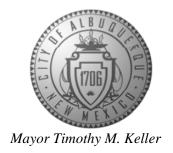
### CITY OF ALBUQUERQUE

Planning Department
Brennon Williams, Director



October 31, 2019

Amit Pathak, PE Bohannan Huston, Inc. 7500 Jefferson St NE Albuquerque, NM 87109

**RE:** Cooperative Educational Services (CES)

10601 Research Rd. SE Grading and Drainage Plan Engineer's Stamp Date: 10/30/19 Hydrology File: M21D021

Dear Mr. Pathak:

Albuquerque

www.cabq.gov

Based upon the information provided in your resubmittal received 10/22/2019, the Grading & Drainage Plan and Drainage Report are approved for Building Permit and Grading Permit.

Dramage I am and Dramage Report are approved for Danding I ermit and Grading I ermit

Please attach a copy of this approved plan in the construction sets for Building Permit processing along with a copy of this letter. Prior to approval in support of Permanent Release of Occupancy

by Hydrology, Engineer Certification per the DPM checklist will be required.

As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the

Stormwater Quality Engineer (Dough Hughes, PE, <u>jhughes@cabq.gov</u>, 924-3420) 14 days prior

to any earth disturbance.

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

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

Sincerely,

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

Renée C. Brissette



### City of Albuquerque

# Planning Department Development & Building Services Division

### DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 11/2018)

			Hydrology File #: M21D01
DRB#:	EPC#:	Work Order#:	
Legal Description: Tract F-2B, Sand	lia Science and Technology	Park	
City Address:			
Applicant: Bohannan Huston Inc.			Contact: Amit Pathak
Address: 7500 Jefferson St NE CY2 Alb			
Phone#: 505-823-1000	Fax#:		E-mail: apathak@bhinc.com
Owner: Cooperative Educational Service	es (CES)		Contact: David Chavez
Address: 4216 Balloon Park Road NE			
Phone#: 505-344-5470	Fax#: 505-3	44-9343	E-mail: david@ces.org
TYPE OF SUBMITTAL: PLATE IS THIS A RESUBMITTAL?: X  DEPARTMENT: TRAFFIC/ TE	Yes	No	
TYPE OF SUBMITTAL:  ENGINEER/ARCHITECT CERT PAD CERTIFICATION CONCEPTUAL G & D PLAN  GRADING PLAN DRAINAGE MASTER PLAN  DRAINAGE REPORT FLOODPLAIN DEVELOPMENT ELEVATION CERTIFICATE CLOMR/LOMR TRAFFIC CIRCULATION LAYO TRAFFIC IMPACT STUDY (TIS OTHER (SPECIFY) PRE-DESIGN MEETING?	PERMIT APPLIC DUT (TCL)	X BUILDIN CERTIFIC PRELIMI SITE PLA SITE PLA FINAL P SIA/ REL FOUNDA X GRADIN SO-19 AI PAVING GRADIN WORK OI CLOMR/I	PERMIT APPROVAL G/ PAD CERTIFICATION RDER APPROVAL
DATE SUBMITTED: 10-21-2019		t Pathak, P.E.	
COA STAFF:	ELECTRONI	C SUBMITTAL RECEIVE	:D:

FEE PAID:\_\_\_

## Bohannan A Huston

October 21, 2019

Courtyard I 7500 Jefferson St. NE Albuquerque, NM 87109-4335

#### www.bhinc.com

voice: 505.823.1000 facsimile: 505.798.7988 toll free: 800.877.5332

Ms. Renee Brissette, P.E. CFM Senior Engineer City of Albuquerque Planning Department 600 2<sup>nd</sup> Street NW Albuquerque, NM 87103

Re: Cooperative Educational Services (CES)

10601 Research Road, S.E.

Grading and Drainage Plan Stamp Date 04/15/19

Hydrology File: M21D01

Dear Ms. Brissette:

Enclosed are responses to the comments provided on June 19, 2018. Responses are listed in red below.

