

CITY OF ALBUQUERQUE

Hydrology Section Planning Department
David S. Campbell, Director



Timothy M. Keller, Mayor

December 10, 2018

Asa Nilson-Weber, P.E.
Isaacson & Arfman, PA
128 Monroe St NE
Albuquerque, NM 87108

RE: **Juan Tabo Hills Park**
Grading and Drainage Plan for GP, SO-19, and BP- Approved
Engineer's Stamp Date: 12/5/2018 (M22D017A)

Dear Mrs. Nilson:

Based upon the information provided in the submittal received on 12/5/2018 the above-referenced plan is approved for Grading Permit, SO-19 Permit, and Building Permit. Please include a Copy of this G&D Plan in the plan sets for Building Permit. Please remember that the Public Drainage easements on the existing 48"- 66" storm drain on the east side of the site (25' min width centered on the pipe) both north and south of Monachos Rd. still need to be granted.

If you have any questions, you can contact me at 924-3986 or e-mail at 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 6/2018)

Project Title: Juan Tabo Hills Park Phase 1 Building Permit #: _____ Hydrology File #: M22D017A

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

Legal Description: A Portion of Lot IC2, Juan Tabo Hills, Unit 3A

City Address: _____

Applicant: Isaacson & Arfman, PA Contact: Åsa Nilsson-Weber or

Address: 128 Monroe Street NE - Albuquerque, NM 87108

Bryan J. Bobrick

Phone#: (505) 268-8828 Fax#: _____ E-mail: asaw@iacivil.com

bryanb@iacivil.com

Other Contact: MRWM Landscape Architects Contact: _____

Address: 1102 Mountain Road NW, Suite 201 - Albuquerque, NM 87102

Phone#: (505) 268-2266 Fax#: _____ E-mail: _____

TYPE OF DEVELOPMENT: _____ PLAT _____ RESIDENCE ☒ DRB SITE _____ ADMIN SITE

Check all that Apply:

DEPARTMENT:

☒ HYDROLOGY/ DRAINAGE
_____ TRAFFIC/ TRANSPORTATION

TYPE OF APPROVAL/ACCEPTANCE SOUGHT:

☒ BUILDING PERMIT APPROVAL
_____ CERTIFICATE OF OCCUPANCY

TYPE OF SUBMITTAL:

_____ ENGINEER/ARCHITECT CERTIFICATION
_____ PAD CERTIFICATION
_____ CONCEPTUAL G & D PLAN
☒ GRADING PLAN
_____ DRAINAGE REPORT
_____ DRAINAGE MASTER PLAN
_____ FLOODPLAIN DEVELOPMENT PERMIT APPLIC
_____ ELEVATION CERTIFICATE
_____ CLOMR/LOMR
_____ TRAFFIC CIRCULATION LAYOUT (TCL)
_____ TRAFFIC IMPACT STUDY (TIS)
_____ STREET LIGHT LAYOUT
_____ OTHER (SPECIFY) _____
_____ PRE-DESIGN MEETING?

_____ 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) _____

IS THIS A RESUBMITTAL?: ☒ Yes _____ No

DATE SUBMITTED: December 6, 2018 By: Åsa Nilsson-Weber

COA STAFF:

ELECTRONIC SUBMITTAL RECEIVED: _____

FEE PAID: _____

DECEMBER 5, 2018

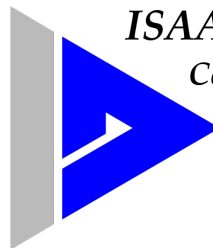
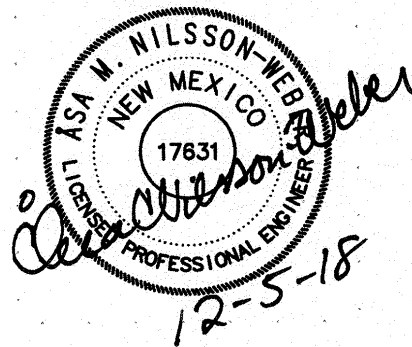
SUPPLEMENTAL CALCULATIONS

FOR

JUAN TABO HILLS PARK

ALBUQUERQUE, NEW MEXICO

BY



ISAACSON & ARFMAN, P.A.
Consulting Engineering Associates

Thomas O. Isaacson, PE & LS

Fred C. Arfman, PE

Åsa Nilsson-Weber, PE

I&A Project No. 2236

TABLE OF CONTENTS

- **Sidewalk Culvert Weir Calculations**
- **Sump Inlet Weir Calculations**
- **Storm Drain Calculations**

JUAN TABO HILLS PARK

WEIR EQUATION - SIDEWALK CULVERTS TO GULF STREAM CT. 1-24" CULVERT

$Q = C * L * h^{1.5}$

Where	Q	=	3.25	cfs
	C	=	3.33	
	L	=	2	ft
	h	=	0.62	ft

USE 4-24" CULVERTS	
4 * 3.25 =	13.01 CFS
Q required =	11.50 CFS

JUAN TABO HILLS PARK SUMP INLET WEIR CALCULATIONS

Q	flow (cfs)	
Cw	weir coefficient	3.33
P	perimeter (ft)	10.83
h	height of water (ft)	0.75

