CITY OF ALBUQUERQUE

PLANNING DEPARTMENT – Development Review Services

Richard J. Berry, Mayor

July 29, 2014

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

RE: **California Street On-Street Parking Improvements (H18D069)**
Supplemental Drainage Analysis
Engineer's Stamp Date 7-22-2014

Dear Mr. Arfman:

Based upon the information provided in your submittal received 7-23-14, the above referenced submittal is approved for Work Order.

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

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

Sincerely,

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

Orig: Drainage file
c.pdf: via Email: RECIPENT, Tim Sims, monica ortiz

City of Albuquerque

Planning Department
Development & Building Services Division
DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

H18D009

Project Title: California St. On-Street Parking Improvements Building Permit #: _____ City Drainage #: H18/D-
DRB#: _____ EPC#: _____ Work Order#: 761982
Legal Description: California Street Public Right-of-Way
City Address: California St. north of Menaul Blvd.

Engineering Firm: Isaacson & Arfman, P.A. Contact: Fred C. Arfman, PE
Address: 128 Monroe Street, NE - Albuquerque, NM 87120
Phone#: (505) 268-8828 Fax#: N/A E-mail: freda@iacivil.com

Owner: Cit of Albuquerque Contact: _____
Address: PO Box 1262, ABQ, Nm 87102
Phone#: _____ Fax#: _____ E-mail: _____

Architect: N/A Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: Surv-Tek, Inc. Contact: Russ Hugg
Address: 9384 Valley View Dr. ABQ, NM 87114
Phone#: (505) 897-32366 Fax#: _____ E-mail: _____

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

TYPE OF SUBMITTAL:

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

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

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

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JUL 23 2014
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WAS A PRE-DESIGN CONFERENCE ATTENDED: ___ Yes ___ No ___ Copy Provided
DATE SUBMITTED: 07-23-14 By: Fred C. Arfman, PE For: Isaacson & Arfman, PA

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, anc 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

Fred Arfman

From: Sims, Timothy E. [tsims@cabq.gov]
To: Fred Arfman
Sent: Tuesday, July 22, 2014 3:37 PM
Subject: Read: California St On-Street Parking Improvements

Your message

To: Sims, Timothy E.
Subject: California St On-Street Parking Improvements
Sent: Tue, 22 Jul 2014 15:36:56 -0600

was read on Tue, 22 Jul 2014 15:37:22 -0600

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LAND DEVELOPMENT SECTION

Isaacson & Arfman, P.A. Consulting Engineering Associates

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

SUPPLEMENTAL DRAINAGE ANALYSIS

COA - PWO Project No.: **761982**

Project: California St. On-Street Parking Improvements

Zone Atlas Page: H-18

Investigation:

The attached storm water analysis of the contributing drainage basins and their drainage characteristics was requested by COA Hydrology as a condition of plan approval.

Existing Conditions:

- The existing building and those to the east of California all have their roof drainage to the rear (north) onto the public alley. In addition, a portion of the apartments to the northeast also contribute storm water runoff onto the alley.
- The alley storm waters intersect the north end of California St with the deepest flow depth being along the north right-of-way of the alley
- An assumption was made that the flows would split evenly between turning and running straight to the west.
- All contributing areas was analyzed as being 100% Land Treatment "D".

Conclusions:

1. The 100 yr – 6hr flow rate at the entrance to the sidewalk culvert was computed at 2.7 cfs.
2. The sidewalk culvert has the flow carrying capacity of 1.8 cfs.
3. The remaining 0.9 cfs of storm water will flow around the nose of the new island onto Menaul Blvd.

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FRED C. ARFMAN NEW MEXICO 7322 PROFESSIONAL ENGINEER 07.22.14

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

CALCULATIONS: CALIFORNIA STREET :

Based on Drainage Design Criteria for City of Albuquerque Section 22.2, DPM, Vol 2, dated Jan., 1993

ON-SITE

AREA OF SITE: 23811 SF = 0.5

100-year, 6-hour

ALLOWABLE DISCHARGE:

		Treatment SF	%
Area A	=	0	0%
Area B	=	0	0%
Area C	=	0	0%
Area D	=	23811	100%
Total Area	=	23811	100%

DEVELOPED FLOWS:

		Treatment SF	%
Area A	=	0	0%
Area B	=	0	0%
Area C	=	0	0%
Area D	=	23811	100%
Total Area	=	23811	100%

EXCESS PRECIP:

Precip. Zone 3

$E_A = 0.66$

$E_B = 0.92$

$E_C = 1.29$

$E_D = 2.36$

On-Site Weighted Excess Precipitation (100-Year, 6-Hour Storm)

$$\text{Weighted } E = \frac{E_A A_A + E_B A_B + E_C A_C + E_D A_D}{A_A + A_B + A_C + A_D}$$

Allowable E	=	2.36 in.	Developed E	=	2.36 in.

