CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Interim Director

Mayor Timothy M. Keller

August 2, 2019

Mark Goodwin, P.E.
Mark Goodwin & Associates
PO Box 90606
Albuquerque, NM 87199

RE: **Swim Labs**
8110 Holly Ave NE
Grading Plan Stamp Date: 7/19/19 & 7/24/19
Drainage Report Stamp Date: 7/25/19
Hydrology File: C20D082

Dear Mr. Goodwin:

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

Based on the submittal received on 7/25/19, the grading plan and drainage report cannot be approved until the following are corrected:

1. Provide sections through the east boundary showing the proposed retaining wall, property lines, existing and proposed grades. In accordance with DPM Ch.22, section 5 part B, grading and wall construction near the property line may not endanger adjacent property or constrain its use.

2. Any private encroachment into neighboring private property will require written and signed permission from both property owners.

3. Include a detail where the retaining wall crosses over the private storm drain; ensure adequate clearance.

4. Provide written and signed permission from the owner of Tract B for the grading, paving and pond construction on their property. Unfortunately the cross-lot drainage easement does not grant the right to perform work on their property, only to discharge to it. (A permanent pond covenant will also be needed from this owner prior to CO; you may want to get it now)

5. Provide project datum. This needs to be on the plan where the benchmark is cited. The benchmark, existing survey, and proposed work all need to be converted to NAVD88 and NAD 83.

6. The proposed contours need to be cleaned up. For instance, the 54’ contour cuts through the building (FF=55’), the 53’ contour seems to be missing, and there appear to be different contours used for the ponds that don’t tie-in to anything.

7. Hydrology recommends against using the parking lot as dead storage for ponding water (Pond 2).

8. An SO-19 Permit will be required for the sidewalk culvert and should be included on the request. Please include the standard SO-19 notes on the grading plan.

9. Discharge from this site needs to be limited to 0.93cfs per the approved master plan; do not rob capacity from the adjoiner (Pad 1).

10. Remove the open channel and extend the plate to the curb and 1' beyond back of sidewalk; also remove the non-standard plate detail and build per Std Dwg 2236.

11. Please provide the weir calculations, per DPM Chapter 22.3.A.1, for the sidewalk culvert. A coefficient of 2.7 is typically used for the weir equation $Q = CLH^{2/3}$. Be sure to size for future developed flow (1.16cfs).

12. Rainfall amounts need to be input as: 0.0, 1.82, 2.45, 2.86, per the Atlas 14 printout and the AHYMO user manual. Rainfall Type needs to be 2, for a 24-hr storm.

13. You don't need to bulk for sediment in a developed site.

14. The storage-discharge tables for all ponds need to reflect zero discharge until the outfall elevation is reached. The City does not accept infiltration as an outfall or credit it in pond sizing.

15. All pond outfalls need to be sized using the appropriate hydraulic calculations (weir, orifice equations) and those elevation-discharge tables and calculations need to be included.

16. Do you need Building Permit approval at this time? Or just Site-Plan and Grading/Paving?

17. 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 (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

PO Box 1293

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NM 87103

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If you have any questions, you can contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

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: Swim Labs Building Permit #: _____ Hydrology File #: _____

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

Legal Description: Tract C Block 19 Plat of Tracts A,B,C,D,E and F, Block 19 Tract 3 Unit 3 North Albuquerque Acres Cont. .7576 AC

City Address: 8110 Holly Ave, Albuquerque, NM 87122

Applicant: Mullen Heller Architecture Contact: Doug Heller

Address: 1718 Central Avenue

Phone#: 505-268-4144 Fax# _____ E-mail: doug@mullenheller.com

Other Contact: Mark Goodwin & Associates, PA Contact: Cory Pierce

Address: PO BOX 90606, Albuquerque, NM 87199

Phone#: 828.2200 Fax#: _____ E-mail: cory@goodwinengineers.com

TYPE OF DEVELOPMENT: _____ PLAT (# of lots) _____ RESIDENCE _____ 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
____ 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
____ SITE PLAN FOR BLDG. PERMIT APPROVAL
____ FINAL PLAT APPROVAL

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

DATE SUBMITTED: July 25, 2019 By: Cory Pierce

COA STAFF: ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539

~ 2012 ACEC/NM Award Winner for Engineering Excellence ~
~ 2008 ACEC/NM Award Winner for Engineering Excellence ~
~ 2017 ENR Landscape/Urban Development Award of Merit~
~ 2018 ENR Residential/Hospitality Award of Merit~

July 25, 2019

Dana Peterson, PE
City of Albuquerque
600 2nd Street SW
Albuquerque, NM 87102

RE: Swim Labs
Grading and Drainage Plan
Hydrology File: C20D082

Dear Mr. Peterson,

In response to correspondence dated July 10, 2019, please find enclosed submittal. Comments are addressed as follows:

1. Proposed contours, water blocks, and spot elevations are included to establish finish drainage of the site.
2. A water block is included at the north driveway.
3. AHYMO sub basins are delineated and additionally labeled with the AHYMO ID number.
4. The drainage plan addresses onsite and upstream offsite drainage. Offsite drainage is addressed with more references to the Furrs/ Paseo drainage report.
5. The Tract B storm water quality pond is revised to be the permanent pond to serve Tract B development.
6. There already exists an existing blanket easement for ingress, egress, drainage and pedestrian. Please see the enclosed ALTA Survey.
7. The project datum is NAD27 horizontal and NAVD29 vertical.
8. The complete, bound, AHYMO input and output files are provided with the NOAA atlas 14 rainfall data and the Furrs/ Paseo drainage report.
9. NOAA atlas 14 precipitation data was used with AHYMO-S4.
10. The outfall for the pond on Tract B is revised to go through a weir plate, into a sidewalk culvert, into Holly Avenue.
11. The site downstream capacity is referenced from the Furrs/ Paseo drainage report.
12. The Furrs/ Paseo drainage report is provided in the bound information.
13. There already exists an existing blanket easement for ingress, egress, drainage, and pedestrian. Please see the enclosed ALTA Survey.
14. The total area of disturbance is estimated and delineated on the plan to be about 0.80 AC.

Please review and approve the submittal for the requested permits.

Sincerely,
MARK GOODWIN & ASSOCIATES, PA

Cory D. Pierce, PE

Cory D. Pierce, PE
Staff Engineer

Enclosures: -Revised Grading and Drainage Plan
-Bound AHYMO information with Furrs/ Paseo del Norte drainage report
-Boundary Survey and ALTA/ NSPS Land Title Survey for Tracts B and C

Ventura Swim Labs
AHYMO ANALYSIS
COA Hydrology File: C20D082

Prepared For:

Mullen Heller Architecture
1718 Central Avenue, SW, Ste D
Albuquerque, NM 87104
(505) 268-4144

Prepared By:

Mark Goodwin & Associates, PA
PO BOX 90606
Albuquerque, NM 87199
(505) 828-2200

Ventura Swim Labs

AHYMO ANALYSIS

QOA Hydrology File: C20030B2

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CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Acting Director

Mayor Timothy M. Keller

July 10, 2019

Mark Goodwin, P.E.
Mark Goodwin & Associates
PO Box 90606
Albuquerque, NM 87199

RE: **Swim Labs**
8110 Holly Ave NE
Grading Plan Stamp Date: 6/24/19
Hydrology File: C20D082

Dear Mr. Goodwin:

Based on the submittal received on 6/25/19, the grading and drainage plan cannot be approved until the following are corrected:

PO Box 1293

Albuquerque

NM 87103

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1. Provide proposed contours and proposed spot elevation in sufficient density to ascertain the proposed drainage pattern of the site.
2. A waterblock is likely required near the north driveway to ensure flows are routed to the tract B pond.
3. Subbasins need to be delineated and modeled in AHYMO or with the 40-acres-or-less method and must include all onsite drainage and upstream offsite flows.
4. The drainage plan must address all onsite drainage and upstream offsite drainage, not just the parking lot and building.
5. Remove the temporary markings from the tract B stormwater quality pond; these features are permanent and will need to be protected with a drainage covenant, signed by the underlying property owner.
6. Provide written and signed permission from the owner of Tract B for the grading, paving and pond construction on their property.
7. Provide project datum.
8. The complete AHYMO input and output files need to be provided, not just the summary. If you provide these separately, they must be bound and stamped by the engineer.

9. With AHYMO S4, be sure to use NOAA Atlas 14 precipitation depths in conjunction with the NOAA Atlas 14 distribution. Include the location map and tables obtained from the NOAA website. Using the NOAA Atlas 2 Precipitation depths (Found in the DPM), with the NOAA Atlas 14 Distributions results in an over-prediction of peak runoff (Q_{100}). See AHYMO AppNote-01, and the Hydrology website for more information regarding this.

10. The outfall for pond B is unclear. The AHYMO run seems to indicate a continuous outflow, but the obvious outfall is the drive entrance that has a crest elevation at 54.12'. The City does not accept infiltration as an outfall or credit it in pond sizing as pond bottoms generally silt-in and reduce the infiltration rate to nearly nothing.

11. The site must demonstrate adequate downstream capacity per § 14-5-2-12(G) of the Albuquerque Code of Ordinances.

12. Provide the Furrs Paseo del Norte drainage report and Hydrology approval letter. This report is missing in our database and needs to be recovered if it is to be used as the basis for this development.

PO Box 1293

13. Provide a cross lot drainage easement (paper or Plat) between the two tracts.

Albuquerque

14. 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 (Curtis Cherne, PE, ccherne@cabq.gov, 924-3420) 14 days prior to any earth disturbance.

NM 87103

If you have any questions, you can contact me at 924-3695 or dpeterson@cabq.gov.

www.cabq.gov

Sincerely,

Dana Peterson, P.E.
Senior Engineer, Planning Dept.
Development Review Services

NOAA Atlas 14, Volume 1, Version 5
Location name: Albuquerque, New Mexico, USA*
Latitude: 35.1758°, Longitude: -106.5411°
Elevation: 5556.87 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.174 (0.146-0.207)	0.225 (0.188-0.268)	0.302 (0.253-0.360)	0.362 (0.302-0.430)	0.445 (0.369-0.528)	0.510 (0.421-0.605)	0.579 (0.474-0.685)	0.651 (0.530-0.769)	0.748 (0.604-0.886)	0.827 (0.664-0.978)
10-min	0.264 (0.222-0.314)	0.342 (0.287-0.407)	0.460 (0.385-0.547)	0.551 (0.459-0.654)	0.677 (0.561-0.803)	0.776 (0.641-0.920)	0.881 (0.721-1.04)	0.990 (0.806-1.17)	1.14 (0.920-1.35)	1.26 (1.01-1.49)
15-min	0.327 (0.275-0.390)	0.424 (0.355-0.505)	0.570 (0.477-0.678)	0.683 (0.569-0.811)	0.839 (0.696-0.995)	0.962 (0.794-1.14)	1.09 (0.894-1.29)	1.23 (0.999-1.45)	1.41 (1.14-1.67)	1.56 (1.25-1.85)
30-min	0.440 (0.371-0.525)	0.571 (0.478-0.680)	0.767 (0.642-0.914)	0.920 (0.766-1.09)	1.13 (0.937-1.34)	1.30 (1.07-1.54)	1.47 (1.20-1.74)	1.65 (1.35-1.96)	1.90 (1.54-2.25)	2.10 (1.69-2.48)
60-min	0.545 (0.459-0.649)	0.706 (0.591-0.842)	0.950 (0.795-1.13)	1.14 (0.949-1.35)	1.40 (1.16-1.66)	1.60 (1.32-1.90)	1.82 (1.49-2.15)	2.05 (1.67-2.42)	2.35 (1.90-2.79)	2.60 (2.09-3.08)
2-hr	0.663 (0.541-0.835)	0.850 (0.693-1.07)	1.13 (0.917-1.42)	1.35 (1.09-1.68)	1.65 (1.33-2.06)	1.90 (1.52-2.37)	2.16 (1.72-2.69)	2.44 (1.93-3.02)	2.82 (2.21-3.50)	3.14 (2.43-3.89)
3-hr	0.708 (0.582-0.884)	0.900 (0.737-1.12)	1.18 (0.970-1.47)	1.41 (1.15-1.74)	1.72 (1.39-2.13)	1.97 (1.59-2.44)	2.23 (1.79-2.76)	2.52 (2.00-3.11)	2.91 (2.29-3.59)	3.23 (2.53-3.99)
6-hr	0.830 (0.688-1.03)	1.05 (0.871-1.30)	1.35 (1.12-1.67)	1.59 (1.32-1.96)	1.92 (1.58-2.37)	2.18 (1.78-2.68)	2.45 (1.99-3.01)	2.73 (2.21-3.35)	3.12 (2.50-3.83)	3.44 (2.73-4.22)
12-hr	0.929 (0.788-1.11)	1.17 (0.992-1.40)	1.49 (1.26-1.77)	1.74 (1.46-2.07)	2.07 (1.74-2.46)	2.34 (1.95-2.77)	2.61 (2.17-3.09)	2.89 (2.38-3.42)	3.27 (2.67-3.88)	3.57 (2.90-4.25)
24-hr	1.05 (0.904-1.24)	1.32 (1.13-1.55)	1.65 (1.42-1.94)	1.92 (1.65-2.26)	2.29 (1.95-2.69)	2.57 (2.18-3.01)	2.86 (2.42-3.35)	3.16 (2.66-3.70)	3.56 (2.98-4.17)	3.88 (3.22-4.55)
2-day	1.11 (0.964-1.29)	1.40 (1.21-1.62)	1.76 (1.52-2.03)	2.05 (1.77-2.36)	2.43 (2.09-2.80)	2.73 (2.33-3.15)	3.04 (2.59-3.50)	3.35 (2.84-3.87)	3.78 (3.18-4.37)	4.11 (3.44-4.76)
3-day	1.25 (1.12-1.40)	1.56 (1.40-1.75)	1.94 (1.73-2.17)	2.24 (2.00-2.51)	2.65 (2.35-2.96)	2.96 (2.62-3.31)	3.28 (2.89-3.66)	3.60 (3.16-4.03)	4.03 (3.51-4.51)	4.36 (3.78-4.89)
4-day	1.39 (1.27-1.52)	1.73 (1.58-1.89)	2.12 (1.95-2.32)	2.44 (2.23-2.66)	2.86 (2.61-3.12)	3.19 (2.90-3.47)	3.51 (3.19-3.82)	3.84 (3.47-4.18)	4.27 (3.85-4.66)	4.60 (4.13-5.03)
7-day	1.60 (1.47-1.74)	1.99 (1.83-2.16)	2.43 (2.24-2.64)	2.77 (2.55-3.01)	3.23 (2.97-3.49)	3.57 (3.27-3.86)	3.91 (3.58-4.23)	4.24 (3.88-4.59)	4.68 (4.26-5.07)	5.00 (4.53-5.42)
10-day	1.78 (1.64-1.93)	2.21 (2.04-2.40)	2.72 (2.51-2.95)	3.11 (2.87-3.37)	3.64 (3.35-3.94)	4.04 (3.70-4.36)	4.44 (4.06-4.80)	4.83 (4.41-5.23)	5.35 (4.86-5.79)	5.73 (5.19-6.22)
20-day	2.28 (2.10-2.48)	2.83 (2.61-3.08)	3.45 (3.18-3.74)	3.91 (3.60-4.24)	4.51 (4.14-4.88)	4.94 (4.53-5.35)	5.37 (4.91-5.80)	5.77 (5.27-6.23)	6.27 (5.72-6.79)	6.64 (6.04-7.19)
30-day	2.75 (2.53-2.97)	3.41 (3.14-3.69)	4.12 (3.79-4.45)	4.64 (4.26-5.01)	5.30 (4.87-5.72)	5.77 (5.29-6.23)	6.22 (5.70-6.71)	6.64 (6.08-7.17)	7.16 (6.54-7.73)	7.53 (6.85-8.14)
45-day	3.36 (3.10-3.63)	4.16 (3.85-4.50)	4.97 (4.59-5.37)	5.56 (5.12-5.99)	6.27 (5.78-6.76)	6.76 (6.23-7.28)	7.21 (6.64-7.77)	7.62 (7.01-8.21)	8.10 (7.44-8.73)	8.41 (7.73-9.06)
60-day	3.87 (3.58-4.19)	4.80 (4.44-5.19)	5.74 (5.30-6.20)	6.41 (5.92-6.92)	7.22 (6.67-7.79)	7.78 (7.18-8.39)	8.30 (7.66-8.96)	8.76 (8.09-9.47)	9.31 (8.59-10.1)	9.67 (8.92-10.5)

