

# CITY OF ALBUQUERQUE



January 14, 2015

Dan Aguirre, P.E.  
Wilson and Company  
4900 Lang Ave  
Albuquerque, NM 87109

**Re: Drainage Report Addendum for La Cuentista II  
Engineer's Stamp Date 1-12-15 (D10D002B)**

Dear Mr. Aguirre,

Based upon the information provided in your submittal received 1-12-15, the above referenced report is approved for Preliminary Platting action by the DRB.

If you have any questions, you can contact me at 924-3986.

Sincerely,

Curtis Cherne, P.E.  
Principal Engineer, Hydrology  
Planning Dept.

PO Box 1293

Albuquerque

New Mexico 87103

[www.cabq.gov](http://www.cabq.gov)

C: e-mail

**Drainage Report  
ADDENDUM  
for  
LA CUENTISTA  
SUBDIVISION, UNIT II**

**DECEMBER 2014**

**Addendum to  
Drainage report for  
La Cuentista  
Subdivision Unit II  
January 2007**

**A Supplement to the  
Drainage Report for  
La Cuentista Subdivision  
Date: November 2003**

**Prepared by:**

**Wilson & Company, Inc.  
4900 Lang Avenue NE  
Albuquerque, New Mexico 87109  
(505) 348-4000  
(505) 348-4072**

**December 2014**

**Wilson & Company File No: 14-600-089-00**

# CITY OF ALBUQUERQUE



January 8, 2015

Dan Aguirre, P.E.  
Wilson and Company  
4900 Lang Ave  
Albuquerque, NM 87109

**Re: Drainage Report Addendum for La Cuentista II  
Engineer's Stamp Date 12-30-14 (D10D002B)**

Dear Mr. Aguirre,

Based upon the information provided in your submittal received 12-31-14, the above referenced report is not approved for platting action at the DRB until the following comments are addressed:

1. The inlet calculations included the throat of the inlet. Per the DPM, for a Type "A" inlet, the calculations are for the grate only with a 0% clogging factor.
2. Page 22-154 of the DPM, states the conditions that are to be met for sump inlets. Hydrology has approved drainage plans in the past that proposed inlets with 200% capacity if the conditions on p. 22-154 cannot be met. Please review these conditions and include a response in your next submittal.
3. The sump inlets in the north side of Rosa Parks were constructed without a permanent section. How will the water surface elevation required for the head used in the orifice equation be obtained?
4. On the "Combination Inlet in Sag" calculation sheet; why was 21.35 cfs used when it appears the flow reaching these inlet is 32 cfs? Why is it labeled AP2 and AP3 when it receives stormwater from basin OS-7 (AP-3)?
5. It appears the last sheet in the report (sheet 15 of 37) may have been mislabeled as with AP-3. Isn't this sheet applicable to AP-4?

PO Box 1293

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New Mexico 87103

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If you have any questions or would like to meet to discuss, you can contact me at 924-3986.

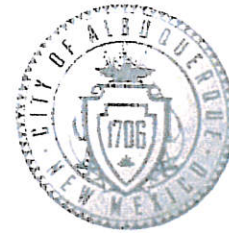
Sincerely,

Curtis Cherne, P.E.  
Principal Engineer, Hydrology  
Planning Dept.

C: e-mail



# CITY OF ALBUQUERQUE



December 29, 2014

Dan Aguirre, P.E.  
Wilson and Company  
4900 Lang Ave  
Albuquerque, NM 87109

Re: Drainage Report Addendum for La Cuentista II  
Engineer's Stamp Date --no stamp- (D10D002B)

Dear Mr. Aguirre,

Based upon the information provided in your submittal received 12-23-14, the above referenced report is not approved for platting action at the DRB until the following comments are addressed:

1. The report is not stamped and sealed.
2. Provide inlet calculations for inlets in Rosa Parks that correlates with AP3. It appears the flow is 32 cfs (offsite existing flows plus street flows) and there are two inlets. Will there be bypass flow down Redroot (prior name) Trail?
3. Is adjacent grade around the pillbox near Kimmick Rd. high enough to provide enough head (1.82 feet above centroid)?
4. The generally accepted coefficient in the orifice equation is 0.6. Why was 0.7 used?
5. Hydrology agrees that stormwater entering or not entering the pillbox near Uraca St. does not affect Unit II infrastructure as stated in the report. However, it appears that grading is required so flows enter as designed. What do you propose?

PO Box 1293

Albuquerque

New Mexico 87103

If you have any questions, you can contact me at 924-3986.

[www.cabq.gov](http://www.cabq.gov)

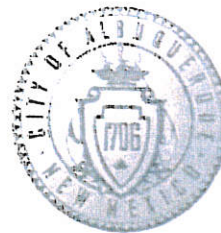
Sincerely,

Curtis Cherne, P.E.  
Principal Engineer, Hydrology  
Planning Dept.

C: e-mail



# CITY OF ALBUQUERQUE



December 5, 2014

Dan Aguirre, P.E.  
Wilson and Company  
4900 Lang Ave  
Albuquerque, NM 87109

Re: La Cuentista Subdivision and La Cuentista Units 1 and 2 Drainage Reports  
Engineer's Stamp Date 12/29/03, 6-20-06 and 1-23-07

Dear Mr. Aguirre,

Based upon the above listed submittals, additional information in the form of an Addendum to the La Cuentista Unit 2 Drainage Report is required prior to Hydrology approving the recent application for platting action of La Cuentista Unit 2 at DRB. The following comments are to be addressed:

1. Provide a revised existing conditions basin map, with calculations, that includes the recently built Unser Blvd and the culverts under the road.
2. Show how existing flows are accepted including calculations. Include the area inlets upstream of La Cuentista Units 1 and 2. New survey data will most likely be required for the area inlets as grading has occurred near the area inlet upstream of Unit 1 since the area drain was built and there are large rock stockpiles upstream of the area inlet near Unit 2.
3. The storm drain in Rosa Parks near Kimmick Dr, outfalls into Tract D Block 0 of La Cuentista. Since this is a public storm drain a Public Drainage Easement is required on Tract D. In addition, since it is a temporary solution, a recorded Agreement and Covenant for private maintenance of the ponding area is required.

If you have any questions, you can contact me at 924-3986.

www.cabq.gov

Sincerely,

Curtis Cherne, P.E.  
Principal Engineer, Hydrology  
Planning Dept.

C: e-mail

**To:** Curtis Cherne, P.E.**From:** Daniel Aguirre, P.E.**CC:** File14-600-08900**Date:** January 12, 2015**File Number:** 14-600-089-00**Re:** La Cuentista Unit II Drainage Report Addendum 01

## Addendum 01 to Drainage Report for La Cuentista Subdivision Unit II, January 2007

Wilson & Company has reviewed the documents as approved for the La Cuentista Subdivision – Unit II dated January 2007. Based on those documents we noted that the existing conditions/offsite documentation is based on data from 2007 and final construction of new infrastructure has changed from those previous documents. We have revised the Existing Conditions Map (Plate 1) based on the most current construction and topography available.

### Existing Conditions

We have identified three analysis points based on the revised existing conditions as listed below:

1. AP1 is the flow that discharges to the pill box inlet located on the northwest corner of Urraca Street and Rosa Parks Road. The pill box inlet is constructed with a 5' diameter manhole tied to a 42" rcp SD conveying flows to the La Cuentista Unit 1 open space. The revised flow to the pill box, based on current existing conditions is 100 cfs, which is very close to matching the flow from the original design. This structure requires raising the top of the pill box such that the opening is 14 inches tall so as to better capture the design flow of 86 cfs. The Flows that are not captured by the inlet will flow south to the 24" pipe under Urraca or to Camino de Paz, both of which ultimately discharge to the open space. This does not impact Unit II infrastructure. Grading within the right of way on Rosa Parks and Urraca within 25 feet of the pill box should be completed to reestablish the flow to the inlet.
2. AP2 is the flow discharging to Rosa Parks Rd with conveyance to the existing storm drain constructed with Unit I. The capacity calculation for each inlet grate for a typical Type "A"



Photo - 1 Pill Box at Urraca



inlet shows 14.5cfs capacity with a 10" depth in a sump condition. This provides 29cfs total capacity for the two inlets in this sag. All flows getting to these inlets (24cfs) will be captured. The previously built inlets capture the existing flows getting to the inlets but do not meet the sump condition requirements of the revised DPM for overflow in the case of full clogging of the inlets. If this location clogs the flow will over top the curb and flow east to the open space. The calculations and as-built are attached in Tab 8 attached. This does not impact Unit II Infrastructure.

3. AP3 is the flow discharging to Rosa Parks Road with conveyance to the storm drain system to be constructed with Unit II. The capacity calculation for each inlet grate for a typical Type "A" inlet shows 14.5cfs capacity with a 10" depth in a sump condition. This provides 29cfs total capacity for the two inlets in this sag. The existing conditions flow these inlets is approx 30cfs. This location does not meet the criteria for an overflow in the case of clogging in a sump conditions. We propose to reconstruct the two separate Type "A" inlets with a 12' separation to provide the redundant capacity for additional protection. The Calculation and P&P sheet are attached in Tab 8 attached.
4. AP4 is the flow discharging to the pill box inlet constructed with the original La Cuentista II, and then re-constructed by SAD 228 out of the R/W on the north side of Rosa Parks Road near Kimmick Drive (see Picture). Total existing conditions flow at this point is 99 cfs. This structure requires raising the top of the pill box such that the opening 12 inches tall.
5. AP5 is the flow to Urracra Street, which is captured by the 24 " pipe under Urraca or will flow to Camino De Paz and ultimately back into the open space via the existing system constructed as part of La Cuentista Unit I. This does not impact Unit II infrastructure.



Photo - 2 Pill Box at Kimmick

The Pill Box Inlet Structures were both constructed in low areas and operate as orifices once the water exceeds the top of the opening.

## Conclusions and Recommendations

This addendum addresses the Request for Information Dated 5 December 2014. The attachments include the following:

1. New Existing Conditions Map for the hydrological calculations.
2. Unser Culvert Design Drawings showing the similar design flows
3. Unit I and Unit II Storm Drain as-builts

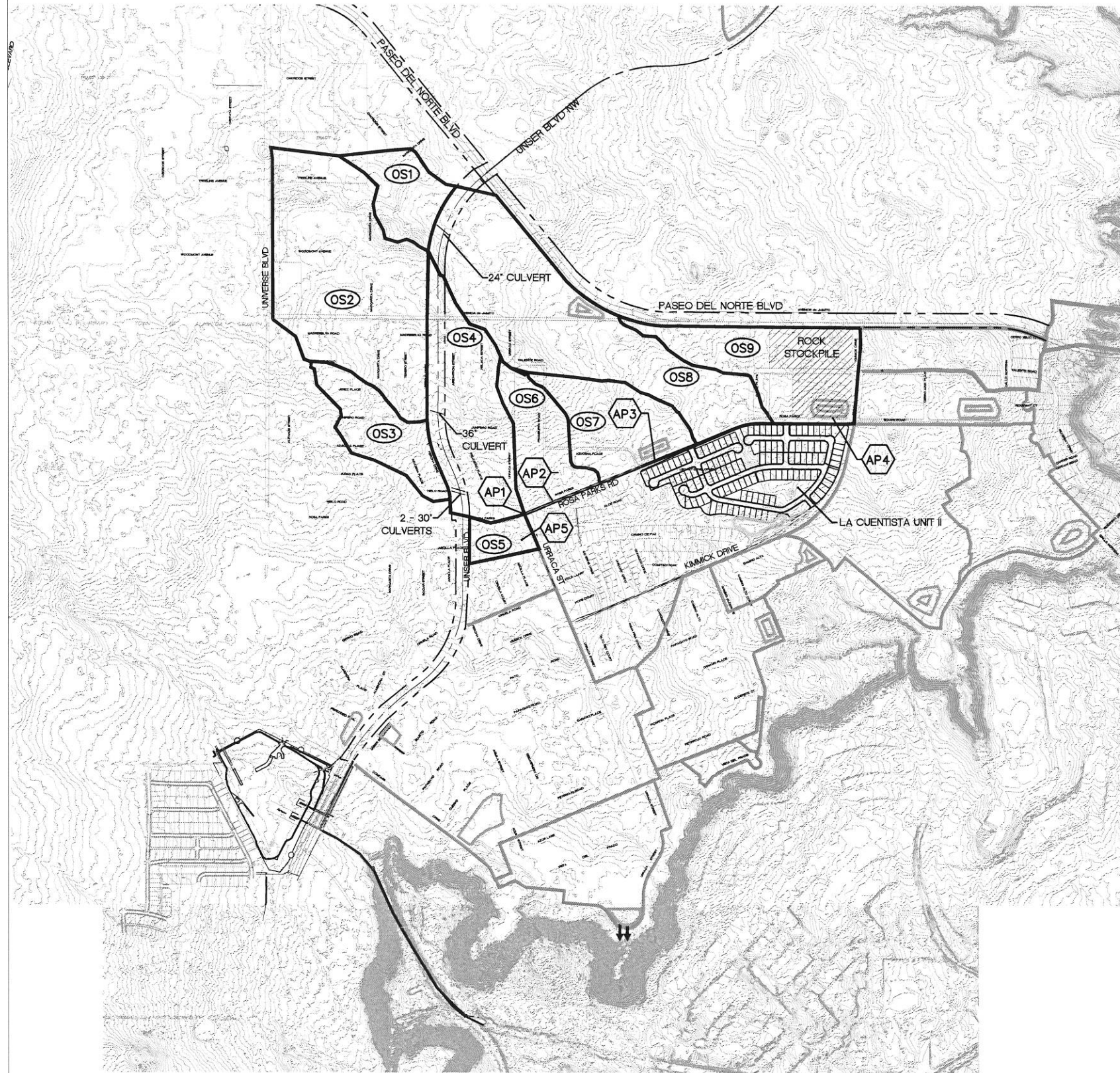


4. New AHYMO97 Input and summary output files
5. Pill Box capacity calculations
6. Easement and Agreement and Covenant documentation for ultimate outlet on Tract D.
7. La Cuentista Bulk Land Plat sheets 1 and 6
8. Calculations for an inlet in a sump condition

The flows are all captured at the points as designated by the existing system. Although boundaries have changed slightly in the development of the area the flows are similar to the original flows shown in the plans.

