

CITY OF ALBUQUERQUE



November 22, 2017

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

**RE: Country Club Plaza Bldg 3
Conceptual Grading and Drainage Plan
Engineers Stamp Date: 11/17/17
Hydrology File: J13D010**

Dear Ms. Hoelzer:

Based on the information provided in your submittal received on 11/17/17, the Conceptual Grading and Drainage Plan cannot be approved for Site Plan for Building Permit until the following is addressed:

1. Demonstrate that if the pump fails, the 100-year, 10-day volume will not flood the adjacent properties. i.e.: determine this water surface elevation and show that it will either remain on the Country Club Plaza property or flow overland out to Laguna. Provide section views across the property line as required to support this.

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

Sincerely,

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

Country Club Plaza III
Drainage Management Plan

Prepared by
Mark Goodwin & Associates, P.A.

November 2017





City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Country Club Plaza - PHASE III Building Permit #: _____ City Drainage #: J13 / D010
DRB#: 1004677 EPC#: _____ Work Order#: _____
Legal Description: Remaining portion Tract B, Hunning Castle Addition, Tract A-1-A, Laguna Subdivisions Tracts A and B, lands of HB Horns and
City Address: Central and Laguna

Engineering Firm: MARK GOODWIN & ASSOCIATES, PA Contact: DIANE HOELZER, PE
Address: PO BOX 90606, ABQ, NM
Phone#: 828-2200 Fax#: _____ E-mail: DIANE@GOODWINENGINEERS.COM

Owner: COUNTRY CLUB PARTNERS, LLC Contact: JAY REMBE
Address: 117 B-RICHMOND NE, ABQ, NM 87106
Phone#: 453-7164 Fax#: _____ E-mail: REMBE@INFILLSOLUTIONS.COM

Architect: MULLEN HELLER ARCHITECTURE, PC Contact: MIKE SALVADOR
Address: 924 PARK AVE, STE B, ABQ, NM 87102
Phone#: 268-4144 Fax#: _____ E-mail: MIKE@MULLENHELLER.COM

Surveyor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Contractor: INSIGHT CONSTRUCTION / PYTHON CONSTRUCTION Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

TYPE OF SUBMITTAL:

☒ DRAINAGE REPORT
☐ DRAINAGE PLAN 1st SUBMITTAL
☐ DRAINAGE PLAN RESUBMITTAL
☒ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
☐ ENGINEER'S CERT (HYDROLOGY)
☐ CLOMR/LOMR
☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ ENGINEER'S CERT (TCL)
☐ ENGINEER'S CERT (DRB SITE PLAN)
☐ ENGINEER'S CERT (ESC)
☐ SO-19
☐ OTHER (SPECIFY) _____

CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☐ SIA/FINANCIAL GUARANTEE RELEASE
☐ PRELIMINARY PLAT APPROVAL
☐ S. DEV. PLAN FOR SUB'D APPROVAL
☒ S. DEV. FOR BLDG. PERMIT APPROVAL
☐ SECTOR PLAN APPROVAL
☐ FINAL PLAT APPROVAL
☐ CERTIFICATE OF OCCUPANCY (PERM)
☐ CERTIFICATE OF OCCUPANCY (TCL TEMP)
☐ FOUNDATION PERMIT APPROVAL
☐ BUILDING PERMIT APPROVAL
☐ GRADING PERMIT APPROVAL ☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL ☐ ESC PERMIT APPROVAL
☐ WORK ORDER APPROVAL ☐ ESC CERT. ACCEPTANCE
☐ GRADING CERTIFICATION ☐ OTHER (SPECIFY) _____

WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes _____ No _____ Copy Provided

DATE SUBMITTED: NOVEMBER 17, 2017 By: DIANE HOELZER, PE

Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based on the following:

1. **Conceptual Grading and Drainage Plan:** Required for approval of Site Development Plans greater than five (5) acres and Sector Plans
2. **Drainage Plans:** Required for building permits, grading permits, paving permits and site plans less than five (5) acres
3. **Drainage Report:** Required for subdivision containing more than ten (10) lots or constituting five (5) acres or more
4. **Erosion and Sediment Control Plan:** Required for any new development and redevelopment site with 1-acre or more of land disturbing area, including project less than 1-acre than are part of a larger common plan of development

Country Club Plaza – Phase III

Table of Contents

City Comment Letter and Engineers Response

I. PROJECT DESCRIPTION

II. DESIGN CRITERIA AND PREVIOUS REPORTS

III. EXISTING DRAINAGE CONDITIONS

IV. DEVELOPED DRAINAGE CONDITIONS

V. FIRST FLUSH PONDS

FIGURE 1 Vicinity Map

FIGURE 2 Aerial Google Earth Map

FIGURE 3 Drainage Basin Areas/First Flush Calc

TABLE 1 Pond Rating Table

TABLE 2 Summary of Pond Volumes/ WSEL for Storm Events

TABLE 3 Precipitation values

APPENDIX A

AHYMO Printouts

POCKET 1 GRADING AND DRAINAGE PLAN



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539

November 16, 2017

Dana Peterson, PE
Hydrology Division, Planning Dept.
Development and Building Services
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

**Re: Country Club Plaza III
Engineers stamp date 11-16-17 (J13 / D010)**

Dear Mr. Peterson:

In response to your July 18 comment letter,

1. Project description has been added,
2. The site has two detention ponding areas that will capture and detain onsite flows and discharge to the Laguna storm drain at a discharge rate not to exceed 1.0 cfs. The AHYMO results shows that the ponds can be drained in approximately 4 hours for the 100 year 6 hour storm event. The maximum water surface elevation was determined to be 5450.91 with about 1.0 foot of freeboard. The top of the ponds are at 5452.0'
3. There is no pond storage in the parking lot.
4. Given the surrounding existing grades it is not possible to provide for any emergency overflow spillway from either of the ponds that would lead to the public right of way. The top of the ponds are at 5452.0'. Central Avenue elevations are at +/-54.0'. The flowline elevation at Laguna Blvd. is at +/- 52.74'. It looks like the best that can be provided would be a 0% slope V-ditch leading from Pond #2 to Laguna Blvd. with an invert of 52.74 to match the flowline in Laguna Blvd.
5. This note has been added to both Conceptual Grading plan sheets,
6. All buildings are at least 1.0' above the maximum water surface elevation.
7. Okay.

Please call me if you have any questions.

Sincerely,

MARK GOODWIN & ASSOCIATES, P.A.



Diane Hoelzer, PE
Senior Engineer

DLH/dlh

f:\15007 \Country Club Plaza III\ hydro_itr_15007.docx

CITY OF ALBUQUERQUE



July 18, 2017

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

**RE: Country Club Plaza Bldg 3
Conceptual Grading and Drainage Plan
Engineers Stamp Date: 6/28/17
Hydrology File: J13D010**

Dear Ms. Hoelzer:

Based on the information provided in your submittal received on 7/5/17, the Conceptual Grading and Drainage Plan cannot be approved for Site Plan for Building Permit until the following are addressed:

1. Include a drainage narrative to support the Grading and Drainage Plan.
2. This site must provide detention ponding capable of detaining a design storm (100yr) equal to or exceeding the evacuation time, or the 10day storm.
3. If the parking area is to be used for ponding, the depth may not exceed 8" in any parking stall.
4. Provide a narrative addressing the need or lack of need for an emergency spillway.
5. Add "Not for Construction" labeling to this conceptual plan; more detail will be required prior to Building Permit.
6. Maximum water surface elevation must be calculated and all buildings (including the adjoining residential properties) should be elevated 1' above the water surface elevation.
7. Supporting calculations for hydrology and pond volume showing that the existing pond may be eliminated and replaced with this site configuration will need to be provided and reviewed prior to Hydrology's approval of the Site Plan. Details such as curbcuts, pump, and forcemain design may be deferred to Building Permit.

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

Sincerely,

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

I. PROJECT DESCRIPTION

This is the third phase of Country Club Plaza. The first phase included renovation of existing buildings and parking areas located in the NW part of the property adjacent to Central Avenue. The second phase included a new building and additional parking in the SE part of the property adjacent to Central Avenue. This phase includes the construction of a three-story commercial/ residential building with a total area of approximately 49,800 square feet.

II. DESIGN CRITERIA AND PREVIOUS DEVELOPMENT

The design criteria used in this report was in accordance with Section 22.2 Hydrology of the Development Process Manual, Volume 2, Design Criteria, January 1993 edition. The 2-yr 10-yr, 25-yr, 50-yr and 100-year 6-hour storm events were analyzed to determine the overall impact on Pond #1 that the client wants to use as a small landscaped park for the residents.

The onsite Land Treatment values were determined by measuring the total impervious area of the onsite runoff contributing to the ponds. The first flush volumes were calculated using 0.34 inches of precipitation over the new impervious areas, including roof and asphalt roads.

III. EXISTING DRAINAGE CONDITIONS

Under existing drainage conditions, the existing developed area identified as "B" drains to Central Avenue (Figure 3). The remaining area in Country Club Plaza including much of the existing pavement on the south side of the existing buildings as well as the new proposed building drains to the proposed Pond #1 or #2.