On-Site Volume of Runoff: V360 = E*A / 12

Allowable V_{360}	=	4683 CF	Developed V_{360}	=	4683 CF

On-Site Peak Discharge Rate: $Qp = Q_{pA}A_A + Q_{pB}A_B + Q_{pC}A_C + Q_{pD}A_D / 43{,}560$

For Precipitation Zone 3

Q_{pA}	=	1.87	Q_{pC}	=	3.45
Q_{pB}	=	2.60	Q_{pD}	=	5.02

Allowable Q_p	=	2.7 CFS	Developed Q_p	=	2.7 CFS

FRED C. ARFMAN
NEW MEXICO
7322
PROFESSIONAL ENGINEER
07.22.14

ORIFICE EQUATION - 18" WIDE SIDEWALK CULVERT OUTLET TO MENAUL BLVD.

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	=	1.81	cfs	
	C	=	0.6		(indicating that the opening will function at 60% capacity)
	A	=	0.75	sq.ft.	
	g	=	32.2	ft/sec^2	
	h	=	0.25	ft	depth of flow at opening from the center of culvert

At a head of 6' (center of 12" pipe = 5088.5, high water elevation = 5094.5), a 6.5" dia. opening into the propose 12" RCP will be required to maintian a maximum discharge rate of 2.7 cfs.

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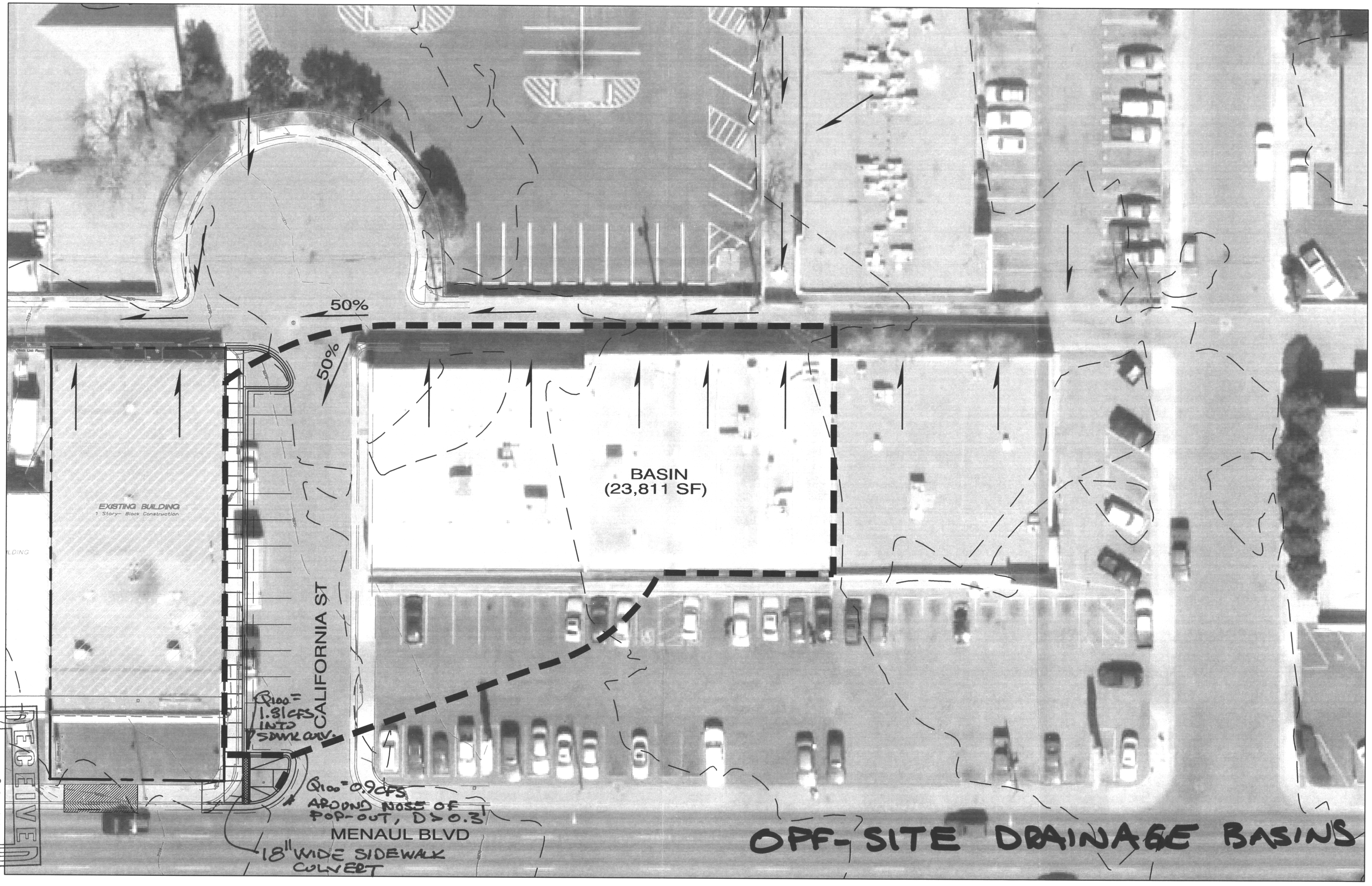

