

# CITY OF ALBUQUERQUE

Planning Department  
Alan Varela, Director



Mayor Timothy M. Keller

April 18, 2023

Ronald Bohannon, P.E.  
Tierra West, LLC  
5571 Midway Park Place NE  
Albuquerque, NM 87109

**RE: Titan - WFH  
Conceptual Grading & Drainage Plan  
Engineer's Stamp Date: 04/18/23  
Los Pastores Master Drainage Plan Amendment Report  
Engineer's Stamp Date: 04/01/23  
Hydrology File: F19D013D**

Dear Mr. Bohannon:

PO Box 1293

Based upon the information provided in your submittal received 04/10/2023, the Conceptual Grading & Drainage Plan is preliminary approved for action by the Development Facilitation Team (DFT) on Site Plan for Building Permit.

Albuquerque

**PRIOR TO BUILDING PERMIT:**

NM 87103

1. Please submit a more detailed Grading & Drainage Plan to Hydrology for review and approval. This digital (.pdf) is emailed to [PLNDRS@cabq.gov](mailto:PLNDRS@cabq.gov) along with the Drainage Transportation Information Sheet.

[www.cabq.gov](http://www.cabq.gov)

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Dough Hughes, PE, [jhughes@cabq.gov](mailto:jhughes@cabq.gov), 924-3420) 14 days prior to any earth disturbance.

If you have any questions, please contact me at 924-3995 or [rbrissette@cabq.gov](mailto:rbrissette@cabq.gov).

Sincerely,

*Renée C. Brissette*

Renée C. Brissette, P.E. CFM  
Senior Engineer, Hydrology  
Planning Department



# City of Albuquerque

Planning Department

Development & Building Services Division

## DRAINAGE AND TRANSPORTATION INFORMATION SHEET

**Project Title:** Titan WFH **Building Permit #**                      **Hydrology File #**                     

**DRB#**                      **EPC#**                     

**Legal Description:** TR A-1-E-1 / TRACT A-1- **City Address OR Parcel** 101906148807440507  
101906148904940508

**Applicant/Agent:** Tierra West LLC **Contact:** VINCE CARRICA

**Address:** 5571 Midway Park Place NE Albuquerque, NM 87109 **Phone:** (505) 858-3100

**Email:** VCARRICA@TIERRAWESTLLC.COM

**Applicant/Owner:** Mauney Investments, LLC **Contact:**                     

**Address:** PO BOX 90453 Albuquerque, NM 87109 **Phone:**                     

**Email:**                     

**TYPE OF DEVELOPMENT:** ☒ PLAT (#of lots) 2 ☐ RESIDENCE ☐ DRB SITE ☐ ADMIN SITE: ☒

**RE-SUBMITTAL:** ☐ YES ☒ NO

**DEPARTMENT:** ☐ TRANSPORTATION ☒ HYDROLOGY/DRAINAGE

Check all that apply:

### TYPE OF SUBMITTAL:

- ☐ ENGINEER/ARCHITECT CERTIFICATION
- ☐ PAD CERTIFICATION
- ☐ CONCEPTUAL G&D PLAN
- ☐ GRADING PLAN
- ☐ DRAINAGE REPORT
- ☒ DRAINAGE MASTER PLAN **Amendment**
- ☐ FLOOD PLAN DEVELOPMENT PERMIT APP.
- ☐ ELEVATION CERTIFICATE
- ☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
- ☐ ADMINISTRATIVE
- ☐ TRAFFIC CIRCULATION LAYOUT FOR DRB APPROVAL
- ☐ TRAFFIC IMPACT STUDY (TIS)
- ☐ STREET LIGHT LAYOUT
- ☐ OTHER (SPECIFY)
- ☐ PRE-DESIGN MEETING?

### TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
- ☐ CERTIFICATE OF OCCUPANCY
- ☐ CONCEPTUAL TCL DRB APPROVAL
- ☐ 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
- ☐ FLOOD PLAN DEVELOPMENT PERMIT
- ☐ OTHER (SPECIFY)

**DATE SUBMITTED:** 04.10.2023

# DRAINAGE MATER PLAN ADDENDUM

## LOS PASOTRES SHOPPING CENTER

City of Albuquerque  
Planning Department  
Development Review Services  
**HYDROLOGY SECTION**  
**APPROVED**

DATE: 04/18/23  
BY: *Renée C. Brissette*  
HydroTrans # F19D013D

THE APPROVAL OF THESE PLANS/REPORT SHALL NOT BE  
CONSTRUED TO PERMIT VIOLATIONS OF ANY CITY  
ORDINANCE OR STATE LAW, AND SHALL NOT PREVENT  
THE CITY OF ALBUQUERQUE FROM REQUIRING  
CORRECTION, OR ERROR OR DIMENSIONS IN PLANS,  
SPECIFICATIONS, OR CONSTRUCTIONS. SUCH APPROVED PLANS  
SHALL NOT BE CHANGED, MODIFIED OR ALTERED WITHOUT  
AUTHORIZATION.

APRIL 01, 2023

Prepared by

Tierra West, LLC

5571 Midway Park Place NE

Albuquerque, New Mexico 87109

Prepared for

Titan Development

Albuquerque, NM



Vincent P. Carrica, PE

No 16212

## **DRAINAGE MASTER PLAN ADDENDUM**

### **LOS PASOTRES SHOPPING CENTER**

**APRIL 01, 2023**

#### **Purpose**

The purpose of this Drainage Master Plan addendum is to revise the existing surface detention drainage pond to an underground detention facility. The existing surface drainage pond is located in the southwest corner of Tract A-1-E-1. It accepts flow from Tracts A-1-B, A-1-C (Proposed Grocery), A-1-D-1 (Starbucks), Tracts A-1-A and A-1-E-1 (Proposed apartment complex) as well as from portions of Tracts 1 (Bank) and A-1-F (McDonald's). An outfall to the pond currently drains to the alley way west of the pond. The maximum flow rate for the pond for the design storm is currently 18.59 cfs.

Under the proposed modification to place the ponding underground, all current historic runoff from the above noted adjacent tracts along with the developed flows from the portions of the adjacent McDonald's and Bank that currently discharge to the pond will continue to be routed to the underground facility. In addition, the pond will accept developed flows from Tracts A-1-A and A-1-E-1, which are proposed to be developed as multifamily housing. The proposed underground pond will continue to discharge to the alleyway at the same general location as the existing pond outfall. The underground storage will be designed to allow for a discharge to the surface of the adjacent alley way. The maximum flow rate that will discharge from the underground pond will be 17.18 cfs for the design storm. This value is less than the currently approved maximum flow rate of 18.59 cfs, resulting in almost an 8% decrease in runoff routed down the alley way south to Montgomery Boulevard.

#### **Hydraulic Analysis**

The attached Los Pastores Master Plan Drainage Basins exhibit shows the applicable drainage basins. The attached AHYMO analysis input and output files confirm the underground ponding facility proposed is sufficient to handle the runoff from the master plan area under the parameters outlined by the approved master plan where upland tracts are allowed to discharge historic flows (as of the time the master plan was approved). The underground pond will continue to retain first flush volumes from impervious areas in place at the time of the initial master plan approval and will also retain the first flush volume from the proposed multifamily development of Tracts A-1-A and A-1-E-1.

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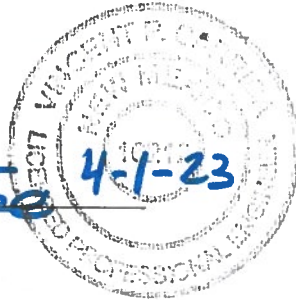
## Conclusion

The Los Pastores Master Drain Plan will continue as currently approved with the exception of placing the storm drain detention pond underground. The underground pond will have sufficient capacity to handle the 100-year, 24-hour design storm and will discharge at a maximum rate of less than what is currently approved.



