## CITY OF ALBUQUERQUE



May 24, 2005

Fred Arfman, P.E.

ISAACSON & ARFMAN, PA

128 Monroe St. NE

Albuquerque, NM 87108

Re: SEDONA POINTE OFFICE BUILDINGS, PHASE 2, LOT 1A

8208 and 8210 Louisiana Blvd. NE

Approval of Permanent Certificate of Occupancy (C.O.)

Engineer's Stamp dated 04/25/2004 (C-19/D1)

Certification dated 05/20/2005

P.O. Box 1293

Dear Fred,

Albuquerque

Based upon the information provided in your submittal received 05/23/2005, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

New Mexico 87103

If you have any questions, you can contact me at 924-3982.

www.cabq.gov

Sincerely, Oulene W. Pittllo

Arlene V. Portillo

Plan Checker, Planning Dept. - Hydrology

Development and Building Services

C:

Phyllis Villanueva

File

## CITY OF ALBUQUERQUE



April 5, 2004

Fred Arfman, PE Isaacson & Arfman 128 Monroe NE Albuquerque, NM 87108

Re: Sedona Pointe Phase 4 Grading Certification Engineer's Stamp dated 9-10-04, (C19/D1)

Dear Mr. Arfman,

Based upon the information provided in your submittal dated 9-10-04, the above referenced plan is approved for Certificate of Occupancy for Unit 4 by Hydrology.

Sincerely,

Bradley L. Bingham, PE

Principal Engineer, Planning Dept.

Development and Building Services

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

Albuquerque

www.cabq.gov

P.O. Box 1293

New Mexico 87103

C: Phyllis Villanueva, Permits

file

Albuquerque - Making History 1706-2006



# City of Albuquerque P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 5, 2004

Fred Arfman, PE Isaacson & Arfman 128 Monroe NE Albuquerque, NM 87108

Re: Sedona Pointe Phase 2 and Phase 4 Grading & Drainage Plan Engineer's Stamp dated 4-25-04, (C19/D1)

Dear Mr. Arfman,

Based upon the information provided in your submittal dated 3-25-04, the above referenced plan is approved for Building Permit. Please attach a copy of this approved plan 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.

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

Sincerely,
Budd d. Bun

Bradley L. Bingham, PE

Principal Engineer, Planning Dept.

Development and Building Services

C: file



City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

May 3, 1999

Mr. Fred Arfman, P.E. Isaacson & Arfman 128 Monroe Street NE Albuquerque, NM 87108

Re: Drainage report and grading and drainage plan for Sedona Pointe (C19/D-

01), Engineer's stamp dated April 13, 1999

Dear Mr. Arfman:

The referenced drainage plan is approved for building permit. Attach a copy of the referenced plan to each set of the building plans. Our inspector is authorized to sign the building plans once the approved drainage plan is made a part of the building plan set.

For Work Order approval, please address the street carrying capacity for Holly, per Chapter 22-156, and include concurrence from the Hydrology Division for the proposed addendum to the NAA Master Drainage Plan. Final street and storm drain approval will be through DRC.

Approval of the Certificate of Occupancy will require an Engineer's Certification by the developer's engineer. Please advise your client of this requirement. Include with your certification, a letter of acceptance for all the public improvements required by DRC.

If I can be of further assistance, please feel free to call me at 924-3980.

Sincerely,

Fred J. Aguirre, P.E.

City Hydrologist

Public Works Department

c: Andrew Garcia File

#### DRAINAGE REPORT

#### FOR

#### SEDONA POINTE

#### ALBUQUERQUE NEW MEXICO **APRIL 1999**

#### Prepared by:

ISAACSON & ARFMAN, P.A. 128 Monroe Street NE Albuquerque, NM 87108 (505) 268-8828

7322

APR 1 3 1999 HYDHOLOGY SECTION

Fred C. Arfman, RE

Date

#### A. EXISTING CONDTIONS:

The site is currently undeveloped with vegetative cover typical to the city's northeast side. It is bordered by Louisiana Blvd. to the west, Holly Ave. to the south, the future extension of Carmel Ave. to the north, and undeveloped land to the east. The area has been previously addressed in numerous other reports prepared by Resource Technology, Inc. These reports include; North Albuquerque Acres Master Drainage Plan, the North and South Domingo Baca and Paseo del Norte D.M.P., The La Cueva Oeste Subdivision Phase 1 (C18/D24) and The La Cueva, El Camino and North Camino Arroyos Drainage Facility Plan (as Basin 940). A supplemental submittal to the North Albuquerque Acres MDP that addresses this site has been included in Appendix B for your use.

The site slopes range from 2% to 3% and falls from east to west. Runoff leaving the site flows across a low point in Louisiana Blvd. and into a vacant lot located to the south of La Cueva Oeste Unit One. The runoff is detained in a small pond located in the eastern corner of this lot before entering Carmel Ave.

Offsite flows from the two lots of vacant land to the east cross the site. These flows will be able to continue in their current flow pattern until they are developed. Upon development of these lots, the flows will need to be re-directed to directly enter Carmel and Holly Avenues. The remaining land to the east releases its runoff into an existing AMAFCA diversion channel (see the attached map) and therefore does not effect the site.

#### B. PROPOSED CONDITIONS:

The site is planned to be developed into an office complex.

Development of the site shall occur in two phases, however, rough
grading will be completed over the entire site with Phase One.

Phase One: Phase One will be located on the eastern half of the property. Construction of Carmel Ave., Holly Ave., and Louisiana Blvd. will be completed with this phase. A new storm drain system, which will connect to the Paseo del Norte Storm Drain System, will be constructed with Louisiana Blvd. The new system will connect to the Paseo del Norte System at the intersection of Holly Ave. and Louisiana Blvd (see HydraFlow Design sheets).

Runoff within this phase will primarily discharge to Carmel Ave. A total of 13.4 cfs will be allowed to enter Carmel from this site and the undeveloped land. Flows entering Carmel Ave. will be

conveyed north at Louisiana Blvd. via a temporary swale (see FlowMaster sheet) to the Lower North Domingo Baca Detention Dam (see Appendix B). This swale will remain in place until Louisiana Blvd. between Carmel and Anaheim Ave. is constructed in its final configuration. At the time that Louisiana is constructed, a new storm drain will also be constructed to convey the flows to the dam. All remaining flows from this phase will be temporarily ponded in a desiltation pond before entering the new storm drain system being constructed with Louisiana Blvd.

Phase Two: Phase Two will be located adjacent to Louisiana Blvd. Virtually all of the runoff generated within this phase will discharge to Louisiana Blvd., although a very small portion (0.64 cfs) will be allowed to enter Carmel Ave. The temporary desiltation pond constructed with Phase One will be removed.

Runoff which will be entering Louisiana will be captured by the storm drain system which was constructed with Phase One. An onsite storm system will be constructed with this phase. This system will consist of three onsite inlets with storm drain and a piping system which will capture the flows generated along the west side of the buildings adjacent to Louisiana Blvd (see Inlet Capacity Table).

#### CONCLUSIONS & RECOMMENDATIONS:

- 1. A temporary desiltation facility will be located at the western property boundary of the site. Flows will enter this facility prior to entering the new storm drain system along Louisiana Blvd.
- 2. A new storm drain system along Louisiana which will connect to the Paseo del Norte Storm Drain will be constructed with Phase One.
- 3. A temporary swale will be constructed along the east side of Louisiana Blvd. between Carmel and Anaheim Aves. with Phase One development.
- 4. Holly Ave. Carmel Ave., and Louisiana Blvd. adjacent to the property will be constructed with Phase One.
- 5. An onsite storm drain system which connects to the storm drain in Louisiana Blvd. will be constructed with Phase Two.

