

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

March 24, 2017

Ron Hensley, P.E.
GND Engineering
11032 Dreamy Way Dr. NW
Albuquerque, NM, 87114

**RE: Coors Pavilion Subdivision
9154 Coors Blvd
Grading Plan
Engineer's Stamp Date: 2/22/2017
Hydrology File: G11D069**

Dear Mr. Hensley:

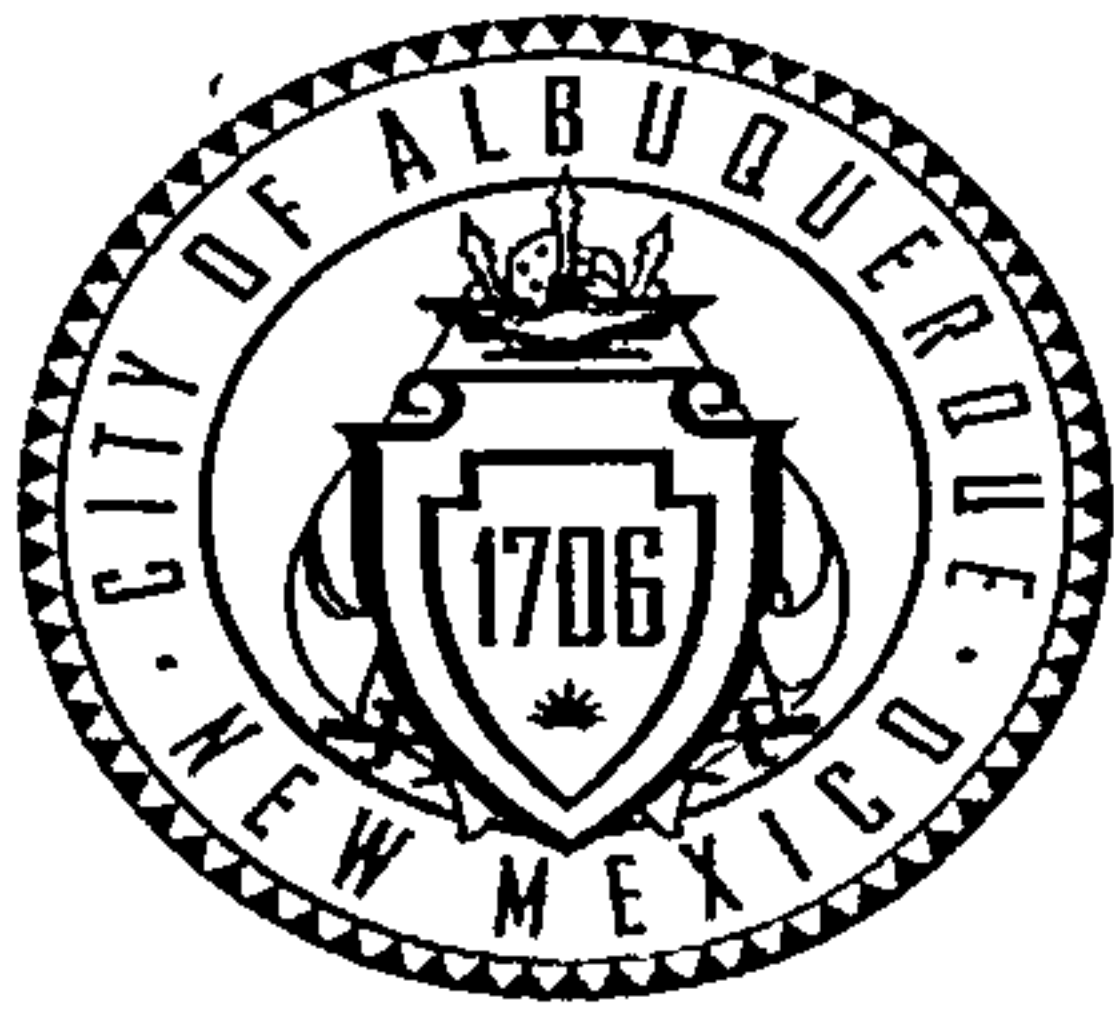
Based upon the information provided in your submittal received 2/27/17, the Grading Plan is approved for Grading Permit.

It is Hydrology's understanding that this Grading Plan is for grading of only the private access and pond improvements. No lots will be graded under this permit; individual lots will be required to submit grading and drainage plans separately.

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

Sincerely,

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



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Coors Pavilion Building Permit #: _____ City Drainage #: G11D069

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

Legal Description: TRACT X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER

City Address: 9154 Coors Blvd.

Engineering Firm: GND Engineering Contact: Ron Hensley

Address: 11032 Dreamy Way Dr. NW Albuquerque, NM 87114

Phone#: 505-410-1622 Fax#: _____ E-mail: ron@thegroup.cc

Owner: Retail Southwest Development Contact: Joshua J. Skarsgard

Address: 8220 San Pedro NE Suite 500 / Albuquerque, NM 87113

Phone#: 505-262.2323 Fax#: _____ E-mail: _____

Architect: Dekker/Perich/Sabatini Contact: _____

Address: _____

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

Surveyor: Surv-Tek, Inc. Contact: Russ Hugg

Address: 9384 Valley View Drive, Albuquerque, NM 87114

Phone#: 505-897-3366 Fax#: _____ E-mail: russhugg@survtek.com

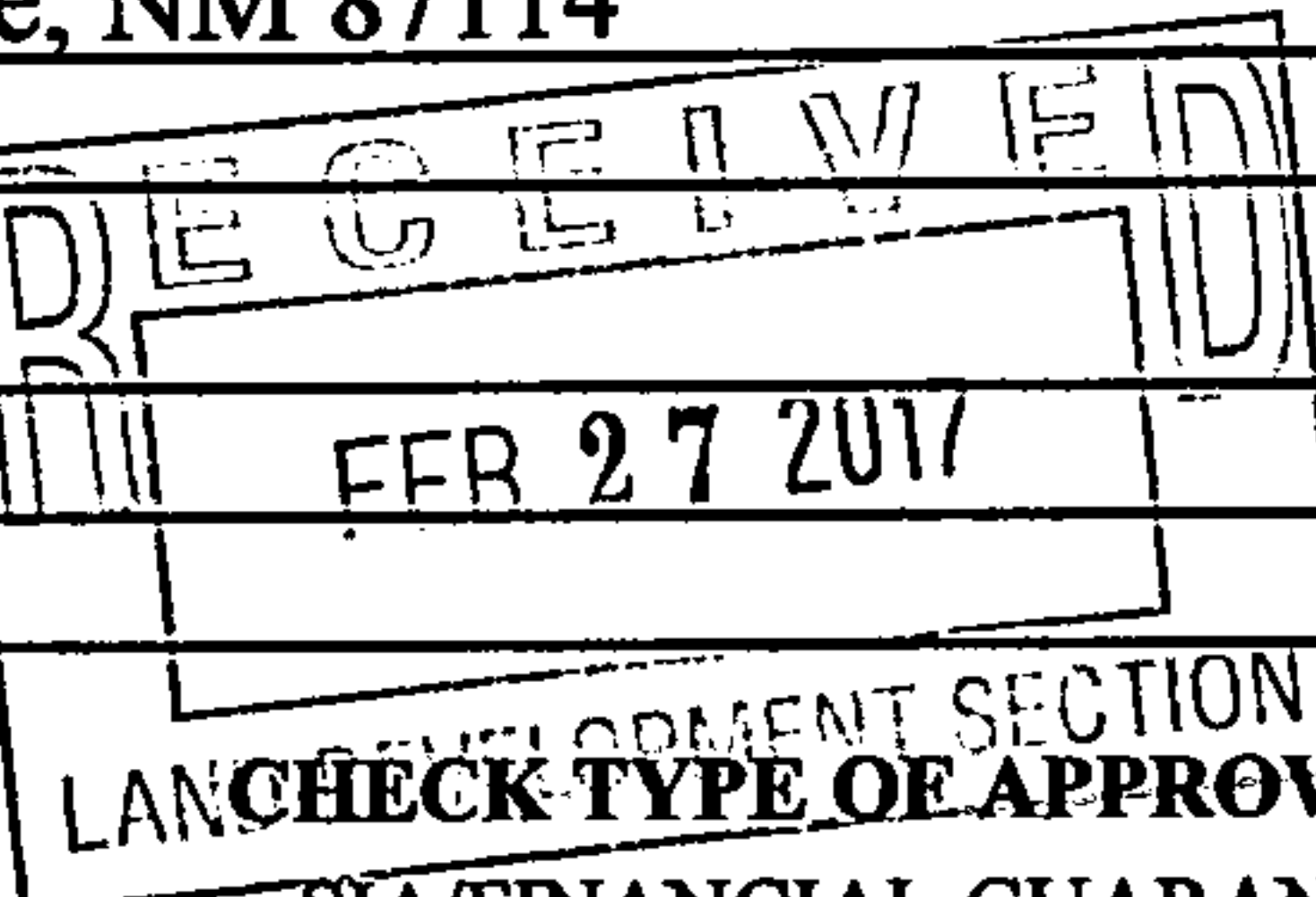
Contractor: _____ Contact: _____

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
☐ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ GRADING CERTIFICATION
☐ SO-19 APPROVAL
☐ ESC PERMIT APPROVAL
☐ ESC CERT. ACCEPTANCE
☐ OTHER (SPECIFY) _____

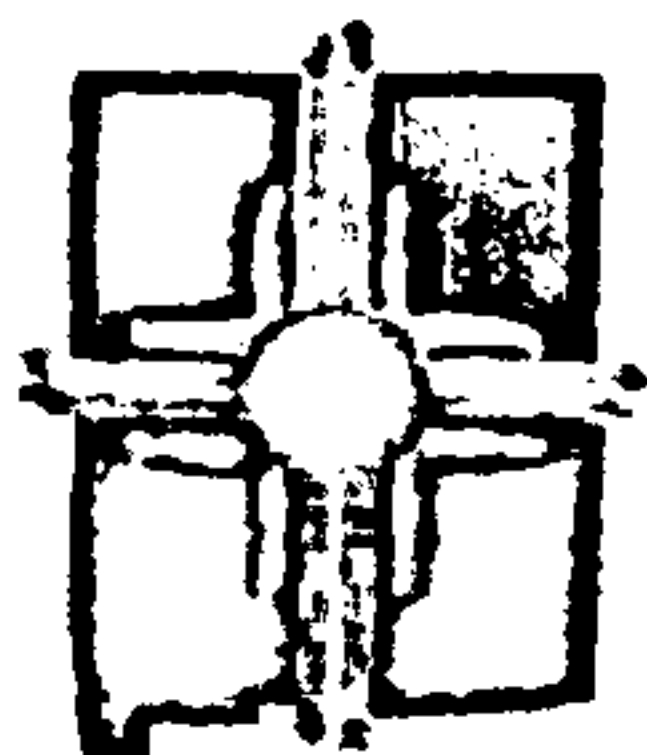
Deter. 21.22
19.01

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

DATE SUBMITTED: 2/24/2017 By: Ron Hensley

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



NEW MEXICO DEPARTMENT OF
TRANSPORTATION

December 16, 2016

Mr. Terry Brown, P.E.
P.O. Box 92051
Albuquerque, NM 87199

**Subject: Proposed Coors Pavilion Revision 1
NM 45 Mile Post 16.09 (NW Quadrant at St. Joseph's Drive)
Albuquerque, Bernalillo County, New Mexico**

Dear Mr. Brown:

This letter is to inform you that the Traffic Impact Study (TIS) for the proposed commercial development at the northwest quadrant of the intersection of NM 45 and St. Joseph's Drive dated October 8, 2016 has been reviewed and below are the District comments.

The NMDOT has no objection to granting the requested Right-in/Right-out commercial driveway onto NM 45 southbound providing the following conditions are met.

1. The NMDOT shall provide final approval on the design for the offsite improvements. The developer shall agree to incorporate all the comments requested by the NMDOT.
2. The Property Owner shall submit a Commercial Driveway Application for the Right-in/Right-out commercial driveway onto NM 45.

In addition to the TIS, the improvements are based on other factors, including but not limited to, the State Access Management Manual (SAMM) design criteria, roadway design references and any local jurisdiction planning documents. The following offsite improvements will be required inclusive of those listed in the TIS report recommendations (attached) for the proposed development:

- A. The 12 foot wide deceleration lane shall be constructed to include the taper and storage area.
- B. The access width shall be constructed to accommodate lanes for one ingress and one egress movement at a maximum of 36 feet wide. The access return radii shall meet design vehicle criteria.
- C. Bike lane with buffer shall be built in kind along the property frontage on NM 45.

Susana Martinez
Governor

Tom Church
Cabinet Secretary

Commissioners

Ronald Schmeits
Chairman
District 4

Dr. Kenneth White
Secretary
District 1

David Sepich
Commissioner
District 2

Keith Mortensen
Commissioner
District 3

Butch Mathews
Commissioner
District 5

Jackson Gibson
Commissioner
District 6

- D. Pavement marking shall be installed on NM 45 for the full length of the development's property frontage. Any existing pavement markings impacted or otherwise damaged during construction shall be re-installed at NMDOT discretion.
- E. Appropriate signage per the MUTCD shall be installed based on the new roadway geometry.
- F. The existing ITS sign conflicts with the new deceleration lane. It consists of three major components, the foundation, the structure, and the board. All major components shall be removed and installed new with the exception of the structure itself. Pending the following: (1) Structural drawings stamped, signed by a registered engineer of New Mexico approving the reuse of the existing sign structure and (2) NMDOT D-3 ITS approval for reuse of sign structure.
- G. Sidewalk shall be installed along the property line of NM 45 tying into the existing sidewalk to the north and new ADA curb ramp to the south. All sidewalk installation shall be built per standard drawings 608 series.
- H. Verify that the ADA curb ramp(s) at the northwest corner of NM 45 & St. Joseph's Drive are ADA compliant. If existing conditions are not ADA compliant the subject area shall be rebuilt to NMDOT/PROWAG specifications. ADA curb ramp shall be built per standard drawings 608 series.
- I. Roadway luminaires shall be removed and reinstalled along the property frontage of NM 45 with roadway widening. Roadway luminaires shall be installed per standard drawings 706, 707 & 708 series.
- J. Utilities shall be removed and relocated along the property frontage of NM 45 and additional, if needed, to tie into existing infrastructure.

The following information will be required in conjunction with the approval of the development:

- a. All geometric details associated with the proposed offsite improvements listed in this letter shall be approved by the NMDOT. Any schematic layout (s) for the proposed improvements that is contained in the report is for informational purposes only and should not be considered as an approved final design.
- b. Detailed construction plans, including traffic control plans, for the proposed roadway improvements shall be submitted to Margaret Haynes P.E at Margaret.Haynes@state.nm.us prior to any driveway application submittals. The roadway design shall be compliant with proposed right-of-way accessibility guidelines (PROWAG) for pedestrian facilities.
- c. Grading and drainage plans, shall be submitted with the driveway application for review and approval by Mr. Timothy Trujillo, D3 Drainage Engineer.

- d. An Environmental Clearance will need to be obtained from Mr. Gary Funkhouser for disturbance to the state right-of-way. Mr. Funkhouser can be reached at 505.827.5692 or Gary.Funkhouser@state.nm.us
- e. Utility permit application for all utility work within NMDOT right-of-way shall be submitted to Mr. Israel Suazo, D3 Permit Agent, for review and processing. Mr. Suazo can be reached at 505.798.6655 or Israel.Suazo@state.nm.us
- f. All traffic control permits, within NMDOT right-of-way related to the proposed development shall be submitted to Mr. Peter Kubiak, D3 Engineering Coordinator at 505.798.6608 or Peter.Kubiak@state.nm.us

If you have any questions please feel free to call me at 505.798.6625.

Sincerely,



Nancy R. Perea, P.E.
District Three Traffic Engineer

Copies: Jill Mosher, NMDOT D3 ADE Engineering Support
Margaret Haynes, NMDOT D3 DTE
Rachel Michel, City of Albuquerque
File

Attachment: Coors Pavilion TIS – Page 26

RECOMMENDATIONS

- All site design and construction including driveways and landscaping shall maintain adequate sight distances at the driveways and the existing intersections.
- Access to the site should be via the implementation of two driveways - St. Joseph's Dr. / Driveway "A" (full access with one lane entering, two lanes exiting) and Driveway "B" / Coors Blvd. (right-in, right-out, only with one lane entering, one lane exiting) as defined on the conceptual site plan on Page A-3 of the Appendix of this report.
- **Sequoia Rd. / Coors Blvd.** - lengthen the southbound left turn lane from 100 feet to 175 feet plus transition.
- **St. Joseph's Dr. / Coors Blvd.** - Lengthen the dual eastbound left turn lanes to 300 feet plus transition.
- **St. Joseph's Dr. / Driveway "A"** - construct separate eastbound left, westbound right and southbound right turn lanes. Construct a second westbound thru lane along St. Joseph's Dr. from Coors Blvd. to Atrisco Dr. (to be constructed by City of Albuquerque). The eastbound left turn lane on St. Joseph's Dr. at Driveway "A" should be constructed to a length of 150 feet plus transition (150' - 150' reverse curve transition). The westbound right turn deceleration lane should be constructed to a length of 150 feet plus transition (150' - 150' reverse curve transition)
- **Driveway "B" / Coors Blvd.** - a southbound right turn deceleration lane on Coors Blvd. southbound at Driveway "B" is warranted. The right turn deceleration lane should be designed and constructed to be 370 feet in length with a 12.5:1 taper, and it should be 12 feet wide. Physical constraints in the field may require slight reduction in the length of the right turn deceleration lane. The length of the right turn deceleration lane will require New Mexico Department of Transportation approval.



CONSULTING ENGINEERS

10224 Green River Place NW Albuquerque, New Mexico 87114
Phone: 505-264-0472
Email: segreer@swcp.com

February 23, 2017

Dana Peterson P.E.
Hydrology Development
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: G11D069 Coors Pavilion Subdivision – Master Grading and Drainage Plan

Mr. Peterson,

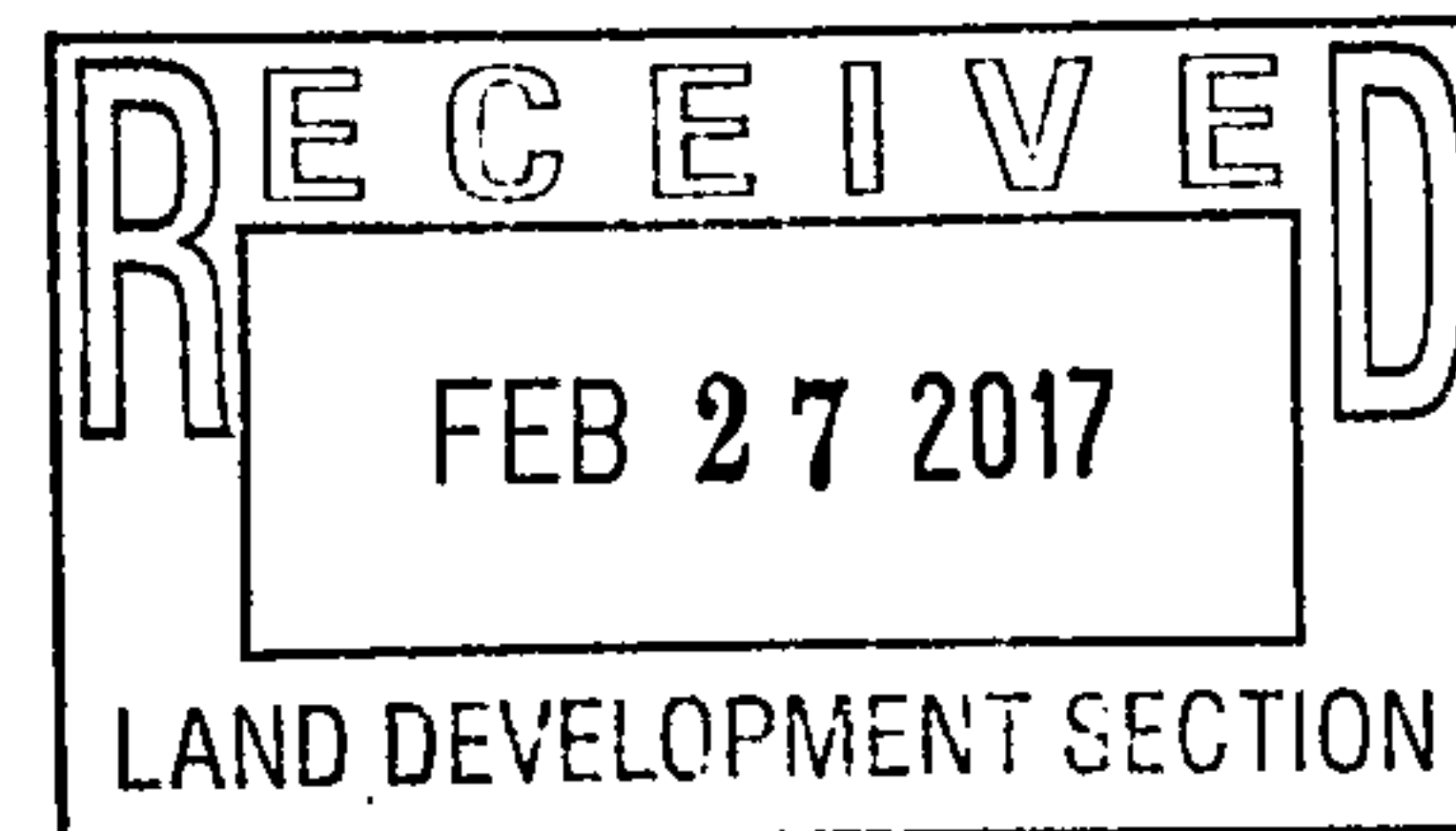
We have addressed your comments for the Coors Pavilion Subdivision. The revised Grading Plan is attached, and the drainage calculations are listed on the following pages.

Please contact me at 410-1622 or via email if you have any questions or comments.

Sincerely,

A handwritten signature in cursive script that reads "Ron E. Hensley".

Ron E. Hensley P.E.
ron@thegroup.cc



AHYMO INPUT

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*
START                                TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL                            TYPE=2 RAIN QUARTER=0.0
                                    RAIN ONE=1.84 IN RAIN SIX=2.20 IN
                                    RAIN DAY=2.66 IN DT=0.05 HRS
*
*** Sub-BASIN D1 ****
COMPUTE NM HYD                      ID=1 HYD NO=LOTS89 DA=0.022234 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=1 CODE=1
*** Sub-BASIN D2 ****
COMPUTE NM HYD                      ID=2 HYD NO=LOT1 DA=0.001589 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=2 CODE=1
*** Sub-BASIN D3 ****
COMPUTE NM HYD                      ID=3 HYD NO=LOT2 DA=0.001148 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=3 CODE=1
*** Sub-BASIN D4 ****
COMPUTE NM HYD                      ID=4 HYD NO=LOT3 DA=0.001407 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=4 CODE=1
*** Sub-BASIN D5 ****
COMPUTE NM HYD                      ID=5 HYD NO=LOT4 DA=0.001565 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=5 CODE=1
*** Sub-BASIN D6 ****
COMPUTE NM HYD                      ID=6 HYD NO=LOT5 DA=0.001097 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=6 CODE=1
*** Sub-BASIN D7 ****
COMPUTE NM HYD                      ID=7 HYD NO=LOT6 DA=0.001819 SQ MI
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                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=7 CODE=1
*** Sub-BASIN D8 ****
COMPUTE NM HYD                      ID=8 HYD NO=LOT7 DA=0.002116 SQ MI
                                    PER A=0 PER B=5 PER C=5 PER D=90
                                    TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD                          ID=8 CODE=1
*
*S Flow at SW Intersection (D1 + D8)
ADD HYD                            ID=20 HYD NO=20SUMA IDS=1 AND 8
PRINT HYD                          ID=20 CODE=1
*
*S Add D6 (D6 + D5)
ADD HYD                            ID=21 HYD NO=20SUMB IDS=6 AND 7
PRINT HYD                          ID=21 CODE=1
*
*S Add D5 (D5 + 20SUMB)
ADD HYD                            ID=22 HYD NO=20SUMC IDS=21 AND 5
PRINT HYD                          ID=22 CODE=1

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*
*S Add D4 (D4 + 20SUMC)
ADD HYD          ID=23 HYD NO=20SUMD  IDS=22 AND 4
PRINT HYD        ID=23 CODE=1
*
*S Add D2 (D3 + 20SUME)
ADD HYD          ID=24 HYD NO=20SUME  IDS=23 AND 3
PRINT HYD        ID=24 CODE=1
*
*S Add D2 for Total Street Flow (D2 + 20SUME)
ADD HYD          ID=25 HYD NO=20SUME  IDS=24 AND 2
PRINT HYD        ID=25 CODE=1
*
*S Add East and West for Total Site Flow (20SUME + 20SUMA)
ADD HYD          ID=31 HYD NO=301SUMA  IDS=25 AND 20
PRINT HYD        ID=31 CODE=1
*
*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****
COMPUTE NM HYD   ID=9 HYD NO=CHURCH DA=0.013240 SQ MI
                  PER A=100 PER B=0 PER C=0 PER D=0
                  TP=-0.1333 HR MASS RAIN=-1
                  *****
PRINT HYD        ID=9 CODE=1
*
*S Add for Total pond Inflow (CHURCH + 100TOT)
ADD HYD          ID=30 HYD NO=PONDIN  IDS=9 AND 31
PRINT HYD        ID=30 CODE=1
*
*****
ROUTE RESERVOIR  ID=40  HYD NO=PONDOUT  INFLOW=30  CODE=1
                  OUTFLOW(CFS)  STORAGE(AC-FT)  ELEV
                  0.0          0.0000          9.00
                  0.01         0.48           9.25
                  0.01         0.97           9.5
                  0.02         1.48           9.75
                  2.48         2.00          10.0
                  4.22         2.53          10.25
                  5.42         3.08          10.5
                  50.0         5.0000          11.0*
*****
*PRINT HYD      ID=40 CODE=1

