

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

D18D054D
City Drainage #: D18

Project Title: Tracts 3-A, 3-B, 4-A, & 4-B, Santa Monica Place Building Permit #: _____
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: Tracts 3 & 4, Santa Monica Place
City Address: _____

Engineering Firm: Isaacson & Arfman, P.A. Contact: Asa Nilsson-Weber
Address: 128 Monroe Street NE - Albuquerque, NM 87108
Phone#: (505) 268-8828 Fax#: _____ E-mail: asaw@iacivil.com

Owner: Del Rey Investments - c/o Titan Development Contact: Kurt Browning
Address: 6300 Riverside Plaza Lane NW, Suite 200 - Albuquerque, NM 87120
Phone#: _____ Fax#: _____ E-mail: _____

Architect: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: Surv-Tek, Inc. Contact: Russ P. Hugg
Address: 9384 Valley View Drive NW - Albuquerque, NM 87114
Phone#: (505) 897-3366 Fax#: _____ E-mail: _____

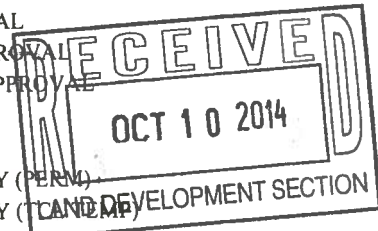
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

- ☒ DRAINAGE REPORT MASTER
- ☒ DRAINAGE PLAN 1st SUBMITTAL
- ☐ DRAINAGE PLAN RESUBMITTAL
- ☐ CONCEPTUAL G & D PLAN
- ☒ GRADING PLAN
- ☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ ENGINEER'S CERT (HYDROLOGY)
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ENGINEER'S CERT (TCL)
- ☐ ENGINEER'S CERT (DRB SITE PLAN)
- ☐ ENGINEER'S CERT (ESC)
- ☐ SO-19
- ☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ SIA/FINANCIAL GUARANTEE RELEASE
- ☐ PRELIMINARY PLAT APPROVAL
- ☒ S. DEV. PLAN FOR SUB'D APPROVAL
- ☐ S. DEV. FOR BLDG. PERMIT APPROVAL
- ☐ SECTOR PLAN APPROVAL
- ☒ FINAL PLAT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ CERTIFICATE OF OCCUPANCY (TCL/DRB)
- ☐ FOUNDATION PERMIT APPROVAL
- ☐ BUILDING PERMIT APPROVAL
- ☒ GRADING PERMIT APPROVAL
- ☐ SO-19 APPROVAL
- ☐ PAVING PERMIT APPROVAL
- ☐ ESC PERMIT APPROVAL
- ☒ WORK ORDER APPROVAL
- ☐ ESC CERT. ACCEPTANCE
- ☐ GRADING CERTIFICATION
- ☐ OTHER (SPECIFY) _____



WAS A PRE-DESIGN CONFERENCE ATTENDED: _____

Yes _____ No _____ Copy Provided _____

DATE SUBMITTED: October 10, 2014

By: Asa Nilsson-Weber

Isaacson & Arfman, P.A.

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan**: Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan**: Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

AD = 20.14 AC

FREQ

CITY OF ALBUQUERQUE



October 21, 2014

Ms. Asa Weber, PE
Isaacson & Arfman, PA
1287 Monroe Street NE
Albuquerque, NM 87108

**Re: Santa Monica Place Tracts 3A, 3B, 4A, and 4B Master Drainage Report
Dated 10-09-14
and Santa Monica Place Grading and Drainage Plan Dated 10-10-14
(D18D054D)**

Dear Ms. Weber,

Based upon the information provided in your submittal received 10-10-14, the above referenced Master Drainage Report is approved for Preliminary Plat action by DRB. The Grading and Drainage Plan meets the requirements for Grading Permit. The site is approved for Grading Permit when the Erosion and Sediment Control Plan is approved.

Engineer Certification per the DPM checklist will be required prior to release of Financial Guarantee.

In future MDR submittals, discuss the First Flush even if the details will be accounted with grading and drainage plans for the individual lots.

If you have any questions, you can contact me at 924-3994.

Sincerely,

Amy L. D. Niese, P.E.
Senior Engineer, Hydrology
Planning Department

C: e-mail
file

OCTOBER 9, 2014

MASTER DRAINAGE REPORT

Update to Master Drainage Report for Santa Monica Place, dated 02/21/12

FOR

TRACTS 3-A, 3-B, 4-A, & 4-B
SANTA MONICA PLACE
(Replat of Tracts 3 & 4, Santa Monica Place)

Louisiana Blvd. and Derickson Ave. NE

BY



ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

Thomas O. Isaacson, PE & LS [Ret.]
Fred C. Arfman, PE
Åsa Nilsson-Weber, PE

I&A Project No. 2048

OCTOBER 9, 2014

MASTER DRAINAGE REPORT

Update to Master Drainage Report for Santa Monica Place, dated 02/21/12

FOR

TRACTS 3-A, 3-B, 4-A, & 4-B
SANTA MONICA PLACE
(Replat of Tracts 3 & 4, Santa Monica Place)

Louisiana Blvd. and Derickson Ave. NE



Åsa Nilsson-Weber 10/9/14

Åsa Nilsson-Weber, P.E.

Date



ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

Thomas O. Isaacson, PE & LS [Ret.]

Fred C. Arfman, PE

Åsa Nilsson-Weber, PE

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APPENDIX C: Storm Drain Calculations

- Storm Drain Calculations (Hydraflow Storm Sewers)

I. PROJECT INFORMATION

LEGAL DESCRIPTION:

Proposed: Tracts 3-A, 3-B, 4-A, and 4-B, Santa Monica Place

Existing: Tracts 3 and 4, Santa Monica Place

TOTAL AREA:

34.9 Acres

FLOOD PLAIN:

Zone X

This site lies outside the 100-year flood based on FIRM Map No. 35001C0137G

Map Revision date: September 26, 2008

ENGINEER:

Isaacson & Arfman, P.A.

128 Monroe Street NE

Albuquerque, NM 87108

(505) 268-8828

Attn: Åsa Nilsson-Weber

SURVEYOR:

Surv-Tek, Inc.

(505) 897-3366

Attn: Russ P. Hugg, NMPLS No. 9750

LAND OWNER:

Del Rey Investments

c/o Titan Development

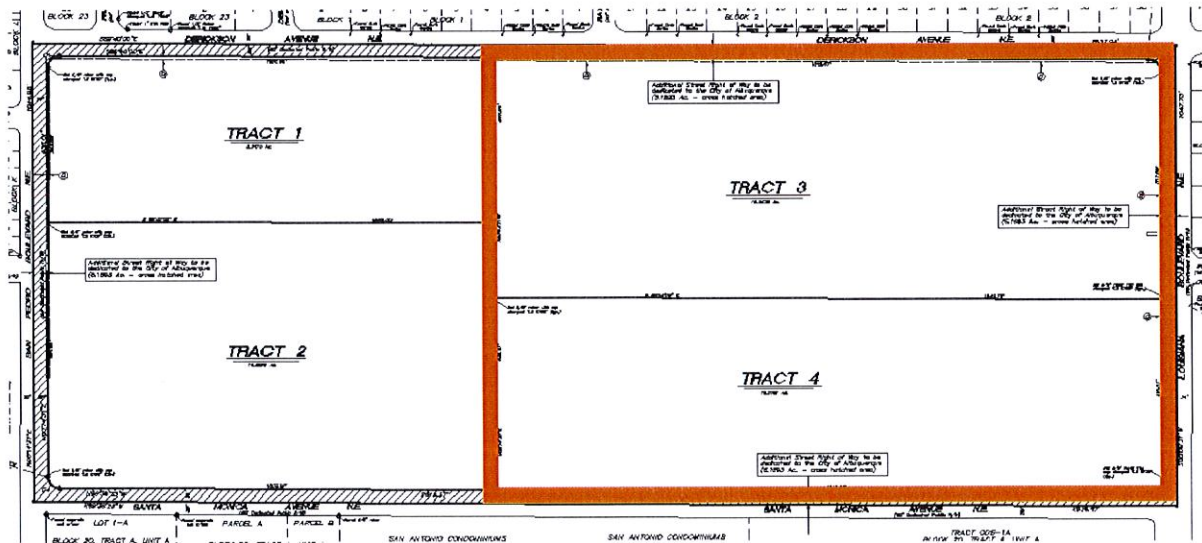
6300 Riverside Plaza Lane NW - #200

Albuquerque, NM 87120-2617

Attn: Kurt Browning

II. INTRODUCTION

This report is an updated master drainage report for Tracts 3 and 4, and includes references to the *Master Drainage Report for Santa Monica Place* (MDR) by Isaacson & Arfman, dated February 21, 2012. The site is bound by Derickson Ave. NE to the north, by apartments to the southwest (Tract 1) and future apartments to the northwest (under construction), by Santa Monica Ave to the south and by Louisiana Blvd. NE to the east. The site was previously developed as a mobile home park.

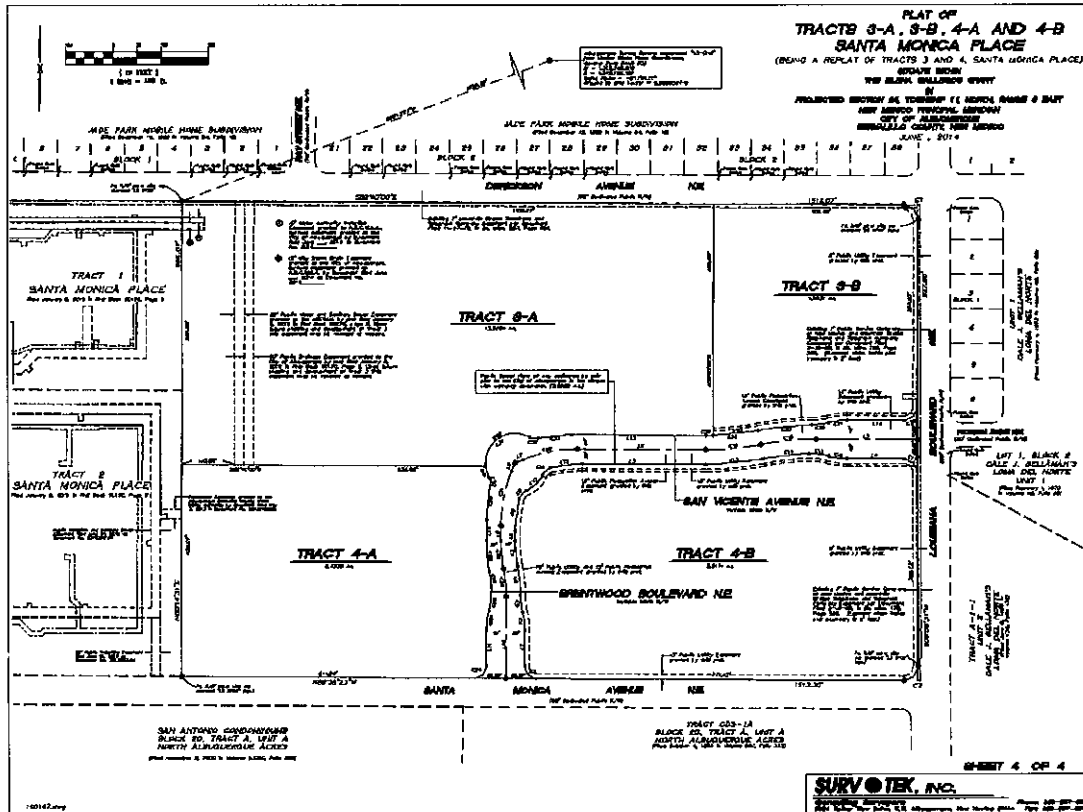


Existing Plat of Tracts 1-4, Santa Monica Place

The MDR dated February 21, 2012, outlined drainage requirements for each tract.

- *Tract 3 shall be allowed to surface discharge max. 10 cfs to Derickson Ave. and the remainder of 69.2 cfs into the storm drain system connecting to the Derickson Ave. storm drain.*
- *Tract 4 shall be allowed to discharge 63.7 cfs into the storm drain system connecting to the Derickson Ave. storm drain. If feasible with grades, a portion may be discharged to Santa Monica Ave. and routed to San Pedro Blvd. since there is excess street capacity available.*

A zone change was approved for Tracts 3 and 4 in September, 2014, and a replat is being prepared to subdivide Tracts 3 and 4 into four tracts—Tracts 3-A, 3-B, 4-A, and 4-B—and public streets, San Vicente Ave. and Brentwood Blvd., that connect at Louisiana Blvd. and Santa Monica Ave.



Proposed Replat (preliminary) of Tracts 3-A, 3-B, 4-A and 4-B, Santa Monica Place

The purpose of this drainage report is to analyze discharge quantities and locations from each tract, storm drain sizes required, street capacity in San Vicente Ave. and Brentwood Blvd., and interim drainage improvements necessary until the complete storm drain system has been constructed.