IV. DEVELOPED DRAINAGE CONDITIONS

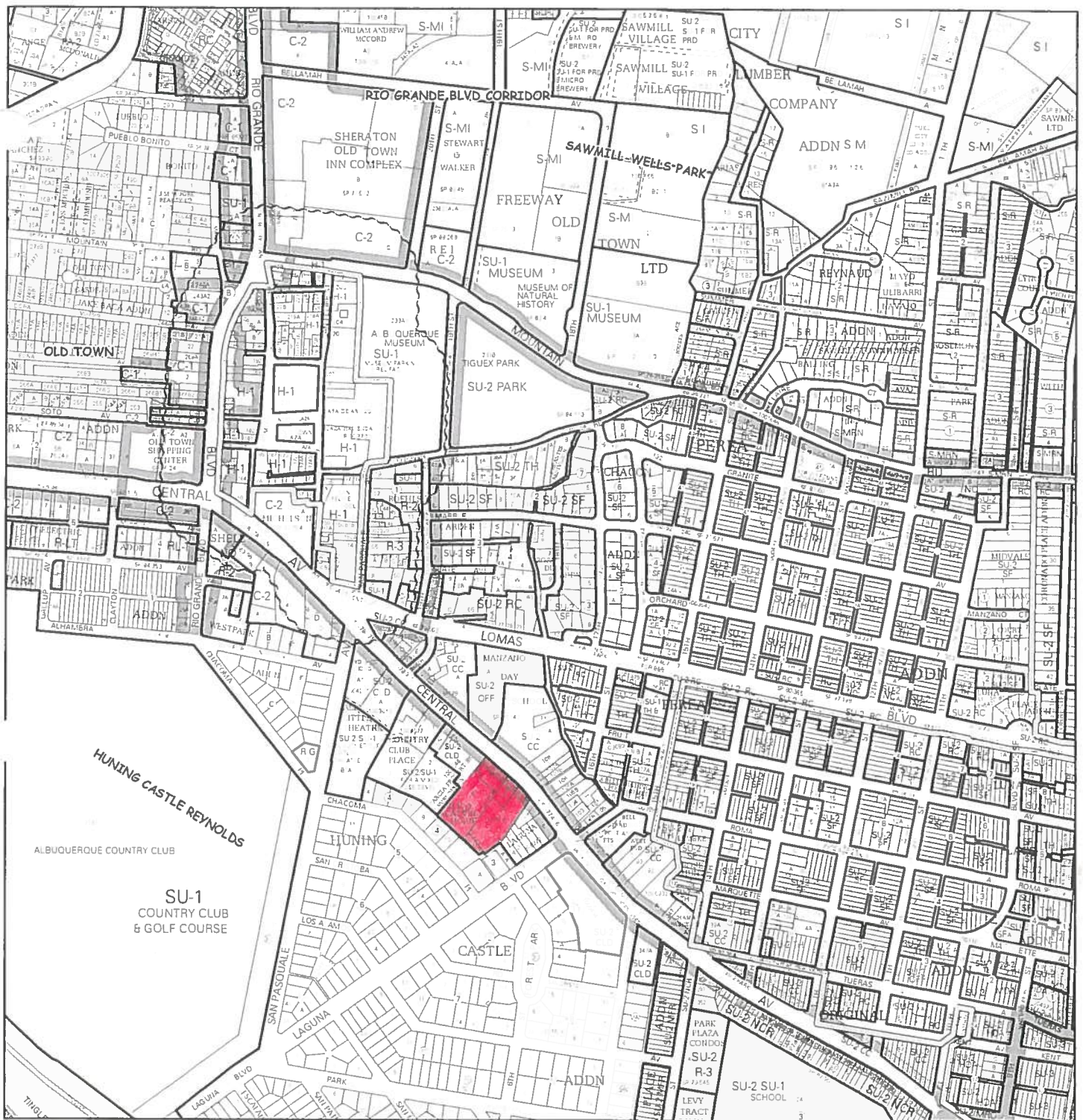
Under developed drainage conditions, runoff flows in a south to southwest direction before being intercepted through curb cuts, gravel-lined rundowns or concrete channels to either Pond #1 or Pond #2. These ponds will be inter-connected by a buried 24" pipe as shown on sheet 2. Sheet 2 shows a cross section of the top and bottom elevations of these two ponds as well as the results of the AHYMO analysis. Runoff in Pond #1 will spill through a 2' x 6' Type D inlet. Discharge values for this inlet can be found in the Appendix.

Pond #1 will discharge to the 24" pipe and be conveyed to Pond #2. Runoff in Pond #2 will spill into a wet well after a portion of the first flush volume is accounted for before being pumped at a maximum flow rate of 1.0 cfs to the existing storm drain in Laguna Blvd. The maximum flow rate was determined at the pre-design meeting held with COA hydrology staff.

AHYMO was used to route the various storm events through both ponds. A summary of the results are shown on sheet 2 and Table 2.

V. FIRST FLUSH PONDS

Refer to Figure 3 and Table 1 for calculations involving First Flush volumes.



For more current information and details visit: <http://www.cabq.gov/gis>

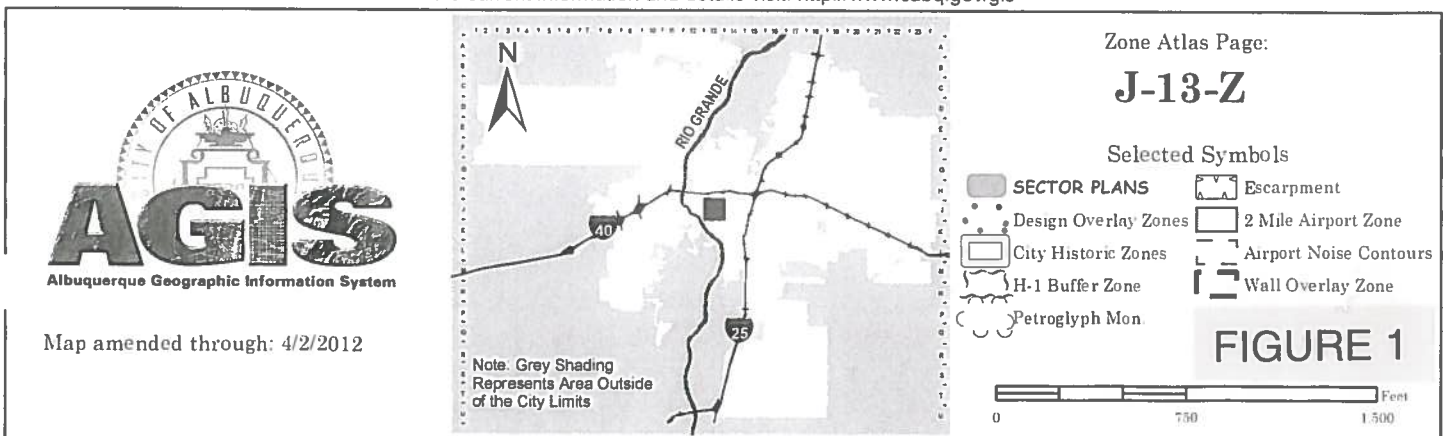
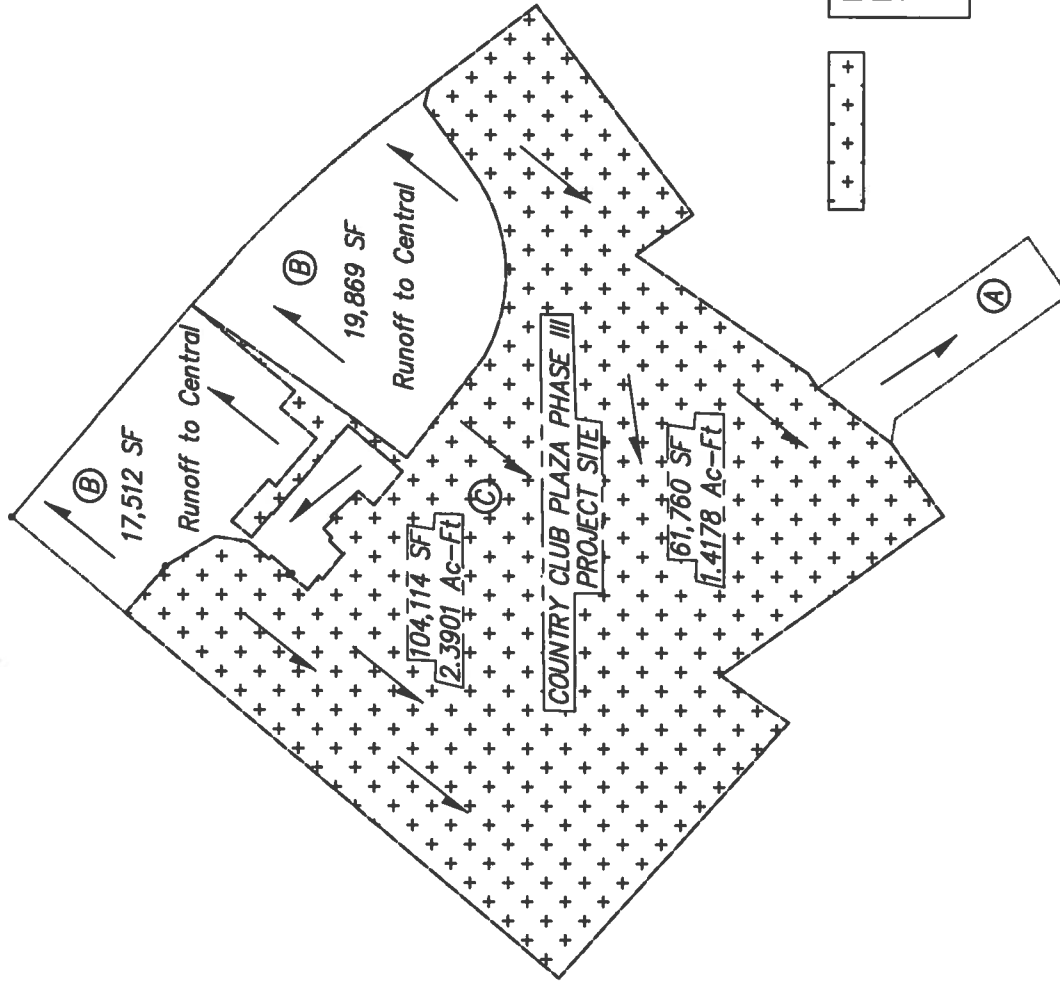




FIGURE 2



TOTAL AREA=141,495 SF
(excluding area A)

TOTAL AREA TO POND =104,114 SF

FIRST FLUSH VOLUME CALC.
First Flush Area 104,114 SF
Volume=104114x.84x(.34"/12")
= 2,478 Cu.Ft.

