

# CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services



September 19, 2014

Donnie Duneman, PE  
Wilson & Company, Inc.  
4900 Lang Ave. NE  
Albuquerque, NM 87109

Richard J. Berry, Mayor

**RE: Westside Blvd. PH II  
Drainage Calculations  
Engineer's Stamp Date - no stamp (File: A12D024A)**

Dear Mr. Duneman:

Based upon the information provided in your submittal received 9-15-14, the above referenced submittal is approved for Work Order with the following comments.

- The analysis of the Storm Drain (main trunk line) on the west side of the East Branch Channel uses flows shown on the As-Builts (Wilson & Co, October 2006, Westside Blvd.). However, per our conversation, it is not clear why the flow increases from 24 cfs to 72 cfs and then to 144 cfs, and there is not a report that explains the increase. Per our conversation, it may be that Basin 21 from the Cabazon Communities Phase 2 Drainage Management Plan, Unit 16 (Aug. 2004, Wilson & Co.) was intended to discharge 62 cfs to the Storm Drain rather than the channel (See Figure 6) but the As-Builts do not show any connections to that basin.
- Since there was not a clear explanation for the discrepancy, Wilson & Co. has decided to conservatively rely on the As-Built information for the hydraulics.

PO Box 1293

Albuquerque

New Mexico 87103 If you have any questions, you can contact me at 924-3695.

www.cabq.gov

Sincerely,

Rita Harmon, P.E.  
Senior Engineer, Planning Dept.  
Development Review Services

Orig: Drainage file  
c.pdf Addressee via Email , Monica Ortiz

# Memorandum

To: Rita Harmon, P.E.

From: Donnie Duneman, P.E.

CC: File

Date: September 10, 2014

File Number: 14-600-058-00

Re: Westside Boulevard PH II

The Westside Boulevard Ph II project consists of improvements between City of Albuquerque city limits and Golf Course Road for a length of 2,200'. The project includes widening of the existing East Branch Channel crossing located approximately 1,100' west of Golf Course Road. The City of Albuquerque has requested us to provide street flow, inlet and storm drain capacities as well as all pertaining drainage reports. A list of reviewed report/as-builts are as listed:

1. Cabazon Communities Phase II Drainage Management Plan Unit 16, dated August 2004 prepared by Wilson & Company, Inc.
2. Westside Boulevard Storm Drain between East Branch Channel to Seven Bar Loop Road NW, dated May 22, 2006 prepared by Wilson & Company, Inc.
3. Final Drainage Report for Cabazon Subdivision, dated June 22, 2006 prepared by Tetra Tech RMC
4. Regional water Quality Structure at Black Arroyo Dam construction plans dated October 9, 2007 prepared by Wilson & Company, Inc.
5. The Westside Boulevard Paving and Storm Drain construction plans dated October 31, 2006 prepared by Wilson & Company, Inc.

A copy of these reports and an overall exhibit are attached. Bentley FlowMaster V8i (Select series 1) was used to calculate inlet and street capacities. Hydrflow Storm Sewers extension for Autodesk AutoCAD Civil 3D was used in storm sizing calculations.

The Cabazon Communities Ph 2 DMP includes calculations for basins north of Westside Boulevard (Figure 6, Phase 2 Basins & Peak Flow Locations, Ref 1). The Westside Boulevard Storm Drain report calculated runoff for the Westside basin between Golf Course Road and east of East Branch Channel crossing, Basin 201W, for a total peak flow of 16.24 cfs (Figure 3, Westside Boulevard basin Map, Ref 2). There are 6 existing inlets at sta 71+00 located 320' east of the bridge crossing in a sump to capture this runoff. The Final Drainage Report for Cabazon Subdivision report calculated basin runoff east of Unser Boulevard for a total length of 4,260'. Flows are collected through inlets at two locations upstream and downstream of Westside Court (drainage Map, Ref 3). Total captured flows at AP4 were 18.62 cfs with 2.58 cfs bypassing the inlets. Although the storm drain was reviewed and approved by City of Albuquerque and Rio Rancho, no runoff calculation was available for the 1,400' section of Westside Boulevard between the two reports. The Final Drainage Report for Cabazon Subdivision report calculations was used as a cfs/acre to calculate runoff for the missing section. Currently there are two curb inlets on the north side of Westside Boulevard west of bridge crossing which will remain. On the south side, there are two area inlets which will be modified to curb inlets. Total generated flow for this basin was 4.46 cfs. With addition of bypassed flows from AP4, total flows to the modified inlets are 5.77 cfs. See Table 1 below, attached exhibit for location and attached inlet calculations for more information.

Table 1 - Inlet flow calculation					
Location	Flow (cfs)			Inlets	Notes
	Total	Captured	Bypass		
AP3	18.00	12.6	5.4	1 inlet each side	East of Westside Ct
AP 4	8.60	6.02	2.58	1 inlet each side	West of Westside Ct
Sta 67+00, Inlet 1	5.77	2.48	3.29	1 modified Inlet	Total flow includes 3.19 cfs and AP4 bypass
Sta 67+00, Inlet 2	3.29	1.86	1.43	1 modified Inlet	West of bridge crossing
Sta 71+00, East of Bridge	9.55	9.55	0	3 existing inlet each side in sump	Half basin 201W (16.24)+ Sta 67+00 bypass

Street capacity computations at the two entrances to AMAFCA access were performed to check flow depths. Calculations indicated that flow depth is 0.36' at Sta 62+00 west entrance and 0.39' at Sta 69+50 east entrance. See attached calculations. The flow depth calculations show that at these crossings flow will not overtop the water block and will flow in an easterly direction to the intended inlets for collection.

The Westside Boulevard Paving and Storm Drain construction as-builts and original Hydraflow model for the storm drain sizing calculation was used to check the Hydraulic Grade Line (Sheet 13 and 14 of 49, Ref 5). The hydraulic model was revised to model connection to the downstream 24" pipe draining into the East Branch Channel (Sheet 6 of 14, Ref 4). The model indicates that the existing 24" at the east Branch Channel is not capable of conveying generated runoff. We recommend upsizing the existing 24" to 42" to safely convey generated flows. See attached Hydraflow calculations.

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## Worksheet for West of Bridge Type A Inlet-1

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### Project Description

Solve For                      Efficiency

### Input Data

Discharge	5.77	ft <sup>3</sup> /s
Slope	0.01980	ft/ft
Gutter Width	2.50	ft
Gutter Cross Slope	0.06	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.013	
Curb Opening Length	6.00	ft
Local Depression	2.75	in
Local Depression Width	3.00	ft

### Results

Efficiency	42.92	%
Intercepted Flow	2.48	ft <sup>3</sup> /s
Bypass Flow	3.29	ft <sup>3</sup> /s
Spread	10.36	ft
Depth	0.31	ft
Flow Area	1.20	ft <sup>2</sup>
Gutter Depression	0.10	ft
Total Depression	0.33	ft
Velocity	4.81	ft/s
Equivalent Cross Slope	0.08841	ft/ft
Length Factor	0.27	
Total Interception Length	22.42	ft

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## Worksheet for West of Bridge Type A Inlet-2

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### Project Description

Solve For                      Efficiency

### Input Data

Discharge	3.29	ft <sup>3</sup> /s
Slope	0.01980	ft/ft
Gutter Width	2.50	ft
Gutter Cross Slope	0.06	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.013	
Curb Opening Length	6.00	ft
Local Depression	2.75	in
Local Depression Width	3.00	ft

### Results

Efficiency	56.47	%
Intercepted Flow	1.86	ft <sup>3</sup> /s
Bypass Flow	1.43	ft <sup>3</sup> /s
Spread	7.96	ft
Depth	0.26	ft
Flow Area	0.76	ft <sup>2</sup>
Gutter Depression	0.10	ft
Total Depression	0.33	ft
Velocity	4.34	ft/s
Equivalent Cross Slope	0.10238	ft/ft
Length Factor	0.37	
Total Interception Length	16.21	ft

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# Worksheet for Sta 62+00 W AMAFCA Entrance

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## Project Description

Solve For                      Spread

## Input Data

Channel Slope	0.00500	ft/ft
Discharge	4.17	ft <sup>3</sup> /s
Gutter Width	2.00	ft
Gutter Cross Slope	0.06	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.017	

## Results

Spread	13.85	ft
Flow Area	2.00	ft <sup>2</sup>
Depth	0.36	ft
Gutter Depression	0.09	ft
Velocity	2.08	ft/s

---

## Worksheet for Sta 69+50 E AMAFCA Entrance

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### Project Description

Solve For                                      Spread

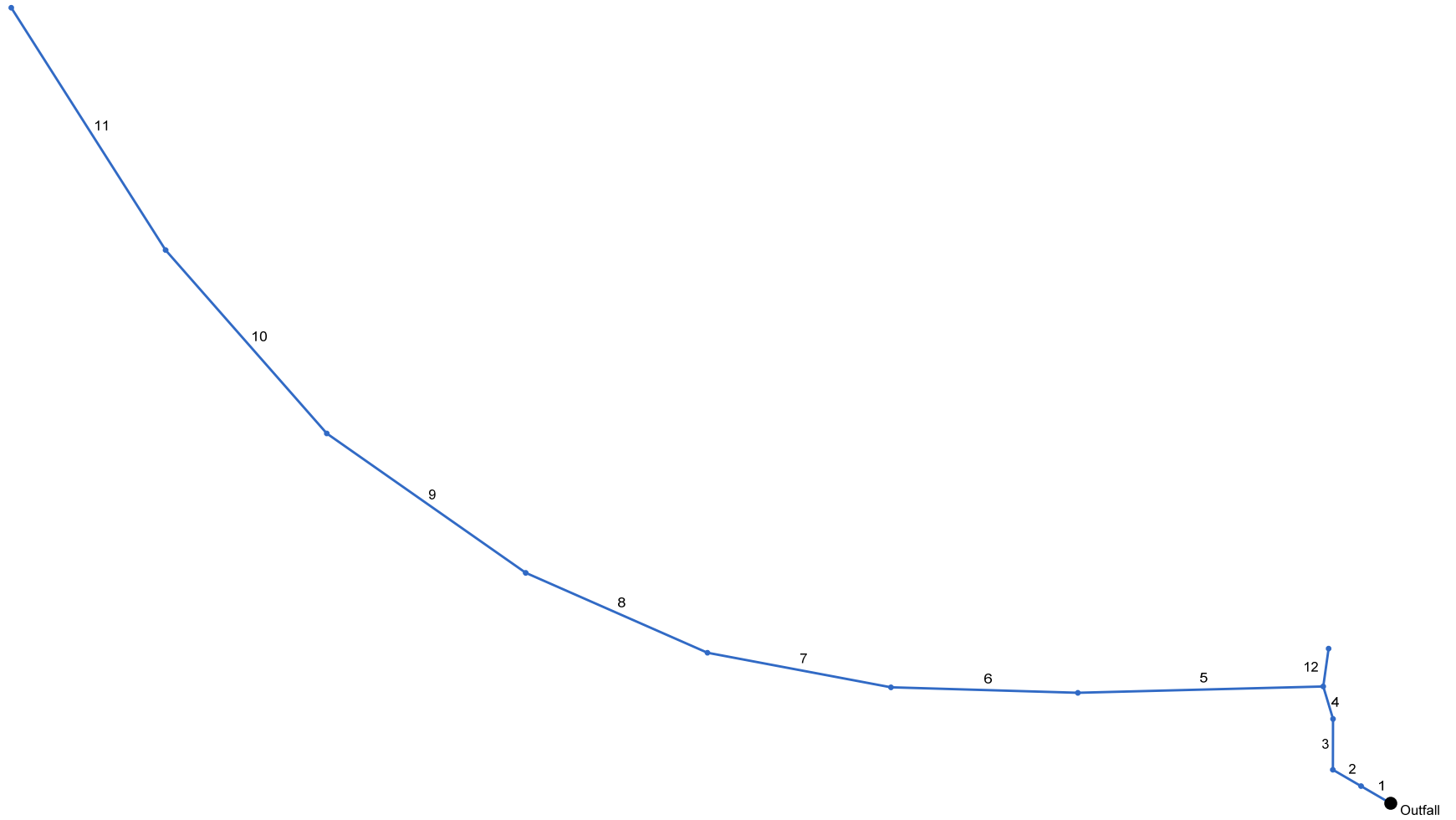
### Input Data

Channel Slope	0.00500	ft/ft
Discharge	5.41	ft <sup>3</sup> /s
Gutter Width	2.00	ft
Gutter Cross Slope	0.06	ft/ft
Road Cross Slope	0.02	ft/ft
Roughness Coefficient	0.017	