$$Q_w = C_w * P * h^{3/2}$$

Q = 23.4 cfs

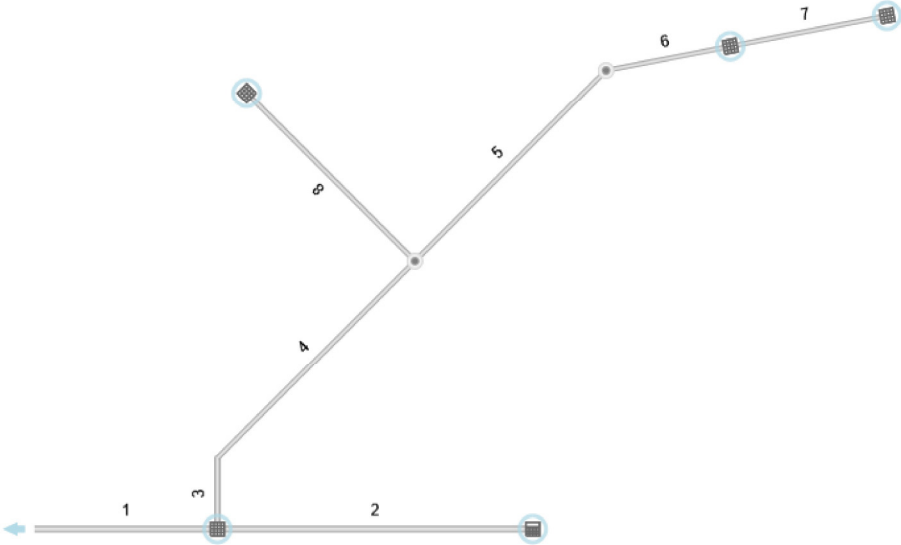
Qreq= 25.0 cfs

1.6 cfs will bypass to sump inlet downstream

Plan View

Stormwater Studio 2018 v 1.0.0.0

Project Name: JUAN TABO HILLS PARK
12-06-2018

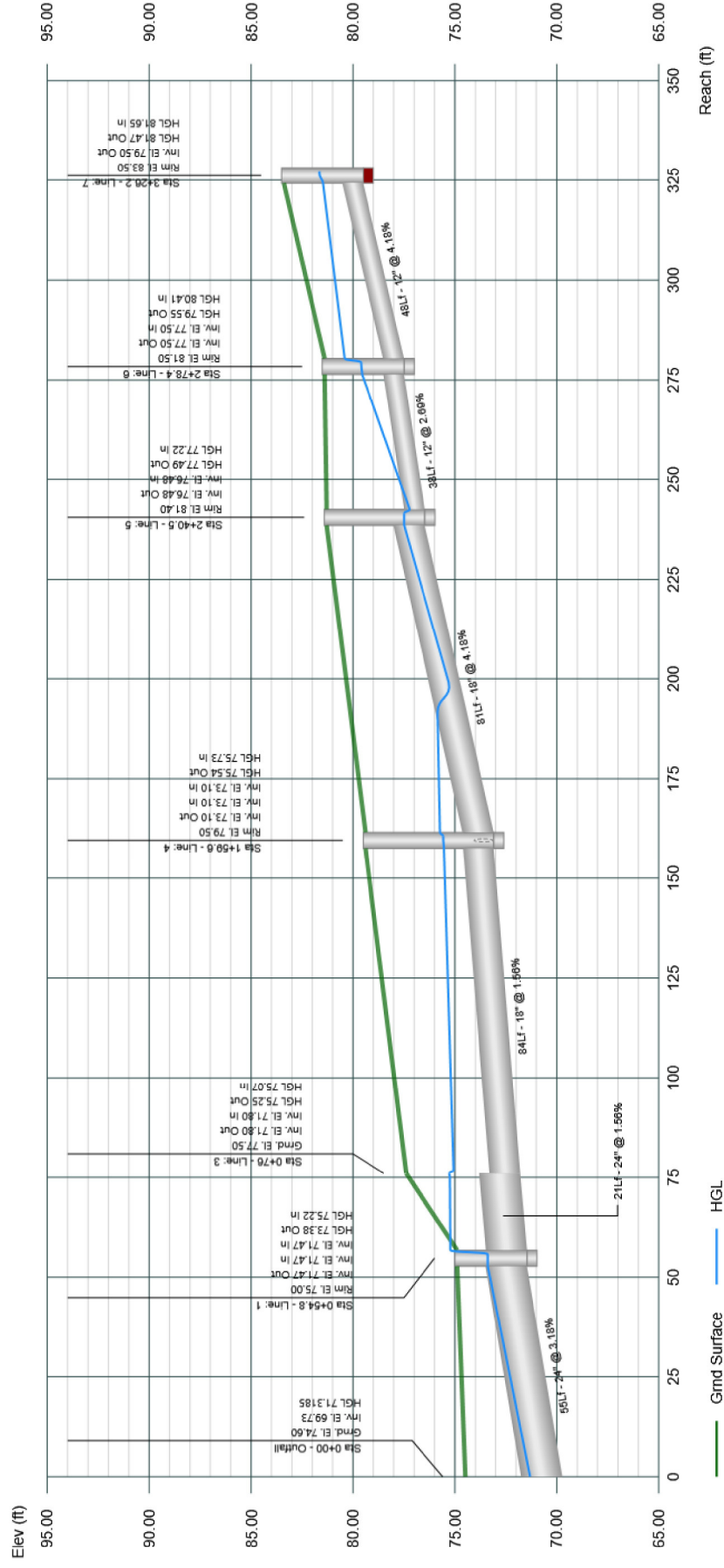