- 1. Per the DPM Chapter 22 Section 7, 24"x36" is currently the City's standard. This applies to all site plans, Grading & Drainage Plans, Traffic Circulation Plans, DRC Plans etc. Upon completion of the City's review and approval of the plans, we will provide the final set on a 24" x 36" sheets.
- 2. Per the DPM Chapter 22 Section 7 Grading Plan Checklist, the following must be on the Grading Plan. Please ensure that items c, d, e, & f are on the Grading & Drainage Plan.
  - a. Please provide an engineer's stamp with a signature and date. Updated
  - b. Please use 1'' = 20' for the scale. Updated
  - c. Please provide a Vicinity Map. Vicinity Map has been provided on the Drainage Management Plan (Sheet C302).
  - d. Please provide the Benchmark information (location, description and elevation) for the survey contour information provided. A benchmark note has been provided on the grading plan to refer to sheet (C101) for benchmark information.
  - e. Please provide the FIRM Map and flood plain note with effective date. FIRM Map has been provided on the Drainage Management Plan (Sheet C302).
  - f. Please provide a legal description of the property. Legal Description is described in the first paragraph of the Drainage Management Plan (Sheet C302).
- 3. Sheet C300. Please provide the benchmark information for the survey contour information provided. A benchmark note has been provided on the grading plan to refer to sheet (C101) for benchmark information.

Engineering A

Spatial Data A

- 4. Sheet C300. Please label the existing 35' Public Drainage Easement. Also please extend the easement into the adjacent property along the existing 36-inch storm pipe. The existing easements are only shown on our property. Existing and easements cannot be obtained, or proposed easements created for the other property owners.
- 5. Sheet C300. Please label the existing 36-inch storm pipe. Label has been added.
- 6. Sheet C300. At the SW entrance, please label the existing storm manhole rim elevation. This manhole also appears to be within the proposed gutter. Please ensure that this is buildable, and that Transportation does not have an issue with this. Also please label the proposed new elevation of the manhole rim. This will have to be adjusted (lowered). Elevations have been added, and the 2' diameter lid of this storm drain manhole is outside of the gutter pan and therefore is buildable as shown.
- 7. Sheet C300. The proposed storm drain pipe within the existing 35' Public Drainage Easement must be RCP. If the proposed private storm drain pipe is to be HDPE, then at the edge of the drainage easement please call out the connector from HDPE to RCP and provide a detail. The whole storm drain pipe at this location could also be RCP. Two notes have been added to the grading plan. One note specifies the fitting and that the contractor is to submit shop drawings to the engineer before installation. The other note specifies the different pipe types.
- 8. Please double check with the DRC personnel about having the proposed storm sewer manhole, the section of the RCP within the existing 35' Public Drainage Easement, and the existing storm manhole adjustment in a mini work order or does these items need to be on an Infrastructure List? If an IL is needed, then this will have to go the DRB for approval. Per a previous conversation with Jim Roder, an infrastructure list is not anticipated.
- 9. Please be advised that if maintenance of the public storm pipe is needed and since the depth of the existing 36-inch storm drain, the proposed retaining wall will be removed at the Owner's expense and the City is not responsible for replacing the retaining wall once any future maintenance is completed. Acknowledged.
- 10. Since the plat of Tracts F-2A and F-2B Sandia Science & Technology Part did not include the required language for a cross lot drainage easement, please create a paper blanket cross lot drainage easement specifying the beneficiary and maintenance agreement for Tracts F-1, F-2A, and F-2B. See the attached blanket easement. This blanket easement has been submitted and is in the process of being recorded.

- 11. Sheet C300 & C302. Please label the site plan items on the adjacent property to the North as future development. Future development is no longer imminent. Future development plans have been removed from the plan set for clarity.
- 12. Sheet C302. Please add the drainage arrows for site. Flow arrows have been added.
- 13. Sheet C302. Please show the Stormwater Quality volume provided within each pond along with the water surface elevation of the SWQ volume in a chart. Storm water quality volume and surface elevations have been added.
- 14. Sheet C302. Please use the broad crest weir equation in the DPM for the curb cuts. If you use a "C" value of 2.7, then the proposed 4 ft curb cuts can be reduced to a 2 ft curb cut and the 9 ft curb cut will be reduced to a 5 ft curb cut. Although we realize that we can optimize the size of the curb cut by using a "C" value of 2.7, we have decided to utilize a more conservative approach and use a "C" value of 3.1 and a wider curb cut due to geometry and a conservative approach.
- 15. As a reminder, if the project total area of disturbance (including the staging area and any work within the adjacent Right-of-Way) is 1 acre or more, then an Erosion and Sediment Control (ESC) Plan and Owner's certified Notice of Intent (NOI) is required to be submitted to the Stormwater Quality Engineer (Curtis Cherne, PE, <a href="mailto:ccherne@cabq.gov">ccherne@cabq.gov</a>, 924-3420) 14 days prior to any earth disturbance.