[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

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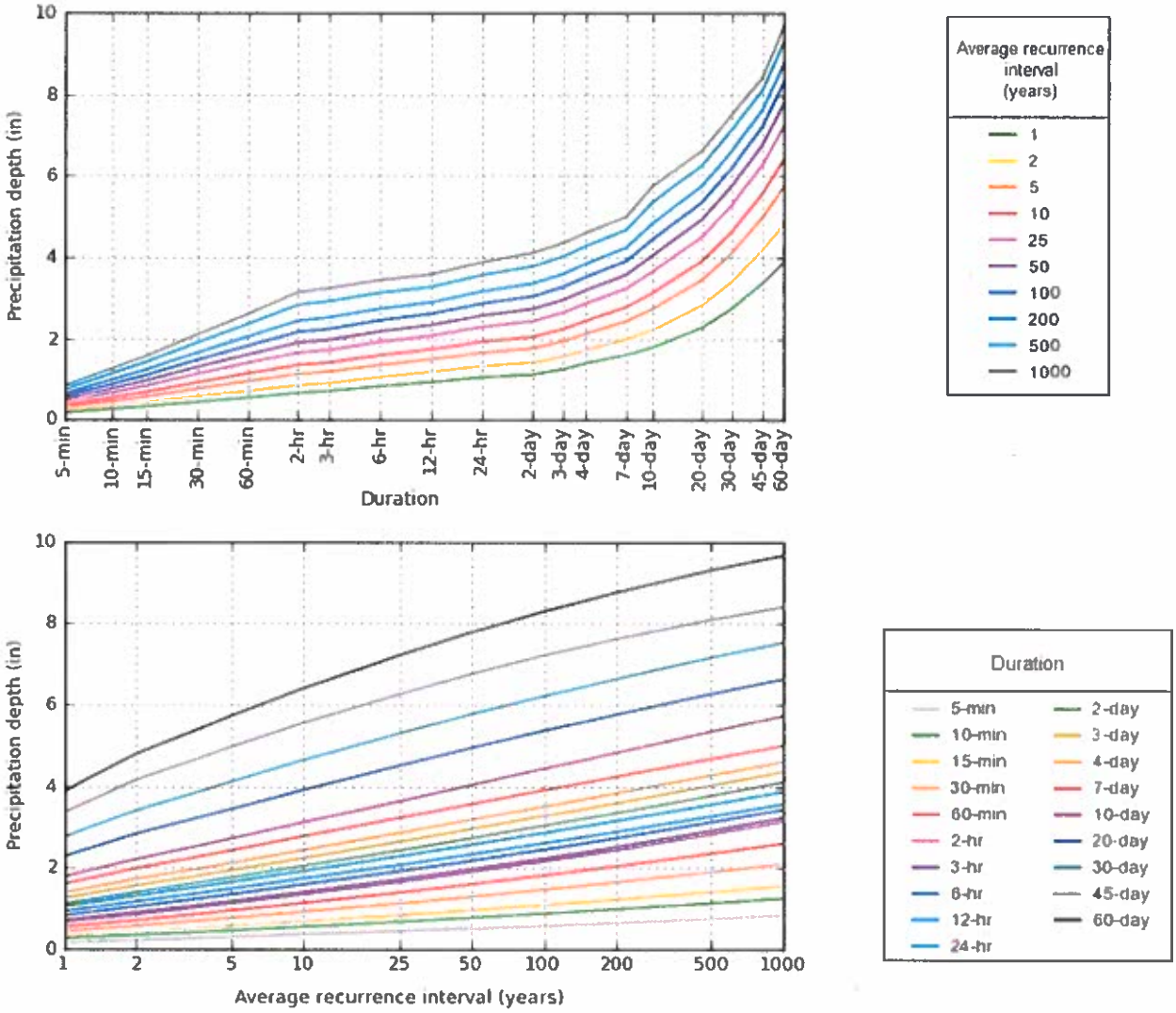
PF graphical

PDS-based depth-duration-frequency (DDF) curves
Latitude: 35.1758°, Longitude: -106.5411°



NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Fri Jun 21 20:43:53 2019

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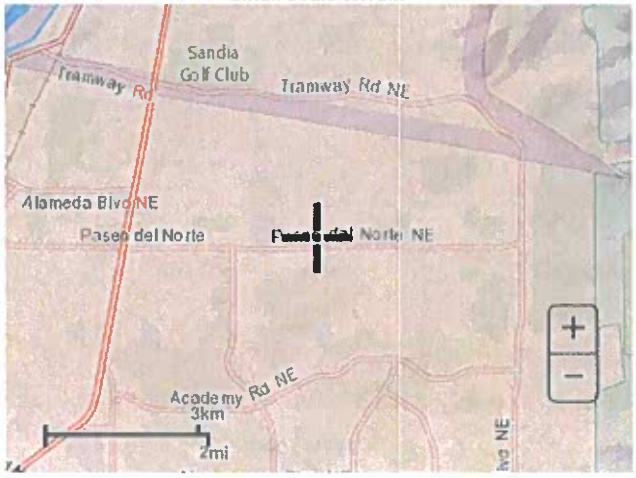
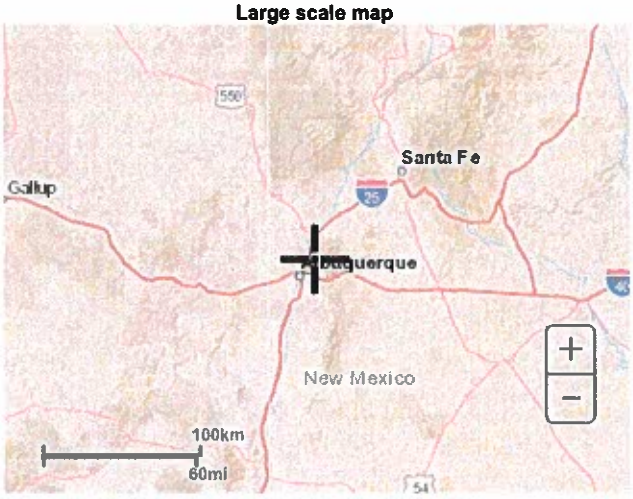
Maps & aerials

Small scale terrain

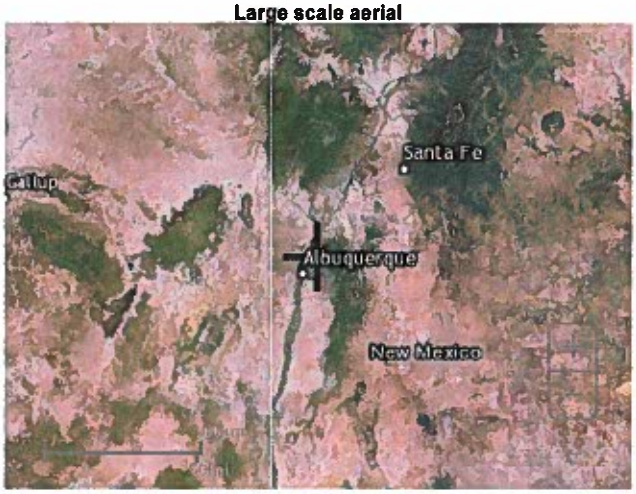


Large scale terrain

Large scale map



Large scale aerial



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US Department of Commerce
National Oceanic and Atmospheric Administration
National Weather Service
National Water Center
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

Disclaimer

ahymo_SwimLabs_Pad2_TOPDETEN-C_IN

```
START          0.0 HOURS   PC=0  PL=-1
LOCATION           ALBUQUERQUE
*S SWIM LABS 19003
*S ONSITE PAD 2
*S By Cory Pierce
RAINFALL           TYPE=1  0.0  1.48  2.11  2.52    DT=0.01
SEDIMENT BULK        CODE=1   BULK FACTOR = 1.06
*S BASIN #2 (Pad #2_South Detention Pond)
COMPUTE NM HYD       ID=2  HYD=202 AREA=0.00086 SQ MI
               A B C D 30 0 0 70
               TP=0.13333  MASSRAIN=-1
PRINT HYD          ID=2  CODE=1
ROUTE RESERVOIR      ID=4  HYD NO=POND.OT  INFLOW=2 CODE=24
                                  OUTFLOW (CFS)    STORAGE(AF)    ELEV(FT)
                            0.01                0.0001                5553.73
                                  0.07                .0028                5553.80
                                  0.16                0.0063               5553.85
                                  0.30                0.0116               5553.91
                                  0.49                0.0194               5553.98
                                  0.77                0.0312               5554.07
                                  0.99                0.0402               5554.13
                                  1.38                0.0484               5554.23
PRINT HYD                  ID=5 CODE 1
*S BASIN #1 (Pad #1_North Detention Pond)
COMPUTE NM HYD       ID=1  HYD=203 AREA=0.00023 SQ MI
               A B C D 15 0 0 85
               TP=0.13333  MASSRAIN=-1
PRINT HYD          ID=1  CODE=1
ROUTE RESERVOIR      ID=5  HYD NO=POND.OT  INFLOW=1 CODE=24
                                  OUTFLOW (CFS)    STORAGE(AF)    ELEV(FT)
                            0.01                0.0001                5548.75
                                  0.03                0.0009               5548.86
                                  0.08                0.0019               5548.97
                                  0.14                0.0029               5549.09
                                  0.22                0.0039               5549.20
                                  0.30                0.0050               5549.31
                                  0.40                0.0062               5549.42
PRINT HYD                  ID=5 CODE 1
FINISH
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←(s16.66H
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                                FROM  TO                  PEAK        RUNOFF              TIME TO    CFS      PAGE =   1
                     HYDROGRAPH   ID   ID        AREA     DISCHARGE   VOLUME     RUNOFF    PEAK       PER
   COMMAND       IDENTIFICATION   NO.  NO.     (SQ MI)    (CFS)      (AC-FT)   (INCHES)  (HOURS)    ACRE     NOTATION

   START                                                                                              TIME=      0.00
   LOCATION                      ALBUQUERQUE
   *S SWIM LABS 19003
   *S ONSITE PAD 2
   *S By Cory Pierce
   RAINFALL  TYPE= 1 NOAA 14                                                                          RAIN6=     2.110
   SEDIMENT BULK                                                                                      PK BF =    1.06
   *S BASIN #2 (Pad #2_South Detention Pond)
   COMPUTE NM HYD        202.00   -     2      0.00086      1.69      0.069     1.51448   1.530     3.079 PER IMP=  70.00
   ROUTE RESERVOIR      POND.OT    2     4      0.00086      0.70      0.097     2.12559   1.740     1.276 AC-FT=    0.028
   *S BASIN #1 (Pad #1_North Detention Pond)
   COMPUTE NM HYD        203.00   -     1      0.00023      0.52      0.021     1.73940   1.530     3.519 PER IMP=  85.00
   ROUTE RESERVOIR      POND.OT    1     5      0.00023      0.36      0.051     4.12119   1.640     2.433 AC-FT=    0.006
   FINISH
←(s10H
```

```
←(s16.66H

      AHYMO PROGRAM (AHYMO-S4)                    - Version: S4.01a - Rel: 01a
           RUN DATE (MON/DAY/YR) = 07/24/2019
           START TIME (HR:MIN:SEC) = 09:21:51     USER NO.= M-GoodwinNMSiteA90075759
           INPUT FILE = s\2019\A19003 - Ventura Swim Labs\Drainage\ahymo_SwimLabs_Pad2_TOPDETEN-C_IN.txt

   START              0.0 HOURS   PC=0  PL=-1
   LOCATION              ALBUQUERQUE
        City of Albuquerque soil infiltration values (LAND FACTORS) used for computations.
        Land Treatment     Initial Abstr.(in)     Unif. Infilt.(in/hour)
              A            0.65                   1.67
              B            0.50                   1.25
              C            0.35                   0.83
              D            0.10                   0.04

   *S SWIM LABS 19003
   *S ONSITE PAD 2
   *S By Cory Pierce
   RAINFALL              TYPE=1  0.0  1.48  2.11  2.52    DT=0.01

                6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
                DT =   0.010000 HOURS       END TIME =     6.000000 HOURS
                  0.0000  0.0008  0.0017  0.0025  0.0033  0.0042  0.0050
                  0.0059  0.0067  0.0076  0.0085  0.0094  0.0103  0.0113
                  0.0122  0.0131  0.0140  0.0150  0.0160  0.0170  0.0180
                  0.0190  0.0201  0.0211  0.0221  0.0231  0.0243  0.0254
                  0.0266  0.0277  0.0289  0.0300  0.0312  0.0324  0.0345
                  0.0372  0.0399  0.0426  0.0453  0.0480  0.0506  0.0533
                  0.0561  0.0591  0.0620  0.0650  0.0679  0.0709  0.0739
                  0.0768  0.0798  0.0830  0.0861  0.0893  0.0925  0.0957
                  0.0989  0.1020  0.1052  0.1085  0.1118  0.1151  0.1184
                  0.1217  0.1250  0.1283  0.1316  0.1350  0.1385  0.1419
                  0.1454  0.1488  0.1523  0.1557  0.1592  0.1626  0.1664
                  0.1702  0.1739  0.1777  0.1815  0.1853  0.1891  0.1928
                  0.1969  0.2011  0.2053  0.2095  0.2137  0.2179  0.2221
                  0.2263  0.2305  0.2348  0.2391  0.2434  0.2476  0.2519
                  0.2562  0.2605  0.2648  0.2705  0.2762  0.2820  0.2877
                  0.2934  0.2992  0.3049  0.3107  0.3179  0.3259  0.3340
                  0.3420  0.3500  0.3580  0.3661  0.3741  0.3835  0.3955
                  0.4076  0.4196  0.4317  0.4437  0.4558  0.4678  0.4799
                  0.5007  0.5215  0.5423  0.5631  0.5839  0.6047  0.6255
                  0.6463  0.6902  0.7456  0.8010  0.8564  0.9118  0.9673
                  1.0227  1.0781  1.1253  1.1560  1.1867  1.2174  1.2482
                  1.2789  1.3096  1.3403  1.3710  1.3865  1.4019  1.4173
                  1.4328  1.4482  1.4637  1.4791  1.4945  1.5062  1.5159
                  1.5256  1.5353  1.5450  1.5548  1.5645  1.5742  1.5829
                  1.5897  1.5964  1.6032  1.6099  1.6166  1.6234  1.6301
                  1.6369  1.6418  1.6467  1.6517  1.6566  1.6615  1.6665
```

