

CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



Mayor Timothy M. Keller

December 10, 2019

Racquel Michel, PE
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

**RE: MDS Regional Sports Complex
5601 University Blvd SE
Drainage Management Plan Stamp Date: 11/26/19
Hydrology File: R15D002**

Dear Ms. Michel,

Based on the submittal received on 11/26/19, the above-referenced Drainage Management Plan is accepted as the DMP for this project area and for Site Plan- Administrative Amendment.

Prior to each phase of development, a detailed (For Construction) Grading and Drainage Plan will need to be prepared.

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

Sincerely,

Dana M. Peterson
Senior Engineer, Planning Dept.
Development Review Services

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

SITE LOCATION AND BACKGROUND INFORMATION

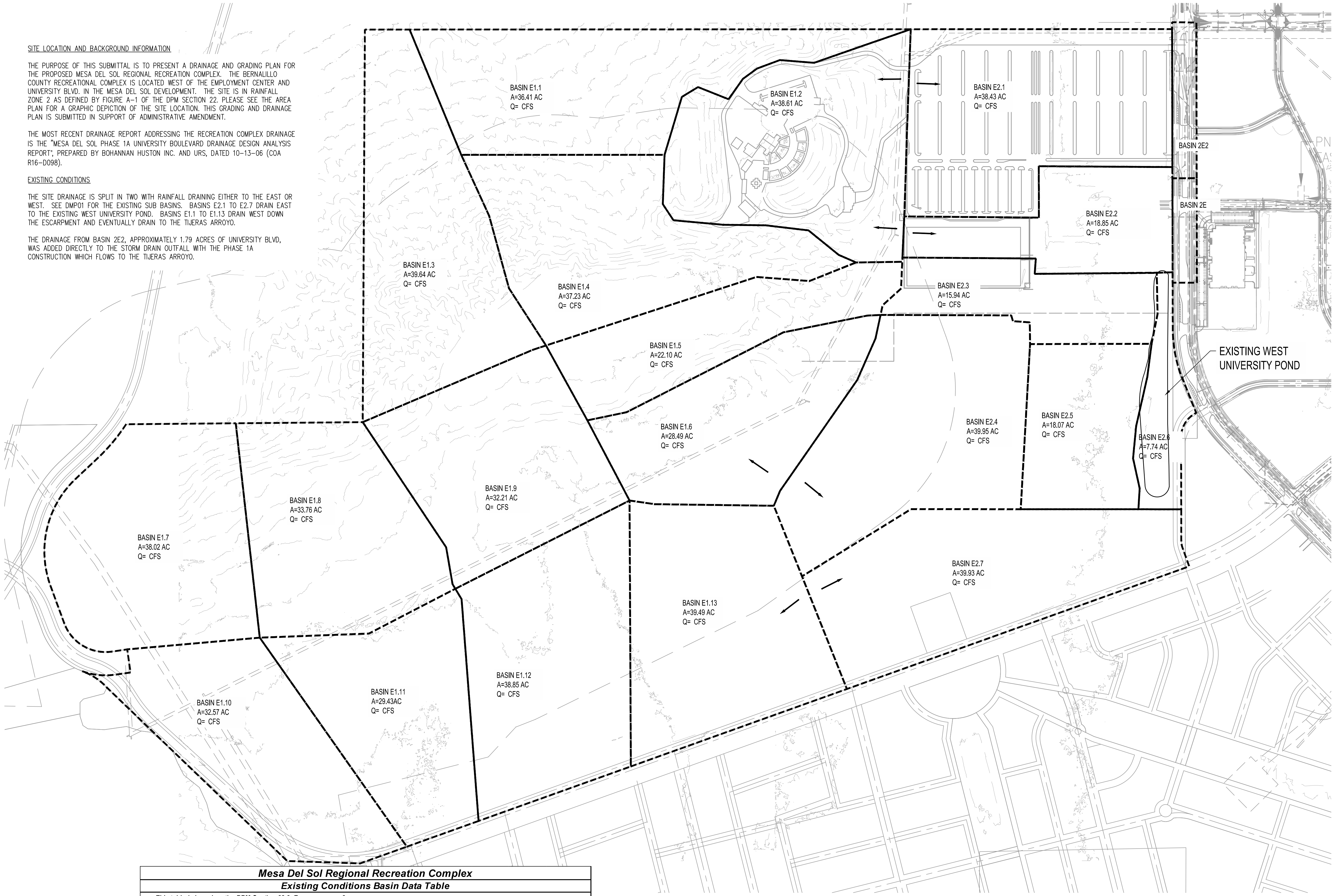
THE PURPOSE OF THIS SUBMITTAL IS TO PRESENT A DRAINAGE AND GRADING PLAN FOR THE PROPOSED MESA DEL SOL REGIONAL RECREATION COMPLEX. THE BERNALILLO COUNTY RECREATIONAL COMPLEX IS LOCATED WEST OF THE EMPLOYMENT CENTER AND UNIVERSITY BLVD. IN THE MESA DEL SOL DEVELOPMENT. THE SITE IS IN RAINFALL ZONE 2 AS DEFINED BY FIGURE A-1 OF THE DPM SECTION 22. PLEASE SEE THE AREA PLAN FOR A GRAPHIC DEPICTION OF THE SITE LOCATION. THIS GRADING AND DRAINAGE PLAN IS SUBMITTED IN SUPPORT OF ADMINISTRATIVE AMENDMENT.

