

CITY OF ALBUQUERQUE

Planning Department
David S. Campbell, Director



Timothy M. Keller, Mayor

July 2, 2018

Glenn Broughton PE
Bohannon Huston, Inc.
7500 Jefferson St NE
Albuquerque, NM 87109

RE: **Oso Bio Syringe Line**
Grading Plan for Building Permit 4401 Alexander Blvd
Engineer's Stamp Date 6/21/2018 Disapproved
Hydrology File: F16D003B1

Dear Mr. Nuno:

Based on the information provided in the submittal received on 6/21/2018 the above-referenced Grading Plan still does not adequately address the "Plan Check Comments" 3, 4, 5, 6, 7, 9, & 11 on the conditionally approved Grading Plan with engineer's stamp 8/29/2017 (see attached). The building permit was issued in August 2017 with the understanding that all of the conditions would be fulfilled prior to Certificate of Occupancy. DCI engineering made two additional submittals which were reviewed in December 2017 and February 2018, and this application from BHI makes the 3rd submittal since the conditions were agreed to by Oso Bio at the time the building permit was first issued.

1. All proposed grading must be shown on the grading plan including:
 - a. The closure of the unused driveways and additions of notes stating "An excavation permit will be required before beginning any work within City Right-Of-Way". Another note should state "Two working days prior to any excavation, the contractor must contact New Mexico One Call, dial "811" [or (505) 260-1990] for the location of existing utilities. Prior to construction, the contractor shall excavate and verify the locations of all obstructions. Should a conflict exist, the contractor shall notify the engineer so that the conflict can be resolved with a minimum amount of delay."
 - b. The re-grading of the east driveway to prevent drainage from leaving the site,
 - c. Details of how the drainage pattern will be preserved at the west driveway when the west driveway is closed (SO-19 may be required), and
 - d. Updated site layout of the Building expansion and associated grading.
2. All calculations must be presented including the newly measured pond topography and volume calculations, the outfall structure details and hydraulic calculations, and hydrology calculations in accordance with the DPM. The SCS method is not allowed in the current DPM though it is allowed in the draft revisions to the DPM. Composite CN calculations are required using the approved curve numbers in the draft DPM

Timothy M. Keller, Mayor

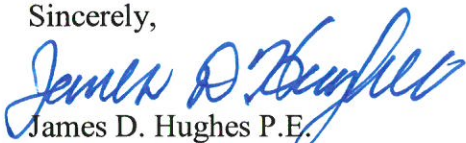
and HEC-HMS model must be provided to verify use if the prescribed precipitation distribution and lag time.

3. First flush is required for redevelopment projects like this, and the conditions of approval on the 8/29/2017 plan were made assuming that the existing pond already serves that purpose in addition to providing the stormwater management required for all sites in the Renaissance Center. The pond design must demonstrate compliance with both the first flush and stormwater management requirements, and the approved pond design must be clearly shown on Exhibit 'A' to the drainage covenant with the design volumes and outlet structure size clearly labeled. The exhibit may be on several sheets. The drainage covenant must be signed by the "owner" of the property that the pond is located on, Tract A. If a separate agreement between the two property owners, Tract A and Tract B, is required by the owner of Tract A, the City does not need to be a party to that agreement. The owner's signatures must be notarized and the original document together with a \$25 check payable to the Bernalillo County must be submitted to Madeline Carruthers on the 4th floor.

An Engineer's Certification will be required prior to Hydrology approval of the Certificate of Occupancy. The Engineer's Certification must be placed on the approved Grading and Drainage Plan after the revised plan gets approved. It should include as-built survey information from a registered professional surveyor and a certification statement from a registered professional engineer. The Drainage Covenant must also be recorded in the County Records Room prior to Hydrology approval of the Certificate of Occupancy.

If you have any questions, I can be contacted at 924-3986 or jhughes@cabq.gov.