  Acknowledged. This will be completed and submitted by the Contractor prior to the start of construction.
- 16. Also, as a reminder, please provide and Drainage Covenant for the detention ponds and private storm drain per Chapter 17 of the DPM prior to Permanent Release of Occupancy. Please submit this on the 4th floor of Plaza de Sol. A \$25 fee will be required. Acknowledged. This will be completed after construction.
- 17. Standard review fee of \$150 will be required at the time of resubmittal. Acknowledged.

Revised Grading Plans are enclosed. Please feel free to contact me at 823-1000 with questions or comments.

Sincerely,

Amit Pathak, P.E. Senior Project Manager Community Development and Planning

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Sincerely,

Art Pohle

Amit Pathak, P.E. Senior Project Manager

Community Development and Planning

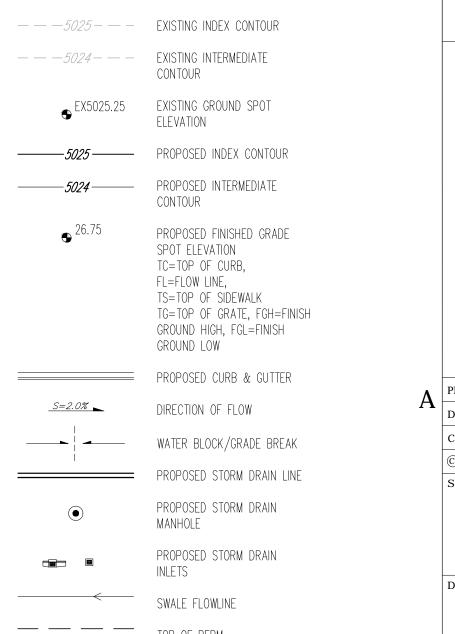
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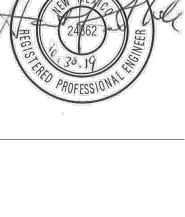
HDPE (N12 OR APPROVED EQUAL) STORM DRAIN PIPE, SIZE &

2. INSTALL CMP STORM DRAIN END SECTION. SEE PLAN FOR

- 4. CONTRACTOR TO POTHOLE EXISTING DRY UTILITY TO CONFIRM SIZE, LOCATION, AND INVERT AND CONTACT ENGINEER WITH ANY DISCREPANCIES.
- 6. INSTALL RIP RAP SWALE PER DETAIL C4 PER SHEET C301
- 7. INSTALL RIP RAP BLANKET PER DETAIL D3 PER SHEET C301
- 9. INSTALL CURB CUT PER DETAIL D1 PER SHEET C301.
- 10. INSTALL CURB CUT PER DETAIL D2 PER SHEET C301.
- 11. DEPRESSED WATER QUALITY FEATURE / RETENTION POND, SEE LANDSCAPE PLAN FOR PLANTING AND GROUND COVER
- 12. INSTALL RIP RAP SWALE PER DETAIL D4 PER SHEET C301
- 13. INSTALL CONCRETE RUNDOWN PER DETAIL B1 PER SHEET
- 14. CONTRACTOR TO INSTALL SPLASH BLOCK AT ROOF DRAINS. SEE ARCHITECTURAL PLANS FOR MORE INFO.
- 15. INSTALL HAND RAIL. SEE ARCHITECTURAL PLAN.
- 16. INSTALL TYPE E MANHOLE PER COA STD DWG 2102.
- 18. INSTALL 24" WIDE SIDEWALK CULVERT PER COA STD DWG
- 19. RETAINING WALL, SEE STRUCTURAL PLANS FOR
- 20. END OF PIPE TO MATCH EXISTING SLOPE.
- 21. INSTALL 6' DIAMETER TYPE "E" MANHOLE PER COA STD DWG
- 22. INSTALL STORM INLET STRUCTURE (NYLOPLAST OR APPROVED EQUAL) WITH 18" DIAMETER SOLID GRATE
- APPROVED EQUAL) WITH 18" DIAMETER GRATE.

- 26. CONTRACTOR TO INSTALL FITTING TO ROOF DRAIN TO
- 27. INSTALL HDPE TO RCP TRANSITION. CONTRACTOR TO SUBMIT SHOP DRAWINGS TO ENGINEER FOR APPROVAL
- 28. RCP STORM DRAIN PIPE, SIZE & SLOPE PER PLAN