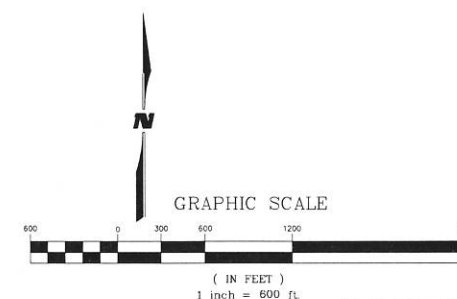
We recommend slight modifications to the openings of the pill boxes to receive the full discharge of the offsite basins as proposed. In addition in order to meet the requirements for an inlet in a sump condition as described in the revised DPM we recommend adding a Type A inlet 12 feet from the existing inlet at AP3 to provide redundant capacity. The remaining systems operate as designed.

# TAB 1



ANALYSIS POINT	FLOW (CFS)
AP1	100
AP2	24
AP3	30
AP4	99
AP5	7

	AREA (Acres)	LT A (%)	LT B (%)	LT C (%)	LT D (%)	Q (cfs)	V (fps)
OS1	14.74 ±	90	0	10	0	18	0.52
OS2	73.15 ±	90	0	10	0	59	2.59
OS3	19.00 ±	90	0	10	0	20	0.67
OS4	38.80 ±	80	0	10	10	55	1.87
OS5	5.91 ±	90	0	10	0	7.0	0.21
OS6	18.80 ±	90	0	10	0	24	0.67
OS7	24.56 ±	90	0	10	0	30	0.87
OS8	71.77 ±	86	0	10	4	52	2.91
OS9	33.91 ±	45	0	55	0	54	1.75



**WILSON  
& COMPANY**  
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CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP

LA CUENTISTA UNIT II  
DRAINAGE REPORT ADDENDUM

EXISTING CONDITIONS MAP

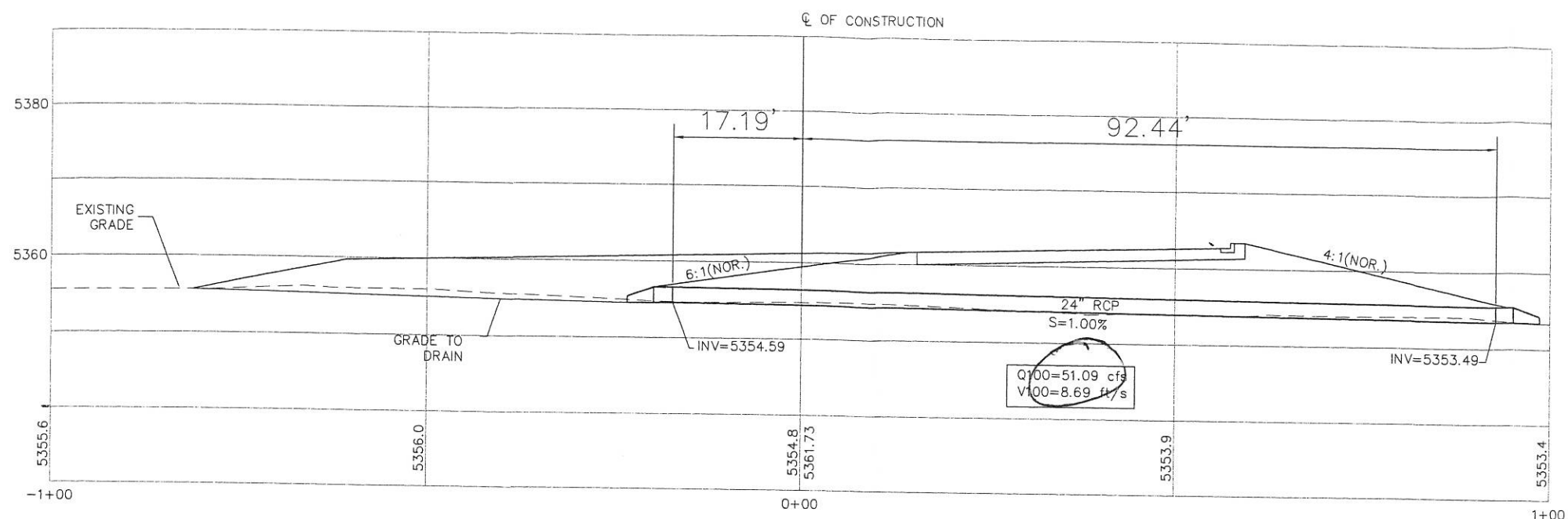
CPN 709786

DRAWN: KIS  
DESIGN: DSA

PLATE 1



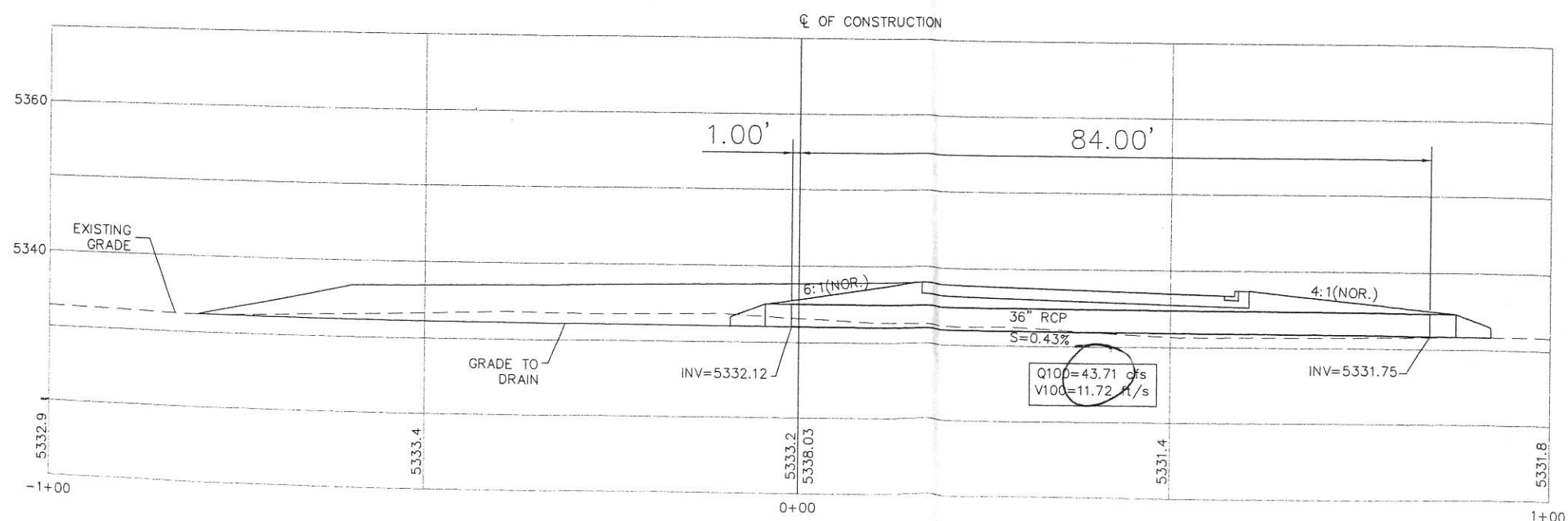
## **TAB 2**



DS-04

STA 46+50.00

BUILD 2-24"x110' RCP'S, TYPE III,  
SKEWED AT 30° LT. FWD.;  
BUILD END SECTIONS LT. & RT.



DS-03

STA 24+00.00

BUILD 1-36"x85' RCP, TYPE III,  
SKEWED AT 30° LT. FWD.;  
BUILD END SECTION AT A ST

NOTES:



1. ALL REINFORCED CONCRETE PIPE SHALL CONFORM TO COA SPECIFICATIONS, SECTION 123.

[illegible]

**WILSON**  
& COMPANY

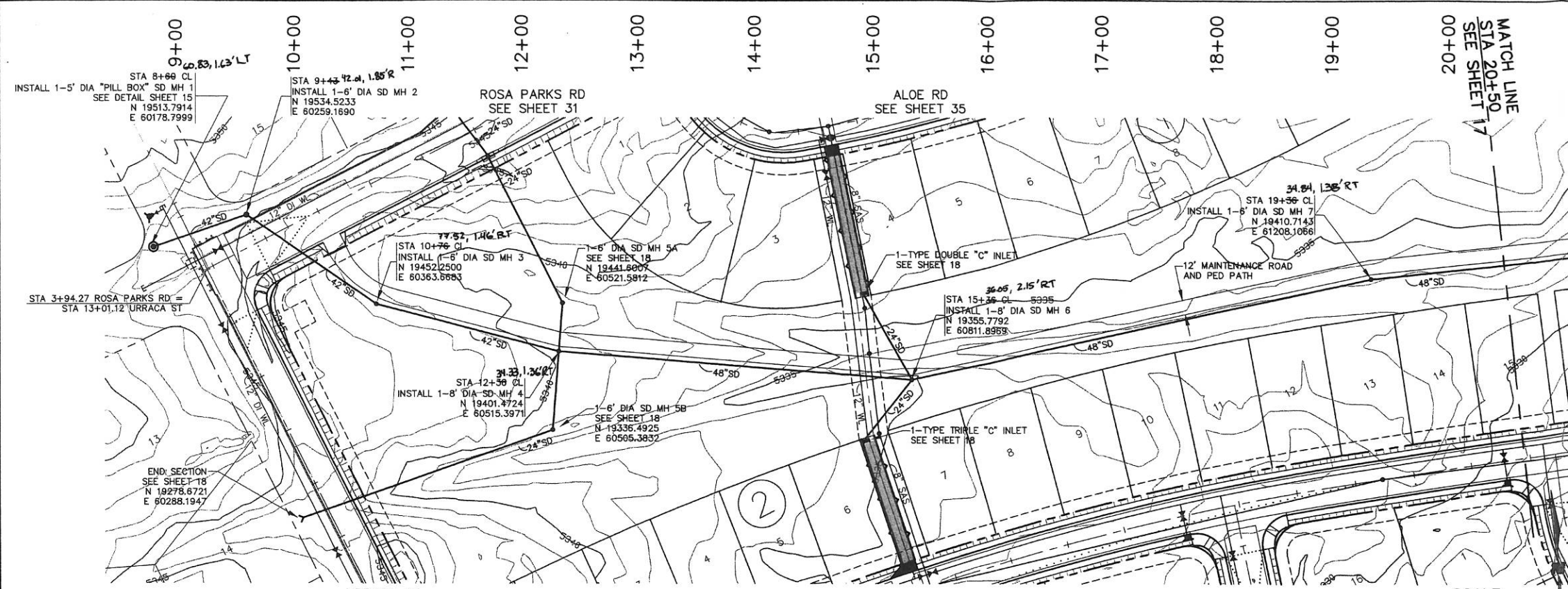


UNSER BOULEVARD EXTENSION NW  
TEMPORARY DRAINAGE STRUCTURE PLACEMENT SEC

Design Review Committee  DESIGN REVIEW COMMITTEE	City Engineer Approval  CITY ENGINEER	Design Update <table border="1"> <tr> <th>Mo.</th> <th>Day</th> <th>Yr.</th> </tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>	Mo.	Day	Yr.												
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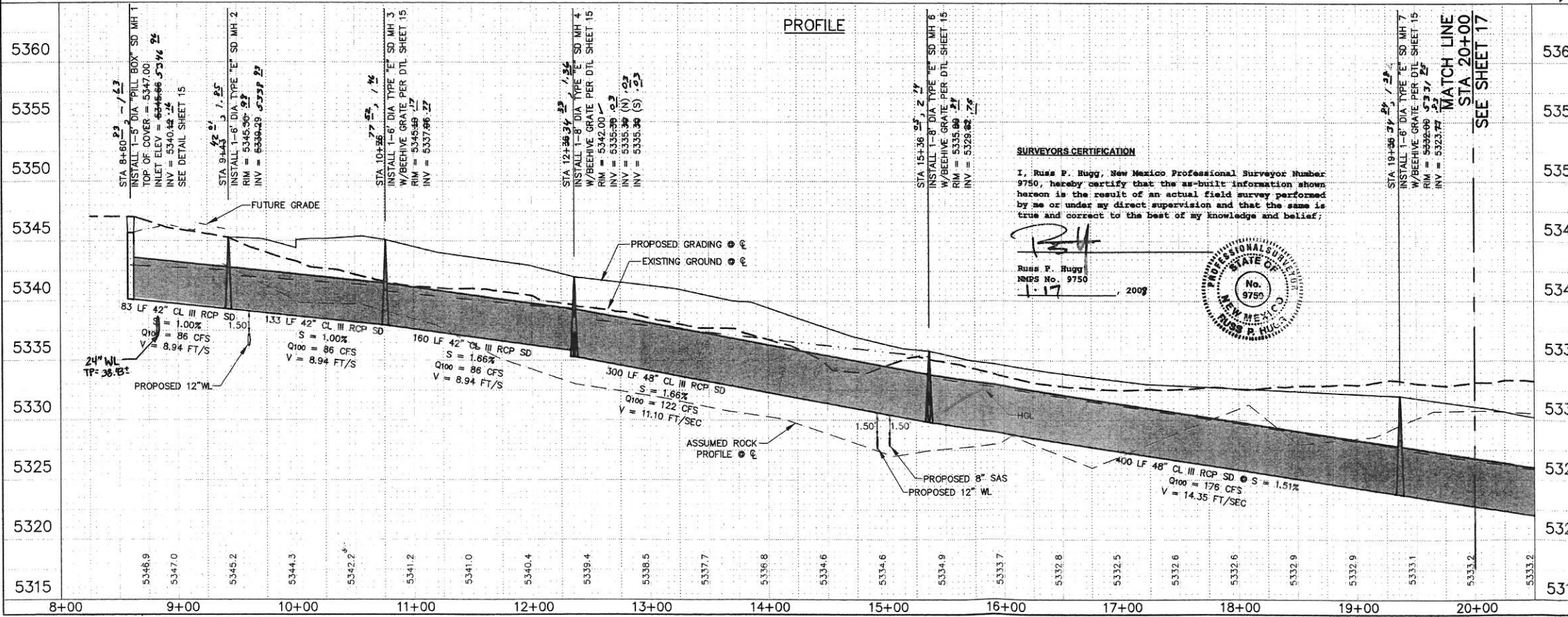
## **TAB 3**