### Results

Spread	15.37	ft
Flow Area	2.45	ft <sup>2</sup>
Depth	0.39	ft
Gutter Depression	0.09	ft
Velocity	2.21	ft/s

# Westside Blvd. - West of Chann



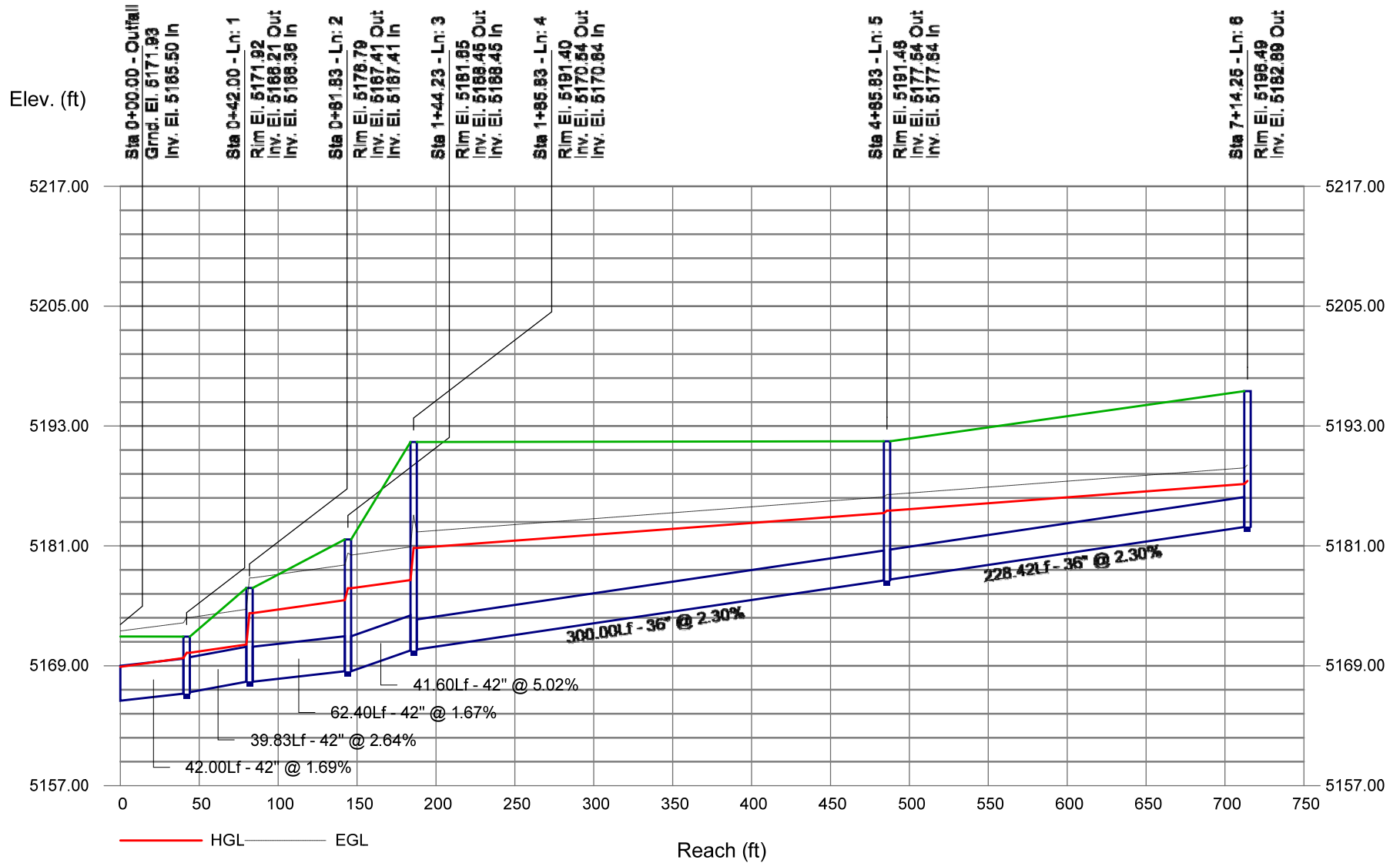


Line No.	Line ID	Line Size (in)	Line Length (ft)	Line Slope (%)	Flow Rate (cfs)	Invert Dn (ft)	Invert Up (ft)	Gnd/Rim El Dn (ft)	Gnd/Rim El Up (ft)	HGL Dn (ft)	HGL Up (ft)	Cover Dn (ft)	Cover Up (ft)	J-Loss Coeff	Vel Ave (ft/s)	Capac Full (cfs)
1		42	42.00	1.69	144.00	5165.50	5166.21	5171.93	5171.92	5168.90	5169.68	2.93	2.21	0.15	15.04	130.81
2		42	39.83	2.64	144.00	5166.36	5167.41	5171.92	5176.79	5170.21	5171.02	2.06	5.88	0.89	14.97	163.37
3		42	62.40	1.67	144.00	5167.41	5168.45	5176.79	5181.65	5174.12	5175.40	5.88	9.70	0.34	14.97	129.89
4		42	41.60	5.02	139.54	5168.45	5170.54	5181.65	5191.40	5176.59	5177.39	9.70	17.36	0.97	14.50	225.50
5		36	300.00	2.30	72.00	5170.64	5177.54	5191.40	5191.48	5180.56	5184.06	17.76	10.94	0.15	10.19	101.15
6		36	228.42	2.30	72.00	5177.64	5182.89	5191.48	5196.49	5184.30	5186.96	10.84	10.60	0.19	10.19	101.11
7		36	228.18	2.30	72.00	5182.99	5188.24	5196.49	5201.60	5187.27	5190.92	10.50	10.36	0.27	10.49	101.16
8		36	242.83	2.26	72.00	5188.34	5193.83	5201.60	5206.34	5190.92	5196.51	10.26	9.51	0.24	10.96	100.28
9		30	297.22	2.30	24.00	5193.93	5200.77	5206.34	5211.92	5196.95	5202.44 j	9.91	8.65	0.28	5.90	62.21
10		30	298.95	2.30	24.00	5200.87	5207.75	5211.92	5217.50	5202.44	5209.42	8.55	7.25	0.19	7.16	62.22
11		30	352.07	2.69	24.00	5207.75	5217.21	5217.50	5223.91	5209.42	5218.88	7.25	4.20	1.00	6.90	67.23
12		18	46.90	1.00	4.46	5184.33	5184.80	5191.40	5189.56	5185.01	5185.61	5.57	3.26	1.00	5.14	10.51

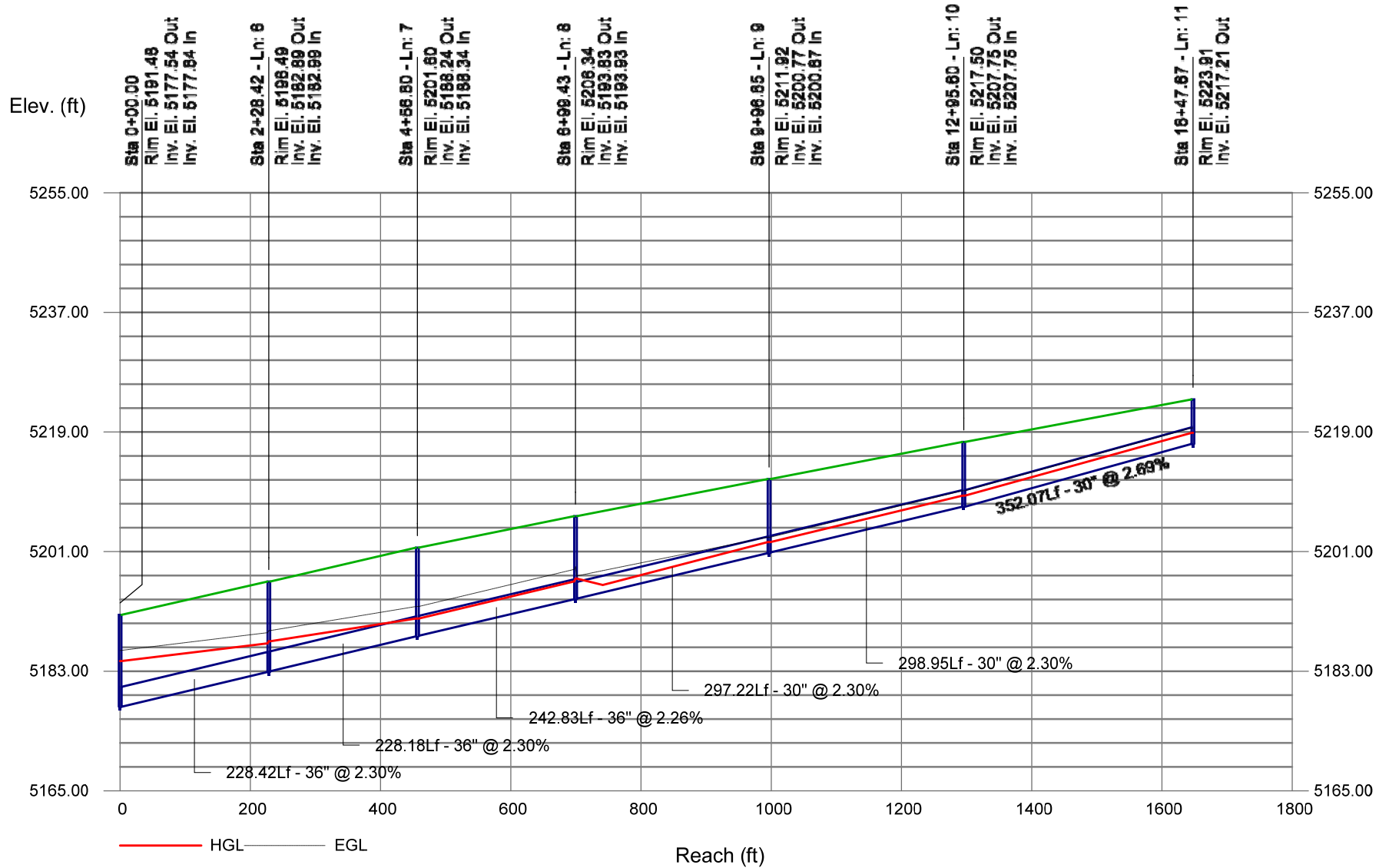
<b>Westside Blvd. - West of Chann</b>	Number of lines: 12	Date: 9/10/2014
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NOTES: \*\* Critical depth