FIGURE 3

MARK GOODWIN & ASSOCIATES, PA
Diane Hoelzer, PE
828-2200

COUNTRY CLUB PLAZA PHASE III
DRAINAGE SUB BASIN AREAS
November 13, 2017

TABLE 1

COUNTRY CLUB PLAZA PHASE III								
POND RATING TABLE								
	POND 1		POND 2		24" PIPE			
ELEV	AREA	VOL-1	AREA	VOL-2	VOL-3	1+2+3	SUM	SUM
FT	SF	CF	SF	CF	CF	CF	CF	AcFt
52.00	2874	2812	1559	1559		4371	15391	0.35332
51.00	2750	1781	1559	1029		2810	11020	0.25298
50.34	2647	891	1559	530		1421	8210	0.18848
50.00	2596		1559	1559		1559	6789	0.15585
49.00	0		1559	1559	261	1820	5230	0.12006
48.00	0		1559	1559	261	1820	3410	0.07828
47.00	0		1559	1590		1590	1590	0.03651
45.98	0		1559	0	0	0	0	
	= FIRST FLUSH VOLUME IN POND 1 AND POND 2= 2481 CF							

TABLE 2

COUNTRY CLUB PLAZA PHASE III						
SUMMARY OF POND VOLUMES/WSEL FOR STORM EVENTS						
		2 YR	10 YR	25 YR	50 YR	100 YR
PEAK DISCHARGE	(cfs)	4.10	6.70	8.16	9.25	10.33
MAX POND VOL.	(Ac.Ft.)	0.0890	0.1623	0.2077	0.2428	0.2787
MAX. WSEL	(feet)	48.16	49.22	49.88	50.39	50.91
PEAK Q OUTFALL	(cfs)	1.00	1.00	1.00	1.00	1.00

TABLE 3

Precipitation value		2 YR	10 YR	25 YR	50 YR	100 YR
1 hours	(inches)	0.82	1.267	1.52	1.71	1.9
6 hour	(inches)	0.95	1.47	1.76	1.98	2.2
24 hour	(inches)	1.14	1.75	2.1	2.367	2.63

11/15/2017

DLH

APPENDIX A

*AHYMO printouts for
2, 10, 25, 50, 100-year 6-hour storm event*

COUNTRY CLUB PLAZA III

CONNECTING PIPE BETWEEN POND #1 AND #2.

Set units: m mm ft in				Results	
Pipe diameter, d ₀	2	ft	▼	Flow, Q	12.3899 cfs ▼
Manning roughness, n ?	.013			Velocity, v	3.9439 ft/sec ▼
Pressure slope (possibly ? equal to pipe slope), S ₀	.003	rise/run	▼	Velocity head, h _v	0.2417 ft ▼
Percent of (or ratio to) full depth (100% or 1 if flowing full)	1	fraction	▼	Flow area	3.1417 ft ² ▼
				Wetted perimeter	6.2832 ft ▼
				Hydraulic radius	0.5000 ft ▼
				Top width, T	0.0000 ft ▼
				Froude number, F	0.00
				Shear stress (tractive force), tau	0.3746 psf ▼



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

P.O. BOX 90606, ALBUQUERQUE, NM 87199
(505) 828-2200 FAX 797-9539

PROJECT Country Club Plaza
SUBJECT Hydrology Calcs
BY D.H. DATE 11-16-17
CHECKED _____ DATE _____
SHEET _____ OF _____

POND 1 - TYPE "D" INLET

Grate = 2'x6'

$$L = 16 \approx 14'$$

$$Q = 10,33 \text{ cfs (max)}$$

$$Q = LCH^{3/2}$$

$$10,33 = (14)(3)(H)^{3/2} \therefore H = 0.4'$$

AHYMO PROGRAM (AHYMO-S4)
- Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 11/15/2017
START TIME (HR:MIN:SEC) = 16:25:17
INPUT FILE = C:\Program Files (x86)\AHYMO-S4\CCLUB100.DAT
USER NO.= M-GoodwinNMSiteA90075759

*S
*S COUNTRY CLUB PLAZA UNIT 3
*S 100 YEAR 6 HOUR STORM EVENT
*S
*S FILE: CCLUB100.DAT
*S
*S LAST REVISED: 11-15-17
*S NOAA ATLAS 2, VOL IV ZONE J 13
*S
*S TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
*S
*S NEW MEXICO

State of New Mexico 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

RAINFALL TYPE=1 RAIN QUARTER=0.0

RAIN ONE=1.90 IN RAIN SIX=2.20 IN
RAIN DAY=2.63 IN DT=0.0333 HRS

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.033300 HOURS END TIME = 5.994000 HOURS

*S COUNTRY CLUB SOUTH BUILDING
*S FLOW TO SOUTH AND TO LAGUNA

*** AREA = 104,114 SF
*** 2.46 ACRES

COMPUTE NM HYD

ID=1 HYD NO=100 AREA= 0.003735 SQ MI
PER A=0 PER B=6 PER C=10 PER D=84
TP=-.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 12.387 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = 1.9000
AREA = 0.003137 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

K = 0.115413HR TP = 0.133300HR K/TP RATIO = 0.865817 SHAPE CONSTANT, N = 4.104785
UNIT PEAK = 1.6233 CFS UNIT VOLUME = 0.9922 B = 362.10 P60 = 1.9000
AREA = 0.000598 SQ MI IA = 0.40625 INCHES INF = 0.98750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.00

RUNOFF VOLUME = 1.80438 INCHES = 0.3594 ACRE-FEET
PEAK DISCHARGE RATE = 10.33 CFS AT 1.532 HOURS BASIN AREA = 0.0037 SQ. MI.

*S*****
 *S*****
 S ROUTE THRU PARK POND 1 AND POND 2 AND 24" PIPE
 *S
 S POND #1 FIRST FLUSH DEPTH AT 50.34 VOLUME=891 CF
 *S
 S POND #2 FIRST FLUSH DEPTH AT 47.00 VOLUME=1590 CF
 *S
 S TOTAL FIRST FLUSH VOLUME=2481 CF (REQD = 2476 CF)
 *S*****
 ROUTE RESERVOIR
 ID=12 HYD=POND.12 INFLOW=1 CODE=50
 OUTFLOW(CFS) STORAGE(ACFT) ELEV(FT)
 0.00 0.000000 45.98
 0.01 0.056956 47.00
 1.00 0.07828 48.00
 1.01 0.35332 52.00

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	45.98	0.000	0.00
0.80	0.00	45.98	0.000	0.00
1.60	8.36	49.58	0.187	1.00
2.40	0.33	50.75	0.267	1.01
3.20	0.01	49.87	0.207	1.00
4.00	0.01	48.91	0.141	1.00
4.80	0.02	47.90	0.076	0.90
5.59	0.03	47.06	0.058	0.07
6.39	0.00	47.01	0.057	0.02
7.19	0.00	46.99	0.056	0.01
7.99	0.00	46.98	0.056	0.01
8.79	0.00	46.97	0.055	0.01
9.59	0.00	46.96	0.055	0.01
10.39	0.00	46.95	0.054	0.01
11.19	0.00	46.93	0.053	0.01
11.99	0.00	46.92	0.053	0.01
12.79	0.00	46.91	0.052	0.01
13.59	0.00	46.90	0.051	0.01
14.39	0.00	46.89	0.051	0.01
15.18	0.00	46.88	0.050	0.01
15.98	0.00	46.87	0.050	0.01
16.78	0.00	46.86	0.049	0.01
17.58	0.00	46.85	0.049	0.01
18.38	0.00	46.84	0.048	0.01
19.18	0.00	46.83	0.047	0.01
19.98	0.00	46.82	0.047	0.01
20.78	0.00	46.81	0.046	0.01
21.58	0.00	46.80	0.046	0.01
22.38	0.00	46.79	0.045	0.01
23.18	0.00	46.78	0.045	0.01
23.98	0.00	46.77	0.044	0.01
24.78	0.00	46.76	0.044	0.01
25.57	0.00	46.75	0.043	0.01
26.37	0.00	46.75	0.043	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
27.17	0.00	46.74	0.042	0.01
27.97	0.00	46.73	0.042	0.01
28.77	0.00	46.72	0.041	0.01
29.57	0.00	46.71	0.041	0.01
30.37	0.00	46.70	0.040	0.01
31.17	0.00	46.69	0.040	0.01
31.97	0.00	46.69	0.039	0.01
32.77	0.00	46.68	0.039	0.01
33.57	0.00	46.67	0.039	0.01
34.37	0.00	46.66	0.038	0.01
35.16	0.00	46.65	0.038	0.01
35.96	0.00	46.65	0.037	0.01
36.76	0.00	46.64	0.037	0.01
37.56	0.00	46.63	0.036	0.01
38.36	0.00	46.62	0.036	0.01
39.16	0.00	46.62	0.036	0.01
39.96	0.00	46.61	0.035	0.01
40.76	0.00	46.60	0.035	0.01
41.56	0.00	46.59	0.034	0.01
42.36	0.00	46.59	0.034	0.01
43.16	0.00	46.58	0.034	0.01
43.96	0.00	46.57	0.033	0.01