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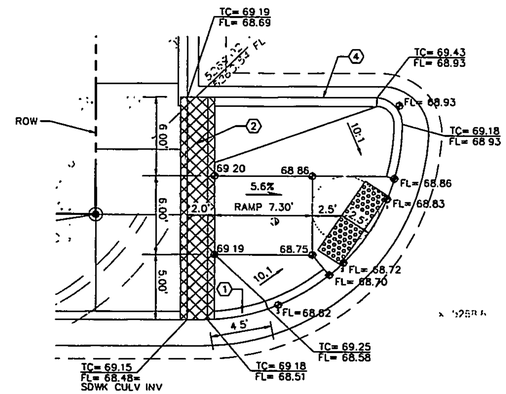
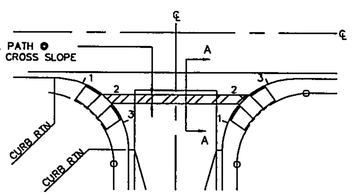
RECEIVED
JUL 23 2014
LAND DEVELOPMENT SECTION

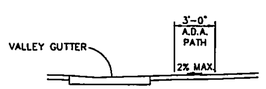


ADA RAMP DETAIL

SCALE: 1"=5'



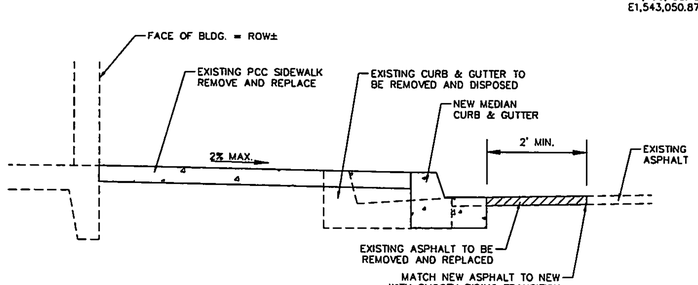
NOTE:
QUARTER POINT GRADES ARE REFERENCED AS 1, 2 & 3 ALONG THE FACE OF CURB IN A CLOCKWISE DIRECTION.



