3-29-12

Curb on west
side of San Pedro
10-3/4 to 11" high

grade
~~Curb~~ drops off
2' at back of sidewalk

Sw at back of curb

no Sw ~~on~~ on east side
of ~~Sant~~ San Pedro
North side of Santa Monica
south side of
Dwickson → W/C

CITY OF ALBUQUERQUE

March 30, 2012

Asa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Santa Monica Tracts 1-4
Master Drainage Report
Engineer's Stamp dated 2-21-12 (D18/D054)

Dear Mrs. Nilsson-Weber,

Based upon the information provided in your submittal received 2-21-12, the above referenced plan is approved for Work Order.

If you have any questions, you can contact me at 924-3986 or Rudy Rael at 924-3977.

Sincerely,

Curtis Cherne, P.E., CFM.
Principal Engineer, Planning Dept.
Development and Building Services

C: File

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18-Z D-18/D054
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Tracts 1-4, Santa Monica Place
CITY ADDRESS: Derickson Ave. & San Pedro Blvd

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Åsa Nilsson-Weber
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Titan Development
ADDRESS: 6300 Riverside Plaza Lane NW - #200
CITY, STATE: Albuquerque, NM
CONTACT: Kurt Browning
PHONE: _____
ZIP CODE: 87120

ARCHITECT: NA
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc.
ADDRESS: _____
CITY, STATE: _____
CONTACT: Russ P. Hugg,
PHONE: 897-3366
ZIP CODE: _____

CONTRACTOR: N/A
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

TYPE OF SUBMITTAL:
- [x] DRAINAGE REPORT
- [x] DRAINAGE PLAN 1st SUBMITTAL
- [ ] DRAINAGE PLAN RESUBMITTAL
- [ ] CONCEPTUAL G & D PLAN
- [ ] GRADING PLAN
- [ ] EROSION CONTROL PLAN
- [ ] ENGINEER'S CERT (HYDROLOGY)
- [ ] CLOMR/LOMR
- [ ] TRAFFIC CIRCULATION LAYOUT
- [ ] ENGINEER/ARCHITECT CERT (TCL)
- [ ] ENGINEER/ARCHITECT CERT (DRB S.P.)
- [ ] ENGINEER/ARCHITECT CERT (AA)
- [ ] OTHER (SPECIFY)_____

CHECK TYPE OF APPROVAL 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
- [ ] FOUNDATION PERMIT APPROVAL
- [ ] BUILDING PERMIT APPROVAL
- [ ] CERTIFICATE OF OCCUPANCY (PERM)
- [ ] CERTIFICATE OF OCCUPANCY (TEMP)
- [ ] GRADING PERMIT APPROVAL
- [ ] PAVING PERMIT APPROVAL
- [ ] WORK ORDER APPROVAL
- [x] OTHER (SPECIFY) Mater Plan Approvall

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- [x] YES
- [ ] NO
- [ ] COPY PROVIDED

RECEIVED
FEB 21 2012
HYDROLOGY SECTION

SUBMITTED BY: Åsa Nilsson-Weber, PE
Isaacson & Arfman, P.A.
DATE: February 21, 2011

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 define 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.

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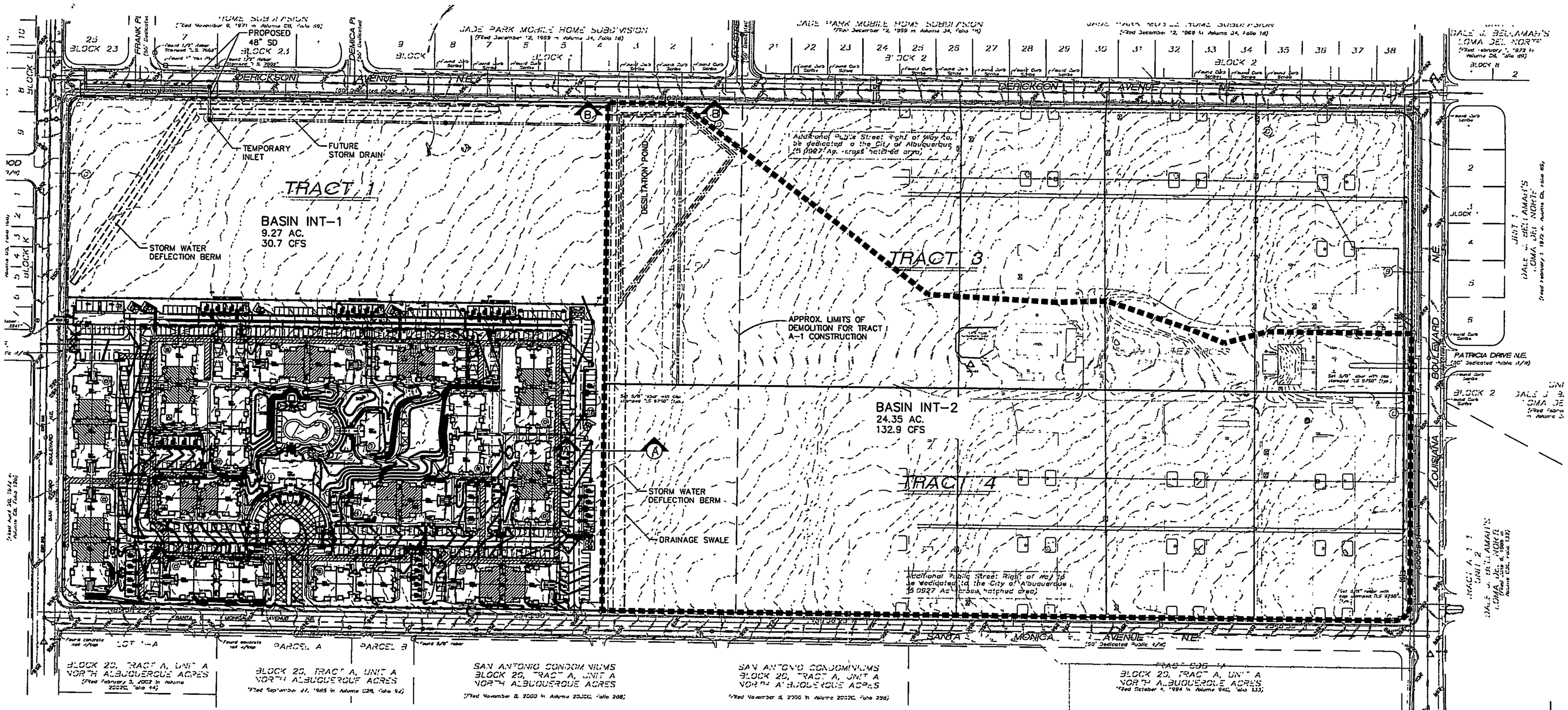
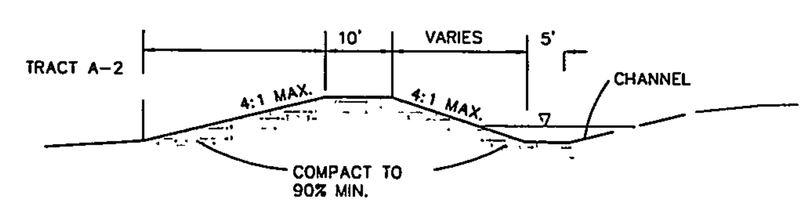
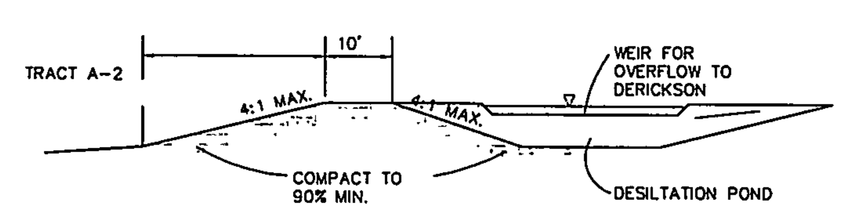




SECTION A-A
NTS



SECTION B-B
NTS

0 50 100 200 300
SCALE 1"=100'

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

1900 CX-CG TEMP PONDS.dwg Jan 25,2012

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SANTA MONICA PLACE

TEMPORARY PONDS

Date: 1-25-12	No.	Revisions	Date	Job No.
Drawn By: ANW				PAGE
Ckd By:				SH. OF

FEBRUARY 21, 2012

MASTER DRAINAGE REPORT

FOR

SANTA MONICA PLACE
San Pedro Blvd. and Derickson Ave. NE

BY

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

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

I&A Project No. 1900

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FEBRUARY 21, 2012

MASTER DRAINAGE REPORT

FOR

SANTA MONICA PLACE
San Pedro Blvd. and Derickson Ave. NE

BY

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

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

I&A Project No. 1900

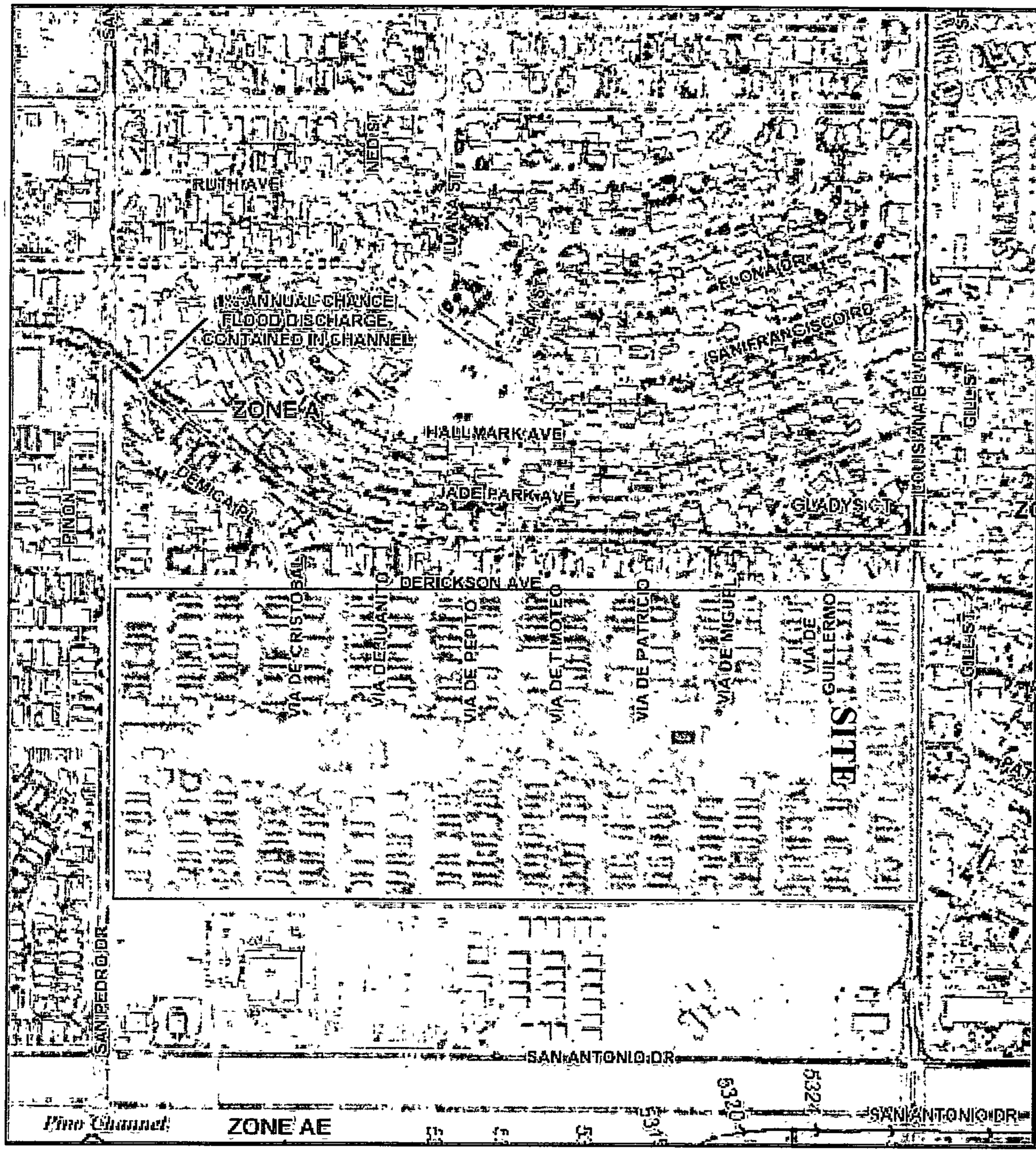
ÅSA M. NILSSON-WEBER
NEW MEXICO
17631
LICENSED PROFESSIONAL ENGINEER

Prepared by:

Åsa Nilsson-Weber 2-21-12

Åsa Nilsson-Weber, PE Date

NEW MEXICO



MAP SCALE 1" = 500'

0 500 1000 FEET

PANEL 0137G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 137 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	G
BERNALILLO COUNTY, UNINCORPORATED AREAS	350067	0137	G

Notice to User: The Alphabetic suffix actually issued will be shown on the printed map panel. The Community Number shown above should be used on insurance applications for the subject community.

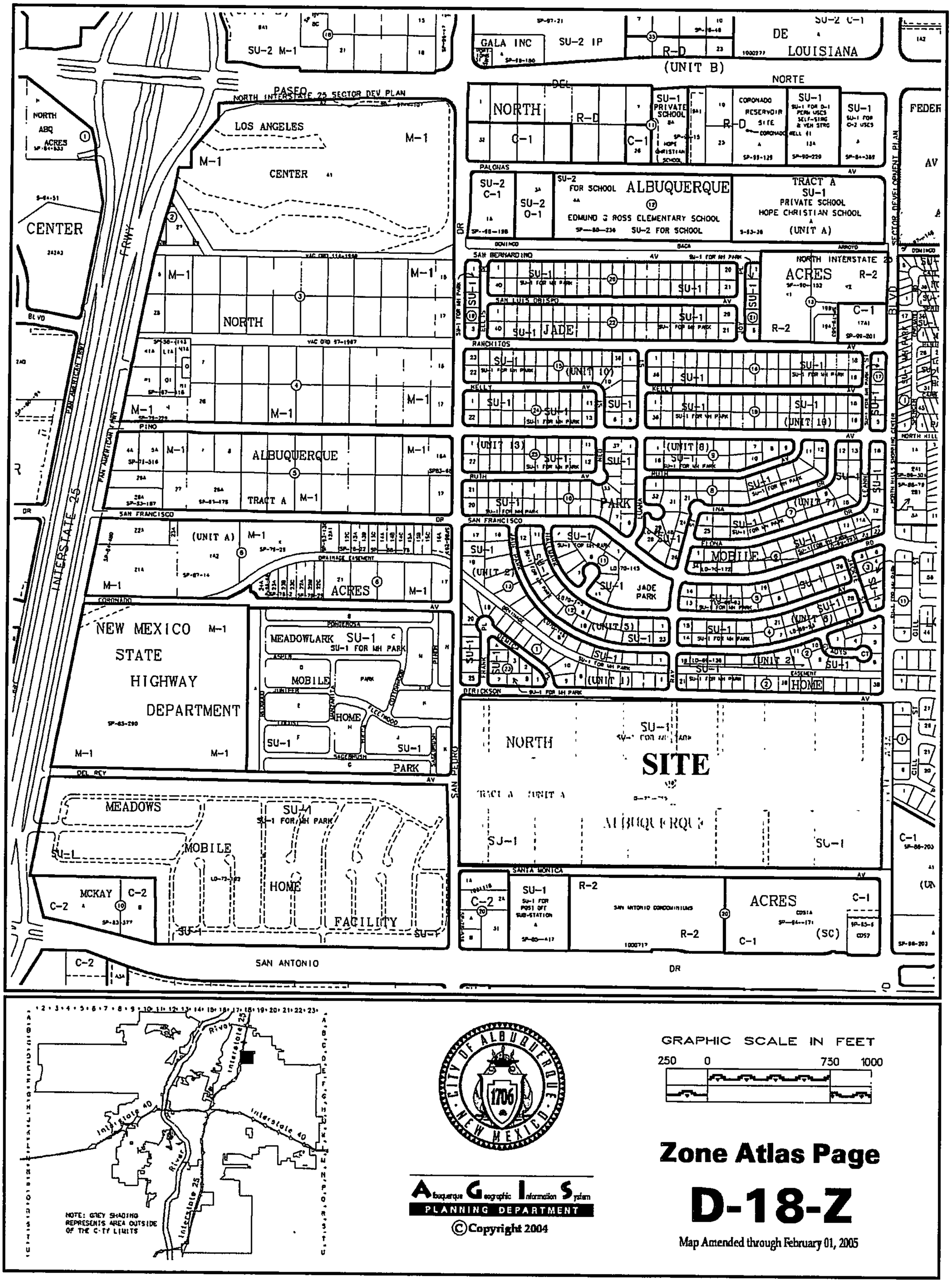
NOTICE TO FLOOD INSURANCE STUDY USERS

MAP NUMBER
35001C0137G

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT OnLine. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the most product information about National Flood Insurance Program flood maps, check the FEMA Flood Map Store at www.msc.fema.gov



CITY OF ALBUQUERQUE · NEW MEXICO · 1706

Albuquerque Geographic Information System
PLANNING DEPARTMENT

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GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

D-18-Z

Map Amended through February 01, 2005

I. PROJECT INFORMATION

LEGAL DESCRIPTION:
Tracts 1 thru 4, Santa Monica Place

TOTAL AREA:
58.19 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 Investements
c/o Titan Development
6300 Riverside Plaza Lane NW - #200
Albuquerque, NM 87120-2617
Attn: Kurt Browning

II. INTRODUCTION

This report is a master drainage study for the 58.2-acre Santa Monica Place property and includes analysis of street flow and storm drain capacity to determine allowable runoff from each tract. The site is bound by Derickson Ave. NE to the north, by Louisiana Blvd. NE to the east, by Santa Monica Ave. NE to the south and by San Pedro Blvd. NE to the west. The site was previously developed as a mobile home park and there are existing concrete building pads, paved driving aisles and parking areas, though all mobile home buildings have been relocated.

A zone change was approved in June, 2011, and a re-plat was filed on January 6, 2012, dividing the site into four tracts. The *Conceptual Drainage Report* by Isaacson & Arfman, P.A., dated December 12, 2011, outlined general drainage requirements for each tract. The purpose of this master drainage report is to analyze flow carrying capacity of adjacent streets and storm drains, determine allowable discharge for each tract, and address interim drainage mitigation.

The proposed zoning and acreage of each tract is provided in the following table.

TRACT	ZONED	ACREAGE
Tract 1	R-2	9.2673 Acres
Tract 2	R-2	13.9846 Acres
Tract 3	R-T	19.3638 Acres
Tract 4	R-LT	15.5781 Acres

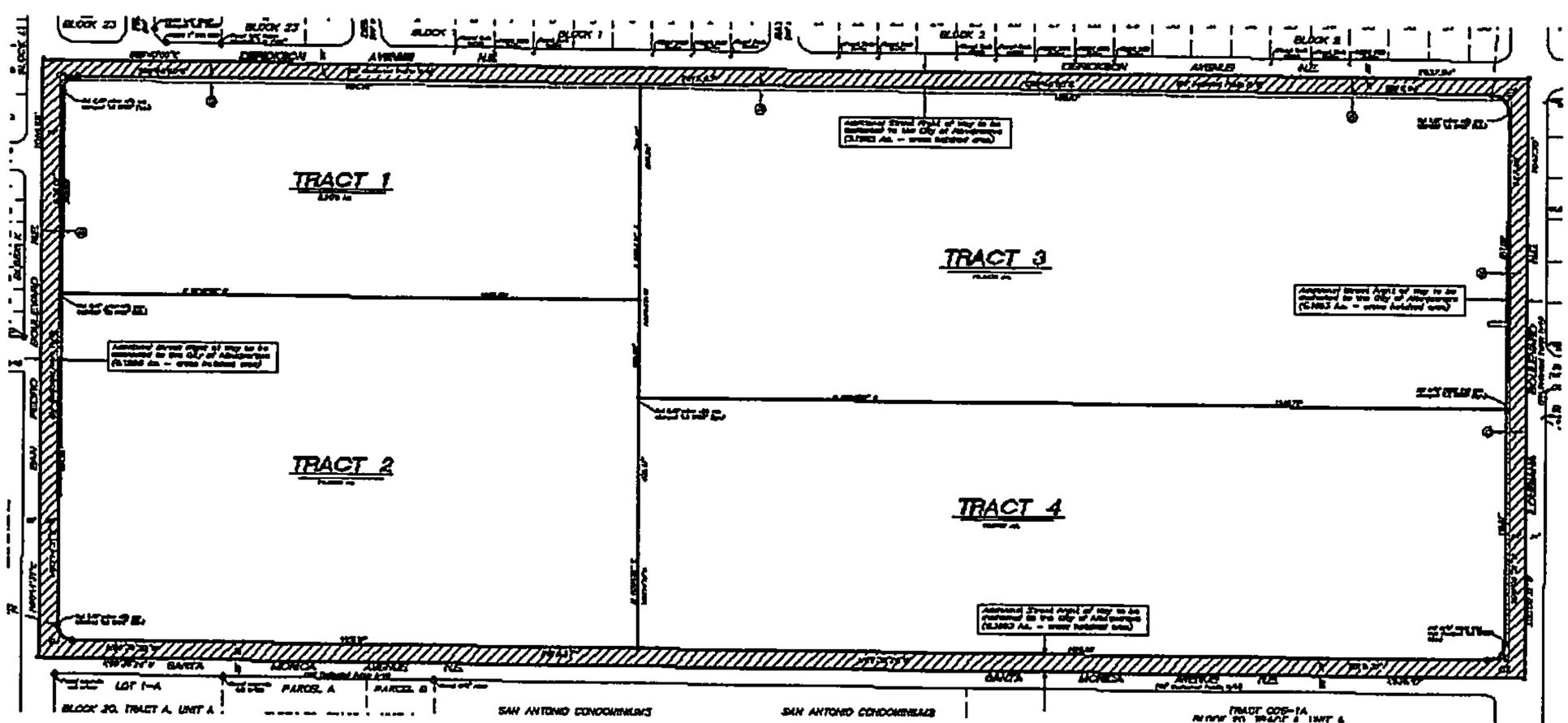

Figure 1: Proposed Santa Monica Place

Tracts 1 & 2 will be developed with apartments, and Tracts 3 & 4 will be developed with residential housing. Tract 2 will be the first tract to be developed and is currently in the design phase as Broadstone Santa Monica Apartments.

III. EXISTING CONDITIONS

The majority of the site discharges to the northwest and enters the existing public storm sewer system inlets near the intersection of Derickson Ave. and San Pedro Blvd. NE.

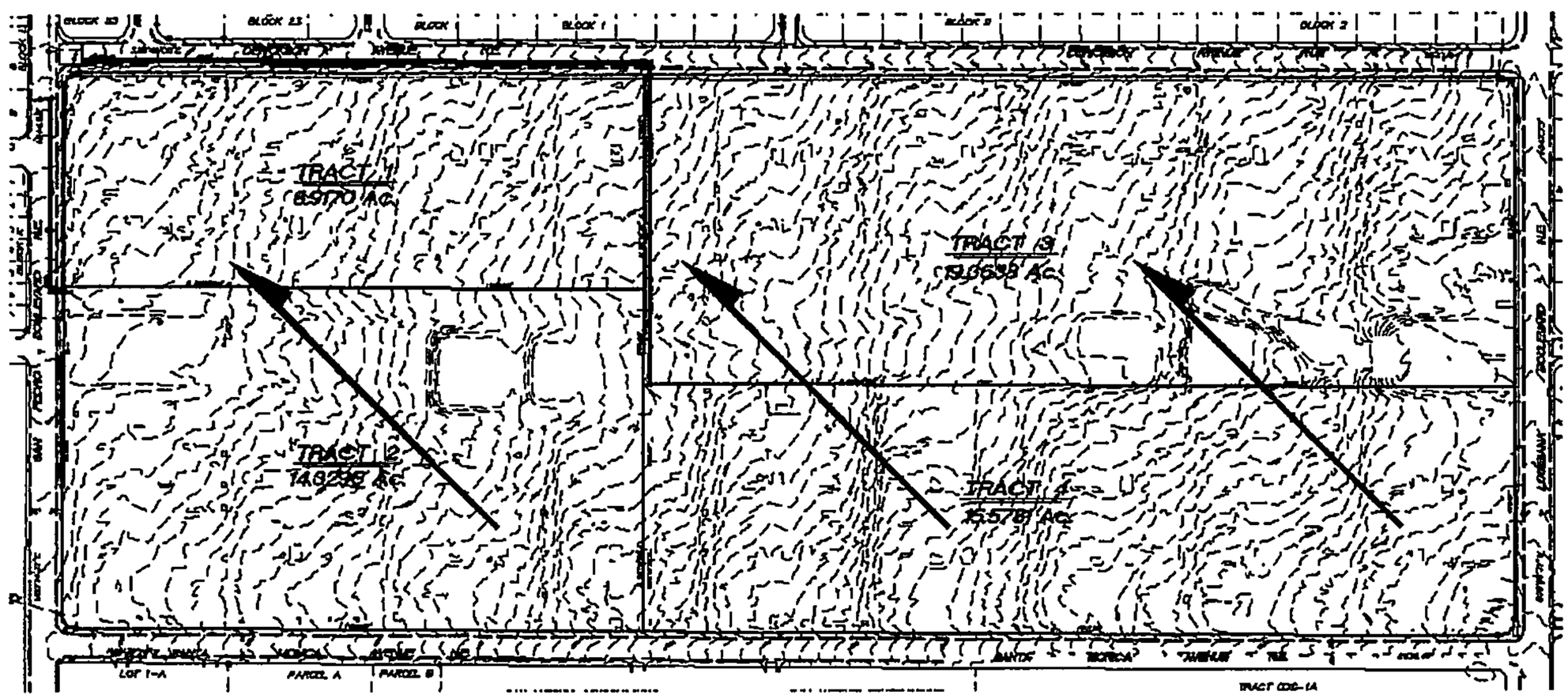

Figure 2: Existing Drainage Patterns

The existing public storm drain system at the intersection of Derickson Ave. and San Pedro Blvd. includes a 48" pipe east to an existing cattle guard inlet in Derickson Ave. and a 36" pipe south to collect street flow from four existing curb inlets in San Pedro Blvd. The flows are conveyed north in a 60" storm drain to the North Pino Arroyo.There are also four additional curb inlets in San Pedro Blvd. between Derickson Ave. and the North Pino Arroyo.

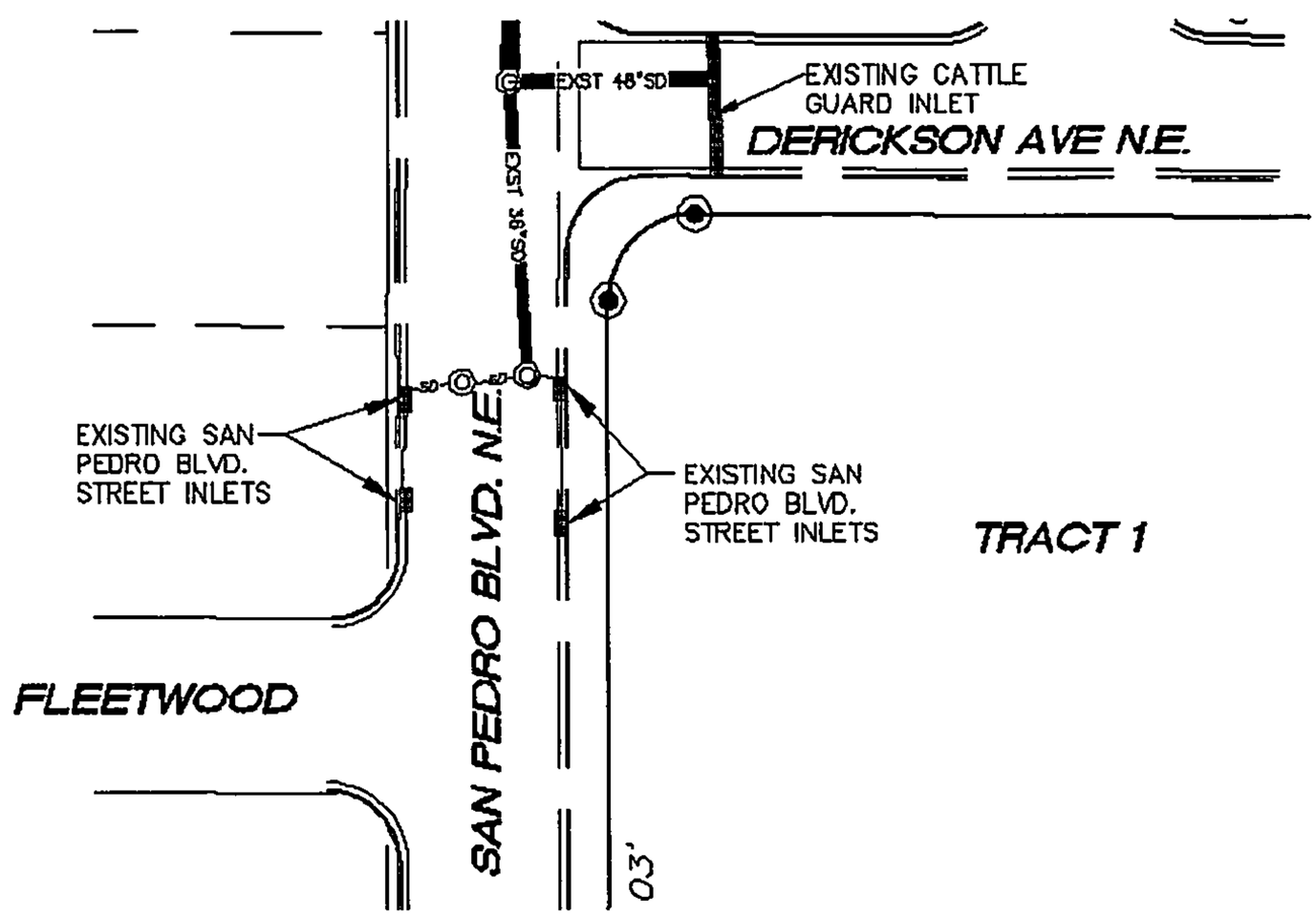

Figure 3: Existing Public Storm Sewer System

Appendix A contains Basin Area and Land Treatment tables. AHYMO was used to calculate flows for the onsite basins (EX-1 thu EX-3) along with the offsite flows (OFF-1 thru OFF-11) contributing to the street flows in Santa Monica Ave.; Derickson Ave. andSan Pedro Blvd.–see Appendix B.

The site was previously analyzed in 2008, in the *Drainage Report for Monterra Del Rey, Units 1-3*, by Isaacson & Arfman P.A. This report based the offsite flow information on the *Study Phase Letter Report for San Pedro Collectors to the North Pino Arroyo,* by Thompson Engineering Consultants, Inc., dated April 2004. The Study Phase Report showed offsite flows of 139.7 cfs entering the Santa Monica Ave./San Pedro Blvd. intersection from the adjacent tracts south of Santa Monica Ave., and it appeared to include half-street flows from Louisiana Blvd.

The offsite flows were re-analyzed for this report. Research of approved grading plans on file with City Hydrology shows that portions of the adjacent tracts south of Santa Monica Ave. drain south to a storm drain system in San Antonio Ave. and portions have controlled outflow to Santa Monica Ave. Based on this research, the actual offsite street flow entering Santa Monica Ave. before the San Pedro Blvd. intersection is 37.8 cfs (including the Santa Monica Ave. basin). The topographic survey for the site shows that there are water blocks, in both Santa Monica Ave. and Derickson Ave. preventing flows from Louisiana Blvd. from entering.

The Existing Drainage Basin Exhibit in the back pocket lists the onsite flows (EX-1 through EX-3), offsite flows (OFF-1 through OFF-11), along with references to the approved grading plans where this information was gathered, where applicable. Flows were calculated in AHYMO for two undeveloped commercial parcels (OFF-1 and OFF-7), for Santa Monica Ave., Derickson Ave., and San Pedro Blvd. (OFF-2, OFF-9 and OFF-8); and for the offsite basins north of Derickson Ave. (OFF-10 and OFF-11).

The existing street flow upstream of the existing cattle guard inlet in Derickson Ave. is 147.6 cfs, and the street flow upstream of the existing inlets in San Pedro Blvd. is 177.1 cfs. Derickson Ave. has limited capacity since there is mountable curb on the north side of the street and existing flows are not contained within the right-of-way in this location.

IV. PROPOSED CONDITIONS

Tracts 1 & 2 will be developed with apartments, and Tracts 3 & 4, with residential housing. Tract 2 will be the first tract to be developed (currently in the design phase as Broadstone Santa Monica Apartments), and Tract 1 will be the second tract to be developed. Upon development of Tracts 3 and 4, a preliminary plat and infrastructure list shall be processed through the City of Albuquerque Development Review Board (DRB).

With the development of each tract, a grading and drainage plan and any supplemental drainage calculations shall be submitted to the City of Albuquerque.

Land treatments for Tract 2 were calculated based on the site plan for Broadstone Santa Monica Apartments, and for Tract 1 based on a conceptual layout for a potential future phase of the Broadstone Santa Monica Apartments. Tracts 3 & 4 (single-residential development) land treatments were estimated at 20%B, 20%C and 60%D. See Appendix A for Basin Area and Land Treatment tables. 10% 10% 80%

ALLOWABLE DISCHARGE FROM TRACTS 1-4

The Proposed Basin Exhibit in the back pocket shows the proposed flow rates based on the following allowable discharge locations:

- **Tract 1** shall be allowed either to surface discharge max. 10 cfs to Derickson Ave. or discharge 10 cfs to the onsite storm drain system connecting to the existing cattle guard inlet, and the remainder of 31.4 cfs shall surface flow to San Pedro Blvd. 41.4
- **Tract 2** shall be allowed to surface discharge 61.4 cfs to Santa Monica Ave. and San Pedro Blvd. Preliminary grading of the Broadstone Santa Monica Apartments indicates that approximately 20 cfs will discharge to Santa Monica Ave. and the remaining 41.4 cfs to San Pedro Blvd. ?
- **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. 79.2
- **Tract 4** shall be allowed to discharge 63.7 cfs into the storm drain system connecting to the Derickson Ave. storm drain, which is the basis for the calculations in this report. 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—Santa Monica Ave. has capacity for 101.5 cfs, and San Pedro Blvd., 208 cfs at a flow depth at top of curb.

STREET CAPACITY

"site visit verified by Curtis Cherne on 3/29/12

The street flows at key locations noted with Sections A through D are listed on the Proposed Basin Exhibit and street flow capacity calculations are included in Appendix C. San Pedro Blvd. has a 12" curb on the west side, and an 8" curb on the east side, with the east side being higher. The street section at the south inlets 1 & 2 (see Storm Drain Exhibit in Appendix D for inlet numbers and location) was derived from the topographic survey for the project, and the street section at the north inlets 5 & 6 was estimated from the contours shown on the as-built storm drain plans included in Appendix G. The street capacity calculations show that flows are contained within the right-of-way at all locations—see summary below..

Section A-A Derickson Ave. east of existing cattle guard inlet
60' R/W; 40' F-F; mountable curb north side, standard curb south side
Q_{100}=57.1 cfs, street depth=0.53'

Section B-B San Pedro Blvd. south of existing inlets 1 & 2
64' R/W; 48' F-F; standard curb west side, 12" curb east side
Q_{100}=149.4 cfs, street depth=0.71' west, 0.58' east

"see note above

Section C-C Santa Monica Ave. at San Pedro intersection
60' R/W; 40' F-F; standard curb both sides
Q_{100}=57.8 cfs, street depth=0.56'

Section D-D San Pedro Blvd. south of existing inlets 5 & 6
64' R/W; 48' F-F; standard curb both sides. Typo?
Q_{100}=102.0 cfs, street depth=0.81' west, 0.48' east
?

EXISTING INLETS

The storm drain exhibit in Appendix D shows the existing inlets curb inlets 1-8 in San Pedro Blvd. The inlet capacities were calculated using DPM Plates 22.3 D-5 and 22.3 D-6 based on street flow depths upstream of each inlet location per Sections B-B and D-D in Appendix C. Since San Pedro Blvd. is higher on the east end, the easterly inlets have less capacity than the westerly inlet.

The capacity of the existing cattle guard inlet in Derickson Ave. was approximated to 66 cfs (20 grates * 3.3 cfs/grate) using DPM Plate 22.3 D-5 based on a street flow depth of 0.3' at a cross slope of 0. 4%, longitudinal slope of 2.5%--see Appendix C, Section A-A. The actual peak flow at this location is 57.1 cfs, so the inlet has capacity to capture all flows.

50% blockage?

STORM DRAIN

Derickson Ave. has limited street flow capacity because of mountable curb on north side, so the majority of the flows from the site shall be captured in a new storm drain. The storm drain shall be installed from the existing cattle guard inlet in Derickson Ave. to the north line of Tract 4. The following summarizes the flows entering the storm drain system.

• Tract 1	10 cfs max. surface flow to Derickson Ave. cattle guard inlet
• Tract 3	10 cfs max. surface flow to Derickson Ave. cattle guard inlet
	69.2 cfs to onsite storm drain
• Tract 4	63.7 cfs to onsite storm drain
• Derickson Ave. & Basin OFF-9	37.1 to Derickson Ave. cattle guard inlet
• Remaining Onsite & Offsite Basins	88 cfs to San Pedro Blvd. inlets
TOTAL:	278 cfs

Appendix D contains a storm drain exhibit, inlet capacity calculations and storm drain calculations. The existing storm drain was modeled from the North Pino Arroyo based on the as-built storm drain plans (included in Appendix G) with added flows at existing inlets per calculated capacities. Inverts and rim elevations shown for the new storm drain system to be installed with the development of Tracts 1, 3 and 4 are approximated based on existing ground elevations.

The storm drain calculations show that the HGL at the cattle guard inlet in Derickson Ave. is slightly above the grate, indicating that some flows may bypass the grate and continue to San Pedro Blvd. This is acceptable since San Pedro Blvd. has ample street flow capacity available (See Section D-D in Appendix C). Also, the AHYMO drainage calculations do not account for routing of flows through Derickson Ave., Santa Monica Ave., San Pedro Blvd, the streets in the future subdivisions (Tract 3 & 4) and through the storm drain, so in reality, the peak flows in the storm drain at the downstream end will be less. ?

The first portion of the storm drain system shall be installed with the Tract 2 development, including connection to the cattle guard inlet and approximately 300 feet of 48" storm drain that will terminate on Tract 1. A temporary inlet shall be constructed at the terminus of this line to capture interim, undeveloped flows from Tract 1.

Upon development of Tract 1, approximately 750 feet of 42" storm drain shall be extended to the Tract 1/Tract 3 line, and upon development of either Tract 3 or Tract 4 (whichever comes first) the storm drain (42"/36") shall be extended approximately 650 feet to the north line of Tract 4.

V. INTERIM CONDITIONS

Upon development of Tract 2 (Broadstone Santa Monica Apartments), the west half of the site including all of Tracts 1 and 2 and a portion to the east shall be demolished. Interim grading and drainage shall be required to redirect flows around the Tract 2 development. Per an easement noted on Sheet 4 of the filed plat, interim cross-lot surface drainage and interim grading improvements on the adjacent undeveloped tracts are allowed (see Appendix F).

Appendix A shows land treatment and basin area tabulations for onsite Interim Basins INT-1 thru INT-3, and AHYMO calculations are included in Appendix B. The Interim Drainage Basin Exhibit shows the interim grading and drainage improvements that shall be constructed with the development of Tract 2 as listed below.

- A storm water deflection berm shall be constructed to direct the flows to a temporary inlet at the terminus of the new 48" storm drain that shall capture all flows from INT-1 (future Tract 1).

- A berm shall be constructed between Tracts 1 & 2 and Tracts 3 & 4 and the flows from basin INT-2 shall be diverted via a swale to a detention pond with a 10-foot wide weir with overflow to Derickson Ave.

The pond volumes and weir overflow at various depths were calculated (see Appendix E) and used to route the flows through the pond in AHYMO. The maximum storage volume in the pond at a maximum outflow of 26.8 cfs is 1.9 ac-ft.

Basin INT-3 (not demolished) shall be allowed to discharge per historical pattern to Derickson Ave. The total interim street flow in Derickson Ave. east of the cattle guard inlet will be 105.9 cfs, which is less than the existing flows of 147.6 cfs.

Upon development of Tract 1, the temporary inlet shall be removed, and upon development of Tracts 3 or 4 (whichever comes first), the detention pond shall be removed. Should Tract 3 development precede Tract 4, an interim detention pond shall be constructed on Tract 4 to mitigate undeveloped flows.

VI. SUMMARY AND CONCLUSIONS

Santa Monica Place consists of four tracts. Tracts 1 & 2 will be developed with apartments and Tracts 3 & 4 with residential housing. Tract 2 will be the first tract to be developed and is currently in the design phase as Broadstone Santa Monica Apartments, and Tract 1 will be the second tract to develop.

Upon development of each tract, a grading and drainage plan and any supplemental drainage calculations shall be submitted to the City of Albuquerque.

This master drainage study provides a determination of the allowable discharge rates and locations for Tracts 1 through 4 in order to maintain adequate capacity in the Derickson Ave. storm drain system and adequate street flow capacity in all adjacent streets.

The allowable discharge and required drainage improvements for each tract are listed below.

ALLOWABLE DISCHARGE:

- **Tract 1** shall be allowed to surface discharge max. 10 cfs to Derickson Ave. or directly into the onsite storm drain system connecting to the existing cattle guard inlet. The remainder of 31.4 cfs shall surface flow to San Pedro Blvd.
- **Tract 2** shall be allowed to surface discharge 61.4 cfs to Santa Monica Ave. and San Pedro Blvd. Preliminary grading of the Broadstone Santa Monica Apartments indicates that approximately 20 cfs will discharge to Santa Monica Ave. and the remaining 41.4 cfs to San Pedro Blvd.
- **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, which is the basis for the calculations in this report. If feasible with grades, a portion may also be discharged to Santa Monica since there is excess street capacity available.

REQUIRED DRAINAGE IMPROVEMENTS:

- **Tract 2** (first tract to develop) shall install connection to the cattle guard inlet and approximately 300 LF of 48" storm drain that will terminate on Tract 1. A 20' public storm drain easement for the onsite portion of the 48" storm drain shall be granted to the City and be recorded. A temporary inlet shall be constructed on Tract 1 at the terminus of the 48" storm drain, and a 1.9 ac-ft temporary detention/ desiltation pond with a 10-foot overflow weir shall be constructed on Tract 3.

- **Tract 1** (second tract to develop) shall remove the temporary inlet and install 42" storm drain to east line of Tract 1 (approximately 750 LF). A 20' public storm drain easement for the storm drain shall be granted to the City and be recorded.

- **Tract 3** (if preceding Tract 4 development) shall remove temporary detention/desiltation pond and install 42"/36" storm drain from east line of Tract 1 to north line of Tract 4 (approximately 650 LF). A temporary pond shall be constructed on Tract 4 to detain undeveloped flows.

- **Tract 4** (if preceding Tract 3 development) shall install 42"/36" storm drain from east line of Tract 1 to north line of Tract 4 (approximately 650 LF).

APPENDIX A

Land Treatments & Basin Areas

LAND TREATMENT TABLE					
PROJECT NAME	Santa Monica Place				
PROJECT #	1900				
BASIN ID	%A	%B	%C	%D	
Proposed Onsite					
P1 (B.)	0	5	20	75	Tract 1 (apartments)
P2 (A.)	0	5	25	70	Tract 2 (apartments)
P3 (G.)	0	20 10	20 10	60 80	Tract 3 (residential) *
P4 (G.)	0	20 10	20 10	60 80	Tract 4 (residential) *
BASIN ID	%A	%B	%C	%D	
Existing Onsite					
EX-1 (C.)	0	23	23	54	To Derickson
EX-2 (C.)	0	23	23	54	To San Pedro
EX-3 (C.)	0	23	23	54	To San Pedro
BASIN ID	%A	%B	%C	%D	
Offsite					
OFF-1 (D.)	0	0	15	85	Undeveloped portion of Grace Lutheran Church
OFF-2 (E.)	0	0	14	86	Santa Monica
OFF-3		KNOWN Q			US Postoffice
OFF-4		KNOWN Q			San Antonio Condos
OFF-5		KNOWN Q			Family Dollar
OFF-6		KNOWN Q			Sandia Dog Obedience School
OFF-7 (D.)	0	0	15	85	Undevloped tract (commercial)
OFF-8 (E.)	0	0	14	86	San Pedro
OFF-9 (E.)	0	0	16	84	Derickson
OFF-10 (F.)	0	31	32	37	Land north of Derickson draining to Derickson
OFF-11 (F.)	0	35	35	30	Land north of Derickson draining to San Pedro
BASIN ID	%A	%B	%C	%D	
Interim Onsite					
INT-1		23	23	54	Demolished Tract 1-A
INT-2		18	41	41	Partially Demolished Tracts 3-A & 4-A
INT-3		23	23	54	Un-demolished Portion of Tract 3-A

LAND TREATMENT NOTES:

A. Calculated per current site plan for Tract 2--Broadstone Santa Monica Apartments.

B. Estimated based on conceptual site plan for a potential future phase of the Broadstone Santa Monica Apartments.

C. Per Study Phase Letter for San Pedro Collectors.

D. Estimated based on typical commercial land treatments.

E. Calculated based on street section.

F. Calculated based on DU/AC and formula per DPM Section 22.2 Table A-5. (See Calculations in Appendix A)

G. Estimated based on residential land use.

BASIN AREA TABLE					
PROJECT NAM	Santa Monica Place				
PROJECT #	1900				
BASIN ID	AREA (sf)	AREA (Ac)	AREA (sq. mi.)	Q100 (cfs)	
Proposed Onsite					
P1	403,685	9.2673	0.01448	41.4	Tract 1 (apartments)
P2	609,171	13.9846	0.02185	61.4	Tract 2 (apartments)
P3	843,489	19.3638	0.03026	79.2	Tract 3 (residential)
P4	678,582	15.5781	0.02434	63.7	Tract 4 (residential)
TOTAL AREA =	2,534,925.72	58.1939	0.09093	245.7	
BASIN ID	AREA (sf)	AREA (Ac)	AREA (sq. mi.)	Q100 (cfs)	
Existing Onsite					
EX-1	1,212,909	27.8446	0.04351	110.5	To Derickson
EX-2	1,206,333	27.6936	0.04327	109.9	To San Pedro
EX-3	115,683	2.6557	0.00415	10.6	To San Pedro
TOTAL AREA =	2,534,925.72	58.1939	0.09093	231.0	
BASIN ID	AREA (sf)	AREA (Ac)	AREA (sq. mi.)	Q100 (cfs)	
Offsite					
OFF-1	6,894	0.1583	0.00025	0.8	Undeveloped portion of Grace Lutheran Church
OFF-2	154,737	3.5523	0.00555	16.6	Santa Monica
OFF-3	KNOWN Q--SEE NOTE A			8.5	US Postoffice
OFF-4	KNOWN Q--SEE NOTE B			11.9	San Antonio Condos
OFF-5	KNOWN Q--SEE NOTE C			3.4	Family Dollar
OFF-6	KNOWN Q--SEE NOTE D			2.1	Sandia Dog Obedience School
OFF-7	27,864	0.6397	0.00100	3.0	Undevloped tract (commercial)
OFF-8	95,457	2.1914	0.00342	10.3	San Pedro
OFF-9	153,198	3.5169	0.00550	16.4	Derickson
OFF-10	248,760	5.7107	0.00892	20.7	Land north of Derickson draining to Derickson
OFF-11	266,417	6.1161	0.00956	21.3	Land north of Derickson draining to San Pedro
TOTAL AREA =	953,325.42	21.8853	0.034196	115.0	
BASIN ID	AREA (sf)	AREA (Ac)	AREA (sq. mi.)	Q100 (cfs)	
Interim Onsite					
INT-1	403,685	9.2673	0.01448	30.7	Demolished Tract 1-A
INT-2	1,060,506	24.3459	0.03804	92.6	Partially Demolished Tracts 3-A & 4-A
INT-3	461,564	10.5961	0.01656	42.0	Un-demolished Portion of Tract 3-A
TOTAL AREA =	1,925,755.10	44.2093	0.06908	165.3	

BASIN NOTES

A. PER GRADING PLAN FOR US POST OFFICE, BY CHAVEZ-GRIEVES, DATED MARCH 1987.

B. PER DRAINAGE REPORT FOR SAN ANTONIO CONDOS, BY ISAACSON & ARFMAN, DATED APRIL 1999.

C. PER GRADING PLAN FOR FAMILY DOLLAR, BY MARK GOODWIN & ASSOC., DATED APRIL 2002.

D. PER GRADING PLAN FOR SANDIA DOG OBEDIENCE SCHOOL, BY MARK GOODWIN & ASSOC., DATED MAY 2002.

APPENDIX B

Drainage Calculations

```
*S*************************************************************
*S        SANTA MONICA PLACE MASTER DRAINAGE PLAN
*S        UNDEVELOPED, DEVELOPED AND INTERIM CONDITIONS
*S        100-YR, 6-HR STORM
*S        1900.DAT
*S        FEBRUARY 1, 2012
*S        BY ASA NILSSON-WEBER
*S        ISAACSON & ARFMAN, P.A.
*S*************************************************************
START                  RAINFALL BEGINS AT 0.0 HRS
RAINFALL               TYPE=2 RAIN QUARTER=0 RAIN ONE=2.1
                       RAIN SIX=2.45 RAIN DAY=2.85 DT=0.03333HR
*S
*S  ONSITE BASINS—DEVELOPED CONDITION
*S
*S  BASIN P1--TRACT 1
COMPUTE NM HYD          ID=1 HYD NO=100 AREA=0.01448 SQ MI
                        PER A=0 PER B=5 PER C=20 PER D=75
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=1   CODE=1
*S  BASIN P2--TRACT 2
COMPUTE NM HYD          ID=2 HYD NO=200 AREA=0.02185 SQ MI
                        PER A=0 PER B=5 PER C=25 PER D=70
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=2   CODE=1
*S  BASIN P3--TRACT 3
COMPUTE NM HYD          ID=3 HYD NO=300 AREA=0.03026 SQ MI
                        PER A=0 PER B=20 PER C=20 PER D=60
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=3   CODE=1
*S  BASIN P4--TRACT 4
COMPUTE NM HYD          ID=4 HYD NO=400 AREA=0.02434 SQ MI
                        PER A=0 PER B=20 PER C=20 PER D=60
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=4   CODE=1
*S
*S  ONSITE BASINS—EXISTING CONDITION
*S
*S  BASIN EX1
COMPUTE NM HYD          ID=5 HYD NO=500 AREA=0.04351 SQ MI
                        PER A=0 PER B=23 PER C=23 PER D=54
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=5   CODE=1
*S  BASIN EX2
COMPUTE NM HYD          ID=6 HYD NO=600 AREA=0.04327 SQ MI
                        PER A=0 PER B=23 PER C=23 PER D=54
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=6   CODE=1
*S  BASIN EX3
COMPUTE NM HYD          ID=7 HYD NO=700 AREA=0.00415 SQ MI
                        PER A=0 PER B=23 PER C=23 PER D=54
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=7   CODE=1
*S
```

```
*S  OFFSITE BASINS
*S
*S  BASIN OFF-1—PORTION OF GRACE LUTHERAN CHURCH
COMPUTE NM HYD        ID=11 HYD NO=110 AREA=0.00025 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=11   CODE=1
*S  BASIN OFF-2—SANTA MONICA
COMPUTE NM HYD        ID=12 HYD NO=120 AREA=0.00555 SQ MI
                      PER A=0 PER B=0 PER C=16 PER D=84
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=12   CODE=1
*S  BASIN OFF-3—US POSTOFFICE
*S  KNOWN Q=8.5 CFS
*S  BASIN OFF-4—SAN ANTONIO CONDOS
*S  KNOWN Q=11.9 CFS
*S  BASIN OFF-5—FAMILY DOLLAR
*S  KNOWN Q=3.4
*S  BASIN OFF-6—SANDIA DOG OBEDIENCE SCHOOL
*S  KNOWN Q=2.1 CFS
*S  BASIN OFF-7—UNDEVELOPED COMMERCIAL PARCEL
COMPUTE NM HYD        ID=17 HYD NO=170 AREA=0.00100 SQ MI
                      PER A=0 PER B=0 PER C=15 PER D=85
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=17   CODE=1
*S  BASIN OFF-8—SAN PEDRO
COMPUTE NM HYD        ID=18 HYD NO=180 AREA=0.00342 SQ MI
                      PER A=0 PER B=0 PER C=14 PER D=86
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=18   CODE=1
*S  BASIN OFF-9—DERICKSON
COMPUTE NM HYD        ID=19 HYD NO=190 AREA=0.00550 SQ MI
                      PER A=0 PER B=0 PER C=16 PER D=84
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=19   CODE=1
*S  BASIN OFF-10—LOTS N. OF DERICKSON DRAINING TO DERICKSON
COMPUTE NM HYD        ID=20 HYD NO=200 AREA=0.00892 SQ MI
                      PER A=0 PER B=31 PER C=32 PER D=37
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=20   CODE=1
*S  BASIN OFF-11—LOTS N. OF DERICKSON DRAINING TO SAN PEDRO
COMPUTE NM HYD        ID=21 HYD NO=210 AREA=0.00956 SQ MI
                      PER A=0 PER B=35 PER C=35 PER D=30
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=21   CODE=1
*S  INTERIM BASINS
*S  TRACT A-2 DEVELOPED; TRACTS A1, A3 & A-4 UNDEVELOPED
*S
*S  BASIN INT-1--TRACT 1 UNDEVELOPED TO TEMPORARY INLET
COMPUTE NM HYD        ID=30 HYD NO=310 AREA=0.01448 SQ MI
                      PER A=0 PER B=0 PER C=100 PER D=0
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=30   CODE=1
```

```
*S  BASIN INT-2-PORTION OF TRACTS 3 & 4-PARTIALLY DEMOLISHED
COMPUTE NM HYD        ID=31 HYD NO=311 AREA=0.03804 SQ MI
                      PER A=0 PER B=18 PER C=41 PER D=41
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=31   CODE=1
*S  BASIN INT-3-PORTION OF TRACT 3 NOT DEMOLISHED
COMPUTE NM HYD        ID=32 HYD NO=312 AREA=0.01656 SQ MI
                      PER A=0 PER B=23 PER C=23 PER D=54
                      TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD             ID=32   CODE=1
*S      ROUTE BASIN INT-2 THROUGH POND
ROUTE RESERVOIR       ID=33 HYD NO=313 INFLOW ID=31 CODE=24
                   OUTFLOW(CFS)      STORAGE(AC-FT)    ELEVATION(FT)
                     0.00            0.000             5282.0
                     0.01            0.9894            5283.0
                     11.8            1.5152            5283.5
                     33.3            2.0632            5284.0
                     61.2            2.6342            5284.5
PRINT HYD            ID=33 CODE=1
FINISH
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Retention?

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AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                        - VERSION:  1997.02d      RUN DATE (MON/DAY/YR) =02/06/2012
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                              FROM  TO                    PEAK        RUNOFF                TIME TO    CFS       PAGE =   1
                  HYDROGRAPH   ID   ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND        IDENTIFICATION  NO.  NO.     (SQ MI)      (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

*S*************************************************************************
*S       SANTA MONICA PLACE MASTER DRAINAGE PLAN
*S       UNDEVELOPED, DEVELOPED AND INTERIM CONDITIONS
*S       100-YR, 6-HR STORM
*S       1900.DAT
*S       FEBRUARY 1, 2012
*S       BY ASA NILSSON-WEBER
*S       ISAACSON & ARFMAN, P.A.
*S*************************************************************************
START                                                                                                   TIME=       .00
RAINFALL  TYPE= 2                                                                                       RAIN24=   2.850
*S
*S  ONSITE BASINS-DEVELOPED CONDITION
*S
*S  BASIN P1--TRACT 1
COMPUTE NM HYD        100.00   -     1        .01448        41.41       1.693      2.19257    1.500    4.468 PER IMP=  75.00
*S  BASIN P2--TRACT 2
COMPUTE NM HYD        200.00   -     2        .02185        61.36       2.477      2.12594    1.500    4.388 PER IMP=  70.00
*S  BASIN P3--TRACT 3
COMPUTE NM HYD        300.00   -     3        .03026        79.22       3.122      1.93466    1.500    4.091 PER IMP=  60.00
*S  BASIN P4--TRACT 4
COMPUTE NM HYD        400.00   -     4        .02434        63.73       2.511      1.93466    1.500    4.091 PER IMP=  60.00
*S
*S  ONSITE BASINS-EXISTING CONDITION
*S
*S  BASIN EX1
COMPUTE NM HYD        500.00   -     5        .04351       110.46       4.277      1.84296    1.500    3.967 PER IMP=  54.00
*S  BASIN EX2
COMPUTE NM HYD        600.00   -     6        .04327       109.85       4.253      1.84296    1.500    3.967 PER IMP=  54.00
*S  BASIN EX3
COMPUTE NM HYD        700.00   -     7        .00415        10.55        .408      1.84298    1.500    3.973 PER IMP=  54.00
*S
*S  OFFSITE BASINS
*S
*S  BASIN OFF-1-PORTION OF GRACE LUTHERAN CHURCH
COMPUTE NM HYD        110.00   -    11        .00025          .77        .031      2.34656    1.500    4.799 PER IMP=  85.00
*S  BASIN OFF-2-SANTA MONICA
COMPUTE NM HYD        120.00   -    12        .00555        16.56        .691      2.33310    1.500    4.662 PER IMP=  84.00
*S  BASIN OFF-3-US POSTOFFICE
*S  KNOWN Q=8.5 CFS
```

```
                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS
                   HYDROGRAPH   ID    ID        AREA     DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND        IDENTIFICATION   NO.   NO.      (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION
*S  BASIN OFF-4-SAN ANTONIO CONDOS
*S  KNOWN Q=11.9 CFS
*S  BASIN OFF-5-FAMILY DOLLAR
*S  KNOWN Q=3.4
*S  BASIN OFF-6-SANDIA DOG OBEDIENCE SCHOOL
*S  KNOWN Q=2.1 CFS
*S  BASIN OFF-7-UNDEVELOPED COMMERCIAL PARCEL
COMPUTE NM HYD        170.00   -    17        .00100        3.01        .125      2.34645    1.500    4.702 PER IMP=  85.00
*S  BASIN OFF-8-SAN PEDRO

COMPUTE NM HYD        180.00   -    18        .00342       10.28        .430      2.35972    1.500    4.697 PER IMP=  86.00
*S  BASIN OFF-9-DERICKSON
COMPUTE NM HYD        190.00   -    19        .00550       16.41        .684      2.33310    1.500    4.662 PER IMP=  84.00
*S  BASIN OFF-10-LOTS N. OF DERICKSON DRAINING TO DERICKSON
COMPUTE NM HYD        200.00   -    20        .00892       20.69        .754      1.58497    1.500    3.624 PER IMP=  37.00
*S  BASIN OFF-11-LOTS N. OF DERICKSON DRAINING TO SAN PEDRO
COMPUTE NM HYD        210.00   -    21        .00956       21.26        .753      1.47619    1.500    3.475 PER IMP=  30.00
*S  INTERIM BASINS
*S  TRACT A-2 DEVELOPED; TRACTS A1, A3 & A-4 UNDEVELOPED
*S
*S  BASIN INT-1--TRACT 1 UNDEVELOPED TO TEMPORARY INLET
COMPUTE NM HYD        310.00   -    30        .01448       30.72        .939      1.21559    1.500    3.315 PER IMP=    .00
*S  BASIN INT-2-PORTION OF TRACTS 3 & 4-PARTIALLY DEMOLISHED
COMPUTE NM HYD        311.00   -    31        .03804       92.56       3.423      1.68737    1.500    3.802 PER IMP=  41.00
*S  BASIN INT-3-PORTION OF TRACT 3 NOT DEMOLISHED
COMPUTE NM HYD        312.00   -    32        .01656       42.05       1.628      1.84297    1.500    3.968 PER IMP=  54.00
*S      ROUTE BASIN INT-2 THROUGH POND
ROUTE RESERVOIR       313.00   31   33        .03804       26.82       2.426      1.19598    1.833    1.102 AC-FT=    1.898
FINISH
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         RUN DATE (MON/DAY/YR) = 02/06/2012
         START TIME (HR:MIN:SEC) = 08:27:51     USER NO.= AHYMO-S-9702dIsa-Arfman3
         INPUT FILE = 1900.DAT
*S*********************************************************************
*S       SANTA MONICA PLACE MASTER DRAINAGE PLAN
*S       UNDEVELOPED, DEVELOPED AND INTERIM CONDITIONS
*S       100-YR, 6-HR STORM
*S       1900.DAT
*S       FEBRUARY 1, 2012
*S       BY ASA NILSSON-WEBER
*S       ISAACSON & ARFMAN, P.A.

*S*********************************************************************
START                RAINFALL BEGINS AT 0.0 HRS
RAINFALL             TYPE=2 RAIN QUARTER=0 RAIN ONE=2.1
                     RAIN SIX=2.45 RAIN DAY=2.85 DT=0.03333HR
               COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
               DT =    .033330 HOURS       END TIME =    19.964670 HOURS
                  .0000   .0016   .0033   .0050   .0067   .0085   .0103
                  .0122   .0141   .0161   .0181   .0202   .0223   .0244
                  .0267   .0290   .0314   .0338   .0364   .0390   .0417
                  .0445   .0475   .0505   .0537   .0570   .0605   .0641
                  .0679   .0720   .0763   .0821   .0883   .0949   .1091
                  .1410   .1900   .2605   .3566   .4830   .6441   .8447
                 1.0895  1.3168  1.4117  1.4918  1.5631  1.6279  1.6876
                 1.7430  1.7948  1.8433  1.8890  1.9321  1.9728  2.0114
                 2.0479  2.0825  2.1153  2.1465  2.1761  2.1829  2.1892
                 2.1952  2.2009  2.2063  2.2115  2.2165  2.2213  2.2259
                 2.2304  2.2347  2.2388  2.2429  2.2468  2.2506  2.2543
                 2.2580  2.2615  2.2649  2.2683  2.2716  2.2748  2.2779
                 2.2810  2.2840  2.2869  2.2898  2.2927  2.2955  2.2982
                 2.3009  2.3035  2.3061  2.3087  2.3112  2.3137  2.3161
                 2.3185  2.3209  2.3232  2.3255  2.3278  2.3300  2.3322
                 2.3344  2.3365  2.3387  2.3408  2.3428  2.3449  2.3469
                 2.3489  2.3509  2.3528  2.3547  2.3567  2.3585  2.3604
                 2.3623  2.3641  2.3659  2.3677  2.3695  2.3712  2.3729
                 2.3747  2.3764  2.3781  2.3797  2.3814  2.3830  2.3847
                 2.3863  2.3879  2.3895  2.3910  2.3926  2.3942  2.3957
```

2.3972	2.3987	2.4002	2.4017	2.4032	2.4046	2.4061
2.4075	2.4090	2.4104	2.4118	2.4132	2.4146	2.4160
2.4173	2.4187	2.4200	2.4214	2.4227	2.4240	2.4254
2.4267	2.4280	2.4292	2.4305	2.4318	2.4331	2.4343
2.4356	2.4368	2.4380	2.4393	2.4405	2.4417	2.4429
2.4441	2.4453	2.4465	2.4476	2.4488	2.4500	2.4511
2.4523	2.4534	2.4546	2.4557	2.4568	2.4580	2.4591
2.4602	2.4614	2.4625	2.4636	2.4647	2.4658	2.4670
2.4681	2.4692	2.4703	2.4714	2.4725	2.4736	2.4747
2.4758	2.4769	2.4779	2.4790	2.4801	2.4812	2.4823
2.4833	2.4844	2.4855	2.4866	2.4876	2.4887	2.4897
2.4908	2.4919	2.4929	2.4940	2.4950	2.4961	2.4971
2.4981	2.4992	2.5002	2.5013	2.5023	2.5033	2.5043
2.5054	2.5064	2.5074	2.5084	2.5095	2.5105	2.5115
2.5125	2.5135	2.5145	2.5155	2.5165	2.5175	2.5185
2.5195	2.5205	2.5215	2.5225	2.5235	2.5244	2.5254
2.5264	2.5274	2.5284	2.5293	2.5303	2.5313	2.5323
2.5332	2.5342	2.5352	2.5361	2.5371	2.5380	2.5390
2.5399	2.5409	2.5418	2.5428	2.5437	2.5447	2.5456
2.5466	2.5475	2.5484	2.5494	2.5503	2.5512	2.5522
2.5531	2.5540	2.5549	2.5559	2.5568	2.5577	2.5586
2.5595	2.5605	2.5614	2.5623	2.5632	2.5641	2.5650
2.5659	2.5668	2.5677	2.5686	2.5695	2.5704	2.5713
2.5722	2.5731	2.5739	2.5748	2.5757	2.5766	2.5775
2.5784	2.5792	2.5801	2.5810	2.5819	2.5827	2.5836
2.5845	2.5853	2.5862	2.5871	2.5879	2.5888	2.5897
2.5905	2.5914	2.5922	2.5931	2.5939	2.5948	2.5956
2.5965	2.5973	2.5982	2.5990	2.5999	2.6007	2.6015
2.6024	2.6032	2.6040	2.6049	2.6057	2.6065	2.6074
2.6082	2.6090	2.6098	2.6107	2.6115	2.6123	2.6131
2.6140	2.6148	2.6156	2.6164	2.6172	2.6180	2.6188
2.6196	2.6204	2.6212	2.6221	2.6229	2.6237	2.6245
2.6253	2.6261	2.6268	2.6276	2.6284	2.6292	2.6300
2.6308	2.6316	2.6324	2.6332	2.6340	2.6347	2.6355
2.6363	2.6371	2.6379	2.6386	2.6394	2.6402	2.6410
2.6417	2.6425	2.6433	2.6440	2.6448	2.6456	2.6463
2.6471	2.6479	2.6486	2.6494	2.6502	2.6509	2.6517
2.6524	2.6532	2.6539	2.6547	2.6554	2.6562	2.6569
2.6577	2.6584	2.6592	2.6599	2.6607	2.6614	2.6621

2.6629	2.6636	2.6644	2.6651	2.6658	2.6666	2.6673
2.6680	2.6688	2.6695	2.6702	2.6709	2.6717	2.6724
2.6731	2.6738	2.6746	2.6753	2.6760	2.6767	2.6774
2.6782	2.6789	2.6796	2.6803	2.6810	2.6817	2.6824
2.6832	2.6839	2.6846	2.6853	2.6860	2.6867	2.6874
2.6881	2.6888	2.6895	2.6902	2.6909	2.6916	2.6923
2.6930	2.6937	2.6944	2.6951	2.6958	2.6964	2.6971
2.6978	2.6985	2.6992	2.6999	2.7006	2.7013	2.7019
2.7026	2.7033	2.7040	2.7047	2.7053	2.7060	2.7067
2.7074	2.7081	2.7087	2.7094	2.7101	2.7107	2.7114
2.7121	2.7128	2.7134	2.7141	2.7148	2.7154	2.7161
2.7167	2.7174	2.7181	2.7187	2.7194	2.7200	2.7207
2.7214	2.7220	2.7227	2.7233	2.7240	2.7246	2.7253
2.7259	2.7266	2.7272	2.7279	2.7285	2.7292	2.7298
2.7305	2.7311	2.7318	2.7324	2.7331	2.7337	2.7343
2.7350	2.7356	2.7362	2.7369	2.7375	2.7382	2.7388
2.7394	2.7401	2.7407	2.7413	2.7420	2.7426	2.7432
2.7438	2.7445	2.7451	2.7457	2.7463	2.7470	2.7476
2.7482	2.7488	2.7495	2.7501	2.7507	2.7513	2.7519
2.7526	2.7532	2.7538	2.7544	2.7550	2.7556	2.7562
2.7569	2.7575	2.7581	2.7587	2.7593	2.7599	2.7605
2.7611	2.7617	2.7623	2.7629	2.7635	2.7641	2.7648
2.7654	2.7660	2.7666	2.7672	2.7678	2.7684	2.7690
2.7695	2.7701	2.7707	2.7713	2.7719	2.7725	2.7731
2.7737	2.7743	2.7749	2.7755	2.7761	2.7767	2.7772
2.7778	2.7784	2.7790	2.7796	2.7802	2.7808	2.7813
2.7819	2.7825	2.7831	2.7837	2.7843		

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*S
*S  ONSITE BASINS—DEVELOPED CONDITION
*S
*S  BASIN P1--TRACT 1
COMPUTE NM HYD       ID=1 HYD NO=100 AREA=0.01448 SQ MI
                     PER A=0 PER B=5 PER C=20 PER D=75
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   42.876    CFS   UNIT VOLUME =    .9991       B =   526.28      P60 = 2.1000
     AREA =      .010860 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
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     K =    .113404HR    TP =    .133300HR    K/TP RATIO =    .850740     SHAPE CONSTANT, N =  4.183841
     UNIT PEAK =   9.9732    CFS   UNIT VOLUME =    .9989       B =   367.25      P60 = 2.1000
     AREA =       .003620 SQ MI    IA =    .38000 INCHES    INF =    .91400 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=1   CODE=1
                                  PARTIAL HYDROGRAPH   100.00

    RUNOFF VOLUME =     2.19257 INCHES     =       1.6932 ACRE-FEET
    PEAK DISCHARGE RATE =      41.41 CFS  AT   1.500 HOURS   BASIN AREA =   .0145 SQ. MI.

