

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

November 13, 2020

David Soule, P.E.
Rio Grande Engineering
P.O. Box 93924
Albuquerque, NM 87199

RE: 11908 San Antonio Dr. NE
Grading and Drainage Plan
Engineer's Stamp Date: 11/04/20
Hydrology File: E20D007H

Dear Mr. Soule:

Based upon the information provided in your submittal received 11/05/20, the Grading and Drainage Plan is approved for Grading Permit.

Once the grading is complete, a pad certification will be required prior to release of Building Permit. Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter and the pad certification approval letter.

Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

If you have any questions, please contact me at 924-3995 or rbrissette@cabq.gov.

Sincerely,

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

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: 11908 SAN ANTONIO **Building Permit #:** _____ **Hydrology File #:** _____
DRB#: _____ **EPC#:** _____ **Work Order#:** _____
Legal Description: LOT C-2-A-1 SAUVIGNON SUBDIVISION
City Address: 11908 SAN ANTONIO

Applicant: MS.SU **Contact:** _____
Address: _____
Phone#: _____ **Fax#:** _____ **E-mail:** _____

Other Contact: RIO GRANDE ENGINEERING **Contact:** DAVID SOULE
Address: PO BOX 93924 ALB NM 87199
Phone#: 505.321.9099 **Fax#:** 505.872.0999 **E-mail:** david@riograndeengineering.com

TYPE OF DEVELOPMENT: _____ PLAT ☒ RESIDENCE _____ DRB SITE _____ ADMIN SITE

Check all that Apply:

DEPARTMENT:

☒ HYDROLOGY/ DRAINAGE
_____ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

_____ ENGINEER/ARCHITECT CERTIFICATION
_____ PAD CERTIFICATION
_____ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
_____ DRAINAGE REPORT
_____ DRAINAGE MASTER PLAN
_____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
_____ ELEVATION CERTIFICATE
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ TRAFFIC IMPACT STUDY (TIS)
_____ STREET LIGHT LAYOUT
_____ OTHER (SPECIFY) _____
_____ PRE-DESIGN MEETING?

IS THIS A RESUBMITTAL?: _____ Yes ☒ No

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY
_____ 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
_____ FLOODPLAIN DEVELOPMENT PERMIT
_____ OTHER (SPECIFY) _____

DATE SUBMITTED: _____ **By:** _____

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

RIO GRANDE ENGINEERING OF NEW MEXICO, LLC

November 5, 2020

Mr. Earnest Armijo
Principal Engineer
Hydrology
City of Albuquerque

**RE: Grading and Drainage Plan
11908 San Antonio
Lot C2A1B Sauvignon Subdivision**

Dear Sir

The purpose of this letter is to accompany the enclosed grading plan for the referenced project. The subject site is located in the Sauvignon Subdivision. The master drainage plan calls for a maximum allowable discharge of 1.16 cfs San Antonio. The development on this site is not upland flows due to adjacent lot development. The proposed site has been graded such that there are two drainage basins. The front contains the majority of the lot and the entirety of the house. This basin generates 1.19 cfs. The rear portion contains the rear yard improvements and which generates 0.4 cfs.

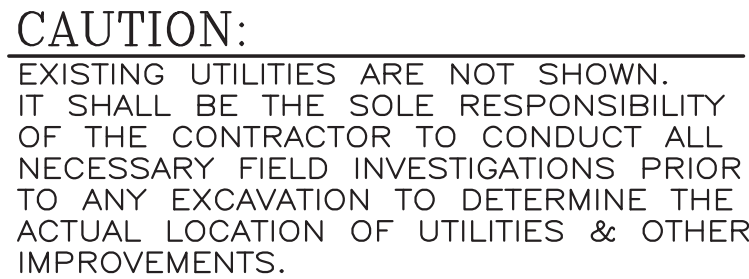
The design concept for the rear is to capture the flow from the rear and pump it to the front. The specified pump will discharge .145 cfs to the front. The entire 24-hour flow generated from the rear is .0171 (744 cf). The drainage system contains a 6000 gallon (800 cf) tank to allow for the discharge detention storage and to act as a reservoir for pump failure.

The front basin pond functions as a detention pond. It accepts the flow from the front basin as well as the rear yard pump and discharges to the right of way via a 6" pipe. The total routed peak flow leaving the site is 0.97cfs, which is less than the 1.19 cfs allowed. The site has been modeled utilizing AHYMO.

The site hydrology utilizes the NOAA 14 rain fall data. The hydrology and pond was modeled utilizing AHYMO and an excel spreadsheet for the stage-storage data. We have enclosed the grading plan, site hydrology and hydraulic calculations supporting this design. Should you have any questions regarding this resubmittal, please do not hesitate to call me.

