CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director

Mayor Timothy M. Keller

June 19, 2020

Shawn Biazar
SBS Construction and Engineering, LLC
10209 Snowflake Ct. NW
Albuquerque, NM 87114

RE: 2818 4th Street NW Apartments
Grading & Drainage Plan
Engineer's Stamp Date: 06/12/20
Hydrology File: H14D111

Dear Mr. Biazar:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based upon the information provided in your resubmittal received 06/18/2020, the Grading & Drainage Plan is approved for Building Permit, Grading Permit, SO-19 Permit, and for action by the DRB on Site Plan for 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. Prior to approval in support of Permanent Release of Occupancy by Hydrology, Engineer Certification per the DPM checklist will be required.

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 (Doug Hughes, PE, jhughes@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

Also as a reminder, please provide Drainage Covenant for the stormwater quality ponds per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A $25 fee will be required.

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

Sincerely,

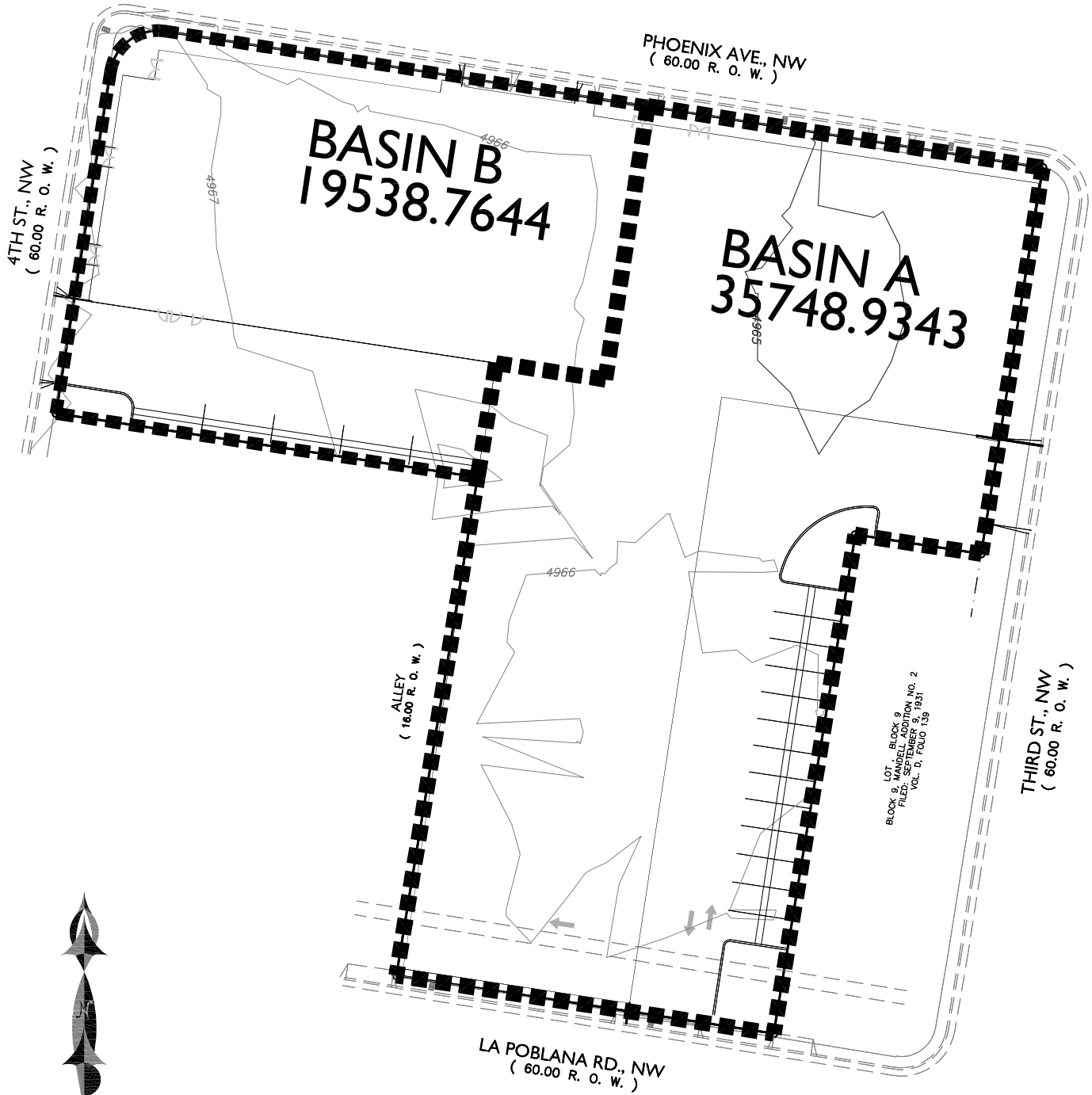
Renée C. Brissette

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

2818 4TH STREET, NW

DRAINAGE CALCULATIONS

6/12/2020



NTS

BASIN MAP

RUNOFF CALCULATION RESULTS

BASIN	AREA (SF)	AREA (AC)	AREA (MI^2)
A	35748.93	0.82068	0.001282
B	19538.76	0.44855	0.000701

EXISTING / HISTORICAL

BASIN	Q-100 CFS	Q-10 CFS	TREATMENT A, B, C, D
A	3.22	1.96	0%, 20%, 20%, 60%
B	1.77	1.08	0%, 20%, 20%, 60%

PROPOSED

BASIN	Q-100 CFS	Q-10 CFS	TREATMENT A, B, C, D
A	3.77	2.47	0%, 5%, 0%, 95%
B	2.07	1.35	0%, 5%, 0%, 95%

Pond A Volume & Discharge Calculations

Actual Elev. (ft)	Depth (ft)	Surface Area (sf)	Volume (cf)	Volume (ac-ft)	Q (cfs) (cfs)
64.50	0.00	519.00	0.00	0.000000	0.000
64.75	64.75	675.21	149.28	0.003427	0.210
65.00	65.00	2211.70	510.14	0.011711	0.297
65.50	65.50	5150.33	2350.65	0.053963	0.420
66.00	66.00	7602.04	5538.74	0.127152	0.514

Q=CA SQRT(2gH)

C	0.6	
Orifice Size (in)	4	(dia)
A =	0.087	

Pond B Volume & Discharge Calculations

Actual Elev. (ft)	Depth (ft)	Surface Area (sf)	Volume (cf)	Volume (ac-ft)	Q (cfs) (cfs)
66.48	0.00	211.52	0.00	0.000000	0.000
66.75	66.75	823.87	139.78	0.003209	1.746
67.00	67.00	1346.14	411.03	0.009436	2.423
67.15	67.15	4356.2	838.70	0.019254	2.750

Q=CA SQRT(2gH)

