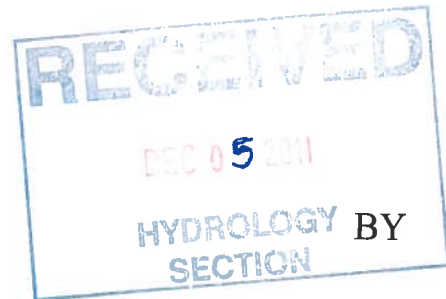


DECEMBER 2, 2011

CONCEPTUAL DRAINAGE REPORT

FOR

SANTA MONICA PLACE
San Pedro and Derickson Avenue NE



ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

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

I&A Project No. 1894
MAPROJECT DOCUMENTS\1800-1899\1850\REPORTS & EXHIBITS

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Prepared by:

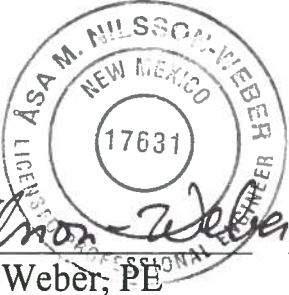

Åsa Nilsson-Weber 12-2-11
Åsa Nilsson-Weber, PE Date

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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 Investments

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 |

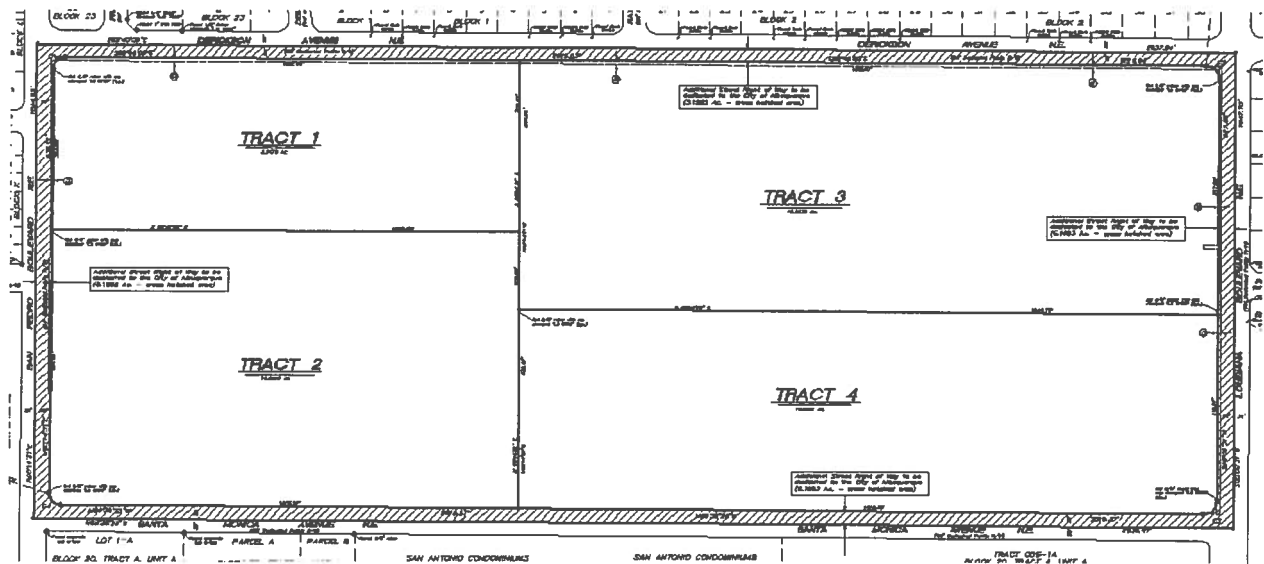


Figure 1: Proposed Santa Monica Place

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.