*S  BASIN P2--TRACT 2
COMPUTE NM HYD       ID=2 HYD NO=200 AREA=0.02185 SQ MI
                     PER A=0 PER B=5 PER C=25 PER D=70
                     TP=-0.1333 HR   MASS RAIN=-1
     K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   60.385    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 2.1000
     AREA =       .015295 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =    .112580HR    TP =    .133300HR    K/TP RATIO =    .844560     SHAPE CONSTANT, N =  4.217280
     UNIT PEAK =   18.165    CFS   UNIT VOLUME =    .9995       B =   369.41      P60 = 2.1000
     AREA =       .006555 SQ MI    IA =    .37500 INCHES    INF =    .90000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=2   CODE=1
                                  PARTIAL HYDROGRAPH   200.00

    RUNOFF VOLUME =     2.12594 INCHES     =       2.4774 ACRE-FEET
    PEAK DISCHARGE RATE =      61.36 CFS  AT   1.500 HOURS   BASIN AREA =   .0219 SQ. MI.

*S  BASIN P3--TRACT 3
COMPUTE NM HYD       ID=3 HYD NO=300 AREA=0.03026 SQ MI
                     PER A=0 PER B=20 PER C=20 PER D=60
                     TP=-0.1333 HR   MASS RAIN=-1
     K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   71.681    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 2.1000
     AREA =       .018156 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
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     K =    .120817HR    TP =    .133300HR    K/TP RATIO =    .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   31.692    CFS   UNIT VOLUME =    1.000       B =   349.03      P60 = 2.1000
     AREA =       .012104 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=3   CODE=1
                                        HYDROGRAPH FROM AREA   300.00

    RUNOFF VOLUME =     1.93466 INCHES     =       3.1223 ACRE-FEET
    PEAK DISCHARGE RATE =      79.22 CFS  AT   1.500 HOURS   BASIN AREA =   .0303 SQ. MI.

*S  BASIN P4--TRACT 4
COMPUTE NM HYD       ID=4 HYD NO=400 AREA=0.02434 SQ MI
                     PER A=0 PER B=20 PER C=20 PER D=60
                     TP=-0.1333 HR   MASS RAIN=-1
     K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   57.657    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 2.1000
     AREA =       .014604 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =    .120817HR    TP =    .133300HR    K/TP RATIO =    .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   25.492    CFS   UNIT VOLUME =    .9999       B =   349.03      P60 = 2.1000
     AREA =       .009736 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=4   CODE=1
                                        HYDROGRAPH FROM AREA   400.00

    RUNOFF VOLUME =     1.93466 INCHES     =       2.5114 ACRE-FEET
    PEAK DISCHARGE RATE =      63.73 CFS  AT   1.500 HOURS   BASIN AREA =   .0243 SQ. MI.

*S
*S  ONSITE BASINS—EXISTING CONDITION
*S
*S  BASIN EX1
COMPUTE NM HYD       ID=5 HYD NO=500 AREA=0.04351 SQ MI
                     PER A=0 PER B=23 PER C=23 PER D=54
                     TP=-0.1333 HR   MASS RAIN=-1
     K =    .072649HR    TP =    .133300HR    K/TP RATIO =    .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   92.761    CFS   UNIT VOLUME =    .9993       B =   526.28      P60 = 2.1000
     AREA =       .023495 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
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     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .120817HR    TP =   .133300HR    K/TP RATIO =   .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   52.405    CFS   UNIT VOLUME =    1.000       B =   349.03      P60 = 2.1000
     AREA =      .020015 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=5   CODE=1
                                OUTFLOW HYDROGRAPH RESERVOIR   500.00

    RUNOFF VOLUME =     1.84296 INCHES     =       4.2766 ACRE-FEET
    PEAK DISCHARGE RATE =     110.46 CFS  AT   1.500 HOURS   BASIN AREA =   .0435 SQ. MI.

*S  BASIN EX2
COMPUTE NM HYD       ID=6 HYD NO=600 AREA=0.04327 SQ MI
                     PER A=0 PER B=23 PER C=23 PER D=54
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   92.249    CFS   UNIT VOLUME =    .9993       B =   526.28      P60 = 2.1000
     AREA =      .023366 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .120817HR    TP =   .133300HR    K/TP RATIO =   .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   52.116    CFS   UNIT VOLUME =    1.000       B =   349.03      P60 = 2.1000
     AREA =      .019904 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=6   CODE=1
                                HYDROGRAPH FROM AREA   600.00

    RUNOFF VOLUME =     1.84296 INCHES     =       4.2530 ACRE-FEET
    PEAK DISCHARGE RATE =     109.85 CFS  AT   1.500 HOURS   BASIN AREA =   .0433 SQ. MI.

*S  BASIN EX3
COMPUTE NM HYD       ID=7 HYD NO=700 AREA=0.00415 SQ MI
                     PER A=0 PER B=23 PER C=23 PER D=54
                     TP=-0.1333 HR   MASS RAIN=-1

     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   8.8476    CFS   UNIT VOLUME =    .9981       B =   526.28      P60 = 2.1000
     AREA =      .002241 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
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     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .120817HR    TP =   .133300HR    K/TP RATIO =   .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   4.9984    CFS   UNIT VOLUME =    .9978       B =   349.03      P60 = 2.1000
     AREA =      .001909 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=7   CODE=1
                                    HYDROGRAPH FROM AREA   700.00

    RUNOFF VOLUME =     1.84298 INCHES     =        .4079 ACRE-FEET
    PEAK DISCHARGE RATE =      10.55 CFS AT   1.500 HOURS  BASIN AREA =   .0042 SQ. MI.

*S
*S  OFFSITE BASINS
*S
*S  BASIN OFF-1-PORTION OF GRACE LUTHERAN CHURCH
COMPUTE NM HYD       ID=11 HYD NO=110 AREA=0.00025 SQ MI
                     PER A=0 PER B=0 PER C=15 PER D=85
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   .83896    CFS   UNIT VOLUME =    .9862       B =   526.28      P60 = 2.1000
     AREA =      .000213 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .108461HR    TP =   .133300HR    K/TP RATIO =   .813662     SHAPE CONSTANT, N =  4.394154
     UNIT PEAK =   .10708    CFS   UNIT VOLUME =    .8768       B =   380.65      P60 = 2.1000
     AREA =      .000038 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=11   CODE=1
                                  PARTIAL HYDROGRAPH   110.00

    RUNOFF VOLUME =     2.34656 INCHES     =        .0313 ACRE-FEET
    PEAK DISCHARGE RATE =        .77 CFS AT   1.500 HOURS  BASIN AREA =   .0003 SQ. MI.

*S  BASIN OFF-2-SANTA MONICA
COMPUTE NM HYD       ID=12 HYD NO=120 AREA=0.00555 SQ MI
                     PER A=0 PER B=0 PER C=16 PER D=84
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
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     UNIT PEAK =   18.406    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1000
     AREA =      .004662 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .108461HR    TP =   .133300HR    K/TP RATIO =   .813662     SHAPE CONSTANT, N =  4.394154
     UNIT PEAK =   2.5357    CFS   UNIT VOLUME =    .9953       B =   380.65      P60 = 2.1000
     AREA =      .000888 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=12   CODE=1
                                  PARTIAL HYDROGRAPH   120.00

    RUNOFF VOLUME =     2.33310 INCHES     =        .6906 ACRE-FEET
    PEAK DISCHARGE RATE =      16.56 CFS—AT   1.500 HOURS— BASIN AREA =   .0056 SQ. MI.

*S  BASIN OFF-3—US POSTOFFICE
*S  KNOWN Q=8.5 CFS
*S  BASIN OFF-4—SAN ANTONIO CONDOS
*S  KNOWN Q=11.9 CFS
*S  BASIN OFF-5—FAMILY DOLLAR
*S  KNOWN Q=3.4
*S  BASIN OFF-6—SANDIA DOG OBEDIENCE SCHOOL
*S  KNOWN Q=2.1 CFS
*S  BASIN OFF-7—UNDEVELOPED COMMERCIAL PARCEL
COMPUTE NM HYD       ID=17 HYD NO=170 AREA=0.00100 SQ MI
                     PER A=0 PER B=0 PER C=15 PER D=85
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   3.3558    CFS   UNIT VOLUME =    .9961       B =   526.28      P60 = 2.1000
     AREA =      .000850 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .108461HR    TP =   .133300HR    K/TP RATIO =   .813662     SHAPE CONSTANT, N =  4.394154
     UNIT PEAK =   .42833    CFS   UNIT VOLUME =    .9710       B =   380.65      P60 = 2.1000
     AREA =      .000150 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=17   CODE=1
                                  PARTIAL HYDROGRAPH   170.00

    RUNOFF VOLUME =     2.34645 INCHES     =        .1251 ACRE-FEET
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    PEAK DISCHARGE RATE =       3.01 CFS AT   1.500 HOURS BASIN AREA =   .0010 SQ. MI.

*S  BASIN OFF-8-SAN PEDRO
COMPUTE NM HYD        ID=18 HYD NO=180 AREA=0.00342 SQ MI
                      PER A=0 PER B=0 PER C=14 PER D=86
                      TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   11.612    CFS   UNIT VOLUME =    .9984       B =   526.28      P60 = 2.1000
     AREA =      .002941 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .108461HR    TP =   .133300HR    K/TP RATIO =   .813662     SHAPE CONSTANT, N =  4.394154
     UNIT PEAK =   1.3672    CFS   UNIT VOLUME =    .9909       B =   380.65      P60 = 2.1000
     AREA =      .000479 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD             ID=18   CODE=1
                                  PARTIAL HYDROGRAPH   180.00

    RUNOFF VOLUME =     2.35972 INCHES     =        .4304 ACRE-FEET
    PEAK DISCHARGE RATE =      10.28 CFS AT   1.500 HOURS BASIN AREA =   .0034 SQ. MI.

*S  BASIN OFF-9-DERICKSON
COMPUTE NM HYD        ID=19 HYD NO=190 AREA=0.00550 SQ MI
                      PER A=0 PER B=0 PER C=16 PER D=84
                      TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   18.240    CFS   UNIT VOLUME =    .9988       B =   526.28      P60 = 2.1000
     AREA =      .004620 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .108461HR    TP =   .133300HR    K/TP RATIO =   .813662     SHAPE CONSTANT, N =  4.394154
     UNIT PEAK =   2.5129    CFS   UNIT VOLUME =    .9953       B =   380.65      P60 = 2.1000
     AREA =      .000880 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD             ID=19   CODE=1
                                  PARTIAL HYDROGRAPH   190.00

    RUNOFF VOLUME =     2.33310 INCHES     =        .6844 ACRE-FEET
    PEAK DISCHARGE RATE =      16.41 CFS AT   1.500 HOURS BASIN AREA =   .0055 SQ. MI.
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*S  BASIN OFF-10-LOTS N. OF DERICKSON DRAINING TO DERICKSON
COMPUTE NM HYD        ID=20 HYD NO=200 AREA=0.00892 SQ MI
                      PER A=0 PER B=31 PER C=32 PER D=37
                      TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   13.030    CFS   UNIT VOLUME =    .9985       B =   526.28      P60 = 2.1000
     AREA =      .003300 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .120621HR    TP =   .133300HR    K/TP RATIO =   .904885     SHAPE CONSTANT, N =  3.915279
     UNIT PEAK =   14.733    CFS   UNIT VOLUME =    .9996       B =   349.48      P60 = 2.1000
     AREA =      .005620 SQ MI    IA =    .42381 INCHES    INF =   1.03667 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD             ID=20   CODE=1
                                   PARTIAL HYDROGRAPH   200.00

    RUNOFF VOLUME =     1.58497 INCHES     =        .7540 ACRE-FEET
    PEAK DISCHARGE RATE =      20.69 CFS -AT   1.500 HOURS- BASIN AREA =   .0089 SQ. MI.

*S  BASIN OFF-11-LOTS N. OF DERICKSON DRAINING TO SAN PEDRO
COMPUTE NM HYD        ID=21 HYD NO=210 AREA=0.00956 SQ MI
                      PER A=0 PER B=35 PER C=35 PER D=30
                      TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   11.323    CFS   UNIT VOLUME =    .9984       B =   526.28      P60 = 2.1000
     AREA =      .002868 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .120817HR    TP =   .133300HR    K/TP RATIO =   .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   17.522    CFS   UNIT VOLUME =    .9997       B =   349.03      P60 = 2.1000
     AREA =      .006692 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD             ID=21   CODE=1
                                   PARTIAL HYDROGRAPH   210.00

    RUNOFF VOLUME =     1.47619 INCHES     =        .7527 ACRE-FEET
    PEAK DISCHARGE RATE =      21.26 CFS AT   1.500 HOURS- BASIN AREA =   .0096 SQ. MI.
```

```
*S  INTERIM BASINS
*S  TRACT A-2 DEVELOPED; TRACTS A1, A3 & A-4 UNDEVELOPED
*S
*S  BASIN INT-1--TRACT 1 UNDEVELOPED TO TEMPORARY INLET
COMPUTE NM HYD       ID=30 HYD NO=310 AREA=0.01448 SQ MI
                     PER A=0 PER B=0 PER C=100 PER D=0
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .108461HR    TP =   .133300HR    K/TP RATIO =   .813662     SHAPE CONSTANT, N =  4.394154
     UNIT PEAK =   41.349    CFS   UNIT VOLUME =    1.000       B =   380.65      P60 = 2.1000
     AREA =      .014480 SQ MI    IA =    .35000 INCHES    INF =    .83000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=30   CODE=1
                                        HYDROGRAPH FROM AREA   310.00

    RUNOFF VOLUME =     1.21559 INCHES     =        .9388 ACRE-FEET
    PEAK DISCHARGE RATE =      30.72 CFS AT   1.500 HOURS  BASIN AREA =   .0145 SQ. MI.

*S  BASIN INT-2—PORTION OF TRACTS 3 & 4—PARTIALLY DEMOLISHED
COMPUTE NM HYD       ID=31 HYD NO=311 AREA=0.03804 SQ MI
                     PER A=0 PER B=18 PER C=41 PER D=41
                     TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   61.575    CFS   UNIT VOLUME =    .9992       B =   526.28      P60 = 2.1000
     AREA =      .015596 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .116000HR    TP =   .133300HR    K/TP RATIO =   .870221     SHAPE CONSTANT, N =  4.082343
     UNIT PEAK =   60.718    CFS   UNIT VOLUME =    1.000       B =   360.62      P60 = 2.1000
     AREA =      .022444 SQ MI    IA =    .39576 INCHES    INF =    .95814 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=31   CODE=1
                                        HYDROGRAPH FROM AREA   311.00

    RUNOFF VOLUME =     1.68737 INCHES     =       3.4233 ACRE-FEET
    PEAK DISCHARGE RATE =      92.56 CFS AT   1.500 HOURS  BASIN AREA =   .0380 SQ. MI.

*S  BASIN INT-3—PORTION OF TRACT 3 NOT DEMOLISHED
COMPUTE NM HYD       ID=32 HYD NO=312 AREA=0.01656 SQ MI
                     PER A=0 PER B=23 PER C=23 PER D=54
```

```
                    TP=-0.1333 HR   MASS RAIN=-1
     K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =  7.106420
     UNIT PEAK =   35.305    CFS   UNIT VOLUME =    .9990       B =   526.28      P60 = 2.1000
     AREA =      .008942 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     K =   .120817HR    TP =   .133300HR    K/TP RATIO =   .906356     SHAPE CONSTANT, N =  3.908546
     UNIT PEAK =   19.946    CFS   UNIT VOLUME =    .9998       B =   349.03      P60 = 2.1000
     AREA =      .007618 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330
PRINT HYD            ID=32   CODE=1
                                     HYDROGRAPH FROM AREA   312.00

    RUNOFF VOLUME =     1.84297 INCHES     =       1.6277 ACRE-FEET
    PEAK DISCHARGE RATE =      42.05 CFS - AT   1.500 HOURS  BASIN AREA =   .0166 SQ. MI.

*S      ROUTE BASIN INT-2 THROUGH POND
ROUTE RESERVOIR      ID=33 HYD NO=313 INFLOW ID=31 CODE=24
                 OUTFLOW(CFS)      STORAGE(AC-FT)    ELEVATION(FT)
                   0.00             0.000             5282.0
                   0.01             0.9894            5283.0
                   11.8             1.5152            5283.5
                   33.3             2.0632            5284.0
                   61.2             2.6342            5284.5
*  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *
  TIME       INFLOW    ELEV      VOLUME    OUTFLOW
  (HRS)      (CFS)     (FEET)    (AC-FT)   (CFS)
    .00        .00   5282.00       .000       .00
    .80        .00   5282.00       .000       .00
   1.60      67.37   5283.49      1.504     11.55
   2.40       3.46   5283.50      1.519     11.96
   3.20        .59   5283.15      1.151      3.63
   4.00        .31   5283.05      1.039      1.11
   4.80        .28   5283.02      1.010       .47
   5.60        .31   5283.01      1.004       .34
   6.40        .34   5283.01      1.004       .34
   7.20        .32   5283.01      1.004       .33
   8.00        .31   5283.01      1.003       .32
   8.80        .29   5283.01      1.002       .30
```

```
 9.60        .28   5283.01      1.002       .29
10.40        .26   5283.01      1.001       .27
11.20        .25   5283.01      1.001       .26
12.00        .24   5283.01      1.000       .25
12.80        .23   5283.01      1.000       .24
13.60        .23   5283.01       .999       .23
14.40        .22   5283.01       .999       .22
15.20        .21   5283.01       .999       .22
16.00        .20   5283.01       .998       .21
16.80        .20   5283.01       .998       .20
17.60        .19   5283.01       .998       .20
18.40        .18   5283.01       .997       .19
19.20        .18   5283.01       .997       .18
 PEAK DISCHARGE =       26.820 CFS - PEAK OCCURS AT HOUR    1.83
 MAXIMUM WATER SURFACE ELEVATION =     5283.849
 MAXIMUM STORAGE =        1.8980 AC-FT      INCREMENTAL TIME=     .033330HRS
PRINT HYD           ID=33 CODE=1
                                    HYDROGRAPH FROM AREA   313.00

    RUNOFF VOLUME =     1.19598 INCHES     =       2.4264 ACRE-FEET
    PEAK DISCHARGE RATE =      26.82 CFS AT   1.833 HOURS   BASIN AREA =   .0380 SQ. MI.