OPEN SPACE STORM DRAIN  
PLAN

SCALE:  
HORIZ: 1" = 50'  
VERT: 1" = 5'



PROFILE

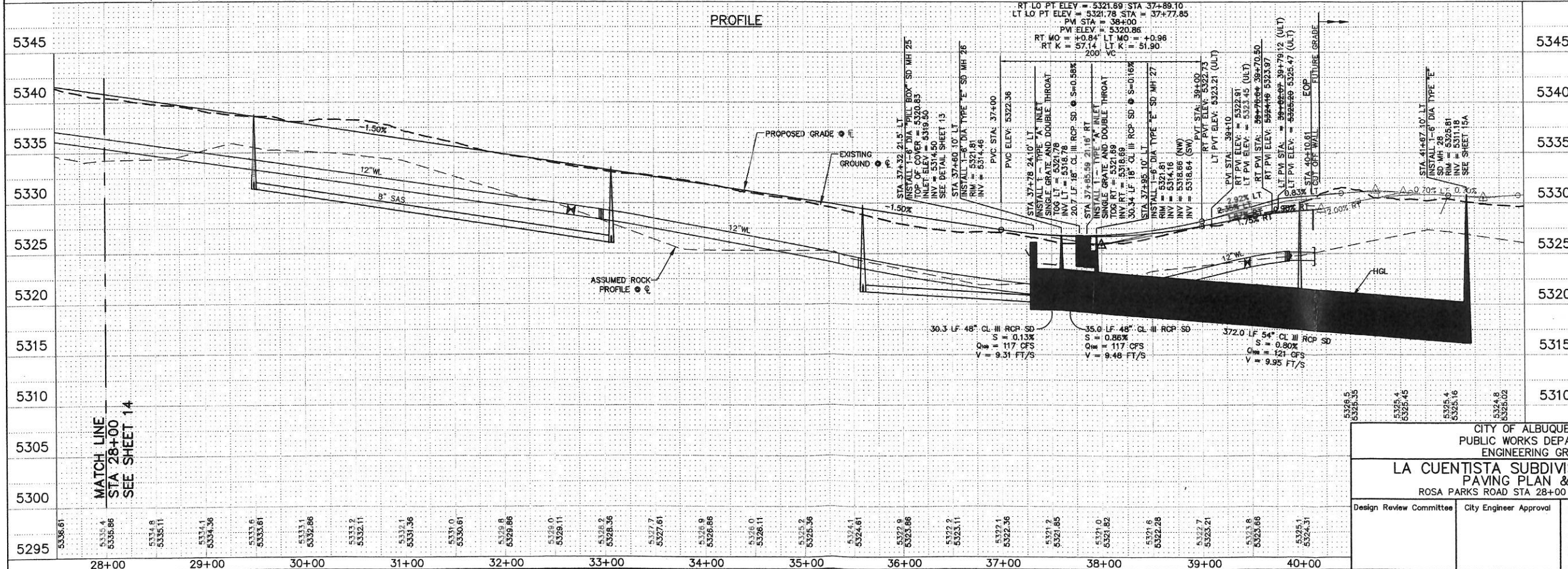
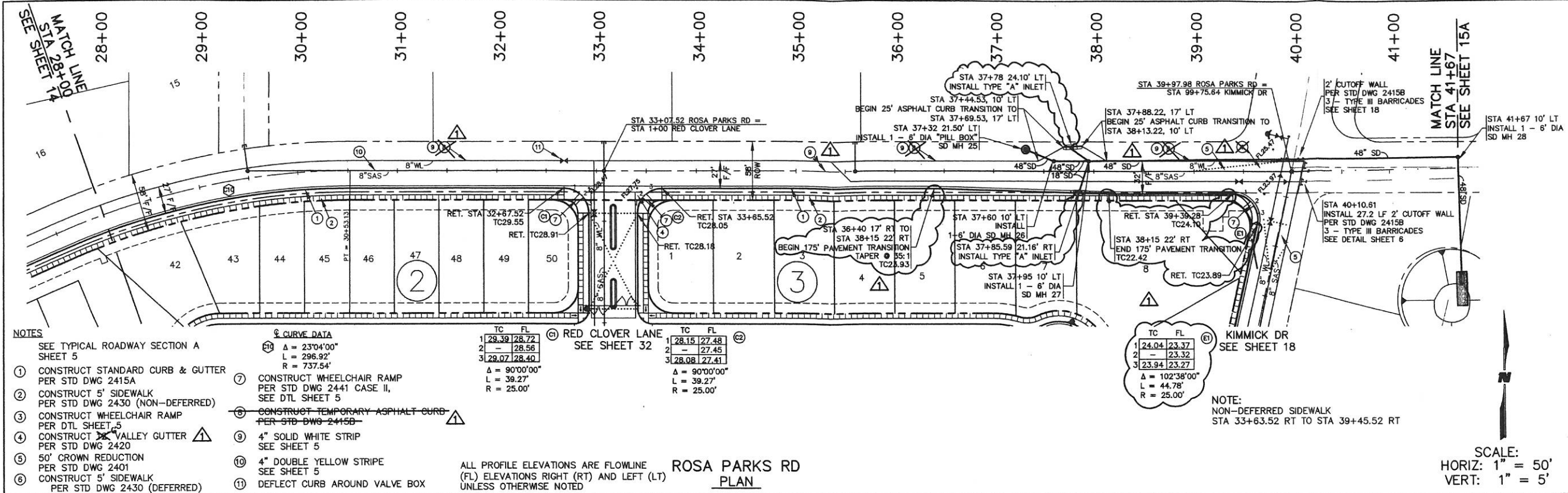
**SURVEYORS CERTIFICATION**  
I, Russ P. Rugg, New Mexico Professional Surveyor Number 9750, hereby certify that the as-built information shown hereon is the result of an actual field survey performed by me or under my direct supervision and that the same is true and correct to the best of my knowledge and belief;  
  
Russ P. Rugg  
NMPSS No. 9750  
1-17-2009

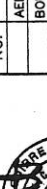


ENGINEER'S SEAL				SURVEY INFORMATION		BENCH MARKS		AS-BUILT INFORMATION	
					FIELD NOTES				
					NO.	BY	DATE		
						AERIAL MAPPING, WCI	05/01	ACS 1 3/4" ALUMINUM DISK STAMPED	CONTRACTOR
						BOUNDARY, WCI	06/01	"ACS BM 5-D11", LOCATED 72' ± ESE OF THE CENTER OF THE CUL-DE-SAC AT THE SOUTH	WORK STARTED BY
						BOUNDARY, WCI	10/01	END OF RIDGEWAY DR. NW, EXPOSED TO LAVA	ACCEPTANCE BY
								ROCK IN OUTCROPPING	FIELD VERIFICATION BY
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LA CUENTISTA SUBDIVISION - UNIT I STORM DRAIN PLAN & PROFILE OPEN SPACE STORM DRAIN - STA 8+75 TO STA 31+50		Design Review Committee		City Engineer Approval		Last Design Update	
WCEA #0660004700 OCT 2006		79782		Zone Map No. C-10, D-10 C-11, D-11		Drawing 16	
Sheet 52		WILSON & COMPANY		DESIGNED BY DATE DEC 2004		DRAWN BY DATE DEC 2004	
CHECKED BY DATE DEC 2004		DESIGNED BY DATE DEC 2004		DRAWN BY DATE DEC 2004		CHECKED BY DATE DEC 2004	





PERQUE GROUP SION - UNIT II & PROFILE TO STA 39+97.98		ENGINEER'S SEAL 		SURVEY INFORMATION FIELD NOTES		BENCH MARKS ACS 1 3/4" ALUMINUM DISK STAMPED "ACS BM 5-D11", LOCATED 72' ± ESE OF THE CENTER OF THE CUL-DE-SAC AT THE SOUTH END OF RIDGEWAY DR. NW, EXPOSED TO LAVA ROCK IN OUTCROPPING		AS-BUILT INFORMATION CONTRACTOR DATE INSPECTED BY DATE FIELD VERIFICATION BY DATE CORRECTED BY DATE MICRO-FILM INFORMATION RECORDED BY DATE	
NO. DATE AERIAL MAPPING, WCI 05/01 BOUNDARY, WCI 08/01 BOUNDARY, WCI 10/01		NO. DATE AERIAL MAPPING, WCI 05/01 BOUNDARY, WCI 08/01 BOUNDARY, WCI 10/01		NO. DATE AERIAL MAPPING, WCI 05/01 BOUNDARY, WCI 08/01 BOUNDARY, WCI 10/01		NO. DATE AERIAL MAPPING, WCI 05/01 BOUNDARY, WCI 08/01 BOUNDARY, WCI 10/01		NO. DATE AERIAL MAPPING, WCI 05/01 BOUNDARY, WCI 08/01 BOUNDARY, WCI 10/01	
3-4-08 PWT TRANS FOR IED REMOVAL DR/ROSA PARKS RD NO. DATE REMARKS BY		3-4-08 PWT TRANS FOR IED REMOVAL DR/ROSA PARKS RD NO. DATE REMARKS BY		3-4-08 PWT TRANS FOR IED REMOVAL DR/ROSA PARKS RD NO. DATE REMARKS BY		3-4-08 PWT TRANS FOR IED REMOVAL DR/ROSA PARKS RD NO. DATE REMARKS BY		3-4-08 PWT TRANS FOR IED REMOVAL DR/ROSA PARKS RD NO. DATE REMARKS BY	
WILSON & COMPANY, ENGINEERS & ARCHITECTS DESIGNED BY KIS DATE DEC 2004 DRAWN BY WKL DATE DEC 2004 CHECKED BY DSA DATE DEC 2004		WILSON & COMPANY, ENGINEERS & ARCHITECTS DESIGNED BY KIS DATE DEC 2004 DRAWN BY WKL DATE DEC 2004 CHECKED BY DSA DATE DEC 2004		WILSON & COMPANY, ENGINEERS & ARCHITECTS DESIGNED BY KIS DATE DEC 2004 DRAWN BY WKL DATE DEC 2004 CHECKED BY DSA DATE DEC 2004		WILSON & COMPANY, ENGINEERS & ARCHITECTS DESIGNED BY KIS DATE DEC 2004 DRAWN BY WKL DATE DEC 2004 CHECKED BY DSA DATE DEC 2004		WILSON & COMPANY, ENGINEERS & ARCHITECTS DESIGNED BY KIS DATE DEC 2004 DRAWN BY WKL DATE DEC 2004 CHECKED BY DSA DATE DEC 2004	
Last Design Update Mo./Day/Yr.		Last Design Update Mo./Day/Yr.		Last Design Update Mo./Day/Yr.		Last Design Update Mo./Day/Yr.		Last Design Update Mo./Day/Yr.	
Drawing 15		Drawing 15		Drawing 15		Drawing 15		Drawing 15	
Sheet 37		Sheet 37		Sheet 37		Sheet 37		Sheet 37	

## **TAB 4**



AHYMO PROGRAM SUMMARY TABLE (AHYMO\_97) -  
INPUT FILE = C:\BND\AHY~1\LC\EX10~1.DAT

AHYMO.SUM  
- VERSION: 1997.02c

RUN DATE (MON/DAY/YR) =12/19/2014  
USER NO.= AHYMO-C-9803c01UNMLIB-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.170
COMPUTE NM HYD	2.00	-	2	.11430	59.22	2.594	.42560	1.600	.810	PER IMP= .00
COMPUTE NM HYD	3.00	-	3	.02970	20.39	.674	.42560	1.533	1.073	PER IMP= .00
*S ADD BASINS OS2 AND OS3										
ADD HYD	OS3.1	3& 2	32	.14400	77.99	3.269	.42560	1.600	.846	
*S*** ROUTE BASINS OS2 AND OS3 THRU BASIN OS4										
ROUTE MCUNGE	33.10	32	33	.14400	76.86	3.252	.42344	1.767	.834	CCODE = .1
COMPUTE NM HYD	4.00	-	4	.06060	55.34	1.869	.57839	1.533	1.427	PER IMP= 10.00
*S*** ADD BASIN OS4 - ANALYSIS POINT 1										
ADD HYD	OS4.1	4&33	3	.20460	100.11	5.121	.46933	1.733	.764	
*S*** - ANALYSIS POINT 2										
COMPUTE NM HYD	6.00	-	6	.02938	23.78	.667	.42560	1.533	1.265	PER IMP= .00
*S*** - ANALYSIS POINT 3										
COMPUTE NM HYD	7.00	-	7	.03838	30.45	.871	.42560	1.533	1.240	PER IMP= .00
COMPUTE NM HYD	1.00	-	1	.02300	17.71	.522	.42560	1.533	1.203	PER IMP= .00
*S*** ROUTE BASINS OS1 THRU BASIN OS8										
ROUTE MCUNGE	OS8	1	5	.02300	16.00	.502	.40952	2.633	1.087	CCODE = .1
COMPUTE NM HYD	108.00	-	8	.11220	51.85	2.912	.48671	1.667	.722	PER IMP= 4.00
*S*ADD BASIN OS1 AND OS8										
ADD HYD	OS8.1	5& 8	1	.13520	51.85	3.415	.47358	1.667	.599	
*S										
COMPUTE NM HYD	9.00	-	2	.05300	53.70	1.750	.61924	1.533	1.583	PER IMP= .00
*S*ADD BASIN OS1, OS8 AND OS9 -ANALYSIS POINT 4										
ADD HYD	OS9.1	1& 2	3	.18820	98.66	5.165	.51460	1.600	.819	
*S*** - ANALYSIS POINT 5										
COMPUTE NM HYD	5.00	-	5	.00920	7.45	.209	.42560	1.533	1.266	PER IMP= .00
FINISH										

```

*** LA CUMENTISTA SUBDIVISION PHASE I
*** UNDEVELOPED CONDITIONS RUNOFF MODEL ***
***
*****
*** DESIGN STORM IS THE 100 YEAR - 6 HOUR STORM
***
*** COA DPM TYPE 1, 6 HOUR STORM WITH A PEAK INTENSITY AT 1.4 HOURS
*****