Sincerely,

David Soule, PE
Rio Grande Engineering

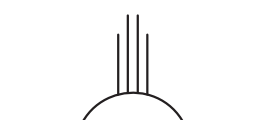


1. CONTRACTOR IS RESPONSIBLE FOR OBTAINING A TOPSOIL DISTURBANCE PERMIT PRIOR TO BEGINNING WORK.
2. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING RUN-OFF ON SITE DURING CONSTRUCTION.
3. CONTRACTOR IS RESPONSIBLE FOR CLEANING ALL SEDIMENT THAT GETS INTO EXISTING RIGHT-OF-WAY.
4. REPAIR OF DAMAGED FACILITIES AND CLEANUP OF SEDIMENT ACCUMULATIONS ON ADJACENT PROPERTIES AND IN PUBLIC FACILITIES IS THE RESPONSIBILITY OF THE CONTRACTOR.
5. ALL EXPOSED EARTH SURFACES MUST BE PROTECTED FROM WIND AND WATER EROSION PRIOR TO FINAL ACCEPTANCE OF ANY PROJECT.



1. ALL SPOT ELEVATIONS REPRESENT FLOWLINE ELEVATION UNLESS OTHERWISE NOTED.
2. ALL SLOPES SHALL BE 3:1 MAX. AND GRAVEL OR NATIVE SEEDING PRIOR TO CO.
3. ROOF SHALL HAVE GUTTER AND ROOF DRAIN SYSTEM TO DRAIN ENTIRE ROOF TO FRONT.

	EXISTING CONTOUR
	EXISTING INDEX CONTOUR
	PROPOSED CONTOUR
	PROPOSED INDEX CONTOUR
	SLOPE TIE
	EXISTING SPOT ELEVATION
	PROPOSED SPOT ELEVATION
	BOUNDARY
	CENTERLINE
	RIGHT-OF-WAY
	PROPOSED 4" PVC SD
	POOL DECK TRENCH DRAIN
	EXISTING CURB AND GUTTER
	PROPOSED CMU RETAINING WAL-DESIGN BY OTHERS

ENGINEER'S SEAL	11908 SAN ANTONIO SU RESIDENCE	DRAWN BY WCVJ
		DATE 7-23-20
	GRADING AND DRAINAGE PLAN	2102055-LAYOUT-7-23-20
11/4/20	 <i>Rio Grande Engineering</i> 1606 CENTRAL AVENUE SE SUITE 201 ALBUQUERQUE, NM 87106 (505) 872-0999	SHEET # —
DAVID SOULE P.E. #14522		JOB # 2102055

BASIN DATA

Basin	Area (sf)	Area (acres)	Treatment A		Treatment B		Treatment C		Treatment D		Q100	Q100	FIRST FLUSH
			%	(acres)	%	(acres)	%	(acres)	%	(acres)	GENERATED	DISCHARGED	REQUIRED
TOTAL SITE EXISTING	20849	0.479	0%	0.0000	30.0%	0.0513	70.0%	0.1634	0.0%	0.3243	1.1	1.1	0
PROPOSED REAR	5524	0.127	0%	0.0000	21.0%	0.0266	23.0%	0.0292	56.0%	0.0710	0.4	0.13	0
PROPOSED FRONT	15325	0.352	0%	0.0000	7.0%	0.0246	21.0%	0.0739	72.0%	0.2533	1.19	0.97	0
TOTAL SITE PROPOSE	20849.00	0.479		0.000	10.7%	0.051	21.5%	0.103	67.8%	0.324		0.97	

* SITE DISCHARGE CALCULATED UTILIZING AHYMO. THE DETENTION PONDS HAVE DIFFERENT T_p THEREFORE THE CUMULATIVE DISCHARGE IS SLIGHTLY LESS THAT THE SUMMATION OF EACH BASIN

STAGE/STORAGE VOLUME CALCULATIONS
REAR POND/TANK

OUTFALL

ACTUAL ELEV.	DEPTH (FT)	AREA SF	VOLUME AC-FT	Q (CFS)
36.00	0.00		0.00000	0.000
38.00	0.00		0.00915	0.145
40.00			0.01830	0.145