THE MOST RECENT DRAINAGE REPORT ADDRESSING THE RECREATION COMPLEX DRAINAGE IS THE "MESA DEL SOL PHASE 1A UNIVERSITY BOULEVARD DRAINAGE DESIGN ANALYSIS REPORT", PREPARED BY BOHANNAN HUSTON INC. AND URS, DATED 10-13-06 (COA R16-0098).

EXISTING CONDITIONS

THE SITE DRAINAGE IS SPLIT IN TWO WITH RAINFALL DRAINING EITHER TO THE EAST OR WEST. SEE DMP01 FOR THE EXISTING SUB BASINS. BASINS E2.1 TO E2.7 DRAIN EAST TO THE EXISTING WEST UNIVERSITY POND. BASINS E1.1 TO E1.13 DRAIN WEST DOWN THE ESCARPMENT AND EVENTUALLY DRAIN TO THE TIJERAS ARROYO.

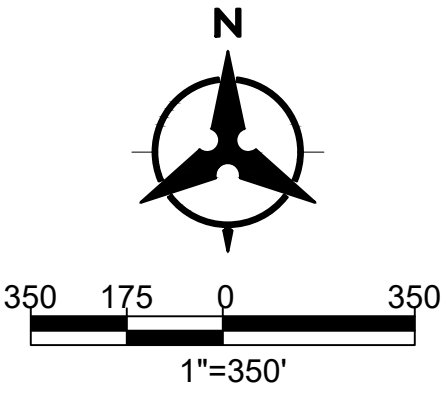
THE DRAINAGE FROM BASIN 2E2, APPROXIMATELY 1.79 ACRES OF UNIVERSITY BLVD, WAS ADDED DIRECTLY TO THE STORM DRAIN OUTFALL WITH THE PHASE 1A CONSTRUCTION WHICH FLOWS TO THE TIJERAS ARROYO.



Mesa Del Sol Regional Recreation Complex											
Existing Conditions Basin Data Table											
This table is based on the DPM Section 22.2, Zone: 2											
Basin	Area	Area	Land Treatment Percentages				Q(100yr)	Q(100yr-6hr)	WTE	V(100yr-6hr)	V(100yr-10day)
ID	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(Inches)	(CF)	CF
E1	19067426.79	437.73	26.9%	43.5%	23.1%	6.5%	2.44	1069.30	0.88	1399989	1566218
E1.1	1585929.16	36.41	0.0%	50.0%	50.0%	0.0%	2.71	98.67	0.96	126214	126214
E1.2	1681818.74	38.61	0.0%	15.0%	20.0%	65.0%	4.03	155.40	1.72	241201	386958
E1.3	1726667.25	39.64	50.0%	50.0%	0.0%	0.0%	1.92	76.11	0.66	94247	94247
E1.4	1621613.19	37.23	50.0%	50.0%	0.0%	0.0%	1.92	71.48	0.66	88513	88513
E1.5	962629.82	22.10	0.0%	45.0%	45.0%	10.0%	2.91	64.29	1.07	85955	98790
E1.6	1284734.40	29.49	0.0%	45.0%	45.0%	10.0%	2.91	85.80	1.07	114716	131846
E1.7	1656343.24	38.02	50.0%	50.0%	0.0%	0.0%	1.92	73.01	0.66	90409	90409
E1.8	1470621.71	33.76	50.0%	50.0%	0.0%	0.0%	1.92	64.82	0.66	80271	80271
E1.9	1402962.50	32.21	50.0%	50.0%	0.0%	0.0%	1.92	61.84	0.66	76578	76578
E1.10	1418933.15	32.57	50.0%	50.0%	0.0%	0.0%	1.92	62.54	0.66	77450	77450
E1.11	1281853.00	29.43	50.0%	50.0%	0.0%	0.0%	1.92	56.50	0.66	69968	69968
E1.12	1692305.67	38.85	0.0%	50.0%	50.0%	0.0%	2.71	105.28	0.96	134679	134679
E1.13	1720070.65	39.49	0.0%	10.0%	90.0%	0.0%	3.05	120.59	1.10	156956	156956