PEAK DISCHARGE = 1.007 CFS - PEAK OCCURS AT HOUR 2.06
 MAXIMUM WATER SURFACE ELEVATION = 50.914
 MAXIMUM STORAGE = 0.2787 AC-FT INCREMENTAL TIME= 0.033300HRS

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 16:25:17

AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 11/15/2017
START TIME (HR:MIN:SEC) = 15:48:19 USER NO.= M-GoodwinMMSiteA90075759
INPUT FILE = C:\Program Files (x86)\AHYMO-S4\CCLUB50.DAT

*S*****

*S
*S COUNTRY CLUB PLAZA UNIT 3
*S 50 YEAR 6 HOUR STORM EVENT
*S

*S FILE: CCLUB50.DAT
*S LAST REVISED: 11-15-17
*S NOAA ATLAS 2, VOL IV ZONE J 13
*S TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
*S

LOCATION NEW MEXICO
State of New Mexico 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

RAINFALL

TYPE=1 RAIN QUARTER=0.0

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RAIN DAY=2.367 IN DT=0.0333 HRS

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

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ID=1 HYD NO=100 AREA= 0.003735 SQ MI

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TP=-.1333 HR MASS RAIN=-1

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

UNIT PEAK = 12.387 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = 1.7100

AREA = 0.003137 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

K = 0.115216HR TP = 0.133300HR K/TP RATIO = 0.864339 SHAPE CONSTANT, N = 4.112381

UNIT PEAK = 1.6256 CFS UNIT VOLUME = 0.9922 B = 362.59 P60 = 1.7100

AREA = 0.000598 SQ MI IA = 0.40625 INCHES INF = 0.98750 INCHES PER HOUR

RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.00

RUNOFF VOLUME = 1.59537 INCHES = 0.3178 ACRE-Feet
PEAK DISCHARGE RATE = 9.25 CFS AT 1.532 HOURS BASIN AREA = 0.0037 SQ. MI.

*S*****
*S*****
S ROUTE THRU PARK POND 1 AND POND 2 AND 24" PIPE
*S
S POND #1 FIRST FLUSH DEPTH AT 50.34 VOLUME=891 CF
*S
S POND #2 FIRST FLUSH DEPTH AT 47.00 VOLUME=1590 CF
*S
S TOTAL FIRST FLUSH VOLUME=2481 CF (REQD = 2476 CF)
*S*****

ROUTE RESERVOIR
ID=12 HYD=POND.12 INFLOW=1 CODE=50
OUTFLOW(CFS) STORAGE(ACFT) ELEV(FT)
0.00 0.000000 45.98
0.01 0.056956 47.00
1.00 0.07828 48.00
1.01 0.35332 52.00

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	45.98	0.000	0.00
0.80	0.00	45.98	0.000	0.00
1.60	7.48	49.27	0.165	1.00
2.40	0.29	50.20	0.229	1.01
3.20	0.00	49.30	0.168	1.00
4.00	0.00	48.34	0.102	1.00
4.80	0.02	47.14	0.060	0.15
5.59	0.03	47.02	0.057	0.03
6.39	0.00	47.01	0.057	0.02
7.19	0.00	46.99	0.056	0.01
7.99	0.00	46.98	0.056	0.01
8.79	0.00	46.97	0.055	0.01
9.59	0.00	46.96	0.055	0.01
10.39	0.00	46.94	0.054	0.01
11.19	0.00	46.93	0.053	0.01
11.99	0.00	46.92	0.053	0.01
12.79	0.00	46.91	0.052	0.01
13.59	0.00	46.90	0.051	0.01
14.39	0.00	46.89	0.051	0.01
15.18	0.00	46.88	0.050	0.01
15.98	0.00	46.87	0.050	0.01
16.78	0.00	46.86	0.049	0.01
17.58	0.00	46.85	0.049	0.01
18.38	0.00	46.84	0.048	0.01
19.18	0.00	46.83	0.047	0.01
19.98	0.00	46.82	0.047	0.01
20.78	0.00	46.81	0.046	0.01
21.58	0.00	46.80	0.046	0.01
22.38	0.00	46.79	0.045	0.01
23.18	0.00	46.78	0.045	0.01
23.98	0.00	46.77	0.044	0.01
24.78	0.00	46.76	0.044	0.01
25.57	0.00	46.75	0.043	0.01
26.37	0.00	46.75	0.043	0.01

27.17	0.00	46.74	0.042	0.01
27.97	0.00	46.73	0.042	0.01
28.77	0.00	46.72	0.041	0.01
29.57	0.00	46.71	0.041	0.01
30.37	0.00	46.70	0.040	0.01
31.17	0.00	46.69	0.040	0.01
31.97	0.00	46.69	0.039	0.01
32.77	0.00	46.68	0.039	0.01
33.57	0.00	46.67	0.038	0.01
34.37	0.00	46.66	0.038	0.01
35.16	0.00	46.65	0.038	0.01
35.96	0.00	46.65	0.037	0.01
36.76	0.00	46.64	0.037	0.01
37.56	0.00	46.63	0.036	0.01
38.36	0.00	46.62	0.036	0.01
39.16	0.00	46.62	0.035	0.01
39.96	0.00	46.61	0.035	0.01
40.76	0.00	46.60	0.035	0.01
41.56	0.00	46.59	0.034	0.01
42.36	0.00	46.59	0.034	0.01
43.16	0.00	46.58	0.033	0.01
43.96	0.00	46.57	0.033	0.01

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
44.76	0.00	46.57	0.033	0.01
45.55	0.00	46.56	0.032	0.01
46.35	0.00	46.55	0.032	0.01
47.15	0.00	46.55	0.032	0.01
47.95	0.00	46.54	0.031	0.01
48.75	0.00	46.53	0.031	0.01
49.55	0.00	46.53	0.031	0.01
50.35	0.00	46.52	0.030	0.01
51.15	0.00	46.51	0.030	0.01
51.95	0.00	46.51	0.029	0.01
52.75	0.00	46.50	0.029	0.01
53.55	0.00	46.50	0.029	0.01
54.35	0.00	46.49	0.028	0.00

PEAK DISCHARGE =	1.006 CFS	- PEAK OCCURS AT HOUR	2.06
MAXIMUM WATER SURFACE ELEVATION =	50.392		
MAXIMUM STORAGE =	0.2428 AC-FT	INCREMENTAL TIME=	0.033300HRS

FINISH

NORMAL PROGRAM FINISH

END TIME (HR:MIN:SEC) = 15:48:19

AHYMO PROGRAM (AHYMO-S4)
- Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 11/15/2017
START TIME (HR:MIN:SEC) = 15:46:11
INPUT FILE = C:\Program Files (x86)\AHYMO-S4\CCLUB25.DAT
USER NO = M-GoodwinNMSiteA90075759

*S
*S COUNTRY CLUB PLAZA UNIT 3
*S 25 YEAR 6 HOUR STORM EVENT
*S
*S FILE: CCLUB25.DAT
*S
*S LAST REVISED: 11-15-17
*S NOAA ATLAS 2, VOL IV ZONE J 13
*S
*S TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
*S
*S NEW MEXICO

State of New Mexico 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

RAINFALL TYPE=1 RAIN QUARTER=0.0
RAIN ONE=1.52 IN RAIN SIX=1.76 IN
RAIN DAY=2.10 IN DT=0.0333 HRS
6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.033300 HOURS END TIME = 5.994000 HOURS

*S COUNTRY CLUB SOUTH BUILDING
*S FLOW TO SOUTH AND TO LAGUNA

*** AREA = 104,114 SF
*** 2.46 ACRES

COMPUTE NM HYD ID=1 HYD NO=100 AREA= 0.003735 SQ MI
PER A=0 PER B=6 PER C=10 PER D=84
TP=-.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 12.387 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = 1.5200
AREA = 0.003137 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

K = 0.117257HR TP = 0.133300HR K/TP RATIO = 0.879646 SHAPE CONSTANT, N = 4.035276
UNIT PEAK = 1.6028 CFS UNIT VOLUME = 0.9917 B = 357.51 P60 = 1.5200
AREA = 0.000598 SQ MI IA = 0.40625 INCHES INF = 0.98750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

PRINT HYD ID=1 CODE=1

PARTIAL HYDROGRAPH 100.00

RUNOFF VOLUME = 1.38869 INCHES = 0.2766 ACRE-FEET
PEAK DISCHARGE RATE = 8.16 CFS AT 1.532 HOURS BASIN AREA = 0.0037 SQ. MI.