III. EXISTING CONDITIONS

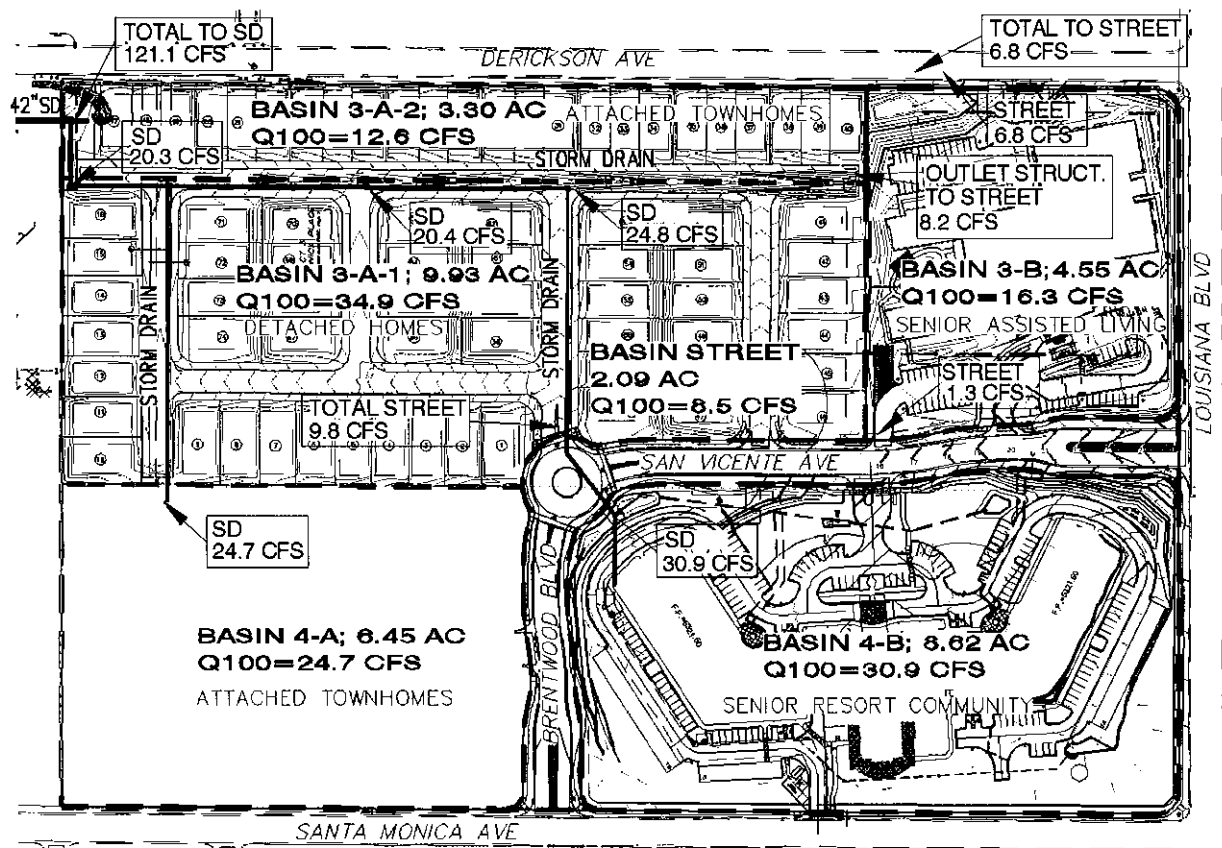
The site drains from the southeast to the northwest corner of Tract 3-A where there is a temporary pond that captures flows from the undeveloped tracts. With the development of the apartments on Tract 1 (currently under construction), a 42" storm drain stub with a CMP standpipe is proposed in the temporary pond. The storm drain connects to the Derickson Ave. and San Pedro Blvd. storm drain system which discharges to the North Pino Arroyo approximately 650' north of the San Pedro Blvd. and Derickson Ave. intersection.

IV. PROPOSED CONDITIONS

Tract 3-B will be developed as an assisted living facility and Tract 4-B as a senior resort. Site plans and preliminary grading plans have been developed for both tracts. Tract 4-A will be developed with attached townhomes—there is currently no site plan for this tract. Tract 3-A will be developed with a mixture of attached townhomes and detached single-family homes—a preliminary layout has been developed.

San Vicente Ave. / Brentwood Blvd. will be constructed, including any required storm drain, rundowns and utilities. Work order plans are in the process of being prepared.

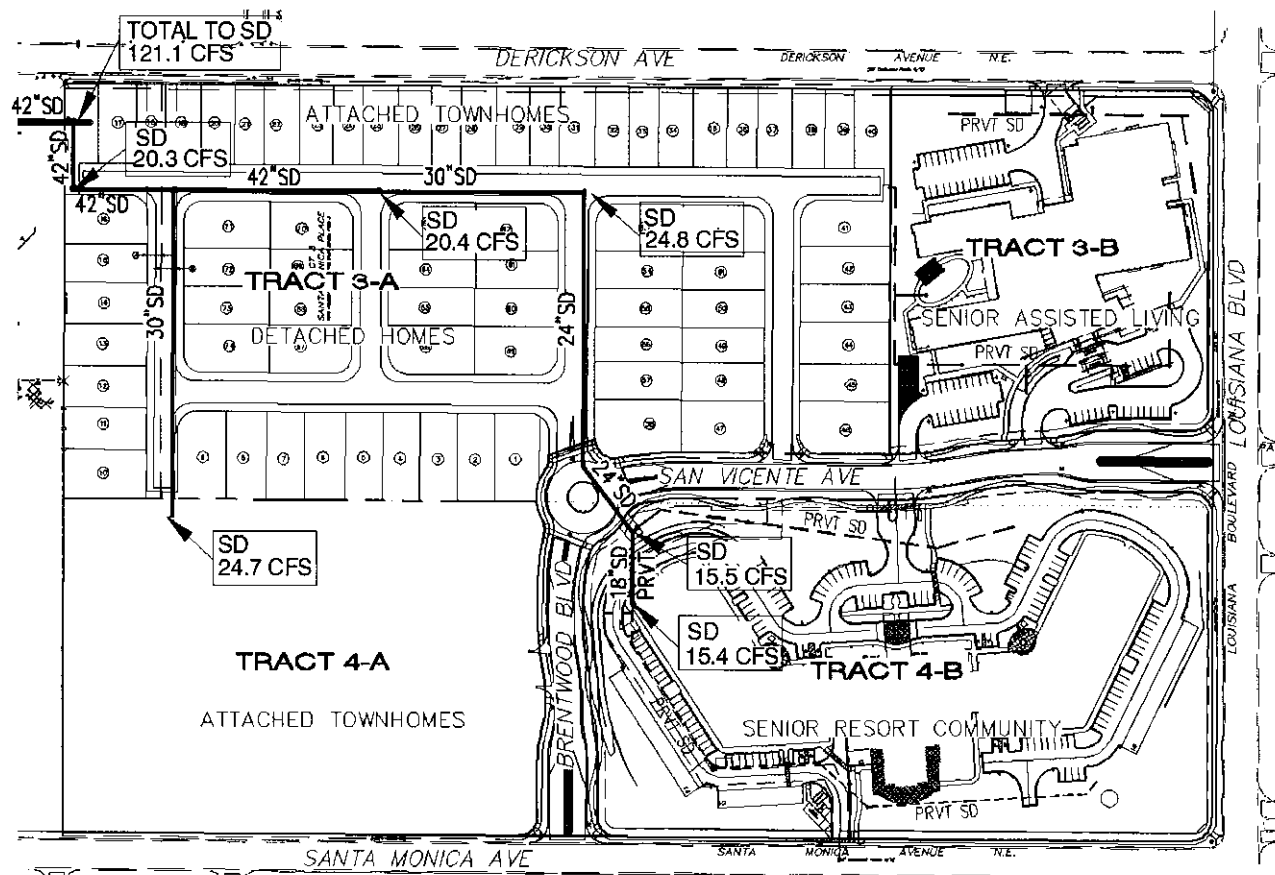
The 100-yr, 6-hr flow rates for each tract were calculated using AHYMO based on NOAA Atlas 14 rainfall data and assigned land treatments—see Appendix A. Tract 3-A was split into two basins—3-A-1 (single detached homes) and 3-A-2 (attached townhomes). The land treatments were based on the site plans for Tracts 3-B and 4-B, and per Table 5 from DPM Section 22.2 for the remaining tracts—see Appendix A.



Proposed Basin Exhibit

The total discharge from the site is 121.1 cfs to storm drain and 6.8 cfs to Derickson Ave., which is less than the allowable discharge per the MDR—10 cfs to Derickson and 132.9 to the storm drain.

When the final design of the storm drain is completed with the development of Tract 3-A, a final storm drain analysis shall be submitted to verify pipe sizes and locate street inlets.



Storm Drain Exhibit

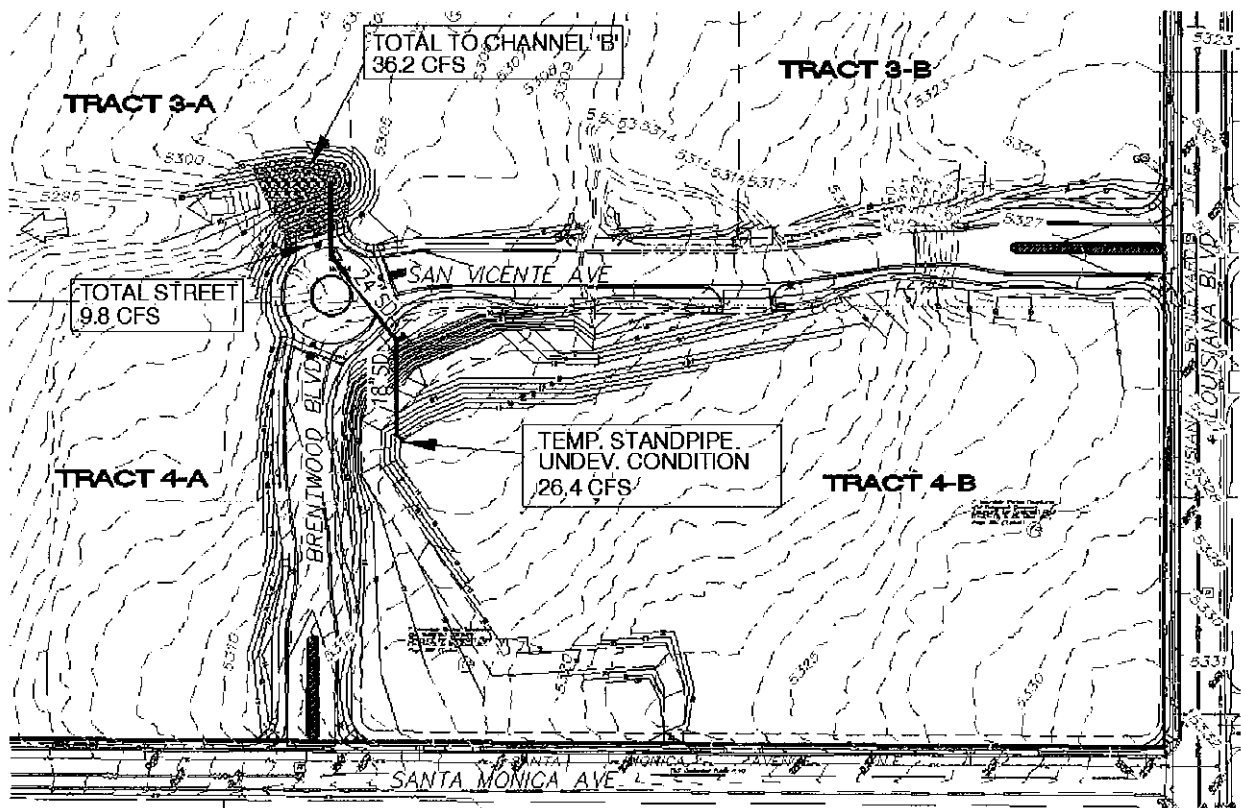
V. INTERIM CONDITIONS

The existing interim drainage easement over existing Tracts 3 and 4 shall be vacated. A new interim drainage easement shall be granted over Tract 3-A to allow storm water flows from the remaining tracts to be directed to the pond at the northwest corner of Tract 3-A.

SAN VICENTE AVE. AND BRENTWOOD BLVD. CONSTRUCTION

With the construction of San Vicente Ave. and Brentwood Blvd., a new 24" storm drain with a manhole shall be installed under the roundabout and an 18" storm drain (private) shall be extended south to a new temporary stand pipe on Tract 4-B. The flows from the standpipe and from the roadway shall discharge to an existing drainage channel that conveys the flows to the existing pond. Riprap shall be installed north of the roundabout across the channel where the street flows and storm drain flows discharge to the channel.

The street has capacity for the street flows (See Appendix B for calculations), so no inlets are required. Street flows will be captured by storm drain inlets within the future single family subdivision (Tract 3-A).