1.6714	1.6763	1.6805	1.6842	1.6879	1.6917	1.6954
1.6991	1.7029	1.7066	1.7104	1.7144	1.7184	1.7224
1.7263	1.7303	1.7343	1.7383	1.7422	1.7459	1.7495
1.7531	1.7567	1.7603	1.7639	1.7675	1.7711	1.7743
1.7774	1.7805	1.7835	1.7866	1.7897	1.7927	1.7958
1.7988	1.8016	1.8045	1.8074	1.8102	1.8131	1.8160
1.8188	1.8217	1.8244	1.8272	1.8300	1.8327	1.8355
1.8383	1.8411	1.8438	1.8456	1.8468	1.8480	1.8493
1.8505	1.8517	1.8530	1.8542	1.8554	1.8566	1.8578
1.8590	1.8602	1.8614	1.8626	1.8638	1.8650	1.8661
1.8672	1.8683	1.8694	1.8705	1.8717	1.8728	1.8739
1.8750	1.8761	1.8772	1.8782	1.8793	1.8804	1.8815
1.8826	1.8836	1.8847	1.8857	1.8868	1.8878	1.8889
1.8899	1.8910	1.8921	1.8930	1.8940	1.8950	1.8960
1.8970	1.8980	1.8990	1.9000	1.9010	1.9019	1.9029
1.9039	1.9048	1.9058	1.9068	1.9077	1.9087	1.9096
1.9106	1.9115	1.9125	1.9134	1.9144	1.9153	1.9162
1.9171	1.9180	1.9189	1.9198	1.9207	1.9216	1.9225
1.9234	1.9243	1.9252	1.9260	1.9269	1.9278	1.9287
1.9295	1.9304	1.9313	1.9321	1.9330	1.9338	1.9347
1.9356	1.9364	1.9373	1.9381	1.9389	1.9398	1.9406
1.9414	1.9422	1.9430	1.9438	1.9447	1.9455	1.9463
1.9471	1.9479	1.9487	1.9495	1.9503	1.9511	1.9519
1.9526	1.9534	1.9542	1.9550	1.9558	1.9566	1.9573
1.9581	1.9589	1.9597	1.9604	1.9612	1.9620	1.9627
1.9635	1.9643	1.9650	1.9658	1.9665	1.9673	1.9680
1.9688	1.9695	1.9703	1.9710	1.9718	1.9725	1.9733
1.9740	1.9747	1.9755	1.9762	1.9769	1.9777	1.9784
1.9791	1.9798	1.9806	1.9813	1.9820	1.9827	1.9834
1.9842	1.9849	1.9856	1.9863	1.9870	1.9877	1.9884
1.9891	1.9898	1.9905	1.9912	1.9919	1.9926	1.9933
1.9940	1.9947	1.9954	1.9961	1.9968	1.9974	1.9981
1.9988	1.9995	2.0002	2.0009	2.0015	2.0022	2.0029
2.0036	2.0042	2.0049	2.0056	2.0062	2.0069	2.0076
2.0082	2.0089	2.0095	2.0102	2.0109	2.0115	2.0122
2.0128	2.0135	2.0141	2.0148	2.0154	2.0161	2.0167
2.0174	2.0180	2.0187	2.0193	2.0199	2.0206	2.0212
2.0219	2.0225	2.0231	2.0238	2.0244	2.0250	2.0256
2.0263	2.0269	2.0275	2.0282	2.0288	2.0294	2.0300
2.0306	2.0312	2.0319	2.0325	2.0331	2.0337	2.0343
2.0349	2.0355	2.0362	2.0368	2.0374	2.0380	2.0386
2.0392	2.0398	2.0404	2.0410	2.0416	2.0422	2.0428
2.0434	2.0440	2.0446	2.0451	2.0457	2.0463	2.0469
2.0475	2.0481	2.0487	2.0493	2.0498	2.0504	2.0510
2.0516	2.0522	2.0528	2.0533	2.0539	2.0545	2.0551
2.0556	2.0562	2.0568	2.0574	2.0579	2.0585	2.0591
2.0596	2.0602	2.0608	2.0613	2.0619	2.0624	2.0630
2.0636	2.0641	2.0647	2.0652	2.0658	2.0664	2.0669
2.0675	2.0680	2.0686	2.0691	2.0697	2.0702	2.0708
2.0713	2.0719	2.0724	2.0729	2.0735	2.0740	2.0746

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                2.0751  2.0757  2.0762  2.0767  2.0773  2.0778  2.0783
                2.0789  2.0794  2.0799  2.0805  2.0810  2.0815  2.0821
                2.0826  2.0831  2.0837  2.0842  2.0847  2.0852  2.0858
                2.0863  2.0868  2.0873  2.0878  2.0884  2.0889  2.0894
                2.0899  2.0904  2.0909  2.0915  2.0920  2.0925  2.0930
                2.0935  2.0940  2.0945  2.0950  2.0956  2.0961  2.0966
                2.0971  2.0976  2.0981  2.0986  2.0991  2.0996  2.1001
                2.1006  2.1011  2.1016  2.1021  2.1026  2.1031  2.1036
                2.1041  2.1046  2.1051  2.1056  2.1061  2.1066  2.1071
                2.1075  2.1080  2.1085  2.1090  2.1095  2.1100

SEDIMENT BULK           CODE=1   BULK FACTOR = 1.06
*S BASIN #2 (Pad #2_South Detention Pond)
COMPUTE NM HYD          ID=2  HYD=202 AREA=0.00086 SQ MI
                        A B C D 30 0 0 70
                        TP=0.13333  MASSRAIN=-1

     K =  0.072665HR    TP =  0.133330HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =   2.3762    CFS   UNIT VOLUME =   0.9947       B =   526.28      P60 = 1.4800
     AREA =     0.000602 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.173555HR    TP =  0.133330HR    K/TP RATIO =  1.301692     SHAPE CONSTANT, N =  2.752957
     UNIT PEAK =  0.50510    CFS   UNIT VOLUME =   0.9692       B =   261.03      P60 = 1.4800
     AREA =     0.000258 SQ MI    IA =   0.65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.06000 AT PEAK FLOW.

PRINT HYD               ID=2  CODE=1

                                PARTIAL HYDROGRAPH   202.00


    RUNOFF VOLUME =     1.51448 INCHES     =       0.0695 ACRE-FEET
    PEAK DISCHARGE RATE =       1.69 CFS  AT   1.530 HOURS   BASIN AREA =  0.0009 SQ. MI.


ROUTE RESERVOIR         ID=4  HYD NO=POND.OT  INFLOW=2 CODE=24
                                OUTFLOW (CFS)     STORAGE(AF)     ELEV(FT)
                                0.01                  0.0001                5553.73
                                0.07              .0028          5553.80
                                0.16              0.0063               5553.85
                                0.30              0.0116         5553.91
                                0.49              0.0194         5553.98
                                0.77              0.0312         5554.07
                                0.99              0.0402         5554.13
                                1.38              0.0484         5554.23
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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	5553.72	0.000	0.00
0.24	0.00	5553.73	0.000	0.01
0.48	0.00	5553.73	0.000	0.01
0.72	0.06	5553.73	0.000	0.01
0.96	0.13	5553.77	0.002	0.04
1.20	0.22	5553.81	0.004	0.09
1.44	1.09	5553.89	0.010	0.25
1.68	0.95	5554.04	0.028	0.69
1.92	0.34	5554.03	0.026	0.64
2.16	0.19	5553.98	0.019	0.49
2.40	0.12	5553.93	0.014	0.36
2.64	0.05	5553.89	0.010	0.25
2.88	0.03	5553.85	0.006	0.16
3.12	0.02	5553.82	0.004	0.11
3.36	0.02	5553.80	0.003	0.07
3.60	0.02	5553.78	0.002	0.05
3.84	0.02	5553.77	0.001	0.04
4.08	0.02	5553.76	0.001	0.03
4.32	0.02	5553.75	0.001	0.03
4.56	0.02	5553.75	0.001	0.02
4.80	0.02	5553.74	0.001	0.02
5.04	0.02	5553.74	0.001	0.02
5.28	0.02	5553.74	0.001	0.02
5.52	0.02	5553.74	0.001	0.02
5.76	0.02	5553.74	0.001	0.02
6.00	0.02	5553.74	0.001	0.02
6.24	0.00	5553.74	0.000	0.02
6.48	0.00	5553.73	0.000	0.01
6.72	0.00	5553.73	0.000	0.01
6.96	0.00	5553.73	0.000	0.01
7.20	0.00	5553.73	0.000	0.01
7.44	0.00	5553.73	0.000	0.01
7.68	0.00	5553.73	0.000	0.01
7.92	0.00	5553.73	0.000	0.01
8.16	0.00	5553.73	0.000	0.01
8.40	0.00	5553.73	0.000	0.01
8.64	0.00	5553.73	0.000	0.01
8.88	0.00	5553.73	0.000	0.01
9.12	0.00	5553.73	0.000	0.01
9.36	0.00	5553.73	0.000	0.01
9.60	0.00	5553.73	0.000	0.01
9.84	0.00	5553.73	0.000	0.01
10.08	0.00	5553.73	0.000	0.01
10.32	0.00	5553.73	0.000	0.01

10.56	0.00	5553.73	0.000	0.01
10.80	0.00	5553.73	0.000	0.01
11.04	0.00	5553.73	0.000	0.01
11.28	0.00	5553.73	0.000	0.01
11.52	0.00	5553.73	0.000	0.01
11.76	0.00	5553.73	0.000	0.01
12.00	0.00	5553.73	0.000	0.01
12.24	0.00	5553.73	0.000	0.01
12.48	0.00	5553.73	0.000	0.01
12.72	0.00	5553.73	0.000	0.01
12.96	0.00	5553.73	0.000	0.01
13.20	0.00	5553.73	0.000	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
13.44	0.00	5553.73	0.000	0.01
13.68	0.00	5553.73	0.000	0.01
13.92	0.00	5553.73	0.000	0.01
14.16	0.00	5553.73	0.000	0.01
14.40	0.00	5553.73	0.000	0.01
14.64	0.00	5553.73	0.000	0.01
14.88	0.00	5553.73	0.000	0.01
15.12	0.00	5553.73	0.000	0.01
15.36	0.00	5553.73	0.000	0.01
15.60	0.00	5553.73	0.000	0.01
15.84	0.00	5553.73	0.000	0.01
16.08	0.00	5553.73	0.000	0.01
16.32	0.00	5553.73	0.000	0.01
16.56	0.00	5553.73	0.000	0.01
16.80	0.00	5553.73	0.000	0.01
17.04	0.00	5553.73	0.000	0.01
17.28	0.00	5553.73	0.000	0.01
17.52	0.00	5553.73	0.000	0.01
17.76	0.00	5553.73	0.000	0.01
18.00	0.00	5553.73	0.000	0.01
18.24	0.00	5553.73	0.000	0.01
18.48	0.00	5553.73	0.000	0.01
18.72	0.00	5553.73	0.000	0.01
18.96	0.00	5553.73	0.000	0.01
19.20	0.00	5553.73	0.000	0.01
19.44	0.00	5553.73	0.000	0.01
19.68	0.00	5553.73	0.000	0.01
19.92	0.00	5553.73	0.000	0.01
20.16	0.00	5553.73	0.000	0.01
20.40	0.00	5553.73	0.000	0.01
20.64	0.00	5553.73	0.000	0.01
20.88	0.00	5553.73	0.000	0.01
21.12	0.00	5553.73	0.000	0.01
21.36	0.00	5553.73	0.000	0.01

21.60	0.00	5553.73	0.000	0.01
21.84	0.00	5553.73	0.000	0.01
22.08	0.00	5553.73	0.000	0.01
22.32	0.00	5553.73	0.000	0.01
22.56	0.00	5553.73	0.000	0.01
22.80	0.00	5553.73	0.000	0.01
23.04	0.00	5553.73	0.000	0.01
23.28	0.00	5553.73	0.000	0.01
23.52	0.00	5553.73	0.000	0.01
23.76	0.00	5553.73	0.000	0.01
24.00	0.00	5553.73	0.000	0.01
24.24	0.00	5553.73	0.000	0.01
24.48	0.00	5553.73	0.000	0.01
24.72	0.00	5553.73	0.000	0.01
24.96	0.00	5553.73	0.000	0.01
25.20	0.00	5553.73	0.000	0.01
25.44	0.00	5553.73	0.000	0.01
25.68	0.00	5553.73	0.000	0.01
25.92	0.00	5553.73	0.000	0.01
26.16	0.00	5553.73	0.000	0.01
26.40	0.00	5553.73	0.000	0.01
26.64	0.00	5553.73	0.000	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
26.88	0.00	5553.73	0.000	0.01
27.12	0.00	5553.73	0.000	0.01
27.36	0.00	5553.73	0.000	0.01
27.60	0.00	5553.73	0.000	0.01
27.84	0.00	5553.73	0.000	0.01
28.08	0.00	5553.73	0.000	0.01
28.32	0.00	5553.73	0.000	0.01
28.56	0.00	5553.73	0.000	0.01
28.80	0.00	5553.73	0.000	0.01
29.04	0.00	5553.73	0.000	0.01
29.28	0.00	5553.73	0.000	0.01
29.52	0.00	5553.73	0.000	0.01
29.76	0.00	5553.73	0.000	0.01
30.00	0.00	5553.73	0.000	0.01
30.24	0.00	5553.73	0.000	0.01
30.48	0.00	5553.73	0.000	0.01
30.72	0.00	5553.73	0.000	0.01
30.96	0.00	5553.73	0.000	0.01
31.20	0.00	5553.73	0.000	0.01
31.44	0.00	5553.73	0.000	0.01
31.68	0.00	5553.73	0.000	0.01
31.92	0.00	5553.73	0.000	0.01
32.16	0.00	5553.73	0.000	0.01
32.40	0.00	5553.73	0.000	0.01

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    32.64       0.00   5553.73      0.000      0.01
    32.88       0.00   5553.73      0.000      0.01
    33.12       0.00   5553.73      0.000      0.01
    33.36       0.00   5553.73      0.000      0.01
    33.60       0.00   5553.73      0.000      0.01
    33.84       0.00   5553.73      0.000      0.01
    34.08       0.00   5553.73      0.000      0.01
    34.32       0.00   5553.73      0.000      0.01
    34.56       0.00   5553.73      0.000      0.01
    34.80       0.00   5553.73      0.000      0.01
    35.04       0.00   5553.73      0.000      0.01
    35.28       0.00   5553.73      0.000      0.01
    35.52       0.00   5553.73      0.000      0.01
    35.76       0.00   5553.73      0.000      0.01
    36.00       0.00   5553.73      0.000      0.01
    36.24       0.00   5553.73      0.000      0.01
    36.48       0.00   5553.73      0.000      0.01
    36.72       0.00   5553.73      0.000      0.01
    36.96       0.00   5553.73      0.000      0.01
    37.20       0.00   5553.73      0.000      0.01
    37.44       0.00   5553.73      0.000      0.01
    37.68       0.00   5553.73      0.000      0.01
    37.92       0.00   5553.73      0.000      0.01
    38.16       0.00   5553.73      0.000      0.01
    38.40       0.00   5553.73      0.000      0.01
    38.64       0.00   5553.73      0.000      0.01
    38.88       0.00   5553.73      0.000      0.01
    39.12       0.00   5553.73      0.000      0.01
    39.36       0.00   5553.73      0.000      0.01
    39.60       0.00   5553.73      0.000      0.01
    39.84       0.00   5553.73      0.000      0.01
 PEAK DISCHARGE =        0.702 CFS - PEAK OCCURS AT HOUR    1.74
 MAXIMUM WATER SURFACE ELEVATION =     5554.048
 MAXIMUM STORAGE =        0.0283 AC-FT      INCREMENTAL TIME=    0.010000HRS

PRINT HYD                      ID=5 CODE 1

                                     OUTFLOW HYDROGRAPH REACH     0.00


    RUNOFF VOLUME =     0.00000 INCHES     =       0.0000 ACRE-FEET
    PEAK DISCHARGE RATE =       0.00 CFS  AT   0.000 HOURS   BASIN AREA =  0.0000 SQ. MI.


*S BASIN #1 (Pad #1_North Detention Pond)
COMPUTE NM HYD          ID=1  HYD=203 AREA=0.00023 SQ MI
                        A B C D 15 0 0 85
                        TP=0.13333  MASSRAIN=-1
```

```
     K =  0.072665HR    TP =  0.133330HR    K/TP RATIO =  0.545000     SHAPE CONSTANT, N =  7.106428
     UNIT PEAK =  0.77167    CFS   UNIT VOLUME =   0.9833       B =   526.28      P60 = 1.4800
     AREA =     0.000196 SQ MI    IA =   0.10000 INCHES    INF =   0.04000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000


     K =  0.173555HR    TP =  0.133330HR    K/TP RATIO =  1.301692     SHAPE CONSTANT, N =  2.752957
     UNIT PEAK =  0.67543E-01CFS   UNIT VOLUME =   0.8515       B =   261.03      P60 = 1.4800
     AREA =     0.000035 SQ MI    IA =   0.65000 INCHES    INF =   1.67000 INCHES PER HOUR
     RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT =  0.010000

    BULKING FACTOR APPLIED TO HYDROGRAPH.  FACTOR =  1.06000 AT PEAK FLOW.

PRINT HYD              ID=1  CODE=1

                                PARTIAL HYDROGRAPH   203.00


    RUNOFF VOLUME =     1.73940 INCHES     =       0.0213 ACRE-FEET
    PEAK DISCHARGE RATE =       0.52 CFS  AT   1.530 HOURS   BASIN AREA =  0.0002 SQ. MI.