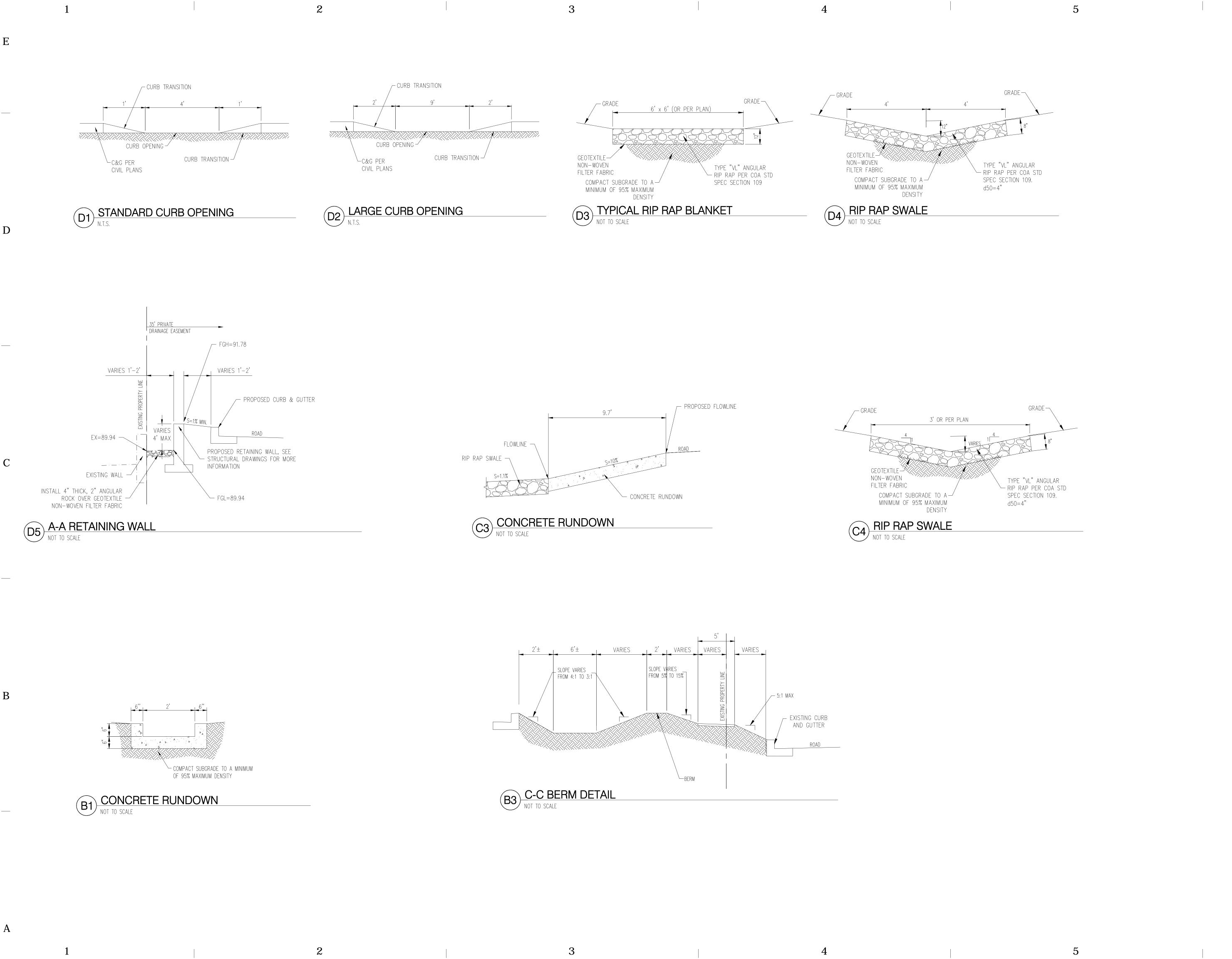




PROJECT NO: 5354.00 DRAWN BY: CHECKED BY: GREER-STAFFORD/SJCF, INC. SHEET TITLE **GRADING &** DRAINAGE PLAN

COOPERATIVE EDUCATIONAL SERVICES 10601 RESEARCH RD. SE, ALBUQUERQUE,

DRAWING SHEET C300



THIS DRAWING IS INCOMPLETE AND NOT TO BI USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED, AND DATED BELOW

COOPERATIVE EDUCATIONAL SERVICES (CES) 10601 RESEARCH RD. SE, ALBUQUERQUE, NM 87123 NEW

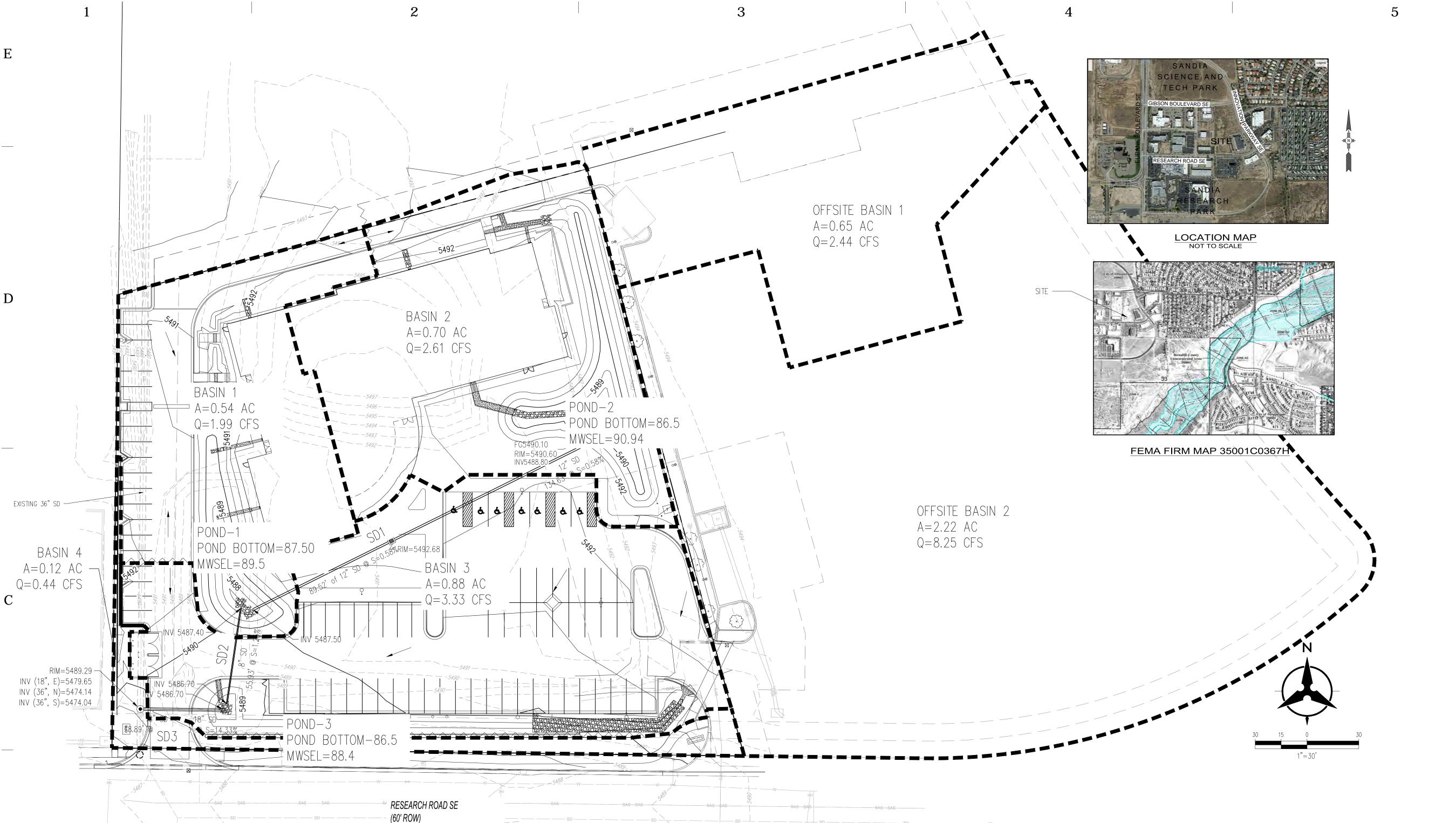
PROJECT NO: 5354.00 DRAWN BY: CHECKED BY: © GREER-STAFFORD/SJCF, INC.

SHEET TITLE GRADING &

DRAWING SHEET

C301

DRAINAGE PLAN



WATER QUALITY	TRIBUTARY AREA	MPERVIOUS AREA	Yolume (REQ)	Young AC TAL	Maximum Anter Surface
RETENTION	(acres)	·acrasi	ıcfı	I= <u>=</u>	d5
FOAC 1	: 54	: <b>-</b> :	49E	1.11	::::
P0/C1		: <del>:</del>	455	3135	÷1 34
FOAC :	: 55	: <del>-</del> :	55.	:x	∺.4
TOTAL CHATE	i.:	* 55	. 22.	313E	

		ST	ORM DE	AJN PIPI	E TABLE			
PIPE#	Contributing Basins and Storm Drains	Size in.	Stope	Capacity <sup>1</sup> cfs	ACTJAL FLOW c/s	PIFE LENGTH t	NVERT N	MVERT OUT
ONSIT	ONSITE							
SD1	Basin 2, Offsta Basin 1	12	0.56°±	257	: 3.	2010	₹ 55	E7 E2
\$02	Easini Pere√2	Ξ	1251:	. 35	2 🗵	559	E7-45	56 70
803	Basin 3 Offsita Basin 2 Portor"	1č	·+ X <sup>2</sup> :	35.77	<b>6</b> €	192	医顶	78.55

1-Capabil Based of Haming's Edwin = 10013.

