43	1099.94	-0.69	-1.51
6229 W. Clarendon Ave	103-35-016	1098.89	1098.06	1099.97	-1.08	-1.91
6230 W. Clarendon Ave	103-35-042	1098.93	1097.77	1099.96	-1.03	-2.19
6235 W. Clarendon Ave	103-35-015	1098.78	1098.04	1099.79	-1.01	-1.75
6241 W. Clarendon Ave	103-35-014	1099.11	1098.32	1099.29	-0.18	-0.97
6247 W. Clarendon Ave	103-35-013A	N/A	N/A	N/A	N/A	N/A
6217 W. Fairmount Ave	103-035-069	1099.68	1098.83	1099.94	-0.26	-1.11
5935 W. Indianola Ave	103-36-035	1100.84	1099.14	1099.59	1.25	-0.45
6001 W. Indianola Ave	103-36-036	1101.06	1099.88	1099.47	1.59	0.41
6005 W. Indianola Ave	103-36-037	1101.02	1099.88	1099.47	1.55	0.41
6011 W. Indianola Ave	103-36-038	1100.73	1099.44	1099.48	1.25	-0.04
6017 W. Indianola Ave	103-36-039	1100.72	1099.73	1099.39	1.33	0.34
6023 W. Indianola Ave	103-36-040	1100.47	1099.51	1099.82	0.65	-0.31
6029 W. Indianola Ave	103-36-041	1100.70	1099.46	1100.00	0.70	-0.54
6035 W. Indianola Ave	103-36-042	1100.74	1099.45	1100.06	0.68	-0.61
6041 W. Indianola Ave	103-36-043	1100.56	1099.14	1099.98	0.58	-0.84
6101 W. Indianola Ave	103-35-055	1100.17	1099.37	1099.80	0.37	-0.43
6102 W. Indianola Ave	103-35-056	1100.57	1099.92	1099.78	0.79	0.14
6105 W. Indianola Ave	103-35-054	1100.19	N/A	1099.93	0.26	N/A
6106 W. Indianola Ave	103-35-057	1100.50	N/A	1099.93	0.57	N/A
6111 W. Indianola Ave	103-35-053	1100.49	1100.15	1099.75	0.74	0.40
6112 W. Indianola Ave	103-35-058	1100.23	1099.28	1099.75	0.48	-0.47
6117 W. Indianola Ave	103-35-052	1100.35	1099.43	1099.90	0.45	-0.47
6118 W. Indianola Ave	103-35-059	1100.16	1099.42	1099.92	0.24	-0.50
6123 W. Indianola Ave	103-35-051	1100.07	1099.14	1100.06	0.01	-0.92
6124 W. Indianola Ave	103-35-060	1100.03	1099.03	1100.06	-0.03	-1.03
6129 W. Indianola Ave	103-35-050	1099.99	1099.17	1100.22	-0.23	-1.05
6132 W. Indianola Ave	103-35-062	1100.04	N/A	1100.51	-0.47	N/A
6135 W. Indianola Ave	103-35-049	1099.73	N/A	1100.51	-0.78	N/A
6136 W. Indianola Ave	103-35-063	1099.69	1098.62	1100.51	-0.82	-1.89
6201 W. Indianola Ave	103-35-048	1099.71	N/A	1100.12	-0.41	N/A
6205 W. Indianola Ave	103-35-047	1099.55	1098.84	1100.00	-0.45	-1.16
6206 W. Indianola Ave	103-35-064	1099.30	1098.76	1099.96	-0.66	-1.20
6211 W. Indianola Ave	103-35-046	1099.43	N/A	1099.98	-0.55	N/A
6212 W. Indianola Ave	103-35-065	1099.63	1098.85	1100.03	-0.40	-1.18
6217 W. Indianola Ave	103-35-045	1099.27	1098.14	1099.99	-0.72	-1.85
6218 W. Indianola Ave	103-35-066	1099.69	1098.55	1099.97	-0.28	-1.42
6223 W. Indianola Ave	103-35-044	1099.20	1098.08	1099.95	-0.75	-1.87
6224 W. Indianola Ave	103-35-067	1099.33	1098.26	1099.94	-0.61	-1.68
6229 W. Indianola Ave	103-35-043	1099.12	N/A	1099.78	-0.66	N/A
6230 W. Indianola Ave	103-35-068	1099.41	N/A	1099.18	0.23	N/A
6205 W. Clarendon Ave	103-35-021	1099.02	N/A	1100.23	-1.21	N/A