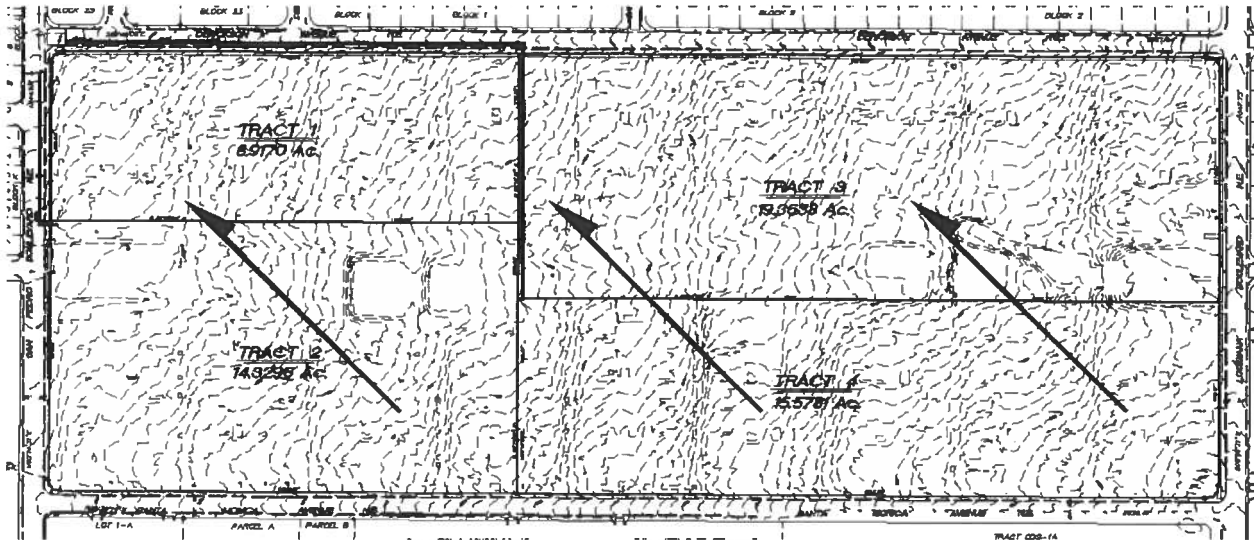


Figure 2: Interim Drainage Patterns

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.

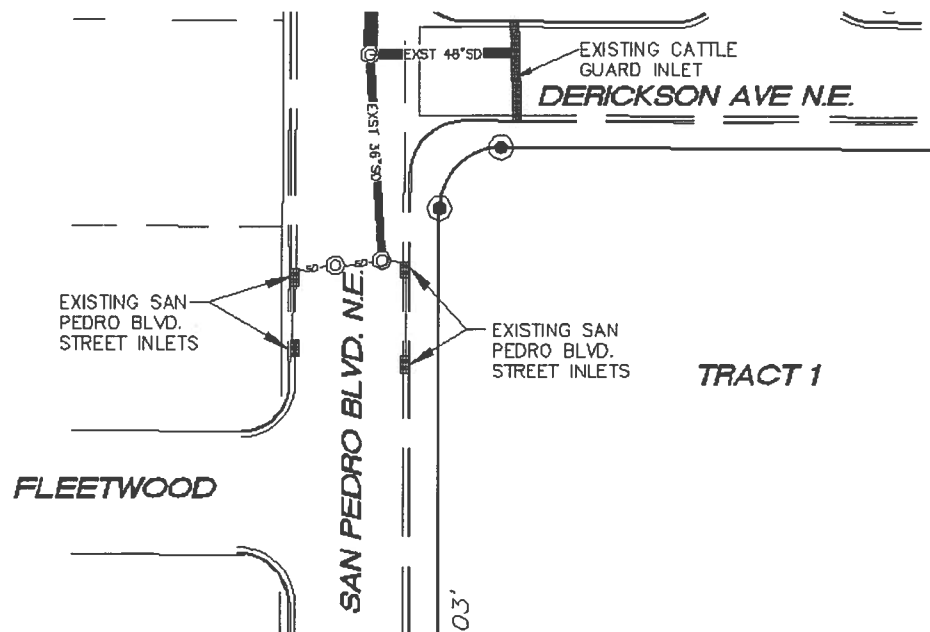


Figure 3: Existing Public Storm Sewer System

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

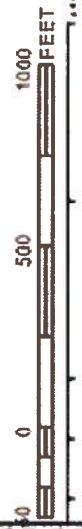
Once the economy recovers and there is a market for developing these tracts, the Owner will coordinate this infrastructure between tracts.

SUPPLEMENTAL INFORMATION

COA Vicinity Map D-18-Z

FIRMETTE from FIRM Map No. 35001C0137G

MAP SCALE 1" = 500'



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 PANEL LAYOUT

| CONTAINS | NUMBER | PANEL | SUFFIX |
|---------------------|--------|-------|--------|
| ALBUQUERQUE CITY OF | 330002 | 137G | 0 |
| BERNALILLO COUNTY | 330003 | 137G | 0 |
| INCORPORATED AREAS | 330004 | 137G | 0 |

Map is shown. The Mapmaker, after taking into account the latest available data, has prepared this map. The Government, however, does not warrant the accuracy of the data or the accuracy of the map. The Mapmaker is not responsible for any errors or omissions.



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 FIRM 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, visit National Flood Insurance Program flood maps at www.fema.gov.