FINISH

```

AHYMO SUMMARY

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 2.660
COMPUTE NM HYD	LOTS89	-	1	.02222	58.47	2.686	2.26606	1.500	4.111	PER IMP= 90.00
COMPUTE NM HYD	LOT1	-	2	.00159	4.20	.192	2.26606	1.500	4.126	PER IMP= 90.00
COMPUTE NM HYD	LOT2	-	3	.00115	3.03	.139	2.26606	1.500	4.131	PER IMP= 90.00
COMPUTE NM HYD	LOT3	-	4	.00141	3.72	.170	2.26606	1.500	4.127	PER IMP= 90.00
COMPUTE NM HYD	LOT4	-	5	.00157	4.13	.189	2.26606	1.500	4.126	PER IMP= 90.00
COMPUTE NM HYD	LOT5	-	6	.00110	2.90	.133	2.26606	1.500	4.131	PER IMP= 90.00
COMPUTE NM HYD	LOT6	-	7	.00182	4.80	.220	2.26606	1.500	4.123	PER IMP= 90.00
COMPUTE NM HYD	LOT7	-	8	.00212	5.58	.256	2.26606	1.500	4.121	PER IMP= 90.00
*S Flow at SW Intersection (D1 + D8)										
ADD HYD	20SUMA	1& 8	20	.02434	64.06	2.942	2.26603	1.500	4.112	
*S Add D6 (D7 + D6)										
ADD HYD	20SUMB	6& 7	21	.00292	7.70	.352	2.26585	1.500	4.126	
*S Add D5 (D5 + 20SUMB)										
ADD HYD	20SUMC	21& 5	22	.00448	11.83	.542	2.26584	1.500	4.126	
*S Add D4 (D4 + 20SUMC)										
ADD HYD	20SUMD	22& 4	23	.00589	15.55	.712	2.26585	1.500	4.126	
*S Add D2 (D3 + 20SUME)										
ADD HYD	20SUME	23& 3	24	.00704	18.58	.850	2.26583	1.500	4.127	
*S Add D2 for Total Street Flow (D2 + 20SUME)										
ADD HYD	20SUME	24& 2	25	.00863	22.78	1.042	2.26584	1.500	4.127	
*S Add East and West for Total Site Flow (20TOT + 10TOT)										
ADD HYD	301SUMA	25&20	31	.03296	86.84	3.984	2.26599	1.500	4.116	
*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****										
COMPUTE NM HYD	CHURCH	-	9	.01324	10.90	.310	.43936	1.500	1.286	PER IMP= .00
*S Add for Total pond Inflow (CHURCH + 100TOT)										
ADD HYD	PONDIN	9&31	30	.04620	97.73	4.294	1.74256	1.500	3.305	
ROUTE RESERVOIR	PONDOUT	30	40	.04620	5.28	2.810	1.14036	2.300	.179	AC-FT= 3.016 FINISH

AHYMO OUPUT

*
START
RAINFALL

TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
TYPE=2 RAIN QUARTER=0.0
RAIN ONE=1.87 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.05 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.

DT = .050000 HOURS			END TIME = 24.000000 HOURS			
.0000	.0025	.0050	.0076	.0103	.0131	.0160
.0190	.0222	.0254	.0289	.0324	.0362	.0401
.0443	.0487	.0534	.0584	.0637	.0695	.0758
.0837	.0924	.1176	.1773	.2798	.4384	.6668
.9790	1.2253	1.3366	1.4295	1.5109	1.5836	1.6495
1.7096	1.7648	1.8156	1.8624	1.9057	1.9458	1.9548
1.9631	1.9708	1.9780	1.9848	1.9912	1.9973	2.0031
2.0087	2.0140	2.0191	2.0240	2.0287	2.0333	2.0377
2.0420	2.0462	2.0502	2.0542	2.0580	2.0617	2.0653
2.0689	2.0724	2.0757	2.0791	2.0823	2.0855	2.0886
2.0916	2.0946	2.0976	2.1005	2.1033	2.1061	2.1088
2.1115	2.1142	2.1168	2.1193	2.1219	2.1244	2.1268
2.1293	2.1316	2.1340	2.1363	2.1386	2.1409	2.1431
2.1453	2.1475	2.1497	2.1518	2.1539	2.1560	2.1580
2.1601	2.1621	2.1641	2.1660	2.1680	2.1699	2.1718
2.1737	2.1756	2.1774	2.1793	2.1811	2.1829	2.1847
2.1864	2.1882	2.1899	2.1916	2.1933	2.1950	2.1967
2.1984	2.2000	2.2020	2.2039	2.2059	2.2078	2.2097
2.2117	2.2136	2.2155	2.2174	2.2193	2.2212	2.2231
2.2249	2.2268	2.2287	2.2305	2.2324	2.2342	2.2361
2.2379	2.2398	2.2416	2.2434	2.2452	2.2470	2.2488
2.2506	2.2524	2.2542	2.2559	2.2577	2.2595	2.2612
2.2630	2.2647	2.2665	2.2682	2.2700	2.2717	2.2734
2.2751	2.2768	2.2785	2.2802	2.2819	2.2836	2.2853
2.2870	2.2887	2.2903	2.2920	2.2937	2.2953	2.2970
2.2986	2.3002	2.3019	2.3035	2.3051	2.3068	2.3084
2.3100	2.3116	2.3132	2.3148	2.3164	2.3180	2.3196
2.3212	2.3227	2.3243	2.3259	2.3274	2.3290	2.3305
2.3321	2.3336	2.3352	2.3367	2.3383	2.3398	2.3413
2.3428	2.3444	2.3459	2.3474	2.3489	2.3504	2.3519
2.3534	2.3549	2.3563	2.3578	2.3593	2.3608	2.3622
2.3637	2.3652	2.3666	2.3681	2.3695	2.3710	2.3724
2.3739	2.3753	2.3767	2.3782	2.3796	2.3810	2.3824
2.3839	2.3853	2.3867	2.3881	2.3895	2.3909	2.3923
2.3937	2.3951	2.3965	2.3978	2.3992	2.4006	2.4020
2.4033	2.4047	2.4061	2.4074	2.4088	2.4101	2.4115
2.4128	2.4142	2.4155	2.4168	2.4182	2.4195	2.4208
2.4222	2.4235	2.4248	2.4261	2.4274	2.4287	2.4300
2.4314	2.4327	2.4340	2.4352	2.4365	2.4378	2.4391
2.4404	2.4417	2.4430	2.4442	2.4455	2.4468	2.4480
2.4493	2.4506	2.4518	2.4531	2.4543	2.4556	2.4568
2.4581	2.4593	2.4606	2.4618	2.4630	2.4643	2.4655
2.4667	2.4680	2.4692	2.4704	2.4716	2.4728	2.4740
2.4753	2.4765	2.4777	2.4789	2.4801	2.4813	2.4825
2.4837	2.4849	2.4860	2.4872	2.4884	2.4896	2.4908
2.4919	2.4931	2.4943	2.4955	2.4966	2.4978	2.4990
2.5001	2.5013	2.5024	2.5036	2.5047	2.5059	2.5070
2.5082	2.5093	2.5105	2.5116	2.5127	2.5139	2.5150
2.5161	2.5172	2.5184	2.5195	2.5206	2.5217	2.5229
2.5240	2.5251	2.5262	2.5273	2.5284	2.5295	2.5306
2.5317	2.5328	2.5339	2.5350	2.5361	2.5372	2.5383
2.5394	2.5404	2.5415	2.5426	2.5437	2.5448	2.5458
2.5469	2.5480	2.5490	2.5501	2.5512	2.5522	2.5533
2.5544	2.5554	2.5565	2.5575	2.5586	2.5596	2.5607
2.5617	2.5628	2.5638	2.5649	2.5659	2.5669	2.5680
2.5690	2.5700	2.5711	2.5721	2.5731	2.5741	2.5752
2.5762	2.5772	2.5782	2.5792	2.5803	2.5813	2.5823
2.5833	2.5843	2.5853	2.5863	2.5873	2.5883	2.5893

2.5903	2.5913	2.5923	2.5933	2.5943	2.5953	2.5963
2.5973	2.5982	2.5992	2.6002	2.6012	2.6022	2.6031
2.6041	2.6051	2.6061	2.6070	2.6080	2.6090	2.6099
2.6109	2.6119	2.6128	2.6138	2.6148	2.6157	2.6167
2.6176	2.6186	2.6195	2.6205	2.6214	2.6224	2.6233
2.6243	2.6252	2.6261	2.6271	2.6280	2.6290	2.6299
2.6308	2.6318	2.6327	2.6336	2.6346	2.6355	2.6364
2.6373	2.6383	2.6392	2.6401	2.6410	2.6419	2.6428
2.6438	2.6447	2.6456	2.6465	2.6474	2.6483	2.6492
2.6501	2.6510	2.6519	2.6528	2.6537	2.6546	2.6555
2.6564	2.6573	2.6582	2.6591	2.6600		

* *****
*

*** Sub-BASIN D1 ***
COMPUTE NM HYD ID=1 HYD NO=LOTS89 DA=0.0222234 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 78.965 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.8700
AREA = .020001 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = 5.9129 CFS UNIT VOLUME = .9991 B = 354.67 P60 = 1.8700
AREA = .002222 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA LOTS89

RUNOFF VOLUME = 2.26606 INCHES = 2.6858 ACRE-FEET
PEAK DISCHARGE RATE = 58.47 CFS AT 1.500 HOURS BASIN AREA = .0222 SQ. MI.

*
*** Sub-BASIN D2 ***
COMPUTE NM HYD ID=2 HYD NO=LOT1 DA=0.001589 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.6461 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8700
AREA = .001430 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .42278 CFS UNIT VOLUME = .9701 B = 354.67 P60 = 1.8700
AREA = .000159 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=2 CODE=1

HYDROGRAPH FROM AREA LOT1

RUNOFF VOLUME = 2.26606 INCHES = .1920 ACRE-FEET
PEAK DISCHARGE RATE = 4.20 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*

Coors Pavilion Master Drainage Plan

*** Sub-BASIN D3 ****

COMPUTE NM HYD ID=3 HYD NO=LOT2 DA=0.001148 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.0791 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.8700
AREA = .001033 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .30545 CFS UNIT VOLUME = .9600 B = 354.67 P60 = 1.8700
AREA = .000115 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*

PRINT HYD

ID=3 CODE=1

HYDROGRAPH FROM AREA LOT2

RUNOFF VOLUME = 2.26606 INCHES = .1387 ACRE-FEET
PEAK DISCHARGE RATE = 3.03 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*

*** Sub-BASIN D4 ****

COMPUTE NM HYD ID=4 HYD NO=LOT3 DA=0.001407 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.9994 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8700
AREA = .001266 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .37436 CFS UNIT VOLUME = .9654 B = 354.67 P60 = 1.8700
AREA = .000141 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*

PRINT HYD

ID=4 CODE=1

HYDROGRAPH FROM AREA LOT3

RUNOFF VOLUME = 2.26606 INCHES = .1700 ACRE-FEET
PEAK DISCHARGE RATE = 3.72 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*

*** Sub-BASIN D5 ****

COMPUTE NM HYD ID=5 HYD NO=LOT4 DA=0.001565 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.5608 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8700
AREA = .001409 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .41640 CFS UNIT VOLUME = .9701 B = 354.67 P60 = 1.8700
AREA = .000157 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA LOT4

RUNOFF VOLUME = 2.26606 INCHES = .1891 ACRE-FEET
PEAK DISCHARGE RATE = 4.13 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*
*** Sub-BASIN D6 ****
COMPUTE NM HYD ID=6 HYD NO=LOT5 DA=0.001097 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.8979 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.8700
AREA = .000987 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .29188 CFS UNIT VOLUME = .9600 B = 354.67 P60 = 1.8700
AREA = .000110 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA LOT5

RUNOFF VOLUME = 2.26606 INCHES = .1326 ACRE-FEET
PEAK DISCHARGE RATE = 2.90 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*
*** Sub-BASIN D7 ****
COMPUTE NM HYD ID=7 HYD NO=LOT6 DA=0.001819 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 6.4634 CFS UNIT VOLUME = .9975 B = 526.28 P60 = 1.8700
AREA = .001637 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .48398 CFS UNIT VOLUME = .9742 B = 354.67 P60 = 1.8700
AREA = .000182 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA LOT6

RUNOFF VOLUME = 2.26606 INCHES = .2198 ACRE-FEET
PEAK DISCHARGE RATE = 4.80 CFS AT 1.500 HOURS BASIN AREA = .0018 SQ. MI.

*
*** Sub-BASIN D8 ****
COMPUTE NM HYD ID=8 HYD NO=LOT7 DA=0.002116 SQ MI

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PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.5187 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 1.8700
AREA = .001904 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118429HR TP = .133300HR K/TP RATIO = .888442 SHAPE CONSTANT, N = 3.992480
UNIT PEAK = .56300 CFS UNIT VOLUME = .9777 B = 354.67 P60 = 1.8700
AREA = .000212 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=8 CODE=1

HYDROGRAPH FROM AREA LOT7

RUNOFF VOLUME = 2.26606 INCHES = .2557 ACRE-FEET
PEAK DISCHARGE RATE = 5.58 CFS AT 1.500 HOURS BASIN AREA = .0021 SQ. MI.

*
*
*S Flow at SW Intersection (D1 + D8)
ADD HYD ID=20 HYD NO=20SUMA IDS=1 AND 8
PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA 20SUMA

RUNOFF VOLUME = 2.26603 INCHES = 2.9415 ACRE-FEET
PEAK DISCHARGE RATE = 64.06 CFS AT 1.500 HOURS BASIN AREA = .0243 SQ. MI.

*
*S Add D6 (D7 + D6)
ADD HYD ID=21 HYD NO=20SUMB IDS=6 AND 7
PRINT HYD ID=21 CODE=1

HYDROGRAPH FROM AREA 20SUMB

RUNOFF VOLUME = 2.26585 INCHES = .3524 ACRE-FEET
PEAK DISCHARGE RATE = 7.70 CFS AT 1.500 HOURS BASIN AREA = .0029 SQ. MI.

*
*S Add D5 (D5 + 20SUMB)
ADD HYD ID=22 HYD NO=20SUMC IDS=21 AND 5
PRINT HYD ID=22 CODE=1

HYDROGRAPH FROM AREA 20SUMC

RUNOFF VOLUME = 2.26584 INCHES = .5415 ACRE-FEET
PEAK DISCHARGE RATE = 11.83 CFS AT 1.500 HOURS BASIN AREA = .0045 SQ. MI.

*
*S Add D4 (D4 + 20SUMC)
ADD HYD ID=23 HYD NO=20SUMD IDS=22 AND 4
PRINT HYD ID=23 CODE=1

HYDROGRAPH FROM AREA 20SUMD

RUNOFF VOLUME = 2.26585 INCHES = .7115 ACRE-FEET
 PEAK DISCHARGE RATE = 15.55 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*

*S Add D2 (D3 + 20SUME)
 ADD HYD ID=24 HYD NO=20SUME IDS=23 AND 3
 PRINT HYD ID=24 CODE=1

HYDROGRAPH FROM AREA 20SUME

RUNOFF VOLUME = 2.26583 INCHES = .8503 ACRE-FEET
 PEAK DISCHARGE RATE = 18.58 CFS AT 1.500 HOURS BASIN AREA = .0070 SQ. MI.

*

*S Add D2 for Total Street Flow (D2 + 20SUME)
 ADD HYD ID=25 HYD NO=20SUME IDS=24 AND 2
 PRINT HYD ID=25 CODE=1

HYDROGRAPH FROM AREA 20SUME

RUNOFF VOLUME = 2.26584 INCHES = 1.0423 ACRE-FEET
 PEAK DISCHARGE RATE = 22.78 CFS AT 1.500 HOURS BASIN AREA = .0086 SQ. MI.

*

*S Add East and West for Total Site Flow (20TOT + 10TOT)
 ADD HYD ID=31 HYD NO=301SUMA IDS=25 AND 20
 PRINT HYD ID=31 CODE=1

HYDROGRAPH FROM AREA 301SUMA

RUNOFF VOLUME = 2.26599 INCHES = 3.9838 ACRE-FEET
 PEAK DISCHARGE RATE = 86.84 CFS AT 1.500 HOURS BASIN AREA = .0330 SQ. MI.

*

*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****
 COMPUTE NM HYD ID=9 HYD NO=CHURCH DA=0.013240 SQ MI
 PER A=100 PER B=0 PER C=0 PER D=0
 TP=-0.1333 HR MASS RAIN=-1

K = .163684HR TP = .133300HR K/TP RATIO = 1.227936 SHAPE CONSTANT, N = 2.899764
 UNIT PEAK = 27.170 CFS UNIT VOLUME = .9978 B = 273.54 P60 = 1.8700
 AREA = .013240 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
 RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*

PRINT HYD ID=9 CODE=1

HYDROGRAPH FROM AREA CHURCH

RUNOFF VOLUME = .43936 INCHES = .3102 ACRE-FEET
 PEAK DISCHARGE RATE = 10.90 CFS AT 1.500 HOURS BASIN AREA = .0132 SQ. MI.

*

*S Add for Total pond Inflow (CHURCH + 10TOT)
 ADD HYD ID=30 HYD NO=PONDIN IDS=9 AND 31

PRINT HYD

ID=30 CODE=1

HYDROGRAPH FROM AREA PONDIN

RUNOFF VOLUME = 1.74256 INCHES = 4.2940 ACRE-FEET
PEAK DISCHARGE RATE = 97.73 CFS AT 1.500 HOURS BASIN AREA = .0462 SQ. MI.

*
*

ROUTE RESERVOIR	ID=40	HYD NO=PONDOUT	INFLOW=30	CODE=1
	OUTFLOW(CFS)	STORAGE(AC-FT)	ELEV	
	0.0	0.0000	9.00	
	0.01	0.48	9.25	
	0.01	0.97	9.5	
	0.02	1.48	9.75	
	2.48	2.00	10.0	
	4.22	2.53	10.25	
	5.42	3.08	10.5	
	50.0	5.0000	11.0	

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	10.30	.000	.00
1.40	57.39	9.20	.383	.01
1.45	85.03	9.50	.970	.01
1.50	97.73	9.54	1.055	.01
1.55	86.48	9.73	1.436	.02
1.60	67.50	9.88	1.751	1.30
1.65	53.20	10.00	1.993	2.45
1.70	43.91	10.09	2.182	3.08
1.75	37.78	10.16	2.337	3.59
1.80	33.27	10.22	2.468	4.02
1.85	29.59	10.27	2.581	4.33
1.90	26.52	10.32	2.678	4.54
1.95	23.98	10.36	2.763	4.73
2.00	21.85	10.39	2.838	4.89
2.05	19.61	10.42	2.903	5.03
2.10	15.35	10.44	2.955	5.15
2.15	10.90	10.46	2.987	5.22
2.20	8.09	10.47	3.005	5.26
2.25	6.43	10.47	3.013	5.27
2.30	5.39	10.47	3.016	5.28
2.35	4.63	10.47	3.015	5.28
2.40	4.00	10.47	3.011	5.27
2.45	3.48	10.47	3.005	5.26
2.50	3.05	10.46	2.996	5.24
2.55	2.68	10.46	2.987	5.22
2.60	2.37	10.45	2.976	5.19
2.65	2.11	10.45	2.963	5.17
2.70	1.88	10.44	2.950	5.14
2.75	1.70	10.43	2.937	5.11
2.80	1.54	10.43	2.922	5.08
2.85	1.41	10.42	2.907	5.04
2.90	1.29	10.41	2.892	5.01
2.95	1.18	10.41	2.877	4.98
3.00	1.09	10.40	2.861	4.94
3.05	1.01	10.39	2.845	4.91
3.10	.94	10.39	2.829	4.87
3.15	.88	10.38	2.813	4.84
3.20	.84	10.37	2.796	4.80
3.25	.80	10.36	2.780	4.76
3.30	.75	10.36	2.763	4.73
3.35	.72	10.35	2.747	4.69
3.40	.69	10.34	2.731	4.66
3.45	.67	10.33	2.714	4.62

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TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
3.50	.64	10.33	2.698	4.59
3.55	.62	10.32	2.682	4.55
3.60	.60	10.31	2.665	4.52
3.65	.59	10.30	2.649	4.48
3.70	.58	10.30	2.633	4.45
3.75	.56	10.29	2.617	4.41
3.80	.55	10.28	2.601	4.38
3.85	.54	10.28	2.586	4.34
3.90	.53	10.27	2.570	4.31
3.95	.53	10.26	2.554	4.27
4.00	.52	10.25	2.539	4.24
4.05	.51	10.25	2.524	4.20
4.10	.51	10.24	2.509	4.15
4.15	.51	10.23	2.494	4.10
4.20	.50	10.23	2.479	4.05
4.25	.50	10.22	2.464	4.00
4.30	.49	10.21	2.450	3.96
4.35	.49	10.21	2.436	3.91
4.40	.49	10.20	2.422	3.86
4.45	.49	10.19	2.408	3.82
4.50	.49	10.19	2.394	3.77
4.55	.49	10.18	2.381	3.73
4.60	.49	10.17	2.367	3.69
4.65	.49	10.17	2.354	3.64
4.70	.50	10.16	2.341	3.60
4.75	.49	10.15	2.329	3.56
4.80	.49	10.15	2.316	3.52
4.85	.50	10.14	2.304	3.48
4.90	.50	10.14	2.291	3.44
4.95	.50	10.13	2.279	3.40
5.00	.51	10.13	2.267	3.36
5.05	.51	10.12	2.256	3.32
5.10	.51	10.12	2.244	3.28
5.15	.52	10.11	2.233	3.24
5.20	.52	10.10	2.222	3.21
16.20	.44	9.80	1.590	.54
16.25	.44	9.80	1.589	.54
16.30	.44	9.80	1.589	.54
16.35	.44	9.80	1.588	.53
16.40	.44	9.80	1.588	.53
16.45	.44	9.80	1.588	.53
16.50	.44	9.80	1.587	.53
16.55	.44	9.80	1.587	.53
16.60	.44	9.80	1.587	.52
16.65	.44	9.80	1.586	.52
16.70	.43	9.80	1.586	.52
16.75	.44	9.80	1.586	.52
16.80	.44	9.80	1.585	.52
16.85	.43	9.80	1.585	.52
16.90	.43	9.80	1.585	.51
16.95	.43	9.80	1.584	.51
17.00	.43	9.80	1.584	.51
17.05	.43	9.80	1.584	.51
17.10	.43	9.80	1.583	.51
17.15	.43	9.80	1.583	.51
17.20	.43	9.80	1.583	.51
17.25	.43	9.80	1.582	.50
17.30	.43	9.80	1.582	.50
17.35	.42	9.80	1.582	.50
17.40	.42	9.80	1.581	.50
17.45	.42	9.80	1.581	.50
17.50	.42	9.80	1.581	.50
17.55	.42	9.80	1.580	.50
17.60	.42	9.80	1.580	.49
17.65	.42	9.80	1.580	.49
17.70	.42	9.80	1.580	.49

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
17.75	.42	9.80	1.579	.49
17.80	.42	9.80	1.579	.49
17.85	.42	9.80	1.579	.49
17.90	.42	9.80	1.578	.49
17.95	.41	9.80	1.578	.48
18.00	.41	9.80	1.578	.48
24.00	.34	9.79	1.555	.37
25.00	.00	9.78	1.533	.27
26.00	.00	9.77	1.514	.18
27.00	.00	9.76	1.502	.12
28.00	.00	9.76	1.493	.08
29.00	.00	9.75	1.488	.06

PEAK DISCHARGE = 5.280 CFS - PEAK OCCURS AT HOUR 2.30
MAXIMUM WATER SURFACE ELEVATION = 10.471
MAXIMUM STORAGE = 3.0159 AC-FT INCREMENTAL TIME= .050000HRS

* *****
*PRINT HYD ID=40 CODE=1
*
*
*
FINISH

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

February 17, 2017

Ron Hensley, P.E.
GND Engineering
11032 Dreamy Way Dr. NW
Albuquerque, NM, 87114

**RE: Coors Pavilion Subdivision
9154 Coors Blvd
Grading Plan
Engineer's Stamp Date: 1/31/2017
Hydrology File: G11D069**

Dear Mr. Hensley:

Based upon the information provided in your submittal received 2/1/17, the Grading Plan is not approved for Grading Permit. The following comments need to be addressed for approval of the above referenced project:

1. AHYMO Model.

- a. The rainfall command calls RAIN ONE=1.84 IN, instead of RAIN ONE=1.87 IN for Zone 1.
- b. Sub-basins D1 through D8 call for land treatments A=0%, B=5%, C=5%, D=90%. This conflicts with what is reported in the Hydrologic Data Table on the Master Drainage Plan: A=0%, B=0%, C=10%, D=90%. Either land treatment is acceptable for what is proposed, however it must be consistent.
- c. The print hydrograph command for sub-basin D2, calls on ID=1, instead of ID=2.
- d. Descriptive text “*S Add D6 (D6 + SUMA)” does not match code. Code looks correct based on routing scheme and your clarifying memo. This appears to be only a typo.
- e. The maximum water surface elevation per the model is 5011.40', but is stated as 5011.50' on the drainage master plan. This can be changed to 5011.40' if desired, or left as conservative rounding.

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

- f. Provide a stamped copy of the AHYMO model files to support the approval of the drawing.

2. Hydrologic Data Table.

- a. The area for the church basin appears too low and is not consistent with the AHYMO model.
- b. Land treatments should be consistent with the AHYMO model.

3. Outlet Structure.

- a. Specify RCP Class IV for the storm drain passing under the garden wall, assuming the garden wall will remain over the pipe.