C	0.6	
Orifice Size (in)	8	(dia)
A =	0.698	2-8"

AHUMO INPUT FILE

```
* ZONE 2
*****************************************************************
*        100-YEAR,  6-HR STORM (UNDER EXISITNG CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                    RAIN DAY=2.75 IN DT=0.03333 HR
* BASIN A
COMPUTE NM HYD      ID=1 HYD NO=101.0 AREA=0.001282 SQ MI
                    PER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                    RAIN DAY=1.83 IN DT=0.03333 HR
* BASIN A
COMPUTE NM HYD      ID=2 HYD NO=111.0 AREA=0.001282 SQ MI
                    PER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*        100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                    RAIN DAY=2.75 IN DT=0.03333 HR
* ON-STIE
COMPUTE NM HYD      ID=3 HYD NO=101.1 AREA=0.001282 SQ MI
                    PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                    RAIN DAY=1.83 IN DT=0.03333 HR
* ON-SITE
COMPUTE NM HYD      ID=4 HYD NO=111.1 AREA=0.001282 SQ MI
                    PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*                   PONDING CONDITION                           *
*****************************************************************
ROUTE RESERVOIR     ID=20 HYD NO=501.1 INFLOW ID=3 CODE=24
                    OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                        0.00              0.000000     64.50
                        0.210             0.003427     64.75
                        0.297             0.011711     65.00
                        0.420             0.053963     65.50
                        0.514             0.127152     66.00
*****************************************************************
*        100-YEAR,  6-HR STORM (UNDER EXISITNG CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                    RAIN DAY=2.75 IN DT=0.03333 HR
* BASIN B
COMPUTE NM HYD      ID=5 HYD NO=102.0 AREA=0.000701 SQ MI
                    ER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                    RAIN DAY=1.83 IN DT=0.03333 HR
* BASIN A
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COMPUTE NM HYD      ID=6 HYD NO=112.0 AREA=0.000701 SQ MI
                    ER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*        100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                    RAIN DAY=2.75 IN DT=0.03333 HR
* ON-STIE
COMPUTE NM HYD      ID=7 HYD NO=102.1 AREA=0.000701  SQ MI
                    PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                    RAIN DAY=1.83 IN DT=0.03333 HR
* ON-SITE
COMPUTE NM HYD      ID=8 HYD NO=112.1 AREA=0.000701  SQ MI
                    PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                    TP=0.1333 HR MASS RAINFALL=-1
*****************************************************************
*                   PONDING CONDITION                           *
*****************************************************************
ROUTE RESERVOIR     ID=30 HYD NO=601.1 INFLOW ID=7 CODE=24
                    OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                        0.000              0.000000     66.48
                        1.746              0.003209     66.75
                        2.423              0.009436     67.00
                        2.750              0.019254     67.15
*****************************************************************

*
ADD HYD             ID=40 HYD NO=110.10 ID=20 ID=30
**
FINISH
```

AHYMO SUMMARY OUTPUT

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) - - VERSION: 1997.02d RUN DATE (MON/DAY/YR) =05/18/2020
INPUT FILE = 201836.TXT USER NO.= AHYMO-I-9702c01000R31-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	NOTATION	
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.350
COMPUTE NM HYD	101.00	-	1	.00128	3.22	.112	1.64387	1.500	3.919	PER IMP=	60.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.570
COMPUTE NM HYD	111.00	-	2	.00128	1.96	.065	.95502	1.500	2.386	PER IMP=	60.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.350
COMPUTE NM HYD	101.10	-	3	.00128	3.77	.140	2.04851	1.500	4.600	PER IMP=	95.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.570
COMPUTE NM HYD	111.10	-	4	.00128	2.47	.088	1.28468	1.500	3.008	PER IMP=	95.00
ROUTE RESERVOIR	501.10	3	20	.00128	.47	.140	2.04829	2.133	.577	AC-FT=	.095
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.350
COMPUTE NM HYD	102.00	-	5	.00070	1.77	.061	1.64388	1.500	3.936	PER IMP=	60.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.570
COMPUTE NM HYD	112.00	-	6	.00070	1.08	.036	.95502	1.500	2.396	PER IMP=	60.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	2.350
COMPUTE NM HYD	102.10	-	7	.00070	2.07	.077	2.04851	1.500	4.615	PER IMP=	95.00
START										TIME=	.00
RAINFALL TYPE= 1										RAIN6=	1.570
COMPUTE NM HYD	112.10	-	8	.00070	1.35	.048	1.28468	1.500	3.016	PER IMP=	95.00
ROUTE RESERVOIR	601.10	7	30	.00070	1.86	.077	2.04810	1.533	4.147	AC-FT=	.004
ADD HYD	110.10	20&30	40	.00198	2.27	.217	2.04806	1.567	1.788		
FINISH											