This table is based on the DPM Section 22.2, Zone: 2											
Basin	Area	Area	Land Treatment Percentages				Q(100yr)	Q(100yr-6hr)	WTE	V(100yr-6hr)	V(100yr-10day)
ID	(SQ. FT)	(AC.)	A	B	C	D	(cfs/ac.)	(CFS)	(Inches)	(CF)	CF
E2	7793317.34	178.91	21.4%	21.4%	43.0%	14.1%	2.84	507.71	1.07	692594	839554
E2.1	1673962.14	38.43	0.0%	0.0%	2.0%	98.0%	4.67	179.42	2.10	292971	511702
E2.2	821278.97	18.85	0.0%	0.0%	99.0%	1.0%	3.16	59.50	1.14	78015	79110
E2.3	694553.37	15.94	0.0%	0.0%	100.0%	0.0%	3.14	50.07	1.13	65404	65404
E2.4	1740310.91	39.95	50.0%	50.0%	0.0%	0.0%	1.92	76.71	0.66	94992	94992
E2.5	787012.32	18.07	50.0%	50.0%	0.0%	0.0%	1.92	34.69	0.66	42958	42958
E2.6	336984.63	7.74	0.0%	0.0%	100.0%	0.0%	3.14	24.29	1.13	31733	31733
E2.7	1739321.59	39.93	50.0%	50.0%	0.0%	0.0%	1.92	76.66	0.66	94938	94938
2E	156537.93	3.59	0.0%	0.0%	10.0%	90.0%	4.54	16.33	2.02	26364	45148
2E2	104855.46	2.41	0.0%	0.0%	10.0%	90.0%	4.54	10.94	2.02	17659	30242

CONCEPTUAL
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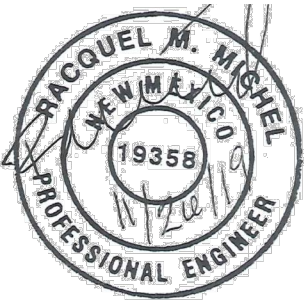
Bohannon & Huston
www.bhinc.com 800.877.5332

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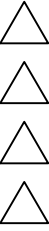
ENGINEER



PROJECT

BERNALILLO COUNTY
REGIONAL SPORTS COMPLEX
5601 UNIVERSITY BLVD SE
ALBUQUERQUE, NM 87106

REVISIONS



DRAWN BY **RM**
REVIEWED BY **AP**
DATE 10/30/19
PROJECT NO. 17-0090.001
DRAWING NAME

DRAINAGE
MANAGEMENT PLAN
EXISTING
CONDITIONS

SHEET NO.

DMP01

OF

Mesa Del Sol Regional Recreation Complex										
Proposed Ultimate Development Conditions Basin Data Table										
This table is based on the DPM Section 22.2, Zone: 2										
Basin ID	Area (SQ. FT)	Area (AC.)	Land Treatment Percentages				Q(100yr) (cfs/ac.)	Q(100yr-6hr) (CFS)	WT E (inches)	V(100yr-6hr) (CF)
			A	B	C	D				V(100yr-10day) CF
P1	214353	4.92	0.0%	70.0%	20.0%	10.0%	2.69	13.26	0.98	17577
P2	604772	13.88	0.0%	15.0%	5.0%	80.0%	4.26	59.13	1.87	94218
P3	368749	8.47	0.0%	70.0%	25.0%	5.0%	2.62	22.15	0.93	28716
P4	352932	8.10	0.0%	83.0%	15.0%	2.0%	2.46	19.91	0.86	25273
P5	402542	9.24	0.0%	80.0%	18.0%	2.0%	2.48	22.95	0.87	29178
P6	388810	8.93	0.0%	70.0%	25.0%	5.0%	2.62	23.35	0.93	30279
P7	165906	3.81	0.0%	80.0%	15.0%	5.0%	2.53	9.64	0.90	12436
P8	455134	10.45	0.0%	40.0%	30.0%	30.0%	3.26	34.10	1.29	48813
P9	295550	6.78	0.0%	70.0%	25.0%	5.0%	2.62	17.75	0.93	23016
P10	315469	7.24	0.0%	70.0%	20.0%	10.0%	2.69	19.51	0.98	25868
P11	245843	5.64	0.0%	55.0%	20.0%	25.0%	3.06	17.25	1.19	24277
P12	117252	2.69	0.0%	0.0%	0.0%	100.0%	4.70	12.65	2.12	20715
P13	1326484	30.45	0.0%	55.0%	25.0%	20.0%	2.98	90.72	1.14	125519
P14	1441059	33.08	0.0%	60.0%	20.0%	20.0%	2.94	97.13	1.12	134259
P15	849093	19.49	0.0%	25.0%	20.0%	55.0%	3.78	73.74	1.59	112293
P16	651158	14.95	0.0%	40.0%	30.0%	30.0%	3.26	48.79	1.29	69837
P17	982687	22.56	0.0%	20.0%	20.0%	60.0%	3.90	88.07	1.65	135447
Total	9177793	210.69					52.85	670	20.64	957719