FINISH
    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 08:27:52
```

APPENDIX C

Street Flow Capacity Calculations

Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Wednesday, Feb 15 2012

Santa Monica Place--DERICKSON UPSTREAM OF CATTLE GUARD INLET SECTION

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.50
N-Value	= 0.016

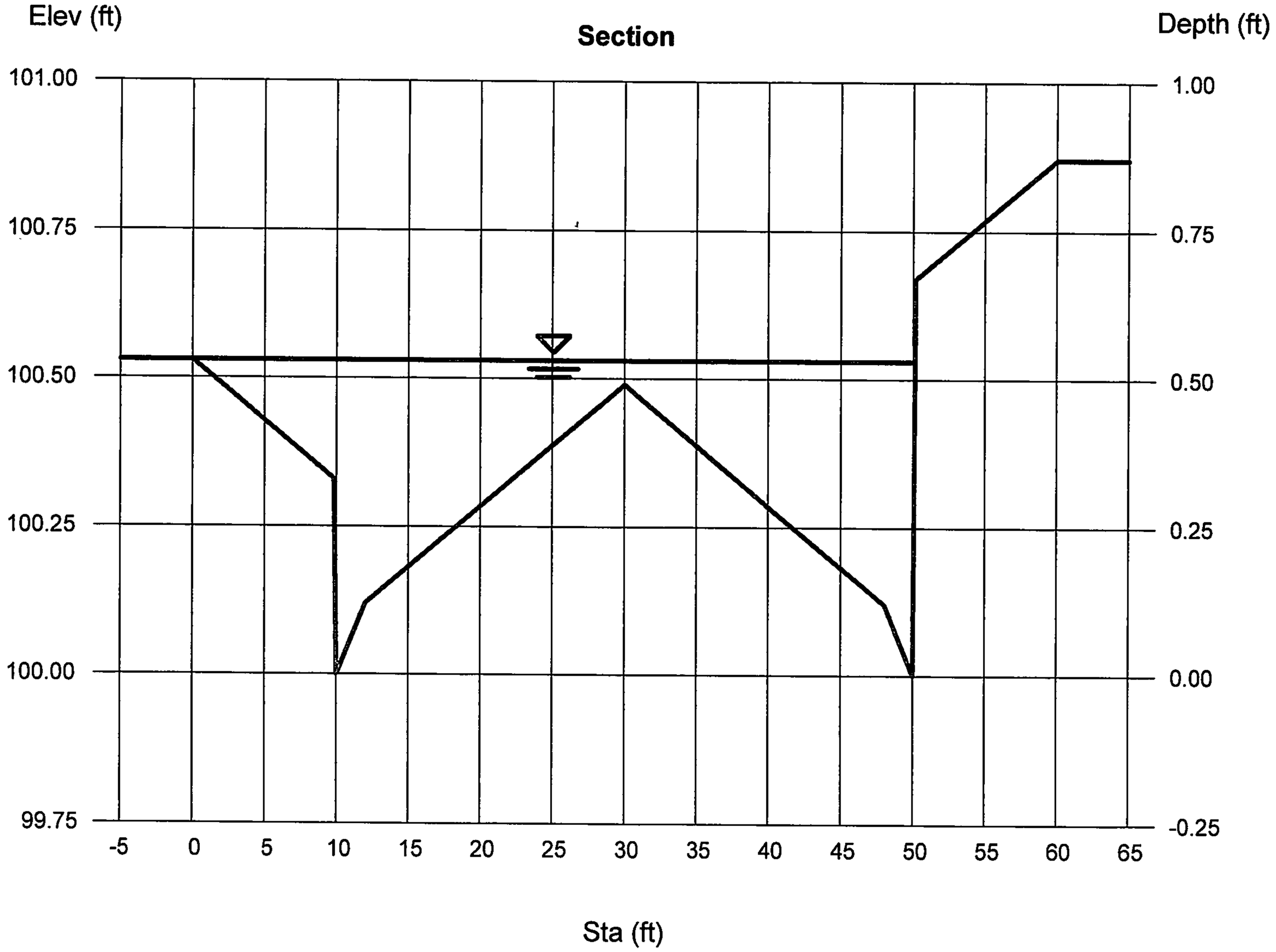
Calculations

Compute by:	Known Q
Known Q (cfs)	= 57.10

Highlighted

Depth (ft)	= 0.53
Q (cfs)	= 57.10
Area (sqft)	= 11.06
Velocity (ft/s)	= 5.16
Wetted Perim (ft)	= 50.76
Crit Depth, Yc (ft)	= 0.66
Top Width (ft)	= 50.13
EGL (ft)	= 0.94

(Sta, El, n)-(Sta, El, n)...
(-5.00, 100.53, 0.013)-(9.00, 100.53, 0.013)-(10.00, 100.00, 0.013)-(12.00, 100.12, 0.017)-(30.00, 100.49, 0.017)-(48.00, 100.12, 0.017)-(50.00, 100.00, 0.013)
-(50.17, 100.67, 0.013)-(60.00, 100.87, 0.017)



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Wednesday, Feb 15 2012

Santa Monica Place--DERICKSON AT CATTLE GUARD SECTION A-A

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.50
N-Value	= 0.017

Calculations

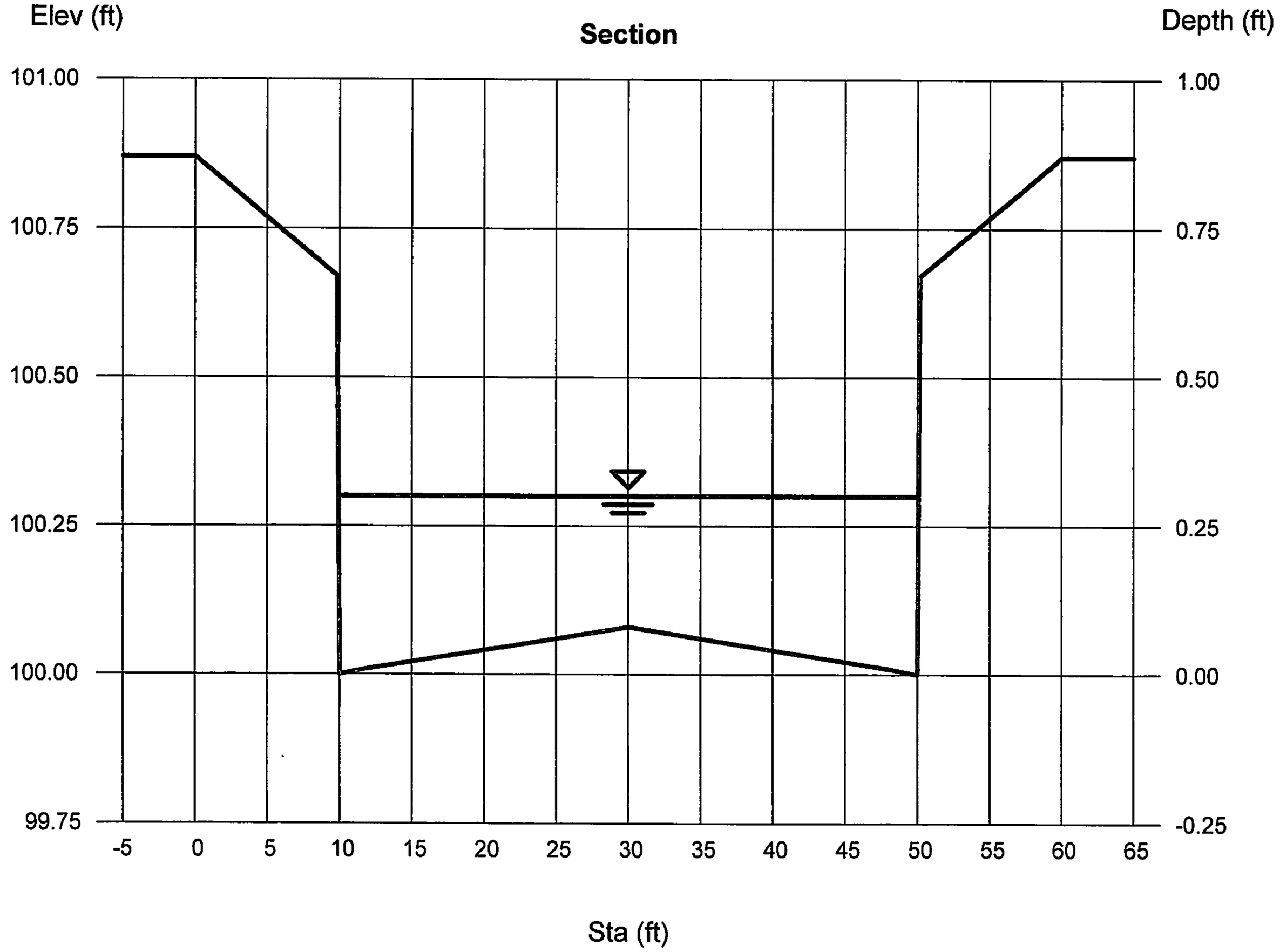
Compute by:	Known Q
Known Q (cfs)	= 57.10

Highlighted

Depth (ft)	= 0.30
Q (cfs)	= 57.10
Area (sqft)	= 10.38
Velocity (ft/s)	= 5.50
Wetted Perim (ft)	= 40.62
Crit Depth, Yc (ft)	= 0.44
Top Width (ft)	= 40.15
EGL (ft)	= 0.77

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

(-5.00, 100.87)-(9.00, 100.67, 0.013)-(10.00, 100.00, 0.013)-(12.00, 100.01, 0.017)-(30.00, 100.08, 0.017)-(48.00, 100.01, 0.017)-(50.00, 100.00, 0.013)-(50.17, 100.67, 0.013)-(60.00, 100.87, 0.017)



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Wednesday, Feb 15 2012

Santa Monica Place--SAN PEDRO BLVD SECTION B-B AT INLETS 1 & 2

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.00
N-Value	= 0.017

Calculations

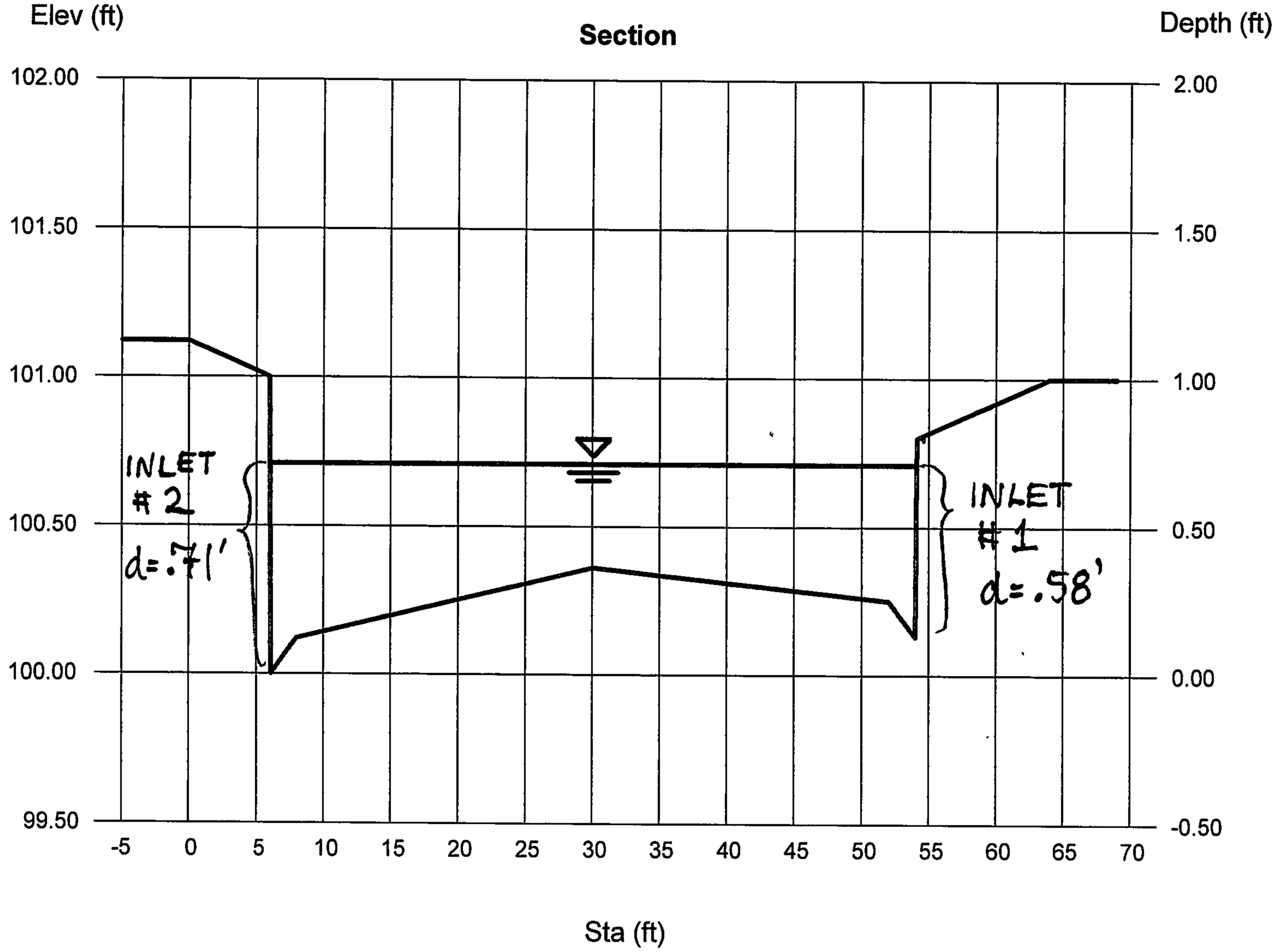
Compute by:	Known Q
Known Q (cfs)	= 149.40

Highlighted

Depth (ft)	= 0.71
Q (cfs)	= 149.40
Area (sqft)	= 21.58
Velocity (ft/s)	= 6.92
Wetted Perim (ft)	= 49.21
Crit Depth, Yc (ft)	= 0.96
Top Width (ft)	= 48.06
EGL (ft)	= 1.46

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

(-5.00, 101.12)-(6.00, 101.00, 0.017)-(6.10, 100.00, 0.017)-(8.00, 100.12, 0.017)-(30.00, 100.36, 0.017)-(52.00, 100.25, 0.017)-(54.00, 100.13, 0.017)-(54.10, 100.80, 0.017)-(64.00, 101.00, 0.017)



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Wednesday, Feb 15 2012

Santa Monica Place--SAN PEDRO BLVD SECTION B-B AT INLETS 3 & 4

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.00
N-Value	= 0.017

Calculations

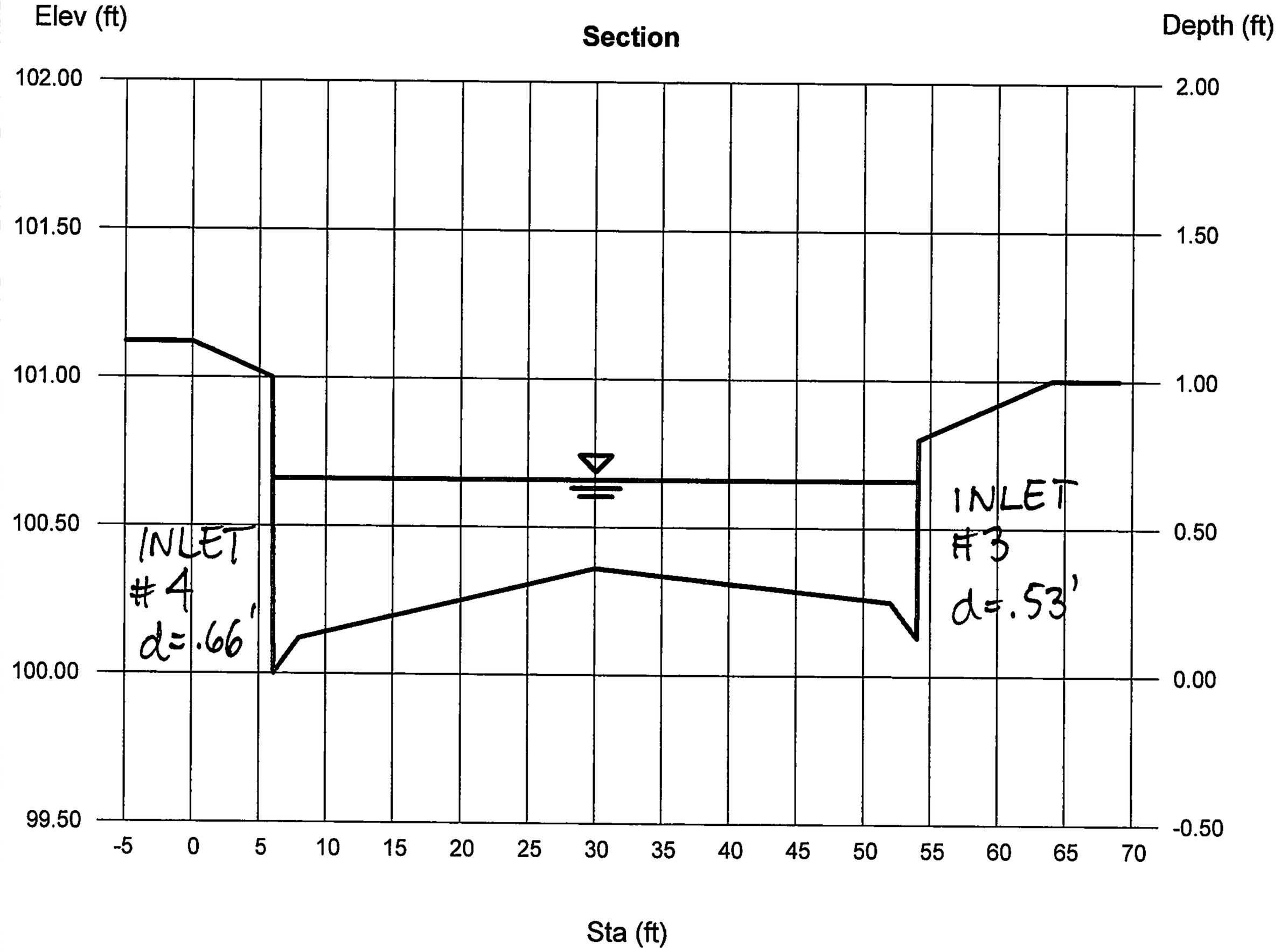
Compute by:	Known Q
Known Q (cfs)	= 123.90

Highlighted

Depth (ft)	= 0.66
Q (cfs)	= 123.90
Area (sqft)	= 19.17
Velocity (ft/s)	= 6.46
Wetted Perim (ft)	= 49.11
Crit Depth, Yc (ft)	= 0.87
Top Width (ft)	= 48.05
EGL (ft)	= 1.31

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

(-5.00, 101.12)-(6.00, 101.00, 0.017)-(6.10, 100.00, 0.017)-(8.00, 100.12, 0.017)-(30.00, 100.36, 0.017)-(52.00, 100.25, 0.017)-(54.00, 100.13, 0.017)-(54.10, 100.80, 0.017)-(64.00, 101.00, 0.017)



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Thursday, Feb 2 2012

Santa Monica Place--SANTA MONICA AVE SECTION C-C

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 2.00
N-Value	= 0.017

Calculations

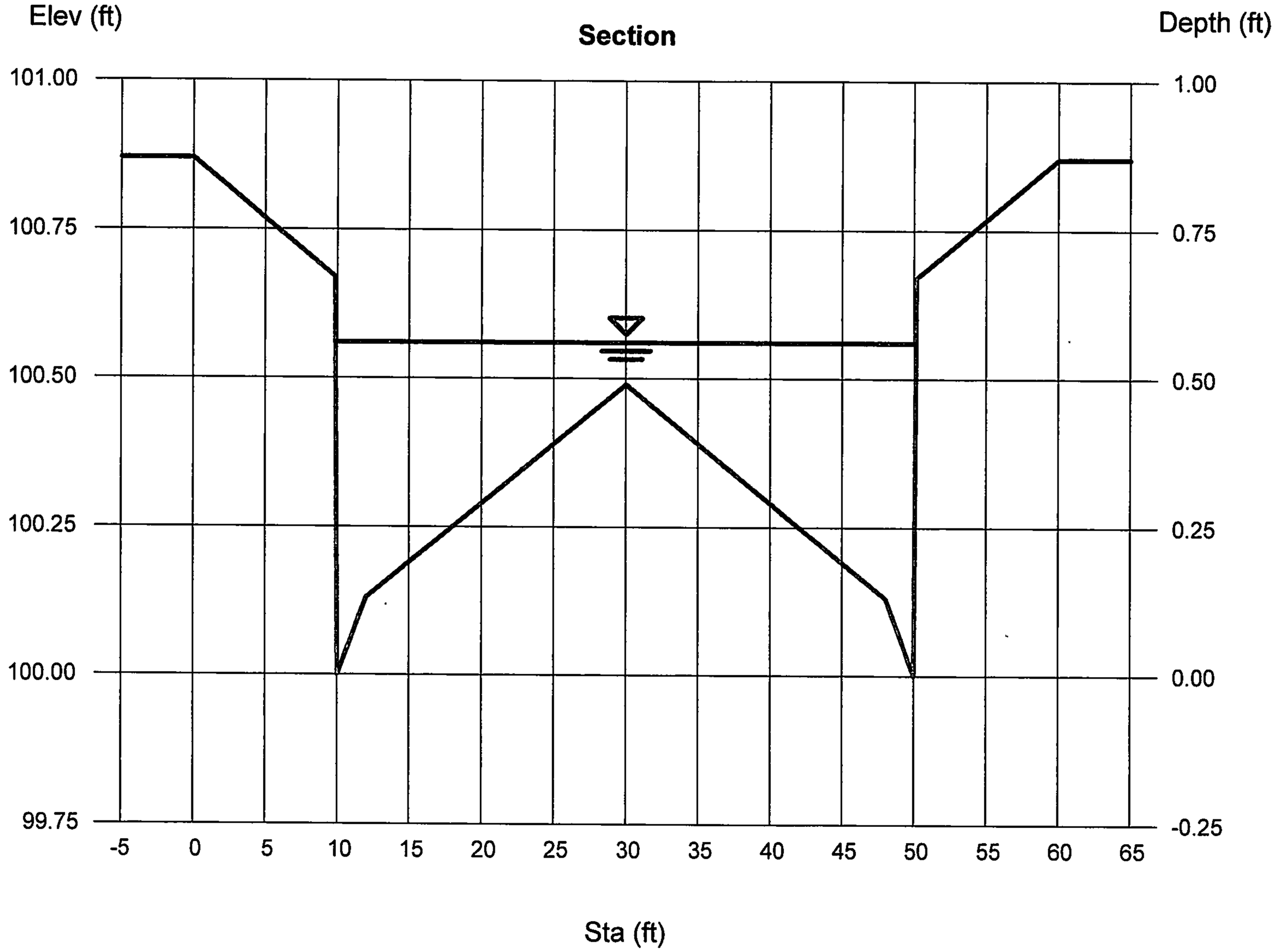
Compute by:	Known Q
Known Q (cfs)	= 57.80

Highlighted

Depth (ft)	= 0.56
Q (cfs)	= 57.80
Area (sqft)	= 11.06
Velocity (ft/s)	= 5.23
Wetted Perim (ft)	= 41.17
Crit Depth, Yc (ft)	= 0.70
Top Width (ft)	= 40.28
EGL (ft)	= 0.98

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

(-5.00, 100.87)-(9.00, 100.67, 0.013)-(10.00, 100.00, 0.013)-(12.00, 100.13, 0.017)-(30.00, 100.49, 0.017)-(48.00, 100.13, 0.017)-(50.00, 100.00, 0.013)-(50.17, 100.67, 0.013)-(60.00, 100.87, 0.017)



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Wednesday, Feb 15 2012

Santa Monica Place--SAN PEDRO BLVD SECTION D-D AT INLETS 5 & 6

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 1.20
N-Value	= 0.017

Calculations

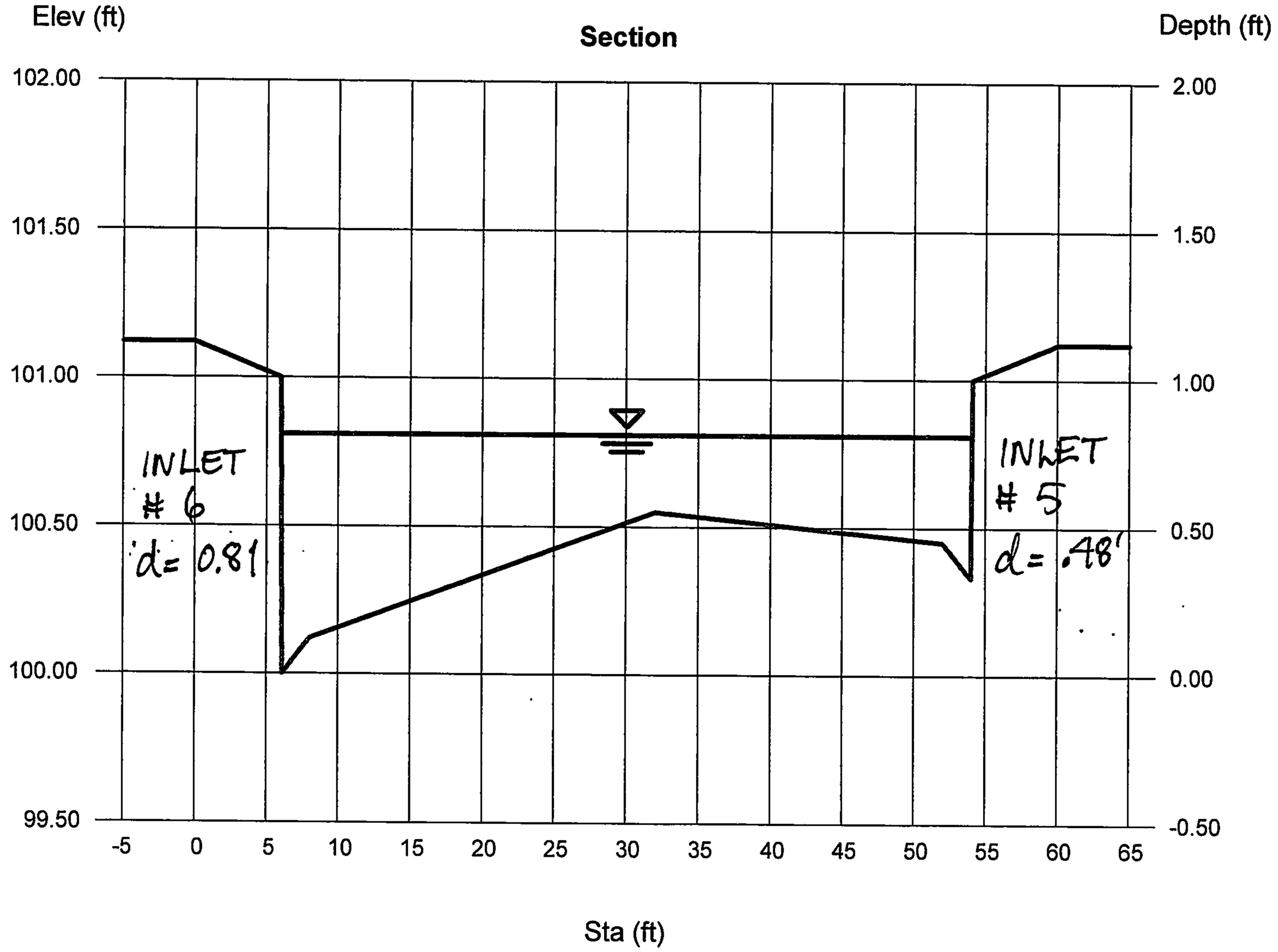
Compute by:	Known Q
Known Q (cfs)	= 102.00

Highlighted

Depth (ft)	= 0.81
Q (cfs)	= 102.00
Area (sqft)	= 19.91
Velocity (ft/s)	= 5.12
Wetted Perim (ft)	= 49.21
Crit Depth, Yc (ft)	= 0.92
Top Width (ft)	= 48.05
EGL (ft)	= 1.22

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

(-5.00, 101.12)-(6.00, 101.00, 0.017)-(6.10, 100.00, 0.017)-(8.00, 100.12, 0.017)-(32.00, 100.55, 0.017)-(52.00, 100.45, 0.017)-(54.00, 100.33, 0.017)-(54.10, 101.00, 0.017)-(60.00, 101.12, 0.017)



Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Wednesday, Feb 15 2012

Santa Monica Place--SAN PEDRO BLVD SECTION D-D AT INLETS 7 & 8

User-defined

Invert Elev (ft)	= 100.00
Slope (%)	= 1.20
N-Value	= 0.017

Calculations

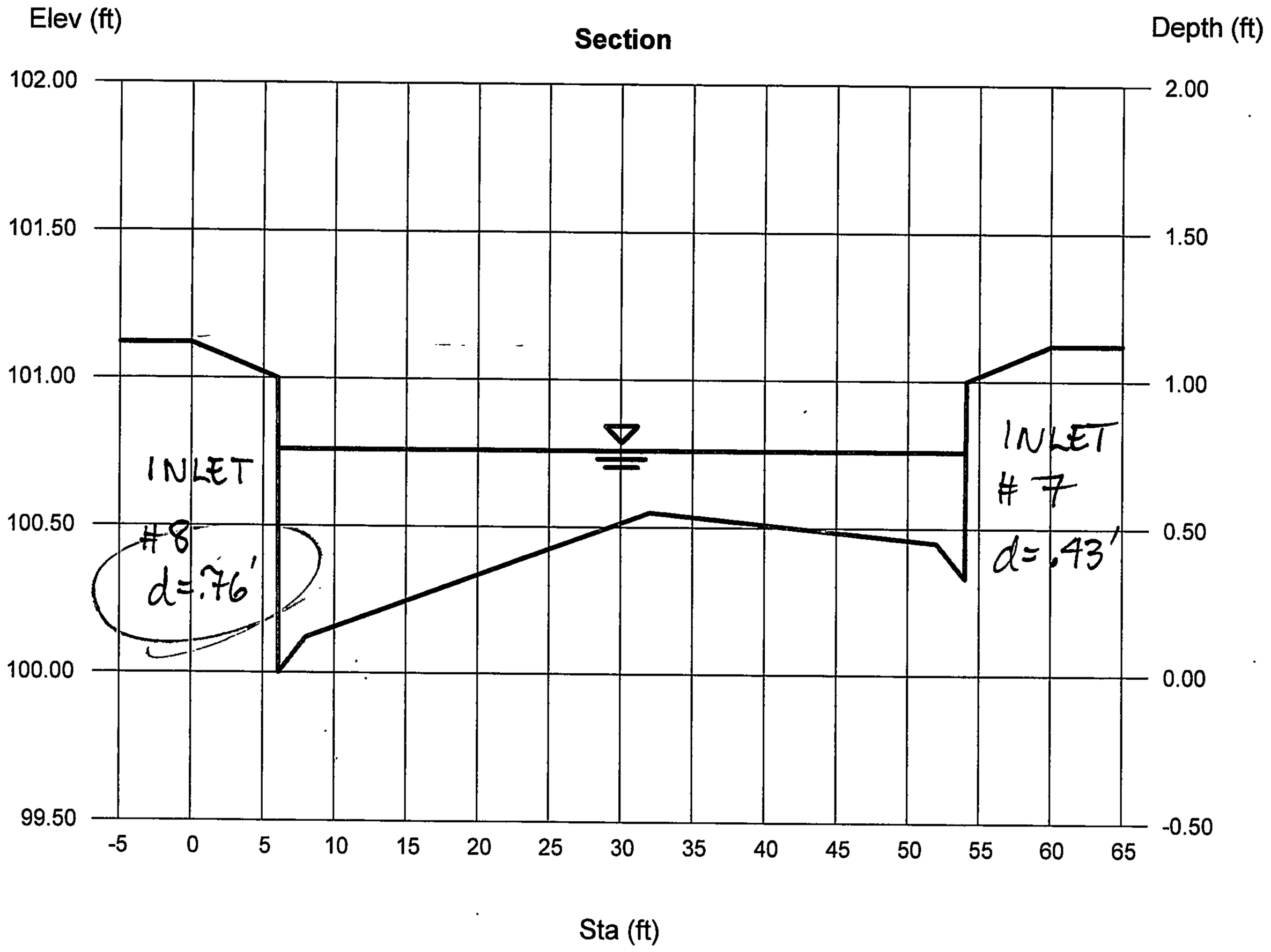
Compute by:	Known Q
Known Q (cfs)	= 83.00

Highlighted

Depth (ft)	= 0.76
Q (cfs)	= 83.00
Area (sqft)	= 17.51
Velocity (ft/s)	= 4.74
Wetted Perim (ft)	= 49.11
Crit Depth, Yc (ft)	= 0.85
Top Width (ft)	= 48.04
EGL (ft)	= 1.11

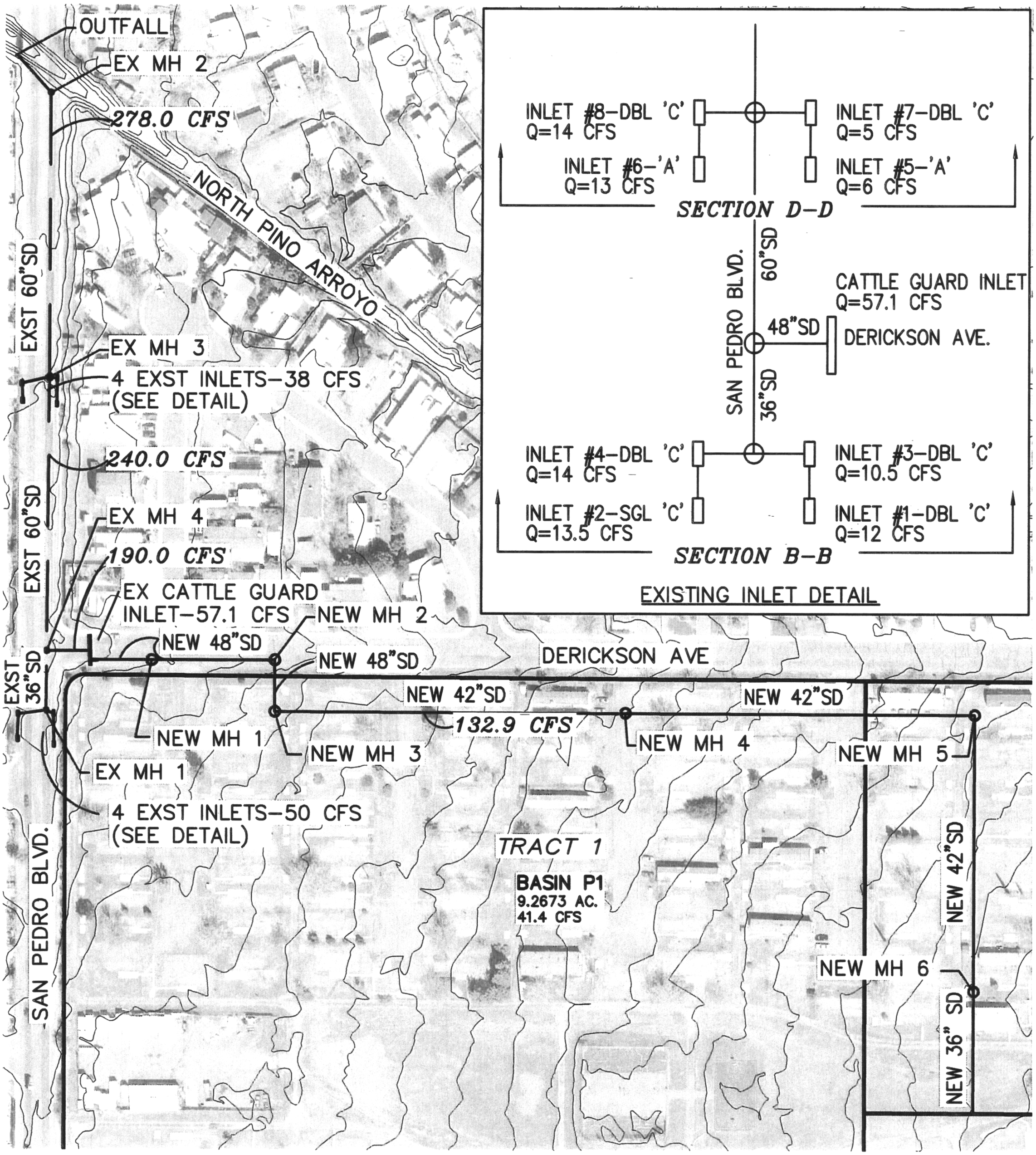
(Sta, El, n)-(Sta, El, n)...

(-5.00, 101.12)-(6.00, 101.00, 0.017)-(6.10, 100.00, 0.017)-(8.00, 100.12, 0.017)-(32.00, 100.55, 0.017)-(52.00, 100.45, 0.017)-(54.00, 100.33, 0.017)-(54.10, 101.00, 0.017)-(60.00, 101.12, 0.017)



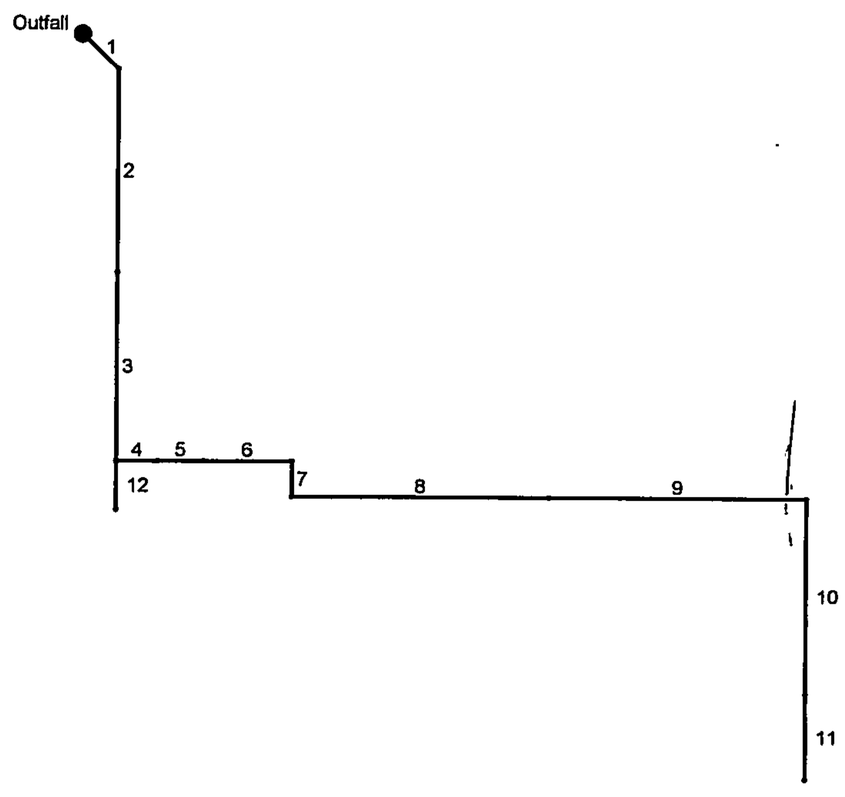
APPENDIX D

STORM DRAIN CALCULATIONS



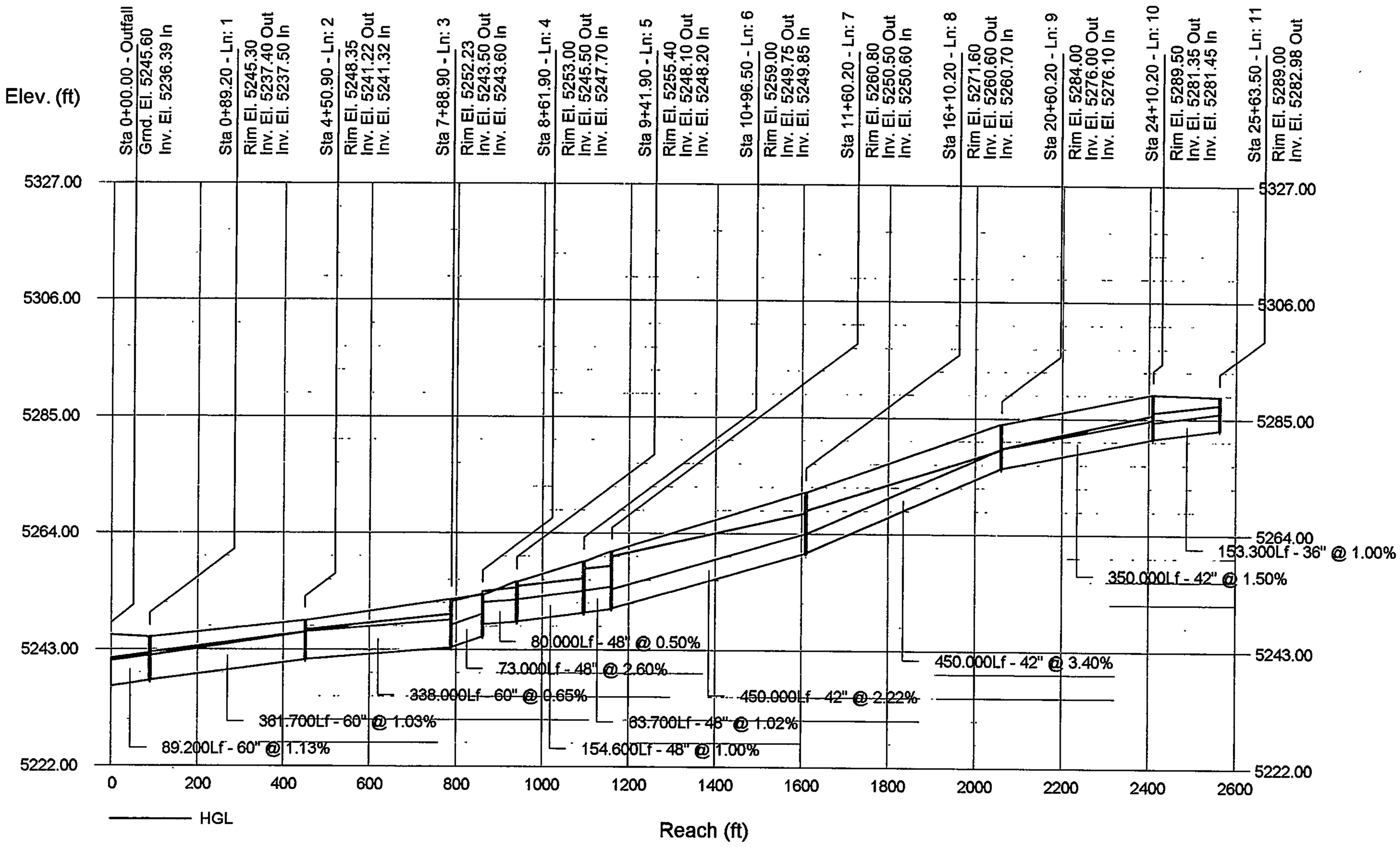
SANTA MONICA PLACE – STORM DRAIN EXHIBIT
N.T.S.

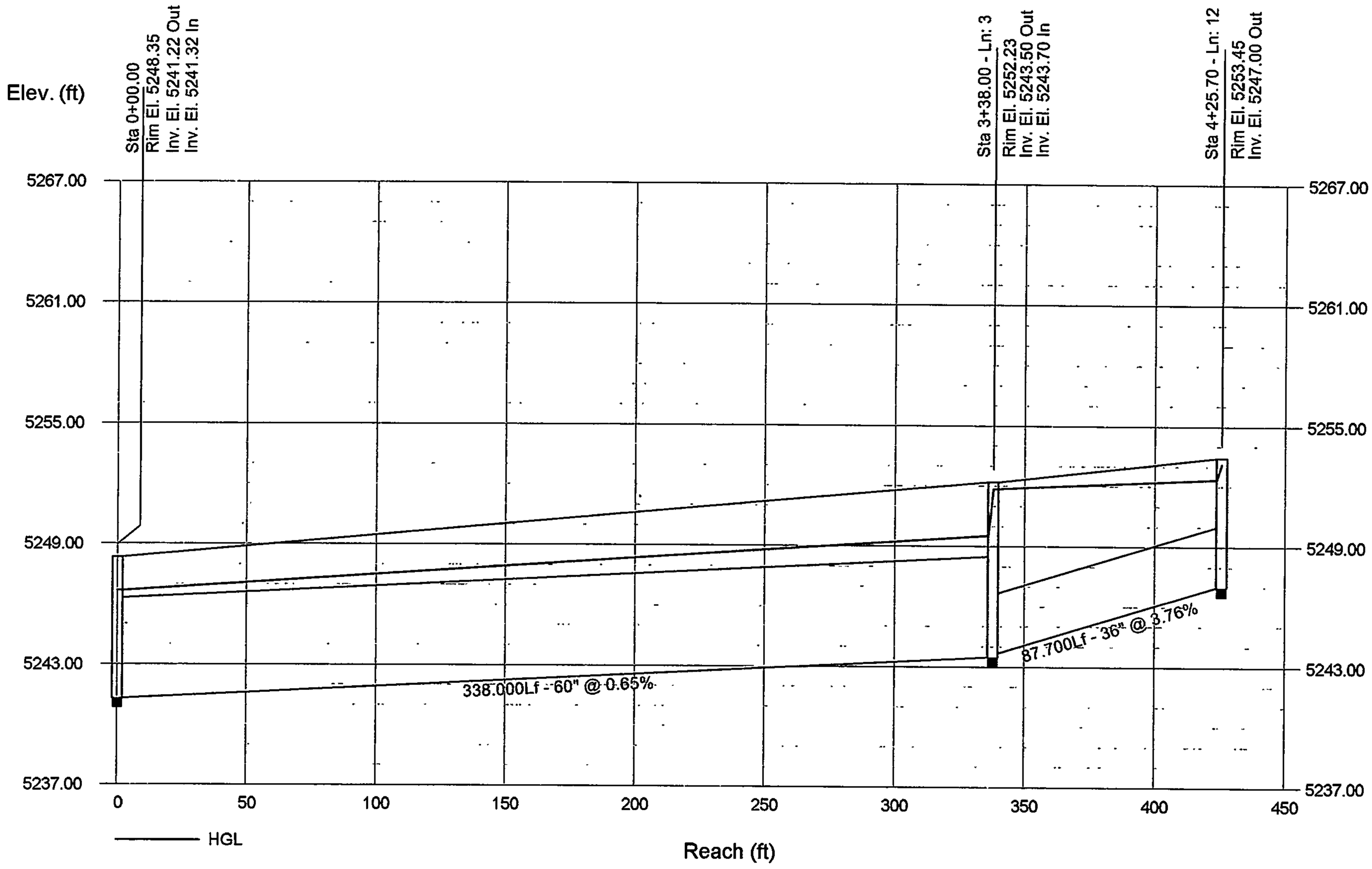
Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan



Project File: 1900 SD STUDY.stm	Number of lines: 12	Date: 2/18/2012

Storm Sewers v9.00


Elev. (ft)
Sta 0+00.00 - Outfall
Grnd. El. 5245.60
Inv. El. 5236.39 In
Sta 0+89.20 - Ln: 1
Rim El. 5245.30
Inv. El. 5237.40 Out
Inv. El. 5237.50 In
Sta 4+50.90 - Ln: 2
Rim El. 5248.35
Inv. El. 5241.22 Out
Inv. El. 5241.32 In
Sta 7+88.90 - Ln: 3
Rim El. 5252.23
Inv. El. 5243.50 Out
Inv. El. 5243.60 In
Sta 8+61.90 - Ln: 4
Rim El. 5253.00
Inv. El. 5245.50 Out
Inv. El. 5247.70 In
Sta 9+41.90 - Ln: 5
Rim El. 5255.40
Inv. El. 5248.10 Out
Inv. El. 5248.20 In
Sta 10+96.50 - Ln: 6
Rim El. 5259.00
Inv. El. 5249.75 Out
Inv. El. 5249.85 In
Sta 11+60.20 - Ln: 7
Rim El. 5260.80
Inv. El. 5250.50 Out
Inv. El. 5250.60 In
Sta 16+10.20 - Ln: 8
Rim El. 5271.60
Inv. El. 5260.60 Out
Inv. El. 5260.70 In
Sta 20+60.20 - Ln: 9
Rim El. 5284.00
Inv. El. 5276.00 Out
Inv. El. 5276.10 In
Sta 24+10.20 - Ln: 10
Rim El. 5289.50
Inv. El. 5281.35 Out
Inv. El. 5281.45 In
Sta 25+63.50 - Ln: 11
Rim El. 5289.00
Inv. El. 5282.98 Out
5327.00
5306.00
5285.00
5264.00
5243.00
5222.00
0
200
400
600
800
1000
1200
1400
1600
1800
2000
2200
2400
2600
153.300Lf - 36" @ 1.00%
350.000Lf - 42" @ 1.50%
80.000Lf - 48" @ 0.50%
73.000Lf - 48" @ 2.60%
450.000Lf - 42" @ 3.40%
338.000Lf - 60" @ 0.65%
450.000Lf - 42" @ 2.22%
361.700Lf - 60" @ 1.03%
63.700Lf - 48" @ 1.02%
89.200Lf - 60" @ 1.13%
154.600Lf - 48" @ 1.00%
HGL
Reach (ft)


Elev. (ft)
Sta 0+00.00
Rim El. 5248.35
Inv. El. 5241.22 Out
Inv. El. 5241.32 In
Sta 3+38.00 - Ln: 3
Rim El. 5252.23
Inv. El. 5243.50 Out
Inv. El. 5243.70 In
Sta 4+25.70 - Ln: 12
Rim El. 5253.45
Inv. El. 5247.00 Out
5267.00
5261.00
5255.00
5249.00
5243.00
5237.00
338.000Lf - 60" @ 0.65%
87.700Lf - 36" @ 3.76%
0
50
100
150
200
250
300
350
400
450
HGL
Reach (ft)

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 El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	89.200	45.000	MH	0.00	0.00	0.00	0.0	5236.39	1.13	5237.40	60	Cir	0.013	0.75	5245.30	OUT-EXMH2
2	1	361.700	45.000	MH	38.00	0.00	0.00	0.0	5237.50	1.03	5241.22	60	Cir	0.013	0.15	5248.35	EXMH2-EXMH3
3	2	338.000	0.000	MH	0.00	0.00	0.00	0.0	5241.32	0.65	5243.50	60	Cir	0.013	1.00	5252.23	EXMH3-EXMH4
4	3	73.000	-90.000	MH	57.10	0.00	0.00	0.0	5243.60	2.60	5245.50	48	Cir	0.013	0.15	5253.00	EXMH4-C-GRD
5	4	80.000	0.000	MH	0.00	0.00	0.00	0.0	5247.70	0.50	5248.10	48	Cir	0.013	0.15	5255.40	C-GRD-MH1
6	5	154.600	0.000	MH	0.00	0.00	0.00	0.0	5248.20	1.00	5249.75	48	Cir	0.013	1.00	5259.00	MH1-MH2
7	6	63.700	90.000	MH	0.00	0.00	0.00	0.0	5249.85	1.02	5250.50	48	Cir	0.013	1.00	5260.80	MH2-MH3
8	7	450.000	-90.000	MH	0.00	0.00	0.00	0.0	5250.60	2.22	5260.60	42	Cir	0.013	0.15	5271.60	MH3-MH4
9	8	450.000	0.000	MH	0.00	0.00	0.00	0.0	5260.70	3.40	5276.00	42	Cir	0.013	1.00	5284.00	MH4-MH5
10	9	350.000	90.000	MH	69.20	0.00	0.00	0.0	5276.10	1.50	5281.35	42	Cir	0.013	0.15	5289.50	MH5-MH6
11	10	153.300	0.000	MH	63.70	0.00	0.00	0.0	5281.45	1.00	5282.98	36	Cir	0.013	1.00	5289.00	MH6-MH7
12	3	87.700	-0.018	MH	50.00	0.00	0.00	0.0	5243.70	3.76	5247.00	36	Cir	0.013	1.00	5253.45	EXMH1-EXMH4

Project File: 1900 SD STUDY.stm | Number of lines: 12 | Date: 2/15/2012

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	89.200	0.00	0.00	0.00	0.00	0.00	0.0	3.2	0.0	278.0	277.1	14.62	60	1.13	5236.39	5237.40	5241.10	5241.98	5245.60	5245.30	OUT-EXMH2
2	1	361.700	0.00	0.00	0.00	0.00	0.00	0.0	2.8	0.0	278.0	264.2	14.57	60	1.03	5237.50	5241.22	5241.98	5246.22	5245.30	5248.35	EXMH2-EXMH3
3	2	338.000	0.00	0.00	0.00	0.00	0.00	0.0	2.3	0.0	240.0	209.2	12.22	60	0.65	5241.32	5243.50	5246.69	5249.56	5248.35	5252.23	EXMH3-EXMH4
4	3	73.000	0.00	0.00	0.00	0.00	0.00	0.0	2.3	0.0	190.0	231.7	15.12	48	2.60	5243.60	5245.50	5251.88	5253.16	5252.23	5253.00	EXMH4-C-GRD
5	4	80.000	0.00	0.00	0.00	0.00	0.00	0.0	2.1	0.0	132.9	101.6	10.58	48	0.50	5247.70	5248.10	5253.69	5254.38	5253.00	5255.40	C-GRD-MH1
6	5	154.600	0.00	0.00	0.00	0.00	0.00	0.0	1.9	0.0	132.9	143.8	10.58	48	1.00	5248.20	5249.75	5254.64	5255.96	5255.40	5259.00	MH1-MH2
7	6	63.700	0.00	0.00	0.00	0.00	0.00	0.0	1.8	0.0	132.9	145.1	10.58	48	1.02	5249.85	5250.50	5257.70	5258.25	5259.00	5260.80	MH2-MH3
8	7	450.000	0.00	0.00	0.00	0.00	0.00	0.0	1.2	0.0	132.9	150.0	13.81	42	2.22	5250.60	5260.60	5259.99	5267.84	5260.80	5271.60	MH3-MH4
9	8	450.000	0.00	0.00	0.00	0.00	0.00	0.0	0.7	0.0	132.9	185.5	13.94	42	3.40	5260.70	5276.00	5268.29	5279.33	5271.60	5284.00	MH4-MH5
10	9	350.000	0.00	0.00	0.00	0.00	0.00	0.0	0.3	0.0	132.9	123.2	13.81	42	1.50	5276.10	5281.35	5279.60	5285.71	5284.00	5289.50	MH5-MH6
11	10	153.300	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	83.70	66.62	9.01	36	1.00	5281.45	5282.98	5286.16	5287.56	5289.50	5289.00	MH6-MH7
12	3	87.700	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	50.00	129.4	7.07	36	3.76	5243.70	5247.00	5251.88	5252.38	5252.23	5253.45	EXMH1-EXMH4

why is HGL above top of pipe?

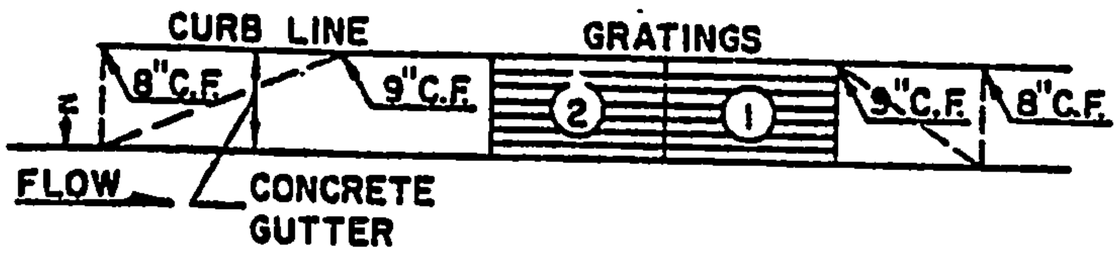
Project File: 1900 SD STUDY.stm

Number of lines: 12

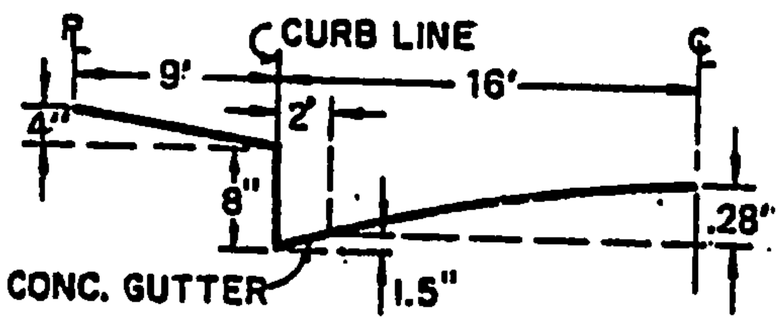
Run Date: 2/15/2012

NOTES:Intensity = 127.16 / (Inlet time + 17.80) ^ 0.82; Return period =Yrs. 100 ; c = cir e = ellip b = box

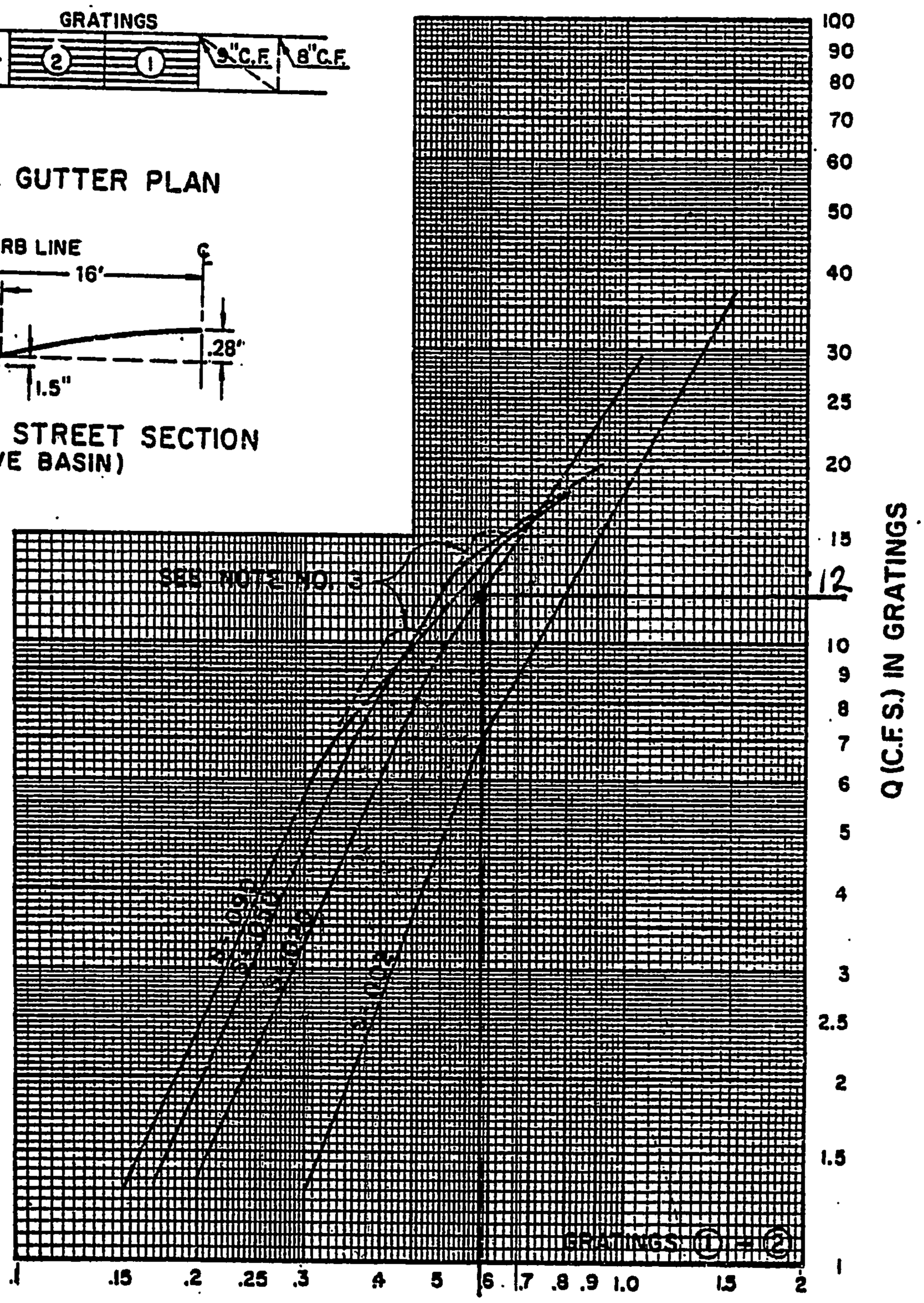
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)

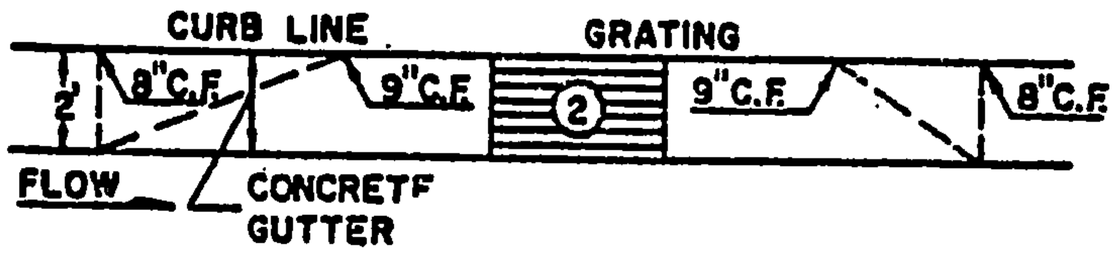


D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

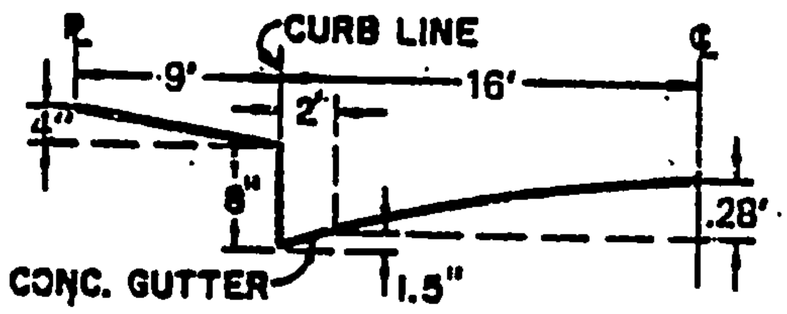
INLET #1 - DBL C'
d = .58'
S = 2.0%

6.2 9.1

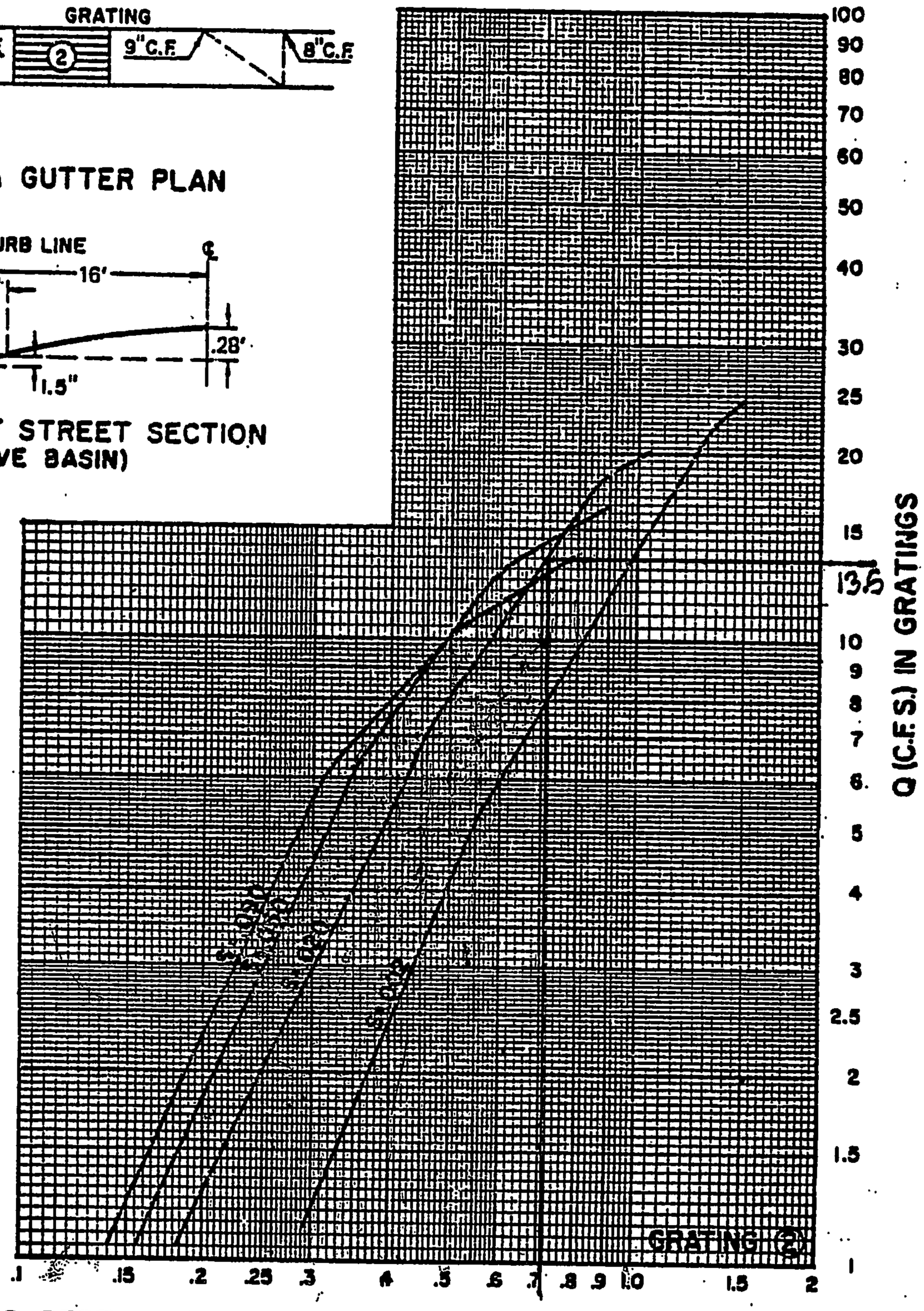
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN

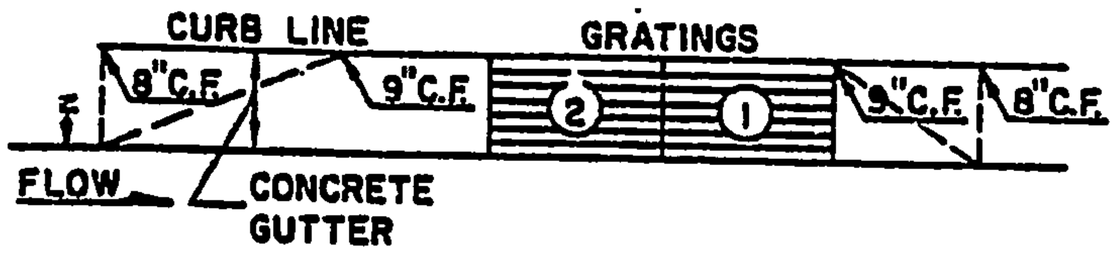


TYPICAL HALF STREET SECTION
(ABOVE BASIN)

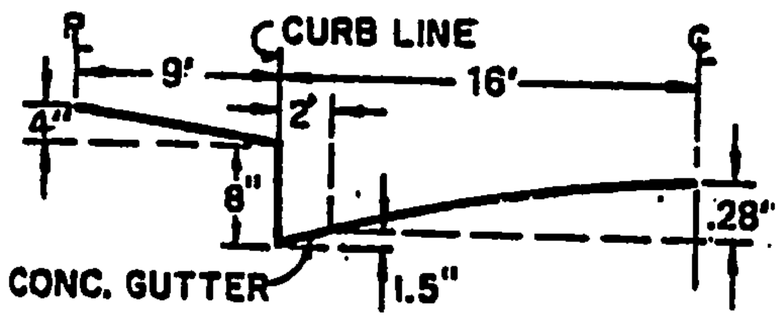


INLET #2 - SGL 'C'
d = .71'
S = 2.0%

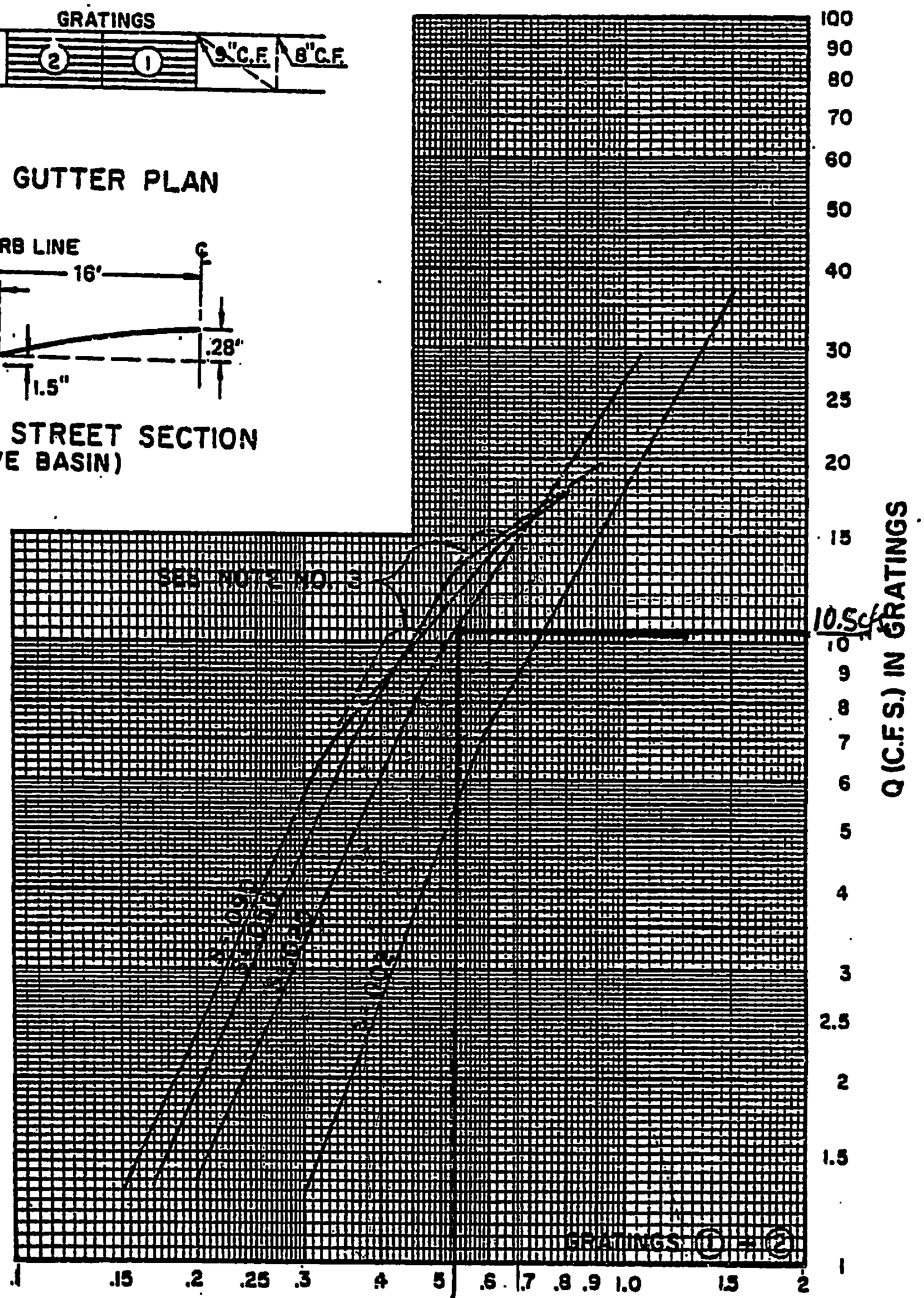
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN

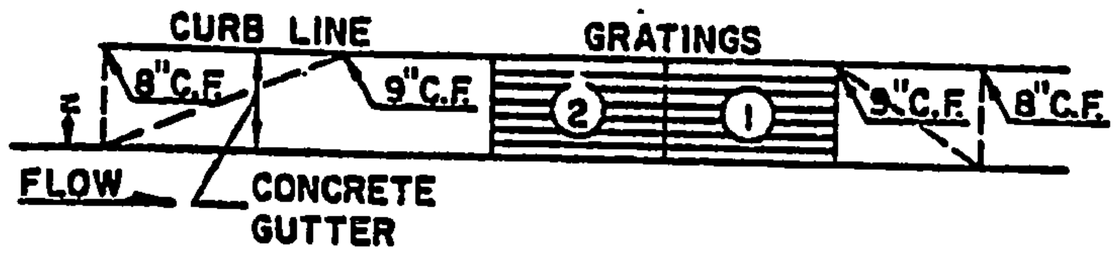


TYPICAL HALF STREET SECTION
(ABOVE BASIN)

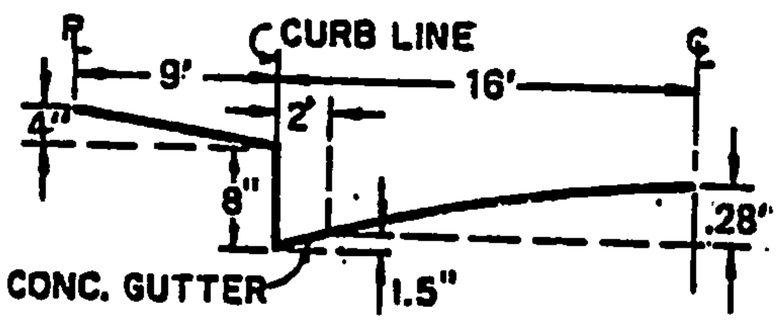


INLET #3 - DBL 'C'
d = .53'
S = 2.0%

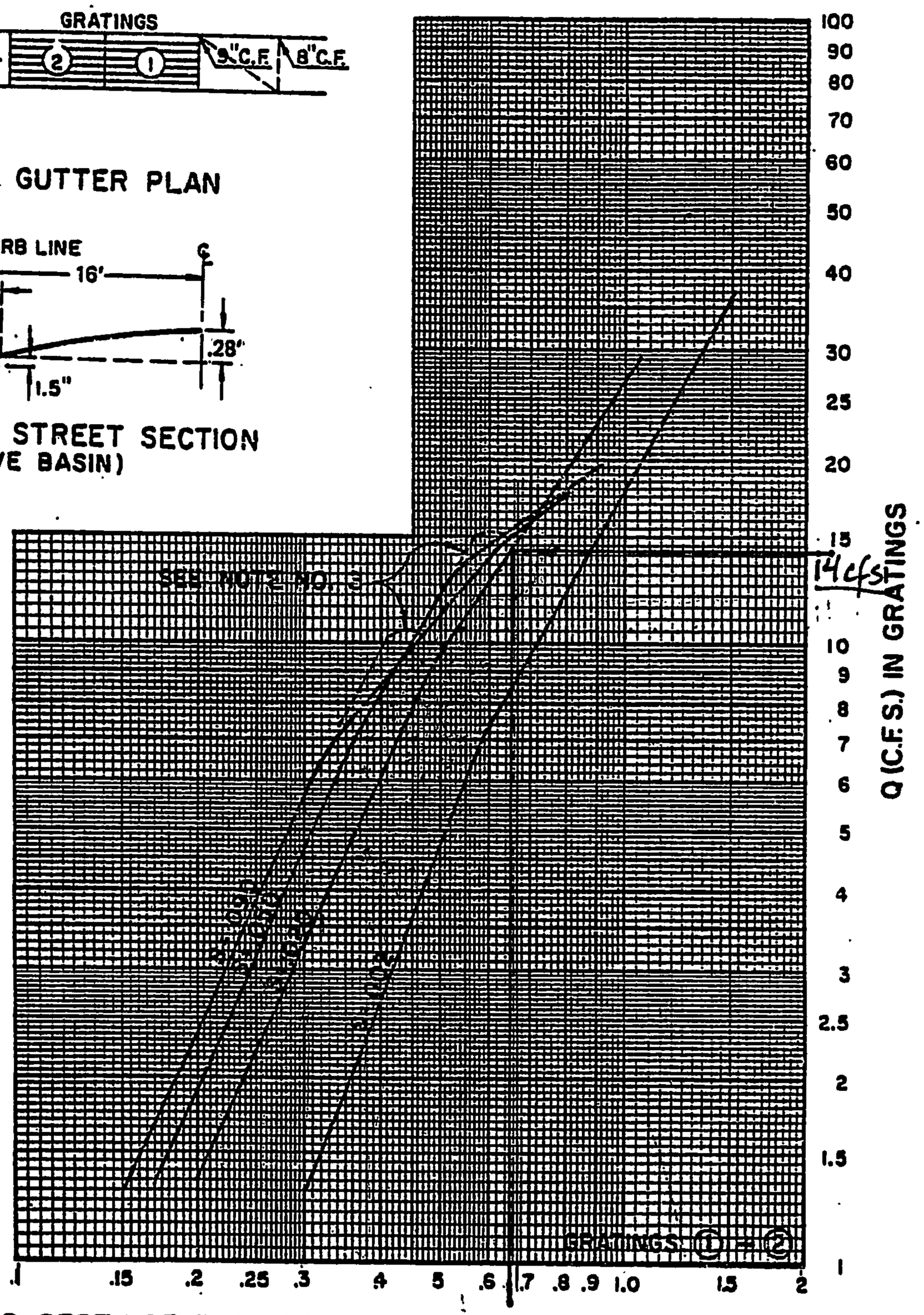
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN



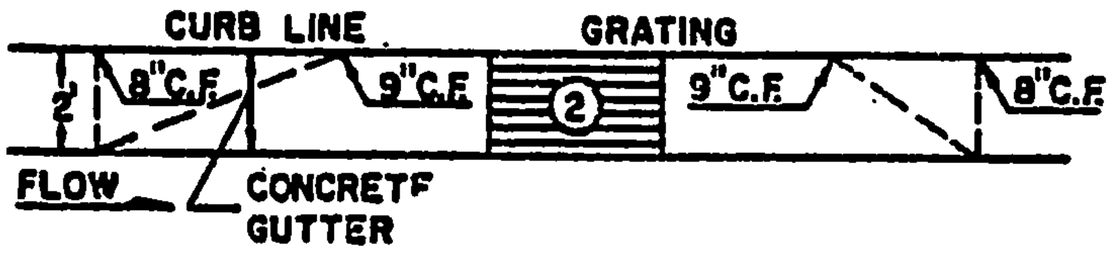
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



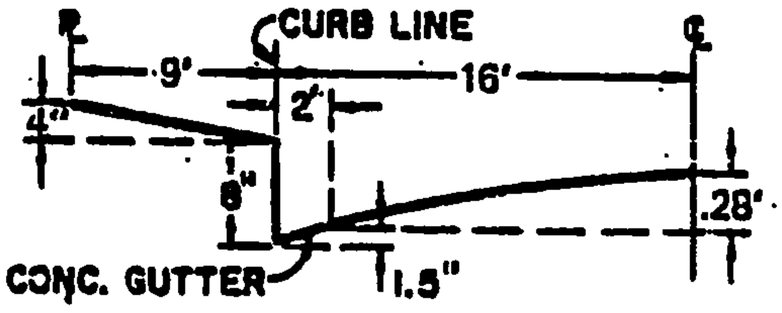
INLET #4 - DBL 'C'
d = .66'
S = 2.0%

6.2 9.1

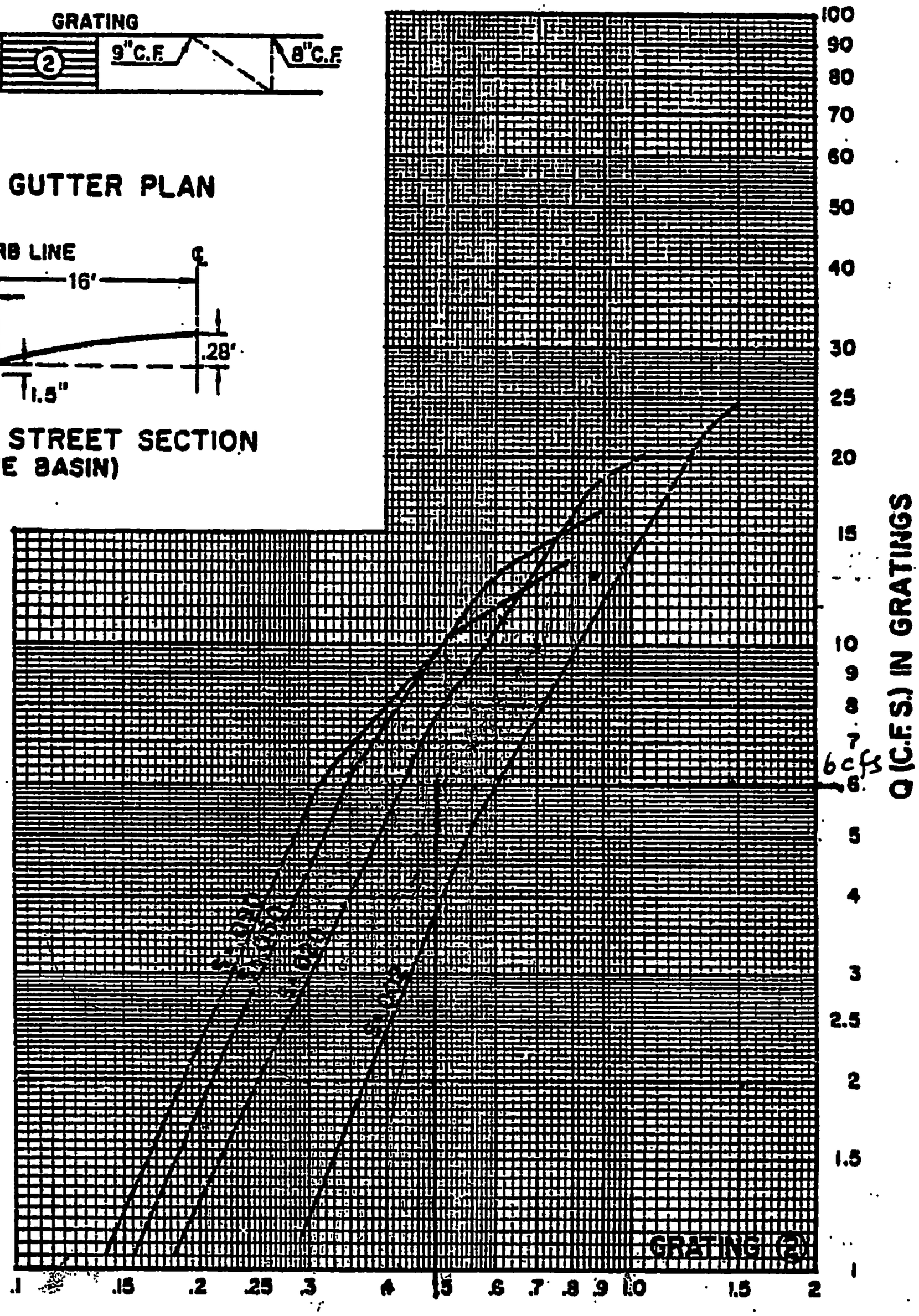
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN



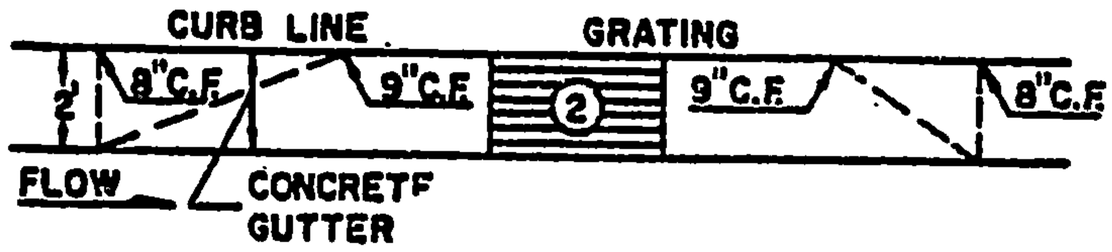
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



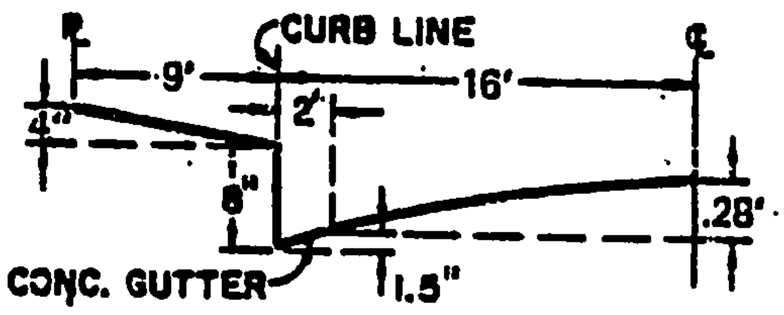
INLET #5 - 'A'
d= .48'
S= 1.2%

6.2 9.1

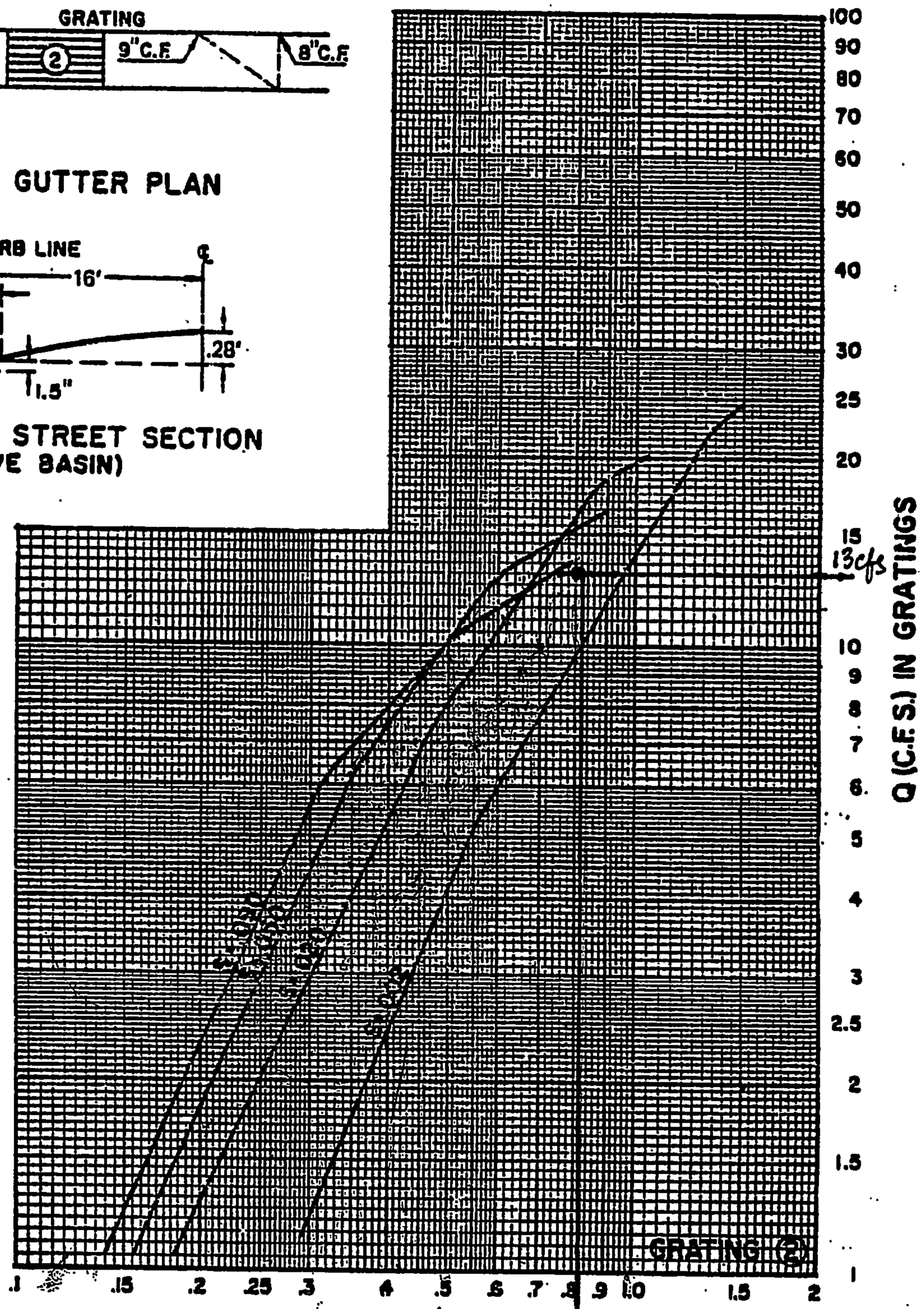
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN

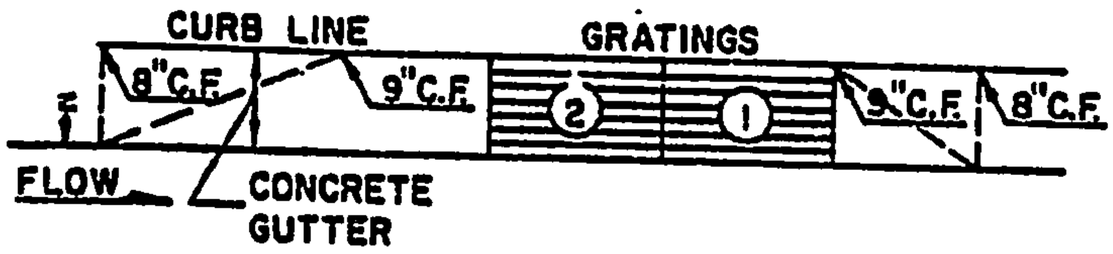


TYPICAL HALF STREET SECTION
(ABOVE BASIN)

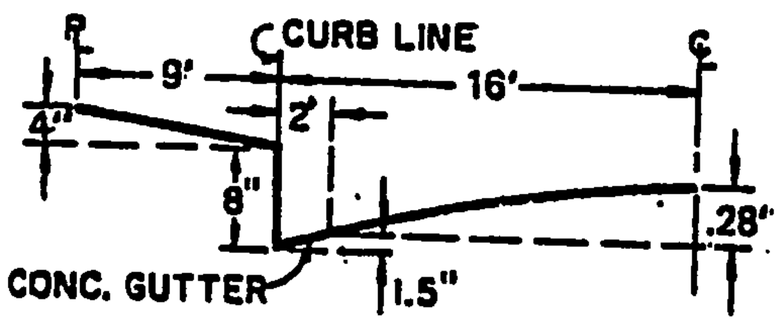


INLET #6 – 'A'
d = 0.81'
S = 1.2%

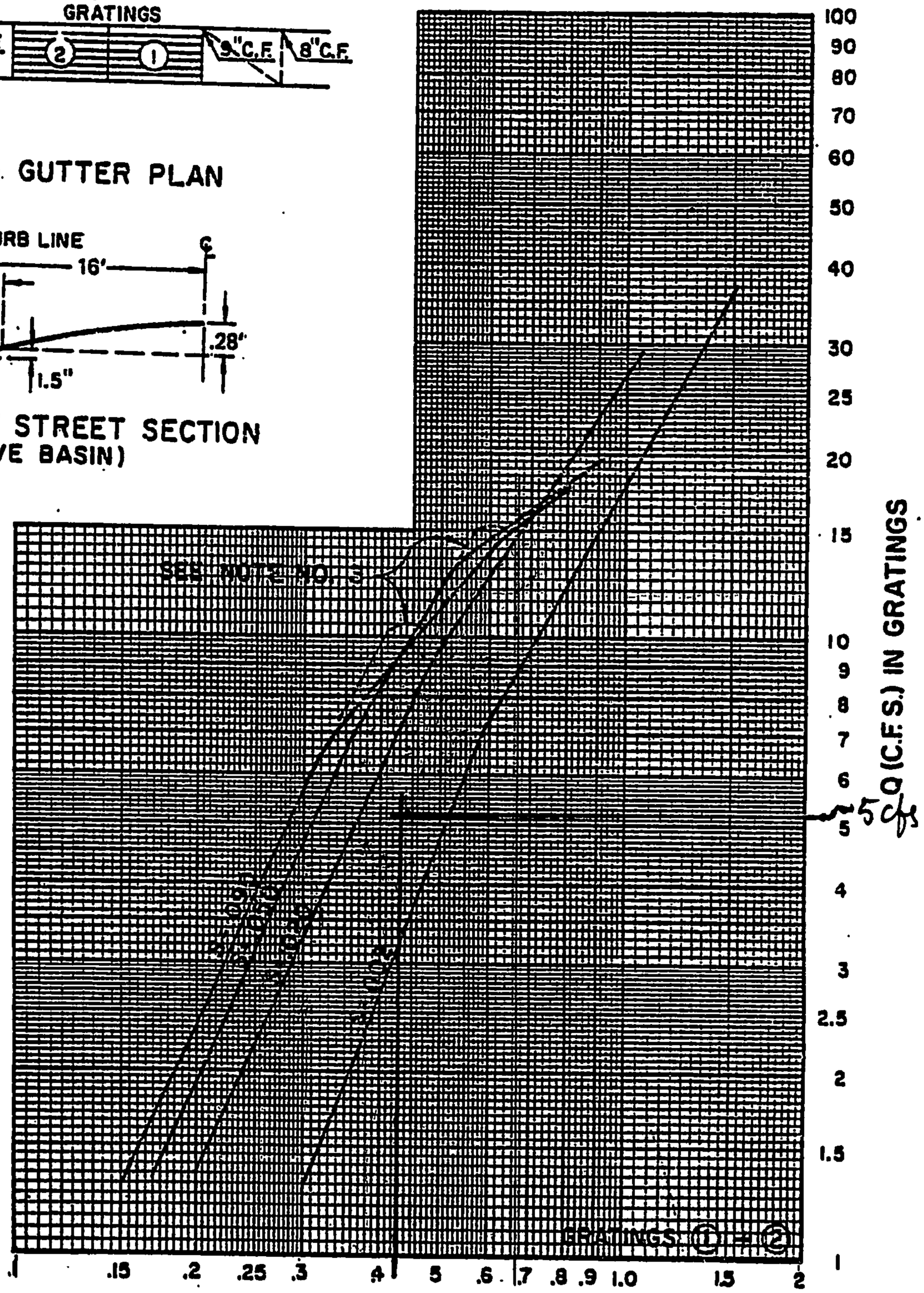
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN

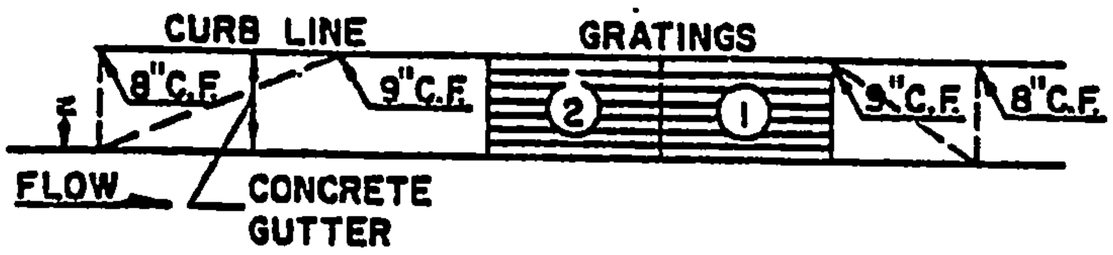


TYPICAL HALF STREET SECTION
(ABOVE BASIN)

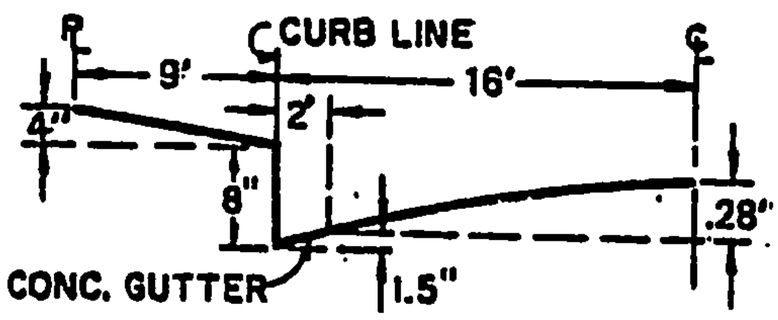


INLET #7 = DBL 'C'
d = .43'
S = 1.2%

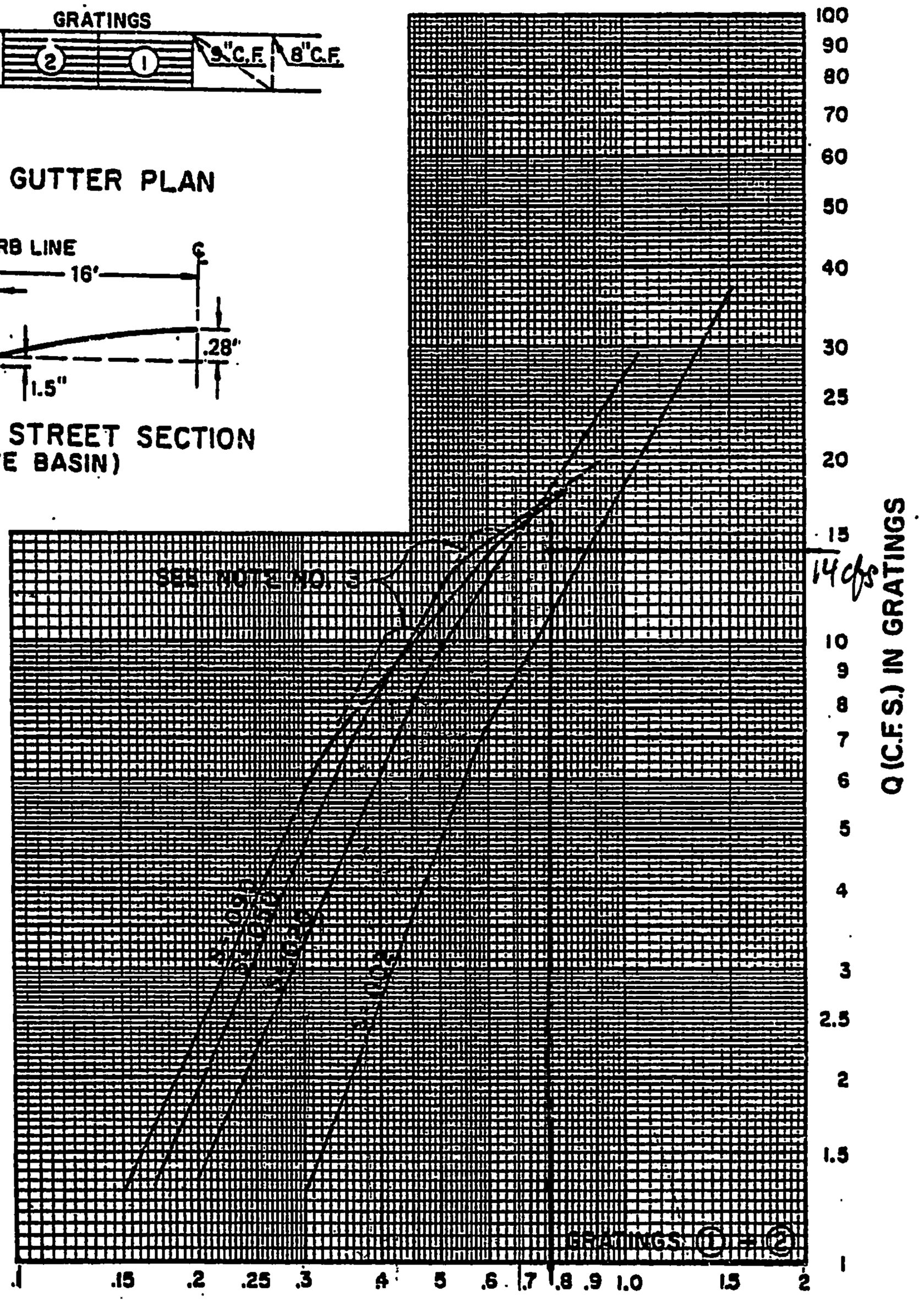
GRATING CAPACITIES FOR TYPE DOUBLE "C," AND "D"



GRATING & GUTTER PLAN



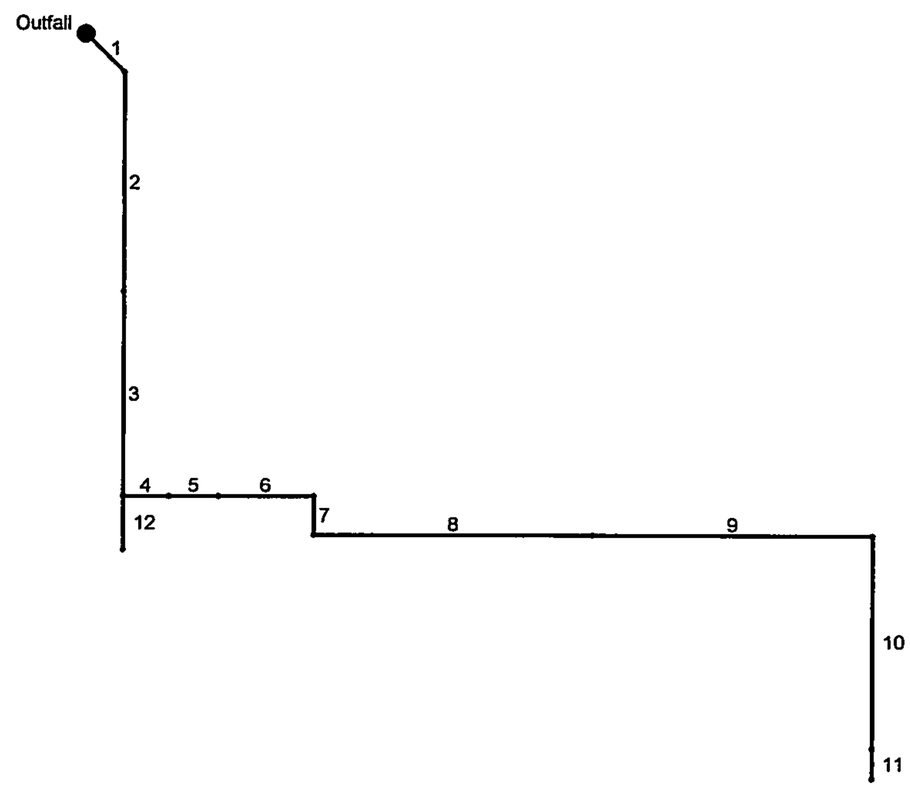
TYPICAL HALF STREET SECTION
(ABOVE BASIN)



D = DEPTH OF FLOW (FT.) ABOVE NORMAL GUTTER GRADE

INLET #8 - DBL 'C'
d = .76'
S = 1.2%

Hydraflow Storm Sewers Extension for AutoCAD® Civil 3D® 2012 Plan

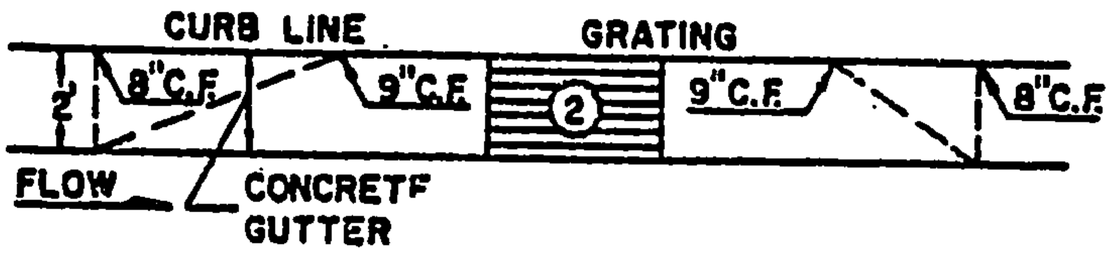


Project File: 1900 SD STUDY.stm	Number of lines: 12	Date: 2/15/2012

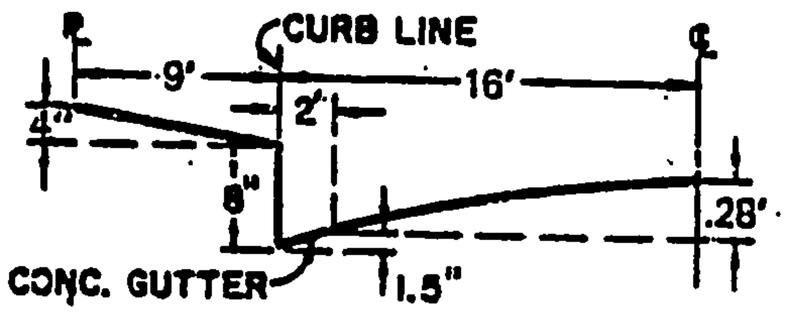
Storm Sewers v9.00

6.2 9.1

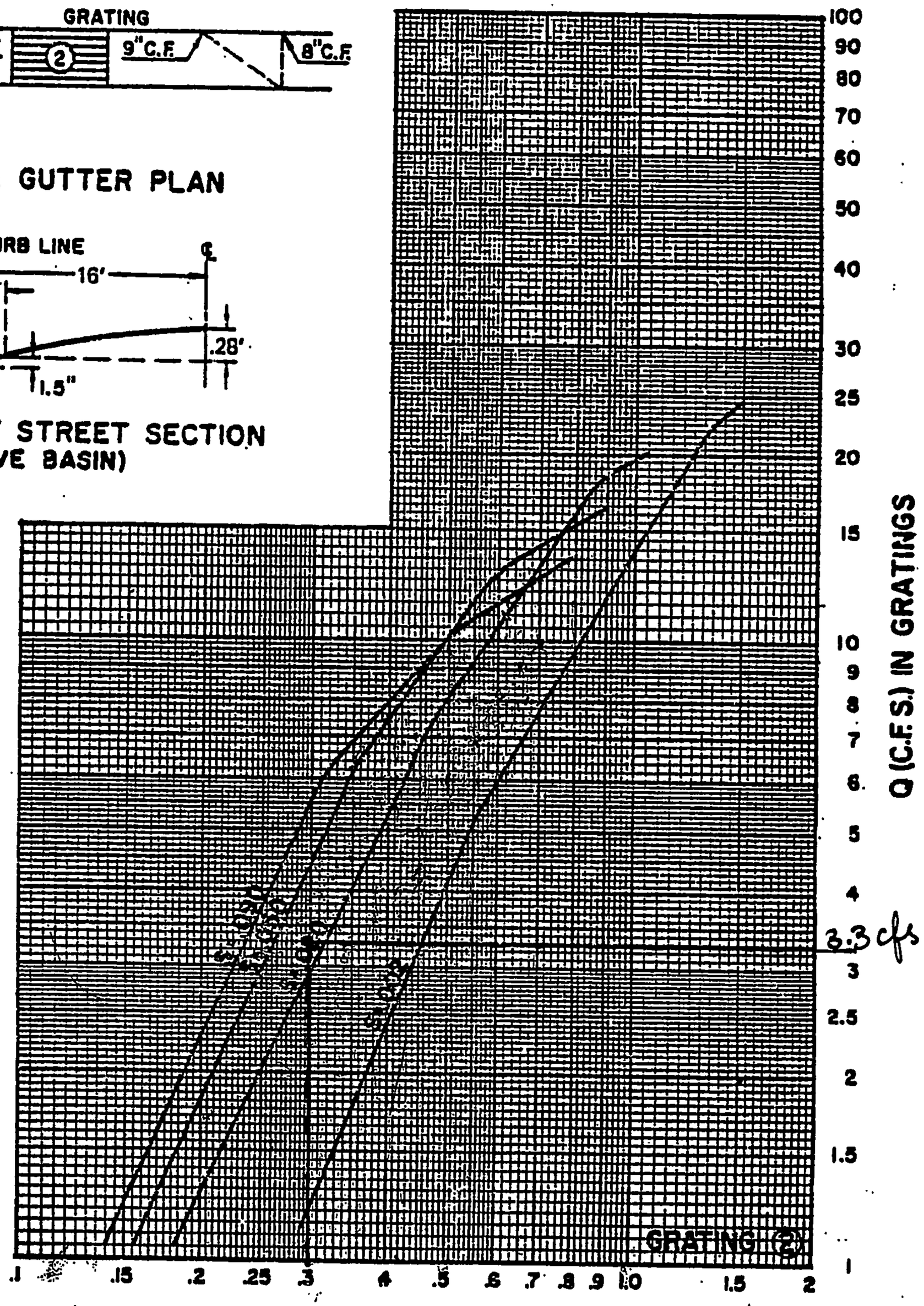
GRATING CAPACITIES FOR TYPE "A", "C" and "D"



GRATING & GUTTER PLAN



TYPICAL HALF STREET SECTION
(ABOVE BASIN)



CATTLE GUARD INLET
d = 0.3'
S = 2.5%

APPENDIX E

INTERIM POND AND WEIR CALCULATIONS

POND VOLUMES

(for the AHYMO ROUTE RESERVOIR command)

SANTA MONICA PLACE

2/1/2012

ELEV	AREA (SF)	VOLUME (CF)	VOLUME (Ac-ft)	SUM VOL (Ac-ft)
5282	41288			
		43100	0.989439853	
5283	44912			0.989439853
		22901.5	0.525746097	
5283.5	46694			1.51518595
		23874	0.548071625	
5284	48802			2.063257576
		24872	0.570982553	
5284.5	50686			2.634240129
		25937.25	0.595437328	
5285	53063			3.229677456

Weir Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Monday, Feb 6 2012

SANTA MONICA PLACE--TRACT 3 POND WEIR

Rectangular Weir

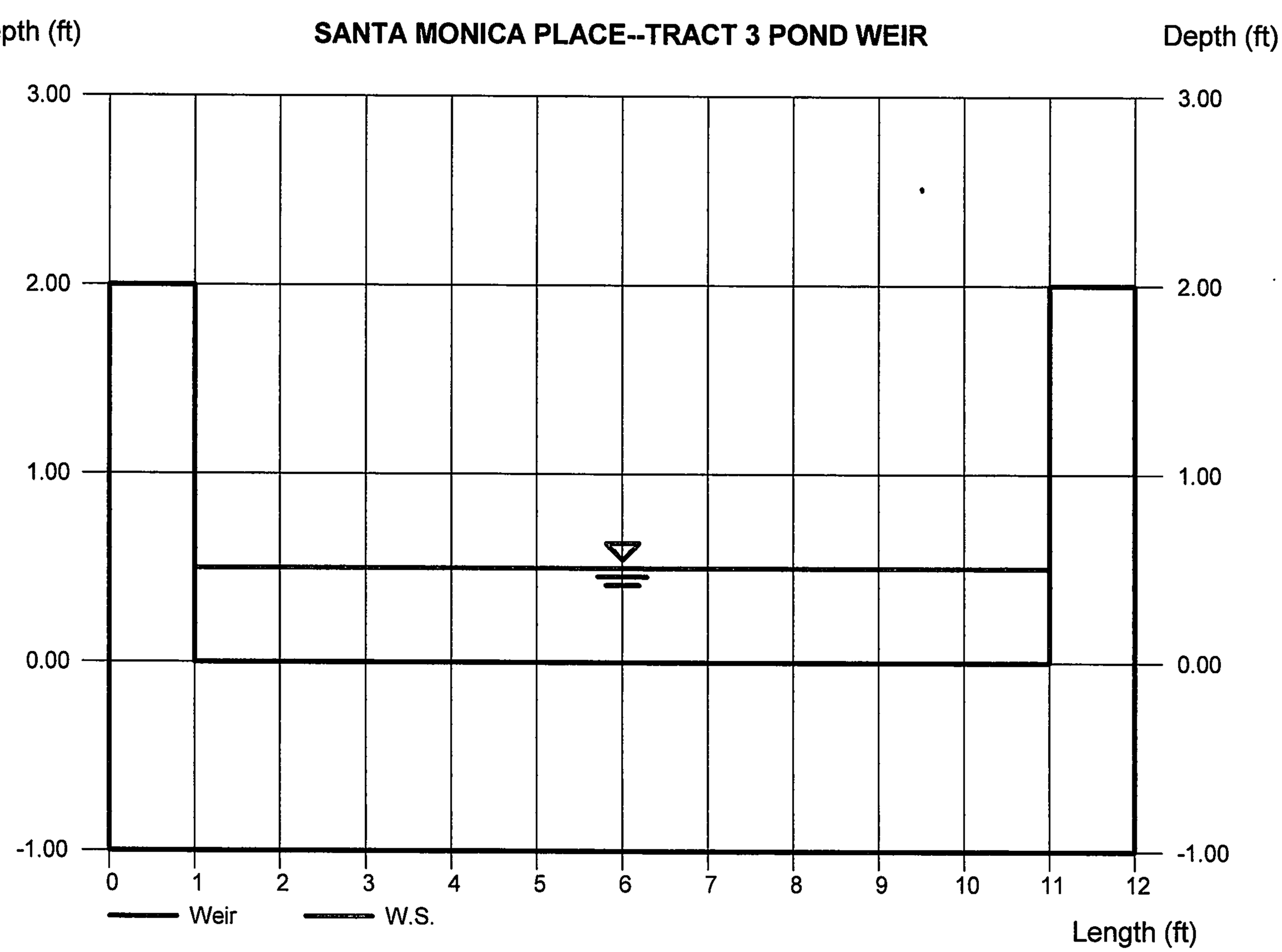
Crest	= Sharp
Bottom Length (ft)	= 10.00
Total Depth (ft)	= 2.00

Calculations

Weir Coeff. Cw	= 3.33
Compute by:	Known Depth
Known Depth (ft)	= 0.50

Highlighted

Depth (ft)	= 0.50
Q (cfs)	= 11.77
Area (sqft)	= 5.00
Velocity (ft/s)	= 2.35
Top Width (ft)	= 10.00



Weir Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Thursday, Feb 2 2012

SANTA MONICA PLACE--TRACT 3 POND WEIR

Rectangular Weir

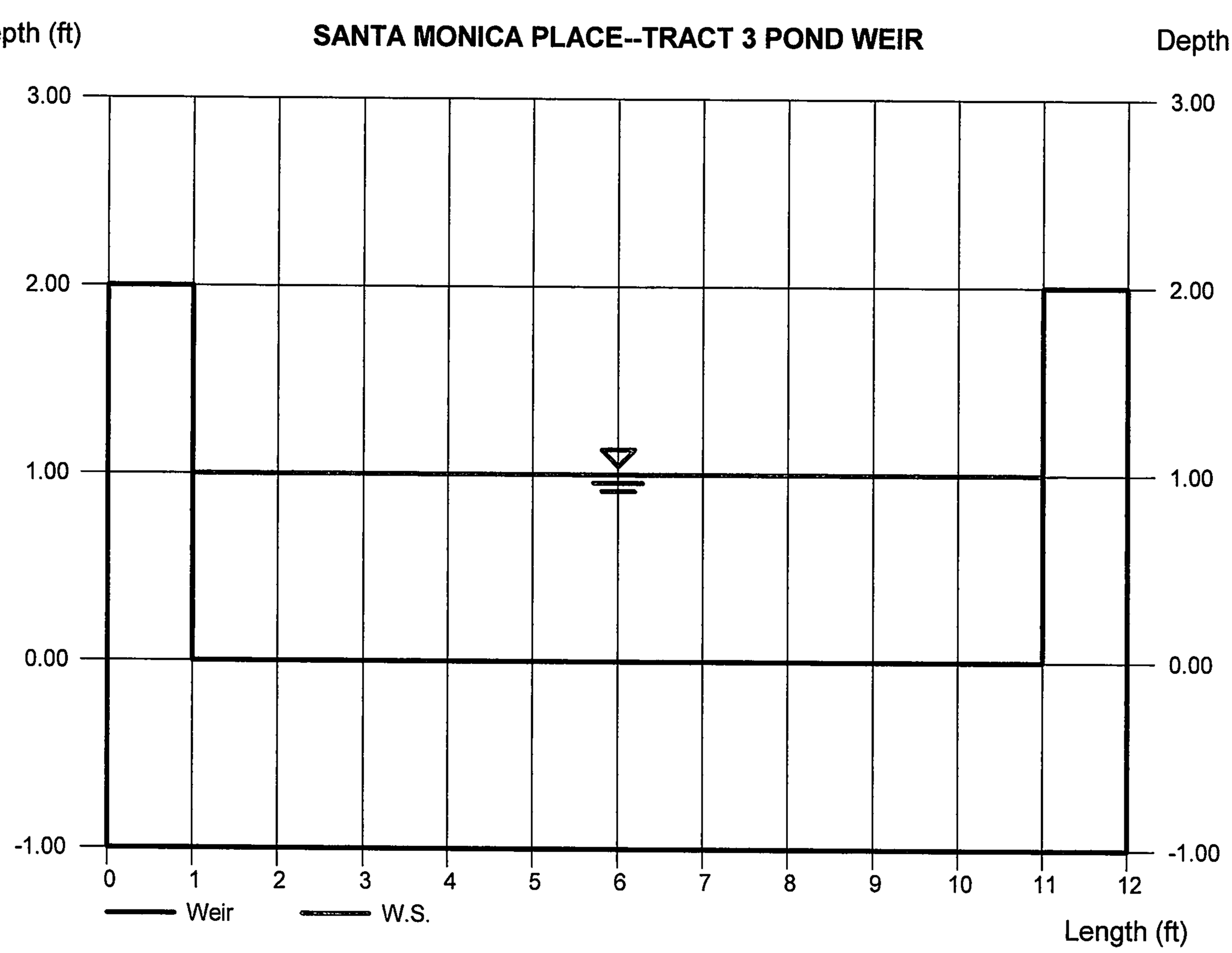
Crest	= Sharp
Bottom Length (ft)	= 10.00
Total Depth (ft)	= 2.00

Calculations

Weir Coeff. Cw	= 3.33
Compute by:	Known Depth
Known Depth (ft)	= 1.00

Highlighted

Depth (ft)	= 1.00
Q (cfs)	= 33.30
Area (sqft)	= 10.00
Velocity (ft/s)	= 3.33
Top Width (ft)	= 10.00



Weir Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Thursday, Feb 2 2012

SANTA MONICA PLACE--TRACT 3 POND WEIR

Rectangular Weir

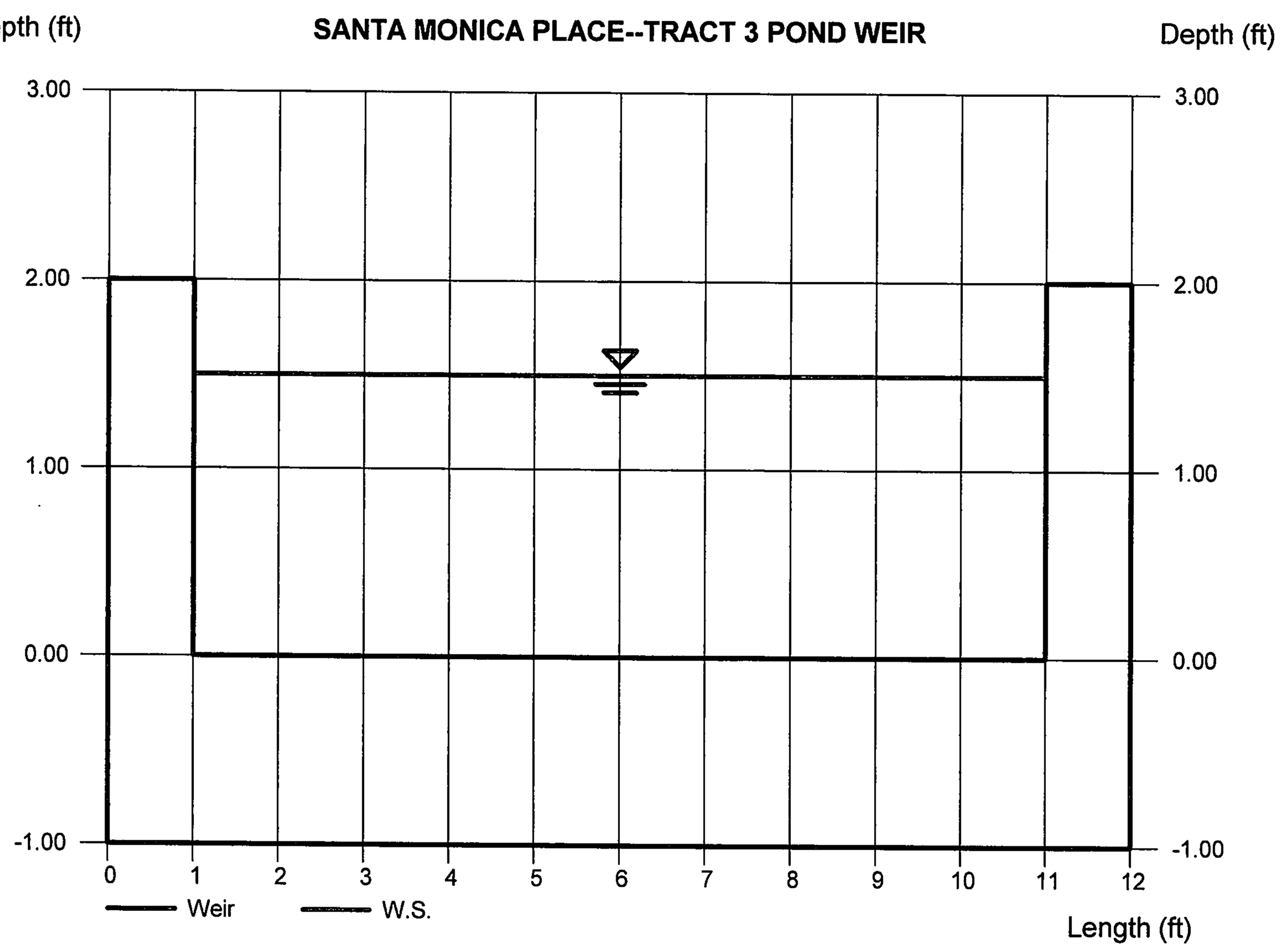
Crest	= Sharp
Bottom Length (ft)	= 10.00
Total Depth (ft)	= 2.00

Calculations

Weir Coeff. Cw	= 3.33
Compute by:	Known Depth
Known Depth (ft)	= 1.50

Highlighted

Depth (ft)	= 1.50
Q (cfs)	= 61.18
Area (sqft)	= 15.00
Velocity (ft/s)	= 4.08
Top Width (ft)	= 10.00



APPENDIX F

PLAT SHEET 4–

INTERIM DRAINAGE EASEMENT NOTE

BULK LAND PLAT OF
TRACTS 1 THRU 4
SANTA MONICA PLACE

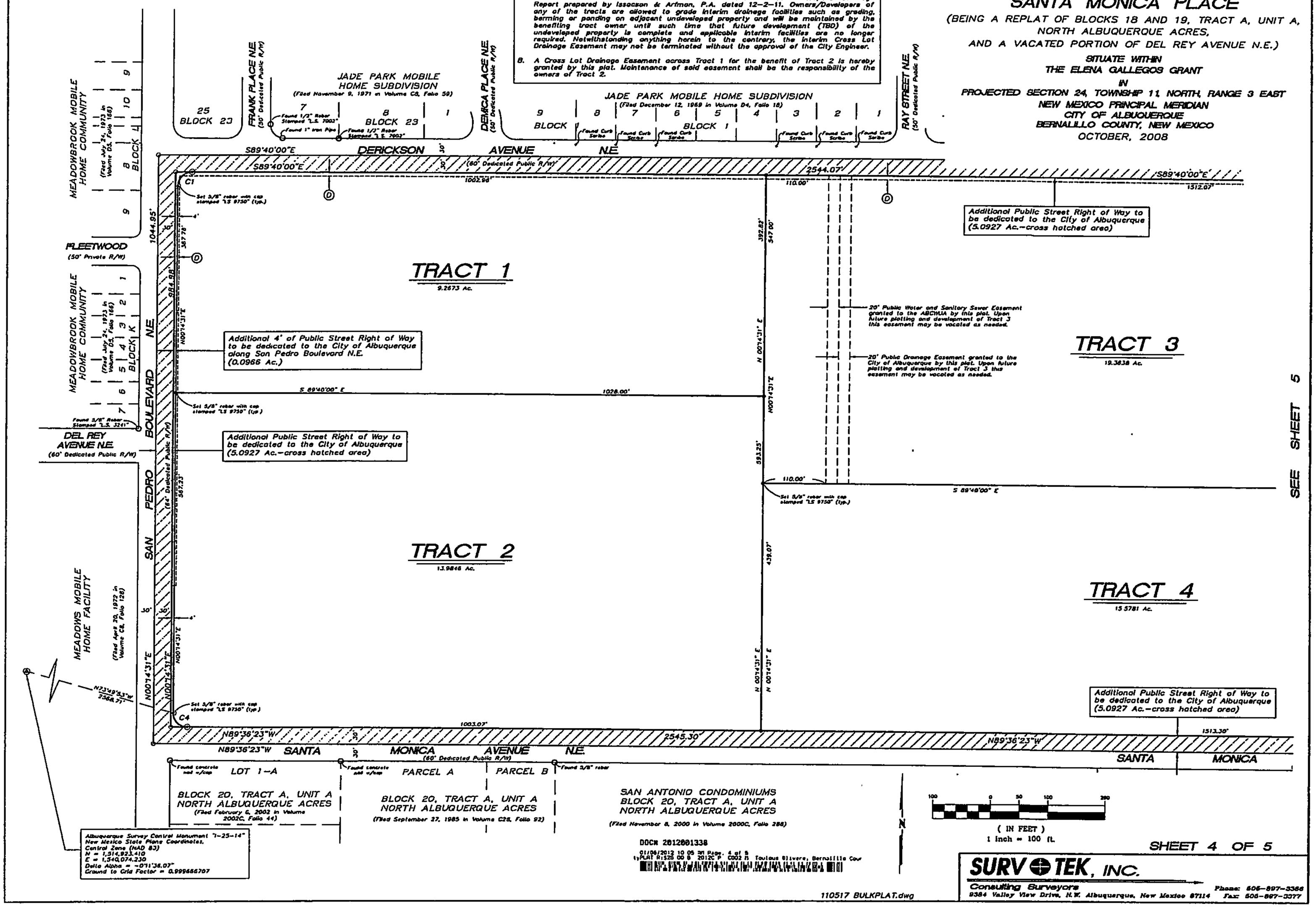
(BEING A REPLAT OF BLOCKS 18 AND 19, TRACT A, UNIT A, NORTH ALBUQUERQUE ACRES, AND A VACATED PORTION OF DEL REY AVENUE N.E.)

SITUATE WITHIN
THE ELENA GALLEGOS GRANT
IN
PROJECTED SECTION 24, TOWNSHIP 11 NORTH, RANGE 3 EAST
NEW MEXICO PRINCIPAL MERIDIAN
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO
OCTOBER, 2008

DRAINAGE EASEMENT NOTES

A. An interim Cross Lot Drainage Easement is granted by this plat for the mutual benefit of the owners of Tracts 1 thru 4 until future development occurs. Tracts 1 thru 4 will discharge drainage to the existing drainage facilities/outfalls located at the intersection of Derickson and San Pedro as outlined in the Conceptual Drainage Report prepared by Isaacson & Arfman, P.A. dated 12-2-11. Owners/Developers of any of the tracts are allowed to grade interim drainage facilities such as grading, berming or ponding on adjacent undeveloped property and will be maintained by the benefiting tract owner until such time that future development (TBD) of the undeveloped property is complete and applicable interim facilities are no longer required. Notwithstanding anything herein to the contrary, the interim Cross Lot Drainage Easement may not be terminated without the approval of the City Engineer.

B. A Cross Lot Drainage Easement across Tract 1 for the benefit of Tract 2 is hereby granted by this plat. Maintenance of said easement shall be the responsibility of the owners of Tract 2.



SURVTEK, INC.
Consulting Surveyors
9384 Valley View Drive, N.W. Albuquerque, New Mexico 87114
Phone: 505-897-3366
Fax: 505-897-3377

DRAINAGE EASEMENT NOTES

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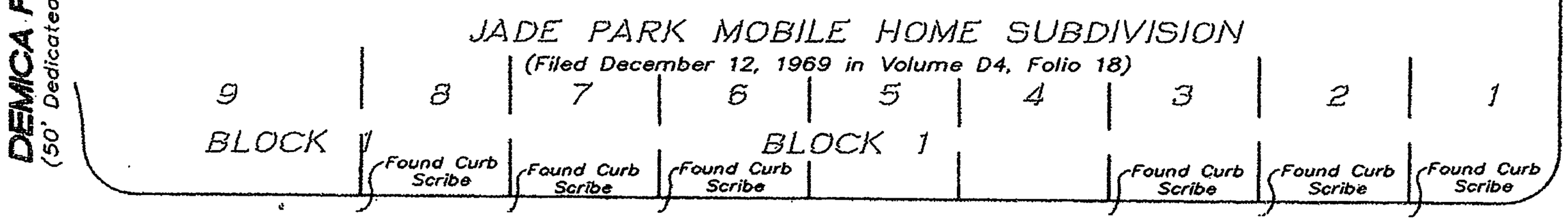


APPENDIX G

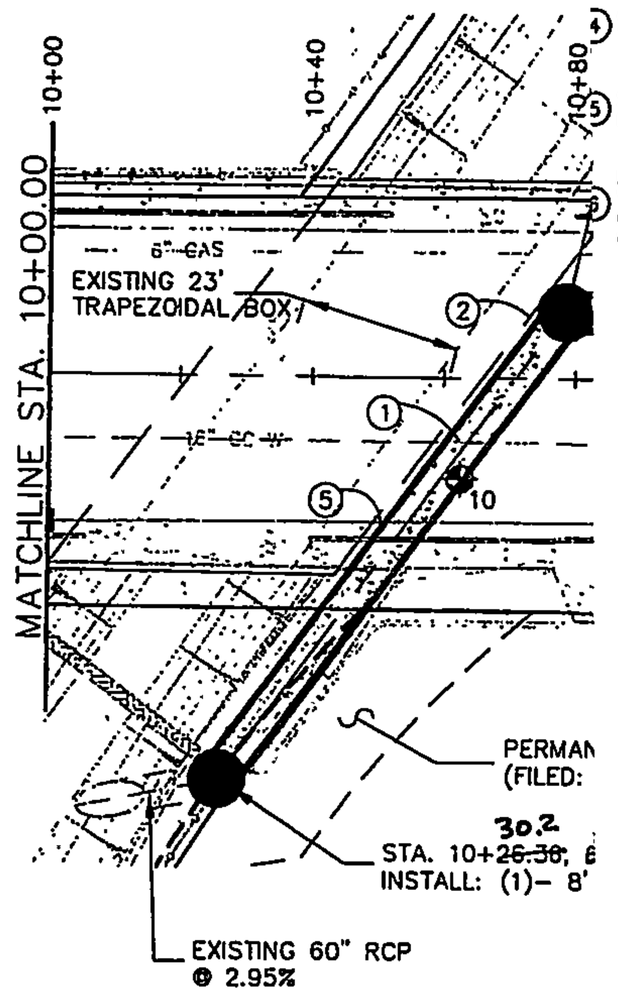
STORM DRAIN AS-BUILT DRAWINGS

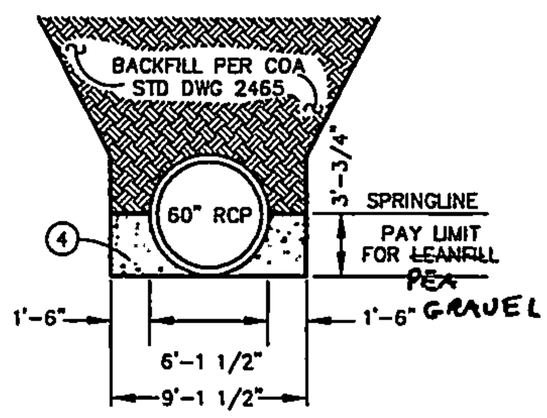
RECORD DRAWINGS

KEYED NOTES

1. CONTRACTOR TO PROTECT EXISTING 16" C.C. WL
2. CONTRACTOR TO PROTECT EXISTING CONCETE CHANNEL AND CONCRETE TRAPEZOIDAL BOX
3. EXISITNG 2" GAS LINE TO BE REMOVED AND RELOCATED BY PNM
4. CONTRACTOR TO PLACE LEAN FILL TO SPRING LINE OF 60" RCP 9% CEM
5. SEE SHEET 16 FOR PROFILE OF 60" RCP AT CENTERLINE OF PIPE

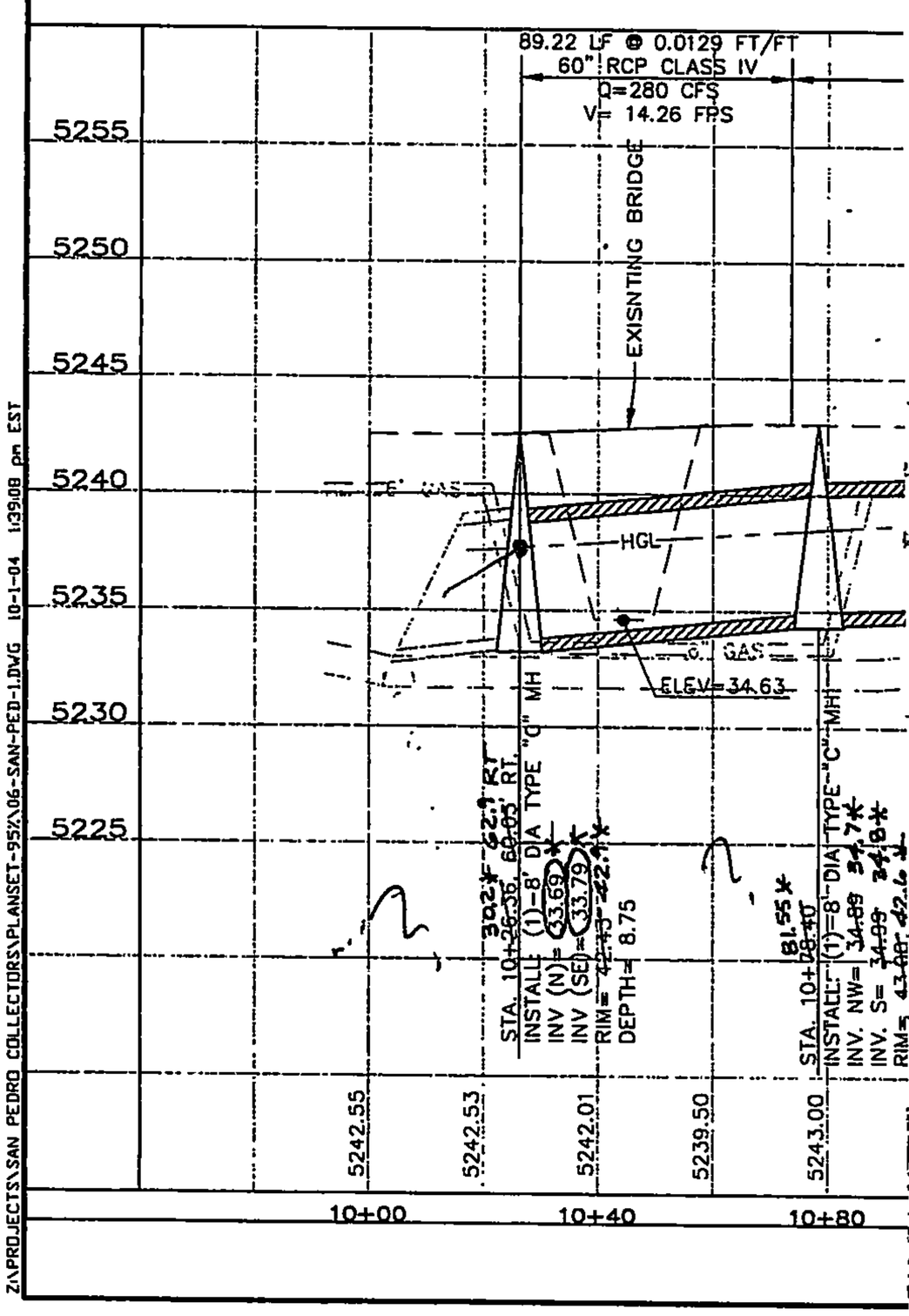
MONITORING WELL TO BE INSTALLED BY VINYARD & ASSOCIATES AFTER PLACEMENT OF PAVEMENT AND BEFORE REMOVAL OF TRAFFIC CONTROL





60" RCP INSTALLATION

PAY LIMIT FOR ~~LEAN FILL~~ PEA GRAVEL PER LINEAL FOOT OF 60" RCP PLACED= 0.49 CY/LF



NOTES

1. ALL 8' DIA TYPE "C" MANHOLES SHALL BE INSTALLED PER COA STD DWG 2101
2. ALL TYPE "A" STORM INLETS SHALL BE INSTALLED PER COA STD DWG 2201
3. ALL DOUBLE TYPE "C" STORM INLETS SHALL BE INSTALLED PER COA STD DWG 2205

Z:\PROJECTS\SAN PEDRO COLLECTORS\PLANSET-95%\06-SAN-PED-1.DWG 10-1-04 1:39:08 pm EST

AS BUILT INFORMATION
CONTRACTOR Sauer Brothers
WORK STAKED BY Cartesian Surveys Inc. DATE 7/20/05
INSPECTOR'S ACCEPTANCE BY Sez DATE 7/21/05
FIELD VERIFICATION BY Cartesian Surveys Inc. DATE 9/26/05
DRAWINGS CORRECTED BY Sez DATE 9/26/05
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
NMSHC BRASS TABLET STAMPED "125-14, 1969"
LOCATED AT THE NMDOT DISTRICT
3 OFFICES DRIVEWAY ON THE I-25
EAST FRONTAGE ROAD
X= 399,828.26 Y= 1,514,860.92
G-C= 0.99966298
ΔX= 0°11'35"
(NAD 1927/SLD 1929)
ELEVATION= 5196.73

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL

NO.	DATE	REMARKS	BY

REVISIONS

DESIGN		
DESIGNED BY	DBT	DATE 10/1/04
DRAWN BY	DEM	DATE 10/1/04
CHECKED BY	DBT	DATE 10/1/04

Thompson Engineering Consultants, Inc.
4600 Montgomery Blvd. NE, Suite C Albuquerque, New Mexico 87111 Phone (505) 271-2199 Fax (505) 237-8422

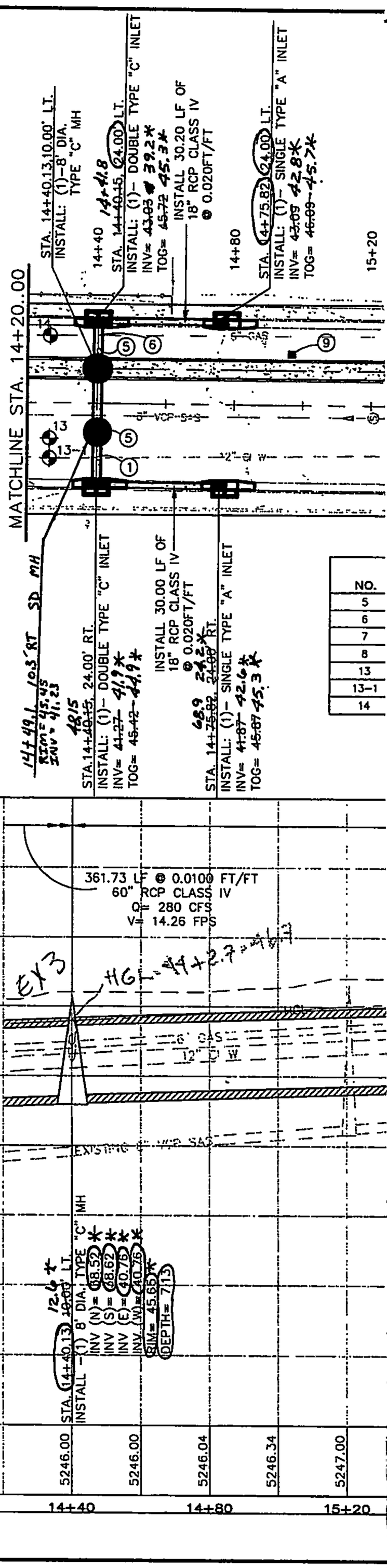
CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DESIGN DIVISION

SAN PEDRO COLLECTORS TO THE NORTH PINO ARROYO
SAN PEDRO BOULEVARD - STA. B.O.P. TO STA. 14+20.00

APPROVED OCT 20 2004 DESIGN REVIEW COMMITTEE
APPROVED OCT 20 2004 CITY ENGINEER
Last Design Update

City Project No.	Zone Map No.	Sheet No.	Drawing No.
716802	D-18		6 of 24

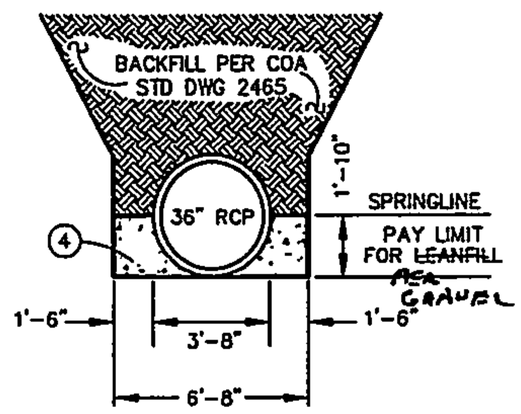
RECORD DRAWINGS



NO.
5
6
7
8
13
13-1
14

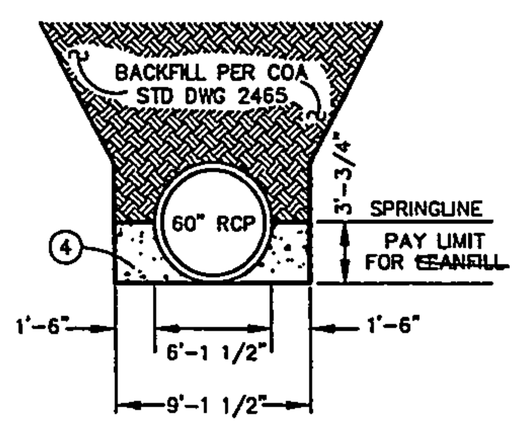
KEYED NOTES

1. CONTRACTOR TO PROTECT EXISITNG 12" WATER LINE
2. EXISTING 6" GAS LINE TO BE REMOVED AND RELOCATED BY PNM
3. CONTRACTOR TO PROTECT EXISITNG 8" VCP SAS LINE.
4. CONTRACTOR TO PLACE LEAN FILL TO SPRING LINE OF 60" RCP & 36" RCP
5. SEE SHEET 16 FOR CONNECTOR PIPE PROFILES
6. CONTRACTOR TO PROTECT EXISTING 6" GAS LINE DURING CONSTRUCTION OF STORM INLETS AND CONNECTOR PIPES.
7. REMOVE AND RELOCATE EXISITNG 6" CI WATER LINE. INSTALL AIR RELEASE VALVE PER COA STD DWG 2350
8. EXISTING 4" GAS LINE TO BE REMOVED AND RELOCATED BY PNM.
9. MONITORING WELL TO BE INSTALLED BY VINYARD & ASSOCIATES AFTER PLACEMENT OF PAVEMENT AND BEFORE REMOVAL OF TRAFFIC CONTROL.



36" RCP INSTALLATION

PAY LIMIT FOR ~~LEAN FILL~~ PEA GRAVEL PER LINEAL FOOT OF 36" RCP PLACED= 0.26 CY/LF



60" RCP INSTALLATION

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NOTES

1. ALL 8' DIA TYPE "C" MANHOLES SHALL BE INSTALLED PER COA STD DWG 2101
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3. ALL DOUBLE TYPE "C" STORM INLETS SHALL BE INSTALLED PER COA STD DWG 2205

AS BUILT INFORMATION
CONTRACTOR Sauve Brothers
WORK STAKED BY Cartesian Surveys Inc. DATE 9/24/04
INSPECTOR'S ACCEPTANCE BY DATE 9/24/04
FIELD VERIFICATION BY Cartesian Surveys Inc DATE 9/24/04
DRAWINGS CORRECTED BY DATE 9/24/04
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
NMSHC BRASS TABLET STAMPED "125-14, 1969"
LOCATED AT THE NMDOT DISTRICT 3 OFFICES DRIVEWAY ON THE I-25 EAST FRONTAGE ROAD
X= 399,828.26 Y= 1,514,860.92
G-C= 0.99966298
ΔX= 0°11'35"
(NAD 1927/SLD 1929)
ELEVATION= 5196.73

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL
DAVID R. THOMPSON 9677 REGISTERED PROFESSIONAL ENGINEER 10-1-04

REVISIONS

NO.	DATE	REMARKS	BY

		DATE
DESIGNED BY	DBT	10/1/04
DRAWN BY	DEM	10/1/04
CHECKED BY	DBT	10/1/04

Thompson Engineering Consultants, Inc.
tecnm@yahoo.com
4800 MONTAÑO NE, SUITE 1 PHONE (505) 271-2199
ALBUQUERQUE, NEW MEXICO 87111 FAX (505) 237-2423

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DESIGN DIVISION

SAN PEDRO COLLECTORS TO THE NORTH PINO ARROYO
UTILITY PLAN AND PROFILE SAN PEDRO BLVD.
SOUTH OF NORTH PINO ARROYO - STA. 14+20.00 TO STA. 18+40.00

Drainage Design Engineer — APPROVED OCT 20 2004 DESIGN REVIEW COMMITTEE
City Engineer Approval — APPROVED OCT 21 2004 CITY ENGINEER
Last Design Update | No. / Day / Yr. | No. / Day / Yr.

City Project No. 716802 | Zone Map No. D-18 | Sheet No. | Drawing No. 7 of 24

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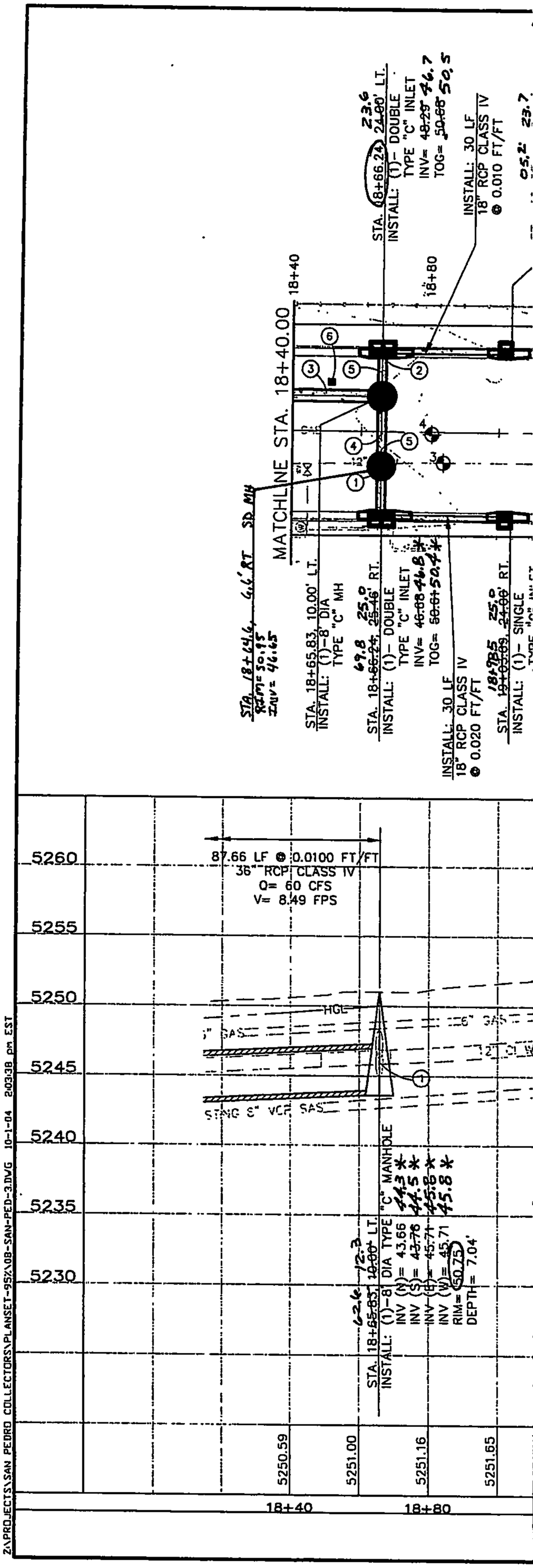
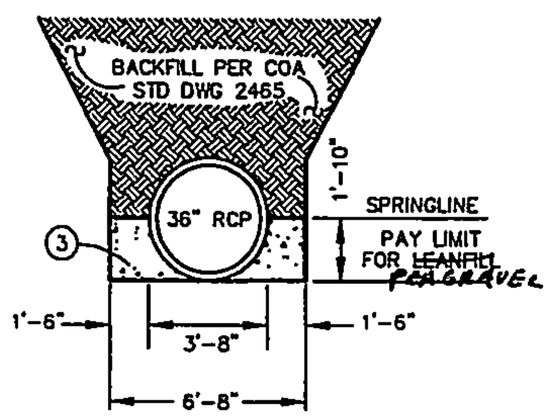
RECORD DRAWINGS



KEYED NOTES

1. CONTRACTOR TO PROTECT EXISTING 12" WATER LINE
2. CONTRACTOR TO PROTECT EXISTING 6" GAS LINE
3. CONTRACTOR TO PLACE LEAN FILL TO SPRING LINE OF 36" RCP 90% comp.
4. CONTRACTOR TO PROTECT EXISTING 8" VCP SAS LINE
5. SEE SHEET 16 FOR CONNECTOR PIPE PROFILES
6. MONITORING WELL TO BE INSTALLED BY VINYARD & ASSOCIATES AFTER PLACEMENT OF PAVEMENT AND BEFORE REMOVAL OF TRAFFIC CONTROL.



36" RCP INSTALLATION

PAY LIMIT FOR ~~LEAN FILL~~ PEA GRAVEL PER LINEAL FOOT OF 36" RCP PLACED= 0.26 CY/LF

NOTES

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AS BUILT INFORMATION
CONTRACTOR Sater Brothers
WORK STAKED BY Cartesian Surveys Inc. DATE 9/2/05
INSPECTOR'S ACCEPTANCE BY SEC DATE 9/2/05
FIELD VERIFICATION BY Cartesian Surveys DATE 9/2/05
DRAWINGS CORRECTED BY SEC DATE 9/2/05
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
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X= 399,828.26 Y= 1,514,860.92
G-C= 0.99966298
ΔX= 0°11'35"
(NAD 1927/SLD 1929)
ELEVATION= 5196.73

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL

NO.	DATE	REMARKS	BY

REVISIONS

		DATE
DESIGNED BY	DBT	10/1/04
DRAWN BY	DEM	10/1/04
CHECKED BY	DBT	10/1/04

Thompson Engineering Consultants, Inc.
4600 Juan Tabo NE, Suite C Albuquerque, New Mexico 87111 Phone (505) 271-2.55 Fax (505) 237-8422

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DESIGN DIVISION

SAN PEDRO COLLECTORS TO THE NORTH PINO ARROYO
UTILITY PLAN AND PROFILE SAN PEDRO BLVD.
SOUTH OF NORTH PINO ARROYO - STA. 18+40.00 TO STA. E.O.P.

Design Review Committee: APPROVED OCT 20 2004 DESIGN REVIEW COMMITTEE
City Engineer Approval: APPROVED OCT 27 2004 CITY ENGINEER
Last Design Update | No. / Day / Yr. | No. / Day / Yr.

City Project No. 716802 | Zone Map No. D-18 | Sheet No. | Drawing No. 8 of 24

Z:\PROJECTS\SAN PEDRO COLLECTORS\PLANSET-95%\08-SAN-PED-3.DWG 10-1-04 2:03:38 pm EST

RECORD DRAWINGS

KEYED NOTES

1. EXISTING 6" GAS LINE TO BE REMOVED AND RELOCATED BY PNM
2. CONTRACTOR TO PROTECT EXISTING 8" VCP SAS LINE
3. STA. STA. 9+89.86 TO STA. 11+12.28 REMOVE AND RELOCATE 6" C.I. WATERLINE INSTALL 6" GATE VALVE W/ VALVE BOX AND AIR RELEASE VALVE PER COA STD DWG 2350.
4. CONTRACTOR TO PLACE LEAN FILL TO SPRING LINE OF 48" RCP
5. REMOVE AND RELOCATE EXISTING 3/4" WATER SERVICE

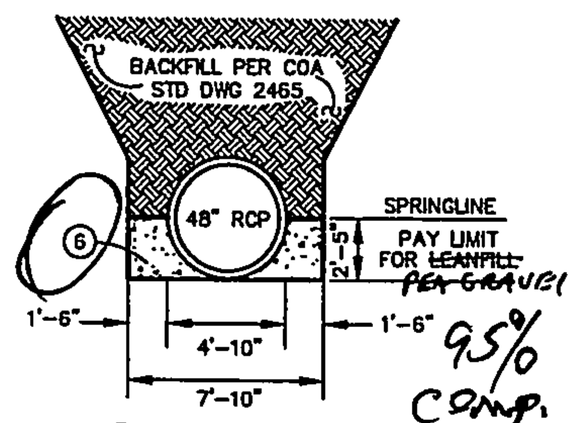
STA. 9+89
INSTALL: (

STA. 10+34.52,
INSTALL: (1)-8' D

EQUATION STAT
STA. 10+00.00
STA. 17+86.26
N= 1515644.94
E= 402399.06

POT-HOLE INFORMATION

NO.	BURY TO TOP OF PIPE	ELEV. TO TOP OF PIPE	DESCRIP	
			UTILITY	MATERIA
5	7'-6"	42.27±	SAS	VCP
6	3'-2"	46.34±	WATER	METALLIC
7	3'-5"	15.78±	GAS	METALLIC
8	2'-0"	47.70±	GAS	METALLIC
11	7'-4"	44.44±	SAS	VCP
12	3'-9"	47.79±	WATER	METALLIC



48" RCP INSTALLATION

PAY LIMIT FOR ~~LEAN FILL~~ PEA GRAVEL PER LINEAL FOOT OF 48" RCP PLACED = 0.36 CY/LF

NOTES

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5260
5255
5250
5245
5240
5235
5230

Z:\PROJECTS\SAN PEDRO COLLECTORS\PLANSET-95%\09-DERICKSON.DWG 10-1-04 20409 pp EST

AS BUILT INFORMATION
CONTRACTOR Sure Bonders
WORK STAKED BY Cartesian Surveys Inc. DATE 9/20/05
INSPECTOR'S ACCEPTANCE BY Sec DATE 9/20/05
FIELD VERIFICATION BY Cartesian Surveys Inc. DATE 9/20/05
DRAWINGS CORRECTED BY Sec DATE 9/20/05
MICRO-FILM INFORMATION
RECORDED BY DATE
NO.

BENCH MARKS
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LOCATED AT THE NMDOT DISTRICT 3 OFFICES DRIVEWAY ON THE I-25 EAST FRONTAGE ROAD
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G-C= 0.99966298
ΔX= 0°11'35"
(NAD 1927/SLD 1929)
ELEVATION= 5196.73

SURVEY INFORMATION
FIELD NOTES

NO.	BY	DATE

ENGINEERS SEAL

NO.	DATE	REMARKS	BY

REVISIONS

		DATE
DESIGNED BY	DBT	10/1/04
DRAWN BY	DEM	10/1/04
CHECKED BY	DBT	10/1/04

Thompson Engineering Consultants, Inc.
tecnm@yahoo.com
4800 JUAN TABO NE, SUITE C ALBUQUERQUE, NEW MEXICO 87111 PHONE: (505) 271-2199 FAX: (505) 237-8422

CITY OF ALBUQUERQUE
DEPARTMENT OF MUNICIPAL DEVELOPMENT
STORM DRAIN DESIGN DIVISION

SAN PEDRO COLLECTORS TO THE NORTH PINO ARROYO
UTILITY PLAN AND PROFILE DERICKSON AVE.
SOUTH OF NORTH PINO ARROYO - STA. 10+00.00 TO STA. 12+80.00

Design Review Committee: APPROVED OCT 20 2004 DESIGN REVIEW COMMITTEE
City Engineer Approval: APPROVED CITY ENGINEER
Last Design Update

City Project No.	Zone Map No.	Sheet No.	Drawing No.
716802	D-18		9 of 24

CITY OF ALBUQUERQUE

April 26, 2012

Asa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Broadstone Santa Monica Place
Grading and Drainage Plan
Engineer's Stamp dated 4-10-2012 (D18/D054)

Dear Ms. Nilsson-Weber,

Based upon the information provided in your submittal received 4-10-2012, the above referenced submittal is approved for Grading Permit and Building Permit.

This project requires a National Pollutant Discharge Elimination System (NPDES) permit for storm water discharge for disturbing one acre or more and a Topsoil Disturbance Permit for disturbing ¾ of an acre or more. Please attach a copy of the approved plans to the construction sets prior to sign-off by Hydrology. Prior to Certificate of Occupancy release, Engineer Certification per the DPM checklist will be required.

Albuquerque's MS4 Permit became effective March 1st, 2012. Grading and Drainage Plans and Drainage Reports will have to comply with the requirements of the new permit (http://www.cabq.gov/planning/landcoord/documents/EPA-NMS000101-FinalPermit.pdf).

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

Sincerely,

Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: e-mail

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Broadstone Santa Monica ZONE MAP/DRG.FILE# D-18-~~Z~~ D054
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Tract 2, Santa Monica Place
CITY ADDRESS: Santa Monica Ave. & San Pedro Blvd

ENGINEERING FIRM: ISAACSON AND ARFMAN CONTACT: Åsa Nilsson-Weber
ADDRESS: 128 MONROE N.E. PHONE: 268-8828
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87108

OWNER: Titan Development CONTACT: Kurt Browning
ADDRESS: 6300 Riverside Plaza Lane NW - #200 PHONE: _____
CITY, STATE: Albuquerque, NM ZIP CODE: 87120

ARCHITECT: _____ CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc. CONTACT: Russ P. Hugg,
ADDRESS: _____ PHONE: 897-3366
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:
- ☐ ___ DRAINAGE REPORT
- ☐ ___ DRAINAGE PLAN 1st SUBMITTAL
- ☒ ___ DRAINAGE PLAN RESUBMITTAL
- ☐ ___ CONCEPTUAL G & D PLAN
- ☒ ___ GRADING PLAN
- ☐ ___ EROSION CONTROL PLAN
- ☐ ___ ENGINEER'S CERT (HYDROLOGY)
- ☐ ___ CLOMR/LOMR
- ☐ ___ TRAFFIC CIRCULATION LAYOUT
- ☐ ___ ENGINEER/ARCHITECT CERT (TCL)
- ☐ ___ ENGINEER/ARCHITECT CERT (DRB S.P.)
- ☐ ___ ENGINEER/ARCHITECT CERT (AA)
- ☒ OTHER (SPECIFY) Supplemental Calculations

CHECK TYPE OF APPROVAL 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
- ☐ _____ FOUNDATION PERMIT APPROVAL
- ☒ _____ BUILDING PERMIT APPROVAL
- ☐ _____ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ _____ CERTIFICATE OF OCCUPANCY (TEMP)
- ☒ _____ GRADING PERMIT APPROVAL
- ☐ _____ PAVING PERMIT APPROVAL
- ☒ _____ WORK ORDER APPROVAL
- ☐ _____ OTHER (SPECIFY)

RECEIVED
APR 10 2012
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

SUBMITTED BY: Åsa Nilsson-Weber, PE DATE: April 10, 2012
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 define 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.

Isaacson & Arfman, P.A. Consulting Engineering Associates

*Thomas O. Isaacson, PE (Ret.) & LS (Ret.) * Fred C. Arfman, PE * Åsa Nilsson-Weber, PE*

April 10, 2012