AHYMO OUTPUT

```
     AHYMO PROGRAM (AHYMO_97) -                        - Version:  1997.02d
          RUN DATE (MON/DAY/YR) = 05/18/2020
          START TIME (HR:MIN:SEC) = 11:11:21     USER NO.= AHYMO-I-9702c01000R31-AH
          INPUT FILE = 201836.TXT


     * ZONE 2
     ***************************************************************
     *        100-YEAR,  6-HR STORM (UNDER EXISITNG CONDITIONS)       *
     ***************************************************************
     START              TIME=0.0
     RAINFALL           TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                        RAIN DAY=2.75 IN DT=0.03333 HR

                   COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                   DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                      .0000   .0016   .0033   .0049   .0066   .0084   .0102
                      .0120   .0139   .0158   .0178   .0199   .0219   .0241
                      .0263   .0286   .0309   .0333   .0358   .0384   .0411
                      .0439   .0467   .0497   .0529   .0561   .0596   .0631
                      .0669   .0709   .0751   .0807   .0866   .0930   .1066
                      .1371   .1840   .2514   .3434   .4644   .6186   .8106
                     1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
                     1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
                     1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
                     2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
                     2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
                     2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
                     2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
                     2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
                     2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
                     2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
                     2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
                     2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
                     2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
                     2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
                     2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
                     2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
                     2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
                     2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
                     2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
                     2.3443  2.3454  2.3466  2.3477  2.3488  2.3500

     * BASIN A
     COMPUTE NM HYD     ID=1 HYD NO=101.0 AREA=0.001282 SQ MI
                        PER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                        TP=0.1333 HR MASS RAINFALL=-1

          K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =
7.106420
          UNIT PEAK =   3.0368    CFS   UNIT VOLUME =    .9955       B =   526.28      P60 = 2.0100

          AREA =      .000769 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


          K =   .119767HR    TP =   .133300HR    K/TP RATIO =   .898476     SHAPE CONSTANT, N =
3.944947
          UNIT PEAK =   1.3521    CFS   UNIT VOLUME =    .9902       B =   351.48      P60 = 2.0100

          AREA =      .000513 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     ***************************************************************
     *         10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)       *
     ***************************************************************
     START              TIME=0.0
     RAINFALL           TYPE=1 RAIN QUARTER=0.0 IN
                        RAIN ONE=1.34 IN RAIN SIX=1.57 IN
```

```
                    RAIN DAY=1.83 IN DT=0.03333 HR

                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                  DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                     .0000   .0011   .0022   .0034   .0046   .0058   .0070
                     .0083   .0095   .0109   .0122   .0136   .0150   .0165
                     .0180   .0196   .0212   .0229   .0246   .0263   .0282
                     .0301   .0321   .0341   .0363   .0385   .0408   .0433
                     .0459   .0486   .0515   .0552   .0591   .0634   .0725
                     .0928   .1241   .1690   .2304   .3110   .4138   .5418
                     .6980   .8430   .9036   .9547  1.0002  1.0416  1.0797
                    1.1150  1.1481  1.1790  1.2082  1.2357  1.2617  1.2863
                    1.3096  1.3316  1.3526  1.3725  1.3914  1.3958  1.3999
                    1.4037  1.4074  1.4109  1.4143  1.4175  1.4206  1.4236
                    1.4265  1.4293  1.4320  1.4346  1.4372  1.4397  1.4421
                    1.4444  1.4467  1.4490  1.4511  1.4533  1.4554  1.4574
                    1.4594  1.4614  1.4633  1.4652  1.4670  1.4688  1.4706
                    1.4724  1.4741  1.4758  1.4775  1.4791  1.4807  1.4823
                    1.4839  1.4854  1.4869  1.4884  1.4899  1.4914  1.4928
                    1.4943  1.4957  1.4970  1.4984  1.4998  1.5011  1.5024
                    1.5037  1.5050  1.5063  1.5075  1.5088  1.5100  1.5113
                    1.5125  1.5137  1.5148  1.5160  1.5172  1.5183  1.5195
                    1.5206  1.5217  1.5228  1.5239  1.5250  1.5261  1.5271
                    1.5282  1.5292  1.5303  1.5313  1.5323  1.5333  1.5344
                    1.5354  1.5363  1.5373  1.5383  1.5393  1.5402  1.5412
                    1.5421  1.5431  1.5440  1.5449  1.5458  1.5467  1.5476
                    1.5485  1.5494  1.5503  1.5512  1.5521  1.5529  1.5538
                    1.5547  1.5555  1.5564  1.5572  1.5580  1.5589  1.5597
                    1.5605  1.5613  1.5621  1.5629  1.5637  1.5645  1.5653
                    1.5661  1.5669  1.5677  1.5685  1.5692  1.5700

     * BASIN A
     COMPUTE NM HYD      ID=2 HYD NO=111.0 AREA=0.001282 SQ MI
                         PER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                         TP=0.1333 HR MASS RAINFALL=-1

          K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =
7.106420
          UNIT PEAK =   3.0368    CFS   UNIT VOLUME =    .9955       B =   526.28      P60 = 1.3400

          AREA =      .000769 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


          K =   .123717HR    TP =   .133300HR    K/TP RATIO =   .928113     SHAPE CONSTANT, N =
3.812062
          UNIT PEAK =   1.3174    CFS   UNIT VOLUME =    .9897       B =   342.44      P60 = 1.3400

          AREA =      .000513 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     ************************************************************
     *        100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
     ************************************************************
     START               TIME=0.0
     RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                         RAIN DAY=2.75 IN DT=0.03333 HR

                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                  DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                     .0000   .0016   .0033   .0049   .0066   .0084   .0102
                     .0120   .0139   .0158   .0178   .0199   .0219   .0241
                     .0263   .0286   .0309   .0333   .0358   .0384   .0411
                     .0439   .0467   .0497   .0529   .0561   .0596   .0631
                     .0669   .0709   .0751   .0807   .0866   .0930   .1066
                     .1371   .1840   .2514   .3434   .4644   .6186   .8106
                    1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
                    1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
                    1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
                    2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
                    2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
                    2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
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                    2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
                    2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
                    2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
                    2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
                    2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
                    2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
                    2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
                    2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
                    2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
                    2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
                    2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
                    2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
                    2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
                    2.3443  2.3454  2.3466  2.3477  2.3488  2.3500

     * ON-STIE
     COMPUTE NM HYD      ID=3 HYD NO=101.1 AREA=0.001282 SQ MI
                         PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                         TP=0.1333 HR MASS RAINFALL=-1

          K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =
7.106420
          UNIT PEAK =   4.8083    CFS   UNIT VOLUME =    .9969       B =   526.28      P60 = 2.0100

          AREA =      .001218 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


          K =   .132088HR    TP =   .133300HR    K/TP RATIO =   .990905     SHAPE CONSTANT, N =
3.563124
          UNIT PEAK =   .15624    CFS   UNIT VOLUME =    .9154       B =   324.91      P60 = 2.0100

          AREA =      .000064 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     ****************************************************************
     *         10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)       *
     ****************************************************************
     START               TIME=0.0
     RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                         RAIN DAY=1.83 IN DT=0.03333 HR

                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                    DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                       .0000   .0011   .0022   .0034   .0046   .0058   .0070
                       .0083   .0095   .0109   .0122   .0136   .0150   .0165