Sincerely,



James D. Hughes P.E.
Principal Engineer, Planning Dept.
Development Review Services



City of Albuquerque

Planning Department
Development & Building Services Division

DRAINAGE AND TRANSPORTATION INFORMATION SHEET (REV 3/2018)

Project Title: Oso Bio - REVISION Building Permit #: _____ Hydrology File #: FL6D003B1
DRB#: _____ EPC#: _____ Work Order#: _____
Legal Description: T11N R3E 34
City Address: 4401 Alexander Boulevard NE, Albuquerque, NM 87107

Applicant: Glenn Broughton B.H.I. Contact: 505-823-1000
Address: 7500 Jefferson St. NE, Albuquerque, NM 87109
Phone#: _____ Fax#: _____ E-mail: gbroughton@bhinc.com
Other Contact: _____ Contact: _____
Address: _____
Phone#: _____ Fax#: _____ E-mail: _____

Check all that Apply:

DEPARTMENT:

☒ HYDROLOGY/ DRAINAGE
☐ TRAFFIC/ TRANSPORTATION

TYPE OF SUBMITTAL:

☐ ENGINEER/ARCHITECT CERTIFICATION
☐ PAD CERTIFICATION
☐ CONCEPTUAL G & D PLAN
☐ GRADING PLAN
☐ DRAINAGE MASTER PLAN
☒ DRAINAGE REPORT
☐ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
☐ ELEVATION CERTIFICATE
☐ CLOMR/LOMR

☐ TRAFFIC CIRCULATION LAYOUT (TCL)
☐ TRAFFIC IMPACT STUDY (TIS)

☐ OTHER (SPECIFY) _____
☐ PRE-DESIGN MEETING?