```

START TIME = 0

```

*****
*** COMPUTING RAINFALL ***
*****
RAINFALL TYPE = 1

```

RAIN QUARTER = 0.00 INCHES

RAIN ONE HOUR = 1.69  
RAIN SIX HOUR = 2.17  
DT = 0.03333 HOURS

```

*****
*** COMPUTING TP FOR BASIN EX-OS2 ***
*****
COMPUTE LT TP
      LCODE=1 NK=3 ISLOPE=0
      LENGTH=400 FT SLOPE=0.024 K=0.7
      LENGTH=1600 FT SLOPE=0.024 K=2
      LENGTH=1568 FT SLOPE=0.024 K=3

```

\*\*\* COMPUTING HYD FOR BASIN EX-OS2

```

COMPUTE NM HYD ID=2 HYDNO=OS2 DA=0.1143 SQ MI
      PERCENT A=90 B=0 C=10 D=0
      TP=0.0 HOURS MASSRAIN=-1

```

PRINT HYD ID=2 CODE=5

```

*****
*** COMPUTING TP FOR BASIN EX-OS3 ***
*****
COMPUTE LT TP
      LCODE=1 NK=2 ISLOPE=0
      LENGTH=400 FT SLOPE=0.024 K=0.7
      LENGTH=1571 FT SLOPE=0.024 K=2

```

\*\*\* COMPUTING HYD FOR BASIN EX-OS3

```

COMPUTE NM HYD ID=3 HYDNO=OS3 DA=0.0297 SQ MI
      PERCENT A=90 B=0 C=10 D=0
      TP=0.0 HOURS MASSRAIN=-1

```

PRINT HYD ID=3 CODE=5

```

*****
*S ADD BASINS OS2 AND OS3
*
ADD HYD ID=32 HYD=OS3.1 ID=3 ID=2
PRINT HYD ID=32 CODE=1

```

\*\*\*\*\*  
\*S\*\*\* ROUTE BASINS OS2 AND OS3 THRU BASIN OS4

```

COMPUTE RATING CURVE CID=1 VS NO=1 SEGS=1 MIN ELEV=5335.5 MAX ELEV=5336
      CH SLP=0.015 FP SLP=0.015 N=0.03 DIST=250
      DIST ELEV DIST ELEV
      0 5336 100 5335.5
      140 5335.5 250 5336

```

```

ROUTE MCUNGE ID=33 HYD NO= 33.1 INFLOW ID=32
      DT=0.0 L=755 FT NS=0 SLOPE=0.015

```

PRINT HYD ID=33 CODE=5

```

*****
***      COMPUTING TP FOR BASIN OS4      ***
*****
COMPUTE LT TP      LCODE=1 NK=2      ISLOPE=0
                   LENGTH=400 FT    SLOPE=0.018      K=0.7
                   LENGTH=1025 FT   SLOPE=0.018      K=2

```

\*\*\* COMPUTING HYD FOR BASIN EX-OS4

```

COMPUTE NM HYD      ID=4      HYDNO=OS4 DA=0.0606 SQ MI
                        PERCENT A=80 B=0 C=10 D=10
                        TP=0.0 HOURS MASSRAIN=-1
PRINT HYD           ID=4      CODE=5

```

```

*****
*S***      ADD BASIN OS4 - ANALYSIS POINT 1 *****

```

```

ADD HYD             ID=3      HYD=OS4.1      ID=4      ID=33
PRINT HYD           ID=3      CODE=1

```

```

*****
***      COMPUTING TP FOR BASIN EX-OS6      ***
*****
*S*** - ANALYSIS POINT 2 *****
COMPUTE LT TP      LCODE=1 NK=2      ISLOPE=0
                   LENGTH=400 FT    SLOPE=0.031      K=0.7
                   LENGTH=1120 FT   SLOPE=0.031      K=2

```

\*\*\* COMPUTING HYD FOR BASIN EX-OS6

```

COMPUTE NM HYD      ID=6      HYDNO=OS6 DA=0.02938 SQ MI
                        PERCENT A=90 B=0 C=10 D=0
                        TP=0.0 HOURS MASSRAIN=-1
PRINT HYD           ID=6      CODE=5

```

```

*****
***      COMPUTING TP FOR BASIN EX-OS7      ***
*****
*S*** - ANALYSIS POINT 3 *****
COMPUTE LT TP      LCODE=1 NK=2      ISLOPE=0
                   LENGTH=400 FT    SLOPE=0.027      K=0.7
                   LENGTH=1294 FT   SLOPE=0.027      K=2

```

\*\*\* COMPUTING HYD FOR BASIN EX-OS7

```

COMPUTE NM HYD      ID=7      HYDNO=OS7 DA=0.03838 SQ MI
                        PERCENT A=90 B=0 C=10 D=0
                        TP=0.0 HOURS MASSRAIN=-1
PRINT HYD           ID=7      CODE=5

```

```

*****
***      COMPUTING TP FOR BASIN EX-OS1      ***
*****
COMPUTE LT TP      LCODE=1 NK=2      ISLOPE=0
                   LENGTH=400 FT    SLOPE=0.0125      K=0.7
                   LENGTH=630 FT    SLOPE=0.0146      K=2

```

\*\*\* COMPUTING HYD FOR BASIN EX-OS1

```

COMPUTE NM HYD      ID=1      HYDNO=OS1 DA=0.0230 SQ MI
                        PERCENT A=90 B=0 C=10 D=0
                        TP=0.0 HOURS MASSRAIN=-1

```

PRINT HYD ID=1 CODE=5

\*S\*\*\* ROUTE BASINS OS1 THRU BASIN OS8

COMPUTE RATING CURVE CID=1 VS NO=1 SEGS=1 MIN ELEV=5368 MAX ELEV=5372  
 CH SLP=0.013 FP SLP=0.013 N=0.03 DIST=350  
 DIST ELEV DIST ELEV  
 0 5372 80 5368  
 284 5368 350 5372

ROUTE MCUNGE ID=5 HYD NO= OS8 INFLOW ID=1  
 DT=0.0 L=4312 FT NS=0 SLOPE=0.013  
 PRINT HYD ID=5 CODE=5

\*\*\*\*\*  
 \*\*\* COMPUTING TP FOR BASIN EX-OS8  
 \*\*\*\*\*

COMPUTE LT TP LCODE=1 NK=3 ISLOPE=0  
 LENGTH=400 FT SLOPE=0.017 K=0.7  
 LENGTH=1600 FT SLOPE=0.017 K=2  
 LENGTH=2312 FT SLOPE=0.017 K=3  
 KN=0.033 CENTROID DISTANCE=2100

\*\*\* COMPUTING HYD FOR BASIN EX-OS8

COMPUTE NM HYD ID=8 HYDNO=108 DA=0.1122 SQ MI  
 PERCENT A=86 B=0 C=10 D=4  
 TP=0.0 HOURS MASSRAIN=-1

PRINT HYD ID=8 CODE=5

\*\*\*\*\*  
 \*S\*ADD BASIN OS1 AND OS8

ADD HYD ID=1 HYD=OS8.1 ID=5 ID=8

PRINT HYD ID=1 CODE=1

\*\*\*\*\*  
 \*\*\* COMPUTING TP FOR BASIN EX-OS9 \*\*\*

\*S  
 COMPUTE LT TP LCODE=1 NK=3 ISLOPE=0  
 LENGTH=400 FT SLOPE=0.023 K=0.7  
 LENGTH=1600 FT SLOPE=0.023 K=2  
 LENGTH=30 FT SLOPE=0.023 K=3

\*\*\* COMPUTING HYD FOR BASIN EX-OS9

COMPUTE NM HYD ID=2 HYDNO=OS9 DA=0.053 SQ MI  
 PERCENT A=45 B=0 C=55 D=0  
 TP=0.0 HOURS MASSRAIN=-1

PRINT HYD ID=2 CODE=5

\*\*\*\*\*  
 \*S\*ADD BASIN OS1, OS8 AND OS9 -ANALYSIS POINT 4 \*\*\*\*\*

ADD HYD ID=3 HYD=OS9.1 ID=1 ID=2

PRINT HYD ID=3 CODE=1

\*\*\*\*\*  
 \*\*\* COMPUTING TP FOR BASIN EX-OS5 \*\*\*\*\*

\*S\*\*\* - ANALYSIS POINT 5 \*\*\*\*\*  
 COMPUTE LT TP LCODE=1 NK=2 ISLOPE=0  
 LENGTH=400 FT SLOPE=0.013 K=0.7  
 LENGTH=233 FT SLOPE=0.013 K=2

\*\*\* COMPUTING HYD FOR BASIN EX-OS5

Lcex100yr.dat

COMPUTE NM HYD           ID=5           HYDNO=055   DA=0.0092   SQ MI  
PERCENT   A=90   B=0   C=10   D=0  
TP=0.0   HOURS       MASSRAIN=-1

PRINT HYD               ID=5           CODE=5

\*\*\*\*\*  
\*\*\*\*\*

FINISH



La Cuentista Offsite Basin Summary

Basin ID	Area	Land Treatment %				Q <sub>100</sub>	V <sub>100</sub>
	ac	A	B	C	D	cfs	ac-ft
OS1	14.72	90	0	10	0	18	0.52
OS2	73.15	90	0	10	0	59	2.59
OS3	19.01	90	0	10	0	20	0.67
OS4	38.78	80	0	10	10	55	1.87
OS5	5.89	90	0	10	0	7	0.21
OS6	18.80	90	0	10	0	24	0.67
OS7	24.56	90	0	10	0	30	0.87
OS8	71.78	86	0	10	4	52	2.91
OS9	33.92	45	0	55	0	54	1.75

Analysis Point Summary			
Analysis Point	Area	Peak Flow	Runoff Volume
	ac	cfs	ac-ft
AP1	130.94	100	5.12
AP2	18.80	24	0.67
AP3	24.56	30	0.87
AP4	120.45	99	5.17
AP5	5.89	7	0.21

## **TAB 5**

---

## Pill Box Orifice - Urraca

---

### Project Description

Solve For                      Discharge

### Input Data

Headwater Elevation	48.00	ft
Centroid Elevation	46.52	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.70	
Opening Width	11.70	ft
Opening Height	1.17	ft

### Results

Discharge	93.51	ft <sup>3</sup> /s
Headwater Height Above Centroid	1.48	ft
Tailwater Height Above Centroid	-46.52	ft
Flow Area	13.69	ft <sup>2</sup>
Velocity	6.83	ft/s



---

## Pill Box Orifice - Kimmick

---

### Project Description

Solve For                      Discharge

### Input Data

Headwater Elevation	26.20	ft
Centroid Elevation	24.38	ft
Tailwater Elevation	0.00	ft
Discharge Coefficient	0.70	
Opening Width	14.50	ft
Opening Height	1.00	ft

### Results

Discharge	109.84	ft <sup>3</sup> /s
Headwater Height Above Centroid	1.82	ft
Tailwater Height Above Centroid	-24.38	ft
Flow Area	14.50	ft <sup>2</sup>
Velocity	7.58	ft/s

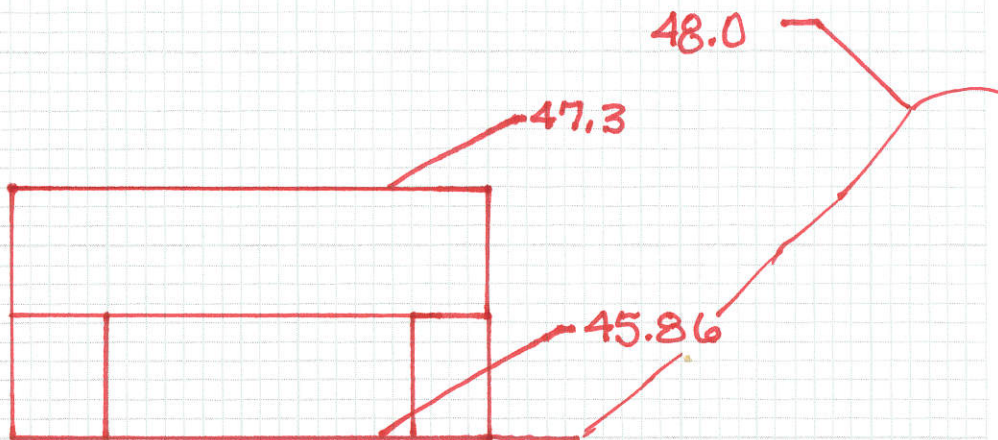
COMP. DAGUIRRE  
CK. \_\_\_\_\_  
DATE 12.30.14

**WILSON**  
& COMPANY

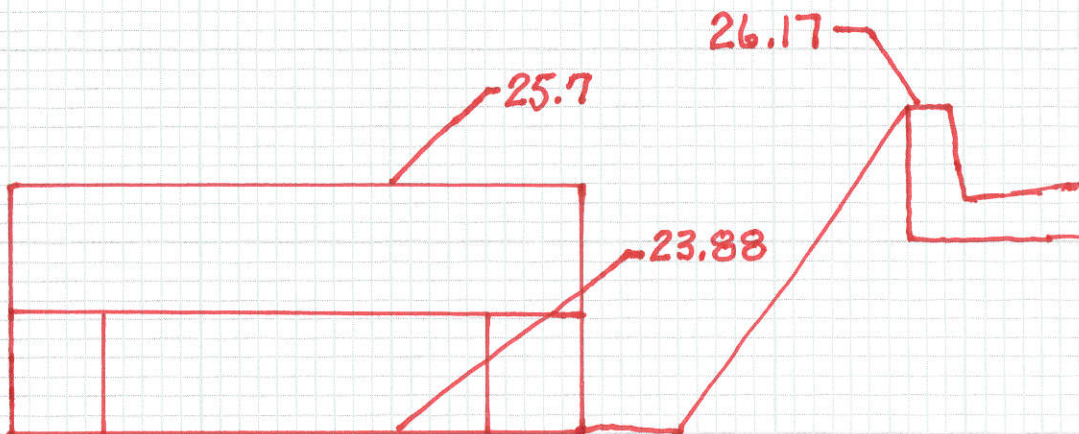
LOC. ALBOR FILE \_\_\_\_\_  
PROJ. LC UNIT II SHEET 1  
SUBJ. DRAINAGE OF 1

## SURVEY ELEVATIONS AT PILL-BOX INLETS

@ URRACA



@ KIMMICK



# Water Flowing (Discharging) Steadily from a Tank

Steady state tank discharge calculation is mobile-device-friendly as of August 28, 2014

## Calculation and equations

[Register](#) to enable "Calculate" button.