SECTION A-A

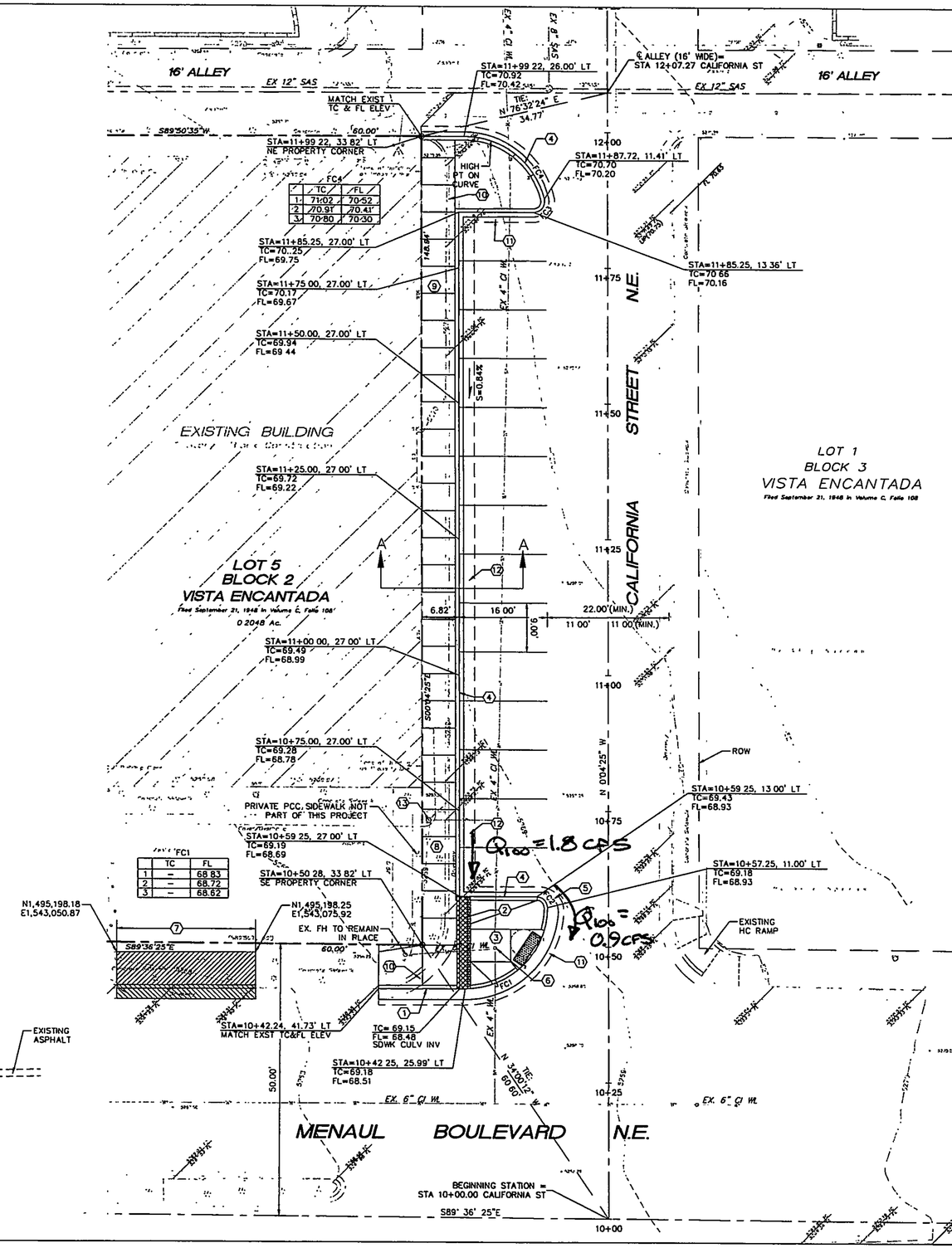
QUARTER POINT & ADA PATH DETAIL

NTS



SECTION A-A

NTS



FC1	TC	FL
1	71.02	70.52
2	70.91	70.41
3	70.80	70.30

FC1	TC	FL
1	–	68 83
2	–	68.72
3	–	68.62

ⓧ KEYED NOTES

1. STANDARD CURB & GUTTER PER COA STD DWG 2415A.
2. 18"X17' SIDEWALK CULVERT PER COA STD DWG 2236. TACK WELD BOLTS TO PLATE.
3. PCC HC RAMP, SEE DETAIL THIS SHEET.
4. MEDIAN CURB & GUTTER PER COA STD DWG 2415B
5. MEDIAN CURB & GUTTER; TRANSITION GUTTER PAN WIDTH FROM 2'-0" TO 1'-0".
6. ADJUST WATER VALVE BOX LID TO GRADE
7. REMOVE & DISPOSE PCC DRIVEPAD AND REPLACE WITH 25LF OF STANDARD CURB & GUTTER INSTALL 6'x25' OF PCC SIDEWALK PER COA STD DWG 2430.
8. REMOVE & DISPOSE PCC DRIVEPAD.
9. REMOVE & DISPOSE PCC SIDEWALK AND REPLACE WITH PCC SIDEWALK FROM FACE OF BUILDING TO BACK OF CURB.
10. REMOVE & DISPOSE PCC CURB TO NEAREST JOINT.
11. LIMITS (12" MIN) OF ASPHALT REMOVAL & REPLACEMENT.
12. LIMITS (24" MIN) OF ASPHALT REMOVAL AND REPLACEMENT.
13. REMOVE OLD WATER METER BOX AND REPLACE WITH NEW METER BOX TO NEW GRADE PER ABCWUA STD DWG 2368

