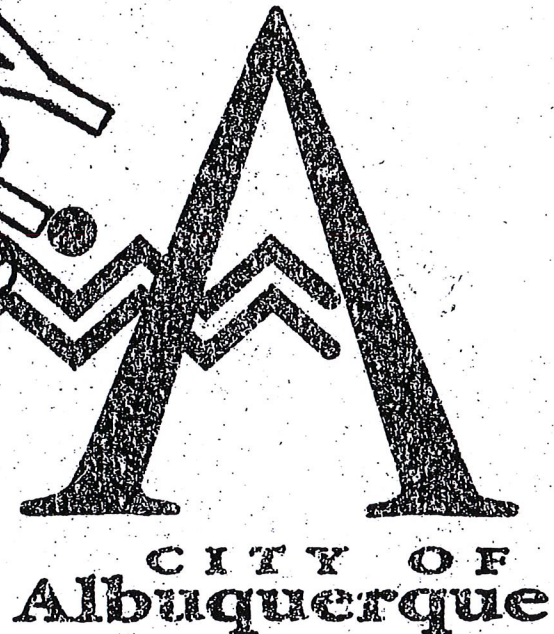
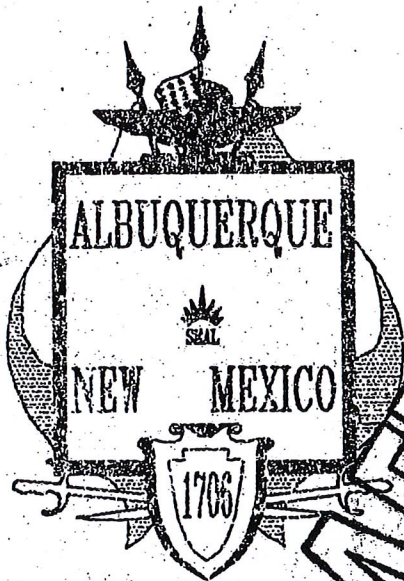


PDR-2

CITY OF ALBUQUERQUE, NEW MEXICO

WEST MESA DIVERSION PROJECT DRAINAGE ANALYSIS



GOA PROJECT NO. 5381-01
PUBLIC WORKS DEPARTMENT
HYDROLOGY DIVISION

Prepared by



Smith Engineering Company

A Full Service Engineering Company

DRAFT REPORT: MAY, 1997

Grid

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TABLE 1
WEST MESA DIVERSION PROJECT
DRAINAGE ANALYSIS
LAND TREATMENTS

ZONE DESIGNATION	LAND TREATMENTS			
	"A"	"B"	"C"	"D"
<u>RESIDENTIAL</u>				
R-1		43		57
R-2		30		70
<u>INDUSTRIAL</u>				
IP		20		80
<u>COMMERCIAL</u>				
C-1		10		90
C-2		10		90
C-3		10		90
<u>SCHOOLS</u>				
WEST MESA HIGH SCHOOL		50		50
<u>PARKS</u>				
SUB-BASIN C6-D		93		7
<u>NMSHTD RIGHT OF WAY</u>				
SUB-BASINS				
I-40D-1 & I-40D-2	75			25
I-40D-3, I-40D-4, I-40D-5	36			64