Not registered user

Click to Calculate

### Calculate:

Q, H from B, X, Y, type

Discharge, Q (cfs, ft<sup>3</sup>/s): Will be computed

Head, H (ft): Will be computed

### Select Units:

English Units. Q in cfs

Orifice Width, Height, B (inch): 4

Contraction Coefficient,  $C_c$ : 1

Velocity Coefficient,  $C_v$ : 0.8

Orifice Coefficient,  $C_o$ : 0.8

### Select Orifice Geometry:

Square.  $A=B^2$

Horizontal Distance, X (ft): 10

Vertical Drop, Y (ft): 3

### Select Type of Orifice:

Short Tube

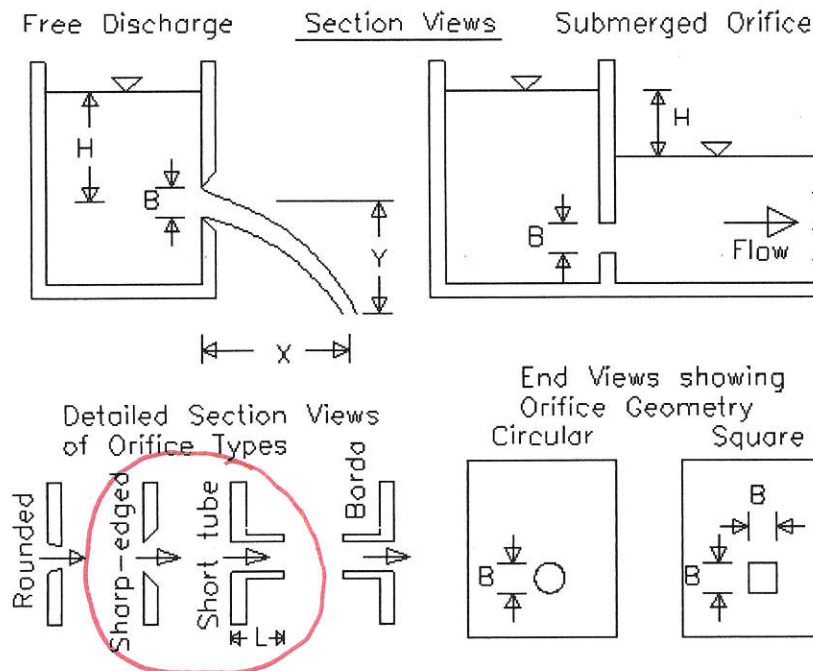
Orifice Area, A (ft<sup>2</sup>): Will be computed

Discharge Velocity, V (ft/s): Will be computed

<http://www.LMNOeng.com>

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**Units in Steady State Tank Discharge calculator:** cm=centimeter, ft=foot, gal=U.S. gallon, m=meter, min=minute, s=second.



Either the free discharge orifice or the submerged orifice can be modeled. The equations are the same for both cases. A drop-down menu allows you to select circular or square orifice geometry. For a circular orifice, B is orifice diameter. For a square orifice, B is orifice width and height. A drop-down menu allows you to select an orifice type. Discharge coefficients for the four orifice types are built into the calculation. User-defined discharge coefficients are permitted but be sure that  $C_o = C_c C_v$ . The calculation only checks to see if inputs are positive; we do not check to see if  $C_o = C_c C_v$ .

### Built-in values for orifice discharge coefficients

To:

[LMNO Engineering home page \(more calculations\)](#)

[Time to Empty Tank calculation](#)

[Unit Conversions](#)

[Videos of Experiments and Analysis of Water Discharging from a Tank](#)

[Trouble printing?](#)

[Register](#)



AVG = .70 CAN USE A. 67

	Rounded	Sharp-edged	Short tube	Borda
$C_c$	1.0	0.62	1.0	0.52
$C_v$	0.98	0.98	0.8	0.98

The short tube C values are valid for  $L \sim 2.5 B$ .

The Borda type is also known as a re-entrant since it juts into the tank.

C values were obtained from Dally et al. (1993) for circular orifices. However, similar values for square orifices are given in Davis (1942), so our calculation uses the Dally values for both circular and square orifices.

**Equations.** From Dally et al. (1993) and Streeter et al. (1985)

The tank discharge equations are valid for:  $H > 1.25 \text{ m (4.17 ft)}$  and  $B > 2.54 \text{ cm (1 inch)}$ . Values will be computed even if H or B is too small, but a warning message will appear.

$$V = C_v \sqrt{2gH} \quad \text{and} \quad V = X \sqrt{\frac{g}{2Y}} \quad \text{and} \quad A = \frac{\pi}{4} B^2 \quad \text{or} \quad A = B^2$$

$$Q = C_c AV \quad \text{and} \quad Q = C_o A \sqrt{2gH}$$

where: A = orifice area, B = orifice diameter or width and height,  $C_c$  = contraction coefficient,  $C_v$  = velocity coefficient,  $C_o$  = orifice coefficient =  $C_c C_v$ , g = acceleration due to gravity =  $32.174 \text{ ft/s}^2$  or  $9.8066 \text{ m/s}^2$ , H = head defined in diagrams above, Q = flow rate (discharge), V = horizontal velocity through orifice, X = horizontal trajectory, Y = vertical trajectory.

## References

Dally, J. W., W. F. Riley, and K. G. McConnell. 1993. Instrumentation for Engineering Measurements. John Wiley and Sons, Inc. 2ed.

Davis, C. V. 1942. Handbook of Applied Hydraulics. McGraw-Hill Book Co.

Streeter, V. L., E. G. Wylie, and K. W. Bedford. 1985. Fluid Mechanics. McGraw-Hill. 9ed.

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Please contact us for consulting or other questions.

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## **TAB 6**

AGREEMENT AND COVENANT

11-14-07

This Agreement and Covenant, between the City of Albuquerque, New Mexico ("City") and Michael Knight, Managing Member, La Cuentista II, LLC, ("User"), and Stanley L. Diamond, a single man,, ("Owner"), is made in Albuquerque, New Mexico and is entered into as of the date of recording this Agreement with the Bernalillo County Clerk.

1. Recital. The User is the owner of certain real property ("User's Property") located at the NW corner of Kimmick Dr NW and Rosa Parks Rd NW, in Albuquerque, New Mexico, and more particularly described as: (give legal description and filing information)

TRACT C of 'The CORRECTION PLAT of the BULK LAND PLAT of LA CUENTISTA SUBDIVISION', filed with the Bernalillo County Clerk on 01/07/2004 in Book 2004C on Page 7.

The City is the owner of certain real property, easement or public right-of-way ("City's Property") in the vicinity of, contiguous to, abutting or within User's Property, and more particularly described as:

The City's Property is a 'BLANKET CROSS LOT PUBLIC DRAINAGE EASEMENT' located on TRACT D of 'The CORRECTION PLAT of the BULK LAND PLAT of LA CUENTISTA SUBDIVISION', filed with the Bernalillo County Clerk on 01/07/2004 in Book 2004C on Page 7.

TRACT D is owned by Stanley L. Diamond and by execution of this Agreement and Covenant agrees to permit User to enter TRACT D to perform User's obligations under this Agreement and Covenant.

The User wishes to construct upon, improve or repair and to maintain the following improvement ("Improvement") on the City's Property (or already has done so):

TEMPORARY DRAINAGE POND located on TRACT D

It is anticipated by the parties that the Temporary Drainage Pond and this Agreement and Covenant can be released upon completion and acceptance of the Permanent Storm Drain Facilities across TRACT D.

A sketch of the proposed or existing Improvement is attached as Exhibit A and made a part of this Agreement.

The City agrees to permit the Improvement to exist on the City's Property provided the User complies with the terms of this Agreement.

2. City Use of City's Property and City Liability. The City has the right to enter upon the City's Property at any time and perform whatever inspection, installation, maintenance, repair,

Doc# 2007157717

11/15/2007 01:44 PM Page: 1 of 6  
AGRE R: \$19.00 M. Toulouse, Bernalillo County



modification or removal ("Work") it deems appropriate without liability to the User. If the Work affects the Improvement the City will not be financially or otherwise responsible for rebuilding or repairing the Improvement. The User promptly will repair the Improvement to the City's satisfaction. The cost of repairing the Improvement will be paid by User.

3. User's Responsibility for Improvement. The User will be solely responsible for constructing, maintaining, repairing and, if required, removing the Improvement, all in accordance with standards required by the City as per the approved Grading and Drainage Plan D10/D2 on file at the City Engineer's office. The User will be solely responsible for paying all related costs. The User will be solely responsible for paying all related costs. The User will not permit the Improvement to constitute a hazard to the health or safety of the general public or to interfere with the City's use of the City's Property. The User will conform with all applicable laws, ordinances and regulations.

4. Use of the Improvement. If the City's Property is a public right-of-way, it shall be open to the use of the general public at all times, subject to reasonable curtailment during periods of construction, maintenance or repair.

5. Demand for Repair, Modification or Removal. The City may send written notice ("Notice") to the User requiring the User to repair, modify or remove the Improvement within 30 days ("Deadline") and the User will comply promptly with the requirements of the Notice. If removal is demanded, the City also may require the User to return the City's Property to its original condition by the Deadline. The User will perform all required work by the Deadline, at User's sole expense.

6. Failure to Perform by User and Emergency Work by City. If the User fails to comply with the terms of the Notice by the Deadline stated, or, if the City determines that an emergency condition exists, the City may perform the work itself. The City then may assess the User for the cost of the work and for any other expenses or damages which result from User's failure to perform. The User agrees promptly to pay the City the amount assessed. If the User fails to pay the City within thirty (30) days after the City gives the User written notice of the amount due, the City may impose a lien against User's Property for the total resulting amount.

7. Cancellation of Agreement and Release of Covenant. This Agreement may be canceled and User's covenants released by the City at will by the City's mailing to the User notice of the City's intention to record a Cancellation and Release with the Bernalillo County Clerk. The Cancellation and Release will be effective thirty (30) days after the date of mailing the notice to the User unless a later date is stated in the notice or the Cancellation and Release. After the effective date, the City will record the Cancellation and Release with the Bernalillo County Clerk.

8. Condemnation. If any part of the User's Property is ever condemned by the City, the User will forego all claims to compensation for any portion of User's structure which encroaches on City Property and for severance damage to the remaining portion of User's structure on User's Property.

9. Assessment. Nothing in this Agreement shall be construed to relieve the User, his

heirs, assigns and successors from an assessment against User's Property for improvements to the City Property under a duly authorized and approved Special Assessment District. The parties specifically agree that the value of the Improvement will not reduce the amount assessed by the City.

10. Notice. For purposes of giving formal written notice to the User, User's address is:

2518 Eubank NE	or	PO Box 51177
Albuquerque, NM 87112		Albuquerque, NM 87181

Notice may be given to the User either in person or by mailing the notice by regular U.S. mail, postage paid. Notice will be considered to have been received by the User within three (3) days after the notice is mailed if there is no actual evidence of receipt. The User may change User's address by giving written notice of the change by certified mail, return receipt requested, to the City Engineer at P.O. Box 1293, Albuquerque, New Mexico 87103.

11. Indemnification. The User agrees to defend, indemnify and hold harmless the City, its officials, agents and employees from and against any and all claims, actions, suits or proceedings of any kind brought against said parties as a result of User's use of the City's Property. To the extent, if at all, Section 56-7-1 NMSA 1978 is applicable to this Agreement, this Agreement to indemnify will not extend to liability, claims, damages, losses or expenses, including attorneys' fees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, change orders, designs or specifications by the indemnitee, or the agents or employees of the indemnitee; or (2) the giving of or the failure to give direction or instructions by the indemnitee, where such giving or failure to give directions or instructions is the primary cause of bodily injury to persons or damage to property.

12. Term. This Agreement shall continue until revoked by the City pursuant to Section 7 above.

13. Binding on User's Property. The covenants and obligations of the User set forth herein shall be binding on User, his heirs assigns and successors and on User's Property and constitute covenants running with User's Property until released by the City.

14. Entire Agreement. This Agreement contains the entire agreement of the parties and supersedes any and all other agreements or understandings, oral or written, whether previous to the execution hereof or contemporaneous herewith.

15. Changes of Agreement. Changes to this Agreement are not binding unless made in writing, signed by both parties.

16. Construction and Severability. If any part of this Agreement is held to be invalid or unenforceable, the remainder of the Agreement will remain valid and enforceable if the remainder is reasonably capable of completion.

17. Captions. The captions to the sections or paragraphs of this Agreement are not part of this Agreement and will not affect the meaning or construction of



any of its provisions.

## CITY OF ALBUQUERQUE:

By: \_\_\_\_\_  
Bruce J. Perlman, Ph.D.,  
 Chief Administrative Officer

Date: \_\_\_\_\_

APPROVED:

Richard Dourte, City Engineer  
 11/9/07

## USER:

By: Michael Knight  
 Name: Michael Knight  
 Title: Managing Member  
La Cuentista II, LLC  
 Date: 10/29/07

## OWNER of TRACT D:

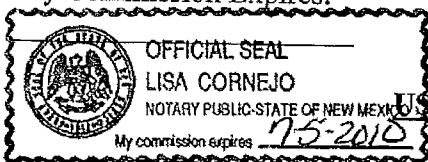
By: Stanley L. Diamond  
 Name: Stanley L. Diamond  
 Title: A Single Man  
 Date: 10 23 07

CITY'S ACKNOWLEDGMENT

STATE OF NEW MEXICO )  
 ) ss  
 COUNTY OF BERNALILLO )

This instrument was acknowledged before me on this 14 day of November, 2007, by Jane Rael for City Engineer, Bruce J. Perlman, Ph.D., Chief Administrative Officer for the City of Albuquerque, a New Mexico municipal corporation, on behalf of the corporation.