IS THIS A RESUBMITTAL?: ☐ Yes ☒ No

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
☐ FLOODPLAIN DEVELOPMENT PERMIT
☐ OTHER (SPECIFY) _____



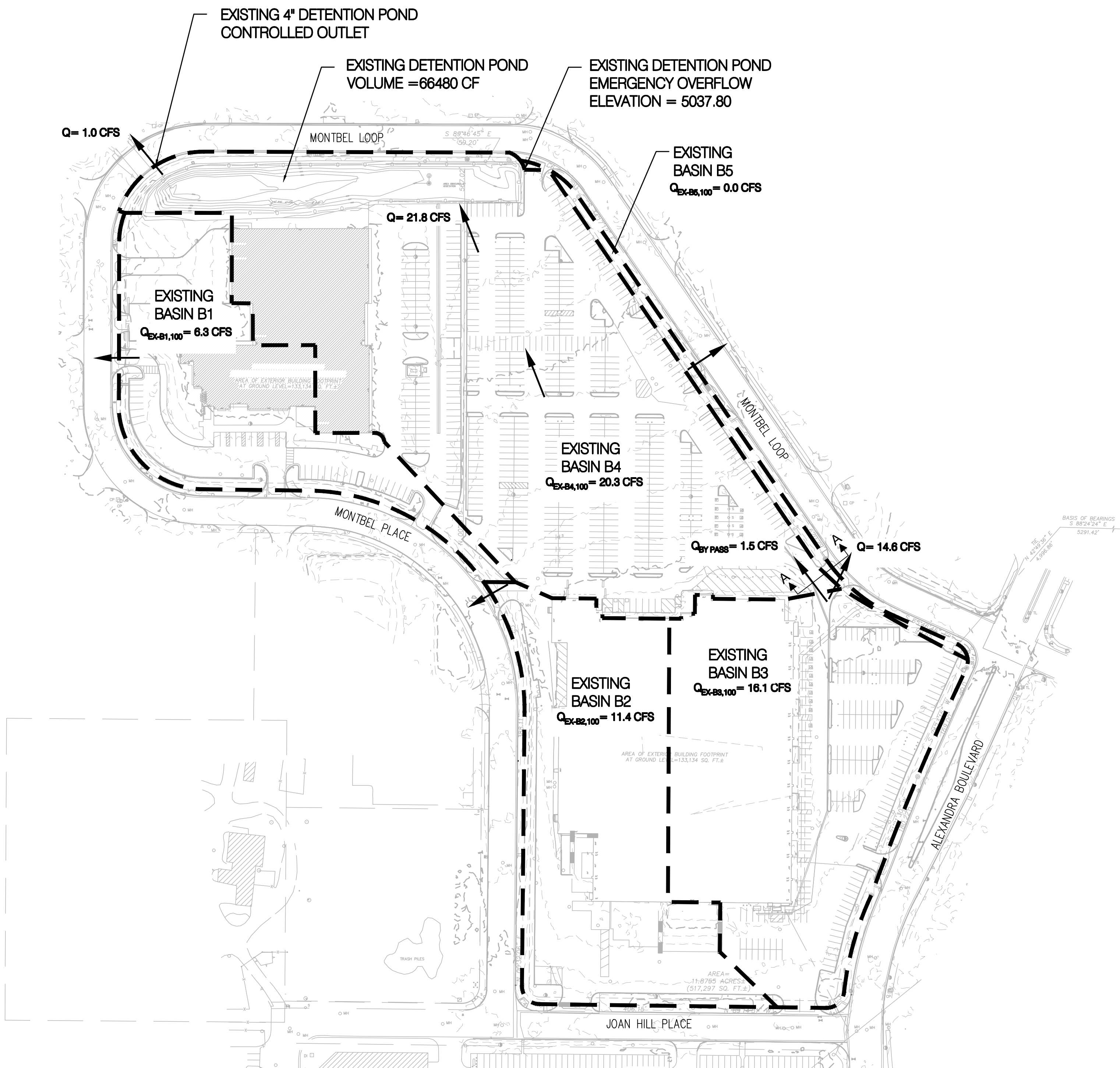
\$150
Per Doug

DATE SUBMITTED: 06-21-2018 By: Glenn Broughton

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

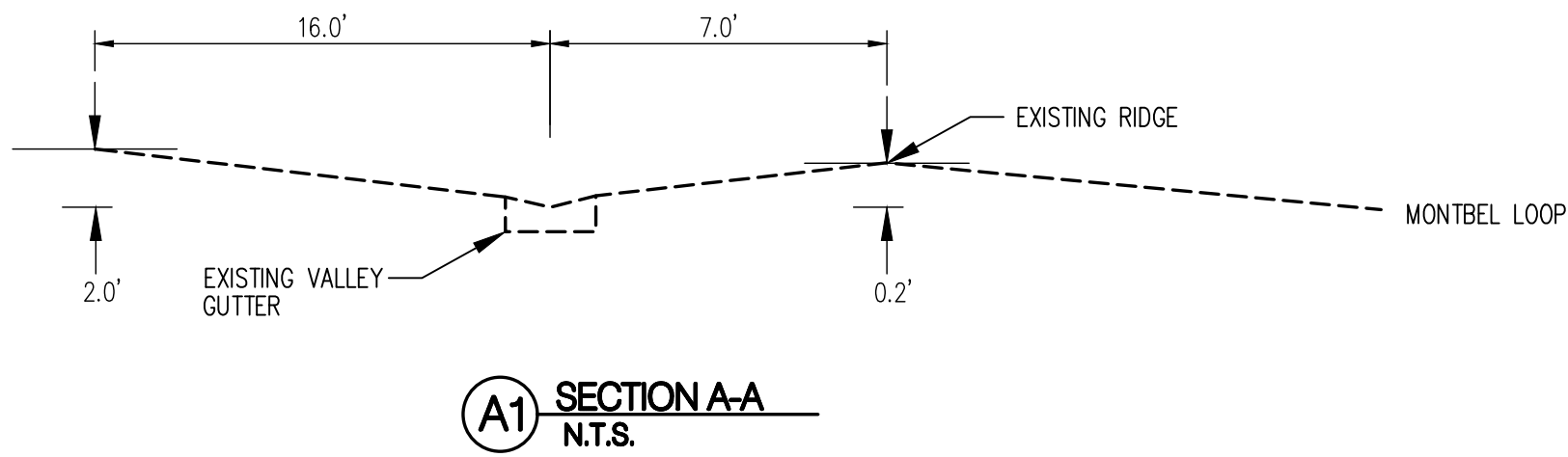
FEE PAID: \$150



Basin	Area	Area	SCS Curve Number	Q100	Q/Acre	Volume
	(sq ft)	(sq mi)		(cfs)	(cfs/acre)	(ac-ft)
EX-B1	103121	0.00370	89	6.3	2.66	0.3
EX-B2	132690	0.00477	96	11.4	3.74	0.6
EX-B3	195110	0.00700	95	16.1	3.59	0.8
EX-B4	331107	0.01188	89	20.3	2.67	1
EX-B5	11923	0.00042	49	0	0.00	0

* SCS Curve Number based off of Soil Group "A" per NRCS Soils Report.