STAGE/STORAGE VOLUME CALCULATIONS

FRONT POND

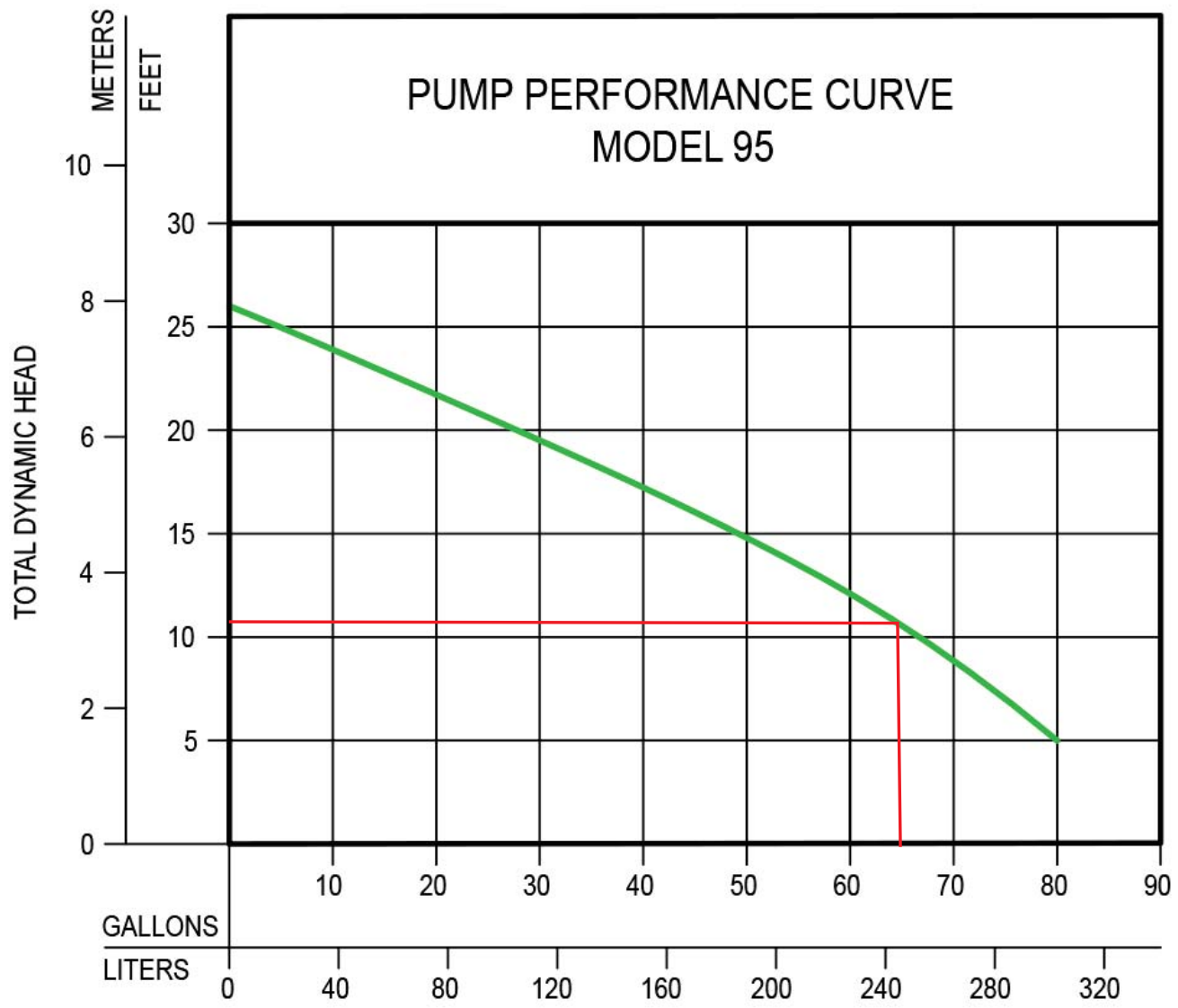
OUTFALL

ACTUAL ELEV.	DEPTH (FT)	AREA SF	VOLUME PER UNIT	VOLUME CUMULATIVE	VOLUME AC-FT	Q (CFS)
47.00	0.00	74.00	0	0	0.0000	0.00
48.00	0.00	145.00	109.50	109.5	0.0010	0.00
49.50	1.50	483.00	471.00	580.5	0.0133	1.16

Orifice Equation

$Q = CA \sqrt{2gH}$

C = 0.6
Diameter (in) 6
Area (ft^2)= 0.196349541
g = 32.2
H (Ft) = Depth of water above center of orifice
Q (CFS)= Flow



DISCHARGE
RATE=65
GPM=0.145 CFS

AHYMO.OUT

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
 RUN DATE (MON/DAY/YR) = 11/04/2020
 START TIME (HR:MIN:SEC) = 17:42:01 USER NO.=
 RioGrandeSingleA41963517
 INPUT FILE = tings\Owner\Desktop\2020 JOBS\202171-su residenct-san
 antonio\pondrout091620.txt