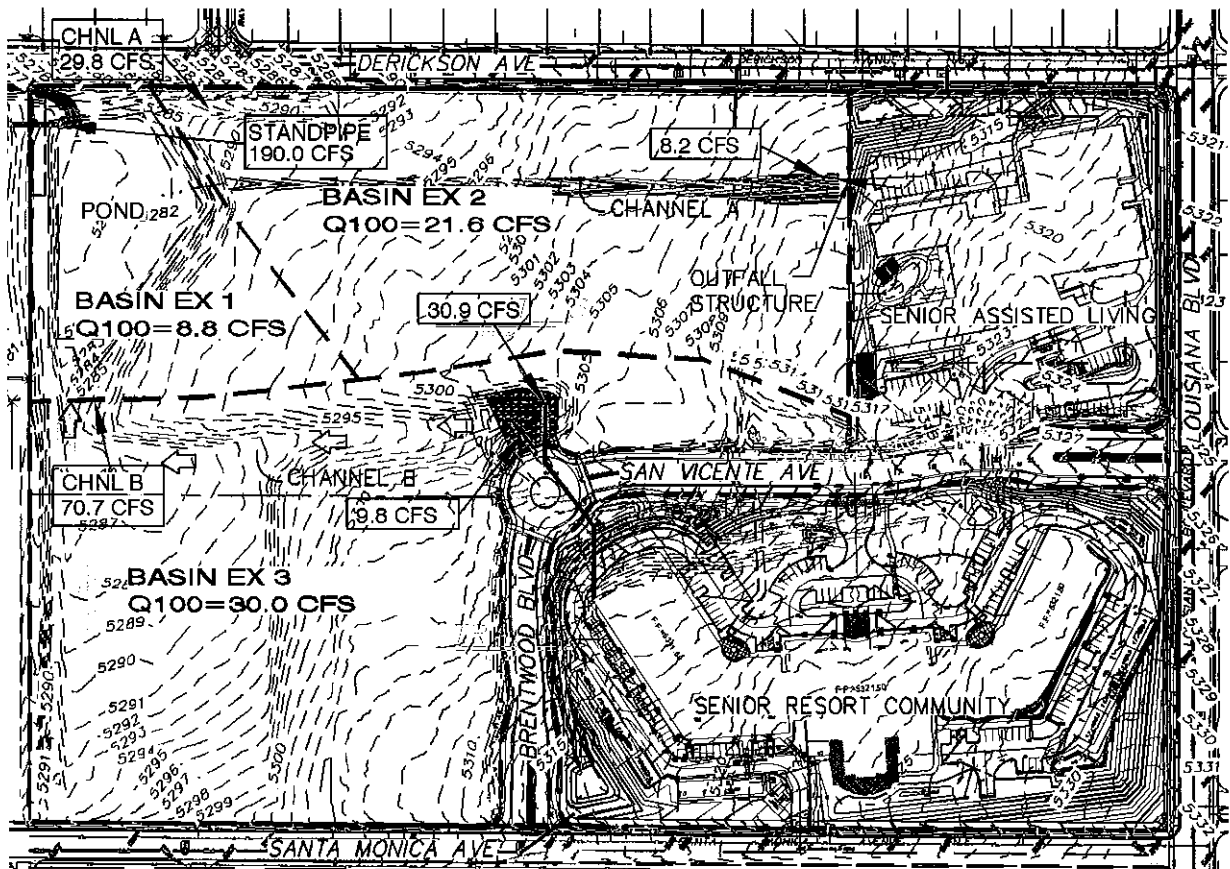
Interim Drainage Exhibit—San Vicente Ave & Brentwood Blvd. Construction

TRACTS 3-B AND TRACT 4-B CONSTRUCTION

When Tract 3-B develops, an outfall structure shall be constructed to convey flows to the west at the future roadway alignment in Tract 3-A. An interim channel (Channel A) shall be graded to convey flows to the pond. See Appendix B for channel capacity calculations.

Upon development of Tract 4-B, the temporary standpipe shall be removed and the onsite storm drain system shall be connected to the 18" storm drain installed with the San Vicente Ave. and Brentwood Blvd. construction. The storm drain will continue to discharge into the existing channel and be directed to the pond via the existing channel (Channel B). The channel calculations were based on the narrowest section of the channel. See Appendix B for channel capacity calculations. Velocities in both channels are approximately 4.5 fps, which is non-erosive.

The earthen channels shall be maintained by the Owner of Tract 3-A until the subdivision storm drain system is constructed.



Interim Drainage Exhibit—Tracts 3-B and 4-B Construction

VI. SUMMARY

The following items shall be required for construction of each tract / street. Improvements are listed in the anticipated order of development of each tract.

SAN VICENTE AVE. / BRENTWOOD BLVD.

- *Submit an interim grading & drainage plan to support the Public Work Order.*
- Install a manhole and 24" storm drain (public) under roundabout.
- Install an 18" storm drain and a temporary standpipe (private) on Tract 4-B.
- Outlet erosion control north of the roundabout at Channel B.

TRACT 3-B

- *Submit a grading & drainage plan including interim offsite channel grades to support the Building Permit.*
- Construct outfall structure to convey flows west.
- Construct Channel A from Tract 3-B to the existing pond.

TRACT 4-B

- *Submit a grading & drainage plan to support the Building Permit.*
- Remove temporary standpipe on Tract 4-B and connect the new onsite storm drain to the 18" storm drain installed with San Vicente Ave. and Brentwood Blvd. improvements.

TRACT 4-A

- *Submit a grading & drainage plan to support the Public Work Order and Building Permit.*
- *Submit a drainage report with hydrology/hydraulic calculations including storm drain calculations.*
- Install a storm drain stub to Tract 3-A for interim discharge to pond.
- Construct the infrastructure required for the development.

TRACT 3-A

- *Submit a grading & drainage plan to support the Public Work Order and Building Permit Plans.*
- *Submit a drainage report with hydrology/hydraulic calculations, including storm drain calculations.*
- Remove the rock in Channel B, existing pond and temporary standpipe.
- Construct the infrastructure required for the development, including the ultimate storm drain system.

APPENDIX A

HYDROLOGY CALCULATIONS

- **LAND TREATMENT TABLE**
- **NOAA ATLAS 14 RAINFALL DATA**
- **AHYMO INPUT AND SUMMARY**

SANTA MONICA PLACE TRACTS 3-A, 3-B, 4-A & 4-B (#2048)
LAND TREATMENT TABLE

BASIN ID	DESCRIPTION	AREA SF	AREA SQ MI	LAND TREATMENTS %				Q100 CFS
				A	B	C	D	
3-A-1	Single Detached	432844	0.015526	0	25	25	50	34.9
3-A-2	Attached townhomes	143689	0.005154	0	15	15	70	12.6
4-A	Attached townhomes	281074	0.010082	0	15	15	70	24.7
3-B	Senior Living Facility	198332	0.007114	0	18	30	52	16.3
4-B	Senior Resort	375565	0.013472	0	15	35	50	30.9
STREET	Right-of-Way	90901	0.003261	0	0	20	80	8.5
								127.9
BASIN EX-1	Existing (demolished)	125261	0.004493	0	0	100	0	8.8
BASIN EX-2	Existing (demolished)	306516	0.010995	0	0	100	0	21.6
BASIN EX-3	Existing (demolished)	425700	0.015270	0	0	100	0	30.0
BASIN 4-B (Undev.)	Existing (demolished)	375565	0.013472	0	0	100	0	26.4

Calculations for Basin 3-A-1, single detached homes

(Per the City of Albuquerque DPM Section 22.2, Table A-5)

Total Area 9.94 Acres
of Lots 50 lots
N = 5.03 D.U./Ac.
Percentage of Impervious Land (Type D)
 $\%D = 7(N^2 + 5N)^{1/2}$
%D= 49.72 %

LAND TREATMENTS	
Type A=	0 %
Type B=	25 %
Type C=	25 %
Type D=	50 %
Σ=	100 %

Basins 3-A-2 & 4-A--attached townhomes

70% D per the City of Albuquerque DPM Section 22.2, Table A-5

Basins 3-B & 4-B--senior living

Land treatments calculated based on site plan layouts



NOAA Atlas 14, Volume 1, Version 5
 Location name: Albuquerque, New Mexico, US*
 Latitude: 35.1625°, Longitude: -106.5741°
 Elevation: 5284 ft*
 * source: Google Maps



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishant Roy, Carl Trypaluk, Dale Uhrh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.171 (0.145-0.204)	0.221 (0.186-0.264)	0.298 (0.251-0.366)	0.357 (0.299-0.426)	0.438 (0.365-0.520)	0.502 (0.417-0.598)	0.570 (0.469-0.676)	0.641 (0.525-0.760)	0.738 (0.599-0.877)	0.815 (0.653-0.988)
10-min	0.260 (0.220-0.311)	0.337 (0.283-0.401)	0.454 (0.382-0.541)	0.544 (0.454-0.648)	0.666 (0.556-0.792)	0.764 (0.636-0.910)	0.868 (0.714-1.03)	0.976 (0.799-1.16)	1.12 (0.912-1.34)	1.24 (1.00-1.47)
15-min	0.322 (0.273-0.385)	0.418 (0.351-0.498)	0.562 (0.473-0.671)	0.674 (0.563-0.801)	0.826 (0.689-0.982)	0.947 (0.787-1.13)	1.08 (0.884-1.28)	1.21 (0.990-1.44)	1.39 (1.13-1.66)	1.54 (1.24-1.83)
30-min	0.434 (0.368-0.519)	0.562 (0.472-0.670)	0.757 (0.637-0.903)	0.907 (0.758-1.03)	1.11 (0.928-1.32)	1.28 (1.06-1.52)	1.45 (1.19-1.72)	1.63 (1.33-1.93)	1.88 (1.52-2.23)	2.07 (1.67-2.48)
60-min	0.537 (0.455-0.642)	0.696 (0.584-0.829)	0.937 (0.789-1.12)	1.12 (0.938-1.34)	1.38 (1.15-1.64)	1.58 (1.31-1.88)	1.79 (1.47-2.13)	2.02 (1.65-2.39)	2.32 (1.89-2.76)	2.56 (2.07-3.04)
2-hr	0.649 (0.534-0.812)	0.835 (0.686-1.04)	1.11 (0.906-1.38)	1.32 (1.08-1.64)	1.63 (1.32-2.01)	1.87 (1.51-2.31)	2.13 (1.71-2.63)	2.40 (1.92-2.95)	2.79 (2.20-3.43)	3.09 (2.42-3.81)
3-hr	0.695 (0.575-0.857)	0.885 (0.729-1.09)	1.16 (0.959-1.43)	1.38 (1.14-1.70)	1.69 (1.38-2.08)	1.94 (1.57-2.37)	2.20 (1.78-2.69)	2.48 (1.98-3.03)	2.87 (2.28-3.51)	3.19 (2.51-3.91)
6-hr	0.813 (0.676-0.994)	1.03 (0.855-1.26)	1.33 (1.11-1.62)	1.56 (1.30-1.90)	1.89 (1.56-2.29)	2.14 (1.76-2.60)	2.41 (1.97-2.92)	2.69 (2.18-3.28)	3.07 (2.48-3.72)	3.39 (2.71-4.10)
12-hr	0.897 (0.758-1.07)	1.13 (0.953-1.35)	1.44 (1.21-1.71)	1.68 (1.41-1.99)	2.01 (1.68-2.37)	2.26 (1.88-2.67)	2.53 (2.10-2.98)	2.80 (2.30-3.30)	3.17 (2.58-3.74)	3.47 (2.81-4.13)
24-hr	1.01 (0.854-1.19)	1.27 (1.08-1.48)	1.60 (1.36-1.87)	1.86 (1.59-2.17)	2.21 (1.85-2.59)	2.48 (2.10-2.90)	2.77 (2.33-3.23)	3.06 (2.56-3.57)	3.45 (2.87-4.03)	3.76 (3.11-4.41)
2-day	1.06 (0.905-1.23)	1.33 (1.14-1.54)	1.68 (1.44-1.95)	1.95 (1.67-2.26)	2.32 (1.97-2.69)	2.60 (2.20-3.03)	2.90 (2.44-3.37)	3.20 (2.69-3.73)	3.62 (3.02-4.22)	3.94 (3.27-4.61)
3-day	1.17 (1.04-1.31)	1.46 (1.30-1.64)	1.81 (1.61-2.04)	2.09 (1.85-2.35)	2.47 (2.17-2.77)	2.75 (2.42-3.09)	3.05 (2.67-3.42)	3.34 (2.92-3.76)	3.74 (3.25-4.24)	4.04 (3.50-4.64)
4-day	1.28 (1.17-1.40)	1.59 (1.45-1.74)	1.95 (1.78-2.13)	2.23 (2.04-2.43)	2.61 (2.38-2.85)	2.90 (2.64-3.16)	3.19 (2.89-3.47)	3.48 (3.15-3.79)	3.86 (3.48-4.26)	4.15 (3.72-4.66)
7-day	1.47 (1.34-1.59)	1.82 (1.67-1.97)	2.21 (2.03-2.40)	2.51 (2.31-2.73)	2.92 (2.67-3.15)	3.21 (2.94-3.47)	3.51 (3.21-3.80)	3.79 (3.46-4.10)	4.16 (3.79-4.51)	4.43 (4.02-4.80)
10-day	1.62 (1.49-1.76)	2.01 (1.85-2.18)	2.46 (2.27-2.66)	2.81 (2.59-3.04)	3.27 (3.01-3.53)	3.62 (3.32-3.90)	3.96 (3.63-4.28)	4.30 (3.93-4.65)	4.74 (4.32-5.13)	5.07 (4.60-5.48)
20-day	2.03 (1.87-2.21)	2.52 (2.32-2.75)	3.06 (2.81-3.32)	3.46 (3.18-3.76)	3.98 (3.65-4.31)	4.35 (3.99-4.71)	4.71 (4.31-5.09)	5.05 (4.61-5.45)	5.46 (4.98-5.91)	5.76 (5.24-6.23)
30-day	2.43 (2.23-2.63)	3.02 (2.77-3.26)	3.63 (3.33-3.92)	4.08 (3.74-4.40)	4.64 (4.25-4.99)	5.03 (4.61-5.41)	5.41 (4.95-5.82)	5.76 (5.27-6.19)	6.17 (5.64-6.64)	6.46 (5.89-6.95)
45-day	2.98 (2.75-3.22)	3.68 (3.40-3.98)	4.39 (4.05-4.73)	4.88 (4.50-5.28)	5.49 (5.05-5.91)	5.89 (5.44-6.34)	6.26 (5.76-6.73)	6.58 (6.07-7.07)	6.93 (6.41-7.45)	7.14 (6.61-7.66)
60-day	3.43 (3.17-3.71)	4.24 (3.92-4.58)	5.05 (4.67-5.45)	5.62 (5.20-6.05)	6.31 (5.85-6.81)	6.78 (6.28-7.31)	7.21 (6.68-7.77)	7.58 (7.03-8.18)	8.00 (7.43-8.64)	8.26 (7.69-8.91)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