*DATA SOURCE: FLOODPLAIN ELEVATION CERTIFICATES-PREPARED BY EEC, FEBRUARY 2006

Floodplain Elevation Certificate - 47th Avenue to 43th Avenue

Address	Assessors Parcel Number	Finished Floor Elevation (FFE)	Lowest Adjacent Grade (LAG)	Base Flood Elevation (BFE)	Depth (FFE-BFE)	Depth (LAG-BFE)
3601 N. 44th Ave	107-25-077	1106.02	1105.20	1107.44	-1.42	-2.24
3602 N. 44th Ave	107-25-076	1105.88	1105.00	1107.57	-1.69	-2.57
3606 N. 44th Ave	107-25-075	1106.00	1105.10	1107.16	-1.16	-2.06
3607 N. 44th Ave	107-25-078	1106.24	1105.30	1107.54	-1.30	-2.24
3611 N. 44th Ave	107-25-079	1106.27	1105.40	1107.69	-1.42	-2.29
3612 N. 44th Ave	107-25-074	1106.70	1105.40	1107.15	-0.45	-1.75
3618 N. 44th Ave	107-25-073	1106.80	1105.90	1107.54	-0.74	-1.64
3619 N. 44th Ave	107-25-080	1106.08	1105.50	1107.75	-1.67	-2.25
3511 N. 45th Ave	107-25-041	1105.80	1105.00	1107.68	-1.88	-2.68
3512 N. 45th Ave	107-24-144	N/A	1105.00	1107.41	N/A	-2.41
3515 N. 45th Ave	107-25-042	1106.06	1105.00	1107.68	-1.62	-2.68
3516 N. 45th Ave	107-24-143	1105.72	1105.10	1107.41	-1.69	-2.31
3521 N. 45th Ave	107-25-043	1106.28	1105.10	1107.68	-1.40	-2.58
3522 N. 45th Ave	107-24-142	1106.00	1105.10	1107.41	-1.41	-2.31
4301 W. Clarendon Ave	107-25-172	1108.80	1108.20	1107.97	0.83	0.23
4305 W. Clarendon Ave	107-25-171	1108.60	1108.20	1107.27	1.33	0.93
4311 W. Clarendon Ave	107-25-170	1108.70	1108.40	1107.39	1.31	1.01
4301 W. Crittenden Ln.	107-25-020	N/A	N/A	1108.05	N/A	N/A
4302 W. Crittenden Ln.	107-25-021	1107.18	1106.50	1108.00	-0.82	-1.50
4305 W. Crittenden Ln.	107-25-019	1106.84	1105.92	1107.51	-0.67	-1.59
4306 W. Crittenden Ln.	107-25-022	N/A	N/A	1107.27	N/A	N/A
4309 W. Crittenden Ln.	107-25-018	1106.16	1105.90	1107.25	-1.09	-1.35
4310 W. Crittenden Ln.	107-25-023	1106.54	1106.00	1107.32	-0.78	-1.32
4315 W. Crittenden Ln.	107-25-017	1106.32	1105.00	1107.42	-1.10	-2.42
4316 W. Crittenden Ln.	107-25-024	1106.40	1105.80	1107.63	-1.23	-1.83
4319 W. Crittenden Ln.	107-25-016	N/A	N/A	1107.42	N/A	N/A
4320 W. Crittenden Ln.	107-25-025	1106.25	1105.70	1107.61	-1.36	-1.91
4323 W. Crittenden Ln.	107-25-015	1106.28	1105.40	1107.71	-1.43	-2.31
4326 W. Crittenden Ln.	107-25-026	1106.15	1105.40	1107.56	-1.41	-2.16
4327 W. Crittenden Ln.	107-25-014	1105.99	1105.60	1107.72	-1.73	-2.12
4328 W. Crittenden Ln.	107-25-027	1106.36	1105.60	1107.82	-1.46	-2.22
4331 W. Crittenden Ln.	107-25-013	1105.86	1105.30	1107.80	-1.94	-2.50
4332 W. Crittenden Ln.	107-25-028	1106.20	1105.30	1107.82	-1.62	-2.52
4335 W. Crittenden Ln.	107-25-012	1105.54	1105.20	1107.73	-2.19	-2.53
4336 W. Crittenden Ln.	107-25-029	1106.21	1105.40	1107.74	-1.53	-2.34
4339 W. Crittenden Ln.	107-25-011	1105.86	1105.20	1107.54	-1.68	-2.34
4340 W. Crittenden Ln.	107-25-030	1106.02	1105.30	1107.75	-1.73	-2.45
4343 W. Crittenden Ln.	107-25-010	1105.77	1105.20	1107.10	-1.33	-1.90
4344 W. Crittenden Ln.	107-25-031	N/A	N/A	1107.10	N/A	N/A
4347 W. Crittenden Ln.	107-25-009	1105.48	1105.20	1107.15	-1.67	-1.95
4348 W. Crittenden Ln.	107-25-032	1106.14	1105.30	1107.10	-0.96	-1.80
4351 W. Crittenden Ln.	107-25-008	1105.60	1105.00	1107.16	-1.56	-2.16
4352 W. Crittenden Ln.	107-25-033	1105.78	1105.10	1107.15	-1.37	-2.05
4401 W. Crittenden Ln.	107-25-007	1105.44	1104.90	1107.57	-2.13	-2.67
4402 W. Crittenden Ln.	107-25-034	1105.77	1104.90	1107.49	-1.72	-2.59
4405 W. Crittenden Ln.	107-25-006	1105.50	1104.90	1107.82	-2.32	-2.92
4406 W. Crittenden Ln.	107-25-035	1105.68	1104.90	1107.78	-2.10	-2.88
4411 W. Crittenden Ln.	107-25-005	1105.54	1104.80	1107.88	-2.34	-3.08
4412 W. Crittenden Ln.	107-25-036	N/A	1104.90	1107.88	N/A	-2.98
4415 W. Crittenden Ln.	107-25-004	1105.30	1104.70	1107.71	-2.41	-3.01
4416 W. Crittenden Ln.	107-25-037	1105.68	1104.70	1107.79	-2.11	-3.09
4421 W. Crittenden Ln.	107-25-003	1105.25	1104.40	1107.50	-2.25	-3.10
4422 W. Crittenden Ln.	107-25-038	1105.47	1104.60	1107.50	-2.03	-2.90
4426 W. Crittenden Ln.	107-25-039	1105.40	1104.60	1107.41	-2.01	-2.81
4427 W. Crittenden Ln.	107-25-002	1105.42	1104.40	1107.41	-1.99	-3.01
4432 W. Crittenden Ln.	107-25-040	1105.48	1104.60	1107.68	-2.20	-3.08
4433 W. Crittenden Ln.	107-25-001	1105.48	1104.50	1107.63	-2.15	-3.13
4501 W. Crittenden Ln.	107-24-130	1105.16	1104.50	1107.40	-2.24	-2.90
4502 W. Crittenden Ln.	107-24-145	1105.28	1104.50	1107.41	-2.13	-2.91
4505 W. Crittenden Ln.	107-24-129	1105.10	1104.50	1107.39	-2.29	-2.89
4506 W. Crittenden Ln.	107-24-146	1105.20	1104.50	1107.39	-2.19	-2.89
4511 W. Crittenden Ln.	107-24-128	1105.16	1104.50	1107.29	-2.13	-2.79
4512 W. Crittenden Ln.	107-24-147	1105.10	1104.70	1107.28	-2.18	-2.58
4515 W. Crittenden Ln.	107-24-127	1105.40	1104.80	1107.45	-2.05	-2.65
4516 W. Crittenden Ln.	107-24-148	1105.16	1104.60	1107.45	-2.29	-2.85
4521 W. Crittenden Ln.	107-24-126	1105.16	1104.60	1107.46	-2.30	-2.86
4522 W. Crittenden Ln.	107-24-149	1105.16	1104.70	1107.45	-2.29	-2.75
4525 W. Crittenden Ln.	107-24-125	1105.14	1104.50	1107.53	-2.39	-3.03
4526 W. Crittenden Ln.	107-24-150	1105.16	1104.60	1107.56	-2.40	-2.96
4531 W. Crittenden Ln.	107-24-124	1105.18	1104.44	1107.56	-2.38	-3.12
4535 W. Crittenden Ln.	107-24-123	1105.36	1104.65	1107.38	-2.02	-2.73
4541 W. Crittenden Ln.	107-24-122	1105.26	1104.40	1107.14	-1.88	-2.74
4547 W. Crittenden Ln.	107-24-121	1105.30	1104.30	1106.74	-1.44	-2.44
4407 W. Mitchell Dr.	107-25-052	1106.24	1105.00	1107.57	-1.33	-2.57
4410 W. Mitchell Dr.	107-25-053	1106.41	1105.70	1107.45	-1.04	-1.75
4411 W. Mitchell Dr.	107-25-051	1106.14	1105.00	1107.86	-1.72	-2.86
4415 W. Mitchell Dr.	107-25-050	1105.72	1105.00	1107.88	-2.16	-2.88
4416 W. Mitchell Dr.	107-25-054	1106.52	1105.90	1107.45	-0.93	-1.55
4419 W. Mitchell Dr.	107-25-049	1105.76	1104.90	1107.71	-1.95	-2.81
4420 W. Mitchell Dr.	107-25-055	1106.50	1105.90	1107.61	-1.11	-1.71
4421 W. Mitchell Dr.	107-25-048	1105.93	1105.10	1107.54	-1.61	-2.44
4424 W. Mitchell Dr.	107-25-056	1106.47	1105.60	1107.88	-1.41	-2.28
4425 W. Mitchell Dr.	107-25-047	1106.26	1105.00	1107.84	-1.58	-2.84
4428 W. Mitchell Dr.	107-25-057	1106.52	1106.00	1107.88	-1.36	-1.88
4431 W. Mitchell Dr.	107-25-046	1106.53	1105.70	1107.54	-1.01	-1.84
4432 W. Mitchell Dr.	107-25-058	N/A	1105.90	1107.71	N/A	-1.81
4436 W. Mitchell Dr.	107-25-059	1106.90	1106.00	1107.54	-0.64	-1.54
4437 W. Mitchell Dr.	107-25-045	1106.38	1105.70	1107.43	-1.05	-1.73
4440 W. Mitchell Dr.	107-25-060	1107.08	1106.30	1107.41	-0.33	-1.11
4443 W. Mitchell Dr.	107-25-044	1106.44	1105.70	1107.68	-1.24	-1.98
4444 W. Mitchell Dr.	107-25-061	N/A	1106.00	1107.68	N/A	-1.68
4501 W. Mitchell Dr.	107-24-141	1106.42	1105.50	1107.41	-0.99	-1.91
4502 W. Mitchell Dr.	107-24-089	1106.99	1105.90	1107.41	-0.42	-1.51
4506 W. Mitchell Dr.	107-24-090	1106.76	1106.00	1107.40	-0.64	-1.40
4507 W. Mitchell Dr.	107-24-140	1106.40	1105.50	1107.40	-1.00	-1.90
4510 W. Mitchell Dr.	107-24-091	1106.62	1105.70	1107.41	-0.79	-1.71
4514 W. Mitchell Dr.	107-24-092	1106.67	1105.70	1107.45	-0.78	-1.75
4515 W. Mitchell Dr.	107-24-139	1106.11	1105.31	1107.38	-1.27	-2.07
4520 W. Mitchell Dr.	107-24-093	1106.18	1105.50	1107.50	-1.32	-2.00
4521 W. Mitchell Dr.	107-24-138	1106.36	1105.31	1107.30	-0.94	-1.99
4524 W. Mitchell Dr.	107-24-094	1106.46	1105.40	1107.46	-1.00	-2.06
4525 W. Mitchell Dr.	107-24-137	1106.18	1104.50	1107.38	-1.20	-2.88
4527 W. Mitchell Dr.	107-24-136	1105.96	1104.50	1107.45	-1.49	-2.95
4528 W. Mitchell Dr.	107-24-095	1106.30	1105.50	1107.56	-1.26	-2.06