                       .0180   .0196   .0212   .0229   .0246   .0263   .0282
                       .0301   .0321   .0341   .0363   .0385   .0408   .0433
                       .0459   .0486   .0515   .0552   .0591   .0634   .0725
                       .0928   .1241   .1690   .2304   .3110   .4138   .5418
                       .6980   .8430   .9036   .9547  1.0002  1.0416  1.0797
                      1.1150  1.1481  1.1790  1.2082  1.2357  1.2617  1.2863
                      1.3096  1.3316  1.3526  1.3725  1.3914  1.3958  1.3999
                      1.4037  1.4074  1.4109  1.4143  1.4175  1.4206  1.4236
                      1.4265  1.4293  1.4320  1.4346  1.4372  1.4397  1.4421
                      1.4444  1.4467  1.4490  1.4511  1.4533  1.4554  1.4574
                      1.4594  1.4614  1.4633  1.4652  1.4670  1.4688  1.4706
                      1.4724  1.4741  1.4758  1.4775  1.4791  1.4807  1.4823
                      1.4839  1.4854  1.4869  1.4884  1.4899  1.4914  1.4928
                      1.4943  1.4957  1.4970  1.4984  1.4998  1.5011  1.5024
                      1.5037  1.5050  1.5063  1.5075  1.5088  1.5100  1.5113
                      1.5125  1.5137  1.5148  1.5160  1.5172  1.5183  1.5195
                      1.5206  1.5217  1.5228  1.5239  1.5250  1.5261  1.5271
                      1.5282  1.5292  1.5303  1.5313  1.5323  1.5333  1.5344
                      1.5354  1.5363  1.5373  1.5383  1.5393  1.5402  1.5412
                      1.5421  1.5431  1.5440  1.5449  1.5458  1.5467  1.5476
                      1.5485  1.5494  1.5503  1.5512  1.5521  1.5529  1.5538
                      1.5547  1.5555  1.5564  1.5572  1.5580  1.5589  1.5597
                      1.5605  1.5613  1.5621  1.5629  1.5637  1.5645  1.5653
                      1.5661  1.5669  1.5677  1.5685  1.5692  1.5700

     * ON-SITE
```

```
     COMPUTE NM HYD      ID=4 HYD NO=111.1 AREA=0.001282 SQ MI
                         PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                         TP=0.1333 HR MASS RAINFALL=-1

          K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =
7.106420
          UNIT PEAK =   4.8083    CFS   UNIT VOLUME =    .9969       B =   526.28      P60 = 1.3400

          AREA =      .001218 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


          K =   .140318HR    TP =   .133300HR    K/TP RATIO =  1.052645     SHAPE CONSTANT, N =
3.354139
          UNIT PEAK =   .14884    CFS   UNIT VOLUME =    .9067       B =   309.53      P60 = 1.3400

          AREA =      .000064 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     ****************************************************************
     *                    PONDING CONDITION                         *
     ****************************************************************
     ROUTE RESERVOIR     ID=20 HYD NO=501.1 INFLOW ID=3 CODE=24
                         OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                             0.00              0.000000     64.50
                             0.210             0.003427     64.75
                             0.297             0.011711     65.00
                             0.420             0.053963     65.50
                             0.514             0.127152     66.00

       *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

          TIME      INFLOW    ELEV      VOLUME    OUTFLOW
          (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

           .00        .00     64.50       .000       .00
           .80        .00     64.50       .000       .00
          1.60       2.59     65.53       .059       .43
          2.40        .16     65.75       .091       .47
          3.20        .03     65.58       .065       .43
          4.00        .02     65.33       .040       .38
          4.80        .02     65.08       .018       .32
          5.60        .02     64.68       .002       .15
          6.40        .00     64.51       .000       .01
      PEAK DISCHARGE =          .473 CFS - PEAK OCCURS AT HOUR    2.13
      MAXIMUM WATER SURFACE ELEVATION =       65.782
      MAXIMUM STORAGE =          .0953 AC-FT      INCREMENTAL TIME=     .033330HRS

     ****************************************************************
     *        100-YEAR,  6-HR STORM (UNDER EXISITNG CONDITIONS)     *
     ****************************************************************
     START               TIME=0.0
     RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                         RAIN DAY=2.75 IN DT=0.03333 HR

                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                    DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                       .0000   .0016   .0033   .0049   .0066   .0084   .0102
                       .0120   .0139   .0158   .0178   .0199   .0219   .0241
                       .0263   .0286   .0309   .0333   .0358   .0384   .0411
                       .0439   .0467   .0497   .0529   .0561   .0596   .0631
                       .0669   .0709   .0751   .0807   .0866   .0930   .1066
                       .1371   .1840   .2514   .3434   .4644   .6186   .8106
                      1.0449  1.2624  1.3533  1.4300  1.4982  1.5602  1.6174
                      1.6704  1.7200  1.7664  1.8102  1.8514  1.8904  1.9273
                      1.9622  1.9953  2.0268  2.0566  2.0850  2.0915  2.0976
                      2.1033  2.1088  2.1140  2.1191  2.1239  2.1285  2.1329
                      2.1373  2.1414  2.1454  2.1494  2.1531  2.1568  2.1604
                      2.1639  2.1673  2.1706  2.1739  2.1771  2.1802  2.1832
                      2.1862  2.1891  2.1919  2.1947  2.1975  2.2002  2.2028
                      2.2054  2.2080  2.2105  2.2130  2.2154  2.2178  2.2202
                      2.2225  2.2248  2.2270  2.2293  2.2315  2.2336  2.2358
```

```
                    2.2379  2.2399  2.2420  2.2440  2.2460  2.2480  2.2500
                    2.2519  2.2538  2.2557  2.2576  2.2594  2.2612  2.2631
                    2.2648  2.2666  2.2684  2.2701  2.2718  2.2735  2.2752
                    2.2769  2.2785  2.2802  2.2818  2.2834  2.2850  2.2866
                    2.2881  2.2897  2.2912  2.2928  2.2943  2.2958  2.2973
                    2.2987  2.3002  2.3017  2.3031  2.3045  2.3060  2.3074
                    2.3088  2.3102  2.3115  2.3129  2.3143  2.3156  2.3169
                    2.3183  2.3196  2.3209  2.3222  2.3235  2.3248  2.3261
                    2.3273  2.3286  2.3298  2.3311  2.3323  2.3335  2.3348
                    2.3360  2.3372  2.3384  2.3396  2.3408  2.3419  2.3431
                    2.3443  2.3454  2.3466  2.3477  2.3488  2.3500

     * BASIN B
     COMPUTE NM HYD      ID=5 HYD NO=102.0 AREA=0.000701 SQ MI
                         ER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                         TP=0.1333 HR MASS RAINFALL=-1

          K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =
7.106420
          UNIT PEAK =   1.6606    CFS   UNIT VOLUME =    .9922       B =   526.28      P60 = 2.0100

          AREA =      .000421 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


          K =   .119767HR    TP =   .133300HR    K/TP RATIO =   .898476     SHAPE CONSTANT, N =
3.944947
          UNIT PEAK =   .73935    CFS   UNIT VOLUME =    .9825       B =   351.48      P60 = 2.0100

          AREA =      .000280 SQ MI    IA =    .42500 INCHES    INF =   1.04000 INCHES PER HOUR
          RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

     ****************************************************************
     *         10-YEAR,  6-HR STORM (UNDER EXISTING CONDITIONS)       *
     ****************************************************************
     START               TIME=0.0
     RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                         RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                         RAIN DAY=1.83 IN DT=0.03333 HR

                    COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                    DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                       .0000   .0011   .0022   .0034   .0046   .0058   .0070
                       .0083   .0095   .0109   .0122   .0136   .0150   .0165
                       .0180   .0196   .0212   .0229   .0246   .0263   .0282
                       .0301   .0321   .0341   .0363   .0385   .0408   .0433
                       .0459   .0486   .0515   .0552   .0591   .0634   .0725
                       .0928   .1241   .1690   .2304   .3110   .4138   .5418
                       .6980   .8430   .9036   .9547  1.0002  1.0416  1.0797
                      1.1150  1.1481  1.1790  1.2082  1.2357  1.2617  1.2863
                      1.3096  1.3316  1.3526  1.3725  1.3914  1.3958  1.3999
                      1.4037  1.4074  1.4109  1.4143  1.4175  1.4206  1.4236
                      1.4265  1.4293  1.4320  1.4346  1.4372  1.4397  1.4421
                      1.4444  1.4467  1.4490  1.4511  1.4533  1.4554  1.4574
                      1.4594  1.4614  1.4633  1.4652  1.4670  1.4688  1.4706
                      1.4724  1.4741  1.4758  1.4775  1.4791  1.4807  1.4823
                      1.4839  1.4854  1.4869  1.4884  1.4899  1.4914  1.4928
                      1.4943  1.4957  1.4970  1.4984  1.4998  1.5011  1.5024
                      1.5037  1.5050  1.5063  1.5075  1.5088  1.5100  1.5113
                      1.5125  1.5137  1.5148  1.5160  1.5172  1.5183  1.5195
                      1.5206  1.5217  1.5228  1.5239  1.5250  1.5261  1.5271
                      1.5282  1.5292  1.5303  1.5313  1.5323  1.5333  1.5344
                      1.5354  1.5363  1.5373  1.5383  1.5393  1.5402  1.5412
                      1.5421  1.5431  1.5440  1.5449  1.5458  1.5467  1.5476
                      1.5485  1.5494  1.5503  1.5512  1.5521  1.5529  1.5538
                      1.5547  1.5555  1.5564  1.5572  1.5580  1.5589  1.5597
                      1.5605  1.5613  1.5621  1.5629  1.5637  1.5645  1.5653
                      1.5661  1.5669  1.5677  1.5685  1.5692  1.5700

     * BASIN A
     COMPUTE NM HYD      ID=6 HYD NO=112.0 AREA=0.000701 SQ MI
                         ER A=0.00 PER B=20.00 PER C=20.00 PER D=60.00
                         TP=0.1333 HR MASS RAINFALL=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 1.6606 CFS UNIT VOLUME = .9922 B = 526.28 P60 = 1.3400

AREA = .000421 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .123717HR TP = .133300HR K/TP RATIO = .928113 SHAPE CONSTANT, N = 3.812062
UNIT PEAK = .72033 CFS UNIT VOLUME = .9822 B = 342.44 P60 = 1.3400

AREA = .000280 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