Paved Swale/ Valley Gutter Capacity Calculation									
MANNING'S N = 0.016									
SLOPE = 0.010									
POINT	DIST	ELEV							
1	-16	2							
2	0	0							
3	7	0.2							
WSEL	DEPTH INC	FLOW AREA	FLOW RATE	WETTED PER	FLOW VEL	TOPWID WATER	TOTAL ENERGY	FROUDE NO.	
(FT)	(FT)	(SQ.FT)	(CFS)	(FT)	(FPS)	(FT)	(FT)		
0.01	0.01	0.002	0.001	0.431	0.271	0.43	0.011	0.676	
0.02	0.02	0.009	0.004	0.862	0.431	0.86	0.023	0.759	
0.03	0.03	0.019	0.011	1.292	0.564	1.29	0.035	0.812	
0.04	0.04	0.034	0.024	1.723	0.683	1.72	0.047	0.852	
0.05	0.05	0.054	0.043	2.154	0.793	2.15	0.06	0.884	
0.06	0.06	0.077	0.069	2.585	0.896	2.58	0.072	0.912	
0.07	0.07	0.105	0.105	3.015	0.993	3.01	0.085	0.935	
0.08	0.08	0.138	0.149	3.446	1.085	3.44	0.098	0.956	
0.09	0.09	0.174	0.204	3.877	1.174	3.87	0.111	0.975	
0.1	0.1	0.215	0.271	4.308	1.259	4.3	0.125	0.993	
0.11	0.11	0.26	0.349	4.738	1.342	4.73	0.138	1.009	
0.12	0.12	0.31	0.44	5.169	1.422	5.16	0.151	1.023	
0.13	0.13	0.363	0.545	5.6	1.5	5.59	0.165	1.037	
0.14	0.14	0.421	0.664	6.031	1.576	6.02	0.179	1.05	
0.15	0.15	0.484	0.798	6.461	1.65	6.45	0.192	1.062	
0.16	0.16	0.55	0.948	6.892	1.722	6.88	0.206	1.074	
0.17	0.17	0.621	1.114	7.323	1.793	7.31	0.22	1.084	
0.18	0.18	0.697	1.298	7.754	1.863	7.74	0.234	1.095	
0.19	0.19	0.776	1.499	8.185	1.931	8.17	0.248	1.105	



Pond Analysis Output					
Peak Inflow	Peak Discharge	Peak Storage	Existing Detention Pond Volume	Maximum Water Surface Elevation	Spillway Elevation
CFS	CFS	CF	CF	FT	FT
21.80	1.00	30492	66480	5036.80	5037.80

INTRODUCTION:

THE PURPOSE OF THIS SUBMITTAL IS TO PRESENT THE EXISTING DRAINAGE MANAGEMENT PLAN FOR THE OSO BIO AND THE ALBUQUERQUE AMBULANCE SITES. THIS ANALYSIS WILL QUANTIFY DISCHARGE RATES, ASSOCIATED VOLUMES AND CAPACITY OF THE DETENTION POND.

THE SITE IS LOCATED AT THE NORTHWEST CORNER OF JOAN HILL PLACE AND ALEXANDRA BOULEVARD. IT IS BORDERED ON THE NORTH BY MONTBEL LOOP, ON THE WEST BY MONTBEL PLACE, ON THE SOUTH BY JOAN HILL PLACE AND ON THE EAST BY ALEXANDRA BOULEVARD. THE TOTAL ANALYSIS AREA IS APPROXIMATELY 18 ACRES AND ALL OF WHICH IS FULLY DEVELOPED.

METHODOLOGY:

THE METHODOLOGY SELECTED TO COMPUTE RUNOFF VOLUME IS BASED ON THE SCS UNIT HYDROGRAPH. RAINFALL VALUES WERE DETERMINED FROM NOAA ATLAS 14. THE SITE WAS ANALYZED FOR THE 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 AND WERE DETERMINED USING THE NRCS SOIL SURVEY GEOGRAPHIC DATABASE. CURVE NUMBERS FOR EACH DRAINAGE BASIN WERE ASSIGNED USING THE NRCS SOIL SURVEY GEOGRAPHIC DATABASE AND APPROPRIATE LAND TREATMENT TYPE AS ESTABLISHED IN THE DOCUMENT

EXISTING CONDITIONS:

A DISCHARGE REPORT FOR PRICE CLUB SITE IMPROVEMENTS DATED SEPTEMBER 1990 IS THE BASIS OF THE HYDROLOGIC AND HYDRAULIC ANALYSIS OF THE EXISTING CONDITIONS. THIS REPORT SPECIFIED ALLOWABLE PEAK DISCHARGE FROM THE SITE AND DETENTION VOLUME/ DISCHARGE CALCULATIONS. BASED ON THIS REPORT THE ALLOWABLE DISCHARGE FROM THE SITE IS 32.35 CFS.