ROUTE RESERVOIR        ID=5  HYD NO=POND.OT  INFLOW=1 CODE=24
                                OUTFLOW (CFS)     STORAGE(AF)     ELEV(FT)
                                0.01                 0.0001                 5548.75
                                0.03           0.0009          5548.86
                                0.08           0.0019                  5548.97
                                0.14           0.0029          5549.09
                                0.22           0.0039          5549.20
                                0.30           0.0050          5549.31
                                0.40           0.0062          5549.42

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

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

     0.00       0.00   5548.69      0.000      0.00
     0.24       0.00   5548.75      0.000      0.01
     0.48       0.00   5548.75      0.000      0.01
     0.72       0.02   5548.75      0.000      0.01
     0.96       0.04   5548.79      0.000      0.02
     1.20       0.07   5548.87      0.001      0.03
     1.44       0.34   5549.06      0.003      0.12
     1.68       0.29   5549.36      0.006      0.35
     1.92       0.10   5549.17      0.004      0.20
     2.16       0.05   5549.01      0.002      0.10
     2.40       0.03   5548.93      0.002      0.06
     2.64       0.01   5548.87      0.001      0.04
```

2.88	0.01	5548.83	0.001	0.02
3.12	0.01	5548.79	0.000	0.02
3.36	0.01	5548.77	0.000	0.01
3.60	0.01	5548.75	0.000	0.01
3.84	0.01	5548.75	0.000	0.01
4.08	0.01	5548.75	0.000	0.01
4.32	0.01	5548.75	0.000	0.01
4.56	0.01	5548.75	0.000	0.01
4.80	0.01	5548.75	0.000	0.01
5.04	0.01	5548.75	0.000	0.01
5.28	0.01	5548.75	0.000	0.01
5.52	0.01	5548.75	0.000	0.01
5.76	0.01	5548.75	0.000	0.01
6.00	0.01	5548.75	0.000	0.01
6.24	0.00	5548.75	0.000	0.01
6.48	0.00	5548.75	0.000	0.01
6.72	0.00	5548.75	0.000	0.01
6.96	0.00	5548.75	0.000	0.01
7.20	0.00	5548.75	0.000	0.01
7.44	0.00	5548.75	0.000	0.01
7.68	0.00	5548.75	0.000	0.01
7.92	0.00	5548.75	0.000	0.01
8.16	0.00	5548.75	0.000	0.01
8.40	0.00	5548.75	0.000	0.01
8.64	0.00	5548.75	0.000	0.01
8.88	0.00	5548.75	0.000	0.01
9.12	0.00	5548.75	0.000	0.01
9.36	0.00	5548.75	0.000	0.01
9.60	0.00	5548.75	0.000	0.01
9.84	0.00	5548.75	0.000	0.01
10.08	0.00	5548.75	0.000	0.01
10.32	0.00	5548.75	0.000	0.01
10.56	0.00	5548.75	0.000	0.01
10.80	0.00	5548.75	0.000	0.01
11.04	0.00	5548.75	0.000	0.01
11.28	0.00	5548.75	0.000	0.01
11.52	0.00	5548.75	0.000	0.01
11.76	0.00	5548.75	0.000	0.01
12.00	0.00	5548.75	0.000	0.01
12.24	0.00	5548.75	0.000	0.01
12.48	0.00	5548.75	0.000	0.01
12.72	0.00	5548.75	0.000	0.01
12.96	0.00	5548.75	0.000	0.01
13.20	0.00	5548.75	0.000	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
13.44	0.00	5548.75	0.000	0.01
13.68	0.00	5548.75	0.000	0.01

13.92	0.00	5548.75	0.000	0.01
14.16	0.00	5548.75	0.000	0.01
14.40	0.00	5548.75	0.000	0.01
14.64	0.00	5548.75	0.000	0.01
14.88	0.00	5548.75	0.000	0.01
15.12	0.00	5548.75	0.000	0.01
15.36	0.00	5548.75	0.000	0.01
15.60	0.00	5548.75	0.000	0.01
15.84	0.00	5548.75	0.000	0.01
16.08	0.00	5548.75	0.000	0.01
16.32	0.00	5548.75	0.000	0.01
16.56	0.00	5548.75	0.000	0.01
16.80	0.00	5548.75	0.000	0.01
17.04	0.00	5548.75	0.000	0.01
17.28	0.00	5548.75	0.000	0.01
17.52	0.00	5548.75	0.000	0.01
17.76	0.00	5548.75	0.000	0.01
18.00	0.00	5548.75	0.000	0.01
18.24	0.00	5548.75	0.000	0.01
18.48	0.00	5548.75	0.000	0.01
18.72	0.00	5548.75	0.000	0.01
18.96	0.00	5548.75	0.000	0.01
19.20	0.00	5548.75	0.000	0.01
19.44	0.00	5548.75	0.000	0.01
19.68	0.00	5548.75	0.000	0.01
19.92	0.00	5548.75	0.000	0.01
20.16	0.00	5548.75	0.000	0.01
20.40	0.00	5548.75	0.000	0.01
20.64	0.00	5548.75	0.000	0.01
20.88	0.00	5548.75	0.000	0.01
21.12	0.00	5548.75	0.000	0.01
21.36	0.00	5548.75	0.000	0.01
21.60	0.00	5548.75	0.000	0.01
21.84	0.00	5548.75	0.000	0.01
22.08	0.00	5548.75	0.000	0.01
22.32	0.00	5548.75	0.000	0.01
22.56	0.00	5548.75	0.000	0.01
22.80	0.00	5548.75	0.000	0.01
23.04	0.00	5548.75	0.000	0.01
23.28	0.00	5548.75	0.000	0.01
23.52	0.00	5548.75	0.000	0.01
23.76	0.00	5548.75	0.000	0.01
24.00	0.00	5548.75	0.000	0.01
24.24	0.00	5548.75	0.000	0.01
24.48	0.00	5548.75	0.000	0.01
24.72	0.00	5548.75	0.000	0.01
24.96	0.00	5548.75	0.000	0.01
25.20	0.00	5548.75	0.000	0.01
25.44	0.00	5548.75	0.000	0.01
25.68	0.00	5548.75	0.000	0.01

25.92	0.00	5548.75	0.000	0.01
26.16	0.00	5548.75	0.000	0.01
26.40	0.00	5548.75	0.000	0.01
26.64	0.00	5548.75	0.000	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
26.88	0.00	5548.75	0.000	0.01
27.12	0.00	5548.75	0.000	0.01
27.36	0.00	5548.75	0.000	0.01
27.60	0.00	5548.75	0.000	0.01
27.84	0.00	5548.75	0.000	0.01
28.08	0.00	5548.75	0.000	0.01
28.32	0.00	5548.75	0.000	0.01
28.56	0.00	5548.75	0.000	0.01
28.80	0.00	5548.75	0.000	0.01
29.04	0.00	5548.75	0.000	0.01
29.28	0.00	5548.75	0.000	0.01
29.52	0.00	5548.75	0.000	0.01
29.76	0.00	5548.75	0.000	0.01
30.00	0.00	5548.75	0.000	0.01
30.24	0.00	5548.75	0.000	0.01
30.48	0.00	5548.75	0.000	0.01
30.72	0.00	5548.75	0.000	0.01
30.96	0.00	5548.75	0.000	0.01
31.20	0.00	5548.75	0.000	0.01
31.44	0.00	5548.75	0.000	0.01
31.68	0.00	5548.75	0.000	0.01
31.92	0.00	5548.75	0.000	0.01
32.16	0.00	5548.75	0.000	0.01
32.40	0.00	5548.75	0.000	0.01
32.64	0.00	5548.75	0.000	0.01
32.88	0.00	5548.75	0.000	0.01
33.12	0.00	5548.75	0.000	0.01
33.36	0.00	5548.75	0.000	0.01
33.60	0.00	5548.75	0.000	0.01
33.84	0.00	5548.75	0.000	0.01
34.08	0.00	5548.75	0.000	0.01
34.32	0.00	5548.75	0.000	0.01
34.56	0.00	5548.75	0.000	0.01
34.80	0.00	5548.75	0.000	0.01
35.04	0.00	5548.75	0.000	0.01
35.28	0.00	5548.75	0.000	0.01
35.52	0.00	5548.75	0.000	0.01
35.76	0.00	5548.75	0.000	0.01
36.00	0.00	5548.75	0.000	0.01
36.24	0.00	5548.75	0.000	0.01
36.48	0.00	5548.75	0.000	0.01
36.72	0.00	5548.75	0.000	0.01

```
      36.96       0.00    5548.75       0.000       0.01
      37.20       0.00    5548.75       0.000       0.01
      37.44       0.00    5548.75       0.000       0.01
      37.68       0.00    5548.75       0.000       0.01
      37.92       0.00    5548.75       0.000       0.01
      38.16       0.00    5548.75       0.000       0.01
      38.40       0.00    5548.75       0.000       0.01
      38.64       0.00    5548.75       0.000       0.01
      38.88       0.00    5548.75       0.000       0.01
      39.12       0.00    5548.75       0.000       0.01
      39.36       0.00    5548.75       0.000       0.01
      39.60       0.00    5548.75       0.000       0.01
      39.84       0.00    5548.75       0.000       0.01
   PEAK DISCHARGE =         0.358 CFS - PEAK OCCURS AT HOUR    1.64
   MAXIMUM WATER SURFACE ELEVATION =     5549.374
   MAXIMUM STORAGE =         0.0057 AC-FT      INCREMENTAL TIME=    0.010000HRS

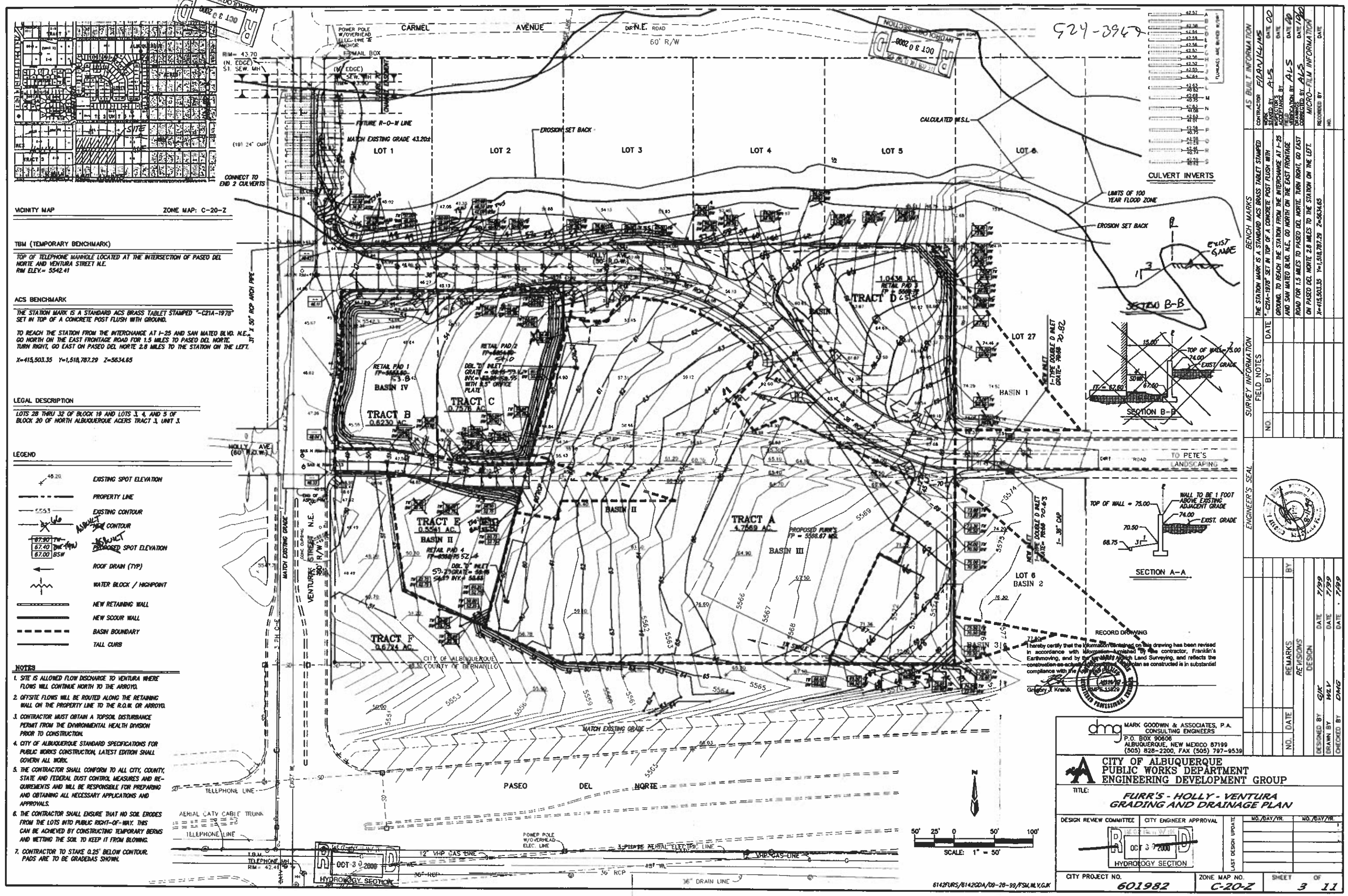
  PRINT HYD                      ID=5 CODE 1

                                        HYDROGRAPH FROM AREA POND.OT


      RUNOFF VOLUME =     4.12119 INCHES      =       0.0506 ACRE-FEET
      PEAK DISCHARGE RATE =       0.36 CFS  AT   1.640 HOURS   BASIN AREA =  0.0002 SQ. MI.