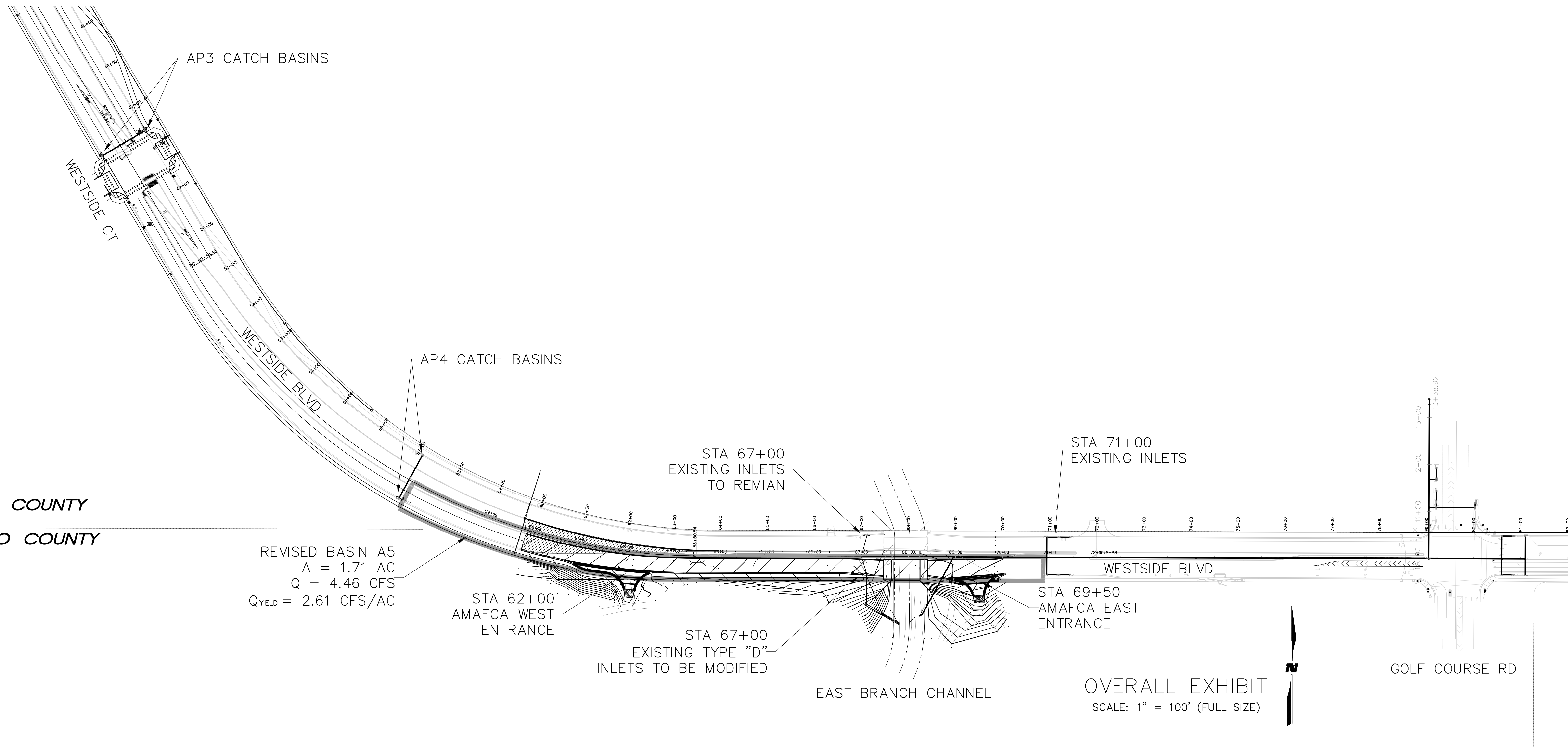
# Storm Sewer Profile



# Storm Sewer Profile



SANDOVAL COUNTY  
BERNALILLO COUNTY



DR44: 1

**CABEZON COMMUNITIES PHASE 2  
DRAINAGE MANAGEMENT PLAN  
UNIT 16**

**August 2004**

**PREPARED FOR:**

**Curb North Inc.  
5160 San Francisco NE  
Albuquerque, New Mexico 87109**

**SUBMITTED TO:**

**City Of Rio Rancho &  
Southern Sandoval County Arroyo Flood Control  
Authority**

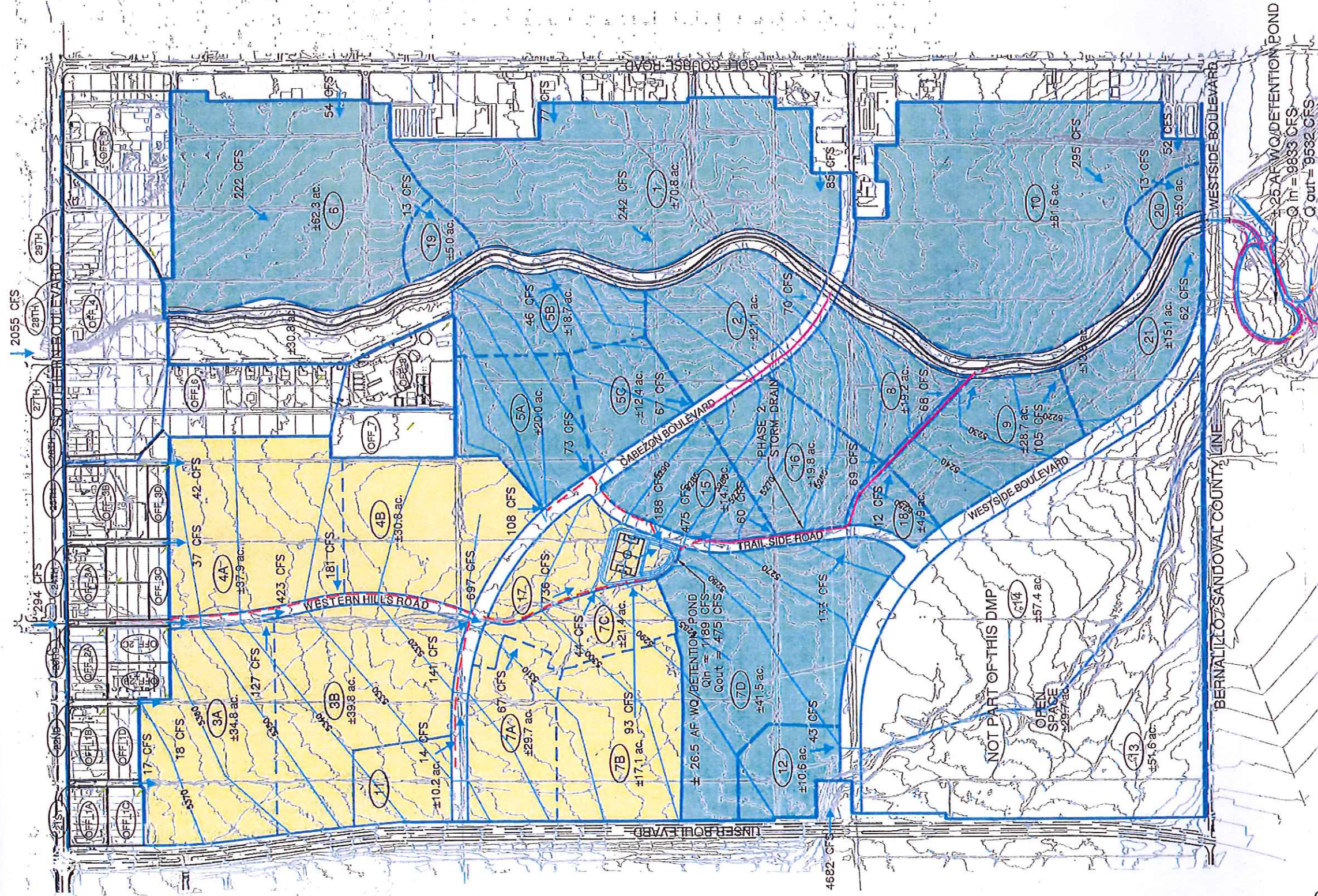
**PREPARED BY:**

**Wilson & Company, Engineers & Architects  
2600 American Rd. SE, Suite 100  
Rio Rancho, NM 87124**

**WCEA File No. X4-218-012**

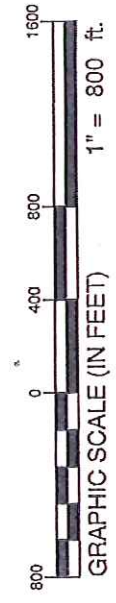
**WILSON  
& COMPANY**

**DR-6**



**LEGEND**

- PHASE 1
- PHASE 2
- PROPOSED BASIN BOUNDARY LABEL
- PROPOSED BASIN BOUNDARY
- FLOW ARROW
- FLOW ARROW
- PHASE 2 STORM DRAIN LINE
- EXISTING STORM DRAIN
- 5300



CITY OF RIO RANCHO

**FIGURE 6**

**CABEZON - PHASE 2**

**DRAINAGE MANAGEMENT PLAN**

**PHASE 2 BASIN & PEAK FLOW LOCATIONS**

**WILSON & COMPANY**  
 2600 THE AMERICAN ROAD S.E.  
 SUITE 100  
 RIO RANCHO, NEW MEXICO 87124  
 (505) 898-9021

NOTE: ALL FLOWS SHOWN ARE PEAK FLOWS FOR THE 100 YEAR RETURN FREQUENCY EVENT, AND ARE TAKEN FROM CABEZON HYDROLOGIC MODELING. FLOWS REFLECT FULLY DEVELOPED CONDITIONS.

**Westside Boulevard Storm Drain  
Between East Branch Channel to Seven Bar  
Loop Road NW**

**Drainage Report**

Prepared for



Prepared by

**WILSON  
& COMPANY**  
ENGINEERS & ARCHITECTS

4900 Lang Ave. NE  
Albuquerque, NM 87109

**FINAL SUBMITTAL VERSION**

**May 22, 2006**

I, Mario G. Juarez-Infante, P.E., do hereby certify that this document was prepared by me or under my direction, and is true and correct to the best of my knowledge and belief and that I am a duly registered Professional Engineer under the laws of the State of New Mexico.

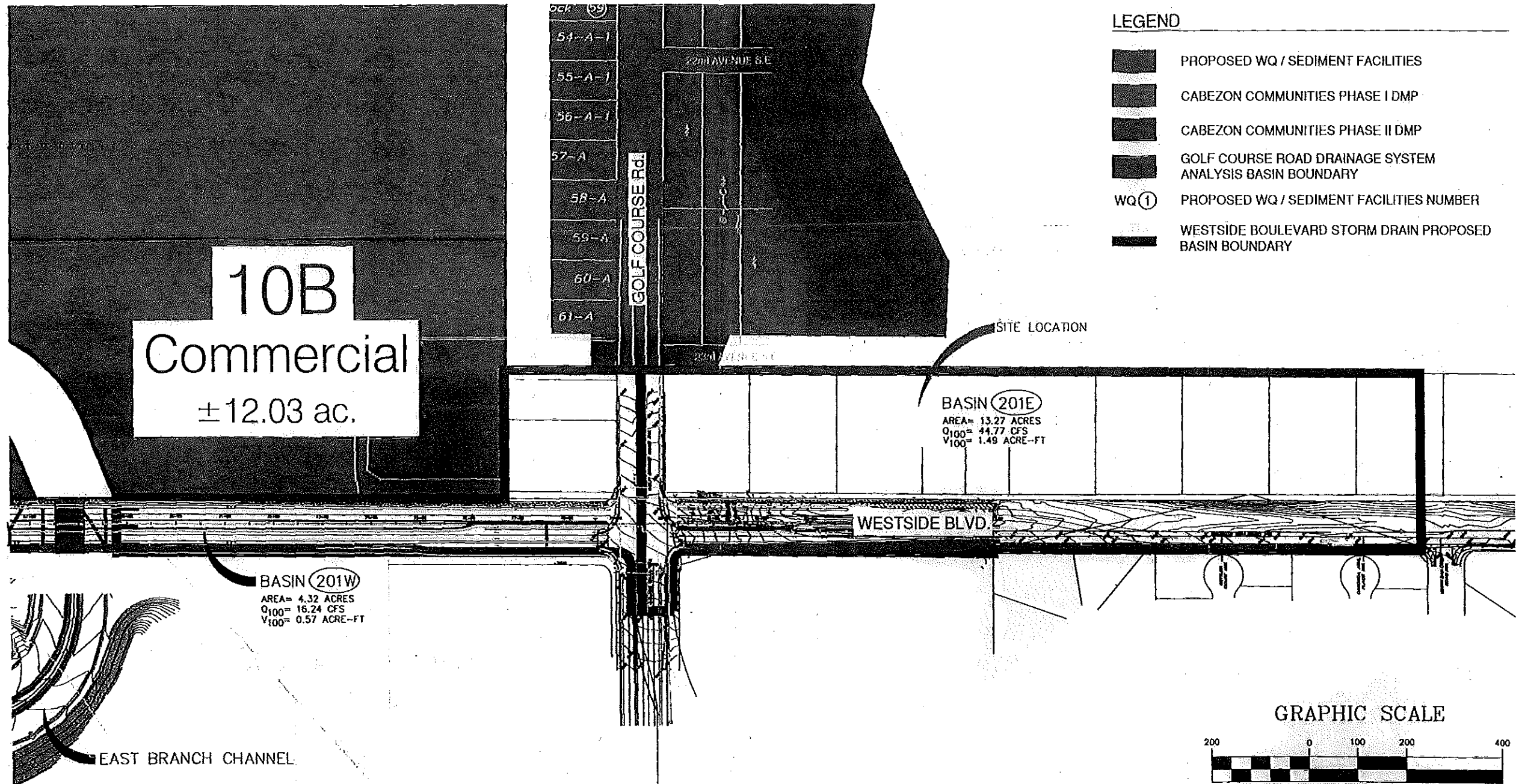
*Mario G. Juarez-Infante* 5/22/06  
Mario G. Juarez-Infante, PE, CFM  
NMPE No. 15340

Date

1

Westside Boulevard Storm Drain Project





**EAST BRANCH CHANNEL**

**WESTSIDE BLVD.**

**GOLF COURSE Rd.**

**22nd AVENUE S.E.**

**54-A-1**  
**55-A-1**  
**56-A-1**  
**57-A**  
**58-A**  
**59-A**  
**60-A**  
**61-A**

**5/17/2008 11:08 AM**

**CITY OF ALBUQUERQUE**

**WILSON & COMPANY**  
4900 LANG AVENUE  
ALBUQUERQUE, NEW MEXICO 87109  
P (505) 348-4000  
F (505) 348-4072  
www.wilsonco.com