- b. Add a manhole and a polyline with annotation at the public/private interface of the storm drain.
- c. Provide storm drain invert elevation and grate elevations for the outlet structure.
- d. Detaining the first flush volume in a 3 inch deep by 2.6 acre uniformly flat earth surface pond is not feasible from a construction standpoint. Excavate an additional 0.2 feet to provide for the allowable error in construction finished grades.
- e. A local depression, 2 feet beneath the PVC pipe inverts, needs to be provided for erosion and sediment control. This depression must be maintainable with 3:1 or flatter slopes and at least 4 feet of flat bottom around the outlet structure to prevent the storm drain from silting in.

PO Box 1293

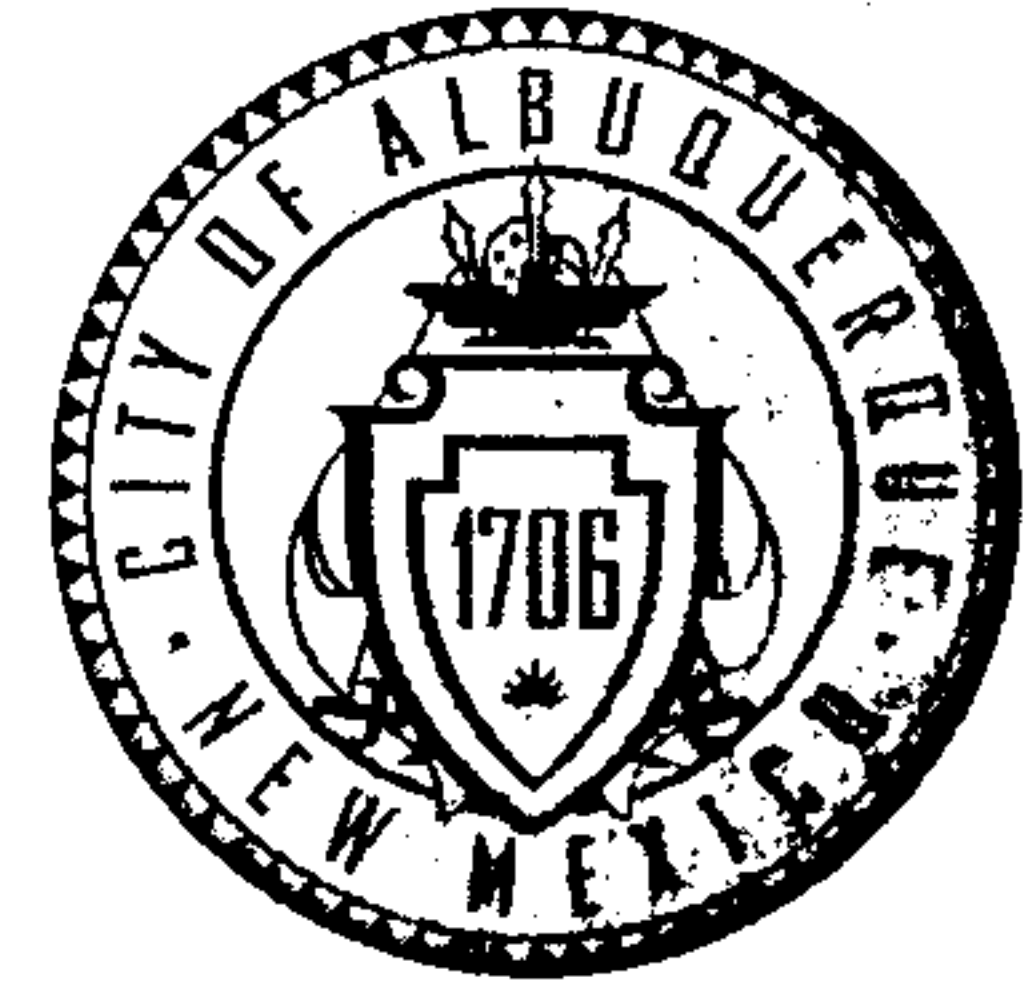
Albuquerque

New Mexico 87103

www.cabq.gov

4. Pond

- a. No ponding will be allowed over the 20 foot ABCWUA easement. The pond boundary will need to be adjusted to avoid this.
- b. The maximum water surface elevation of the pond (5011.50 ft) will need to be restricted to the private access and cannot encroach into lots 1 and 2 beyond the drainage easement boundary.
- c. Provide additional elevation data along the private access and lots 1 and 2 showing that ponding will be restricted to the private access easement and pond.



Richard J. Berry, Mayor

5. Other Drawing Notes.

- a. The AHYMO model determined a contribution of 10.68 cfs from the church and the drawing shows a contribution of 29.26 cfs.
- b. Reorient the flow arrows to make it clear that each lot (for lots 1-7) will discharge directly to the private access as modeled and not across adjacent lots.
- c. Lot 2 shows a peak discharge of 6.65 cfs, not 2.99 cfs as shown in the model.
- d. Lot 4 shows a peak discharge of 6.93 cfs, not 4.07 cfs as shown in the model.
- e. Line types are difficult to discern and ambiguous, especially along Coors. Screen-back (gray) existing contours and existing features, change line types to improve clarity, update the legend, and label all easements and ROWs.
- f. Add spot elevations though the deceleration lane along Coors for top of curb and flow line.
- g. Add to the narrative clarification that this master drainage plan is only for grading of the road and pond.

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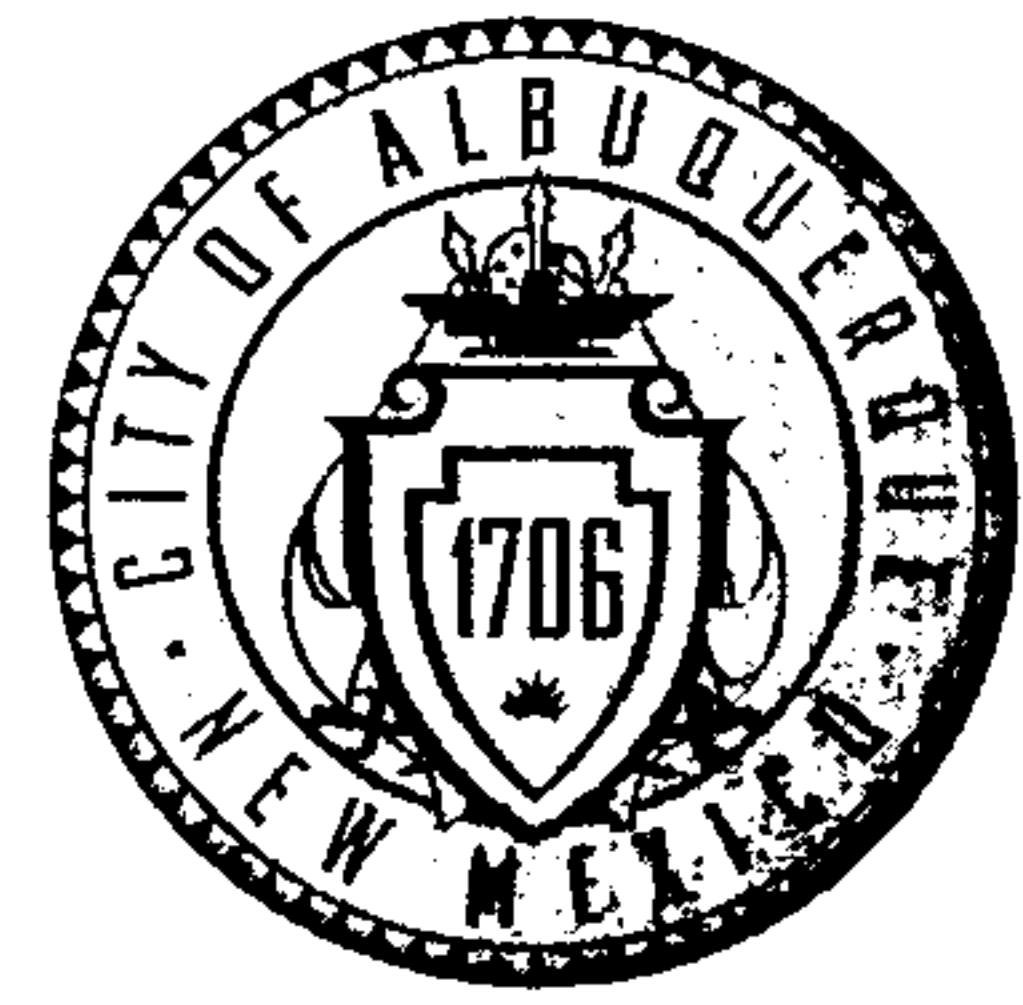
6. Coordination.

- a. Provide proof of correspondence with NMDOT for work along Coors Blvd. Coors Blvd is NMDOT ROW and the City does not approve work in NMDOT ROW.
- b. Provide proof of correspondence with the fence owner, most likely the homeowners association, for permission to remove the fence at the end of Quaker Heights.

7. Submittal of an erosion and sediment control plan is required prior to grading permit approval as the disturbed area is over 1 acre. Please contact Curtis Cherne P.E at 924-3420 for question regarding ESC plans.

The following comments do not need to be addressed a part of this submittal for grading permit:

CITY OF ALBUQUERQUE



Richard J. Berry, Mayor

1. This master plan allows cross-lot drainage from lot 7 through lot 8 and lot 9 to the pond. As this was not part of the conceptual grading and drainage plan used for preliminary plat, a new cross lot drainage easement for lots 8 and 9 for the benefit of lots 7 and 8 will be required for final plat.
2. Shared maintenance agreements will be required for the private access and the pond.

Work within the City Right-of-Way will require a city work order. It is Hydrology's understanding that this grading plan is for grading permit of only the private access and pond improvements. No lots will be graded under this permit; individual lots will be required to submit grading and drainage plans separately.

If you have any questions, 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

New Mexico 87103

www.cabq.gov



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Coors Pavilion Building Permit #: _____ City Drainage #: G 11 D069

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

Legal Description: TRACT X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER

City Address: 9154 Coors Blvd.

Engineering Firm: GND Engineering Contact: Ron Hensley

Address: 11032 Dreamy Way Dr. NW Albuquerque, NM 87114

Phone#: 505-410-1622 Fax#: _____ E-mail: ron@thegroup.cc

Owner: Retail Southwest Development Contact: Joshua J. Skarsgard

Address: 8220 San Pedro NE Suite 500 / Albuquerque, NM 87113

Phone#: 505-262.2323 Fax#: _____ E-mail: _____

Architect: Dekker/Perich/Sabatini Contact: _____

Address: _____

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

Surveyor: Surv-Tek, Inc. Contact: Russ Hugg

Address: 9384 Valley View Drive, Albuquerque, NM 87114

Phone#: 505-897-3366 Fax#: _____ E-mail: russhugg@survtek.com

Contractor: _____ 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
- ☐ PAVING PERMIT APPROVAL
- ☐ WORK ORDER APPROVAL
- ☐ GRADING CERTIFICATION

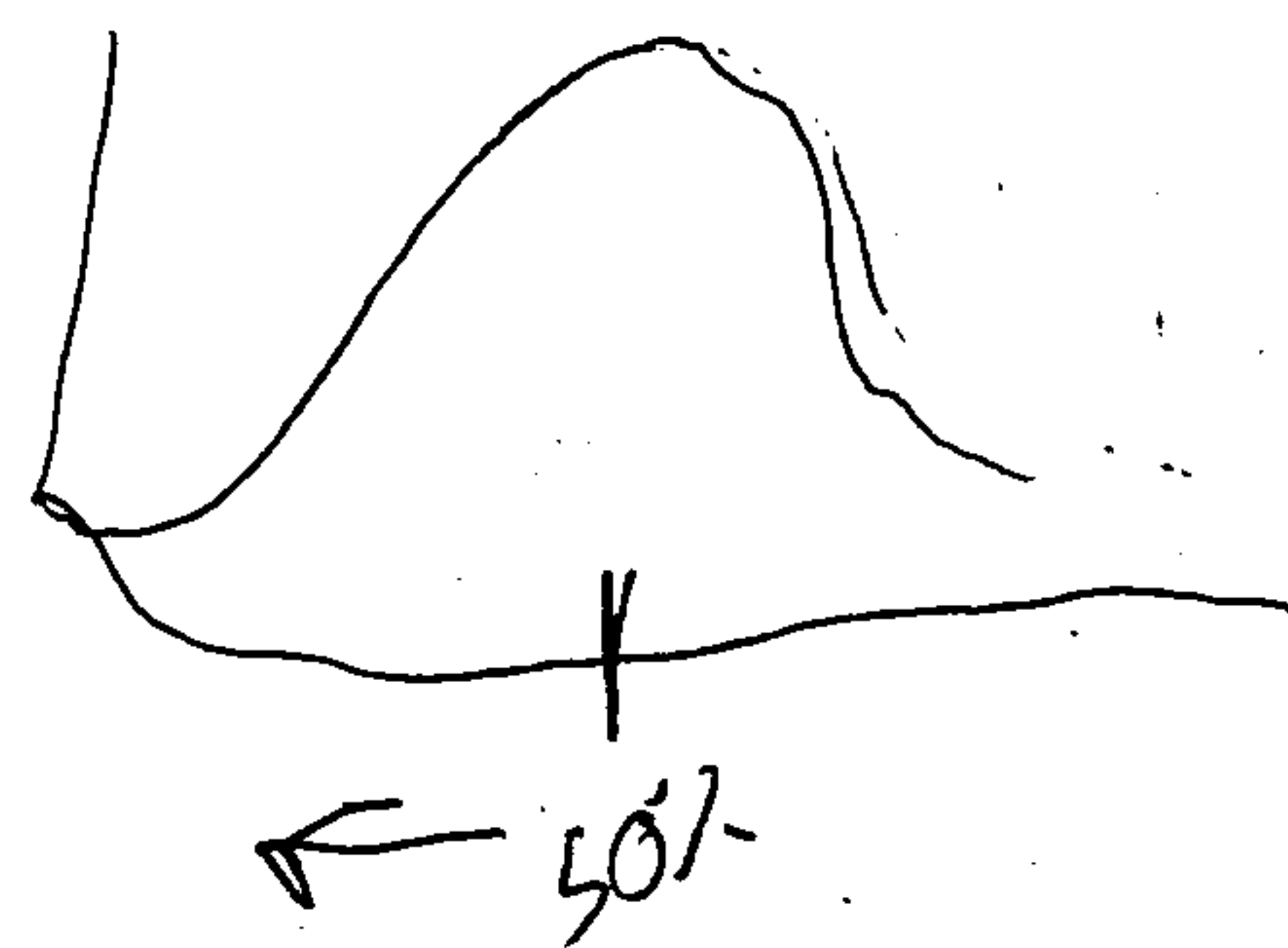
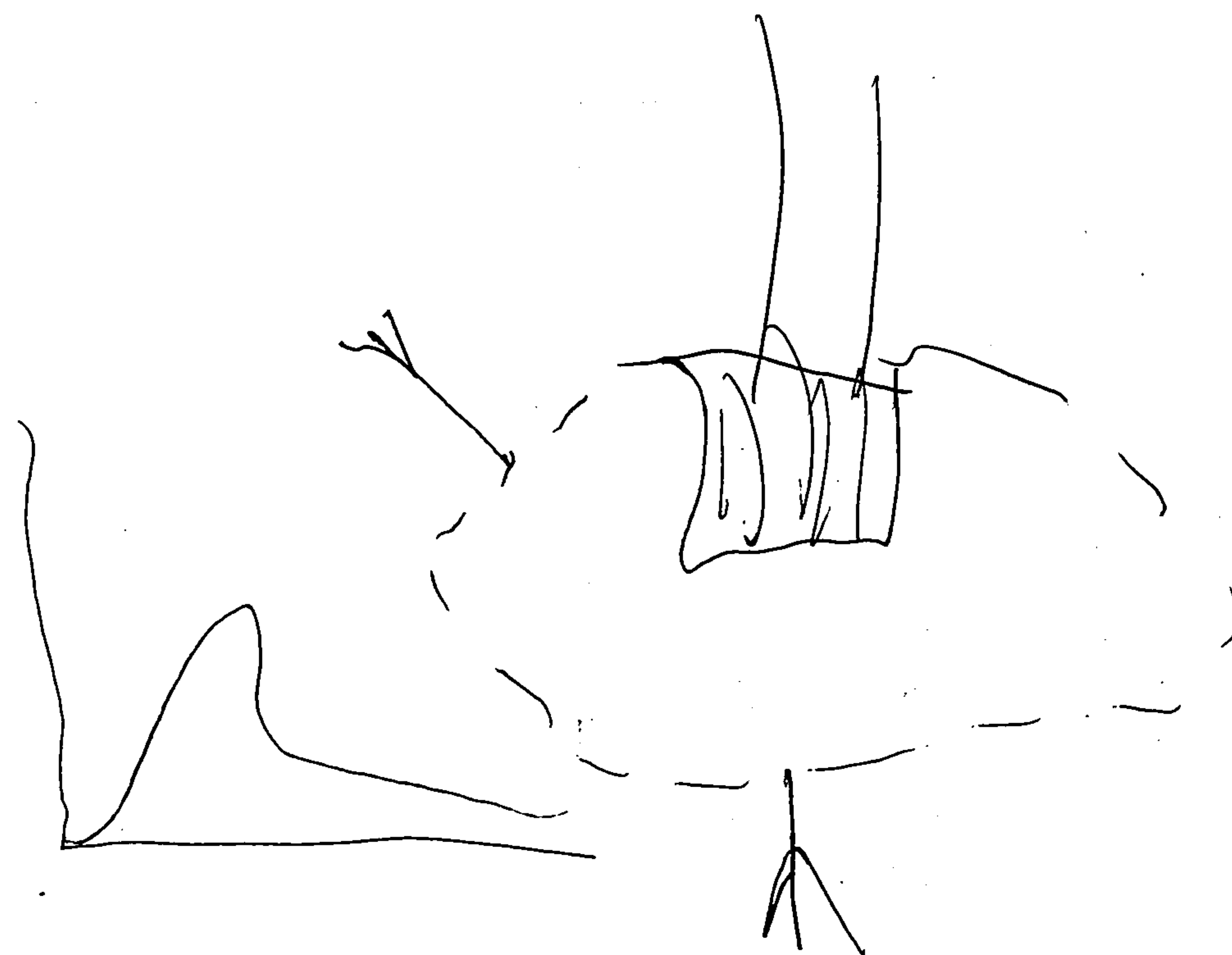


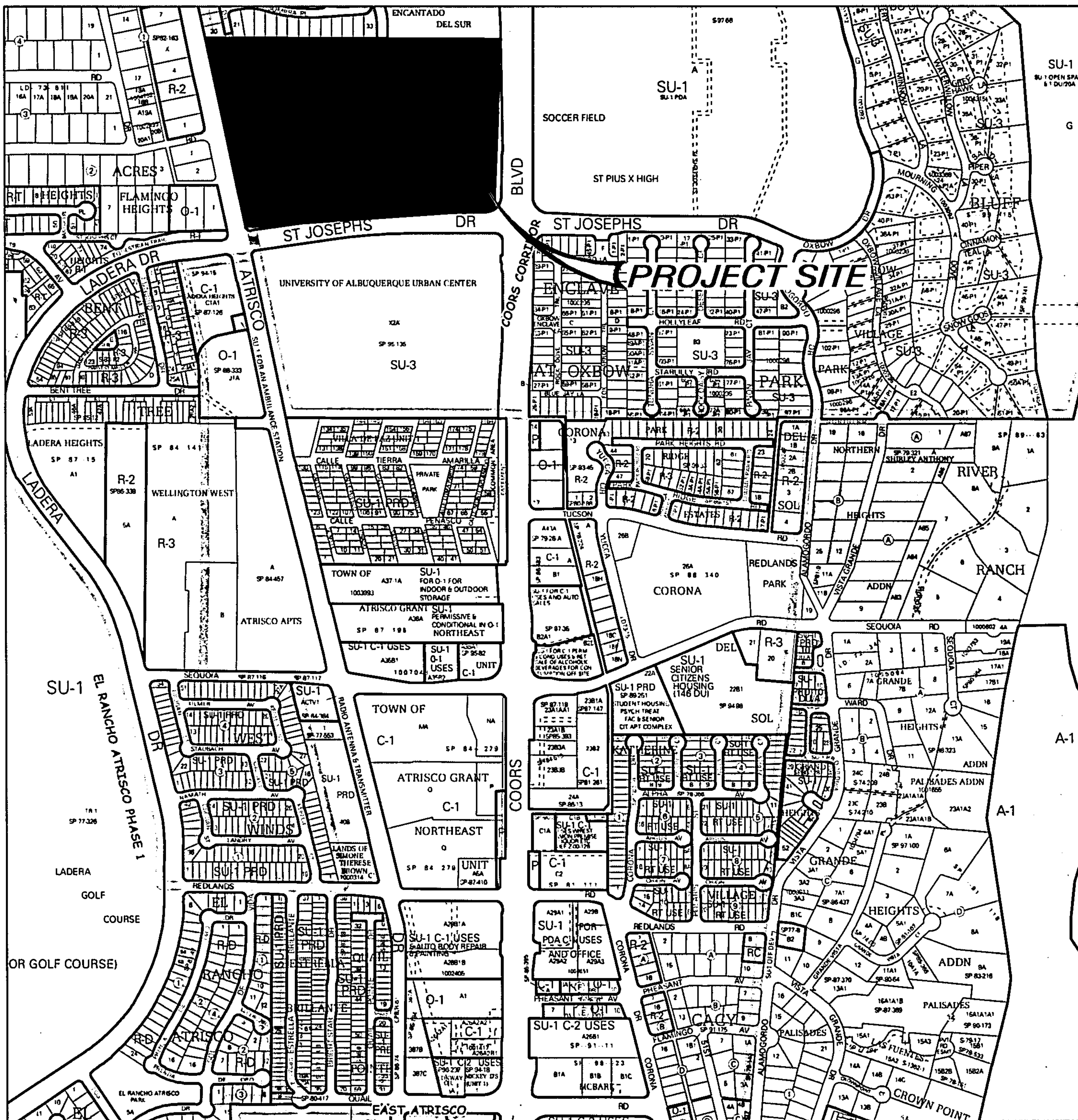
WAS A PRE-DESIGN CONFERENCE ATTENDED: _____ Yes ☒ No _____ Copy Provided

DATE SUBMITTED: 1/4/2017 By: Ron Hensley

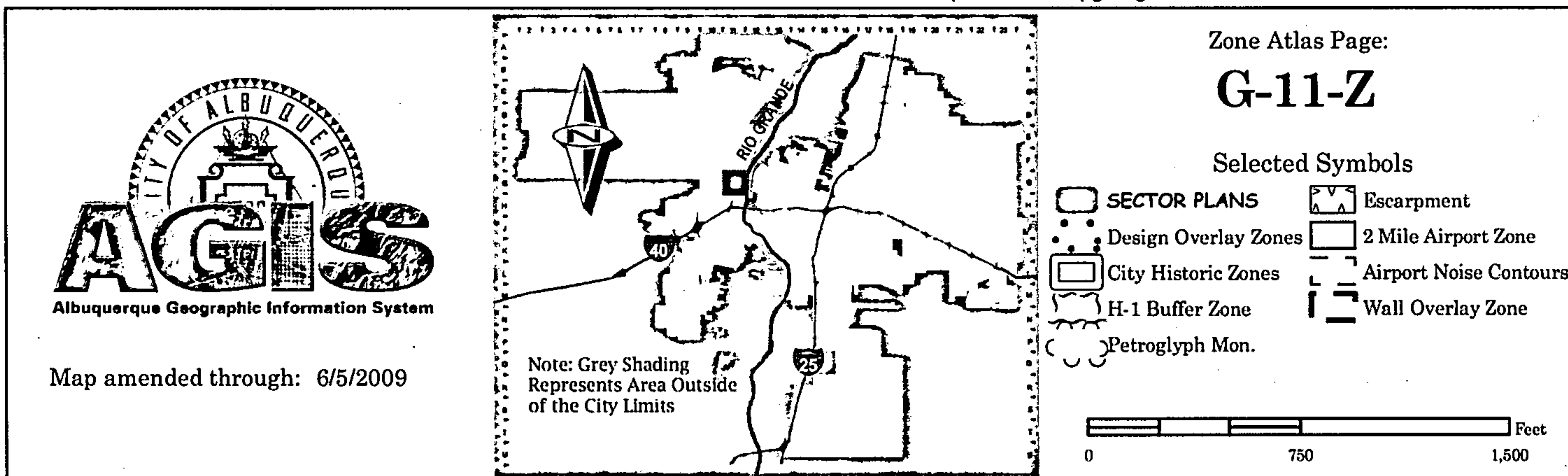
Requests for approvals of Site Development Plans and/or Subdivision Plats shall be accompanied by a drainage submittal. The particular nature, location, and scope to the proposed development defines the degree of drainage detail. One or more of the following levels of submittal may be required based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





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



Current DRC
Project Number: _____

FIGURE 12

INFRASTRUCTURE LIST

(Rev 9-05)

EXHIBIT "A"

TO SUBDIVISION IMPROVEMENTS AGREEMENT
DEVELOPMENT REVIEW BOARD (D.R.B.) REQUIRED INFRASTRUCTURE LIST

Coors Pavilion Subdivision

PROPOSED NAME OF PLAT AND/OR SITE DEVELOPMENT PLAN

TRACTS X-1 - A2, UNIVERSITY OF ALBUQUERQUE URBAN CENTER

EXISTING LEGAL DESCRIPTION PRIOR TO PLATTING ACTION

Date Submitted: _____
Date Site Plan Approved: _____
Date Preliminary Plat Approved: 1-4-17
Date Preliminary Plat Expires: 1-4-18
DRB Project No: 1000032
DRB Application No: 16-70398

Following is a summary of PUBLIC/PRIVATE Infrastructure required to be constructed or financially guaranteed for the above development. This Listing is not necessarily a complete listing. During the SIA process and/or in the review of the construction drawings, if the DRC Chair determines that appurtenant items and/or unforeseen items have not been included in the infrastructure listing, the DRC Chair may include those items in the listing and related financial guarantee. Likewise, if the DRC Chair determines that appurtenant or non-essential items can be deleted from the listing, those items may be deleted as well as the related portions of the financial guarantees. All such revisions require approval by the DRC Chair, the User Department and agent/owner. If such approvals are obtained, these revisions to the listing will be incorporated administratively. In addition, any unforeseen items which arise during construction which are necessary to complete the project and which normally are the Subdivider's responsibility will be required as a condition of project acceptance and close out by the City.

as a condition of project acceptance and close out by the City.									
Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification		
							Private Inspector	P.E.	City Cnst Engineer
			Transportation						
		12'	Art. Pvmnt. Right Turn Deceleration Lane w/ Preservation of Bike Lane	Coors Blvd. SB	South P/L Lot 3	370' plus 150' taper transition	/	/	/
		6'	PCC Sidewalk	Coors Blvd. SB	North P/L	St Josephs Dr.	/	/	/
		12'	Art. Pvmnt. Left Turn Lane Lengthen SB turn lane	Coors Blvd. SB	Sequoia Rd	175' plus transition from 100' existing	/	/	/
		ADA	PCC ADA Accessible Ramp Pedestrian Connection	Coors Blvd. SB	Coors Blvd	St Josephs Dr.	/	/	/
		2 EA	Street Light Relocation See Notes	Coors Blvd. SB	North P/L	West P/L Lot 7	/	/	/
		1 EA	Panel Sign Relocation Remove and Replace	Coors Blvd. SB	South of North P/L	South of North P/L	/	/	/
		12'	Art. Pvmnt. Left Turn Lane Addition of turn lane	St Josephs Dr. EB	West P/L Lot 7	150' plus 150'-150' reverse curve	/	/	/
		24'	Art. Pvmnt. Left Turn Lane Lengthen EB turn lanes	St Josephs Dr. EB	Coors Blvd.	300' plus transition from Coors	/	/	/
		12'	Art. Pvmnt. Right Turn Lane Addition of turn lane	St Josephs Dr. WB	West P/L Lot 7	150' plus 150'-150' reverse curve	/	/	/

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification		
							Private Inspector	P.E.	City Cnst Engineer
		6'	PCC Sidewalk	St Josephs Dr WB	West P/L Lot 8	Coors Blvd.	/	/	/
		75'	Median Cut	St Josephs Dr.	West P/L Lot 7	West P/L Lot 7	/	/	/
		30'	Curb Opening	St Josephs Dr	West P/L Lot 8	West P/L Lot 8	/	/	/
		24'	Res. Pvmt. Remove & Replace Replacement for Storm Drain Drainage	Quaker Heights Pl.	North P/L Lot 8	Valle Allegra	/	/	/
		24"	Storm Drain Connect to existing	Quaker Heights Pl.	On Site Pond	Valle Allegra	/	/	/
		3 ac. ft.	On Site Pond w/Oulet Structure 3 acre on site pond Water	Lot 9	Lot 9	Lot 9	/	/	/
		8"	Water Line W/ Appurtances	St Josephs Dr.	Existing 10" Water Line	Existing 6" Stub west of Coors Blvd.	/	/	/
		8"	Water Line W/ Appurtances	On Site w/in ABCWUA Easement	Proposed Water Line in St Josephs Dr.	Quaker Hieghts Pl	/	/	/
		8"	Sanitary Sewer SAS & Manholes W/ Appurtances	St Josephs Dr.	Existing Sanitary Sewer	East P/L	/	/	/
		8"	SAS & Manholes W/ Appurtances	Quaker Heights Pl.	Valle Allegra	Site	/	/	/
			Private Improvements Paving						
		26'	Asphalt Paving w/Valley Gutter Private Access & Drainage	N/S Site Easement	St Josephs Dr.	North P/L	/	/	/
		8"	Sanitary Sewer SAS & Manholes W/ Appurtances	SAS Site Easement	Quaker Heights Pl.	Lot 6	/	/	/
							/	/	/
							/	/	/
							/	/	/

The items listed below are on the CCIP and approved for Impact Fee credits. Signatures from the Impact Fee Administrator and the City User Department is required prior to DRB approval of this listing. The items listed below are subject to the standard SIA requirements.

Financially Guaranteed DRC #	Constructed Under DRC #	Size	Type of Improvement	Location	From	To	Construction Certification		
							Private Inspector	P.E.	City Cnst Engineer
							/	/	/
							/	/	/
Approval of Creditable Items:							Approval of Creditable Items:		
Impact Fee Administrator Signature Date							City User Dept. Signature Date		

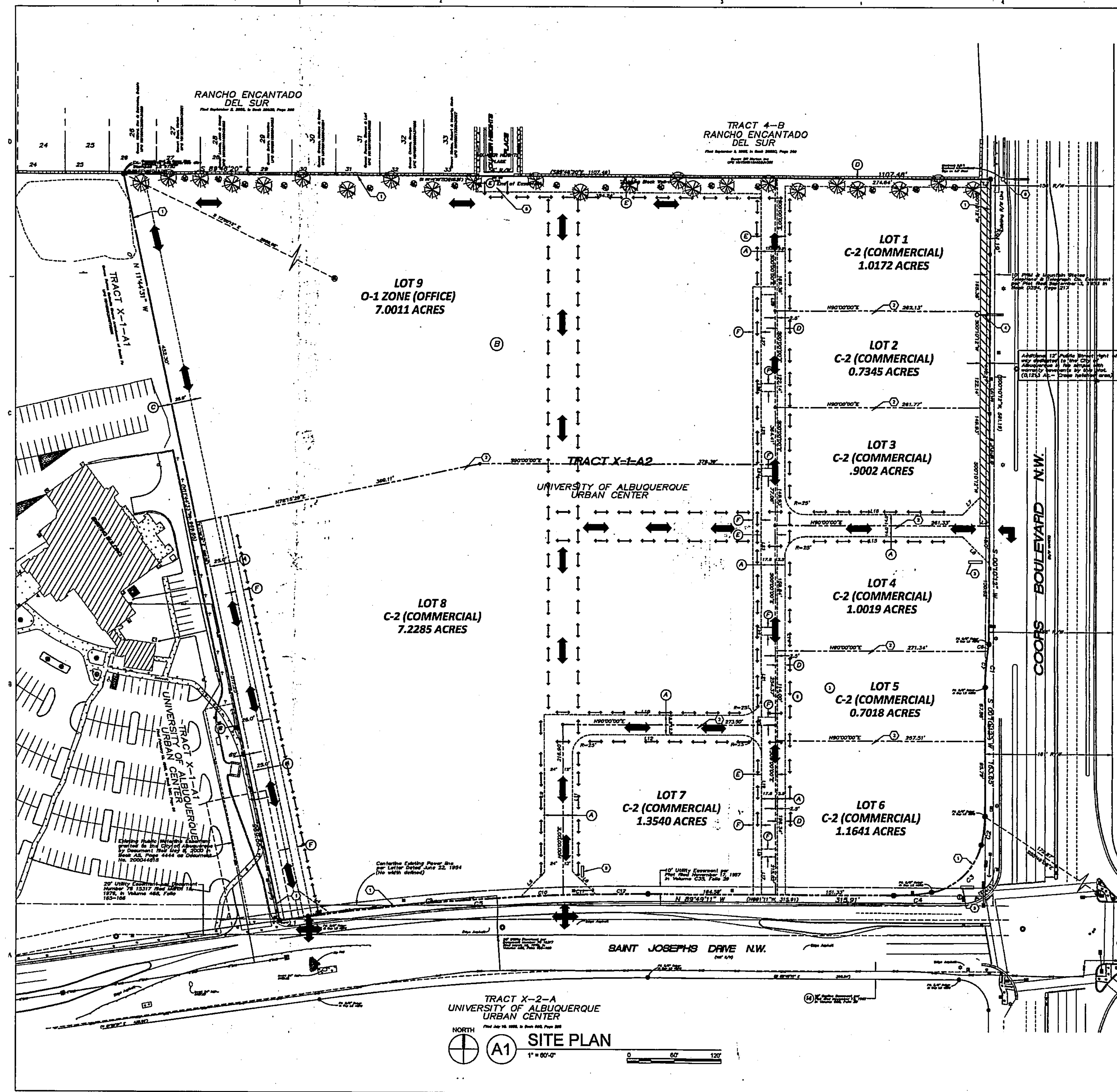
NOTES

If the site is located in a floodplain, then the financial guarantee will not be released until the LOMR is approved by FEMA.
Street lights per City requirements.

- 1 _____
- 2 _____
- 3 _____

AGENT / OWNER	DEVELOPMENT REVIEW BOARD MEMBER APPROVALS	
Ron E. Hensley P.E. NAME (print) GND LLC FIRM <i>Ron E. Hensley</i> SIGNATURE - date	<i>Carl D. ...</i> 1-4-17 DRB CHAIR - date <i>Gregory M. ...</i> 1/4/17 TRANSPORTATION DEVELOPMENT - date <i>Christy ...</i> 01-04-17 UTILITY DEVELOPMENT - date <i>AKC</i> 1-4-17 CITY ENGINEER - date	<i>Carol S. Dumont</i> 1-4-17 PARKS & GENERAL RECREATION - date AMAFCA - date - date - date

DESIGN REVIEW COMMITTEE REVISIONS				
REVISION	DATE	DRC CHAIR	USER DEPARTMENT	AGENT / OWNER



GENERAL NOTES

A1. APPLICABLE PLANS: REFER TO DESIGN GUIDELINES, SHEET DS101 AND DS102, PROJECT DESIGN STANDARD GUIDELINES, THIS PACKAGE.

KEYED NOTES

- EXISTING PROPERTY LINE
- PROPOSED PROPERTY LINE
- SHOPPING CENTER SIGN
- N.M.D.O.T. ELECTRONIC READER BOARD (AS PER NMDOT STANDARDS & SPECS)
- STAMPED CONCRETE PEDESTRIAN CONNECTION AT QUAKER HEIGHTS
- EXISTING N.M.D.O.T. - E.R.B. TO BE REMOVED BY APPLICANT (AS PER NMDOT STANDARDS & SPECS)

KEYED NOTES - CIVIL/SURVEY

- PROPOSED PRIVATE ACCESS & SURFACE DRAINAGE EASEMENT.
- PROPOSED PRIVATE BLANKET DRAINAGE EASEMENT.
- PROPOSED 25' WIDE PUBLIC C.O.A. DRAINAGE EASEMENT.
- PROPOSED 10' PUBLIC UTILITY EASEMENT.
- PROPOSED 20' PUBLIC ABCWUA WATER EASEMENT.
- PROPOSED 10' PRIVATE SANITARY SEWER EASEMENT.

SITE DATA

LEGAL DESCRIPTION:
TRACT X-1-A2 PLAT OF TRACTS X-1-A1 & X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER CONT 21.2244 AC OR 924,537 SF
Acres: 21.2244
ZONE CLASS:
C-2, O-1
MAXIMUM BUILDING HEIGHT: SEE DESIGN STANDARDS
BUILDING SETBACKS: SEE DESIGN STANDARDS
PROPOSED USES: USES WITHIN THE C-2 & O-1 ZONING CLASSES
MAXIMUM FAR: AS PER ALB. LOCAL CODE & THE DESIGN STANDARDS

SITE PLAN LEGEND

→

PEDESTRIAN INGRESS / EGRESS

→

VEHICULAR INGRESS / EGRESS

PROPERTY LINE EXISTING AS NOTED

PROPERTY LINE PROPOSED AS NOTED

VICINITY MAP

Zone Atlas Map G-11-Z

FORMER PROJECT NUMBER:
PROJECT NUMBER: PA# 15-175, CASE FILE 100032, EPC-40123-2013

APPLICATION NUMBER:
Is an Infrastructure List Required? () Yes () No If yes, then a set of approved DRC plans with a work order is required for any construction within Public Right-of-Way or for construction of public improvements.

SITE DEVELOPMENT PLAN APPROVAL:

<i>Rafael M. ...</i>	12/2/16
TRAFFIC ENGINEER, TRANSPORTATION DIVISION	DATE
<i>Wally ...</i>	12-21-16
ABCWUA	DATE
<i>Carol S. Dumont</i>	12-21-16
PARKS AND RECREATION DEPARTMENT	DATE
<i>...</i>	12-21-16
CITY ENGINEER	DATE
<i>...</i>	1-23-17
SOLID WASTE MANAGEMENT	DATE
DRC CHAIRPERSON, PLANNING DEPARTMENT	DATE

ARCHITECTURE / DESIGN / INSPIRATION

DEKKER
PERICH
SABATINI

7601 JEFFERSON NE, SUITE 100
ALBUQUERQUE, NM 87109
505.761.9700 / DPSDESIGN.ORG

SEAL

PROJECT

COORS PAVILION
ALBUQUERQUE, NM
NW CORNER OF ST JOSEPHS DRIVE & COORS BLVD NW

REVISIONS

△	
△	
△	
△	
△	
△	
△	

DRAWN BY

CS, JMG, MB

REVIEWED BY

CS, MB

DATE

12/13/16

PROJECT NO

15-0158.001

DRAWING NAME

SITE DEVELOPMENT
PLAN FOR
SUBDIVISION

SHEET NO

1 of 5

EXISTING CONDITIONS

EXISTING CONDITIONS
THE EXISTING SITE IS NOT WITHIN A DESIGNATED FLOOD ZONE. THE ENTIRE SITE DRAINS TO THE NORTH TOWARD COORS BLVD AND QUAKER HEIGHTS PLACE. SOME ONSITE PONDING DOES OCCUR PRIOR TO DRAINAGE REACHING THE POINTS OF DISCHARGE.

PROPOSED CONDITIONS

PROPOSED CONDITIONS
THE PROPOSED SITE DRAINAGE IMPROVEMENTS WILL INCLUDE SURFACE FLOW AND STORM DRAIN CONVEYANCE TO PERIMETER "FIRST FLUSH" WATER QUALITY PONDS.

THE STORM WATER RUNOFF WILL BE DIRECTED TO A DETENTION POND LOCATED IN LOT 9. SAID POND WILL DISCHARGE TO A STORM DRAIN THAT WILL CONVEY THE FLOW TO THE LADERA POND 16B FACILITY. SEE SEPARATE ANALYSIS OF LADERA POND FACILITY. THE DISCHARGE FROM POND WILL BE SUCH THAT EXISTING STORM DRAIN IN QUAKER HEIGHTS WILL NOT BE ADVERSELY IMPACTED BUT POND WILL DRAIN IN 24 HRS. APPROXIMATELY 3 CFS FOR 24 HOURS = 6 AC. FT.

REQUIRED FIRST FLUSH VOLUME

LOT DRAINAGE AS DEPICTED ON THIS PLAN SHALL BE MAINTAINED.

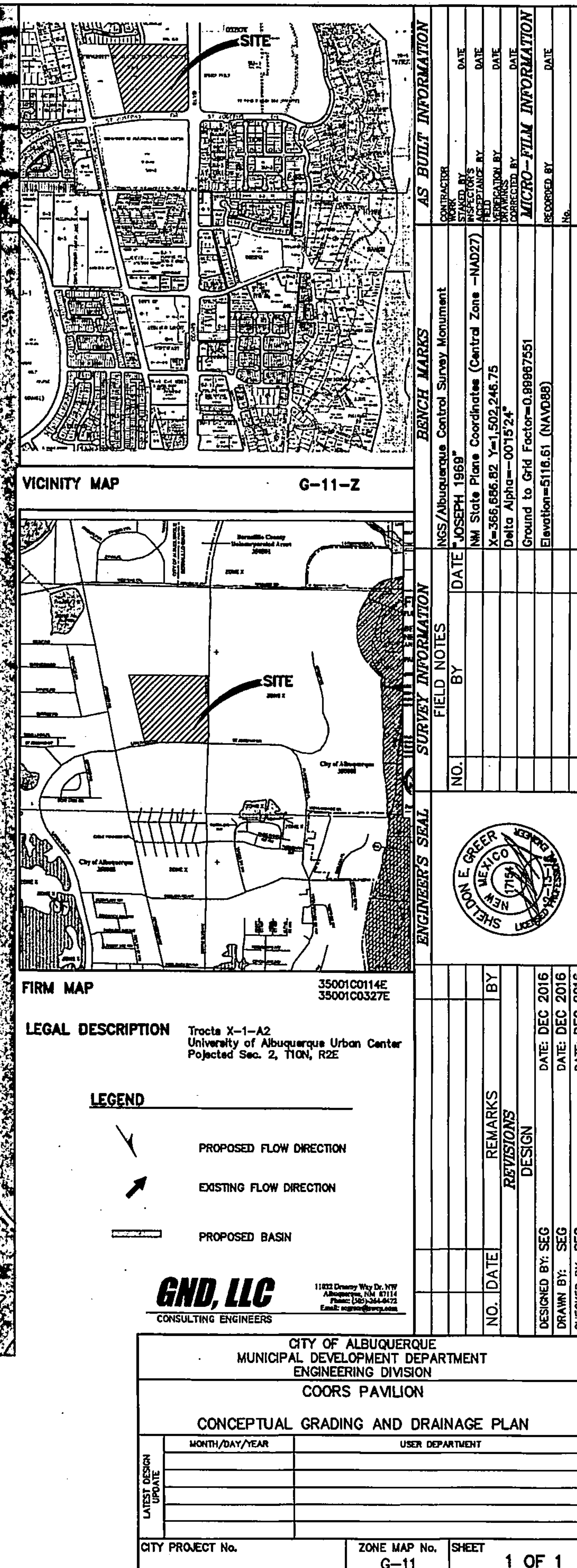
LOT DEPICTED HEREON SHALL BE RESPONSIBLE FOR MAINTAINING FIRST FLUSH RUNOFF RETENTION ON THE LOT IMMEDIATELY PRIOR TO DISCHARGE. THE VOLUME SHALL BE EQUAL TO: IMPERVIOUS AREA * (0.44-0.10)/12 IN CUBIC FEET.

IMPERVIOUS AREA = 831,900 SQ.FT.

REQUIRED VOLUME = $831,900 \cdot (0.44 - 0.10) / 12 = 23,571$ CU.FT.
VOLUME PROVIDED = 27,670 CU.FT.

HYDROLOGIC DATA - PROPOSED

BASINS	AREA (acres)	LAND TREATMENT PERCENTAGES BY TYPE				YIELD (cfs/ac)	Q _{ave} (cfs)	Y _{ave} (cfs)
		A	B	C	D			
D-1	13.36	0	10	0	90	4.13	55.23	2.04
D-2	1.29	0	10	0	90	4.14	5.20	0.19
D-3	1.36	0	10	0	90	4.14	5.78	0.21
D-4	0.82	0	10	0	90	4.15	3.40	0.12
D-5	0.99	0	10	0	90	4.15	4.08	0.15
D-6	0.83	0	10	0	90	4.23	3.83	0.17
D-7	1.51	0	10	0	90	4.23	6.23	0.23
D-8	0.84	0	10	0	90	4.15	3.88	0.13



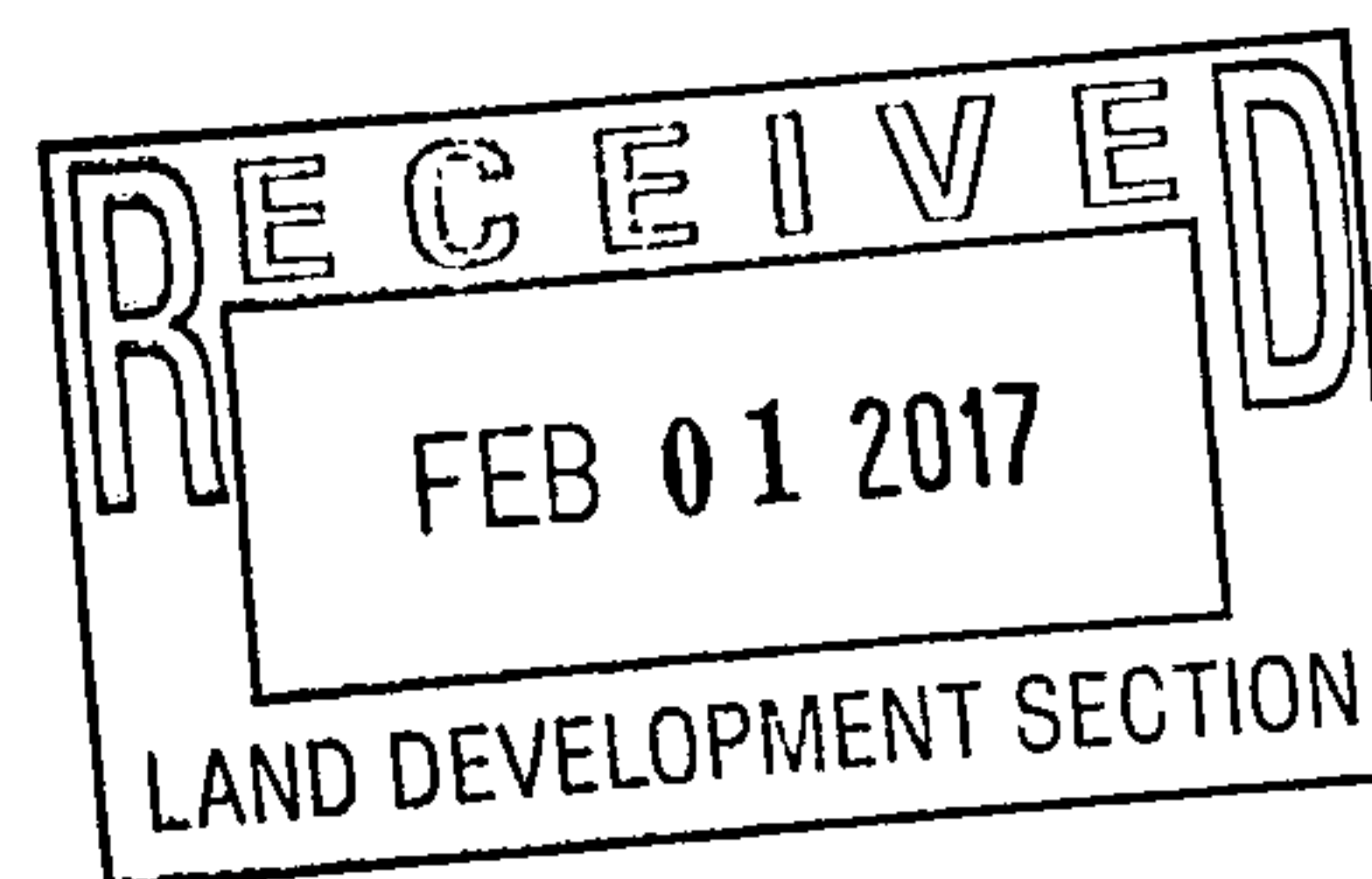


CONSULTING ENGINEERS

10224 Green River Place NW Albuquerque, New Mexico 87114
Phone: 505-264-0472
Email: segreer@swcp.com

January 31, 2017

Dana Peterson P.E.
Hydrology Development
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103



Re: Coors Pavilion Subdivision – Master Grading and Drainage Plan

Mr. Peterson,

We are requesting a review of the attached plan in support of the Grading Permit of the Coors Pavilion Subdivision. We are providing the following response to your comments:

1. The AHYMO model has been modified to reflect the described conditions.
2. The plan depicts the discharge from Lot7 and the adjacent drive being directed to a low point with curb openings.
3. The grade break elevations at the entrances are depicted on the plan and show the site discharge is prevented from entering the adjacent streets.
4. The Church drainage plan with retention pond has restricted the discharge from the site to historic rates. Therefore, the flow into the Coors Pavilion Pond has been modeled to accommodate flows entering the site from the retention pond overflow.
5. The legend has been corrected.
6. The alley will be cut into the existing ground. Prior to the development of the lots, the water surface will be contained within the alley. As the lots adjacent to the pond are developed, it is anticipated that the rim of the water surface will extend into parking areas. Pad elevations for these lots will be at least 1 foot above the water surface.
7. The first flush volumes and accommodations are depicted on the plan. The pond will have 3" below the outfall elevation for retention volume.
8. A detail of the modified Type D inlet has been included. The rating curve for the six pipe penetrations into the inlet is included in the AHYMO model. The downstream effects of the discharge from the site are minimal. There is a significant time differential in peak flow between the basins contributing to the storm drain system at the point of connection. Peak discharge from the existing basins contributing to the storm drain occurs at approximately 1.5 hours with a flow of 15.2 cfs in a 30" pipe. The capacity of the pipe flowing full is 18.95 cfs. Discharge from the

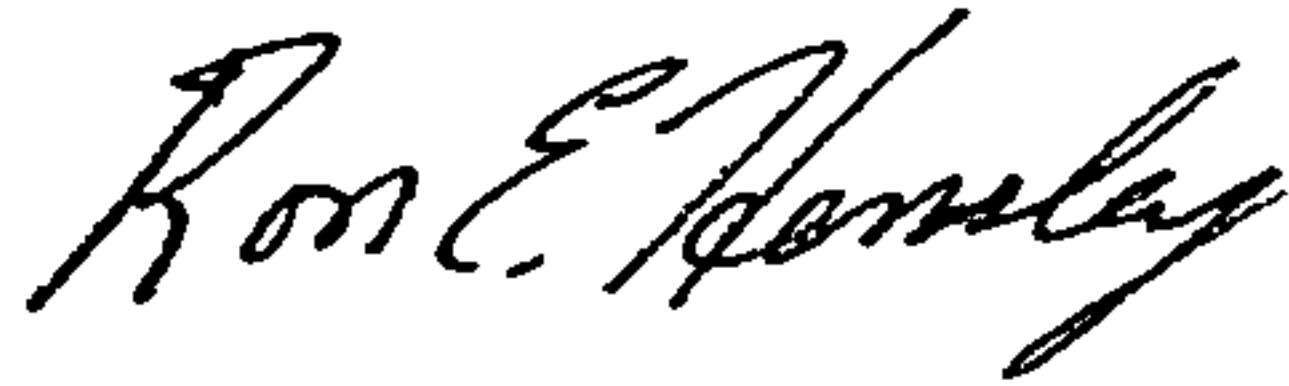
Coors Pavilion Master Drainage Plan

site at 1.5 hours is 1.06 cfs. Therefore, the nominal flow from the site can be conveyed by the existing system. The peak discharge from the site of 4.92 cfs is delayed 0.85 hours from the maximum flow in the storm drain.

9. The AHYMO files are attached.

Please contact me at 410-1622 or via email if you have any questions or comments.

Sincerely,



Ron E. Hensley P.E.
ron@thegroup.cc

AHYMO INPUT