Vincent P. Carrica, PE

No 16212





# LOS PATORES

## MASTER PLAN DRAINAGE BASINS

### Legend

EX-3  
PORTION  
OF TRACT 1  
0.85 AC

PR-1A3  
TRACT  
A-1-D-1  
1.108 AC

PR-1A2  
TRACT  
A-1-C  
1.560 AC

PR-1A1  
TRACT  
A-1-B  
.655 AC

TRACT  
A-1-A  
0.671 AC

PR-1B  
2.20 AC

TRACT  
A-1-E-1  
1.527 AC

PR-4  
PORTION OF  
TRACT A-1-F  
0.22 AC

PR-2  
ALLEY WAY  
0.36 AC

AP#1  
Q100=18.35 CFS

EX-6  
ALLEY WAY  
0.12 AC

PR-5  
PORTIONS  
OF TRACTS  
1 AND A-1-F

AP#2  
Q100=21.15 CFS

PROPOSED  
UNDERGROUND  
DETENTION POND

EXISTING  
DETENTION  
POND



Los Pastores Master Drainage Plan

# Weighted E Method

Zone:

Zone 3

Developed Basins

Basin	Basin Area			Treatments								100-Year		
	Area (sf)	Area (acres)	Area (sq miles)	Treatment A		Treatment B		Treatment C		Treatment D		Weighted E (ac-ft)	Volume (ac-ft)	Flow cfs
				%	(acres)	%	(acres)	%	(acres)	%	(acres)			
PR-1A1	28,532.0	0.66	0.00102	0%	0.00	0%	0.00	85%	0.56	15%	0.10	1.314	0.072	2.21
PR-1A2	67,954.0	1.56	0.00244	0%	0.00	0%	0.00	85%	1.33	15%	0.23	1.314	0.171	5.25
PR-1A3	48,265.0	1.11	0.00173	0%	0.00	0%	0.00	85%	0.94	15%	0.17	1.314	0.121	3.73
PR-1B	95,745.0	2.20	0.00343	0%	0.00	15%	0.33	0%	0.00	85%	1.87	2.322	0.425	9.21
PR-2	15,682.0	0.36	0.00056	0%	0.00	0%	0.00	19%	0.07	81%	0.29	2.297	0.069	1.53
PR-4	9,583.0	0.22	0.00034	0%	0.00	0%	0.00	20%	0.04	80%	0.18	2.282	0.042	0.93
PR-5	37,897.0	0.87	0.00136	0%	0.00	15%	0.00	22%	0.19	78%	0.68	2.252	0.163	3.65
EX-3	37,026.0	0.85	0.00133	0%	0.00	0%	0.00	26%	0.22	74%	0.63	2.193	0.155	3.52
EX-6	5,227.0	0.12	0.00019	0%	0.00	0%	0.00	5%	0.01	95%	0.11	2.506	0.025	0.53
Total	345,911.0	7.941	0.01241		0.00		0.330		3.355		4.256		1.243	30.57

## Equations:

Weighted E =  $Ea \cdot Aa + Eb \cdot Ab + Ec \cdot Ac + Ed \cdot Ad / (\text{Total Area})$

Volume = Weighted D \* Total Area

Flow =  $Qa \cdot Aa + Qb \cdot Ab + Qc \cdot Ac + Qd \cdot Ad$

**Project:**

Chamber Model -  
Units -

SC-740
Imperial
250

Number of Chambers -  
Voids in the stone (porosity) -

220
40

%

Base of Stone Elevation -

0.50
------

ft

Amount of Stone Above Chambers -

6
---

in

Amount of Stone Below Chambers -

6
---

in

Area of system -

7839
------

sf Min. Area - 7437 sf min. area

**StormTech SC-740 Cumulative Storage Volumes**

Height of System (inches)	Incremental Single Chamber (cubic feet)	Incremental Total Chamber (cubic feet)	Incremental Stone (cubic feet)	Incremental Ch & St (cubic feet)	Cumulative Chamber (cubic feet)	Elevation (feet)
42	0.00	0.00	261.30	261.30	17040.11	4.00
41	0.00	0.00	261.30	261.30	16778.81	3.92
40	0.00	0.00	261.30	261.30	16517.51	3.83
39	0.00	0.00	261.30	261.30	16256.21	3.75
38	0.00	0.00	261.30	261.30	15994.91	3.67
37	0.00	0.00	261.30	261.30	15733.61	3.58
36	0.05	12.10	256.46	268.56	15472.31	3.50
35	0.16	35.84	246.96	282.81	15203.75	3.42
34	0.28	62.03	236.49	298.52	14920.95	3.33
33	0.60	132.87	208.15	341.02	14622.43	3.25
32	0.80	176.38	190.75	367.13	14281.41	3.17
31	0.95	209.15	177.64	386.79	13914.28	3.08
30	1.07	236.39	166.74	403.14	13527.49	3.00
29	1.18	259.71	157.42	417.12	13124.36	2.92
28	1.27	278.45	149.92	428.37	12707.23	2.83
27	1.36	298.10	142.06	440.16	12278.86	2.75
26	1.45	319.90	133.34	453.24	11838.70	2.67
25	1.52	335.44	127.12	462.56	11385.46	2.58
24	1.58	348.11	122.06	470.17	10922.90	2.50
23	1.64	361.30	116.78	478.08	10452.73	2.42
22	1.70	373.89	111.74	485.64	9974.65	2.33
21	1.75	385.64	107.04	492.69	9489.01	2.25
20	1.80	396.62	102.65	499.27	8996.33	2.17
19	1.85	408.10	98.06	506.16	8497.06	2.08
18	1.89	416.48	94.71	511.19	7990.90	2.00
17	1.93	425.48	91.11	516.59	7479.71	1.92
16	1.97	434.50	87.50	522.00	6963.12	1.83
15	2.01	442.18	84.43	526.61	6441.12	1.75
14	2.04	449.90	81.34	531.24	5914.51	1.67
13	2.07	456.49	78.70	535.19	5383.27	1.58
12	2.10	463.08	76.07	539.15	4848.08	1.50
11	2.13	469.00	73.70	542.70	4308.93	1.42
10	2.15	473.85	71.76	545.61	3766.23	1.33
9	2.18	478.95	69.72	548.67	3220.62	1.25
8	2.20	483.64	67.84	551.48	2671.95	1.17
7	2.21	485.61	67.06	552.67	2120.47	1.08
6	0.00	0.00	261.30	261.30	1567.80	1.00
5	0.00	0.00	261.30	261.30	1306.50	0.92
4	0.00	0.00	261.30	261.30	1045.20	0.83
3	0.00	0.00	261.30	261.30	783.90	0.75
2	0.00	0.00	261.30	261.30	522.60	0.67
1	0.00	0.00	261.30	261.30	261.30	0.58



# INPUT

```
*****
*                WHF @ Wyoming& Mont, ABQ,NM                *
*****
*      100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS)      *
*      W/ McD'S, STARBUCKS, BANK AND FUTURE SHOPPING CENTER SITE *
*****
*
START                TIME=0.0
*
*
RAINFALL              TYPE=2 RAIN QUARTER=0.0 IN
                      RAIN ONE=1.84 IN RAIN SIX=2.43 IN
                      RAIN DAY=2.84 IN DT=0.05 HR
*DEVELOPED CONDITIONS
*
*BASIN PR-1A1 (TRACT A-1-B)
*
COMPUTE NM HYD        ID=1 HYD NO=100.1 AREA=0.00102 SQ MI
                      PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0
                      TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=1 CODE=1
*
*
*BASIN PR-1A2 (TRACT A-1-C)
*
COMPUTE NM HYD        ID=2 HYD NO=100.2 AREA=0.00244 SQ MI
                      PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0
                      TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=2 CODE=1
*
*
*BASIN PR-1A3 (TRACT A-1-D-1)
*
COMPUTE NM HYD        ID=3 HYD NO=100.3 AREA=0.00173 SQ MI
                      PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0
                      TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=3 CODE=1
*
*
*BASIN PR-1B (TRACTS A-1-A & A-1-E-1 WFH DEVELOPED)
*
COMPUTE NM HYD        ID=4 HYD NO=100.4 AREA=0.00343 SQ MI
                      PER A=0.00 PER B=15.0 PER C=0.0 PER D=85.0
                      TP=-0.1333 HR MASS RAINFALL=-1
PRINT HYD             ID=4 CODE=1
*
*
*BASIN PR-2 (NORTH PORTION OF ALLEY WAY)
*
COMPUTE NM HYD        ID=5 HYD NO=100.5 AREA=0.00056 SQ MI
```

PER A=0.00 PER B=0.0 PER C=19.0 PER D=81.00  
TP=-0.1333 HR MASS RAINFALL=-1  
ID=5 CODE=1

PRINT HYD

\*

\*

\*BASIN PR-4 (PORTION OF TRACT A-1-F McDONALDS)

\*

COMPUTE NM HYD ID=6 HYD NO=100.6 AREA=0.00034 SQ MI  
PER A=0.00 PER B=0.0 PER C=20.0 PER D=80.0  
TP=-0.1333 HR MASS RAINFALL=-1\*BASIN PR-1A1 (TRACT A-1-B)

PRINT HYD ID=6 CODE=1

\*

\*

\*BASIN PR-5 (PORTION OF TRACT A-1-F McDONALDS)

COMPUTE NM HYD ID=7 HYD NO=100.7 AREA=0.00136 SQ MI  
PER A=0.00 PER B=0.0 PER C=22.0 PER D=78.0  
TP=-0.1333 HR MASS RAINFALL=-1