**FIGURE 3**

**WESTSIDE BOULEVARD PROPOSED BASIN MAP**



FINAL DRAINAGE REPORT  
FOR  
CABAZON SUBDIVISION  
RIO RANCHO, NEW MEXICO

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*Prepared for:*

CONTOUR DEVELOPMENT, INC.  
9595 Wilshire Building, Suite 1000  
Beverly Hills, California 90212

*Prepared by:*

TETRA TECH RMC  
1900 South Sunset Street, Suite 1-F  
Longmont, Colorado 80501

Tetra Tech RMC Job No. 80-5101.001.00

June 22, 2006



TETRA TECH RMC

CITY OF RIO RANCHO  
DEPARTMENT OF  
PUBLIC INFRASTRUCTURE  
RECEIVED ON: 6-28-06  
PROJECT NUMBER: 06-0943

TABLE 3

## AREA CALCULATIONS

## Ultimate Design

Design Point	Location	Station	Length	Width		Area		Area	
				paved	grass	paved (sq.ft)	grass (sq.ft)	paved (D) (acres)	grass (A) (acres)
1	Carmesa Dr.	20+65	1,000	56	27	56,000	27,000	1.29	0.62
2	Trail Side Rd.	31+33	2,035	56	27	113,960	54,945	2.62	1.26
3	Catch Basin 1 Sta.45+00	45+00	3,405	56	27	190,680	91,935	4.38	2.11
	Westside Ct.	48+00	3,720	56	27	208,320	100,440	4.78	2.31
4	Catch Basin 2 Sta.53+50	53+50	4,260	56	27	238,560	115,020	5.48	2.64

## Intermediate Design

Design Point	Location	Station	Length	Width		Area		Area	
				paved	grass	paved (sq.ft)	grass (sq.ft)	paved (D) (acres)	grass (A) (acres)
1	Carmesa Dr.	20+65	1,000	44	39	44,000	39,000	1.01	0.90
2	Trail Side Rd.	31+33	2,035	44	39	89,540	79,365	2.06	1.82
3	Catch Basin 1 Sta.45+00	45+00	3,405	44	39	149,820	132,795	3.44	3.05
	Westside Ct.	48+00	3,720	44	39	163,680	145,080	3.76	3.33
4	Catch Basin 2 Sta.53+50	53+50	4,260	44	39	187,440	166,140	4.30	3.81

TABLE 4

## PEAK FLOWS

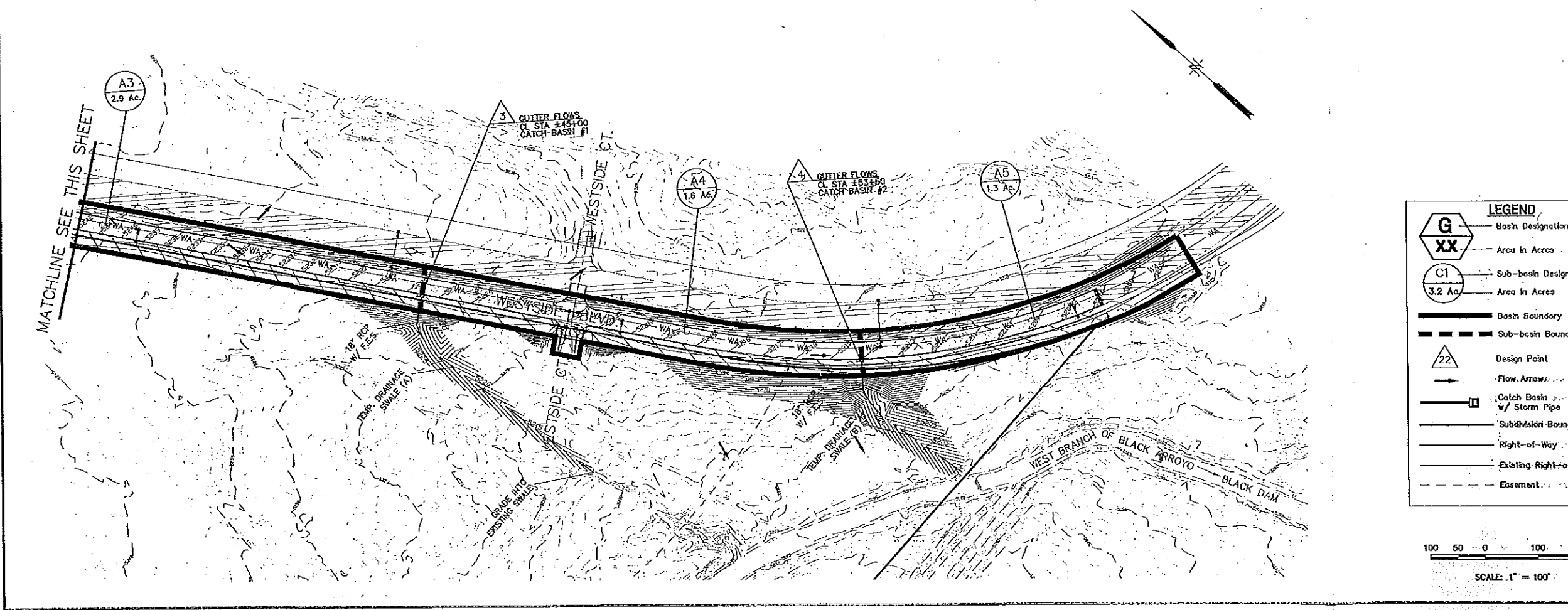
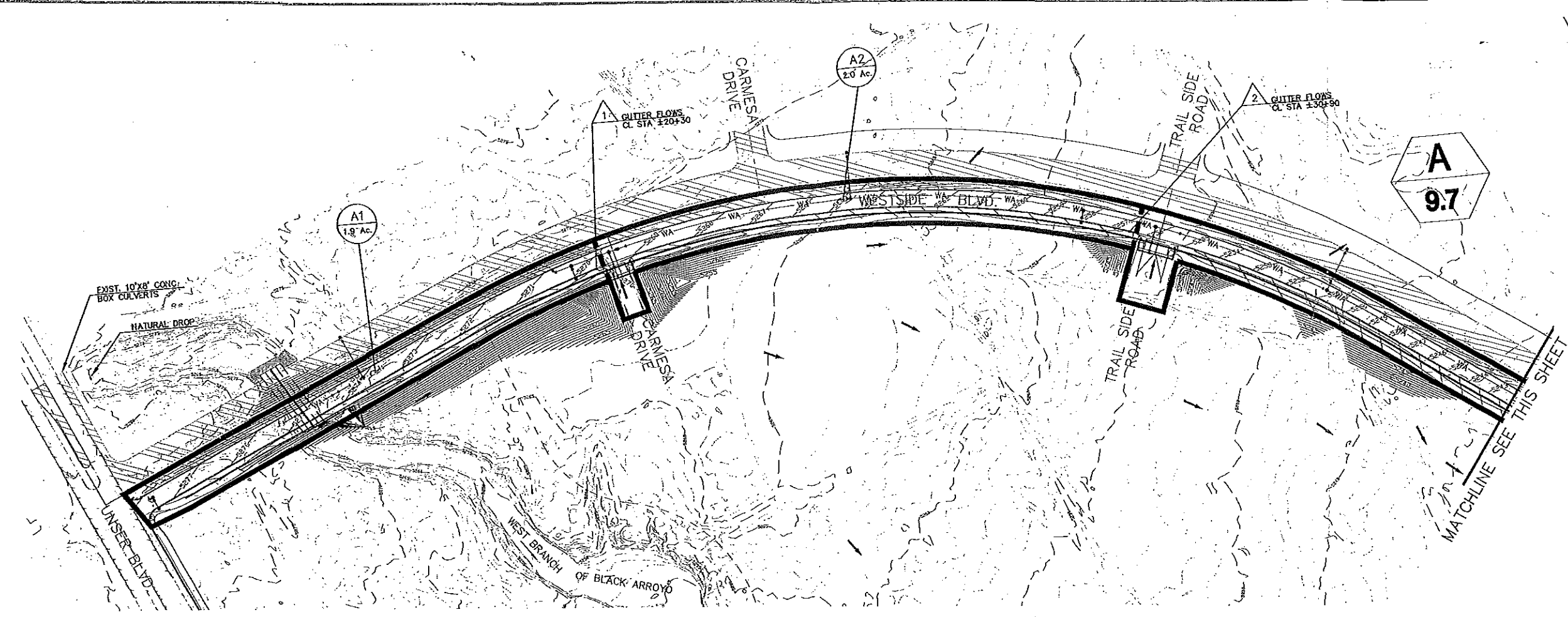
Note: See attached Street Capacity Calculations  
Ultimate Design

Design Point	Location	Land Treatment-Grass (acres)	Land Treatment-Pavement (acres)	10-year-Treatment B (Peak Q) (cfs/acre)	100-year-Treatment B (Peak Q) (cfs/acre)	10-year-Treatment D (Peak Q) (cfs/acre)	100-year-Treatment D (Peak Q) (cfs/acre)	10-year-Discharge (cfs)	100-year-Discharge (cfs)	Street Slope (%)	Street Capacity-10-year Note*) (cfs)	Street Capacity-100-year Note*) (cfs)
1	Carmesa Dr.	0.62	1.29	1.45	2.92	3.57	5.25	4.7	8.9	0.88	11.3	29.0
2	Trail Side Rd.	1.26	2.62	1.45	2.92	3.57	5.25	9.5	12.8	1.44	10.9	38.2
3	Catch Basin 1 Sta.45+50	2.11	4.38	1.45	2.92	3.57	5.25	15.8	18.0	2.34	18.3	48.8
	Westside Ct.	2.31	4.78	1.45	2.92	3.57	5.25	17.3	19.1	1.64	7.9	38.6
4	Catch Basin 2 Sta.53+50	2.64	5.48	1.45	2.92	3.57	5.25	19.8	21.2	1.64	7.9	38.6

## Intermediate Design

Design Point	Treatment	Land Treatment-Grass (acres)	Land Treatment-Pavement (acres)	10-year-Treatment B (Peak Q) (cfs/acre)	100-year-Treatment B (Peak Q) (cfs/acre)	10-year-Treatment D (Peak Q) (cfs/acre)	100-year-Treatment D (Peak Q) (cfs/acre)	10-year-Discharge (cfs)	100-year-Discharge (cfs)	Street Slope (%)	Street Capacity-10-year (cfs)	Street Capacity-100-year (cfs)
1	Carmesa Dr.	0.9	1.01	1.45	2.92	3.57	5.25	4.3	8.1	0.88	11.4	29.0
2	Trail Side Rd.	1.82	2.06	1.45	2.92	3.57	5.25	8.7	11.2	1.44	15.4	38.2
3	Catch Basin 1 Sta.45+50	3.05	3.44	1.45	2.92	3.57	5.25	14.5	15.2	2.34	18.4	48.8
	Westside Ct.	3.33	3.76	1.45	2.92	3.57	5.25	15.8	16.2	1.64	15.3	38.6
4	Catch Basin 2 Sta.53+50	3.81	4.3	1.45	2.92	3.57	5.25	18.1	17.7	1.64	15.3	38.6

Thursday, June 23, 2000 10:27:48 AM DRAWING: R:\5151\01\01\_Cabezon Subd, New Mexico\New Cabezon Drainage\DCS LAYOUT DRAINAGE MAP



**LEGEND**

- Basin Designation
- Area In Acres
- Sub-basin Designation
- Area In Acres
- Basin Boundary
- Sub-basin Boundary
- Design Point
- Flow Arrow
- Catch Basin w/ Storm Pipe
- Subdivision Boundary
- Right-of-Way
- Existing right-of-Way
- Easement

100 50 0 100 200  
SCALE: 1" = 100'

**A**  
9.7

REVISIONS

NO.	DATE	BY
1		
2		
3		
4		

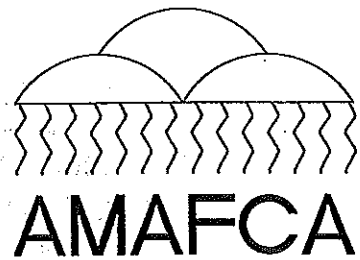
**CABEZON SUBDIVISION**  
CITY OF RIO RANCHO, STATE OF NEW MEXICO  
DRAINAGE MAP

ATLANTIC PLAN  
RELEASE: NOV 09  
DESIGNED BY: WES  
DRAWN BY: MJD  
CHECKED BY:  
JOB NO.  
22-5101-001-01  
SHEET  
3 OF 26