	TABLE 1 INLETS CAPACITY @ KEY LOCATIONS												
INLET NO	INLET TYPE	LOCATION		% SLOPE	Q 100 (CFS)	Dn (FT)	Q intercepted (CFS)	G by-pass (cfs)					
INLET 1**		CURB @ CARMEL ENTR. ENTRANCE TO	25' FF, 2% CROSS SLOPE 25'FF, 2% CROSS	NA	8.97	0.32	8.97	0					
INLETS 2 & 3 INLET 4	1	LSA BLVD LSA BLVD	SLOPE 40' F-CL	6.70%	18.1 5	0.33	6 ea = 12 cfs 5	6.1 0					

<sup>\*</sup>Q per inlet are calculated using DPM Plate 22.3, D-5
\*\* See attached sump calculation sheet

## ANALYZE SUMP INLETS (INLET#1)

#### DATA:

Q = 8.97 H = 0.32 GRATE OPEN AREA:

GROSS AREA FOR ONE GRATE = 2' - 1 1/2" \* 2' - 11 3/8" = 6.28 SF LESS BEARING BARS = (0.5")(1/12) \* 2.95 \* 13 = 1.60 SF LESS CROSS BARS = (0.5")(1/12) \* 2.13 \* 7 = 0.62 SF PLUS THE INTERSECTION COUNTED 2X = (0.5")(1/12) \* (0.5")(1/12

#### **CALCULATIONS:**

FLOW THROUGH THE GRATE = CA(2gH)^.5 = 6.387222 FLOW THROUGH DOUBLE THROAT = CA(2gH)^.5: 20.37828

TOTAL CAPACITY= 26.77 EA

#### **RECOMMENDATION:**

USE ONE TYPE "A" MOD INLET WITH SINGLE GRATE & DOUBLE THROAT

## Flow Depth Calculations

### Co Inlet 243

TYPICAL CROSS SECTION

$$A = 0.4(20)(1/2) = 4ft^2$$

$$WP = .4 + 20 = 20.4 f4$$

$$Q = \frac{1.49}{0.017} (0.20).67 (4) (\sqrt{0.067}) = 30.46$$
 too high

$$A = 0.33 (16.5)(1/2) = 2.72 G$$

$$Q = \frac{1.49}{0.017} (0.16)^{-67} (2.72) (\sqrt{0.067}) = 18.2 \text{ Cfs}$$

DATE\_

SUBJECT\_

JOB NO.\_\_\_\_

SHEET NO. \_\_\_OF\_\_

## LOUISIANA BLVD TEMPORARY SWALE Worksheet for Triangular Channel

Project Description	)n
Project File	c:\haestad\fmw\sedona.fm2
Worksheet	LOUISIANA BLVD TEMP SWALE
Flow Element	Triangular Channel
Method	Manning's Formula
Solve For	Channel Depth

Input Data	
Mannings Coefficient	0.017
Channel Slope	0.005 ft/ft
Left Side Slope	4.00 H:V
Right Side Slope	4.00 H:V
Discharge	13.40 cfs

Results		
Depth	0.95	ft
Flow Area	3.63	ft <sup>2</sup>
Wetted Perimeter	7.85	ft
Top Width	7.62	ft
Critical Depth	0.93	ft
Critical Slope	0.005659	ft/ft
Velocity	3.69	ft/s
Velocity Head	0.21	ft
Specific Energy	1.16	ft
Froude Number	0.94	
Flow is subcritical.		

UNDEVELOPED FLOW

FROM OFFSITE BASINS.

### RUNOFF CALCULATIONS FOR Q<sub>100</sub>

Drooin	Q <sub>100</sub> Runoff Rates (cfs/ac)									
Precip. Zone	A	В	C	D						
1	1.29	2.03	2.87	4.37						
2	1.56	2.28	3.14	4.70						
3	1.87	2.60	3.45	5.02						
4	2.20	2.92	3.73	5.25						

Amairreic		Land	Treatment Ar	eas (ac)			
Analysis Point	$A_{T}$	$\mathbf{A}_{\mathbf{A}}$	$A_{B}$	$A_{C}$	$A_{D}$	Q <sub>100</sub> (cfs)	Remarks
OFFSITE BASINS	1.78Ac	1.78 AC				3.32 cfs	
100 4 112							less than the developed
		···					flow for Basin 112. Therefore use developed
		<u> </u>					conditions in AHYMO.
		·					
		······································	_				

#### STREET FLOW DEPTH CALCULATIONS

**GIVEN:** 

Road Name CARMEL AVE

Location @ INTERSECTION W/ LOUISIANA BLVD

Slope 0.037
Q 100 13.04
R/W 60
Road Width 40
Curb Type STD
Road Cross Slope 0.02
Mannings N: 0.017

FIND: STREET FLOW DEPTH

SOLUTION:

USE MANNING'S EQ:  $Q = (1.486/N) * S^{5} * R^{2} = A$ 

**BY ITERATION D = 0.404476** 

CHECK THE ENERGY GRADE LINE

VELOCITY = Q/A = 4.95.

ENERGY GRADE LINE = D + V^2/2g = .87

				<u> </u>		<u> </u>		<u> </u>		<u></u>	<del> </del>
Line No.	Line ID	Flow rate (cfs)	Line size (in)	Line length (ft)	Invert EL Dn (ft)	Invert EL Up (ft)	Line slope (%)	HGL down (ft)	HGL up (ft)	Minor loss (ft)	Dns line No.
1	1	29.27	30 c	284.0	4.10	5.52	0.500	9.00*	10.45*	0.06	End
2	2	24.27	24 c	85.0	6.02	7.73	2.012	10.50*	11.48*	0.00	1
3	3	5.00	24 c	69.0	5.62	5.97	0.507	10.50*	10.54*	0.04	1
Projec	Project File: SEDONA.stm I-D-F File: SAMPLE.IDF Total No. Lines: 3 Run Date: 03-15-1999										
<del> </del>	ct File: SEDONA.stm	intical: L					·	nd:4:	nun Dale.	JJ- 19	33
NOTE	ES: c = circular; e = ell	iptical; b =	box; Retur	n period =	100 Yrs.; *	Indicates sui	rcharge co	ndition.			

										-													
Line	Size	Q			D	ownstre	am				Len				Upstr	eam				Che	eck	JL.	Minor
	(in)	(cfs)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)	Vel (ft/s)	Vel head (ft)	EGL elev (ft)	Sf (%)	(ft)	Invert elev (ft)	HGL elev (ft)	Depth (ft)	Area (sqft)		Vel head (ft)	EGL elev (ft)	Sf (%)	Ave Sf (%)	Enrgy loss (ft)	coeff (K)	loss (ft)
1	30	29.27	4.10	9.00	2.50	4.91	5.96	0.55	9.55	0.510	284	5.52	10.45	2.50	4.91	5.96	0.55			0.509			0.06
2	24	24.27	6.02	10.50	2.00	3.14	7.73		11.43				11.48						1.151				0.00
3	24	5.00	5.62	10.50	2.00	3.14				0.049				2.00			0.04		0.049		<u> </u>		0.04
																							:

Project File: SEDONA.stm

I-D-F File: SAMPLE.IDF

Total number of lines: 3

Run Date: 03-15-1999

NOTES: Initial tailwater elevation = 9 (ft), \* Crown depth assumed., \*\* Critical depth assumed.