Profile View

Stormwater Studio 2018 v 1.0.0.0

Project Name: JUAN TABO HILLS PARK

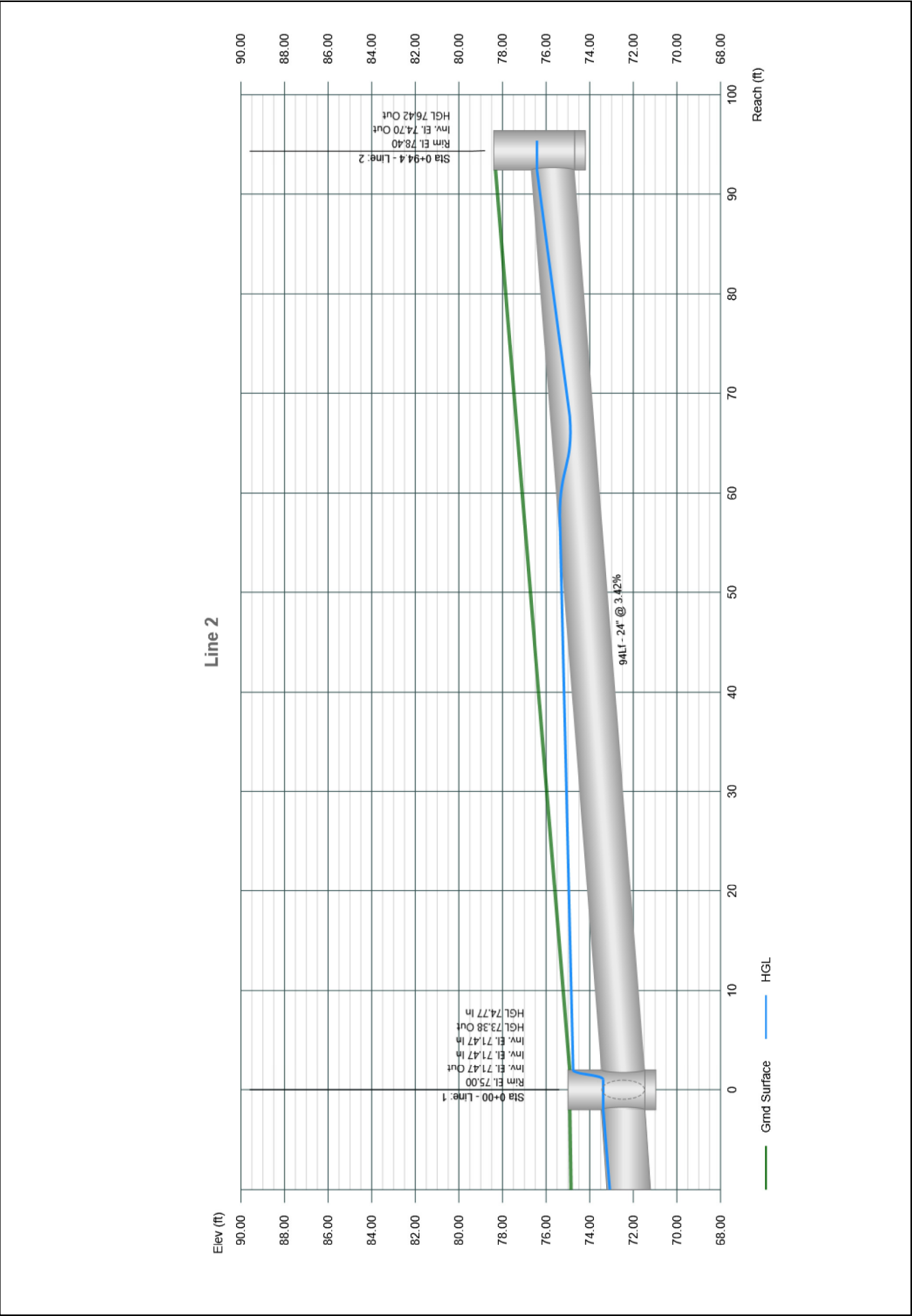
12-06-2018



Profile View

Stormwater Studio 2018 v 1.0.0.0

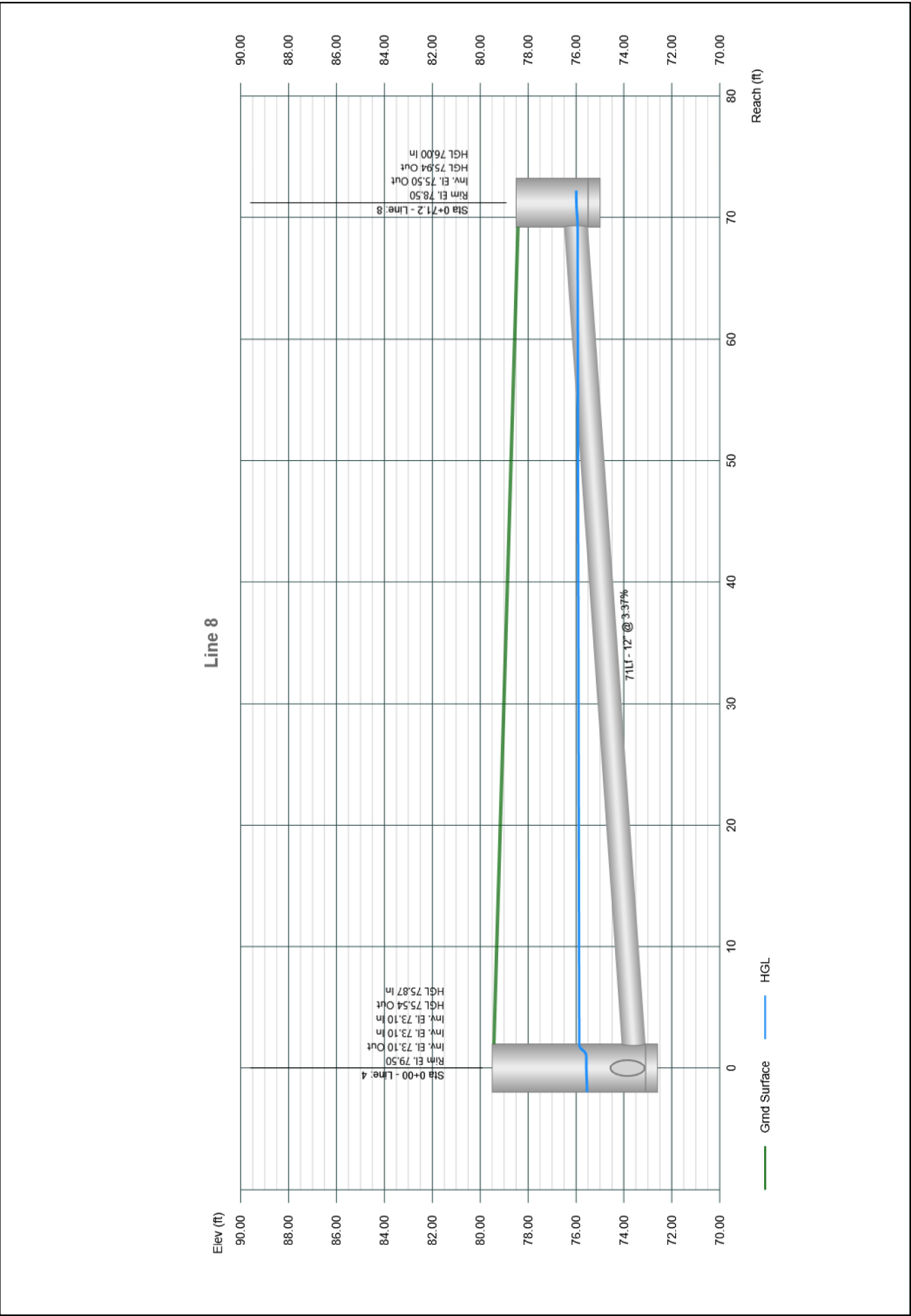
Project Name: JUAN TABO HILLS PARK
12-06-2018