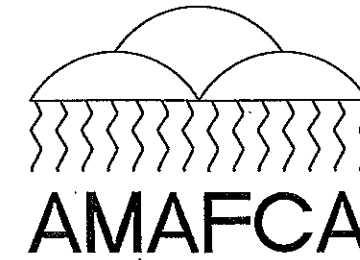
**TETRA TECH RMC**  
1900 SOUTH SUNSET STREET, SUITE 1-F, LONGMONT, CO 80501  
TEL: 303.772.5262 METRC: 685.6083 FAX: 685.6860



# ALBUQUERQUE METROPOLITAN ARROYO FLOOD CONTROL AUTHORITY CONSTRUCTION PLANS



## FOR REGIONAL WATER QUALITY STRUCTURE AT BLACK ARROYO DAM



## ALBUQUERQUE, NEW MEXICO

### INDEX

SHEET NO.	DESCRIPTION
1	TITLE SHEET
2	VICINITY MAP
3	HYDROLOGY/HYDRAULICS
4	WATER QUALITY STRUCTURE GRADING PLAN
5	WEST BRANCH ARROYO DROP STRUCTURE PLAN & PROFILE
6	EAST BRANCH CHANNEL PLAN & PROFILE
7	WATER QUALITY STRUCTURE DETAILS
8	LOW FLOW IN-TAKE STRUCTURE
9	SITE DETAILS
10	SITE DETAILS
11	TESCM EROSION & SEDIMENT CONTROL MEASURES
12	TESCM SILT FENCE INSTALLATION AND CHECK DAMS
13	TESCM PIPE SLOPE DRAIN & SEDIMENT TRAPS
14	DROP INLET & CULVERT PROTECTION

APPROVED FOR CONSTRUCTION WITHIN AMAFCA  
RIGHT-OF-WAY:

JOHN P. KELLY, P.E. EXECUTIVE ENGINEER (DATE)

#### APPROVALS

DEVELOPER	CURB NORTH LLC.	DATE
CITY OF RIO RANCHO	DEPARTMENT OF PUBLIC INFRASTRUCTURE	DATE
AMAFCA	EXECUTIVE ENGINEER	DATE
SSCAECA	EXECUTIVE DIRECTOR	DATE



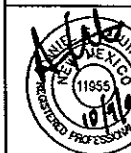
ALBUQUERQUE METROPOLITAN  
ARROYO FLOOD CONTROL  
AUTHORITY



**WILSON & COMPANY**  
2600 THE AMERICAN ROAD SE  
SUITE 100  
RIO RANCHO, NEW MEXICO  
87124  
P: (505) 348-4000  
F: (505) 348-4072  
WWW.WILSONCO.COM

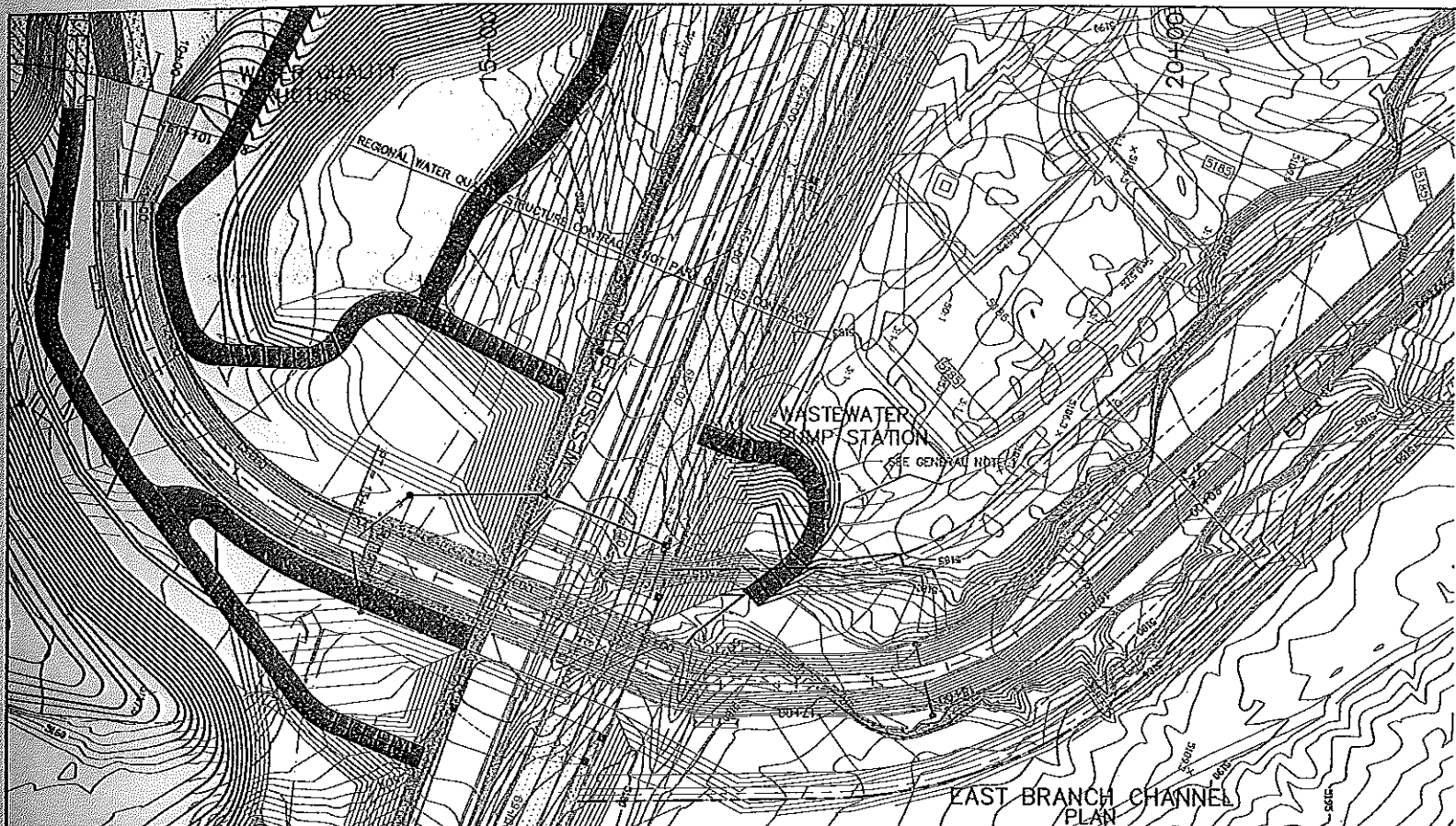
REGIONAL WATER QUALITY  
STRUCTURE AT BLACK DAM

TITLE SHEET



REVISIONS	NO.	DATE	REMARKS

DESIGN	MJK	WCEA NO. X4218012	DATE AUGUST 2007
DRAWN	HLC	PROJECT NO.	SHEET NO.
CHECK	MJK	N/A	1 of 14



LINE TABLE		
LINE	LENGTH	BEARING
L1	38.69	N55°20'39"E
L2	162.84	N02°22'59"E
L3	87.75	N22°42'59"W
L4	272.10	N64°44'59"W

CURVE TABLE		
CURVE	LENGTH	RADIUS
C1	38.34	500.00
C2	33.67	834.53
C3	38.74	500.00
C4	22.43	841.19
C5	162.59	185.23
C6	54.21	500.00

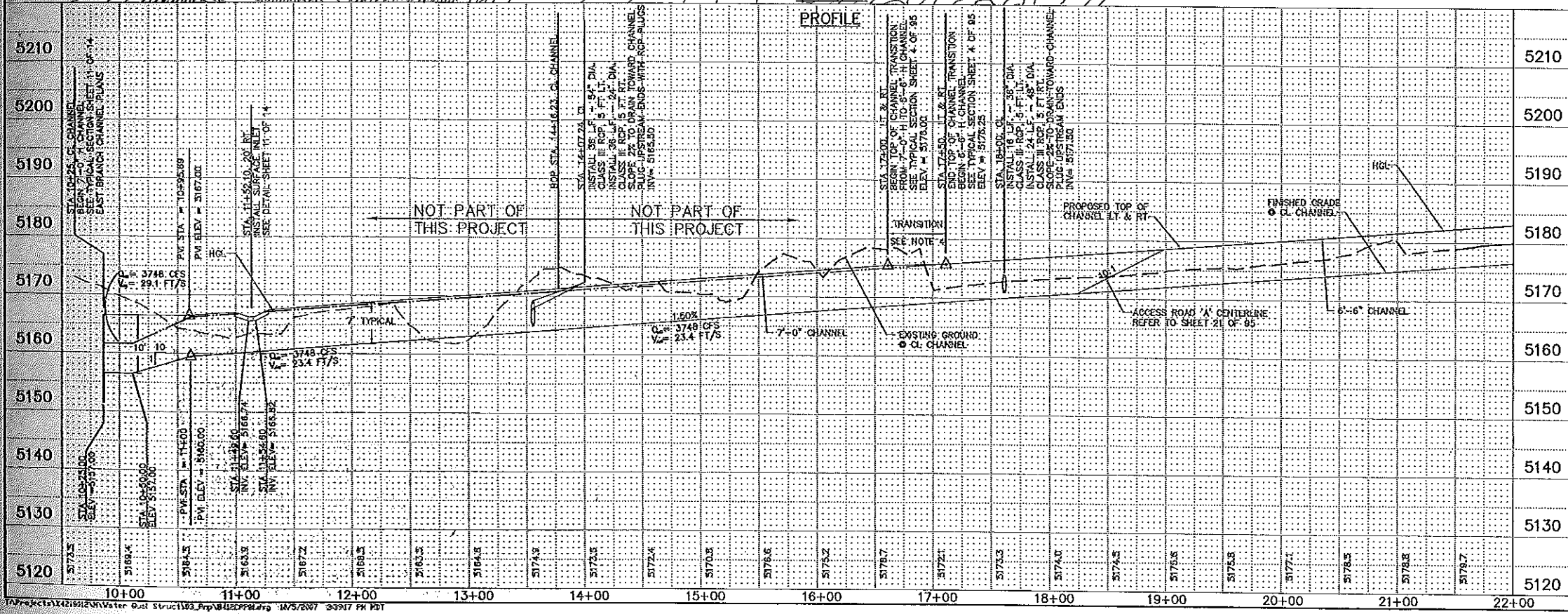
**LEGEND**

- ROW IS ALSO FENCE LOCATION.
- 6" BASE COURSE MAINTENANCE ROAD

**GENERAL NOTES**

1 ACCESS ROAD TO BE GRADED AS PART OF EAST BRANCH CHANNEL CONSTRUCTION CONTRACT, NOT PART OF THIS CONTRACT.

SCALE:  
HORIZ: 1" = 50'  
VERT: 1" = 10'



THIS SHEET FOR INFORMATION ONLY EAST BRANCH CHANNEL BUILT BY OTHERS



**WILSON & COMPANY**  
2600 THE AMERICAN ROAD S.E.  
SUITE 100  
RO RANCHO, NEW MEXICO  
87124  
(505) 835-6021

**REGIONAL WATER QUALITY STRUCTURE AT BLACK DAM**  
**EAST BRANCH CHANNEL**  
**PLAN & PROFILE**  
**STA. 10+00.00 TO STA. 22+00.00**



REVISIONS	NO.	DATE	REMARKS	BY
DESIGN	HJA	WCEA NO. X4218012	DATE	JUNE 2006
DRAWN	HLC	PROJECT NO.	SHEET NO.	
CHECK	HJA	N/A	6	14

T:\Projects\14218012\Water Qual Structure\14218012.dwg 11/5/2007 3:39:17 PM PDI

MICRO-FILM INFORMATION	
RECORDED BY	DATE

AS-BUILT INFORMATION	
DATE	DATE

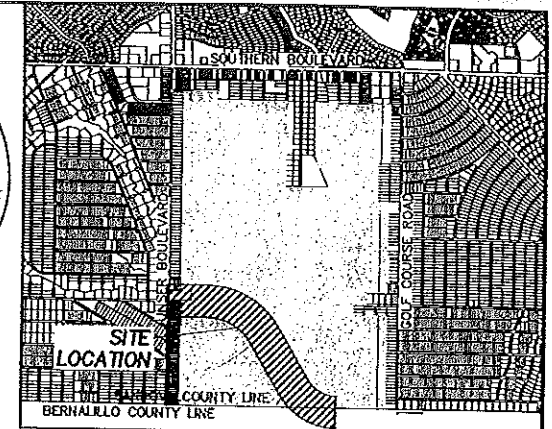
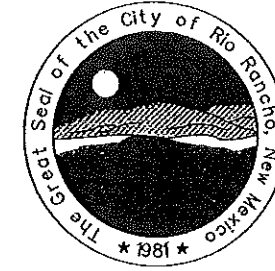
  