Percent land treatment "D" taken from Table A-5, DPM Section 22.2

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2-48" CMP

40-2

C4-D

76 TH ST

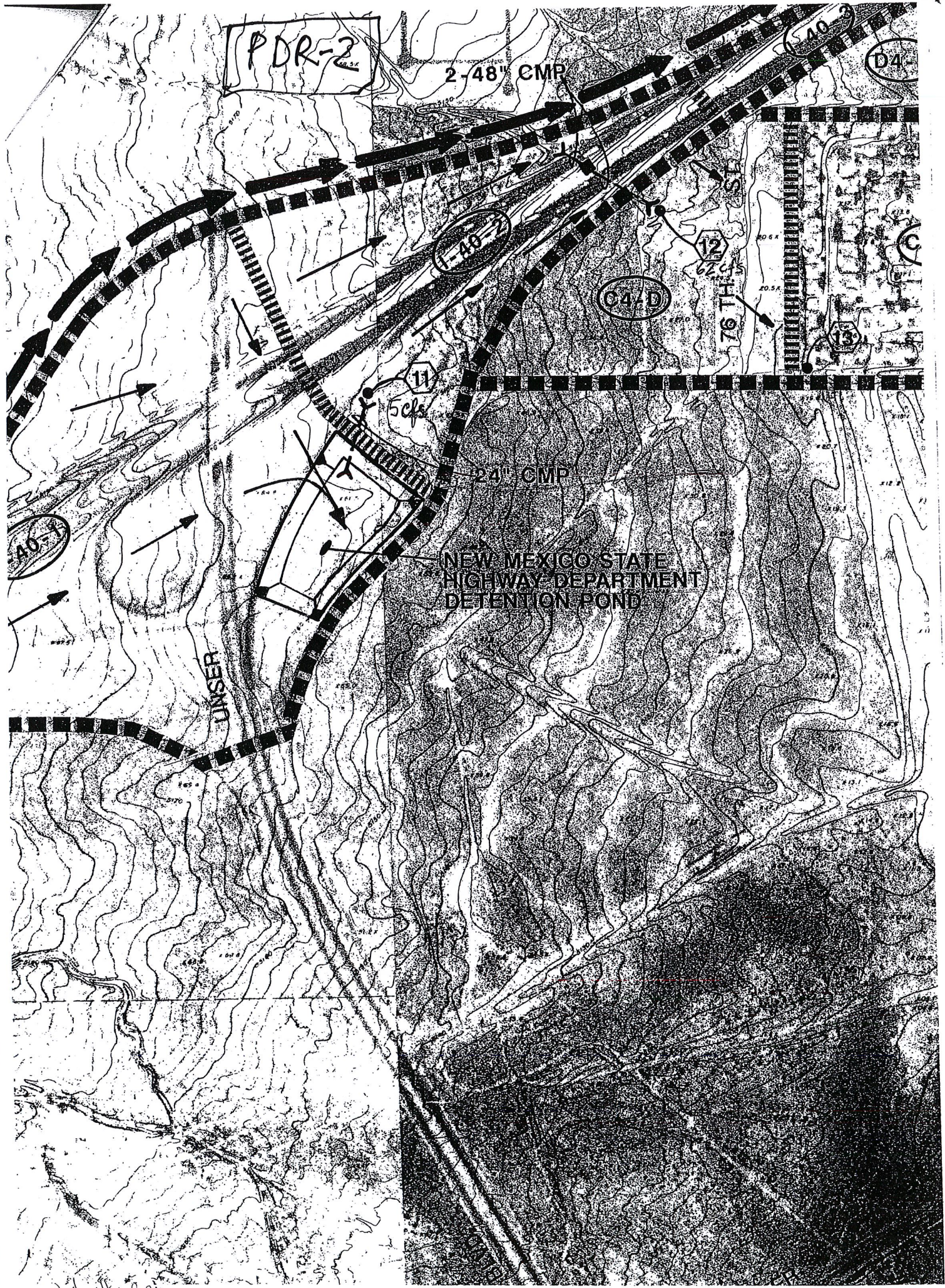
11

5 cfs

24" CMP

NEW MEXICO STATE
HIGHWAY DEPARTMENT
DETENTION POND

UNSER



SUMMARY OF PEAK DISCHARGES AND PEAK VOLUMES ALTERNATIVE 2A1

DEVELOPED CONDITIONS

(ALL FLOWS INCLUDE A 2.5% BULKING FACTOR)

ANALYSIS POINT	Q(10) (6hr.) (cfs)	V(10) (24hr.) (ac-ft.)	Q(100) (6hr.) (cfs)	V(100) (24hr.) (ac-ft.)
1	55	4.3	88	7.1
2	27	1.4	42	2.3
3	48	2.0	76	3.2
4	60	3.2	94	6.2
5	107	8.9	173	14.5
6	57	3.1	93	5.1
7	162	12.0	261	19.6
8	26	1.1	43	1.8
9	196	14.3	320	23.5
10	19	1.2	30	1.9
11	2	2.1	5	4.6
12	27	3.2	62	7.0
13	75	5.5	141	19.8
14	118	7.6	215	14.3
15	121	7.8	220	15.0
16	137	8.9	241	16.8
16A	332	23.2	560	40.2
17	84	22.1	129	38.5
18	23	1.5	40	2.7
19	92	23.6	145	41.1
20	20	1.4	35	2.4
21	102	25.0	167	43.6
22	31	2.0	49	8.1
23	10	0.5	16	0.8
24	28	1.4	47	2.3
25	64	3.6	128	6.1
26	90	5.0	161	8.3
27	173	32.0	311	55.0
28	40	2.5	62	4.1
29	12	0.7	20	1.2
30	179	1.8	124	7.0
31	265	3.7	456	5.1
32	101	2.6	18	5.1
33	30	1.0	20	1.5
34	12	0.5	30	1.5
35	10	1.1	30	1.5

PDR-2

PDR-4

Drainage Report

for

MERIDIAN BUSINESS PARK II

**A Supplement to the
Master Drainage Plan for
Atrisco Business Park
Dated September 1992
Revised March 1993/ October 1993**

Prepared by:

**Wilson & Company, Inc.
4900 Lang Ave NE
Albuquerque, New Mexico 87109
(505) 348-4191**

**August 2007
WCI File No: 0760004400**

**WILSON
& COMPANY**

Pond 3 & 3A will discharge a total of 2.2 cfs into the proposed 24" storm drain that will be located within this site and will tie into the existing 24" storm drain in Los Volcanes Road NW.