Profile View

Stormwater Studio 2018 v 1.0.0.0

Project Name: JUAN TABO HILLS PARK
12-06-2018



Energy Grade Line Calculations

Stormwater Studio 2018 v 1.0.0.0

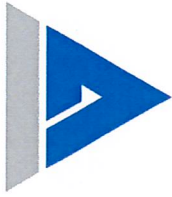
Project Name: JUAN TABO HILLS PARK

12-06-2018

Line No	Line Size (in)	Q (cfs)	Downstream							Length (ft)	Upstream							Pipe		Junction		
			Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)		Invert Elev (ft)	Depth (ft)	Area (sqft)	HGL Elev (ft)	Vel (ft/s)	Vel Head (ft)	EGL Elev (ft)	n Value	Enrgy Loss (ft)	HGLa Elev (ft)	EGLa Elev (ft)	Enrgy Loss (ft)
1	24	34.20	69.73	1.59†	2.68	71.32	12.78	2.54	73.55	54.80	71.47	1.91 ²	3.10	73.38	11.05	1.90	75.28	0.013	1.113	73.38	75.28	0.00
2	24	23.40	71.47	2.00	2.87	74.77	7.45	0.86	75.63	94.40	74.70	1.72 ²	2.87	76.42	8.14	1.03	77.45	0.013	0.973	76.42	77.45	0.00
3	24	7.90	71.47	2.00	3.14	75.22	2.52	0.10	75.32	21.20	71.80	2.00	3.14	75.25	2.51	0.10	75.35	0.013	0.026	75.28	75.38	0.03
4	18	7.90	71.80	1.50	1.77	75.07	4.47	0.31	75.38	83.60	73.10	1.50	1.77	75.54	4.47	0.31	75.85	0.013	0.473	75.57	75.88	0.03
5	18	7.00	73.10	1.50	1.77	75.73	3.96	0.24	75.98	80.90	76.48	1.01 ²	1.27	77.49	5.53	0.48	77.97	0.013	0.464	77.49	77.97	0.00
6	12	7.00	76.48	0.74†	0.63	77.22	11.16	1.94	79.16	37.90	77.50	1.00	0.79	79.55	8.91	1.24	80.79	0.013	1.628	79.60	80.83	0.05
7	12	5.30	77.50	1.00	0.79	80.41	6.75	0.71	81.12	47.80	79.50	1.00	0.79	81.47	6.75	0.71	82.18	0.013	1.059	81.65	82.35	0.18
8	12	0.90	73.10	1.00	0.79	75.87	1.15	0.02	75.89	71.20	75.50	0.44	0.33	75.94	2.71	0.11	76.05	0.013	0.165	76.00	76.11	0.06

Notes: Return Period = 2-yrs. ² Critical depth. † Supercritical.

Project File: 2236 SD CALCS.sws



December 5, 2018

James D. Hughes, P.E.
Principal Engineer, Planning Dept.
City of Albuquerque
600 2nd Street NW
Albuquerque, NM 87103

RE: JUAN TABO HILLS PARK (M22D017A)

Dear Mr. Hughes,

Attached with this resubmittal are copies of a revised Grading and Drainage Plan and Supplemental Calculations to address your review comments dated September 18, 2018. Please see below for our responses to your comments.

1. Plans are stamped and signed.
2. Calculations for sidewalk culvert capacity using weir equation are attached. Four 24-inch sidewalk culverts are required.
3. The construction note has been added.
4. Calculations for inlet capacity using the weir equation are attached. Per these calculations, 1.6 cfs will overflow to the downstream sump inlet. There is a wall along the cul-de-sac adjacent to the west property, so no flows will enter the offsite property. Revised storm drain calculations to reflect added flows at the sump inlet are attached.
5. The public storm drain easement is in the process of being prepared by the Parks Department surveyor.

First Flush Pond #2 was reduced in size, and volume still exceeds required volume—see South Grading Plan.

Please let me know if you have questions.

Thank you.

Sincerely,
Isaacson & Arfman, PA

Åsa Nilsson-Weber, P.E.