Mr. Curtis Cherne, P.E.
Planning Dept. Development
and Building Services
City of Albuquerque
P.O. Box 1293
Albuquerque, NM 87102

Re: Broadstone Santa Monica—D18/D054

Dear Mr. Cherne,

This letter is in reference to your comments for the referenced project dated 4/2/12 (attached). Please see below for responses to your comments.

1. The intent of the storm drain outfall structure is to dissipate the velocity of the storm drain discharge and overflow it to the south paved drive over a 6.5-foot wide weir. Flow remaining in the lower 6 inches will pass to the north via the proposed 4-inch drainline. The peak flow in the 4-inch pipe is 0.5 cfs and the remaining flows of 21.0 cfs discharges via the weir. See Supplemental Calculations for weir overflow and 4-inch orifice calculations. Based on these calculations, the water surface elevation will be 63.0—one foot above the flowline elevation. The curb adjacent to the weir will be 12 inches high with transitions to the top of wall elevation of 64.5.

2. Off-site contours have been referenced on the plan to clearly show the grade transition to the north. This includes the area at the northwest corner of the site.

3. All units have pitched roofs which drain to all sides. A shallow swale has been added on the west side of the northwest corner unit to pass roof discharge to the north.

4. Keyed note #8 has been modified to clearly indicate that all parking islands will have depressed landscaping to harvest stormwater which falls on them. These numerous water harvesting areas will help to reduce the peak flow within San Pedro. We have not provided curb cuts in the islands for the following reasons.

    a. Landscaping would need to be depressed more than 6" below top of curb to accept and retain street flow.

    b. Openings would permit stormwater to pass from the landscaping to the pavement.

128 Monroe St. N.E. * Albuquerque, NM 87108 * (505) 268-8828 * Fax: (505) 268-2632 * www.iacivil.com

c. None of the islands have capacity to detain significant additional volume.

d. Based on the soils report for this site, we do not want to introduce additional detention/ infiltration within the building areas.

Please call or email me @ asaw@iacivil.com with any additional questions or comments. Thank you.

Sincerely,
ISAACSON & ARFMAN P.A.

Åsa Nilsson-Weber, P.E.

Attachments:
Grading Plans & Supplemental Calculations

CITY OF ALBUQUERQUE

April 2, 2012

Asa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Broadstone Santa Monica Place
Grading and Drainage Plan
Engineer's Stamp dated 3-7-2012 (D18/D054)

Dear Ms. Nilsson-Weber,

Based upon the information provided in your submittal received 3-8-12, the above referenced report can not be approved for Grading Permit and Building Permit until the following comments are addressed.

- Pond calculations are needed for the small pond just north of the entrance/exit on San Pedro. What is the WSE?
- How are the proposed contours tying in with the contours to the north of this site at the NW corner?
- Provide the direction of roof flows for the units in the NW corner. These flows should not drain over the sidewalk.
- Are all landscape areas being depressed as well as the areas with sidewalk culverts? Can the small islands in the parking lots contain a 1' cut in the curb to accept flows? This would assist in lowering the flows entering San Pedro for the first 6 hours and would also help with the new EPA regulations and the MS 4 permit coming in the near future.

If you have any questions, you can contact me at 924-3986, or Rudy Rael at 924-3977.

Sincerely,

Curtis Cherne, P.E.
Principal Engineer, Planning Dept.
Development and Building Services

Copy: e-mail

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

APRIL 10, 2012

SUPPLEMENTAL CALCULATIONS

FOR

BROADSTONE SANTA MONICA
San Pedro Blvd. and Santa Monica Ave. NE

BY

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

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

I&A Project No. 1900

ÅSA M. NILSSON-WEBER
NEW MEXICO
17631
LICENSED PROFESSIONAL ENGINEER

Prepared by:

Åsa Nilsson-Weber 4-10-12

Åsa Nilsson-Weber, PE Date

- WEIR CALCULATIONS FOR STILLING BASIN NORTH OF SAN PEDRO ENTRANCE

- ORIFICE CALCULATIONS FOR 4" PIPE FROM STILLING BASIN TO SIDEWALK CULVERT NORTH OF SAN PEDRO ENTRANCE

Weir Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Tuesday, Apr 10 2012

OVERFLOW WEIR AT CONCRETE STILLING BASIN @ NW CORNER

Rectangular Weir

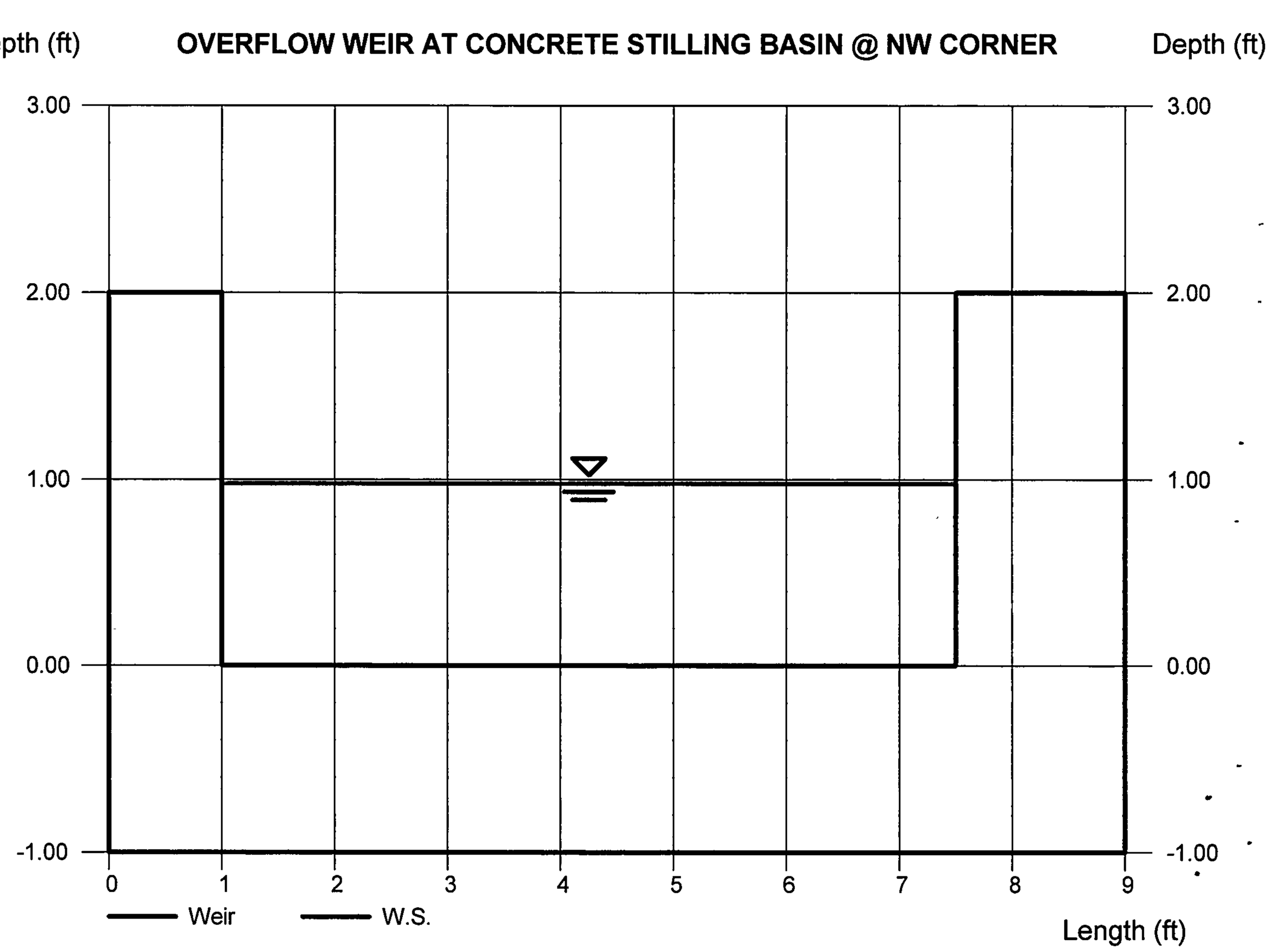
Crest	= Sharp
Bottom Length (ft)	= 6.50
Total Depth (ft)	= 2.00

Calculations

Weir Coeff. Cw	= 3.33
Compute by:	Known Q
Known Q (cfs)	= 21.00

Highlighted

Depth (ft)	= 0.98
Q (cfs)	= 21.00
Area (sqft)	= 6.37
Velocity (ft/s)	= 3.30
Top Width (ft)	= 6.50



BROADSTONE SANTA MONICA

ORIFICE EQUATION - 4" PIPE FROM STILLING BASIN TO SIDEWALK CULVERT

The Orifice Equation is used to calculate the Flow at the opening of a Channel

Q = C*A * (2*g*h) ^ 0.5

Where	Q	=	0.52	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	0.0872665	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	1.55	ft	depth of flow at opening from the center of culvert

Inv 4" pipe=61.3; WSEL=63.0

Cherne, Curtis

From: Romo, Phillip
Sent: Thursday, September 12, 2013 11:53 AM
To: Cherne, Curtis
Subject: Re: plastic on cattle guard at Derickson and San Pedro for slurry seal job

I had someone go pull it off.

Sent from my Verizon Wireless 4G LTE DROID

-----Original message-----

> **From:** "Cherne, Curtis" <CCherne@cabq.gov>
> **To:** "Romo, Phillip" <promo@cabq.gov>
> **Sent:** Thu, Sep 12, 2013 11:42:16 MDT
> **Subject:** plastic on cattle guard at Derickson and San Pedro for slurry seal job
>
> Phil,
> I was out at Derickson and San Pedro about 11 AM and noticed the cattle guard inlet just east of San Pedro is covered up with plastic on the west bound half and covered up with slurry seal over plastic on the eastbound half.
>
> Was only sprinkling when I was up there but the intensity may increase as the day goes on.
>
> Figured I'd give you the heads up in case they should remove the plastic until the storm is over.
>
> No reply is necessary.
>
> Curtis

5/30/12

PERMANENT EASEMENT

6-18-2012

Grant of Permanent Easement, between Del Rey Investments, LLC ("Grantor"), whose address is 6300 Riverside Plaza Lane NW, Suite 200, Albuquerque, NM 87120 and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P.O. Box 1293, Albuquerque, NM, 87103.

Grantor grants to the City an exclusive, permanent easement ("Easement") in, over, upon and across the real property described on Exhibit "A" attached hereto ("Property") for the Public construction, installation, maintenance, repair, modification, replacement and operation of storm drain, together with the right to remove trees, bushes, undergrowth and any other obstacles upon the Property if the City determines they interfere with the appropriate use of this Easement. Grantor reserves the right to construct improvements and the term exclusive does not preclude other utility crossings.

In the event Grantor constructs any improvements ("Improvements") within the Easement, the City has the right to enter upon Grantor's property at any time and perform whatever inspection, installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the City. If the Work effects any Improvements or encroachments made by the Grantor, the City will not be financially or otherwise responsible for rebuilding or repairing the Improvements or encroachments. If in the opinion of the City, the Work to be performed by the City could endanger the structural integrity or otherwise damage the Improvements or encroachments, the Grantor shall, at its own expense, take whatever protective measures are required to safeguard the Improvements or encroachments.

Grantor covenants and warrants that Grantor is the owner in fee simple of the Property, that Grantor has a good lawful right to convey the Property or any part thereof and that Grantor will forever warrant and defend the title to the Property against all claims from all persons or entities.

The grant and other provisions of this Easement constitute covenants running with the Property for the benefit of the City and its successors and assigns until terminated.

This Easement shall not be effective until approved by the City Engineer in the signature block below.

APPROVED:

Richard Dourte, City Engineer
Date: 6-18-12

6-18-12

6-14-2012

GRANTOR: Del Rey Investments LLC

By: BFS

Print Name: Ben F. Spencer

Title: MANAGER

Date: 6-5-12

Doc# 2012061477
06/19/2012 03:28 PM Page: 1 of 4
EASE R:$25.00 M. Toulouse Oliver, Bernalillo County

INDIVIDUAL'S NOTARY

STATE OF _____)
)ss
COUNTY OF _____)

This instrument was acknowledged before me on _____ day of _____, 20___, by _____ (name of individual).

(SEAL)

My Commission Expires:

_____

_____
Notary Public

CORPORATION'S NOTARY

STATE OF New Mexico)
)ss
COUNTY OF Bernalillo)

This instrument was acknowledged before me on 5th day of June, 2012, by Ben F. Spencer (name), Manager (title) of Del Rey Investments LLC (entity), a New Mexico (i.e. a New Mexico) corporation, on behalf of the corporation.

(SEAL)

OFFICIAL SEAL
JACQUELINE L. MYERS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 4-7-14

My Commission Expires:

4-7-2014

Jacqueline L. Myers
Notary Public

PARTNERSHIP'S NOTARY

STATE OF _____)
)ss
COUNTY OF _____)

This instrument was acknowledged before me on ____ day of _____, 20___, by _____(name), partner(s), on behalf of _____(entity), a partnership.

(SEAL)

My Commission Expires:

_____

_____
Notary Public

LEGAL DESCRIPTION - PUBLIC STORM DRAIN EASEMENT

An easement within the Elena Gallegos Grant, in Projected Section 24, Township 11 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising a northerly portion of Tract 1, Santa Monica Place, as the same is shown and designated on the plat entitled "BULK LAND PLAT OF TRACTS 1 THRU 4, SANTA MONICA PLACE (BEING A REPLAT OF BLOCKS 18 AND 19, TRACT A, UNIT A, NORTH ALBUQUERQUE ACRES, AND A VACATED PORTION OF DEL REY AVENUE N.E.) SITUATE WITHIN THE ELENA GALLEGOS GRANT IN PROJECTED SECTION 24, TOWNSHIP 11 NORTH, RANGE 3 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico, on January 6, 2012, in Plat Book 2012C, Page 2, as Document No. 2012001338, more particularly described by New Mexico State Plane Grid Bearings (Central Zone - NAD 83) and ground distances as follows:

An easement twenty feet (20′) in width, being ten feet (10′) on each side of the following described centerline:

BEGINNING at a point on the northerly boundary of said Tract 1, Santa Monica Place, said point also being a point on the southerly right of way line of Derickson Avenue N.E., whence (1) the point of tangency at the northwesterly corner and the northerly boundary of said Tract 1, Santa Monica Place bears N 89°40′00″ W, 243.06 feet distant, and (2) the northeasterly corner of said Tract 1, Santa Monica Place bears S 89°40′00″ E, 759.90 feet distant, and (3) Albuquerque Control Survey Monument "I-25-14" bears S 84°55′35″ W, 2,750.05 feet distant; Thence,

S 00°06′18″ E, 59.00 feet to the southerly terminus of the centerline herein described.

Said easement contains 0.0271 acres, more or less.

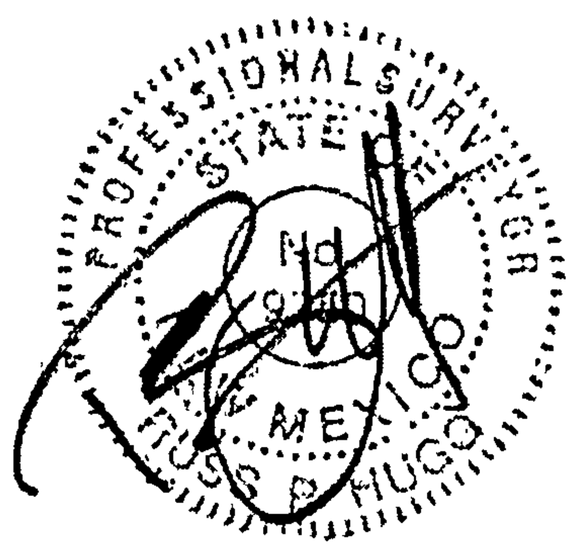
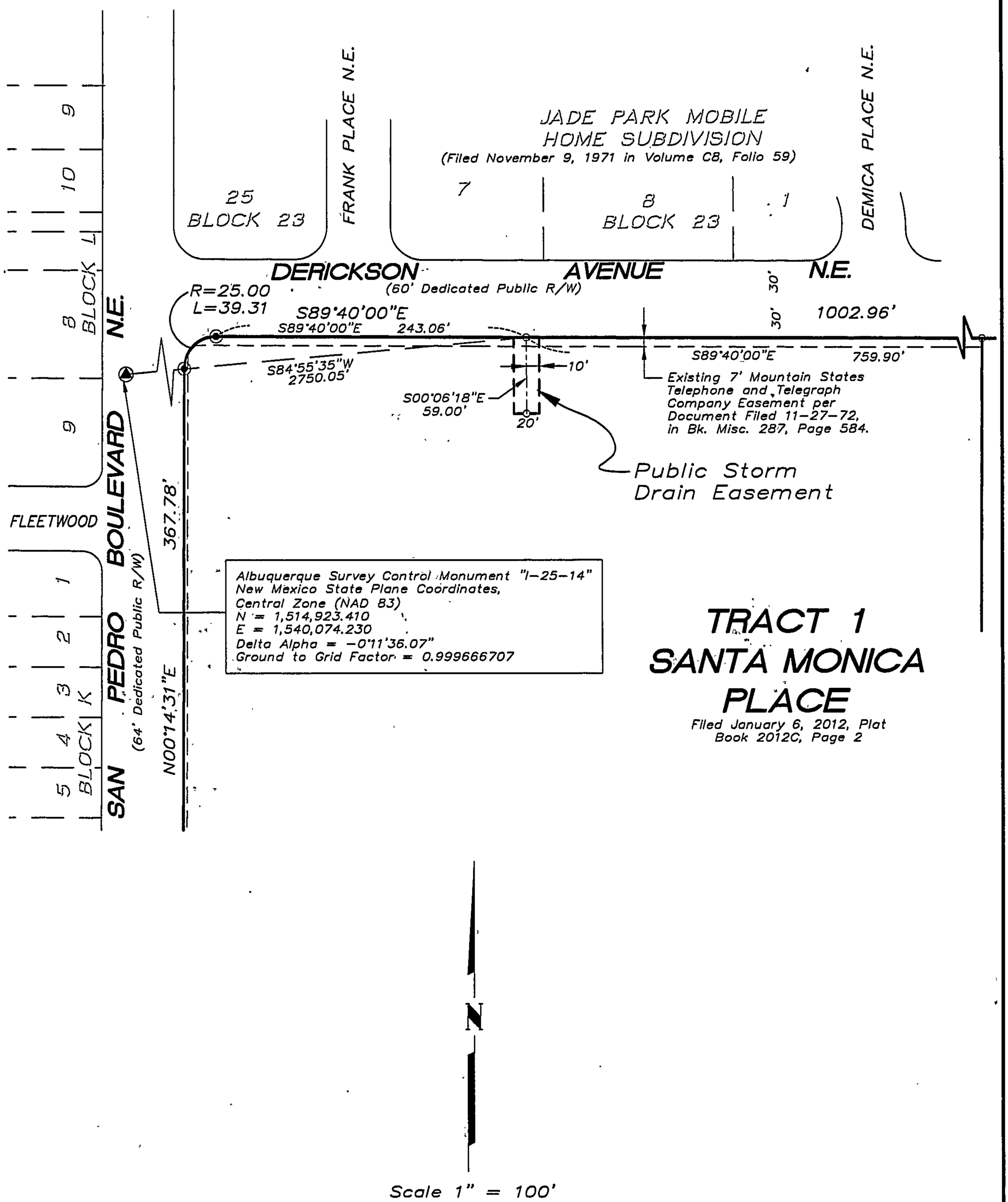


EXHIBIT
A
PAGE 1 of 2

EXHIBIT
A
Page 2 of 2



110517 EASE A AND B 032812.dwg

SURV TEK, INC.
Consulting Surveyors
9384 Valley view Drive N.W. Albuquerque, New Mexico 87114
Phone: 505-897-3366
Fax: 505-897-3377

CITY OF ALBUQUERQUE

December 6, 2011

Asa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Santa Monica Place Tracts 1-4, Conceptual Drainage Report
Engineer's Stamp dated 12-2-2011 (D18/D054)

Dear Ms. Weber,

Based upon the information provided in your submittal received 12-2-11, the above referenced report is approved for Final Plat action by the DRB.

As agreed upon, private storm drain connecting to the storm drain in San Pedro or Derickson will be required when Tract(s) 1 and /or 2 develop. The Work Order should be submitted for Preliminary Review before the Building Permit is approved. The Work Order should be accepted prior to the first Certificate of Occupancy being issued.

Tracts 3 and 4 will go through DRB and the appropriate drainage infrastructure will be required as part of the platting process.

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

Sincerely,

Curtis Cherne

Curtis Cherne, P.E.
Principal Engineer, Planning Dept.
Development and Building Services

Copy: e-mail

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18-~~Z~~ D054.
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: (Existing) Blocks 18 and 19, Tract A, Unit A, North Albuquerque Acres
CITY ADDRESS: _____

ENGINEERING FIRM: ISAACSON AND ARFMAN CONTACT: Åsa Nilsson-Weber
ADDRESS: 128 MONROE N.E. PHONE: 268-8828
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87108

OWNER: Titan Development CONTACT: Kurt Browning
ADDRESS: 6300 Riverside Plaza Lane NW - #200 PHONE: _____
CITY, STATE: Albuquerque, NM ZIP CODE: 87120

ARCHITECT: NA CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc. CONTACT: Russ P. Hugg,
ADDRESS: _____ PHONE: 897-3366
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:
- ☐ ___ DRAINAGE REPORT
- ☐ ___ DRAINAGE PLAN 1st SUBMITTAL
- ☒ ___ DRAINAGE PLAN RESUBMITTAL
- ☐ ___ CONCEPTUAL G & D PLAN
- ☐ ___ GRADING PLAN
- ☐ ___ EROSION CONTROL PLAN
- ☐ ___ ENGINEER'S CERT (HYDROLOGY)
- ☐ ___ CLOMR/LOMR
- ☐ ___ TRAFFIC CIRCULATION LAYOUT
- ☐ ___ ENGINEER/ARCHITECT CERT (TCL)
- ☐ ___ ENGINEER/ARCHITECT CERT (DRB S.P.)
- ☐ ___ ENGINEER/ARCHITECT CERT (AA)
- ☐ OTHER (SPECIFY)_____

CHECK TYPE OF APPROVAL 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
- ☐ _____ FOUNDATION PERMIT APPROVAL
- ☐ _____ BUILDING PERMIT APPROVAL
- ☐ _____ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ _____ CERTIFICATE OF OCCUPANCY (TEMP)
- ☐ _____ GRADING PERMIT APPROVAL
- ☐ _____ PAVING PERMIT APPROVAL
- ☐ _____ WORK ORDER APPROVAL
- ☐ _____ OTHER (SPECIFY)_____

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
DEC 0 2 2011
HYDROLOGY SECTION

SUBMITTED BY: Åsa Nilsson-Weber, PE DATE: December 1, 2011
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 define 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.

DECEMBER 2, 2011

CONCEPTUAL DRAINAGE REPORT

FOR

SANTA MONICA PLACE
San Pedro and Derickson Avenue NE

RECEIVED
DEC 05 2011
HYDROLOGY SECTION

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

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

I&A Project No. 1894
M:\PROJECT DOCUMENTS\1800-1899\1850\REPORTS & EXHIBITS

DECEMBER 2, 2011

CONCEPTUAL DRAINAGE REPORT

FOR

SANTA MONICA PLACE
San Pedro and Derickson Avenue NE

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

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

I&A Project No. 1894

Prepared by:

ÅSA M. NILSSON-WEBER
NEW MEXICO
17631
LICENSED PROFESSIONAL ENGINEER

Åsa Nilsson-Weber, PE — 12-2-11

Åsa Nilsson-Weber, PE — Date

TABLE OF CONTENTS

Project Information

Reference Material

Introduction

Existing Drainage Patterns

Proposed Drainage: All Development

Proposed Drainage: Tracts 1 & 2

Proposed Drainage: Tracts 3 & 4

Supplemental Information:

- COA Vicinity Map D-18-Z
- FIRMETTE from FIRM Map No. 35001C0137G

PROJECT INFORMATION:

PROPOSED LEGAL:
Tracts 1 thru 4, Santa Monica Place

EXISTING LEGAL DESCRIPTION:
Blocks 18 and 19, Tract A, Unit A, North Albuquerque Acres

TOTAL AREA:
58.19 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 Investements
c/o Titan Development
6300 Riverside Plaza Lane NW - #200
Albuquerque, NM 87120-2617
Attn: Kurt Browning

REFERENCE MATERIAL:

- **The Study Phase Letter Report for San Pedro Collectors to the North Pino Arroyo**
  by Thompson Engineering Consultants, Inc.
  dated April 2004

- **Drainage Report for Monterra Del Rey, Units 1-3**
  by Isaacson & Arfman P.A.
  dated March 2008

- **Revisions to Drainage Report for Monterra Del Rey, Units 1-3**
  by Isaacson & Arfman P.A.
  dated June 2008

INTRODUCTION:

This report is a conceptual drainage study for the 58.2-acre Santa Monica Place property.

The site is bound by Derickson Ave. NE to the north, by Louisiana Blvd. NE to the east, by Santa Monica Ave. NE to the south and by San Pedro Blvd. NE to the west. The proposed replat will consist of four tracts. The proposed zoning and acreage of each tract is provided in the following table.

TRACT	ZONED	ACREAGE
Tract 1	R-2	8.9170 Acres
Tract 2	R-2	14.3296 Acres
Tract 3	R-T	19.3638 Acres
Tract 4	R-LT	15.5781 Acres

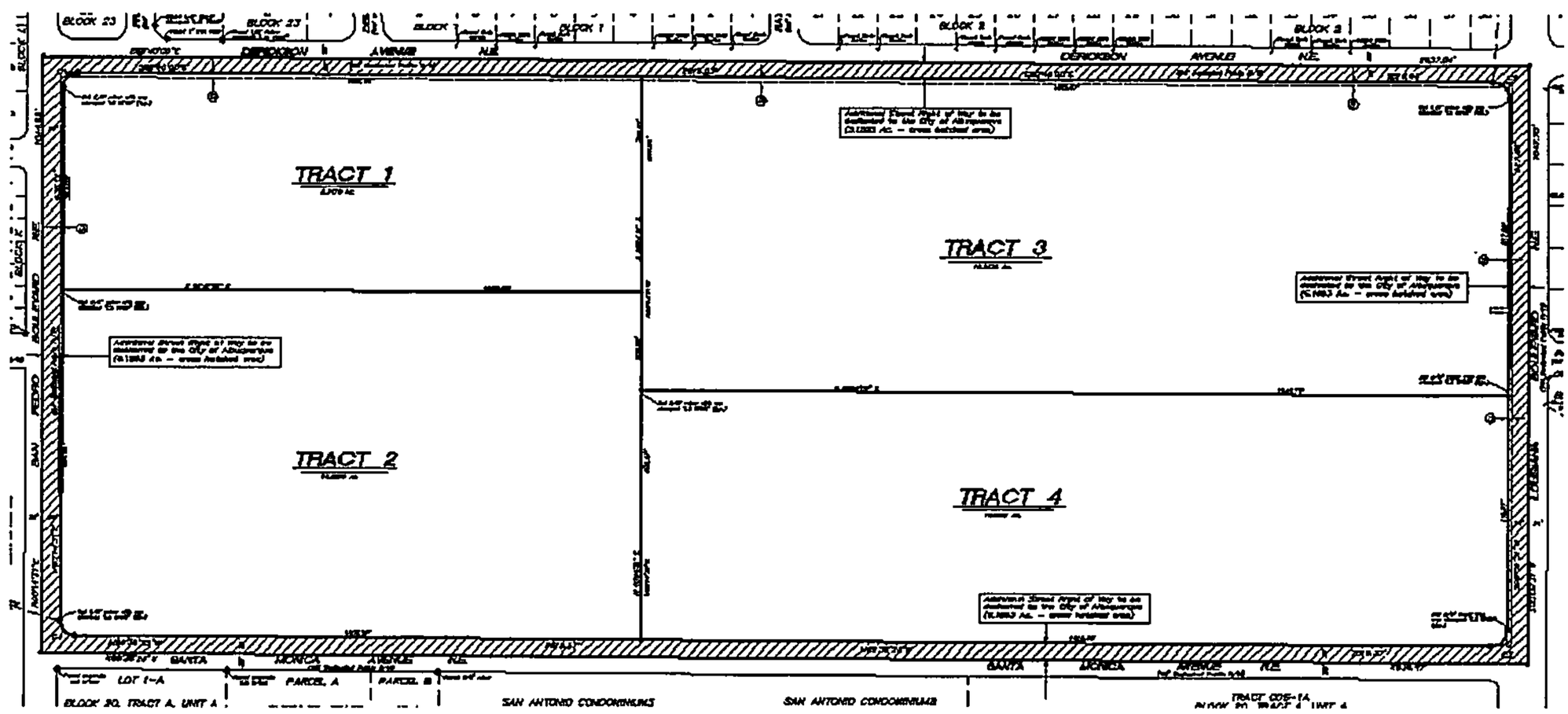


Figure 1: Proposed Santa Monica Place

EXISTING DRAINAGE PATTERNS:

The majority of the site discharges to the northwest and enters the existing public storm sewer system inlets near the intersection of Derickson Ave. and San Pedro Blvd. NE.

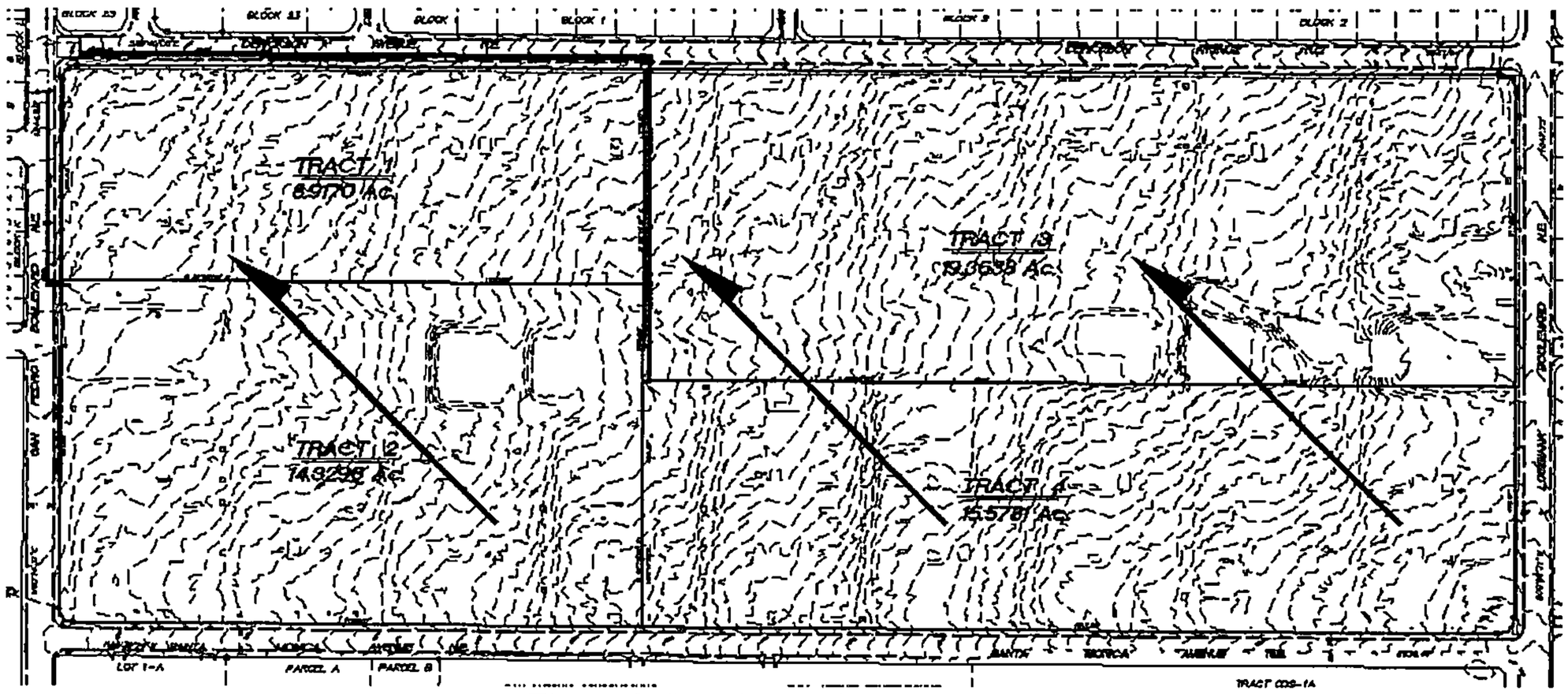


Figure 2: Interim Drainage Patterns

The existing public storm drain system at the intersection of Derickson Ave. and San Pedro Blvd. includes a 48" pipe east to an existing cattle guard inlet and a 36" pipe south to collect street flow from four existing inlets (two each side of San Pedro Blvd.). Flow is conveyed north to the North Pino Arroyo.

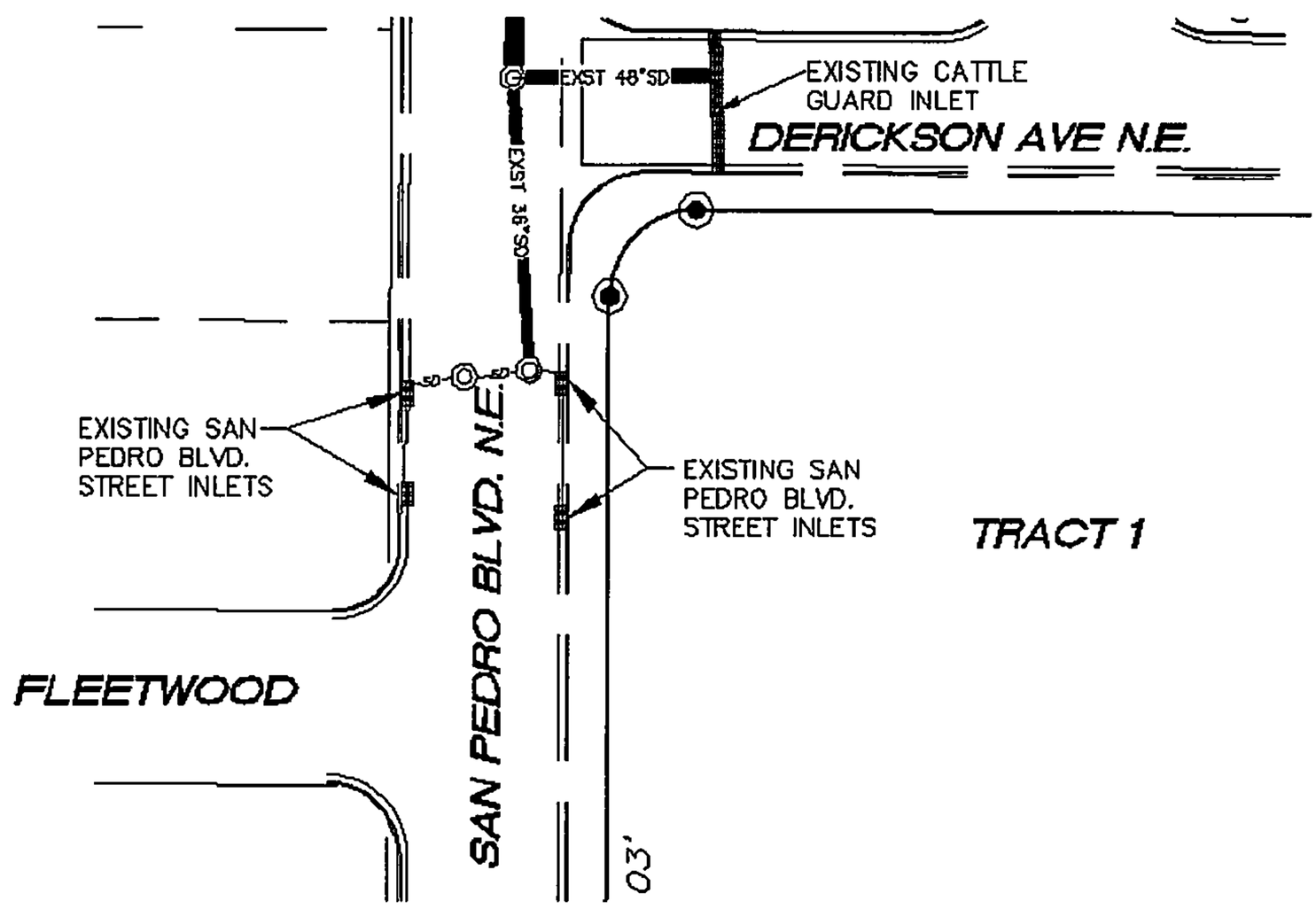


Figure 3: Existing Public Storm Sewer System

Derickson Ave. has limited flow capacity due to mountable curb on the north side of the street.

PROPOSED DRAINAGE: ALL DEVELOPMENT

Development of all tracts will require a Grading and Drainage Plan submittal to City of Albuquerque Hydrology for review and approval. Each submittal must include calculations including site discharge, adjacent street flow capacity, storm drain capacity and any interim flow mitigation from adjacent undeveloped tracts. See Reference Material included in this report for previous drainage studies for this site.

PROPOSED DRAINAGE: TRACTS 1 & 2

Cross-lot surface drainage is allowed for Tracts 1 & 2 per easement shown on final plat. The following drainage infrastructure connecting to the existing public storm drain system is required:

- Connect onsite private storm drain from Tract 1 into the public storm drain system in the adjacent streets.
- The storm drain size shall be 36"/30" diameter (to be verified upon development of Tracts 1 & 2).

PROPOSED DRAINAGE: TRACTS 3 & 4 (Conservative Analysis)

Upon development of Tracts 3 & 4, a preliminary plat and infrastructure list shall be processed through the City of Albuquerque Development Review Board (DRB).

Cross-lot surface drainage is allowed for Tracts 3 & 4 per easement shown on final plat. The following drainage infrastructure connecting to the existing public storm drain system is required:

- Connect onsite storm drain for Tracts 3 & 4 to the Derickson Ave. storm drain system. This proposed storm drain could be located in Derickson or onsite (to be determined). Storm drain connection shall have capacity to handle flows from both Tract 3 and Tract 4.
- Assuming no detention ponding onsite in the worst-case scenario, the maximum storm drain size shall be 48" diameter (to be verified upon design development of Tracts 3 & 4).

A cost analysis for the storm drain installation for Tracts 3 & 4 is included on the next page.

Cost Analysis:

Should Tract 4 develop first (worst-case scenario), the storm drain would need to be extended from the existing cattle guard inlet to the north line of Tract 4—approximately 1,700 feet. To be conservative, this storm drain is proposed in Derickson Ave. and a 48" diameter pipe is assumed for the entire length, and 8 dwelling units/acre is assumed for the development density. The estimated unit price of $3.30 / lf-in-dia includes cost of pipe, trenching, pavement removal and replacement and manholes. The cost is calculated at ~$2,240 per lot as shown below.

Number of Lots:
Tract 4 area=15.5781 ac.
Total number of lots: 15.5781 ac. * 8 du/ac = 125 lots

Worst-Case Estimated Cost of Storm Drain Installation:
1700 lf * $3.30/lf-in dia * 48 in-dia + $10,000 cattle guard inlet connection ≈ $280,000

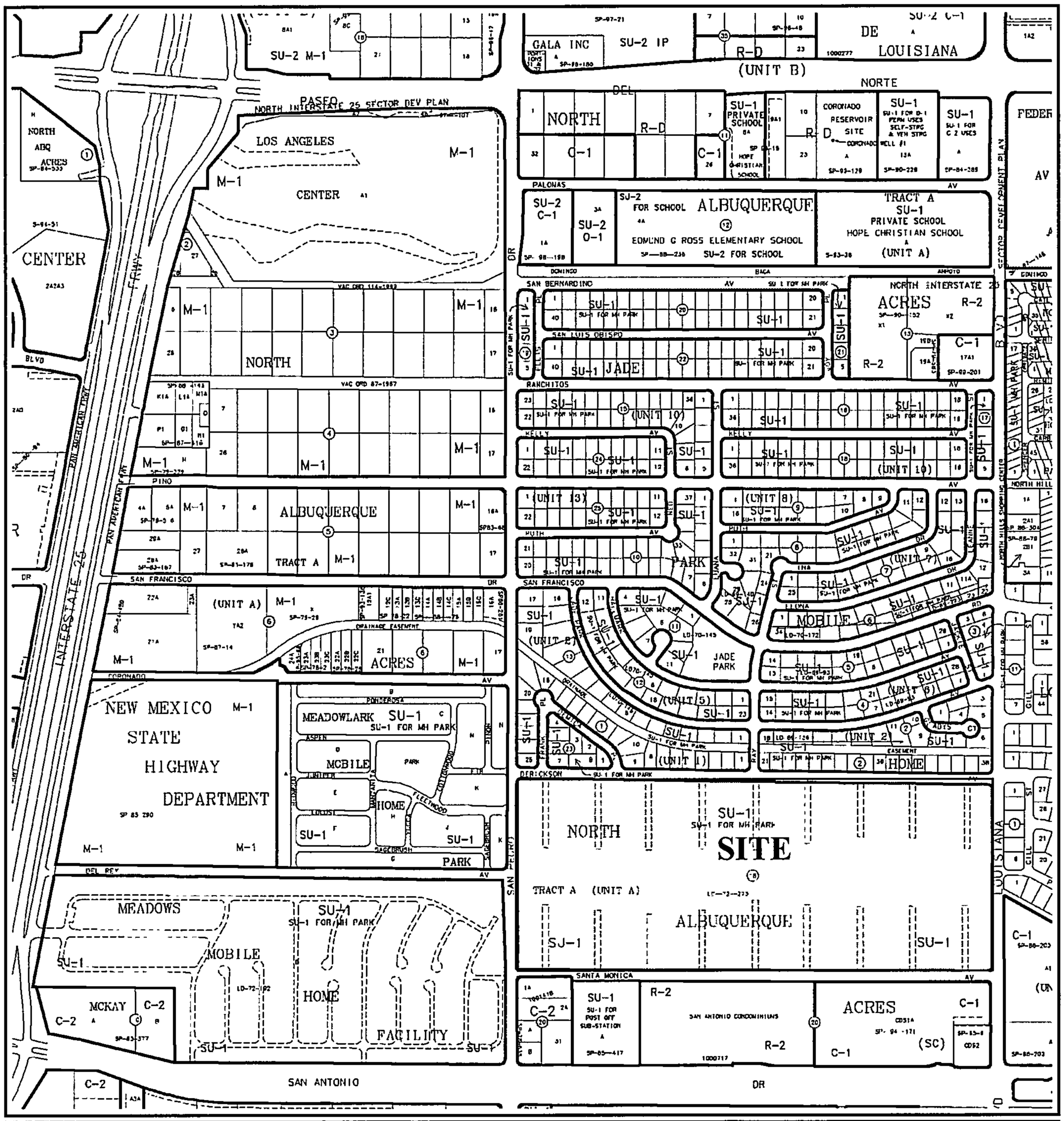
Cost per lot: $280,000 / 125 lots = $2,240 / lot

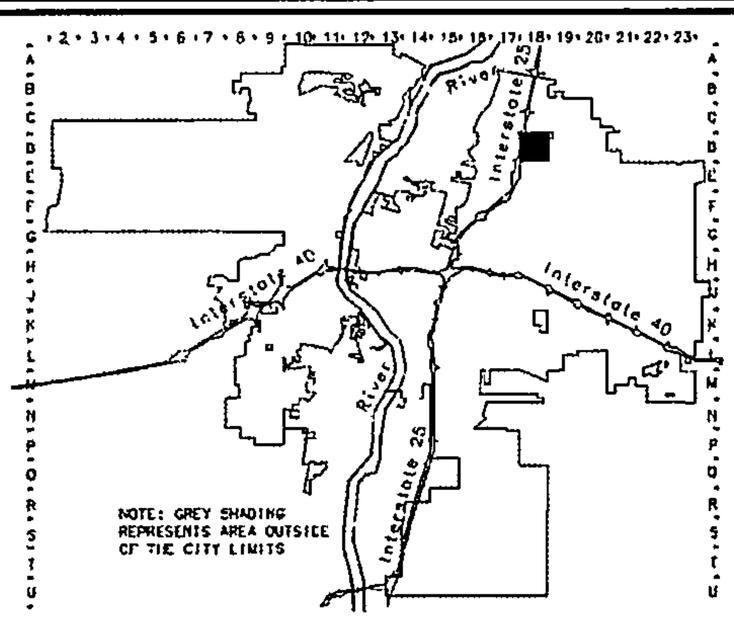
Once the economy recovers and there is a market for developing these tracts, the Owner will coordinate this infrastructure between tracts.

SUPPLEMENTAL INFORMATION

COA Vicinity Map D-18-Z

FIRMETTE from FIRM Map No. 35001C0137G





CITY OF ALBUQUERQUE NEW MEXICO 1706

Albuquerque Geographic Information System
PLANNING DEPARTMENT

© Copyright 2004

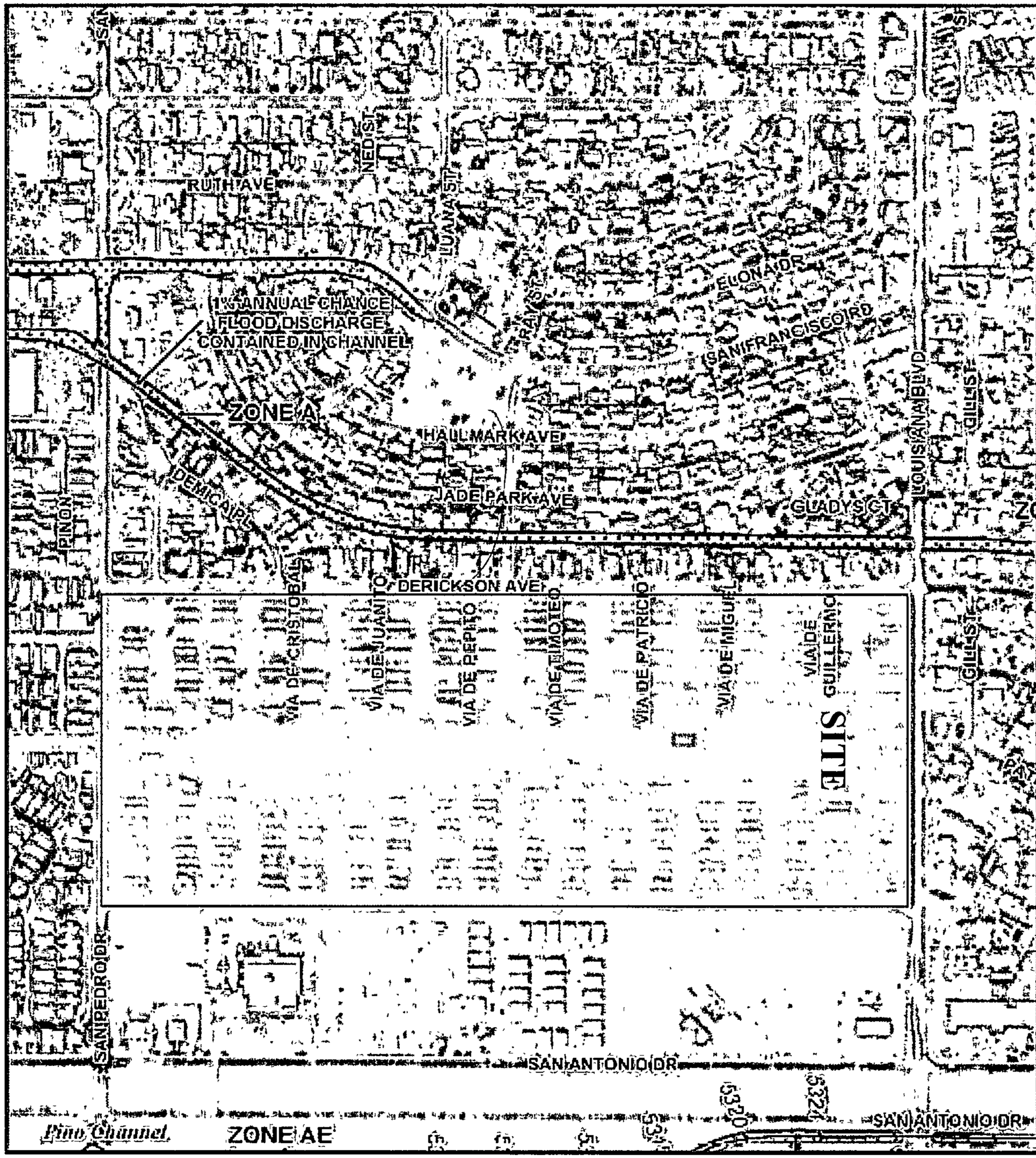
GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

D-18-Z

Map Amended through February 01, 2005



MAP SCALE 1" = 500'

0 500 1000 FEET

NFIP

NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0137G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 137 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	G
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0137	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0137G

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Broadstone Santa Monica (Phase III) Building Permit #: _____ City Drainage #: D-18/D054

DRB#: 1003916 EPC#: _____ Work Order#: 689983

Legal Description: Tract 2, Santa Monica Place

City Address: 6401 Santa Monica Ave. NE / BLDGS 26 & 27

Engineering Firm: Isaacson & Arfman, P.A. Contact: Fred C. Arfman

Address: 128 Monroe Street NE, Albuquerque, NM 87108

Phone#: 268-8828 Fax#: N/A E-mail: freda@iacivil.com

Owner: Broadstone Santa Monica, LLC Contact: Kurt Browning

Address: 6300 Riverside Plaza Lane NW, Suite 200, Albuquerque, NM 87120

Phone#: 889-3061 Fax#: _____ E-mail: kbrowning@titan-development.com

Architect: ORB Architecture, LLC Contact: Richard Barber

Address: _____

Phone#: (602) 957-4530 Fax#: _____ E-mail: rab@orbarch.com

Surveyor: Surv-Tek, Inc. Contact: Russ Hugg

Address: 9384 Valley View Drive NW, Albuquerque, NM 87114

Phone#: 897-3366 Fax#: 897-3377 E-mail: hugg@swcp.com

Contractor: Alliance Residential Company Contact: Kim Weisenburger

Address: 2415 E. Camelback Road, Suite 600, Phoenix, AZ 85016

Phone#: (602) 522-5763 Fax#: _____ E-mail: kburger@allresco.com

TYPE OF SUBMITTAL:

- ____ DRAINAGE REPORT
- ____ DRAINAGE PLAN 1st SUBMITTAL
- ____ DRAINAGE PLAN RESUBMITTAL
- ____ CONCEPTUAL G & D PLAN
- ____ GRADING PLAN
- ____ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ____ ENGINEER'S CERT (HYDROLOGY)
- ____ CLOMR/LOMR
- X 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
- X CERTIFICATE OF OCCUPANCY (PERM)
- ____ CERTIFICATE OF OCCUPANCY (TCL TEMP)
- ____ FOUNDATION PERMIT APPROVAL
- ____ BUILDING PERMIT APPROVAL
- ____ GRADING PERMIT APPROVAL
- ____ PAVING PERMIT APPROVAL
- ____ WORK ORDER APPROVAL
- ____ GRADING CERTIFICATION
- ____ SO-19 APPROVAL
- ____ ESC PERMIT APPROVAL
- ____ ESC CERT. ACCEPTANCE
- ____ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED: ____ Yes ____ No ____ Copy Provided

DATE SUBMITTED: 05-15-13 By: Fred C. Arfman, PE

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 followin

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

RECEIVED MAY 15 2013

TRAFFIC CERTIFICATION

I, FRED C. ARFMAN, NMPE NO 7322, OF THE FIRM ISAACSON & ARFMAN, PA, HEREBY CERTIFY THAT THIS PROJECT IS IN SUBSTANTIAL COMPLIANCE WITH AND IN ACCORDANCE WITH THE DESIGN INTENT OF THE TCL APPROVED PLAN DATED MAY 18, 2012; SHEETS CP1.2 – CP1.5, ATTACHED. THE RECORD INFORMATION EDITED ONTO THE ORIGINAL DESIGN DOCUMENT HAS BEEN OBTAINED BY FRED C. ARFMAN OF THE FIRM ISAACSON & ARFMAN, PA. I FURTHER CERTIFY THAT I HAVE PERSONALLY VISITED THE PROJECT SITE ON (SEE DATE IN CERTIFICATION BLOCK) AND HAVE DETERMINED BY VISUAL INSPECTION THAT THE ATTACHED PLAN PROVIDED IS REPRESENTATIVE OF ACTUAL SITE CONDITIONS FOR THE DESIGNATED PHASE IDENTIFIED ON THE ACCOMPANYING COLORED PHASING PLAN AND IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. THIS CERTIFICATION IS SUBMITTED IN SUPPORT OF A REQUEST FOR A PERMANENT CERTIFICATION OF OCCUPANCY.

THE RECORD INFORMATION PRESENTED HEREON IS NOT NECESSARILY COMPLETE AND INTENDED ONLY TO VERIFY SUBSTANTIAL COMPLIANCE OF THE TRAFFIC ASPECTS OF THIS PROJECT. THOSE RELYING ON THE RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF ITS ACCURACY BEFORE USING IT FOR ANY OTHER PURPOSE.

FRED C. ARFMAN
NEW MEXICO
7322
PROFESSIONAL ENGINEER

Phase/Building Number	Certification: Fred C. Arfman, NMPE No. 7322	Date	Notes
P1 / REC/OFFICE FITNESS	Fred C. Arfman	04.19.13	NO PARKING SIGNS ADDED
P2 / BLDG 24	Fred C. Arfman	05-08-13	SIGNS IN PLACE SITE VISIT: 05-08
P3 / BLDGS 26 & 27	Fred C. Arfman	05-15-13	N/A

2-20-13

I met w/ Fred Ardman.

It is ok to accept a phasing plan for C.O. Approval. There will be two phases.

Per previous agreement, see letter dated 12-6-11, the work order should be accepted prior to the first C.O. Partial work order acceptance, including SD in direction is acceptable. Fred agreed.

Anto Che 2-20-13

Sandoval, Gary

From: Hoover, Jeremy
Sent: Thursday, January 31, 2013 9:58 AM
To: Sandoval, Gary
Subject: FW: ABCWUA: Pro Rata Inquiries
Attachments: 20130131095800_201301310957.pdf

From: ABCWUA
Sent: Thursday, January 31, 2013 9:58:00 AM (UTC-07:00) Mountain Time (US & Canada)
To: Hoover, Jeremy
Subject: ABCWUA: Pro Rata Inquiries

Site Address	7219 Lantana Ave. NW Albuquerque, NM 87109
Date Requested	1/31/13
Project Number	
Zone Map Number	B9
Requested By	Jessica Sepulveda
Email Address	debbie.hennig@stewart.com
Address	6759 Academy Rd. NE Albuquerque, NM 87109
FAX	
Phone	5053465430
Cell Phone	
UPC	1 009 065 215 078 31005
Legal Description	Lot 2-P1 Block 2 of Ventana Pointe
Attached Location Map	

Submitted by 199.253.19.1

CITY OF ALBUQUERQUE

April 2, 2012

Asa Nilsson-Weber, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Broadstone Santa Monica Place
Grading and Drainage Plan
Engineer's Stamp dated 3-7-2012 (D18/D054)

Dear Ms. Nilsson-Weber,

Based upon the information provided in your submittal received 3-8-12, the above referenced report can not be approved for Grading Permit and Building Permit until the following comments are addressed.

- Pond calculations are needed for the small pond just north of the entrance/exit on San Pedro. What is the WSE?
- How are the proposed contours tying in with the contours to the north of this site at the NW corner?
- Provide the direction of roof flows for the units in the NW corner. These flows should not drain over the sidewalk.
- Are all landscape areas being depressed as well as the areas with sidewalk culverts? Can the small islands in the parking lots contain a 1' cut in the curb to accept flows? This would assist in lowering the flows entering San Pedro for the first 6 hours and would also help with the new EPA regulations and the MS 4 permit coming in the near future.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

If you have any questions, you can contact me at 924-3986, or Rudy Rael at 924-3977.

Sincerely,

Curtis Cherne, P.E.
Principal Engineer, Planning Dept.
Development and Building Services

Copy: e-mail

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18-Z054
DRB#: EPC#: WORK ORDER#:

LEGAL DESCRIPTION: Tracts 2, Santa Monica Place
CITY ADDRESS: Santa Monica Ave. & San Pedro Blvd

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Åsa Nilsson-Weber
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Titan Development
ADDRESS: 6300 Riverside Plaza Lane NW - #200
CITY, STATE: Albuquerque, NM
CONTACT: Kurt Browning
PHONE:
ZIP CODE: 87120

ARCHITECT: NA
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

SURVEYOR: Surv-Tek, Inc.
ADDRESS:
CITY, STATE:
CONTACT: Russ P. Hugg,
PHONE: 897-3366
ZIP CODE:

CONTRACTOR: N/A
ADDRESS:
CITY, STATE:
CONTACT:
PHONE:
ZIP CODE:

TYPE OF SUBMITTAL:
- [x] DRAINAGE REPORT
- [x] DRAINAGE PLAN 1st SUBMITTAL
- [ ] DRAINAGE PLAN RESUBMITTAL
- [ ] CONCEPTUAL G & D PLAN
- [x] GRADING PLAN
- [ ] EROSION CONTROL PLAN
- [ ] ENGINEER'S CERT (HYDROLOGY)
- [ ] CLOMR/LOMR
- [ ] TRAFFIC CIRCULATION LAYOUT
- [ ] ENGINEER/ARCHITECT CERT (TCL)
- [ ] ENGINEER/ARCHITECT CERT (DRB S.P.)
- [ ] ENGINEER/ARCHITECT CERT (AA)
- [ ] OTHER (SPECIFY)

CHECK TYPE OF APPROVAL 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
- [ ] FOUNDATION PERMIT APPROVAL
- [x] BUILDING PERMIT APPROVAL
- [ ] CERTIFICATE OF OCCUPANCY (PERM)
- [ ] CERTIFICATE OF OCCUPANCY (TEMP)
- [x] GRADING PERMIT APPROVAL
- [ ] PAVING PERMIT APPROVAL
- [ ] WORK ORDER APPROVAL
- [ ] OTHER (SPECIFY) Mater Plan Approvall

RECEIVED
MAR 05 2012
HYDROLOGY SECTION

Paid $50

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- [x] YES
- [ ] NO
- [ ] COPY PROVIDED

SUBMITTED BY: Åsa Nilsson-Weber, PE DATE: March 8, 2012
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 define the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

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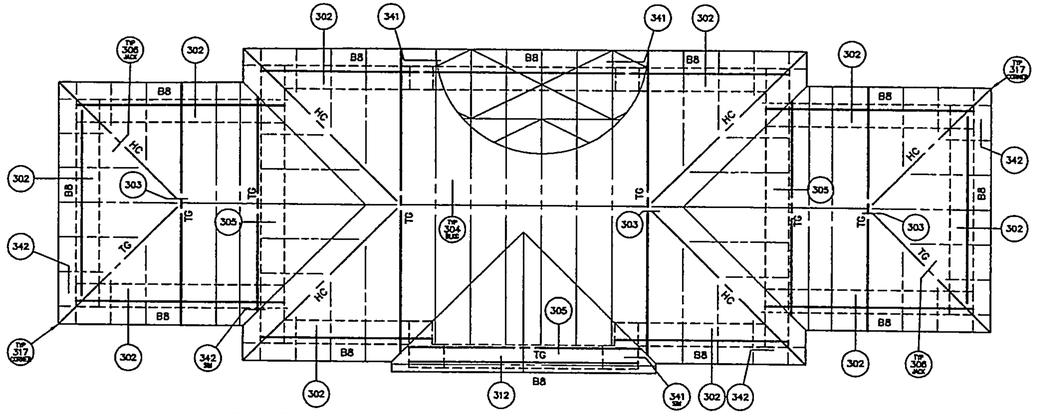
2. **Drainage Plans**: Required for building permits, grading permits, paving permits and site plans less than five (5) acres.

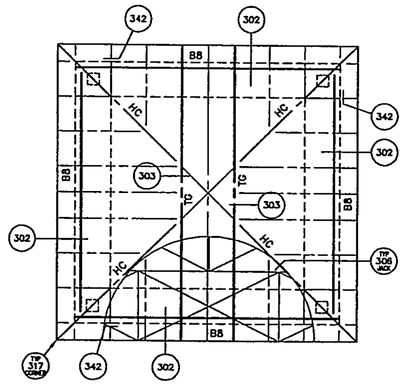
3. **Drainage Report**: Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more.



FOR ROOF ASSEMBLY ALL PLANS, SEE TYPICAL ROOF ASSEMBLY NOTES THIS SHEET.

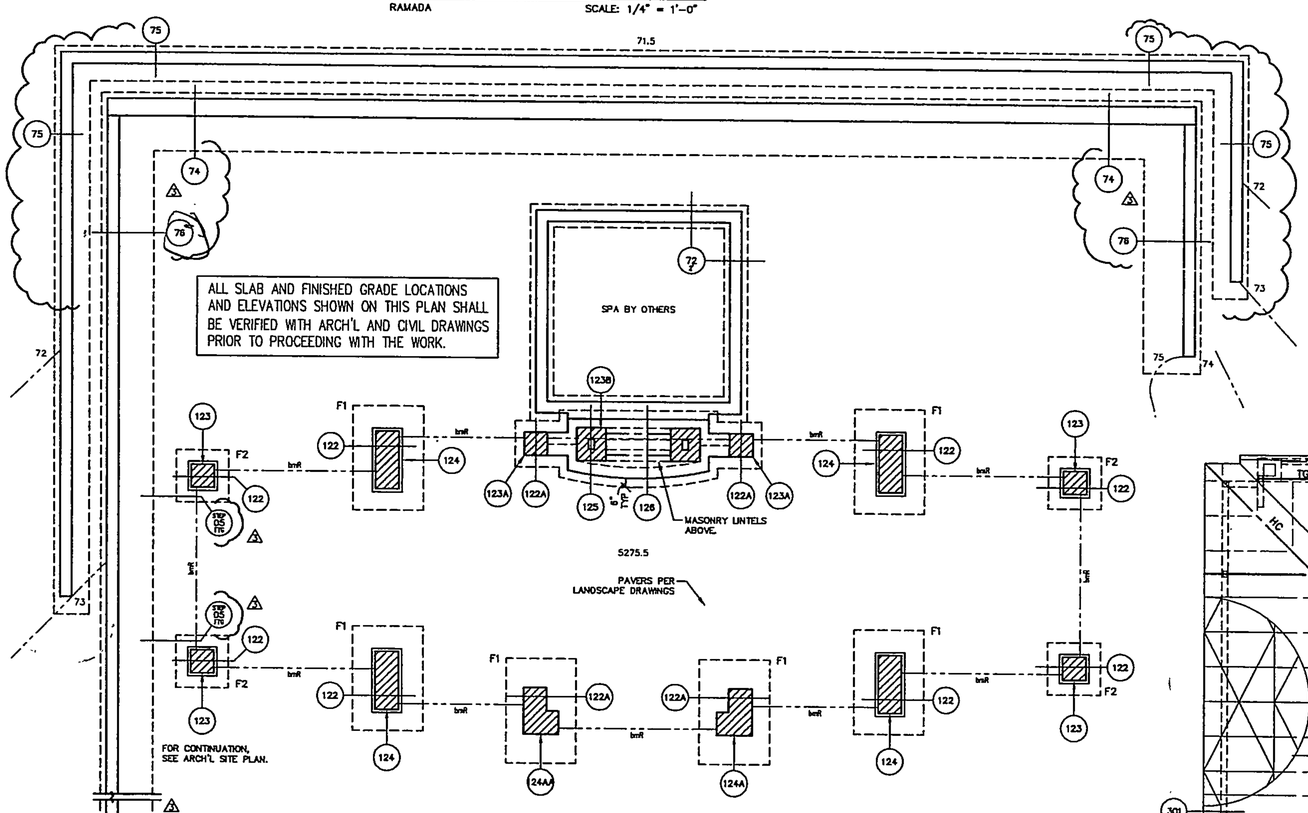
ROOF FRAMING PLAN

RAMADA SCALE: 1/4" = 1'-0"



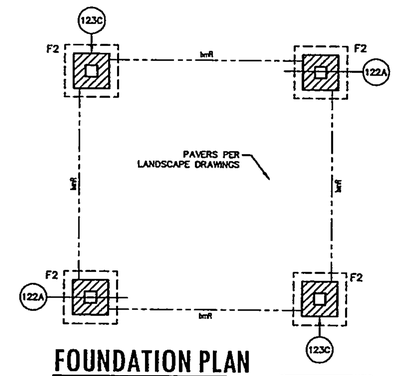