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*****
**S** ROUTE THRU PARK POND 1 AND POND 2 AND 24" PIPE
**S
**S** POND #1 FIRST FLUSH DEPTH AT 50.34 VOLUME=891 CF
**S
**S** POND #2 FIRST FLUSH DEPTH AT 47.00 VOLUME=1590 CF
**S
**S** TOTAL FIRST FLUSH VOLUME=2481 CF (REQD = 2476 CF)
*****
ROUTE RESERVOIR      ID=12 HYD=POND.12  INFLOW=1  CODE=50
OUTFLOW(CFS)          STORAGE  STORAG(ACFT)  ELEV(FT)
0.00                  0.000000  47.00      45.98
0.01                  0.056956  47.00      48.00
1.00                  0.07828   52.00
1.01                  0.35332
*****

```


27.17	0.00	46.74	0.042	0.01
27.97	0.00	46.73	0.042	0.01
28.77	0.00	46.72	0.041	0.01
29.57	0.00	46.71	0.041	0.01
30.37	0.00	46.70	0.040	0.01
31.17	0.00	46.69	0.040	0.01
31.97	0.00	46.69	0.039	0.01
32.77	0.00	46.68	0.039	0.01
33.57	0.00	46.67	0.038	0.01
34.37	0.00	46.66	0.038	0.01
35.16	0.00	46.65	0.038	0.01
35.96	0.00	46.65	0.037	0.01
36.76	0.00	46.64	0.037	0.01
37.56	0.00	46.63	0.036	0.01
38.36	0.00	46.62	0.036	0.01
39.16	0.00	46.62	0.035	0.01
39.96	0.00	46.61	0.035	0.01
40.76	0.00	46.60	0.035	0.01
41.56	0.00	46.59	0.034	0.01
42.36	0.00	46.59	0.034	0.01
43.16	0.00	46.58	0.033	0.01
43.96	0.00	46.57	0.033	0.01

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

44.76	0.00	46.57	0.033	0.01
45.55	0.00	46.56	0.032	0.01
46.35	0.00	46.55	0.032	0.01
47.15	0.00	46.55	0.032	0.01
47.95	0.00	46.54	0.031	0.01
48.75	0.00	46.53	0.031	0.01
49.55	0.00	46.53	0.031	0.01
50.35	0.00	46.52	0.030	0.01
51.15	0.00	46.51	0.030	0.01
51.95	0.00	46.51	0.029	0.01
52.75	0.00	46.50	0.029	0.01
53.55	0.00	46.50	0.029	0.01
54.35	0.00	46.49	0.028	0.00

PEAK DISCHARGE = 1.005 CFS - PEAK OCCURS AT HOUR 2.03
 MAXIMUM WATER SURFACE ELEVATION = 49.883
 MAXIMUM STORAGE = 0.2077 AC-FT INCREMENTAL TIME= 0.033300HRS

FINISH

NORMAL PROGRAM FINISH END TIME (HR:MIN:SEC) = 15:46:11

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AHYMO PROGRAM (AHYMO-S4) - Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 11/15/2017
START TIME (HR:MIN:SEC) = 16:34:26 USER NO.= M-GoodwinMMSiteA90075759
INPUT FILE = C:\Program Files (x86)\AHYMO-S4\CCLUB10.DAT

**S*****
**S COUNTRY CLUB PLAZA UNIT 3
**S 10 YEAR 6 HOUR STORM EVENT
**S
**S FILE: CCLUB10.DAT
**S LAST REVISED: 11-15-17
**S NOAA ATLAS 2, VOL IV ZONE J 13
**S TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
START NEW MEXICO
LOCATION
State of New Mexico 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

RAINFALL
TYPE=1 RAIN QUARTER=0.0
RAIN ONE=1.267 IN RAIN SIX=1.47 IN
RAIN DAY=1.75 IN DT=0.0333 HRS

6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.033300 HOURS END TIME = 5.994000 HOURS
**S*****
*** *****
**S COUNTRY CLUB SOUTH BUILDING
**S FLOW TO SOUTH AND TO LAGUNA
*** *****
*** AREA = 104,114 SF
*** 2.46 ACRES
*** *****
COMPUTE NM HYD ID=1 HYD NO=100 AREA= 0.003735 SQ MI
PER A=0 PER B=6 PER C=10 PER D=84
TP=-.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 12.387 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = 1.2670
AREA = 0.003137 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

K = 0.120505HR TP = 0.133300HR K/TP RATIO = 0.904010 SHAPE CONSTANT, N = 3.919162
UNIT PEAK = 1.5680 CFS UNIT VOLUME = 0.9917 B = 349.75 P60 = 1.2670
AREA = 0.000598 SQ MI IA = 0.40625 INCHES INF = 0.98750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

PRINT HYD ID=1 CODE=1
PARTIAL HYDROGRAPH 100.00

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RUNOFF VOLUME = 1.12186 INCHES = 0.2235 ACRE-FEET
PEAK DISCHARGE RATE = 6.70 CFS AT 1.532 HOURS BASIN AREA = 0.0037 SQ. MI.