```
**************************************************************
*       100-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)      *
**************************************************************
START              TIME=0.0
RAINFALL           TYPE=1 RAIN QUARTER=0.0 IN
                   RAIN ONE=2.01 IN RAIN SIX=2.35 IN
                   RAIN DAY=2.75 IN DT=0.03333 HR
```

COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .033330 HOURS END TIME = 5.999400 HOURS

.0000	.0016	.0033	.0049	.0066	.0084	.0102
.0120	.0139	.0158	.0178	.0199	.0219	.0241
.0263	.0286	.0309	.0333	.0358	.0384	.0411
.0439	.0467	.0497	.0529	.0561	.0596	.0631
.0669	.0709	.0751	.0807	.0866	.0930	.1066
.1371	.1840	.2514	.3434	.4644	.6186	.8106
1.0449	1.2624	1.3533	1.4300	1.4982	1.5602	1.6174
1.6704	1.7200	1.7664	1.8102	1.8514	1.8904	1.9273
1.9622	1.9953	2.0268	2.0566	2.0850	2.0915	2.0976
2.1033	2.1088	2.1140	2.1191	2.1239	2.1285	2.1329
2.1373	2.1414	2.1454	2.1494	2.1531	2.1568	2.1604
2.1639	2.1673	2.1706	2.1739	2.1771	2.1802	2.1832
2.1862	2.1891	2.1919	2.1947	2.1975	2.2002	2.2028
2.2054	2.2080	2.2105	2.2130	2.2154	2.2178	2.2202
2.2225	2.2248	2.2270	2.2293	2.2315	2.2336	2.2358
2.2379	2.2399	2.2420	2.2440	2.2460	2.2480	2.2500
2.2519	2.2538	2.2557	2.2576	2.2594	2.2612	2.2631
2.2648	2.2666	2.2684	2.2701	2.2718	2.2735	2.2752
2.2769	2.2785	2.2802	2.2818	2.2834	2.2850	2.2866
2.2881	2.2897	2.2912	2.2928	2.2943	2.2958	2.2973
2.2987	2.3002	2.3017	2.3031	2.3045	2.3060	2.3074
2.3088	2.3102	2.3115	2.3129	2.3143	2.3156	2.3169
2.3183	2.3196	2.3209	2.3222	2.3235	2.3248	2.3261
2.3273	2.3286	2.3298	2.3311	2.3323	2.3335	2.3348
2.3360	2.3372	2.3384	2.3396	2.3408	2.3419	2.3431
2.3443	2.3454	2.3466	2.3477	2.3488	2.3500	