	SCS Curve -	Lag Time	Q103	Q-Acre	Volume
Basir	Number	ýminu	<del>cfs</del>	icts acre;	lac-ζ
385^1	92		1.56	3.710	3.97
Bas∽2	32	-	2.51	3.732	
Bash B	32		3.33	3.772	212
Basin-4	32	32 -	: <del>!!</del>	5,259	201
Offisie Basini	- 52		244	3.774	2.59
CTS 13 535 1 2	- 52	_	5.25	3.33	232

2

Manning	ıs Analysis	for Open Channel:	Mannings Analysis for Open Channel:				
Sout	h-East Con	crete Rundown	North-East Concrete Rundown				
Refer to Gra	iding and Di	rainage Plan - Detail A5	Refer to Gra	ading and Drair	nage Plan - Detail A5		
Point#	Offset	Elevation	Point#	Offset	Elevation		
1	0	0.5	1	0	0.5		
2	0	0	2	0	0		
3	2	0	3	2	0		
4	2	0.5	4	2	0.5		
A	1.00	sq. ft	Α	1.00	sq. ft		
WP	3.00	ft.	WP	3.00	ft.		
R	0.33	ft.	R	0.33	ft.		
Slope	0.100	%	Slope	0.050	%		
n	0.013		n	0.013			
Q(max)=	17.4	cfs	Q(max)=	12.3	cfs		
Q(actual)=	14.75	cfs	Q(actual)=		cfs		
V(max)=	17.4	ft/s	V(max)=	-	ft/s		

11ax)=  17.4		U-S		ax)= 12.3		103		
			ES					
Proposed Ui	Proposed Ultimate Development Conditions Basin Data Table							
This table	is based on	the DPM Se	ction 22.2, <b>Z</b> o	one:	3			
Basin	Area	Area	Land	Treatment	Percentag	ges		
ID	(SQ. FT)	(AC.)	Α	В	С	D		
Proposed								
1	23362	0.54	0.0%	0.0%	25.0%	75.0%		
2	30463	0.70	0.0%	0.0%	44.0%	56.0%		
3	38452	0.88	0.0%	0.0%	10.0%	90.0%		
4	5096	0.12	0.0%	0.0%	80.7%	19.3%		
Offsite Basin-1	28149	0.65	0.0%	5.0%	5.0%	90.0%		
Offsite Basin-2	96874	2.22	0.0%	5.0%	5.0%	90.0%		
TOTAL	222396	5.11						

BOTTOM	LENGTH =	4			
DEPTH =	0.50				
CREST =	SHARP		SEE G	RADING AND D	RAINAGE
TYPE = T	RAPEZOID/	٩L		PLAN - DETAIL	.A1
SIDE SLO	OPE = 2:1				
DEPTH	Q (CFS)	AREA (sqft)	V (ft/s)	Top Width (ft)	Energy (ft)
0.05	0.141	0.21	0.69	4.20	0.06
0.10	0.408	0.42	0.97	4.40	0.11
0.15	0.764	0.65	1.18	4.60	0.17
0.20	1.198	0.88	1.36	4.80	0.23
0.25	1.705	1.13	1.52	5.00	0.29
0.30	2.282	1.38	1.65	5.20	0.34
0.35	2.927	1.65	1.78	5.40	0.40
0.40	3.639	1.92	1.90	5.60	0.46
0.45	4.417	2.21	2.00	5.80	0.51
	5.261	2.50	2.10	6.00	0.57

CONCRETE WEIR (4' CURBCUT) CALCULATION

CONCRETE WEIR (9' CURBCUT) CALCULATION							
BOTTOM	LENGTH =	= 9					
DEPTH=	0.50						
CREST =	SHARP		SEEG	RADING AND E	RAINAGE		
TYPE = T	RAPEZOID	AL		PLAN - DETAIL	. A2		
SIDE SLO	OPE = 4:1						
DEPTH	Q (CFS)	AREA (sqft)	V (ft/s)	Top Width (ft)	Energy (ft)		
0.05	0.317	0.46	0.69	9.40	0.06		
0.10	0.914	0.94	0.97	9.80	0.11		
0.15	1.707	1.44	1.19	10.20	0.17		
0.20	2.673	1.96	1.36	10.60	0.23		
0.25	3.798	2.50	1.52	11.00	0.29		
0.30	5.073	3.06	1.66	11.40	0.34		
0.35	6.496	3.64	1.78	11.80	0.40		
0.40	8.062	4.24	1.90	12.20	0.46		
0.45	9.770	4.86	2.01	12.60	0.51		