S ROUTE THRU PARK POND 1 AND POND 2 AND 24" PIPE
S
S POND #1 FIRST FLUSH DEPTH AT 50.34 VOLUME=891 CF
S
S POND #2 FIRST FLUSH DEPTH AT 47.00 VOLUME=1590 CF
S
S TOTAL FIRST FLUSH VOLUME=2481 CF (REQD = 2476 CF)

ROUTE RESERVOIR
ID=12 HYD=POND.12 INFLOW=1 CODE=50
OUTFLOW (CFS) STORAGE (ACFT) ELEV (FT)
0.00 0.000000 45.98
0.01 0.056956 47.00
1.00 0.07828 48.00
1.01 0.35332 52.00

* TIME (HRS)	* INFLOW (CFS)	* ELEV (FEET)	* VOLUME (AC-FT)	* OUTFLOW (CFS)	*
0.00	0.00	45.98	0.000	0.00	
0.80	0.00	45.98	0.000	0.00	
1.60	5.41	48.55	0.116	1.00	
2.40	0.19	48.95	0.144	1.00	
3.20	0.00	48.03	0.080	1.00	
4.00	0.00	47.04	0.058	0.05	
4.80	0.00	47.00	0.057	0.01	
5.59	0.02	47.00	0.057	0.01	
6.39	0.00	47.00	0.057	0.01	
7.19	0.00	46.99	0.056	0.01	
7.99	0.00	46.98	0.056	0.01	
8.79	0.00	46.97	0.055	0.01	
9.59	0.00	46.95	0.054	0.01	
10.39	0.00	46.94	0.054	0.01	
11.19	0.00	46.93	0.053	0.01	
11.99	0.00	46.92	0.053	0.01	
12.79	0.00	46.91	0.052	0.01	
13.59	0.00	46.90	0.051	0.01	
14.39	0.00	46.89	0.051	0.01	
15.18	0.00	46.88	0.050	0.01	
15.98	0.00	46.87	0.050	0.01	
16.78	0.00	46.86	0.049	0.01	
17.58	0.00	46.85	0.048	0.01	
18.38	0.00	46.84	0.048	0.01	
19.18	0.00	46.83	0.047	0.01	
19.98	0.00	46.82	0.047	0.01	
20.78	0.00	46.81	0.046	0.01	
21.58	0.00	46.80	0.046	0.01	
22.38	0.00	46.79	0.045	0.01	
23.18	0.00	46.78	0.045	0.01	

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
23.98	0.00	46.77	0.044	0.01
24.78	0.00	46.76	0.044	0.01
25.57	0.00	46.75	0.043	0.01
26.37	0.00	46.74	0.043	0.01
27.17	0.00	46.73	0.042	0.01
27.97	0.00	46.73	0.042	0.01
28.77	0.00	46.72	0.041	0.01
29.57	0.00	46.71	0.041	0.01
30.37	0.00	46.70	0.040	0.01
31.17	0.00	46.69	0.040	0.01
31.97	0.00	46.68	0.039	0.01
32.77	0.00	46.68	0.039	0.01
33.57	0.00	46.67	0.038	0.01
34.37	0.00	46.66	0.038	0.01
35.16	0.00	46.65	0.038	0.01
35.96	0.00	46.64	0.037	0.01
36.76	0.00	46.64	0.037	0.01
37.56	0.00	46.63	0.036	0.01
38.36	0.00	46.62	0.036	0.01
39.16	0.00	46.61	0.035	0.01
39.96	0.00	46.61	0.035	0.01
40.76	0.00	46.60	0.035	0.01
41.56	0.00	46.59	0.034	0.01
42.36	0.00	46.59	0.034	0.01
43.16	0.00	46.58	0.033	0.01
43.96	0.00	46.57	0.033	0.01

PEAK DISCHARGE = 1.003 CFS - PEAK OCCURS AT HOUR 2.00
 MAXIMUM WATER SURFACE ELEVATION = 49.223
 MAXIMUM STORAGE = 0.1623 AC-FT INCREMENTAL TIME= 0.033300HRS

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA POND.12

RUNOFF VOLUME = 1.07634 INCHES = 0.2144 ACRE-Feet
 PEAK DISCHARGE RATE = 1.00 CFS AT 1.998 HOURS BASIN AREA = 0.0037 SQ. MI.

AHYMO PROGRAM (AHYMO-S4)
- Version: S4.01a - Rel: 01a
RUN DATE (MON/DAY/YR) = 11/15/2017
START TIME (HR:MIN:SEC) = 15:40:57
INPUT FILE = C:\Program Files (x86)\AHYMO-S4\CCLUB2.DAT
USER NO.= M-GoodwinMNSiteA90075759

*S
*S COUNTRY CLUB PLAZA UNIT 3
*S 2 YEAR 6 HOUR STORM EVENT
*S
*S FILE: CCLUB2.DAT
*S LAST REVISED: 11-15-17
*S NOAA ATLAS 2, VOL IV ZONE J 13
*S TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
LOCATION NEW MEXICO
State of New Mexico 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

RAINFALL TYPE=1 RAIN QUARTER=0.0
RAIN ONE=0.82 IN RAIN SIX=0.95 IN
RAIN DAY=1.14 IN DT=0.0333 HRS
6-HOUR RAINFALL DIST. - BASED ON NOAA ATLAS 14 FOR CONVECTIVE AREAS (NM & AZ) - D1
DT = 0.033300 HOURS END TIME = 5.994000 HOURS

*S COUNTRY CLUB SOUTH BUILDING
*S FLOW TO SOUTH AND TO LAGUNA

*** AREA = 104,114 SF
*** 2.46 ACRES

COMPUTE NM HYD ID=1 HYD NO=100 AREA= 0.003735 SQ MI
PER A=0 PER B=6 PER C=10 PER D=84
TP=-.1333 HR MASS RAIN=-1

K = 0.072649HR TP = 0.133300HR K/TP RATIO = 0.545000 SHAPE CONSTANT, N = 7.106428