ing report work in a larger

RUN DATE (MON/DAY/YR) =04/08/1999 USER NO.= ISCARFNM.I01

HYDROGRAPH ID ID AREA DISCHARGE VOLUME RUNOFF PEAK	CFS PAC	GE = 1
$\mathcal{C}OMM\DeltaND$ Thentetanton $NC$ $NC$ $NC$ $NC$		CATION
START RAINFALL TYPE= 1 *S **********************************	TIME= RAIN6=	.00 = 2.550
*S **RUNOFF CONTRIBUTING TO CARMEL *S ***********************************		
*S **BASIN 100(OFF-1)		
COMPUTE NM HYD 100.00 - 1 .00140 4.16 .154 2.06479 1.500 4 *S **BASIN 101(OFF-7)	4.646 PER IN	MP= 80.00
COMPUTE NM HYD 101.00 - 2 .00017 .54 .020 2.20817 1.500 5 ** **BASIN 102 (OFF-6)	5.007 PER IN	1P= 90.00
COMPINE NM LVD $\frac{1}{2}$	4.905 PER IM	1P= 90.00
ADD HVD	4.919	
ADD HYD 102.20 4& 1 5 .00263 8.04 .299 2.13158 1.500 4	4.774	
*S **BASIN 103 (P1-C2A)  COMPUTE NM HYD	5.217 PER IM	IP= 90.00
*S **ADD BASINS 103 & 102.3 ADD HYD 103.10 6& 5 7 .00268 8.20 .305 2.13295 1.500 4	1.782	
*S **BASIN 104(P2-C4)	1.702	
COMPUTE NM HYD 104.00 - 8 .00020 .64 .024 2.20816 1.500 4 *S **ADD BASINS 104 & 103.1	1.995 PER IM	IP= 90.00
ADD HVD	1.797	
COMPUTE NM HYD 105.00 - 10 .00134 4.20 .158 2.20816 1.500 4	1.899 PER IM	P= 90.00
*S **ADD BASINS 104 & 105 (TOTAL FLOWS TO CARMEL) ADD HYD 105.40 10& 9 11 .00422 13.04 .486 2.16028 1.500 4	1.829	
*S ***********************************	1.023	
*S **FLOWS CONTRIBUTING TO LOUISIANA *S ***********************************		
*S **BASIN 106 (P1-C2)		
COMPUTE NM HYD 106.00 - 1 .00050 1.58 .059 2.20817 1.500 4 *S **BASIN 105B (P1-C1)	.938 PER IM	P= 90.00
COMPUTE NM HYD 105.20 - 12 .00165 5.17 .194 2.20816 1.500 4 *S **ADD BASINS 106 & 105 (TOTAL PHASE 1 TO BE PONDED)	1.895 PER IM	P= 90.00
AND HYD 106 10 1:12 2 000 000 000 000 000 000 000 000 000	.905	
COMPTITE NM UVD 107 00 2 00070	.921 PER IM	P= 90.00
ADD HYD 107.10 3& 2 4 .00285 8.95 336 2.20788 1 500 4	.909	
*S **BASIN 108 (P1-L1) (OTHER PHASE ONE TO BE PONDED)  COMPUTE NM HYD	.899 PER IM	P= 90.00
*S **BASIN 109(P2-L2)  COMPUTE NM HYD 109.00 - 6 .00125 3.92 .147 2.20817 1.500 4	.900 PER IM	
*S		
*S **BASIN 110 (P2-L3)	.899	
COMPUTE NM HYD 110.00 - 8 .00319 9.97 .376 2.20816 1.500 4 *S **ADD BASINS 110 & 109.1	.885 PER IM	P= 90.00

COMMAND	HYDROGRAPH IDENTIFICATION		TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2 NOTATION
ADD HYD *S **BASIN	110.10 111(OFF-5)	8& 7	9	.00578	18.10	.681	2.20803	1.500	4.892	
COMPUTE NM *S **ADD BA	HYD 111.00 SINS 110.1 & 111	-	10	.00070	2.20	.082	2.20817	1.500	4.921 PH	ER IMP= 90.00
ADD HYD *S *****	111.10			.00648	20.30 ******	.763	2.20800	1.500	4.895	
*S **FLOWS	CONTRIBUTING TO H	OLLY								
*S **BASIN	112 (OFF-2)		4							
COMPUTE NM *S **BASIN	— — — <del>-</del>		1.	.00138	4.10	.152	2.06479	1.500	4.646 PE	ER IMP= 80.00
COMPUTE NM	· · · · · · · · · · · · · · · · · · ·	_	2	.00020	.64	.024	2.20816	1.500	4.995 PE	ER IMP= 90.00
ADD HYD *S **BASIN	113.10	1& 2	3	.00158	4.74	.175	2.08263	1.500	4.690	
COMPUTE NM		_	4	.00070	2.20	.082	2.20817	1.500	4.921 PE	R IMP= 90.00
ADD HYD FINISH	114.10	4& 3	5	.00228	6.95	.258	2.12106	1.500	4.761	

\_\_ \_ \_ \_

### REFINEMENT OF DRAINAGE ISSUES AT SEDONA OFFICE COMPLEX

by

Elvidio V. Diniz, P.E. Harrold F. Buckner, E.I.T. Resource Technology, Inc.

March 12, 1999



#### INTRODUCTION

The intent of this report is to show that the 48-inch storm drain in Anaheim Road NE can accept a minor additional inflow of storm water (13.4 cfs) from an adjacent drainage basin without exceeding the pipe's design capacity.

Sources of information for this report were the final North Albuquerque Acres Master Drainage Plan (NAA MDP), prepared by Resource Technology, Inc. (RTI), October 1998, and design information for the Sedona Pointe Office Complex (Sedona Pointe Study), Issacson & Arfman, 1999.

Pertinent modeling parameters used in the AHYMO models created for the NAA MDP and the Sedona Pointe Study are compared below, in Table 1.

TABLE 1
Modeling Parameters
Sedona Pointe Study vs. NAA MDP

	Sedona Pointe Study	NAA MDP		
Rainfall Distribution	Type 1 - 6 hour	Type 2 - 24 hour		
Time to Max. Rainfall, hours	1.4	1.4		
Peak Runoff, cfs	13.4	200.8		
Time at Peak, hours	1.5*	3.2		
Sub-area Tp, hours	1.33	1.33		

<sup>\*</sup>At 1.5 hours the NAA MDP hydrograph ordinate is 132.7 cfs.

#### DRAINAGE CONDITIONS AT LOWER NORTH DOMINGO BACA DAM

The analysis point in the NAA MDP pertinent to this study is AP 930.87 (Exhibit 1) which lies at the toe of the Lower North Domingo Baca (LNDB) Detention Dam, located on Louisiana Boulevard north of Paseo del Norte. The LNDB Detention Dam controls drainage from basins to the east, then discharges water through a 48" RCP outfall pipe which lies beneath Anaheim Road. The maximum design capacity of the 48" storm drain in Anaheim Road is 204 cfs as determined in the NAA MDP.

The outflow hydrograph from LNDB Detention Dam for the 100-year, 24-hour storm event as computed in the NAA MDP is presented in Exhibit 2; the peak outflow of 200.8 cfs occurs at 3.2 hours. The AHYMO output file segment for this area is included in Attachment A. Exhibit 3 is the 100-year hydrograph on North Domingo Baca Arroyo at the I-25 culverts.

#### Existing Conditions for the Sedona Pointe Office Complex

Currently, most of the Sedona Pointe Office Complex area (Sub-basin 940.1 in Exhibit 4) drains west across Louisiana Boulevard in a North Domingo Baca tributary arroyo. Under proposed conditions for La Cueva Oeste Subdivision, all of Sub-basin 940.1 would be diverted south along Louisiana Boulevard (Exhibit 5).