*S AHYMO - SU RESIDENCE-
 *S POND ROUTING

START TIME=0.0 PUNCH CODE=0

RAINFALL TYPE=2
 QUARTER=0.0 ONE= 1.69 IN
 SIX=2.15 IN DAY= 2.49 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	0.0031	0.0062	0.0096	0.0133	0.0170
0.0274	0.0369	0.0471	0.0577	0.0692	0.0809
0.1054	0.1181	0.1321	0.1467	0.1626	0.1841
0.2413	0.2784	0.3242	0.3854	0.4542	0.5730
1.0740	1.2964	1.4718	1.5599	1.6372	1.6927
1.7753	1.8035	1.8294	1.8507	1.8677	1.8826
1.9085	1.9195	1.9300	1.9402	1.9500	1.9581
1.9672	1.9717	1.9758	1.9799	1.9840	1.9879
1.9955	1.9991	2.0027	2.0062	2.0096	2.0129
2.0194	2.0226	2.0257	2.0287	2.0317	2.0346
2.0404	2.0432	2.0459	2.0487	2.0514	2.0541
2.0593	2.0619	2.0644	2.0670	2.0695	2.0719
2.0768	2.0792	2.0815	2.0839	2.0862	2.0885
2.0930	2.0952	2.0974	2.0996	2.1018	2.1039
2.1081	2.1102	2.1123	2.1143	2.1163	2.1183
2.1223	2.1242	2.1262	2.1281	2.1300	2.1319
2.1356	2.1375	2.1393	2.1411	2.1429	2.1447
2.1482	2.1500	2.1517	2.1535	2.1552	2.1570
2.1604	2.1621	2.1638	2.1656	2.1673	2.1690
2.1724	2.1741	2.1757	2.1774	2.1791	2.1808
2.1841	2.1858	2.1874	2.1891	2.1907	2.1924
2.1956	2.1973	2.1989	2.2005	2.2021	2.2037
2.2069	2.2085	2.2101	2.2117	2.2133	2.2149
2.2180	2.2196	2.2212	2.2227	2.2243	2.2258
2.2289	2.2305	2.2320	2.2335	2.2350	2.2366
2.2396	2.2411	2.2426	2.2441	2.2456	2.2471
2.2500	2.2515	2.2530	2.2544	2.2559	2.2573
2.2602	2.2617	2.2631	2.2646	2.2660	2.2674
2.2703	2.2717	2.2731	2.2745	2.2759	2.2773
2.2800	2.2814	2.2828	2.2842	2.2855	2.2869
2.2896	2.2910	2.2923	2.2936	2.2950	2.2963
2.2990	2.3003	2.3016	2.3029	2.3042	2.3055
2.3081	2.3094	2.3107	2.3119	2.3132	2.3145
2.3170	2.3183	2.3195	2.3208	2.3220	2.3232
2.3257	2.3269	2.3281	2.3294	2.3306	2.3318
2.3342	2.3354	2.3366	2.3377	2.3389	2.3401
2.3424	2.3436	2.3447	2.3459	2.3470	2.3482
2.3505	2.3516	2.3527	2.3538	2.3549	2.3561
2.3583	2.3594	2.3605	2.3615	2.3626	2.3637
2.3659	2.3669	2.3680	2.3690	2.3701	2.3711
2.3732	2.3743	2.3753	2.3763	2.3773	2.3784
					2.3794

AHYMO.OUT

2.3804	2.3814	2.3824	2.3834	2.3844	2.3853	2.3863
2.3873	2.3883	2.3892	2.3902	2.3912	2.3921	2.3931
2.3940	2.3950	2.3959	2.3968	2.3977	2.3987	2.3996
2.4005	2.4014	2.4023	2.4032	2.4041	2.4050	2.4059
2.4068	2.4076	2.4085	2.4094	2.4102	2.4111	2.4120
2.4128	2.4136	2.4145	2.4153	2.4162	2.4170	2.4178
2.4186	2.4194	2.4202	2.4210	2.4218	2.4226	2.4234
2.4242	2.4250	2.4258	2.4266	2.4273	2.4281	2.4288
2.4296	2.4303	2.4311	2.4318	2.4326	2.4333	2.4340
2.4348	2.4355	2.4362	2.4369	2.4376	2.4383	2.4390
2.4397	2.4404	2.4410	2.4417	2.4424	2.4431	2.4437
2.4444	2.4450	2.4457	2.4463	2.4470	2.4476	2.4483
2.4489	2.4495	2.4501	2.4507	2.4513	2.4519	2.4525
2.4531	2.4537	2.4543	2.4549	2.4555	2.4561	2.4566
2.4572	2.4577	2.4583	2.4589	2.4594	2.4599	2.4605
2.4610	2.4615	2.4621	2.4626	2.4631	2.4636	2.4641
2.4646	2.4651	2.4656	2.4661	2.4666	2.4670	2.4675
2.4680	2.4684	2.4689	2.4694	2.4698	2.4703	2.4707
2.4711	2.4716	2.4720	2.4724	2.4728	2.4732	2.4737
2.4741	2.4745	2.4749	2.4752	2.4756	2.4760	2.4764
2.4768	2.4771	2.4775	2.4779	2.4782	2.4786	2.4789
2.4792	2.4796	2.4799	2.4802	2.4806	2.4809	2.4812
2.4815	2.4818	2.4821	2.4824	2.4827	2.4830	2.4833
2.4835	2.4838	2.4841	2.4843	2.4846	2.4849	2.4851
2.4854	2.4856	2.4858	2.4861	2.4863	2.4865	2.4867
2.4869	2.4871	2.4874	2.4876	2.4877	2.4879	2.4881
2.4883	2.4885	2.4887	2.4888	2.4890	2.4891	2.4893
2.4894	2.4896	2.4897	2.4899	2.4900		