BENCH MARKS	
NO.	DATE

AS 17" ALUM. DISK, STATIONED AS B.M. N-817, PROVIDED TO US BY THE SIDE OF ROAD, 1/2 MILE S. OF SANDOVAL COUNTY FENCE LINE, 210.7' S. OF "SPEED LIMIT 45" SIGN, 26.7' N. OF THE SOUTH END OF C&G. EL=5279.75



# CONSTRUCTION PLANS FOR WESTSIDE BOULEVARD PAVING AND STORM DRAIN RIO RANCHO, NEW MEXICO INDEX



VICINITY MAP

## SHEET NO. DESCRIPTION

1. COVER SHEET
2. GENERAL NOTES
3. OVERALL PROJECT MAP
4. TYPICAL ROADWAY SECTIONS
5. TESCM TEMPORARY EROSION & SEDIMENT CONTROL MEASURES
6. TESCM SILT FENCE INSTALLATION & CHECK DAMS
7. TESCM PIPE SLOPE DRAIN & SEDIMENT TRAPS
8. TESCM DROP INLET & CULVERT PROTECTION
9. GEOMETRIC & HORIZONTAL CENTERLINE CONTROL
10. PLAN & PROFILE STA 10+00 TO 21+00
11. PLAN & PROFILE STA 21+00 TO 32+50
12. PLAN & PROFILE STA 32+50 TO 44+00
13. PLAN & PROFILE STA 44+00 TO 56+00
14. PLAN & PROFILE STA 56+00 TO 59+74.25
15. ROADWAY CROSS SECTIONS STA 11+00 TO 13+00
16. ROADWAY CROSS SECTIONS STA 13+50 TO 16+00
17. ROADWAY CROSS SECTIONS STA 17+00 TO 19+50
18. ROADWAY CROSS SECTIONS STA 20+00 TO 23+00
19. ROADWAY CROSS SECTIONS STA 23+50 TO 26+50
20. ROADWAY CROSS SECTIONS STA 27+00 TO 30+50
21. ROADWAY CROSS SECTIONS STA 31+00 TO 49+50
22. ROADWAY CROSS SECTIONS STA 50+00 TO 52+50
23. ROADWAY CROSS SECTIONS STA 53+00 TO 55+00
24. ROADWAY CROSS SECTIONS STA 56+00 TO 57+50
25. MEDIAN GEOMETRICS
26. MEDIAN GEOMETRICS
27. TRANSPORTATION DETAILS
28. TRANSPORTATION DETAILS
29. LIGHTING PLAN STA 10+00 TO 32+00
30. LIGHTING PLAN STA 32+00 TO 59+74.25
31. LIGHTING PLAN FOUNDATION DETAILS
32. LIGHTING PLAN TYPE "V" STANDARD
33. SIGNING AND CONSTRUCTION TRAFFIC CONTROL STANDARDS
34. TYPICAL TRAFFIC CONTROL & SIGNING EXAMPLES
35. PERMANENT SIGNING & STRIPING STA 10+00 TO 32+00
36. PERMANENT SIGNING & STRIPING STA 32+00 TO 59+74.25
37. PLAN & PROFILE STA 100+00 TO 111+50 (FOR INFORMATION ONLY)
38. PLAN & PROFILE STA 112+00 TO 124+00 (FOR INFORMATION ONLY)
39. PLAN & PROFILE STA 112+50 TO 126+99.24 (FOR INFORMATION ONLY)
40. TRAFFIC SIGNAL NOTES & EQUIPMENT REQUIREMENTS
41. TRAFFIC SIGNAL ESTIMATE QUANTITIES & INCIDENTAL ITEMS
42. CABLES AND CONDUITS UNSER BLVD/WESTSIDE BLVD
43. DETECTOR CABLES AND FUNCTIONS UNSER BLVD/WESTSIDE BLVD
44. TRAFFIC SIGNAL TYPE II AND TYPE III STANDARDS
45. TYPE I POLE AND PEDESTRIAN SIGNAL DETAILS
46. TRAFFIC SIGNALS FOUNDATION DETAILS
47. TRAFFIC SIGNALS PULL BOX DETAILS
48. METER PEDESTAL DETAILS FOR SIGNALS DIAGRAM A
49. SIGNAL PLAN WESTSIDE BLVD./UNSER BLVD.
- 49A. LIGHTING PLAN QUANTITIES GENERAL NOTES & LEGEND
- 49B. ROADWAY LIGHTING CONTROL CABINET TWO CIRCUIT UNMETERED

### DESIGN REPORT REFERENCE

- i. Cabezon Communities Drainage Implementation Plan, February 19, 2004.
- ii. Cabezon Communities Drainage Management Plan Unit 16, Phase II, August 2004.
- iii. Westside Boulevard Storm Drain, Between East Branch Channel to Seven Bar Loop Road NW, Drainage Report, May 22, 2006.
- iv. "Draft" Traffic Assessment, Cabezon, October 9, 2004.
- v. Geotechnical Investigation Westside Boulevard, November 18, 2004.

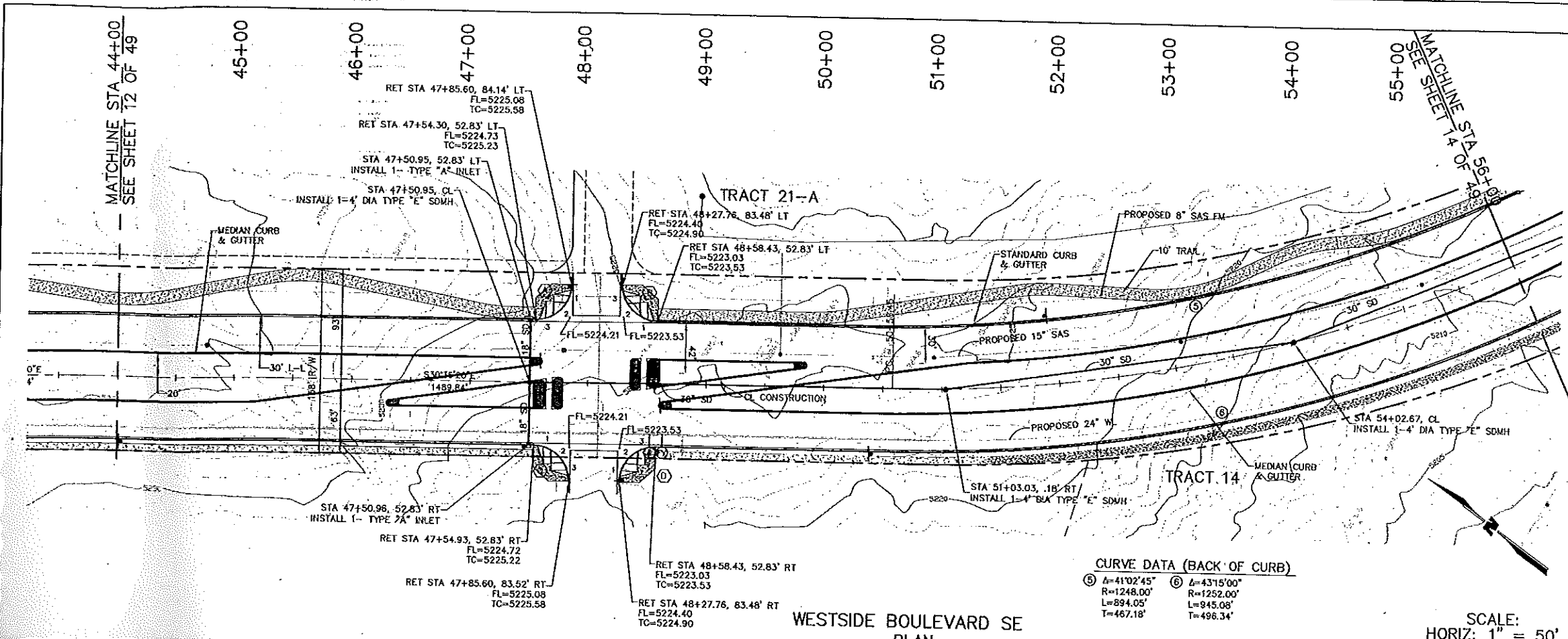
## LEGEND

EXISTING		PROPOSED	
	SANITARY SEWER		SANITARY SEWER
	WATER LINE		WATER LINE
	GAS LINE		GAS LINE
	STORM DRAIN		STORM DRAIN
	OVERHEAD ELECTRIC LINE		OVERHEAD ELECTRIC LINE
	UNDERGROUND ELECTRIC LINE		UNDERGROUND ELECTRIC LINE
	POWER POLE		ELECTRIC CONDUIT
	CURB & GUTTER		WHEELCHAIR RAMP
	DROP INLET		CROWN REDUCTION
	WATER VALVE		SIDEWALK
	FIRE HYDRANT		FACE OF CURB EDGE OF PAVEMENT
	SAS SERVICE W/CAP		CENTERLINE
	MANHOLE		MANHOLE
	COMMUNICATIONS PEDESTAL		WATER VALVE
	TRAFFIC SIGNAL		SINGLE WATER METER
	ELECTRIC BOX		DOUBLE WATER METER
	LIGHT POLE		SAS SERVICE W/CAP
	TREE/SHRUB		STORM INLET
	INDEX CONTOUR		FIRE HYDRANT
	INTERMEDIATE CONTOUR		LIGHT POLE
	SIGN		PROPOSED RIVER CONVERT
	POST		
	FENCE		
	GUARDRAIL		
	RETAINING WALL		

## APPROVALS

DEVELOPER		DATE	10/17/06
CITY OF RIO RANCHO		DATE	11-2-06
CITY OF RIO RANCHO		DATE	11/2/06
CITY OF RIO RANCHO		DATE	
SSCAFECA	EXECUTIVE DIRECTOR	DATE	

CITY OF RIO RANCHO DEPARTMENT OF PUBLIC INFRASTRUCTURE				
<b>WESTSIDE BOULEVARD</b>				
<b>COVER SHEET</b>				
REVISIONS	NO.	DATE	REMARKS	BY
DESIGN	JMB	WCEA NO. X421801201	DATE	OCT 2006
DRAWN	JMB	PROJECT NO.	SHEET NO.	
CHECK	MJA	N/A	1	of 49

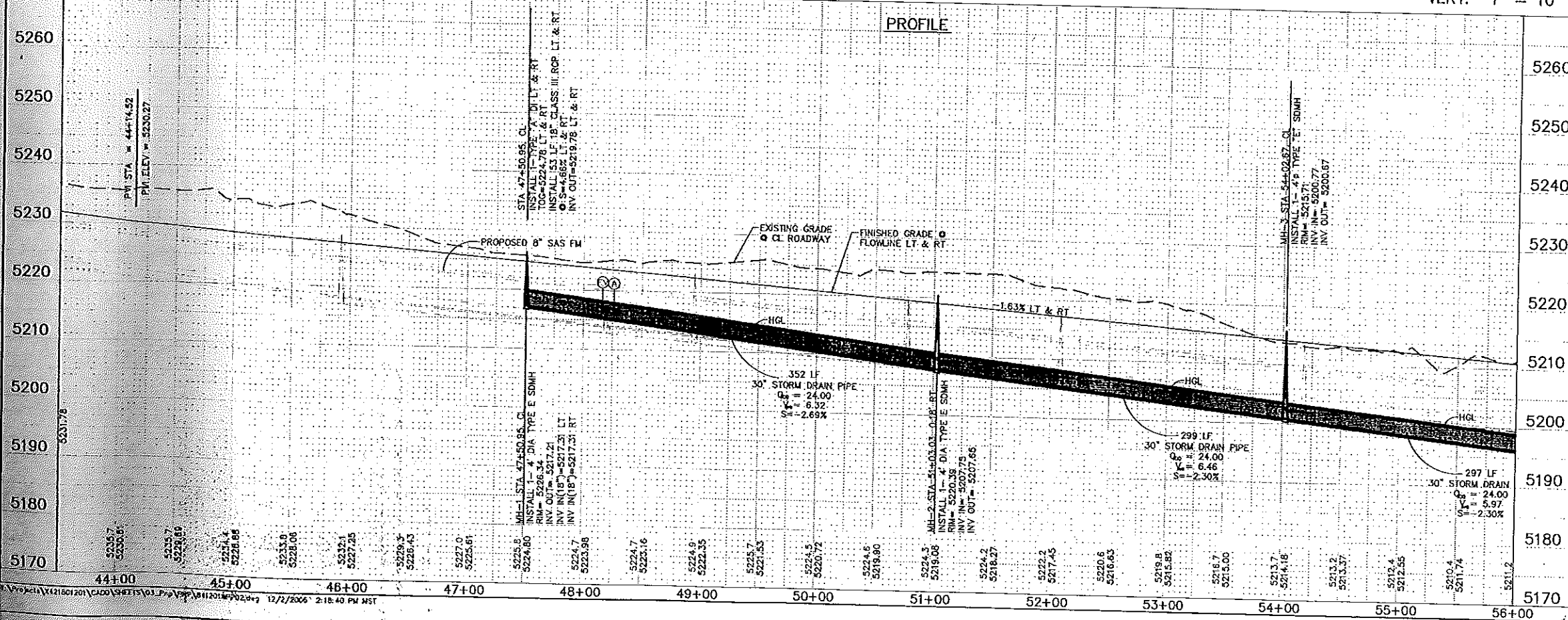


WESTSIDE BOULEVARD SE  
PLAN

CURVE DATA (BACK OF CURB)