Pond 4 will have a discharge of 2 cfs into the proposed 24" SD that will run along Lot1A in a 20' easement and will tie into the existing 24" SD in Los Volcanes Road NW.

An ultimate discharge of 9.2 cfs of the 13.3 cfs will discharge into the North/South Coors Connection, adhering to the Master Drainage Plan.

An extension of the storm drain in Fortuna Road NW will be required to collect the flow generated from Basin C4-D of the "West Mesa Diversion Project Drainage Analysis". This basin is comprised of Lots 185A, 184, 183, 182, and 181. Per this Drainage Analysis, a discharge of 3.76 cfs/acre to the street was determined for the fully developed conditions. Refer to Table 3 below for the allowable discharge.

Table 3: Summary of Allowable Free Discharge to Street – Fully Developed		
Lot	Area (acres)	100 ^{year} -24 ^{hour} Peak Flow (Q ₁₀₀) cfs
185A	1.37	5.15
184	2.37	8.91
183	3.46	13.01
182	4.21	15.83
181	4.54	17.07

27.07
32.9

A street flow analysis was completed to determine the location of the of the storm drain extension. See Appendix A. Inlets will be provided at the return of Fortuna Road NW and Gallatin Place NW, and between Lots 182 and 181 with a 30" storm drain tying into the existing 30" cap provided.

Inlets will also be required in 76th Street to accommodate the 60 cfs generated from Basin 1-40-2 of the "West Mesa Diversion Project Drainage Analysis". These inlets will be located at the curb returns of 76th Street and Fortuna Road NW intersection. An extension of the 36" storm drain will be required from the east side of Mesa del Rio Street into the retention pond located in Tract A of the Cedar Ridge Estates.

Conclusion

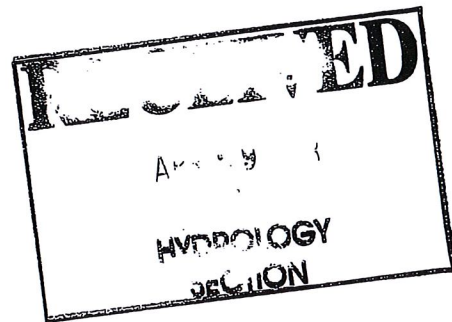
The development of Meridian Businss Park II has been analyzed in this report. The project's design is adhering to the requirements of the approved "Master Drainage Plan for Atrisco Bunisess Park" dated September 1992, Revised March 1993/October 1993, with an ultimate discharge of 9.2 cfs into the North/South Coors Connection Watershed. As part of this development a segment of Fortuna Road NW will be constructed. A portion of the drainage system will be required to be built with the roadway in accordance with the "West Mesa Diversion Project Drainage Analysis" as described above.