0.50 11.620 5.50 2.11 13.00

# **LEGEND**

	PROPERTY LINE
	LIMITS OF GRADING
— <i>—5025</i> — — —	EXISTING INDEX CONTOUR
— <i>-5024</i> — —	EXISTING INTERMEDIATE CONTOUR
⊕ <sup>5025.25</sup>	EXISTING GROUND SPOT ELEVATION
5025	PROPOSED INDEX CONTOUR
5024 <i>-</i>	PROPOSED INTERMEDIATE CONTOUR
⊕ <sup>26.75</sup>	PROPOSED FINISHED GRADE SPOT ELEVATION TC=TOP OF CURB, FL=FLOW LINE, TS=TOP OF SIDEWALK TG=TOP OF GRATE, FGH=FINISH GROUND HIGH, FGL=FINISH GROUND LOW
	PROPOSED CURB & GUTTER
	PROPOSED RETAINING WALL
S=2.0%	DIRECTION OF FLOW
	WATER BLOCK/GRADE BREAK
-	PROPOSED STORM DRAIN LINE
•	PROPOSED STORM DRAIN MANHOLE

PROPOSED STORM DRAIN INLETS

THE METHODOLOGY SELECTED TO COMPUTE RUNOFF VOLUME IS BASED ON THE SCS UNIT HYDROGRAPH. RAINFALL DATA WERE BASED ON THE PROPOSED VALUES FROM THE COA DPM. THE SITE WAS ANALYZED FOR A 100 YEAR 24 HOUR STORM EVENT USING THE US ARMY CORPS OF ENGINEERS HYDROLOGIC ENGINEERING CENTER'S HYDROLOGIC MODELING SYSTEM (HEC-HMS, VERSION 4.2). SURFACE CHARACTERISTICS AFFECTING INITIAL ABSTRACTION AND INFILTRATION RATES ARE PRESENTED BY CURVE NUMBERS. CURVE NUMBERS ARE BASED ON LAND

TREATMENT AND AS SPECIFIED IN THE DPM UPDATE.

ANALYSIS METHODOLOGY IS PER THE PROPOSED UPDATE.

PROPOSED DRAINAGE NARRATIVE

THE PURPOSE OF THIS SUBMITTAL IS TO PRESENT THE PROPOSED

EDUCATIONAL SERVICES (CES) NEW OFFICE BUILDING ON TRACT F-2B, SANDIA SCIENCE AND TECHNOLOGY PARK. THE SITE IS APPROXIMATELY 2.2 ACRES. IT IS BOUND TO THE NORTH BY AN UNDEVELOPED TRACT, ON THE SOUTH BY RESEARCH ROAD SE, WITH AN EXISTING DEVELOPMENT TO THE WEST AND EAST.

THIS ANALYSIS WILL QUANTIFY DISCHARGE RATES, ASSOCIATED

THE CITY IS IN THE PROCESS OF UPDATING THE DPM. ALTHOUGH THE DPM UPDATE HAS NOT BEEN OFFICIALLY ADOPTED, THE

DRAINAGE MANAGEMENT PLAN FOR THE COOPERATIVE

VOLUMES AND CAPACITY OF THE DETENTION PONDS.

#### **EXISTING CONDITIONS:**

INTRODUCTION:

METHODOLOGY:

THE EXISTING SITE PRIMARILY CONSISTS OF NATIVE WEEDS AND GRASSES. THE SITE HAS MILD SLOPES FROM THE NORTHEAST TO THE SOUTHWEST. THERE IS AN EXISTING EARTHEN CHANNEL ALONG THE SOUTHERN PORTION OF THE SITE THAT CONVEYS DRAINAGE FROM THE DEVELOPED SITE TO THE EAST TO AN EXISTING DETENTION POND THAT ULTIMATELY DISCHARGES TO AN EXISTING 24" STORM DRAIN.