#### DRAINAGE ALONG LOUISIANA BOULEVARD NE

At present, the southerly 500 feet of Louisiana Boulevard sags from the center line of Carmel Avenue NE with a low at the mid-point (Exhibit 6). This permits undeveloped flows from Sedona Pointe to cross Louisiana Boulevard and continue west down Carmel Avenue into La Cueva Oeste Subdivision. Under the Paseo del Norte (PDN) improvements at Louisiana Boulevard a 48-inch diameter storm drain was extended north along Louisiana Boulevard to Holly Avenue, with a planned future northern extension to pick up all flows south of Carmel Avenue (Sub-basin 940.1 in Exhibit 5).

The proposed grading and paving of Louisiana Boulevard will change current drainage patterns; runoff from Sedona Pointe which historically has flowed west across Louisiana Boulevard, will no longer be allowed to cross Louisiana. Drop inlets positioned 250 feet south of Carmel Avenue (Sta. 63+80.26 on Exhibit 6) will pick up most of these flows and route them south in the Louisiana storm drain system toward PDN (Exhibit 6). At Sta. 63+80.26, the Louisiana storm system reaches minimum depth, due to an adverse grade condition; Louisiana slopes -0.5% northward, while the storm drain slopes 0.5% southward.

As previously described, future condition drainage plans are to divert all flows south of Carmel Avenue to PDN. However, the existing storm drain at Holly Avenue can only be extended about 280 feet north (Exhibit 6). Therefore, approximately 200 feet of Louisiana Boulevard just south of Carmel will slope away (to the north) from the storm drain inlet. The area draining to this street segment, the northern third of Sedona Pointe (and of Sub-basin 940.1), cannot be

efficiently drained to the south. Consequently, this report investigates the possibility of draining these flows to the Anaheim storm drain, thus slightly modifying the NAA MDP.

#### DEVELOPED CONDITIONS FOR THE SEDONA POINTE OFFICE COMPLEX

Proposed developed conditions for Sedona Pointe Office Complex (Exhibit 7) create peak flows of 40.6 cfs of runoff for 100-year, 24-hour storm conditions. Most of these developed flows (27.2 cfs) will be routed south in the Louisiana storm drain system to Paseo del Norte. It is proposed that the remaining runoff (13.4 cfs) (Exhibit 8) be routed along Carmel Avenue, west to Louisiana Boulevard, then northward to an existing drop inlet located at the toe of the LNDB Dam. These flows would enter the Anaheim storm drain system at this point (AP 930.87 in Exhibit 1). The hydrograph for Sedona Pointe and that for the NAA MDP Study at AP 930.87 were combined and the combined hydrograph is compared to the original hydrograph at AP 930.87 in Exhibit 9.

### EFFECT OF SEDONA POINTE INFLOW ON NORTH ALBUQUERQUE ACRES MASTER DRAINAGE PLAN AT I-25

The Sedona Pointe Office Complex runoff peaks at 1.5 hours. An estimated two minutes is required to convey this flow from the site,  $\pm$  475 feet along Louisiana to the drop inlet at Anaheim. An additional 3.3 minutes is needed to convey the flow  $\pm$  4000 feet in the Anaheim storm drain to I-25. At this point the Sedona Pointe runoff is lagged by 0.09 hours (peak at 1.59  $\approx$ 1.60 hours); however, at the same analysis point, the NAA MDP indicates a peak flow of 394.0 cfs at 1.55 hours, thus the two peak flows do not coincide but are close. Because both hydrographs have steep rising and recession limbs, the 0.1 hours of travel time becomes significant as seen below, in Table 2.

TABLE 2
Modified Hydrograph at I-25

Time <a href="#"></a>	Original I-25 Hydrograph	Sedona Pointe Hydrograph (Lagged 0.10 hrs)	Modified I-25 Hydrograph
hrs	cfs	cfs	cfs
1.45	329.2	7.7	336.9
1.50	393.5	9.2	402.7
1.55	394.0	12.3	406.3
1.60	358.0	13.4	371.4
1.65	320.8	11.5	332.3
1.70	293.4	10.3	303.7

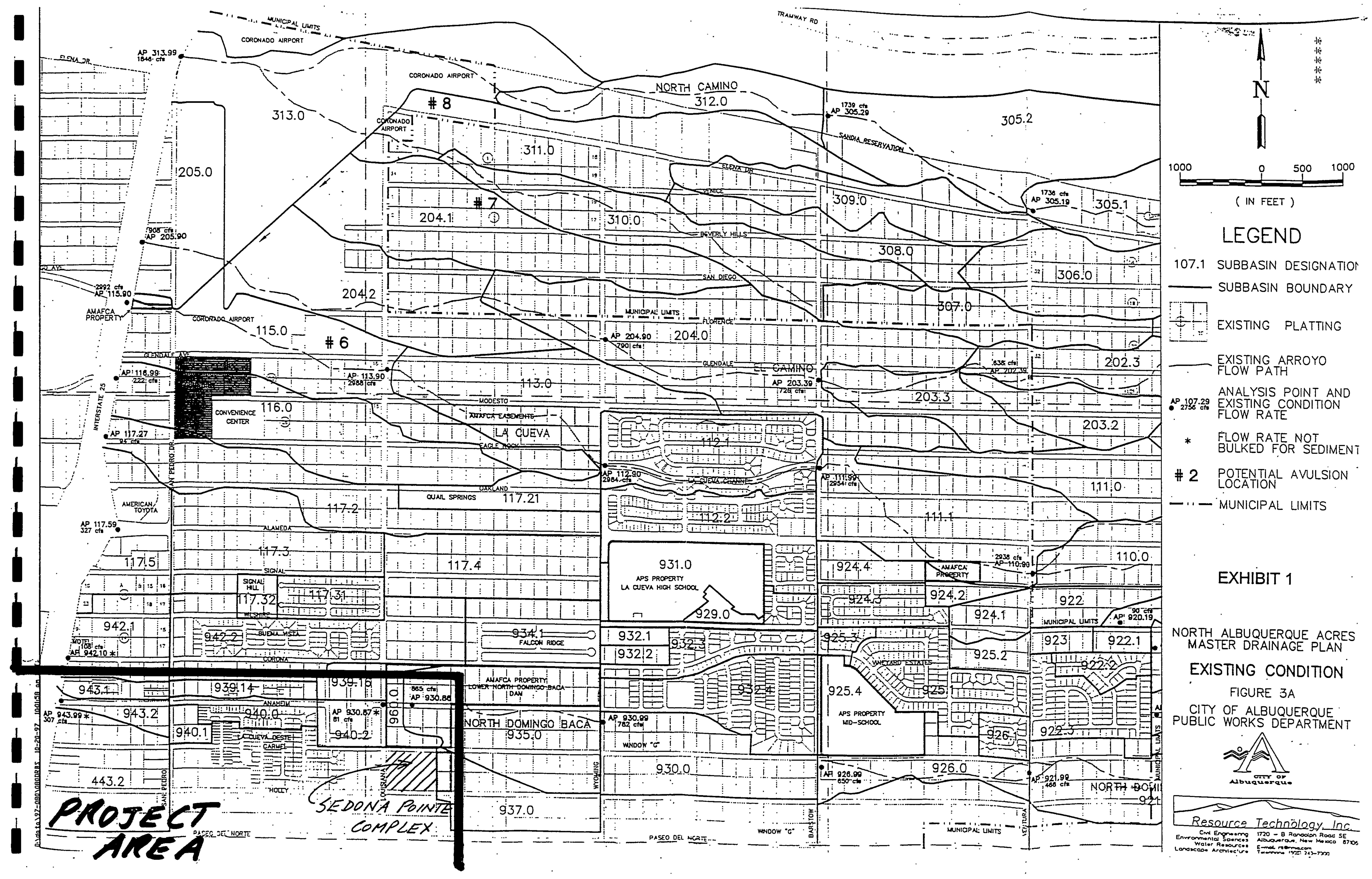
If the Sedona Pointe peak flow does arrive at I-25 at approximately 1.60 hours as projected, the total peak flow at I-25 would increase by 12.3 cfs to 406.3 cfs, at 1.55 hours, an increase of 3.1%.