⑤	$\Delta=41^{\circ}02'45''$	$R=1248.00'$	$L=894.05'$	$T=467.18'$
⑥	$\Delta=43^{\circ}15'00''$	$R=1252.00'$	$L=945.08'$	$T=498.34'$

SCALE:  
HORIZ: 1" = 50'  
VERT: 1" = 10'



PROFILE

LEGEND (EXISTING)

- EXISTING LOT LINE
- - - EXISTING CURB & GUTTER
- ▭ EXISTING BUILDING
- ▭ EXISTING FENCE
- ▭ EXISTING EDGE OF PAVEMENT
- ▭ EXISTING PAVEMENT/CURB & GUTTER TO BE REMOVED
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- EXISTING TRAFFIC SIGNAL MASTARM

LEGEND (PROPOSED)

- PROPOSED ROADWAY CENTERLINE
- PROPOSED CURB & GUTTER
- PROPOSED ROW
- PROPOSED CABEZON BOUNDARY
- ▭ PROPOSED 10'-0" TRAIL
- ▭ PROPOSED COLORED, STAMPED PCC
- ▭ PROPOSED 6'-0" SIDEWALK
- ▭ PROPOSED WHEEL CHAIR RAMPS & RETURN
- RESEEDING LIMITS
- INNER CONVERT

- GENERAL NOTES
- FOR CURB & GUTTER DETAILS, SEE STANDARD DRAWING P-1, SHEET 27 OF 49
  - FOR VALLEY GUTTER DETAILS, SEE STANDARD DRAWING P-7, SHEET 27 OF 49
  - FOR ROADWAY PERMANENT SIGNING & STRIPING, SEE SHEET 35 OF 49
  - FOR ADA WHEEL CHAIR ACCESS RAMP DETAILS, SEE STANDARD DRAWING P-5, SHEET 27 OF 49
  - FINISH GRADE REPRESENTS FLOWLINE LEFT & RIGHT.
  - FOR MEDIAN GEOMETRICS SEE SHEET 25 OF 49
- KEYED NOTES
- INSTALL (1) ADA WHEEL CHAIR ACCESS RAMP PER COA STANDARD DETAIL 2441.

RETURN DATA

(A)

TC	FL
1	24.99
2	24.90
3	24.81

$\Delta=90^{\circ}02'08''$   
 $R=30.00'$   
 $L=47.14'$

(D)

TC	FL
1	23.37
2	23.71
3	24.05

$\Delta=89^{\circ}57'54''$   
 $R=30.00'$   
 $L=47.11'$

(B)

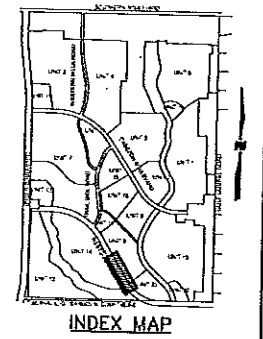
TC	FL
1	23.37
2	23.71
3	24.05

$\Delta=89^{\circ}57'54''$   
 $R=30.00'$   
 $L=47.11'$

(C)

TC	FL
1	24.99
2	24.90
3	24.81

$\Delta=90^{\circ}02'09''$   
 $R=30.00'$   
 $L=47.14'$



CITY OF RIO RANCHO  
DEPARTMENT OF  
PUBLIC INFRASTRUCTURE

**WILSON & COMPANY**  
2600 THE AMERICAN ROAD SE  
SUITE 100  
RIO RANCHO, NEW MEXICO  
87134  
PH (505) 638-6021  
FAX (505) 348-4072  
www.wilsonco.com

**WESTSIDE BOULEVARD  
PLAN & PROFILE  
WESTSIDE BOULEVARD  
STA 44+00 TO STA 56+00**

REVISIONS	NO.	DATE	REMARKS	BY
DESIGN	GCH	WCEA NO.X421801201	DATE	OCT 2006
DRAWN	HLC	PROJECT NO.	SHEET NO.	13 OF 49
CHECK	M.J.	N/A		

MICROFILM INFORMATION

AS-BUILT INFORMATION

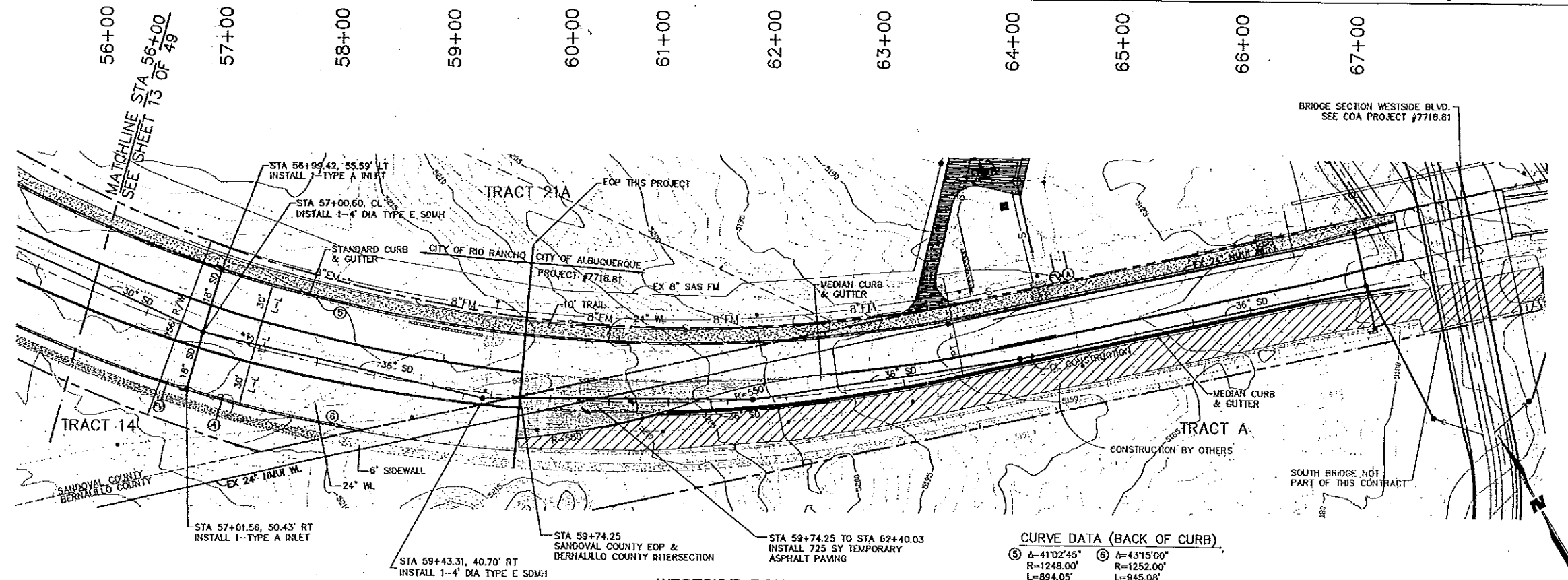
CONTRACTOR TO BE DETERMINED BY THE CITY OF RIO RANCHO

NO. \_\_\_\_\_

BY \_\_\_\_\_

DATE \_\_\_\_\_





WESTSIDE BOULEVARD SE

PLAN

CURVE DATA (BACK OF CURB)

⑤	$\Delta = 41^{\circ}02'45''$	⑥	$\Delta = 43^{\circ}15'00''$
	$R = 1248.00'$		$R = 1252.00'$
	$L = 894.05'$		$L = 945.08'$
	$T = 457.18'$		$T = 495.34'$

SCALE:  
HORIZ: 1" = 50'  
VERT: 1" = 10'

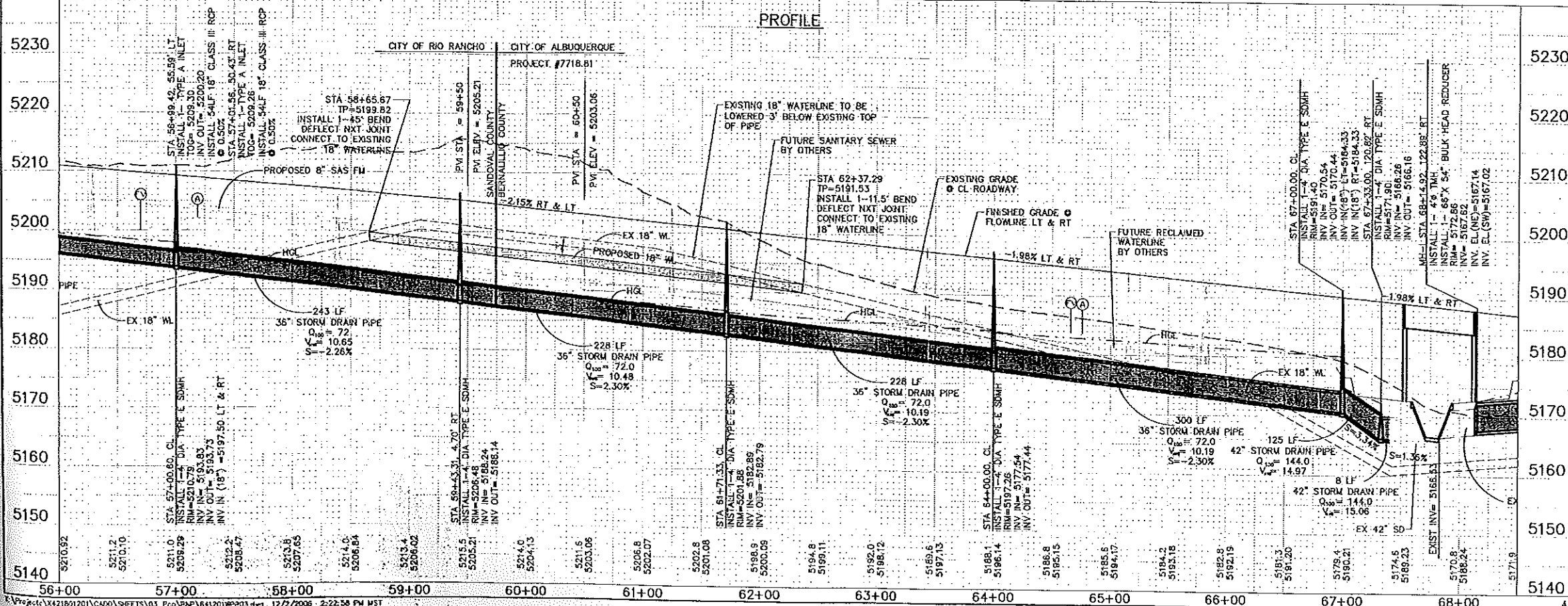
LEGEND (EXISTING)

---	EXISTING LOT LINE
---	EXISTING CURB & GUTTER
---	EXISTING BUILDING
---	EXISTING FENCE
---	EXISTING EDGE OF PAVEMENT
---	EXISTING PAVEMENT/CURB & GUTTER TO BE REMOVED
---	EXISTING INDEX CONTOUR
---	EXISTING INTERMEDIATE CONTOUR
---	EXISTING TRAFFIC SIGNAL MASTARM

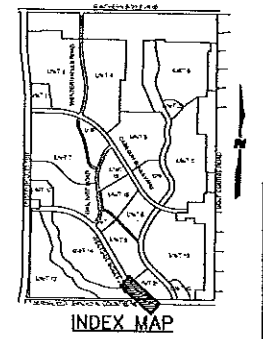
LEGEND (PROPOSED)

---	PROPOSED ROADWAY CENTERLINE
---	PROPOSED CURB & GUTTER
---	PROPOSED ROW
---	PROPOSED CABEZON BOUNDARY
---	PROPOSED 10'-0" TRAIL
---	PROPOSED COLORED, STAMPED PCC
---	PROPOSED 6'-0" SIDEWALK
---	PROPOSED WHEEL CHAIR RAMPS @ RETURN
---	RESEEDING LIMITS
---	INNER CONVERT