*OVERALL SITE EXISTING

COMPUTE NM HYD ID=1 HYD NO=101 DA= .0007479 SQ MI
 PER A=00 PER B=30 PER C=70 PER D=0
 TP=-.170 MASSRAIN=-1

K = 0.144026HR TP = 0.170000HR K/TP RATIO = 0.847211 SHAPE
 CONSTANT, N = 4.202857
 UNIT PEAK = 1.6211 CFS UNIT VOLUME = 0.9924 B = 368.48
 P60 = 1.6900
 AREA = 0.000748 SQ MI IA = 0.39500 INCHES INF = 0.95600
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

PRINT HYD ID=1 CODE=3

PARTIAL HYDROGRAPH 101.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			
	0.000	0.0		0.750	0.0	1.500	1.0
2.250	0.1	0.0	3.000	0.0			
	0.150	0.0		0.900	0.0	1.650	0.9
2.400	0.0	0.0	3.150	0.0			
	0.300	0.0		1.050	0.0	1.800	0.4
2.550	0.0						
	0.450	0.0		1.200	0.0	1.950	0.1
2.700	0.0						
	0.600	0.0		1.350	0.2	2.100	0.1
2.850	0.0						

RUNOFF VOLUME = 0.87417 INCHES = 0.0349 ACRE-FEET
 PEAK DISCHARGE RATE = 1.10 CFS AT 1.550 HOURS BASIN AREA =

AHYMO.OUT

0.0007 SQ. MI.

*REAR BASIN
COMPUTE NM HYD

ID=2 HYD NO=102 DA= .0001981 SQ MI
PER A=00 PER B=21 PER C=23 PER D=56
TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE
CONSTANT, N = 7.106428
UNIT PEAK = 0.34343 CFS UNIT VOLUME = 0.9655 B = 526.28
P60 = 1.6900
AREA = 0.000111 SQ MI IA = 0.10000 INCHES INF = 0.04000
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

K = 0.150881HR TP = 0.170000HR K/TP RATIO = 0.887536 SHAPE
CONSTANT, N = 3.996702
UNIT PEAK = 0.18200 CFS UNIT VOLUME = 0.9306 B = 354.95
P60 = 1.6900
AREA = 0.000087 SQ MI IA = 0.42159 INCHES INF = 1.03045
INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
0.050000

PRINT HYD

ID=2 CODE=3

PARTIAL HYDROGRAPH 102.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			
	0.000	0.0		3.600	0.0	7.200	0.0
10.800	0.0	0.0	14.400	0.0	0.0	7.350	0.0
	0.150	0.0		3.750	0.0		0.0
10.950	0.0	0.0	14.550	0.0	0.0	7.500	0.0
	0.300	0.0		3.900	0.0		0.0
11.100	0.0	0.0	14.700	0.0	0.0	7.650	0.0
	0.450	0.0		4.050	0.0		0.0
11.250	0.0	0.0	14.850	0.0	0.0	7.800	0.0
	0.600	0.0		4.200	0.0		0.0
11.400	0.0	0.0	15.000	0.0	0.0	7.950	0.0
	0.750	0.0		4.350	0.0		0.0
11.550	0.0	0.0	15.150	0.0	0.0	8.100	0.0
	0.900	0.0		4.500	0.0		0.0
11.700	0.0	0.0	15.300	0.0	0.0	8.250	0.0
	1.050	0.0		4.650	0.0		0.0
11.850	0.0	0.0	15.450	0.0	0.0	8.400	0.0
	1.200	0.0		4.800	0.0		0.0
12.000	0.0	0.0	15.600	0.0	0.0	8.550	0.0
	1.350	0.1		4.950	0.0		0.0
12.150	0.0	0.0	15.750	0.0	0.0	8.700	0.0
	1.500	0.4		5.100	0.0		0.0
12.300	0.0	0.0	15.900	0.0	0.0	8.850	0.0
	1.650	0.3		5.250	0.0		0.0
12.450	0.0	0.0	16.050	0.0	0.0	9.000	0.0
	1.800	0.2		5.400	0.0		0.0

AHYMO.OUT						
12.600	0.0		16.200	0.0		
	1.950	0.1		5.550	0.0	9.150
12.750	0.0		16.350	0.0		
	2.100	0.0		5.700	0.0	9.300
12.900	0.0		16.500	0.0		
	2.250	0.0		5.850	0.0	9.450
13.050	0.0		16.650	0.0		
	2.400	0.0		6.000	0.0	9.600
13.200	0.0		16.800	0.0		
	2.550	0.0		6.150	0.0	9.750
13.350	0.0		16.950	0.0		
	2.700	0.0		6.300	0.0	9.900
13.500	0.0		17.100	0.0		
	2.850	0.0		6.450	0.0	10.050
13.650	0.0		17.250	0.0		
	3.000	0.0		6.600	0.0	10.200
13.800	0.0		17.400	0.0		
	3.150	0.0		6.750	0.0	10.350
13.950	0.0		17.550	0.0		
	3.300	0.0		6.900	0.0	10.500
14.100	0.0		17.700	0.0		
	3.450	0.0		7.050	0.0	10.650
14.250	0.0		17.850	0.0		

RUNOFF VOLUME = 1.62145 INCHES = 0.0171 ACRE-FEET
 PEAK DISCHARGE RATE = 0.40 CFS AT 1.550 HOURS BASIN AREA =
 0.0002 SQ. MI.