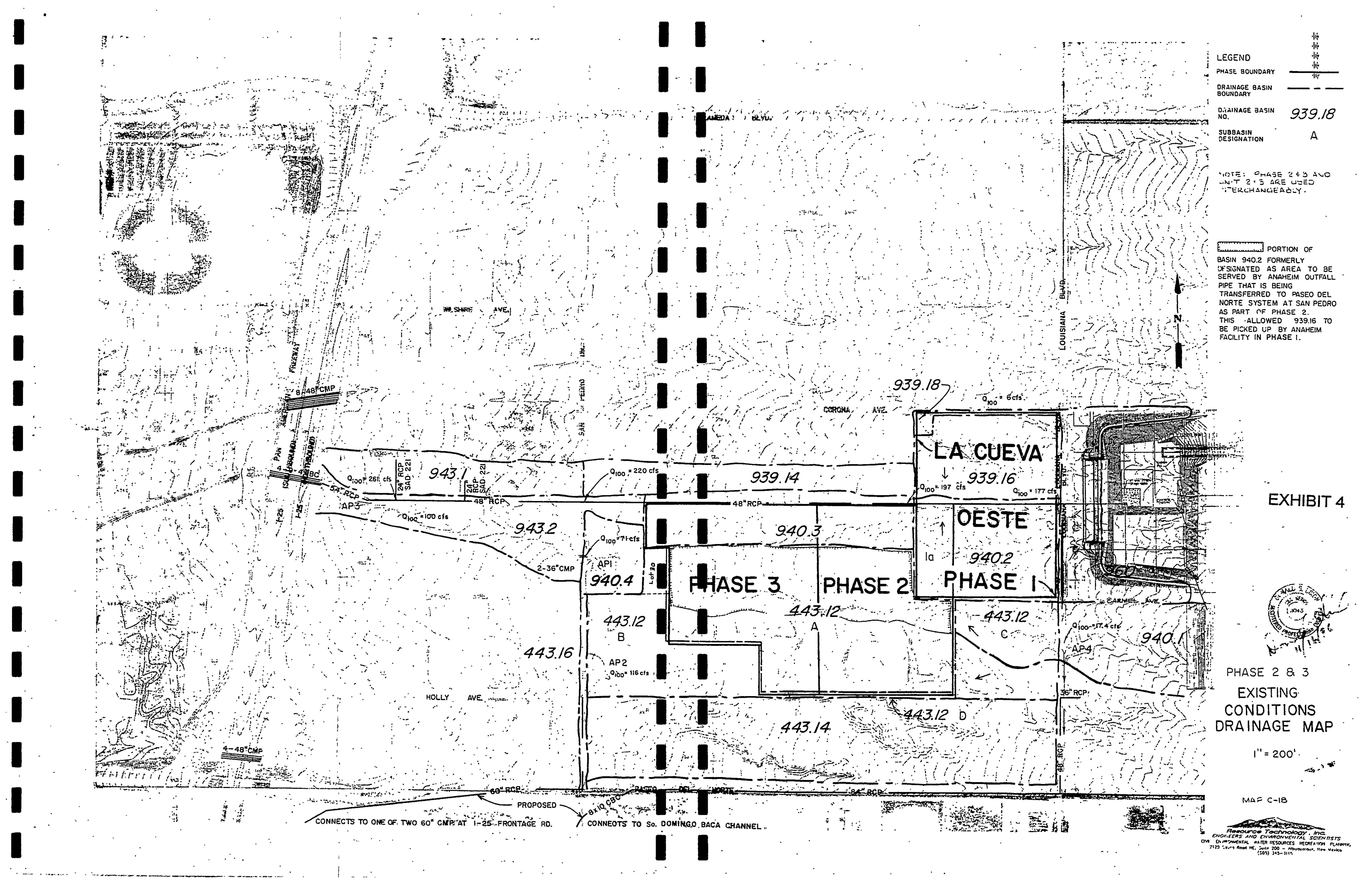
If the Sedona Pointe peak flow arrives at I-25 at 1.55 hours, the worst-case scenario, the peak flow at I-25 would increase by 13.4 cfs, or a 3.7% increase.