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*S*****
*S          SANTA MONICA PLACE
*S          TRACTS 3-A, 3-B, 4-A AND 4-B
*S          100-YEAR, 6-HOUR STORM
*S          2048.DAT
*S
*S          BY ASA NILSSON WEBER
*S          ISAACSON & ARFMAN, P.A.
*S          SEPTEMBER, 2014
*S*****
*          100-YR, 6-HR STORM
*          PRECIPITATION:
*          P15 =      0"
*          P60 =      1.79"
*          P360 =     2.41"
*          P1440 =     2.77"
*****
*S
*S          Rainfall distribution based on NOAA Atlas 14 maps
*S          Latitude=35.1625   Longitude=-106.5741
*S
*S*****
START          TIME=0.0 HR   PUNCH CODE=0 PRINT LINE=60
RAINFALL      TYPE=1 RAIN QUARTER=0
              RAIN ONE=1.79 IN  RAIN SIX=2.41 IN
              RAIN DAY=2.77 IN  DT=0.03333333 HRS
*S          DEVELOPED CONDITIONS
*S          BASIN 3-A-1 SINGLE DETACHED HOMES
COMPUTE NM HYD      ID=1  HYD NO=100  DA=0.015526 SQ MI
                   %A=0  %B=25  %C=25  %D=50
                   TP=-0.1333 HR
                   MASS RAINFALL=-1
PRINT HYD          ID=1 CODE=1
*S          BASIN 3-A-2 ATTACHED TOWNHOMES
COMPUTE NM HYD      ID=2  HYD NO=102  DA=0.005154 SQ MI
                   %A=0  %B=15  %C=15  %D=70
                   TP=-0.1333 HR
                   MASS RAINFALL=-1
PRINT HYD          ID=2 CODE=1
*S          BASIN 4-A ATTACHED TOWNHOMES
COMPUTE NM HYD      ID=3  HYD NO=103  DA=0.010082 SQ MI
                   %A=0  %B=15  %C=15  %D=70
                   TP=-0.1333 HR
                   MASS RAINFALL=-1
PRINT HYD          ID=3 CODE=1
*S          BASIN 3-B SENIOR LIVING FACILITY
COMPUTE NM HYD      ID=4  HYD NO=104  DA=0.007114 SQ MI
                   %A=0  %B=18  %C=30  %D=52
                   TP=-0.1333 HR
                   MASS RAINFALL=-1
PRINT HYD          ID=4 CODE=1
*S          BASIN 4-B SENIOR RESORT
COMPUTE NM HYD      ID=5  HYD NO=105  DA=0.013472 SQ MI
                   %A=0  %B=15  %C=35  %D=50
                   TP=-0.1333 HR
                   MASS RAINFALL=-1
PRINT HYD          ID=5 CODE=1
*S          BASIN STREET
COMPUTE NM HYD      ID=6  HYD NO=106  DA=0.003261 SQ MI
                   %A=0  %B=0  %C=20  %D=80
                   TP=-0.1333 HR
                   MASS RAINFALL=-1
PRINT HYD          ID=6 CODE=1

```