*FRONT BASIN
 COMPUTE NM HYD

ID=3 HYD NO=103 DA= .0005497 SQ MI
 PER A=0 PER B=7 PER C=21 PER D=72
 TP=-.170 MASSRAIN=-1

K = 0.092650HR TP = 0.170000HR K/TP RATIO = 0.545000 SHAPE
 CONSTANT, N = 7.106428
 UNIT PEAK = 1.2252 CFS UNIT VOLUME = 0.9900 B = 526.28
 P60 = 1.6900
 AREA = 0.000396 SQ MI IA = 0.10000 INCHES INF = 0.04000
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

K = 0.142092HR TP = 0.170000HR K/TP RATIO = 0.835837 SHAPE
 CONSTANT, N = 4.265538
 UNIT PEAK = 0.33726 CFS UNIT VOLUME = 0.9610 B = 372.50
 P60 = 1.6900
 AREA = 0.000154 SQ MI IA = 0.38750 INCHES INF = 0.93500
 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =
 0.050000

PRINT HYD ID=3 CODE=3

PARTIAL HYDROGRAPH 103.00

TIME	TIME	FLOW	TIME	TIME	FLOW	TIME	FLOW
HRS	FLOW	CFS	HRS	FLOW	CFS	HRS	CFS
	HRS			HRS			
	CFS			CFS			

			AHYMO.OUT			
	0.000	0.0	4.800	0.0	9.600	0.0
14.400	0.0		19.200	0.0		
	0.150	0.0	4.950	0.0	9.750	0.0
14.550	0.0		19.350	0.0		
	0.300	0.0	5.100	0.0	9.900	0.0
14.700	0.0		19.500	0.0		
	0.450	0.0	5.250	0.0	10.050	0.0
14.850	0.0		19.650	0.0		
	0.600	0.0	5.400	0.0	10.200	0.0
15.000	0.0		19.800	0.0		
	0.750	0.0	5.550	0.0	10.350	0.0
15.150	0.0		19.950	0.0		
	0.900	0.0	5.700	0.0	10.500	0.0
15.300	0.0		20.100	0.0		
	1.050	0.1	5.850	0.0	10.650	0.0
15.450	0.0		20.250	0.0		
	1.200	0.1	6.000	0.0	10.800	0.0
15.600	0.0		20.400	0.0		
	1.350	0.3	6.150	0.0	10.950	0.0
15.750	0.0		20.550	0.0		
	1.500	1.1	6.300	0.0	11.100	0.0
15.900	0.0		20.700	0.0		
	1.650	0.9	6.450	0.0	11.250	0.0
16.050	0.0		20.850	0.0		
	1.800	0.5	6.600	0.0	11.400	0.0
16.200	0.0		21.000	0.0		
	1.950	0.3	6.750	0.0	11.550	0.0
16.350	0.0		21.150	0.0		
	2.100	0.2	6.900	0.0	11.700	0.0
16.500	0.0		21.300	0.0		
	2.250	0.1	7.050	0.0	11.850	0.0
16.650	0.0		21.450	0.0		
	2.400	0.1	7.200	0.0	12.000	0.0
16.800	0.0		21.600	0.0		
	2.550	0.0	7.350	0.0	12.150	0.0
16.950	0.0		21.750	0.0		
	2.700	0.0	7.500	0.0	12.300	0.0
17.100	0.0		21.900	0.0		
	2.850	0.0	7.650	0.0	12.450	0.0
17.250	0.0		22.050	0.0		
	3.000	0.0	7.800	0.0	12.600	0.0
17.400	0.0		22.200	0.0		
	3.150	0.0	7.950	0.0	12.750	0.0
17.550	0.0		22.350	0.0		
	3.300	0.0	8.100	0.0	12.900	0.0
17.700	0.0		22.500	0.0		
	3.450	0.0	8.250	0.0	13.050	0.0
17.850	0.0		22.650	0.0		
	3.600	0.0	8.400	0.0	13.200	0.0
18.000	0.0		22.800	0.0		
	3.750	0.0	8.550	0.0	13.350	0.0
18.150	0.0		22.950	0.0		
	3.900	0.0	8.700	0.0	13.500	0.0
18.300	0.0		23.100	0.0		
	4.050	0.0	8.850	0.0	13.650	0.0
18.450	0.0		23.250	0.0		
	4.200	0.0	9.000	0.0	13.800	0.0
18.600	0.0		23.400	0.0		
	4.350	0.0	9.150	0.0	13.950	0.0
18.750	0.0		23.550	0.0		
	4.500	0.0	9.300	0.0	14.100	0.0
18.900	0.0					
	4.650	0.0	9.450	0.0	14.250	0.0
19.050	0.0					