ROOF FRAMING PLAN

RAMADA SCALE: 1/4" = 1'-0"



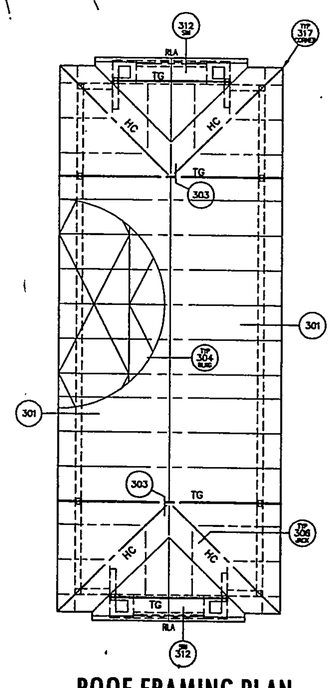
FOUNDATION PLAN

RAMADA SCALE: 1/4" = 1'-0"



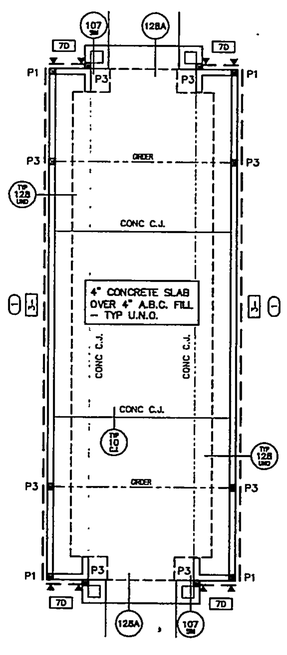
FOUNDATION PLAN

RAMADA SCALE: 1/4" = 1'-0"



ROOF FRAMING PLAN

MAIL KIOSK SCALE: 1/4" = 1'-0"



FOUNDATION PLAN

MAIL KIOSK SCALE: 1/4" = 1'-0"

FRAMING NOTES – TYP U.N.O.:

1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS.

2. _____ (2x4) OR _____ (2x6) – AS SHOWN ON PLAN INDICATES 2X WOOD STUD WALL AS SHOWN. FOR GRADE, SPECIES AND SPACING, SEE STUD WALL PLAN AND SCHEDULE. BORING AND NOTCHING OF STRUCTURAL STUDS AND PLATES SHALL BE PER DETAIL 32. FOR LINTELS IN 2x4 WOOD STUD WALLS, SEE DETAIL 28 FOR FLOORS (FL) AND FOR ROOFS (RL), AND SEE DETAIL 27 FOR LINTELS IN 2x6 WOOD STUD WALLS – TYP U.N.O. SEE G.S.N., TYPICAL DETAILS, PLANS AND OTHER DETAILS FOR ADDITIONAL INFORMATION.

3. – AS SHOWN ON PLAN INDICATES NON STRUCTURAL WOOD STUD WALLS. INSTALL SOLE PLATES PER DETAIL 37 – TYPICAL. FOR LINTELS IN THESE WALLS, SEE DETAIL 33. SEE ARCH'L DRAWINGS FOR ADDITIONAL INFORMATION.

4. B1, B2, ETC – AS SHOWN ON PLAN INDICATES WOOD BEAM, SEE SCHEDULES. NOTE: ASTERISK (*) INDICATES BEAM INSTALLED AS LINTEL. SEE BEAM SCHEDULE FOR ADDITIONAL INFORMATION.

5. TOPPINGS SHALL BE AS NOTED ON PLAN. VERIFY EXACT SIZE AND LOCATION OF DEPRESSED AND/OR RAISED SLABS WITH ARCH'L DRAWINGS. CONTROL JOINTS SHALL BE PER G.S.N. AND TYPICAL DETAILS. FOR ADDITIONAL INFORMATION, SEE G.S.N. AND DETAILS. CONTRACTOR TO VERIFY, AND BE RESPONSIBLE FOR VARIATIONS IN CONCRETE QUANTITY DUE TO CAMBER, CONSTRUCTION DEAD LOAD DEFLECTIONS, AND/OR TOLERANCES OF STRUCTURAL ELEMENTS (i.e. BEAMS, DECK, ETC).

6. FOR CLARITY, DETAILS MAY SHOW ONLY ONE SIDE OF FRAMING CONDITION. ALL OPENINGS MAY NOT BE SHOWN ON THIS PLAN. FOR EXACT SIZE, NUMBER AND LOCATION OF OPENINGS, SEE ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, SPRINKLER AND THEIR RELATED DRAWINGS. FOR FRAMING AT OPENINGS, SEE TYPICAL DETAILS.

7. VERIFY EXACT SIZE, WEIGHT AND LOCATION OF EQUIPMENT AND SUPPORTS INDICATED ON PLAN WITH ARCHITECTURAL, MECHANICAL, PLUMBING, ELECTRICAL, SPRINKLER AND THEIR RELATED DRAWINGS. EQUIPMENT INDICATED ARE ONLY THOSE THAT EXCEED LOADS SPECIFIED IN THE G.S.N. FOR SUPPORT OF EQUIPMENT, SEE TYPICAL DETAILS AND RELATED TRADES.

TYPICAL ROOF ASSEMBLY NOTES U.N.O.

PRIMARY ROOF:

1/2" PLYWOOD ROOF SHEATHING PER G.S.N. OVER PREFAB WOOD TRUSSES AT 24" O.C. "TG" WHERE SHOWN ON PLAN INDICATES LOCATION OF TRUSS GIRDER (2-PLY UNNAMAL). GIRDER TO GIRDER CONNECTIONS SHALL BE DESIGNED BY TRUSS MFR. "HC" WHERE SHOWN ON PLAN INDICATES LOCATION OF HIP CARRIER PER TRUSS MFR.

NOTES TO TRUSS FABRICATOR:

1. TRUSS FABRICATOR SHALL ADJUST HEEL HEIGHT AT SLOPED EXTERIOR AS REQUIRED (7 1/4" MIN U.N.O.).
2. FRAMING PLANS ARE SHOWN FOR INTEGRAL OVERFRAMING (PIGGY-BACK) PER TRUSS MFR. WHERE APPLIED OVERFRAMING IS TO BE INSTALLED, SEE DETAIL 307.
3. MANY CONDITIONS ARE SHOWN AS CLEAR SPANS. ALL TRUSSES CROSSING OVER INTERIOR PARTY WALLS SHALL BEAR ON SAID WALLS. CONTRACTOR MAY ELECT TO INSTALL "MONO" CONFIGURED TRUSSES AT THESE LOCATIONS. FOR ADDITIONAL INFORMATION, SEE G.S.N., PLANS AND DETAILS.

MISCELLANEOUS WOOD FRAMING:

1/2" PLYWOOD ROOF SHEATHING PER G.S.N. OVER 2x10 DF#1 WOOD JOISTS AT 24" O.C. WHERE SHOWN ON PLAN, INSTALL BUILT-UP DOUBLE JOISTS AND INSTALL FACE MOUNTED HANGERS PER DETAILS AT INTERSECTING JOISTS

NOTE: FOR SNOW LOADS, SEE SNOW LOAD PLANS.

FOUNDATION NOTES – TYP U.N.O.:

1. VERIFY ALL DIMENSIONS WITH ARCHITECTURAL DRAWINGS AND FIELD CONDITIONS.

2. _____ (2x4) OR _____ (2x6) – AS SHOWN ON PLAN INDICATES 2X WOOD STUD WALL AS SHOWN. FOR GRADE, SPECIES AND SPACING, SEE STUD WALL PLAN AND SCHEDULE. BORING AND NOTCHING OF STRUCTURAL STUDS AND PLATES SHALL BE PER DETAIL 32. FOR LINTELS, SEE FRAMING NOTES. SEE G.S.N., TYPICAL DETAILS, PLANS AND OTHER DETAILS FOR ADDITIONAL INFORMATION.

3. – AS SHOWN ON PLAN INDICATES NON STRUCTURAL WOOD STUD WALL. INSTALL SOLE PLATES PER DETAIL 37 – TYPICAL. FOR LINTELS IN THESE WALLS, SEE DETAIL 33. SEE ARCH'L DRAWINGS FOR ADDITIONAL INFORMATION.

4. WF1, WF2, ETC – AS SHOWN ON PLAN INDICATES CONTINUOUS WALL FOOTING, SEE SCHEDULES.

5. F1, F2, ETC – AS SHOWN ON PLAN INDICATES ISOLATED FOOTING, SEE SCHEDULES.

6. P1, P2, ETC – AS SHOWN ON PLAN INDICATES WOOD POST FULL HEIGHT TO THE MEMBER(S) IT SUPPORTS, SEE SCHEDULES.
NOTE:
ALL POST LOCATIONS SHOWN ON PLAN SHALL BE COORDINATED AND VERIFIED IN THE FIELD.

8. UNLESS NOTED OTHERWISE ON PLANS AND/OR DETAILS, DEPTH OF FOOTING DIMENSIONS INDICATED IN THE G.S.N. ARE MINIMUMS. FOUNDATION CONTRACTOR SHALL COORDINATE WITH SOIL REPORT AND ALL TRADES TO INSURE THAT THESE MINIMUMS ARE SUFFICIENT FOR THE WORK. SEE TYPICAL DETAILS FOR ADDITIONAL REQUIREMENTS.

7. BUILDING CONCRETE SLAB ON GRADE SHALL BE AS NOTED ON PLAN. VERIFY EXACT SIZE AND LOCATION OF DEPRESSED AND/OR RAISED SLABS WITH ARCH'L DRAWINGS. FOR SIDEWALK LOCATION, SEE ARCH'L DRAWINGS. FOR ADDITIONAL INFORMATION, SEE G.S.N. AND TYPICAL DETAILS.

NOTE: FOR ALL BUILDING AND SLAB DIMENSIONS, SEE ARCH'L DWGS.

LOCATION OF DETAILS

DETAILS	SHEET	DESCRIPTION
---	S1.1	GENERAL STRUCTURAL NOTES
01–19	S1.2	CONCRETE TYPICAL DETAILS
21–39	S1.3	WOOD TYPICAL DETAILS
41–59	S1.4	SHEAR WALL AND MISC TYPICAL DETAILS
61–76	S1.5	SITE AND MASONRY TYPICAL DETAILS
81–99	S1.6	SITE DETAILS
---	S2.1	SCHEDULES
101–119	SD1.1	FOUNDATION DETAILS
121–139	SD1.2	FOUNDATION DETAILS
201–219	SD2.1	FLOOR FRAMING DETAILS
221–239	SD2.2	FLOOR FRAMING DETAILS
301–319	SD3.1	ROOF FRAMING DETAILS
321–339	SD3.2	ROOF FRAMING DETAILS
341–359	SD3.3	ROOF FRAMING DETAILS
400–412	SD4.1	STAIR PLANS AND DETAILS

FOR ADDITIONAL INFORMATION SHOWN BUT NOT NOTED, SEE GENERAL STRUCTURAL NOTES ON SHEET S1.1 AND TYPICAL DETAIL SHEETS.
THESE DRAWINGS/CALCULATIONS SHALL BE CONSIDERED PRELIMINARY – NOT FOR CONSTRUCTION OR RECORDING UNLESS THE STRUCTURAL ENGINEER OF RECORD'S SEAL IS AFFIXED WITH WRITTEN SIGNATURE.

PROJECT DRAFTER	WLC	CTS PROJECT NUMBER	11-1281
FILE NAME: 1112BR-S540.dwg		PROJECT MANAGER	SJH
VIEW NAME: S540		PROJECT ENGINEER	DST

CARUSO · TURLEY · SCOTT · INC
consulting structural engineers
1215 West Rio Salado Parkway, Suite 200

BROADSTONE SANTA MONICA

6401 SANTA MONICA AVENUE NE
Alburquerque, New Mexico

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

REGISTERED PROFESSIONAL ENGINEER
RICHARD W. TURLEY
10374
6/5/12

TITAN DEVELOPMENT

ALLIANCE RESIDENTIAL COMPANY

RECEIVED
AUG 16 2012
HYDROLOGY SECTION

Contractor must verify all dimensions at project before proceeding with this work.

Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.

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REVISIONS

3 _/_/12 CONSTRUCTION PHASE CO(0)2.

DATE: MAY 7, 2012 ORB # 11-218

S5.40

RAMADAS & KIOSK PLANS

CITY OF ALBUQUERQUE

CITY OF ALBUQUERQUE
PLANNING DEPARTMENT
HYDROLOGY DEVELOPMENT SECTION
DEVELOPMENT REVIEW BOARD MEMO

DRB PROJECT NO: 1003916 **AGENDA ITEM NO: 1**

SUBJECT:

Vacation of Public Easement

Bulk Land Variance

Plat Approval

ENGINEERING COMMENTS:

Hydrology has no objection.

Tracts 1 and 2 are Zoned R-2, and do not qualify for a Bulk Land Variance.

Hydrology has an approved Conceptual Drainage Report, 12-2-11 for plat approval.

Since all public improvements are built except storm drain, the private storm drain connections to the public storm drain will be required at Building Permit including; The construction plans are to be submitted to DRC prior to the Building Permit being approved and the Work Order is to be accepted prior to the first CO being issued.

Hydrology is waiting to see the revised plat.

Delegate to Plng for appr. period could term may need to adjust interim note process for approvals cc 3-12-12

RESOLUTION/COMMENTS:

SIGNED:
Curtis Cherne
Hydrology Section
City Engineer Designee
AMAFCA Designee
924-3968

DATE: 12-14-11

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

Cherne, Curtis

From: Kurt Browning [kbrowning@titan-development.com]
Sent: Thursday, December 01, 2011 10:47 AM
To: Cloud, Jack W.
Cc: Cherne, Curtis ; Fred Arfman; Drew Dolan; Ben Spencer; Dourte, Richard H.
Subject: 2:30 Friday -RE: Meeting?- Deferral-Old Del Rey (Santa Monica) Bulk Plat -DRB-

Hi Jack-
Thanks for getting back to us. This infill tract is 60 acres and how it will develop is TBD but we need the zone change for anything to happen. Alignments of possible storm drains either onsite or within ROW is conceptual only. Fred will submit the revised conceptual drainage plan today and lets plan on meeting Friday at 2:30.

I understand that Fred and Curtis have talked briefly about the revised conceptual drainage plan and a key point is the R2 area will be private drainage to the existing SD outfalls, so the issue is only the private stub connection (five feet?) to serve this area.....similar to a water or sewer connection. (Fred- comments?) I agree, the balance of the 60 acres will be subdivided in the future at which time an SIA and FG are required for these areas.

As stated below, perhaps a note on the plat stating that the R2 must have a private connection to the existing storm drain facilities. (Although this would be required anyway for any R2 project to function.) We have added similar pertinent notes in the past.

Please note, as part of the EPC required bulk plat for the zone change boundaries, Richard requested that a "conceptual" drainage plan be prepared for this 60 acre infill tract so that a "drainage roadmap" was in the City file. I think the intent was to show that the tract could drain and that adequate facilities do exist at the NW corner. (Afterall, it used to be a 60 acre MHP and it drained.)

Lastly, we need help in understanding the *"City's exposure"* and concerns here.

- Any development in the R2 area will require design and construction of a private drainage connection no different than any stand alone site elsewhere.
- Any development of the upper RLT, RT areas will require platting (SIA and FG), design and construction for drainage.

Thank you for working with us on this issue and allowing us to defer one week. We look forward to meeting with you Friday at 2:30. Please call if we can discuss further.
Regards,
Kurt

Del Rey Investments, LLC

KURT BROWNING, P.E., Broker
DIRECTOR OF DEVELOPMENT/CONSTRUCTION

Titan Development / Argus Development
6300 Riverside Plaza Lane NW, Ste. 200

Albuquerque, NM 87120
(O) 505.998.0163 (C)505.379.8009
KBROWNING@TITAN-DEVELOPMENT.COM

From: Cloud, Jack W. [mailto:jcloud@cabq.gov]
Sent: Thursday, December 01, 2011 9:41 AM
To: Kurt Browning
Cc: Cherne, Curtis ; Fred Arfman; Drew Dolan; Ben Spencer; Dourte, Richard H.
Subject: RE: Meeting?- Deferral-Old Del Rey (Santa Monica) Bulk Plat -DRB-

Kurt -
The proposal you describe for a storm drain **internal to your site** adjacent to Derrickson would need more than a blanket cross-lot drainage easement (that type of easement is for surface flows only) - an additional dimensioned/ defined Private Drainage Easement would be needed for a storm drain, otherwise the future developer of proposed Tract 3 would have to build a public storm drain in Derrickson R-O-W.

To address any obligation for the stub of storm drains in City R-O-W, in accordance with the Subdivision Ordinance a bulk land subdivision is for land where the DRB expects "further subdivision or zoning site development plan approval." - the proposed R-2 portion of this land does not meet the criteria of the ordinance or the DPM, which states "parcels zoned for multi-family apartment or non-residential use must be 40 acres or larger in size" in order to qualify for the waiving of infrastructure improvements. The DRB cannot waive required infrastructure in violation of the Subdivision Ordinance.

The reference in the DPM's 'NOTICE OF SUBDIVISION PLAT CONDITIONS" is for "***development*** permits" (typically grading), not necessarily building permits; proposed Tracts 3-4 ***do*** qualify for a bulk land variance, therefore the bulk land notice on the plat would need to be specific to these tracts only.

Curtis (and the DRB) will still need to review the revised Grading and Drainage Plan prior to meeting with you and Fred - we have 11 new submittals to review for next week, but if Fred submits his plan today (Thursday) Curtis and I could meet with you all at 2:30 on Friday.
- Jack Cloud, Chair
Development Review Board

From: Kurt Browning [mailto:kbrowning@titan-development.com]
Sent: Wednesday, November 30, 2011 11:52 AM
To: Cloud, Jack W.
Cc: Cherne, Curtis ; Fred Arfman; Drew Dolan; Ben Spencer
Subject: Meeting?- Deferral-Old Del Rey (Santa Monica) Bulk Plat -DRB-

Hi Jack-
Thank you for allowing us the deferral this morning as I think we can find a solution to this issue. As I stated at the hearing, this bulk plat is a requirement of the EPC to establish the zoning lines when we changed the zoning from Mobile Home Park to Residential and the site is already surrounded by existing infrastructure. (It's an infill site.)

As we wait for the economy to rebound, we do not know overall how this block will develop, however, Fred did prepare a "Conceptual" drainage plan at Richard's request with some options. As I stated, we do know that the entire site can drain adequately to the existing Storm Drains at the NW corner. We have already requested Fred revise his concept plan to show any proposed Derrickson SD **internal to our site** (preferred)....which will be easier for us to access in the future anyway. Therefore future infrastructure will be onsite.

For any proposed development, short stubs or tie-ins (5-10 feet- see attached in red) will need to be made to the SD lines/inlets as well as the existing water/sewer trunklines.

To address any obligation regarding this stub, I suggest that the blanket cross-lot drainage easement note on the bulk plat be expanded to address this short tie-in obligation. This along with the Bulk Land variance language (which references permit) should suffice for the R-2 concern. We will prepare a revised note for your review and concurrence.

Fred will finish his edited concept plan by tomorrow showing the main SD ONSITE and we would like to meet with you and Curtis late Thurs (4pm?) or Friday morning (9am?) to review. Please let us know what might work for you and thanks again for your time.

Regards,
Kurt

Del Rey Investments, LLC

KURT BROWNING, P.E., Broker
DIRECTOR OF DEVELOPMENT/CONSTRUCTION

Titan Development / Argus Development
6300 Riverside Plaza Lane NW, Ste. 200
Albuquerque, NM 87120
(O) 505.998.0163 (C)505.379.8009
KBROWNING@TITAN-DEVELOPMENT.COM

1. work order approved acceptance prior to First CO being issued

2 get 20' drainage easement across Tract 3 for a SD from tract 4

3. DRC in conjunction with G&D for Builder permit.

[illegible] 12-2-11

CONCUR

1. [illegible] 12.02.11

2. [illegible]

12-2-11

NO INF, List Requires

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18-Z
DRB#: ____ EPC#: ____ WORK ORDER#: ____

LEGAL DESCRIPTION: (Existing) Blocks 18 and 19, Tract A, Unit A, North Albuquerque Acres
CITY ADDRESS: ____

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Åsa Nilsson-Weber
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Titan Development
ADDRESS: 6300 Riverside Plaza Lane NW - #200
CITY, STATE: Albuquerque, NM
CONTACT: Kurt Browning
PHONE: ____
ZIP CODE: 87120

ARCHITECT: NA
ADDRESS: ____
CITY, STATE: ____
CONTACT: ____
PHONE: ____
ZIP CODE: ____

SURVEYOR: Surv-Tek, Inc.
ADDRESS: ____
CITY, STATE: ____
CONTACT: Russ P. Hugg,
PHONE: 897-3366
ZIP CODE: ____

CONTRACTOR: N/A
ADDRESS: ____
CITY, STATE: ____
CONTACT: ____
PHONE: ____
ZIP CODE: ____

TYPE OF SUBMITTAL:
- ☐ ___ DRAINAGE REPORT
- ☐ ___ DRAINAGE PLAN 1st SUBMITTAL
- ☒ ___ DRAINAGE PLAN RESUBMITTAL
- ☐ ___ CONCEPTUAL G & D PLAN
- ☐ ___ GRADING PLAN
- ☐ ___ EROSION CONTROL PLAN
- ☐ ___ ENGINEER'S CERT (HYDROLOGY)
- ☐ ___ CLOMR/LOMR
- ☐ ___ TRAFFIC CIRCULATION LAYOUT
- ☐ ___ ENGINEER/ARCHITECT CERT (TCL)
- ☐ ___ ENGINEER/ARCHITECT CERT (DRB S.P.)
- ☐ ___ ENGINEER/ARCHITECT CERT (AA)
- ☐ OTHER (SPECIFY)____

CHECK TYPE OF APPROVAL 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
- ☐ ____ FOUNDATION PERMIT APPROVAL
- ☐ ____ BUILDING PERMIT APPROVAL
- ☐ ____ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ ____ CERTIFICATE OF OCCUPANCY (TEMP)
- ☐ ____ GRADING PERMIT APPROVAL
- ☐ ____ PAVING PERMIT APPROVAL
- ☐ ____ WORK ORDER APPROVAL
- ☐ ____ OTHER (SPECIFY)____

RECEIVED
DEC 0 2 2011
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

SUBMITTED BY: Åsa Nilsson-Weber, PE
Isaacson & Arfman, P.A.
DATE: December 2, 2011

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 define 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.

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18-Z D-18/D059
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: (Existing) Blocks 18 and 19, Tract A, Unit A, North Albuquerque Acres
CITY ADDRESS: _____

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Åsa Weber
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Titan Development
ADDRESS: 6300 Riverside Plaza Lane NW - #200
CITY, STATE: Albuquerque, NM
CONTACT: Kurt Browning
PHONE: _____
ZIP CODE: 87120

ARCHITECT: NA
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc.
ADDRESS: _____
CITY, STATE: _____
CONTACT: Russ P. Hugg,
PHONE: 897-3366
ZIP CODE: _____

CONTRACTOR: NA
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

TYPE OF SUBMITTAL:
- [x] DRAINAGE REPORT
- [ ] DRAINAGE PLAN 1st SUBMITTAL
- [ ] DRAINAGE PLAN RESUBMITTAL
- [ ] CONCEPTUAL G & D PLAN
- [ ] GRADING PLAN
- [ ] EROSION CONTROL PLAN
- [ ] ENGINEER'S CERT (HYDROLOGY)
- [ ] CLOMR/LOMR
- [ ] TRAFFIC CIRCULATION LAYOUT
- [ ] ENGINEER/ARCHITECT CERT (TCL)
- [ ] ENGINEER/ARCHITECT CERT (DRB S.P.)
- [ ] ENGINEER/ARCHITECT CERT (AA)
- [ ] OTHER (SPECIFY)_____

CHECK TYPE OF APPROVAL SOUGHT:
- [ ] SIA/FINANCIAL GUARANTEE RELEASE
- [ ] PRELIMINARY PLAT APPROVAL
- [ ] S. DEV. PLAN FOR SUB'D APPROVAL
- [ ] S. DEV. FOR BLDG. PERMIT APPROVAL
- [ ] SECTOR PLAN APPROVAL
- [x] FINAL PLAT APPROVAL
- [ ] FOUNDATION PERMIT APPROVAL
- [ ] BUILDING PERMIT APPROVAL
- [ ] CERTIFICATE OF OCCUPANCY (PERM)
- [ ] CERTIFICATE OF OCCUPANCY (TEMP)
- [ ] GRADING PERMIT APPROVAL
- [ ] PAVING PERMIT APPROVAL
- [x] WORK ORDER APPROVAL per ASA
- [ ] OTHER (SPECIFY)_____

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- [x] YES
- [ ] NO
- [ ] COPY PROVIDED

RECEIVED NOV 1? 2011 HYDROLOGY SECTION

RECEIVED NOV 1? 2011 HYDROLOGY SECTION

SUBMITTED BY: Åsa Nilsson-Weber, PE DATE: November 18, 2011
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 define 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.

MARCH 7, 2012

DRAINAGE REPORT

FOR

BROADSTONE SANTA MONICA
San Pedro Blvd. and Santa Monica Ave. NE

BY

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

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

I&A Project No. 1080

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MAR 05 2012
HYDROLOGY SECTION

MARCH 7, 2012

DRAINAGE REPORT

FOR

BROADSTONE SANTA MONICA PLACE
San Pedro Blvd. and Santa Monica Ave. NE

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

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

I&A Project No. 1900

ÅSA M. NILSSON-WEBER
NEW MEXICO
17631
LICENSED PROFESSIONAL ENGINEER

Prepared by:

Åsa Nilsson-Weber, PE — 3-7-12 Date

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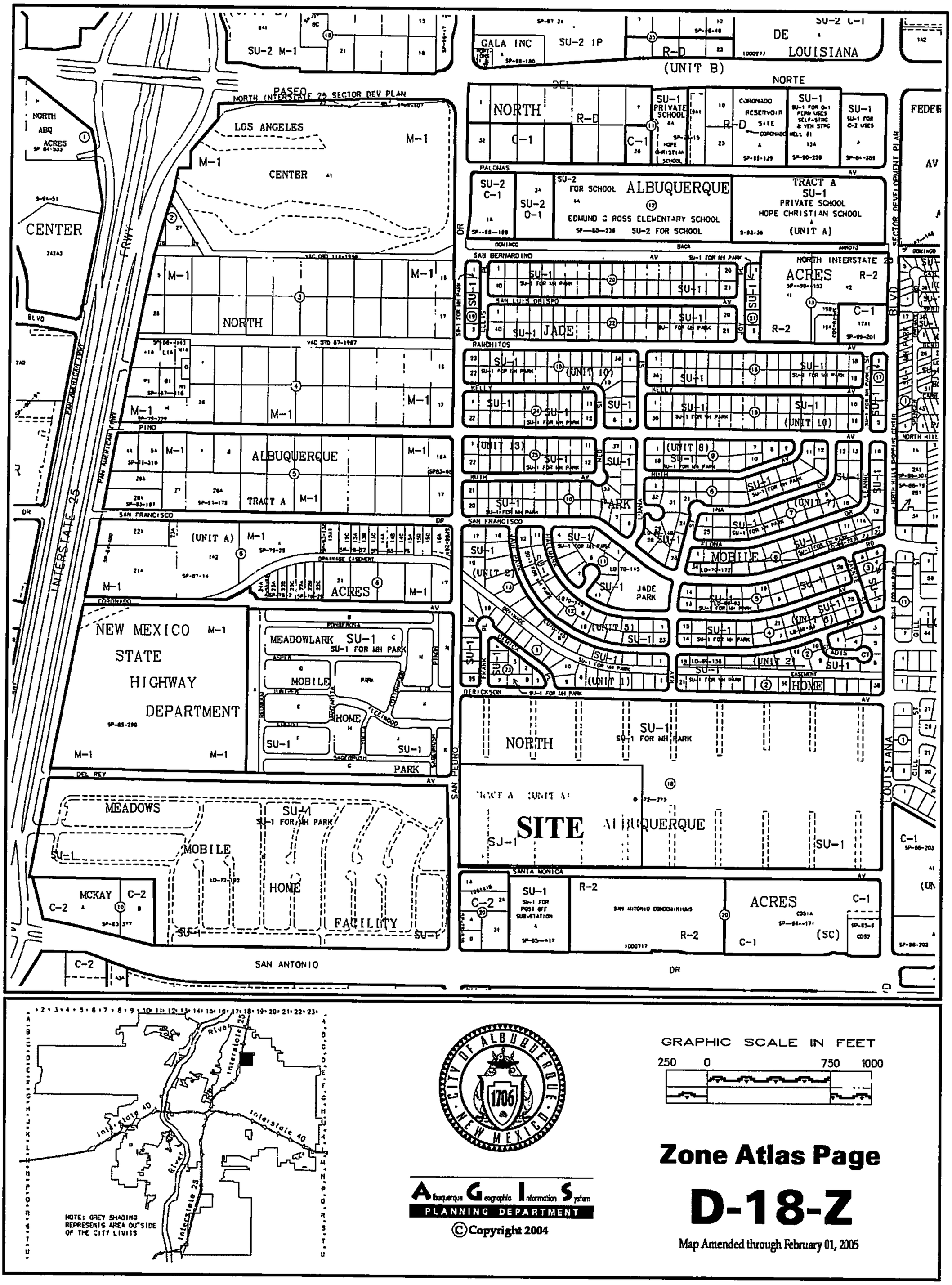

CITY OF ALBUQUERQUE · NEW MEXICO · 1706

Albuquerque Geographic Information System
PLANNING DEPARTMENT

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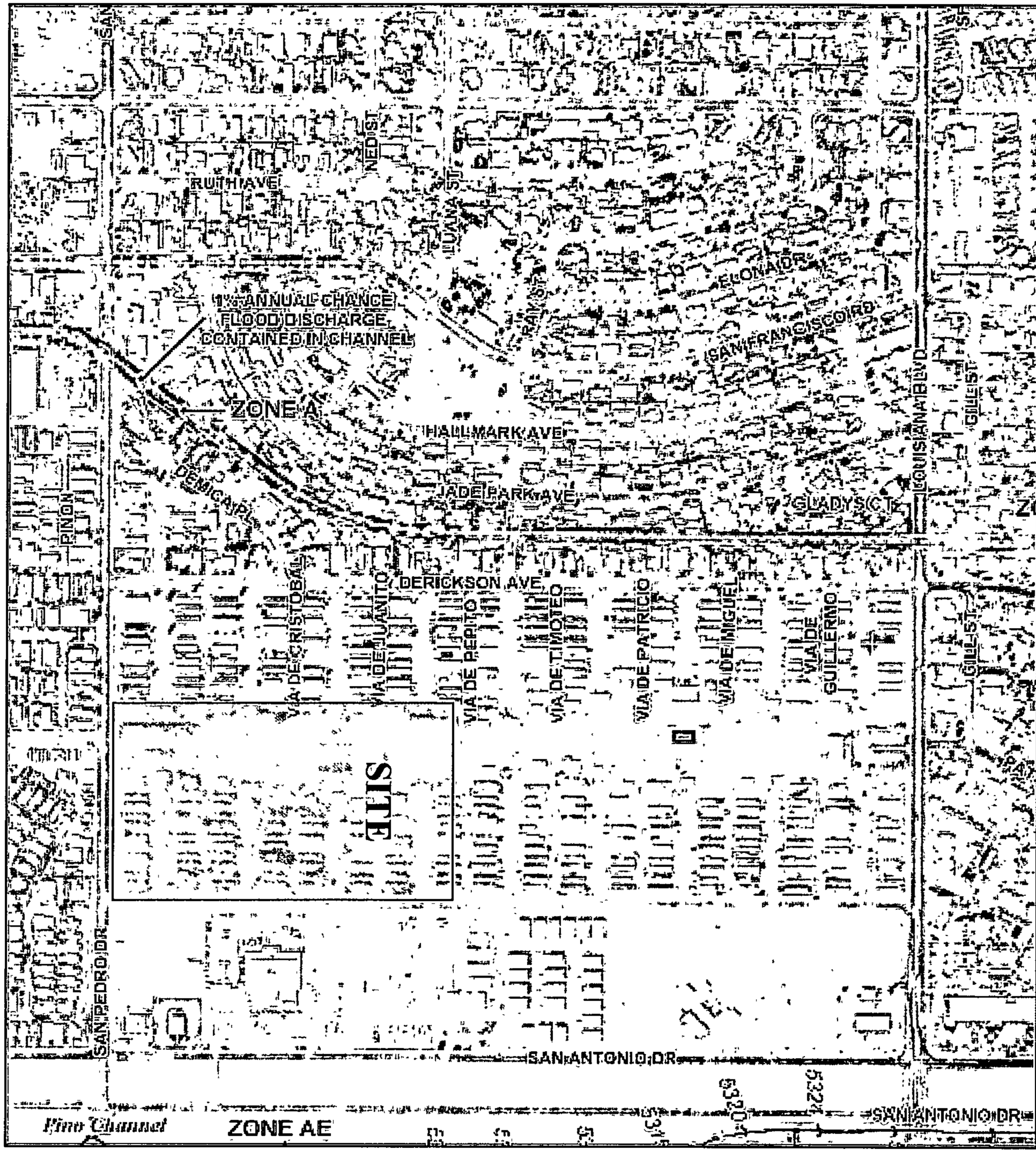
GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

D-18-Z

Map Amended through February 01, 2005



MAP SCALE 1" = 500'

0 500 1000 FEET

NFIP NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0137G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 137 OF 625

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
BERNALILLO COUNTY	350001	0137	G
ALBUQUERQUE, CITY OF	350002	0137	G

NOTICE TO USER: The Alphanumeric designations listed above for each area, along with the Community Number, panel number, and suffix should be used in addition to the Community Name to identify the applicable FIRM for this area.

MAP NUMBER
35001C0137G

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT OnLine. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

I. PROJECT INFORMATION

LEGAL DESCRIPTION:
Tract 2, Santa Monica Place

TOTAL AREA:
13.98 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:
Broadstone Santa Monica, LLC
c/o Titan Development
6300 Riverside Plaza Lane NW - #200
Albuquerque, NM 87120-2617
Attn: Kurt Browning

II. INTRODUCTION

Broadstone Santa Monica, Tract 2 Santa Monica Place, will be developed with apartments. The site is bound by Santa Monica Ave. NE to the south and by San Pedro Blvd. NE to the west. A Master Drainage Report for Tracts 1-4, Santa Monica Place was prepared by Isaacson & Arfman, P.A. on February 21, 2012. This master report outlined the required drainage improvements for this site.

The purpose of this master drainage report is to analyze flows generated and flow capacity of onsite driving aisles, sidewalk culverts and storm drains.

III. EXISTING CONDITIONS

The site discharges to the northwest and flows enter the existing public storm sewer system inlets near the intersection of Derickson Ave. and San Pedro Blvd. NE.

The existing public storm drain system at the intersection of Derickson Ave. and San Pedro Blvd. includes a 48" pipe east to an existing cattle guard inlet in Derickson Ave. and a 36" pipe south to collect street flow from four existing curb inlets in San Pedro Blvd. The flows are conveyed north in a 60" storm drain to the North Pino Arroyo. There are also four additional curb inlets in San Pedro Blvd. between Derickson Ave. and the North Pino Arroyo.

IV. PROPOSED CONDITIONS

The site will be developed with apartments, drives, parking areas and landscaping. There is one entrance from San Pedro Blvd. and two entrances from Santa Monica Ave. Land treatments were calculated based on the impervious and pervious areas shown on the site plan and landscaping plan. See Appendix A for a Basin Map and a Basin Area & Land Treatment table. The 100-year, 6-hour flows were calculated in AHYMO (Appendix B).

The site will discharge 13.0 cfs to Santa Monica Ave. and 48.1 to San Pedro Blvd. for a total of 61.1 cfs, which is less than the 61.4 cfs listed for Tract 2 in the Master Drainage Report for Tracts 1-4.

PUBLIC STORM DRAIN

Per the Master Drainage Report, a public 48-inch storm drain shall be extended from the existing cattle guard inlet in Derickson Ave. onto Tract 1. A temporary inlet shall be constructed at the terminus of the 48-inch storm drain to capture undeveloped flows from Tract 1. See section on Offsite Drainage Improvements for further discussion.

PRIVATE STORM DRAIN

There are two onsite private storm drain systems as shown on the Private Storm Drain Detail plan in the back pocket (Sheet CG5.1). The Storm Drain Sub-Basin Map in Appendix C shows the basins contributing flows to each inlet. Flows were calculated based on the master drainage basin cfs/acre.

The west storm drain system collects 21.5 cfs through 5 sump inlets, and the flows are discharged to San Pedro Blvd. via a stilling basin at the entrance. A 4-inch discharge pipe will convey water collected in the 0.5-foot sump in the basin to the 2-foot sidewalk culvert north of the basin. The westerly inlet in the driving aisle will accept 11 cfs at a head of 0.5 feet (see Appendix C for Inlet Capacity Chart), and the remaining flows will overflow toward the San Pedro Blvd. entrance.

The east storm drain system collects 2.8 cfs in 4 sump inlets located in Basin 1. These flows discharge through a headwall to a parking area and then surface flows northwest. Appendix C contains storm drain calculations and inlet capacity charts.

SIDEWALK CULVERTS

A total of 5 sidewalk culverts will discharge between 1 and 2.2 cfs each to Santa Monica Ave. and San Pedro Blvd. The sidewalk culvert capacity calculations included in Appendix D show that a 2-foot sidewalk culvert has capacity for 2.4 cfs. There are also a series of private onsite sidewalk culverts and drain pipes that will convey minor flows under walks.

DRIVING AISLE FLOW CAPACITY

The drives have capacity to contain surface flows. Capacity calculations are included in Appendix E for one critical location adjacent to Building Number 16, denoted on the Basin Map as Section A-A.

OFFSITE DRAINAGE IMPROVEMENTS

Per the Master Drainage Report for Tracts 1-4, Santa Monica Place, the following improvements shall be required.

- A storm water deflection berm shall be constructed to direct the flows to a temporary inlet at the terminus of the new 48" storm drain that shall capture flows from Tract 1. The 48" storm drain and the temporary inlet shall be constructed with the public work order plans for Broadstone Santa Monica Apartments.

- A berm shall be constructed between Tracts 1 & 3 and Tracts 2 & 4, and the offsite flows from the east shall be diverted via a swale to a detention pond with weir overflow to Derickson Ave. The maximum pond storage volume at a maximum outflow of 26.8 cfs is 1.9 ac-ft.

The Offsite Grading Plan in the back pocket shows the offsite grading improvements.

V. SUMMARY AND CONCLUSIONS

Broadstone Santa Monica, Tract 2 Santa Monica Place, will be developed with apartments. The drainage improvements include the following:

- A public 48" storm drain shall be installed from the existing cattle guard inlet in Derickson Ave. to onsite (by public work order).
- Private storm drain with inlets shall be constructed per the Grading Plan. A stilling basin shall be constructed at the storm drain outfall by the San Pedro Blvd. entrance.
- Five 24-inch sidewalk culverts shall be installed to convey flows to Santa Monica Ave. and San Pedro Blvd. (by public work order).
- Private sidewalk culverts and drain pipes shall be installed per the Grading Plan.
- A storm water deflection berm shall be constructed to direct the flows to a temporary inlet at the terminus of the new 48" storm drain that shall capture flows from Tract 1. The temporary inlet shall be constructed by public work order.
- A berm shall be constructed between Tracts 1 & 3 and Tracts 2 & 4, and a swale shall be constructed to direct offsite flows from the east to a detention pond. The detention pond shall be constructed in accordance with the Offsite Grading Plan with a riprap-lined weir and overflow channel to Derickson Ave.

APPENDIX A

Land Treatments & Basin Areas

BASIN AREA & LAND TREATMENT TABLE

PROJECT NAME: Broadstone Santa Monica

PROJECT #: 1900

BASIN ID	AREA (sf)	AREA (Ac)	AREA (sq. mi.)	Q100 (cfs)	LAND TREATMENTS %A	%B	%C	%D
1	205,518	4.7181	0.00737	21.7	0	0	20	80
2a	19,920	0.4573	0.00071	1.9	0	0	52	48
2b	22,611	0.5191	0.00081	2.2	0	0	50	50
2c	12,601	0.2893	0.00045	1.1	0	0	50	50
2d	10,384	0.2384	0.00037	1.0	0	0	40	60
3	85,176	1.9554	0.00306	8.9	0	4	16	80
4	121,519	2.7897	0.00436	13.1	0	0	15	85
5a	107,771	2.4741	0.00387	8.8	0	25	45	30
5b	12,993	0.2983	0.00047	1.3	0	0	50	50
6	10,671	0.2450	0.00038	1.1	0	0	20	80
TOTAL AREA =	609,164	13.9845	0.02185	61.1				

NOTE: Land treatments were calculated from impervious/pervious areas in site plan, and 100-yr, 6-hr flow was calculated in AHYMO.

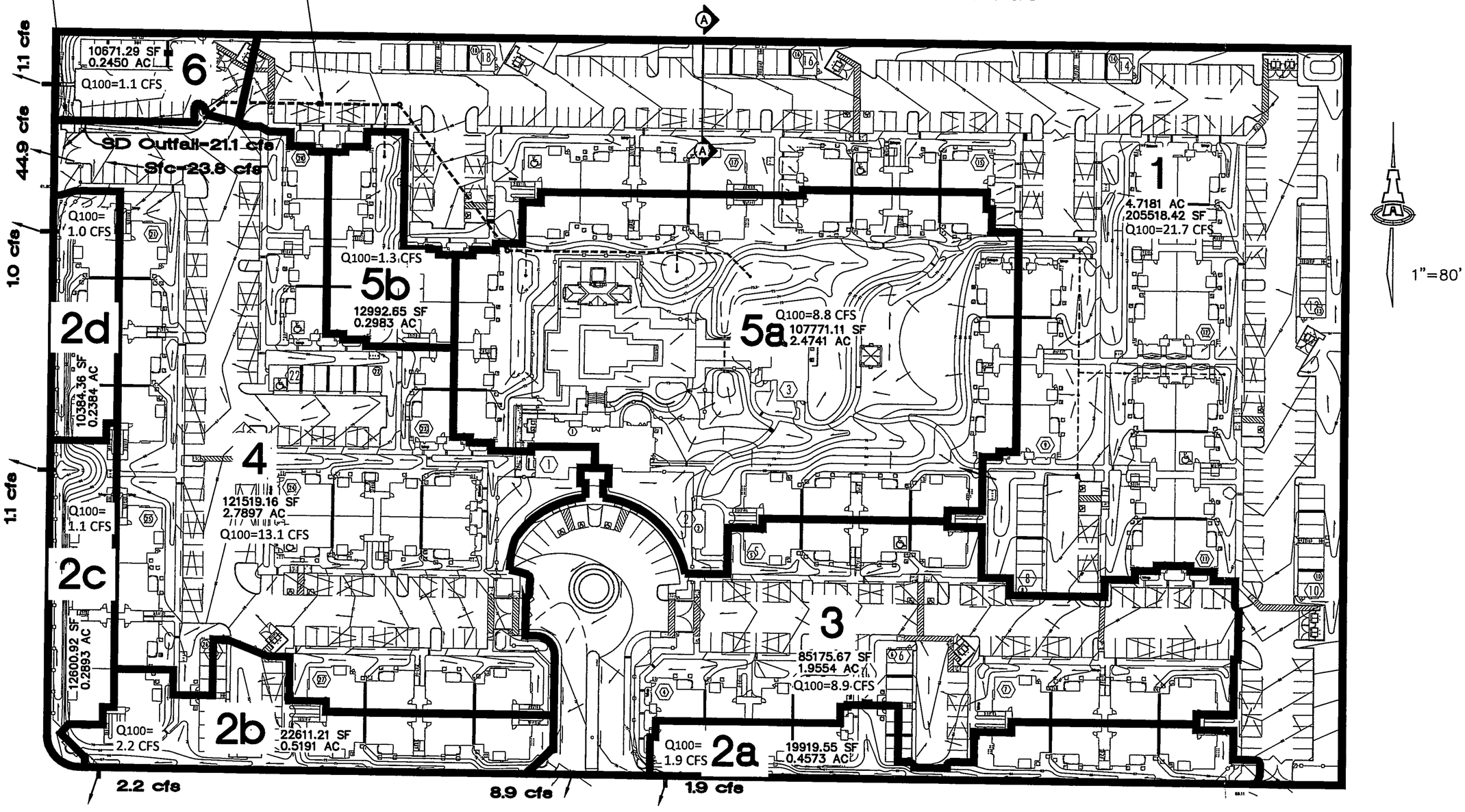
BROADSTONE SANTA MONICA
BASIN MAP
3-6-12

STILLING BASIN WITH OVERFLOW TO SAN PEDRO VIA ENTRANCE

2'X3' INLET CAPACITY = 11 CFS @ 0.5' HEAD REMAINDER OVERFLOWS TO SAN PEDRO VIA ENTRANCE

TOTAL FLOWS & DISCHARGE LOCATIONS:

SANTA MONICA	13.0 CFS
SAN PEDRO	48.1 CFS
TOTAL:	61.1 CFS



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APPENDIX B

Drainage Calculations

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =02/28/2012
INPUT FILE = 1900P2.DAT USER NO.= AHYMO-S-9702dIsa-Arfman3

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	NOTATION
*S**********										
*S	BROADSTONE SANTA MONICA									
*S	TRACT 2, SANTA MONICA PLACE									
*S	DEVELOPED CONDITIONS									
*S	100-YR, 6-HR STORM									
*S	1900P2.DAT									
*S	FEBRUARY 28, 2012									
*S	BY ASA NILSSON-WEBER									
*S	ISAACSON & ARFMAN, P.A.									
*S**********										
START										TIME= .00
RAINFALL TYPE= 1										RAIN6= 2.450
*S										
*S BASIN 1										
COMPUTE NM HYD	100.00	-	1	.00737	21.68	.792	2.01525	1.500	4.597	PER IMP= 80.00
*S BASIN 2a										
COMPUTE NM HYD	200.00	-	2	.00071	1.87	.064	1.69538	1.500	4.122	PER IMP= 48.00
*S BASIN 2b										
COMPUTE NM HYD	300.00	-	3	.00081	2.15	.074	1.71538	1.500	4.151	PER IMP= 50.00
*S BASIN 2c										
COMPUTE NM HYD	400.00	-	4	.00045	1.12	.038	1.56363	1.500	3.891	PER IMP= 41.67
*S BASIN 2d										
COMPUTE NM HYD	500.00	-	5	.00037	1.03	.036	1.81533	1.500	4.353	PER IMP= 60.00
*S BASIN 3										
COMPUTE NM HYD	600.00	-	6	.00306	8.94	.326	1.99861	1.500	4.565	PER IMP= 80.00
*S BASIN 4										
COMPUTE NM HYD	700.00	-	7	.00436	13.06	.480	2.06522	1.500	4.680	PER IMP= 85.00
*S BASIN 5a										
COMPUTE NM HYD	800.00	-	8	.00387	8.84	.292	1.41397	1.500	3.568	PER IMP= 30.00
*S BASIN 5b										
COMPUTE NM HYD	900.00	-	9	.00047	1.26	.043	1.71538	1.500	4.179	PER IMP= 50.00
*S BASIN 6										
COMPUTE NM HYD	110.00	-	10	.00038	1.14	.041	2.01525	1.500	4.674	PER IMP= 80.00
FINISH										