```

*S      UNDEVELOPED CONDITIONS
*S      (ASSUMED FULLY DEMOLISHED)
*S      BASIN EX-1
COMPUTE NM HYD      ID=10  HYD NO=110  DA=0.004493 SQ MI
                    %A=0  %B=0  %C=100  %D=0
                    TP=-0.1333 HR
                    MASS RAINFALL=-1
PRINT HYD           ID=10 CODE=1
*S      BASIN EX-2
COMPUTE NM HYD      ID=11  HYD NO=111  DA=0.010995 SQ MI
                    %A=0  %B=0  %C=100  %D=0
                    TP=-0.1333 HR
                    MASS RAINFALL=-1
PRINT HYD           ID=11 CODE=1
*S      BASIN EX-3
COMPUTE NM HYD      ID=12  HYD NO=112  DA=0.015270 SQ MI
                    %A=0  %B=0  %C=100  %D=0
                    TP=-0.1333 HR
                    MASS RAINFALL=-1
PRINT HYD           ID=12 CODE=1
*S      BASIN 4-B UNDEVELOPED FLOW TO STANDPIPE
COMPUTE NM HYD      ID=13  HYD NO=113  DA=0.013472 SQ MI
                    %A=0  %B=0  %C=100  %D=0
                    TP=-0.1333 HR
                    MASS RAINFALL=-1
PRINT HYD           ID=13 CODE=1
FINISH

```

AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)
INPUT FILE = C:\Users\Public\AHYModata\2048.DAT

- Ver. S4.01a, Rel: 01a

RUN DATE (MON/DAY/YR) =09/25/2014
USER NO.= Isaacson-ArSiteA95000287

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
---------	---------------------------	-------------	-----------	--------------	----------------------	-----------------------	-----------------	----------------------	--------------	----------	----------

*S*****

*S SANTA MONICA PLACE
*S TRACTS 3-A, 3-B, 4-A AND 4-B
*S 100-YEAR, 6-HOUR STORM
*S 2048.DAT

*S BY ASA NILSSON WEBER
*S ISAACSON & ARFMAN, P.A.
*S SEPTEMBER, 2014

*S*****

*S Rainfall distribution based on NOAA Atlas 14 maps
*S Latitude=35.1625 Longitude=-106.5741

*S*****

START
RAINFALL TYPE= 1 NOAA 14

*S DEVELOPED CONDITIONS

*S BASIN 3-A-1 SINGLE DETACHED HOMES

COMPUTE NM HYD 100.00 - 1 0.01553

COMPUTE NM HYD 102.00 - 2 0.00515

COMPUTE NM HYD 103.00 - 3 0.01008

COMPUTE NM HYD 104.00 - 4 0.00711

COMPUTE NM HYD 105.00 - 5 0.01347

COMPUTE NM HYD 106.00 - 6 0.00326

*S UNDEVELOPED CONDITIONS

*S (ASSUMED FULLY DEMOLISHED)

*S BASIN EX-1

COMPUTE NM HYD 110.00 - 10 0.00449

*S BASIN EX-2

COMPUTE NM HYD 111.00 - 11 0.01100

*S BASIN EX-3

COMPUTE NM HYD 112.00 - 12 0.01527

*S BASIN 4-B UNDEVELOPED FLOW TO STANDPIPE

COMPUTE NM HYD 113.00 - 13 0.01347

FINISH

TIME= 0.00
RAIN6= 2.410

3.510 PER IMP= 50.00

3.831 PER IMP= 70.00

3.829 PER IMP= 70.00

3.586 PER IMP= 52.00

3.580 PER IMP= 50.00

4.065 PER IMP= 80.00

3.067 PER IMP= 0.00

3.065 PER IMP= 0.00

3.064 PER IMP= 0.00

3.065 PER IMP= 0.00

APPENDIX B
STREET & CHANNEL CAPACITY
CALCULATIONS

Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Sep 23 2014

STREET NORTH OF SAN VICENTE AVE ROUND-ABOUT

User-defined

Invert Elev (ft) = 100.00
Slope (%) = 1.00
N-Value = 0.017

Highlighted

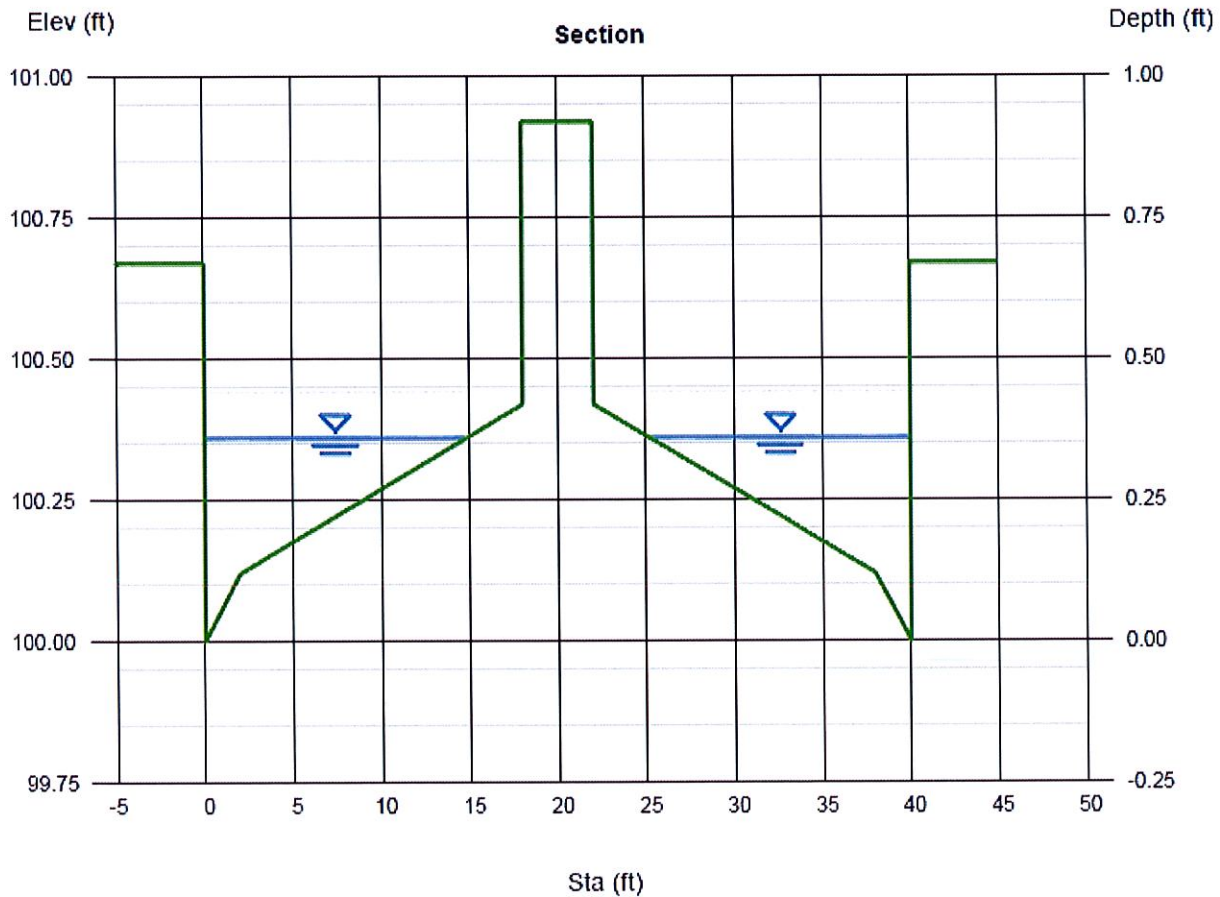
Depth (ft) = 0.36
Q (cfs) = 9.800
Area (sqft) = 4.27
Velocity (ft/s) = 2.30
Wetted Perim (ft) = 30.31
Crit Depth, Yc (ft) = 0.37
Top Width (ft) = 29.59
EGL (ft) = 0.44

Calculations

Compute by: Known Q
Known Q (cfs) = 9.80

(Sta, El, n)-(Sta, El, n)...

(0.00, 100.67)-(0.01, 100.00, 0.013)-(2.00, 100.12, 0.017)-(18.00, 100.42, 0.017)-(18.01, 100.92, 0.017)-(22.00, 100.92, 0.017)-(22.01, 100.42, 0.017)-
(38.00, 100.12, 0.017)-(40.00, 100.00, 0.017)-(40.01, 100.67, 0.017)



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Oct 7 2014

CHANNEL A

Triangular

Side Slopes (z:1) = 5.00, 5.00
Total Depth (ft) = 1.50

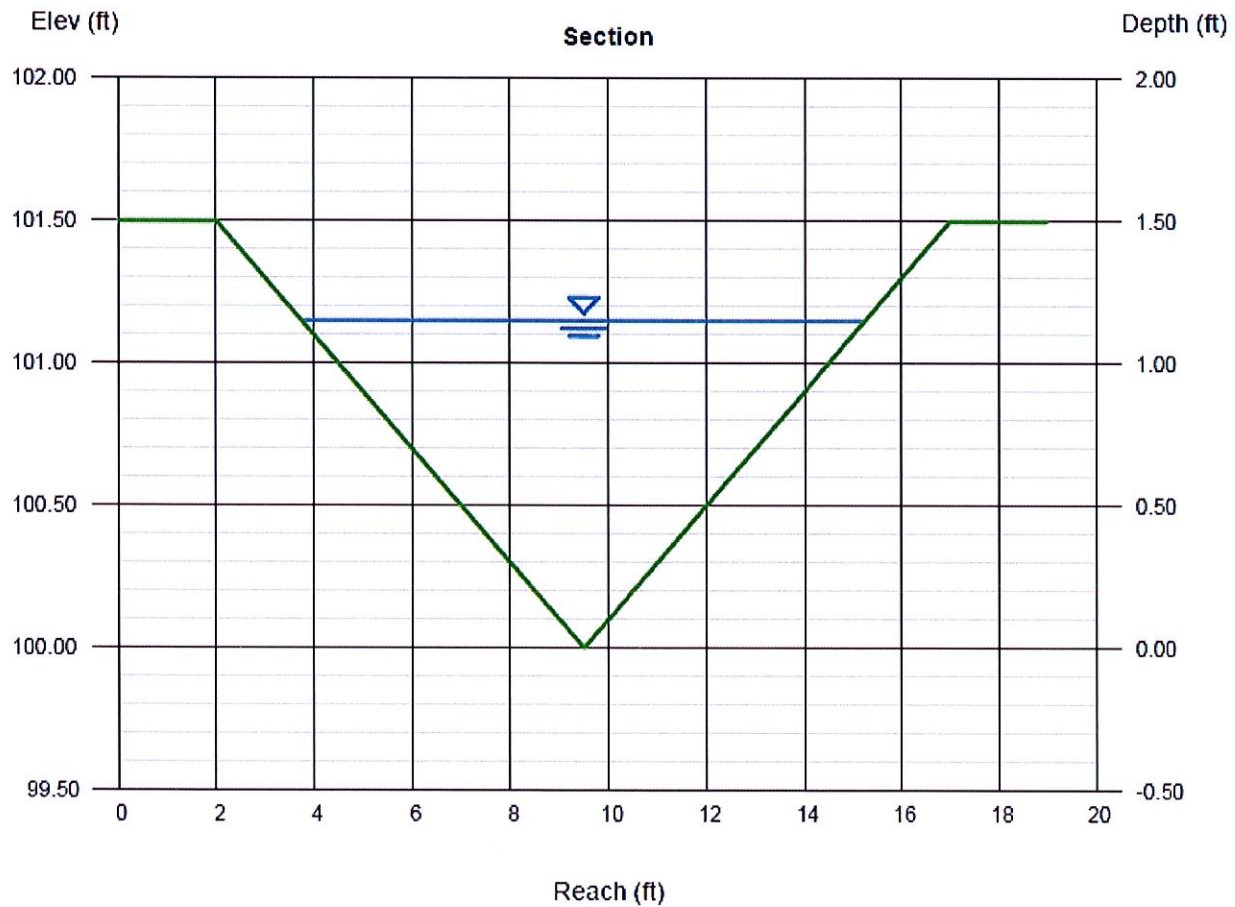
Invert Elev (ft) = 100.00
Slope (%) = 1.85
N-Value = 0.030

Calculations

Compute by: Known Q
Known Q (cfs) = 29.80

Highlighted

Depth (ft) = 1.15
Q (cfs) = 29.80
Area (sqft) = 6.61
Velocity (ft/s) = 4.51
Wetted Perim (ft) = 11.73
Crit Depth, Yc (ft) = 1.18
Top Width (ft) = 11.50
EGL (ft) = 1.47



Channel Report

Hydraflow Express Extension for Autodesk® AutoCAD® Civil 3D® by Autodesk, Inc.

Tuesday, Oct 7 2014

CHANNEL B

Trapezoidal

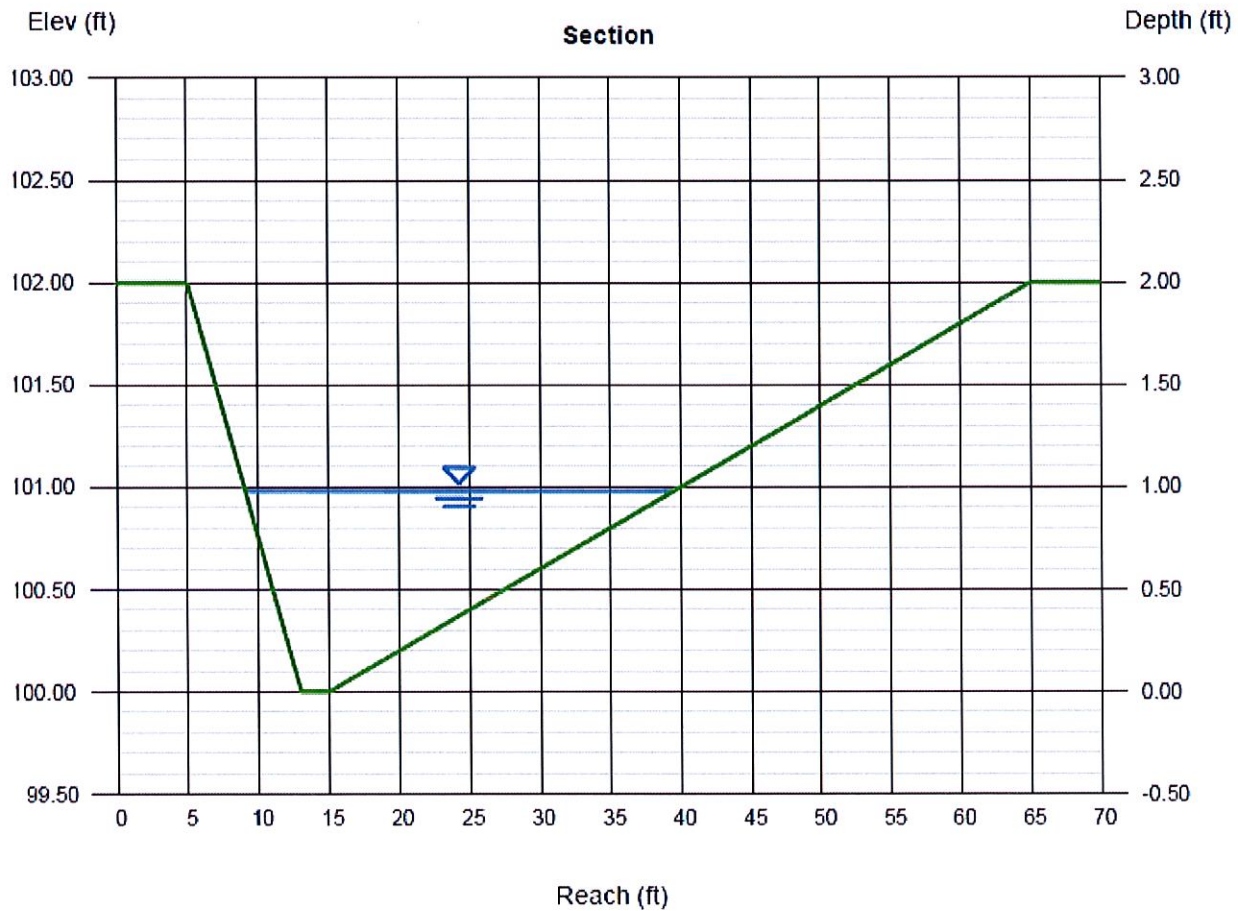