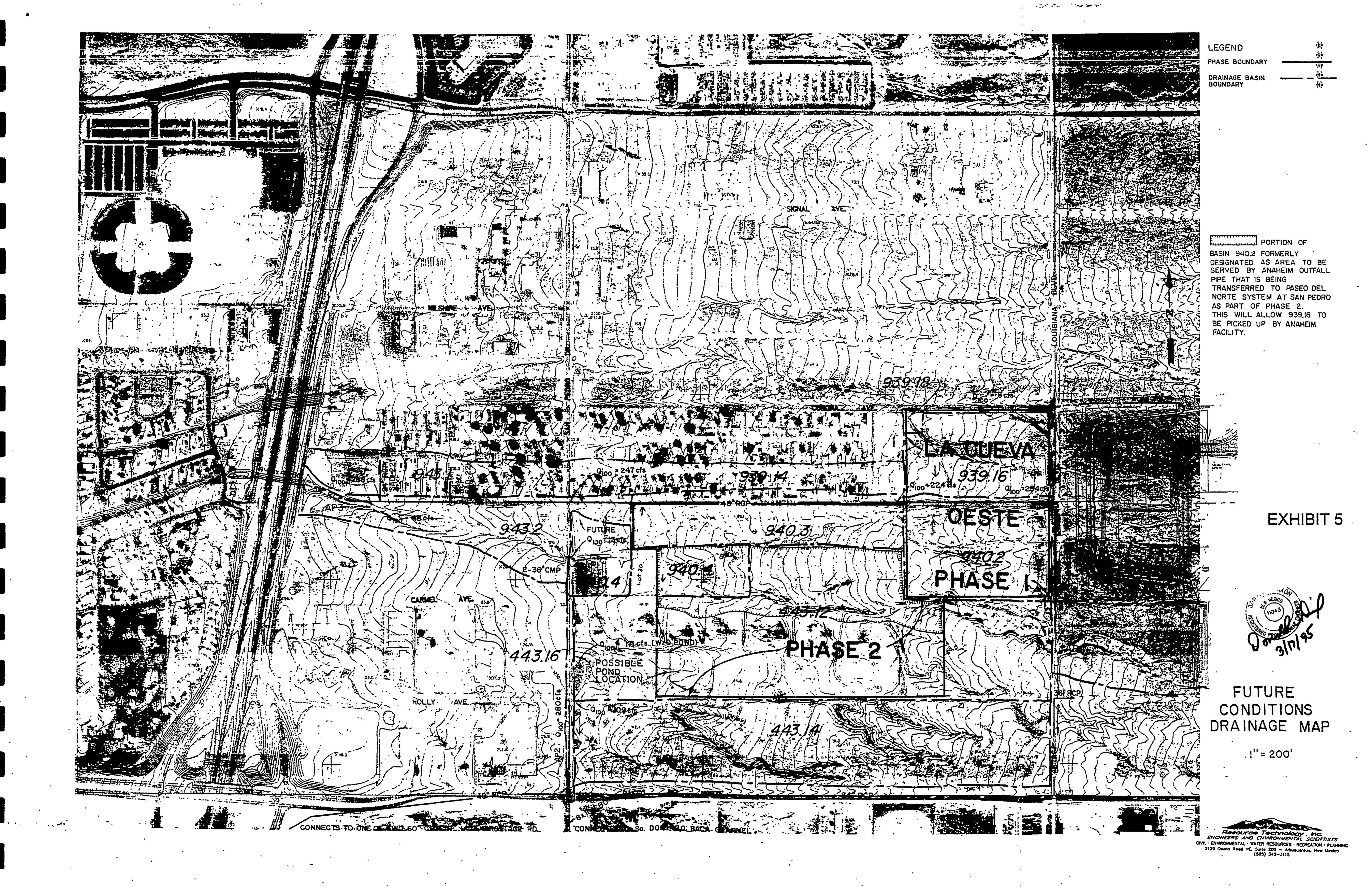
#### **CONCLUSION**

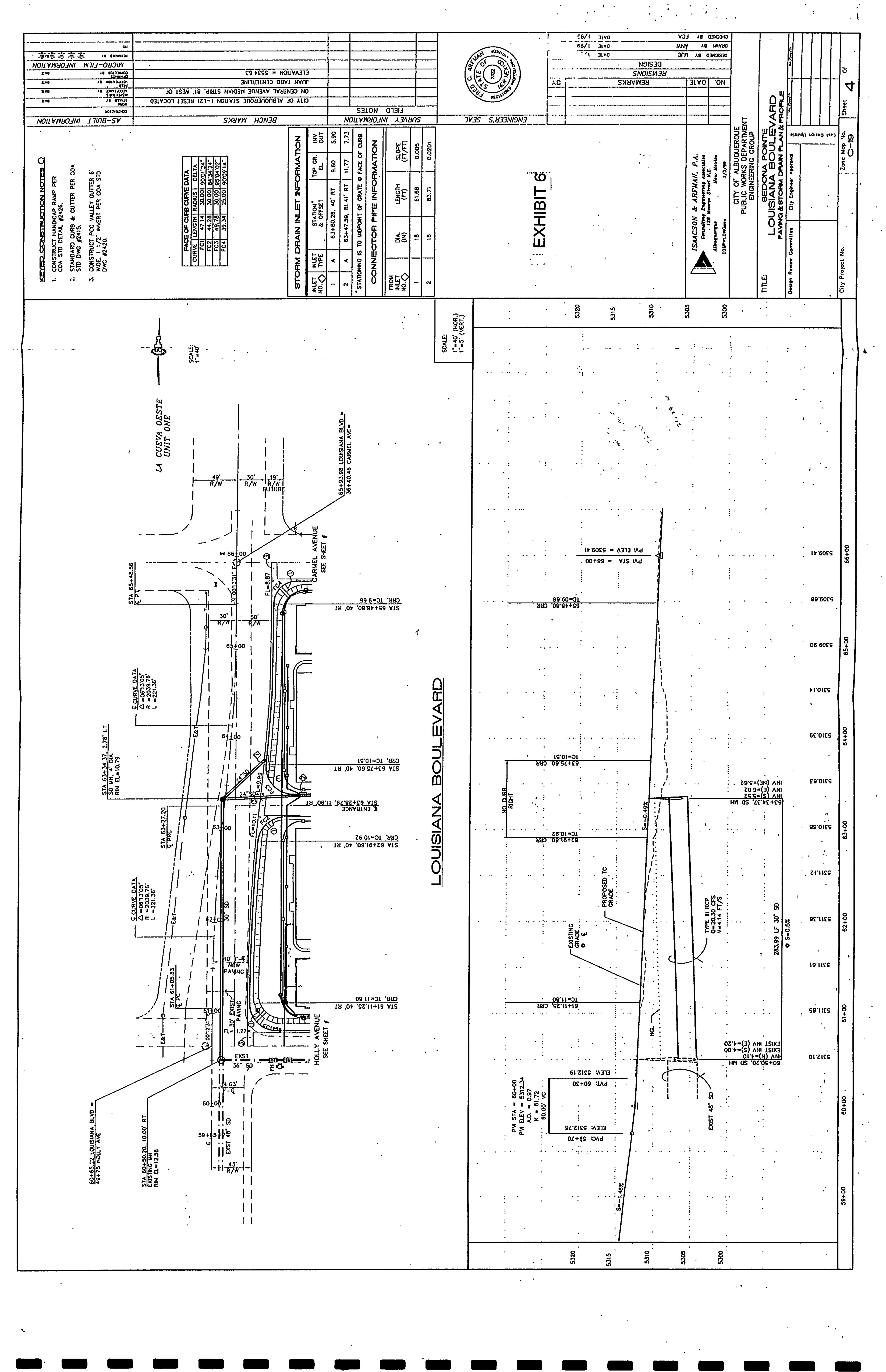
As displayed on Exhibit 8, the combined hydrograph of the LNDB Dam and Sedona Pointe do not exceed design capacity for the 48" LNDB Dam outfall. The peak flow from Sedona Pointe enters the pipe while it is still under-utilized, with no impact at peak flow conditions.

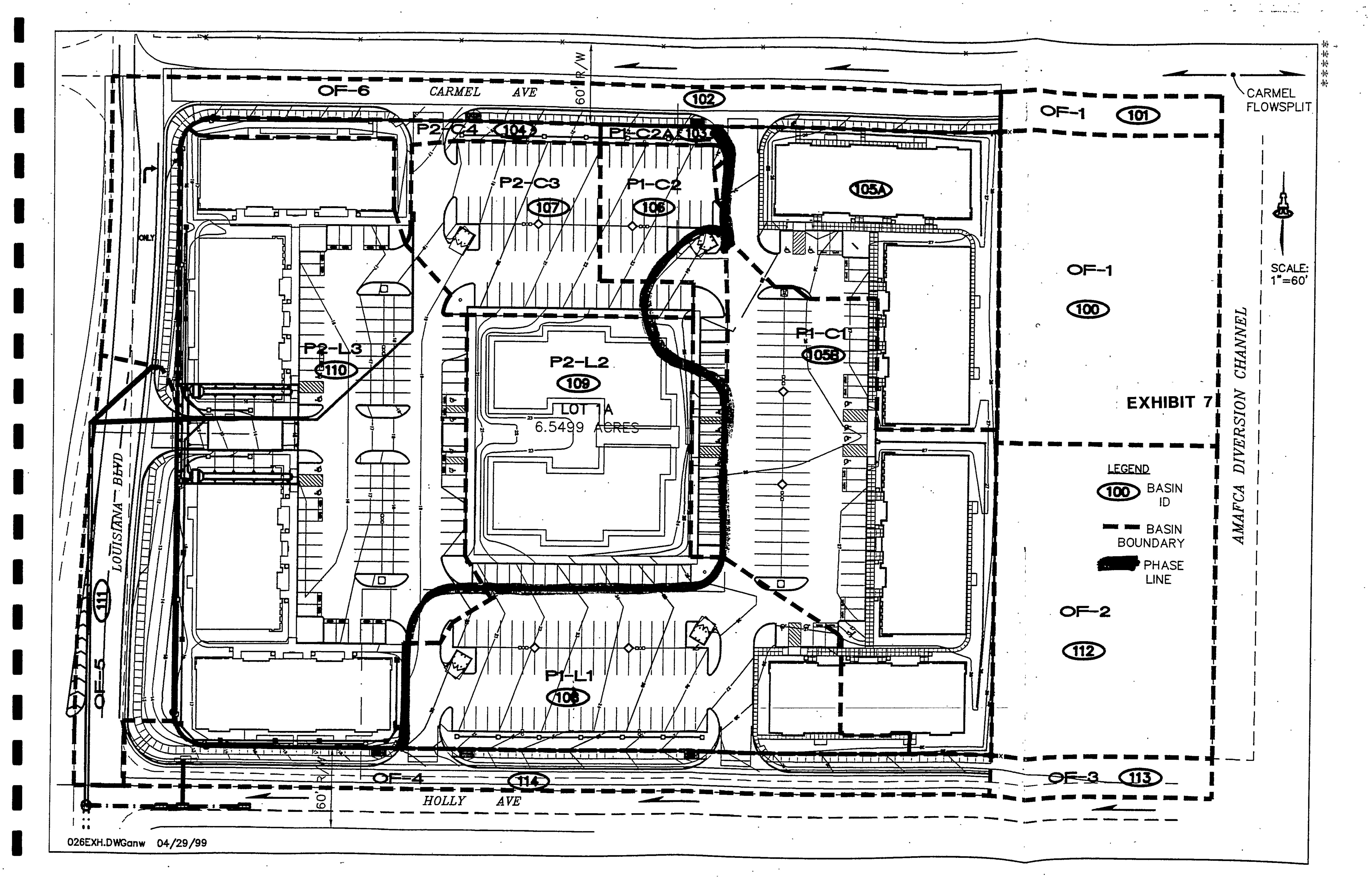
The peak flow from Sedona Pointe continues west down the Anaheim storm drain and encounters coincident local peak flows at I-25, increasing the peak flow at I-25 by 3.1%. Therefore, the minor modification to the NAA MDP as a result of the partial (12.3 cfs) inflow from Sedona Pointe would have a minimal impact to flow in the I-25 culverts.













## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

July 2, 2004

Mr. Fred Arfman, P.E.

ISAACSON & ARFMAN, PA
128 Monroe St. NE
Albuquerque, NM 87108

Re: SEDONA POINTE OFFICE BUILDING, PHASE 3

Southeast Corner of Louisiana Blvd. and Carmel Ave. NE

Approval of Permanent Certificate of Occupancy (C.O.)

Engineer's Stamp dated 01/28/2003 (C-19/D001)

Certification dated 07/02/2004

Dear Fred,

Based upon the information provided in your submittal received 07/02/2004, the above referenced certification is approved for release of Permanent Certificate of Occupancy by Hydrology.

If you have any questions, you can contact me at 924-3982.

Sincerely,

Arlene V. Portillo

Plan Checker, Planning Dept. - Hydrology

Development and Building Services

Arlene V Portilla

Beb

C: Phyllis Villanueva

File,



# City of Albuquerque P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

February 14, 2003

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

RE: SEDONA POINTE OFFICE BLDG. PHASE 3 (C-19/D1)
GRADING AND DRAINAGE PLAN FOR BUILDING PERMIT
ENGINEERS STAMP DATED 1/28/2003

Dear Fred

Based upon the information provided in your resubmittal dated 1/28/2003, the referenced Grading and Drainage Plan is approved for Building Permit, and Foundation Permit.

Prior to any grading of the site, a Top Soil Disturbance Permit from the Environmental Health Department is required.

Prior to release of the Certificate of Occupancy, an Engineer's Certification of the grading and drainage plan per the DPM checklist will be required.

If I can be of further assistance, please feel free to contact me at 924-3982.

Sincerely,

Carlos A. Montoya, P.E.

City Floodplain Administrator

Development & Building Services Division

**J**.

c: drainage file



### City of Albuquerque

February 22, 2000

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

RE: ENGINEER'S CERTIFICATION FOR SEDONA POINTE OFFICE BUILDING,
PHASE ONE, (C-18/D1), ENGINEER'S STAMP DATED MARCH 15, 1999,
CERTIFICATION DATED JANUARY 3, 2000.

Dear Mr. Arfman,

Based upon the information provided in your submittal dated JANUARY 3, 2000, the Engineering Certification for Certificate of Occupancy for the project referred to above is approved.

If you have any questions, please call me at 924-3988.

Sincerely,

Stuart Reeder, P.E.

Hydrology Division

xc: Whitney Reierson

Pile

#### DRAINAGE INFORMATION SHEET

JECT SODENA POINTE	ZONE ATLAS/DRNG. C19/D1 FILE#:
DRB # NA EPC # NA	WORK ORDER #
LEGAL DESCRIPTION: LOT 1A, TRACTZ,	UNIT3 BUX 9, N.A.A.
CITY ADDRESS: 8224 / 8220 Lausian	A Bun. 87/13
ENGINEERING FIRM: Isaacson & Arfman, P.A.  ADDRESS: 128 Monroe Street NE  CITY, STATE: Albuquerque, NM  OWNER: REDAVIS COMPANIES  ADDRESS: 1114 PENNSTANAMA  CITY, STATE: ABO NM  ARCHITECT: DELVER PERICAL SABA  ADDRESS: 6801 DETESSASSIN ST  CITY, STATE: ABO NM  SURVEYOR: ADDRESS:  CITY, STATE:  CONTRACTOR: SUNDANCE MECH  ADDRESS: 4400 ALEMEDA NE, S	CONTACT:  PHONE: 268-8828  ZIP CODE: 87108  CONTACT: BOK DAYS  PHONE: 268-8828  ZIP CODE: 87108  CONTACT: BOK DAYS  ZIP CODE: 87100
TYPE OF SUBMITTAL:  DRAINAGE REPORT  DRAINAGE PLAN  CONCEPTUAL GRADING & DRAINAGE PLAN  GRADING PLAN  EROSION CONTROL PLAN  ENGINEER'S CERTIFICATION (FINAL: 757AL PLASSOTHER  OTHER  PRE-DESIGN MEETING:  YES  NO  COPY PROVIDED  HYDROLOGY SECTION	CHECK TYPE OF APPROVAL SOUGHT:  SKETCH PLAT APPROVAL  PRELIMINARY PLAT APPROVAL  S.DEV. PLAN FOR SUB'D. APPROVAL  S.DEV. PLAN FOR BLDG. PERMIT APPROVAL  SECTOR PLAN APPROVAL  FINAL PLAT APPROVAL  FOUNDATION PERMIT APPROVAL  CERTIFICATE OF OCCUPANCY APPROVAL  GRADING PERMIT APPROVAL  FAVING PERMIT APPROVAL  S.A.D. DRAINAGE REPORT  DRAINAGE REQUIREMENTS  OTHER (SPECIFY)
DATE SUBMITTED: 0.5.03.0	<del></del>

BY: FREE AREMAN, P.A.



# City of Albuquerque P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

April 5, 2004

Christopher Gunning, R.A. Decker Perich Sabatini 6801 Jefferson NE Suite 100 Albuquerque, NM 87109

Re:

Sedona Pointe Office Buildings Phase 4, 8228 and 8232 Louisiana Blvd. NE, Traffic

Circulation Layout

Architect's Stamp dated 4-05-04 (C19/D1)

Dear Mr. Gunning,

The TCL submittal received 4-05-04 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.

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 <u>Drainage and Transportation Information Sheet</u> 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 <u>Drainage and Transportation Information Sheet</u> 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,

Kristal D. Metro

Engineering Associate, Planning Dept.