```
*S*************************************************************
*S        BROADSTONE SANTA MONICA
*S        TRACT 2, SANTA MONICA PLACE
*S        DEVELOPED CONDITIONS
*S        100-YR, 6-HR STORM
*S        1900P2.DAT
*S        FEBRUARY 28, 2012
*S        BY ASA NILSSON-WEBER
*S        ISAACSON & ARFMAN, P.A.
*S*************************************************************
START                   RAINFALL BEGINS AT 0.0 HRS
RAINFALL                TYPE=1 RAIN QUARTER=0 RAIN ONE=2.1
                        RAIN SIX=2.45 RAIN DAY=2.85 DT=0.03333HR
*S
*S  BASIN 1
COMPUTE NM HYD           ID=1 HYD NO=100 AREA=0.00737 SQ MI
                         PER A=0 PER B=0 PER C=20 PER D=80
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=1   CODE=1
*S  BASIN 2a
COMPUTE NM HYD           ID=2 HYD NO=200 AREA=0.00071 SQ MI
                         PER A=0 PER B=0 PER C=52 PER D=48
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=2   CODE=1
*S  BASIN 2b
COMPUTE NM HYD           ID=3 HYD NO=300 AREA=0.00081 SQ MI
                         PER A=0 PER B=0 PER C=50 PER D=50
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=3   CODE=1
*S  BASIN 2c
COMPUTE NM HYD           ID=4 HYD NO=400 AREA=0.00045 SQ MI
                         PER A=0 PER B=20 PER C=50 PER D=50
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=4   CODE=1
*S  BASIN 2d
COMPUTE NM HYD           ID=5 HYD NO=500 AREA=0.00037 SQ MI
                         PER A=0 PER B=0 PER C=40 PER D=60
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=5   CODE=1
*S  BASIN 3
COMPUTE NM HYD           ID=6 HYD NO=600 AREA=0.00306 SQ MI
                         PER A=0 PER B=4 PER C=16 PER D=80
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=6   CODE=1
*S  BASIN 4
COMPUTE NM HYD           ID=7 HYD NO=700 AREA=0.00436 SQ MI
                         PER A=0 PER B=0 PER C=15 PER D=85
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=7   CODE=1
*S  BASIN 5a
COMPUTE NM HYD           ID=8 HYD NO=800 AREA=0.00387 SQ MI
                         PER A=0 PER B=25 PER C=45 PER D=30
                         TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD                ID=8   CODE=1
```