Attachments

CITY OF ALBUQUERQUE

Hydrology Section Planning Department
David S. Campbell, Director



Timothy M. Keller, Mayor

Sept. 18, 2018

Asa Nilson-Weber, P.E.
Isaacson & Arfman, PA
128 Monroe St NE
Albuquerque, NM 87108

RE: **Juan Tabo Hills Park**
Grading and Drainage Plan for SPBP – Approved
Engineer's Stamp Date: 9/12/2018 (M22D017A)

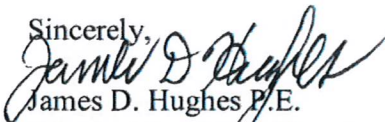
Dear Ms. Sandoval:

Based upon the information provided in the submittal received on 9/14/2018 the above-referenced plan is approved for Site Plan for Subdivision and Final Plat. However, prior to approval of Building Permit and/or Grading Permit the following comments must be addressed.

1. Remove the label "Not for Construction" under the engineer's stamp and sign the stamp.
2. Verify the Sidewalk Culver Capacity using the weir equation. Grates are now standardized at 24". Use the appropriate number of grates.
3. Add a construction note on the plan stating that an excavation and barricading permit is required for the New Type D inlet on the existing public storm drain and the Sidewalk Culverts.
4. Verify the Gulfstream Ct. inlet calculations using a weir equation at the lip of gutter, which is 0.75' below the property line elevation.
5. Grant Public Drainage easements on the existing 48"- 66" storm drain on the east side of the site (25' min width centered on the pipe) both north and south of Monachos Rd.

If you have any questions, you can contact me at 924-3986 or e-mail at jhughes@cabq.gov.

Sincerely,


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

- COVERED SIDEWALK CULVERTS (FOUR) IN GULF STREAM ST. CUL-DE-SAC;
- NEW TYPE 'D' INLET CONNECTING TO THE EXISTING 24" STORM DRAIN RUNNING FROM GULF STREAM ST. TO MONACHOS ROAD.

1	AN EXCAVATION / CONSTRUCTION PERMIT WILL BE REQUIRED BEFORE BEGINNING ANY WORK WITHIN THE CITY RIGHT-OF-WAY.
2	ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED, EXCEPT AS OTHERWISE STATED OR PROVIDED FOR HEREON, SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, 1986 EDITION AS REVISED THROUGH UPDATE #9.
3	TWO WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NEW MEXICO ONE CALL SYSTEM (CALL '811') FOR LOCATION OF EXISTING UTILITIES.
	PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL EXCAVATE AND VERIFY THE HORIZONTAL AND VERTICAL LOCATIONS OF ALL CONSTRUCTIONS. SHOULD A CONFLICT EXIST, THE CONTRACTOR SHALL NOTIFY THE ENGINEER SO THAT THE CONFLICT CAN BE RESOLVED WITH A MINIMUM AMOUNT OF DELAY.
5	BACKFILL COMPACTION SHALL BE ACCORDING TO TRAFFIC / STREET USE.
6	MAINTENANCE OF THESE FACILITIES SHALL BE THE RESPONSIBILITY OF THE OWNER OF THE PROPERTY SERVED.
7	WORK ON ARTERIAL STREETS SHALL BE PERFORMED ON A 24-HOUR BASIS.
8	THE WORK IN THE CITY ROW MUST BE INSPECTED AND ACCEPTED. THE CONTRACTOR MUST CONTACT JASON RODRIGUEZ AT 235-8016 AND CONSTRUCTION COORDINATION AT 924-3416 TO SCHEDULE INSPECTIONS.

APPROVAL	NAME	DATE
INSPECTOR		

Control Point No. 103
MAG Nail with Washer
"CONTROL POINT NMPS 11599"
"2016.6 HVP 3"
N = 1475546.85
E = 1562195.88
Elev. = 5480.37

0 15 30 60 90

SCALE 1"=30'

SOUTH G&D PLAN

PHASE 1 ON-SITE LIMITS

PROJECT DATA

FLOOD HAZARD: PER BERNALILLO COUNTY FIRM MAP PANEL 0367H
MAP REVISED AUGUST 16TH, 2012. THE SITE IS LOCATED WITHIN
FLOODZONE 'X' DESIGNATED AS AREAS DETERMINED TO BE OUTSIDE
500-YEAR FLOODPLAIN.

DRAINAGE PLAN CONCEPT: FIRST FLOOD RETENTION PONDING WILL BE PROVIDED AS REQUIRED. SEDIMENT CONTROL BASINS AND GRADE WALLS WILL BE CONSTRUCTED TO PROTECT THE PROPOSED DEVELOPMENT FROM OFF-SITE FLOW. BASED ON REVIEW OF THE PREVIOUSLY APPROVED PLANS AND SUPPORT CALCULATIONS PROVIDED BY THE SUPPLEMENTAL INFORMATION, THE REMAINING 1.5 AC. OPEN SPACE PROPERTY (WITH THE EXCEPTION OF MINOR SELF-PONDING PERIMETER LANDSCAPE AREAS NOTED) WILL FREE DISCHARGE TO THE EXISTING PUBLIC STORM DRAIN SYSTEM EXTENDING FROM THE GULF STREAM ST. CUL-DE-SAC INLET TO THE MONACHOS RD. SYSTEM DRAINING WEST TO JUAN TABO BLVD. ON-SITE STORM DRAIN SYSTEM WILL BE CONSTRUCTED TO COLLECT STORMWATER THROUGHOUT THE DEVELOPMENT AND DISCHARGE IT INTO THE PUBLIC SYSTEM AT A NEW INLET AS SHOWN.