```
* ON-STIE
COMPUTE NM HYD     ID=7 HYD NO=102.1 AREA=0.000701  SQ MI
                   PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                   TP=0.1333 HR MASS RAINFALL=-1
```

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 2.6292 CFS UNIT VOLUME = .9949 B = 526.28 P60 = 2.0100

AREA = .000666 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

K = .132088HR TP = .133300HR K/TP RATIO = .990905 SHAPE CONSTANT, N = 3.563124
UNIT PEAK = .85431E-01CFS UNIT VOLUME = .8709 B = 324.91 P60 = 2.0100

AREA = .000035 SQ MI IA = .50000 INCHES INF = 1.25000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .033330

```
*****************************************************************
*         10-YEAR,  6-HR STORM (UNDER PROPOSED CONDITIONS)      *
*****************************************************************
START               TIME=0.0
RAINFALL            TYPE=1 RAIN QUARTER=0.0 IN
                    RAIN ONE=1.34 IN RAIN SIX=1.57 IN
                    RAIN DAY=1.83 IN DT=0.03333 HR

                  COMPUTED 6-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
                  DT =    .033330 HOURS       END TIME =     5.999400 HOURS
                     .0000   .0011   .0022   .0034   .0046   .0058   .0070
                     .0083   .0095   .0109   .0122   .0136   .0150   .0165
                     .0180   .0196   .0212   .0229   .0246   .0263   .0282
                     .0301   .0321   .0341   .0363   .0385   .0408   .0433
                     .0459   .0486   .0515   .0552   .0591   .0634   .0725
                     .0928   .1241   .1690   .2304   .3110   .4138   .5418
                     .6980   .8430   .9036   .9547  1.0002  1.0416  1.0797
                    1.1150  1.1481  1.1790  1.2082  1.2357  1.2617  1.2863
                    1.3096  1.3316  1.3526  1.3725  1.3914  1.3958  1.3999
                    1.4037  1.4074  1.4109  1.4143  1.4175  1.4206  1.4236
                    1.4265  1.4293  1.4320  1.4346  1.4372  1.4397  1.4421
                    1.4444  1.4467  1.4490  1.4511  1.4533  1.4554  1.4574
                    1.4594  1.4614  1.4633  1.4652  1.4670  1.4688  1.4706
                    1.4724  1.4741  1.4758  1.4775  1.4791  1.4807  1.4823
                    1.4839  1.4854  1.4869  1.4884  1.4899  1.4914  1.4928
                    1.4943  1.4957  1.4970  1.4984  1.4998  1.5011  1.5024
                    1.5037  1.5050  1.5063  1.5075  1.5088  1.5100  1.5113
                    1.5125  1.5137  1.5148  1.5160  1.5172  1.5183  1.5195
                    1.5206  1.5217  1.5228  1.5239  1.5250  1.5261  1.5271
                    1.5282  1.5292  1.5303  1.5313  1.5323  1.5333  1.5344
                    1.5354  1.5363  1.5373  1.5383  1.5393  1.5402  1.5412
                    1.5421  1.5431  1.5440  1.5449  1.5458  1.5467  1.5476
                    1.5485  1.5494  1.5503  1.5512  1.5521  1.5529  1.5538
                    1.5547  1.5555  1.5564  1.5572  1.5580  1.5589  1.5597
                    1.5605  1.5613  1.5621  1.5629  1.5637  1.5645  1.5653
                    1.5661  1.5669  1.5677  1.5685  1.5692  1.5700

* ON-SITE
COMPUTE NM HYD      ID=8 HYD NO=112.1 AREA=0.000701  SQ MI
                    PER A=0.00 PER B=5.00 PER C=0.00 PER D=95.00
                    TP=0.1333 HR MASS RAINFALL=-1

      K =   .072649HR    TP =   .133300HR    K/TP RATIO =   .545000     SHAPE CONSTANT, N =
7.106420
      UNIT PEAK =   2.6292    CFS   UNIT VOLUME =    .9949       B =   526.28      P60 = 1.3400

      AREA =      .000666 SQ MI    IA =    .10000 INCHES    INF =    .04000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330


      K =   .140318HR    TP =   .133300HR    K/TP RATIO =  1.052645     SHAPE CONSTANT, N =
3.354139
      UNIT PEAK =   .81387E-01CFS   UNIT VOLUME =    .8719       B =   309.53      P60 = 1.3400

      AREA =      .000035 SQ MI    IA =    .50000 INCHES    INF =   1.25000 INCHES PER HOUR
      RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =   .033330

*****************************************************************
*                   PONDING CONDITION                           *
*****************************************************************
ROUTE RESERVOIR     ID=30 HYD NO=601.1 INFLOW ID=7 CODE=24
                    OUTFLOW(CFS)      STORAGE(AC-FT)  ELEVATION(FT)
                        0.000             0.000000     66.48
                        1.746             0.003209     66.75
                        2.423             0.009436     67.00
                        2.750             0.019254     67.15

  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *  *

     TIME      INFLOW    ELEV      VOLUME    OUTFLOW
     (HRS)     (CFS)     (FEET)    (AC-FT)   (CFS)

       .00        .00     66.48       .000       .00
```

```
      .80        .00     66.48       .000       .00
     1.60       1.42     66.76       .004      1.78
     2.40        .08     66.49       .000       .09
     3.20        .02     66.48       .000       .02
     4.00        .01     66.48       .000       .01
     4.80        .01     66.48       .000       .01
     5.60        .01     66.48       .000       .01
     6.40        .00     66.48       .000       .00
 PEAK DISCHARGE =        1.861 CFS - PEAK OCCURS AT HOUR    1.53
 MAXIMUM WATER SURFACE ELEVATION =       66.792
 MAXIMUM STORAGE =         .0043 AC-FT      INCREMENTAL TIME=     .033330HRS