BASED ON THE EXISTING GRADING, THE ENTIRE SITE IS DIVIDED INTO 5 BASINS.

EXISTING BASIN 1 IS APPROXIMATELY 2.37 ACRES AND CONSISTS PAVED AREA, ROOF AREA AND SOME LANDSCAPED AREA. DRAINAGE OF THIS BASIN DISCHARGES TO MONTBEL LOOP.

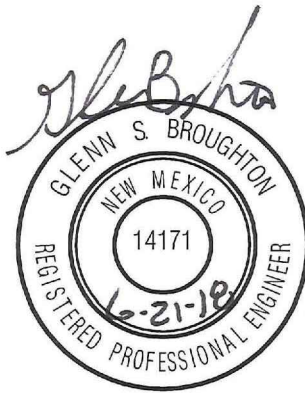
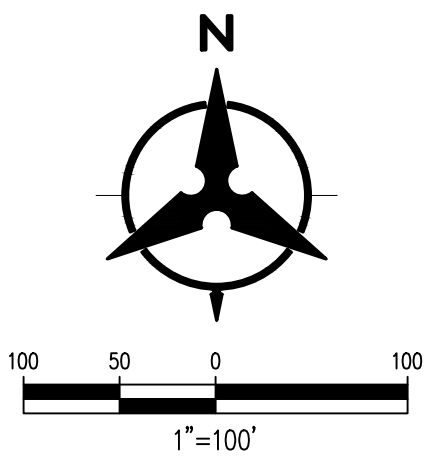
EXISTING BASIN 2 IS LOCATED NORTH OF JOAN HILL PLACE. THIS BASIN IS APPROXIMATELY 3.05 ACRES AND CONSISTS LARGE AMOUNT OF ROOF AREA, PAVED AREA AND VERY LIMITED AMOUNT OF LANDSCAPED AREA. DRAINAGE OF THIS BASIN DISCHARGES TO MONTBEL PLACE.

EXISTING BASIN 3 IS APPROXIMATELY 4.48 ACRES. IT IS LOCATED WEST OF ALEXANDRA BOULEVARD. ACCORDING TO THE DRAINAGE REPORT FOR PRICE CLUB SITE IMPROVEMENTS, SEPTEMBER 1990, THIS BASIN WAS ORIGINALLY DESIGNED TO FLOW TOWARD THE POND. HOWEVER, THE EXISTING PAVED SWALE AND VALLEY GUTTER IS UNDERSIZED TO CONVEY THE CALCULATED PEAK FLOW FOR THIS BASIN TO BASIN A. IT IS DIRECTING MAJORITY OF THE FLOW INTO MONTBEL LOOP. ONLY 1.5 CFS OF THE DISCHARGE FLOWS INTO EXISTING BASIN 4. SEE THE TABLE BELOW FOR THE CAPACITY OF PAVED SWALE/ VALLEY GUTTER.

EXISTING BASIN 4 IS APPROXIMATELY 7.60 ACRES AND COMPOSED OF ROOF, PAVEMENT AND LANDSCAPED POND. RUNOFF OF THIS BASIN FLOWS NORTHWEST AND TOTALLY CONTAINED BY THE POND AND DISCHARGED AT A CONTROLLED RATE.

EXISTING BASIN 5 IS APPROXIMATELY 0.27 ACRES. IT CONSISTS LANDSCAPE AREA AND VERY LIMITED CONCRETE. THIS BASIN DOES NOT CONTRIBUTE ANY SIGNIFICANT AMOUNT OF RUNOFF.