4533 W. Mitchell Dr.	107-24-135	1105.94	1104.71	1107.50	-1.56	-2.79
4534 W. Mitchell Dr.	107-24-096	1106.18	1105.30	1107.56	-1.38	-2.26
4539 W. Mitchell Dr.	107-24-134	1105.92	1104.60	1107.48	-1.56	-2.88
4540 W. Mitchell Dr.	107-24-097	1106.02	1105.20	1107.48	-1.46	-2.28
4542 W. Mitchell Dr.	107-24-098	N/A	N/A	1107.04	N/A	N/A
4543 W. Mitchell Dr.	107-24-133	1105.78	1104.70	1107.56	-1.78	-2.86
4537 W. Mitchell Dr.	107-24-132	1105.78	1104.60	1107.56	-1.78	-2.96
4548 W. Mitchell Dr.	107-24-099	1105.88	1105.20	1107.08	-1.20	-1.88
4553 W. Mitchell Dr.	107-24-131	1105.50	1104.57	1107.25	-1.75	-2.68
4554 W. Mitchell Dr.	107-24-100	1105.70	1105.08	1106.77	-1.07	-1.69
4602 W. Mitchell Dr.	107-24-101	1105.70	1105.05	1106.81	-1.11	-1.76
4603 W. Mitchell Dr.	107-24-120	1105.50	1104.50	1106.81	-1.31	-2.31
4606 W. Mitchell Dr.	107-24-102	N/A	N/A	1106.84	N/A	N/A
4609 W. Mitchell Dr.	107-24-119	1105.32	1104.60	1106.84	-1.52	-2.24
4610 W. Mitchell Dr.	107-24-103	1105.70	1105.40	1106.84	-1.14	-1.44
4615 W. Mitchell Dr.	107-24-118	1105.30	1104.40	1106.84	-1.54	-2.44
4616 W. Mitchell Dr.	107-24-104	1105.90	1105.20	1106.78	-0.88	-1.58
4619 W. Mitchell Dr.	107-24-117	1105.32	1104.40	1106.75	-1.43	-2.35
4620 W. Mitchell Dr.	107-24-105	1105.78	1104.90	1106.73	-0.95	-1.83
4625 W. Mitchell Dr.	107-24-116	1105.26	1104.50	1106.73	-1.47	-2.23
4626 W. Mitchell Dr.	107-24-106	1105.89	1105.00	1106.73	-0.84	-1.73
4629 W. Mitchell Dr.	107-24-115	1105.68	1104.90	1106.73	-1.05	-1.83
4630 W. Mitchell Dr.	107-24-107	1106.11	1105.20	1106.64	-0.53	-1.44
4635 W. Mitchell Dr.	107-24-114	1105.30	1104.80	1106.86	-1.56	-2.06
4636 W. Mitchell Dr.	107-24-108	1105.92	1105.10	1106.86	-0.94	-1.76
4639 W. Mitchell Dr.	107-24-113	1105.61	1105.20	1106.87	-1.26	-1.67
4640 W. Mitchell Dr.	107-24-109	1105.88	1104.74	1106.87	-0.99	-2.13
4643 W. Mitchell Dr.	107-24-112	1105.47	1104.70	1106.83	-1.36	-2.13
4646 W. Mitchell Dr.	107-24-110	1105.92	1105.50	1106.83	-0.91	-1.33
4649 W. Mitchell Dr.	107-24-111	1105.58	1104.90	1106.83	-1.25	-1.93
4301 W. Weldon Ave	107-25-130	1107.85	1107.00	1107.97	-0.12	-0.97
4302 W. Weldon Ave	107-25-131	1108.29	1107.70	1107.67	0.62	0.03
4307 W. Weldon Ave	107-25-129	1108.13	1107.30	1107.27	0.86	0.03
4308 W. Weldon Ave	107-25-132	1107.97	1107.40	1107.32	0.65	0.08
4311 W. Weldon Ave	107-25-128	1107.89	1107.40	1107.37	0.52	0.03
4314 W. Weldon Ave	107-25-133	1108.07	1107.60	1107.32	0.75	0.28
4315 W. Weldon Ave	107-25-127	1107.91	1106.40	1107.53	0.38	-1.13
4319 W. Weldon Ave	107-25-126	1107.49	1106.60	1107.61	-0.12	-1.01
4320 W. Weldon Ave	107-25-134	1107.99	1107.40	1107.40	0.59	0.00
4325 W. Weldon Ave	107-25-125	1107.89	1106.50	1107.82	0.07	-1.32
4326 W. Weldon Ave	107-25-135	1107.85	1107.62	1107.61	0.24	0.01
4329 W. Weldon Ave	107-25-124	1107.89	1106.40	1107.82	0.07	-1.42
4332 W. Weldon Ave	107-25-136	1107.90	1107.74	1107.74	0.16	0.00
4333 W. Weldon Ave	107-25-123	1107.98	1106.60	1107.82	0.16	-1.22
4339 W. Weldon Ave	107-25-122	1107.99	1106.70	1107.77	0.22	-1.07
4619 W. Weldon Ave	107-24-030	1107.64	1106.90	1106.84	0.80	0.06
4623 W. Weldon Ave	107-24-029	1107.61	1106.90	1106.84	0.77	0.06
4627 W. Weldon Ave	107-24-028	1107.51	1106.80	1106.73	0.78	0.07
4631 W. Weldon Ave	107-24-027	1107.34	1106.90	1106.73	0.61	0.17
4635 W. Weldon Ave	107-24-026	1107.57	1107.00	1106.84	0.73	0.16
4639 W. Weldon Ave	107-24-025	1107.85	1106.90	1106.87	0.98	0.03
4643 W. Weldon Ave	107-24-024	1107.69	1106.90	1106.83	0.86	0.07
4647 W. Weldon Ave	107-24-023	1107.76	1106.80	1106.72	1.04	0.08
4301 W. Whitton Ave	107-25-088	1106.87	1106.40	1107.80	-0.93	-1.40
4302 W. Whitton Ave	107-25-089	1107.48	1106.80	1108.00	-0.52	-1.20
4307 W. Whitton Ave	107-25-087	1106.95	1106.40	1107.27	-0.32	-0.87
4308 W. Whitton Ave	107-25-090	1107.42	1106.60	1107.27	0.15	-0.67
4311 W. Whitton Ave	107-25-086	1107.07	1106.20	1107.38	-0.31	-1.18
4312 W. Whitton Ave	107-25-091	1107.12	1106.70	1107.40	-0.28	-0.70
4315 W. Whitton Ave	107-25-085	1106.80	1105.60	1107.51	-0.71	-1.91
4318 W. Whitton Ave	107-25-092	1106.90	1106.30	1107.51	-0.61	-1.21
4319 W. Whitton Ave	107-25-084	1106.74	1105.70	1107.67	-0.93	-1.97
4322 W. Whitton Ave	107-25-093	1106.78	1106.40	1107.61	-0.83	-1.21
4323 W. Whitton Ave	107-25-083	1106.55	1105.40	1107.82	-1.27	-2.42
4326 W. Whitton Ave	107-25-094	1106.90	1106.40	1107.82	-0.92	-1.42
4327 W. Whitton Ave	107-25-082	1106.52	1103.90	1107.82	-1.30	-3.92
4332 W. Whitton Ave	107-25-095	1106.95	1106.40	1107.61	-0.66	-1.21
4333 W. Whitton Ave	107-25-081	1106.34	1103.90	1107.82	-1.48	-3.92
4336 W. Whitton Ave	107-25-096	1107.20	1106.40	1107.82	-0.62	-1.42
4401 W. Whitton Ave	107-25-072	1106.86	1105.90	1107.54	-0.68	-1.64
4402 W. Whitton Ave	107-25-097	1107.12	1106.20	1107.77	-0.65	-1.57
4406 W. Whitton Ave	107-25-098	1107.48	1106.50	1107.54	-0.06	-1.04
4407 W. Whitton Ave	107-25-071	1106.98	1105.90	1107.15	-0.17	-1.25
4410 W. Whitton Ave	107-25-099	1107.48	1106.50	1107.35	0.13	-0.85
4411 W. Whitton Ave	107-25-070	1106.77	1106.00	1107.16	-0.39	-1.16
4414 W. Whitton Ave	107-25-100	1107.50	1106.50	1107.15	0.35	-0.65
4417 W. Whitton Ave	107-25-069	1106.80	1106.00	1107.15	-0.35	-1.15
4421 W. Whitton Ave	107-25-068	1107.00	1105.90	1107.59	-0.59	-1.69
4425 W. Whitton Ave	107-25-067	1107.05	1106.00	1107.86	-0.81	-1.86
4531 W. Whitton Ave	107-24-082	1106.59	1106.00	1107.56	-0.97	-1.56
4535 W. Whitton Ave	107-24-081	1106.70	1105.90	1107.56	-0.86	-1.66
4541 W. Whitton Ave	107-24-080	1106.53	1105.80	1107.56	-1.03	-1.76
4545 W. Whitton Ave	107-24-079	1106.50	1105.90	1107.25	-0.75	-1.35
4546 W. Whitton Ave	107-24-055	1107.03	1106.10	1107.04	-0.01	-0.94
4549 W. Whitton Ave	107-24-078	1106.46	1105.60	1107.04	-0.58	-1.44
4550 W. Whitton Ave	107-24-056	1107.00	1106.00	1106.79	0.21	-0.79
4601 W. Whitton Ave	107-24-077	1106.20	1105.70	1107.04	-0.84	-1.34
4602 W. Whitton Ave	107-24-057	1106.98	1106.00	1106.82	0.16	-0.82
4605 W. Whitton Ave	107-24-076	1106.18	1105.60	1106.79	-0.61	-1.19
4606 W. Whitton Ave	107-24-058	1106.60	1106.20	1106.84	-0.24	-0.64
4611 W. Whitton Ave	107-24-075	N/A	N/A	1106.84	N/A	N/A
4612 W. Whitton Ave	107-24-059	1106.76	1106.00	1106.84	-0.08	-0.84
4615 W. Whitton Ave	107-24-074	1106.14	1105.20	1106.78	-0.64	-1.58
4618 W. Whitton Ave	107-24-060	1106.76	1106.00	1106.67	0.09	-0.67
4621 W. Whitton Ave	107-24-073	1106.40	1105.30	1106.84	-0.44	-1.54
4624 W. Whitton Ave	107-24-061	N/A	1106.10	1106.69	N/A	-0.59
4625 W. Whitton Ave	107-24-072	1106.30	1105.20	1106.73	-0.43	-1.53
4628 W. Whitton Ave	107-24-062	1106.85	1106.30	1106.73	0.12	-0.43
4629 W. Whitton Ave	107-24-071	1106.44	1105.30	1106.79	-0.35	-1.49
4632 W. Whitton Ave	107-24-063	1107.00	1106.60	1106.55	0.45	0.05
4633 W. Whitton Ave	107-24-070	1106.42	1105.50	1106.73	-0.31	-1.23
4636 W. Whitton Ave	107-24-064	1107.80	1106.80	1106.80	1.00	0.00
4637 W. Whitton Ave	107-24-069	N/A	N/A	1106.86	N/A	N/A
4641 W. Whitton Ave	107-24-068	1106.54	1105.50	1107.12	-0.58	-1.62
4642 W. Whitton Ave	107-24-065	1107.04	1105.90	1107.12	-0.08	-1.22
4646 W. Whitton Ave	107-24-066	1106.86	1106.00	1107.13	-0.27	-1.13
4647 W. Whitton Ave	107-24-067	1106.52	1105.40	1106.85	-0.33	-1.45