#### PROPOSED CONDITIONS:

BASED ON THE PROPOSED GRADING, THE SITE WILL BE DIVIDED INTO 4 BASINS, WITH ONE BASIN DRAINING OFFSITE (BASIN 4). EACH OF THE OTHER BASINS HAVE ONE DETENTION POND WHICH ULTIMATELY OUTFALLS TO THE EXISTING STORM DRAIN SYSTEM LOCATED WEST OF THE PROPOSED SITE.

BASIN 1 IS APPROXIMATELY 0.54 ACRES. IT CONSISTS OF A PORTION OF THE NEW BUILDING, DRIVEWAY AND POND-1. THE RUNOFF GENERATED FROM THIS BASIN SURFACE DRAINS TO POND-1.

BASIN 2 IS APPROXIMATELY 0.70 ACRES. THIS BASIN CONSISTS OF THE REST OF THE PORTION OF THE NEW BUILDING AND POND-2.

BASIN 3 IS LOCATED SOUTHEAST OF THE PROPOSED BUILDING. IT IS APPROXIMATELY 0.88 ACRES AND CONSISTS ENTIRELY OF PARKING LOT AND POND-3.

BASIN 4 IS APPROXIMATELY 0.12 ACRES AND IS LOCATED IN THE SOUTHWEST CORNER OF THE SITE. THE RUNOFF GENERATED FROM THIS BASIN IMMEDIATELY DRAINS OFF SITE TO THE SOUTH AT 0.44 CFS AND THEREFORE SUBTRACTED FROM THE ALLOWABLE RELEASE RATE.

THE EXISTING DEVELOPED SITE LOCATED EAST OF THE PROPOSED BUILDING SITE CONTRIBUTES IN OFFSITE RUNOFF. OFFSITE BASIN 1 IS APPROXIMATELY 0.65 ACRES. RUNOFF FROM THIS BASIN IS COLLECTED BY POND-2, LOCATED IN BASIN 2.

OFFSITE BASIN 2 IS APPROXIMATELY 2.22 ACRES. THE RUNOFF GENERATED FROM THIS BASIN FLOWS TO BASIN 3.

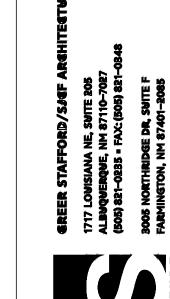
POND-2 AND POND-1 ARE CONNECTED BY A 12" STORM DRAIN PIPE. POND-2 DISCHARGES 1.8 CFS TO POND-1 AND POND-1 DISCHARGES 2.0 CFS TO POND-3 VIA A 12" STORM DRAIN PIPE. POND-3 DISCHARGES 6.9 CFS TO AN EXISTING 36" STORM DRAIN PIPE BY WAY OF A 18" STORM DRAIN PIPE.

EACH POND IS DESIGNED TO RETAIN RUNOFF TO MEET WATER QUALITY REQUIREMENTS. THE TOTAL RETENTION VOLUME PROVIDED BY PONDS 1-3 IS 3136 CF, THE REQUIRED RETENTION VOLUME IS 2883 CF, THUS THE PONDS MEET THE MINIMUM REQUIREMENT FOR RETENTION PER THE COA DPM.

PER THE APPROVED MASTER DRAINAGE PLAN OF SANDIA SCIENCE AND TECHNOLOGY PARK, COA HYDROLOGY #M21D007, THE MAXIMUM DISCHARGE FROM THE SITE IS 1.57 CFS PER ACRE WHICH EQUATES TO 8.02 CFS FOR THE THIS SITE AND TRACT F-1. SINCE BASIN 4 DRAINS DIRECTLY OFFSITE AT 0.44 CFS, THE ALLOWABLE DISCHARGE OF THE OUTLET PIPE IS 7.58FS. THE 18" OUTFALL PIPE OF POND-3 IS ACTING AS A RESTRICTION PIPE AND HAS A PEAK DISCHARGE OF 6.9 CFS WHICH IS WITHIN THE ALLOWABLE DISCHARGE LIMIT.

### CONCLUSION:

THE PEAK DISCHARGE FROM THE SITE IS LESS THAN THE ALLOWABLE PEAK DISCHARGE RATE. THEREFORE WE ARE IN CONFORMANCE WITH CITY OF ALBUQUERQUE HYDROLOGY REQUIREMENTS AND REQUEST BUILDING PERMIT APPROVAL.



USED FOR CONSTRUCTION UNLESS IT IS STAMPED, SIGNED, AND DATED BELOW



PROJECT NO: 5354.00 DRAWN BY:

CHECKED BY: GREER-STAFFORD/SJCF, INC. SHEET TITLE

PROPOSED DRAINAGE MANAGEMENT PLAN

DRAWING SHEET

C303