PRINT HYD ID=7 CODE=1

\*

\*

\*BASIN EX-3 (PORTION OF TRACT 1 BANK)

\*

COMPUTE NM HYD ID=8 HYD NO=100.8 AREA=0.00133 SQ MI  
PER A=0.00 PER B=0.00 PER C=26.0 PER D=74.00  
TP=-0.1333 HR MASS RAINFALL=-1

PRINT HYD ID=8 CODE=1

\*

\*

\*BASIN EX-6 (SOUTH PORTION OF ALLEY)

\*

COMPUTE NM HYD ID=9 HYD NO=100.9 AREA=0.00019 SQ MI  
PER A=0.00 PER B=0.00 PER C=5.0 PER D=95.0  
TP=-0.1333 HR MASS RAINFALL=-1

PRINT HYD ID=9 CODE=1

\*\*

\*

\*COMBINE PR-1A1, PR-1A2, PR-1A3, PR-1B, PR-4, AND EX-3

\*

ADD HYD ID=50 HYD NO=100.21 ID=1 ID=2  
ADD HYD ID=50 HYD NO=100.21 ID=50 ID=3  
ADD HYD ID=50 HYD NO=100.21 ID=50 ID=4  
ADD HYD ID=50 HYD NO=100.21 ID=50 ID=6  
ADD HYD ID=50 HYD NO=100.21 ID=50 ID=8

\*

PRINT HYD ID=50 CODE=1

\*\*

\*ROUTE BASINS PR-1A1, PR-1A2, PR-1A3, PR-1B, PR-4, AND EX-3 THROUGH PROPOSED  
UNDERGROUND DETENTION POND

ROUTE RESERVOIR ID=55 HYD NO=200.1 INFLOW ID=50 CODE=24  
OUTFLOW (CFS) STORAGE(AC-FT) ELEVATION(FT)

0.0000	0.0000	5418.15
0.1000	0.0060	5418.73
0.2000	0.0360	5419.15
0.3000	0.1479	5419.90
13.270	0.2178	5420.40
16.750	0.2819	5420.90
19.320	0.3357	5421.40
25.570	0.3552	5421.65
25.570	0.3732	5421.90
25.570	0.3912	5422.15

\*

\*

PRINT HYD ID=55 CODE=1

\*

\*

\*COMBINE POND OUTFLOW WITH PR-2 FOR TOTAL AT AP#1

\*

ADD HYD ID=58 HYD NO=100.22 ID=5 ID=55ADD HYD

\*

PRINT HYD ID=58 CODE=1

\*

\*COMBINE ALLEY FLOWS AP#1 WITH EX-6 & PR-5 FOR TOTAL AT AP#2

\*

ADD HYD ID=59 HYD NO=100.23 ID=9 ID=58

ADD HYD ID=59 HYD NO=100.23 ID=7 ID=58

\*

PRINT HYD ID=59 CODE=1

\*

FINISH



# OUTPUT

AHYMO PROGRAM (AHYMO-S4)

- Version: S4.01a - Rel: 01a

RUN DATE (MON/DAY/YR) = 04/09/2023

START TIME (HR:MIN:SEC) = 12:54:25

USER NO.=

AHYMO\_Temp\_User:20122010

INPUT FILE = \2022\2022030 Titan WFH\Drainage\Revised Master  
Plan\master plan addendum-in.txt