```

*
START          TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
RAINFALL       TYPE=2 RAIN QUARTER=0.0
               RAIN ONE=1.84 IN RAIN SIX=2.20 IN
               RAIN DAY=2.66 IN DT=0.05 HRS
*
*** Sub-BASIN D1 ****
COMPUTE NM HYD ID=1 HYD NO=LOTS89 DA=0.0222234 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=1, CODE=1
*** Sub-BASIN D2 ****
COMPUTE NM HYD ID=2 HYD NO=LOT1 DA=0.001589 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=2, CODE=1
*** Sub-BASIN D3 ****
COMPUTE NM HYD ID=3 HYD NO=LOT2 DA=0.001148 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=3, CODE=1
*** Sub-BASIN D4 ****
COMPUTE NM HYD ID=4 HYD NO=LOT3 DA=0.001407 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=4, CODE=1
*** Sub-BASIN D5 ****
COMPUTE NM HYD ID=5 HYD NO=LOT4 DA=0.001565 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=5, CODE=1
*** Sub-BASIN D6 ****
COMPUTE NM HYD ID=6 HYD NO=LOT5 DA=0.001097 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=6, CODE=1
*** Sub-BASIN D7 ****
COMPUTE NM HYD ID=7 HYD NO=LOT6 DA=0.001819 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=7, CODE=1
*** Sub-BASIN D8 ****
COMPUTE NM HYD ID=8 HYD NO=LOT7 DA=0.002116 SQ MI
               PER A=0 PER B=5 PER C=5 PER D=90
               TP=-0.1333 HR MASS RAIN=-1
*
PRINT HYD      ID=8, CODE=1
*
*S Flow at SW Intersection (D1 + D8) (Lot 7+8+9)
ADD HYD        ID=20 HYD NO=20SUMA IDS=1 AND 8
PRINT HYD      ID=20 CODE=1
*
*S Add D6 (D6 + 20SUMA)
ADD HYD        ID=21 HYD NO=20SUMB IDS=6 AND 7 ok
PRINT HYD      ID=21 CODE=1
*
*S Add D5 (D5 + 20SUMB)
ADD HYD        ID=22 HYD NO=20SUMC IDS=21 AND 5
PRINT HYD      ID=22 CODE=1