- GENERAL NOTES
- FOR CURB & GUTTER DETAILS, SEE STANDARD DRAWING P-1, SHEET 27 OF 49
  - FOR VALLEY GUTTER DETAILS, SEE STANDARD DRAWING P-7, SHEET 27 OF 49
  - FOR ROADWAY PERMANENT SIGNING & STRIPING, SEE SHEET 35 OF 49
  - FOR ADA WHEEL CHAIR ACCESS RAMP DETAILS, SEE STANDARD DRAWING P-5, SHEET 27 OF 49
  - FINISH GRADE REPRESENTS FLOWLINE LEFT & RIGHT.
  - FOR MEDIAN GEOMETRICS SEE SHEET 25 OF 49



PROFILE



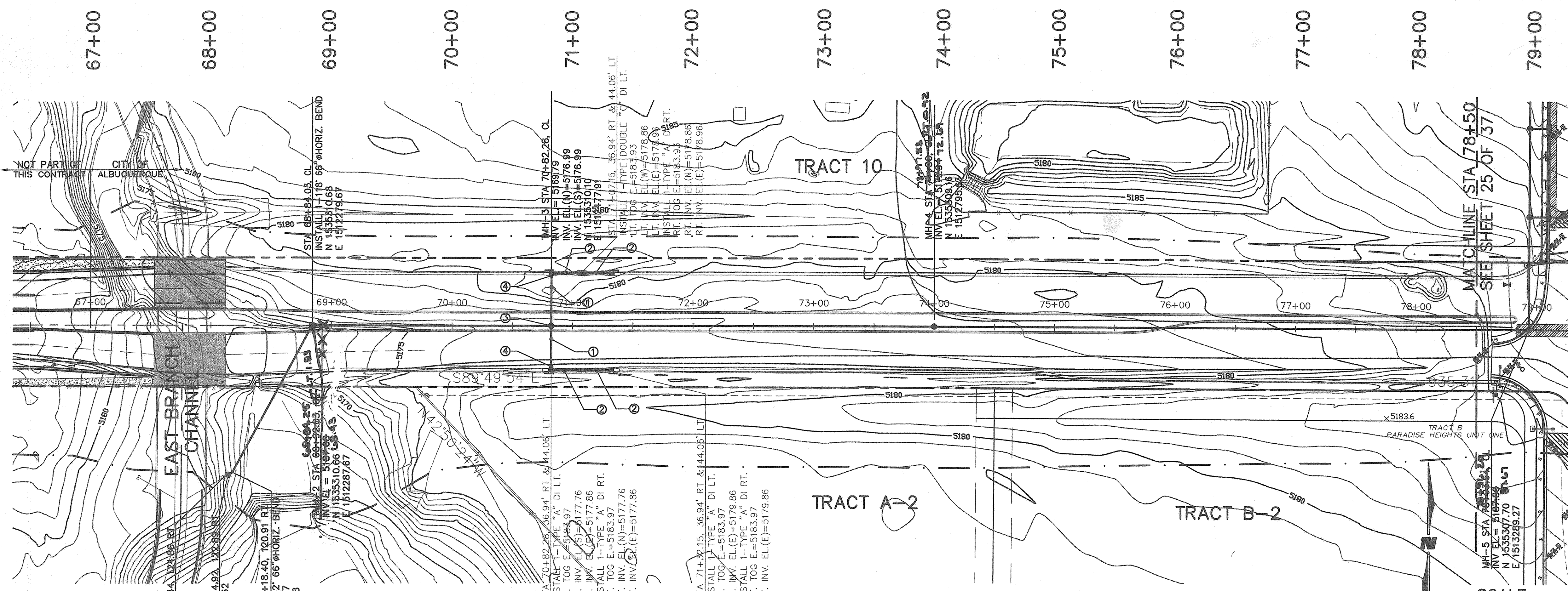
CITY OF RIO RANCHO  
DEPARTMENT OF  
PUBLIC INFRASTRUCTURE

**WILSON & COMPANY**  
2600 THE AMERICAN ROAD SE  
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RIO RANCHO, NEW MEXICO 87134  
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FAX (505) 343-4072  
www.wilsonco.com

WESTSIDE BOULEVARD  
PLAN & PROFILE  
WESTSIDE BOULEVARD  
STA 56+00 TO STA 59+74.25

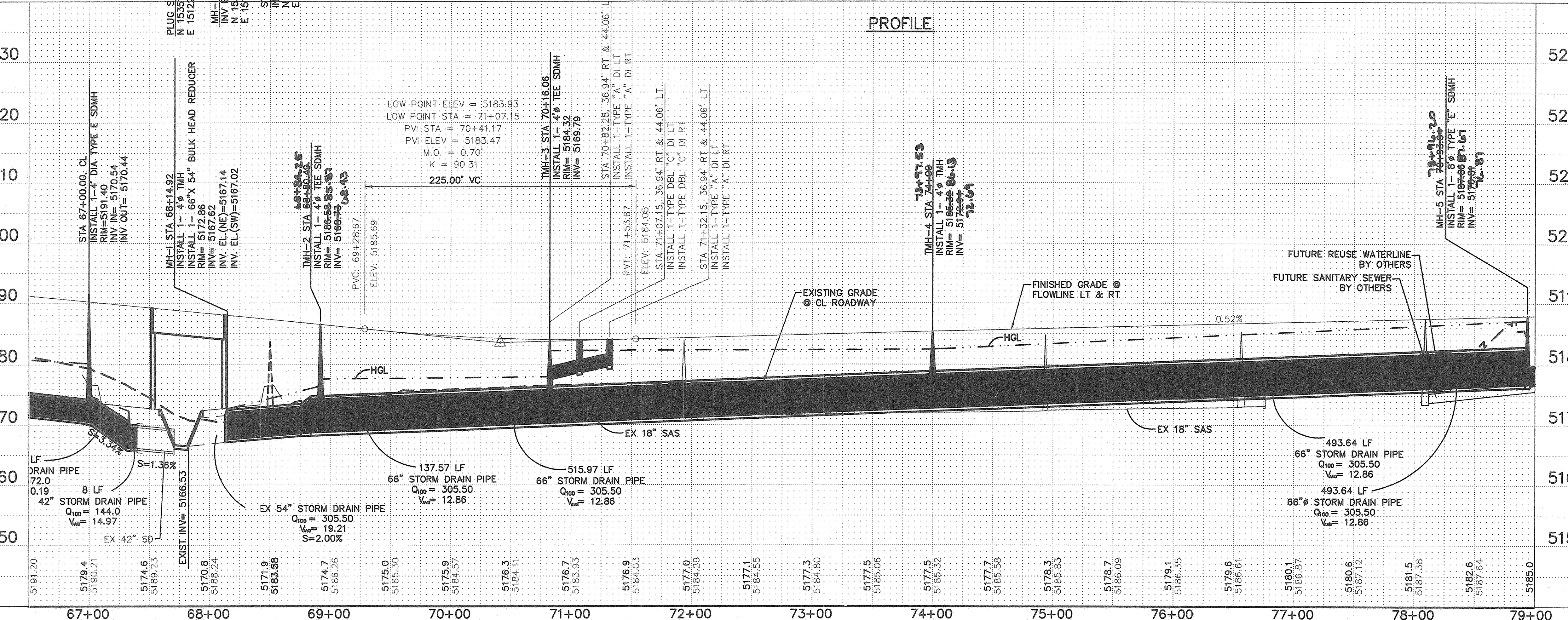
REVISIONS	NO.	DATE	REMARKS	BY

DESIGN	GCH	WCEA NO.X421801201	DATE	OCT 2006
DRAWN	HLC	PROJECT NO.	SHEET NO.	
CHECK	UJA	N/A	14 OF 49	

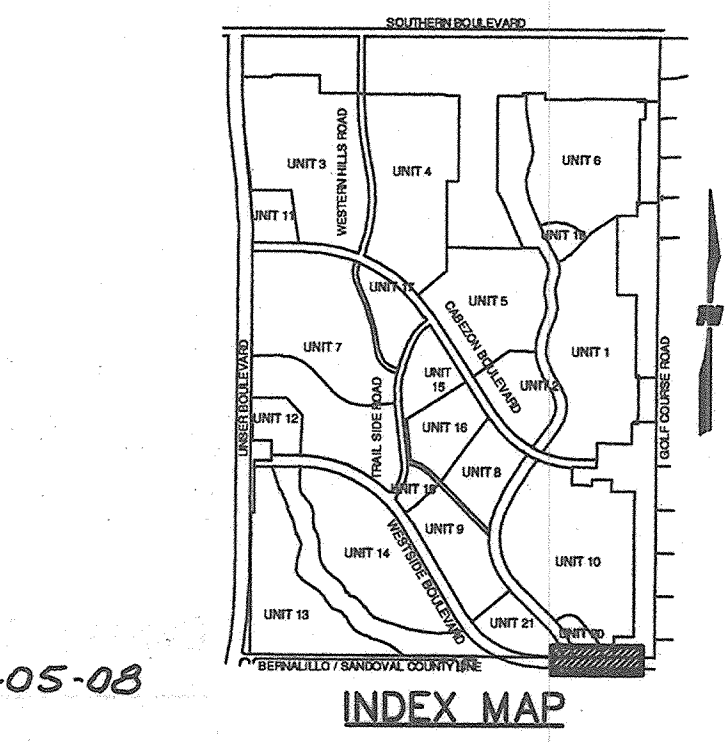


WESTSIDE BOULEVARD SE  
PLAN

SCALE:  
HORIZ: 1" = 50'  
VERT: 1" = 10'



PROFILE



1-05-08  
INDEX MAP  
CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP  
WESTSIDE BOULEVARD SE  
STORM DRAIN PLAN & PROFILE  
STA 67+00 TO 78+50

LEGEND

- PROPOSED STORM DRAIN
- PROPOSED CURB INLET
- PROPOSED MANHOLE

GENERAL NOTES

- 1 ALL STORM DRAIN PIPE, FITTINGS AND BENDS SHALL BE CLASS III RCP PIPE OR APPROVED EQUAL.
- 2 MINIMUM PIPE COVER SHALL COMPLY WITH MANUFACTURER'S HS20 LIVE LOAD REQUIREMENTS.
- 3 INSTALLATION BACKFILL SHALL COMPLY WITH MANUFACTURER'S REQUIREMENTS.
- 4 ALL DROP INLETS SHALL BE TYPE "A" OR TYPE "C" CURBPOB INLETS UNLESS NOTED ON PLANS OTHERWISE. SEE DETAIL SHEET 11 OF 37.
- 5 ALL STORM DRAIN LATERALS SHALL BE 18" UNLESS NOTED OTHERWISE.

KEY NOTES

- 1 24" RCP CLASS III SD
- 2 18" RCP CLASS III SD
- 3 INSTALL BEHIVE GRATE (TEMPORARY)
- 4 INSTALL RCP PLUG  
INV LT & RT=5177.76

AS-BUILT INFORMATION		BENCH MARKS	
CONTRACTOR	SAIS/Not	USC&GS BRASS TABLET STAMPED	"TRANS. 1989", LOCATED 6 MILES SOUTHWEST OF DOWNTOWN ALBUQUERQUE IN THE RIGHT-OF-WAY OF A PLAINS ELECTRIC CO-OP TRANSMISSION LINE
MARK	SAIS	DATE	1989
STAMPED BY	SAIS	DATE	1989
ACCEPTANCE BY	Wilson & Co.	DATE	9/6/07
DESIGNED BY	SAIS	DATE	9/6/07
DRAWN BY	SAIS	DATE	9/6/07
CHECKED BY	SAIS	DATE	9/6/07
RECORDED BY	SAIS	DATE	9/6/07
MICRO-FILM INFORMATION		ELEVATION = 5118.370 FT.	
		NGVD 29 U.S. FEET	

SURVEY INFORMATION	
FIELD NOTES	DATE
BY	
NO.	

ENGINEER'S SEAL	
NO.	DATE
REVISIONS	BY
WILSON & COMPANY, ENGINEERS & ARCHITECTS	
DESIGNED BY	MJJ
DRAWN BY	STAFF
CHECKED BY	MJJ
DATE	SEPT 2006

Design Review Committee	City-Engineer Approval	Mo./Day/Yr.	Mo./Day/Yr.
REVIEW COMMITTEE	CITY-ENGINEER		
City Project No.	Zone Map No.	Sheet	Of
7718.81	A-12 & A-13	28A	71

WILSON & COMPANY