  FINISH

      NORMAL PROGRAM FINISH          END TIME (HR:MIN:SEC) = 09:21:51
"(s10H
```



524-3967

OCT 30 2000
HYDROLOGY SECTION

VICINITY MAP ZONE MAP: C-20-Z

TBM (TEMPORARY BENCHMARK)

TOP OF TELEPHONE MANHOLE LOCATED AT THE INTERSECTION OF PASEO DEL NORTE AND VENTURA STREET N.E.
RIM ELEV.= 5542.41

ACS BENCHMARK

THE STATION MARK IS A STANDARD ACS BRASS TABLET STAMPED "-C21A-1978" SET IN TOP OF A CONCRETE POST FLUSH WITH GROUND.

TO REACH THE STATION FROM THE INTERCHANGE AT I-25 AND SAN MATEO BLVD. N.E., GO NORTH ON THE EAST FRONTAGE ROAD FOR 1.5 MILES TO PASEO DEL NORTE, TURN RIGHT, GO EAST ON PASEO DEL NORTE 2.8 MILES TO THE STATION ON THE LEFT.

X=415,503.35 Y=1,518,787.29 Z=5634.65

LEGAL DESCRIPTION

LOTS 28 THRU 32 OF BLOCK 19 AND LOTS 3, 4, AND 5 OF BLOCK 20 OF NORTH ALBUQUERQUE ACERS TRACT 3, UNIT 3.

LEGEND

- 46.20 — EXISTING SPOT ELEVATION
- PROPERTY LINE
- 5553 — EXISTING CONTOUR
- ADJACENT 5564 CONTOUR
- 67.90 TW, 67.40 BW, 67.00 BSW — PROPOSED SPOT ELEVATION
- ROOF DRAIN (TYP)
- WATER BLOCK / HIGHPOINT
- NEW RETAINING WALL
- NEW SCOUR WALL
- BASIN BOUNDARY
- TALL CURB

NOTES

1. SITE IS ALLOWED FLOW DISCHARGE TO VENTURA WHERE FLOWS WILL CONTINUE NORTH TO THE ARROYO.
2. OFFSITE FLOWS WILL BE ROUTED ALONG THE RETAINING WALL ON THE PROPERTY LINE TO THE R.O.W. OR ARROYO.
3. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
4. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
5. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
6. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT-OF-WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND WETTING THE SOIL TO KEEP IT FROM BLOWING.
7. CONTRACTOR TO STAKE 0.25' BELOW CONTOUR. PADS ARE TO BE GRADED AS SHOWN.

AS BUILT INFORMATION

CONTRACTOR FRANKLINS DATE 00
STAKED BY ALS DATE
INSPECTOR'S SIGNATURE DATE
FIELD VERIFICATION BY ALS DATE 10/00
CORRECTED BY ALS DATE
MICRO-FILM INFORMATION
RECORDED BY DATE
MISC.

BENCH MARKS

THE STATION MARK IS A STANDARD ACS BRASS TABLET STAMPED "-C21A-1978" SET IN TOP OF A CONCRETE POST FLUSH WITH GROUND. TO REACH THE STATION FROM THE INTERCHANGE AT I-25 AND SAN MATEO BLVD. N.E., GO NORTH ON THE EAST FRONTAGE ROAD FOR 1.5 MILES TO PASEO DEL NORTE, TURN RIGHT, GO EAST ON PASEO DEL NORTE 2.8 MILES TO THE STATION ON THE LEFT.
X=415,503.35 Y=1,518,787.29 Z=5634.65

SURVEY INFORMATION

FIELD NOTES

NO.	DATE	BY

ENGINEER'S SEAL

NO.	DATE	REMARKS	BY
		REVISIONS	
		DESIGN	

DESIGNED BY GJK DATE 1/99
DRAWN BY MLV DATE 1/99
CHECKED BY DMG DATE 1/99

dmg MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505) 828-2200, FAX (505) 797-9539

CITY OF ALBUQUERQUE
PUBLIC WORKS DEPARTMENT
ENGINEERING DEVELOPMENT GROUP

TITLE: FURR'S - HOLLY - VENTURA GRADING AND DRAINAGE PLAN

DESIGN REVIEW COMMITTEE | CITY ENGINEER APPROVAL

OCT 30 2000
HYDROLOGY SECTION

LAST DESIGN UPDATE

NO./DAY/YR.	NO./DAY/YR.
	1

CITY PROJECT NO. 601982 | ZONE MAP NO. C-20-Z | SHEET 3 OF 11

6142FURS/6142GDA/09-28-99/FSM,MLV,GJK

\DWGS\6142FURS\6142gda.dwg Tue Sep 28 10:36:17 1999 WILLIAM

CITY OF ALBUQUERQUE

March 27, 2008

Gregory J. Krenik, PE
Mark Goodwin & Associates
P.O. 90606
Albuquerque, NM 87199

Re: Shoppes at Ventura Grading and Drainage Plan
Engineer's Stamp dated 2-22-08 (C20/D16)

Dear Mr. Krenik,

Based upon the information provided in your submittal dated 2-25-08, the above referenced report is approved for Building Permit and Final Plat. Please attach a copy of this approved plan to the construction sets prior to sign-off by Hydrology.

Also, prior to Certificate of Occupancy release, Engineer Certification of the grading plan per the DPM checklist will be required.

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

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, PE
Principal Engineer, Planning Dept
Development and Building Services

C: file

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

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

March 30, 2001

Gregory J. Krenik, P.E.
Mark Goodwin & Assoc.
P.O. Box 90606
Albuquerque, New Mexico 87199

RE: **Grading and Drainage Certification**
Furr's Supermarket- Ventura & Paseo Del Norte (C-20/D16)
Submitted for Release of Financial Guarantees
Engineers Stamp dated 11/11/1999
Engineer's Certification dated 12/11/2000
Engineers Letter dated March 27, 2001

Dear Mr. Krenik:

Based upon the information provided in your submittal dated 12/12/2000 and your letter dated 3/27/2001, the above referenced plan is adequate to satisfy the Grading and Drainage Certification and Letter of Map Revision (LOMR) requirements for Release of the remaining Financial Guaranty.

This will satisfy the conditions for release of the remaining financial guaranty for $20,000.00 being held as per City Hydrology's letter dated December 18, 2000.

If you have any questions, please call me at 924-3986.

Sincerely,

Bradley L. Bingham

Bradley L. Bingham, P.E.
Senior Civil Engineer, Hydrology
Public Works Dept., C.O.A.

C: Arlene Portillo, PWD – #601981
File

City of Albuquerque

P.O. BOX 1293 ALBUQUERQUE, NEW MEXICO 87103

October 23, 2000

Gregory j. Krenik, P.E.
Mark Goodwin & Associates, PA
P.O. Box 90606
Albuquerque, NM 87199

RE: FURR'S, PASEO DEL NORTE & VENTURA (C20-D16). ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY APPROVAL. ENGINEER'S STAMP DATED OCTOBER 16, 2000.

Dear Mr.Krenik:

Based on the information provided on your October 16, 2000 submittal, the above referenced project is approved for Certificate of Occupancy.

If I can be of further assistance, please feel free to contact me at 924-3984.

Sincerely,

John P. Murray, P.E.
Hydrology

c: Whitney Reierson
File

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

July 20, 1999

Gregory J. Krenik, P.E.
Mark Goodwin & Associates, PA
P. O. Box 90606
Albuquerque, New Mexico 87199

RE: Revised Drainage Report and Grading and Drainage Plan for Furr's-East Paseo del Norte, (C20/D16) Submitted for Building Permit Approval, Engineer's Stamp Dated 6/23/99.

Dear Mr. Krenik:

Based on the information provided, the above referenced plan, dated June 23, 1999, is approved for Building Permit release.

As you are aware, the Engineer's Certification is required prior to release of the Certificate of Occupancy for this site.

If you have any questions, or if I may be of further assistance to you, please call me at 924-3982.

Sincerely,

Susan M. Calongne, P.E.
City/County Floodplain Administrator

c: Fred Katz, The FHK Company
File

ADDENDUM TO THE

DRAINAGE CALCULATIONS

for

FURR'S
Paseo del Norte

D. Mark Goodwin & Associates, P.A.
Consulting Engineers
P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539
e-mail: dmg@swcp.com

PROJECT FURR'S - PASEO DEL NORTE
SUBJECT REVISED PONDS
BY GSK DATE 11-27-00
CHECKED _____ DATE _____
SHEET 1 OF ____

- THIS REVISES THE DRAINAGE REPORT FOR FURR'S PASEO DEL NORTE PREPARED BY MARK GOODWIN AND ASSOCIATES 12-11-98 APPENDIX "A"

- THE BUILDING WAS DESIGNED WITH DOWN SPOUTS ON THE NORTH AND SOUTH SIDES INSTEAD OF THE WEST AND SOUTH SIDES.

- WE WILL PLACE A SMALLER ORIFICE ON THE UNDERGROUND POND. IT WILL BE REDUCED FROM 9.5 in TO 8.5 in.

  THE AREA TO THE UNDERGROUND POND GETS REDUCED FROM 0.005812 SM TO 0.004951 SM.

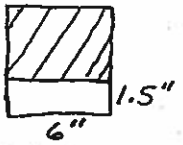
  THE TYPE "B" AREA INCREASED FROM 9.27% TO 10.88% AND THE TYPE "D" AREA DECREASED FROM 90.73% TO 89.12%

- TOTAL ALLOWABLE Q FROM FURR'S = 6.09 cfs (sheet 7 of ORIGINAL REPORT)

  PER THE AHYMO OUTPUT FOR THE REVISED POND Q = 4.80 cfs SEE SHEETS 2-5

  THIS LEAVES 6.09 - 4.80 = 1.29 cfs TO BE DISCHARGED FROM THE NORTH SIDE OF BUILDING

  USING 6 - 1.5" x 6" ORIFICES OVER THE 6" x 6" OPENING TO THE DOWNSPOUTS

  ROOF SLOPE = 1/4" PER FOOT
  SIDE OF BLDG = 180'
  AREA OF BLDG = 0.000861 SM
  100% TYPE "D"

  FROM AHYMO OUTPUT SHEETS 6-9
  Q = 1.23 cfs < 1.29 cfs OK

- DOWNSPOUTS WILL DISCHARGE THROUGH 4" PVC PIPES THROUGH CURB INTO HOLLY.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FURRS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GSK DATE 10-7-98
CHECKED _____ DATE _____
SHEET 8 OF _____

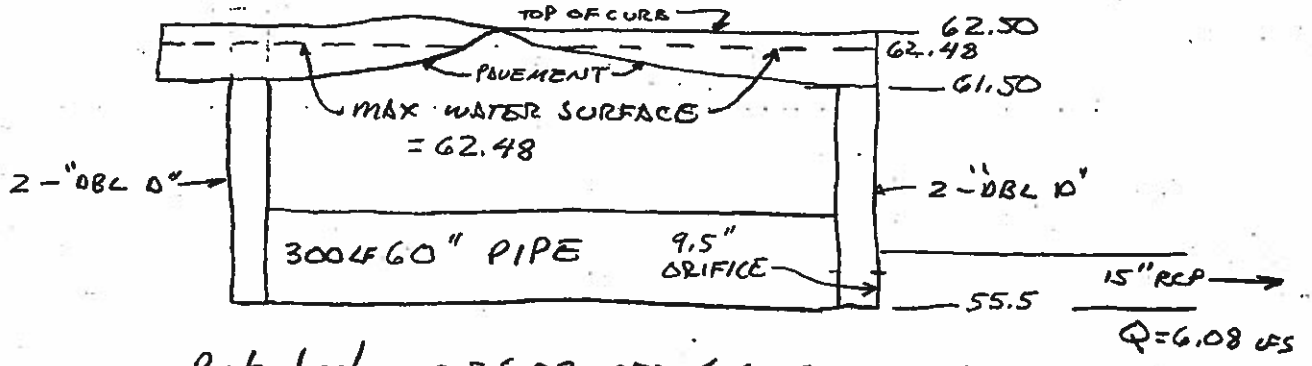
Revised 12-11-98

- USE IN COMBINATION PARKING LOT PONDING AND UNDERGROUND STORAGE

ELEV	VOLUME (AC-FT)	OUTFLOW (9.5" ORIFICE)
55.5	0.0	0.0
56.5	0.021	1.84
57.5	0.053	3.00
58.5	0.089	3.82
59.5	0.122	4.50
60.5	0.142	5.09
61.5	0.143	5.61
62.5	0.273	6.09

$Q = 0.6 A \sqrt{2gh}$

POND WILL CONSIST OF 2 DBL 'D' INLETS AT EACH END CONNECTED BY 300 LF OF 60" PIPE ALONG WITH PARKING LOT



Peak discharge = 6.08 CFS < 6.09 CFS OK

FROM RITYMO OUTPUT SHEETS 46-48

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FURRS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GSK DATE 10-7-98
CHECKED _____ DATE _____
SHEET 7 OF ____
Revised 12-11-98

- FIND UNDEVELOPED RUNOFF OF EXISTING SITE

  AREA = 8.7900 AC

  USE 90% B AND 10% C

  FROM AHYMO SHEETS 43-45
  Q = 23.81 CFS

  THIS IS THE ALLOWABLE RUNOFF FOR THE SITE.

- FIND RUNOFF FROM DIRECT DISCHARGE AREAS.
  BASINS I + II

  Q = 13.28 + 2.58
  = 15.86 CFS