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```

*
*S Add D4 (D4 + 20SUMC)
ADD HYD          ID=23 HYD NO=20SUMD  IDS=22 AND 4
PRINT HYD        ID=23 CODE=1
*
*S Add D2 (D3 + 20SUME)
ADD HYD          ID=24 HYD NO=20SUME  IDS=23 AND 3
PRINT HYD        ID=24 CODE=1
*
*S Add D2 for Total Street Flow (D2 + 20SUME)
ADD HYD          ID=25 HYD NO=20SUME  IDS=24 AND 2
PRINT HYD        ID=25 CODE=1
*
*S Add East and West for Total Site Flow (20TOT + 10TOT)
ADD HYD          ID=31 HYD NO=301SUMA  IDS=25 AND 20 ok
PRINT HYD        ID=31 CODE=1
*
*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****
COMPUTE NM HYD   ID=9 HYD NO=CHURCH DA=0.013240 SQ MI = 8.41ac
                  PER A=100 PER B=0 PER C=0 PER D=0
                  TP=-0.1333 HR MASS RAIN=-1
                  *****
PRINT HYD        ID=9 CODE=1
*
*S Add for Total pond Inflow (CHURCH + 100TOT)
ADD HYD          ID=30 HYD NO=PONDIN  IDS=9 AND 31
PRINT HYD        ID=30 CODE=1
*
*
*****
ROUTE RESERVOIR  ID=40  HYD NO=PONDOUT  INFLOW=30  CODE=1
                  OUTFLOW(CFS)  STORAGE(AC-FT)  ELEV
                  . 0.0          0.0000          10.3
                  0.10          0.56            10.5
                  2.46          1.87            11.0
                  3.24          2.15            11.1
                  4.44          2.70            11.3
                  5.40          -3.25           11.5
                  8.00          3.26            12.0
                  50.0          5.0000          12.1
                  *****
*PRINT HYD       ID=40 CODE=1
FINISH

```

AHYMO SUMMARY

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 2.660
COMPUTE NM HYD	LOTS89	-	1	.02222	57.59	2.682	2.26248	1.500	4.049	PER IMP= 90.00
COMPUTE NM HYD	LOT1	-	2	.00159	4.13	.192	2.26249	1.500	4.064	PER IMP= 90.00
COMPUTE NM HYD	LOT2	-	3	.00115	2.99	.139	2.26249	1.500	4.068	PER IMP= 90.00
COMPUTE NM HYD	LOT3	-	4	.00141	3.66	.170	2.26249	1.500	4.065	PER IMP= 90.00
COMPUTE NM HYD	LOT4	-	5	.00157	4.07	.189	2.26249	1.500	4.064	PER IMP= 90.00
COMPUTE NM HYD	LOT5	-	6	.00110	2.86	.132	2.26249	1.500	4.068	PER IMP= 90.00
COMPUTE NM HYD	LOT6	-	7	.00182	4.73	.219	2.26249	1.500	4.061	PER IMP= 90.00
COMPUTE NM HYD	LOT7	-	8	.00212	5.50	.255	2.26249	1.500	4.059	PER IMP= 90.00
*S Flow at SW Intersection (D1 + D8)				.00						
ADD HYD	20SUMA 1& 8	20		.02434	63.09	2.937	2.26246	1.500	4.050	
*S Add D6 (D6 + 20SUMA)				.00						
ADD HYD	20SUMB 6& 7	21		.00292	7.58	.352	2.26228	1.500	4.064	
*S Add D5 (D5 + 20SUMB)				.00						
ADD HYD	20SUMC 21& 5	22		.00448	11.65	.541	2.26228	1.500	4.064	
*S Add D4 (D4 + 20SUMC)				.00						
ADD HYD	20SUMD 22& 4	23		.00589	15.32	.710	2.26227	1.500	4.064	
*S Add D2 (D3 + 20SUME)				.00						
ADD HYD	20SUME 23& 3	24		.00704	18.30	.849	2.26226	1.500	4.065	
*S Add D2 for Total Street Flow (D2 + 20SUME)				.00						
ADD HYD	20SUME 24& 2	25		.00863	22.44	1.041	2.26227	1.500	4.065	
*S Add East and West for Total Site Flow (20TOT + 10TOT)				.00						
ADD HYD	30ISUMA 25&20	31		.03296	85.53	3.978	2.26241	1.500	4.054	
*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****				.00						
COMPUTE NM HYD	CHURCH	-	9	.01324	10.68	.304	.43051	1.500	1.260	PER IMP= .00
*S Add for Total pond Inflow (CHURCH + 10TOT)				.00						
ADD HYD	PONDIN 9&31	30		.04620	96.21	4.282	1.73748	1.500	3.253	
ROUTE RESERVOIR	PONDOUT	30	40	.04620	4.92	3.695	1.49956	2.350	.166	AC-FT= 2.976
FINISH				.00						

AHYMO OUPUT

*
START
RAINFALL

TIME=0.0 HR PUNCH CODE=0 PRINT LINES=-6
TYPE=2 RAIN QUARTER=0.0
RAIN ONE=1.84 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.05 HRS

COMPUTED 24-HOUR RAINFALL DISTRIBUTION BASED ON NOAA ATLAS 2 - PEAK AT 1.40 HR.
DT = .050000 HOURS END TIME = 24.000000 HOURS

.0000	.0030	.0060	.0091	.0124	.0158	.0193
.0229	.0266	.0306	.0347	.0390	.0435	.0482
.0532	.0584	.0640	.0700	.0764	.0833	.0908
.0986	.1071	.1320	.1906	.2915	.4476	.6723
.9796	1.2219	1.3314	1.4228	1.5028	1.5744	1.6393
1.6984	1.7527	1.8027	1.8488	1.8914	1.9308	1.9400
1.9485	1.9564	1.9639	1.9709	1.9776	1.9839	1.9899
1.9957	2.0013	2.0066	2.0117	2.0167	2.0215	2.0261
2.0306	2.0350	2.0393	2.0434	2.0475	2.0514	2.0553
2.0590	2.0627	2.0663	2.0698	2.0732	2.0766	2.0799
2.0832	2.0864	2.0895	2.0926	2.0956	2.0986	2.1015
2.1044	2.1072	2.1100	2.1128	2.1155	2.1182	2.1208
2.1234	2.1260	2.1285	2.1310	2.1335	2.1359	2.1383
2.1407	2.1431	2.1454	2.1477	2.1500	2.1522	2.1544
2.1566	2.1588	2.1610	2.1631	2.1652	2.1673	2.1694
2.1714	2.1734	2.1754	2.1774	2.1794	2.1814	2.1833
2.1852	2.1871	2.1890	2.1909	2.1927	2.1946	2.1964
2.1982	2.2000	2.2020	2.2039	2.2059	2.2078	2.2097
2.2117	2.2136	2.2155	2.2174	2.2193	2.2212	2.2231
2.2249	2.2268	2.2287	2.2305	2.2324	2.2342	2.2361
2.2379	2.2398	2.2416	2.2434	2.2452	2.2470	2.2488
2.2506	2.2524	2.2542	2.2559	2.2577	2.2595	2.2612
2.2630	2.2647	2.2665	2.2682	2.2700	2.2717	2.2734
2.2751	2.2768	2.2785	2.2802	2.2819	2.2836	2.2853
2.2870	2.2887	2.2903	2.2920	2.2937	2.2953	2.2970
2.2986	2.3002	2.3019	2.3035	2.3051	2.3068	2.3084
2.3100	2.3116	2.3132	2.3148	2.3164	2.3180	2.3196
2.3212	2.3227	2.3243	2.3259	2.3274	2.3290	2.3305
2.3321	2.3336	2.3352	2.3367	2.3383	2.3398	2.3413
2.3428	2.3444	2.3459	2.3474	2.3489	2.3504	2.3519
2.3534	2.3549	2.3563	2.3578	2.3593	2.3608	2.3622
2.3637	2.3652	2.3666	2.3681	2.3695	2.3710	2.3724
2.3739	2.3753	2.3767	2.3782	2.3796	2.3810	2.3824
2.3839	2.3853	2.3867	2.3881	2.3895	2.3909	2.3923
2.3937	2.3951	2.3965	2.3978	2.3992	2.4006	2.4020
2.4033	2.4047	2.4061	2.4074	2.4088	2.4101	2.4115
2.4128	2.4142	2.4155	2.4168	2.4182	2.4195	2.4208
2.4222	2.4235	2.4248	2.4261	2.4274	2.4287	2.4300
2.4314	2.4327	2.4340	2.4352	2.4365	2.4378	2.4391
2.4404	2.4417	2.4430	2.4442	2.4455	2.4468	2.4480
2.4493	2.4506	2.4518	2.4531	2.4543	2.4556	2.4568
2.4581	2.4593	2.4606	2.4618	2.4630	2.4643	2.4655
2.4667	2.4680	2.4692	2.4704	2.4716	2.4728	2.4740
2.4753	2.4765	2.4777	2.4789	2.4801	2.4813	2.4825
2.4837	2.4849	2.4860	2.4872	2.4884	2.4896	2.4908
2.4919	2.4931	2.4943	2.4955	2.4966	2.4978	2.4990
2.5001	2.5013	2.5024	2.5036	2.5047	2.5059	2.5070
2.5082	2.5093	2.5105	2.5116	2.5127	2.5139	2.5150
2.5161	2.5172	2.5184	2.5195	2.5206	2.5217	2.5229
2.5240	2.5251	2.5262	2.5273	2.5284	2.5295	2.5306
2.5317	2.5328	2.5339	2.5350	2.5361	2.5372	2.5383
2.5394	2.5404	2.5415	2.5426	2.5437	2.5448	2.5458
2.5469	2.5480	2.5490	2.5501	2.5512	2.5522	2.5533
2.5544	2.5554	2.5565	2.5575	2.5586	2.5596	2.5607
2.5617	2.5628	2.5638	2.5649	2.5659	2.5669	2.5680
2.5690	2.5700	2.5711	2.5721	2.5731	2.5741	2.5752
2.5762	2.5772	2.5782	2.5792	2.5803	2.5813	2.5823
2.5833	2.5843	2.5853	2.5863	2.5873	2.5883	2.5893

2.5903	2.5913	2.5923	2.5933	2.5943	2.5953	2.5963
2.5973	2.5982	2.5992	2.6002	2.6012	2.6022	2.6031
2.6041	2.6051	2.6061	2.6070	2.6080	2.6090	2.6099
2.6109	2.6119	2.6128	2.6138	2.6148	2.6157	2.6167
2.6176	2.6186	2.6195	2.6205	2.6214	2.6224	2.6233
2.6243	2.6252	2.6261	2.6271	2.6280	2.6290	2.6299
2.6308	2.6318	2.6327	2.6336	2.6346	2.6355	2.6364
2.6373	2.6383	2.6392	2.6401	2.6410	2.6419	2.6428
2.6438	2.6447	2.6456	2.6465	2.6474	2.6483	2.6492
2.6501	2.6510	2.6519	2.6528	2.6537	2.6546	2.6555
2.6564	2.6573	2.6582	2.6591	2.6600		

* *****

*** Sub-BASIN D1 ****

COMPUTE NM HYD ID=1 HYD NO=LOTS89 DA=0.0222234 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 78.965 CFS UNIT VOLUME = .9990 B = 526.28 P60 = 1.8400
AREA = .020001 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = 5.9091 CFS UNIT VOLUME = .9991 B = 354.44 P60 = 1.8400
AREA = .002222 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA LOTS89

RUNOFF VOLUME = 2.26248 INCHES = 2.6816 ACRE-FEET
PEAK DISCHARGE RATE = 57.59 CFS AT 1.500 HOURS BASIN AREA = .0222 SQ. MI.

* *****
*** Sub-BASIN D2 ****

COMPUTE NM HYD ID=2 HYD NO=LOT1 DA=0.001589 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.6461 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8400
AREA = .001430 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .42251 CFS UNIT VOLUME = .9700 B = 354.44 P60 = 1.8400
AREA = .000159 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=1 CODE=1

HYDROGRAPH FROM AREA LOTS89

RUNOFF VOLUME = 2.26248 INCHES = 2.6816 ACRE-FEET
PEAK DISCHARGE RATE = 57.59 CFS AT 1.500 HOURS BASIN AREA = .0222 SQ. MI.

*

Coors Pavilion Master Drainage Plan

*** Sub-BASIN D3 ****

COMPUTE NM HYD ID=3 HYD NO=LOT2 DA=0.001148 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.0791 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.8400
AREA = .001033 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .30525 CFS UNIT VOLUME = .9599 B = 354.44 P60 = 1.8400
AREA = .000115 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=3 CODE=1

HYDROGRAPH FROM AREA LOT2

RUNOFF VOLUME = 2.26249 INCHES = .1385 ACRE-FEET
PEAK DISCHARGE RATE = 2.99 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*
*** Sub-BASIN D4 ****

COMPUTE NM HYD ID=4 HYD NO=LOT3 DA=0.001407 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 4.9994 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8400
AREA = .001266 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .37412 CFS UNIT VOLUME = .9653 B = 354.44 P60 = 1.8400
AREA = .000141 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=4 CODE=1

HYDROGRAPH FROM AREA LOT3

RUNOFF VOLUME = 2.26249 INCHES = .1698 ACRE-FEET
PEAK DISCHARGE RATE = 3.66 CFS AT 1.500 HOURS BASIN AREA = .0014 SQ. MI.

*
*** Sub-BASIN D5 ****

COMPUTE NM HYD ID=5 HYD NO=LOT4 DA=0.001565 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 5.5608 CFS UNIT VOLUME = .9971 B = 526.28 P60 = 1.8400
AREA = .001409 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .41613 CFS UNIT VOLUME = .9700 B = 354.44 P60 = 1.8400
AREA = .000157 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

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* *****
PRINT HYD ID=5 CODE=1

HYDROGRAPH FROM AREA LOT4

RUNOFF VOLUME = 2.26249 INCHES = .1888 ACRE-FEET
PEAK DISCHARGE RATE = 4.07 CFS AT 1.500 HOURS BASIN AREA = .0016 SQ. MI.

*
*** Sub-BASIN D6 ****
COMPUTE NM HYD ID=6 HYD NO=LOT5 DA=0.001097 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 3.8979 CFS UNIT VOLUME = .9966 B = 526.28 P60 = 1.8400
AREA = .000987 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .29169 CFS UNIT VOLUME = .9599 B = 354.44 P60 = 1.8400
AREA = .000110 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=6 CODE=1

HYDROGRAPH FROM AREA LOT5

RUNOFF VOLUME = 2.26249 INCHES = .1324 ACRE-FEET
PEAK DISCHARGE RATE = 2.86 CFS AT 1.500 HOURS BASIN AREA = .0011 SQ. MI.

*
*** Sub-BASIN D7 ****
COMPUTE NM HYD ID=7 HYD NO=LOT6 DA=0.001819 SQ MI
PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 6.4634 CFS UNIT VOLUME = .9975 B = 526.28 P60 = 1.8400
AREA = .001637 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .48367 CFS UNIT VOLUME = .9741 B = 354.44 P60 = 1.8400
AREA = .000182 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=7 CODE=1

HYDROGRAPH FROM AREA LOT6

RUNOFF VOLUME = 2.26249 INCHES = .2195 ACRE-FEET
PEAK DISCHARGE RATE = 4.73 CFS AT 1.500 HOURS BASIN AREA = .0018 SQ. MI.

*
*** Sub-BASIN D8 ****
COMPUTE NM HYD ID=8 HYD NO=LOT7 DA=0.002116 SQ MI

Coors Pavilion Master Drainage Plan

PER A=0 PER B=5 PER C=5 PER D=90
TP=-0.1333 HR MASS RAIN=-1

K = .072649HR TP = .133300HR K/TP RATIO = .545000 SHAPE CONSTANT, N = 7.106420
UNIT PEAK = 7.5187 CFS UNIT VOLUME = .9978 B = 526.28 P60 = 1.8400
AREA = .001904 SQ MI IA = .10000 INCHES INF = .04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

K = .118524HR TP = .133300HR K/TP RATIO = .889153 SHAPE CONSTANT, N = 3.989065
UNIT PEAK = .56264 CFS UNIT VOLUME = .9777 B = 354.44 P60 = 1.8400
AREA = .000212 SQ MI IA = .42500 INCHES INF = 1.04000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

* *****
PRINT HYD ID=8 CODE=1

HYDROGRAPH FROM AREA LOT7

RUNOFF VOLUME = 2.26249 INCHES = .2553 ACRE-FEET
PEAK DISCHARGE RATE = 5.50 CFS AT 1.500 HOURS BASIN AREA = .0021 SQ. MI.

*
*
*S Flow at SW Intersection (D1 + D8)
ADD HYD ID=20 HYD NO=20SUMA IDS=1 AND 8
PRINT HYD ID=20 CODE=1

HYDROGRAPH FROM AREA 20SUMA

RUNOFF VOLUME = 2.26246 INCHES = 2.9369 ACRE-FEET
PEAK DISCHARGE RATE = 63.09 CFS AT 1.500 HOURS BASIN AREA = .0243 SQ. MI.

*
*S Add D6 (D6 + 20SUMA)
ADD HYD ID=21 HYD NO=20SUMB IDS=6 AND 7
PRINT HYD ID=21 CODE=1

HYDROGRAPH FROM AREA 20SUMB

RUNOFF VOLUME = 2.26228 INCHES = .3518 ACRE-FEET
PEAK DISCHARGE RATE = 7.58 CFS AT 1.500 HOURS BASIN AREA = .0029 SQ. MI.

*
*S Add D5 (D5 + 20SUMB)
ADD HYD ID=22 HYD NO=20SUMC IDS=21 AND 5
PRINT HYD ID=22 CODE=1

HYDROGRAPH FROM AREA 20SUMC

RUNOFF VOLUME = 2.26228 INCHES = .5407 ACRE-FEET
PEAK DISCHARGE RATE = 11.65 CFS AT 1.500 HOURS BASIN AREA = .0045 SQ. MI.

*
*S Add D4 (D4 + 20SUMC)
ADD HYD ID=23 HYD NO=20SUMD IDS=22 AND 4
PRINT HYD ID=23 CODE=1

HYDROGRAPH FROM AREA 20SUMD

Coors Pavilion Master Drainage Plan

RUNOFF VOLUME = 2.26227 INCHES = .7104 ACRE-FEET
PEAK DISCHARGE RATE = 15.32 CFS AT 1.500 HOURS BASIN AREA = .0059 SQ. MI.

*

*S Add D2 (D3 + 20SUME)
ADD HYD ID=24 HYD NO=20SUME IDS=23 AND 3
PRINT HYD ID=24 CODE=1

HYDROGRAPH FROM AREA 20SUME

RUNOFF VOLUME = 2.26226 INCHES = .8489 ACRE-FEET
PEAK DISCHARGE RATE = 18.30 CFS AT 1.500 HOURS BASIN AREA = .0070 SQ. MI.

*

*S Add D2 for Total Street Flow (D2 + 20SUME)
ADD HYD ID=25 HYD NO=20SUME IDS=24 AND 2
PRINT HYD ID=25 CODE=1

HYDROGRAPH FROM AREA 20SUME

RUNOFF VOLUME = 2.26227 INCHES = 1.0406 ACRE-FEET
PEAK DISCHARGE RATE = 22.44 CFS AT 1.500 HOURS BASIN AREA = .0086 SQ. MI.

*

*S Add East and West for Total Site Flow (20TOT + 10TOT)
ADD HYD ID=31 HYD NO=301SUMA IDS=25 AND 20
PRINT HYD ID=31 CODE=1

HYDROGRAPH FROM AREA 301SUMA

RUNOFF VOLUME = 2.26241 INCHES = 3.9775 ACRE-FEET
PEAK DISCHARGE RATE = 85.53 CFS AT 1.500 HOURS BASIN AREA = .0330 SQ. MI.

*

*S Sub-BASIN OFF SITE CHURCH AT HISTORIC UNDEVELOPED RATE****
COMPUTE NM HYD ID=9 HYD NO=CHURCH DA=0.013240 SQ MI
PER A=100 PER B=0 PER C=0 PER D=0
TP=-0.1333 HR MASS RAIN=-1

K = .164440HR TP = .133300HR K/TP RATIO = 1.233609 SHAPE CONSTANT, N = 2.887705
UNIT PEAK = 27.069 CFS UNIT VOLUME = .9978 B = 272.53 P60 = 1.8400
AREA = .013240 SQ MI IA = .65000 INCHES INF = 1.67000 INCHES PER HOUR
RUNOFF COMPUTED BY INITIAL ABSTRACTION/INFILTRATION NUMBER METHOD - DT = .050000

*

PRINT HYD ID=9 CODE=1

HYDROGRAPH FROM AREA CHURCH

RUNOFF VOLUME = .43051 INCHES = .3040 ACRE-FEET
PEAK DISCHARGE RATE = 10.68 CFS AT 1.500 HOURS BASIN AREA = .0132 SQ. MI.

not 28.26 cfs

*

*S Add for Total pond Inflow (CHURCH + 100TOT)
ADD HYD ID=30 HYD NO=PONDIN IDS=9 AND 31

PRINT HYD ID=30 CODE=1

HYDROGRAPH FROM AREA PONDIN

RUNOFF VOLUME = 1.73748 INCHES = 4.2815 ACRE-Feet
PEAK DISCHARGE RATE = 96.21 CFS AT 1.500 HOURS BASIN AREA = .0462 SQ. MI.

*
* *****

ROUTE RESERVOIR	ID=40	HYD NO=PONDOUT	INFLOW=30	CODE=1
	OUTFLOW(CFS)	STORAGE(AC-FT)	ELEV	
	0.0	0.0000	5110.3	
	0.10	0.49 <i>21344</i>	5110.5	
	2.46	1.87	11.0	
	3.24	2.15	11.1	
	4.44	2.70	11.3	
	5.40	3.25	11.5	
	8.00	3.26	12.0	
	50.0	5.0000	12.1	

* * * * *

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
.00	.00	10.30	.000	.00
1.40	56.75	10.46	.394	.08
1.45	83.82	10.57	.684	.43
1.50	96.21	10.70	1.053	1.06
1.55	85.06	10.84	1.421	1.69
1.60	66.35	10.95	1.726	2.21
1.65	52.27	11.03	1.961	2.71
1.70	43.14	11.10	2.146	3.23
1.75	37.13	11.15	2.298	3.56
1.80	32.70	11.20	2.427	3.84
1.85	29.08	11.24	2.538	4.09
1.90	26.07	11.28	2.635	4.30
1.95	23.58	11.31	2.719	4.47
2.00	21.49	11.33	2.793	4.60
2.05	19.29	11.36	2.858	4.72
2.10	15.12	11.38	2.910	4.81
2.15	10.78	11.39	2.943	4.86
2.20	8.04	11.40	2.962	4.90
2.25	6.43	11.40	2.972	4.91
2.30	5.41	11.40	2.976	4.92
2.35	4.67	11.40	2.976	4.92
2.40	4.05	11.40	2.974	4.92
2.45	3.53	11.40	2.969	4.91
2.50	3.10	11.40	2.963	4.90
2.55	2.75	11.39	2.955	4.88
2.60	2.44	11.39	2.945	4.87
2.65	2.18	11.39	2.935	4.85
2.70	1.96	11.38	2.923	4.83
2.75	1.78	11.38	2.911	4.81
2.80	1.62	11.37	2.898	4.79
2.85	1.48	11.37	2.885	4.76
2.90	1.36	11.36	2.871	4.74
2.95	1.27	11.36	2.857	4.71
3.00	1.17	11.35	2.843	4.69
3.05	1.09	11.35	2.828	4.66
3.10	1.03	11.34	2.813	4.64
3.15	.97	11.34	2.798	4.61
3.20	.92	11.33	2.783	4.58
3.25	.87	11.32	2.768	4.56
3.30	.83	11.32	2.753	4.53
3.35	.80	11.31	2.737	4.51
3.40	.76	11.31	2.722	4.48
3.45	.74	11.30	2.707	4.45

Coors Pavilion Master Drainage Plan

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
3.50	.72	11.30	2.691	4.42
3.55	.70	11.29	2.676	4.39
3.60	.69	11.29	2.661	4.35
3.65	.67	11.28	2.646	4.32
3.70	.65	11.27	2.631	4.29
3.75	.64	11.27	2.616	4.26
3.80	.62	11.26	2.601	4.22
3.85	.61	11.26	2.586	4.19
3.90	.60	11.25	2.571	4.16
3.95	.59	11.25	2.556	4.13
4.00	.59	11.24	2.542	4.10
4.05	.59	11.24	2.528	4.06
4.10	.58	11.23	2.513	4.03
4.15	.58	11.23	2.499	4.00
4.20	.57	11.22	2.485	3.97
4.25	.56	11.22	2.471	3.94
4.30	.56	11.21	2.457	3.91
4.35	.56	11.21	2.443	3.88
4.40	.56	11.20	2.430	3.85
4.45	.56	11.20	2.416	3.82
4.50	.56	11.19	2.403	3.79
4.55	.55	11.19	2.389	3.76
4.60	.56	11.18	2.376	3.73
4.65	.56	11.18	2.363	3.70
4.70	.56	11.17	2.350	3.68
4.75	.56	11.17	2.337	3.65
4.80	.56	11.16	2.325	3.62
4.85	.56	11.16	2.312	3.59
4.90	.56	11.15	2.300	3.57
4.95	.56	11.15	2.287	3.54
5.00	.57	11.15	2.275	3.51
5.05	.58	11.14	2.263	3.49
5.10	.58	11.14	2.251	3.46
5.15	.58	11.13	2.239	3.43
5.20	.59	11.13	2.227	3.41
5.25	.59	11.12	2.216	3.38
16.20	.44	10.70	1.054	1.06
16.25	.44	10.70	1.051	1.06
16.30	.44	10.70	1.049	1.06
16.35	.44	10.70	1.046	1.05
16.40	.44	10.70	1.044	1.05
16.45	.44	10.70	1.041	1.04
16.50	.44	10.70	1.039	1.04
16.55	.44	10.70	1.036	1.03
16.60	.44	10.70	1.034	1.03
16.65	.44	10.70	1.031	1.03
16.70	.43	10.70	1.029	1.02
16.75	.44	10.69	1.027	1.02
16.80	.44	10.69	1.024	1.01
16.85	.43	10.69	1.022	1.01
16.90	.43	10.69	1.019	1.01
16.95	.43	10.69	1.017	1.00
17.00	.43	10.69	1.015	1.00
17.05	.43	10.69	1.012	.99
17.10	.43	10.69	1.010	.99
17.15	.43	10.69	1.008	.99
17.20	.43	10.69	1.005	.98
17.25	.43	10.69	1.003	.98
17.30	.43	10.69	1.001	.97
17.35	.42	10.68	.999	.97
17.40	.42	10.68	.996	.97
17.45	.42	10.68	.994	.96
17.50	.42	10.68	.992	.96
17.55	.42	10.68	.990	.95
17.60	.42	10.68	.988	.95
17.65	.42	10.68	.985	.95
17.70	.42	10.68	.983	.94

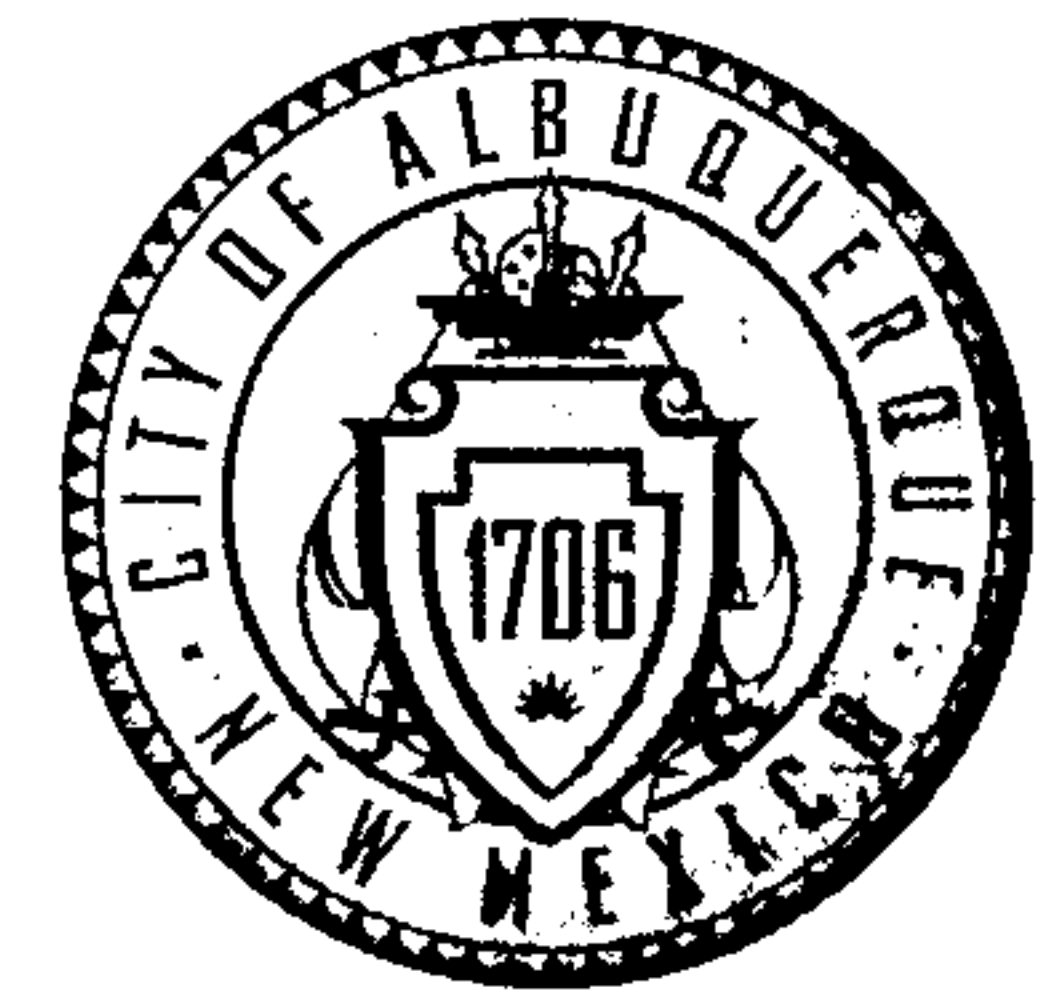
Coors Pavilion Master Drainage Plan

TIME (HRS)	INFLOW (CFS)	ELEV (FEET)	VOLUME (AC-FT)	OUTFLOW (CFS)
17.75	.42	10.68	.981	.94
17.80	.42	10.68	.979	.94
17.85	.42	10.68	.977	.93
17.90	.42	10.68	.975	.93
17.95	.41	10.67	.973	.93
18.00	.41	10.67	.970	.92
24.00	.34	10.61	.786	.61
25.00	.00	10.59	.744	.53
26.00	.00	10.58	.703	.46
27.00	.00	10.56	.667	.40
28.00	.00	10.55	.636	.35
29.00	.00	10.54	.609	.30

PEAK DISCHARGE = 4.922 CFS - PEAK OCCURS AT HOUR 2.35
MAXIMUM WATER SURFACE ELEVATION = 11.400
MAXIMUM STORAGE = 2.9763 AC-FT INCREMENTAL TIME= .050000HRS

* *****
*PRINT HYD ID=40 CODE=1
*
*
*
FINISH

CITY OF ALBUQUERQUE



January 20, 2017

Richard J. Berry, Mayor

Ron Hensley, P.E.
GND Engineering
11032 Dreamy Way Dr. NW
Albuquerque, NM, 87114

**RE: Coors Pavilion Subdivision
9154 Coors Blvd
Grading Plan
Engineer's Stamp Date 01-04-2017 (File: G11D069)**

Dear Mr. Hensley:

Based upon the information provided in your submittal received 01/13/2017, the Grading Plan is not approved for Grading Permit. The following comments need to be addressed for approval of the above referenced project:

PO Box 1293

Albuquerque

New Mexico 87103

www.cabq.gov

1. The AHYMO model routes discharge from Lot 7 into Lot 6, and along the alley to the north, then into the pond. However the drainage narrative and the drawing show Lot 7 as draining into Lot 8, then to the pond. The AHYMO model needs to reflect the drawing and narrative or visa-versa.
2. If discharge from Lot 7 is to be drained into Lot 8, a curb cut and dip section will need to be provided to take water out of the alley and into Lot 8.
3. Waterblocks will be required where the alley joins Coors and St. Josephs to prevent excess flows from entering and contributing to the drainage area. These may be present already but are difficult to see; provide spot elevations and callouts to clarify.
4. Clarify contributions from adjoining lot X-1-A1. The AHYMO model appears to refer to this as "Church" with a contribution of 10.68 cfs and 0% impervious area. The drawing shows a contribution of 29.26 cfs. Is the existing pond being merged with the new one?
5. Proposed contours need to be added to the legend and to the lots. On this sheet no regrading appears to be taking place across the new lots.
6. The proposed water surface elevation of 5011.50 will back up into the alley and across a large portion of Lot 1. Is this desired?

7. First flush volume needs to be calculated and shown on this sheet, as well as how it will be retained in the pond beneath the invert of the outlet structure.