LEGEND

	EXISTING FIRE HYDRANT
	EXISTING CURB & GUTTER
	EXISTING WATER METER
	EXISTING STREET LIGHT
	EXISTING GAS METER
TC FL	TOP OF CURB FLOW LINE

FACE OF CURB CURVE TABLE			
CURVE	LENGTH	RADIUS	DELTA
FC1	23.55'	15.00'	89°56'39"
FC2	3.14'	2.00'	90°00'03"
FC3	3.61'	2.00'	103°29'42"
FC4	20.03'	15.00'	76°30'18"

0 5 10 20 30

SCALE 1"=10'

ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates
128 Monroe Street N.E.
Albuquerque, New Mexico 87108
Ph. 505-268-8828 www.iacivil.com
2063 CP-101 dwg Jul 22,2014

AS-BUILT INFORMATION
CONTRACTOR / STAKED BY / ACCEPTANCE / FIELD VERIFICATION BY / DRAWINGS CORRECTED BY — DATE
MICRO-FILM INFORMATION — DATE / RECORDED BY / NO.

BENCH MARKS
Albuquerque Control Survey Monument "6-H18"
Elevation = 5283.415 feet (NAVD 1988).

SURVEY INFORMATION
FIELD NOTES

ENGINEER'S SEAL

NO.	DATE	REMARKS / REVISIONS	BY

		DATE
DESIGNED BY	FCA	07/2014
DRAWN BY	thor	07/2014
CHECKED BY	FCA	07/2014

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING GROUP

TITLE: CALIFORNIA STREET NE PAVING PLAN

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.

City Project No	Zone Map No.	Sheet	Of
761982	H-18-Z	4	4

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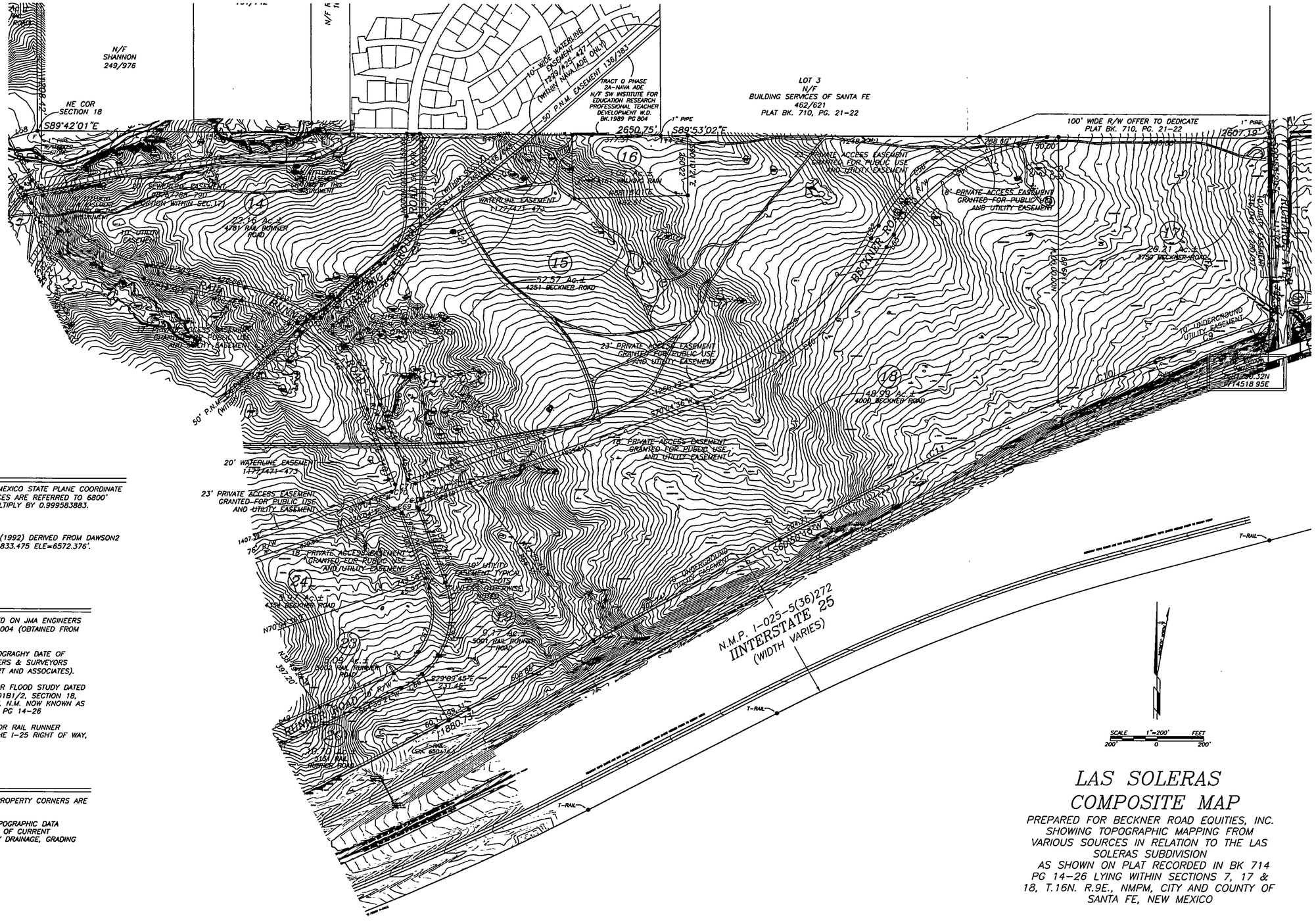