\*\*\*\*\*

\* WHF @ Wyoming& Mont, ABQ,NM \*

\*\*\*\*\*

\* 100-YEAR, 24-HR STORM (UNDER PROPOSED CONDITIONS) \*

\* W/ McD'S, STARBUCKS, BANK AND FUTURE SHOPPING CENTER SITE \*

\*\*\*\*\*

\*

START TIME=0.0

\*

\*

RAINFALL TYPE=2 RAIN QUARTER=0.0 IN  
RAIN ONE=1.84 IN RAIN SIX=2.43 IN  
RAIN DAY=2.84 IN DT=0.05 HR

24-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE  
AREAS (NM & AZ) - D1

DT =	0.050000 HOURS	END TIME =	24.000002 HOURS
0.0000	0.0039	0.0080	0.0123
0.0017	0.0079	0.0159	0.0218
0.0034	0.0118	0.0238	0.0313
0.0051	0.0157	0.0317	0.0408
0.0068	0.0196	0.0396	0.0503
0.0085	0.0235	0.0475	0.0598
0.0102	0.0274	0.0554	0.0693
0.0119	0.0313	0.0633	0.0788
0.0136	0.0352	0.0712	0.0883
0.0153	0.0391	0.0791	0.0978
0.0170	0.0430	0.0870	0.1073
0.0187	0.0469	0.0949	0.1168
0.0204	0.0508	0.1028	0.1263
0.0221	0.0547	0.1107	0.1358
0.0238	0.0586	0.1186	0.1453
0.0255	0.0625	0.1265	0.1548
0.0272	0.0664	0.1344	0.1643
0.0289	0.0703	0.1423	0.1738
0.0306	0.0742	0.1502	0.1833
0.0323	0.0781	0.1581	0.1928
0.0340	0.0820	0.1660	0.2023
0.0357	0.0859	0.1739	0.2118
0.0374	0.0898	0.1818	0.2213
0.0391	0.0937	0.1897	0.2308
0.0408	0.0976	0.1976	0.2403
0.0425	0.1015	0.2055	0.2498
0.0442	0.1054	0.2134	0.2593
0.0459	0.1093	0.2213	0.2688
0.0476	0.1132	0.2292	0.2783
0.0493	0.1171	0.2371	0.2878
0.0510	0.1210	0.2450	0.2973
0.0527	0.1249	0.2529	0.3068
0.0544	0.1288	0.2608	0.3163
0.0561	0.1327	0.2687	0.3258
0.0578	0.1366	0.2766	0.3353
0.0595	0.1405	0.2845	0.3448
0.0612	0.1444	0.2924	0.3543
0.0629	0.1483	0.3003	0.3638
0.0646	0.1522	0.3082	0.3733
0.0663	0.1561	0.3161	0.3828
0.0680	0.1600	0.3240	0.3923
0.0697	0.1639	0.3319	0.4018
0.0714	0.1678	0.3398	0.4113
0.0731	0.1717	0.3477	0.4208
0.0748	0.1756	0.3556	0.4303
0.0765	0.1795	0.3635	0.4398
0.0782	0.1834	0.3714	0.4493
0.0799	0.1873	0.3793	0.4588
0.0816	0.1912	0.3872	0.4683
0.0833	0.1951	0.3951	0.4778
0.0850	0.1990	0.4030	0.4873
0.0867	0.2029	0.4109	0.4968
0.0884	0.2068	0.4188	0.5063
0.0901	0.2107	0.4267	0.5158
0.0918	0.2146	0.4346	0.5253
0.0935	0.2185	0.4425	0.5348
0.0952	0.2224	0.4504	0.5443
0.0969	0.2263	0.4583	0.5538
0.0986	0.2302	0.4662	0.5633
0.1003	0.2341	0.4741	0.5728
0.1020	0.2380	0.4820	0.5823
0.1037	0.2419	0.4899	0.5918
0.1054	0.2458	0.4978	0.6013
0.1071	0.2497	0.5057	0.6108
0.1088	0.2536	0.5136	0.6203
0.1105	0.2575	0.5215	0.6298
0.1122	0.2614	0.5294	0.6393
0.1139	0.2653	0.5373	0.6488
0.1156	0.2692	0.5452	0.6583
0.1173	0.2731	0.5531	0.6678
0.1190	0.2770	0.5610	0.6773
0.1207	0.2809	0.5689	0.6868
0.1224	0.2848	0.5768	0.6963
0.1241	0.2887	0.5847	0.7058
0.1258	0.2926	0.5926	0.7153
0.1275	0.2965	0.6005	0.7248
0.1292	0.3004	0.6084	0.7343
0.1309	0.3043	0.6163	0.7438
0.1326	0.3082	0.6242	0.7533
0.1343	0.3121	0.6321	0.7628
0.1360	0.3160	0.6400	0.7723
0.1377	0.3199	0.6479	0.7818
0.1394	0.3238	0.6558	0.7913
0.1411	0.3277	0.6637	0.8008
0.1428	0.3316	0.6716	0.8103
0.1445	0.3355	0.6795	0.8198
0.1462	0.3394	0.6874	0.8293
0.1479	0.3433	0.6953	0.8388
0.1496	0.3472	0.7032	0.8483
0.1513	0.3511	0.7111	0.8578
0.1530	0.3550	0.7190	0.8673
0.1547	0.3589	0.7269	0.8768
0.1564	0.3628	0.7348	0.8863
0.1581	0.3667	0.7427	0.8958
0.1598	0.3706	0.7506	0.9053
0.1615	0.3745	0.7585	0.9148
0.1632	0.3784	0.7664	0.9243
0.1649	0.3823	0.7743	0.9338
0.1666	0.3862	0.7822	0.9433
0.1683	0.3901	0.7901	0.9528
0.1700	0.3940	0.7980	0.9623
0.1717	0.3979	0.8059	0.9718
0.1734	0.4018	0.8138	0.9813
0.1751	0.4057	0.8217	0.9908
0.1768	0.4096	0.8296	1.0003
0.1785	0.4135	0.8375	1.0098
0.1802	0.4174	0.8454	1.0193
0.1819	0.4213	0.8533	1.0288
0.1836	0.4252	0.8612	1.0383
0.1853	0.4291	0.8691	1.0478
0.1870	0.4330	0.8770	1.0573
0.1887	0.4369	0.8849	1.0668
0.1904	0.4408	0.8928	1.0763
0.1921	0.4447	0.9007	1.0858
0.1938	0.4486	0.9086	1.0953
0.1955	0.4525	0.9165	1.1048
0.1972	0.4564	0.9244	1.1143
0.1989	0.4603	0.9323	1.1238
0.2006	0.4642	0.9402	1.1333
0.2023	0.4681	0.9481	1.1428
0.2040	0.4720	0.9560	1.1523
0.2057	0.4759	0.9639	1.1618
0.2074	0.4798	0.9718	1.1713
0.2091	0.4837	0.9797	1.1808
0.2108	0.4876	0.9876	1.1903
0.2125	0.4915	0.9955	1.2008
0.2142	0.4954	1.0034	1.2103
0.2159	0.4993	1.0113	1.2198
0.2176	0.5032	1.0192	1.2293
0.2193	0.5071	1.0271	1.2388
0.2210	0.5110	1.0350	1.2483
0.2227	0.5149	1.0429	1.2578
0.2244	0.5188	1.0508	1.2673
0.2261	0.5227	1.0587	1.2768
0.2278	0.5266	1.0666	1.2863
0.2295	0.5305	1.0745	1.2958
0.2312	0.5344	1.0824	1.3053
0.2329	0.5383	1.0903	1.3148
0.2346	0.5422	1.0982	1.3243
0.2363	0.5461	1.1061	1.3338
0.2380	0.5500	1.1140	1.3433
0.2397	0.5539	1.1219	1.3528
0.2414	0.5578	1.1298	1.3623
0.2431	0.5617	1.1377	1.3718
0.2448	0.5656	1.1456	1.3813
0.2465	0.5695	1.1535	1.3908
0.2482	0.5734	1.1614	1.4003
0.2499	0.5773	1.1693	1.4098
0.2516	0.5812	1.1772	1.4193
0.2533	0.5851	1.1851	1.4288
0.2550	0.5890	1.1930	1.4383
0.2567	0.5929	1.2009	1.4478
0.2584	0.5968	1.2088	1.4573
0.2601	0.6007	1.2167	1.4668
0.2618	0.6046	1.2246	1.4763
0.2635	0.6085	1.2325	1.4858
0.2652	0.6124	1.2404	1.4953
0.2669	0.6163	1.2483	1.5048
0.2686	0.6202	1.2562	1.5143
0.2703	0.6241	1.2641	1.5238
0.2720	0.6280	1.2720	1.5333
0.2737	0.6319	1.2799	1.5428
0.2754	0.6358	1.2878	1.5523
0.2771	0.6397	1.2957	1.5618
0.2788	0.6436	1.3036	1.5713
0.2805	0.6475	1.3115	1.5808
0.2822	0.6514	1.3194	1.5903
0.2839	0.6553	1.3273	1.6008
0.2856	0.6592	1.3352	1.6103
0.2873	0.6631	1.3431	1.6198
0.2890	0.6670	1.3510	1.6293
0.2907	0.6709	1.3589	1.6388
0.2924	0.6748	1.3668	1.6483
0.2941	0.6787	1.3747	1.6578
0.2958	0.6826	1.3826	1.6673
0.2975	0.6865	1.3905	1.6768
0.2992	0.6904	1.3984	1.6863
0.3009	0.6943	1.4063	1.6958
0.3026	0.6982	1.4142	1.7053
0.3043	0.7021	1.4221	1.7148
0.3060	0.7060	1.4300	1.7243
0.3077	0.7099	1.4379	1.7338
0.3094	0.7138	1.4458	1.7433
0.3111	0.7177	1.4537	1.7528
0.3128	0.7216	1.4616	1.7623
0.3145	0.7255	1.4695	1.7718
0.3162	0.7294	1.4774	1.7813
0.3179	0.7333	1.4853	1.7908
0.3196	0.7372	1.4932	1.8003
0.3213	0.7411	1.5011	1.8098
0.3230	0.7450	1.5090	1.8193
0.3247	0.7489	1.5169	1.8288
0.3264	0.7528	1.5248	1.8383
0.3281	0.7567	1.5327	1.8478
0.3298	0.7606	1.5406	1.8573
0.3315	0.7645	1.5485	1.8668
0.3332	0.7684	1.5564	1.8763
0.3349	0.7723	1.5643	1.8858
0.3366	0.7762	1.5722	1.8953
0.3383	0.7801	1.5801	1.9048
0.3400	0.7840	1.5880	1.9143
0.3417	0.7879	1.5959	1.9238
0.3434	0.7918	1.6038	1.9333
0.3451	0.7957	1.6117	1.9428
0.3468	0.7996	1.6196	1.9523
0.3485	0.8035	1.6275	1.9618
0.3502	0.8074	1.6354	1.9713
0.3519	0.8113	1.6433	1.9808
0.3536	0.8152	1.6512	1.9903
0.3553	0.8191	1.6591	2.0008
0.3570	0.8230	1.6670	2.0103
0.3587	0.8269	1.6749	2.0198
0.3604	0.8308	1.6828	2.0293
0.3621	0.8347	1.6907	2.0388
0.3638	0.8386	1.6986	2.0483
0.3655	0.8425	1.7065	2.0578
0.3672	0.8464	1.7144	2.0673
0.3689	0.8503	1.7223	2.0768
0.3706	0.8542	1.7302	2.0863
0.3723	0.8581	1.7381	2.0958
0.3740	0.8620	1.7460	2.1053
0.3757	0.8659	1.7539	2.1148
0.3774	0.8698	1.7618	2.1243
0.3791	0.8737	1.7697	2.1338
0.3808	0.8776	1.7776	2.1433
0.3825	0.8815	1.7855	2.1528
0.3842	0.8854	1.7934	2.1623
0.3859	0.8893	1.8013	2.1718
0.3876	0.8932	1.8092	2.1813
0.3893	0.8971	1.8171	2.1908
0.3910	0.9010	1.8250	2.2003
0.3927	0.9049	1.8329	2.2098
0.3944	0.9088	1.8408	2.2193
0.3961	0.9127	1.8487	2.2288
0.3978	0.9166	1.8566	2.2383
0.3995	0.9205	1.8645	2.2478
0.4012	0.9244	1.8724	2.257