THE DETENTION POND IS LOCATED AT THE NORTH WEST CORNER OF THE SITE. THE POND DISCHARGES TO THE FLOWLINE OF THE GUTTER THROUGH A 4 INCH PVC PIPE. ACCORDING TO THE ORIGINAL DESIGN, THE VOLUME OF THE DETENTION POND WAS 66,717 CF WITH A PEAK DISCHARGE OF 1.03 CFS. BASED ON THIS ANALYSIS THE TOTAL PEAK FLOW DISCHARGING FROM THE SITE IS 33.3 CFS. THE CALCULATED PEAK DISCHARGE FROM THE SITE CURRENTLY EXCEEDS THE ALLOWABLE PEAK DISCHARGE AND IS NOT IN COMPLIANCE WITH THE APPROVED.



OSO BIO

EXISTING DRAINAGE MANAGEMENT PLAN

DRAWN BY:	DATE: 06/21/2018
CHECKED BY:	PROJECT NO. 20190058 SHEET NO. 1 OF 2

INTRODUCTION:

IN THE PROPOSED CONDITION ANALYSIS THE EXISTING DRIVEWAY AT THE NORTHEAST CORNER OF BASIN B3 WILL BE MODIFIED BY PROVIDING A SWALE WITH ADEQUATE CAPACITY WHICH WILL CONVEY BASIN B3 TO BASIN B4 AND ULTIMATELY TO THE DETENTION POND.

PROPOSED CONDITIONS:

THE PROPOSED GRADING DIVIDES THE ENTIRE SITE INTO 5 BASINS. PROPOSED BASINS REMAIN SAME AS EXISTING BASINS.

THE PROPOSED GRADING PROVIDES A WATER BLOCK AT THE DRIVEWAY ENTRANCE FROM MONTBEL LOOP. IT INCREASES THE CAPACITY OF THE PAVED SWALE/ VALLEY GUTTER TO 24.6 CFS AND ALLOWS IT TO CONVEY THE RUNOFF OF 16.1 DEVELOPED BY BASIN 3 TOWARD BASIN 4.

TOTAL FLOW OF 36.4 CFS DEVELOPED FROM BASIN 3 AND BASIN 4 FLOWS TO THE DETENTION POND LOCATED AT THE NORTH WEST CORNER OF THE SITE. BASED ON THIS ANALYSIS AT A PEAK INFLOW RATE OF 36.4 CFS, THE MAXIMUM WATER SURFACE ELEVATION IS 5037.8 FT WITH A DETENTION VOLUME OF 1.3 AC-FT (56628 CF). THE PEAK FLOW FROM THE DETENTION POND OUTLET IS 1.0 CFS. THE EXISTING POND HAS A VOLUME OF 66480 CF WITH A SPILLWAY ELEVATION OF 5037.80 FT. THE TOP OF POND EMBANKMENT IS AT AN ELEVATION OF 5038.3 FT. THE CALCULATED PEAK DISCHARGE FROM THE SITE IS 18.7 CFS WHICH IS BELOW THE ALLOWABLE PEAK DISCHARGE.

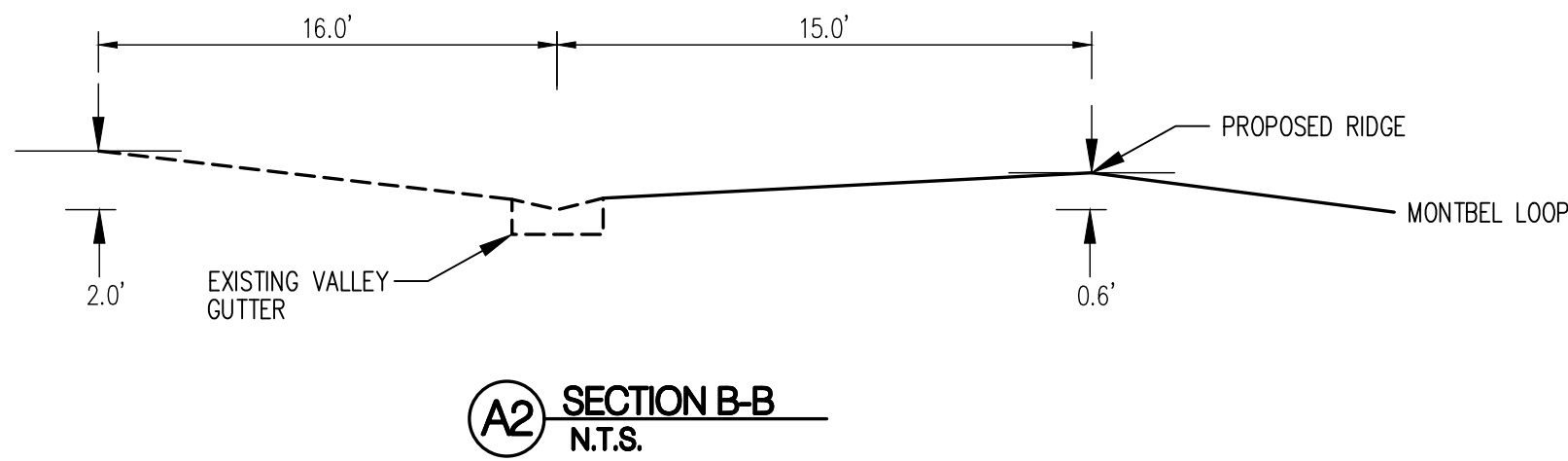
CONCLUSION:

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.

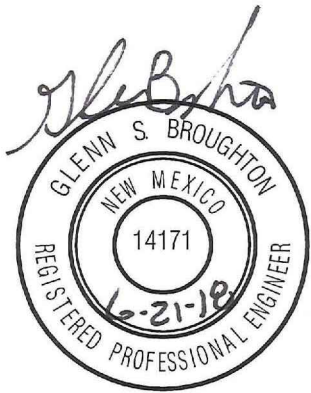
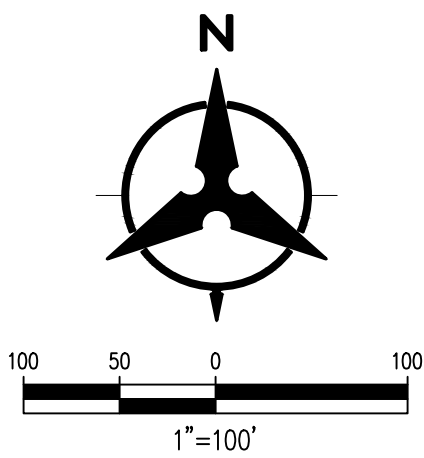
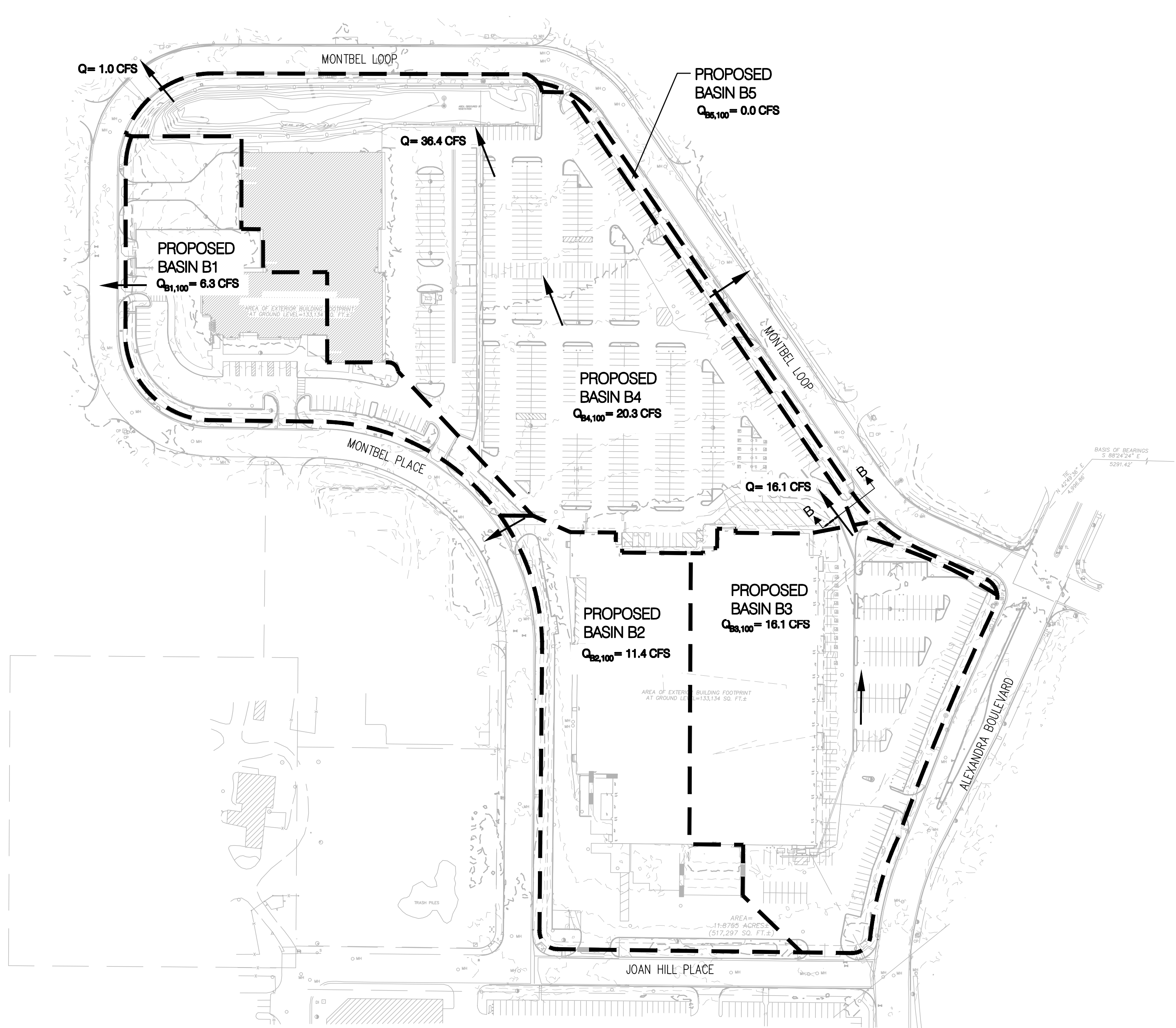
Basin	Area	Area	SCS Curve Number	Q100	Q/Acre	Volume
	(sq ft)	(sq mi)		(cfs)	(cfs/acre)	(ac-ft)
B1	103121	0.00370	89	6.3	2.66	0.3
B2	132690	0.00477	96	11.4	3.74	0.6
B3	195110	0.00700	95	16.1	3.59	0.8
B4	331107	0.01188	89	20.3	2.67	1
B5	11923	0.00042	49	0	0	0