- ALLOWABLE DISCHARGE FROM PADS 1+2 (BASIN IV) AND FURRS (BASIN III)

  Q = 23.81 - 15.86
  = 7.95 CFS

- ALLOWABLE DISCHARGE FOR THESE 3 LOTS
  RETAIL PAD 1 = 0.93 CFS
  RETAIL PAD 2 = 0.93 CFS
  FURR'S = 6.09 CFS

- RETAIL PADS 1+2 WILL BE A TEMP. RETENTION POND FOR ITS RUNOFF UNTIL THEY ARE DEVELOPED THEN THEY WILL HAVE A CONTROLLED DISCHARGE FROM THEIR PONDS. SEE ABOVE.

- SIZE TEMP POND FOR 2-100 yr 6 HR STORMS
  V = 2 x 0.2425 AC-FT = 21,127 CF

  160'x200' = 32,000
  154'x194' = 29,876
  > 1 FOOT DEEP VOLUME = 30,938 CF > 21,127 OK

- SIZE FURRS POND

  Q ALLOWABLE = 5.95 CFS

  USE 2 - DBL "D" INLETS AT EACH SUMP LOCATION

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FURRS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GJK DATE 9-1-98
CHECKED ____ DATE ____
SHEET 6 OF ____
REVISE 12-11-98

- DETERMINE FLOWS FOR ENTIRE BASIN 921.2 AND COMPARE WITH ORIGINAL REPORT.

- TOTAL AREA PER ORIGINAL REPORT = 0.085 SM
  PER SHEETS 1, 3 & 4 OF THIS REPORT THE AREA THAT DRAINS TO THE STORMDRAIN IN HOLLY

  $A = 21,2925 + 8.79 + 1.98$
  $= 32,0625 \text{ AC} = 0.050 \text{ SM}$

  - THIS LEAVES $0.085 - 0.050 = 0.035$ SM THAT DRAIN IN THE BASIN. THESE FLOWS WILL COME DOWN CARMEL WHICH IS THE STREET NORTH OF HOLLY.

  - THIS IS ZONED R-D SO THE LAND TREATMENTS OF 50% B & 50% D WILL BE USED.

  FROM AHYMO OUTPUT SHEETS 40-42

  $Q = 86.67$ CFS

  ADD THIS TO TOTAL Q ON SHEET 4 (114.87 CFS)

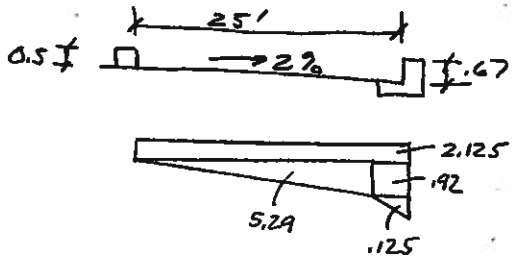
  TOTAL $Q = 119.03 + 91.62$
  $= 210.65$ CFS $<$ 254 PER ORIGINAL REPORT

  OK

* SINCE THE FLOWS FOR THE BASIN ARE ACTUALLY LESS THAN ORIGINALLY ESTIMATED THE PUND'S DESIGN IS ADEQUATE.

WHEN CARMEL IS DEVELOPED A STORMDRAIN WILL NEED TO BE DESIGNED.

- VERIFY STREET CAPACITY OF VENTURA
  $S = 1\%$ $n = 0.017$



$d = 0.67$
$WP = 25.76$
$A = 8.46$
$V = 4.16$ F/S
$Q = 35.20$ CFS

- TOTAL Q IN VENTURA SOUTH OF INLETS

$Q = 14.76 + 7.80 + 1.98 = 24.54$ CFS $<$ 35.20 CFS OK

(14.76 ↑ BASIN II; 7.80 ↑ UNDEV; 1.98 ↑ VENTURA)

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FUNDS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GJK DATE 6-15-98
CHECKED _____ DATE _____
SHEET 5 OF _____

Revised 9-1-98 12-11-98

SINCE WE DO NOT KNOW HOW THE AREA EAST OF US WILL BE DEVELOPED WE WILL ONLY DESIGN FROM THE ARROYO TO OUR EAST PROPERTY LINE.

FOR FUTURE DEVELOPMENT THE FLOW AND SIZES ON SHEET 4 WILL DIRECT THE DESIGN.

- Q AT OUR EAST PROP. LINE IN STORM DRAIN = 73.05 CFS 36" RCP
- AT THE ENTRANCE 300' EAST OF VENTURA ON HOLLY BASIN I ENTERS THE STORM DRAIN

  Q = 73.05 + 13.28 = 86.33 CFS USE 36" RCP

- AT INTERSECTION OF HOLLY AND VENTURA THE REMAINING 14.76 CFS + 7.80 CFS ENTERS THE STORM DRAIN

  USE 42" RCP

- DETERMINE EROSION SETBACK

  WE WILL USE 6 FEET per 100 CFS

  FROM THE DRAINAGE REPORT C20/05 Lots 26 & 27 (Pete's Landscaping) "APPENDIX B"
  WE SHOW THE ESB FOR 756 CFS. = 45.36 FEET.

  FROM THE PLOT ON THE G+D PLAN WE WILL NEED A SCOURWALL FOR 190' ALONG HOLLY FROM VENTURA, THIS WALL WILL BE INCORPORATED INTO THE RETAINING WALL ALONG THE NORTH PROP. LINE.

- DETERMINE SCOUR

  USE SECTION 60 FROM Pete's Landscaping

  TOTAL SCOUR = $Y_s + \frac{1}{2} h_a$

  $Y_s = 0.4(4)(F_r)^{0.33}$
  $= \frac{122.81}{152.29}(4)(1.22)^{0.33}$
  $= 5.74$

  $\frac{1}{2} h_a = 0.07(2)(\pi)\frac{V^2}{g}$
  $= 0.07(2)\pi\left(\frac{6.16^2}{32.2}\right)$
  $= 0.52$

  TOTAL SCOUR = 5.74 + 0.52
  = 6.26'

  WE WILL USE a 6.5' SCOUR WALL

- WE WILL SUBMIT A LOMR TO FEMA AND VERIFY THE ABOVE HEC RAS

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FURRS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GSK DATE 6-15-98
CHECKED _____ DATE _____
SHEET 4 OF ____
REVISED 12-11-98

FROM AHYMO SHEETS 28-36

BASIN	Q (CFS)	SLOPE
1	0.67	5.00% FOR LAST 15' OTHERWISE FLAT
2	0.90	3.33%
3	0.20	2.00%

ALL OF THESE BASINS HAVE THE ADJACENT PROPERTY HIGHER THAN THE FURRS AND RETAIL PAD SITE. THEREFORE UNDERCUTTING OF THE FOOTING IS NOT A CONCERN.

- DESIGN REQUIRED STORMDRAIN IN HOLLY TO ARROYO

TOTAL AREA IS THE ROW OF LOTS NORTH & SOUTH OF HOLLY FROM VENTURA TO HOLBROOK.

WE WILL USE OPTION E/S OF THE NORTH & SOUTH DOMINGO BACA ARROYO AND PDN CORRIDOR DRAINAGE MANAGEMENT PLAN. SEE "APPENDIX A"

THIS IS IN BASIN 921.2
PER THE REPORT THE AREA IS 0.085 SQ. MI.
THIS ACCOUNTS FOR AREA ON BOTH THE NORTH AND SOUTH SIDE OF THE ARROYO.

THE AREA THAT DRAINS TO HOLLY EAST OF OUR SITE IS
21.2925 AC = 0.033275 SQ. MI, ZONED R-D
WE WILL USE 50% TYPE "D" AND 50% TYPE "B"
PER AHYMO OUTPUT SHEETS 37-39
Q = 73.05 CFS
WE WILL USE A 2.3% SLOPE PER THE REPORT.
FROM PIPE SIZE NOMO SHEET 9
AT 2.3%

18"	CARRIES	16 CFS
24"	"	34 CFS
30"	"	60 CFS
36"	"	100 CFS
42"	"	140 CFS

TOTAL Q INCLUDING OUR SITE 73.05 + 13.28 + 3.97 + 18.17 + 6.40 = 114.87 CFS

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Consulting Engineers and Surveyors

PROJECT Furrs - Paseo Del Norte
SUBJECT Drainage Calcs
BY GJK DATE 4-21-98
CHECKED _____ DATE _____
SHEET 3 OF ____

REVISED: 6-15-98 9-1-98 12-11-98

- FIND AREA AND Q OF VENTURA SOUTH OF NEW HOLLY.

  $\frac{1}{2}(86 \times 450) = 19{,}350 \text{ ft}^2 = 0.4442 \text{ AC}$ 28% B 72% D

  ∴ FROM AHYMO OUT PUT SHEETS 25-27

  $Q = 1.98$ CFS

- THE OFFSITE FLOWS ARE NEGLIGIBLE AND DO NOT HAVE AN IMPACT.

  THESE BASINS ARE DIVIDED INTO FOUR.

OFFSITE BASIN 1 – DRAINS SOUTH ALONG RET. WALL ALONG THE RETAIL PAD TO HOLLY.

OFFSITE BASIN 2 – DRAINS NORTH ALONG RET. WALL ALONG FURRS TO HOLLY.

OFFSITE BASIN 3 – DRAINS SOUTH ALONG RET. WALL ALONG FURRS TO PDN ROW.

FOR THIS DESIGN 100% TYPE "A" LAND TREATMENT WAS USED. WHEN THESE SITES DEVELOP, RUNOFF WILL HAVE TO BE DIRECTED TO HOLLY AND AS A DEVELOPED SITE ARE NOT ALLOWED TO DISCHARGE ONTO ADJACENT PROPERTY.

D. Mark Goodwin & Associates, P.A.
Consulting Engineers and Surveyors

PROJECT FURRS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GJK DATE 4-21-98
CHECKED _____ DATE _____
SHEET 2 OF ____

REVISED; 6-15-98 12-11-98

- FURR'S PAD SITE

AREA = 4.7843 AC

THIS SITE IS SPLIT INTO ALL 3 BASINS

BASIN	AREA	B	D
I	0.9287 AC	0.2308 AC	0.6979 AC
II	0.1358 AC	0.0102 AC	0.1256 AC
III	3.7198 AC	0.3448 AC	3.3750 AC

- TOTAL SITE BREAKDOWN

BASIN	AREA (AC)	"B" AREA / %	"D" AREA / %
I	2.9573	0.7458 AC / 25.22	2.2115 AC / 74.78
II	0.8010	0.0594 AC / 7.42	0.7416 AC / 92.58
III	3.7198	0.3448 AC / 9.27	3.3750 AC / 90.73
IV	1.3119	0.1312 AC / 10.00	1.1807 AC / 90.00
	8.7900		

FROM AHYMO OUTPUT SHEETS 10-21

BASIN	Q (CFS)
I	13.28
II	3.97
III	18.17
IV	6.40

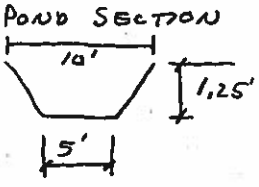
$P_1 = 2.18$ in
$P_6 = 2.60$ in
$P_{24} = 3.10$ in
DT = 0.03333 HR
TP = 0.1333 HR

- POND PAD 4

7" ORIFICE TO INTERIOR ROAD FROM POND

FROM AHYMO OUTPUT SHEETS 22-24
Q OF PAD = 2.41 CFS
PEAK Q FROM POND = 1.02 CFS
MAX WATER SURFACE = 54.95

POND SECTION



170 LF

- REVISE BASIN II RUNOFF

Q = 3.97 - (2.41 - 1.02)
= 2.58 CFS

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Consulting Engineers and Surveyors

PROJECT FURRS - PASEO DEL NORTE
SUBJECT DRAINAGE CALCS
BY GJK DATE 4-21-98
CHECKED ____ DATE ____
SHEET 1 OF ____

REVISED: 6-15-98 12-11-98

- SITE DOES NOT LIE IN A 100 YEAR FLOOD ZONE
- EXISTING OFFSITE FLOWS WILL NOT BE ALLOWED TO ENTER THE SITE BUT INSTEAD WILL BE ROUTED DOWN ALONG THE WALLS ON THE PROPERTY LINE TO EITHER THE ARROYO OR RIGHT OF WAY.
- THE SITE FOR THIS REPORT WILL BE DIVIDED INTO FOUR BASINS: I - DRAINS TO HOLLY THEN TO VENTURA
  II - DRAINS TO INTERIOR ROAD THEN TO VENTURA
  III - DRAINS TO ONSITE STORM DRAIN THEN TO HOLLY
  IV - DRAINS TO ONSITE STORM DRAIN THEN TO HOLLY
- DIRECT DISCHARGE WILL BE ALLOWED TO THE NEW STORMDRAIN IN THE ROAD ROW

RETAIL PAD 1	= 0.6220 AC	BASINS III & II
RETAIL PAD 2	= 0.7725 AC	BASINS III & II
RETAIL PAD 3	= 0.9955 AC	BASIN I
RETAIL PAD 4	= 0.5826 AC	BASIN II
HOLLY ROW	= 1.0331 AC	BASIN I
FURR'S PAD	= 4.7843 AC	BASINS I, II & III
	8.7900 AC	

- RETAIL PAD 3 (BASIN I) DIRECT RUNOFF
  AREA = 0.9955 AC
  TYPE B THAT DRAINS TO HOLLY = 0.2567 AC
  TYPE D THAT DRAINS TO HOLLY = 0.7388 AC

- RETAIL PADS 1 + 2 (BASIN III) NEEDS TO POND

  TOTAL AREA = 1.3945 AC
  ASSUME 90/10
  TYPE D = 1.1807 AC
  TYPE B = 0.1312 AC

  0.0826 AC IS THE 30' INTERIOR ROAD THIS WILL BE DIRECT DISCHARGE (BASIN II)
  AREA TO POND = 1.3119 AC

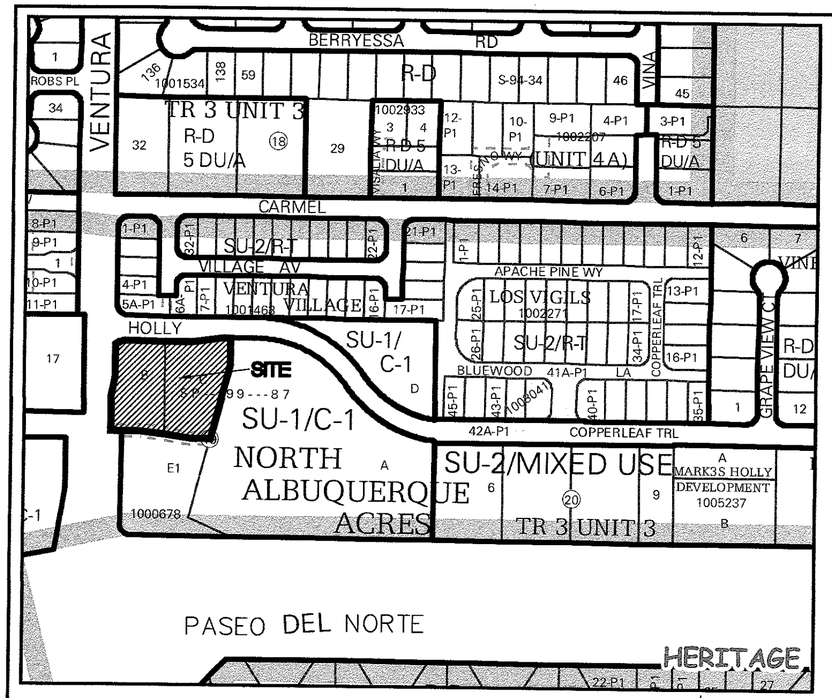
- RETAIL PAD 4 (BASIN II) DIRECT RUNOFF AND PONDING

  AREA = 0.5826 AC
  ASSUME 90/10
  TYPE B = 0.0492 AC
  TYPE D = 0.4427 AC

  0.0907 AC IS THE 30' INTERIOR ROAD THIS WILL BE DIRECT DISCHARGE (BASIN II)
  AREA AT 90/10 = 0.4919 AC
  TO BE PONDED

- HOLLY ROW (BASIN I) DIRECT DISCHARGE

  AREA = 1.0331 AC
  TYPE B = 25% = 0.2583 AC
  TYPE D = 75% = 0.7748 AC



Vicinity Map - Zone Atlas C-20-Z

N.T.S.

Exceptions 11-19

11 RESERVATIONS AND EXCEPTIONS IN THE PATENT BY THE UNITED STATES OF AMERICA RECORDED IN BOOK 80 PAGE 353 RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–BLANKET IN NATURE