UNIT PEAK = 12.387 CFS UNIT VOLUME = 0.9984 B = 526.28 P60 = .82000
AREA = 0.003137 SQ MI IA = 0.10000 INCHES INF = 0.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

K = 0.126243HR TP = 0.133300HR K/TP RATIO = 0.947056 SHAPE CONSTANT, N = 3.732439
UNIT PEAK = 1.5105 CFS UNIT VOLUME = 0.9914 B = 336.92 P60 = .82000
AREA = 0.000598 SQ MI IA = 0.40625 INCHES INF = 0.98750 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = 0.033300

PRINT HYD ID=1 CODE=1
PARTIAL HYDROGRAPH 100.00

RUNOFF VOLUME = 0.65390 INCHES = 0.1303 ACRE-FEET
PEAK DISCHARGE RATE = 4.10 CFS AT 1.532 HOURS BASIN AREA = 0.0037 SQ. MI.

*S*****
*S*****

S ROUTE THRU PARK POND 1 AND POND 2 AND 24" PIPE

*S

S POND #1 FIRST FLUSH DEPTH AT 50.34 VOLUME=891 CF

*S

S POND #2 FIRST FLUSH DEPTH AT 47.00 VOLUME=1590 CF

*S

S TOTAL FIRST FLUSH VOLUME=2481 CF (REQD = 2476 CF)

*S*****

ROUTE RESERVOIR

ID=12 HYD=POND.12 INFLOW=1 CODE=50
OUTFLOW(CFS) STORAGE(ACFT) ELEV(FT)
0.00 0.000000 45.98
0.01 0.056956 47.00
1.00 0.07828 48.00
1.01 0.35332 52.00

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
0.00	0.00	45.98	0.000	0.00
0.80	0.00	45.98	0.000	0.00
1.60	3.30	47.63	0.070	0.63
2.40	0.09	47.47	0.067	0.48
3.20	0.00	47.02	0.057	0.03
4.00	0.00	46.99	0.057	0.01
4.80	0.00	46.98	0.056	0.01
5.59	0.01	46.97	0.055	0.01
6.39	0.00	46.97	0.055	0.01
7.19	0.00	46.96	0.055	0.01
7.99	0.00	46.95	0.054	0.01
8.79	0.00	46.94	0.053	0.01
9.59	0.00	46.93	0.053	0.01
10.39	0.00	46.91	0.052	0.01
11.19	0.00	46.90	0.052	0.01
11.99	0.00	46.89	0.051	0.01
12.79	0.00	46.88	0.050	0.01
13.59	0.00	46.87	0.050	0.01
14.39	0.00	46.86	0.049	0.01
15.18	0.00	46.85	0.049	0.01
15.98	0.00	46.84	0.048	0.01
16.78	0.00	46.83	0.048	0.01
17.58	0.00	46.82	0.047	0.01
18.38	0.00	46.81	0.046	0.01
19.18	0.00	46.80	0.046	0.01
19.98	0.00	46.79	0.045	0.01
20.78	0.00	46.78	0.045	0.01
21.58	0.00	46.77	0.044	0.01
22.38	0.00	46.77	0.044	0.01
23.18	0.00	46.76	0.043	0.01
23.98	0.00	46.75	0.043	0.01
24.78	0.00	46.74	0.042	0.01

25.57	0.00	46.73	0.042	0.01
26.37	0.00	46.72	0.041	0.01
27.17	0.00	46.71	0.041	0.01
27.97	0.00	46.70	0.040	0.01
28.77	0.00	46.70	0.040	0.01
29.57	0.00	46.69	0.040	0.01
30.37	0.00	46.68	0.039	0.01
31.17	0.00	46.67	0.039	0.01
31.97	0.00	46.66	0.038	0.01
32.77	0.00	46.66	0.038	0.01
33.57	0.00	46.65	0.037	0.01
34.37	0.00	46.64	0.037	0.01
35.16	0.00	46.63	0.036	0.01
35.96	0.00	46.62	0.036	0.01
36.76	0.00	46.62	0.036	0.01
37.56	0.00	46.61	0.035	0.01
38.36	0.00	46.60	0.035	0.01
39.16	0.00	46.60	0.034	0.01
39.96	0.00	46.59	0.034	0.01
40.76	0.00	46.58	0.034	0.01
41.56	0.00	46.57	0.033	0.01
42.36	0.00	46.57	0.033	0.01
43.16	0.00	46.56	0.032	0.01
43.96	0.00	46.55	0.032	0.01

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

44.76	0.00	46.55	0.032	0.01
45.55	0.00	46.54	0.031	0.01
46.35	0.00	46.53	0.031	0.01
47.15	0.00	46.53	0.031	0.01
47.95	0.00	46.52	0.030	0.01
48.75	0.00	46.52	0.030	0.01
49.55	0.00	46.51	0.030	0.01
50.35	0.00	46.50	0.029	0.01
51.15	0.00	46.50	0.029	0.01
51.95	0.00	46.49	0.029	0.01
52.75	0.00	46.49	0.028	0.00

PEAK DISCHARGE = 1.000 CFS - PEAK OCCURS AT HOUR 1.86
 MAXIMUM WATER SURFACE ELEVATION = 48.156
 MAXIMUM STORAGE = 0.0890 AC-FT INCREMENTAL TIME= 0.033300HRS

PRINT HYD ID=12 CODE=1

HYDROGRAPH FROM AREA POND.12

RUNOFF VOLUME = 0.60972 INCHES = 0.1215 ACRE-FEET
 PEAK DISCHARGE RATE = 1.00 CFS AT 1.865 HOURS BASIN AREA = 0.0037 SQ. MI.

FINISH

NORMAL PROGRAM FINISH END TIME (HR.MIN:SEC) = 15:40:



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: _____ **Building Permit #:** _____ **City Drainage #:** _____