CONTROL DATUM SUMMARY

BEARINGS ARE GRID, REFERRED TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM NAD83(1992), CENTRAL ZONE. DISTANCES ARE REFERRED TO 6800' AMSL. TO CONVERT DISTANCES TO NMSPC, MULTIPLY BY 0.999583883.

ELEVATIONS ARE NAVD88(1992)

ALL REFERENCE TO NAD83(1992) AND NAVD88(1992) DERIVED FROM DAWSON2 GPS BASE STATION N=1,687,626.870 E=1,708,833.475 ELE=6572.376'.

REFERENCES:

PACIFIC WESTERN TECHNOLOGIES MAPPING BASED ON JMA ENGINEERS & SURVEYORS GROUND CONTROL DATED 7/6/2004 (OBTAINED FROM JIM SIEBERT AND ASSOCIATES).

TRM MAPPING DATED 6/18/2007 WITH A PHOTOGRAGHY DATE OF 7/1/2004 APPARENTLY BASED ON JMA ENGINEERS & SURVEYORS GROUND CONTROL. (OBTAINED FROM JIM SIEBERT AND ASSOCIATES).

DAWSON SURVEYS MAPPING PROJECT #8265 FOR FLOOD STUDY DATED 7/10/2009 COVERING PORTIONS OF PARCELS D1B1/2, SECTION 18, T-16-N, R-9-E, N.M.P.M., SANTA FE COUNTY, N.M. NOW KNOWN AS LOTS 2 THROUGH 7 OF LAS SOLERAS BK. 714 PG 14-26

DAWSON SURVEYS MAPPING PROJECT #8645, FOR RAIL RUNNER STUDY AREA SOUTH OF LAS SOLERAS WITHIN THE I-25 RIGHT OF WAY, COMPLETED 12/18/2009.

NOTE

THIS IS NOT A PROPERTY SURVEY, APPARENT PROPERTY CORNERS ARE SHOWN FOR ORIENTATION ONLY.

THIS COMPOSITE MAP IS A COMPILATION OF TOPOGRAPHIC DATA REFERENCED HEREON, IT IS NOT A REFLECTION OF CURRENT CONDITIONS WHICH MAY HAVE BEEN CAUSED BY DRAINAGE, GRADING AND OTHER EARTHWORK.

LAS SOLERAS COMPOSITE MAP

PREPARED FOR BECKNER ROAD EQUITIES, INC.
SHOWING TOPOGRAPHIC MAPPING FROM VARIOUS SOURCES IN RELATION TO THE LAS SOLERAS SUBDIVISION
AS SHOWN ON PLAT RECORDED IN BK 714 PG 14-26 LYING WITHIN SECTIONS 7, 17 & 18, T.16N. R.9E., NMPM, CITY AND COUNTY OF SANTA FE, NEW MEXICO

DAWSON SURVEYS INC.
PROFESSIONAL LAND SURVEYORS
2502 A CAMINO ENTRADA
S.F., N.M., 87507 DATE: 4/7/2010
FILE# 8579COMP-2010COMP