8. Additional detail is required on the outlet structure and its downstream effects. This includes inverts, velocities, grades, and HGL's.
9. Provide the input and output files for the AHYMO model.

Work within the City Right-of-Way will require a city work order. The two similar submittals for Lots 3 & 4, and Lot 4, submitted on 1/3/2017 are on hold until this master grading plan is approved. Please let me know if you need to revise those based on changes to the master plan. If you have any questions, contact me at 924-3695 or dpeterson@cabq.gov.

Sincerely,



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



GND, LLC

CONSULTING ENGINEERS

10224 Green River Place NW Albuquerque, New Mexico 87114

Phone: 505-264-0472

Email: segreer@swcp.com

January 12, 2016

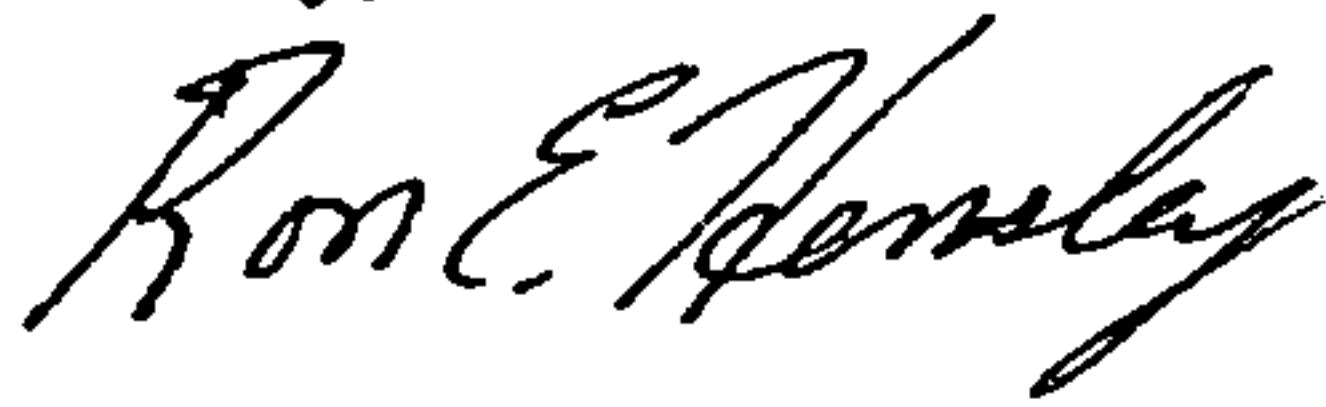
Hydrology Development
City of Albuquerque
PO Box 1293
Albuquerque, NM 87103

Re: Coors Pavilion Subdivision –Grading Plan for Grading Permit

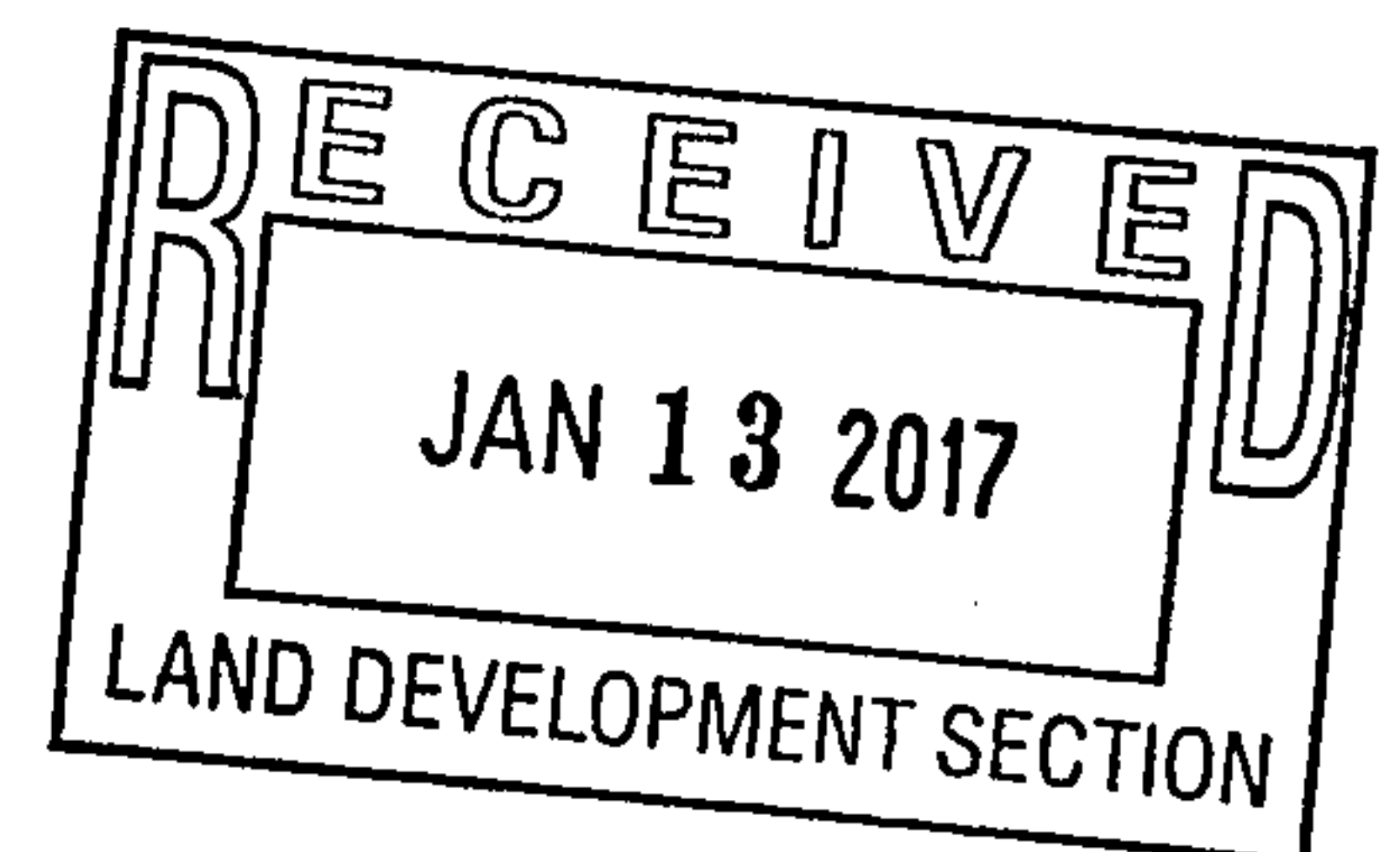
We are requesting a review of the attached plan in support of the Grading Permit of TRACT X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER AND the Coors Pavilion Subdivision. The subdivision is located at the corner of Coors Blvd. and St. Josephs Dr. NW. The plan covers the rough grading and drainage features of the subdivision. We are requesting a review for compliance with City requirements.

Please contact me at 410-1622 or via email if you have any questions or comments.

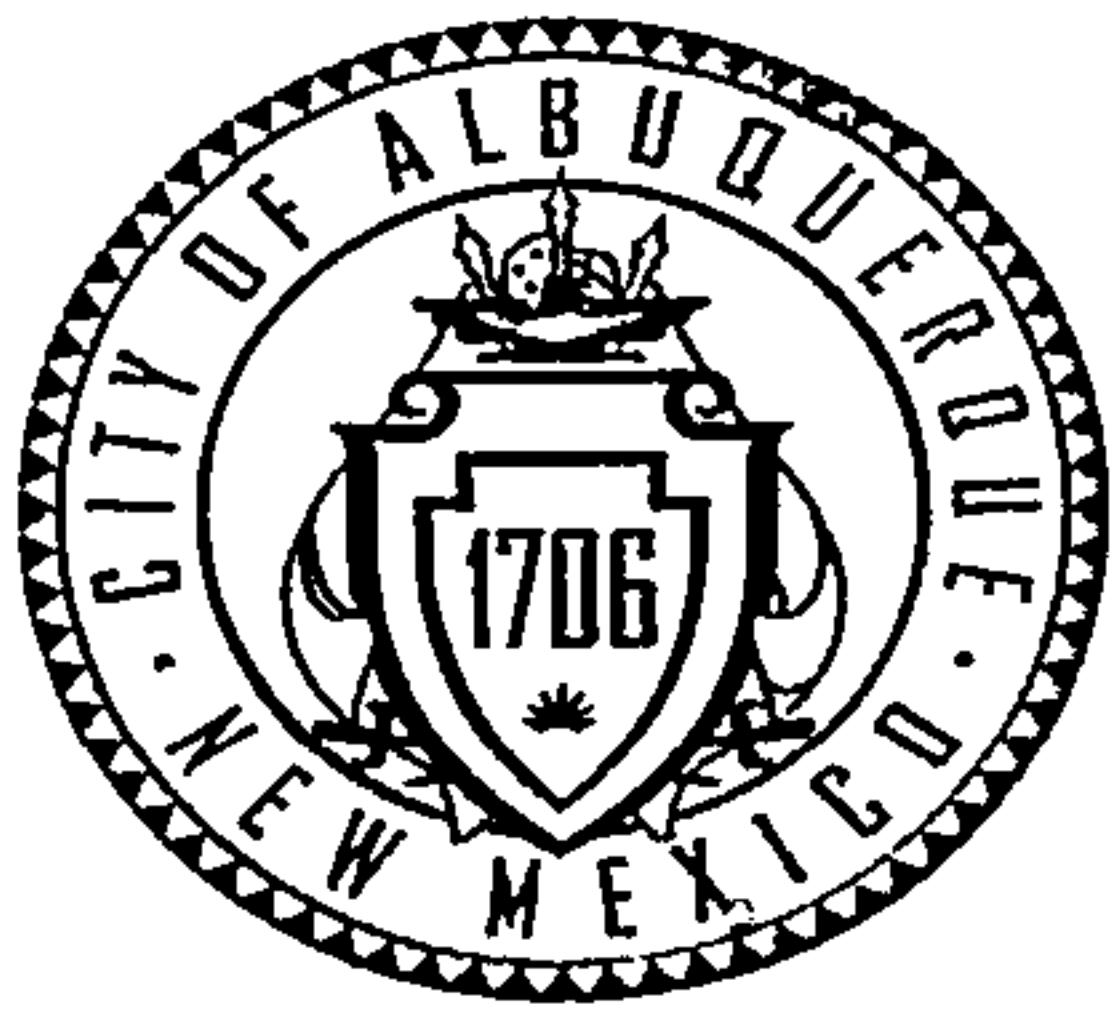
Sincerely,



Ron E. Hensley P.E.
ron@thegroup.cc



Masterplan



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET

(REV 02/2013)

Project Title: Coors Pavilion Building Permit #: _____ City Drainage #: G11D069
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: TRACT X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER
City Address: 9154 Coors Blvd.

Engineering Firm: GND Engineering Contact: Ron Hensley
Address: 11032 Dreamy Way Dr. NW Albuquerque, NM 87114
Phone#: 505-410-1622 Fax#: _____ E-mail: ron@thegroup.cc

Owner: Retail Southwest Development Contact: Joshua J. Skarsgard
Address: 8220 San Pedro NE Suite 500 / Albuquerque, NM 87113
Phone#: 505-262.2323 Fax#: _____ E-mail: _____

Architect: Dekker/Perich/Sabatini Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Surveyor: Surv-Tek, Inc. Contact: Russ Hugg
Address: 9384 Valley View Drive, Albuquerque, NM 87114
Phone#: 505-897-3366 Fax#: _____ E-mail: russhugg@survtek.com

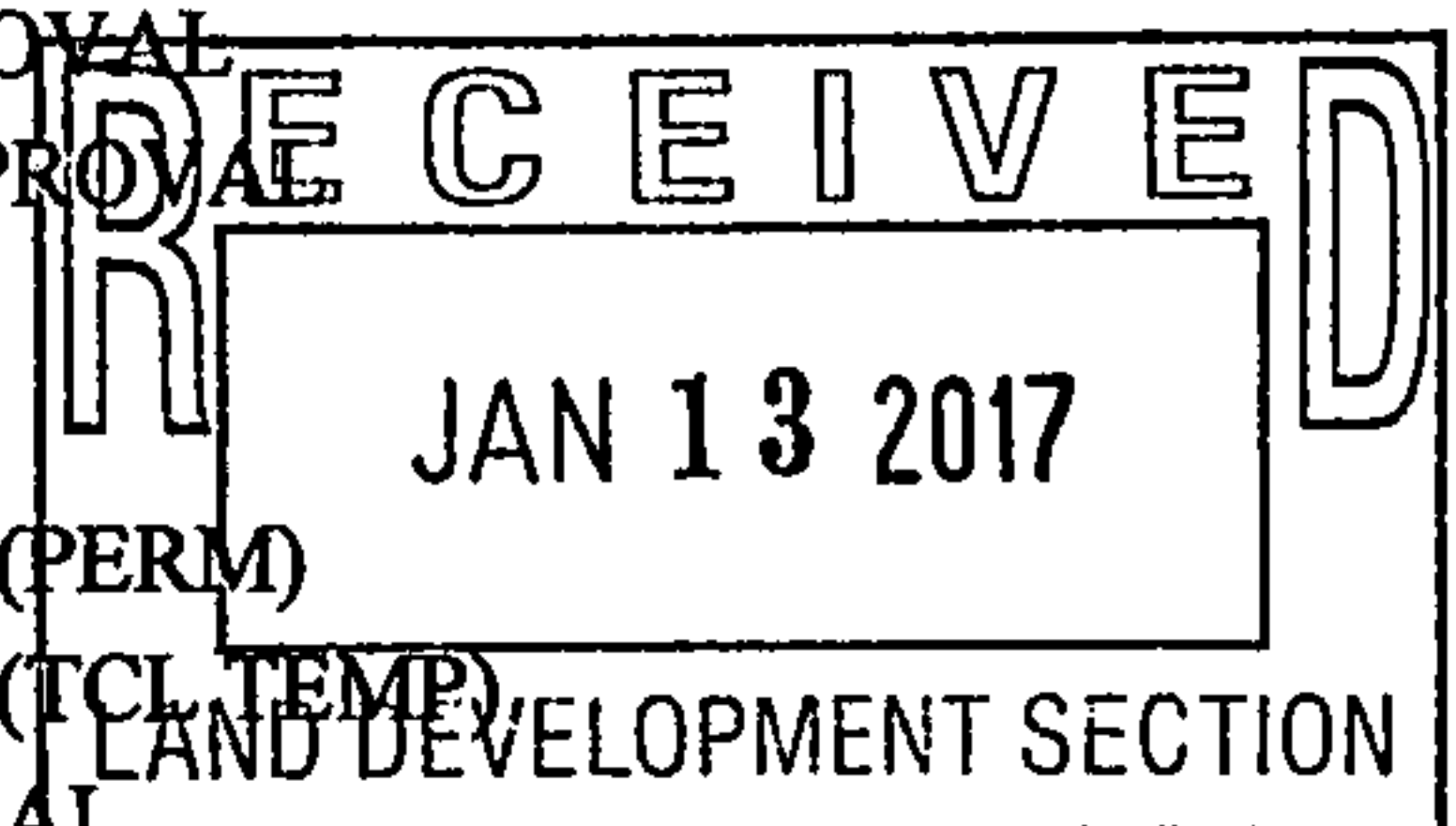
Contractor: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

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
☐ PAVING PERMIT APPROVAL
☐ WORK ORDER APPROVAL
☐ GRADING CERTIFICATION
☐ SO-19 APPROVAL
☐ ESC PERMIT APPROVAL
☐ ESC CERT. ACCEPTANCE
☐ OTHER (SPECIFY) _____



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

DATE SUBMITTED: 1/4/2017 By: Ron Hensley

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

DRB Project Number: 1000032 Hearing Date: 12-21-2016
Project: Coors Pavilion Agenda Item No: (5)

☐ Sketch Plat	☐ Minor Preliminary / Final Plat	☒ Preliminary Plat	☐ Final Plat
☐ Temp Sidewalk Deferral	☐ Sidewalk Waiver/Variance	☐ Site Plan for Bldg. Permit ☒ Site Plan for Subdivision	☐ Bulk Land Plat
☐ SIA Extension	☐ DPM Variance	☒ Vacation of Public Easement (<u>Blanket Drn</u>)	☐ Vacation of Public Right of Way

ENGINEERING COMMENTS:

- Grading & Drainage Plan is sufficient only in evaluating the Infrastructure List, and Site Plan for Subdivision. We understand that a future submittal will address details for Grading Permit, no obj. to Prelim Plat.
- The pond will need to have an easement over its proposed footprint for Final Plat.
or PP Amendment.
- The pond easement can be removed at Final Plat if an alternative drainage outfall is coordinated and developed (or Financially Guaranteed)
- There is no basis at this time for the Public Drainage Easement across Lots 8 and 9; it can be added as an amendment to Preliminary Plat when information is available.

RESOLUTION/COMMENTS:

Parks & Rec:

Water:

Transportation:

Planning:

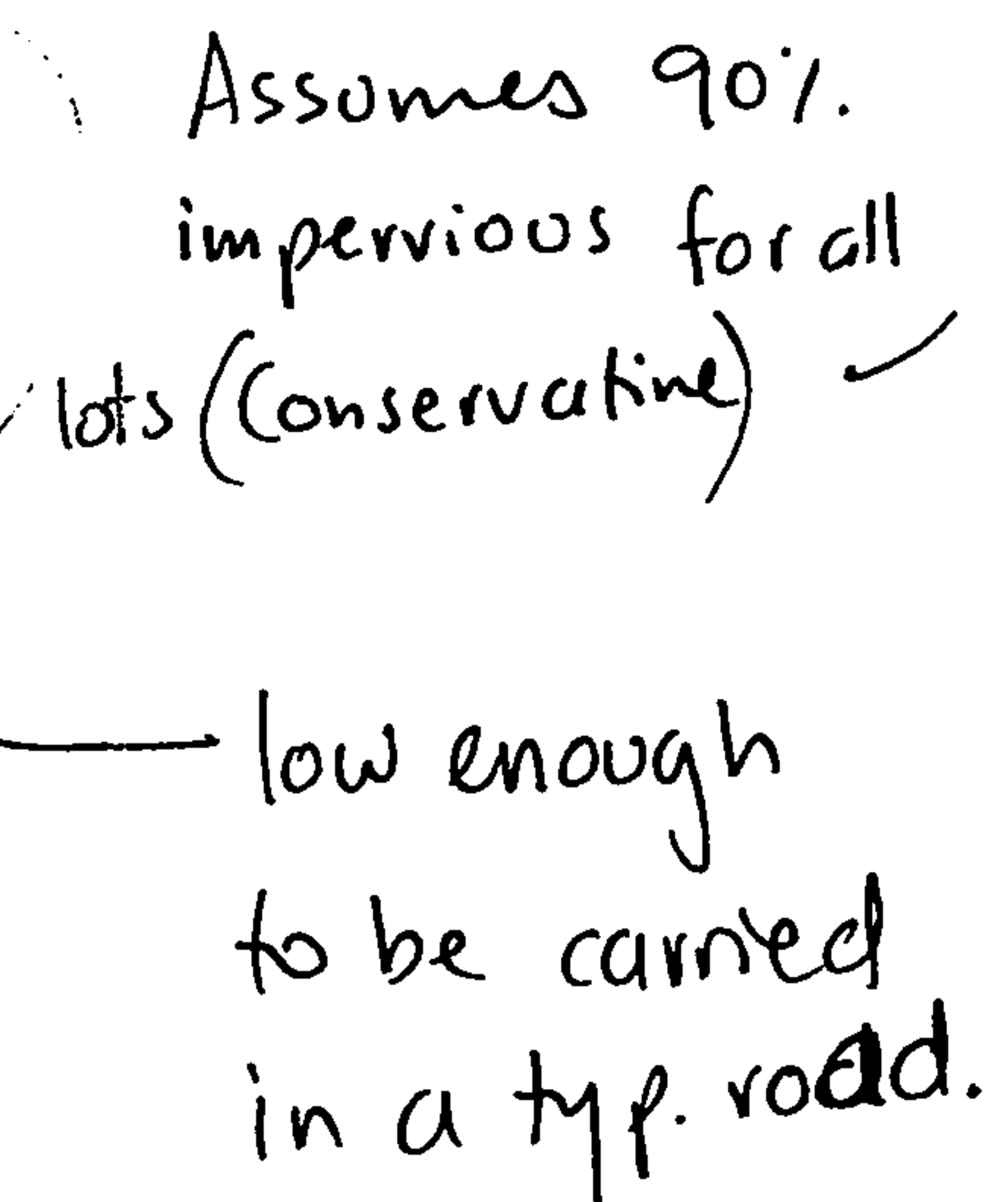
☐ APPROVED
☐ DENIED

DELEGATED TO: ☐ TRANS ☐ HYD ☐ WUA ☐ PRKS ☐ PLNG
Delegated For: _____
SIGNED: ☐ I.L. ☐ SPSP ☐ SPBP ☐ FINAL PLAT
DEFERRED TO _____

The attached
Grading & Drainage
Plan is only good
for evaluating the Infrastructure List.
A separate submittal will address
interior improvements
needed for Grading/Building
Permit.

- AC
12/20/16

AC 12/20/16 #100032



Flows would be conveyed to the interior roads and into the pond.

NO.		LAST DESIGN UPDATE		Mo./DAY/YR.		Mo./DAY/YR.		SHEET		OF	
INDUSTRY DRAINAGE PLAN											
IN T GROUP											
QUE TMENT											
ENGINEER'S SEAL											
SURVEY INFORMATION											
BENCH MARKS											
AS BUILT INFORMATION											
NO.											
BY											
DATE											
REMARKS											
BY											
REVISIONS											
DESIGN											
DESIGNED BY											
DATE DEC 2016											
DRAWN BY											
DATE DEC 2016											
CHECKED BY											
DATE DEC 2016											
CONTRACTOR											
NO.											
RECORDED BY											
DATE											
CHECKED BY											
DATE											
MICRO-FILM INFORMATION											
NO.											
RECORDED BY											
DATE											

Abiel X. Carrillo

From: Abiel X. Carrillo
Sent: Monday, January 25, 2016 3:48 PM
To: 'segreer@swcp.com'
Cc: 'Thompson Engineering consultan'
Subject: G11D069 - Coors Pavilion Conceptual Drainage Plan

-Disregard my previous email-

Coors Pavilion Conceptual Drainage Report and Conceptual Grading and Drainage Plan
Stamp Date: 12/30/2015

Sheldon,

Based on the information provided in your submittal received 12/30/2015 for the above-referenced project, the Drainage Concept presented, which would take advantage of the existing Ladera 16B Pond appears to be feasible and is approved for EPC. The Drainage Report was reviewed in concept, and further comments might be provided as the plan is refined at later stages.

For your information, the following comment will need to be addressed prior to Site Plan for Subdivision approval at DRB:

- The plan needs to show the intent to secure an easement across the adjacent property for the 54" storm drain.

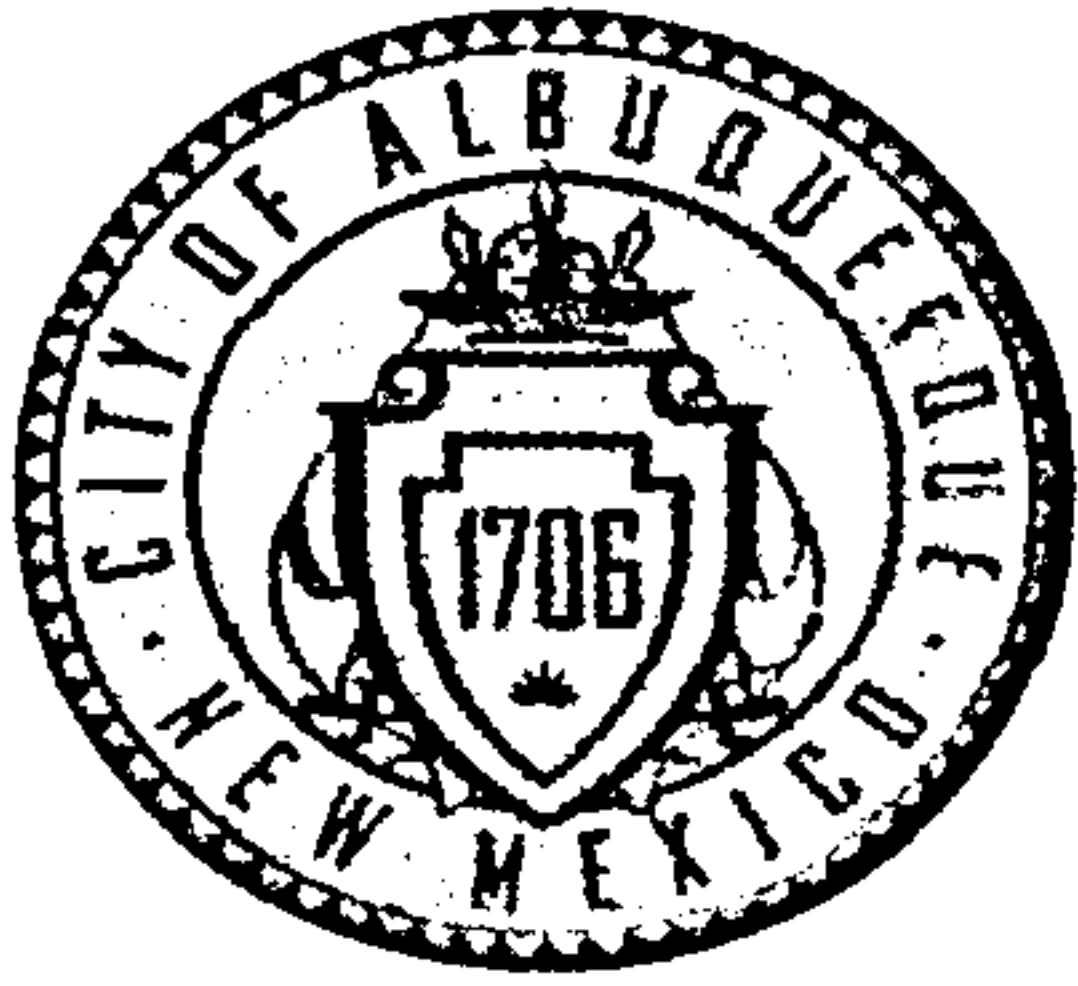
Also note that any approval beyond Site Plan for Subdivision (Grading, Building Permit) will require concurrence from DMD that the use of the Ladera Pond, and the installation of Storm Drain under Atrisco is allowable.

This email replaces a letter attachment. Replies to this email will not be considered a re-submittal.

Abiel Carrillo, P.E.

Principal Engineer - Hydrology
Planning Department
Development Review Services Division
City of Albuquerque
505-924-3986
acarrillo@cabq.gov
600 2nd Street NW
Albuquerque, NM 87102

Make sure to address
the coordination w/DMD
@ EPC



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Project Title: Coors Pavilion Building Permit #: _____ City Drainage #: G11D069

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

Legal Description: TRACT X-1-A2 PLAT OF TRACTS X-1-A1 & X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER CONT 21.2244 AC OR 924,537 SF

City Address: NW Corner of St. Joseph's Dr. / Coors Blvd.

Engineering Firm: GND Engineering Contact: Sheldon Greer

Address: 11032 Dreamy way rd NW

Phone#: 505-280-6300 Fax#: _____ E-mail: segreer@swcp.com

Owner: Retail Development Southwest, LLC Contact: Josh Skarsgard / Trish Lopez

Address: 8220 San Pedro NE #500, Albuquerque, NM 87113

Phone#: 505-262-2323 Fax#: _____ E-mail: josh@skarsgardfirm.com

Architect: Dekker-Perich-Sabitini Contact: Ann Marie Allen

Address: 7601 Jefferson St. NE #100, Albuquerque, NM 87109

Phone#: 505-761-9700 Fax#: _____ E-mail: annmariea@dpsdesign.org

Other Contact: Terry O. Brown, P.E. (Traffic Engineering) Contact: Terry Brown

Address: P. O. Box 92051, Albuquerque, NM 87199

Phone#: 505-883-8807 Fax#: _____ E-mail: tobe@swcp.com

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) _____

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

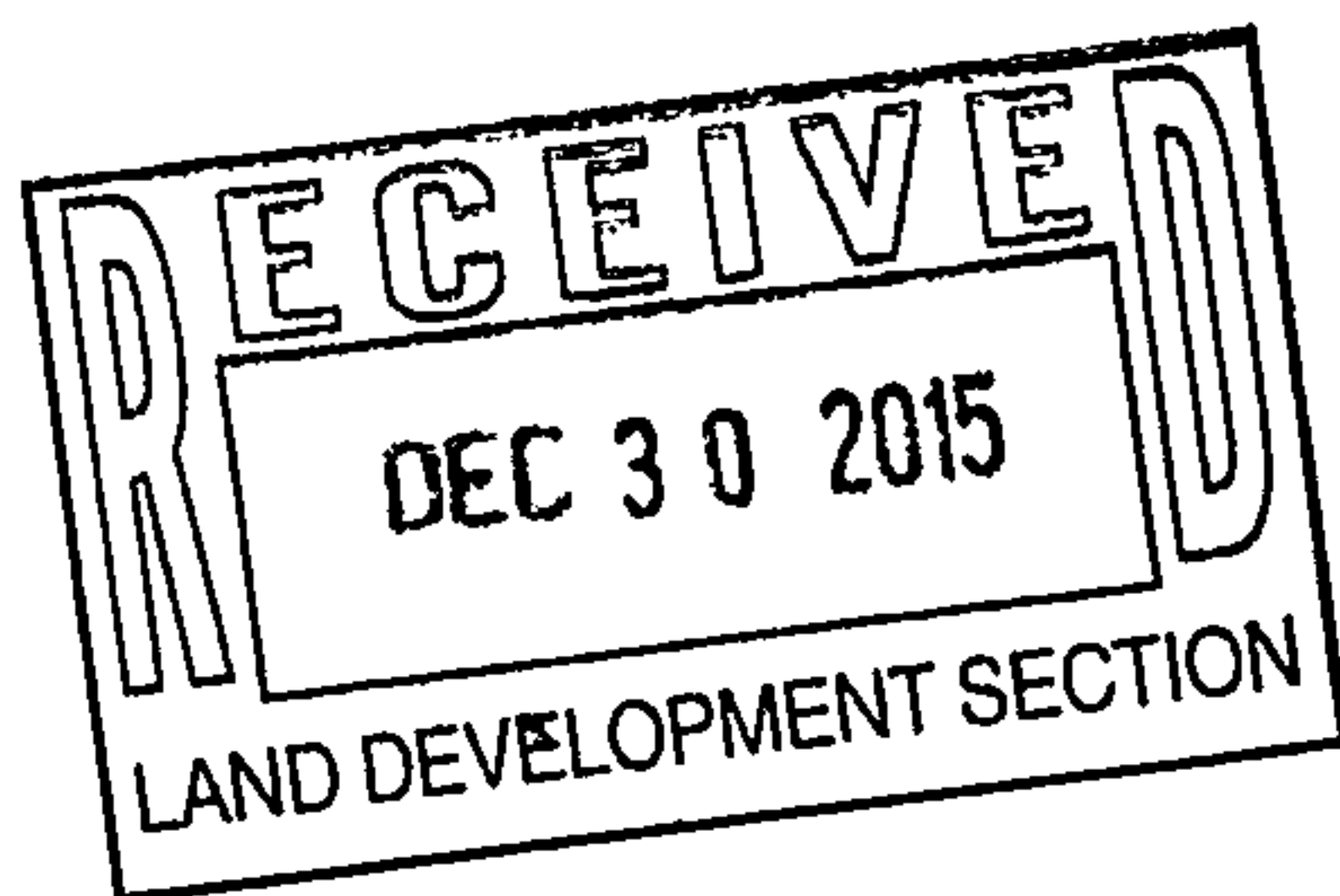
DATE SUBMITTED: 12/30/15 By: SHELDON GREER

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) _____

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____

LADERA POND 16B
DRAINAGE ANALYSIS
FOR TRACT X-1-A2,
UNIVERSITY OF ALBUQUERQUE URBAN CENTER



December 2015

check against previous reports

Table 1 Developed Drainage Basin Characteristics

BASIN	AREA	LAND TREATMENT				Q	VOL
	ACRES	A	B	C	D	CFS	AC-FT
162.1	19.24	0.0	28.2	28.2	43.6	61.58	2.419
162.2	22.03	0.0	8.8	8.8	82.4	86.17	3.925
162.3	21.30	0.0	30.4	30.5	39.1	44.07	1.691
162.4	8.47	0.0	12.5	12.5	75.0	32.01	1.426
162.5	21.94	0.0	5.0	5.0	90.0	88.93	4.138
163.1	91.61	90.0	1.5	2.1	6.4	140.67	4.340
163.2	17.74	90.0	1.5	2.1	6.4	26.38	0.840
163.3	9.38	90.0	1.5	2.1	6.4	13.96	0.444
163.4	7.27	90.0	1.5	2.1	6.4	10.82	0.344
163.5	17.21	0.0	30.5	30.5	39.0	53.63	2.056
163.6	11.82	0.0	5.0	5.0	90.0	47.88	2.227
163.7	16.82	0.0	25.0	25.0	50.0	55.81	2.260
163.8	15.63	0.0	25.0	25.0	50.0	51.81	2.100
163.9	13.36	0.0	80.0	15.0	5.0	29.66	0.872
163.10	37.05	0.0	33.8	33.9	32.3	110.79	4.092
163.11	5.72	0.0	12.5	12.5	75.0	21.60	0.963
164.1	12.30	90.0	1.5	2.1	6.4	18.30	0.583
164.2	17.10	90.0	1.5	2.1	6.4	25.44	0.810
164.3	25.02	90.0	1.5	2.1	6.4	37.21	1.185
164.4	20.66	90.0	1.5	2.1	6.4	30.74	0.979
164.5	18.79	90.0	1.5	2.1	6.4	27.95	0.890
164.6	17.02	0.0	20.3	20.3	59.4	59.43	2.504
164.7	41.68	0.0	15.2	15.2	69.6	153.28	6.708
164.8	20.05	0.0	25.8	25.9	48.3	65.92	2.649

F10012

LADERA POND 16B

seems low

Ladera Pond 16B has six storm drains that flow into the pond and one 36" RCP storm drain that drains the pond by discharging it to the San Antonio Arroyo to the north. Three separate storm drains enter the pond at the northwest corner. These three storm drains are a 48" RCP in Western Trail, a 54" RCP from the school, and a 60" RCP from the Petroglyph area to the north. A 54" RCP storm drain, draining the Sloan's Acres area, discharges to the pond from the south. A 42" RCP storm drain from the east drains a subdivision directly east. And a 72" RCP storm drain in the southeast corner drains the remainder of the area to the east. Also, runoff from Milne Road drains into the pond at the southwest corner.

The commercial site at the northwest corner of Coors and St. Joseph's (Tract X-1-A2, University of Albuquerque Urban Center) is proposed to install a storm drain to convey runoff from the site and the adjacent church to Ladera Pond 16B along Atrisco Drive from the south. The existing volume in Ladera Pond 16B using the City of Albuquerque LiDAR contours is 40.13 acre-feet at an elevation of 5108. The AHYMO model results show that there is available volume in Ladera Pond 16B to drain the proposed commercial site and adjacent church to the pond. The total detained volume in the developed condition including these two sites is 31.63 acre-feet with a 100-year water surface elevation of 5106.93. Therefore, Ladera Pond 16B will have more than one foot of freeboard. Table 2 shows the pertinent pond characteristics for Ladera Pond 16B.

LADERA POND 16B
DRAINAGE ANALYSIS
FOR TRACT X-1-A2,
UNIVERSITY OF ALBUQUERQUE URBAN CENTER



Prepared by:
Thompson Engineering Consultants, Inc.
P.O. Box 65760
Albuquerque, NM 87193

December 2015

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LADERA POND 16B.....	2

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LADERA POND 16B WATERSHED

END OF REPORT

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TABLE 2 DEVELOPED DETENTION POND CHARACTERISTICS.....	3

INTRODUCTION

This report summarizes the drainage analysis completed to determine if there is available volume in the Ladera Pond 16B, located at the southwest corner of Atrisco and Western Trail, to drain the proposed commercial site at the northwest corner of Coors Boulevard and St. Joseph's Drive (Tract X-1-A2, University of Albuquerque Urban Center). The watershed draining to Ladera Pond 16B was delineated using City of Albuquerque LiDAR contours, previous drainage studies, and record drawings. The previous drainage studies used include "Supplemental Hydrology Study of the San Antonio Arroyo, Coors Boulevard to the Rio Grande", March 10, 1992, by Clifford E Anderson and "Drainage Master Plan for Coors Village Subdivision" February 29, 2000, by Thompson Engineering Consultants, Inc. This study included preparing an AHYMO hydrologic model for the watershed under fully developed conditions.

METHODOLOGY

The hydrologic and hydraulic criteria in Section 22 of the City of Albuquerque Development Process Manual (DPM), entitled "Drainage, Flood Control, and Erosion Control," was followed to perform the analyses given in this report. The design storm used for the developed conditions of the Trails area is the 100-year, 24-hour storm event for peak flow and volume computations. An AHYMO model for the fully developed conditions was completed to analyze the basins draining to the Ladera Pond 16B.

AHYMO MODEL DEVELOPMENT

DRAINAGE BASIN DELINEATION

Drainage basins were delineated by following the basins identified in previous drainage studies, using record drawings, and LiDAR contours. The Exhibit at the end of the report shows the drainage basins and existing storm drain system. The watershed was divided into 24 drainage basins. Most of the basins that drain to the Ladera Pond 16B are developed. There are a few office and commercial sites that are not currently developed. For this study, all basins were assumed to be developed using their current land use.

DEVELOPED CONDITIONS MODEL

The developed conditions model was constructed by first inputting all drainage improvements that have been built within the existing subdivisions and sites. Information from all existing drainage reports and record drawings were used to provide input to the AHYMO model. Basin numbering generally followed the San Antonio Arroyo Study by Anderson. The Petroglyph National Monument is located west of Unser Boulevard. This area will remain mostly undeveloped. There is a series of ponds located in the Unser Boulevard right-of-way that accepts runoff from the basins west of Unser. The majority of the basins draining to Ladera Pond 16B have single-family residential lots. Chaparral Elementary School is located directly west of the pond. There are some commercial tracts north and east of the pond. There is a tract east of the pond that is zoned for offices. South of the pond are two tracts that have churches. Table 1 shows the basin characteristics included in this study.

Table 1 Developed Drainage Basin Characteristics

BASIN	AREA	LAND TREATMENT				Q	VOL
	ACRES	A	B	C	D	CFS	AC-FT
162.1	19.24	0.0	28.2	28.2	43.6	61.58	2.419
162.2	22.03	0.0	8.8	8.8	82.4	86.17	3.925
162.3	21.30	0.0	30.4	30.5	39.1	44.07	1.691
162.4	8.47	0.0	12.5	12.5	75.0	32.01	1.426
162.5	21.94	0.0	5.0	5.0	90.0	88.93	4.138
163.1	91.61	90.0	1.5	2.1	6.4	140.67	4.340
163.2	17.74	90.0	1.5	2.1	6.4	26.38	0.840
163.3	9.38	90.0	1.5	2.1	6.4	13.96	0.444
163.4	7.27	90.0	1.5	2.1	6.4	10.82	0.344
163.5	17.21	0.0	30.5	30.5	39.0	53.63	2.056
163.6	11.82	0.0	5.0	5.0	90.0	47.88	2.227
163.7	16.82	0.0	25.0	25.0	50.0	55.81	2.260
163.8	15.63	0.0	25.0	25.0	50.0	51.81	2.100
163.9	13.36	0.0	80.0	15.0	5.0	29.66	0.872
163.10	37.05	0.0	33.8	33.9	32.3	110.79	4.092
163.11	5.72	0.0	12.5	12.5	75.0	21.60	0.963
164.1	12.30	90.0	1.5	2.1	6.4	18.30	0.583
164.2	17.10	90.0	1.5	2.1	6.4	25.44	0.810
164.3	25.02	90.0	1.5	2.1	6.4	37.21	1.185
164.4	20.66	90.0	1.5	2.1	6.4	30.74	0.979
164.5	18.79	90.0	1.5	2.1	6.4	27.95	0.890
164.6	17.02	0.0	20.3	20.3	59.4	59.43	2.504
164.7	41.68	0.0	15.2	15.2	69.6	153.28	6.708
164.8	20.05	0.0	25.8	25.9	48.3	65.92	2.649

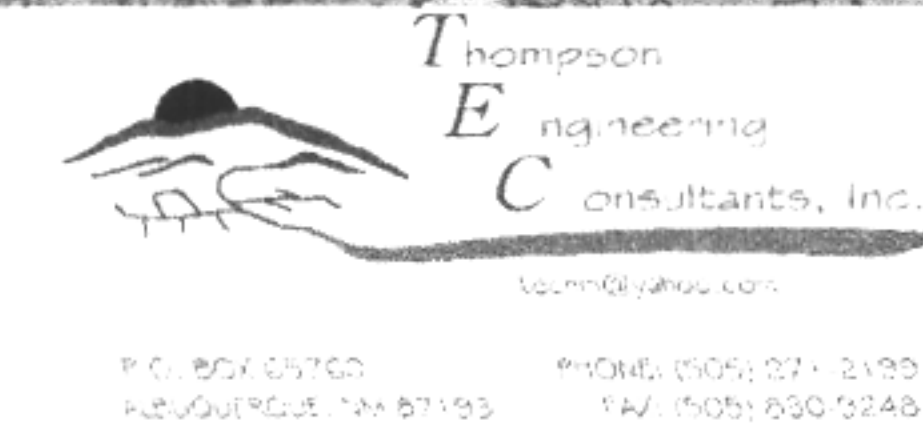
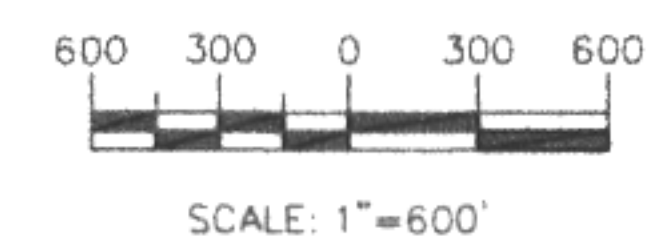
LADERA POND 16B

Ladera Pond 16B has six storm drains that flow into the pond and one 36" RCP storm drain that drains the pond by discharging it to the San Antonio Arroyo to the north. Three separate storm drains enter the pond at the northwest corner. These three storm drains are a 48" RCP in Western Trail, a 54" RCP from the school, and a 60" RCP from the Petroglyph area to the north. A 54" RCP storm drain, draining the Sloan's Acres area, discharges to the pond from the south. A 42" RCP storm drain from the east drains a subdivision directly east. And a 72" RCP storm drain in the southeast corner drains the remainder of the area to the east. Also, runoff from Milne Road drains into the pond at the southwest corner.

The commercial site at the northwest corner of Coors and St. Joseph's (Tract X-1-A2, University of Albuquerque Urban Center) is proposed to install a storm drain to convey runoff from the site and the adjacent church to Ladera Pond 16B along Atrisco Drive from the south. The existing volume in Ladera Pond 16B using the City of Albuquerque LiDAR contours is 40.13 acre-feet at an elevation of 5108. The AHYMO model results show that there is available volume in Ladera Pond 16B to drain the proposed commercial site and adjacent church to the pond. The total detained volume in the developed condition including these two sites is 31.63 acre-feet with a 100-year water surface elevation of 5106.93. Therefore, Ladera Pond 16B will have more than one foot of freeboard. Table 2 shows the pertinent pond characteristics for Ladera Pond 16B.

Table 2 Developed Detention Pond Characteristics

POND	DRAIN AREA (ac)	Q100 IN (cfs)	Q100 OUT (cfs)	MAX VOL (ac-ft)	V100 (ac-ft)	TOP ELEV	BOTTOM ELEV	WSEL
Ladera Pond 16B		923.70	37.73	40.13	31.63	5108	5100	5106.93



LADERA POND 16B
BASIN BOUNDARY
EXHIBIT

APPENDIX A
DEVELOPED CONDITIONS HYDROLOGIC MODEL

- AHYMO Input File
- AHYMO Summary File

LADERA POND 16B WATERSHED
HYDROLOGIC MODEL--DEVELOPED CONDITIONS
29 DECEMBER 2015

HYDROLOGIC MODEL FOR WATERSHED BASINS
100-YEAR, 24-HOUR STORM:

PRECIPITATION:

P60 = 1.84"
P360 = 2.20"
P1440 = 2.66"

START TIME=0.0 HR PUNCH CODE=0

RAINFALL TYPE=2 RAIN QUARTER=0.0 IN
RAIN ONE=1.84 IN RAIN SIX=2.20 IN
RAIN DAY=2.66 IN DT=0.05 HRS

SEDIMENT BULK CODE=1 FACTOR=1.0

*S*****
*S***** COMPUTE UNSER DETENTION BASIN SYSTEM
*S***** FROM AMAFCA SAN ANTONIO ARROYO DRAINAGE STUDY

COMPUTE NM HYD ID=1 HYD NO=164.5 DA=.02936 SQ MI
%A=90 %B=1.5 %C=2.1 %D=6.4
TP=-.133 HR RAIN=-1

PRINT HYD ID=1 CODE=10

ROUTE RESERVOIR ID=30 HYD=164.55 INFLOW ID=1 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0
37.8 0.1 0.1
37.9 14.9 3.65
38.0 15.0 3.75

PRINT HYD ID=30 CODE=10

*ROUTE FLOW THROUGH 125' 36" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00796
DIA=3.0 N=0.013

ROUTE MCUNGE ID=31 HYD=164.56 INFLOW ID=30
DT=0.0 L=125 NS=0 SLOPE=0.00796
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

PRINT HYD ID=31 CODE=0

* ROUTE THROUGH POND 3

ROUTE RESERVOIR ID=32 HYD=164.57 INFLOW ID=31 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0

Adjustment
for steep slope
segment?

0.63	0.1	1
0.93	0.11	2
1.31	0.74	4
1.61	1.91	6
1.67	2.26	6.5

*

PRINT HYD ID=32 CODE=10

*

*

*ROUTE FLOW THROUGH 115' 24" RCP TO POND 4
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0174
 DIA=2.0 N=0.013
 ROUTE MCUNGE ID=33 HYD=164.58 INFLOW ID=32
 DT=0.0 L=115 NS=0 SLOPE=0.0174
 MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*

PRINT HYD ID=33 CODE=0

*

*

COMPUTE NM HYD ID=2 HYD NO=164.4 DA=.03229 SQ MI
 %A=90 %B=1.5 %C=2.1 %D=6.4
 TP=-.133 HR RAIN=-1

PRINT HYD ID=2 CODE=10

*

*

ROUTE RESERVOIR ID=34 HYD=164.44 INFLOW ID=2 CODE=10
 OUTFLOW STORAGE DEPTH
 0 0 0
 63.8 0.1 0.1
 63.9 14.9 4.4
 64.0 15.0 4.5

*

PRINT HYD ID=34 CODE=10

*

*ROUTE FLOW THROUGH 158' 36" RCP
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00796
 DIA=3.0 N=0.013
 ROUTE MCUNGE ID=35 HYD=164.45 INFLOW ID=34
 DT=0.0 L=158 NS=0 SLOPE=0.00796
 MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*

PRINT HYD ID=35 CODE=0

*

ADD HYD ID=36 HYD=164.46 ID I=33 II=35
 PRINT HYD ID=36 CODE=10

*

*

* ROUTE THROUGH POND 4

*

ROUTE RESERVOIR ID=37 HYD=164.47 INFLOW ID=36 CODE=10
 OUTFLOW STORAGE DEPTH
 0 0 0
 0.78 0.01 1
 1.36 0.19 2
 1.75 0.56 3
 2.30 1.70 5
 2.80 3.08 7

*

PRINT HYD ID=37 CODE=10

*

*

*ROUTE FLOW THROUGH 82' 24" RCP TO POND 5
 COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0367
 DIA=2.0 N=0.013