```
*S  BASIN 5b
COMPUTE NM HYD          ID=9 HYD NO=900 AREA=0.00047 SQ MI
                        PER A=0 PER B=0 PER C=50 PER D=50
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=9   CODE=1
*S  BASIN 6
COMPUTE NM HYD          ID=10 HYD NO=110 AREA=0.00038 SQ MI
                        PER A=0 PER B=0 PER C=20 PER D=80
                        TP=-0.1333 HR   MASS RAIN=-1
PRINT HYD               ID=10   CODE=1
FINISH
```

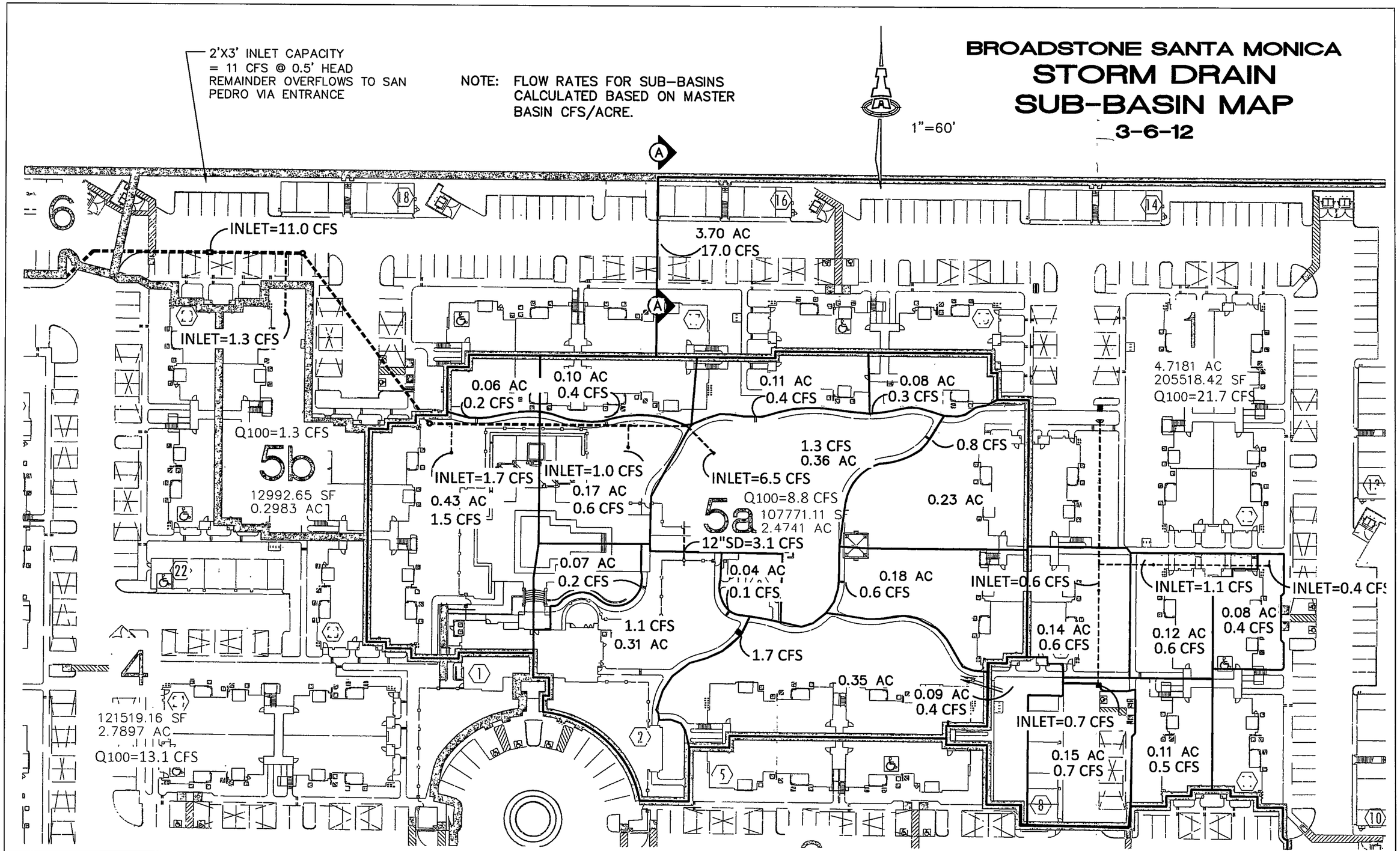
APPENDIX C

Private Storm Drain & Inlet Calculations

BROADSTONE SANTA MONICA
STORM DRAIN
SUB-BASIN MAP
3-6-12

1"=60'

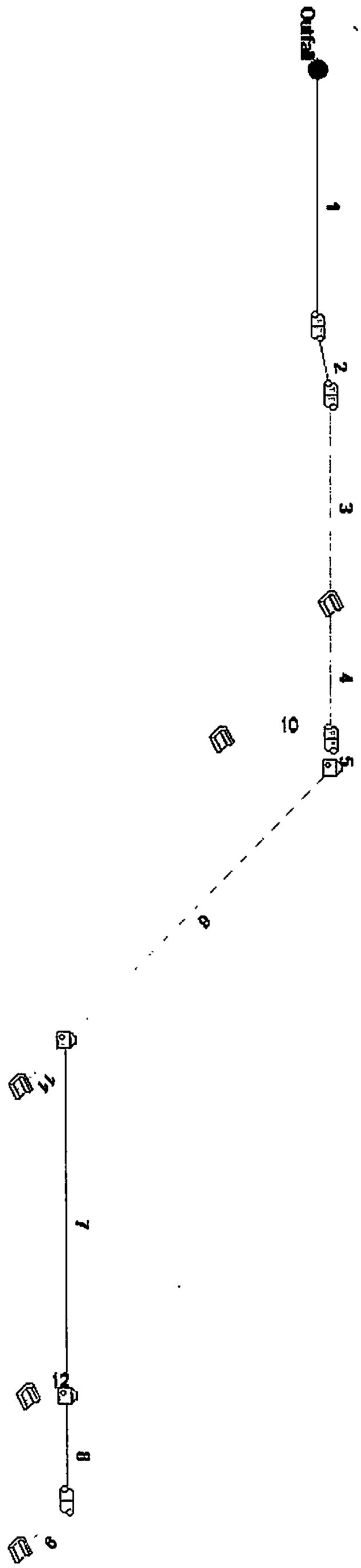
NOTE: FLOW RATES FOR SUB-BASINS CALCULATED BASED ON MASTER BASIN CFS/ACRE.



M:\CAD FILES\1900-1999\1900dwg\1900 C-70 1-BASIN TRACT 2.dwg, 3/6/2012 3:55:52 PM, ANW

BROADSTONE SANTA MONICA

WEST STORM DRAIN



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 El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	98.000	0.000	None	0.00	0.00	0.00	0.0	61.50	0.56	62.05	24	Cir	0.012	0.23	66.20	
2	1	26.200	-11.250	None	0.00	0.00	0.00	0.0	62.05	0.57	62.20	24	Cir	0.012	0.23	66.90	
3	2	78.600	11.250	Genr	11.00	0.00	0.00	0.0	62.20	0.57	62.65	24	Cir	0.012	0.50	66.50	
4	3	51.400	0.000	None	0.00	0.00	0.00	0.0	62.65	0.91	63.12	24	Cir	0.012	1.00	67.10	
5	4	11.200	0.000	MH	0.00	0.00	0.00	0.0	63.12	0.98	63.23	18	Cir	0.012	0.75	67.20	
6	5	145.400	45.000	MH	0.00	0.00	0.00	0.0	63.23	1.60	65.56	18	Cir	0.012	0.75	71.10	
7	6	135.100	-45.000	MH	0.00	0.00	0.00	0.0	65.56	1.60	67.72	18	Cir	0.012	1.00	71.50	
8	7	40.000	0.000	None	0.00	0.00	0.00	0.0	67.72	1.60	68.36	12	Cir	0.012	0.75	73.20	
9	8	26.000	45.000	Genr	6.50	0.00	0.00	0.0	68.36	1.62	68.78	12	Cir	0.012	1.00	72.00	
10	4	42.000	90.000	Genr	1.30	0.00	0.00	0.0	63.12	0.90	63.50	12	Cir	0.012	1.00	66.50	
11	6	25.000	0.000	Genr	1.70	0.00	0.00	0.0	65.56	1.76	66.00	8	Cir	0.012	1.00	69.50	
12	7	15.000	90.000	Genr	1.00	0.00	0.00	0.0	67.72	1.87	68.00	8	Cir	0.012	1.00	70.50	

1900 PRVT SD WEST | Number of lines: 12 | Date: 3/6/2012

Storm Sewer Summary Report

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		21.50	24	Cir	98.000	61.50	62.05	0.561	64.20*	64.95*	0.17	65.12	End	None
2		21.50	24	Cir	26.200	62.05	62.20	0.573	65.12*	65.32*	0.17	65.49	1	None
3		21.50	24	Cir	78.600	62.20	62.65	0.573	65.49*	66.10*	0.36	66.46	2	Generic
4		10.50	24	Cir	51.400	62.65	63.12	0.914	66.46*	66.56*	0.17	66.73	3	None
5		9.20	18	Cir	11.200	63.12	63.23	0.982	66.73*	66.80*	0.32	67.12	4	Manhole
6		9.20	18	Cir	145.400	63.23	65.56	1.602	67.12*	68.07*	0.32	68.39	5	Manhole
7		7.50	18	Cir	135.100	65.56	67.72	1.599	68.39	68.88	0.40	69.29	6	Manhole
8		6.50	12	Cir	40.000	67.72	68.36	1.600	69.29*	70.42*	0.80	71.22	7	None
9		6.50	12	Cir	26.000	68.36	68.78	1.615	71.22*	71.96*	1.06	73.03	8	Generic
10		1.30	12	Cir	42.000	63.12	63.50	0.905	66.73*	66.78*	0.04	66.82	4	Generic
11		1.70	8	Cir	25.000	65.56	66.00	1.760	68.39*	68.81*	0.37	69.18	6	Generic
12		1.00	8	Cir	15.000	67.72	68.00	1.867	69.29*	69.38*	0.13	69.50	7	Generic

1900 PRVT SD WEST | Number of lines: 12 | Run Date: 3/6/2012

NOTES: Return period = 2 Yrs. ; *Surcharged (HGL above crown).

Storm Sewer Tabulation

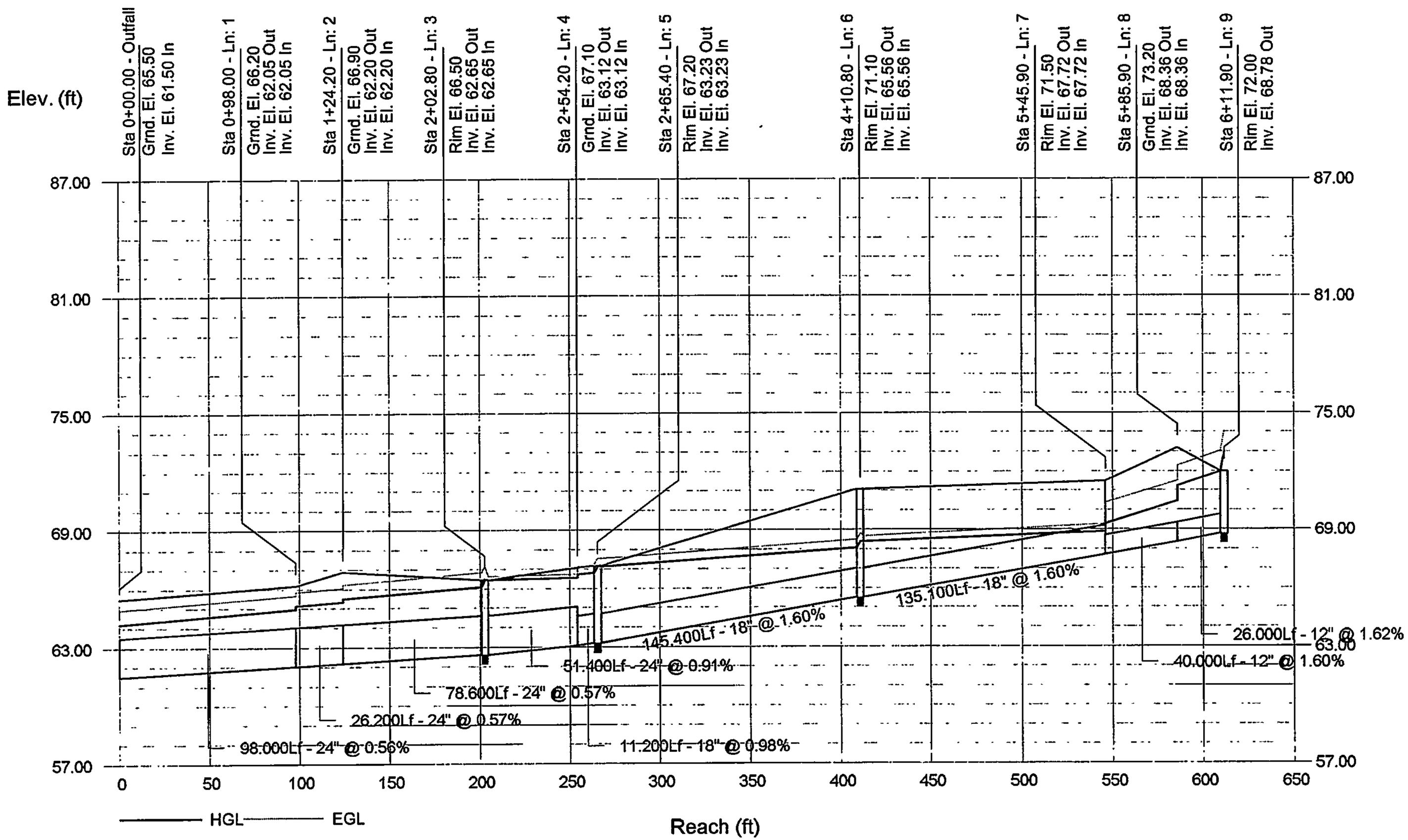
Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	98.000	0.00	0.00	0.00	0.00	0.00	0.0	1.7	0.0	21.50	18.36	6.84	24	0.56	61.50	62.05	64.20	64.95	65.50	66.20	
2	1	26.200	0.00	0.00	0.00	0.00	0.00	0.0	1.6	0.0	21.50	18.54	6.84	24	0.57	62.05	62.20	65.12	65.32	66.20	66.90	
3	2	78.600	0.00	0.00	0.00	0.00	0.00	0.0	1.4	0.0	21.50	18.54	6.84	24	0.57	62.20	62.65	65.49	66.10	66.90	66.50	
4	3	51.400	0.00	0.00	0.00	0.00	0.00	0.0	1.2	0.0	10.50	23.43	3.34	24	0.91	62.65	63.12	66.46	66.56	66.50	67.10	
5	4	11.200	0.00	0.00	0.00	0.00	0.00	0.0	1.1	0.0	9.20	11.27	5.21	18	0.98	63.12	63.23	66.73	66.80	67.10	67.20	
6	5	145.400	0.00	0.00	0.00	0.00	0.00	0.0	0.7	0.0	9.20	14.40	5.21	18	1.60	63.23	65.56	67.12	68.07	67.20	71.10	
7	6	135.100	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	7.50	14.38	4.67	18	1.60	65.56	67.72	68.39	68.88	71.10	71.50	
8	7	40.000	0.00	0.00	0.00	0.00	0.00	0.0	0.1	0.0	6.50	4.88	8.28	12	1.60	67.72	68.36	69.29	70.42	71.50	73.20	
9	8	26.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	6.50	4.90	8.28	12	1.62	68.36	68.78	71.22	71.96	73.20	72.00	
10	4	42.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.30	3.67	1.66	12	0.90	63.12	63.50	66.73	66.78	67.10	66.50	
11	6	25.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.70	1.74	4.87	8	1.76	65.56	66.00	68.39	68.81	71.10	69.50	
12	7	15.000	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	1.00	1.79	2.87	8	1.87	67.72	68.00	69.29	69.38	71.50	70.50	

1900 PRVT SD WEST | Number of lines: 12 | Run Date: 3/6/2012

NOTES:Intensity = 69.87 / (Inlet time + 13.10) ^ 0.87; Return period =Yrs. 2 ; c = cir e = ellip b = box

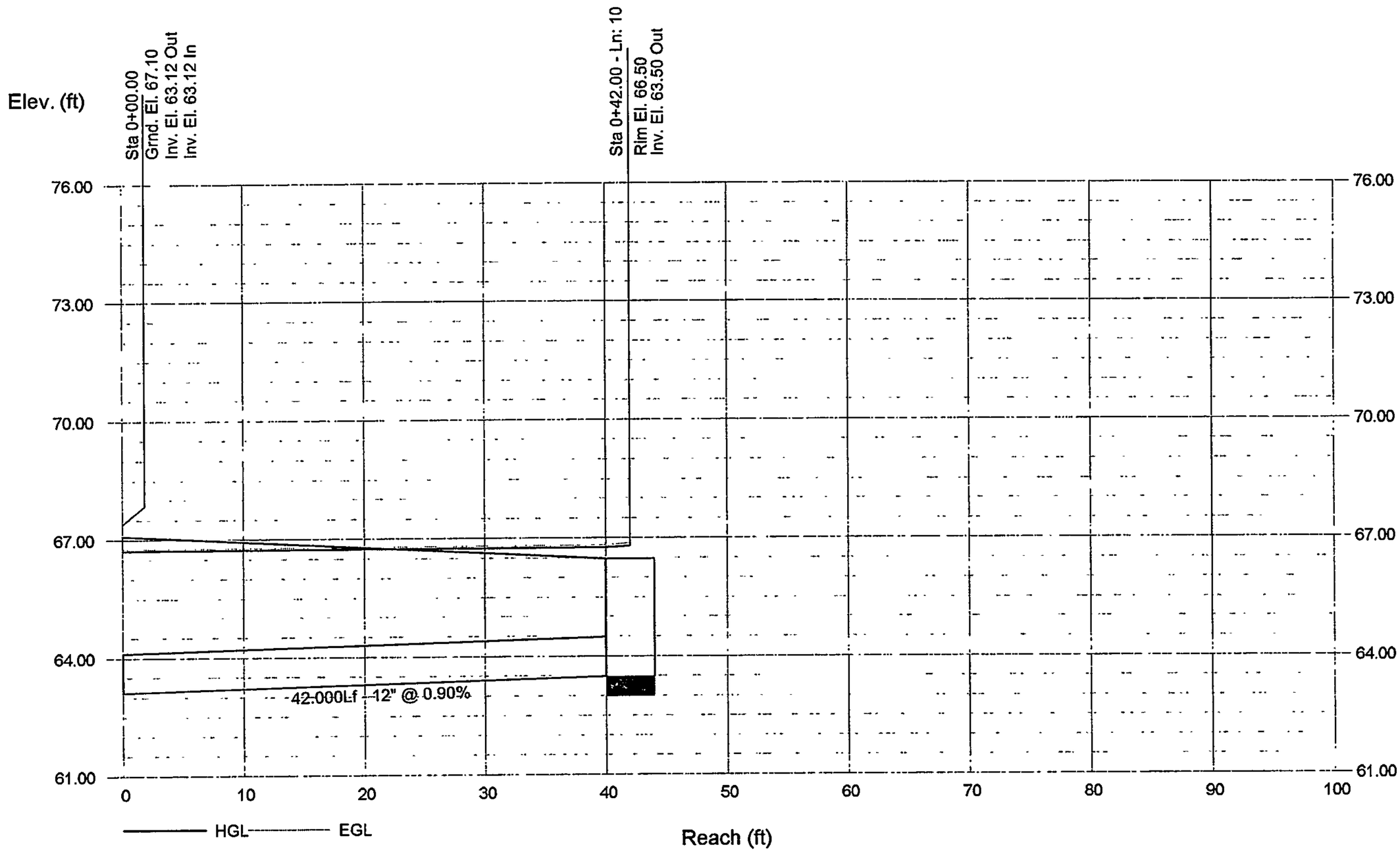
Storm Sewer Profile

Proj. file: 1900-PRVT SD WEST.stm



Storm Sewer Profile

Proj. file: 1900-PRVT SD WEST.stm



Storm Sewer Profile

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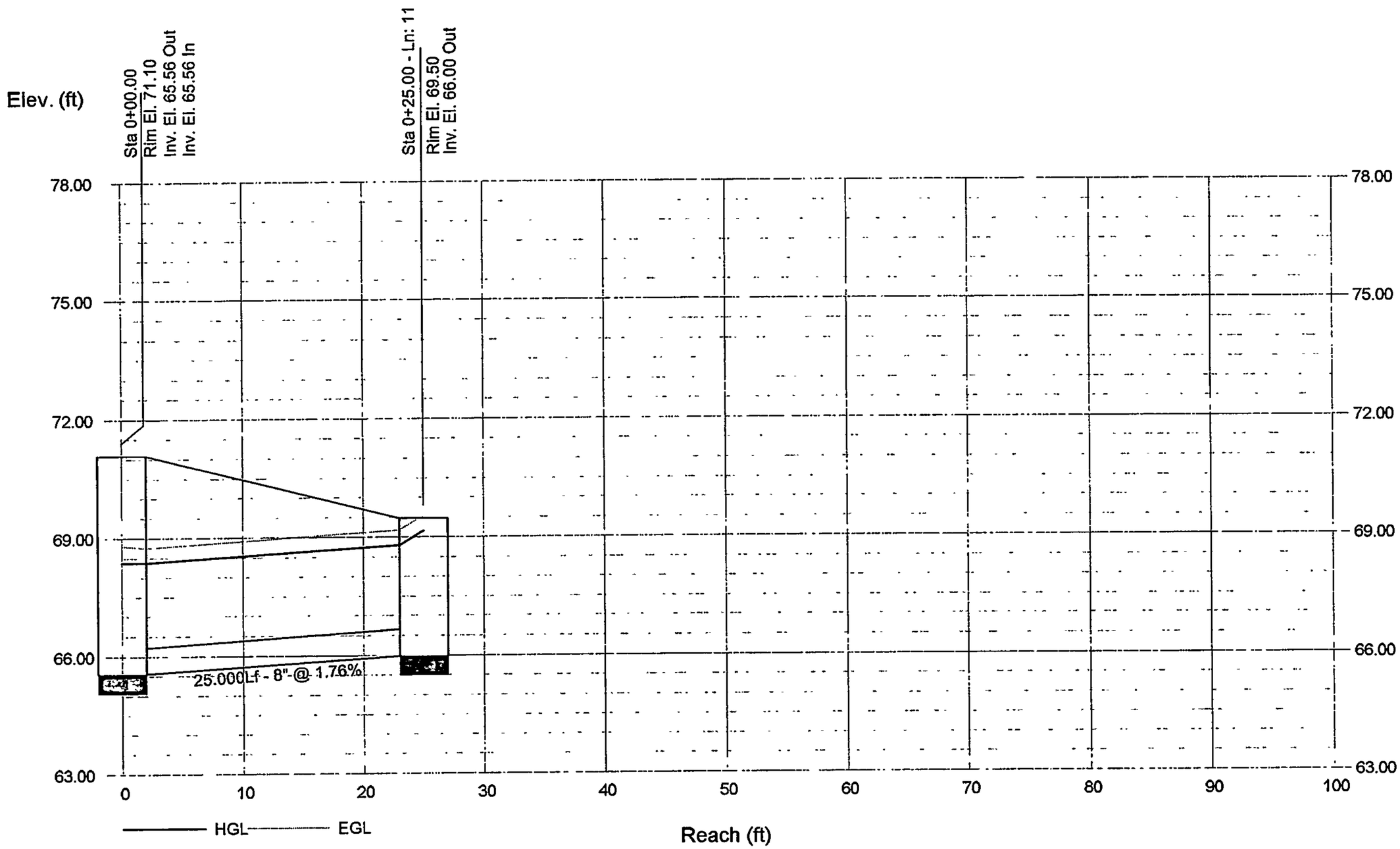

Storm Sewer Profile

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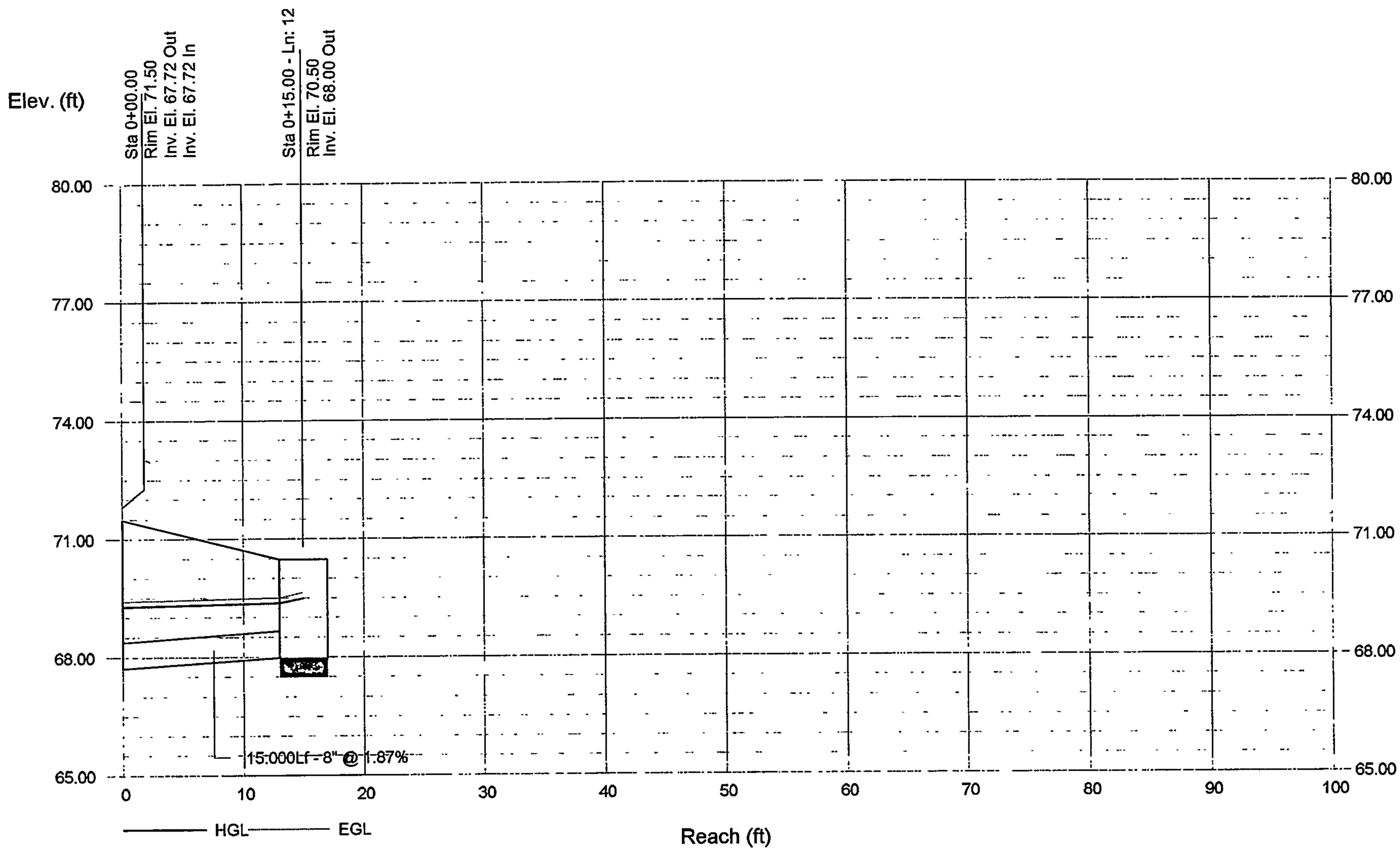
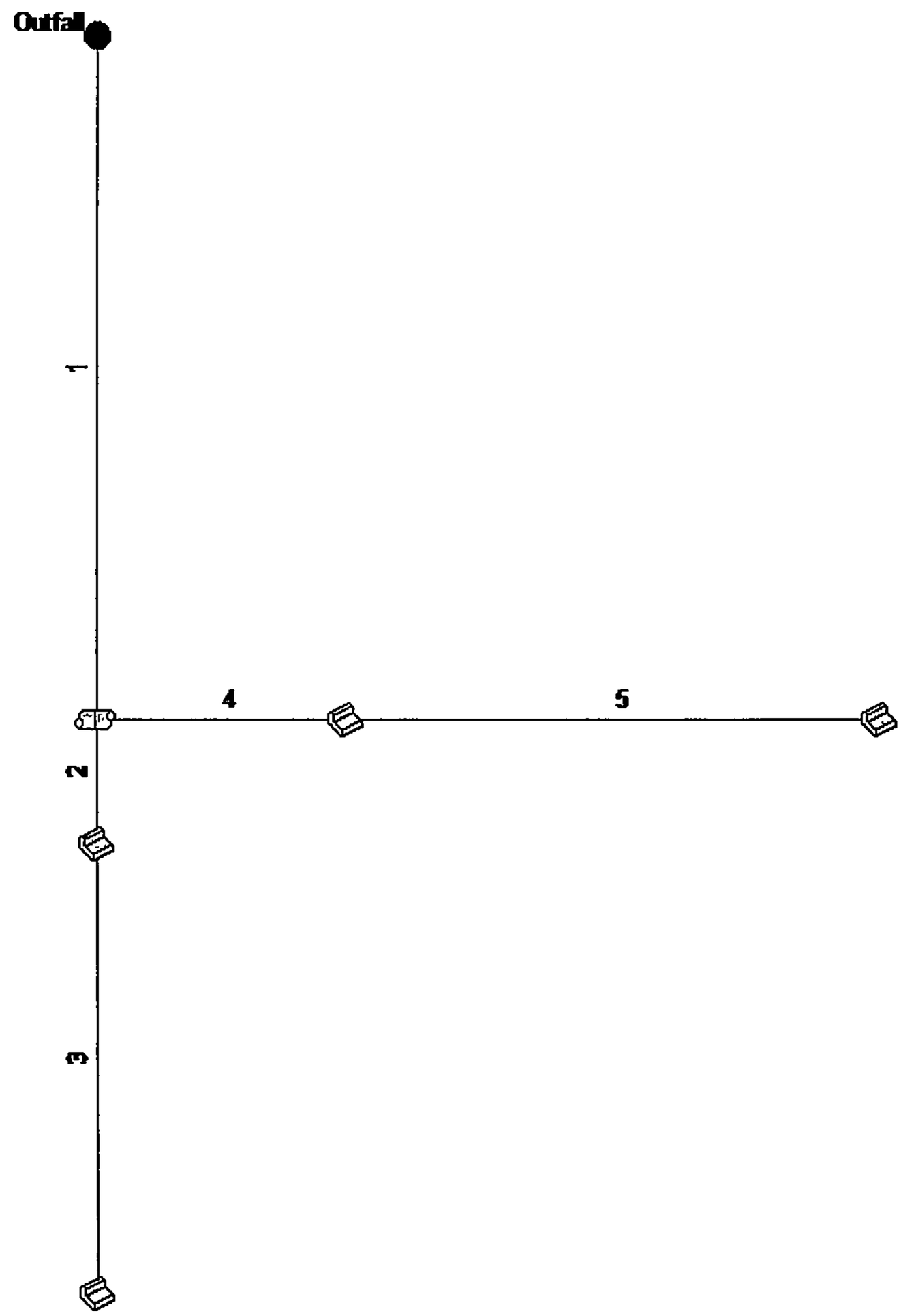


BROADSTONE SANTA MONICA

EAST STORM DRAIN



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 El Dn (ft)	Line Slope (%)	Invert El Up (ft)	Line Size (in)	Line Shape	N Value (n)	J-Loss Coeff (K)	Inlet/ Rim El (ft)	
1	End	99.300	90.000	None	0.00	0.00	0.00	0.0	78.20	0.70	78.90	12	Cir	0.012	1.00	82.50	
2	1	18.000	0.000	Genr	0.60	0.00	0.00	0.0	78.90	0.56	79.00	8	Cir	0.012	0.50	82.00	
3	2	65.500	0.000	Genr	0.70	0.00	0.00	0.0	79.00	1.53	80.00	8	Cir	0.012	1.00	83.00	
4	1	36.800	-90.000	Genr	1.10	0.00	0.00	0.0	78.90	0.68	79.15	8	Cir	0.012	0.50	82.00	
5	4	79.100	0.000	Genr	0.40	0.00	0.00	0.0	79.15	0.70	79.70	8	Cir	0.012	1.00	82.70	

1900 PRVT SD EAST | Number of lines: 5 | Date: 3/6/2012

Storm Sewer Summary Report

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		2.80	12	Cir	99.300	78.20	78.90	0.705	79.00	79.61	n/a	79.61 j	End	None
2		1.30	8	Cir	18.000	78.90	79.00	0.556	79.61*	79.79*	0.11	79.90	1	Generic
3		0.70	8	Cir	65.500	79.00	80.00	1.527	79.90	80.39	n/a	80.39 j	2	Generic
4		1.50	8	Cir	36.800	78.90	79.15	0.679	79.61*	80.09*	0.14	80.24	1	Generic
5		0.40	8	Cir	79.100	79.15	79.70	0.695	80.24	80.30	0.02	80.33	4	Generic

1900 PRVT SD EAST | Number of lines: 5 | Run Date: 3/6/2012

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

Storm Sewer Tabulation

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	99.300	0.00	0.00	0.00	0.00	0.00	0.0	1.3	0.0	2.80	3.24	4.43	12	0.70	78.20	78.90	79.00	79.61	80.00	82.50	
2	1	18.000	0.00	0.00	0.00	0.00	0.00	0.0	0.5	0.0	1.30	0.98	3.72	8	0.56	78.90	79.00	79.61	79.79	82.50	82.00	
3	2	65.500	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.70	1.62	2.63	8	1.53	79.00	80.00	79.90	80.39	82.00	83.00	
4	1	36.800	0.00	0.00	0.00	0.00	0.00	0.0	1.2	0.0	1.50	1.08	4.30	8	0.68	78.90	79.15	79.61	80.09	82.50	82.00	
5	4	79.100	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	0.40	1.09	1.17	8	0.70	79.15	79.70	80.24	80.30	82.00	82.70	

1900 PRVT SD EAST | Number of lines: 5 | Run Date: 3/6/2012

NOTES:Intensity = 69.87 / (Inlet time + 13.10) ^ 0.87; Return period =Yrs. 2 ; c = cir e = ellip b = box

Storm Sewer Profile

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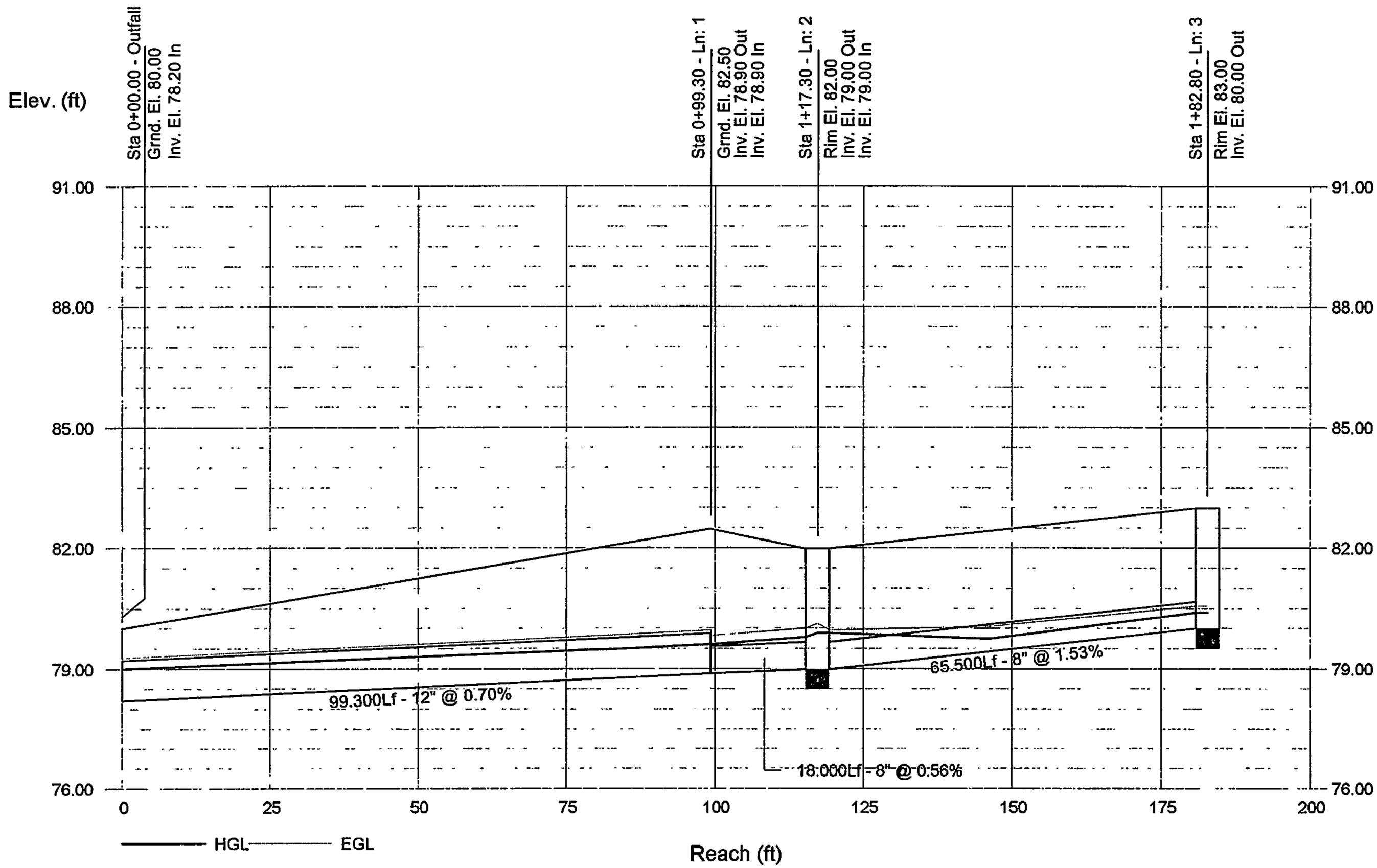

Storm Sewer Profile

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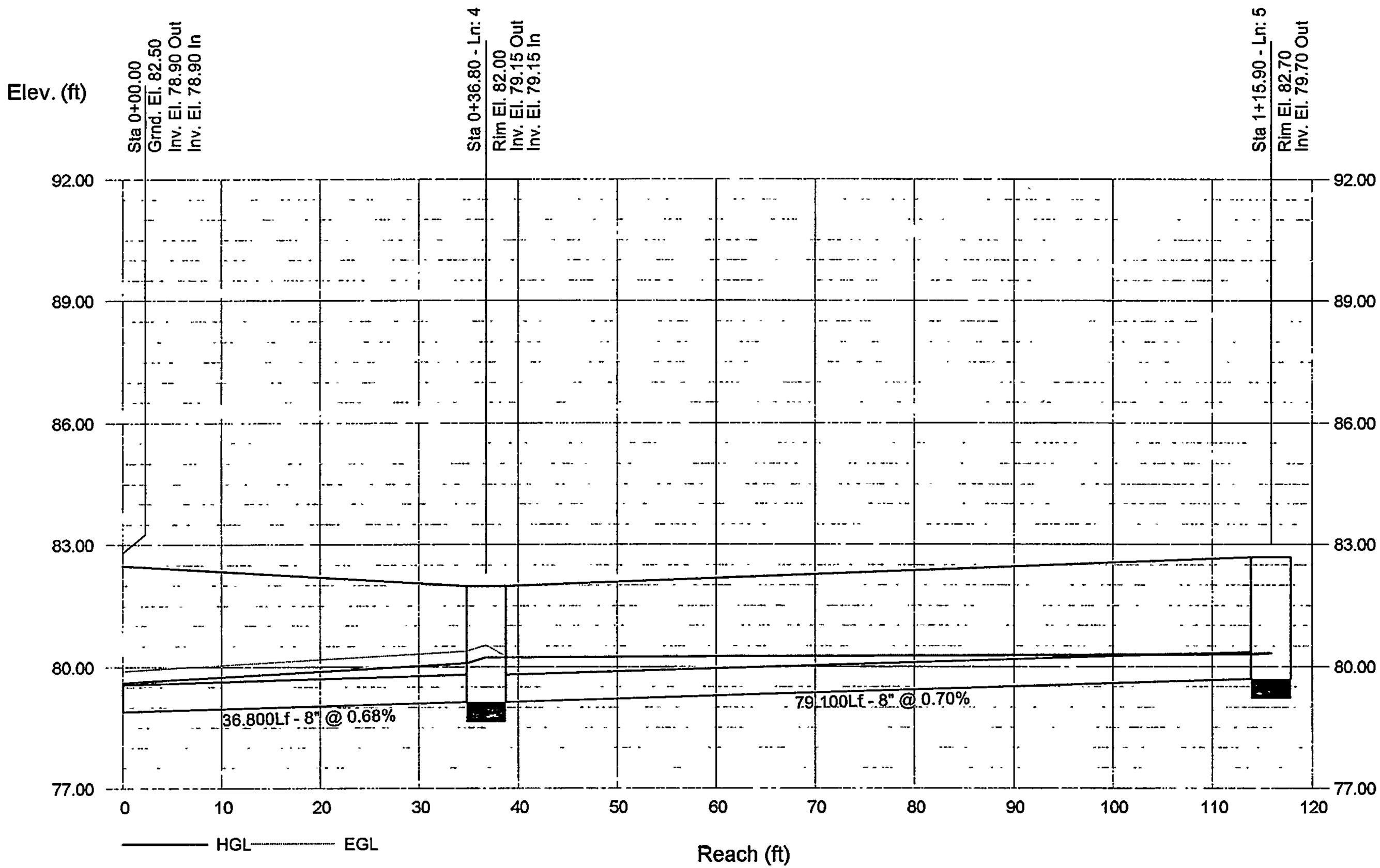
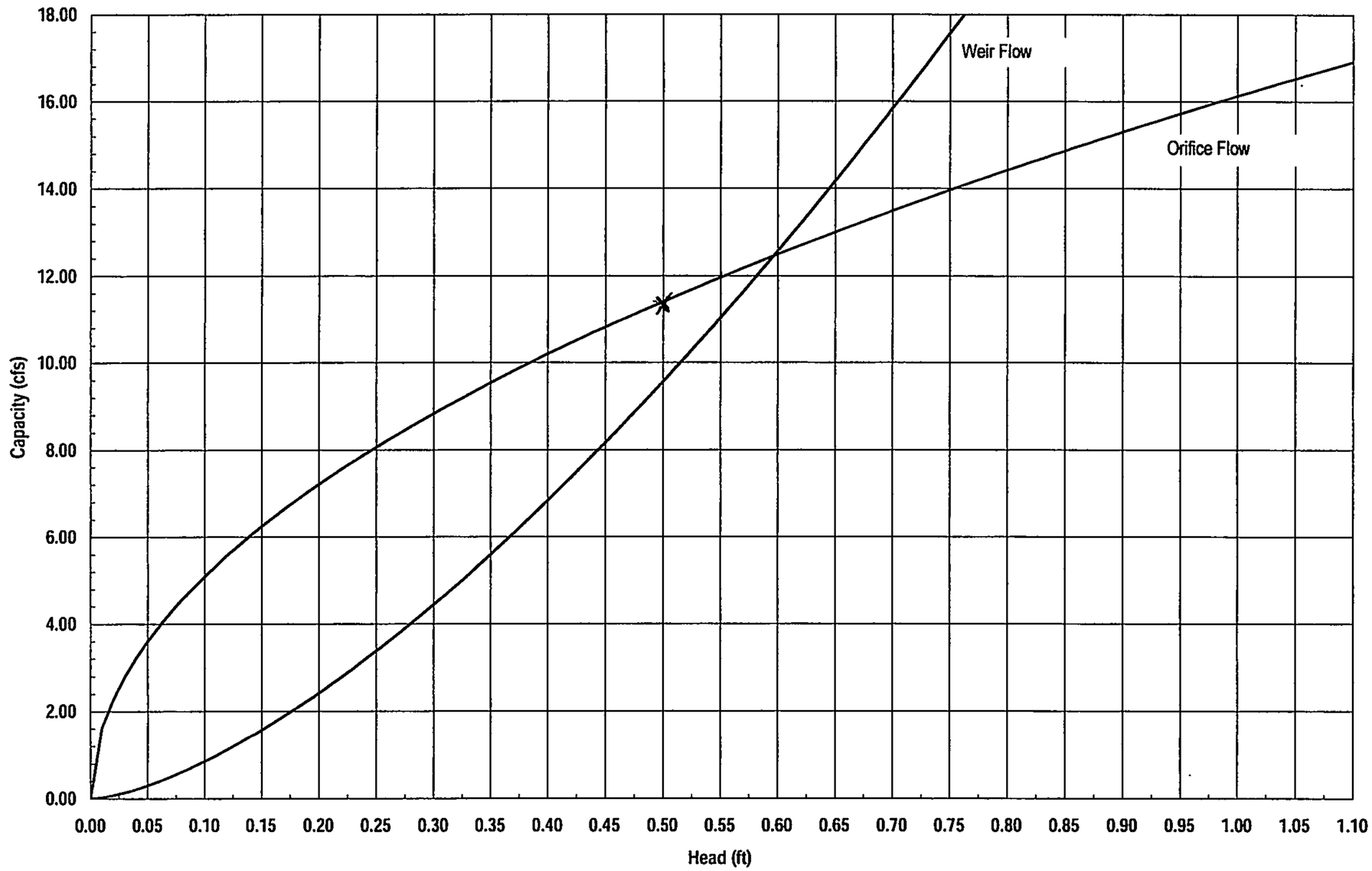


Nyloplast 2' x 3' Road & Highway Grate Inlet Capacity Chart



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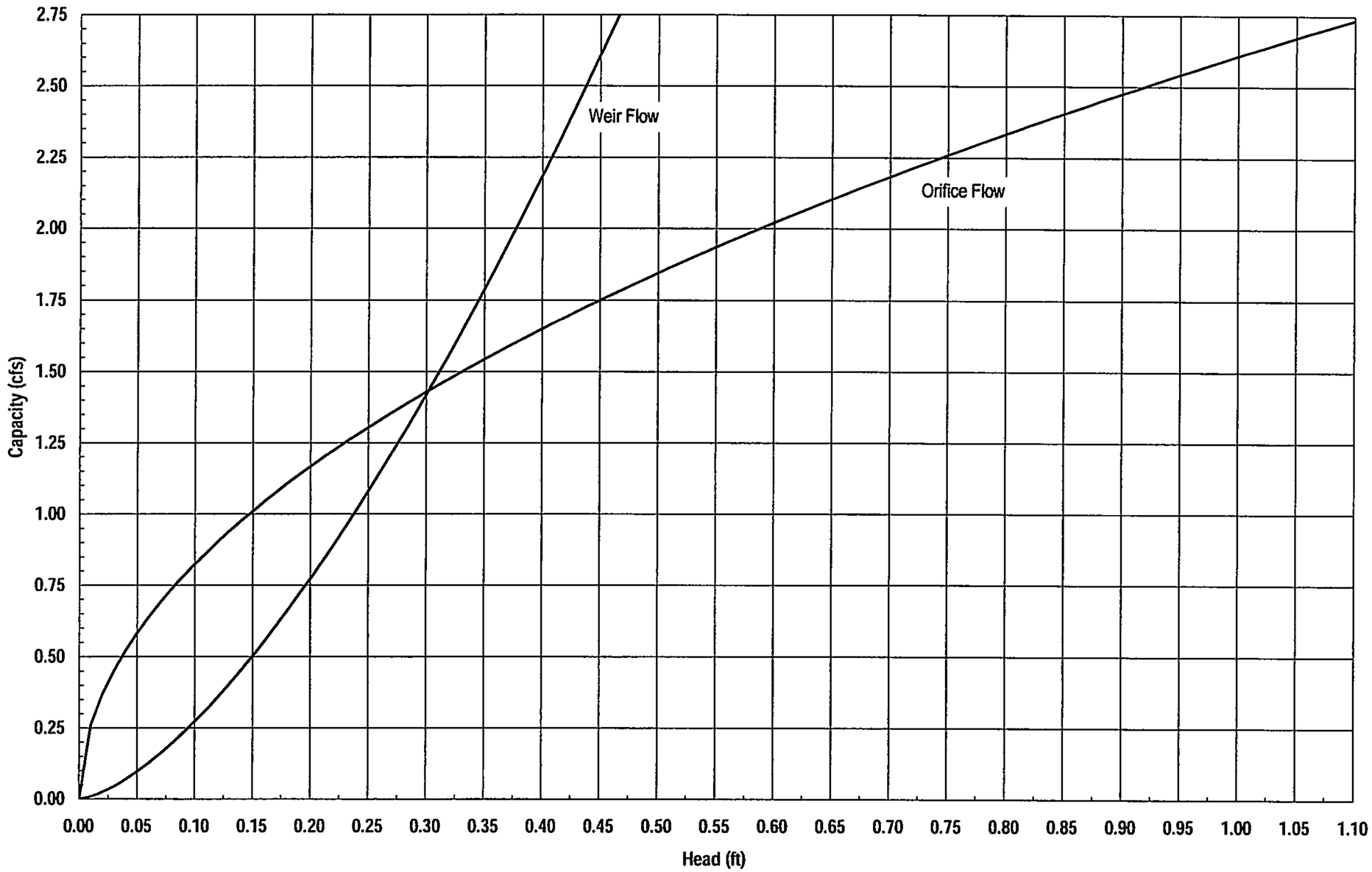
Nyloplast 12" Dome Grate Inlet Capacity Chart



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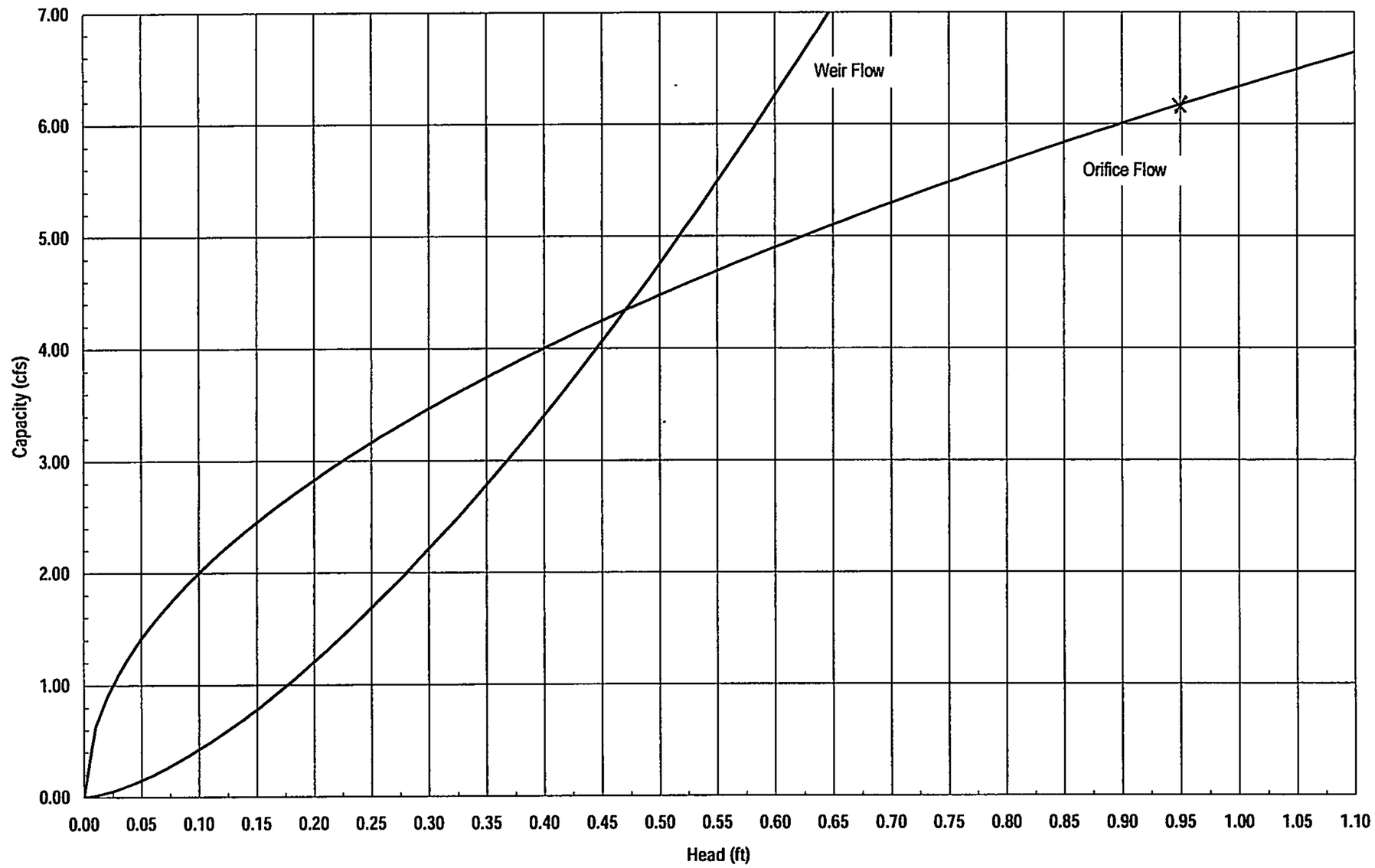
Nyloplast 18" Dome Grate Inlet Capacity Chart



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APPENDIX D

SIDEWALK CULVERT CALCULATIONS

BROADSTONE SANTA MONICA

SIDEWALK CULVERT CAPACITY CALCULATION

Weir equation: $Q=CLH^{3/2}$

Constant	C =	3.33	
Curb height	H =	0.5	feet
Opening Length	L =	1.00	feet
	Q=	**1.2**	**cfs**
Opening Length	L =	1.50	feet
	Q=	**1.8**	**cfs**
Opening Length	L =	2.00	feet
	Q=	**2.4**	**cfs**

APPENDIX E

Driving Aisle Capacity Calculation

Channel Report

Hydraflow Express Extension for AutoCAD® Civil 3D® 2012 by Autodesk, Inc. Friday, Mar 2 2012

SECTION A-A -- DRIVE AT WEST END OF BUILDING 16

User-defined

Invert Elev (ft)	= 71.60
Slope (%)	= 1.40
N-Value	= 0.017

Calculations

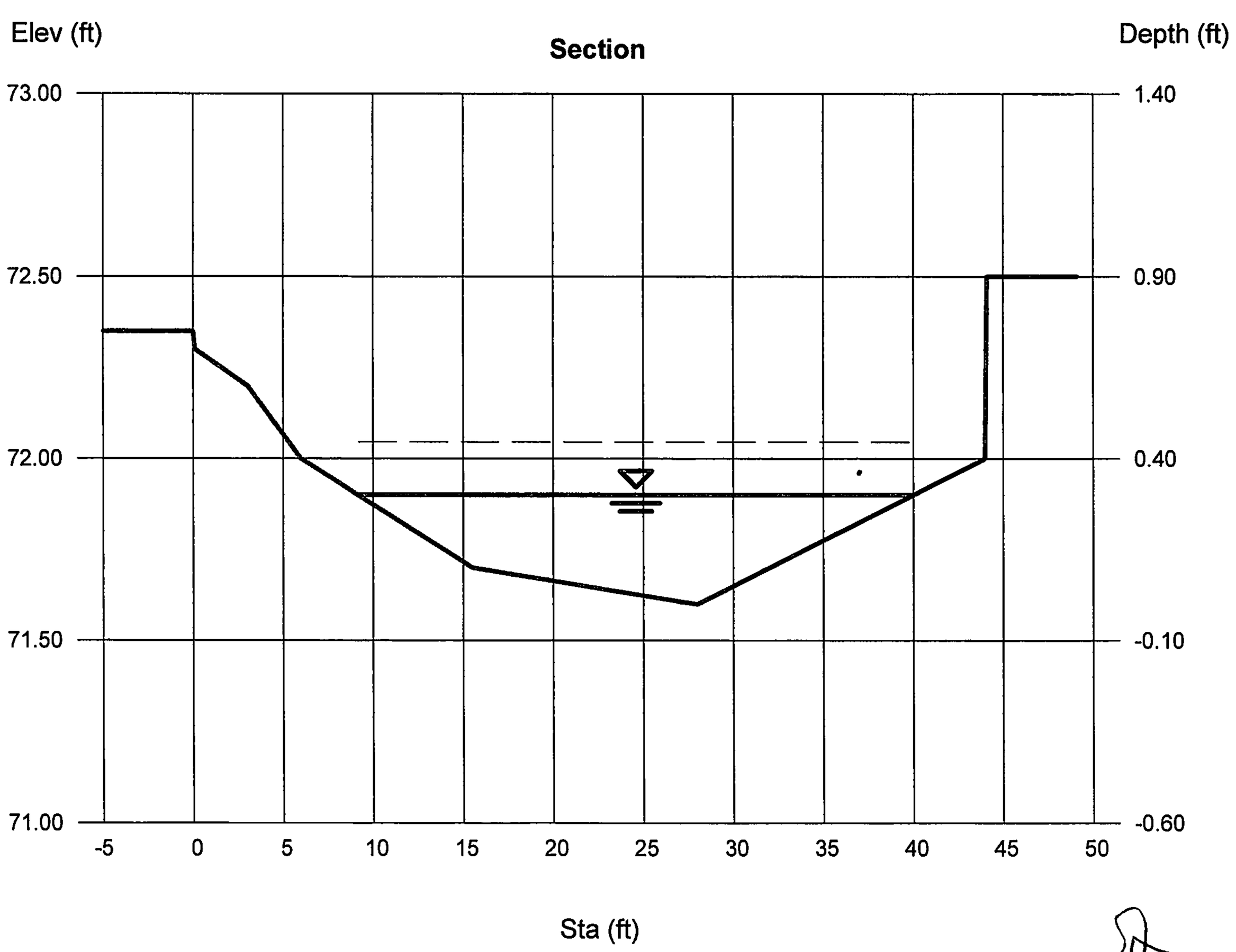
Compute by:	Known Q
Known Q (cfs)	= 17.00

Highlighted

Depth (ft)	= 0.30
Q (cfs)	= 17.00
Area (sqft)	= 5.56
Velocity (ft/s)	= 3.06
Wetted Perim (ft)	= 30.84
Crit Depth, Yc (ft)	= 0.34
Top Width (ft)	= 30.83
EGL (ft)	= 0.45

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

(-5.00, 73.15)-(0.10, 72.30, 0.017)-(3.00, 72.20, 0.017)-(6.00, 72.00, 0.017)-(15.50, 71.70, 0.017)-(28.00, 71.60, 0.017)-(44.00, 72.00, 0.017)
-(44.10, 72.50, 0.017)



NOVEMBER 18, 2011

MASTER DRAINAGE STUDY

Drainage plan for site
pipe sizes

FOR

SANTA MONICA PLACE
San Pedro and Derickson Avenue NE

RECEIVED
NOV 18 2011
HYDROLOGY SECTION

BY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

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

I&A Project No. 1894
M:\PROJECT DOCUMENTS\1800-1899\1850\REPORTS & EXHIBITS

NOVEMBER 18, 2011

MASTER DRAINAGE STUDY

FOR

SANTA MONICA PLACE
San Pedro and Derickson Avenue NE

BY

ISAACSON & ARFMAN, P.A.

Consulting Engineering Associates

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Fred C. Arfman, PE
Åsa Nilsson-Weber, PE

I&A Project No. 1894

Prepared by:

ÅSA M. NILSSON-WEBER
NEW MEXICO
17631
LICENSED PROFESSIONAL ENGINEER

Åsa Nilsson-Weber 11-18-11

Åsa Nilsson-Weber, PE Date

TABLE OF CONTENTS

Project Information

Reference Material

Introduction

Discharge Calculations

Interim Drainage Patterns

Proposed Drainage: Phase I

Proposed Drainage: Tract 1 and/or Tract 2

Proposed Drainage: Post Phase I Development

Supplemental Information:

- COA Vicinity Map D-18-Z
- FIRMETTE from FIRM Map No. 35001C0137G
- Existing Flow Exhibit from Drainage Report for Monterra Del Rey, Units 1-3

PROJECT INFORMATION:

PROPOSED LEGAL:
Tracts 1 thru 4, Santa Monica Place

EXISTING LEGAL DESCRIPTION:
Blocks 18 and 19, Tract A, Unit A, North Albuquerque Acres

TOTAL AREA:
58.19 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

DEVELOPER:
Titan Development
6300 Riverside Plaza Lane NW - #200
Albuquerque, NM 87120-2617
Attn: Kurt Browning

REFERENCE MATERIAL:

- **The Study Phase Letter Report for San Pedro Collectors to the North Pino Arroyo**
  by Thompson Engineering Consultants, Inc.
  dated April 2004

- **Drainage Report for Monterra Del Rey, Units 1-3**
  by Isaacson & Arfman P.A.
  dated March 2008

- **Revisions to Drainage Report for Monterra Del Rey, Units 1-3**
  by Isaacson & Arfman P.A.
  dated June 2008

INTRODUCTION:

The purpose of this document is to serve as a conceptual master grading and drainage plan for the 58.2-acre Santa Monica Place property (PROPERTY).

The PROPERTY is bound by Derickson Ave. NE to the north, by Louisiana Blvd. NE to the east, by Santa Monica Ave. NE to the south and by San Pedro Blvd. NE to the west. The proposed replat will consist of four tracts. The proposed zoning and acreage of each tract is provided in the following table.

TRACT	ZONED	ACREAGE
Tract 1	R-2	8.9170 Acres
Tract 2	R-2	14.3296 Acres
Tract 3	R-T	19.3638 Acres
Tract 4	R-LT	15.5781 Acres

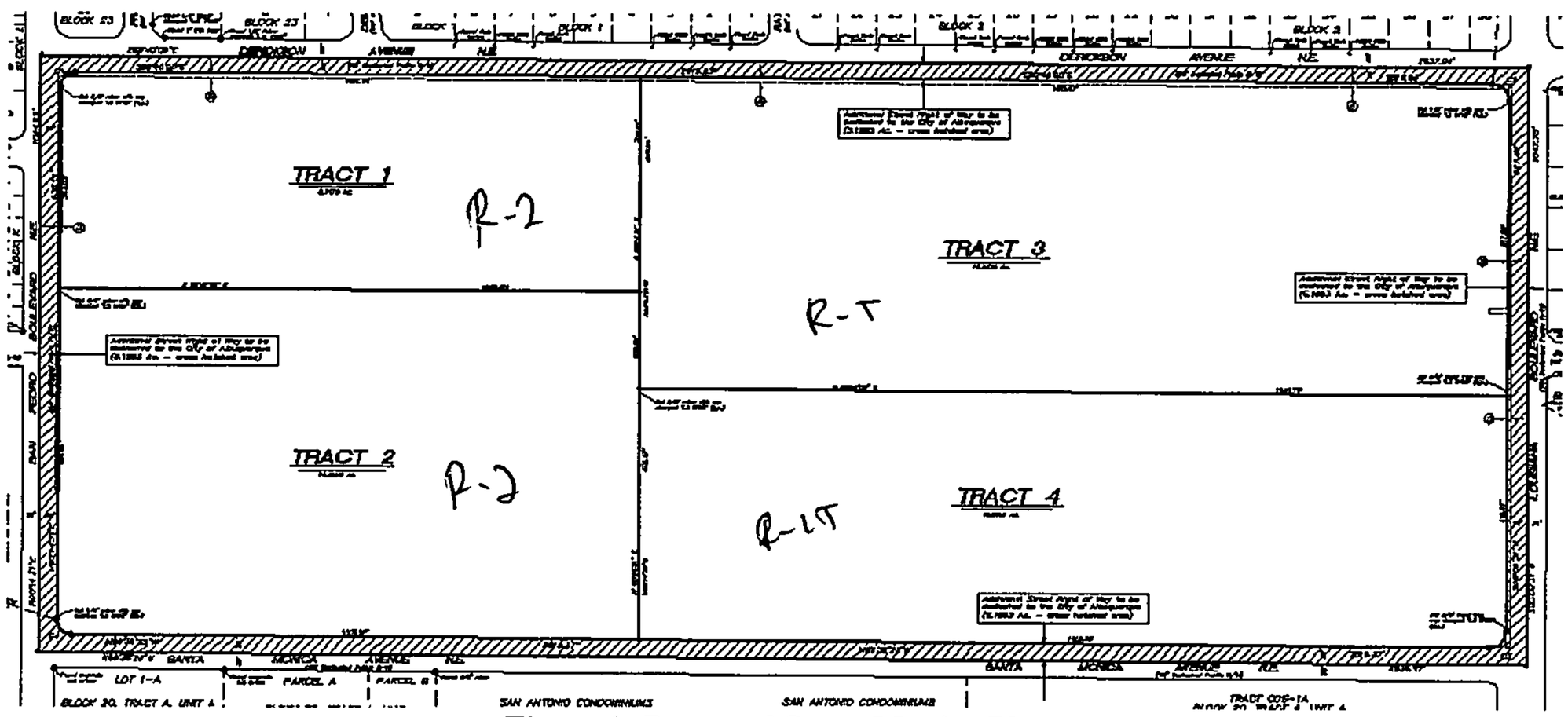

Figure 1: Proposed Santa Monica Place

DISCHARGE CALCULATIONS:

During the 100-year, 6-hour storm event, the PROPERTY will generate:

TRACT	Q100 Interim	Q100 Developed	
Tract 1	25.46 CFS	38.31 CFS	4.3 cfs/ac
Tract 2	40.92 CFS	61.57 CFS	4.3
Tract 3	55.30 CFS	79.22 CFS	4.1
Tract 4	44.49 CFS	63.73 CFS	4.1
		242.83	

- Existing

- Interim rates are based on uniform land treatments of 0%A, 50%B, 50%C and 0%D (PROPERTY after demolition of existing improvements)
- Developed rates are based on 0%A, 15%B, 15%C and 70%D for Tract 1 and 2 low for commercial
- Developed rates are based on 0%A, 20%B, 20%C and 60%D for Tract 3 and 4 Low