SURVEYOR: STEPHEN J. TOLER: NMPS 11599
SURVEYING CONTROL, INC.
505-266-0935

STORMWATER QUALITY CONTROL

STORMWATER CONTROL MEASURES ARE REQUIRED TO PROVIDE MANAGEMENT OF 'FIRST FLUSH' (FFL: DEFINED AS THE 90TH PERCENTILE STORM EVENT OR 0.34" [0.44" LESS 0.1" FOR INITIAL ABSTRACTION] OF STORMWATER WHICH DISCHARGES DIRECTLY TO A PUBLIC STORM DRAINAGE SYSTEM).

SEE GRADING AND DRAINAGE PLAN - SOUTH FOR IMPERVIOUS
AREA AND FIRST FLUSH DESIGN VOLUME CALCULATIONS.

CONSTRUCTION NOTES

AN EXCAVATION AND BARRICADING PERMIT IS REQUIRED FOR THE
INSTALLATION OF THE NEW TYPE 'D' INLET AND THE NEW SIDEWALK
CULVERTS AT THE GULFSTREAM ST. CUL-DE-SAC.



 CITY OF ALBUQUERQUE
STRATEGIC PLANNING AND DESIGN
PARKS AND RECREATION DEPARTMENT

JUAN TABO HILLS PARK – PHASE 1
OVERALL GRADING AND DRAINAGE CONCEPT

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No. 756190		Zone Map No. M22	Sheet LG100	



BUILDING PERMIT SUBMITTAL
DATE: DECEMBER 6, 2018

JUAN TABO HILLS PARK - PHASE 1

DATE 12/3/18
PROJECT# 756190

RECORD DRAWINGS
DATE: XX/XX/2019

POND #1		
Contour	Area	Volume
5479.70	827	
5479.00	340	408 CF
TOTAL VOL.		408 CF

POND #2		
Contour	Area	Volume
5481.2	448	
5480.7	0.0	112 CF
TOTAL VOL.		112 CF

POND #3		
Contour	Area	Volume
5478.50	532	
5478.00	340	218 CF
TOTAL VOL.		218 CF

POND #4		
Contour	Area	Volume
5475.50	967	
5475.00	64	258 CF
TOTAL VOL.		258 CF

ALL RUNOFF FROM IMPERVIOUS AREAS ARE REQUIRED TO PASS THROUGH FIRST FLUSH RETENTION PONDS 1 - 4 AS PROVIDED.

REQUIRED VOLUMES AND DESIGN VOLUMES FOR EACH POND ARE PROVIDED IN THE CHART ABOVE.

1	Pond 1 Basin	
	Impervious Area	2520
	First Flush Volume Required	71

②	Pond 2 Basin	
	Impervious Area	3166
	First Flush Volume Required	90

3	Pond 3 Basin	
	Impervious Area	5555
	First Flush Volume Required	157

4	Pond 5 Basin	
	Impervious Area	3577
	First Flush Volume Required	101



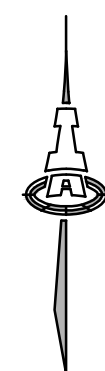
1. PEDESTRIAN WALKS TO BE ADA ACCESSIBLE (5% MAX. SLOPE, 2% MAX. CROSS-SLOPE) UNLESS NOTED.
2. SLOPES WITHIN HANDICAP PARKING AREA TO MEET ADA REQUIREMENTS. MAX. SLOPE = 2% IN ANY DIRECTION.
3. CONSTRUCT ADA COMPLIANT RAMP. MAX. 1:12 SLOPE, 2% MAX. CROSS-SLOPE.
4. CONSTRUCT FIRST FLUSH (STORMWATER QUALITY) RETENTION, PONDS TO ELEVATIONS AND AREAS SHOWN. INSTALL ROCK DEE PROTECTION.
5. TRANSITION SLOPES TO ACHIEVE GRADE DIFFERENCES SHOWN. TYPICAL = 5:1, MAXIMUM = 3:1.
6. CONSTRUCT HEADER CURB PER COA STD. DWG. 2415B. THIS AREA TO DIRECT DISCHARGE TO COVERED SIDEWALK CULVERTS. TOP OF CURB = 80.3 TYP.
7. CONSTRUCT FOUR (4) 2' WIDE COVERED SIDEWALK CULVERTS PER C.O.A. STD. DWG. 2236.
8. CONSTRUCT RAMP TO PLAY AREA. SEE SITE DETAILS BY LANDSCAPE ARCHITECT.
9. CONSTRUCT PERIMETER GRADE TRANSITION CURB/WALL TO DIVERT OFF-SITE FLOW AROUND PARK. FOR INTERIOR WALLS COORDINATE WITH ARCHITECT.
10. CONSTRUCT PRIVATE ON-SITE STORM DRAIN SYSTEM. SEE STORM DRAIN DETAIL SHEET.
11. CONSTRUCT TYPE 'D' STORM DRAIN INLET WITH ALBUQUERQUE GRATE AT EXISTING PUBLIC 24"Ø MAIN PER C.O.A. STD. DWGS. 2206 AND 2220. SEE SHEET LG501 FOR RIM / INVERT ELEVATIONS.
12. NOT USED.
13. CONSTRUCT 15' WIDE X 2' LONG X 2' DEEP FRACTURED FACE ROCK CHANNEL CONTROL.
14. GRADE DESILTATION BASIN TO ELEVATIONS SHOWN.

SEE LANDSCAPE PLANS FOR PAVEMENT DETAILS INCLUDING
PAVEMENT SECTIONS, CURB AND GUTTER DETAILS.

SEE SHEET LG501 FOR EROSION PROTECTION ROCK LINING NOTE.