```

ROUTE MCUNGE          ID=38 HYD=164.48 INFLOW ID=37
                      DT=0.0 L=82 NS=0 SLOPE=0.0367
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD             ID=38 CODE=0
*
*
COMPUTE NM HYD        ID=3  HYD NO=164.3  DA=.03909 SQ MI
                      %A=90 %B=1.5 %C=2.1 %D=6.4
                      TP=-.133 HR RAIN=-1
PRINT HYD             ID=3 CODE=10
*
*
ROUTE RESERVOIR       ID=39 HYD=164.33 INFLOW ID=3 CODE=10
                      OUTFLOW STORAGE DEPTH
                      0 0 0
                      63.8 0.1 0.1
                      63.9 14.9 4.4
                      64.0 15.0 4.5
*
PRINT HYD             ID=39 CODE=10
*
*ROUTE FLOW THROUGH 173' 36" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00796
                      DIA=3.0 N=0.013
ROUTE MCUNGE          ID=40 HYD=164.34 INFLOW ID=34
                      DT=0.0 L=173 NS=0 SLOPE=0.00796
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD             ID=40 CODE=0
*
*TOTAL FLOW INTO POND 5
ADD HYD               ID=41 HYD=164.35 ID I=38 II=40
PRINT HYD             ID=41 CODE=10
*
*
* ROUTE THROUGH POND 5
*
ROUTE RESERVOIR       ID=42 HYD=164.36 INFLOW ID=41 CODE=10
                      OUTFLOW STORAGE DEPTH
                      0 0 0
                      1.11 0.11 1
                      1.57 0.46 2
                      1.92 0.84 3
                      2.48 1.72 5
                      2.93 2.76 7
                      3.51 4.63 10
                      3.59 4.97 11
*
PRINT HYD             ID=42 CODE=10
*
*
*ROUTE FLOW THROUGH 180' 24" RCP TO POND 6
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0056
                      DIA=2.0 N=0.013
ROUTE MCUNGE          ID=43 HYD=164.37 INFLOW ID=42
                      DT=0.0 L=180 NS=0 SLOPE=0.0056
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD             ID=43 CODE=0
*
*
COMPUTE NM HYD        ID=4  HYD NO=164.2  DA=.02672 SQ MI
                      %A=90 %B=1.5 %C=2.1 %D=6.4

```

```

TP=-.133 HR RAIN=-1
PRINT HYD ID=4 CODE=10
*
*
ROUTE RESERVOIR ID=44 HYD=164.24 INFLOW ID=4 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0
63.8 0.1 0.1
63.9 14.9 4.4
64.0 15.0 4.5
*
PRINT HYD ID=44 CODE=10
*
*ROUTE FLOW THROUGH 169' 36" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00796
DIA=3.0 N=0.013
ROUTE MCUNGE ID=45 HYD=164.25 INFLOW ID=44
DT=0.0 L=169 NS=0 SLOPE=0.00796
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD ID=45 CODE=0
*
* TOTAL FLOW INTO POND 6
ADD HYD ID=46 HYD=164.26 ID I=43 II=45
PRINT HYD ID=46 CODE=10
*
*
* ROUTE THROUGH POND 6
*
ROUTE RESERVOIR ID=47 HYD=164.27 INFLOW ID=46 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0
1.68 0.08 2
2.38 0.35 3
2.91 0.65 4
3.76 1.36 6
4.44 2.24 8
4.90 3.01 9.5
*
PRINT HYD ID=47 CODE=10
*
*
*ROUTE FLOW THROUGH 600' 24" RCP TO POND 7
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.005
DIA=2.0 N=0.013
ROUTE MCUNGE ID=48 HYD=164.28 INFLOW ID=47
DT=0.0 L=600 NS=0 SLOPE=0.005
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD ID=48 CODE=0
*
*
COMPUTE NM HYD ID=5 HYD NO=164.1 DA=.01922 SQ MI
%A=90 %B=1.5 %C=2.1 %D=6.4
TP=-.133 HR RAIN=-1
PRINT HYD ID=5 CODE=10
*
*
ROUTE RESERVOIR ID=49 HYD=164.14 INFLOW ID=5 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0
21.8 0.1 0.1
21.9 14.9 2.9
22.0 15.0 3.0

```

```

*
PRINT HYD          ID=49 CODE=10
*
*ROUTE FLOW THROUGH 170' 24" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00817
                      DIA=2.0 N=0.013
ROUTE MCUNGE        ID=50 HYD=164.15 INFLOW ID=49
                      DT=0.0 L=170 NS=0 SLOPE=0.00817
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD          ID=50 CODE=0
*
* TOTAL FLOW INTO POND 7
ADD HYD             ID=51 HYD=164.16 ID I=48 II=50
PRINT HYD           ID=51 CODE=10
*
*
*
COMPUTE NM HYD      ID=6 HYD NO=163.4 DA=.01136 SQ MI
                      %A=90 %B=1.5 %C=2.1 %D=6.4
                      TP=-.133 HR RAIN=-1
PRINT HYD           ID=6 CODE=10
*
*
ROUTE -RESERVOIR    ID=52 HYD=163.44 INFLOW ID=6 CODE=10
                      OUTFLOW STORAGE DEPTH
                      0 0 0
                      37.8 0.1 0.1
                      37.9 14.9 3.65
                      38.0 15.0 3.75
*
PRINT HYD           ID=52 CODE=10
*
*ROUTE FLOW THROUGH 167' 30" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00742
                      DIA=2.5 N=0.013
ROUTE MCUNGE        ID=53 HYD=163.45 INFLOW ID=52
                      DT=0.0 L=167 NS=0 SLOPE=0.00742
                      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD           ID=53 CODE=0
*
* TOTAL FLOW INTO POND 7
ADD HYD             ID=54 HYD=163.46 ID I=51 II=53
PRINT HYD           ID=54 CODE=10
*
*
* ROUTE THROUGH POND 7
*
ROUTE RESERVOIR     ID=55 HYD=163.47 INFLOW ID=54 CODE=10
                      OUTFLOW STORAGE DEPTH
                      0 0 0
                      1.90 0.04 3
                      2.68 0.24 4
                      3.28 0.56 5
                      4.24 1.43 7
                      5.02 2.57 9
                      5.69 4.00 11
                      5.85 4.39 11.5
*
PRINT HYD           ID=55 CODE=10
*
*
*ROUTE FLOW THROUGH 400' 24" RCP TO POND 7

```

COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.011
DIA=2.0 N=0.013
ROUTE MCUNGE ID=56 HYD=163.48 INFLOW ID=55
DT=0.0 L=400 NS=0 SLOPE=0.011
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*
PRINT HYD ID=56 CODE=0
*

*
COMPUTE NM HYD ID=7 HYD NO=163.3 DA=.01466 SQ MI
%A=90 %B=1.5 %C=2.1 %D=6.4
TP=-.133 HR RAIN=-1
PRINT HYD ID=7 CODE=10
*

* ADD TO OUTFLOW FROM POND 7
ADD HYD ID=57 HYD=163.34 ID I=56 II=7
PRINT HYD ID=57 CODE=10
*

*
ROUTE RESERVOIR ID=58 HYD=163.35 INFLOW ID=57 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0
37.8 0.1 0.1
37.9 14.9 3.65
38.0 15.0 3.75

*
PRINT HYD ID=58 CODE=10
*

*ROUTE FLOW THROUGH 950' 30" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.00742
DIA=2.5 N=0.013
ROUTE MCUNGE ID=59 HYD=163.36 INFLOW ID=58
DT=0.0 L=950 NS=0 SLOPE=0.00742
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*
PRINT HYD ID=59 CODE=0
*

*
COMPUTE NM HYD ID=8 HYD NO=163.2 DA=.02771 SQ MI
%A=90 %B=1.5 %C=2.1 %D=6.4
TP=-.133 HR RAIN=-1
PRINT HYD ID=8 CODE=10
*

* ADD TO OUTFLOW FROM POND 7 AND BASIN 156.3
ADD HYD ID=60 HYD=163.24 ID I=59 II=8
PRINT HYD ID=60 CODE=10
*

*
ROUTE RESERVOIR ID=61 HYD=163.25 INFLOW ID=60 CODE=10
OUTFLOW STORAGE DEPTH
0 0 0
127.8 0.1 0.1
127.9 14.9 5.9
128.0 15.0 6.0

*
PRINT HYD ID=61 CODE=10
*

*ROUTE FLOW THROUGH 1350' 54" RCP
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0035
DIA=4.5 N=0.013
ROUTE MCUNGE ID=62 HYD=163.26 INFLOW ID=61
DT=0.0 L=1350 NS=0 SLOPE=0.0035
MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

```

*
PRINT HYD          ID=62 CODE=0
*
*
*
COMPUTE NM HYD      ID=9  HYD NO=163.1  DA=.14314 SQ MI
                    %A=90  %B=1.5  %C=2.1 %D=6.4
                    TP=-.133 HR  RAIN=-1
PRINT HYD          ID=9 CODE=10
*
*
ROUTE RESERVOIR     ID=63 HYD=163.14  INFLOW ID=9 CODE=10
                    OUTFLOW  STORAGE  DEPTH
                    0         0        0
                    221.8    0.1      0.1
                    221.9    14.9     7.4
                    222.0    15.0     7.5
*
PRINT HYD          ID=63 CODE=10
*
*ROUTE FLOW THROUGH 950' 60" RCP
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.00628
                    DIA=5.0  N=0.013
ROUTE MCUNGE        ID=64 HYD=163.15 INFLOW ID=63
                    DT=0.0  L=950 NS=0  SLOPE=0.00628
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD          ID=64 CODE=0
*
*
*S****BASINS NORTH OF LADERA POND 16B****
*
COMPUTE NM HYD      ID=10  HYD NO=163.5  DA=.02689 SQ MI
                    %A=0  %B=30.5  %C=30.5 %D=39.0
                    TP=-.133 HR  RAIN=-1
PRINT HYD          ID=10 CODE=10
*
*
COMPUTE NM HYD      ID=11  HYD NO=163.6  DA=.01846 SQ MI
                    %A=0  %B=5.0  %C=5.0 %D=90.0
                    TP=-.133 HR  RAIN=-1
PRINT HYD          ID=11 CODE=10
*
*
ADD HYD             ID=65 HYD=163.55 ID I=10 II=11
PRINT HYD          ID=65 CODE=10
*
*
ADD HYD             ID=66 HYD=163.56 ID I=65 II=64
PRINT HYD          ID=66 CODE=10
*
*
*S****BASINS SOUTH AND WEST OF LADERA POND 16B****
*
COMPUTE NM HYD      ID=12  HYD NO=164.7  DA=.06513 SQ MI
                    %A=0  %B=15.2  %C=15.2 %D=69.6
                    TP=-.133 HR  RAIN=-1
PRINT HYD          ID=12 CODE=10
*
*
*
COMPUTE NM HYD      ID=13  HYD NO=164.6  DA=.02660 SQ MI

```

```

      %A=0  %B=20.3  %C=20.3  %D=59.4
      TP=-.133 HR  RAIN=-1
PRINT HYD      ID=13 CODE=10
*
ADD HYD      ID=67 HYD=164.65 ID I=12 II=13
PRINT HYD      ID=67 CODE=10
*
*ROUTE FLOW THROUGH 850' 42" RCP
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.0035
      DIA=3.5  N=0.013
ROUTE MCUNGE  ID=68 HYD=164.66 INFLOW ID=67
      DT=0.0  L=850 NS=0  SLOPE=0.0035
      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD      ID=68 CODE=0
*
*
*
COMPUTE NM HYD  ID=14  HYD NO=164.8  DA=.03133 SQ MI
      %A=0  %B=25.8  %C=25.9  %D=48.3
      TP=-.133 HR  RAIN=-1
PRINT HYD      ID=14 CODE=10
*
*
ADD HYD      ID=69 HYD=164.75 ID I=68 II=14
PRINT HYD      ID=69 CODE=10
*
*ROUTE FLOW THROUGH 700' 42" RCP
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.0035
      DIA=3.5  N=0.013
ROUTE MCUNGE  ID=70 HYD=164.76 INFLOW ID=69
      DT=0.0  L=850 NS=0  SLOPE=0.0035
      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD      ID=70 CODE=0
*
*
*
COMPUTE NM HYD  ID=15  HYD NO=163.7  DA=.02628 SQ MI
      %A=0  %B=25.0  %C=25.0  %D=50.0
      TP=-.133 HR  RAIN=-1
PRINT HYD      ID=15 CODE=10
*
*
ADD HYD      ID=71 HYD=163.75 ID I=70 II=15
PRINT HYD      ID=71 CODE=10
*
*ROUTE FLOW THROUGH 850' 54" RCP
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.0035
      DIA=4.5  N=0.013
ROUTE MCUNGE  ID=72 HYD=163.76 INFLOW ID=71
      DT=0.0  L=850 NS=0  SLOPE=0.0035
      MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD      ID=72 CODE=0
*
*
*
COMPUTE NM HYD  ID=16  HYD NO=163.8  DA=.02442 SQ MI
      %A=0.0  %B=25.0  %C=25.0  %D=50.0
      TP=-.1333 HR  RAIN=-1
PRINT HYD      ID=16 CODE=10
*
*

```

```

ADD HYD          ID=73 HYD=D163.85 ID I=72 II=16
PRINT HYD        ID=73 CODE=10
*
*
COMPUTE NM HYD    ID=17  HYD NO=163.10  DA=.05790 SQ MI
                  %A=0.0  %B=33.8  %C=33.9 %D=32.3
                  TP=-.1333 HR  RAIN=-1
PRINT HYD        ID=17 CODE=10
*
*
ADD HYD          ID=74 HYD=D163.105 ID I=73 II=17
PRINT HYD        ID=74 CODE=10
*
*
COMPUTE NM HYD    ID=18  HYD NO=163.11  DA=.00894 SQ MI
                  %A=0.0  %B=12.5  %C=12.5 %D=75.0
                  TP=-.1333 HR  RAIN=-1
PRINT HYD        ID=18 CODE=10
*
ADD HYD          ID=75 HYD=D163.115 ID I=74 II=18
PRINT HYD        ID=75 CODE=10
*
*
*S LADERA POND 16B BASIN
*
COMPUTE NM HYD    ID=19  HYD NO=163.9  DA=.02087 SQ MI
                  %A=0.0  %B=80.0  %C=15.0 %D=5.0
                  TP=-.1333 HR  RAIN=-1
PRINT HYD        ID=19 CODE=10
*
ADD HYD          ID=76 HYD=163.95 ID I=75 II=19
PRINT HYD        ID=76 CODE=10
*
*
*S****BASINS EAST OF LADERA POND 16B****
*
*
COMPUTE NM HYD    ID=20  HYD NO=162.2  DA=.03441 SQ MI
                  %A=0.0  %B=8.8  %C=8.8 %D=82.4
                  TP=-.133 HR  RAIN=-1
PRINT HYD        ID=20 CODE=10
*
*ROUTE FLOW THROUGH 1200' 66" RCP
*
COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.005
                  DIA=5.5 N=0.013
ROUTE MCUNGE      ID=77 HYD=162.5 INFLOW ID=20
                  DT=0.0 L=1200 NS=0 SLOPE=0.005
                  MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD        ID=77 CODE=0
*
*
*
COMPUTE NM HYD    ID=21  HYD NO=162.3  DA=.02208 SQ MI
                  %A=0  %B=30.4  %C=30.5 %D=39.1
                  TP=-.133 HR  RAIN=-1
PRINT HYD        ID=21 CODE=10
*
ADD HYD          ID=78 HYD=162.35 ID I=77 II=21
PRINT HYD        ID=78 CODE=10
*
*

```