```
AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -                    - VERSION:  1997.02d      RUN DATE (MON/DAY/YR) =11/11/2011
INPUT FILE = 1850.DAT                                                                USER NO.= AHYMO-S-9702dIsa-Arfman3

                                FROM  TO                    PEAK        RUNOFF                TIME TO    CFS       PAGE =   1
                   HYDROGRAPH   ID    ID        AREA      DISCHARGE     VOLUME      RUNOFF      PEAK     PER
COMMAND          IDENTIFICATION NO.   NO.      (SQ MI)     (CFS)       (AC-FT)    (INCHES)   (HOURS)   ACRE      NOTATION

*S*************************************************************************
*S        SAN PEDRO AND DERICKSON AVE NE
*S        UNDEVELOPED AND DEVELOPED CONDITIONS
*S        100-YR, 6-HR STORM
*S        1850.DAT
*S        NOVEMBER 11, 2011
*S        BY ASA NILSSON-WEBER / BJB
*S        ISAACSON & ARFMAN, P.A.
*S*************************************************************************
START                                                                                                   TIME=       .00
RAINFALL  TYPE= 1                                                                                       RAIN6=    2.450
*S  TRACT A-1 UND
*S                    * * * AP1 * * *
COMPUTE NM HYD        101.00   -     1        .01393       25.46        .756      1.01772    1.500    2.856 PER IMP=    .00
*S  TRACT A-2 UND
COMPUTE NM HYD        102.00   -     2        .02239       40.92       1.215      1.01772    1.500    2.856 PER IMP=    .00
*S  TRACT A-3 UND
COMPUTE NM HYD        103.00   -     3        .03026       55.30       1.642      1.01772    1.500    2.856 PER IMP=    .00
*S  TRACT A-4 UND
COMPUTE NM HYD        104.00   -     4        .02434       44.49       1.321      1.01772    1.500    2.856 PER IMP=    .00
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*S  TRACT A-2 DEV
COMPUTE NM HYD        202.00   -     6        .02239       61.57       2.216      1.85593    1.500    4.297 PER IMP=  70.00
*S  TRACT A-3 DEV
COMPUTE NM HYD        203.00   -     7        .03026       79.22       2.802      1.73618    1.500    4.091 PER IMP=  60.00
*S  TRACT A-4 DEV
COMPUTE NM HYD        204.00   -     8        .02434       63.73       2.254      1.73618    1.500    4.091 PER IMP=  60.00
FINISH
```

AHYMO Summary Table

INTERIM DRAINAGE PATTERNS:

(post demolition / pre development)

In the interim condition, the majority of the PROPERTY will discharge to the northwest to enter the existing public storm sewer system inlets near the intersection of Derickson Ave. and San Pedro Blvd. NE.

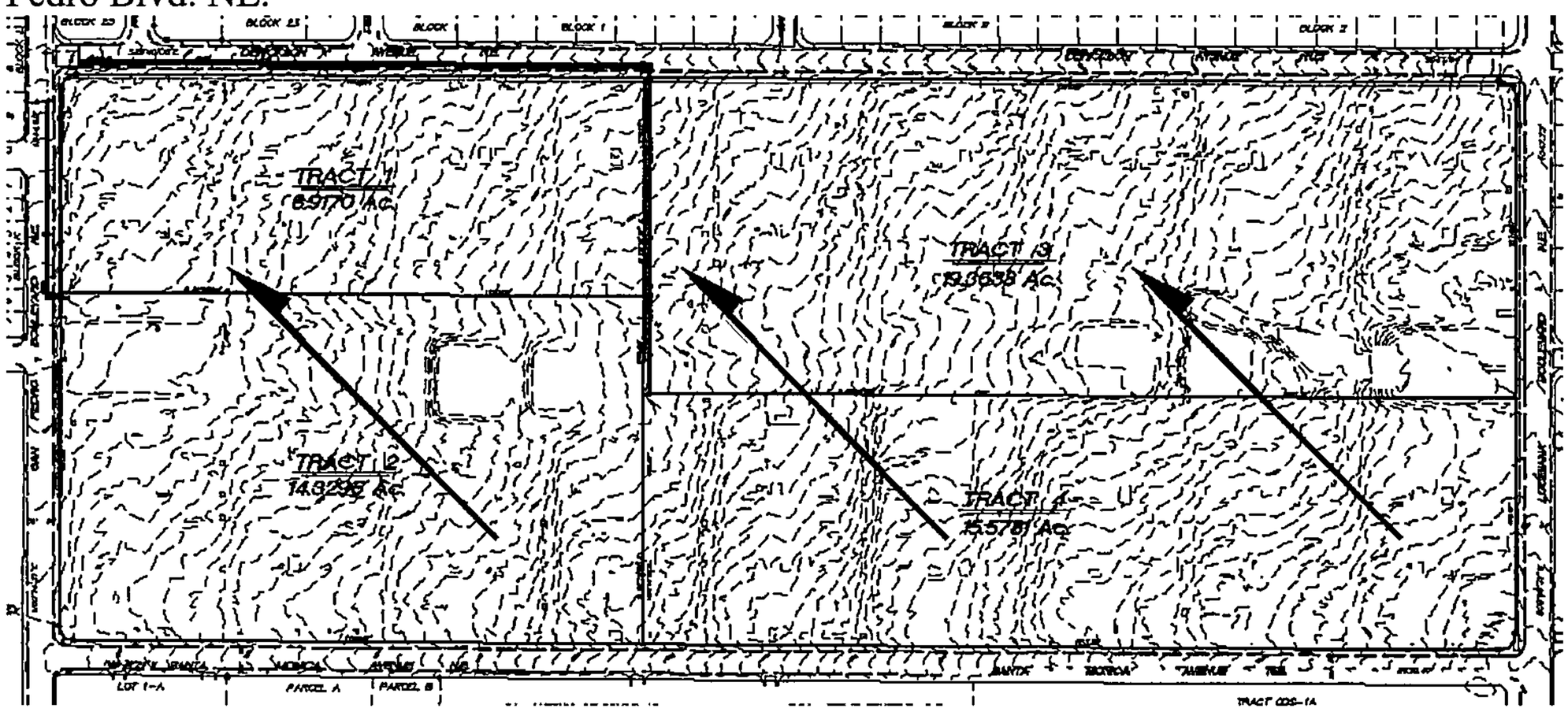


Figure 2: Interim Drainage Patterns

The existing public storm drain system at the intersection of Derickson Ave. and San Pedro Blvd. includes a 48" pipe east to an existing cattle guard inlet and a 36" pipe south to collect street flow from four existing inlets (two each side of San Pedro Blvd.). Flow is conveyed north to the North Pino Arroyo.

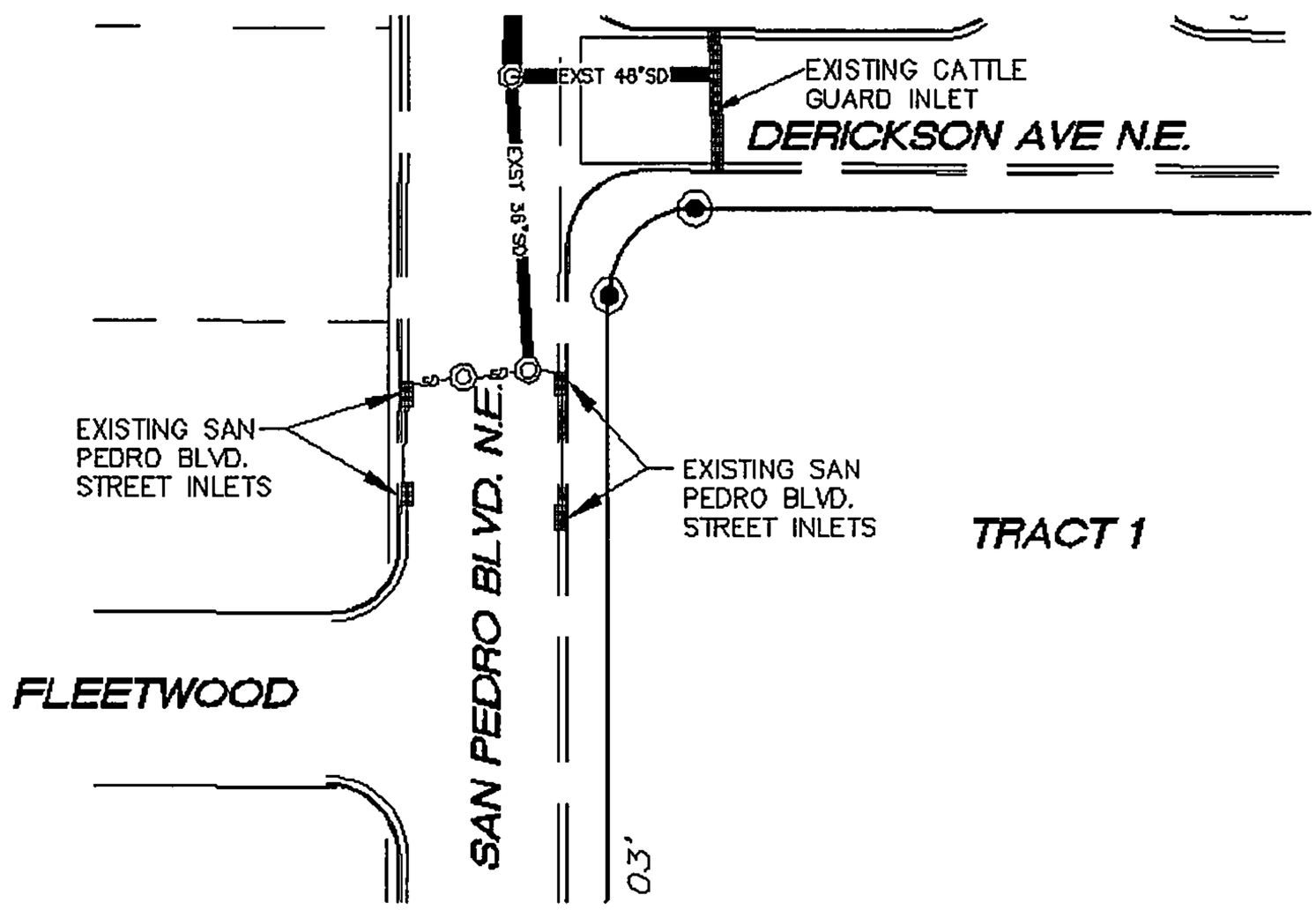


Figure 3: Existing Public Storm Sewer System

PROPOSED DRAINAGE: ALL DEVELOPMENT

not for residential

Development of all tracts will require a Drainage and Grading Plan submittal to City of Albuquerque Hydrology for review and approval for Building Permit. Each plan must include supplemental calculations addressing the drainage criteria established in this report. As each tract develops, additional private on-site storm drain infrastructure including detention ponding may be required to control discharge rates.

why

Requirements for each tract will be dependent on the order that the tracts develop.

Initial development guidelines are as follows:

- The first Tract to develop (Tract 1, 2, 3 or 4) will be required to construct the items referenced as Phase I.
- Calculations must address adjacent public street and storm drain system capacities as well as interim detention pond capacities.

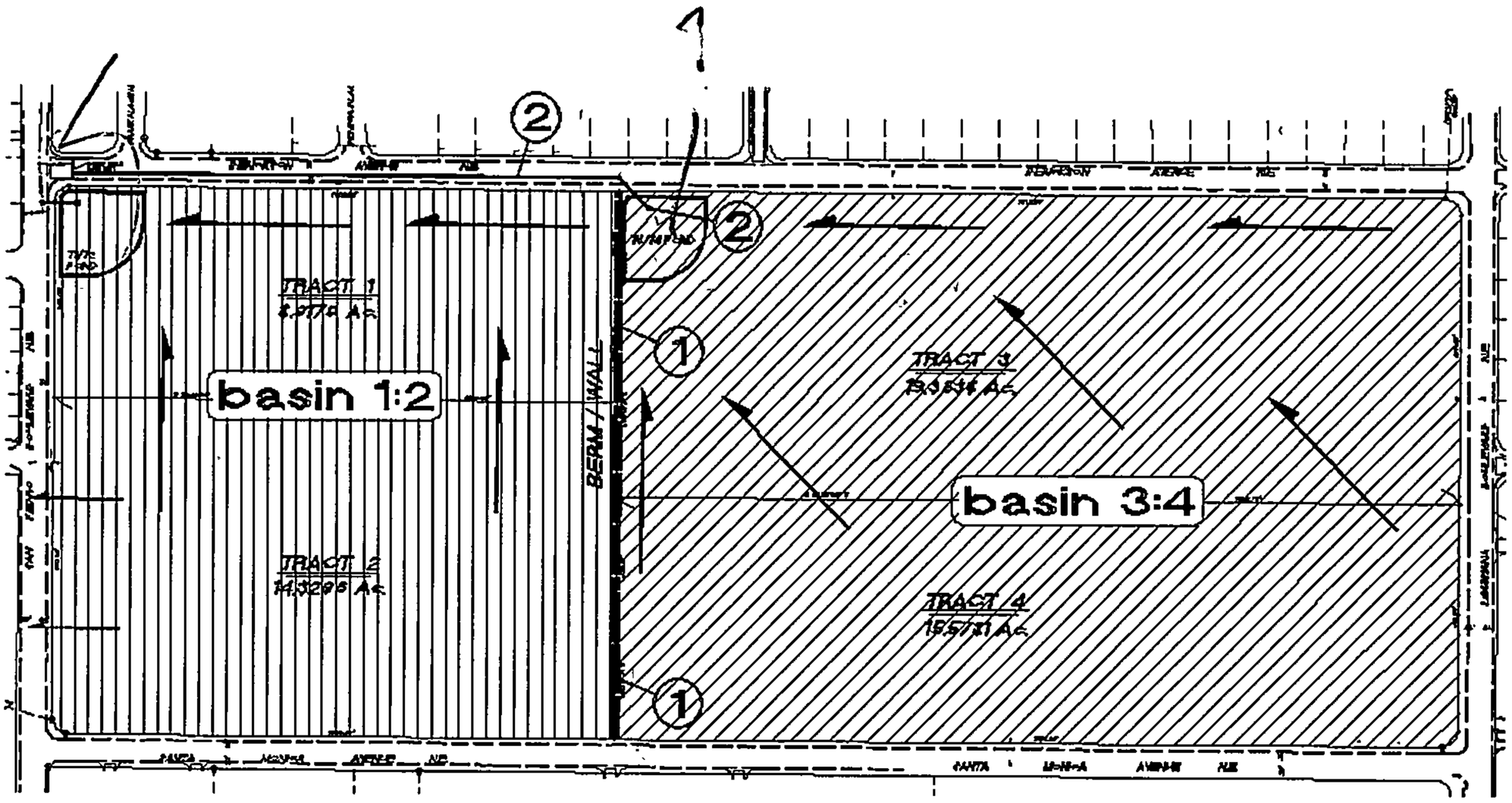
Additional guidelines are as follows:

- The first Tract within Basin 1:2 to develop (Tract 1 or 2) will also be required to construct the items noted as Basin 1:2 Phase.
- Calculations must address adjacent public street and storm drain system capacities (both existing and proposed conditions).

~~the~~ If Tract 1/2 develop first, Hydrology could force developer to grade (Subdivision 1 or 2) on adjacent property, Unless this site is graded and storm drain built as part of PP approval, site to the west will have to accept existing flows

PROPOSED DRAINAGE: PHASE I

The following drainage infrastructure is to be designed and constructed as part of the first tract to be developed:



1. Construct berm between Basin 1:2 and Basin 3:4 to establish two separate drainage basins.

2. Construct 1000(±) lf of E/W storm drain main from existing cattle guard east to Tracts 1:3 property corner. Provide complete calculations and size accordingly. Extend to property to accept Basin 3:4 discharge.

3. Maximum street capacity of Derickson Ave. = 67 cfs due to existing mountable curb on north side. (per 'Revisions to Drainage Report', by Isaacson & Arfman P.A. – June 2008)

4. Existing off-site discharge to Derickson Ave. from off-site basin 5A = 40.5 cfs (see Supplemental Information for Existing Flow Exhibit from Drainage Report for Monterra Del Rey, Units 1-3).

5. Remaining available Derickson Ave. street capacity for PROPERTY = 26.5 cfs.

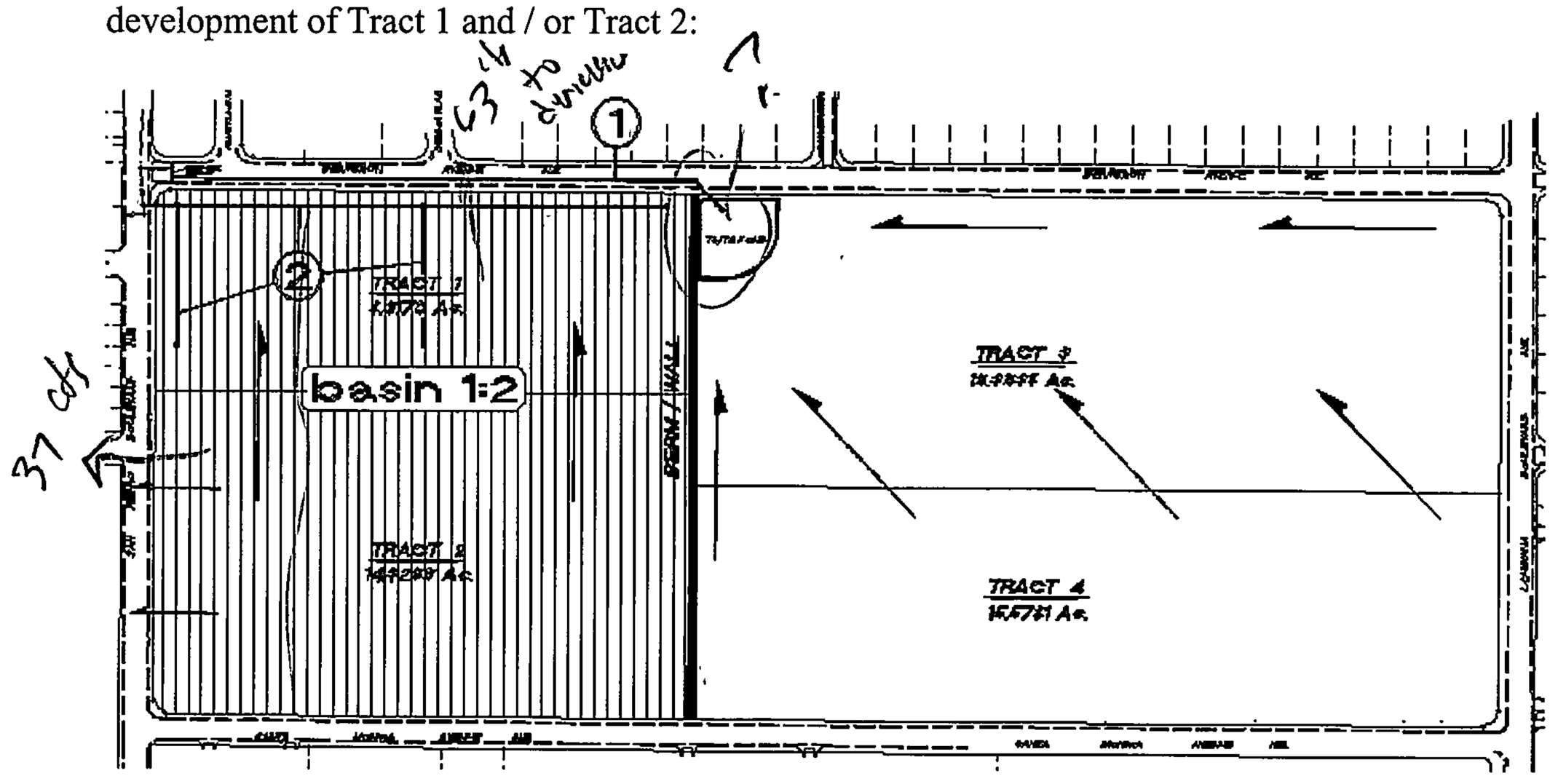
6. Basin 1:2 and Basin 3:4 may each free discharge 13 cfs to Derickson Ave. (in the fully developed condition) to be captured within the existing street and storm drain system. Additional public storm drain inlets may be constructed within Derickson Ave. to increase site free discharge.

7. Undeveloped tracts shall be graded to drain to detention ponds / desiltation basins.

grade now

PROPOSED DRAINAGE: BASIN 1:2 PHASE

The following drainage infrastructure is to be designed and constructed as part of the development of Tract 1 and / or Tract 2:



1. If not yet constructed, construct Phase 1 infrastructure as outlined in this report.

2. Extend San Pedro storm drain system to Tracts 1 and / or 2 at desired location. Provide complete calculations and size accordingly based on fully developed conditions.

a. As part of drainage calculations, analyze San Pedro Blvd. street capacity to determine availability for free discharging a portion of Basin 1:2. - from previous 36.7 cfs

b. Existing off-site developed discharge within San Pedro = 145.9 cfs. See Existing Flow Exhibit from Drainage Report for Monterra Del Rey, Units 1-3 (see supplemental information).

c. Per Phase I development, Basin 1:2 is permitted 13 cfs of free discharge to Derickson Ave. (in the fully developed condition) to be captured within the existing street and storm drain system. Additional public storm drain inlets may be constructed within Derickson Ave. to increase site free discharge.

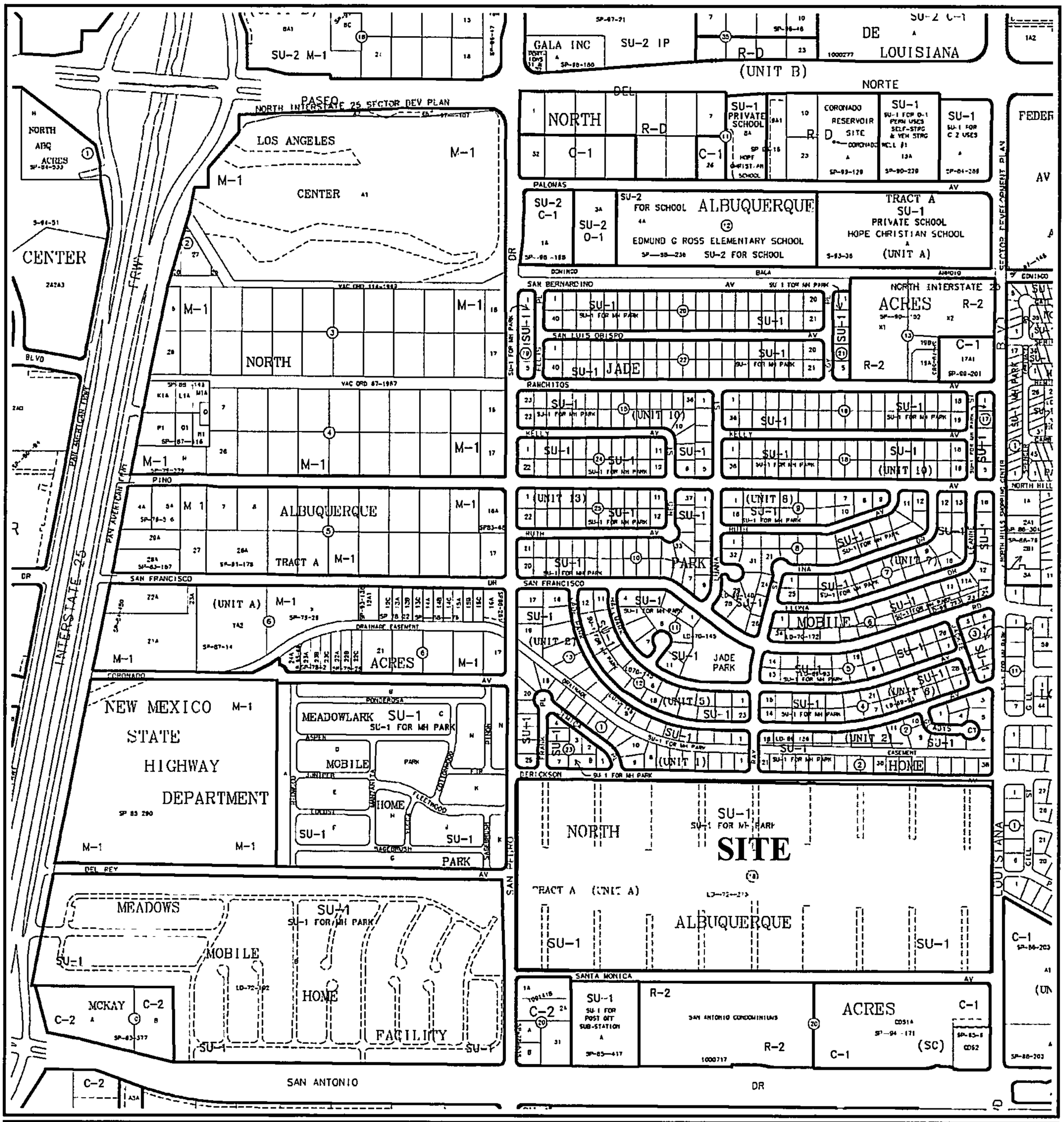
d. All discharge from undeveloped property to Derickson Ave. and San Pedro Blvd. must first pass through a desiltation pond to minimize suspended solids from passing to public roadways.

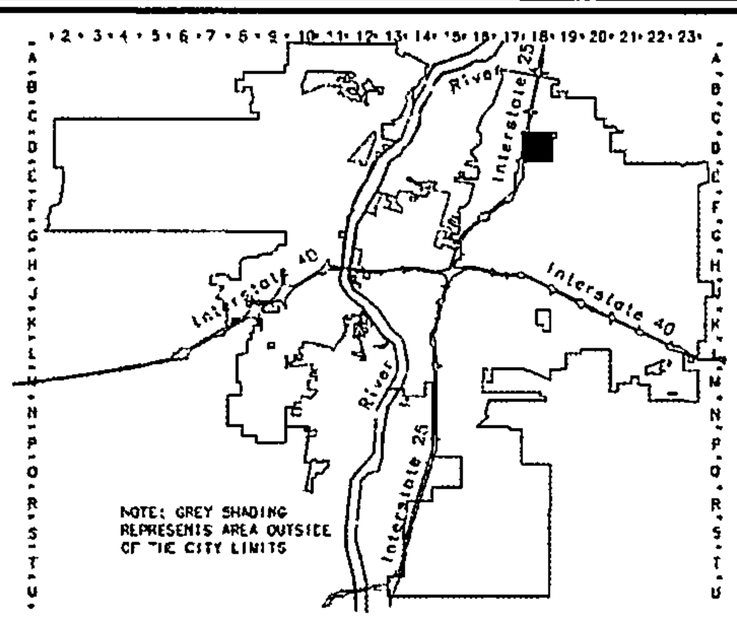
SUPPLEMENTAL INFORMATION

COA Vicinity Map D-18-Z

FIRMETTE from FIRM Map No. 35001C0137G

Existing Flow Exhibit from Drainage Report for Monterra Del Rey, Units 1-3





Albuquerque Geographic Information System
PLANNING DEPARTMENT

©Copyright 2004

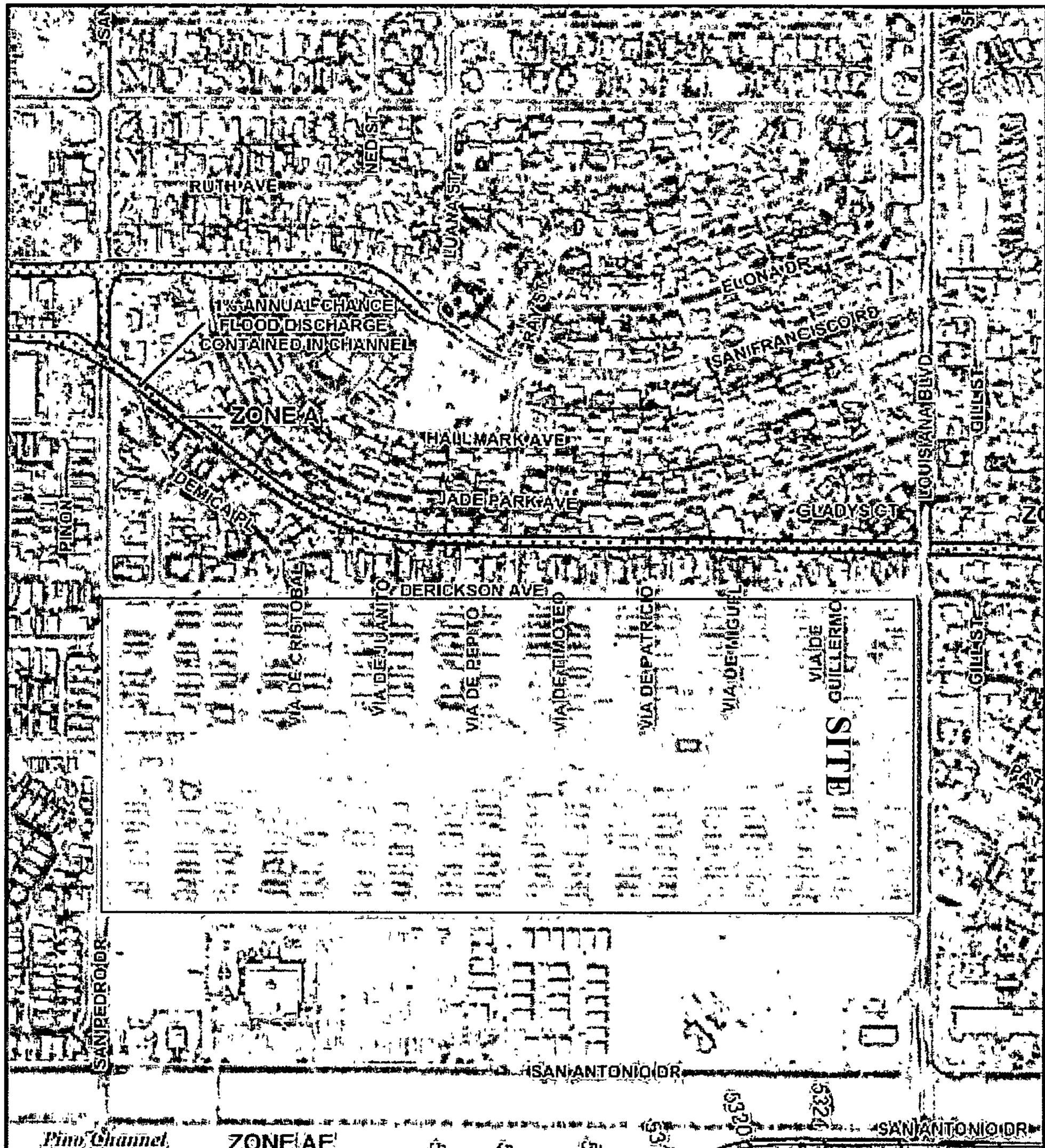
GRAPHIC SCALE IN FEET

250 0 750 1000

Zone Atlas Page

D-18-Z

Map Amended through February 01, 2005



MAP SCALE 1" = 500'

50 0 500 1000 FEET

NFIP

PANEL 0137G

FIRM

FLOOD INSURANCE RATE MAP

BERNALILLO COUNTY, NEW MEXICO

AND INCORPORATED AREAS

PANEL 137 OF 825

(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
ALBUQUERQUE, CITY OF	350002	0137	G
BERNALILLO COUNTY UNINCORPORATED AREAS	350001	0137	G

Notice to User: The Map Number shown below should be used when placing map orders; the Community Number shown above should be used on insurance applications for the subject community.

MAP NUMBER
35001C0137G

MAP REVISED
SEPTEMBER 26, 2008

Federal Emergency Management Agency

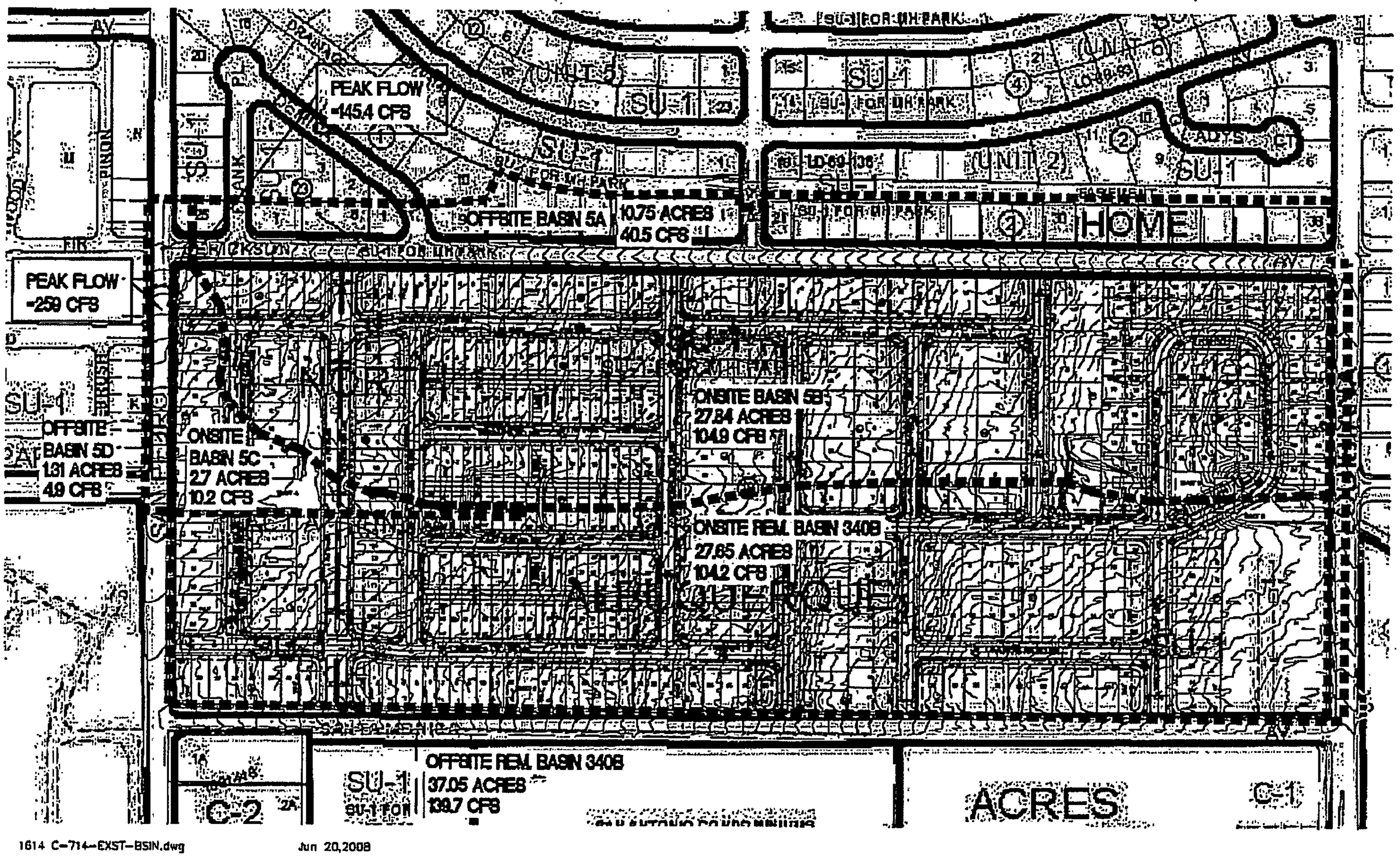
NATIONAL FLOOD INSURANCE PROGRAM

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

NOTE: A PORTION OF BASIN 5 (AS SHOWN IN THE SAN PEDRO COLLECTOR STUDY PHASE REPORT) DRAINS TO SAN PEDRO

MONTERRA DEL REY, UNITS 1-3
EXISTING FLOW EXHIBIT

1"=300'



1614 C-714-EXST-BSIN.dwg Jun 20,2008

CITY OF ALBUQUERQUE

August 28, 2012

Fred C. Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Broadstone Santa Monica Place, Wall Permit
Grading and Drainage Plan
Engineer's Stamp dated 08-09-2012 (D18/D054)

Dear Mr. Arfman,

Based upon the information provided in your submittal received 08-09-2012, the above referenced submittal is approved for Grading and Wall Permit. Please attach a copy of the approved plans to the construction sets prior to sign-off by Hydrology.

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

Sincerely,

Shahab Biazar, P.E.
Senior Engineer, Planning Dept.
Development and Building Services

C: e-mail

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18 / D054
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Tracts 2, Santa Monica Place
CITY ADDRESS: Santa Monica Ave. & San Pedro Blvd

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Åsa Nilsson-Weber
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Titan Development
ADDRESS: 6300 Riverside Plaza Lane NW - #200
CITY, STATE: Albuquerque, NM
CONTACT: Kurt Browning
PHONE: _____
ZIP CODE: 87120

ARCHITECT: NA
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc.
ADDRESS: _____
CITY, STATE: _____
CONTACT: Russ P. Hugg,
PHONE: 897-3366
ZIP CODE: _____

CONTRACTOR: N/A
ADDRESS: _____
CITY, STATE: _____
CONTACT: _____
PHONE: _____
ZIP CODE: _____

TYPE OF SUBMITTAL:

- ☐ ___ DRAINAGE REPORT
- ☐ ___ DRAINAGE PLAN 1st SUBMITTAL
- ☐ ___ DRAINAGE PLAN RESUBMITTAL
- ☐ ___ CONCEPTUAL G & D PLAN
- ☐ ___ GRADING PLAN
- ☐ ___ EROSION CONTROL PLAN
- ☐ ___ ENGINEER'S CERT (HYDROLOGY)
- ☐ ___ CLOMR/LOMR
- ☐ ___ TRAFFIC CIRCULATION LAYOUT
- ☐ ___ ENGINEER/ARCHITECT CERT (TCL)
- ☐ ___ ENGINEER/ARCHITECT CERT (DRB S.P.)
- ☐ ___ ENGINEER/ARCHITECT CERT (AA)
- ☒ OTHER (SPECIFY) SUPPLEMENTAL INFO.

CHECK TYPE OF APPROVAL 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
- ☐ _____ FOUNDATION PERMIT APPROVAL
- ☐ _____ BUILDING PERMIT APPROVAL
- ☐ _____ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ _____ CERTIFICATE OF OCCUPANCY (TEMP)
- ☐ _____ GRADING PERMIT APPROVAL
- ☐ _____ PAVING PERMIT APPROVAL
- ☐ _____ WORK ORDER APPROVAL
- ☒ _____ OTHER (SPECIFY) GRADING/WALL PERMIT

RECEIVED
AUG 0 9 2012
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

SUBMITTED BY: Fred C. Arfman, PE
Isaacson & Arfman, P.A.
DATE: August 9, 2012

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 define 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.

Cherne, Curtis

From: Cherne, Curtis
Sent: Friday, March 22, 2013 1:56 PM
To: 'Fred Arfman'
Cc: Sims, Timothy E.
Subject: RE: Broadstone Santa Monica
Attachments: image001.jpg

Fred,
I offer the following comments.
1. The Building No.s block should be bigger as you will not be able to write more than a couple.
2. I would like a hand written signature and date for each certification.
3. You could place your seal on this block and write on the top of it.
4. Seems you could delete the paragraph that begins with "This certification dated...."

The "rolling" cert is good so that we can replace an older cert with this one and the file will not get to thick.

Curtis

From: Fred Arfman [mailto:freda@iacivil.com]
Sent: Wednesday, March 13, 2013 1:58 PM
To: Cherne, Curtis
Subject: Broadstone Santa Monica

Curtis,

Please find attached our modified certification for multiple "Rolling" certs that we find appropriate for use on the subject project. Each signature and date will be inserted electronically to provide a running chronology of the total project. Each submittal will be accompanied by an updated plan showing the as-built grades and the individual limits of each cert.

Please reply with your thought s or concurrence with our methodology.

Fred

Fred C. Arfman, P.E.
Principal/ President
Isaacson & Arfman, P.A.
Consulting Engineering Associates
128 Monroe St. N.E.
Albuquerque, NM 87108
Phone: (505) 268-8828
Fax: (505) 268-2632
freda@iacivil.com

D18 D054

DRAINAGE CERTIFICATION

I, Fred C. Arfman, NMPE 7322, of the firm Isaacson & Arfman, P.A., hereby certify that this project has been graded and will drain in substantial compliance with and in accordance with the design intent of the approved plan dated April 10, 2012. The record information edited onto the original design document has been obtained by Russ P. Hugg, NMPS 9750, of the firm Surv-Tek, Inc. I further certify that I have personally visited the project site at various times as documented below and have determined by visual inspection that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief. This certification is submitted in support of a request for Permanent Certification of Occupancy for those individual buildings listed below.

This certification dated March 8, 2013 covers the initial building as identified table shown hereon and subsequent building certifications shall be identified in the table as a rolling certification.

Building No(s).	Certification / DATE	Date OF SITE VISIT

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the grading and drainage aspects of this project. Those relying on this record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

Fred C. Arfman NMPE 7322

Date

Bernalillo County, NM
One Civic Plaza NW
P.O. Box 542
Albuquerque, NM 87102

Receipt: 0371712

Product	Name	Extended
EASE	Easement	$25.00
	# Pages	4
	Document #2012061477	
	# Of Entries	0
	In Person/Interested Person	false
EASE	Easement	$25.00
	# Pages	5
	Document #2012061478	
	# Of Entries	0
	In Person/Interested Person	false
Total		$50.00

Tender (Check) $50.00
Check# 1016
Paid By Del Rey Investments

Thank You!

6/19/12 3:28 PM jusanchez

5/30/12
FIC

PERMANENT EASEMENT

6-18-2012

Grant of Permanent Easement, between Del Rey Investments, LLC ("Grantor"), whose address is 6300 Riverside Plaza Lane NW, Suite 200, Albuquerque, NM 87120 and the City of Albuquerque, a New Mexico municipal corporation ("City"), whose address is P.O. Box 1293, Albuquerque, NM, 87103.

Grantor grants to the City an exclusive, permanent easement ("Easement") in, over, upon and across the real property described on Exhibit "A" attached hereto ("Property") for the construction, installation, maintenance, repair, modification, replacement and operation of Public easement sidewalks, together with the right to remove trees, bushes, undergrowth and any other obstacles upon the Property if the City determines they interfere with the appropriate use of this Easement. Grantor reserves the right to construct improvements and the term exclusive does not preclude other utility crossings.

In the event Grantor constructs any improvements ("Improvements") within the Easement, the City has the right to enter upon Grantor's property at any time and perform whatever inspection, installation, maintenance, repair, modification or removal ("Work") it deems appropriate without liability to the City. If the Work effects any Improvements or encroachments made by the Grantor, the City will not be financially or otherwise responsible for rebuilding or repairing the Improvements or encroachments. If in the opinion of the City, the Work to be performed by the City could endanger the structural integrity or otherwise damage the Improvements or encroachments, the Grantor shall, at its own expense, take whatever protective measures are required to safeguard the Improvements or encroachments.

Grantor covenants and warrants that Grantor is the owner in fee simple of the Property, that Grantor has a good lawful right to convey the Property or any part thereof and that Grantor will forever warrant and defend the title to the Property against all claims from all persons or entities.

The grant and other provisions of this Easement constitute covenants running with the Property for the benefit of the City and its successors and assigns until terminated.

This Easement shall not be effective until approved by the City Engineer in the signature block below.

APPROVED:

Richard Dourte, City Engineer
Date: 6-18-12

6-18-12

06-14-2012

Doc# 2012061478
06/19/2012 03:28 PM Page: 1 of 5
EASE R:$25.00 M. Toulouse Oliver, Bernalillo County

GRANTOR: Del Rey Investments LLC

By: BFS

Print Name: Ben F Spencer

Title: Manager

Date: 6-5-12

INDIVIDUAL'S NOTARY

STATE OF _____)
)ss
COUNTY OF _____)

This instrument was acknowledged before me on _____ day of _____, 20___, by _____ (name of individual).

(SEAL)

My Commission Expires:

_____

_____
Notary Public

CORPORATION'S NOTARY

STATE OF New Mexico)
)ss
COUNTY OF Bernalillo)

This instrument was acknowledged before me on 5th day of June, 2012, by Ben F. Spencer (name), Manager (title) of Del Rey Investments LLC (entity), a New Mexico (i.e. a New Mexico) corporation, on behalf of the corporation.

(SEAL)

OFFICIAL SEAL
JACQUELINE L. MYERS
NOTARY PUBLIC
STATE OF NEW MEXICO
My Commission Expires: 4-7-14

My Commission Expires:

4-7-14

Jacqueline L. Myers
Notary Public

PARTNERSHIP'S NOTARY

STATE OF _____)
)ss
COUNTY OF _____)

This instrument was acknowledged before me on ____ day of _____, 20___, by _____(name), partner(s), on behalf of _____(entity), a partnership.

(SEAL)

My Commission Expires:

_____

_____
Notary Public

LEGAL DESCRIPTION - PUBLIC SIDEWALK EASEMENTS NO. 1 & NO. 2

Two easements within the Elena Gallegos Grant, in Projected Section 24, Township 11 North, Range 3 East, New Mexico Principal Meridian, City of Albuquerque, Bernalillo County, New Mexico, comprising a southerly portion of Tract 2, Santa Monica Place, as the same is shown and designated on the plat entitled "BULK LAND PLAT OF TRACTS 1 THRU 4, SANTA MONICA PLACE (BEING A REPLAT OF BLOCKS 18 AND 19, TRACT A, UNIT A, NORTH ALBUQUERQUE ACRES, AND A VACATED PORTION OF DEL REY AVENUE N.E.) SITUATE WITHIN THE ELENA GALLEGOS GRANT IN PROJECTED SECTION 24, TOWNSHIP 11 NORTH, RANGE 3 EAST, NEW MEXICO PRINCIPAL MERIDIAN, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO", filed in the office of the County Clerk of Bernalillo County, New Mexico, on January 6, 2012, in Plat Book 2012C, Page 2, as Document No. 2012001338, more particularly described by New Mexico State Plane Grid Bearings (Central Zone - NAD 83) and ground distances as follows:

BEGINNING at the westerly corner of PUBLIC SIDEWALK EASEMENT NO. 1, said point also being a point on the southerly boundary of said Tract 2, Santa Monica Place, and also being a point on the northerly right of way line of Santa Monica Avenue N.E., whence (1) the point of tangency at the southwesterly corner and the southerly boundary of said Tract 2, Santa Monica Place bears N 89°36′23″ W, 355.64 feet distant, and (2) Albuquerque Control Survey Monument "I-25-14" bears N 75°22′46″ W, 2,942.88 feet distant; Thence,

N 65°54′19″ E, 21.18 feet to the northeasterly corner of the easement herein described; Thence,

S 00°24′12″ W, 8.78 feet to the southeasterly corner of the easement herein described, said point also being a point on said southerly boundary of Tract 2, Santa Monica Place; Thence,

N 89°36′23″ W, 19.27 feet to the point of beginning.

Said easement contains 0.0019 acres, more or less.

EXHIBIT
A
Page 1 of 3

PROFESSIONAL SURVEYOR
STATE OF NEW MEXICO
RUSS P. HUGG

BEGINNING at the southwesterly corner of PUBLIC SIDEWALK EASEMENT NO. 2 , said point also being a point on the southerly boundary of said Tract 2, Santa Monica Place, and also being a point on the northerly right of way line of Santa Monica Avenue N.E., whence the southeasterly corner of said PUBLIC SIDEWALK EASEMENT NO. 1 bears N 89°36′23″ W, 61.41 feet distant; Thence,

N 00°24′12″ E, 9.35 feet to the northwesterly corner of the easement herein described; Thence,

S 61°33′15″ E, 19.89 feet distant to the easterly corner of the easement herein described, said point also being a point on said southerly boundary of Tract 2, Santa Monica Place, whence the southeasterly corner of said Tract 2, Santa Monica Place bears S 89°36′23″ E, 549.19 feet distant; Thence,

N 89°36′23″ W, 17.56 feet to the point of beginning.

Said easement contains 0.0019 acres, more or less.

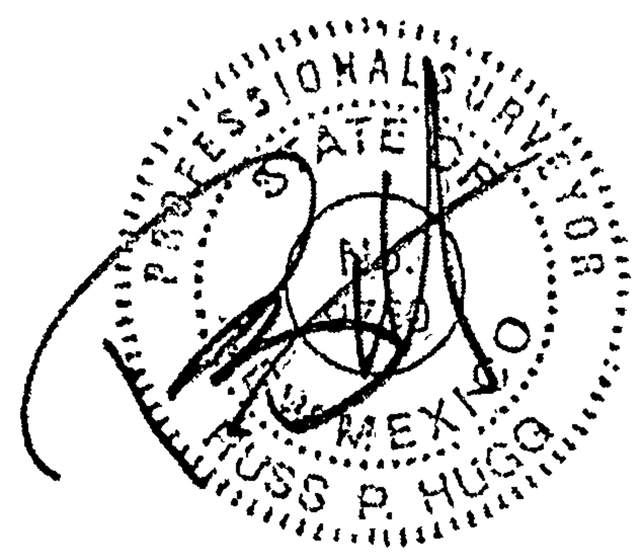
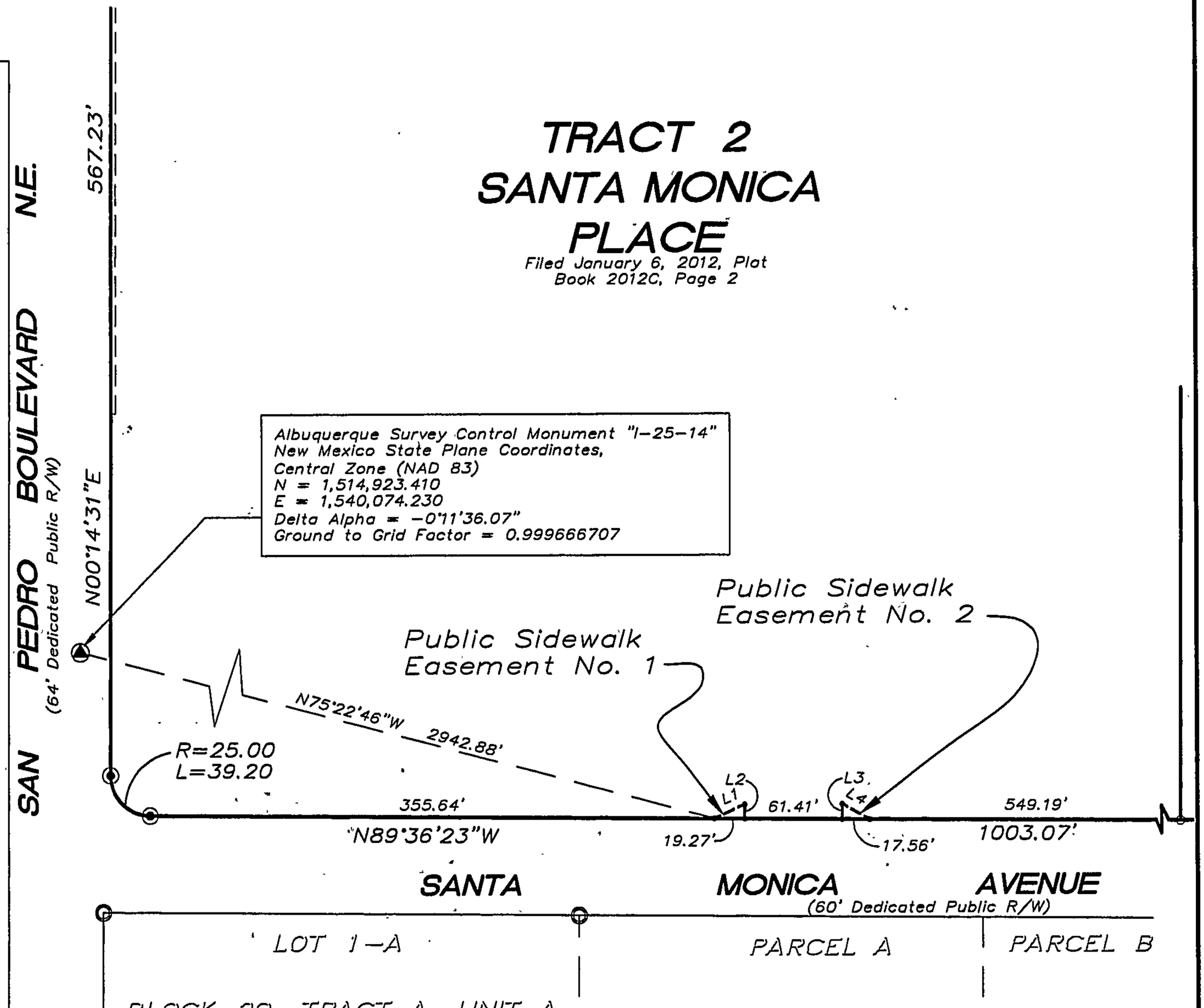


EXHIBIT
A
Page 2 of 3

EXHIBIT
A
Page 3 of 3

TRACT 2
SANTA MONICA PLACE

Filed January 6, 2012, Plat Book 2012C, Page 2



LINE TABLE		
LINE	LENGTH	BEARING
L1	21.18	N65°54'19"E
L2	8.78	S00°24'12"W
L3	9.35	N00°24'12"E
L4	19.89	S61°33'15"E

Scale 1" = 100'

110517 EASE A AND B 032812.dwg

SURVTEK, INC.
Consulting Surveyors
9384 Valley view Drive N.W. Albuquerque, New Mexico 87114
Phone: 505-897-3366
Fax: 505-897-3377

CITY OF ALBUQUERQUE

May 11, 2012

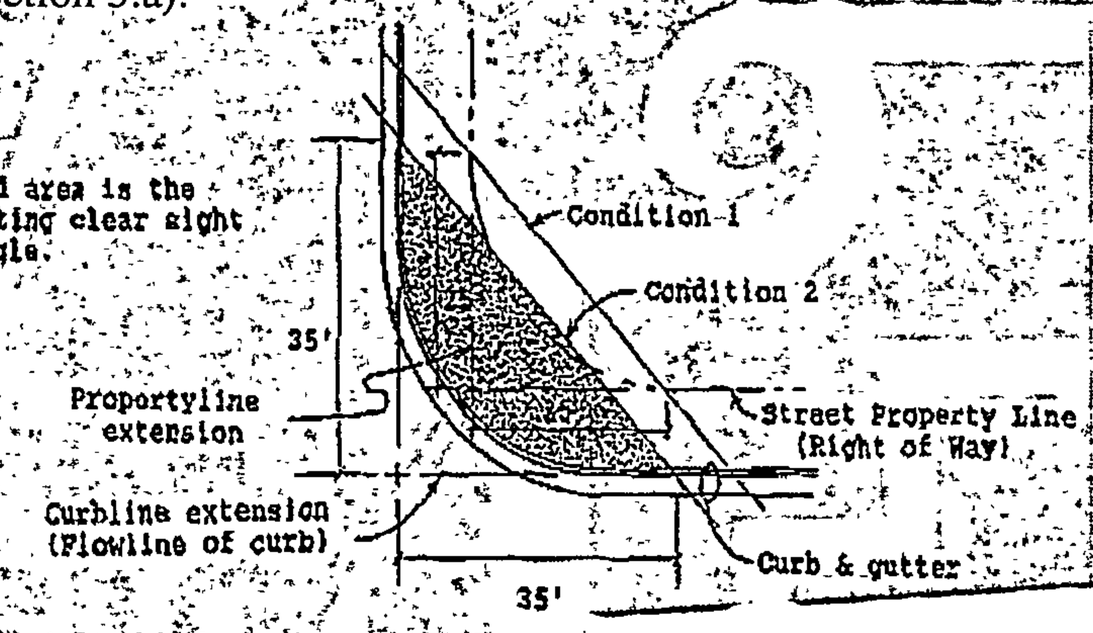
Fred Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: Santa Monica Place, 6401 Santa Monica Avenue NE,
Traffic Circulation Layout
Engineer's Stamp dated 03-07-12 (D18-D054)

Dear Mr. Arfman,

Based upon the information provided in your submittal received 05-01-12, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

1. List radii for all curves shown.
2. Include a copy of detail sheet A1.20.
3. Please show a vicinity map and include the legal description on the plan.
4. Define width of all sidewalk, existing and proposed.
5. Please include two copies of the traffic circulation layout at the next submittal.
6. Indicate what items are being built under the City work order process.
7. All ramps located within City right of way must have truncated domes.
8. Provide a copy of the standard carport detail.
9. All unused curb cuts must be removed and replaced with standard curb & gutter and sidewalk per City standards.
10. The proposed fencing may interfere with the sight distance of the intersection. Please provide a sight distance exhibit (see the *Development Process Manual*, Chapter 23, Part B, Section 5.a).



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

Sincerely,

Kristal D. Metro, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

C: File

Trans

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Santa Monica Place Tracts 1-4 ZONE MAP/DRG.FILE# D-18-~~Z~~ D054.
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Tracts 2, Santa Monica Place
CITY ADDRESS: Santa Monica Ave. & San Pedro Blvd — 6401 Santa Monica
1003916

ENGINEERING FIRM: ISAACSON AND ARFMAN CONTACT: Åsa Nilsson-Weber
ADDRESS: 128 MONROE N.E. PHONE: 268-8828
CITY, STATE: ALBUQUERQUE, NM ZIP CODE: 87108

OWNER: Del Rey Investments c/o Titan Dev. Co. CONTACT: Kurt Browning
ADDRESS: 6300 Riverside Plaza Lane NW - #200 PHONE: _____
CITY, STATE: Albuquerque, NM ZIP CODE: 87120

ARCHITECT: ORB Architects CONTACT: Rich Barber
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc. CONTACT: Russ P. Hugg,
ADDRESS: _____ PHONE: 897-3366
CITY, STATE: _____ ZIP CODE: _____

CONTRACTOR: N/A CONTACT: _____
ADDRESS: _____ PHONE: _____
CITY, STATE: _____ ZIP CODE: _____

TYPE OF SUBMITTAL:
- ☐ ___ DRAINAGE REPORT
- ☐ ___ DRAINAGE PLAN 1st SUBMITTAL
- ☐ ___ DRAINAGE PLAN RESUBMITTAL
- ☐ ___ CONCEPTUAL G & D PLAN
- ☐ ___ GRADING PLAN
- ☐ ___ EROSION CONTROL PLAN
- ☐ ___ ENGINEER'S CERT (HYDROLOGY)
- ☐ ___ CLOMR/LOMR
- ☒ ___ TRAFFIC CIRCULATION LAYOUT
- ☐ ___ ENGINEER/ARCHITECT CERT (TCL)
- ☐ ___ ENGINEER/ARCHITECT CERT (DRB S.P.)
- ☐ ___ ENGINEER/ARCHITECT CERT (AA)
- ☐ OTHER (SPECIFY)_____

CHECK TYPE OF APPROVAL 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
- ☐ _____ FOUNDATION PERMIT APPROVAL
- ☒ _____ BUILDING PERMIT APPROVAL
- ☐ _____ CERTIFICATE OF OCCUPANCY (PERM)
- ☐ _____ CERTIFICATE OF OCCUPANCY (TEMP)
- ☐ _____ GRADING PERMIT APPROVAL
- ☐ _____ PAVING PERMIT APPROVAL
- ☐ _____ WORK ORDER APPROVAL
- ☐ _____ OTHER (SPECIFY)

RECEIVED
MAY 01 2012
HYDROLOGY SECTION

WAS A PRE-DESIGN CONFERENCE ATTENDED:
- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

PE PLAT —

SUBMITTED BY: Fred C. Arfman, PE DATE: May 1, 2012
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 define 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.

CITY OF ALBUQUERQUE

May 18, 2012

Mr. Fred Arfman, PE
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

Re: 6401 Santa Monica Ave. NE, Broadstone Development, Engineer Stamp dated May 18, 2012, (D18/D054)

Dear Mr. Arfman,

The TCL submittal received May 18, 2012 is approved for Building Permit. The plan is stamped and signed as approved. A copy of this plan will be needed for each of the building permit plans. Please keep the original to be used for certification of the site for final C.O. for Transportation. **Public infrastructure or work done within City Right-of-Way shown on these plans is for information only and is not part of approval. A separate DRC and/or other appropriate permits are required to construct these items.**

If a temporary CO is needed, a copy of the original TCL that was stamped as approved by the City will be needed. This plan must include a statement that identifies the outstanding items that need to be constructed or the items that have not been built in "substantial compliance," as well as the signed and dated stamp of a NM registered architect or engineer. Submit this TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

When the site is completed and a final C.O. is requested, use the original City stamped approved TCL for certification. A NM registered architect or engineer must stamp, sign, and date the certification TCL along with indicating that the development was built in "substantial compliance" with the TCL. Submit this certification TCL with a completed Drainage and Transportation Information Sheet to Hydrology at the Development Services Center of Plaza Del Sol Building.

Once verification of certification is completed and approved, notification will be made to Building Safety to issue Final C.O. To confirm that a final C.O. has been issued, call Building Safety at 924-3306.

Sincerely,

Richard Dourte, P.E.
City Engineer, Planning Dept.
Development and Building Services

C: File

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov

DRAINAGE AND TRANSPORTATION INFORMATION SHEET
(Rev. 12/05)

PROJECT TITLE: Broadstone Santa Monica ZONE MAP/DRG.FILE# D-18-Z D054
DRB#: _____ EPC#: _____ WORK ORDER#: _____

LEGAL DESCRIPTION: Tract 2, Santa Monica Place
CITY ADDRESS: Santa Monica Ave. & San Pedro Blvd

ENGINEERING FIRM: ISAACSON AND ARFMAN
ADDRESS: 128 MONROE N.E.
CITY, STATE: ALBUQUERQUE, NM
CONTACT: Åsa Nilsson-Weber
PHONE: 268-8828
ZIP CODE: 87108

OWNER: Titan Development
ADDRESS: 6300 Riverside Plaza Lane NW - #200
CITY, STATE: Albuquerque, NM
CONTACT: Kurt Browning
PHONE: 889-3061
ZIP CODE: 87120

ARCHITECT: ORB ARCHITECTURE
ADDRESS: _____
CITY, STATE: _____
CONTACT: RICH BARBER
PHONE: _____
ZIP CODE: _____

SURVEYOR: Surv-Tek, Inc.
ADDRESS: _____
CITY, STATE: _____
CONTACT: Russ P. Hugg,
PHONE: 897-3366
ZIP CODE: _____

CONTRACTOR: ~~N/A~~ ALLIANCE RESIDENTIAL CO.
ADDRESS: _____
CITY, STATE: _____
CONTACT: KEITH COLEMAN
PHONE: (602) 778-2832
ZIP CODE: _____

TYPE OF SUBMITTAL:

- ☐ ___ DRAINAGE REPORT
- ☐ ___ DRAINAGE PLAN 1st SUBMITTAL
- ☐ ___ DRAINAGE PLAN RESUBMITTAL
- ☐ ___ CONCEPTUAL G & D PLAN
- ☐ ___ GRADING PLAN
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- ☐ ___ ENGINEER'S CERT (HYDROLOGY)
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- ☐ ___ GRADING PERMIT APPROVAL
- ☐ ___ PAVING PERMIT APPROVAL
- ☐ ___ WORK ORDER APPROVAL
- ☐ ___ OTHER (SPECIFY)

WAS A PRE-DESIGN CONFERENCE ATTENDED:

- ☒ YES
- ☐ NO
- ☐ COPY PROVIDED

RECEIVED
APR 18 2012
15 3:40 PM 17MAY2012

SUBMITTED BY: FRED ARFMAN, PE
Isaacson & Arfman, P.A.
DATE: MAY 18, 2012

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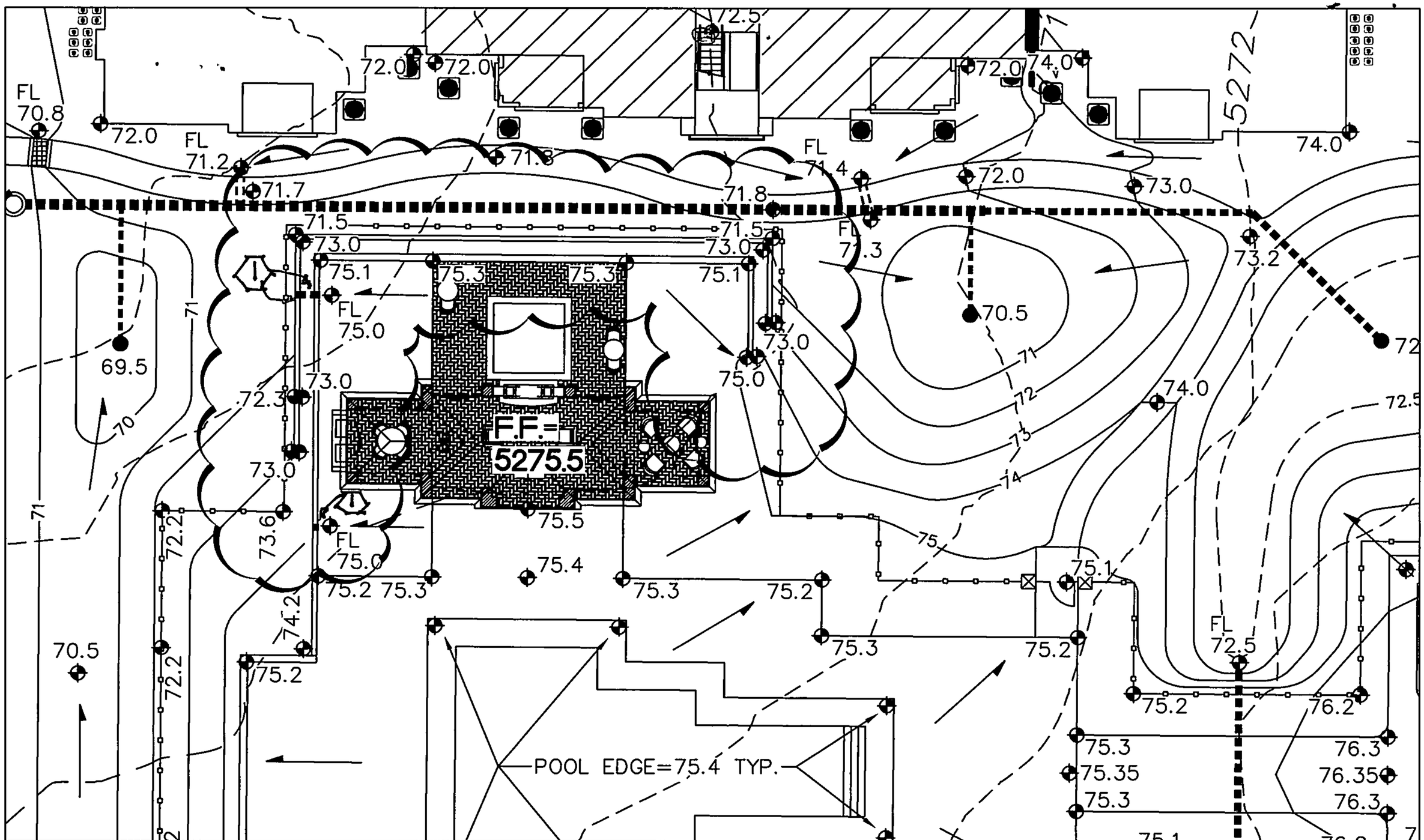

(1): PROVIDE 4" DIA DRAIN PIPE THROUGH WALLS. INV. OF PIPE TO BE 1" BELOW FINISH GRADE.

FRED C. ARFMAN
NEW MEXICO
7322
PROFESSIONAL ENGINEER

08-01-12

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

BROADSTONE SANTA MONICA
EXHIBIT

CITY OF ALBUQUERQUE

May 11, 2012

Fred Arfman, P.E.
Isaacson & Arfman, P.A.
128 Monroe St. NE
Albuquerque, NM 87108

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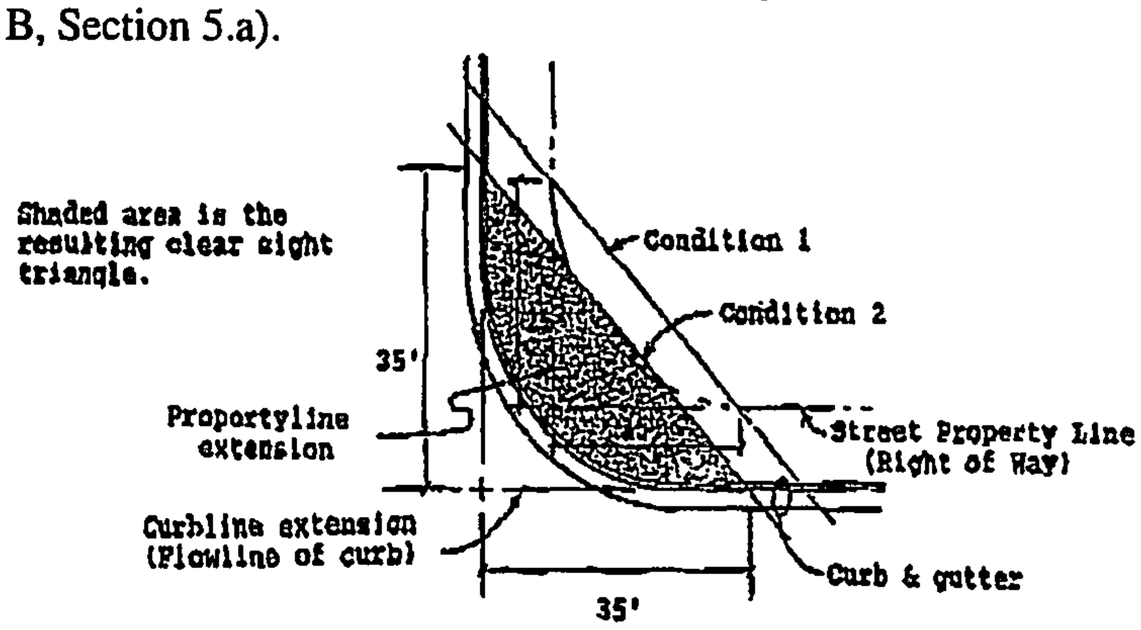


If you have any questions, you can contact me at 924-3991.

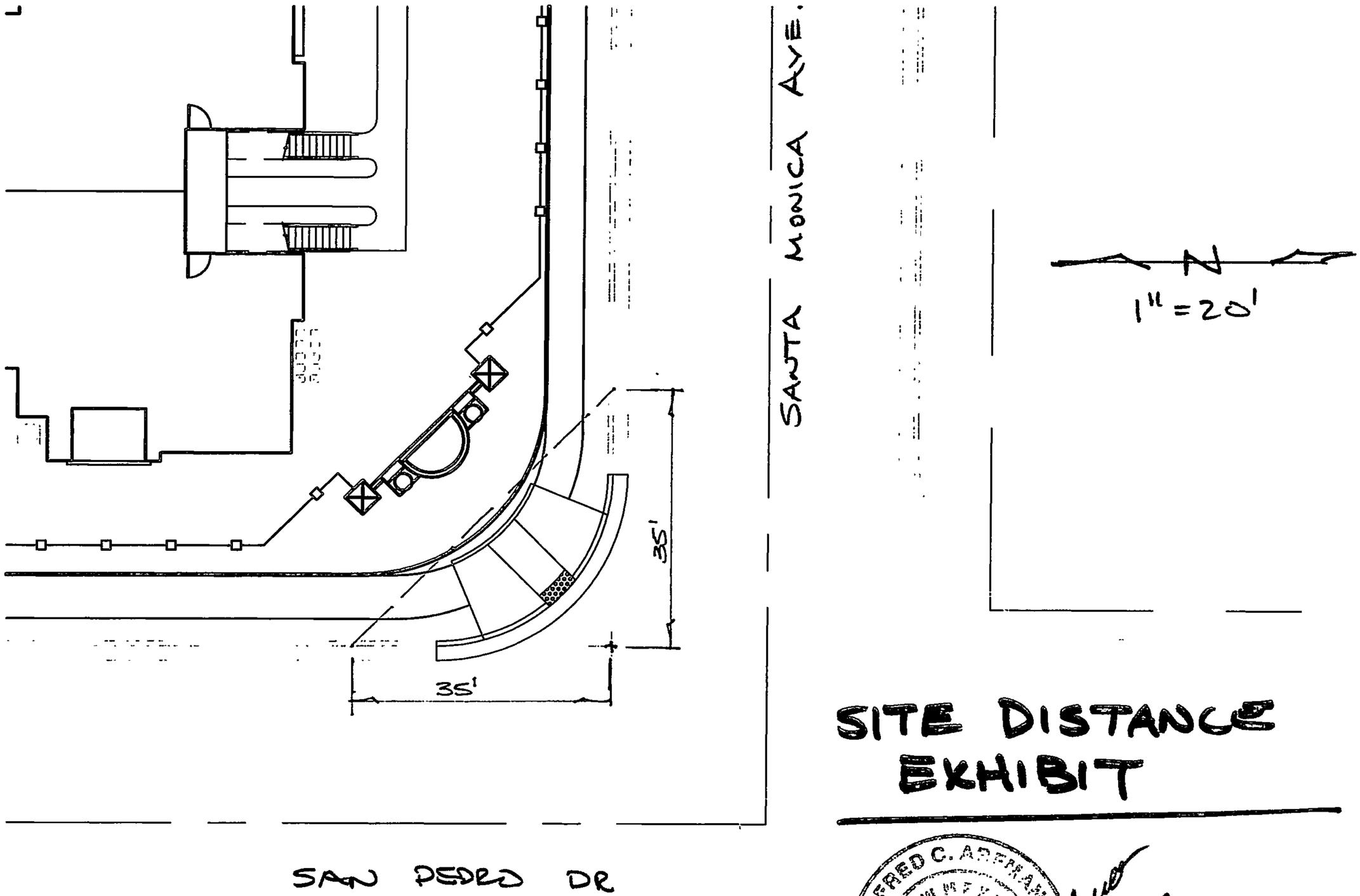
Sincerely,

Kristal D. Metro, P.E.
Traffic Engineer, Planning Dept.
Development and Building Services

RECEIVED
APR 17 2012

C: File

PO Box 1293
Albuquerque
NM 87103
www.cabq.gov



SITE DISTANCE EXHIBIT

FRED C. ABRAM
REGISTERED
7322
PROFESSIONAL ENGINEER

05-14-12

1 OF 4

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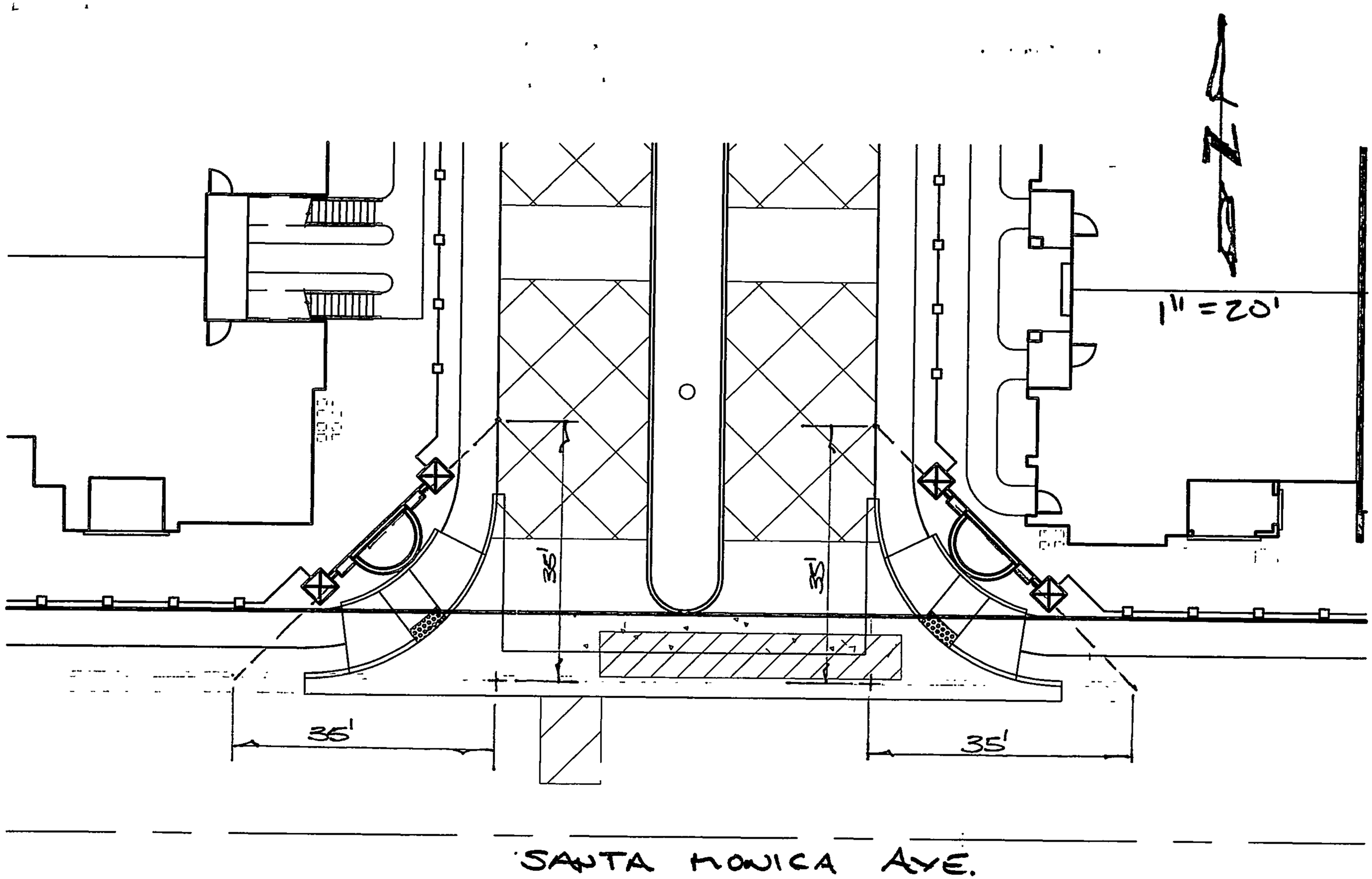

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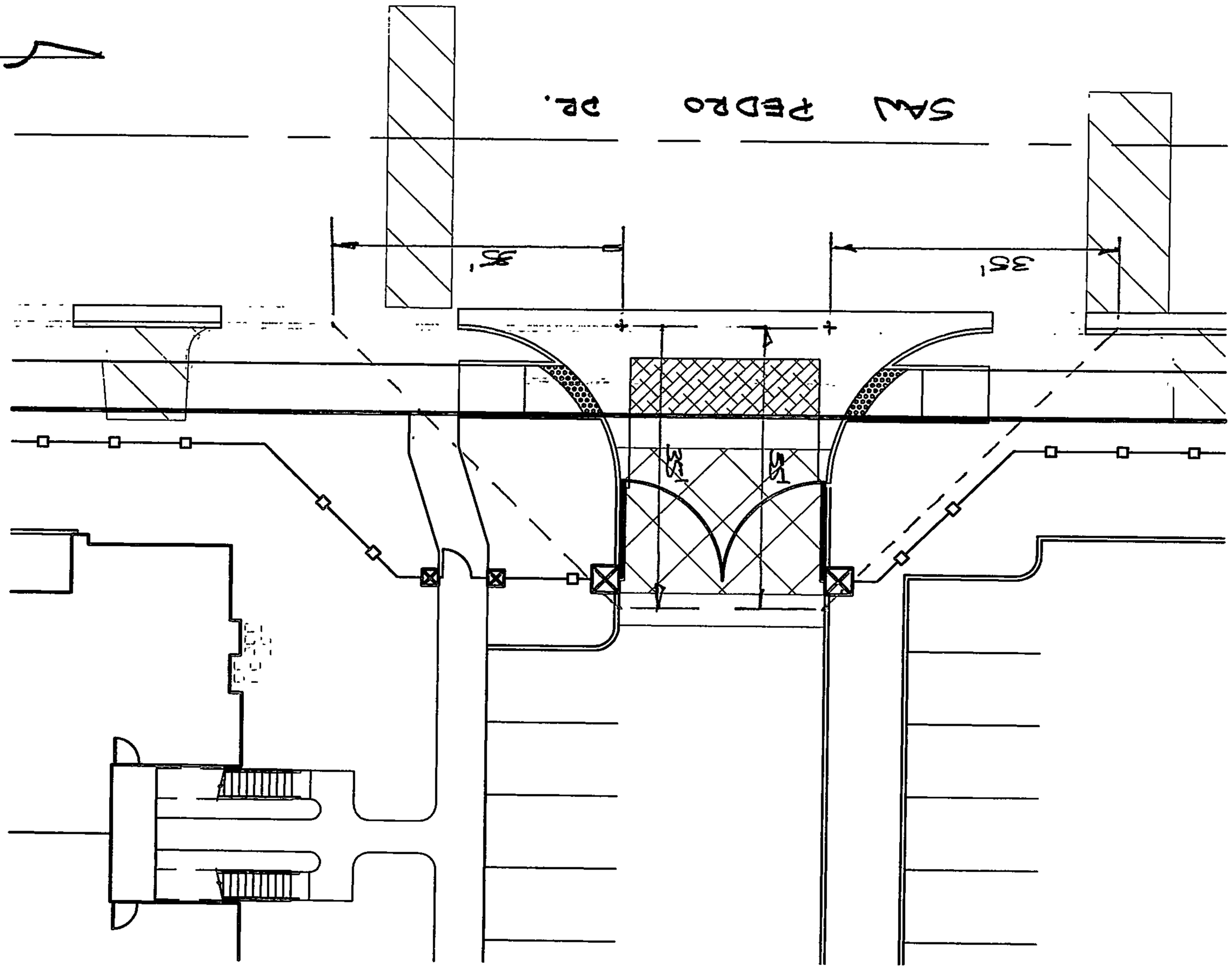
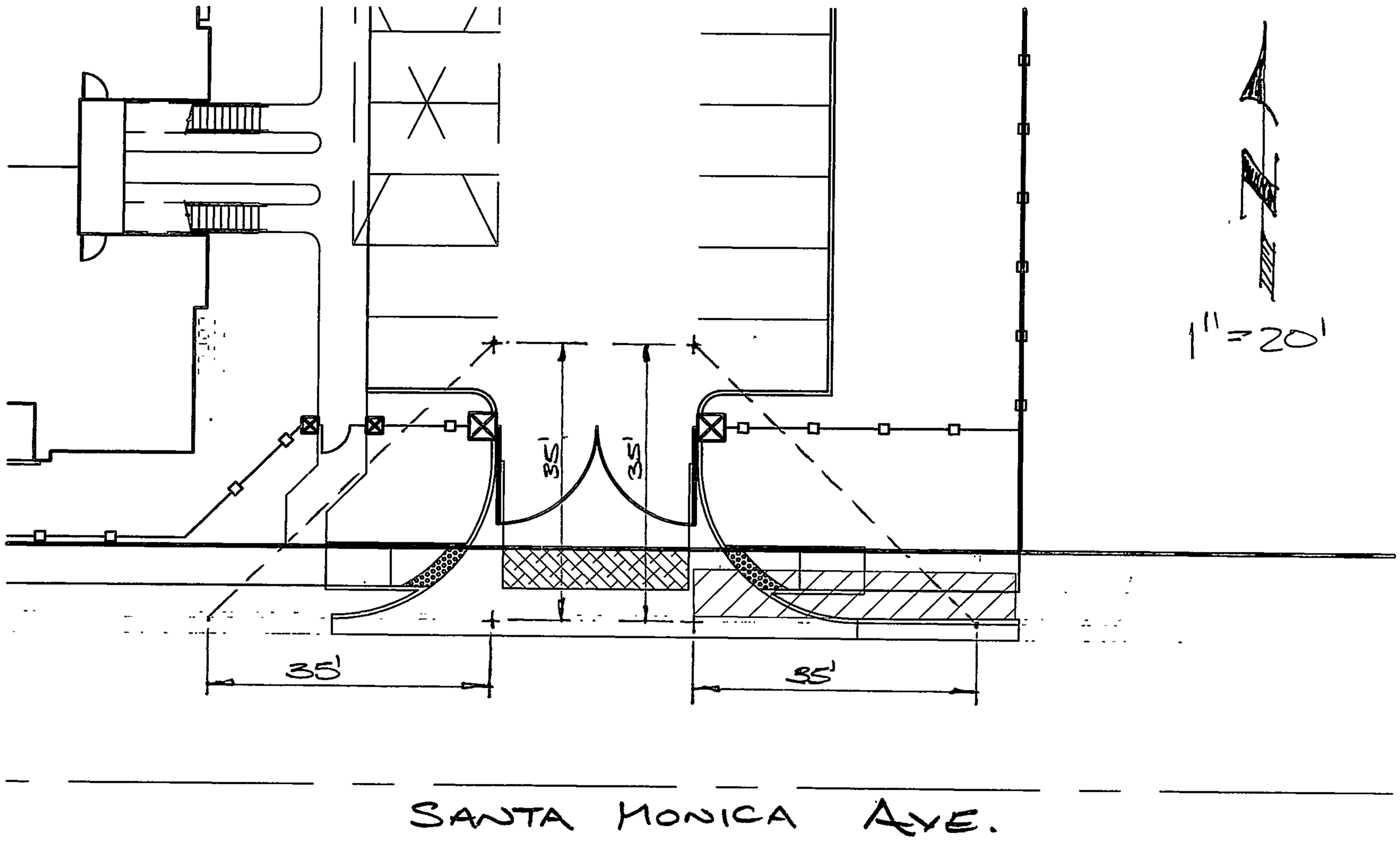
3 of 4

1" = 20'





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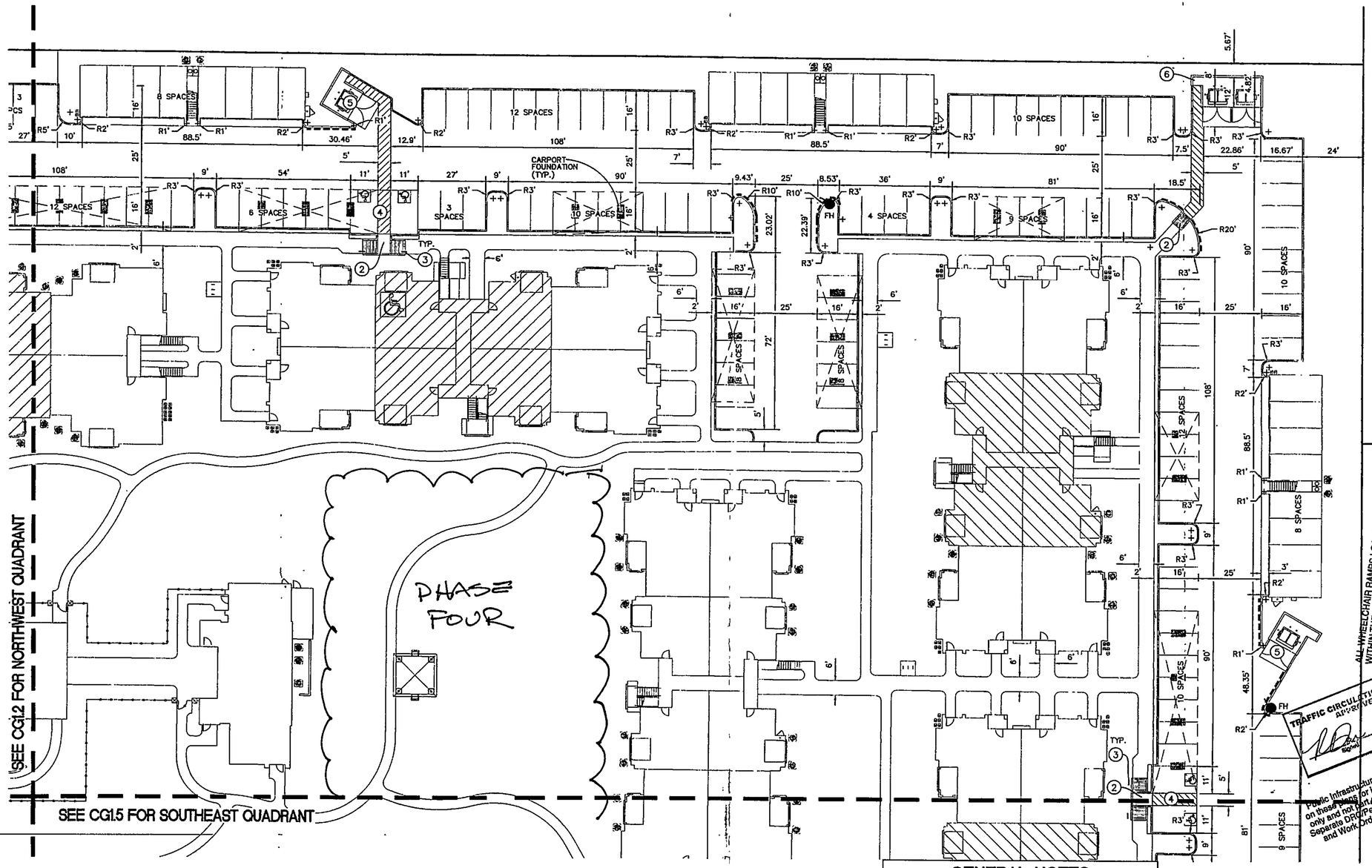


BROADSTONE SANTA MONICA

6401 SANTA MONICA AVENUE NE
Albuquerque, New Mexico

Office of Rich Barber Architecture, LLC
ORB

WorldHQ@ORBArch.com

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER
05-17-12
05-18-12

TITAN DEVELOPMENT

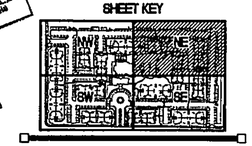
ALLIANCE RESIDENTIAL COMPANY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
Ph. 505-268-8828 www.iacivil.com
1900 CP-202.dwg May 17,2012

LEGEND

- PCC HIGH DENSITY PAVERS
- PCC COLORED PAVING
- 4" WIDE PAINTED (BLUE) PARKING STRIPES, 3' ON CENTER.
- PAINT CURB RED & PAINT TEXT "FIRE LANE NO PARKING"

SHEET KEY



Contractor must verify all dimensions at project before proceeding with this work.

Do not reproduce these drawings and specifications without the expressed written permission of the Architect. The drawings and specifications are instruments of service and shall remain the property of the Architect whether the project for which they are made is executed or not. These drawings and specifications shall not be used by anyone on any other projects, for additions to this project, or for completion of this project by others except by the expressed written permission of the Architect.
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GENERAL NOTES

1. BASIS OF BEARINGS: PLAT OF LOTS 1–4, SANTA MONICA PLACE; (BK. 2012C, PG. 0002; REC: 01–06–2012).
2. COORDINATE PAIRS ARE NEW MEXICO STATE PLANE COORDINATES, CENTRAL ZONE.
3. SEE ARCHITECTURAL DETAIL SHEET, A1.20 FOR SITE STRIPING AND ACCESSIBILITY DETAILS.
4. ALL STANDARD PARKING SPACES ARE 9'–0" WIDE BY 18'–0" DEEP UNLESS OTHERWISE NOTED.
5. ALL ACCESSIBLE PARKING STALLS ARE 11'–0" WIDE BY 20'–0" DEEP.
6. ALL DIMENSIONING IS TO FACE OF CURB/EDGE OF TURNDOWN SIDEWALKS/ENTRANCE OF PARKING STALLS.
7. REMOVE ALL UNUSED CURB CUTS WITHIN THE PUBLIC ROW AND REPLACE WITH COA STD CURB & GUTTER AND PCC SIDEWALKS AS SHOW ON THE PUBLIC WORK ORDER DRAWINGS NO. 689983.
8. ALL IMPROVEMENTS SHOWN IN THE PUBLIC ROW TO BE CONSTRUCTED PER PUBLIC WORK ORDER DRAWINGS NO. 689983.
9. ALL ONSITE SIDEWALKS ARE 4' IN WIDTH UNLESS OTHERWISE NOTED/DIMENSIONED.

ⓧ KEYED NOTES

1. PAVED AREAS, SEE PAVING PLAN FOR LIMITS AND TYPE OF PAVING.
2. ADA RAMP, SEE DETAIL 08/A1.20.
3. ACCESSIBLE PARKING SIGN, SEE DETAIL 04/A1.20.
4. ACCESSIBLE PARKING STALL, SEE DETAILS 03 & 05/A1.20.
5. SINGLE TRASH ENCLOSURE.
6. DOUBLE TRASH ENCLOSURE.

PARKING SPACE TABLE

	STANDARD	ACCESSIBLE
TOTAL PARKING SPACES REQUIRED:	510	16
TOTAL PARKING SPACES PROVIDED:	532	16
TOTAL BICYCLE SPACES REQUIRED:	140	
TOTAL BICYCLE SPACES PROVIDED:	141	

REVISIONS

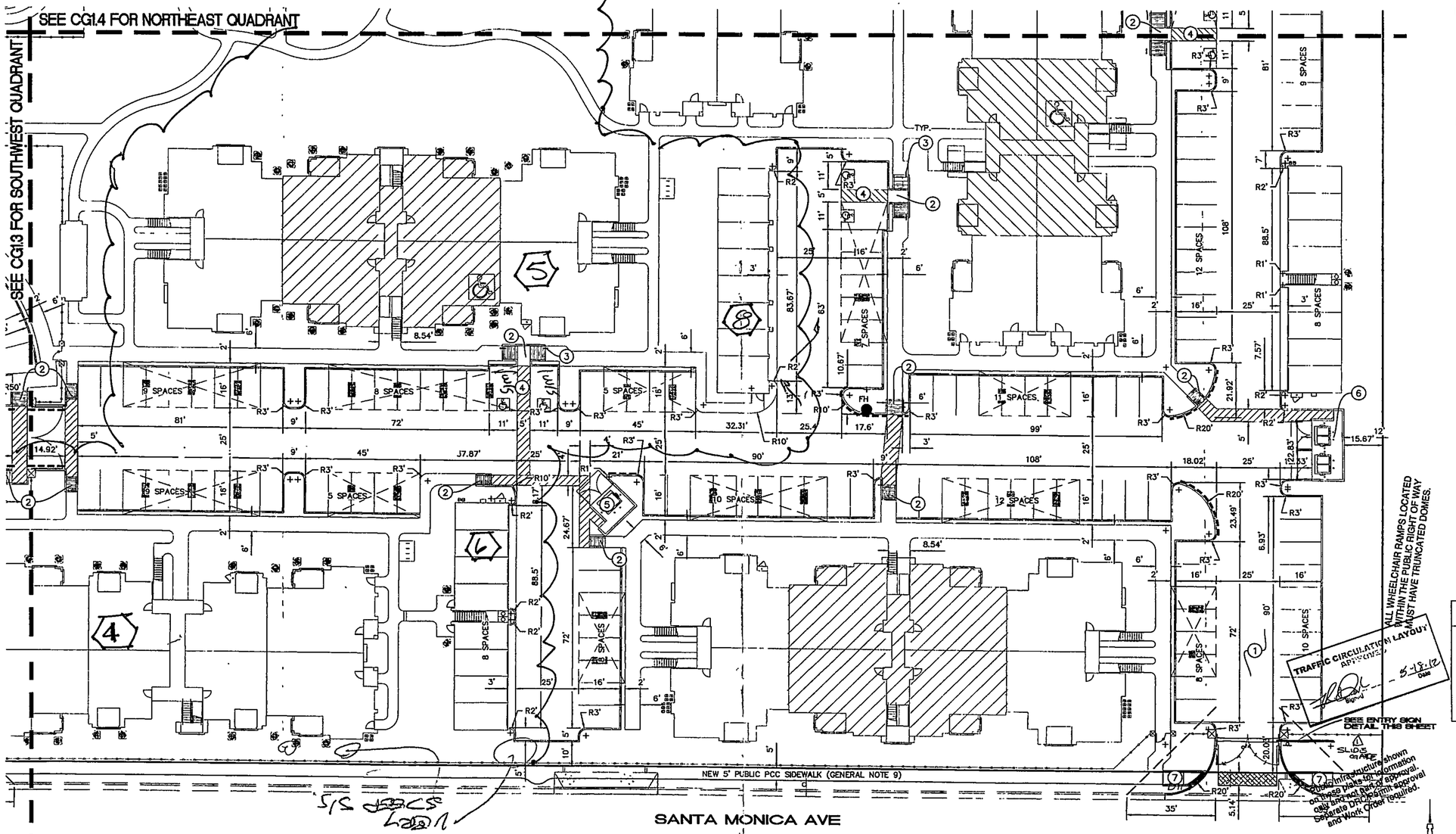
DATE: FEBRUARY 23, 2012 ORB # 11-218

CP1.4

TCL CERT (PHS 4&5)

TRAFFIC CONTROL LAYOUT PLAN
NE QUADRANT

FILE:M:\CAD FILES\1900-1999\1900\dwg\1900 CP-202.dwg USER:Simerson DATE:May, 17 2012 TIME: 02:22 pm



BROADSTONE SANTA MONICA

6401 SANTA MONICA AVENUE NE
Albuquerque, New Mexico

Office of Rich Barber Architecture, LLC
ORB
WorldHQ@ORBArch.com

FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER
05-7-12
05-18-12

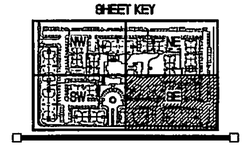
TITAN DEVELOPMENT
ALLIANCE RESIDENTIAL COMPANY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
Ph. 505-768-8828 www.iacivil.com
1900 CP-202.dwg May 17,2012

LEGEND

- PCC HIGH DENSITY PAVERS
- PCC COLORED PAVING
- 4" WIDE PAINTED (BLUE) PARKING STRIPES, 3' ON CENTER.
- PAINT CURB RED & PAINT TEXT "FIRE LANE NO PARKING"

SHEET KEY



Contractor must verify all dimensions at project before proceeding with this work.

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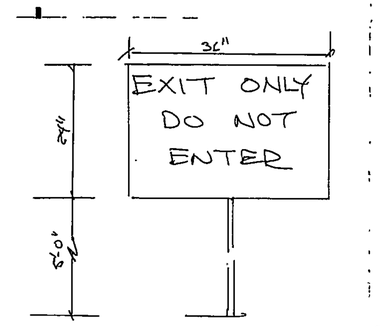
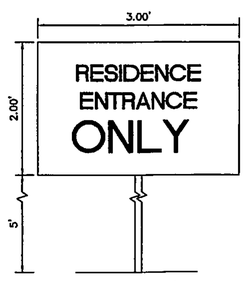
SCALE 1"=20'



SAN PEDRO DR. (ONLY)
SIGN DETAIL
SCALE: NTS. (1" = 10")



SANTA MONICA AVE (ONLY)
ENTRY SIGN DETAIL
SCALE: 1"=1'-0"

GENERAL NOTES

1. BASIS OF BEARINGS: PLAT OF LOTS 1–4, SANTA MONICA PLACE; (BK. 2012C, PG. 0002; REC: 01–06–2012).
2. COORDINATE PAIRS ARE NEW MEXICO STATE PLANE COORDINATES, CENTRAL ZONE.
3. SEE ARCHITECTURAL DETAIL SHEET, A1.20 FOR SITE STRIPING AND ACCESSIBILITY DETAILS.
4. ALL STANDARD PARKING SPACES ARE 9'–0" WIDE BY 18'–0" DEEP UNLESS OTHERWISE NOTED.
5. ALL ACCESSIBLE PARKING STALLS ARE 11'–0" WIDE BY 20'–0" DEEP.
6. ALL DIMENSIONING IS TO FACE OF CURB/EDGE OF TURNDOWN SIDEWALKS/ENTRANCE OF PARKING STALLS.
7. REMOVE ALL UNUSED CURB CUTS WITHIN THE PUBLIC ROW AND REPLACE WITH COA STD CURB & GUTTER AND PCC SIDEWALKS AS SHOW ON THE PUBLIC WORK ORDER DRAWINGS NO. 689983.
8. ALL IMPROVEMENTS SHOWN IN THE PUBLIC ROW TO BE CONSTRUCTED PER PUBLIC WORK ORDER DRAWINGS NO. 689983.
9. ALL ONSITE SIDEWALKS ARE 4' IN WIDTH UNLESS OTHERWISE NOTED/DIMENSIONED.

ⓧ KEYED NOTES

1. PAVED AREAS, SEE PAVING PLAN FOR LIMITS AND TYPE OF PAVING.
2. ADA RAMP, SEE DETAIL 08/A1.20.
3. ACCESSIBLE PARKING SIGN, SEE DETAIL 04/A1.20.
4. ACCESSIBLE PARKING STALL, SEE DETAILS 03 & 05/A1.20.
5. SINGLE TRASH ENCLOSURE.
6. DOUBLE TRASH ENCLOSURE.
7. ADA ACCESSIBLE RAMP WITH TRUNCATED DOME MATS, SEE PUBLIC WORK ORDER DRAWINGS NO. 689983.

PARKING SPACE TABLE

	STANDARD	ACCESSIBLE
TOTAL PARKING SPACES REQUIRED:	510	16
TOTAL PARKING SPACES PROVIDED:	532	16
TOTAL BICYCLE SPACES REQUIRED:	140	
TOTAL BICYCLE SPACES PROVIDED:	141	

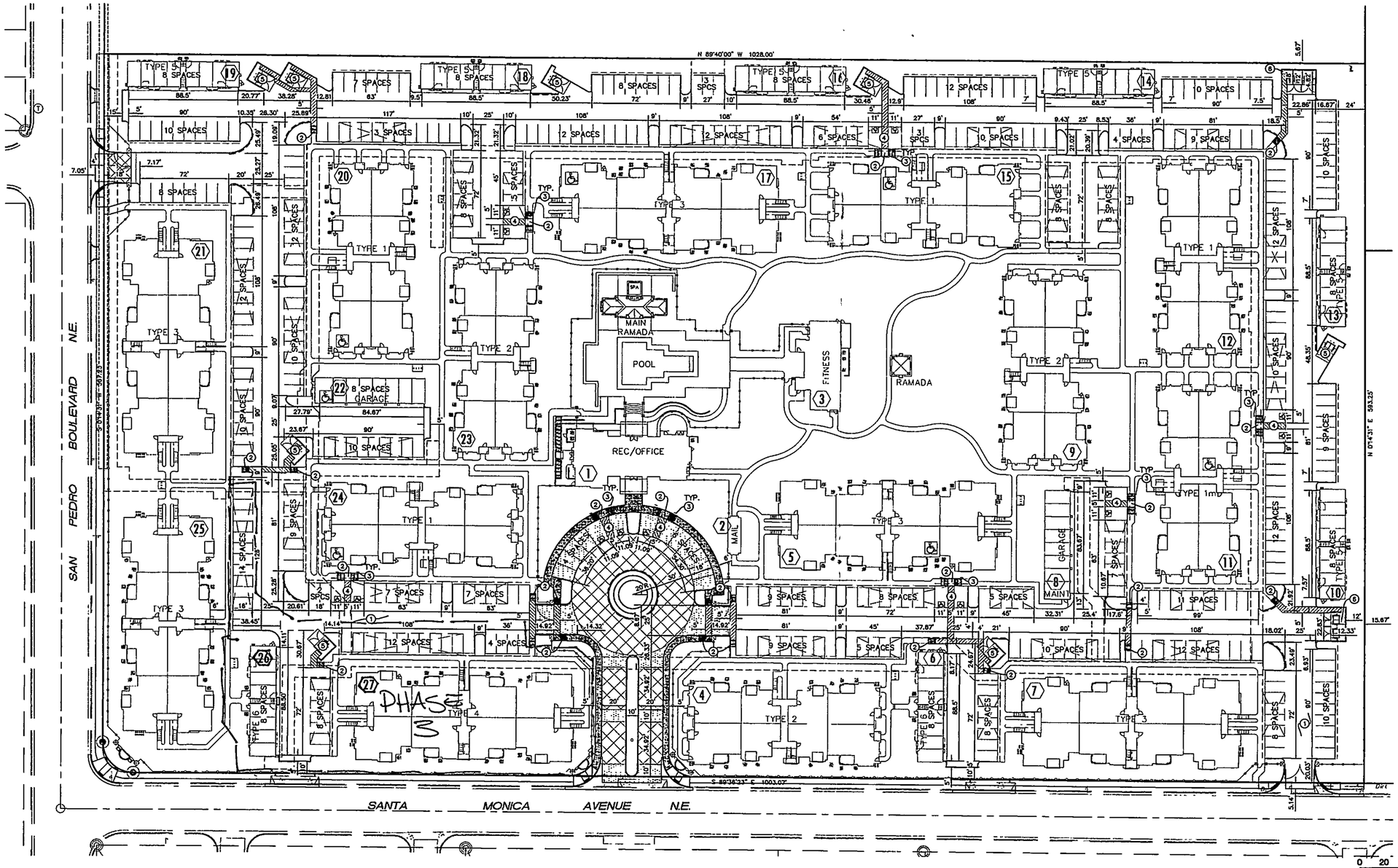
REVISIONS
1 GUIDE GATE (SANTA MONICA AVE) 05-18-12

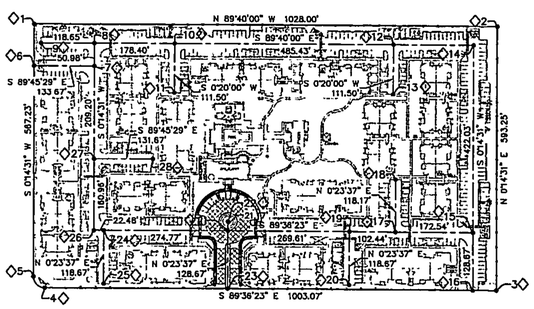
DATE: FEBRUARY 23, 2012 ORB # 11-218

CP1.5

TCL CERT: PHS (4 & 5)
TRAFFIC CONTROL LAYOUT PLAN
SE QUADRANT

FILE:M:\CAD FILES\1900-1999\1900\dwg\1900 CP-202.dwg USER:Simerson DATE:May, 17 2012 TIME: 02:22 pm





NMSP COORDINATE PAIR/BEARING-DISTANCE EXHIBIT

SCALE: 1"=150'

NMSP COORDINATE TABLE

NMSP COORDINATE TABLE		
Point #	Northing	Easting
1	1515291.08	1543067.93
2	1515285.10	1544095.92
3	1514691.85	1544093.41
4	1514698.74	1543090.37
5	1514723.85	1543085.54
6	1515197.39	1543087.54
7	1515196.82	1543201.20
8	1515247.80	1543201.42
9	1515248.49	1543082.77
10	1515246.76	1543379.81
11	1515135.26	1543379.17
12	1515243.94	1543865.23
13	1515132.44	1543864.58
14	1515242.90	1544043.24

NMSP COORDINATE TABLE		
Point #	Northing	Easting
15	1514820.88	1544041.46
16	1514692.21	1544040.91
17	1514822.07	1543868.93
18	1514940.23	1543869.74
19	1514822.77	1543766.49
20	1514704.11	1543765.68
21	1514824.62	1543496.89
22	1514845.79	1543497.03
23	1514695.96	1543496.01
24	1514826.51	1543222.12
25	1514707.85	1543221.31
26	1514826.66	1543199.64
27	1514987.62	1543200.32
28	1514987.07	1543331.49

COORDINATE/CONTROL POINTS:

POINTS ARE SITUATED AT THE ACCESS ISLE CENTERLINE INTERSECTION, CENTERLINE INTERSECTION OR THE ENTRIES WITH THE PROJECT BOUNDARY AND AT THE DEAD-END ACCESS ISLE CENTERLINE INTERSECTION WITH THE FACE OF CURB AT THE ISLE TERMINUS

GENERAL NOTES

1. BASIS OF BEARINGS: PLAT OF LOTS 1-4, SANTA MONICA PLACE; (BK. 2012C, PG. 0002; REC: 01-06-2012).
2. COORDINATE PAIRS ARE NEW MEXICO STATE PLANE COORDINATES, CENTRAL ZONE.
3. SEE ARCHITECTURAL SITE PLAN, A1. FOR ALL RADII DIMENSIONING OF PAVING/ CURB RADII.
4. SEE ARCHITECTURAL DETAIL SHEET, A1.20 FOR SITE STRIPING AND ACCESSIBILITY DETAILS.
5. ALL STANDARD PARKING SPACES ARE 9'-0" WIDE BY 18'-0" DEEP UNLESS OTHERWISE NOTED.
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7. ALL DIMENSIONING IS TO FACE OF CURB/EDGE OF TURNDOWN SIDEWALKS/ENTRANCE OF PARKING STALLS.

⊗ KEYED NOTES

1. PAVED AREAS, SEE PAVING PLAN FOR LIMITS AND TYPE OF PAVING.
2. ADA RAMP, SEE DETAIL 08/A1.20.
3. ACCESSIBLE PARKING SIGN, SEE DETAIL 04/A1.20.
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ORB
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FRED C. ARFMAN NEW MEXICO 7322 LICENSED PROFESSIONAL ENGINEER 03-07-12

TITAN DEVELOPMENT

ALLIANCE RESIDENTIAL COMPANY

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
Ph. 505-268-8828 www.iacivil.com
1900 CP-201.dwg Mar 07,2012

LEGEND

- PCC HIGH DENSITY PAVERS
- PCC COLORED PAVING
- 4" WIDE PAINTED (BLUE) PARKING STRIPES, 3' ON CENTER.
- PAINT CURB RED & PAINT TEXT "FIRE LANE NO PARKING"
- XX NMSPC (SEE TABLE)

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REVISIONS

DATE: FEBRUARY 23, 2012 ORB # 11-218

CP1.2

PAVEMENT LAYOUT & TRAFFIC CONTROL PLAN

RECEIVED MAY 15 2012

FILE:M:\CAD FILES\1900-1999\1900\dwg\1900 CP-201.dwg USER:Justin DATE:Mar, 07 2012 TIME: 03:23 pm

CITY OF ALBUQUERQUE

April 26, 2016

Asa Nilsson-Weber
Isaacson & Arfman, P.A.
128 Monroe St., NE
Albuquerque, NM 87108

Re: Broadstone Promenade, Bldg. 13, Phase 16
6400 San Pedro Ave., NE
Request for Certificate of Occupancy- Transportation Development
Engineer's/Architect's Stamp dated 6-19-14 (D18-D054A)
Certification dated 4-25-16

Dear Ms. Nilsson-Weber,

Based upon the information provided in your submittal received 4-25-16, Transportation Development has no objection to the issuance of a Permanent Certificate of Occupancy. This letter serves as a "green tag" from Transportation Development for a Permanent Certificate of Occupancy to be issued by the Building and Safety Division.

If you have any questions, please contact Gary Sandoval at (505) 924-3675 or me at (505)924-3630.

Sincerely,

John B. Gurulé, P.E.
Senior Engineer, Planning Dept.
Development Review Services

\gs via: email
C: CO Clerk, File

PO Box 1293
Albuquerque
New Mexico 87103
www.cabq.gov

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Broadstone Promenade, Tract 1, Santa Monica Place Building Permit #: _____ City Drainage #: D18-D054A

DRB#: _____ EPC#: _____ Work Order#: 689984

Legal Description: Tract 1, 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: DRI TSM, LLC - c/o Titan Development Company Contact: Kurt Browning

Address: 6300 Riverside Plaza Lane NW, Suite 200 - Albuquerque, NM 87120

Phone#: (505) 998-0163 Fax#: _____ E-mail: _____

Architect: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

Other Contact: Surv-Tek, Inc. Contact: Russ P. Hugg

Address: 9384 Valley View Drive - Albuquerque, NM 87114

Phone#: (505) 897-3366 Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

____ HYDROLOGY/ DRAINAGE
X TRAFFIC/ TRANSPORTATION
____ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

X ENGINEER/ ARCHITECT CERTIFICATION **PHASE 16, BLDG 13**

____ CONCEPTUAL G & D PLAN
____ GRADING PLAN
____ DRAINAGE MASTER PLAN
____ DRAINAGE REPORT
____ CLOMR/LOMR

X TRAFFIC CIRCULATION LAYOUT (TCL)
____ TRAFFIC IMPACT STUDY (TIS)
____ EROSION & SEDIMENT CONTROL PLAN (ESC)

____ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

____ BUILDING PERMIT APPROVAL
X CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL
____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
____ GRADING PERMIT APPROVAL
____ SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR

RECEIVED
APR 25 2016
LAND DEVELOPMENT SECTION

____ PRE-DESIGN MEETING
____ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ____ Yes X No

DATE SUBMITTED: April ~~4~~ 25, 2016 By: Åsa Nilsson-Weber

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: ___

Isaacson & Arfman, P.A. Consulting Engineering Associates

*Thomas O. Isaacson, PE (Ret.) & LS (Ret.) * Fred C. Arfman, PE * Åsa Nilsson-Weber, PE*

Date: April 25, 2016

Project: Broadstone Promenade
7400 San Pedro Blvd, NE

Subject: Rolling TCL Certification; Phase 16, Building No: 13

TRAFFIC CERTIFICATION

I, Åsa Nilsson-Weber, PE, NMPE No. 17631, of the firm Isaacson & Arfman, PA, hereby certify that the portion of the site as identified on the attached TCL plan is in substantial compliance with and in accordance with the design intent of the TCL Plan dated June 19, 2014. The record information edited onto the original design document has been obtained by Russ Hugg of the firm of Surv-Tek, Inc. I further certify that I have personally visited the project on April 4, 2016 and have determined by visual observations that the survey data provided is representative of actual site conditions and is true and correct to the best of my knowledge and belief.

This certification is submitted in support of a request for a Permanent Certificate of Occupancy.

The record information presented hereon is not necessarily complete and intended only to verify substantial compliance of the traffic aspects of this project. Those relying on the record document are advised to obtain independent verification of its accuracy before using it for any other purpose.

ÅSA M. NILSSON-WEBER
NEW MEXICO
17631
LICENSED PROFESSIONAL ENGINEER
4-25-16

Åsa Nilsson-Weber, PE No. 17631

128 Monroe St. N.E. * Albuquerque, NM 87108 * (505) 268-8828 * Fax: (505) 268-2632 * www.iacivil.com

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

Åsa Weber <asaw@iacivil.com>

D18D054A BROADSTONE PROMENADE TCL CERT BLDG 13; PH 16

1 message

Åsa Weber <asaw@iacivil.com> Mon, Apr 25, 2016 at 1:41 PM
To: PLNDRS@cabq.gov
Cc: "Bob Finch, Alliance" <bfinch@allresco.com>, Brian Patterson <bpatterson@titan-development.com>, John Addison <jaddison@allresco.com>

Please see attached for TCL cert for Bldg 13; Ph 16.

Thank you.

Åsa Nilsson-Weber, P.E.
Principal / Vice President
Isaacson & Arfman, P.A.
128 Monroe St. N.E.
Albuquerque, NM 87108
Phone: (505)268-8828

asaw@iacivil.com

2 attachments

D18D054A BROADSTONE PROMENADE 2016 04-25 TCL CERT LETTER BLDG 13; PH 16-2025.pdf
133K

D18D054A BROADSTONE PROMENADE 2016 04-25 TCL CERT PLANS BLDG 13; PH 16.pdf
4424K

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APR 25 2016
LAND DEVELOPMENT SECTION