2.5451	2.5470	2.5489	2.5508	2.5527	2.5546	2.5565
2.5584	2.5602	2.5621	2.5640	2.5658	2.5677	2.5695
2.5714	2.5732	2.5750	2.5769	2.5787	2.5805	2.5823
2.5841	2.5859	2.5877	2.5894	2.5912	2.5930	2.5947
2.5965	2.5982	2.6000	2.6017	2.6034	2.6052	2.6069
2.6086	2.6103	2.6120	2.6137	2.6153	2.6170	2.6187
2.6204	2.6220	2.6237	2.6253	2.6270	2.6286	2.6302
2.6318	2.6335	2.6351	2.6367	2.6383	2.6399	2.6414
2.6430	2.6446	2.6462	2.6477	2.6493	2.6508	2.6524
2.6539	2.6554	2.6569	2.6585	2.6600	2.6615	2.6630
2.6645	2.6659	2.6674	2.6689	2.6704	2.6718	2.6733
2.6747	2.6762	2.6776	2.6790	2.6804	2.6819	2.6833
2.6847	2.6861	2.6875	2.6888	2.6902	2.6916	2.6930
2.6943	2.6957	2.6970	2.6984	2.6997	2.7010	2.7023
2.7037	2.7050	2.7063	2.7076	2.7088	2.7101	2.7114
2.7127	2.7139	2.7152	2.7165	2.7177	2.7189	2.7202
2.7214	2.7226	2.7238	2.7250	2.7262	2.7274	2.7286
2.7298	2.7310	2.7322	2.7333	2.7345	2.7356	2.7368
2.7379	2.7391	2.7402	2.7413	2.7424	2.7435	2.7446
2.7457	2.7468	2.7479	2.7490	2.7500	2.7511	2.7522
2.7532	2.7542	2.7553	2.7563	2.7573	2.7584	2.7594
2.7604	2.7614	2.7624	2.7634	2.7643	2.7653	2.7663
2.7673	2.7682	2.7692	2.7701	2.7710	2.7720	2.7729
2.7738	2.7747	2.7756	2.7765	2.7774	2.7783	2.7792
2.7801	2.7809	2.7818	2.7827	2.7835	2.7843	2.7852
2.7860	2.7868	2.7877	2.7885	2.7893	2.7901	2.7909
2.7916	2.7924	2.7932	2.7940	2.7947	2.7955	2.7962
2.7970	2.7977	2.7984	2.7992	2.7999	2.8006	2.8013
2.8020	2.8027	2.8034	2.8040	2.8047	2.8054	2.8060
2.8067	2.8073	2.8080	2.8086	2.8092	2.8099	2.8105
2.8111	2.8117	2.8123	2.8129	2.8135	2.8140	2.8146
2.8152	2.8157	2.8163	2.8168	2.8174	2.8179	2.8184
2.8189	2.8195	2.8200	2.8205	2.8210	2.8214	2.8219
2.8224	2.8229	2.8233	2.8238	2.8242	2.8247	2.8251
2.8256	2.8260	2.8264	2.8268	2.8272	2.8276	2.8280
2.8284	2.8288	2.8291	2.8295	2.8299	2.8302	2.8306
2.8309	2.8313	2.8316	2.8319	2.8322	2.8325	2.8328
2.8331	2.8334	2.8337	2.8340	2.8343	2.8345	2.8348
2.8351	2.8353	2.8355	2.8358	2.8360	2.8362	2.8364
2.8367	2.8369	2.8371	2.8372	2.8374	2.8376	2.8378
2.8379	2.8381	2.8383	2.8384	2.8385	2.8387	2.8388
2.8389	2.8390	2.8391	2.8392	2.8393	2.8394	2.8395
2.8396	2.8397	2.8397	2.8398	2.8398	2.8399	2.8399
2.8399	2.8400	2.8400	2.8400	2.8400		

\*DEVELOPED CONDITIONS

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\*BASIN PR-1A1 (TRACT A-1-B)

\*

COMPUTE NM HYD ID=1 HYD NO=100.1 AREA=0.00102 SQ MI

PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0  
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
CONSTANT, N = 7.106428  
UNIT PEAK = 0.60405 CFS UNIT VOLUME = 0.9832 B = 526.28  
P60 = 1.8400  
AREA = 0.000153 SQ MI IA = 0.10000 INCHES INF = 0.04000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
CONSTANT, N = 4.530856  
UNIT PEAK = 2.5310 CFS UNIT VOLUME = 0.9970 B = 389.14  
P60 = 1.8400  
AREA = 0.000867 SQ MI IA = 0.35000 INCHES INF = 0.83000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.10

RUNOFF VOLUME = 1.31258 INCHES = 0.0714 ACRE-FEET  
PEAK DISCHARGE RATE = 2.17 CFS AT 1.500 HOURS BASIN AREA =  
0.0010 SQ. MI.

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\*BASIN PR-1A2 (TRACT A-1-C)

\*

COMPUTE NM HYD ID=2 HYD NO=100.2 AREA=0.00244 SQ MI  
PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0  
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
CONSTANT, N = 7.106428  
UNIT PEAK = 1.4450 CFS UNIT VOLUME = 0.9911 B = 526.28  
P60 = 1.8400  
AREA = 0.000366 SQ MI IA = 0.10000 INCHES INF = 0.04000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000



K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
 CONSTANT, N = 4.530856  
 UNIT PEAK = 6.0545 CFS UNIT VOLUME = 0.9996 B = 389.14  
 P60 = 1.8400  
 AREA = 0.002074 SQ MI IA = 0.35000 INCHES INF = 0.83000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD ID=2 CODE=1

PARTIAL HYDROGRAPH 100.20

RUNOFF VOLUME = 1.31258 INCHES = 0.1708 ACRE-FEET  
 PEAK DISCHARGE RATE = 5.17 CFS AT 1.500 HOURS BASIN AREA =  
 0.0024 SQ. MI.

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\*BASIN PR-1A3 (TRACT A-1-D-1)

\*

COMPUTE NM HYD ID=3 HYD NO=100.3 AREA=0.00173 SQ MI  
 PER A=0.00 PER B=0.0 PER C=85.0 PER D=15.0  
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
 CONSTANT, N = 7.106428  
 UNIT PEAK = 1.0245 CFS UNIT VOLUME = 0.9891 B = 526.28  
 P60 = 1.8400  
 AREA = 0.000260 SQ MI IA = 0.10000 INCHES INF = 0.04000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
 CONSTANT, N = 4.530856  
 UNIT PEAK = 4.2928 CFS UNIT VOLUME = 0.9988 B = 389.14  
 P60 = 1.8400  
 AREA = 0.001471 SQ MI IA = 0.35000 INCHES INF = 0.83000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD ID=3 CODE=1

PARTIAL HYDROGRAPH 100.30

RUNOFF VOLUME = 1.31258 INCHES = 0.1211 ACRE-FEET  
 PEAK DISCHARGE RATE = 3.67 CFS AT 1.500 HOURS BASIN AREA =  
 0.0017 SQ. MI.

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\*BASIN PR-1B (TRACTS A-1-A & A-1-E-1 WFH DEVELOPED)

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COMPUTE NM HYD ID=4 HYD NO=100.4 AREA=0.00343 SQ MI  
 PER A=0.00 PER B=15.0 PER C=0.0 PER D=85.0  
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
 CONSTANT, N = 7.106428  
 UNIT PEAK = 11.511 CFS UNIT VOLUME = 0.9981 B = 526.28  
 P60 = 1.8400  
 AREA = 0.002916 SQ MI IA = 0.10000 INCHES INF = 0.04000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

K = 0.131520HR TP = 0.133300HR K/TP RATIO = 0.986645 SHAPE  
 CONSTANT, N = 3.578611  
 UNIT PEAK = 1.2584 CFS UNIT VOLUME = 0.9911 B = 326.03  
 P60 = 1.8400  
 AREA = 0.000515 SQ MI IA = 0.50000 INCHES INF = 1.25000  
 INCHES PER HOUR  
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD ID=4 CODE=1

PARTIAL HYDROGRAPH 100.40

RUNOFF VOLUME = 2.32642 INCHES = 0.4256 ACRE-FEET  
 PEAK DISCHARGE RATE = 9.04 CFS AT 1.500 HOURS BASIN AREA =  
 0.0034 SQ. MI.

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\*BASIN PR-2 (NORTH PORTION OF ALLEY WAY)

\*

COMPUTE NM HYD

ID=5 HYD NO=100.5 AREA=0.00056 SQ MI  
PER A=0.00 PER B=0.0 PER C=19.0 PER D=81.00  
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
CONSTANT, N = 7.106428  
UNIT PEAK = 1.7908 CFS UNIT VOLUME = 0.9928 B = 526.28  
P60 = 1.8400  
AREA = 0.000454 SQ MI IA = 0.10000 INCHES INF = 0.04000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
CONSTANT, N = 4.530856  
UNIT PEAK = 0.31061 CFS UNIT VOLUME = 0.9651 B = 389.14  
P60 = 1.8400  
AREA = 0.000106 SQ MI IA = 0.35000 INCHES INF = 0.83000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

PRINT HYD

ID=5 CODE=1

PARTIAL HYDROGRAPH 100.50

RUNOFF VOLUME = 2.30143 INCHES = 0.0687 ACRE-FEET  
PEAK DISCHARGE RATE = 1.51 CFS AT 1.500 HOURS BASIN AREA =  
0.0006 SQ. MI.

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\*BASIN PR-4 (PORTION OF TRACT A-1-F McDONALDS)

\*

COMPUTE NM HYD

ID=6 HYD NO=100.6 AREA=0.00034 SQ MI  
PER A=0.00 PER B=0.0 PER C=20.0 PER D=80.0  
TP=-0.1333 HR MASS RAINFALL=-1\*BASIN PR-1A1 (TRACT A-1-B)

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
CONSTANT, N = 7.106428  
UNIT PEAK = 1.0739 CFS UNIT VOLUME = 0.9891 B = 526.28  
P60 = 1.8400  
AREA = 0.000272 SQ MI IA = 0.10000 INCHES INF = 0.04000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =



0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
CONSTANT, N = 4.530856  
UNIT PEAK = 0.19851 CFS UNIT VOLUME = 0.9430 B = 389.14  
P60 = 1.8400  
AREA = 0.000068 SQ MI IA = 0.35000 INCHES INF = 0.83000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

PRINT HYD ID=6 CODE=1

PARTIAL HYDROGRAPH 100.60

RUNOFF VOLUME = 2.28645 INCHES = 0.0415 ACRE-FEET  
PEAK DISCHARGE RATE = 0.92 CFS AT 1.500 HOURS BASIN AREA =  
0.0003 SQ. MI.