Bottom Width (ft) = 2.00
Side Slopes (z:1) = 4.00, 25.00
Total Depth (ft) = 2.00
Invert Elev (ft) = 100.00
Slope (%) = 2.00
N-Value = 0.030

Calculations

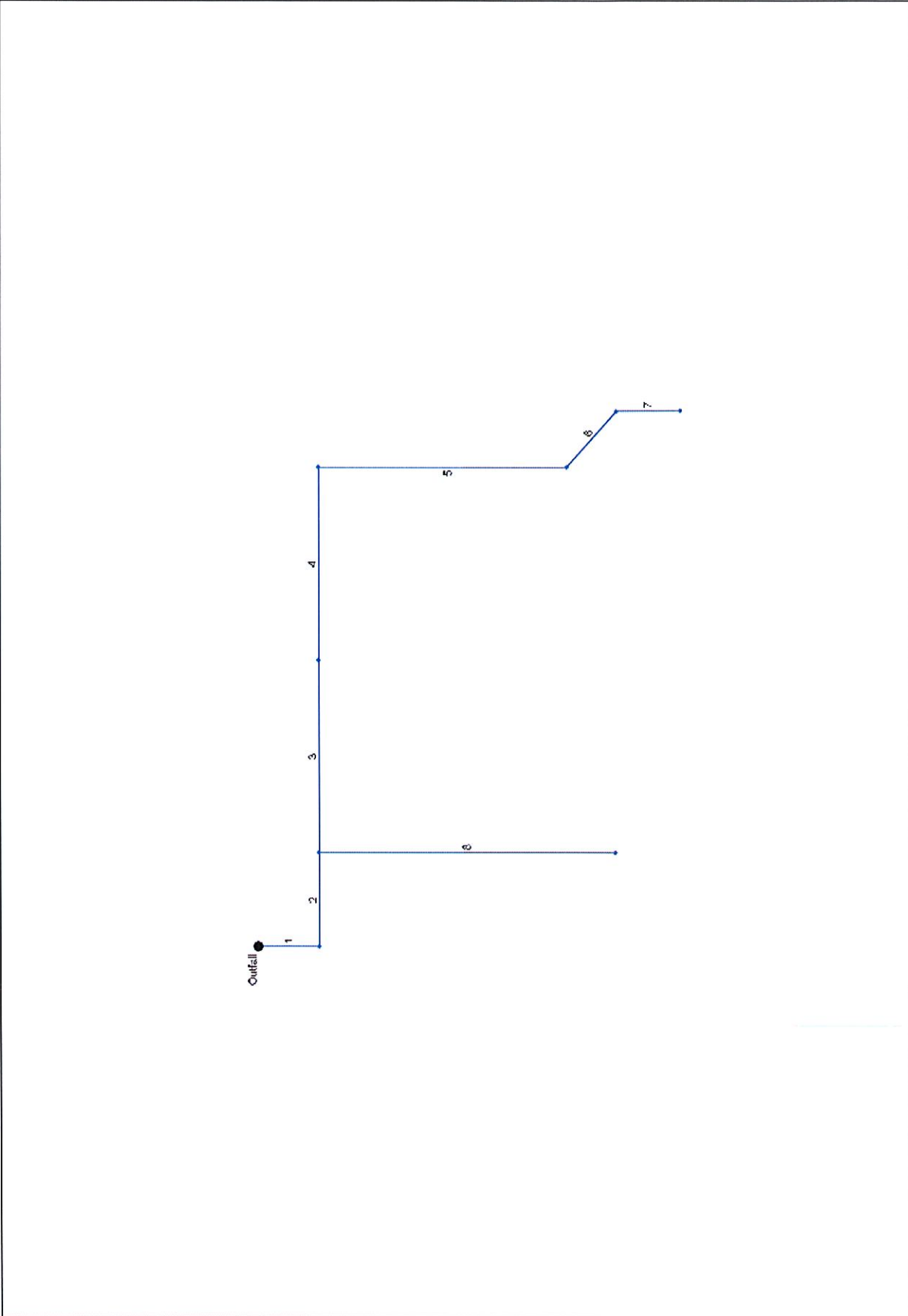
Compute by: Known Q
Known Q (cfs) = 70.70

Highlighted

Depth (ft) = 0.98
Q (cfs) = 70.70
Area (sqft) = 15.89
Velocity (ft/s) = 4.45
Wetted Perim (ft) = 30.56
Crit Depth, Yc (ft) = 1.02
Top Width (ft) = 30.42
EGL (ft) = 1.29



APPENDIX C
STORM DRAIN CALCULATIONS



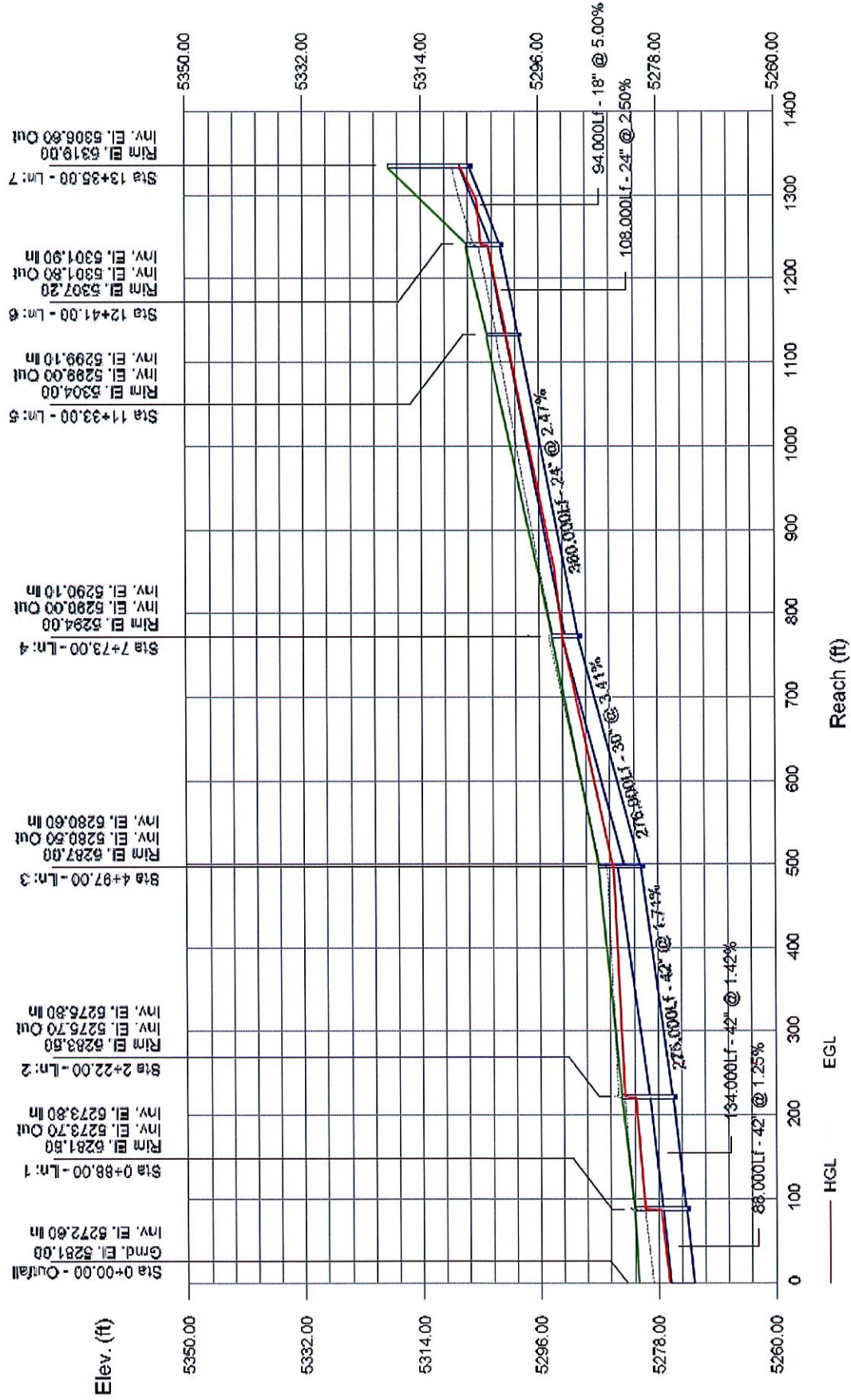
Project File: 2048 MSTR SD.stm	Number of lines: 8	Date: 10/7/2014
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Storm Sewers v10.30

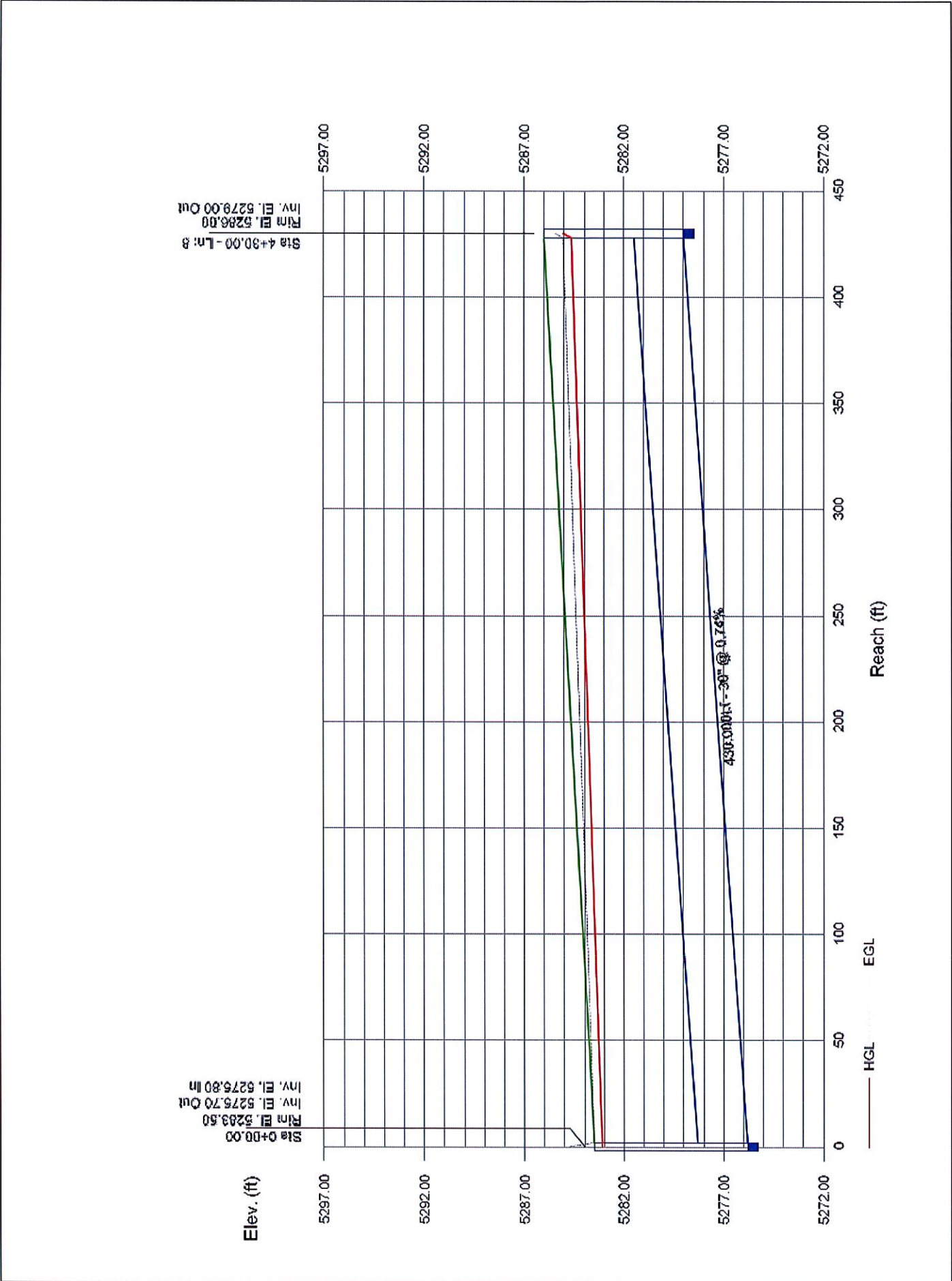
STORM DRAIN PLAN

Storm Sewer Profile

Proj. file: 2048 MSTR SD.stm



Storm Sewer Profile



Storm Sewer Inventory Report

Line No.	Alignment				Flow Data				Physical Data							Line ID	
	Dnstr Line No.	Line Length (ft)	Defl angle (deg)	Junc Type	Known Q (cfs)	Drng Area (ac)	Runoff Coeff (C)	Inlet Time (min)	Invert EI Dn (ft)	Line Slope (%)	Invert EI Up (ft)	Line Size (in)	Line Shape	N Value (n)	J Loss Coeff (K)		Inlet/ Rim EI (ft)
1	End	88.000	90.000	MH	20.30	0.00	0.00	0.0	5272.60	1.25	5273.70	42	Cir	0.013	1.00	5281.60	
2	1	134.000	-90.000	MH	0.00	0.00	0.00	0.0	5273.80	1.42	5275.70	42	Cir	0.013	1.00	5283.50	
3	2	275.000	0.000	MH	20.40	0.00	0.00	0.0	5275.80	1.71	5280.50	42	Cir	0.013	0.15	5287.00	
4	3	275.000	0.000	MH	24.80	0.00	0.00	0.0	5280.60	3.41	5290.00	30	Cir	0.013	1.00	5294.00	
5	4	360.000	90.004	MH	0.00	0.00	0.00	0.0	5290.10	2.47	5299.00	24	Cir	0.013	0.78	5304.00	
6	5	108.000	-47.891	MH	15.50	0.00	0.00	0.0	5299.10	2.50	5301.80	24	Cir	0.013	0.78	5307.20	
7	6	94.000	47.316	MH	15.40	0.00	0.00	0.0	5301.90	5.00	5306.60	18	Cir	0.013	1.00	5319.00	
8	2	430.000	90.000	MH	24.70	0.00	0.00	0.0	5275.80	0.74	5279.00	30	Cir	0.013	1.00	5286.00	
Project File: 2048 MSTR SD.stm																	
Number of lines: 8											Date: 10/7/2014						

Storm Sewer Summary Report

Page 1

Line No.	Line ID	Flow rate (cfs)	Line Size (in)	Line shape	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line Slope (%)	HGL Down (ft)	HGL Up (ft)	Minor loss (ft)	HGL Junct (ft)	Dns Line No.	Junction Type
1		121.1	42	Cir	88.000	5272.60	5273.70	1.250	5276.31*	5277.59*	2.46	5280.05	End	Manhole
2		100.8	42	Cir	134.000	5273.80	5275.70	1.418	5280.05*	5281.40*	1.71	5283.10	1	Manhole
3		76.10	42	Cir	275.000	5275.80	5280.50	1.709	5283.10*	5284.68*	0.15	5284.82	2	Manhole
4		55.70	30	Cir	278.000	5280.60	5290.00	3.406	5284.82	5292.36	n/a	5292.36	3	Manhole
5		30.90	24	Cir	360.000	5290.10	5299.00	2.472	5292.36	5300.88	n/a	5300.88 j	4	Manhole
6		30.90	24	Cir	108.000	5299.10	5301.80	2.500	5300.88	5303.68	1.24	5304.91	5	Manhole
7		15.40	18	Cir	94.000	5301.90	5306.60	5.000	5304.91	5308.01	n/a	5308.01 j	6	Manhole
8		24.70	30	Cir	430.000	5275.80	5279.00	0.744	5283.10*	5284.68*	0.39	5285.06	2	Manhole
Number of lines: 8														
Run Date: 10/7/2014														

Project File: 2048 MSTR SD.stm

NOTES: Return period = 2 Yrs. : *Surcharged (HGL above crown). : j - Line contains hyd. jump.

Storm Sewer Tabulation

Station Line	To Line	Len (ft)	Dmg Area		Rnoff coeff (C)	Area x C		Tc		Rain (l) (in/hr)	Total flow (cfs)	Cap full (cfs)	Vel (ft/s)	Pipe		Invert Elev		HGL Elev		Grnd / Rlm Elev		Line ID
			Incr	Total		Incr	Total	Inlet (min)	Syst (min)					Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	88.000	0.00	0.00	0.00	0.00	0.00	0.0	2.2	0.0	121.1	112.5	12.59	42	1.25	5272.60	5273.70	5276.31	5277.59	5281.00	5281.60	
2	1	134.000	0.00	0.00	0.00	0.00	0.00	0.0	2.0	0.0	100.8	119.8	10.48	42	1.42	5273.80	5275.70	5280.05	5281.40	5281.60	5283.50	
3	2	275.000	0.00	0.00	0.00	0.00	0.00	0.0	1.4	0.0	76.10	131.5	7.91	42	1.71	5275.80	5280.50	5283.10	5284.68	5283.50	5287.00	
4	3	276.000	0.00	0.00	0.00	0.00	0.00	0.0	1.0	0.0	55.70	75.69	11.48	30	3.41	5280.60	5280.00	5284.82	5292.36	5287.00	5294.00	
5	4	360.000	0.00	0.00	0.00	0.00	0.00	0.0	0.4	0.0	30.90	35.56	9.97	24	2.47	5290.10	5299.00	5292.36	5300.88	5294.00	5304.00	