(12) EASEMENTS WITH COVENANTS AND RESTRICTIONS AFFECTING LAND (ECR), FILED APRIL 15, 1999 IN BOOK 9906, PAGE 845, AS DOCUMENT NO. 1999050970; FIRST AMENDMENT TO EASEMENTS WITH COVENANTS AND RESTRICTIONS AFFECTING LAND (ECR), FILED JULY 27, 2004, IN BOOK A81, PAGE 4579, AS DOCUMENT NO. 2004104845, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–SHOWN HEREON AS [6]

13 COVENANT AGREEMENT, FILED FEBRUARY 29, 2000 IN BOOK A2, PAGE 9759, AS DOCUMENT NO. 2000019853, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–BLANKET IN NATURE

14 RESTRICTIVE COVENANT AGREEMENT, FILED JULY 27, 2004, IN BOOK A81, PAGE 4580, AS DOCUMENT NO. 2004104846, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–BLANKET IN NATURE

15 COVENANT AGREEMENT, FILED JANUARY 3, 2007 IN BOOK A130, PAGE 1325, AS DOCUMENT NO. 2007001326, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–BLANKET IN NATURE

(16) PUBLIC ACCESS AND UTILITY EASEMENT, AND INCIDENTAL PURPOSE THERETO, RESERVED ALONG THE WESTERLY TEN (10) FEET OF TRACT "B" AND THE NORTHERLY TEN (10) FEET OF TRACTS "B" AND "C" OF THE INSURED PREMISES, AS SHOWN ON THE RECORDED PLAT, RECORDED IN PLAT BOOK 99C PAGE 89 RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–SHOWN HEREON AS [1]

(17) WATERLINE EASEMENT, AND INCIDENTAL PURPOSE THERETO, RESERVED ALONG THE NORTHERLY PORTION OF TRACT "C" OF THE INSURED PREMISES, AS SHOWN ON THE RECORDED PLAT, RECORDED IN PLAT BOOK 99C PAGE 89 RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–SHOWN HEREON AS [2]

(18) PUBLIC SANITARY SEWER, WATER AND UTILITY EASEMENT, AND INCIDENTAL PURPOSE THERETO, RESERVED ALONG THE SOUTHERLY THIRTY (30) FEET OF THE INSURED PREMISES, AS SHOWN ON THE RECORDED PLAT, RECORDED IN PLAT BOOK 99C, PAGE 89, RECORDS OF BERNALILLO COUNTY, NEW MEXICO.
AFFECTS SUBJECT PROPERTY–SHOWN HEREON AS [3]

19 RIGHTS OF PARTIES UNDER ANY UNRECORDED RENTAL AND/OR LEASE AGREEMENTS.
NOT SURVEY RELATED

Flood Notes

BASED UPON SCALING, THIS PROPERTY LIES WITHIN FLOOD ZONE X WHICH IS DEFINED AS AN AREA OF MINIMAL FLOOD HAZARD. AS DETERMINED BY F.E.M.A. AND SHOWN ON THE FLOOD INSURANCE RATE MAP DATED SEPTEMBER 26, 2008, MAP NO. 35001C0141G.

Indexing Information

Section 17, Township 11 North, Range 4 East, N.M.P.M.
as Projected into the Elena Gallegos Grant
Subdivision: North Albuquerque Acres
Owner: KK Vista Partners (Tract A)
Broadway Vista Partners (Tract C)
UPC # 102006430905040103 (Tract A)
102006428606240102 (Tract C)

Record and Measured Legal Description

TRACTS LETTERED "B" AND "C" IN BLOCK NUMBERED NINETEEN OF THE PLAT OF TRACTS A, B, C, D, E, AND F, BLOCK 19, TRACT 3 UNIT 3, NORTH ALBUQUERQUE ACRES, CITY OF ALBUQUERQUE, BERNALILLO COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT THEREOF, FILED IN THE OFFICE OF THE COUNTY CLERK OF BERNALILLO COUNTY, NEW MEXICO ON APRIL 15, 1999, IN PLAT BOOK 99C, FOLIO 89.

THE PARCEL DESCRIBED HEREON IS THE SAME AS SHOWN ON THE TITLE COMMITMENT PROVIDED BY STEWART TITLE, HAVING FILE NO. 01147–45550 AND AN EFFECTIVE DATE OF APRIL 6, 2018.

Documents

1. TITLE COMMITMENT PROVIDED BY STEWART TITLE, HAVING FILE NO. 01147–45550 AND AN EFFECTIVE DATE OF APRIL 06, 2018.
2. PLAT OF RECORD FILED IN THE BERNALILLO COUNTY CLERK'S OFFICE ON APRIL 15, 1999 IN PLAT BOOK 99C, FOLIO 89.
3. NEW MEXICO STATE HIGHWAY COMMISSION RIGHT–OF–WAY MAP, NEW MEXICO PROJECT NO. TPU–4054(2), DATED MAY 7, 1993.

Boundary Survey
and
ALTA/NSPS Land Title Survey
for
Tracts B and C, Block 19
North Albuquerque Acres
Tract 3, Unit 3

City of Albuquerque
Bernalillo County, New Mexico
May 2018

Notes

1. FIELD SURVEY PERFORMED IN MAY 2018.
2. ALL DISTANCES ARE GROUND DISTANCES: U.S. SURVEY FOOT.
3. THE BASIS OF BEARINGS REFERENCES PLAT OF RECORD (4/15/1999, 99C–89).
4. NO BUILDINGS EXISTING ON THE SURVEYED PROPERTY.

Surveyor's Certificate

To: Michael J. Fanning, Broadway Vista Partners, a California general partnership, Bernadine C. King, Trustee of the Survivor's Trust under the Hinsvark Family Trust dated November 7, 1994, and Named Successor Trustee of the Franklin Family Trust uta dated 11/13/2000 as their interests may appear, Stewart Title Guaranty Company:

This is to certify that this map or plat and the survey on which it is based were made in accordance with the 2016 Minimum Standard Detail Requirements for ALTA/NSPS Land Title Surveys, jointly established and adopted by ALTA and NSPS, and includes items 1–4, 7(a) of Table A thereof. The Field Work was completed on May 23, 2018.

Will Plotner 5/24/18
Will Plotner Jr. Date
N.M.R.P.S. No. 14271

Revisions: 5/24/2018 – Original

I, Will Plotner Jr., New Mexico Professional Surveyor No. 14271, do hereby certify that this boundary survey plat and the actual survey on the ground upon which it is based were performed by me or under my direct supervision; that I am responsible for this survey; that this survey meets the minimum standards for surveying in New Mexico; and that it is true and correct to the best of my knowledge and belief. I further certify that this survey is not a land division or subdivision as defined in the New Mexico subdivision act and that this instrument is a boundary survey plat of an existing tract or tracts.

Will Plotner 5/24/18
Will Plotner Jr. Date
N.M.R.P.S. No. 14271

WILL W. PLOTNER, JR. NEW MEXICO No. 14271 REGISTERED PROFESSIONAL SURVEYOR

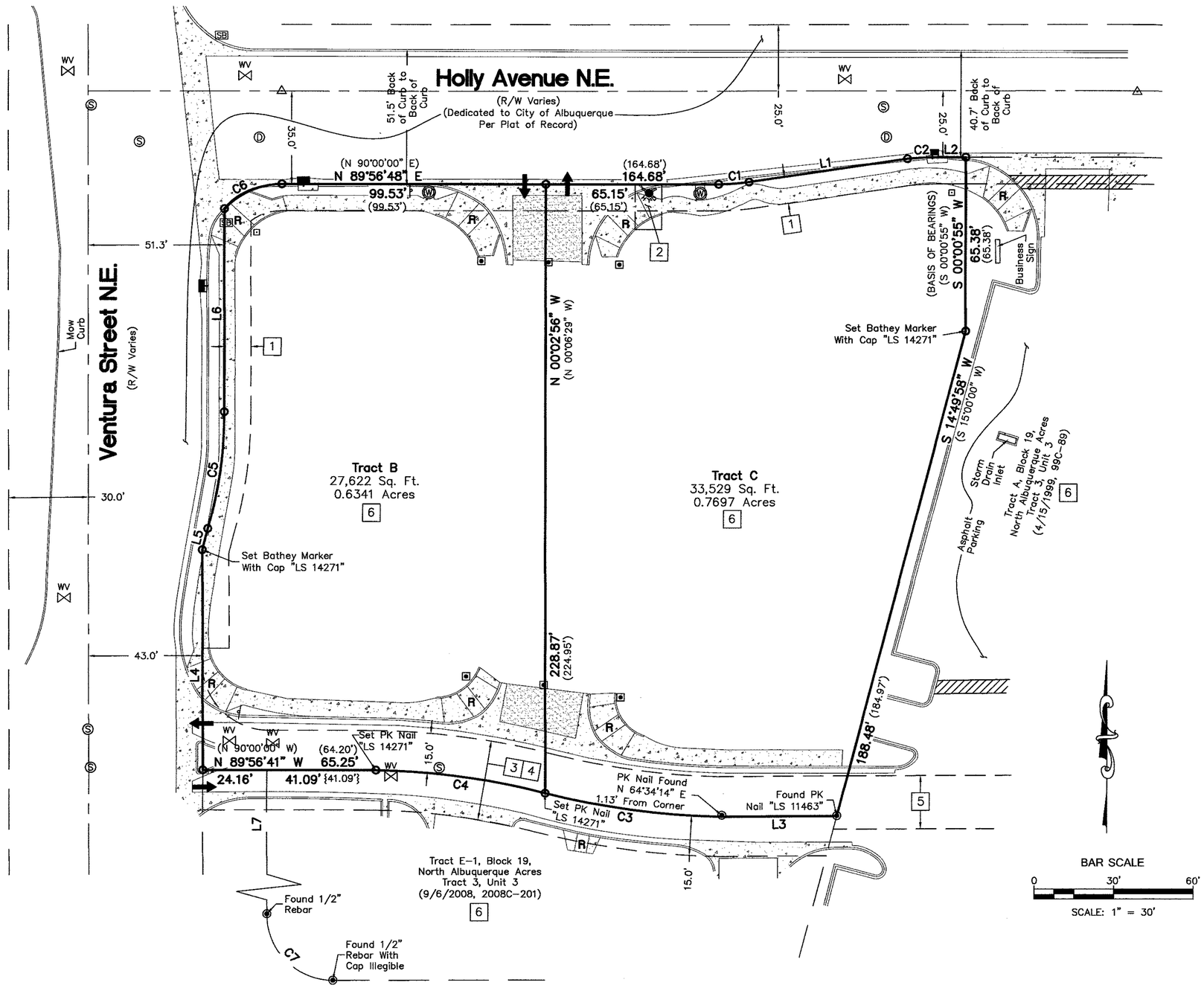
CSI-CARTESIAN SURVEYS INC.
P.O. BOX 44414 RIO RANCHO, N.M. 87174
Phone (505) 896 - 3050 Fax (505) 891 - 0244

Boundary Survey
and
ALTA/NSPS Land Title Survey
for
Tracts B and C, Block 19
North Albuquerque Acres
Tract 3, Unit 3

City of Albuquerque
Bernalillo County, New Mexico
May 2018

Legend

N 90°00'00" E	MEASURED BEARINGS AND DISTANCES	UTILITY PEDESTAL	CURB CUT/INDICATION OF ACCESS TO ROADWAY
(N 90°00'00" E)	RECORD BEARINGS AND DISTANCES (4/15/1999, 99C-89)	BOLLARD	
(N 90°00'00" E)	RECORD BEARINGS AND DISTANCES (9/6/2008, 2008C-201)	SIGNAL BOX	R RAMP
	FOUND MONUMENT AS INDICATED	WATER VALVE	
	SET CHISELED "X" UNLESS OTHERWISE NOTED	WATER METER	
	FOUND CENTERLINE MONUMENT AS INDICATED "LS 11463"	FIRE HYDRANT	
	CONCRETE	MANHOLE	
	ASPHALT	MANHOLE	
		STORM DRAIN INLET	
		SIGN	



BAR SCALE
0 30' 60'
SCALE: 1" = 30'

Easement Notes

(16) [1] EXISTING 10' PUBLIC ACCESS & P.U.E. (4/15/1999, 99C-89)

(17) [2] EXISTING 10' X 17' WATERLINE EASEMENT (4/15/1999, 99C-89)

(18) [3] EXISTING 30' PUBLIC SANITARY SEWER, WATER AND UTILITY EASEMENT (4/15/1999, 99C-89)

[4] EXISTING 30' PRIVATE ACCESS EASEMENT (4/15/1999, 99C-89)

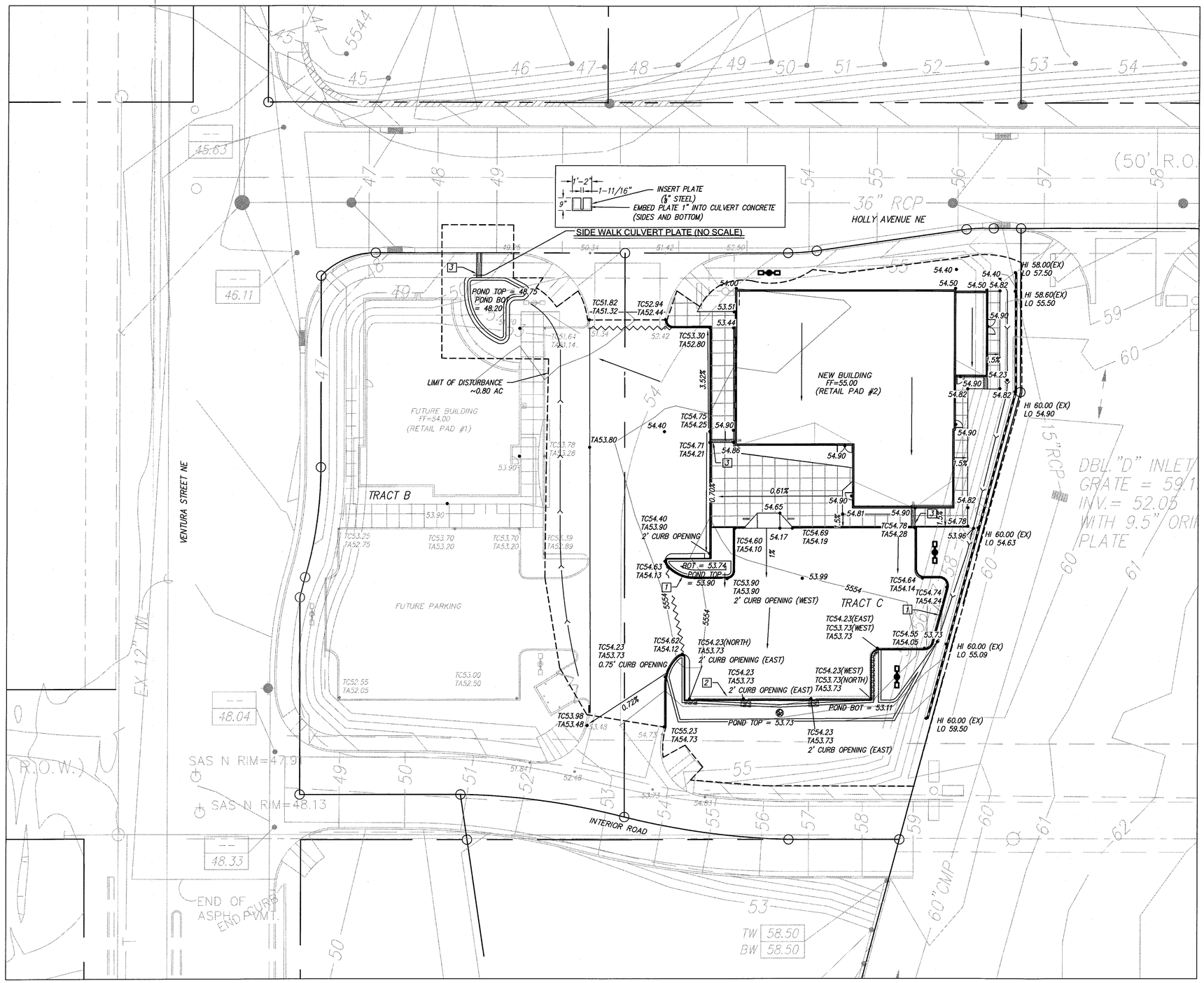
[5] EXISTING 20' WATERLINE EASEMENT (4/15/1999, 99C-89)

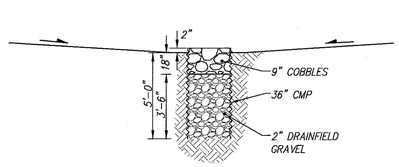
(12) [6] EXISTING EASEMENT FOR INGRESS, EGRESS, DRAINAGE AND PEDESTRIAN (4/15/1999, BK. 9906, PG. 845), BLANKET IN NATURE

Line Table		
Line #	Direction	Length (ft)
L1	N 81°43'42" E (N 81°46'54" E)	60.40' (60.40')
L2	N 89°56'48" E (N 90°00'00" E)	11.06' (10.86')
L3	S 89°42'55" W (S 90°00'00" W)	44.26' (44.26')
L4	N 00°09'41" W (N 00°06'29" W)	82.72' (78.65')
L5	N 14°27'00" E (N 14°30'12" E)	8.25' (8.25')
L6	N 00°09'41" W (N 00°06'29" W)	76.27' (76.27')
L7	S 00°05'12" E {S 00°11'28" E}	226.10' {226.10'}

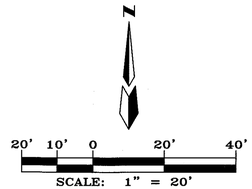
Curve Table					
Curve #	Length	Radius	Delta	Chord Length	Chord Direction
C1	11.47' (11.47')	80.00' (80.00')	8°12'53"	11.46'	N 85°50'18" E
C2	10.98' (10.98')	100.00' (100.00')	6°17'19"	10.97'	N 87°05'57" E
C3	66.36' (66.37')	303.32' (303.32')	12°32'08"	66.23'	N 82°23'02" W
C4	64.63' (66.16')	275.00' (275.00')	13°27'55"	64.48'	N 82°21'54" W
C5	44.45' (44.45')	156.62' (156.62')	16°15'38"	44.30'	N 07°58'08" E
C6	24.24' (24.25')	30.00' (30.00')	46°18'12"	23.59'	N 66°47'31" E
C7	39.28' {39.28'}	25.00' {25.00'}	90°00'54"	35.36'	S 45°05'35" E

CSI-CARTESIAN SURVEYS INC.
P.O. BOX 44414 RIO RANCHO, N.M. 87174
Phone (505) 896 - 3050 Fax (505) 891 - 0244





FRENCH DRAIN DETAIL
N.T.S



UNDERGROUND UTILITIES CAUTION:

NOTE THAT ALL EXISTING UTILITIES MAY NOT BE SHOWN. ALL EXISTING SERVICE CONNECTIONS ARE NOT SHOWN. ANY EXISTING UTILITIES THAT ARE SHOWN ARE APPROXIMATE LOCATION ONLY. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO CONTACT ALL THE UTILITY OWNERS AND TO CONDUCT ALL NECESSARY FIELD INVESTIGATIONS PRIOR TO ANY EXCAVATIONS TO DETERMINE THE ACTUAL LOCATION OF UTILITIES AND OTHER IMPROVEMENTS.

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LEGAL DESCRIPTION

TRACT C BLOCK 19 NORTH ALBUQUERQUE ACRES
TRACT 3, UNIT 3
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

ACS BENCHMARK

THE STATION MARK IS A STANDARD ACS BRASS TABLET STAMPED "–C21A–1978" SET IN TOP OF A CONCRETE POST FLUSH WITH GROUND. TO REACH THE STATION FROM THE INTERCHANGE AT I–25 AND SAN MATEO BLVD. N.E., GO NORTH ON THE EAST FRONTAGE ROAD FOR 1.5 MILES TO PASEO DEL NORTE. TURN RIGHT, GO EAST ON PASEO DEL NORTE 2.8 MILES TO THE STATION ON THE LEFT.
X=415,503.35 Y=1,518,787.29 Z=5634.65

GENERAL NOTES

1. CONTRACTOR MUST OBTAIN A TOPSOIL DISTURBANCE PERMIT FROM THE ENVIRONMENTAL HEALTH DIVISION PRIOR TO CONSTRUCTION.
2. CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION SHALL GOVERN ALL WORK.