\*

\*

\*BASIN PR-5 (PORTION OF TRACT A-1-F McDONALDS)

COMPUTE NM HYD ID=7 HYD NO=100.7 AREA=0.00136 SQ MI  
PER A=0.00 PER B=0.0 PER C=22.0 PER D=78.0  
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
CONSTANT, N = 7.106428  
UNIT PEAK = 4.1881 CFS UNIT VOLUME = 0.9966 B = 526.28  
P60 = 1.8400  
AREA = 0.001061 SQ MI IA = 0.10000 INCHES INF = 0.04000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
CONSTANT, N = 4.530856  
UNIT PEAK = 0.87344 CFS UNIT VOLUME = 0.9875 B = 389.14  
P60 = 1.8400  
AREA = 0.000299 SQ MI IA = 0.35000 INCHES INF = 0.83000  
INCHES PER HOUR  
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

PRINT HYD ID=7 CODE=1

PARTIAL HYDROGRAPH 100.70

RUNOFF VOLUME = 2.25648 INCHES = 0.1637 ACRE-FEET  
 PEAK DISCHARGE RATE = 3.60 CFS AT 1.500 HOURS BASIN AREA =  
 0.0014 SQ. MI.

\*

\*

\*BASIN EX-3 (PORTION OF TRACT 1 BANK)

\*

COMPUTE NM HYD ID=8 HYD NO=100.8 AREA=0.00133 SQ MI  
 PER A=0.00 PER B=0.00 PER C=26.0 PER D=74.00  
 TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
 CONSTANT, N = 7.106428

UNIT PEAK = 3.8857 CFS UNIT VOLUME = 0.9966 B = 526.28  
 P60 = 1.8400

AREA = 0.000984 SQ MI IA = 0.10000 INCHES INF = 0.04000  
 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
 CONSTANT, N = 4.530856

UNIT PEAK = 1.0095 CFS UNIT VOLUME = 0.9896 B = 389.14  
 P60 = 1.8400

AREA = 0.000346 SQ MI IA = 0.35000 INCHES INF = 0.83000  
 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
 0.050000

PRINT HYD ID=8 CODE=1

PARTIAL HYDROGRAPH 100.80

RUNOFF VOLUME = 2.19655 INCHES = 0.1558 ACRE-FEET  
 PEAK DISCHARGE RATE = 3.48 CFS AT 1.500 HOURS BASIN AREA =  
 0.0013 SQ. MI.

\*

\*

\*BASIN EX-6 (SOUTH PORTION OF ALLEY)

\*

COMPUTE NM HYD ID=9 HYD NO=100.9 AREA=0.00019 SQ MI  
PER A=0.00 PER B=0.00 PER C=5.0 PER D=95.0  
TP=-0.1333 HR MASS RAINFALL=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE  
CONSTANT, N = 7.106428  
UNIT PEAK = 0.71262 CFS UNIT VOLUME = 0.9832 B = 526.28  
P60 = 1.8400

AREA = 0.000181 SQ MI IA = 0.10000 INCHES INF = 0.04000  
INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

K = 0.105528HR TP = 0.133300HR K/TP RATIO = 0.791661 SHAPE  
CONSTANT, N = 4.530856  
UNIT PEAK = 0.27733E-01CFS UNIT VOLUME = 0.8912 B = 389.14  
P60 = 1.8400

AREA = 0.000010 SQ MI IA = 0.35000 INCHES INF = 0.83000  
INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  
0.050000

PRINT HYD ID=9 CODE=1

PARTIAL HYDROGRAPH 100.90

RUNOFF VOLUME = 2.51119 INCHES = 0.0254 ACRE-FEET  
PEAK DISCHARGE RATE = 0.54 CFS AT 1.500 HOURS BASIN AREA =  
0.0002 SQ. MI.

\*\*

\*

\*COMBINE PR-1A1, PR-1A2, PR-1A3, PR-1B, PR-4, AND EX-3

\*

ADD HYD ID=50 HYD NO=100.21 ID=1 ID=2

ADD HYD ID=50 HYD NO=100.21 ID=50 ID=3

ADD HYD ID=50 HYD NO=100.21 ID=50 ID=4

ADD HYD ID=50 HYD NO=100.21 ID=50 ID=6

ADD HYD ID=50 HYD NO=100.21 ID=50 ID=8



\*

PRINT HYD

ID=50 CODE=1

PARTIAL HYDROGRAPH 100.21

RUNOFF VOLUME = 1.79614 INCHES = 0.9857 ACRE-FeET  
PEAK DISCHARGE RATE = 24.44 CFS AT 1.500 HOURS BASIN AREA =  
0.0103 SQ. MI.

\*\*

\*ROUTE BASINS PR-1A1, PR-1A2, PR-1A3, PR-1B, PR-4, AND EX-3 THROUGH PROPOSED UND  
ROUTE RESERVOIR ID=55 HYD NO=200.1 INFLOW ID=50 CODE=24

OUTFLOW (CFS)	STORAGE(AC-FT)	ELEVATION(FT)
0.0000	0.0000	5418.15
0.1000	0.0060	5418.73
0.2000	0.0360	5419.15
0.3000	0.1479	5419.90
13.270	0.2178	5420.40
16.750	0.2819	5420.90
19.320	0.3357	5421.40
25.570	0.3552	5421.65
25.570	0.3732	5421.90
25.570	0.3912	5422.15

\* \* \* \* \*

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	5418.15	0.000	0.00
1.20	2.46	5419.19	0.042	0.20
2.40	1.04	5419.94	0.153	1.24
3.60	0.13	5419.85	0.140	0.29
4.80	0.13	5419.74	0.124	0.28
6.00	0.14	5419.65	0.110	0.27
7.20	0.14	5419.57	0.098	0.26
8.40	0.13	5419.49	0.087	0.25

9.60	0.12	5419.41	0.075	0.23
10.80	0.11	5419.33	0.063	0.22
12.00	0.10	5419.26	0.052	0.21
13.20	0.09	5419.18	0.040	0.20
14.40	0.08	5419.06	0.030	0.18
15.60	0.07	5418.94	0.021	0.15
16.80	0.06	5418.84	0.014	0.13
18.00	0.05	5418.75	0.008	0.11
19.20	0.04	5418.50	0.004	0.06
20.40	0.03	5418.38	0.002	0.04
21.60	0.02	5418.31	0.002	0.03
22.80	0.01	5418.24	0.001	0.02
24.00	0.00	5418.18	0.000	0.01
25.20	0.00	5418.16	0.000	0.00

PEAK DISCHARGE = 17.175 CFS - PEAK OCCURS AT HOUR 1.60

MAXIMUM WATER SURFACE ELEVATION = 5420.982

MAXIMUM STORAGE = 0.2908 AC-FT INCREMENTAL TIME= 0.050000HRS

\*

\*

PRINT HYD ID=55 CODE=1

PARTIAL HYDROGRAPH 200.10

RUNOFF VOLUME = 1.79614 INCHES = 0.9857 ACRE-FEET

PEAK DISCHARGE RATE = 17.18 CFS AT 1.600 HOURS BASIN AREA = 0.0103 SQ. MI.

\*

\*

\*COMBINE POND OUTFLOW WITH PR-2 FOR TOTAL AT AP#1

\*

ADD HYD ID=58 HYD NO=100.22 ID=5 ID=55ADD HYD

\*

PRINT HYD ID=58 CODE=1

PARTIAL HYDROGRAPH 100.22

RUNOFF VOLUME = 1.82204 INCHES = 1.0543 ACRE-FEET

AP#1

PEAK DISCHARGE RATE = 18.35 CFS AT 1.600 HOURS BASIN AREA = 0.0109 SQ. MI.

\*

\*COMBINE ALLEY FLOWS AP#1 WITH EX-6 & PR-5 FOR TOTAL AT AP#2

\*

ADD HYD ID=59 HYD NO=100.23 ID=9 ID=58

ADD HYD ID=59 HYD NO=100.23 ID=7 ID=58

\*

PRINT HYD ID=59 CODE=1

PARTIAL HYDROGRAPH 100.23

**AP#2** RUNOFF VOLUME = 1.87039 INCHES = 1.2180 ACRE-FeET  
PEAK DISCHARGE RATE = 21.15 CFS AT 1.600 HOURS BASIN AREA =  
0.0122 SQ. MI.