```

*
*
COMPUTE NM HYD      ID=22  HYD NO=162.1  DA=.03006 SQ MI
                    %A=0   %B=28.2   %C=28.2 %D=43.6
                    TP=-.133 HR  RAIN=-1
PRINT HYD           ID=22 CODE=10
*
ADD HYD             ID=79 HYD=162.15 ID I=78 II=22
PRINT HYD           ID=79 CODE=10
*
*
*S****OXBOW COMMERCIAL SITE****
*
COMPUTE NM HYD      ID=23  HYD NO=162.5  DA=.03429 SQ MI
                    %A=0.0   %B=5.0   %C=5.0 %D=90.0
                    TP=-.133 HR  RAIN=-1
PRINT HYD           ID=23 CODE=10
*
*
*ROUTE FLOW THROUGH 600' 54" RCP
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.005
                    .DIA=4.5  N=0.013
ROUTE MCUNGE        ID=80 HYD=162.55 INFLOW ID=23
                    DT=0.0  L=600 NS=0  SLOPE=0.005
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD           ID=80 CODE=0
*
*
*S*****ST. JOSEPHS CHURCH*****
*
COMPUTE NM HYD      ID=24  HYD NO=162.4  DA=.01324 SQ MI
                    %A=0.0   %B=12.5  %C=12.5 %D=75.0
                    TP=-.133 HR  RAIN=-1
PRINT HYD           ID=24 CODE=10
*
*
ADD HYD             ID=81 HYD=162.45 ID I=80 II=24
PRINT HYD           ID=81 CODE=10
*
*
*ROUTE FLOW THROUGH 600' 60" RCP
*
COMPUTE RATING CURVE CID=1  VS NO=1  CODE=-1  SLP=0.005
                    DIA=5.0  N=0.013
ROUTE MCUNGE        ID=82 HYD=162.55 INFLOW ID=81
                    DT=0.0  L=600 NS=0  SLOPE=0.005
                    MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0
*
PRINT HYD           ID=82 CODE=0
*
ADD HYD             ID=83 HYD=162.0 ID I=79 II=82
PRINT HYD           ID=83 CODE=10
*
*
ADD HYD             ID=84 HYD=163.01 ID I=62 II=66
PRINT HYD           ID=84 CODE=10
*
*
ADD HYD             ID=85 HYD=163.0 ID I=76 II=84
PRINT HYD           ID=85 CODE=10
*
*

```

ADD HYD ID=86 HYD=162.34 ID I=83 II=85
PRINT HYD ID=86 CODE=10

*
*

*SROUTE FLOWS THROUGH LADERA POND 16B

ROUTE RESERVOIR ID=87 HYD=LADERAPOND16B INFLOW ID=86 CODE=10

OUTFLOW	STORAGE	DEPTH
0	0	5100
1.0	0.82	5101
10.0	3.29	5102
21.0	7.19	5103
25.0	12.30	5104
30.0	18.30	5105
34.0	24.88	5106
38.0	32.13	5107
42.0	40.13	5108

*
*

PRINT HYD ID=87 CODE=10

*

*ROUTE OUTFLOW THROUGH 1850' 36" RCP

COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0028

DIA=3.0 N=0.013

ROUTE MCUNGE

ID=88 HYD=163.17 INFLOW ID=87

DT=0.0 L=1850 NS=0 SLOPE=0.0028

MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*

PRINT HYD

ID=88 CODE=0

*

*

*ROUTE OUTFLOW THROUGH 250' 42" RCP

COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0028

DIA=3.5 N=0.013

ROUTE MCUNGE

ID=89 HYD=163.18 INFLOW ID=88

DT=0.0 L=250 NS=0 SLOPE=0.0028

MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*

PRINT HYD

ID=89 CODE=0

*

*

*ROUTE OUTFLOW THROUGH 950' 54" RCP

COMPUTE RATING CURVE CID=1 VS NO=1 CODE=-1 SLP=0.0028

DIA=4.5 N=0.013

ROUTE MCUNGE

ID=89 HYD=163.19 INFLOW ID=88

DT=0.0 L=950 NS=0 SLOPE=0.0028

MATCODE=0 REGCODE=0 CCODE=0 MM CODE=0

*

PRINT HYD

ID=89 CODE=0

*

*S DISCHARGE INTO THE SAN ANTONIO ARROYO

*

*

*S*****

*

*S*****END OF LADERA POND 16B DRAINAGE ANALYSIS

*

FINISH

AHYMO PROGRAM SUMMARY TABLE (AHYMO_97) -
INPUT FILE = C:\Projects\LADERA-1\LADERA-1.TXT

- VERSION: 1997.02c

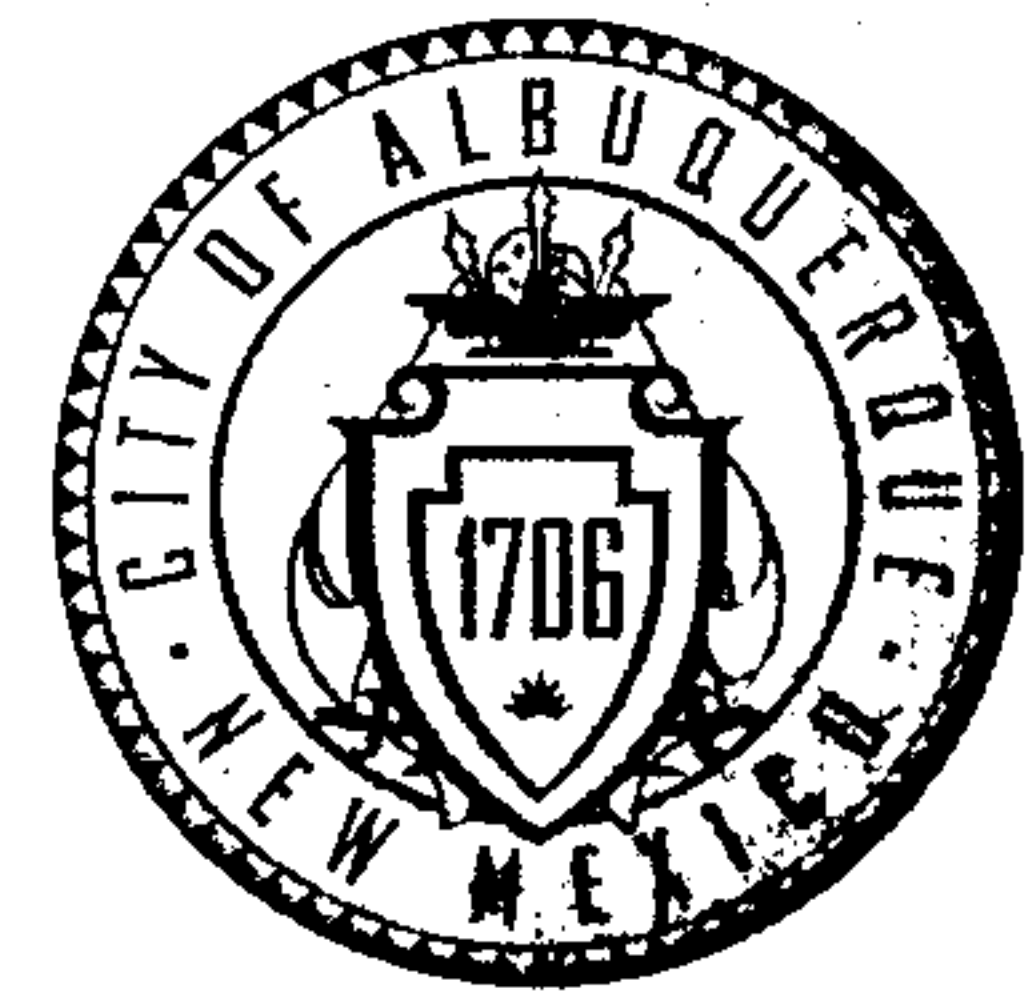
RUN DATE (MON/DAY/YR) =12/29/2015
USER NO.= AHYMO-I-9702a01000K21-AH

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 1 NOTATION
START										TIME= .00
RAINFALL TYPE= 2										RAIN24= 2.660
SEDIMENT BULK										PK BF = 1.00
*S*****										
*S***** COMPUTE UNSER DETENTION BASIN SYSTEM										
*S***** FROM AMAFCA SAN ANTONIO ARROYO DRAINAGE STUDY										
COMPUTE NM HYD	164.50	-	1	.02936	27.95	.890	.56849	1.500	1.488	PER IMP= 6.40
ROUTE RESERVOIR	164.55	1	30	.02936	26.81	.890	.56848	1.550	1.427	AC-FT= .071
ROUTE MCUNGE	164.56	30	31	.02936	26.81	.890	.56847	1.550	1.427	CCODE = .0
ROUTE RESERVOIR	164.57	31	32	.02936	1.28	.890	.56836	2.400	.068	AC-FT= .693
ROUTE MCUNGE	164.58	32	33	.02936	1.28	.890	.56836	2.400	.068	CCODE = .0
COMPUTE NM HYD	164.40	-	2	.03229	30.74	.979	.56849	1.500	1.487	PER IMP= 6.40
ROUTE RESERVOIR	164.44	2	34	.03229	30.11	.979	.56848	1.550	1.457	AC-FT= .047
ROUTE MCUNGE	164.45	34	35	.03229	30.11	.979	.56848	1.550	1.457	CCODE = .0
ADD HYD	164.46	33&35	36	.06165	31.13	1.869	.56842	1.550	.789	
ROUTE RESERVOIR	164.47	36	37	.06165	1.88	1.869	.56841	2.750	.048	AC-FT= .824
ROUTE MCUNGE	164.48	37	38	.06165	1.88	1.869	.56841	2.750	.048	CCODE = .0
COMPUTE NM HYD	164.30	-	3	.03909	37.21	1.185	.56849	1.500	1.487	PER IMP= 6.40
ROUTE RESERVOIR	164.33	3	39	.03909	36.45	1.185	.56848	1.550	1.457	AC-FT= .057
ROUTE MCUNGE	164.34	34	40	.03229	30.11	.979	.56848	1.550	1.457	CCODE = .0
ADD HYD	164.35	38&40	41	.09394	31.59	2.848	.56844	1.550	.525	
ROUTE RESERVOIR	164.36	41	42	.09394	1.97	2.848	.56836	3.800	.033	AC-FT= .913
ROUTE MCUNGE	164.37	42	43	.09394	1.97	2.848	.56836	3.800	.033	CCODE = .2
COMPUTE NM HYD	164.20	-	4	.02672	25.44	.810	.56849	1.500	1.488	PER IMP= 6.40
ROUTE RESERVOIR	164.24	4	44	.02672	24.92	.810	.56847	1.550	1.457	AC-FT= .039
ROUTE MCUNGE	164.25	44	45	.02672	24.92	.810	.56847	1.550	1.457	CCODE = .0
ADD HYD	164.26	43&45	46	.12066	26.24	3.658	.56838	1.550	.340	
ROUTE RESERVOIR	164.27	46	47	.12066	2.90	3.657	.56834	2.450	.038	AC-FT= .644
ROUTE MCUNGE	164.28	47	48	.12066	2.90	3.657	.56834	2.500	.038	CCODE = .2
COMPUTE NM HYD	164.10	-	5	.01922	18.30	.583	.56849	1.500	1.488	PER IMP= 6.40
ROUTE RESERVOIR	164.14	5	49	.01922	16.07	.583	.56847	1.550	1.306	AC-FT= .074
ROUTE MCUNGE	164.15	49	50	.01922	16.07	.583	.56847	1.550	1.306	CCODE = .0
ADD HYD	164.16	48&50	51	.13988	18.12	4.240	.56836	1.550	.202	
COMPUTE NM HYD	163.40	-	6	.01136	10.82	.344	.56849	1.500	1.489	PER IMP= 6.40
ROUTE RESERVOIR	163.44	6	52	.01136	10.38	.344	.56846	1.550	1.428	AC-FT= .027
ROUTE MCUNGE	163.45	52	53	.01136	10.38	.344	.56846	1.550	1.428	CCODE = .0
ADD HYD	163.46	51&53	54	.15124	28.51	4.585	.56837	1.550	.295	
ROUTE RESERVOIR	163.47	54	55	.15124	3.51	4.584	.56835	2.750	.036	AC-FT= .770
ROUTE MCUNGE	163.48	55	56	.15124	3.51	4.584	.56835	2.750	.036	CCODE = .2
COMPUTE NM HYD	163.30	-	7	.01466	13.96	.444	.56849	1.500	1.488	PER IMP= 6.40
ADD HYD	163.34	56& 7	57	.16590	16.26	5.029	.56836	1.500	.153	
ROUTE RESERVOIR	163.35	57	58	.16590	15.68	5.029	.56836	1.550	.148	AC-FT= .041
ROUTE MCUNGE	163.36	58	59	.16590	15.58	5.029	.56838	1.600	.147	CCODE = .2
COMPUTE NM HYD	163.20	-	8	.02771	26.38	.840	.56849	1.500	1.488	PER IMP= 6.40
ADD HYD	163.24	59& 8	60	.19361	40.05	5.869	.56840	1.550	.323	
ROUTE RESERVOIR	163.25	60	61	.19361	40.08	5.869	.56840	1.550	.323	AC-FT= .031
ROUTE MCUNGE	163.26	61	62	.19361	39.67	5.868	.56829	1.600	.320	CCODE = .2
COMPUTE NM HYD	163.10	-	9	.14314	140.67	4.340	.56849	1.500	1.535	PER IMP= 6.40
ROUTE RESERVOIR	163.14	9	63	.14314	139.29	4.340	.56848	1.500	1.520	AC-FT= .063

000

COMMAND	HYDROGRAPH IDENTIFICATION	FROM ID NO.	TO ID NO.	AREA (SQ MI)	PEAK DISCHARGE (CFS)	RUNOFF VOLUME (AC-FT)	RUNOFF (INCHES)	TIME TO PEAK (HOURS)	CFS PER ACRE	PAGE = 2 NOTATION
ROUTE MCUNGE	163.15	63	64	.14314	137.87	4.317	.56548	1.550	1.505	CCODE = .1
*S****BASINS NORTH OF LADERA POND 16B****										
COMPUTE NM HYD	163.50	-	10	.02689	53.63	2.056	1.43384	1.500	3.116	PER IMP= 39.00
COMPUTE NM HYD	163.60	-	11	.01846	47.88	2.227	2.26249	1.500	4.053	PER IMP= 90.00
ADD HYD	163.55	10&11	65	.04535	101.51	4.284	1.77113	1.500	3.498	
ADD HYD	163.56	65&64	66	.18849	227.63	8.601	.85555	1.550	1.887	
*S****BASINS SOUTH AND WEST OF LADERA POND 16B****										
COMPUTE NM HYD	164.70	-	12	.06513	153.28	6.708	1.93103	1.500	3.677	PER IMP= 69.60
COMPUTE NM HYD	164.60	-	13	.02660	59.43	2.504	1.76530	1.500	3.491	PER IMP= 59.40
ADD HYD	164.65	12&13	67	.09173	212.70	9.212	1.88296	1.500	3.623	
ROUTE MCUNGE	164.66	67	68	.09173	153.78	8.450	1.72720	1.500	2.620	CCODE = .2
COMPUTE NM HYD	164.80	-	14	.03133	65.92	2.649	1.58510	1.500	3.287	PER IMP= 48.30
ADD HYD	164.75	68&14	69	.12306	219.70	11.098	1.69102	1.500	2.790	
ROUTE MCUNGE	164.76	69	70	.12306	157.50	10.242	1.56054	1.500	2.000	CCODE = .2
COMPUTE NM HYD	163.70	-	15	.02628	55.81	2.260	1.61257	1.500	3.318	PER IMP= 50.00
ADD HYD	D163.75	70&15	71	.14934	213.31	12.502	1.56969	1.500	2.232	
ROUTE MCUNGE	163.76	71	72	.14934	167.98	11.770	1.47780	1.550	1.758	CCODE = .2
COMPUTE NM HYD	163.80	-	16	.02442	51.81	2.100	1.61257	1.500	3.315	PER IMP= 50.00
ADD HYD	D163.85	72&16	73	.17376	219.05	13.871	1.49673	1.500	1.970	
COMPUTE NM HYD	163.10	-	17	.05790	110.79	4.092	1.32514	1.500	2.990	PER IMP= 32.30
ADD HYD	D163.105	73&17	74	.23166	329.84	17.963	1.45384	1.500	2.225	
COMPUTE NM HYD	163.11	-	18	.00894	21.60	.963	2.01877	1.500	3.776	PER IMP= 75.00
ADD HYD	D163.115	74&18	75	.24060	351.44	18.925	1.47483	1.500	2.282	
*S LADERA POND 16B BASIN										
COMPUTE NM HYD	163.90	-	19	.02087	29.66	.872	.78347	1.500	2.221	PER IMP= 5.00
ADD HYD	163.95	75&19	76	.26147	381.10	19.797	1.41965	1.500	2.277	
*S****BASINS EAST OF LADERA POND 16B****										
COMPUTE NM HYD	162.20	-	20	.03441	86.17	3.925	2.13900	1.500	3.913	PER IMP= 82.40
ROUTE MCUNGE	162.50	20	77	.03441	83.42	3.925	2.13861	1.550	3.788	CCODE = .2
COMPUTE NM HYD	162.30	-	21	.02208	44.07	1.691	1.43562	1.500	3.119	PER IMP= 39.10
ADD HYD	162.35	77&21	78	.05649	126.10	5.615	1.86382	1.500	3.488	
COMPUTE NM HYD	162.10	-	22	.03006	61.58	2.419	1.50858	1.500	3.201	PER IMP= 43.60
ADD HYD	162.15	78&22	79	.08655	187.68	8.034	1.74044	1.500	3.388	
*S****OXBOW COMMERCIAL SITE****										
COMPUTE NM HYD	162.50	-	23	.03429	88.93	4.138	2.26249	1.500	4.052	PER IMP= 90.00
ROUTE MCUNGE	162.55	23	80	.03429	87.59	4.136	2.26183	1.500	3.991	CCODE = .2
*S****ST. JOSEPHS CHURCH*****										
COMPUTE NM HYD	162.40	-	24	.01324	32.01	1.426	2.01877	1.500	3.778	PER IMP= 75.00
ADD HYD	162.45	80&24	81	.04753	119.60	5.562	2.19410	1.500	3.932	
ROUTE MCUNGE	162.55	81	82	.04753	116.02	5.561	2.19362	1.500	3.814	CCODE = .2
ADD HYD	162.00	79&82	83	.13408	303.70	13.594	1.90108	1.500	3.539	
ADD HYD	163.01	62&66	84	.38210	263.38	14.469	.71000	1.550	1.077	
ADD HYD	163.00	76&84	85	.64357	623.81	34.266	.99831	1.550	1.515	
ADD HYD	162.34	83&85	86	.77765	923.70	47.860	1.15396	1.500	1.856	
*SROUTE FLOWS THROUGH LADERA POND 16B										
ROUTE RESERVOIR LADERA POND 16	163.17	86	87	.77765	37.73	46.982	1.13279	2.550	.076	AC-FT= 31.632
ROUTE MCUNGE	163.17	87	88	.77765	37.54	46.946	1.13192	2.900	.075	CCODE = .2
ROUTE MCUNGE	163.18	88	89	.77765	37.54	46.943	1.13185	2.900	.075	CCODE = .2
ROUTE MCUNGE	163.19	88	89	.77765	37.54	46.936	1.13169	2.900	.075	CCODE = .2
*S DISCHARGE INTO THE SAN ANTONIO ARROYO										
*S*****										
*S*****END OF LADERA POND 16B DRAINAGE ANALYSIS										
FINISH										

CITY OF ALBUQUERQUE



January 4, 2017

Richard J. Berry, Mayor

Ron E. Hensley, P.E.
THE Group
300 Branding Iron Road S.E.
Rio Rancho, NM, 87124

**RE: Coors Pavilion
Grading and Drainage Plan
Engineer's Stamp Date 12-29-2016 (G11D069)
DRB #100032**

4

Dear Mr. Hensley:

Based upon the information provided in your submittal referenced above, the Grading & Drainage Plan submittal is approved for Preliminary Plat. A separate submittal will be processed for Grading Permit as noted during the DRB Hearing.

If you have any questions, you can contact the City Engineer at 924-3999.

PO Box 1293

Albuquerque

New Mexico 87103

Sincerely,

Abiel Carrillo, P.E.
For Shahab Biazar, P.E., City Engineer
Development Review Services

www.cabq.gov

Orig: Drainage file

Ron Hensley

From: Carrillo, Abiel X. <acarrillo@cabq.gov>
Sent: Wednesday, January 04, 2017 4:18 PM
To: Ron Hensley
Subject: Coors Pavilion - PP

Hey Ron,

I'm going to leave this summary in the file just so I remember:

So you will stamp the plan that is approved for PP with 12-29-2016, I will send you an approval dated 1-4-2017 for PP only. Your new submittal, will be for Grading Permit, which is dated 1-4-17.

Thanks,

Abiel Carrillo, PE, CFM

Principal Engineer - Hydrology
Planning Department
Development Review Services Division
City of Albuquerque
505-924-3986
acarrillo@cabq.gov
600 2nd Street NW
Albuquerque, NM 87102

Need to type
letter.

Done 2/14/17
emailed
to Ron/
Shahab

Carrillo, Abiel X.

From: Josh Skarsgard <josh@skarsgardfirm.com>
Sent: Tuesday, September 20, 2016 2:37 PM
To: Torres, Savannah; Carrillo, Abiel X.; Daggett, Kevin
Cc: Shaw, Kellie R.; Sheldon Greer; Russ Hugg; Trish Lopes
Subject: Meeting Notes: DMD Old City Hall - 1 P.M. MST re. Coors Pavilion Storm Drainage (Ladera 16B Pond)

Good Afternoon City Team:

Thanks for the meeting earlier today. We look forward to working with you on this project. Below are the notes:

1. Josh is committed to providing City of ABQ a 25' storm drainage easement across the west property line of 21 acre parcel.
2. Josh is going to contribute \$150,000 towards the construction of the storm drain infrastructure.
3. Josh is going to approach the St. Joseph's on the Rio Grande for a storm drainage easement (25' wide) across their north property line.
4. Sheldon is going to provide the City of ABQ with a invert elevation for the pipe.
5. Sheldon is going to provide the City of ABQ with drainage report (developed flows).
6. Kellie and PB are going to work with Sheldon on details.
7. Kellie is going to call another meeting in a month to go through details
8. Kellie is going to send Josh a draft TEMPLATE of the Easement.
9. Russ Hugg is going to provide the easement recording information on our final plat – which will be included in our application to the DRB.

Did I miss anything?

Thanks a lot! Josh

Joshua J. Skarsgard, Esq., CPA

Owner



8220 San Pedro NE Suite 500 / Albuquerque, NM 87113 / Office 505.262.2323 / Fax 505.998.9080
Direct 505.998.9094 / Email josh@retailsouthwest.com / www.retailsouthwest.com

State of New Mexico Attorney Bar Number: 25965 (Active)

State of New Mexico Certified Public Accountant Number: 5873 (Inactive)

Discussion w/ Sheldon Greer 10-29-10

When the oxbow residential subdivision was built

they stubbed the 36" SD ($Q_{max} = 36$ cfs) across

cows Blvd to drain Tracts X1A2 - X2A and X1A1 (Cherry)

Brad has told them the 60" in cows was full
so don't try to drain to it, the Ladera system
outfall is through this pipe, however, the lag time
would be significant through the Ladera system.

so they sent all the drainage south to Road
36" across cows south of St. Joseph's.

Ante C. Chen

When asked about Pond 4 that is located in
Tract J and K, and an owner is presently, Sheldon

said the property owners were to have a private
drainage agreement amongst the owners for pond maintenance
to ensure they all were maintained, because if one
owner were to not maintain, may harm other properties

**CITY OF ALBUQUERQUE
PLANNING DEPARTMENT**

**HYDROLOGY DEVELOPMENT SECTION
DEVELOPMENT REVIEW BOARD MEMO**

DRB PROJECT NO: 1009204

AGENDA ITEM NO: 5

SUBJECT:

Site Plan for Building Permit

ENGINEERING COMMENTS:

The pond near Rio Grande appears to be split between two proposed lots. Isn't a platting action required?

The ponds should be on the lot with the existing residence, that way they will be maintained by the owner of the front lot.

Were you planning on grading the site at one time?

RESOLUTION/COMMENTS:

SIGNED:

Curtis Cherne
Hydrology Section
City Engineer Designee
AMAFCA Designee
924-3986

DATE: 10-31-12



CITY OF ALBUQUERQUE
PLANNING DEPARTMENT
DEVELOPMENT SERVICE / HYDROLOGY SECTION

DATE: 6-14-12 (6-18-12)
CONFERENCE RECAP

ZONE ATLAS PAGE NO: 611/0069

DRAINAGE FILE: _____

ZONING: _____

DRB: _____

SUBJECT: Oxbow Apartments

STREET ADDRESS (IF KNOWN): _____

SUBDIVISION NAME: Oxbow

APPROVAL REQUESTED: Conceptual Drainage Report

ATTENDANCE: Scott Eddings, Curtis Cherne

*Community
Service*

FINDINGS:

It appears the best way to drain this site
is through a detention pond to the 60" SD
in Coors Blvd at a Q from site at 1.0 cfs/ac
Engineer is still doing research to confirm this.
It appears the detention pond could drain at 1.34 hrs
at a rate of 31.5 cfs.

THE UNDERSIGNED AGREES THAT THE ABOVE FINDINGS ARE SUMMARIZED ACCURATELY AND ARE SUBJECT TO CHANGE
IF FURTHER INVESTIGATION REVEALS THAT THEY ARE NOT REASONABLE OR THAT THEY ARE BASED ON INACCURATE
INFORMATION.

SIGNED: Curtis A. Cherne
NAME (PRINT): Curtis A. Cherne

SIGNED: Scott Eddings
NAME (PRINT): Scott Eddings

NOTE PLEASE PROVIDE A COPY OF THIS RECAP WITH YOUR DRAINAGE SUBMITTAL.

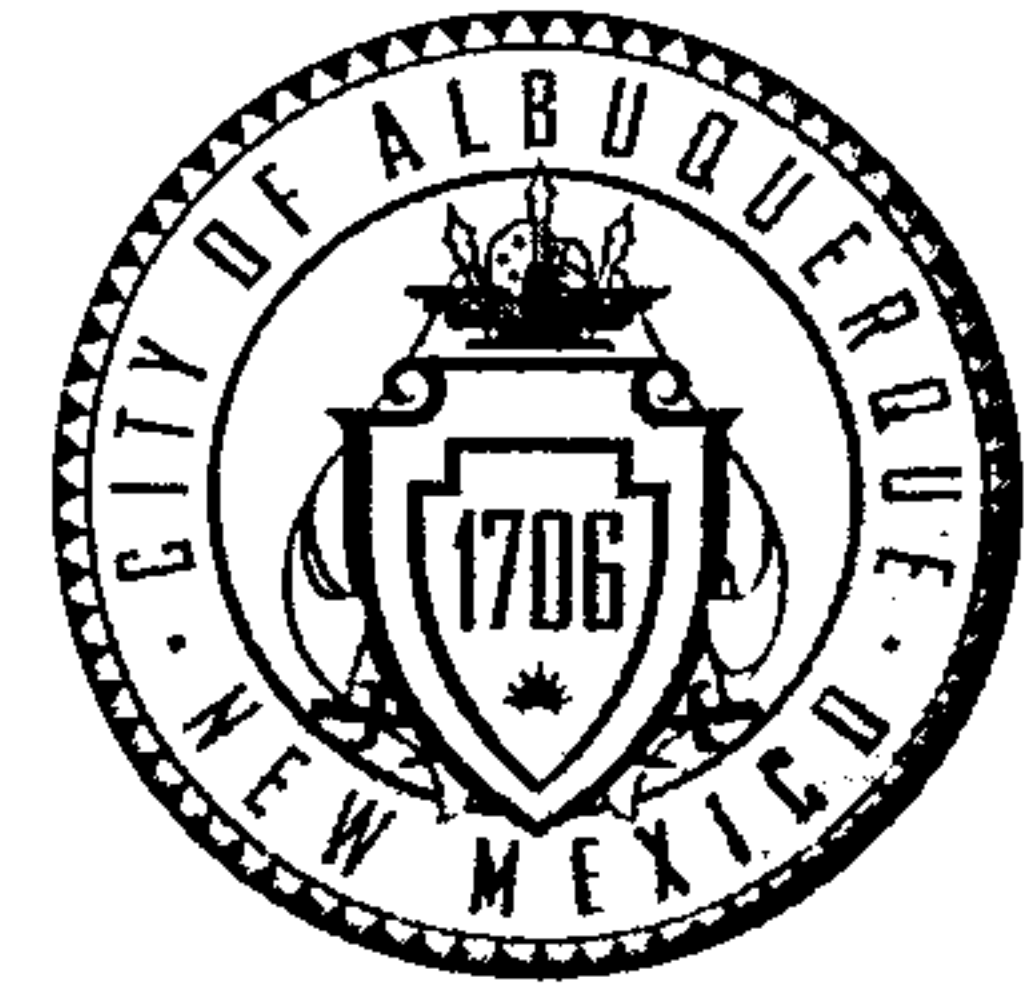
6-15-12

Tim,

I know the

policy. please put
in access / Grn books
cc

CITY OF ALBUQUERQUE



April 1, 2016

Terry O. Brown, P.E.
P. O. Box 92051
Albuquerque, NM 87199-2051

Re: Coors Pavilion
Northwest Corner of Coors Blvd. and St. Josephs Dr.
Traffic Impact Study Comments
Engineer's Stamp dated 12-29-15 (G11-D069)

Dear Mr. Brown,

Based upon the information provided in your submittal received 12-30-15,
Transportation Development cannot approve the TIS for the above referenced project.

Prior to approval, the following items must be addressed:

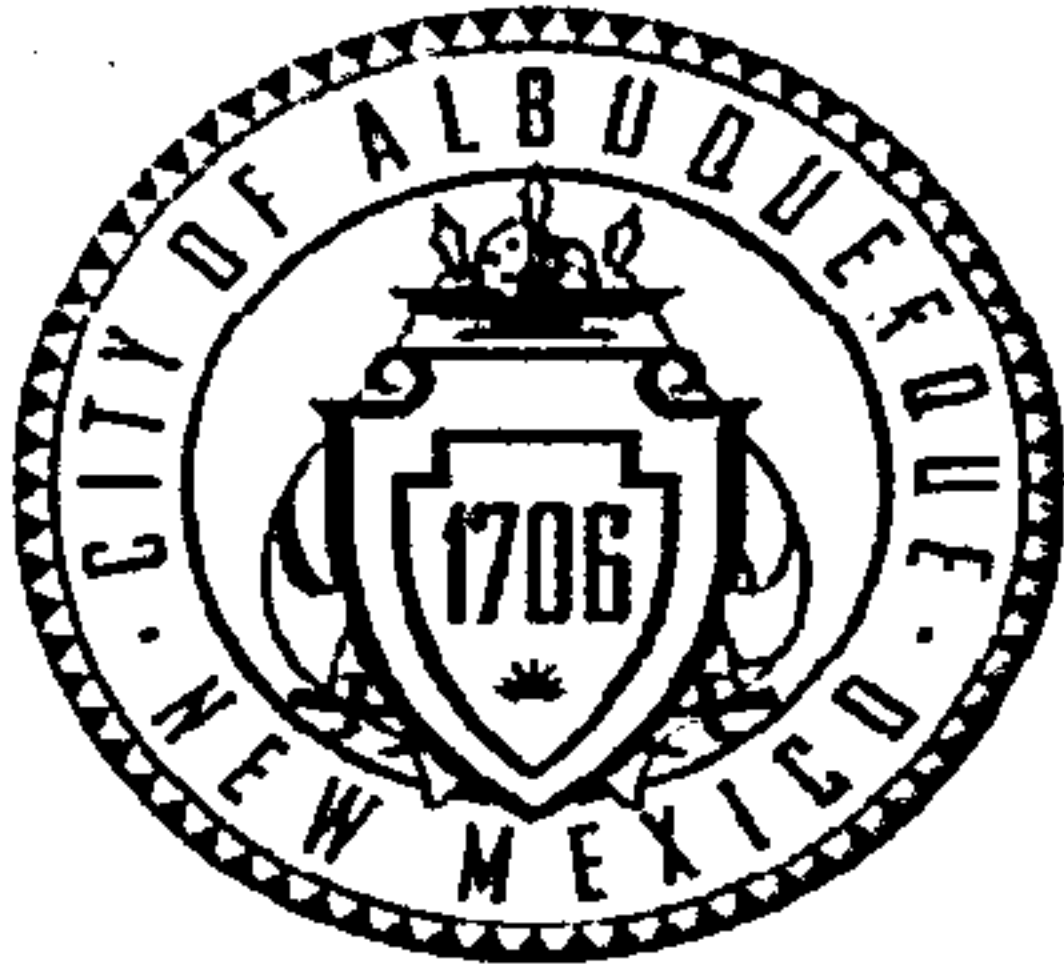
- Many of the proposed improvements are located on NMDOT maintained roadways. Please coordinate and obtain approval from the NMDOT of the TIS and proposed improvements.
- Clarify the LOS assigned to the un-signalized intersections.

Once corrections are complete resubmit along with a completed Drainage
Transportation Information Sheet to front counter personnel for log in and evaluation by
Transportation. For digital submittal please submit to PLNDRS@cabq.gov. If you
have any questions, please contact me at (505) 924-3991.

Sincerely,

Racquel M. Michel, P.E.
Traffic Engineer, Planning Dept.
Development Review Services

via: email
C: Applicant, File



City of Albuquerque

Planning Department

Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 09/2015)

Not submitted
No Fee Collect

Project Title: Coors Pavilion Building Permit #: _____ City Drainage #: G11D069

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

Legal Description: TRACT X-1-A2 PLAT OF TRACTS X-1-A1 & X-1-A2 UNIVERSITY OF ALBUQUERQUE URBAN CENTER CONT 21.2244 AC OR 924,537 SF

City Address: NW Corner of St. Joseph's Dr. / Coors Blvd.

Engineering Firm: GND Engineering Contact: Sheldon Greer

Address: 5641 Paradise Blvd. NW, Albuquerque, NM 87114

Phone#: 505-264-0472 Fax#: N/A E-mail: segreer@swcp.com

Owner: Retail Development Southwest, LLC Contact: Josh Skarsgard / Trish Lopez

Address: 8220 San Pedro NE #500, Albuquerque, NM 87113

Phone#: 505-262-2323 Fax#: N/A E-mail: josh@skarsgardfirm.com

Architect: Dekker-Perich-Sabitini Contact: Ann Marie Allen

Address: 7601 Jefferson St. NE #100, Albuquerque, NM 87109

Phone#: 505-761-9700 Fax#: N/A E-mail: annmariea@dpsdesign.org

Other Contact: Terry O. Brown, P.E. (Traffic Engineering) Contact: Terry Brown

Address: P. O. Box 92051, Albuquerque, NM 87199

Phone#: 505-883-8807 Fax#: N/A E-mail: tobe@swcp.com

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)

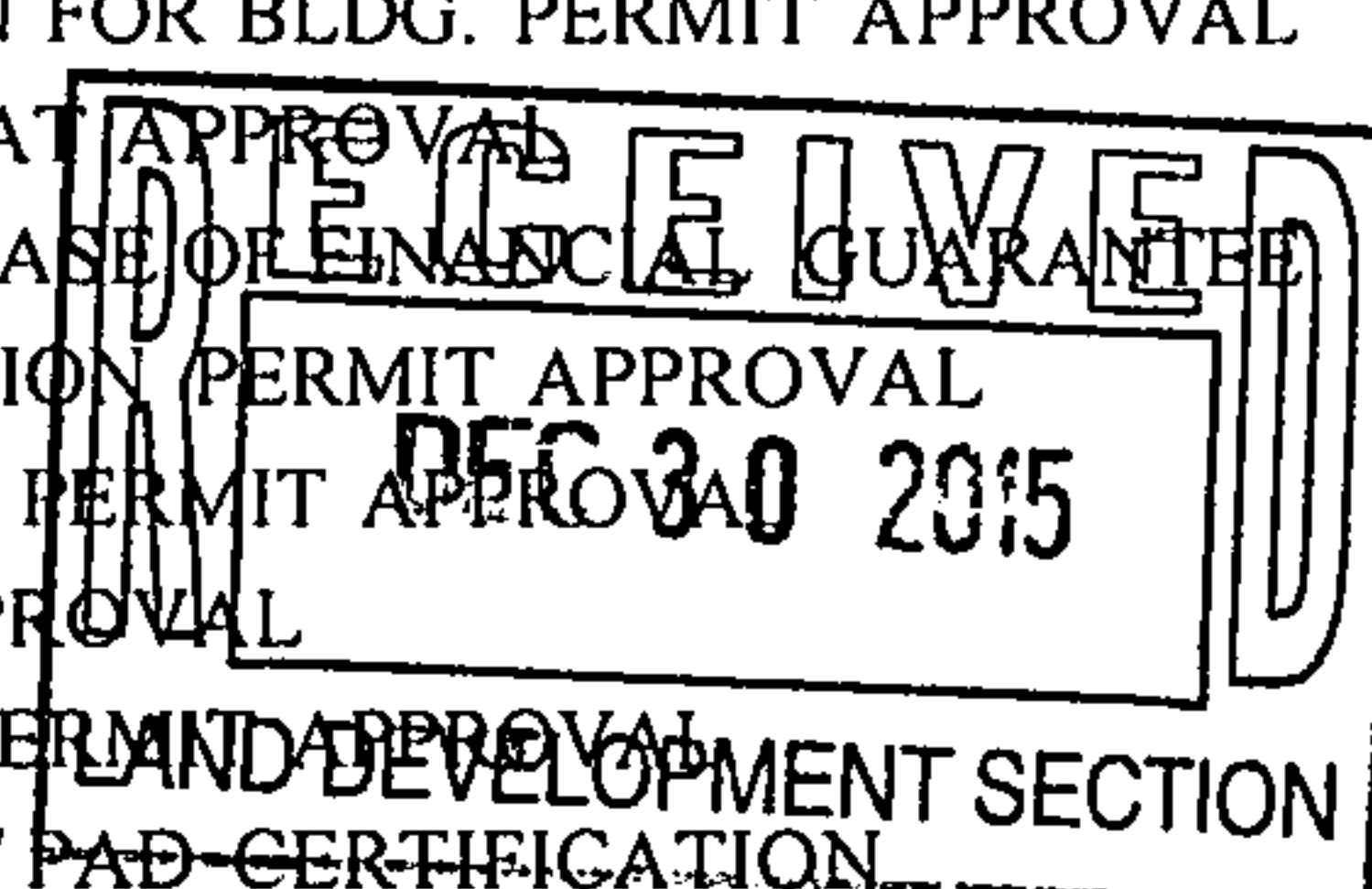
☐ OTHER (SPECIFY) _____

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) _____

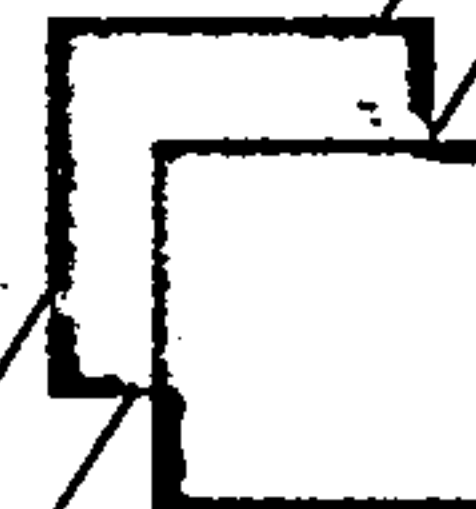


IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

DATE SUBMITTED: December 30, 2015 By: Terry O. Brown

Terry O. Brown

COA STAFF: _____ ELECTRONIC SUBMITTAL RECEIVED: _____



Wednesday, December 29, 2015

Racquel Michel, P.E.

City of Albuquerque Transportation Development Section
600 2nd St. NW
Albuquerque NM 87102

Re: Coors Pavilion (St. Joseph's Dr. / Coors Blvd.)

Dear Racquel:

Attached are three (3) copies of the DRAFT Traffic Impact Study for the referenced land development project for your review and comment.

This project is targeted for Environmental Planning Commission review in the near future.

Please call me if you have questions.

Best Regards,

Terry O. Brown, P.E.

attachments as noted

cc: Nancy Perea, P.E., New Mexico Department of Transportation D3 w/1 copy of report
Josh Skarsgard, The Skarsgard Firm