3. THE CONTRACTOR SHALL CONFORM TO ALL CITY, COUNTY, STATE AND FEDERAL DUST CONTROL MEASURES AND REQUIREMENTS AND WILL BE RESPONSIBLE FOR PREPARING AND OBTAINING ALL NECESSARY APPLICATIONS AND APPROVALS.
4. THE CONTRACTOR SHALL ENSURE THAT NO SOIL ERODES FROM THE LOTS INTO PUBLIC RIGHT–OF–WAY. THIS CAN BE ACHIEVED BY CONSTRUCTING TEMPORARY BERMS AND WETTING THE SOIL TO KEEP IT FROM BLOWING
5. THE EARTHWORK CONTRACTOR SHALL STOCKPILE ENOUGH MATERIAL ADJACENT TO RETAINING WALL LOCATIONS TO BE UTILIZED FOR WALL BACKFILL.
6. NO WORK ALLOWED IN THE PUBLIC RIGHT OF WAY WITHOUT AN APPROVED WORK ORDER.

LEGEND

- RETAINING WALL
- DRAINAGE SWALE
- 54.90 — SPOT ELEVATION
- HI 61.00 (EX) LO 53.60 — HIGH SIDE, LOW SIDE OF RETAINING WALL SPOT
- TC54.78 TA54.28 — TOP OF CURB, TOP OF ASPHALT SPOT
- FRENCH DRAIN –SEE DETAIL
- 4" MINUS CLEAN GRAVEL
- 12" SIDEWALK CULVERT PER COA STD DWG 2236
- WATER BLOCK (1")

KEY NOTES

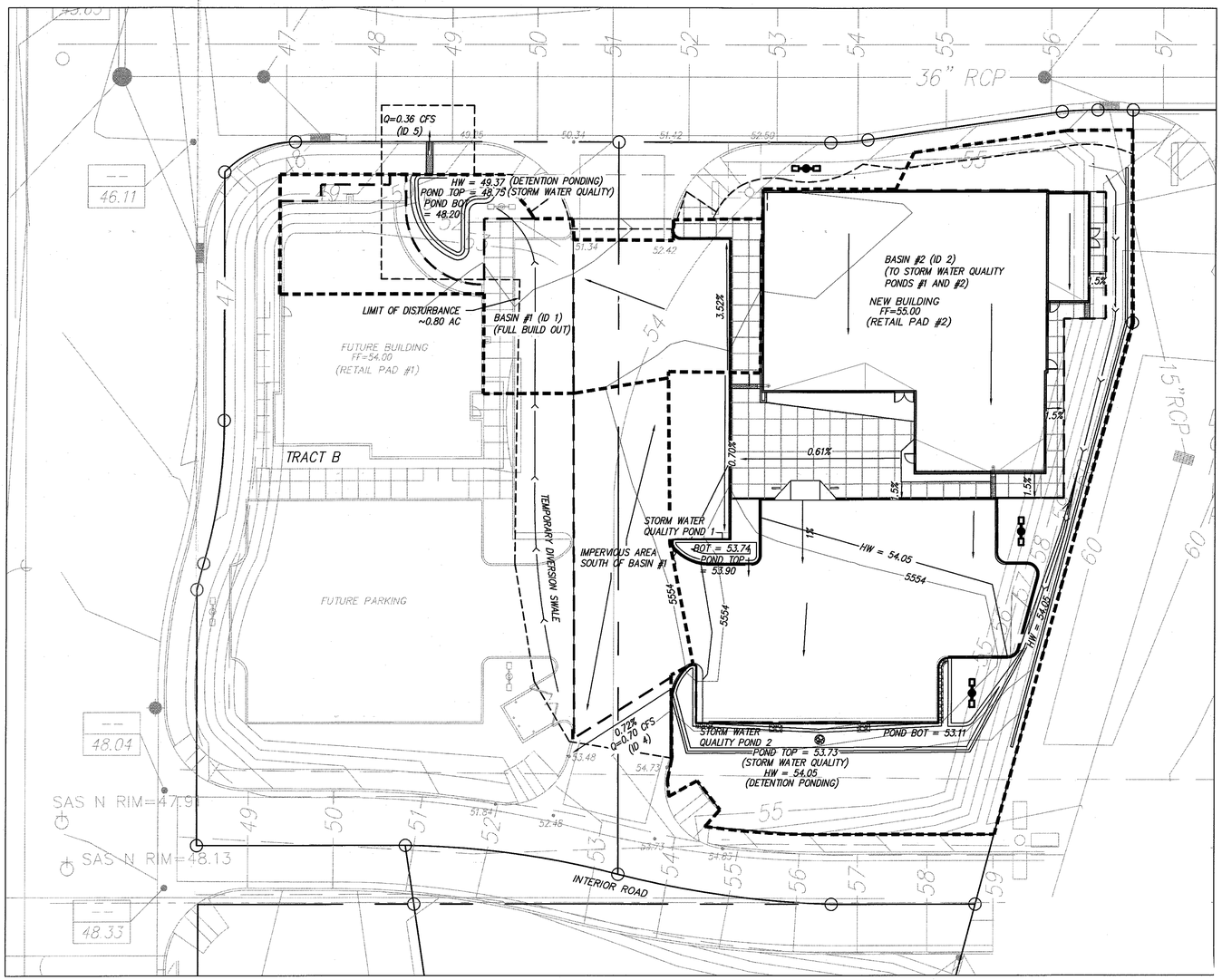
1. HEADER CURB PER COA STD DWG 2415B
2. MEDIAN CURB & GUTTER PER COA STD DWG 2415B
3. SIDEWALK CULVERT PER COA STD DWG 2236

D. MARK GOODWIN NEW MEXICO 8948 LICENSED PROFESSIONAL ENGINEER
7/24/19

SWIM LABS
GRADING & DRAINAGE PLAN

MARK GOODWIN & ASSOCIATES, P.A.
CONSULTING ENGINEERS
P.O. BOX 90606
ALBUQUERQUE, NEW MEXICO 87199
(505)828–2200, FAX (505)797–9539

Designed: CP/DMG	Drawn: CP	Checked: DMG	Sheet C1
Scale: 1" = 20'	Date: 7/24/2019	Job: A19003	



TRACT B:

STORM WATER QUALITY POND

Proposed Impervious Area (SF)	6074
Storm Water Quality retention depth (inches):	0.34
Required Storm Water Quality Volume (CF):	172

Proposed Storm Water Quality Retention Capacity:

Temporary Retention Pond	
Depth (FT):	**0.55**
Bottom (SF)	276
Top (SF)	354
Volume (CF)	173

STORM WATER QUALITY:

RECENT STORM WATER QUALITY REQUIREMENTS OF THE CITY OF ALBUQUERQUE RESULT IN CAPTURE OF 0.34 INCHES OF RAINFALL OVER IMPERVIOUS SURFACES.

THE REQUIRED STORM WATER QUALITY VOLUME IS FULLY CAPTURED WITHIN THE TRACT B STORM WATER QUALITY NORTH POND, AND THE TWO TRACT C STORM WATER QUALITY PONDS. ON TRACT C, WATER SHED FLOWS TO STORM WATER QUALITY POND #1 AND OVERFLOWS TO THE SIGNIFICANTLY LARGER STORM WATER QUALITY SOUTH POND #2.

THE FRENCH DRAIN IS A FEATURE OF THE DESIGN TO HASTEN INFILTRATION WITHIN TRACT C STORM WATER QUALITY SOUTH POND #2 WHEN RUNOFF IS CAPTURED FROM STORM EVENTS.

THE STORM WATER QUALITY PONDS ARE TO BE PERMANENT WITH THIS DEVELOPMENT. THE CONTRIBUTING BASIN OF IMPERVIOUS AREA TO TRACT B STORM WATER QUALITY POND OCCUPIES PORTIONS OF BOTH TRACT B AND TRACT C.

TRACT C:

PONDS 1 AND 2

Proposed Impervious Area (SF)	17101
Storm Water Quality retention depth (inches):	0.34
Required Storm Water Quality Volume (CF):	485

POND 1	
Depth (FT):	**0.16**
Bottom (SF)	24
Top (SF)	121
Volume (CF)	12

POND 2	
Depth (FT):	**0.62**
Bottom (SF)	619
Top (SF)	926
Volume (CF)	479

Total Storm Water Quality Capture (CF) (Ponds 1 and 2)	491

DRAINAGE REPORT

THE SITE IS WITHIN THE FURRS PASEO DEL NORTE PROJECT (ADDENDUM STAMP DATE 11/27/00, GREGORY JAMES KRENIK, D. MARK GOODWIN & ASSOCIATES). THE FURRS PASEO DEL NORTE PROJECT HAS FOUR BASINS. BASIN IX INCLUDES RETAIL PAD #1 AND RETAIL PAD #2. THIS PROJECT (SWIM LABS) IS RETAIL PAD #2. THE FURRS PASEO PROJECT INCLUDES A STORM DRAIN SYSTEM TO THE EAST THAT PONDS AND CONVEYS FLOWS INTO THE STORM DRAIN SYSTEM IN HOLLY AVENUE, THEREBY DIVERTING THE OFFSITE FLOW FROM THE EAST. THE SUBJECT SITE IS BOUNDED BY 8" CURBED ROADWAYS WITH STEEP SLOPES TO THE WEST ON THE NORTH AND SOUTH SIDES.

THE FURRS PASEO PROJECT ALLOCATES 0.93 CFS FOR PAD #2 AND 0.93 CFS FOR PAD #1 (WEST OF PAD #2) OF ALLOWABLE DISCHARGE. BOTH PROPERTIES (RETAIL PAD #1 AND #2) INCLUDE A PORTION OF THE INTERIOR ROAD WHICH IS INCLUDED IN BASIN II AND IS NOT INCLUDED IN THE ALLOWABLE DISCHARGE OF EACH PAD.

THE PROPOSED DESIGN FOR RETAIL PAD #2 INCLUDES CAPTURE OF 0.34" ON IMPERVIOUS AREAS TO MEET STORM WATER QUALITY REQUIREMENTS. AS SUCH THE POND ON THE SOUTH PORTION OF THE SITE RETAINS THIS VOLUME REQUIREMENT FROM ELEVATION 53.11' TO 53.73'. FROM ELEVATION 53.73' TO 54.05', THE POND FUNCTIONS AS A DETENTION POND DURING THE 100YR, 6HR STORM WITH A PEAK DISCHARGE OF 0.70 CFS. DISCHARGE BEGINS AFTER STORM WATER QUALITY CAPTURE AT ELEVATION 53.73' THROUGH A 9" WIDE CURB OPENING AT THE WEST END OF POND #2. THE DISHCHARGE FLOWS INTO THE INTERIOR ROAD (SOUTH OF SUBJECT SITE) THEN INTO VENTURA AVENUE. THE FURRS PASEO PROJECT EVALUATES A CAPACITY OF 35.2 CFS OF VENTURA AND A FLOW OF 24.54 CFS WITH FLOW RETAINED ON RETAIL PADS #1 AND #2. DISCHARGE OF 0.70 CFS INTO THE INTERIOR ROAD WILL ADD TO THE 24.54 FOR TOTAL OF 25.24 CFS OF 35.2 CFS CAPACITY IN VENTURA.

AS A PORTION OF RETAIL PAD #2 DRAINS TO RETAIL PAD #1 (BASIN #1 EAST OF THE PROPERTY LINE); THE DIFFERENCE IN ALLOWABLE DISHARGE IS RE-ALLOCATED TO PAD #1 YIELDING APPROXIMATELY 1.16 CFS TOTAL (0.93+0.93-0.70).

THE PROPOSED DESIGN FOR RETAIL PAD #1 WILL INCLUDE CAPTURE OF 0.34" ON IMPERVIOUS AREAS TO MEET STORM WATER QUALITY REQUIREMENTS. IN THE TEMPORARY STATE, BEFORE RETAIL PAD #1 (TRACT B) IS DEVELOPED, THE NORTH POND WILL RECEIVE RUNOFF FROM IMPERVIOUS SURFACES FROM THE EAST PORTION OF BASIN #1 AND FROM THE SOUTH SIDE OF BASIN #1 AS DELINIATED. THE RUNOFF WILL BE DIVERTED TO THE NORTH POND VIA A TEMPORARY DIVERSION SWALE AS INDICATED. THE TEMPORARY IMPERVIOUS TRIBUTARY TO THE NORTH POND IS APPROXIMATELY 6074 SF. ONCE TRACT B IS DEVELOPED, THE PORTION SOUTH OF BASIN #1 OF IMPERVIOUS AREA WILL BE ACCOMODATED BY ANOTHER POND IN THE SOUTHWEST CORNER OF TRACT B; HOWEVER, NEW IMPERVIOUS SURFACES WITHIN TRACT B WILL SHED TO THE NORTH POND. UNDER FULL DEVELOPEMENT (RETAIL PAD #1 AND RETAIL PAD #2), THE IMPERVIOUS TRIBUTARY TO THE NORTH STORM WATER QUALITY POND IS ANTICIPATED TO BE APPROXIMATELY 5547 SF.

THE NORTH POND RETAINS THE STORM WATER QUALITY VOLUME REQUIREMENT OF 6074 SF FROM ELEVATION 48.20' TO 48.75'. FROM ELEVATION 48.75' TO 49.37', THE NORTH POND FUNCTIONS AS A DETENTION POND DURING THE 100YR, 6HR STORM WITH A PEAK DISCHARGE OF 0.36 CFS. DISCHARGE BEGINS AFTER STORM WATER QUALITY CAPTURE AT ELEVATION 48.75' THROUGH A 1-11/16" WIDE OPENING INTO THE SIDEWALK CULVERT, INTO HOLLY AVENUE. AS THE NORTH DETENTION POND IS CONSTRUCTED IN ANTICIPATION OF A 100 YR EVENT, THE DETENTION POND DESIGN IS FOR FULL BUILD OUT CONDITIONS INSTEAD OF THE TEMPORARY STATE ABOVE ELEVATION 48.75.

RAINFALL WAS TAKEN FROM NOAA ATLAS 14 DATA AT THE LOCATION OF THE SITE. THE RAINFALL WAS MITIGATED BY 0.34" (STORM WATER QUALITY CAPTURE) FOR INPUT INTO AHYMO. THE DISCHARGE TABLES ARE BASED ON A 0.14' WIDE WEIR FOR THE TRACT B NORTH DETENTION POND AND A 0.75' WIDE WEIR FOR THE TRACT C SOUTH DETENTION POND. THE WEIR COEFFICIENT FOR BOTH WERS WAS 2.6.

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□(s16.66H
  AHYMO PROGRAM SUMMARY TABLE (AHYMO-S4)                    - Ver. S4.01a, Rel: 01a      RUN DATE (MON/DAY/YR) =07/24/2019
  INPUT FILE = 19\A19003 - Ventura Swim Labs\Drainage\ahymo_SwimLabs_Pad2_TOPDETEN-C_IN.txt USER NO.= M-GoodwinNMSiteA90075759

                                FROM  TO                  PEAK      RUNOFF                TIME TO   CFS       PAGE =   1
                HYDROGRAPH      ID    ID        AREA      DISCHARGE  VOLUME     RUNOFF     PEAK      PER
  COMMAND       IDENTIFICATION  NO.   NO.     (SQ MI)     (CFS)     (AC-FT)   (INCHES)   (HOURS)   ACRE     NOTATION

  START                                                                                              TIME=     0.00
  LOCATION                      ALBUQUERQUE
  *S SWIM LABS 19003
  *S ONSITE PAD 2
  *S By Cory Pierce
  RAINFALL  TYPE= 1 NOAA 14                                                                          RAIN6=    2.110
  SEDIMENT BULK                                                                                      PK BF =    1.06
  *S BASIN #2 (Pad #2_South Detention Pond)
  COMPUTE NM HYD      202.00    -    2      0.00086      1.69      0.069     1.51448    1.530    3.079 PER IMP=  70.00
  ROUTE RESERVOIR     POND.OT   2    4      0.00086      0.70      0.097     2.12559    1.740    1.276 AC-FT=    0.028
  *S BASIN #1 (Pad #1_North Detention Pond)
  COMPUTE NM HYD      203.00    -    1      0.00023      0.52      0.021     1.73940    1.530    3.519 PER IMP=  85.00
  ROUTE RESERVOIR     POND.OT   1    5      0.00023      0.36      0.051     4.12119    1.640    2.433 AC-FT=    0.006
  FINISH
□(s10H
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LEGAL DESCRIPTION

TRACT C BLOCK 19 NORTH ALBUQUERQUE ACRES
TRACT 3, UNIT 3
CITY OF ALBUQUERQUE
BERNALILLO COUNTY, NEW MEXICO

ACS BENCHMARK

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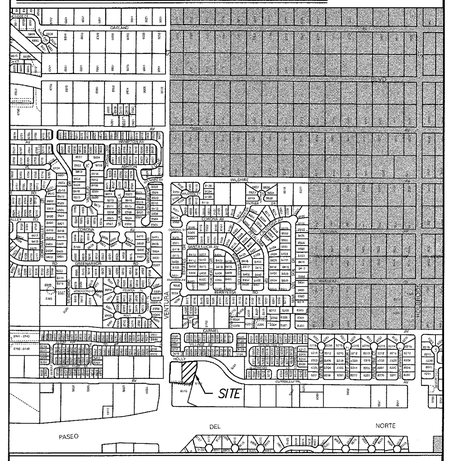
VICINITY MAP (ZONE ATLAS C-20-Z)



LEGEND (LINE TYPES)

- AHYMO BASIN DELINEATION
- IMPERVIOUS SURFACE DELINEATION

D. MARK GOODWIN NEW MEXICO 8948 REGISTERED PROFESSIONAL ENGINEER 7/24/19

SWIM LABS
GRADING & DRAINAGE PLAN

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Designed: CP/DMG	Drawn: CP	Checked: DMG	Sheet C2
Scale: 1" = 20'	Date: 7/24/2019	Job: A19003	