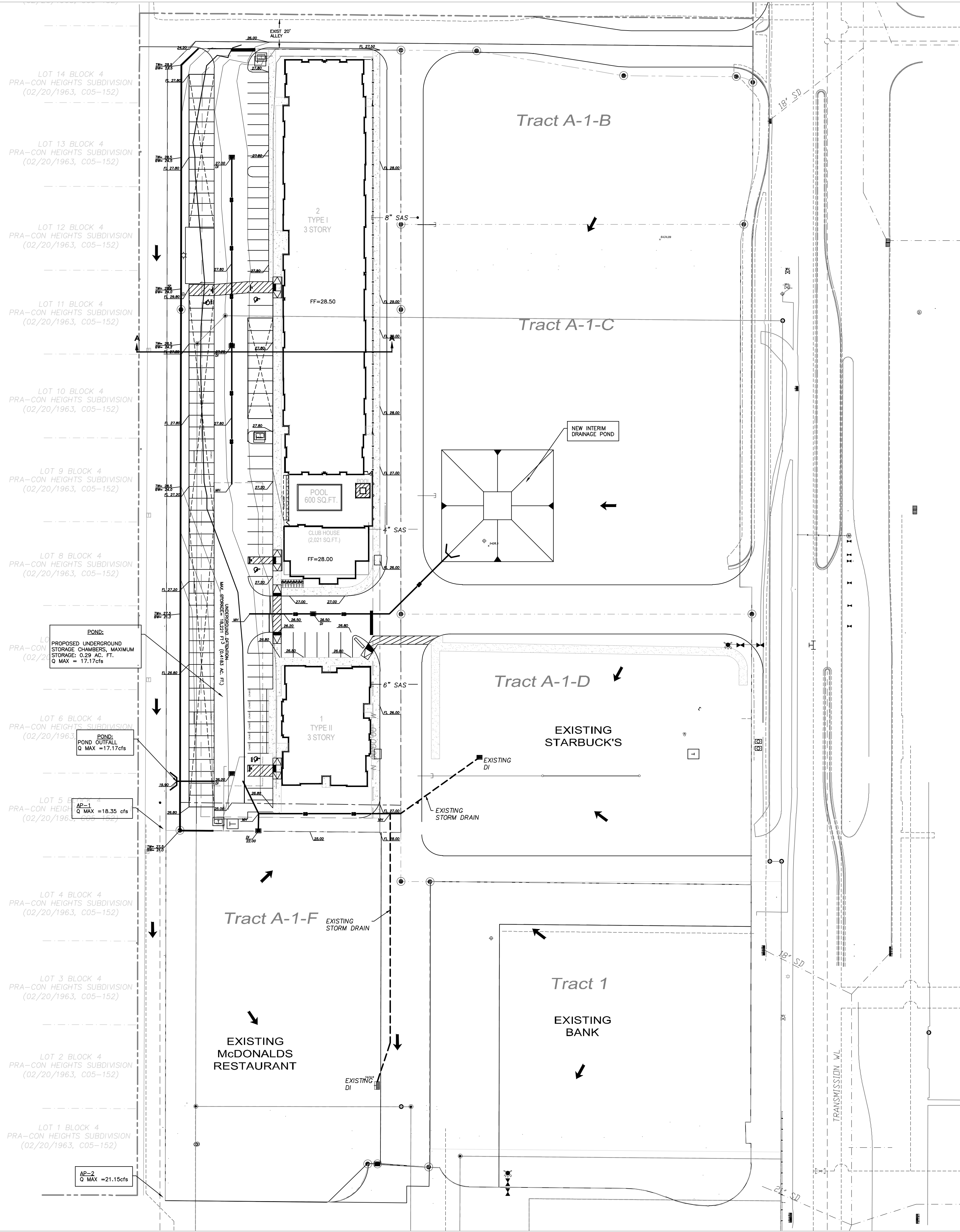
\*

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 12:54:25





#### LEGEND

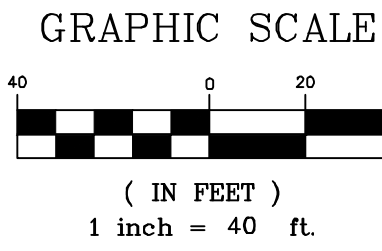
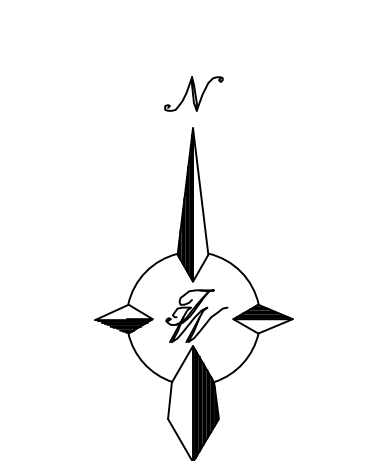
- CURB & GUTTER
- BOUNDARY LINE
- EASEMENT
- SIDEWALK
- EXISTING CURB & GUTTER
- SINGLE CLEAN OUT
- DOUBLE CLEAN OUT
- EXISTING SD MANHOLE
- EXISTING SAS MANHOLE
- EXISTING FIRE HYDRANT
- EXISTING WATER METER
- EXISTING POWER POLE
- EXISTING GAS VALVE
- EXISTING OVERHEAD UTILITIES
- EXISTING GAS
- EX. 8" SAS
- EX. WL
- EX. RCP
- 4900
- EXISTING INDEX CONTOUR
- EXISTING CONTOUR
- TRANSFORMER

#### NOTICE TO CONTRACTORS

- AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
- ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HERON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH CITY OF ALBUQUERQUE INTERM STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1985.
- TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 765-1234, FOR LOCATION OF EXISTING UTILITIES.
- PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONNECTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
- BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
- MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
- WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.

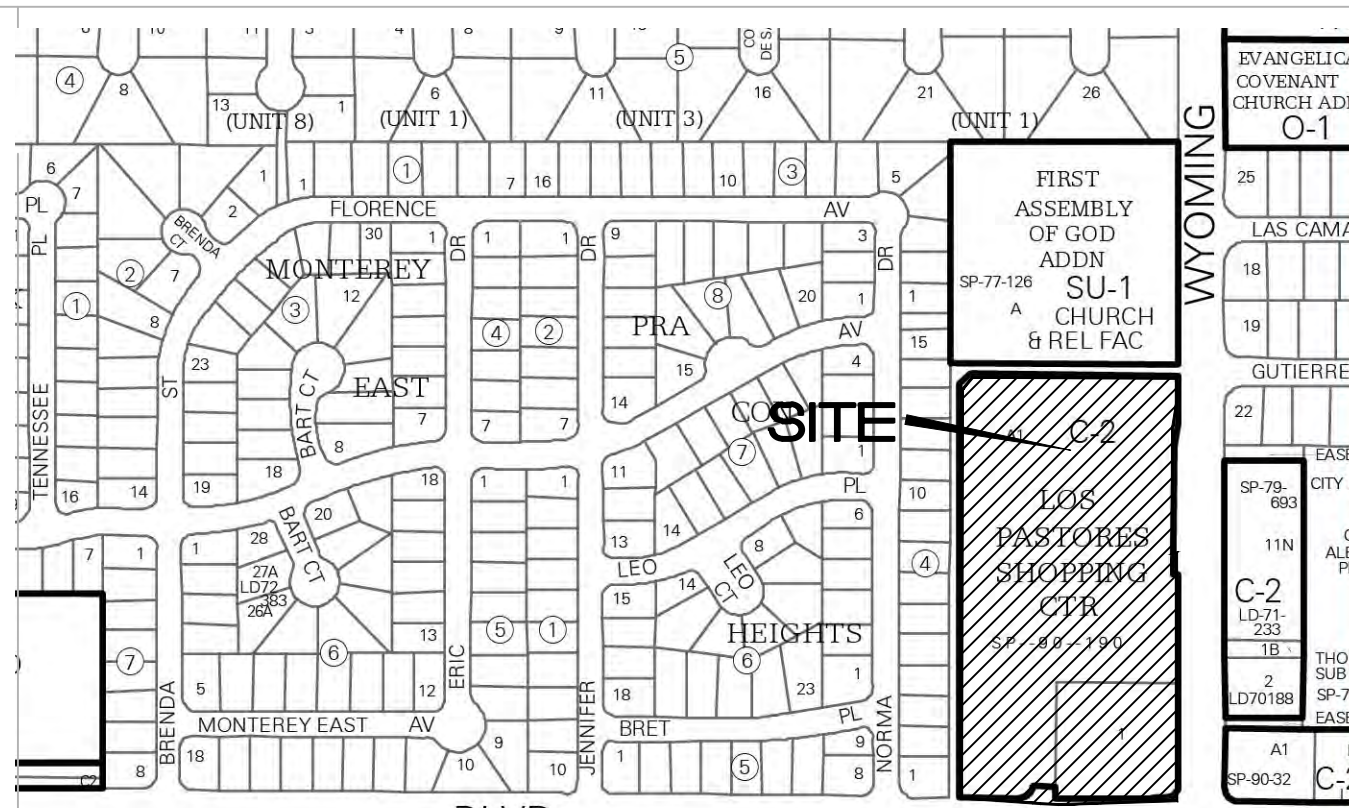
#### EROSION CONTROL NOTES

- CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
- CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
- REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
- ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL (CITY) ACCEPTANCE OF ANY PROJECT.
- ALL SLOPES NOT STABILIZED AT THE END OF THE PROJECT SHALL BE STABILIZED IN ACCORDANCE WITH COA SPECS OR 3" GRAVEL