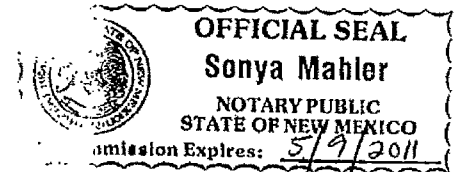
My Commission Expires:



Lisa Cornejo  
 Notary Public

USER'S ACKNOWLEDGMENT

STATE OF NEW MEXICO )  
 ) ss.  
 COUNTY OF BERNALILLO )

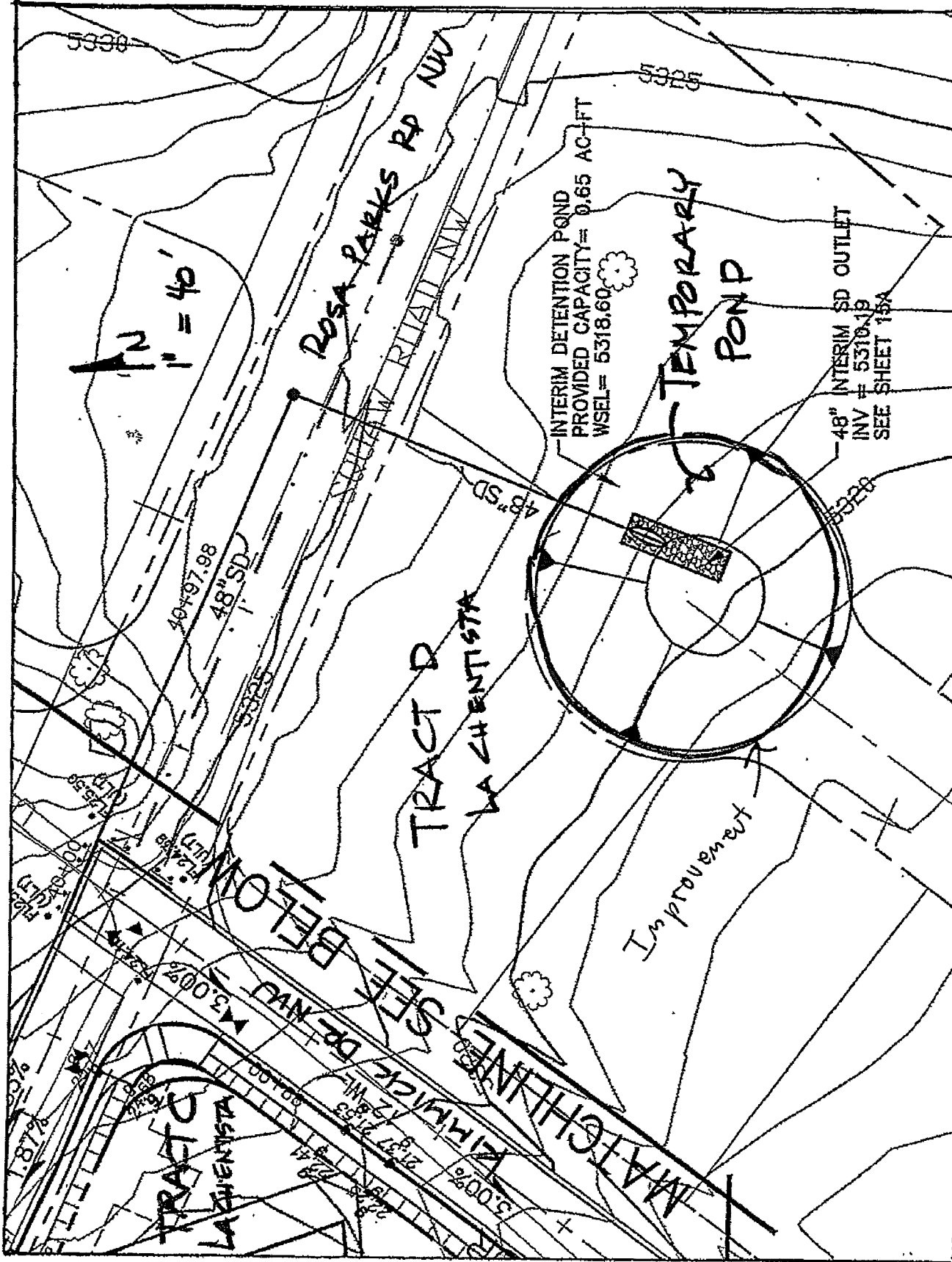


This instrument was acknowledged before me on this 29<sup>th</sup> day of October, 2007, by Michael Knight, Managing Member on behalf of La Cuentista II, LLC

My Commission Expires:  
May 9, 2011

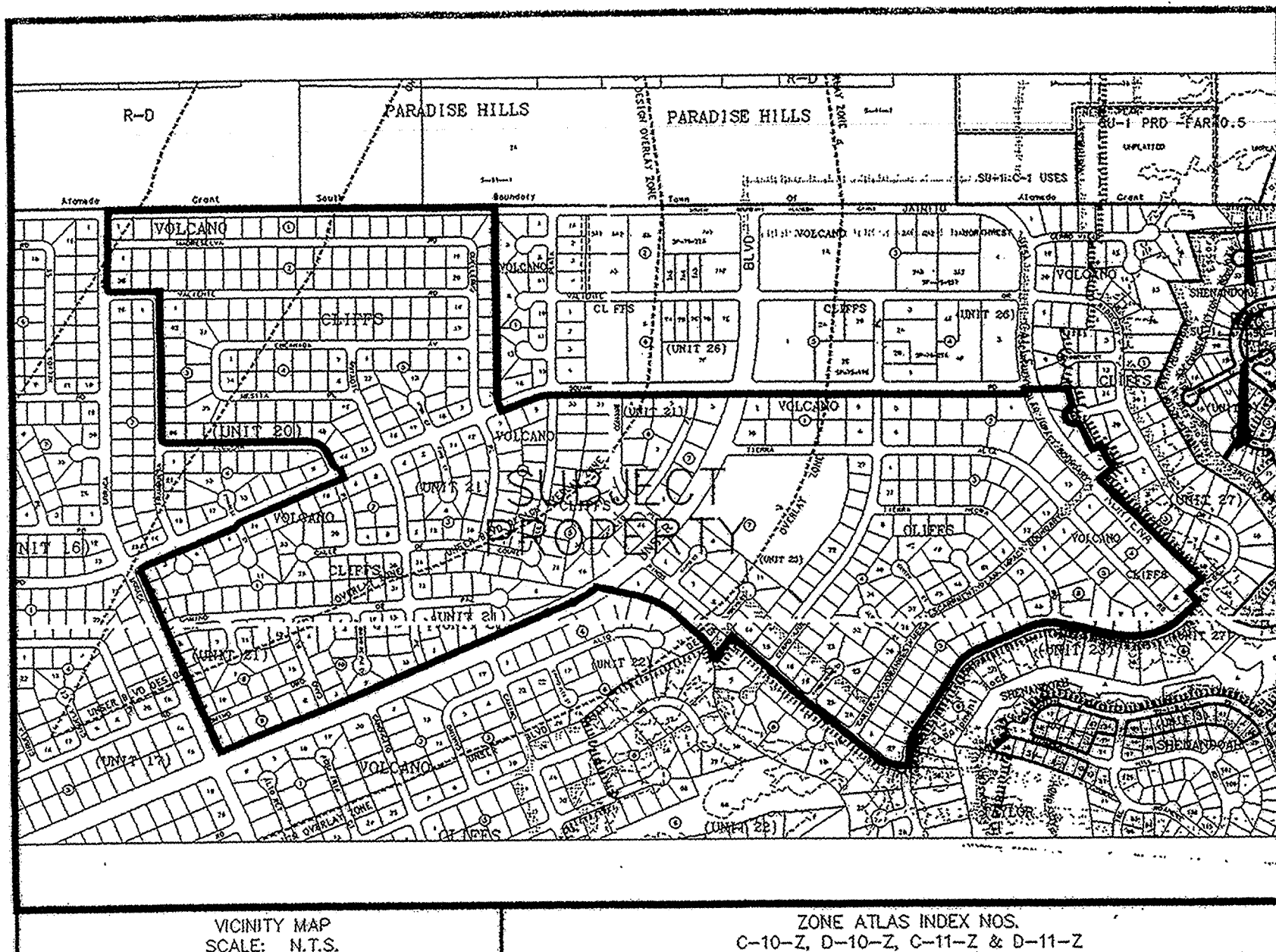
Sonya Mahler  
 Notary Public

-5-



WILSON & COMPANY 4800 LANE AVENUE, N.E. ALBUQUERQUE, NEW MEXICO 87110 (505) 348-4600		AGREEMENT AND COVENANT	
EXHIBIT A		SHEET NO. 1 OF 1	
VCL NO. 0660004701		DATE: SEPT 2007	
COA# 709784		SHEET NO. 1 OF 1	

# **TAB 7**



#### SUBDIVISION DATA:

D.R.B. PROJECT NO. 1000922 D.R.B. APPLICATION NO. 03DRB-01725  
TOTAL NO. OF LOTS EXISTING 530 ZONE ATLAS INDEX NO. C-10, D-10, C-11 & D-11  
TOTAL NO. OF LOTS CREATED 5 DATE OF SURVEY JUNE 2001 & OCTOBER 2003  
GROSS SUBDIVISION ACREAGE 233.3494 ACRES TALOS LOG NO. 2003401686  
TOTAL MILES OF STREETS CREATED 0.0 MI

#### GENERAL NOTES:

- ACS CONTROL STATION "8-C10, 1986" DATA:  
3-1/4" ALUMINUM CAP SET FLUSH IN THE LAVA OUTCROP  
NEW MEXICO STATE PLANE GRID COORDINATES (CENTRAL ZONE)  
X= 361,860.83 Y= 1,521,476.37 ELEV.=5390.130 (SLD 1929)  
GROUND TO GRID FACTOR = 0.9996640  
DELTA ALPHA = (-)00°15'59"  
NAD 1927
- ACS CONTROL STATION "ACS SC 15-14" DATA:  
22/23  
2-1/2" USGLO BRASS TABLET STAMPED "T11N, R2E, S15, S14, S22, S23, 1911"  
RIVETED TO A 2" IRON PIPE SET IN CONCRETE PROJECTING 1 FT.  
ABOVE THE GROUND.  
NEW MEXICO STATE PLANE GRID COORDINATES (CENTRAL ZONE)  
X= 362,716.29 Y= 1,519,036.59 ELEV.=5310.98 (SLD 1929)  
GROUND TO GRID FACTOR = 0.9996676  
DELTA ALPHA = (-)00°15'53"  
NAD 1927
- FIELD SURVEY PERFORMED JUNE 2001 AND OCTOBER 2003.
- BEARINGS ARE NEW MEXICO STATE PLANE GRID BEARINGS BASED ON  
A LINE FROM "8-C10" TO "ACS SC 15-23". BEARING = S.19°19'20"E.
- ALL DISTANCES ARE GROUND DISTANCES.
- CORNERS IDENTIFIED AS "SET", ARE 5/8" REBAR WITH CAP STAMPED  
"CSC PS 14733" AND SHOWN AS , UNLESS OTHERWISE INDICATED.
- A BLANKET CROSS LOT PUBLIC DRAINAGE EASEMENT ON TRACTS A, B, C, D AND E,  
IS GRANTED PER THIS PLAT AND WILL BE FURTHER DEFINED BY SUBSEQUENT  
REPLATS OF SAID UNITS.
- SUBJECT PROPERTY LIES WITHIN "ZONE X", DESIGNATING "AREAS  
DETERMINED TO BE OUTSIDE THE FLOODPLAIN. PER FLOOD  
INSURANCE RATE MAP, PANEL 112 OF 825,  
MAP NUMBER 35001C0112 D, EFFECTIVE DATE: SEPTEMBER 20, 1996.
- BEARINGS AND DISTANCES SHOWN WITHIN PARENTHESIS, ( ), PER  
PLAT OF RECORD.

THIS IS TO CERTIFY THAT TAXES ARE CURRENT AND  
PAID ON UPC # SEE ATTACHED  
PROPERTY OWNER OF RECORD:  
SEE ATTACHED  
BERNALILLO COUNTY TREASURER'S OFFICE



LAYOUT NAME: BLP Sheet 1 of 10  
DRAWING NAME: SX121001501-BULKLANDPLAT.dwg  
NETWORK ADDRESS: X:\Public\PROJECTS\X121001501\

Plot By: PAJ

#### LEGAL DESCRIPTION

SEE SHEET 2 OF 10

#### FREE CONSENT AND DEDICATION:

THE SUBDIVISION HEREON DESCRIBED AND NOW COMPRISING LA CUENTISTA SUBDIVISION (TRACTS A, B, C, D AND E) IS WITH THE FREE CONSENT AND IN ACCORDANCE WITH THE DESIRES OF THE UNDERSIGNED OWNER(S) AND/OR PROPRIETOR(S) AND SAID UNDERSIGNED OWNER(S) AND/OR PROPRIETOR(S) DO HERBY GRANT A BLANKET CROSS LOT PUBLIC DRAINAGE EASEMENT ON TRACTS A, B, C, D, AND E AND ALSO GRANT ADDITIONAL EASEMENTS, AS SHOWN HEREON AND DO HEREBY REPRESENT THAT THEY ARE SO AUTHORIZED TO ACT.