6	5	108.000	0.00	0.00	0.00	0.00	0.00	0.0	0.2	0.0	30.90	35.76	10.29	24	2.50	5299.10	5301.80	5300.88	5303.66	5304.00	5307.20	
7	6	94.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	15.40	23.48	8.82	18	5.00	5301.90	5306.60	5304.91	5308.01	5307.20	5319.00	
8	2	430.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	24.70	35.38	5.03	30	0.74	5275.80	5279.00	5283.10	5284.66	5283.50	5286.00	
Project File: 2048 MSTR SD.stm																					Run Date: 10/7/2014	
NOTES: Intensity = 69.87 / (Inlet time + 13.10) ^ 0.87 ; Return period = Yrs. 2 ; c = cir e = ellip b = box																					Number of lines: 8	

GENERAL NOTES

- A. ALL WORK DETAILED ON THESE PLANS AND PERFORMED UNDER THIS CONTRACT SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT. WHERE APPLICABLE, CITY OF ALBUQUERQUE AND NMDOT STANDARDS APPLY.

B. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.

C. ALL SUBGRADE, OVEREXCAVATION, BACKFILL, AND FILL SHALL BE PLACED AND / OR COMPACTED PER THE GEOTECHNICAL REPORT AND CITY OF ALBUQUERQUE SPECIFICATIONS.

D. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE. IF PERMITS ARE DELAYED OR ISSUED WITH CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY.

E. COORDINATE WORK WITH PUBLIC WORK ORDER PLANS FOR PAVING, UTILITY AND STORM DRAIN PLANS.

F. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ENGINEER AND VERIFY THE ENGINEER'S INTENT BEFORE PROCEEDING.

G. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.

H. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK. CONTRACTOR SHALL REGULARLY UPDATE OWNER REGARDING THE STATUS OF THE INSPECTIONS.

I. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- J. CONSTRUCTION EQUIPMENT SHALL NOT OBSTRUCT DRIVEWAYS. EQUIPMENT SHALL ONLY OBSTRUCT DESIGNATED TRAFFIC LANES IF APPROPRIATE BARRICADING PERMITS HAVE BEEN OBTAINED. THE CONTRACTOR SHALL NOT STORE ANY EQUIPMENT OR MATERIAL IN THE RIGHT-OF-WAY.

K. THE CONTRACTOR SHALL PROVIDE A CONSTRUCTION TRAFFIC CONTROL AND SIGNING PLAN THAT CONFORMS TO THE LATEST EDITION OF THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND LOCAL REQUIREMENTS. THE CONTRACTOR SHALL OBTAIN BARRICADING PERMITS FROM THE APPROPRIATE AUTHORITIES PRIOR TO ANY CONSTRUCTION WORK ON OR ADJACENT TO EXISTING STREETS.

L. THE CONTRACTOR SHALL MAINTAIN ALL BARRICADING AND CONSTRUCTION SIGNING AT ALL TIMES. THE CONTRACTOR SHALL VERIFY THE PROPER LOCATION OF ALL BARRICADING AT THE END AND BEGINNING OF EACH DAY.

M. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.

N. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.

O. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS TWO WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.
- P. SOIL TESTING AND INSPECTION SERVICES DURING EARTHWORK OPERATIONS ARE REQUIRED. CONTRACTOR SHALL ALLOW TESTING LABS TO INSPECT AND APPROVE COMPACTED SUBGRADES, BACKFILL, AND FILL LAYERS BEFORE FURTHER CONSTRUCTION WORK IS DONE. SHOULD COMPACTION TESTS INDICATE INADEQUATE DENSITY, CONTRACTOR SHALL PROVIDE ADDITIONAL COMPACTION AND TESTING AT THE CONTRACTOR'S SOLE EXPENSE.

Q. CONTRACTOR SHALL PROVIDE ALL OTHER CONSTRUCTION STAKING. CONTRACTOR SHALL LOCATE AND PRESERVE ALL BOUNDARY CORNERS AND REPLACE ANY LOST OR DISTURBED CORNERS AT CONTRACTOR'S SOLE EXPENSE. PROPERTY CORNERS SHALL ONLY BE RESET BY A REGISTERED LAND SURVEYOR.

R. A CURRENT STORMWATER CONTROL PERMIT, INCLUDING AN EROSION SEDIMENT CONTROL PLAN (E.S.C.) FOR EROSION AND SEDIMENT CONTROL IS REQUIRED FOR ALL CONSTRUCTION, DEMOLITION CLEARING, AND GRADING OPERATIONS THAT DISTURB THE SOIL ON ONE ACRE OR MORE OF LAND. OWNER WILL COORDINATE.

S. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER.

T. STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" (0.44" LESS 0.1" FOR INITIAL ABSTRACTION) OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM.

U. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.

V. ALL FRACTURED FACE ROCK (F.F. ROCK) TO BE 6" AVG. DIA. ANGULAR FACED ROCK PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.). NOTE: PERMANENT TURF REINFORCEMENT MATERIAL (LANDLOK TRM 450 O.E.) MAY BE SUBSTITUTED AT ALL AREAS REFERENCING F.F. ROCK EROSION PROTECTION.