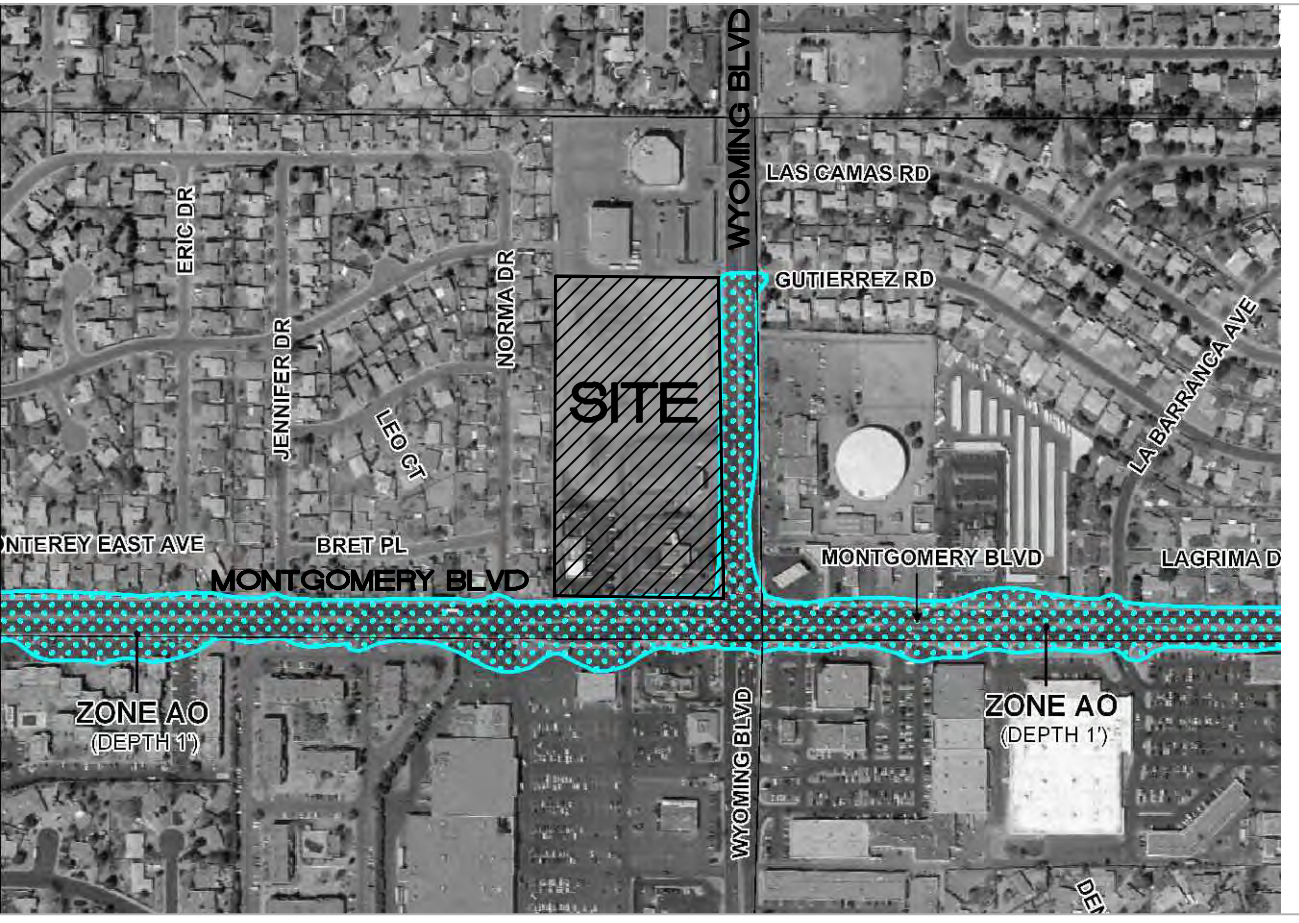
#### DRAINAGE CONCEPT

SITE WILL DRAIN TO A PROPOSED UNDERGROUND STORM DRAIN DETENTION POND UNDER SOUTH PARKING AREA ALONG WITH CONTROLLED RUNOFF FROM VACANT TRACTS A-1-B, A-1-C AND DEVELOPED TRACT A-1-D AND PORTIONS OF DEVELOPED TRACTS A-1-F AND TRACT 1. UNDERGROUND POND WILL DISCHARGE TO EXISTING ALLEY PAVED SURFACE AT OR BELOW HISTORIC FLOW RATE PER APPROVED LOS PASTORES MASTER DRAINAGE PLAN.



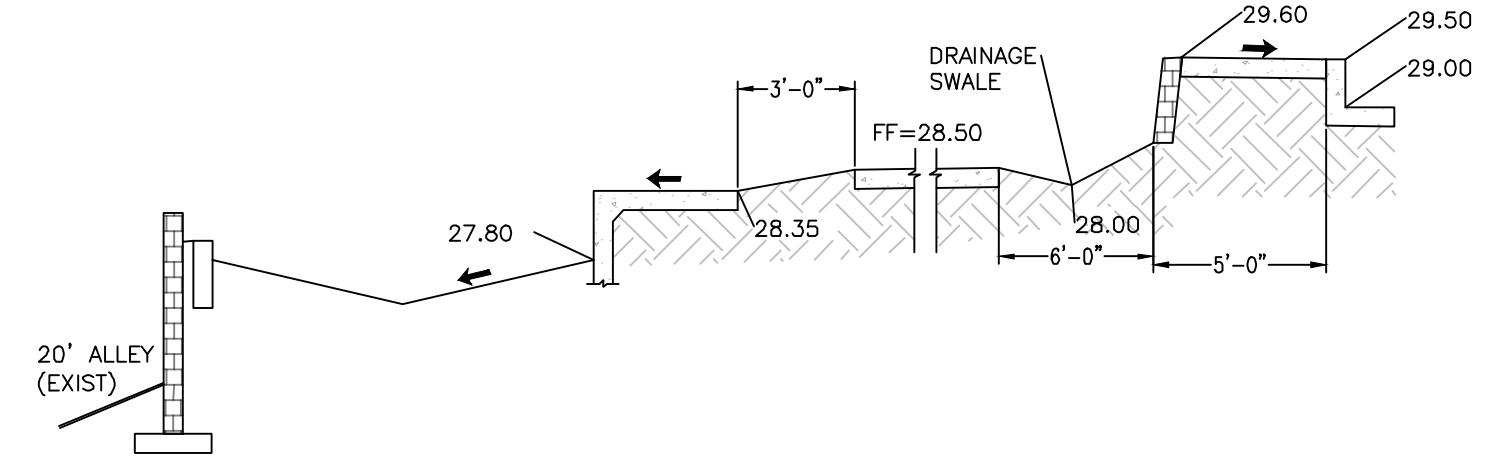
#### VICINITY MAP

#### LEGAL DESCRIPTION:



#### FIRM MAP

35001C0143G



#### SECTION A-A

NTS

#### CAUTION

ALL EXISTING UTILITIES SHOWN WERE OBTAINED FROM RESEARCH, AS-BUILTS, SURVEYS OR INFORMATION PROVIDED BY OTHERS. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO AND INCLUDING ANY EXCAVATION, TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS, PRIOR TO STARTING THE WORK. ANY CHANGES FROM THIS PLAN SHALL BE COORDINATED WITH AND APPROVED BY THE ENGINEER.

DD SET: 04-18-23

ENGINEER'S SEAL	RENOVA AT WYOMING	DRAWN BY RMG
	CONCEPTUAL GRADING PLAN	DATE 04/18/2023
04/18/2023	 5571 MIDWAY PARK PLACE NE ALBUQUERQUE, NM 87109 (505) 858-3100 www.tierrowestllc.com	2022030 GRADING PLAN
		SHEET # GR-1
		JOB # 2022030