OWNER/PROPRIETOR OF LA CUENTISTA SUBDIVISION (TRACTS A THROUGH E)

BY Francis Povich  
FRANCIS PAVICH, PRESIDENT, LEGACY SUSTAINABLE DEVELOPMENT, LLC.  
FOR: VOLCANO CLIFFS INC., A NEW MEXICO CORPORATION  
PO BOX 1417, LOS LUNAS, NM 87031

STATE OF NEW MEXICO

COUNTY OF BERNALILLO

THIS INSTRUMENT WAS ACKNOWLEDGED BEFORE ME ON THIS 8th DAY OF October, 2003

BY Francis Povich FOR AND ON BEHALF OF  
Legacy Sustainable Development, LLC

NOTARY PUBLIC: Barbara E. Rubio

MY COMMISSION EXPIRES: February 2, 2005



OFFICIAL SEAL  
BARBARA E. RUBIO  
NOTARY PUBLIC-STATE OF NEW MEXICO

#### NOTICE OF SUBDIVISION PLAT CONDITIONS:

LA CUENTISTA SUBDIVISION (TRACTS A THROUGH E)

THE PLAT OF LA CUENTISTA SUBDIVISION (TRACTS A THROUGH E), HAS BEEN GRANTED A VARIANCE OR WAIVER FROM CERTAIN SUBDIVISION REQUIREMENTS PURSUANT TO SECTION 7 OF THE CITY OF ALBUQUERQUE, NEW MEXICO SUBDIVISION ORDINANCE.

FUTURE SUBDIVISION OF LANDS WITHIN THIS PLAT, ZONING SITE DEVELOPMENT PLAN APPROVALS AND DEVELOPMENT PERMITS MAY BE CONDITIONED UPON DEDICATION OF RIGHT-OF-WAY AND EASEMENTS, AND/OR UPON INFRASTRUCTURE IMPROVEMENTS BY THE OWNER FOR WATER, SANITARY SEWER, STREETS, DRAINAGE, GRADING AND PARKS IN ACCORDANCE WITH CURRENT RESOLUTIONS, ORDINANCES AND POLICIES IF EFFECT AT THE TIME FOR ANY SPECIFIC PROPOSAL.

THE CITY AND AMAFCA (WITH REFERENCE TO DRAINAGE) MAY REQUIRE AND/OR PERMIT EASEMENTS TO BE ADDED, MODIFIED OR REMOVED WHEN FUTURE PLATS AND/OR SITE DEVELOPMENT PLANS ARE APPROVED.

BY ITS APPROVAL OF THIS SUBDIVISION, THE CITY MAKES NO REPRESENTATION OR WARRANTIES AS TO AVAILABILITY OF UTILITIES, OR FINAL APPROVAL OF ALL REQUIREMENTS INCLUDING (BUT NOT LIMITED TO) THE FOLLOWING ITEMS:

- 1.) WATER AND SANITARY SEWER AVAILABILITY.
- 2.) FUTURE STREET DEDICATIONS AND/OR IMPROVEMENTS.
- 3.) PARK AND OPEN SPACE REQUIREMENTS.
- 4.) DRAINAGE REQUIREMENTS AND/OR IMPROVMENTS.
- 5.) EXCAVATION, FILLING OR GRADING REQUIREMENTS.

ANY PERSON INTENDING DEVELOPMENT OF LANDS WITHIN SUBJECT SUBDIVISION IS CAUTIONED TO INVESTIGATE THE STATUS OF THESE ITEMS.

AT SUCH TIME AS ALL SUCH CONDITIONS HAVE BEEN SATISFACTORILY MET, THE CITY ENGINEER SHALL APPROVE A RECORDABLE DOCUMENT, REMOVING SUCH CONDITIONS FROM ALL OR FROM A PORTION OF THE AREA WITHIN THE SUBJECT SUBDIVISION.

A SEPARATE NOTICE OF THESE CONDITIONS WAS RECORDED IN THE OFFICE OF THE COUNTY CLERK OF

BERNALILLO, NEW MEXICO ON December 09, 2003 IN VOLUME A69, PAGE: 8943

#### STATEMENT OF DECLARATION:

THE PURPOSE OF THIS BULK LAND PLAT IS TO:

1. VACATE PORTIONS OF SEVERAL EXISTING SUBDIVISIONS AND REPLAT INTO 5 BULK LAND TRACTS.
2. VACATE PUBLIC STREET RIGHTS OF WAY AND PUBLIC UTILITY EASEMENTS,
3. GRANT ADDITIONAL EASEMENTS.

#### INDEXING INFORMATION FOR COUNTY CLERK

OWNER: VOLCANO CLIFFS, INC., A N.M. CORPORATION  
PROJ. SECS. 14, 15, 22 & 23, T.11N., R.2E., N.M.P.M.  
SUBDIVISION: LA CUENTISTA  
(TRACTS A THROUGH E)

THIS IS TO CERTIFY THAT TAXES ARE CURRENT AND PAID ON

UNIFORM PROPERTY CODE # : SEE SHEETS 8 OF 10, 9 OF 10 & 10 OF 10

PROPERTY OWNER OF RECORD: VOLCANO CLIFFS, INC., A NEW MEXICO CORPORATION

BERNALILLO COUNTY TREASURER'S OFFICE: David R. Baroud DATE: 12-9-03

THE PURPOSE OF THIS CORRECTION PLAT IS TO INCLUDE LOTS 1 THROUGH 18, BULK UNIT 21 IN THE LEGAL DESCRIPTION, SHEET 2 OF 10. THESE LOTS ARE INCLUDED WITHIN THE EXTERIOR BOUNDARY OF THE METES AND BOUNDS LEGAL DESCRIPTION BUT WERE ERRONEOUSLY EXCLUDED FROM THE PREAMBLE LANGUAGE.

#### CORRECTION PLAT OF THE BULK LAND PLAT OF

LA CUENTISTA SUBDIVISION  
(TRACTS A THROUGH E)

WITHIN SECTIONS 14, 15, 22 & 23  
TOWNSHIP 11 NORTH, RANGE 2 EAST, N.M.P.M.  
CITY OF ALBUQUERQUE  
BERNALILLO COUNTY, NEW MEXICO  
OCTOBER 2003

#### APPROVALS:

[Signature]  
CITY SURVEYOR, ALBUQUERQUE, NM

[Signature]  
TRAFFIC ENGINEERING, ALBUQUERQUE, NM

Christina Sandoval  
PARKS & RECREATION, ALBUQUERQUE, NM

[Signature]  
UTILITY DEVELOPMENT DIVISION, ALBUQUERQUE, NM

[Signature]  
REAL PROPERTY DIVISION, ALBUQUERQUE, NM

[Signature]  
A.M.A.F.C.A.

[Signature]  
CITY ENGINEER, ALBUQUERQUE, NM

APPROVAL AND CONDITIONAL ACCEPTANCE AS SPECIFIED BY THE ALBUQUERQUE SUBDIVISION ORDINANCE, ARTICLE 14 OF CHAPTER 14, OF THE REVISED ORDINANCES OF ALBUQUERQUE, NEW MEXICO, 1994.

[Signature]  
CITY PLANNER, ALBUQUERQUE PLANNING DIVISION

#### UTILITY COMPANY APPROVALS:

PUBLIC UTILITY EASEMENTS SHOWN ON THIS PLAT ARE NOT EXCLUSIVE AND ARE GRANTED FOR THE COMMON AND JOINT USE OF THE UTILITIES DESIGNATED ON THIS PLAT, THEIR SUCCESSORS AND ASSIGNS, AND FOR THE USE OF ANY OTHER PUBLIC UTILITIES WHOSE USE OF SAID EASEMENT IS DEEMED TO BE IN THE PUBLIC INTEREST. PNM GAS & ELECTRIC SERVICES DISCLAIMER:

IN APPROVING THIS PLAT, PNM ELECTRIC SERVICES AND GAS SERVICES (PNM) DID NOT CONDUCT A TITLE SEARCH OF THE PROPERTIES SHOWN HEREON. CONSEQUENTLY, PNM DOES NOT WAIVE NOR RELEASE ANY EASEMENT OR EASEMENT RIGHTS WHICH MAY HAVE BEEN GRANTED BY PRIOR PLAT, REPLAT, OR OTHER DOCUMENT, WHICH ARE NOT SHOWN ON THIS PLAT.

[Signature]  
PNM ELECTRIC SERVICES

[Signature]  
PNM GAS SERVICES

Rita Erickson  
COMCAST DIGITAL CABLE

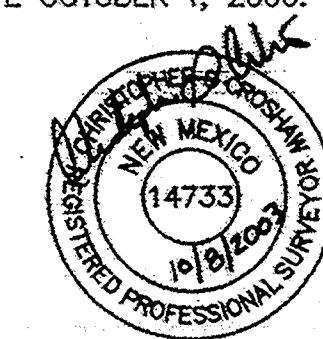
[Signature]  
QWEST COMMUNICATIONS

#### SURVEYOR'S CERTIFICATION:

I, CHRISTOPHER S. CROSHAW, A DULY REGISTERED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NEW MEXICO, DO HEREBY CERTIFY THAT THIS PLAT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION, MEETS THE MINIMUM REQUIREMENTS FOR MONUMENTATION AND SURVEYS OF THE ALBUQUERQUE SUBDIVISION ORDINANCE, SHOWS ALL EASEMENTS MADE KNOWN TO ME BY THE OWNER(S), UTILITY COMPANIES, OR OTHER PARTIES EXPRESSING AN INTEREST, IS CORRECT AND TRUE TO THE BEST OF MY BELIEF AND KNOWLEDGE AND THAT THIS SURVEY AND PLAT MEET THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO AS ADOPTED BY THE NEW MEXICO BOARD OF REGISTRATION FOR PROFESSIONAL ENGINEERS AND SURVEYORS EFFECTIVE OCTOBER 1, 2000.

[Signature]  
CHRISTOPHER S. CROSHAW  
N.M.P.L.S. #14733

08 October 2003  
DATE



**WILSON & COMPANY**

4900 LANG AVENUE N.E.  
ALBUQUERQUE, NEW MEXICO  
87109  
(505) 348-4000

SHEET 1 OF 10  
WCEA PROJ. NO. X1-210-01501



**CORRECTION PLAT OF THE  
BULK LAND PLAT OF  
LA CIENTISTA SUBDIVISION  
(TRACTS A THROUGH E)**

WITHIN SECTIONS 14, 15, 22 & 23  
TOWNSHIP 11 NORTH, RANGE 2 EAST, N.M.P.M.  
CITY OF ALBUQUERQUE  
BERNALILLO COUNTY, NEW MEXICO  
OCTOBER 2003

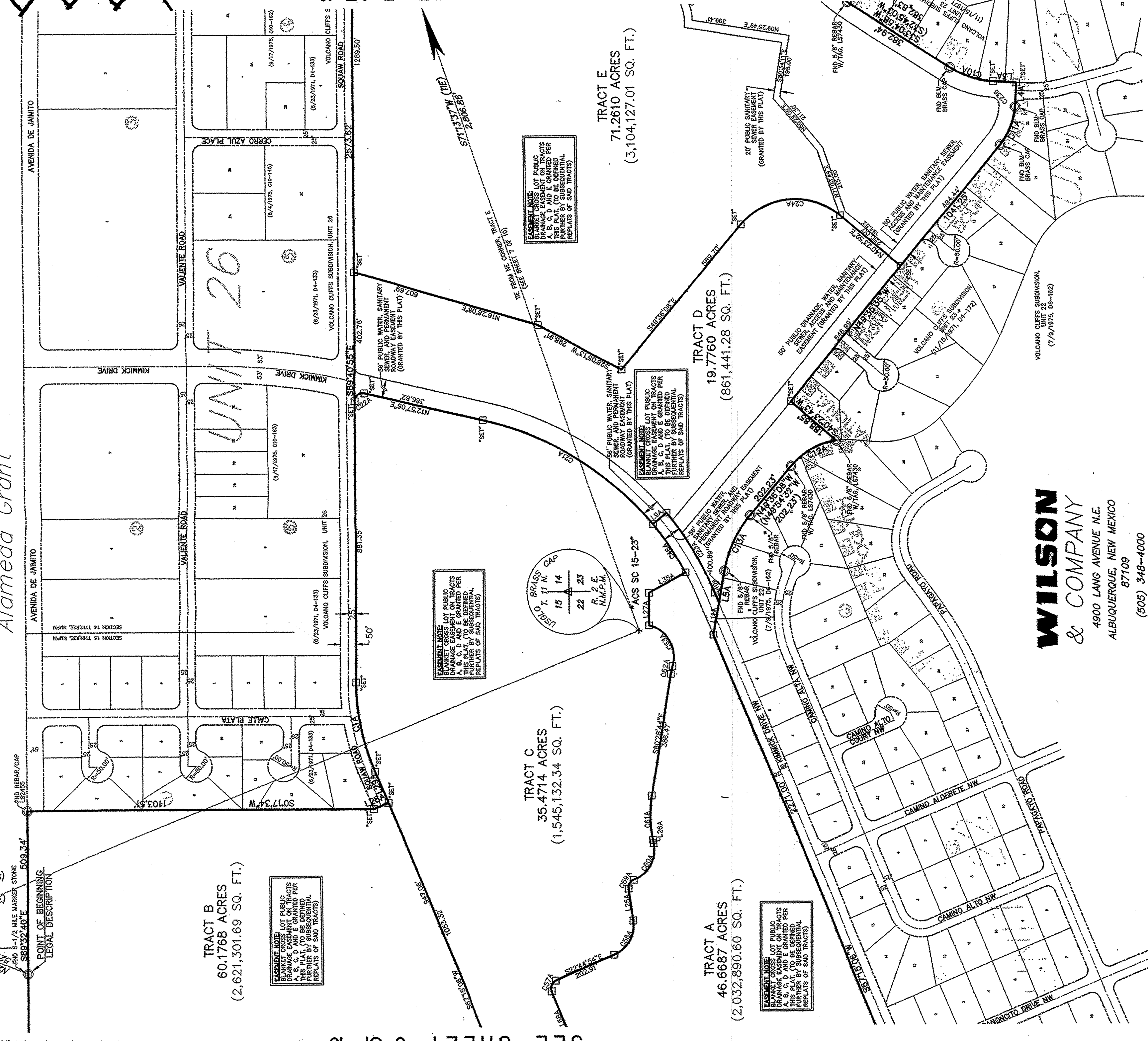


*South Boundary  
Town of  
Alameda Grant*

20030219400  
Page: 6 of 18  
01/07/2004 10:44h  
R 52.00 BX-2004C Pg-7  
Bern. Co. PLAT  
Henry Herrera

20030219400  
Page: 6 of 18  
01/07/2004 11:20h  
R 52.00 BX-2004C Pg-368  
Bern. Co. PLAT  
Henry Herrera

TRACT 2A, PARADISE HILLS (2/21/1991, 910-44)