LEGEND

- | | |
|---|---|
|  | EXISTING SPOT ELEVATION |
|  | EXISTING CONTOUR |
|  | PROPOSED CONTOUR (1' INCREMENT) |
|  | PROPOSED CONTOUR (0.5' INCREMENT) |
|  | PROPOSED SPOT ELEVATION |
|  | FLOW ARROW |
|  | PROPOSED FIRST FLUSH RETENTION POND |
|  | GRADE TRANSITION WALL |
|  | 6" AVG. DIA. FRACTURED FACE ROCK EROSION PROTECTION |



0 10 20 40 60

SCALE 1"=20'

MRWM
LANDSCAPE ARCHITECTS
mrwmla.com 505 268 2266



CITY OF ALBUQUERQUE
STRATEGIC PLANNING AND DESIGN
PARKS AND RECREATION DEPARTMENT

JUAN TABO HILLS PARK – PHASE 1
GRADING AND DRAINAGE PLAN – SOUTH

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No. 756190		Zone Map No. M22	Sheet LG101	

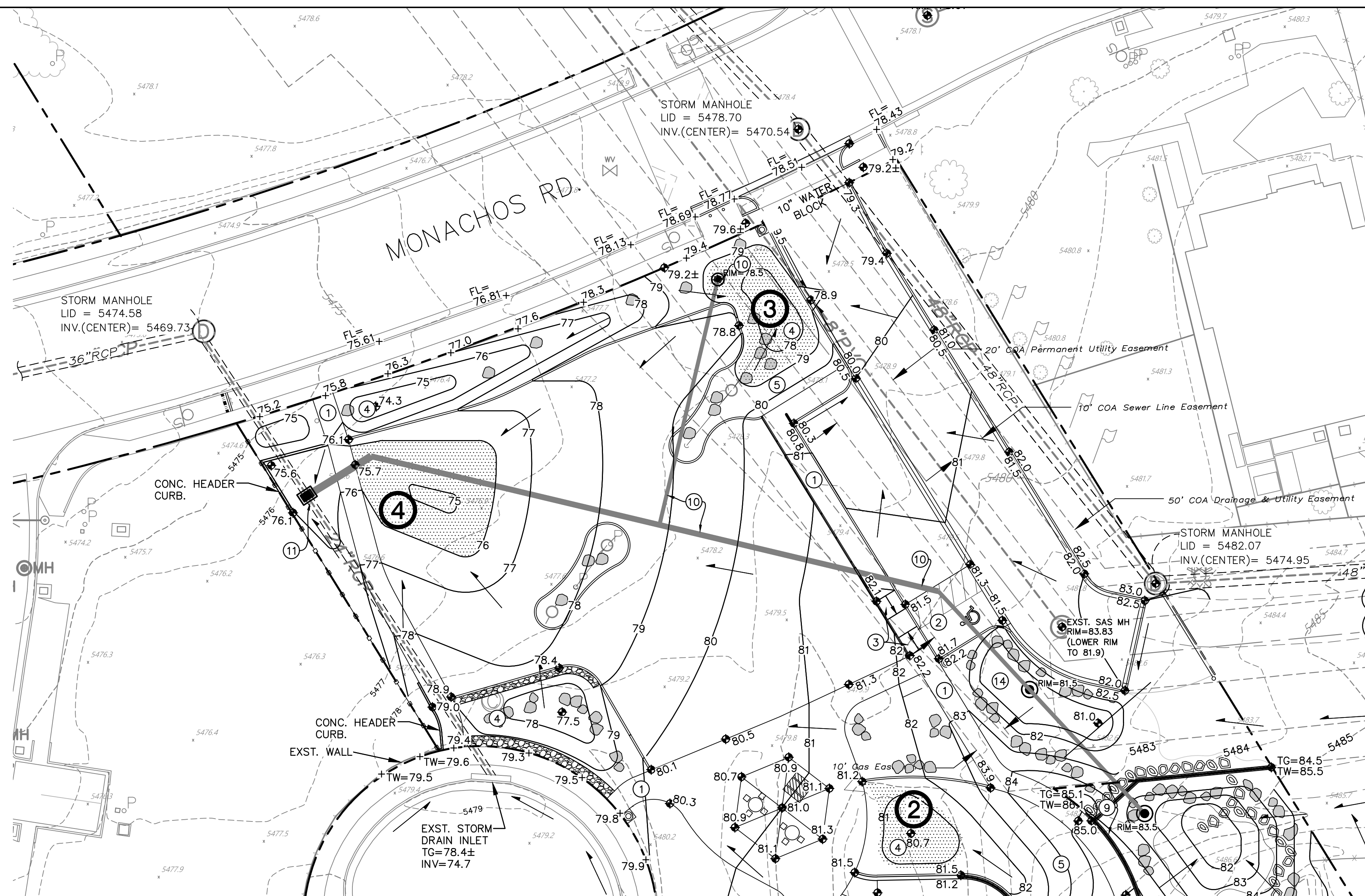


**BUILDING PERMIT SUBMITTAL
DATE: DECEMBER 6, 2018**

JUAN TABO HILLS PARK - PHASE 1

PROJECT# 756190

RECORD DRAWINGS
DATE: XX/XX/2019



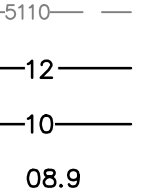
KEYED NOTES

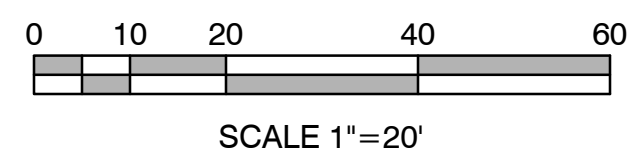
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4. CONSTRUCT FIRST FLUSH (STORMWATER QUALITY) RETENTION PONDS TO ELEVATIONS AND AREAS SHOWN. INSTALL ROCK EDGE PROTECTION.
5. TRANSITION SLOPES TO ACHIEVE GRADE DIFFERENCES SHOWN. TYPICAL = 5:1, MAXIMUM = 3:1.
6. CONSTRUCT HEADER CURB PER COA STD. DWG. 2415B. THIS AREA TO DIRECT DISCHARGE TO COVERED SIDEWALK CULVERTS. TOP OF CURB = 80.3 TYP.
7. CONSTRUCT FOUR (4) 2' WIDE COVERED SIDEWALK CULVERTS PER C.O.A. STD. DWG. 2236.
8. CONSTRUCT RAMP TO PLAY AREA. SEE SITE DETAILS BY LANDSCAPE ARCHITECT.
9. CONSTRUCT PERIMETER GRADE TRANSITION CURB/WALL TO DIVERT OFF-SITE FLOW AROUND PARK. FOR INTERIOR WALLS COORDINATE WITH ARCHITECT.