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

Legal Description: _____

City Address: _____

Engineering Firm: _____ **Contact:** _____

Address: _____

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

Owner: _____ **Contact:** _____

Address: _____

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

Architect: _____ **Contact:** _____

Address: _____

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

Other Contact: _____ **Contact:** _____

Address: _____

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

Check all that Apply:

DEPARTMENT:

- ☐ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION
☐ MS4/ EROSION & SEDIMENT CONTROL

TYPE OF SUBMITTAL:

- ☐ ENGINEER/ ARCHITECT CERTIFICATION
- ☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☐ DRAINAGE REPORT
☐ CLOMR/LOMR
- ☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)
☐ EROSION & SEDIMENT CONTROL PLAN (ESC)
- ☐ OTHER (SPECIFY) _____

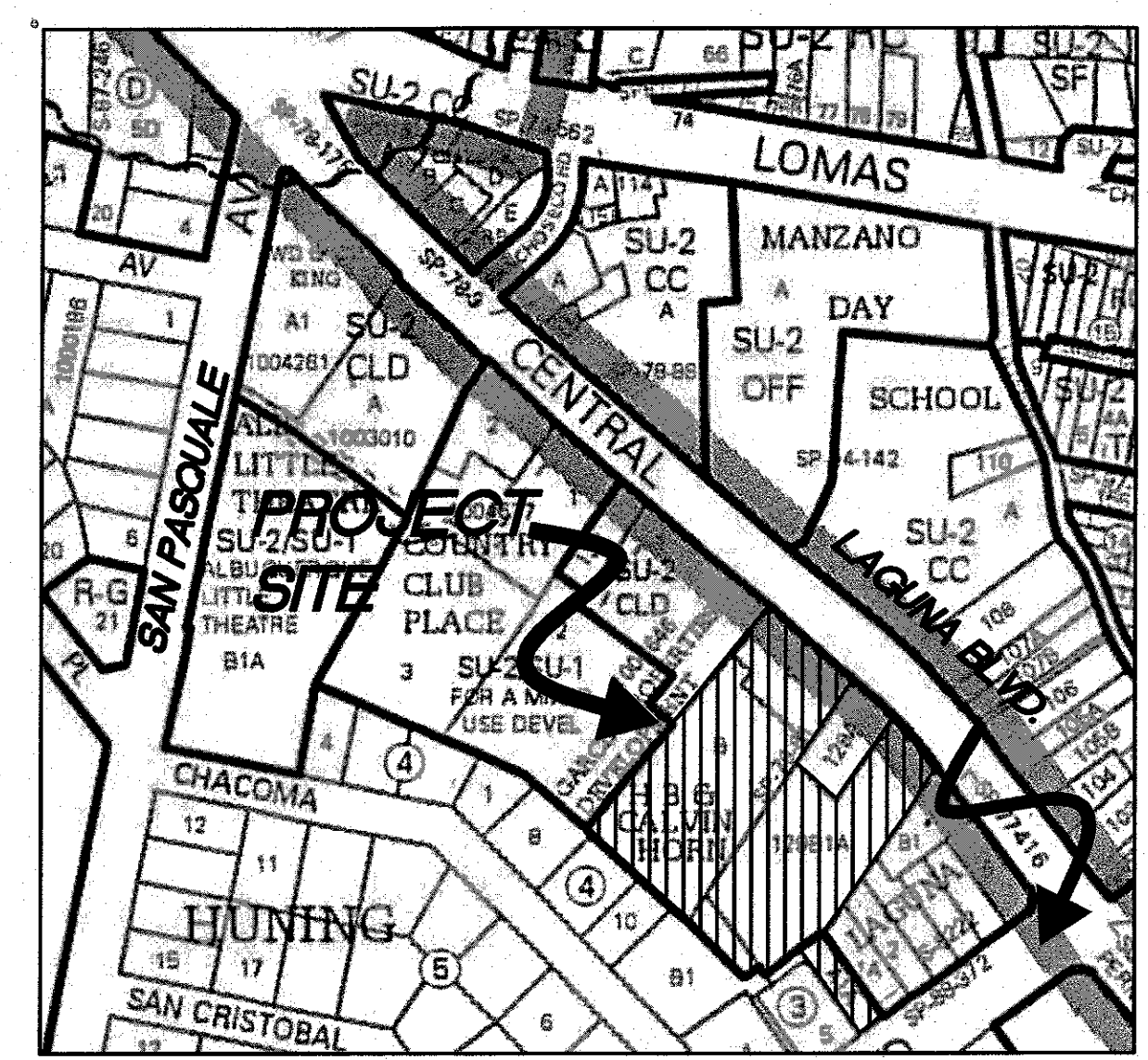
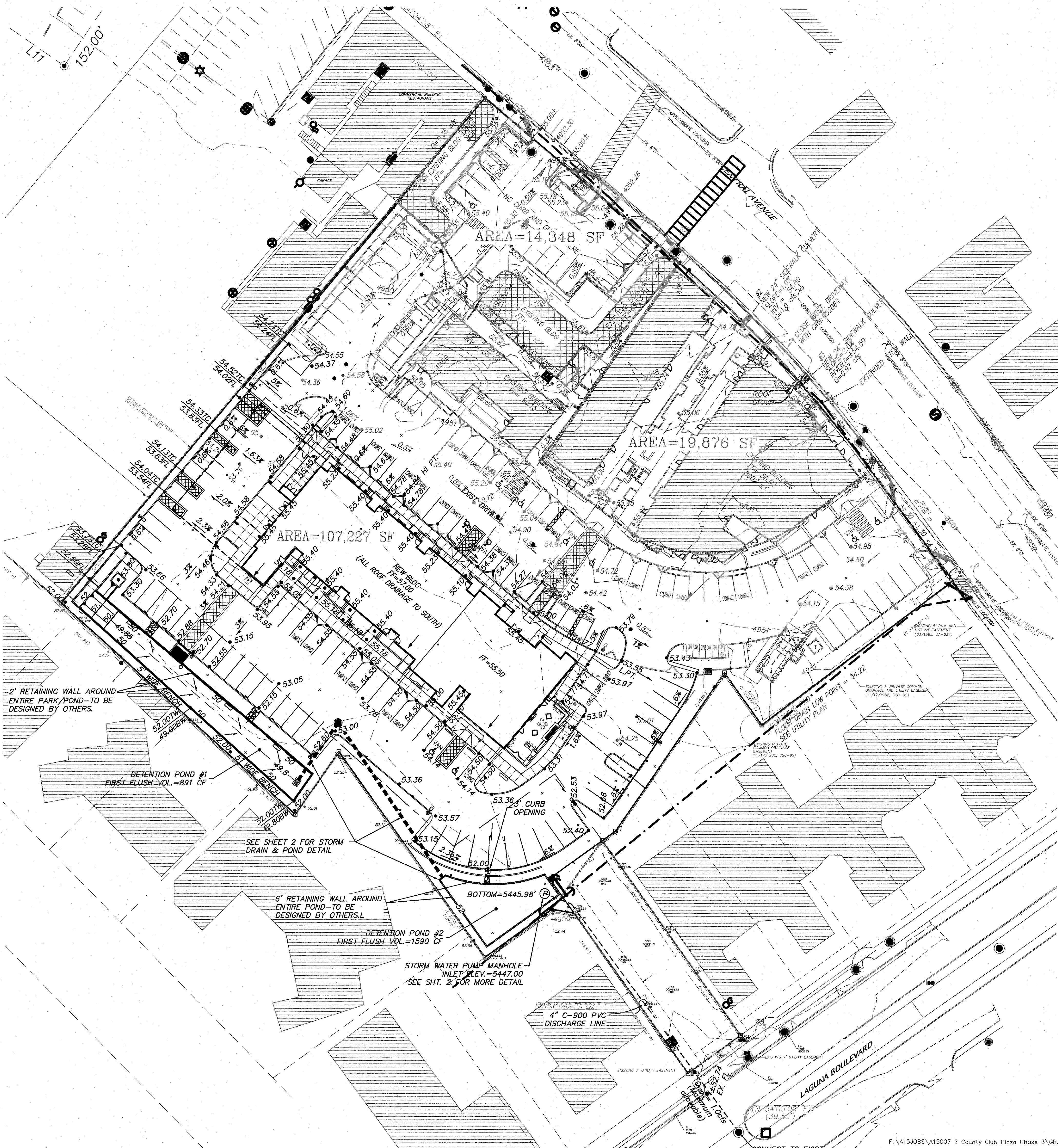
CHECK TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

- ☐ BUILDING PERMIT APPROVAL
☐ CERTIFICATE OF OCCUPANCY
- ☐ PRELIMINARY PLAT APPROVAL
☐ SITE PLAN FOR SUB'D APPROVAL
☐ SITE PLAN FOR BLDG. PERMIT APPROVAL
☐ FINAL PLAT APPROVAL
☐ SIA/ RELEASE OF FINANCIAL GUARANTEE
☐ FOUNDATION PERMIT APPROVAL
☐ GRADING PERMIT APPROVAL
☐ SO-19 APPROVAL
☐ PAVING PERMIT APPROVAL
☐ GRADING/ PAD CERTIFICATION
☐ WORK ORDER APPROVAL
☐ CLOMR/LOMR
- ☐ PRE-DESIGN MEETING
☐ OTHER (SPECIFY) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☐ No

DATE SUBMITTED: _____ **By:** _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____



VICINITY MAP ZONE ATLAS: J-13-Z

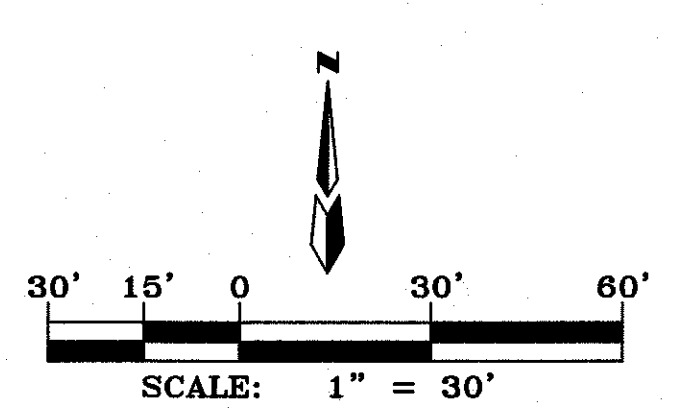
BENCHMARK

ACS CONTROL STATION "17-J14"
N= 1488866.762
E= 1519149.317
Z= 4957.484
NEW MEXICO STATE PLANE, CENTRAL ZONE
G-G= 0.9998833611
DELTA-ALPHA= -0013'59".00
NAD 1983/NAVD 1988

LEGEND

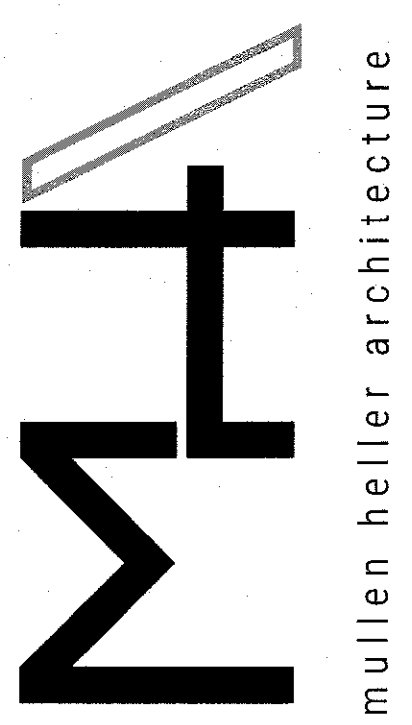
- EXISTING SPOT ELEVATION
- EXISTING CONTOUR
- EXISTING WATER WELL
- EXISTING BOLLARD
- EXISTING GUY WIRE
- EXISTING SAS MH
- EXISTING TELEPHONE PEDESTAL
- NEW SPOT ELEVATION
- SWALE
- NEW CONTOUR ELEVATION
- EXISTING SEWER MANHOLE
- EXISTING GAS METER
- EXISTING WATER VALVE
- EXISTING CLEANOUT
- EXISTING UTILITY POLE
- EXISTING MONITORING WELL
- EXISTING WATER METER
- EXISTING CURB
- NEW WATER METER
- NEW RETAINING WALL
- BASIN A
- BASIN B
- BASIN BOUNDARY
- TOP OF CURB
- BOTTOM OF CURB
- NEW FLOW LINE, SPOT ELEVATION
- NEW SWALE
- EXISTING ELEVATION
- EXISTING DRIVEWAY CUT

DRANE HOELLER
NEW MEXICO
11887



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

REV	DATE	DESCRIPTION
BY		



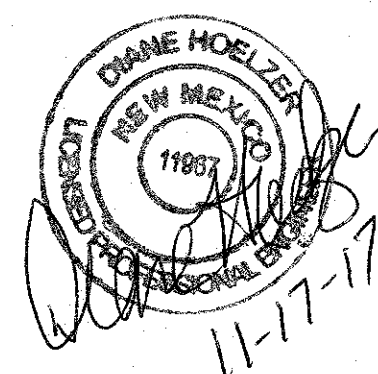
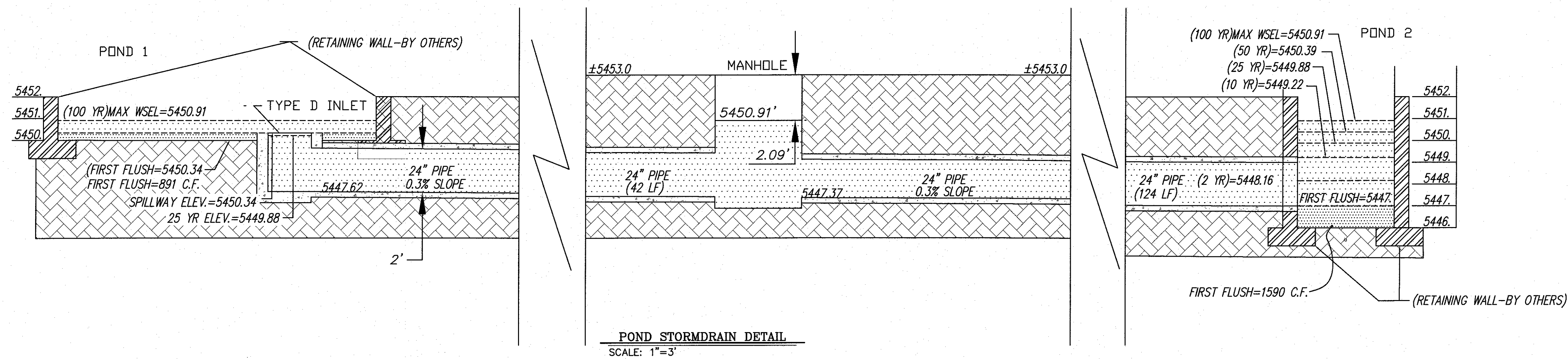
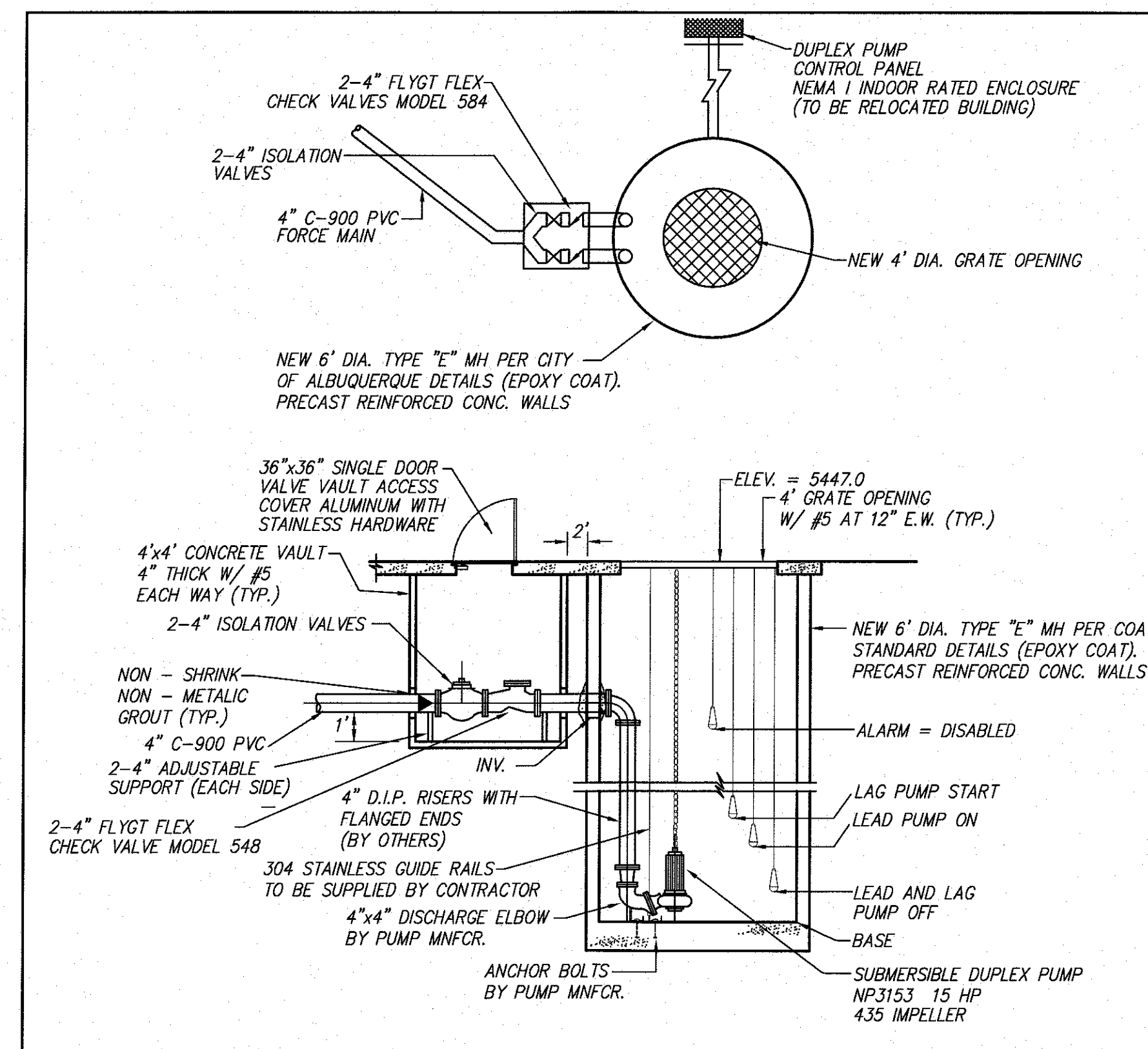
PRELIMINARY
NO FOR
CONSTRUCTION

MULLEN HELLER ARCHITECTURE
1718 CENTRAL AVE SW | STE D
ALBUQUERQUE, NM | 87109
P | 505.268.4144
F | 505.268.4244
www.mullenheller.com

JOB NUMBER 15-06
DRAWN BY SEJ
PROJECT MGR MMM
DATE 10-11-2017
PHASE SD

PROJECT Country Club Plaza | Building 3
1716 Central Avenue SW
Albuquerque, NM 87104
TITLE CONCEPTUAL GRADING & DRAINAGE PLAN

SHEET



PRELIMINARY
NOT FOR
CONSTRUCTION

MULLEN HELLER ARCHITECTURE
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ALBUQUERQUE, NM | 87109
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JOB NUMBER	15-06
DRAWN BY	SE
PROJECT MGR	MM
DATE	10-11-2017
PHASE	SD

PROJECT
Country Club Plaza | Building 3
1716 Central Avenue SW
Albuquerque, NM 87104