* SCS Curve Number based off of Soil Group "A" per NRCS Soils Report.

Proposed Paved Swale/ Valley Gutter Capacity Calculation									
MANNING'S N = 0.016									
SLOPE = 0.010									
POINT	DIST	ELEV							
1	-16	2							
2	0	0							
3	15	0.6							
WSEL	DEPTH	FLOW	FLOW	WETTED	FLOW	TOPWID	TOTAL	FROUDE	
(FT)	INC	AREA	RATE	PER	VEL	WATER	ENERGY		
(FT)	(FT)	(SQ.FT)	(CFS)	(FT)	(FPS)	(FT)	(FT)	NO.	
0.05	0.05	0.041	0.033	1.654	0.793	1.65	0.06	0.884	
0.1	0.1	0.165	0.208	3.308	1.258	3.3	0.125	0.992	
0.15	0.15	0.371	0.612	4.962	1.649	4.95	0.192	1.062	
0.2	0.2	0.66	1.318	6.616	1.998	6.6	0.262	1.114	
0.25	0.25	1.031	2.39	8.271	2.318	8.25	0.334	1.156	
0.3	0.3	1.485	3.887	9.925	2.618	9.9	0.407	1.192	
0.35	0.35	2.021	5.863	11.579	2.901	11.55	0.481	1.223	
0.4	0.4	2.64	8.371	13.233	3.171	13.2	0.556	1.25	
0.45	0.45	3.341	11.461	14.887	3.43	14.85	0.633	1.275	
0.5	0.5	4.125	15.178	16.541	3.68	16.5	0.711	1.297	
0.55	0.55	4.991	19.571	18.195	3.921	18.15	0.789	1.318	
0.6	0.6	5.94	24.682	19.849	4.155	19.8	0.869	1.337	



Pond Analysis Output					
Peak Inflow	Peak Discharge	Peak Storage	Existing Detention Pond Volume	Maximum Water Surface Elevation	Spillway Elevation
CFS	CFS	CF	CF	FT	FT
36.40	1.00	56628	66480	5037.80	5037.80



OSO BIO	
PROPOSED DRAINAGE MANAGEMENT PLAN	
DRAWN BY:	DATE: 06/21/2018
CHECKED BY:	PROJECT NO. 20190058 SHEET NO. 2 OF 2