**WILSON  
& COMPANY**  
4900 LANG AVENUE N.E.  
ALBUQUERQUE, NEW MEXICO  
87109  
(505) 348-4000

SEE SHEET 5 OF 10

SEE SHEET 7 OF 10

## **TAB 8**

---

## Grate Inlet In Sag - Both AP2 and AP3

---

### Project Description

Solve For Spread

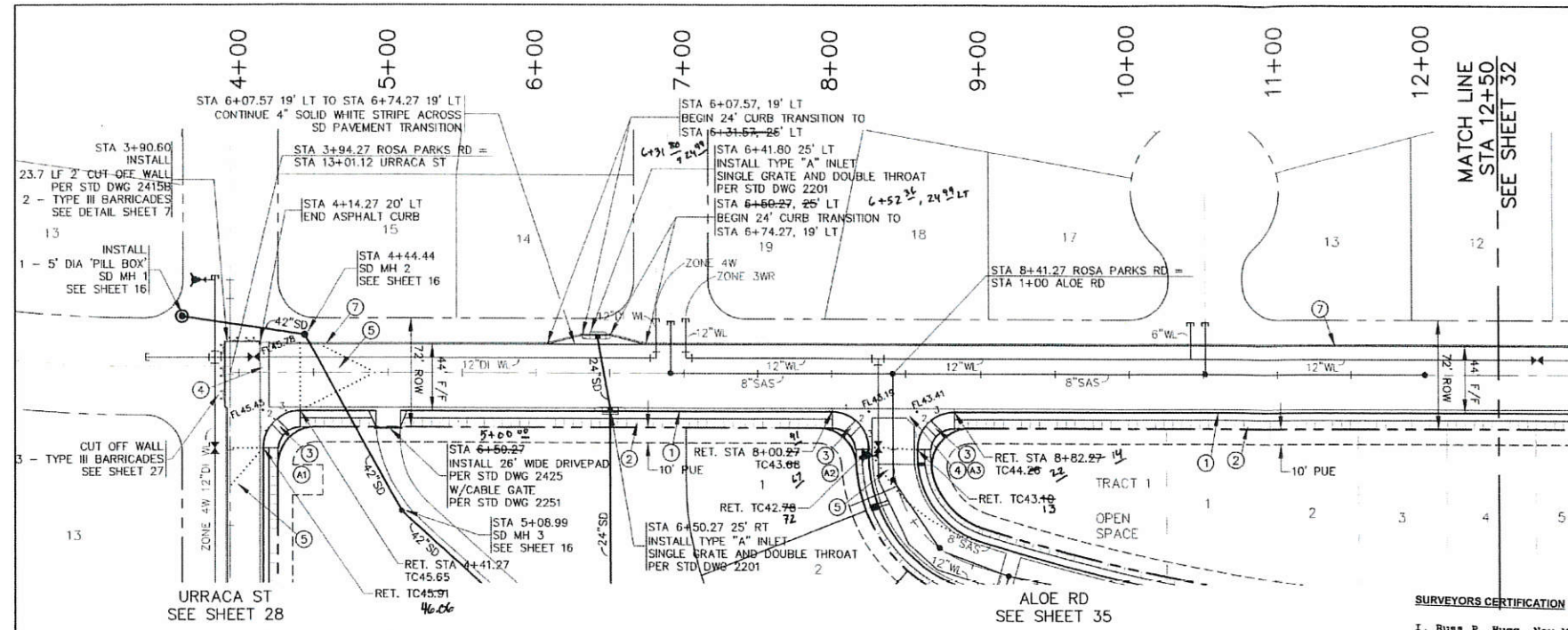
### Input Data

Discharge	14.50	ft <sup>3</sup> /s
Gutter Width	2.00	ft
Gutter Cross Slope	0.06	ft/ft
Road Cross Slope	0.02	ft/ft
Grate Width	2.00	ft
Grate Length	3.50	ft
Local Depression	0.25	in
Local Depression Width	2.00	ft
Grate Type	P-50 mm (P-1-7/8")	
Clogging	0.00	%

### Results

Spread	37.41	ft
Depth	0.83	ft
Gutter Depression	0.08	ft
Total Depression	0.10	ft
Open Grate Area	6.30	ft <sup>2</sup>
Active Grate Weir Length	7.50	ft





NOTE:  
NON-DEFERRED SIDEWALK  
STA 4+41.27 RT TO 16+10.27 RT

NOTE:  
SEE SHEET 7 FOR STRIPING

**SURVEYORS CERTIFICATION**

I, Russ P. Hugg, New Mexico Professional Surveyor Number 9750, hereby certify that the as-built information shown hereon is the result of an actual field survey performed by me or under my direct supervision and that the same is true and correct to the best of my knowledge and belief;

Russ P. Hugg  
NMPS No. 9750  
1.17 2009



SCALE:  
HORIZ: 1" = 50'  
VERT: 1" = 5'

TC FL (A1)

1	45.11	45.44
2	45.11	45.63
3	45.98	45.31

Δ = 90°00'00"  
L = 39.27'  
R = 25.00'

TC FL (A2)

1	43.87	43.20
2	43.87	43.39
3	43.42	42.75

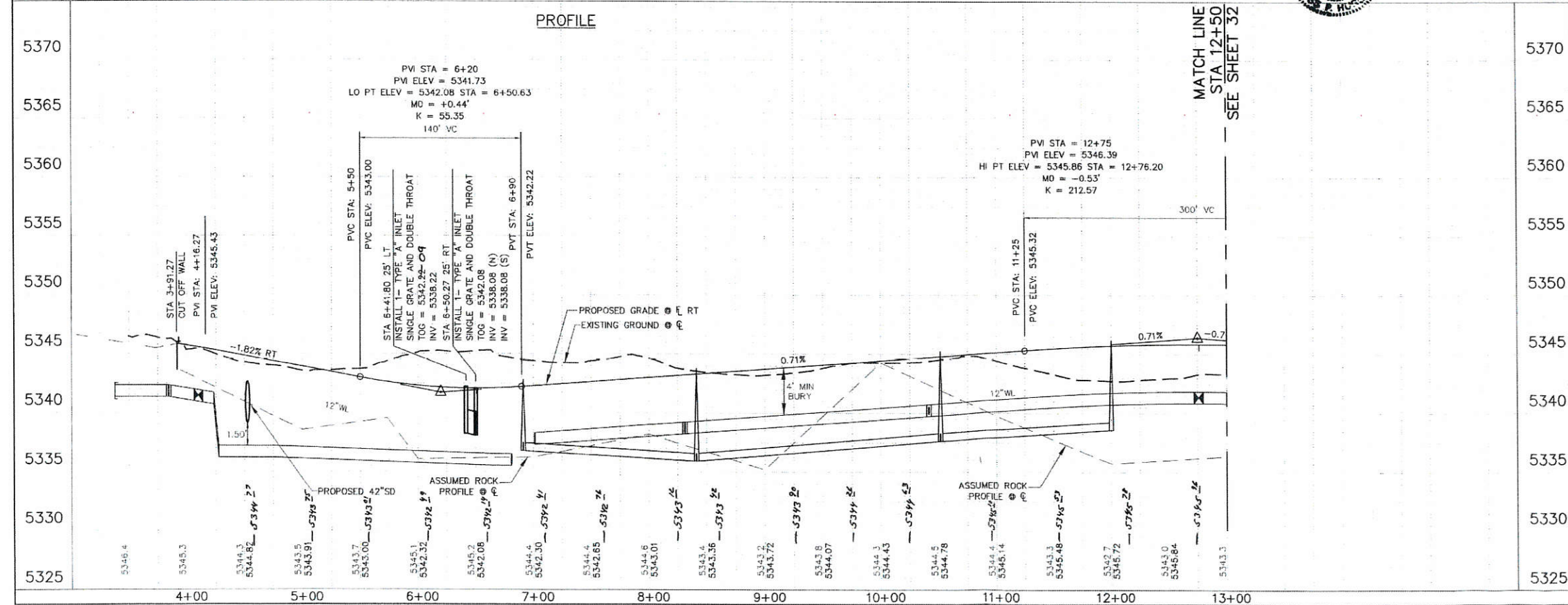
Δ = 90°00'00"  
L = 39.27'  
R = 25.00'

TC FL (A3)

1	44.25	43.58
2	44.25	43.61
3	43.69	43.02

Δ = 90°00'00"  
L = 39.27'  
R = 25.00'

ROSA PARKS RD  
PLAN



**NOTES**

SEE TYPICAL ROADWAY SECTION C  
SHEET 6

- CONSTRUCT STANDARD CURB & GUTTER  
PER STD DWG 2415A
- CONSTRUCT 6' NON-DEFERRED SIDEWALK  
PER STD DWG 2430
- CONSTRUCT WHEELCHAIR RAMP  
PER STD DWG 2441 CASE II  
SEE DETAIL SHEET 6
- CONSTRUCT 6' VALLEY GUTTER  
PER STD DWG 2420
- 50' CROWN REDUCTION  
PER STD DWG 2401
- CONSTRUCT TEMPORARY ASPHALT CURB  
PER STD DWG 2415B

ALL PROFILE ELEVATIONS ARE FLOWLINE  
(FL) ELEVATIONS RIGHT (RT) AND LEFT (LT)  
UNLESS OTHERWISE NOTED

**AS-BUILT INFORMATION**

CONTRACTOR	COM, INC	DATE	12/28/08
DESIGNED BY	WILSON & COMPANY, INC	DATE	12/28/08
DRAWN BY	WILSON & COMPANY, INC	DATE	12/28/08
CHECKED BY	WILSON & COMPANY, INC	DATE	12/28/08

**BENCH MARKS**

ACS 1	ALUMINUM DISK STAMPED	DATE	12/28/08
ACS 2	"ACS BM 5-D11", LOCATED 72' ± ESE OF THE CENTER OF THE CUL-DE-SAC AT THE SOUTH END OF RIDGEWAY DR. NW, EXPOSED TO LAVA ROCK IN OUTCROPPING	DATE	12/28/08

ELEVATION = 5267.27 FT.  
NGVD 29 U.S. FEET

**SURVEY INFORMATION**

NO.	DATE	BY
1	12/28/08	WILSON & COMPANY, INC
2	12/28/08	WILSON & COMPANY, INC
3	12/28/08	WILSON & COMPANY, INC

**ENGINEER'S SEAL**

WILSON & COMPANY, INC  
REGISTERED PROFESSIONAL ENGINEER  
NEW MEXICO

**REVISIONS**

NO.	DATE	REMARKS
1	12/28/08	DESIGNED BY WILSON & COMPANY, INC
2	12/28/08	DRAWN BY WILSON & COMPANY, INC
3	12/28/08	CHECKED BY WILSON & COMPANY, INC

**CITY OF ALBUQUERQUE  
PUBLIC WORKS DEPARTMENT  
ENGINEERING GROUP**

**LA CUENTISTA SUBDIVISION - UNIT I  
PAVING PLAN & PROFILE**

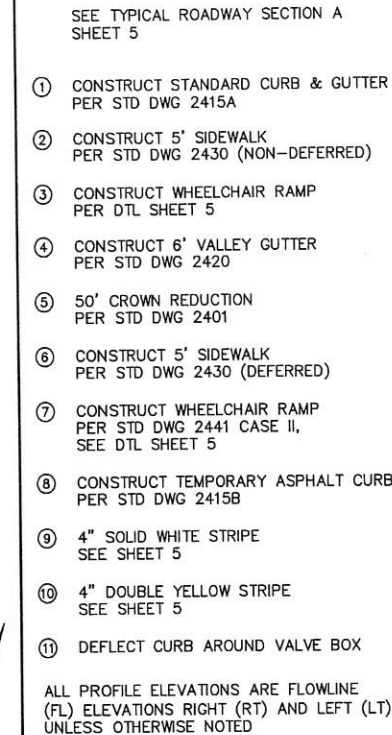
ROSA PARKS RD - STA 3+00 TO STA 12+50

Design Review Committee: [Signature]  
City Engineer Approval: [Signature]

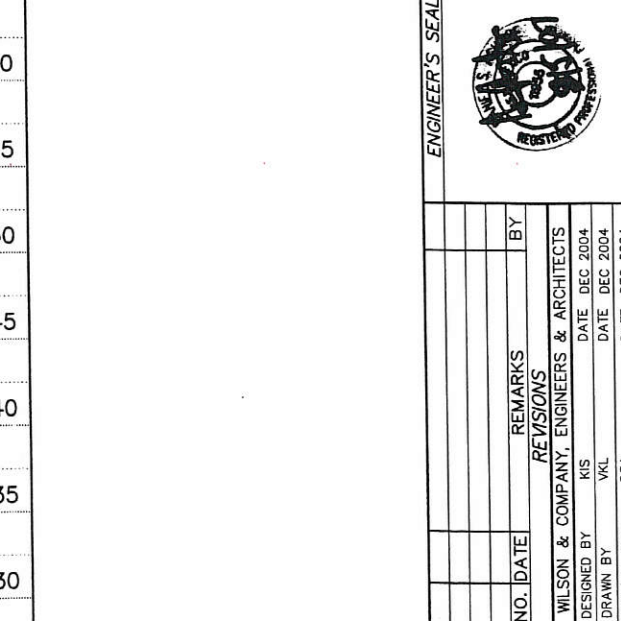
City Project No. 709782  
Zone Map No. C-10, D-10  
C-11, D-11

Drawing 31  
Sheet 52





NOTE:  
NON-DEFERRED SIDEWALK  
STA 16+92.27 RT TO STA 22+12.76 RT  
STA 23+08.76 RT TO STA 32+67.52 RT



25	CITY OF ALBUQUERQUE PUBLIC WORKS DEPARTMENT ENGINEERING GROUP				
20	LA CUENTISTA SUBDIVISION - UNIT II PAVING PLAN & PROFILE ROSA PARKS ROAD STA 16+92.27 TO STA 28+00				
15	Design-Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
		CITY ENGINEER			
04701	City Project No.	Zone Map No.	Drawing	Sheet	
2007	709784	C-10, C-11	14	3	