*DATA SOURCE: FLOODPLAIN ELEVATION CERTIFICATES-PREPARED BY PESTIGE, AUGUST 2008

Floodplain Elevation Certificate - 24th Avenue to Indian School Road

Address	Assessors Parcel Number	Finished Floor Elevation (FFE)	Lowest Adjacent Grade (LAG)	Base Flood Elevation (BFE)	Depth (FFE-BFE)	Depth (LAG-BFE)
3801 N. 23rd Dr.	110-04-017	1118.29	1116.88	1116.50	1.79	0.38
3802 N. 23rd Dr.	110-04-015A	1117.73	1117.06	1116.50	1.23	0.56
3807 N. 23rd Dr.	110-04-018	1117.37	1116.63	1116.50	0.87	0.13
3811 N. 23rd Dr.	110-04-019	1117.34	1116.71	1116.50	0.84	0.21
3817 N. 23rd Dr.	110-04-020	1118.24	1116.92	1116.50	1.74	0.42
3818 N. 23rd Dr.	110-04-012C	1117.93	1117.36	1116.50	1.43	0.86
3823 N. 23rd Dr.	110-04-021	1118.18	1116.55	1116.40	1.78	0.15
3824 N. 23rd Dr.	110-04-012B	1117.81	1117.42	1116.40	1.41	1.02
3827 N. 23rd Dr.	110-04-022	1117.59	1116.40	1116.40	1.19	0.00
3835 N. 23rd Dr.	110-04-023	1116.64	1116.30	1116.30	0.34	0.00
3839 N. 23rd Dr.	110-04-024	1116.69	1116.40	1116.40	0.29	0.00
3840 N. 23rd Dr.	110-04-010A	1117.81	1117.32	1116.50	1.31	0.82
3843 N. 23rd Dr.	110-04-025	1117.51	1116.10	1116.50	1.01	-0.40
3844 N. 23rd Dr.	110-04-009A	1117.67	1116.90	1116.50	1.17	0.40
3849 N. 23rd Dr.	110-04-026	1117.48	1116.60	1116.60	0.88	0.00
3850 N. 23rd Dr.	110-04-008	1117.40	1117.10	1116.60	0.80	0.50
3854 N. 23rd Dr.	110-04-007	1117.64	1116.89	1116.70	0.94	0.19
4002 N. 23rd Ave	110-03-011	1117.17	1116.60	1116.60	0.57	0.00
4014 N. 23rd Ave	110-03-012	1117.15	1116.70	1116.70	0.45	0.00
4020 N. 23rd Ave	110-03-013	1117.41	1116.78	1116.70	0.71	0.08
4024 N. 23rd Ave	110-03-014	1117.67	1117.31	1116.70	0.97	0.61
4033 N. 23rd Ave	110-03-018	1117.70	1116.22	1116.70	1.00	-0.48
2311 W. Fairmount Ave	110-04-029	1117.08	1116.20	1116.60	0.48	-0.40
2317 W. Fairmount Ave	110-04-028	1117.16	1115.99	1116.60	0.56	-0.61
2323 W. Fairmount Ave	110-04-027	1117.15	1116.33	1116.60	0.55	-0.27
2241 W. Indian School Rd.	110-03-019A	1116.71	1116.70	1116.70	0.01	0.00
2243 W. Indian School Rd.	110-03-019B	1116.62	1116.47	1116.70	-0.08	-0.23
2301 W. Indian School Rd.	110-03-024A	1118.09	1118.05	1116.70	1.39	1.35
3832 W. 23rd Dr.	110-04-011A	N/A	N/A	1116.35	N/A	N/A
3621 N. Black Canyon Highway	110-19-275A	1117.63	1117.52	1116.20	1.43	1.32