RUNOFF VOLUME = 1.86068 INCHES = 0.0545 ACRE-FEET

PEAK DISCHARGE RATE = 0.0005 SQ. MI. AHYMO.OUT 1.19 CFS AT 1.550 HOURS BASIN AREA =

* ROUTE THE REAR TO FRONT THROUGH THE PROPOSED RESERVOIR
 ROUTE RESERVOIR ID=4 HYD NO=104 INFLOW=2 CODE=3
 OUTFLOW(CFS) STORAGE(AC-FT) ELEV(FT)
 0.00 0.0001 36.00
 0.145 0.00915 38.00
 0.145 0.01830 40.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	36.00	0.000	0.00
0.15	0.00	36.00	0.000	0.00
0.30	0.00	36.00	0.000	0.00
0.45	0.00	36.00	0.000	0.00
0.60	0.00	36.00	0.000	0.00
0.75	0.00	36.00	0.000	0.00
0.90	0.01	36.01	0.000	0.00
1.05	0.02	36.05	0.000	0.00
1.20	0.04	36.12	0.001	0.01
1.35	0.10	36.25	0.001	0.02
1.50	0.36	36.77	0.004	0.06
1.65	0.31	37.55	0.007	0.11
1.80	0.15	37.82	0.008	0.13
1.95	0.08	37.77	0.008	0.13
2.10	0.05	37.60	0.007	0.12
2.25	0.02	37.40	0.006	0.10
2.40	0.01	37.19	0.005	0.09
2.55	0.01	37.00	0.005	0.07
2.70	0.00	36.83	0.004	0.06
2.85	0.00	36.69	0.003	0.05
3.00	0.00	36.57	0.003	0.04
3.15	0.00	36.48	0.002	0.03
3.30	0.00	36.40	0.002	0.03
3.45	0.00	36.33	0.002	0.02
3.60	0.00	36.27	0.001	0.02
3.75	0.00	36.23	0.001	0.02
3.90	0.00	36.19	0.001	0.01
4.05	0.00	36.16	0.001	0.01
4.20	0.00	36.14	0.001	0.01
4.35	0.00	36.12	0.001	0.01
4.50	0.00	36.10	0.001	0.01
4.65	0.00	36.09	0.000	0.01
4.80	0.00	36.08	0.000	0.01
4.95	0.00	36.07	0.000	0.00

PEAK DISCHARGE = 0.132 CFS - PEAK OCCURS AT HOUR 1.85
 MAXIMUM WATER SURFACE ELEVATION = 37.824
 MAXIMUM STORAGE = 0.0084 AC-FT INCREMENTAL TIME= 0.050000HRS

*ADD REAR ROUTED TO FRONT

ADD HYD ID=5 HYD NO=105 ID I=3 ID II=4

* ROUTE THE ENTIRE SITE THROUGH FRONT POND

AHYMO.OUT

ROUTE RESERVOIR	ID=6	HYD NO=106	INFLOW=5	CODE=3
	OUTFLOW(CFS)		STORAGE(AC-FT)	ELEV(FT)
	0.00		0.0001	48.00
	1.16		0.0133	49.25

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	48.00	0.000	0.00
0.15	0.00	48.00	0.000	0.00
0.30	0.00	48.00	0.000	0.00
0.45	0.00	48.00	0.000	0.00
0.60	0.00	48.00	0.000	0.00
0.75	0.00	48.00	0.000	0.00
0.90	0.04	48.02	0.000	0.02
1.05	0.08	48.05	0.001	0.04
1.20	0.15	48.10	0.001	0.09
1.35	0.34	48.20	0.002	0.19
1.50	1.14	48.62	0.007	0.58
1.65	1.03	49.05	0.011	0.97
1.80	0.58	48.89	0.009	0.82
1.95	0.38	48.62	0.007	0.58
2.10	0.27	48.43	0.005	0.40
2.25	0.21	48.31	0.003	0.29
2.40	0.16	48.23	0.003	0.21
2.55	0.11	48.17	0.002	0.15
2.70	0.08	48.12	0.001	0.11
2.85	0.06	48.09	0.001	0.08
3.00	0.05	48.07	0.001	0.07
3.15	0.04	48.06	0.001	0.05
3.30	0.04	48.05	0.001	0.04
3.45	0.03	48.04	0.001	0.04
3.60	0.03	48.03	0.000	0.03
3.75	0.02	48.03	0.000	0.03
3.90	0.02	48.02	0.000	0.02
4.05	0.02	48.02	0.000	0.02
4.20	0.02	48.02	0.000	0.02
4.35	0.01	48.02	0.000	0.02
4.50	0.01	48.02	0.000	0.01
4.65	0.01	48.01	0.000	0.01
4.80	0.01	48.01	0.000	0.01
4.95	0.01	48.01	0.000	0.01
5.10	0.01	48.01	0.000	0.01
5.25	0.01	48.01	0.000	0.01
5.40	0.01	48.01	0.000	0.01
5.55	0.01	48.01	0.000	0.01
5.70	0.01	48.01	0.000	0.01
5.85	0.01	48.01	0.000	0.01
6.00	0.01	48.01	0.000	0.01
6.15	0.01	48.01	0.000	0.01
6.30	0.01	48.01	0.000	0.01
6.45	0.01	48.01	0.000	0.01
6.60	0.01	48.01	0.000	0.01
6.75	0.01	48.01	0.000	0.01
6.90	0.01	48.01	0.000	0.01
7.05	0.01	48.01	0.000	0.01
7.20	0.01	48.01	0.000	0.01
7.35	0.01	48.01	0.000	0.01
7.50	0.01	48.01	0.000	0.01