PROPOSED CONDITIONS

UNDER PROPOSED CONDITIONS ALL RUNOFF FROM THE RECREATION COMPLEX IS RETAINED ONSITE. THE 100-YEAR, 10-DAY STORM IS RETAINED IN MULTIPLE PONDS THROUGHOUT THE SITE. THE RUNOFF VOLUMES FOR THE 10-DAY STORM ARE ANALYZED USING EQUATION (A-9) OF THE DPM, SECTION 22.2. LAND TREATMENTS ARE BASED ON THE PROPOSED USES WHICH INCLUDE PARKING AREAS, IRRIGATED PLAY FIELDS AND BUILDINGS INCLUDING MAINTENANCE AND BATHROOM FACILITIES. IT IS ASSUMED THAT THE PARKING AREAS WILL BE GRAVEL OR ROAD MILLINGS AND THE ONLY PAVEMENT WILL BE THE ACCESS ROADS. IT WAS ALSO ASSUMED THAT THE ONLY SIDEWALK WILL BE ALONG THE MAIN NORTH - SOUTH PEDESTRIAN WAY, AROUND THE SPORTS LIFESTYLE BUILDING AND AROUND THE NEW MEXICO UNITED CLUBHOUSE. THE LAND TREATMENTS AND VOLUME CALCULATIONS FOR THE CONTRIBUTING BASINS ARE SHOWN IN A TABLE FORMAT ON THIS SHEET.

BASINS P1 - P7 AND P9 - P11 DRAIN EAST AND SOUTH TO THE WEST UNIVERSITY POND. THE EXISTING POND WILL BE ENLARGED TO ACCOMMODATE THE ADDITIONAL FLOWS FROM THE COMPLEX SITE. BASINS P8, P12, AND P14 - P15 DRAIN SOUTH TO PONDS A, B, AND C. BASINS P13, P16, AND P17 DRAIN SOUTH AND WEST TO POND D. PONDS WERE SIZED TO RETAIN THE 100 YEAR-10DAY VOLUME AS REQUIRED BY THE DPM. THEY ARE DESIGNED WITH A 4:1 SLOPE AND A 1 FT. HIGH FREEBOARD.

FLOODPLAIN

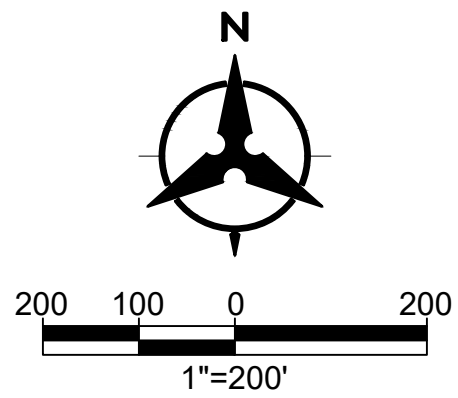
IN ACCORDANCE WITH FEMA COMMUNITY MAP PANEL #35001C0363 D, THE SITE IS NOT LOCATED WITHIN A FLOODPLAIN.

CONCLUSION

THIS DRAINAGE SUBMITTAL HAS BEEN PREPARED IN ACCORDANCE WITH CITY OF ALBUQUERQUE REQUIREMENTS. THIS PLAN CLEARLY DEMONSTRATES THE PROPOSED GRADING AND DRAINAGE CONCEPTS. THE IMPLEMENTATION OF THESE CONCEPTS WOULD RESULT IN THE SAFE RETENTION OF THE 100-YEAR, 10-DAY STORM EVENT. WITH THIS SUBMITTAL WE REQUEST HYDROLOGY DEVELOPMENT APPROVAL OF THIS GRADING AND DRAINAGE PLAN FOR ADMINISTRATIVE AMENDMENT.

CONCEPTUAL
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POND SUMMARY - REQUIRED VOLUMES				
POND	TRIBUTARY BASINS AREA (AC)	REQ'D STORAGE VOLUME (AC-FT)	MAX DEPTH (FT)	MAX AVAILABLE VOLUME (AC-FT)
WEST UNIVERSITY POND	77.02	7.89	7	25.65
POND A, B & C	65.71	8.24	4	21.67
POND D	67.96	8.62	6	15.52

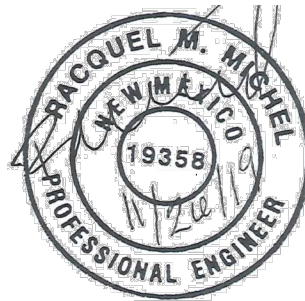


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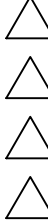
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SHEET NO.

DMP02

OF