*DATA SOURCE: FLOODPLAIN ELEVATION CERTIFICATES-PREPARED BY ENGINEERING ALLIANCE, MAY 2005

Floodplain Elevation Certificate - 7th Street to State Route 51

Address	Assessors Parcel Number	Finished Floor Elevation (FFE)	Lowest Adjacent Grade (LAG)	Base Flood Elevation (BFE)	Depth (FFE-BFE)	Depth (LAG-BFE)
909 E. Minnezona Ave	155-20-070	1125.98	1125.66	1125.40	0.58	0.26
1007 E. Minnezona Ave	155-12-032	1126.94	1126.22	1125.50	1.44	0.72
1011 E. Minnezona Ave	155-12-030	1127.42	1126.64	1125.60	1.82	1.04
1015 E. Minnezona Ave	155-12-028	1127.38	1126.57	1125.50	1.88	1.07
1017 E. Minnezona Ave	155-12-026	1127.35	1126.62	1125.40	1.95	1.22
1005 E. Campbell Ave	155-14-054	1126.78	1125.72	1125.50	1.28	0.22
1007 E. Campbell Ave	155-14-055	1125.77	1125.22	1125.50	0.27	-0.28
1009 E. Campbell Ave	155-14-056	1125.98	1125.65	1125.60	0.38	0.05
1020 E. Campbell Ave	155-12-031	1125.99	1125.36	1125.60	0.39	-0.24
1042 E. Campbell Ave	155-12-023	1126.59	1125.77	1125.40	1.19	0.37
1046 E. Campbell Ave	155-12-021B	1126.84	1126.09	1125.50	1.34	0.59
1106 E. Campbell Ave	155-12-126C	1127.42	1126.50	1125.60	1.82	0.90
1108 E. Campbell Ave; North Bldg.	155-12-127A	1127.48	1127.08	1125.70	1.78	1.38
1108 E. Campbell Ave; South Bldg.	155-12-127A	1127.45	1126.93	1125.70	1.75	1.23
1125 E. Campbell Ave	155-14-046	1126.65	1126.49	1126.00	0.65	0.49
1014 E. Campbell Ave	155-12-033	1125.97	1125.74	1125.60	0.37	0.14
1637 E. Amelia Ave	119-29-019A	1130.32	1129.63	1130.50	-0.18	-0.87
1638 E. Amelia Ave	119-29-010A	1130.97	1129.94	1130.80	0.17	-0.86
1641 E. Amelia Ave	119-29-017	1131.03	1129.67	1130.40	0.63	-0.73
1645 E. Amelia Ave	119-29-015	1131.00	1129.97	1130.30	0.70	-0.33
1646 E. Amelia Ave	119-29-005A	1131.18	1130.37	1130.70	0.48	-0.33
1649 E. Amelia Ave	119-29-013	1130.96	1130.44	1130.30	0.66	0.14
1650 E. Amelia Ave	119-29-003	1131.63	1130.18	1130.60	1.03	-0.42
1699 E. Amelia Ave	119-29-011	1130.68	1130.34	1130.20	0.48	0.14
1701 E. Amelia Ave	119-29-034A	1131.10	1130.86	1130.20	0.90	0.66
1638 E. Indianola Ave	119-29-016C	1129.29	1128.76	1130.30	-1.01	-1.54
1642 E. Indianola Ave	119-29-016B	1129.40	1128.13	1130.20	-0.80	-2.07
1646 E. Indianola Ave	119-29-016A	1129.31	1128.41	1130.10	-0.79	-1.69
1652 E. Indianola Ave	119-29-014	1129.98	1128.49	1130.20	-0.22	-1.71
1656 E. Indianola Ave	119-29-012	1129.71	1128.83	1130.20	-0.49	-1.37
1695 E. Indianola Ave	119-29-020	1129.97	1128.89	1130.25	-0.28	-1.36
3825 N. 17th St	119-29-047A	1129.10	1128.50	1130.40	-1.30	-1.90
1702 E. Indianola Ave	119-29-041	1130.12	1129.50	1130.20	-0.08	-0.70
1707 E. Indianola Ave	119-29-048	1129.38	1129.12	1130.40	-1.02	-1.28
1708 E. Indianola Ave	119-29-042	1130.34	1130.06	1130.30	0.04	-0.24
3775 N. 17th St	119-29-053A	1128.73	1127.88	1130.30	-1.57	-2.42
4328 N. Longview Ave	155-08-009	1126.31	1126.18	1127.20	-0.89	-1.02
4330 N. Longview Ave	155-08-009	1126.31	1126.18	1127.20	-0.89	-1.02
4332 N. Longview Ave; Bldg. A	155-08-009	1126.31	1126.18	1127.20	-0.89	-1.02
4332 N. Longview Ave; Bldg. B	155-08-009	1126.31	1126.18	1127.20	-0.89	-1.02
4341 N. Longview Ave	155-08-032	1127.35	1127.16	1126.94	0.41	0.22
4407 N. Longview Ave	155-08-029A	1129.10	1127.63	1127.20	1.90	0.43
4410 N. Longview Ave, West Bldg.	155-08-075	1129.13	1128.62	1127.50	1.63	1.12
4410 N. Longview Ave, East Bldg.	155-08-075	1129.11	1127.05	1127.50	1.61	-0.45
4410 N. Longview Ave; South Bldg.	155-08-075	1129.23	1128.60	1127.50	1.73	1.10
4422 N. Longview Ave; Bldg. 1	155-08-015	1128.09	1127.54	1127.44	0.65	0.10
4422 N. Longview Ave; Bldg. 2	155-08-015	1127.54	1127.25	1127.44	0.10	-0.19
4422 N. Longview Ave; Bldg. 3	155-08-015	1127.38	1127.55	1127.44	-0.06	0.11
4422 N. Longview Ave; Bldg. 4	155-08-015	1127.33	1126.90	1127.44	-0.11	-0.54
4422 N. Longview Ave; Bldg. 5	155-08-015	1127.50	1127.06	1127.44	0.06	-0.38
4325 N. Longview Pl.	155-08-035	1126.68	1126.05	1127.10	-0.42	-1.05
4327 N. Longview Pl.	155-08-034	1126.64	1126.05	1126.94	-0.30	-0.89
4329 N. Longview Pl.	155-08-033	1127.29	1126.50	1126.94	0.35	-0.44
4511 N. 8th St.	155-20-046	1124.45	1124.06	1125.50	-1.05	-1.44
4515 N. 8th St.	155-20-048	1124.58	1124.52	1125.50	-0.92	-0.98
4521 N. 8th St.	155-20-050	1125.21	1124.77	1125.50	-0.29	-0.73
4523 N. 8th St.	155-20-022	1126.79	1125.45	1125.50	1.29	-0.05
4524 N. 8th St.	155-20-031	1125.93	1125.11	1125.60	0.33	-0.49
4527 N. 8th St.	155-20-024	1125.79	1125.33	1125.50	0.29	-0.17
4530 N. 8th St.	155-20-033	1127.45	1125.23	1125.60	1.85	-0.37
4535 N. 8th St.	155-20-028	1127.32	1126.10	1125.50	1.82	0.60
4505 N. 8th Pl.	155-20-055	1125.58	1125.11	1125.20	0.38	-0.09
4514 N. 8th Pl.	155-20-047	1124.74	1124.39	1125.30	-0.56	-0.91
4516 N. 8th Pl.	155-20-049	1124.97	1124.59	1125.30	-0.33	-0.71
4518 N. 8th Pl.	155-20-051	1125.35	1125.02	1125.30	0.05	-0.28
4519 N. 8th Pl.	155-20-012	1125.38	1125.05	1125.10	0.28	-0.05
4538 N. 8th Pl.	155-20-027A	1125.95	1125.41	1125.40	0.55	0.01
4507 N. 9th St.	155-20-066	1125.45	1125.10	1125.40	0.05	-0.30
4508 N. 9th St.	155-20-056	1125.27	1124.69	1125.40	-0.13	-0.71
4509 N. 9th St.	155-20-068	1125.48	1124.81	1125.40	0.08	-0.59
4510 N. 9th St.	155-20-058	1125.29	1124.68	1125.40	-0.11	-0.72
4504 N. 9th St.	155-20-054A	1125.17	1124.35	1125.40	-0.23	-1.05
4505 N. 9th St.	155-20-061A	1125.29	1124.71	1125.40	-0.11	-0.69
4507 N. 10th St.	155-12-035	1125.57	1125.34	1125.30	0.27	0.04
4508 N. 10th St.	155-20-067	1125.62	1125.00	1125.00	0.62	0.00
4509 N. 10th St.	155-12-036	1126.48	1125.70	1125.30	1.18	0.40
4510 N. 10th St.	155-20-069	1125.93	1125.26	1125.20	0.73	0.06
4511 N. 10th St.	155-12-037B	1127.05	1125.48	1125.30	1.75	0.18
4520 N. 10th St.	155-20-071	1126.28	1125.20	1125.20	1.08	0.00
4506 N. 10th St.	155-20-064A	1125.14	1124.84	1125.10	0.04	-0.26
4401 N. 12th St. North Bldg.	155-08-008A	1126.51	1125.78	1127.20	-0.69	-1.42
4401 N. 12th St. East Bldg.	155-08-008A	1126.49	1125.89	1127.20	-0.71	-1.31
4401 N. 12th St. South Bldg.	155-08-008A	1126.49	1126.04	1127.20	-0.71	-1.16
4417 N. 12th St.	155-08-004A	1127.63	1127.10	1127.60	0.03	-0.50
4417 N. 12th St.	155-08-005A	1127.63	1127.10	1127.60	0.03	-0.50
4417 N. 12th St.	155-08-006A	1127.63	1127.10	1127.60	0.03	-0.50
4417 N. 12th St.	155-08-007A	1127.62	1125.34	1127.60	0.02	-2.26
4302 N. 13th Pl.	155-08-036D	1128.87	1127.34	1127.40	1.47	-0.06
4304 N. 13th Pl.	155-08-036C	1127.95	1126.63	1127.30	0.65	-0.67
4306 N. 13th Pl.	155-08-036E	1127.11	1126.48	1127.30	-0.19	-0.82
4318 N. 13th Pl. West Bldg.	155-08-037A	1128.86	1127.69	1127.20	1.66	0.49
4318 N. 13th Pl. East Bldg.	155-08-037B	1128.63	1127.78	1127.40	1.23	0.38
4322 N. 13th Pl. West Bldg.	155-08-038A	1128.67	1127.84	1127.10	1.57	0.74
4322 N. 13th Pl. East Bldg.	155-08-038B	1128.59	1127.96	1127.30	1.29	0.66
4323 N. 13th Pl.	155-08-070E	1128.74	1128.31	1127.92	0.82	0.39
4324 N. 13th Pl. North Bldg.	155-08-039	1128.55	1128.39	1127.20	1.35	1.19
4324 N. 13th Pl. South Bldg.	155-08-039	1128.52	1128.47	1127.20	1.32	1.27
4231 N. 13th Pl.	155-08-074A	1128.39	1125.10	1127.50	0.89	-2.40
4235 N. 13th Pl.	155-08-072A	1127.45	1127.11	1127.92	-0.47	-0.81
4307 N. 13th Pl.	155-08-069A	1128.13	1127.07	1127.92	0.21	-0.85
4304 N. 14th St	155-08-070E	1128.13	1127.34	1127.92	0.21	-0.58
4308 N. 14th St	155-08-070B	1129.19	1127.67	1127.92	1.27	-0.25
4236 N. 14th St.	155-08-071C	1127.78	1127.63	1127.92	-0.14	-0.29
4001 N. 17th St.	119-29-034B	1131.22	1130.32	1130.20	1.02	0.12