			AHYMO.OUT	
7.65	0.01	48.01	0.000	0.01
7.80	0.01	48.01	0.000	0.01
7.95	0.01	48.01	0.000	0.01
8.10	0.01	48.01	0.000	0.01
8.25	0.01	48.01	0.000	0.01
TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
8.40	0.01	48.01	0.000	0.01
8.55	0.01	48.01	0.000	0.01
8.70	0.01	48.01	0.000	0.01
8.85	0.01	48.01	0.000	0.01
9.00	0.01	48.01	0.000	0.01
9.15	0.01	48.01	0.000	0.01
9.30	0.01	48.01	0.000	0.01
9.45	0.01	48.01	0.000	0.01
9.60	0.01	48.01	0.000	0.01
9.75	0.01	48.01	0.000	0.01
9.90	0.01	48.01	0.000	0.01
10.05	0.01	48.01	0.000	0.01
10.20	0.01	48.01	0.000	0.01
10.35	0.01	48.01	0.000	0.01
10.50	0.01	48.01	0.000	0.01
10.65	0.01	48.01	0.000	0.01
10.80	0.01	48.01	0.000	0.01
10.95	0.01	48.01	0.000	0.01
11.10	0.01	48.01	0.000	0.01
11.25	0.01	48.01	0.000	0.01
11.40	0.01	48.01	0.000	0.01
11.55	0.01	48.01	0.000	0.01
11.70	0.01	48.01	0.000	0.01
11.85	0.01	48.01	0.000	0.01
12.00	0.01	48.01	0.000	0.01
12.15	0.01	48.01	0.000	0.01
12.30	0.01	48.01	0.000	0.01
12.45	0.01	48.01	0.000	0.01
12.60	0.01	48.01	0.000	0.01
12.75	0.01	48.01	0.000	0.01
12.90	0.01	48.01	0.000	0.01
13.05	0.01	48.01	0.000	0.01
13.20	0.01	48.01	0.000	0.01
13.35	0.01	48.01	0.000	0.01
13.50	0.01	48.01	0.000	0.01
13.65	0.01	48.01	0.000	0.01
13.80	0.01	48.01	0.000	0.01
13.95	0.01	48.01	0.000	0.01
14.10	0.01	48.01	0.000	0.01
14.25	0.01	48.01	0.000	0.01
14.40	0.01	48.01	0.000	0.01
14.55	0.01	48.01	0.000	0.01
14.70	0.01	48.01	0.000	0.01
14.85	0.01	48.01	0.000	0.01
15.00	0.01	48.01	0.000	0.01
15.15	0.01	48.01	0.000	0.01
15.30	0.01	48.01	0.000	0.01
15.45	0.01	48.01	0.000	0.01
15.60	0.01	48.01	0.000	0.01
15.75	0.01	48.01	0.000	0.01
15.90	0.01	48.01	0.000	0.01
16.05	0.01	48.01	0.000	0.01
16.20	0.01	48.01	0.000	0.01
16.35	0.01	48.01	0.000	0.01
16.50	0.01	48.01	0.000	0.01
16.65	0.01	48.01	0.000	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	AHYMO.OUT VOLUME (AC-FT)	OUTFLOW (CFS)
16.80	0.01	48.01	0.000	0.01
16.95	0.01	48.01	0.000	0.01
17.10	0.01	48.01	0.000	0.01
17.25	0.01	48.01	0.000	0.01
17.40	0.01	48.01	0.000	0.01
17.55	0.00	48.01	0.000	0.00

PEAK DISCHARGE = 0.973 CFS - PEAK OCCURS AT HOUR 1.65
 MAXIMUM WATER SURFACE ELEVATION = 49.049
 MAXIMUM STORAGE = 0.0112 AC-FT INCREMENTAL TIME= 0.050000HRS

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 17:42:01