PDR-5

Drainage Report

for

FedEx Freight Albuquerque



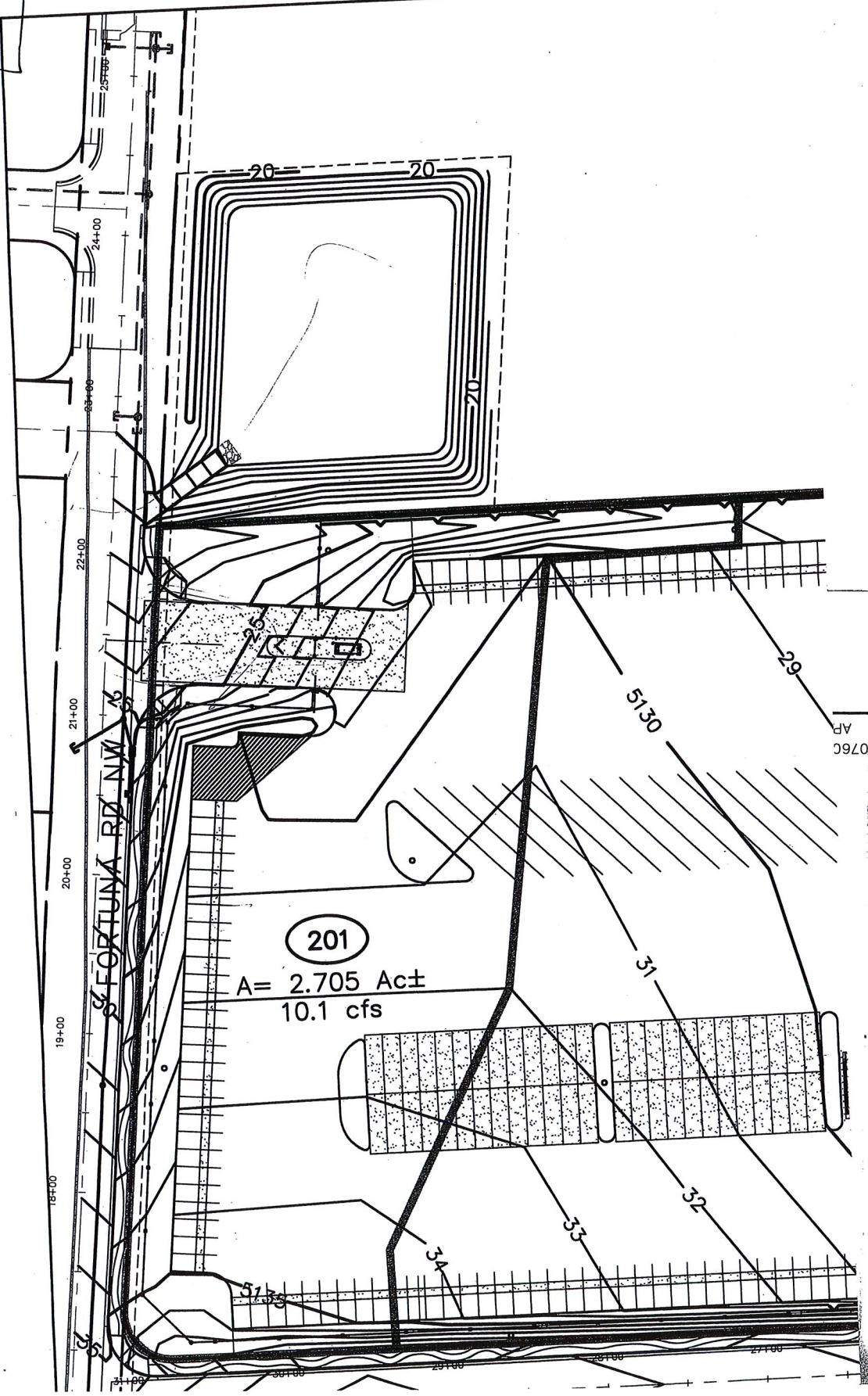
Prepared by:

Wilson & Company, Inc.
4900 Lang Ave NE
Albuquerque, New Mexico 87109
(505) 348-4191

April 2008
WCI File No: 0760004400

WILSON
& COMPANY

"PDR-5"