*DATA SOURCE: FLOODPLAIN ELEVATION CERTIFICATES-PREPARED BY WOOD, PATEL & ASSOCIATES, JULY 2005

Floodplain Elevation Certificate - State Route 51 to 32nd Street

Address	Assessors Parcel Number	Finished Floor Elevation (FFE)	Lowest Adjacent Grade (LAG)	Base Flood Elevation (BFE)	Depth (FFE-BFE)	Depth (LAG-BFE)
1934 E. Monterey Way	119-26-021E	1133.46	1132.48	1131.90	1.56	0.58
1943 E. Monterey Way	119-26-017	1132.62	1131.69	1131.60	1.02	0.09
1937 E. Monterey Way	119-26-018	1132.77	1131.93	1131.80	0.97	0.13
1933 E. Monterey Way	119-26-019	1132.86	1132.03	1131.90	0.96	0.13
1927 E. Monterey Way	119-26-020A	1132.92	1132.18	1131.90	1.02	0.28
3124 N. 20th St.	119-26-010	1132.50	1131.41	1131.60	0.90	-0.19
3130 N. 20th St.	119-26-011	1131.98	1131.03	1131.60	0.38	-0.57
3134 N. 20th St.	119-26-012	1131.50	1130.60	1131.60	-0.10	-1.00
3135 N. 20th St.	119-23-165	1131.91	1131.51	1131.60	0.31	-0.09
3129 N. 20th St.	119-23-166	1131.44	1131.19	1131.60	-0.16	-0.41
3123 N. 20th St.	119-23-167/168	1131.15	1130.52	1131.60	-0.45	-1.08
3128 N. 20th Pl.	119-23-159	1131.43	1130.30	1131.50	-0.07	-1.20
3122 N. 20th Pl.	119-23-158	1131.15	1130.03	1131.50	-0.35	-1.47
3116 N. 20th Pl.	119-23-157	1130.85	1130.23	1131.40	-0.55	-1.17
2015 E. Earll Dr.	119-23-156	1130.86	1130.09	1131.40	-0.54	-1.31
2021 E. Earll Dr.	119-23-155	1130.93	1130.32	1131.50	-0.57	-1.18
2029 E. Earll Dr.	119-23-154	1131.07	1130.11	1131.60	-0.53	-1.49
2033 E. Earll Dr.	119-23-153	1131.14	1130.14	1131.80	-0.66	-1.66
2037 E. Earll Dr.	119-23-152	1131.21	1130.28	1131.90	-0.69	-1.62
2043 E. Earll Dr.	119-23-151	1131.24	1130.13	1131.90	-0.66	-1.77
2045 E. Earll Dr.	119-24-140	1131.04	1130.39	1131.90	-0.86	-1.51
3024 N. 21st St.	119-24-039	1130.73	1130.16	1131.90	-1.17	-1.74
3016 N. 21st St.	119-24-038	1130.88	1130.55	1131.90	-1.02	-1.35
3013 N. 21st St.	119-24-037	1131.01	1130.71	1131.90	-0.89	-1.19
3016 N. 21st Pl.	119-24-005	1131.28	1130.93	1132.00	-0.72	-1.07
3012 N. 21st Pl.	119-24-006	1131.23	1130.56	1132.00	-0.77	-1.44
3008 N. 21st Pl.	119-24-007	1130.96	1130.53	1132.10	-1.14	-1.57
3004 N. 21st Pl.	119-24-008	1131.28	1130.09	1132.10	-0.82	-2.01
3006 N. 21st Pl.	119-24-009	1130.74	1130.40	1132.30	-1.56	-1.90
2958 N. 21st Pl.	119-24-010	1130.89	1130.35	1132.50	-1.61	-2.15
2954 N. 21st Pl.	119-24-011	1131.22	1130.88	1132.70	-1.48	-1.82
2950 N. 21st Pl.	119-24-012	1130.88	1130.75	1132.80	-1.92	-2.05
2946 N. 21st Pl.	119-24-013	1131.37	1130.53	1132.80	-1.43	-2.27
2942 N. 21st Pl.	119-24-014	1131.25	1130.66	1133.00	-1.75	-2.34
2930 N. 21st Pl.	119-24-015A	1131.33	1130.98	1133.10	-1.77	-2.12
2201 E. Pinchot Ave; Unit A5	119-17-104	1133.34	1131.66	1133.20	0.14	-1.54
2201 E. Pinchot Ave; Unit A6	119-17-105	1133.34	1131.66	1133.20	0.14	-1.54
2201 E. Pinchot Ave; Unit A7	119-17-106	1133.34	1131.66	1133.30	0.04	-1.64
2201 E. Pinchot Ave; Unit A8	119-17-107	1133.34	1131.96	1133.40	-0.06	-1.44
2201 E. Pinchot Ave; Unit A9	119-17-108	1133.34	1131.96	1133.40	-0.06	-1.44
2201 E. Pinchot Ave; Unit A10	119-17-109	1133.34	1131.96	1133.40	-0.06	-1.44
2201 E. Pinchot Ave; Unit A11	119-17-110	1133.34	1131.96	1133.30	0.04	-1.34
2201 E. Pinchot Ave; Unit A12	119-17-111	1133.34	1131.96	1133.30	0.04	-1.34
2201 E. Pinchot Ave; Unit A13	119-17-112	1133.34	1131.96	1133.30	0.04	-1.34
2202 E. Thomas Rd.	119-17-036	1133.99	1132.77	1132.80	1.19	-0.03
2228 E. Thomas Rd.	119-17-057	1132.20	1131.57	1132.80	-0.60	-1.23
2233 E. Thomas Rd.	117-01-117J	1134.99	1132.94	1133.30	1.69	-0.36
2303 E. Thomas Rd.	117-01-117M	1135.47	1132.94	1133.40	2.07	-0.46
2323 E. Thomas Rd.	117-01-117M	1135.85	1133.68	1133.50	2.35	0.18
2333 E. Thomas Rd.	117-01-117R	1132.63	1134.87	1133.30	-0.67	1.57
2728 N. 24th St.	117-01-117G	1135.05	1133.50	1134.10	0.95	-0.60
2800 N. 24th St.	117-01-117S	1134.67	1133.16	1134.10	0.57	-0.94