**************************************************************

*
ADD HYD             ID=40 HYD NO=110.10 ID=20 ID=30
**
FINISH

    NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 11:11:21
```

City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 6/2018)

Project Title: 2818 4TH STREET, NW, APTS. Building Permit #: _____ Hydrology File #: H14D111

DRB#: _____ EPC#: _____ Work Order#: _____

Legal Description: LOTS 1-A, 6,7,8, 9 10, Block 2, CITY REALTY COMPANY'S ADDITION NO. 1 AND LOTS 4,5, 6, BLOCK 9, MANDDLE ADDITION NO. 2.

City Address: 2818 4TH STREET, NW

Applicant: SBS CONSTRUCTION AND ENGINEEING, LLC Contact: SHAWN BIAZAR

Address: 10209 SNOWFLAKE CT., NW, ALBUQUERQUE, NM 87114

Phone#: (505) 804-5013 Fax#: (505) 897-4996 E-mail: AECLLC@AOL.COM

Other Contact: _____ Contact: _____

Address: _____

Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF DEVELOPMENT: _____ PLAT (# of lots) _____ RESIDENCE X DRB SITE X ADMIN SITE

IS THIS A RESUBMITTAL? X Yes _____ No

DEPARTMENT _____ TRANSPORTATION X HYDROLOGY/DRAINAGE

Check all that Apply:

TYPE OF SUBMITTAL:

____ ENGINEER/ARCHITECT CERTIFICATION
____ PAD CERTIFICATION
____ CONCEPTUAL G & D PLAN
X GRADING PLAN
X 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?

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

X BUILDING PERMIT APPROVAL
____ CERTIFICATE OF OCCUPANCY

____ PRELIMINARY PLAT APPROVAL
____ SITE PLAN FOR SUB'D APPROVAL
X SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

____ SIA/ RELEASE OF FINANCIAL GUARANTEE
____ FOUNDATION PERMIT APPROVAL
X GRADING PERMIT APPROVAL
X SO-19 APPROVAL
____ PAVING PERMIT APPROVAL
____ GRADING/ PAD CERTIFICATION
____ WORK ORDER APPROVAL
____ CLOMR/LOMR
____ FLOODPLAIN DEVELOPMENT PERMIT
____ OTHER (SPECIFY) _____

DATE SUBMITTED: 6-17-2020 By: SHAWN BIAZAR

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

SBS CONSTRUCTION AND ENGINEERING, LLC

June 17, 2020

Mrs. Re'ene C. Brissette, PE CFM
Senior Engineer, Planning Dept.
Development Review Services
City of Albuquerque Planning Department
PO Box 1293, 600 Second Street, NW
Albuquerque, NM 87103

RE: 2818 4th Street Apartments Grading Plan, Hydrology File# H14D111

Dear Mrs. Brissette;

Attached please find a copy of the revised grading plan and drainage report for the above referenced site. We have addressed your comments and below are the response to your comments;

1) We have included project bench mark, please see note 2 nder General Notes.

2) The SO-19 Notes has been added to grading plan.

3) The text has been moved to show the outfall of the pipe.

4) A cover sheet with engineer's stamp has been added to the drainage calculation.

5) The weir calculation with coefficient of 2.70 has been added to the grading plan for the two feet curb opening.

6) The owner will prepare Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) and submit to the Stormwater Quality Engineer for approval prior any work done on the site.

7) We will pay the $300.00 review fee for the DRB.

If you require additional information regarding this project, please do not hesitate to contact me at (505) 804-5013.

Sincerely,

Shawn Biazar

Shawn Biazar, Managing Member

10209 SNOWFLAKE CT., NW, ALBUQUERQUE, NM 87114 PH (505) 804-5013 FAX (505) 897-4996 EMAIL AECLLC@AOL.COM

DRAINAGE MANAGEMENT PLAN

Location

LOTS 1-A, 6, 7, 8, 9, AND 10, BLOCK 2, CITY REALTY COMPANY'S ADDITION NO. 1; TOGETHER WITH LOTS 4, 5, AND 6, BLOCK 9, OF THE MANDELL ADDITION NO. 2. CONTAINING 1.2690 ACRE. See attached portion of Vicinity Map H-14-Z for exact location.

Purpose

The purpose of this drainage report is to present a grading and drainage solution for the proposed commercial buildings. We are requesting site plan for building permit approval as well as building permit approval.

Existing Site/Drainage Conditions

This site contained of existing buildings, concrete pads, asphalt and some gravel. All the existing structures and asphalt and concrete pads have been removed. The site is fairly flat. Most of the site was drainig into adjacents streets. No offiste runoff impacts this site.

Proposed Conditions and On-Site Drainage Management Plan

This site is located within zone 2 and in the north valley. We are propsing a building with ground level and underground parking structure. This site will pond most of water and discharege at a control rate. According to grading plan file #G14-D086, the north valley rate of discharge is 2.75 CFS per acre. This site contains 1.2690 acre (55,277.64 sf). Therefore our rate of discharge will be at 3.49 CFS (1.2690 * 2.75). The site was analzed under Basins A and B. The runoff from Basin A is detained in the parking lot and drained at a controlled discharge rate of 0.47 cfs via a 4" pipe to the back of sidewalk culvert to La Poblana Rd. Basin B is discharge at a detained rate of 1.86 cfs and drain out via 2-8" pipe to a sidewalk culvert to 4th St. The total detainee discharge rate is 2.33 cfs which is well below the allowable discharge of 3.49 cfs and less than current discharge under the existing conditions.