Development and Building Services

cc: file



### City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

Chris Go

FEB 1 2 2004

Dekker/Perich/Sabatint

February 11, 2004

Christopher Gunning, R.A. Decker Perich Sabatini 6801 Jefferson NE Suite 100 Albuquerque, NM 87109

Sedona Pointe Office Buildings Phase 4, 8228 and 8232 Louisiana Blvd. NE, Re: Traffic Circulation Layout

Architect's Stamp dated 2-06-04 (C19/D1)

Dear Mr. Gunning,

Based upon the information provided in your submittal received 2-10-04, the above referenced plan cannot be approved for Building Permit until the following comments are addressed:

COMMINSON ADMINSON AS PART A PHASING PUNI.

- 1. The 2-foot allowable overhang for the parking spaces along proposed building 8232 encroaches on the 6 foot required width of sidewalk.
- 2. Sections of the proposed sidewalk appear to have less than the required 6-foot width. Please ensure that all sidewalks meet this criteria.
- 3. Please call out the width of the aisle between the two handicapped spaces.
- 4. Do the proposed buildings in Phase 4 share the dumpsters constructed in Phase 3?
- 5. The internal sidewalk should connect to the public sidewalk.

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

Sincerely,

Wilfred A. Gallegos, P.E.

Traffic Engineer, Planning Dept. Development and Building Services

file

==== THE CITY OF ALBUQUERQUE IS AN EQUAL OPPORTUNITY/REASONABLE ACCOMMODATION EMPLOYER ======

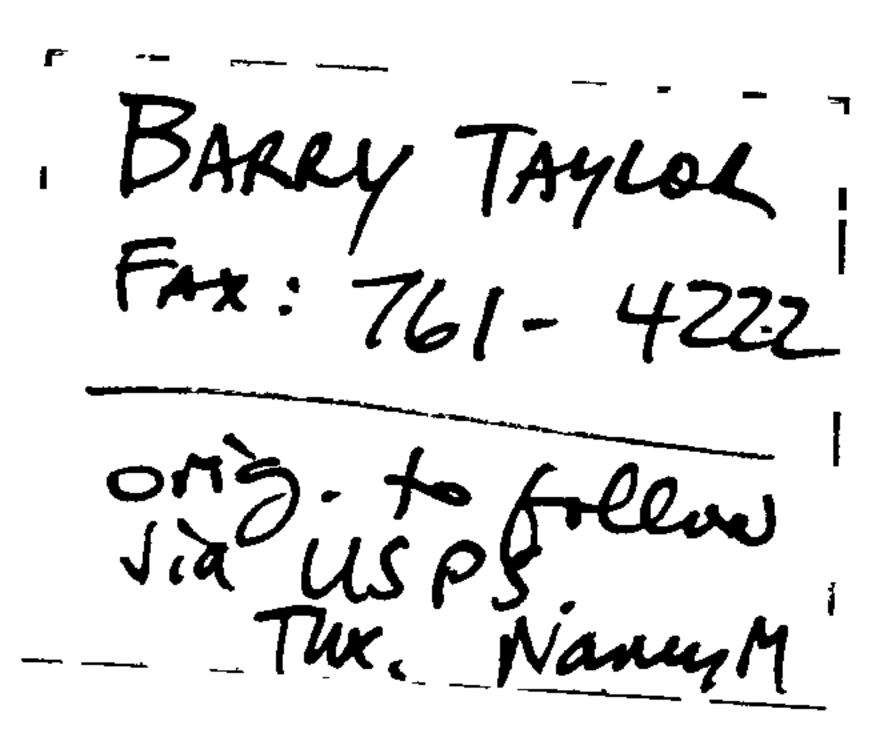


Chris Gunning, Architect Dekker Perich Sabatini 6801 Jefferson NE Albuquerque, NM 87109

## City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

January 8, 2003



Re: Traffic Circulation Layout (TCL), Architect's stamp dated 1-07-03 Sedona Pointe Office Buildings, Phase 3 Zone Map/Drainage File C19/D1

Dear Mr. Gunning,

Based on the information provided in your submittal dated January 7, 2002, the above referenced TCL is approved for Building Permit. Please attach a copy of the approved plan to each building permit plan set, and keep a copy to be used for certification of the site for Final C.O. for Transportation.

For Temporary C.O, the following is required:

- Drainage and Transportation Information Sheet.
- A copy of the approved TCL marked up showing incomplete work remaining.
- Letter of Certification stating that the site was built in substantial compliance.

For Final C.O, the following is required:

- Drainage and Transportation Information Sheet.
- Letter of Certification stating that the site was built in substantial compliance.
- TCL "as-built" plan, stamped with the designer's seal, and dated and signed.

If you have any questions, please call me at 924-3988.

Sincerely,

Nancy Musinski, P.E.

Development & Building Services

Dany Musuf.

Planning Department

cc:

Terri Martin

file

#### DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV. 1/11/2002)

PROJECT TITLE: SEDOND POINTS - PHOSE !  DRB #:	ZONE MAP/DRG. FILE #:	
LEGAL DESCRIPTION: LOT 1A, TENCT Z, UNIT 3 CITY ADDRESS: 9200, 8202, 8204, 78206	·	
ENGINEERING FIRM:   GAACGON & DEFMON P.A.  ADDRESS: 128 MONROE ST., NE  CITY, STATE: ACRUS., NM	CONTACT: FRED ARPWAN  PHONE: 268-8828  ZIP CODE: 87108	
OWNER: D.E. DOYIS CONSTRUCTION ADDRESS: POZZO COUISION D., HE - SU CITY, STATE: ALBUQ., NM	CONTACT: PICK DXUIS  PHONE: 268-2773  ZIP CODE: 87113	
ARCHITECT: DECKUSIZ/PODICH/SMERTIN ADDRESS: GROI LEFFERSON, NE-SUT CITY, STATE: ALBUQ., NM	1 CONTACT TOWN	
SURVEYOR: ADDRESSCITY, STATE:	CONTACT: PHONE: ZIP CODE:	
CONTRACTOR:  ADDRESS:  CITY, STATE:	CONTACT:PHONE:ZIP CODE:	
CHECK TYPE OF SUBMITTAL:  DRAINAGE REPORT  DRAINAGE PLAN  CONCEPTUAL GRADING & DRAINAGE PLAN  GRADING PLAN  EROSION CONTROL PLAN  ENGINEER'S CERTIFICATION (HYDROLOGY)  CLOMR/LOMR  TRAFFIC CIRCULATION LAYOUT (TCL)  ENGINEERS CERTIFICATION (TCL)  ENGINEERS CERTIFICATION (DRB APPR. SITE PLAN)  OTHER	CHECK TYPE OF APPROVAL SOUGHT:  SIA / FINANCIAL GUARANTEE RELEASE PRELIMINARY PLAT APPROVAL S. DEV. PLAN FOR SUB'D. APPROVAL S. DEV. PLAN 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 (SPEO)FEY	
WAS A PRE-DESIGN CONFERENCE ATTENDED:  YES NO COPY PROVIDED	D 国区区IV区D JAN 0 7 2003 HYDROLOGY SECTION	
DATE SUBMITTED: 1.7.02 BY:BY:	a. La Car	
Requests for approvals of Sita Davidanment Diana and to Colonia to the Colonia to		

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

- 1. Conceptual Grading and Drainage Plan: Required for approval of Site Development Plans greater than five
- 2. Drainage Plans: Required for building permits, grading permits, paving permits and site plans less than five (5)
- 3. Drainage Report: Required for subdivisions containing more than ten (10) lots or constituting five (5) acres or