2806 N. 24th St.	117-01-116	1137.07	1133.54	1133.80	3.27	-0.26
2850 N. 24th St.	117-01-115	1136.85	1134.70	1133.40	3.45	1.30
2701 N. 24th St.	120-35-028	1133.00	1132.96	1134.20	-1.20	-1.24
2711 N. 24th St.	120-35-026	1133.63	1133.17	1134.00	-0.37	-0.83
2645 N. 24th St.	120-36-043	1133.04	1132.23	1134.50	-1.46	-2.27
2434 E. Cambridge Ave	120-35-044B	1134.17	1133.73	1134.50	-0.33	-0.77
2427 E. Cambridge Ave	120-36-030	1134.31	1133.30	1134.90	-0.59	-1.60
2702 N. 24th Pl.	120-35-029	1133.56	1133.12	1134.30	-0.74	-1.18
2708 N. 24th Pl.	120-35-027	1133.83	1133.25	1134.30	-0.47	-1.05
2712 N. 24th Pl.	120-35-025	1133.86	1133.35	1134.30	-0.44	-0.95
2720 N. 24th Pl.	120-35-023	1134.08	1133.44	1134.30	-0.22	-0.86
2638 N. Foote Dr.	120-36-045	1132.91	1132.44	1134.90	-1.99	-2.46
2632 N. Foote Dr.	120-36-046	1132.66	1132.39	1134.50	-1.84	-2.11
2626 N. Foote Dr.	120-36-047	1132.73	1132.33	1134.30	-1.57	-1.97
2619 N. Foote Dr.	120-36-033	1133.99	1133.05	1134.30	-0.31	-1.25
2620 N. Foote Dr.	120-36-048	1132.42	1132.50	1134.00	-1.58	-1.50
2614 N. Foote Dr.	120-36-049	1133.15	1132.40	1134.00	-0.85	-1.60
2608 N. Foote Dr.	120-36-050	1133.49	1132.67	1134.20	-0.71	-1.53
2607 N. Foote Dr.	120-36-035	1133.96	1133.15	1134.20	-0.24	-1.05
2602 N. Foote Dr.	120-36-051	1133.18	1132.88	1134.30	-1.12	-1.42
2601 N. Foote Dr.	120-36-036	1133.93	1133.36	1134.30	-0.37	-0.94
2544 N. Foote Dr.	120-36-052	1133.43	1132.79	1134.40	-0.97	-1.61
2543 N. Foote Dr.	120-36-037	1133.98	1133.56	1134.40	-0.42	-0.84
2538 N. Foote Dr.	120-36-053	1133.30	1132.93	1134.50	-1.20	-1.57
2532 N. Foote Dr.	120-36-054	1133.49	1133.13	1134.70	-1.21	-1.57
2526 N. Foote Dr.	120-36-055	1133.29	1133.19	1134.80	-1.51	-1.61
2537 N. Foote Dr.	120-36-038	1134.15	1133.33	1134.60	-0.45	-1.27
2520 N. Foote Dr.	120-36-056	1133.89	1133.30	1135.00	-1.11	-1.70
2514 N. Foote Dr.	120-36-057	1133.90	1133.26	1135.00	-1.10	-1.74
2508 N. Foote Dr.	120-36-058	1133.18	1133.80	1135.10	-1.92	-1.30
2502 N. Foote Dr.	120-36-059	1133.80	1133.42	1135.10	-1.30	-1.68
2509 N. Foote Dr.	120-36-022	1134.69	1133.83	1135.20	-0.51	-1.37
2430 N. Foote Dr.	120-36-060	1134.05	1133.47	1135.20	-1.15	-1.73
2424 N. Foote Dr.	120-36-061	1134.33	1133.43	1135.20	-0.87	-1.77
2418 N. Foote Dr.	120-36-062	1134.18	1133.78	1135.30	-1.12	-1.52
2514 N. 25th Pl.	120-36-039	1134.35	1133.74	1134.70	-0.35	-0.96
2519 N. 25th Pl.	120-36-017	1134.88	1133.24	1135.00	-0.12	-1.76
2513 N. 25th Pl.	120-36-019	1134.62	1133.96	1135.00	-0.38	-1.04
2511 N. 25th Pl.	120-36-021B	1134.68	1133.91	1135.00	-0.32	-1.09
2601 E. Sheridan St.	120-33-058A	1135.07	1133.78	1135.40	-0.33	-1.62
2414 N. 26th St.	120-36-063A	1134.19	1133.79	1135.40	-1.21	-1.61
2601 E. Harvard St.	120-33-031E	1134.54	1133.73	1135.60	-1.06	-1.87
2606 E. Harvard St.	120-33-051	1135.26	1134.42	1135.40	-0.14	-0.98
2610 E. Harvard St.	120-33-063	1135.79	1134.27	1135.50	0.29	-1.23
2621 E. Harvard St. Unit: 01-14	120-33-087/100	1136.79	1135.67	1135.80	0.99	-0.13
2302 N. 27th St.	120-33-031D	1135.66	1135.36	1135.80	-0.14	-0.44
2302 N. 27th St.	120-33-067C	1136.00	1135.36	1135.80	0.20	-0.44
2629 E. Oak St.	120-30-010	1134.64	1134.22	1135.20	-0.56	-0.98
2635 E. Oak St.	120-30-010	1134.64	1134.22	1135.30	-0.66	-1.08
2224 N. 27th St.	120-30-010	1134.92	1134.62	1135.30	-0.38	-0.68
2222 N. 27th St.	120-30-011A	1135.83	1134.57	1135.40	0.43	-0.83
2223 N. 27th St.	120-30-098	1134.45	1133.57	1135.40	-0.95	-1.83
2215 N. 27th St.	120-30-094	1135.39	1134.44	1135.40	-0.01	-0.96
2210 N. 27th Pl.	120-30-093	1134.77	1134.41	1135.50	-0.73	-1.09
2206 N. 27th Pl.	120-30-092	1134.42	1134.07	1135.50	-1.08	-1.43
2209 N. 27th Pl.	120-30-078	1134.48	1133.96	1135.70	-1.22	-1.74
2205 N. 27th Pl.	120-30-076	1133.96	1133.28	1135.70	-1.74	-2.42
2201 N. 27th Pl.	120-30-075	1134.35	1133.19	1135.80	-1.45	-2.61