- W. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

X. ENGINEER RECOMMENDS THAT OWNER MAINTAIN EROSION PROTECTION ELEMENTS. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.

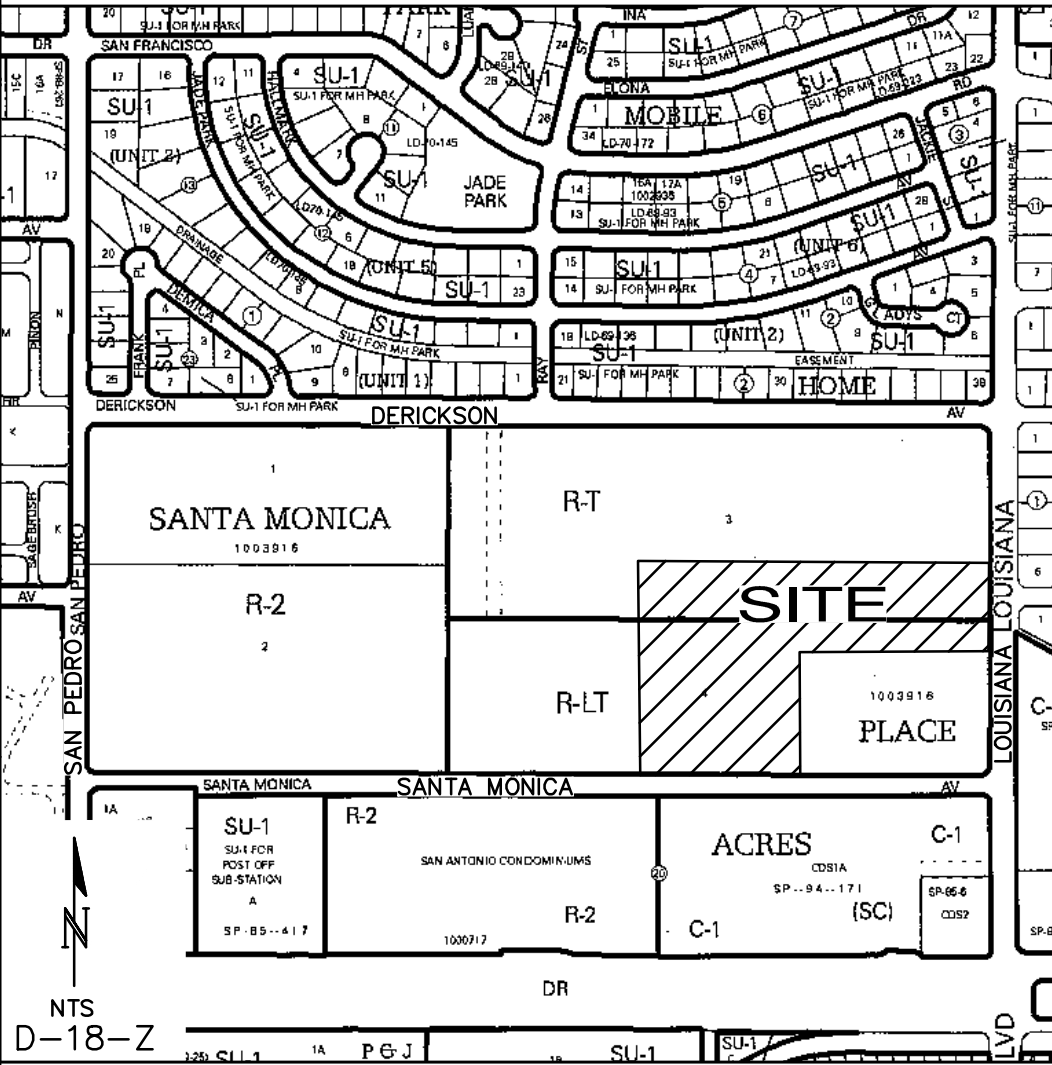
Y. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.

Z. MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.

AA. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT. ALL OTHER WORK SHALL, UNLESS OTHERWISE NOTED IN THE PLANS, BE CONSTRUCTED IN ACCORDANCE WITH THE PROJECT SPECIFICATION (FIRST PRIORITY), AND/OR NMDOT STANDARD SPECIFICATIONS FOR PUBLIC WORK (SECOND PRIORITY.)

SEE GEOTECHNICAL REPORT BY WESTERN TECHNOLOGIES FOR SOIL ANALYSIS AND SPECIFIC OVEREXCAVATION AND COMPACTION REQUIREMENTS.

VICINITY MAP



PROJECT INFORMATION

PROPERTY: THE SITE IS A PREVIOUSLY DEVELOPED (MOBILE HOME) PROPERTY LOCATED WITHIN C.O.A. VICINITY MAP D-18. THE SITE IS BOUND TO THE SOUTHWEST BY APARTMENTS, TO THE NORTHWEST BY A NEW APARTMENT COMPLEX CURRENTLY UNDER CONSTRUCTION, TO THE EAST BY LOUISIANA BLVD, AND TO THE NORTH BY DERICKSON AVENUE NE.

PROPOSED IMPROVEMENTS: THE PROPOSED IMPROVEMENTS INCLUDE CONSTRUCTION OF ROADWAY, UTILITY AND STORM DRAIN INFRASTRUCTURE.

EXISTING LEGAL: TRACTS 3 & 4, SANTA MONICA PLACE, ALBUQUERQUE, NM

PROPOSED LEGAL: TRACTS 3-A, 3-B, 4-A & 4-B, SANTA MONICA PLACE, ALBUQUERQUE, NM

AREA: 34.9 ACRES

BENCHMARK: VERTICAL DATUM IS BASED UPON THE ALBUQUERQUE CONTROL SURVEY BENCHMARK "10-D18", ELEVATION = 5321.79 (NGVD88)

DRAINAGE: PER THE MASTER DRAINAGE REPORT FOR TRACTS 3-A, 3-B, 4-A & 4-C, SANTA MONICA PLACE, BY ISAACSON & ARFMAN, DATED 10/9/14, DRAINAGE FROM THE UNDEVELOPED TRACTS WILL BE DIRECTED TO THE EXISTING TEMPORARY DETENTION POND ON TRACT 3. A TEMPORARY STANDPIPE WILL BE CONSTRUCTED ON TRACT 4-B WHICH WILL DISCHARGE TO THE EXISTING CHANNEL AND TO THE POND. STREET FLOWS WILL ALSO DISCHARGE TO THIS EXISTING CHANNEL.

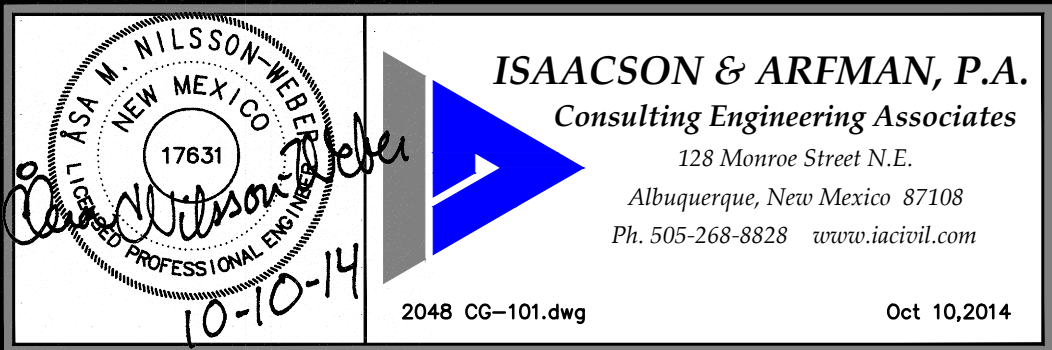
FLOOD HAZARD: THE SUBJECT PROPERTY LIES WITHIN ZONE "X" (AREAS DETERMINED TO BE OUTSIDE 0.2% ANNUAL CHANCE FLOOD PLAIN) IN ACCORDANCE WITH THE NATIONAL FLOOD INSURANCE PROGRAM RATE MAP NO. 35001C0137 F, EFFECTIVE DATE 11-19-03.

SURVEYOR: RUSS P. HUGG, SURV-TEK, INC., (505)897-3366, ALBUQUERQUE, NEW MEXICO.

ORIGINAL AERIAL MAPPING BY TR MANN & ASSOCIATES PERFORMED IN 2006 WAS UTILIZED FOR THE EAST PORTION OF TRACTS 3 AND 4 WHICH HAVE NOT YET BEEN DISTURBED BY GRADING OPERATIONS. TOPOGRAPHIC FIELD SURVEYS WERE PERFORMED DURING THE MONTH OF JANUARY, 2014 FOR TRACT 1 PRIOR TO CONSTRUCTION WHICH IS CURRENTLY UNDERWAY. THE AREA IMMEDIATELY EAST OF TRACT 1 WHICH WAS GRADED DURING THE CONSTRUCTION OF TRACT 2 WAS FIELD SURVEYED ON SEPTEMBER 22, 2014 AND ALL THREE SURVEY DATUMS DESCRIBED ABOVE HAVE BEEN MERGED INTO ONE SURFACE AND RE CONTOURED AS SHOWN HEREON.

LEGEND

- EXISTING CONTOUR - 1' INCREMENT
- PROPOSED CONTOUR - 1' INCREMENT
- ROCK EROSION CONTROL
- PROPOSED STORM DRAIN W/ MANHOLE



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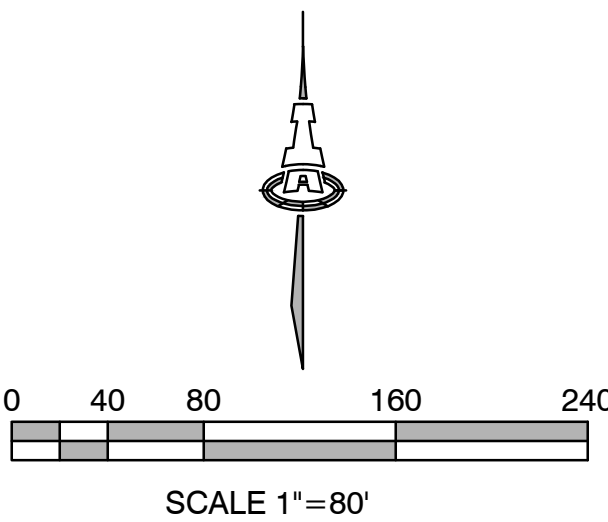
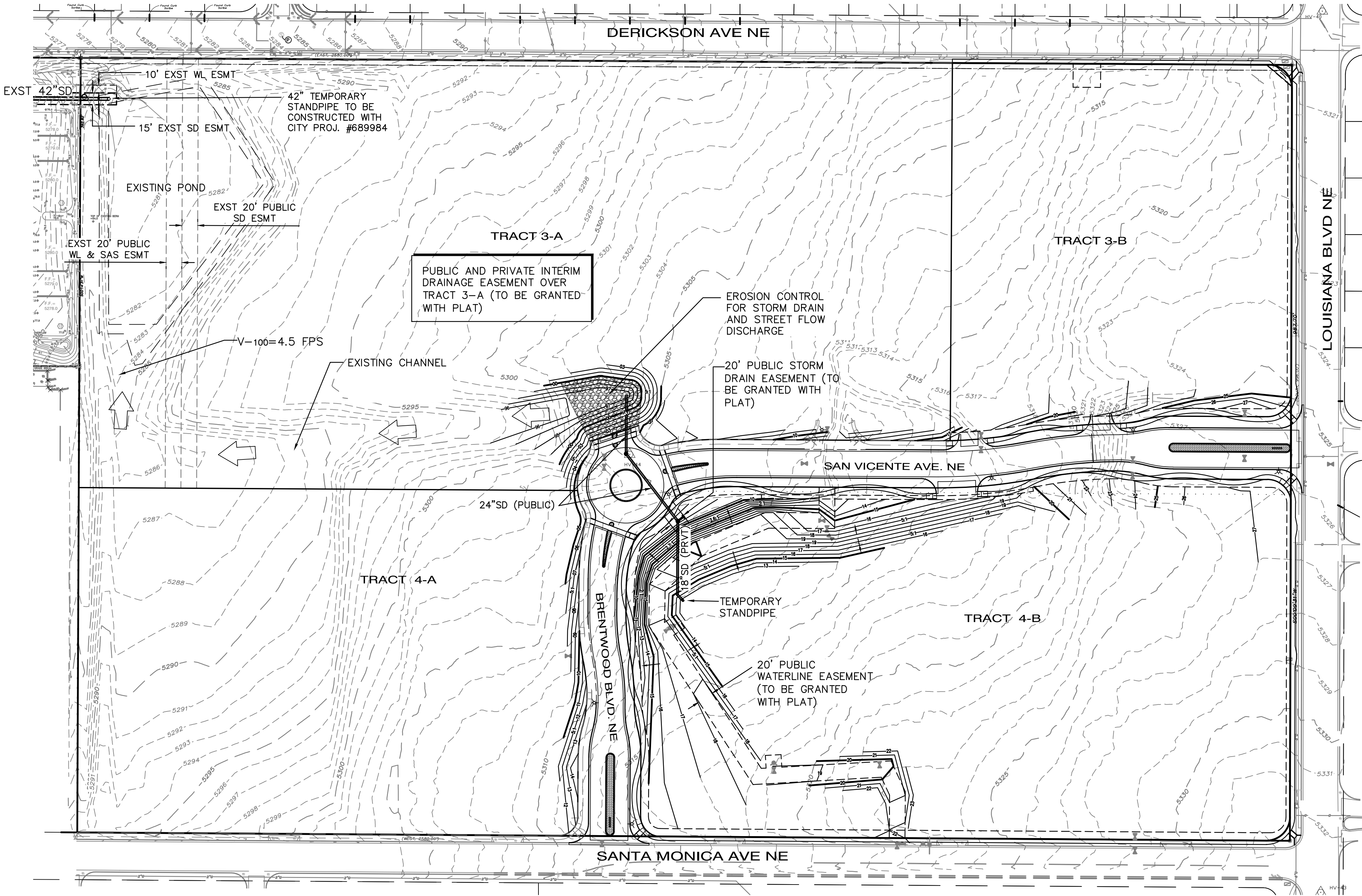
SANTA MONICA PLACE
TRACTS 3-A, 3-B, & 4-A INFRASTRUCTURE
DEL REY INVESTMENT, LLC

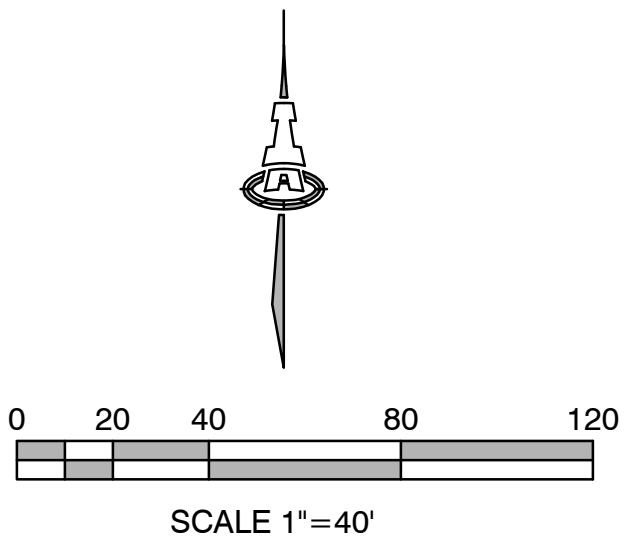
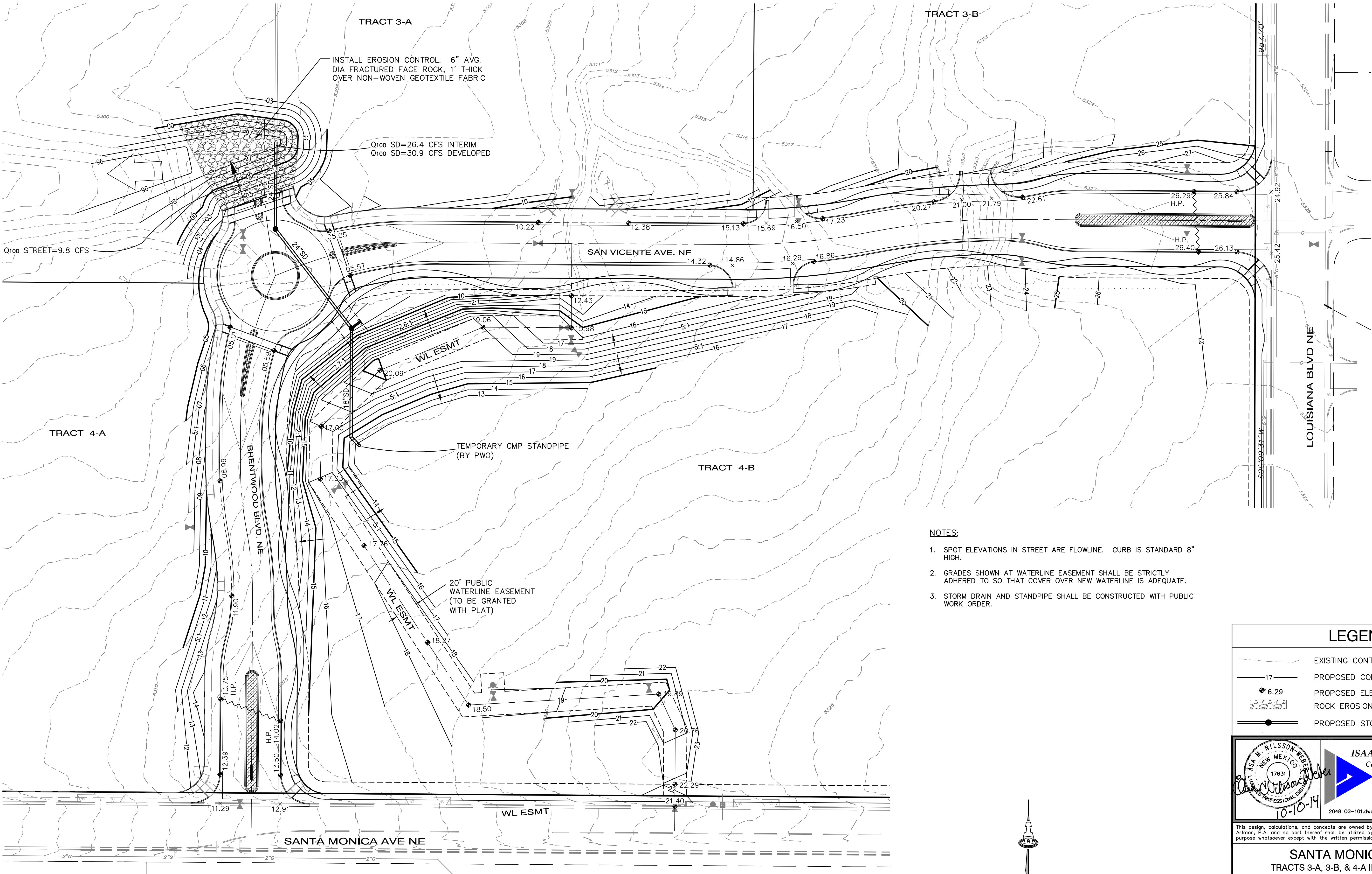
OVERALL GRADING & DRAINAGE PLAN

Date:	No. Revision:	Date:	Job No.
10/10/14			2048
Drawn By:			CG-101
thor			
Ckd By:			SH. 1 OF 2
ANW			

TRACT 1, SANTA MONICA PLACE

TRACT 2, SANTA MONICA PLACE





LEGEND

- EXISTING CONTOUR - 1' INCREMENT
- PROPOSED CONTOUR - 1' INCREMENT
- PROPOSED ELEVATION
- ROCK EROSION CONTROL
- PROPOSED STORM DRAIN W/ MANHOLE

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.isaacson.com

2048 CG-101.dwg Oct 10, 2014

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SANTA MONICA PLACE
TRACTS 3-A, 3-B, & 4-A INFRASTRUCTURE
DEL REY INVESTMENT, LLC

ENLARGED GRADING & DRAINAGE PLAN

Date:	No.	Revision:	Date:	Job No.
10/10/14				2048
Drawn By:				CG-102
thor				
Ckd By:				SH. 2 OF 2
ANW				