— FED-EX RUNDOWN IN BASIN
201 (PDR-5) - NO CURB OPENING
IN FORTUNA RD TO CONVEY FLOWS
TO TEMP. POND. —

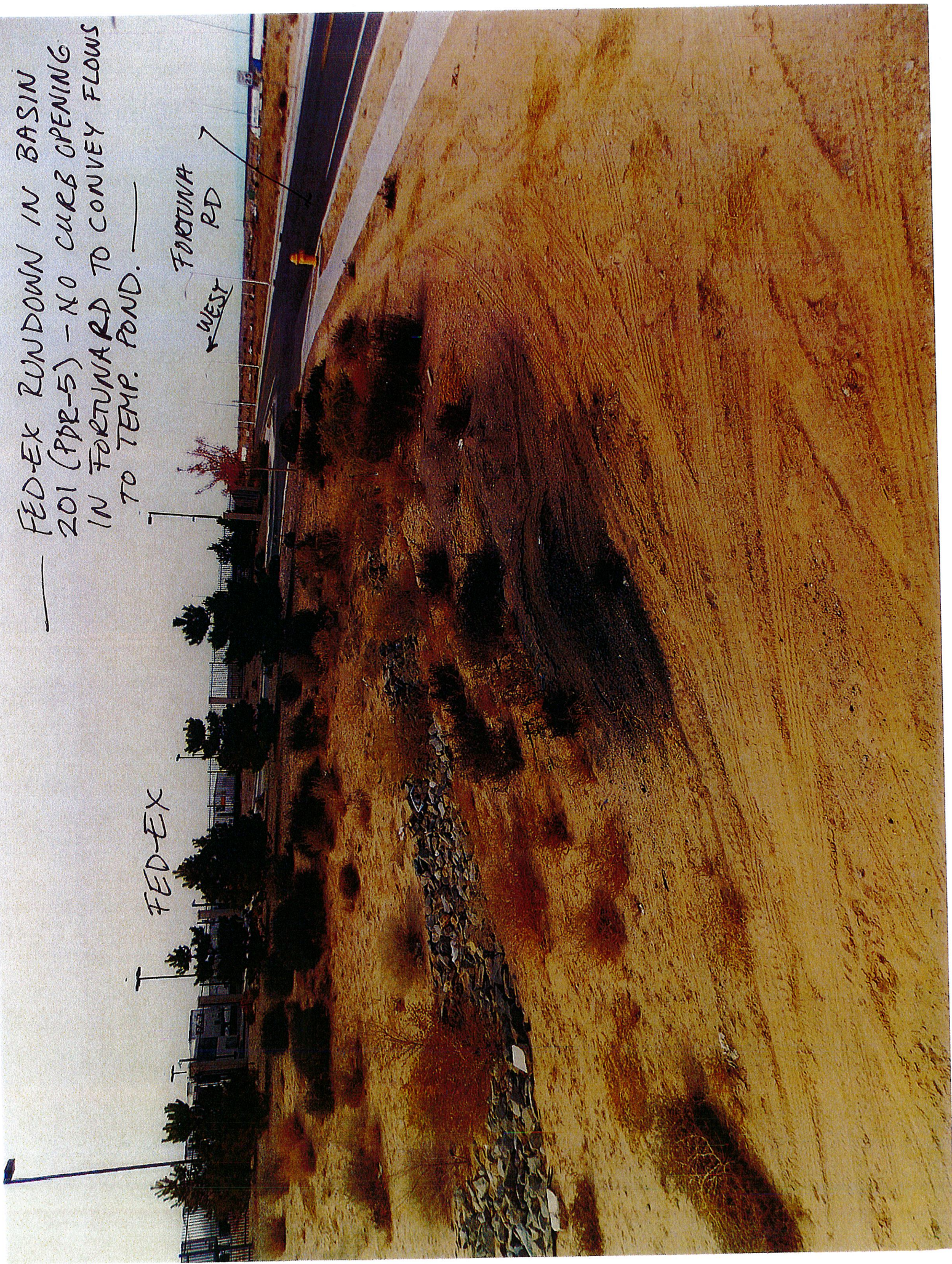
FED-EX

FORTUNA

RD

WEST

7



MP. JMF
CK. KLS/DSA

**WILSON
& COMPANY**

LOC. FILE 076000440
PROJ. GALLATINE FORTUNA SHEET 1
SUBJ. FORTUNA RD OF 1
HYDROLOGY CALC

DATE 11/30/07

FULLY DEVELOPED

FORTUNA RD SD MH-1

$$480 \text{ LF RDWY} \cdot 60' \text{ R/W} = 28,800 \text{ SF} = 0.66 \text{ ACRES}$$

$$\text{AREA D} = 0.66 \text{ ACRES} \quad \text{ZONE 1}$$

$$Q_p = 4.37 \text{ CFS/ACRE} \cdot 0.66 \text{ ACRES} = 2.88 \text{ CFS}$$

$$Q_{SSA} = 5.15 \text{ CFS}$$

$$Q_{FH} = 8.91 \text{ CFS}$$

$$Q_{SDMH-1} = Q_{RDWY} + Q_{SSA} + Q_{FH} = 2.88 + 5.15 + 8.91 = 16.94 \text{ CFS}$$

FORTUNA RD SD MH-2

$$420 \text{ LF RDWY} \cdot 60' \text{ R/W} = 25,200 \text{ LF} = 0.58 \text{ ACRES}$$

$$\text{AREA D} = 0.58 \text{ ACRES} \quad \text{ZONE 1}$$

$$Q_p = 4.37 \text{ CFS/ACRE} \cdot 0.58 \text{ ACRES} = 2.53 \text{ CFS}$$

$$Q_{R3} = 13.01 \text{ CFS}$$

$$Q_{R2} = 5.83 \text{ CFS}$$

$$Q_{R1} = 17.07 \text{ CFS}$$

$$Q_{SDMH-2} = Q_{RDWY} + Q_{R3} + Q_{R2} + Q_{R1} = 2.53 + 13.01 + 5.83 + 17.07 = 48.44 \text{ CFS}$$