2202 N. 27th Pl.	120-30-091	1133.99	1133.42	1135.80	-1.81	-2.38
2112 N. 28th St.	120-30-074	1134.80	1134.50	1135.80	-1.00	-1.30
2110 N. 28th St.	120-30-071	1134.57	1133.90	1135.90	-1.33	-2.00
2102 N. 28th St.	120-30-070A	1134.08	1134.05	1135.90	-1.82	-1.85
2111 N. 28th St.	120-26-013	1135.62	1134.94	1136.20	-0.58	-1.26
2107 N. 28th St.	120-26-014A	1135.16	1134.46	1136.20	-1.04	-1.74
2022 N. 28th Pl.	120-26-019	1135.97	1135.31	1136.30	-0.33	-0.99
2018 N. 28th Pl.	120-26-017	1136.31	1135.55	1136.30	0.01	-0.75
2014 N. 28th Pl.	120-26-018	1136.28	1135.43	1136.40	-0.12	-0.97
2007 N. 28th Pl.	120-26-053A	1136.44	1135.70	1136.60	-0.16	-0.90
2826 E. Palm Ln.	120-26-055A	1135.97	1135.39	1136.60	-0.63	-1.21
2837 E. Palm Ln.	120-27-001A	1138.87	1134.51	1136.60	2.27	-2.09
2843 E. Palm Ln.	120-27-001B	1135.02	1134.44	1136.00	-0.98	-1.56
2849 E. Palm Ln.	120-27-002	1134.73	1134.80	1136.00	-1.27	-1.20
2901 E. Palm Ln.	120-27-003A	1135.49	1134.74	1136.00	-0.51	-1.26
2903 E. Palm Ln.	120-27-003B	1137.77	1134.52	1136.00	1.77	-1.48
2004 N. 29th St.	120-26-056	1135.45	1135.08	1136.30	-0.85	-1.22
2916 E. Granada Rd.	120-27-011B	1135.13	1134.52	1136.00	-0.87	-1.48
2920 E. Granada Rd.	120-27-013A	1135.59	1134.55	1136.00	-0.41	-1.45
2919 E. Granada Rd.	120-27-017C/D/E	1135.66	1134.08	1136.10	-0.44	-2.02
2923 E. Granada Rd.	120-27-017F	1134.65	1134.29	1136.10	-1.45	-1.81
2929 E. Granada Rd.	120-27-018	1134.72	1134.55	1136.20	-1.48	-1.65
2933 E. Granada Rd.	120-27-020	1135.08	1134.72	1136.20	-1.12	-1.48
2943 E. Granada Rd.	120-27-022	1135.70	1135.56	1136.20	-0.50	-0.64
2908 E. Granada Rd.	120-27-011A	1135.07	1133.81	1136.20	-1.13	-2.39
2938 E. Coronado Rd.	120-27-026	1135.13	1133.95	1136.20	-1.07	-2.25
2934 E. Coronado Rd.	120-27-025	1136.35	1134.59	1136.20	0.15	-1.61
2950 E. Coronado Rd.	120-27-021A	1135.57	1135.40	1136.30	-0.73	-0.90
2949 E. Coronado Rd.	120-27-030A	1135.02	1134.21	1136.30	-1.28	-2.09
3013 E. Coronado Rd.	120-20-018	1136.23	1135.74	1136.60	-0.37	-0.86
1710 N. 31st St.	120-20-025	1138.15	1135.06	1137.30	0.85	-2.24
1612 N. 31st St.	120-20-028	1135.67	1135.53	1137.50	-1.83	-1.97
1625 N. 31st St.	120-20-066	1137.29	1136.44	1137.70	-0.41	-1.26
3026 E. Almeria Rd.	120-20-024	1136.32	1136.00	1137.00	-0.68	-1.00
3021 E. Almeria Rd.	120-20-029	1136.46	1135.60	1137.00	-0.54	-1.40
3008 E. Almeria Rd.	120-20-023	1135.46	1135.10	1136.90	-1.44	-1.80
3004 E. Almeria Rd.	120-20-022	1135.21	1135.07	1136.60	-1.39	-1.53
3019 E. Almeria Rd.	120-20-027	1136.48	1135.74	1137.00	-0.52	-1.26
3007 E. Almeria Rd.	120-20-027	1135.32	1134.90	1137.00	-1.68	-2.10
3102 E. McDowell Rd.	120-20-064	1137.50	1137.52	1137.70	-0.20	-0.18
3108 E. McDowell Rd.	120-20-064	1137.72	1137.08	1137.70	0.02	-0.62
3118 E. McDowell Rd.	120-20-042	1138.79	1137.27	1137.70	1.09	-0.43
3111 E. McDowell Rd.	121-73-101A	1138.80	1136.98	1137.00	1.80	-0.02
3119 E. McDowell Rd.	121-73-103	1137.44	1137.04	1137.00	0.44	0.04
3125 E. McDowell Rd.	121-73-103	1137.48	1137.25	1137.00	0.48	0.25
3131 E. McDowell Rd.	121-73-099A/B	1140.12	1136.95	1137.00	3.12	-0.05
3145 E. McDowell Rd.	121-73-097A	1139.02	1138.93	1137.20	1.82	1.73
1442 N. 32nd St.	121-73-104A	1138.64	1138.69	1137.30	1.34	1.39
1430 N. 32nd St	121-73-107B	1138.62	1138.42	1137.30	1.32	1.12
1420 N. 32nd St	121-73-108B	1138.81	1138.45	1137.50	1.31	0.95
1410 N. 32nd St	121-73-102A	1139.03	1138.93	1137.50	1.53	1.43
1400 N. 32nd St	121-73-098	1139.27	1138.51	1137.60	1.67	0.91

*DATA SOURCE: FLOODPLAIN ELEVATION CERTIFICATES-PREPARED BY COE & VAN LOO, NOVEMBER 2004

Floodplain Elevation Certificate - 32nd Street to 36th Street

Address	Assessors Parcel Number	Finished Floor Elevation (FFE)	Lowest Adjacent Grade (LAG)	Base Flood Elevation (BFE)	Depth (FFE-BFE)	Depth (LAG-BFE)
1201 N. 33rd St.	121-07-018	1137.42	N/A	1137.20	0.22	N/A
1205 N. 33rd St.	121-07-019	1137.67	1137.04	1137.20	0.47	-0.16
1127 N. 34th St.	121-08-068	1138.08	1137.13	1137.60	0.48	-0.47
1131 N. 34th St.	121-08-069	1138.23	1137.61	1137.50	0.73	0.11
1132 N. 34th St.	121-08-059	1138.05	1137.09	1137.30	0.75	-0.21
1140 N. 34th St.	121-08-053	1138.49	1137.52	1137.10	1.39	0.42
1131 N. Oakleaf Dr.	121-08-054	1137.97	1136.94	1136.80	1.17	0.14
1139 N. Oakleaf Dr.	121-08-055	1137.53	1136.57	1136.80	0.73	-0.23
1145 N. Oakleaf Dr.	121-08-056	1137.55	1136.63	1136.80	0.75	-0.17
1201 N. Oakleaf Dr.	121-07-009	1137.21	1135.96	1137.00	0.21	-1.04
1209 N. Oakleaf Dr.	121-07-008	1137.17	1136.59	1136.90	0.27	-0.31
1213 N. Oakleaf Dr.	121-07-007	1137.12	1136.30	1136.80	0.32	-0.50
1219 N. Oakleaf Dr.	121-07-122	1137.80	1136.27	1136.80	1.00	-0.53
1223 N. Oakleaf Dr.	121-07-021	N/A	N/A	1136.90	N/A	N/A
1233 N. Oakleaf Dr.	121-07-116	1136.70	1136.00	1137.40	-0.70	-1.40
1239 N. Oakleaf Dr.	121-07-115	1136.72	1136.12	1137.70	-0.98	-1.58
1245 N. Oakleaf Dr.	121-07-114	1136.83	1136.11	1138.30	-1.47	-2.19
3229 E. Willetta St.	121-07-108	1136.88	1136.25	1138.20	-1.32	-1.95
3225 E. Willetta St.	121-07-107	1136.85	N/A	1138.60	-1.75	N/A
3219 E. Willetta St.	121-07-106	1136.18	1135.91	1138.60	-2.42	-2.69
3214 E. Willetta St.	121-07-105	1137.92	1136.94	1138.20	-0.28	-1.26
3220 E. Willetta St.	121-07-104	1138.08	1137.02	1138.30	-0.22	-1.28

*DATA SOURCE: FLOODPLAIN ELEVATION CERTIFICATES-PREPARED BY LANDMARK ENGINEERING, JUNE 2002