POND VOLUME REQUIRED FOR FIRST FLUSH

BASIN A
0.34 INCHES x IMPERVIOUS AREA = (0.34/12 x 33,961.48) = 962.24 CF
THIS VOLUME IS PART OF THE PONDING PROVIDED.

BASIN B
0.34 INCHES x IMPERVIOUS AREA = (0.34/12 x 18,561.82) = 525.92 CF
THIS VOLUME IS PART OF THE PONDING PROVIDED.

FIRST FLUSH PONDING VOLUME PROVIDED

POND A-1: AREA @ TOP = 464.46, BOTTOM =0, DEPTH=1.50'
POND VOLUME = (464.46+0)/2*1.50' = 348.35 CF

POND A-2: AREA @ TOP = 519.00, BOTTOM =0, DEPTH=2.50'
POND VOLUME = (519.00+0)/2*2.50' = 648.75 CF

POND A-1 + POND A-2 = 348.35 + 648.75 = 997.10 CF > 962.24 CF

POND B: AREA @ TOP = 211.52, BOTTOM =211.52, DEPTH=2.75'
POND VOLUME = (211.52+211.52)/2*2.75' = 581.68 CF > 525.92 CF

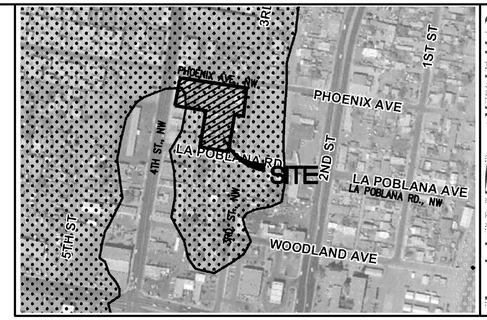
NOTICE TO CONTRACTOR
PRIVATE DRAINAGE FACILITIES WITHIN CITY RIGHT-OF-WAY (SO-19")

1. AN EXCAVATION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN CITY RIGHT-OF-WAY.
2. ALL WORK ON THIS PROJECT SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE FEDERAL, STATE AND LOCAL LAWS, RULES AND REGULATIONS CONCERNING CONSTRUCTION SAFETY AND HEALTH.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT **NEW MEXICO ONE CALL, DIAL "811"** [OR (505) 260-1990] FOR THE LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE LOCATIONS OF ALL OBSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THE FACILITY SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY BEING SERVED.
7. WORK ON ARTERIAL STREETS MAY BE REQUIRED ON A 24 HOUR BASIS.
8. CONTRACTOR MUST CONTACT AUGIE ARMIJO AT (505) 857-8607 AND CONSTRUCTION COORDINATION AT 924-3416 TO SCHEDULE AN INSPECTION.

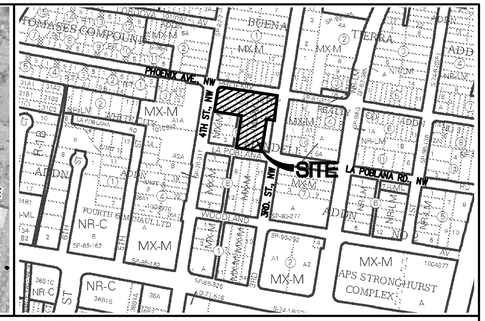
APPROVALS	NAME	DATE
INSPECTOR		

NOTICE TO CONTRACTORS

1. AN EXCAVATION/CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN BERNALILLO COUNTY RIGHT-OF-WAY.
2. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH BERNALILLO COUNTY STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.
3. TWO WORKING DAYS PRIOR TO ANY EXCAVATION, CONTRACTOR MUST CONTACT LINE LOCATING SERVICE, 260-1990, FOR LOCATION OF EXISTING UTILITIES.
4. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5. BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC/STREET USE.
6. MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7. WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.



FIRM MAP: 35001C0332G



VICINITY MAP: H-14-Z

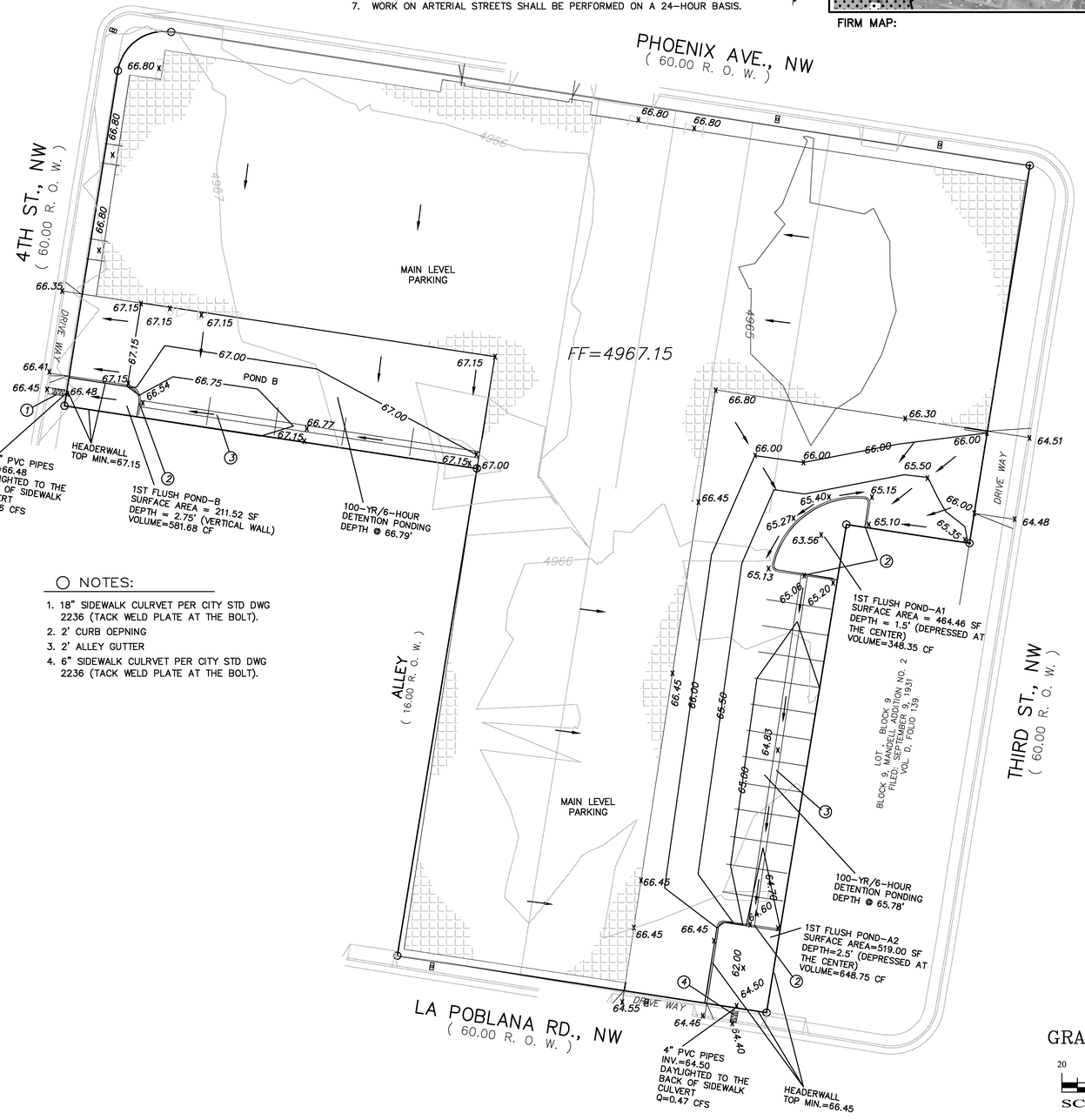
LEGAL DESCRIPTION:

LOTS 1-A, 6, 7, 8, 9, AND 10, BLOCK 2, CITY REALTY COMPANY'S ADDITION NO. 1; TOGETHER WITH

LOTS 4, 5, AND 6, BLOCK 9, OF THE MANDELL ADDITION NO. 2.

CONTAINING: 55,277.54 SF (1.2690 ACRE)

GENERAL NOTES:
1: CONTOUR INTERVAL IS HALF (1.00) FOOT.
2: ELEVATIONS ARE BASED ON CITY OF ALBUQUERQUE CONTROL STATION A-438, HAVING AN ELEVATION OF 4975.35 FEET ABOVE SEA LEVEL.
3: UTILITIES SHOWN HEREON ARE IN THEIR APPROXIMATE LOCATION BASED ONLY ON ABOVE GROUND EVIDENCE FOUND IN THE FIELD AND AS-BUILT INFORMATION PROVIDED BY THE CLIENT. UTILITIES SHOWN HEREON, WHETHER INDICATED AS ABANDONED OR NOT, SHALL BE VERIFIED BY OTHERS FOR EXACT LOCATION AND/ OR DEPTH PRIOR TO EXCAVATION OR DESIGN CONSIDERATIONS.
4: THIS IS NOT A BOUNDARY SURVEY, BEARINGS ARE ASSUMED, DISTANCES AND FOUND PROPERTY CORNERS ARE FOR INFORMATIONAL PURPOSES ONLY.
5: SLOPES ARE AT 3:1 MAXIMUM.



NOTES:

1. 18" SIDEWALK CULRVET PER CITY STD DWG 2236 (TACK WELD PLATE AT THE BOLT).
2. 2' CURB OEPNING
3. 2' ALLEY GUTTER
4. 6" SIDEWALK CULRVET PER CITY STD DWG 2236 (TACK WELD PLATE AT THE BOLT).

LEGEND

—5030—	EXISTING CONTOUR (MAJOR)
	EXISTING CONTOUR (MINOR)
	BOUNDARY LINE
28.50	PROPOSED SPOT ELEVATION
5029.16	EXISTING GRADE
x 5028.65 FL	EXISTING FLOWLINE ELEVATION
	PROPOSED RETAINING WALL
BC=89.08	BOTTOM OF CHANEL
TC=28.50	TOP OF CURB
TA=28.00	TOP OF ASPHALT
HP	HIGH POINT
86.65 / ~~85.47~~	AS-BUILT GRADES
X 86.65	AS-BUILT SPOT ELEVATIONS

GRAPHIC SCALE
20 10 0 20
SCALE: 1"=20'

REZA AFAGHPOUR
NEW MEXICO
11814
06-12-2020
LICENSED PROFESSIONAL ENGINEER

REZA AFAGHPOUR
P.E. #11814

SBS CONSTRUCTION AND ENGINEERING, LLC
10209 SNOWFLAKE CT., NW
ALBUQUERQUE, NEW MEXICO 87114
(505)899-5570

2818 4TH STREET, NW
GRADING AND DRAINAGE PLAN

DRAWING:	DRAWN BY:	DATE:	SHEET #
201836.DWG	SH-B	02-20-2020	C 101

LAST REVISION: 05-18-2020