10. CONSTRUCT PRIVATE ON-SITE STORM DRAIN SYSTEM. SEE STORM DRAIN DETAIL SHEET.
11. CONSTRUCT TYPE 'D' STORM DRAIN INLET WITH ALBUQUERQUE GRATE AT EXISTING PUBLIC 24"Ø MAIN PER C.O.A. STD. DWGS. 2206 AND 2220. SEE SHEET LG501 FOR RIM / INVERT ELEVATIONS.
12. NOT USED.
13. CONSTRUCT 15' WIDE X 2' LONG X 2' DEEP FRACTURED FACE ROCK CHANNEL CONTROL.
14. GRADE DESILTATION BASIN TO ELEVATIONS SHOWN.

SEE LANDSCAPE PLANS FOR PAVEMENT DETAILS INCLUDING
PAVEMENT SECTIONS, CURB AND GUTTER DETAILS.

SEE SHEET LG501 FOR EROSION PROTECTION ROCK LINING NOTE.

LEGEND

- 
- 5105.65'
 — -5110 —
 — -12 —
 — -10 —
 08.9
 →
 [Dotted Rectangle]
 [Thick Line]
 [Irregular Pattern]
 ①
- EXISTING SPOT ELEVATION
 EXISTING CONTOUR
 PROPOSED CONTOUR (1' INCREMENT)
 PROPOSED CONTOUR (0.5' INCREMENT)
 PROPOSED SPOT ELEVATION
 FLOW ARROW
 PROPOSED FIRST FLUSH RETENTION POND
 GRADE TRANSITION WALL
 6" AVG. DIA. FRACTURED FACE ROCK EROSION PROTECTION.
 FIRST FLUSH RETENTION POND. SEE "GRADING AND DRAINAGE PLAN - SOUTH" FOR REQUIRED VOLUMES.



MRWM
LANDSCAPE ARCHITECTS
mrwmla.com 505 268 2266



CITY OF ALBUQUERQUE
STRATEGIC PLANNING AND DESIGN
PARKS AND RECREATION DEPARTMENT
JUAN TABO HILLS PARK – PHASE 1
GRADING AND DRAINAGE PLAN – NORTH

Design Review Committee	City Engineer Approval	Last Design Update	Mo./Day/Yr.	Mo./Day/Yr.
City Project No. 756190		Zone Map No. M22	Sheet	LG102



BUILDING PERMIT SUBMITTAL
DATE: DECEMBER 6, 2018

JUAN TABO HILLS PARK - PHASE 1

PROJECT# 756190

RECORD DRAWINGS
DATE: XX/XX/2019

STORM DRAIN GENERAL NOTES

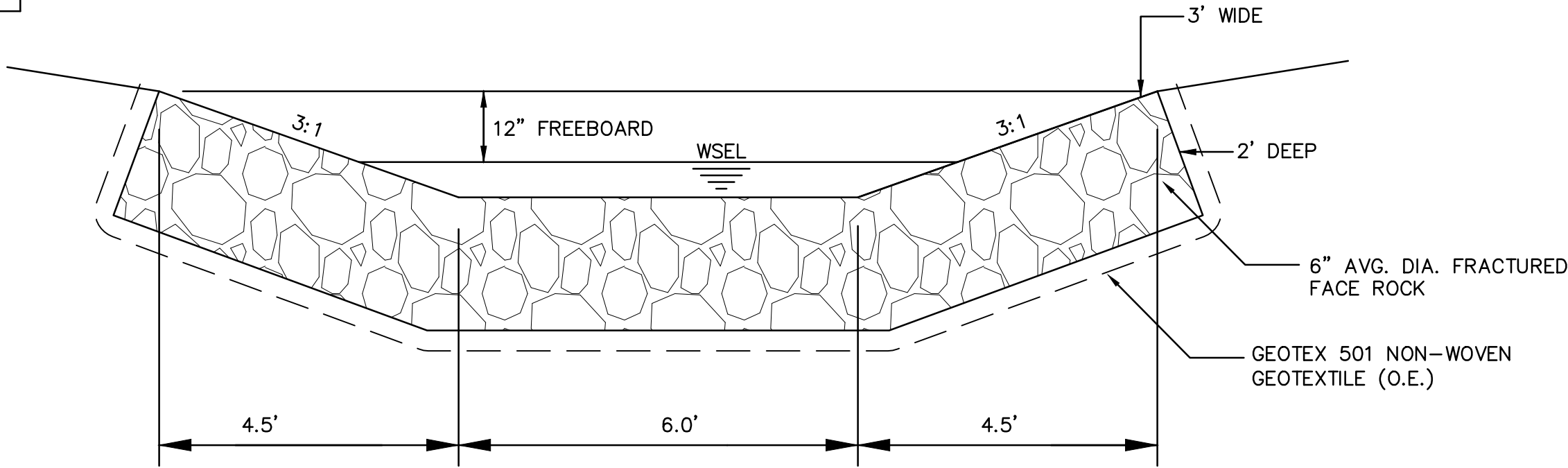
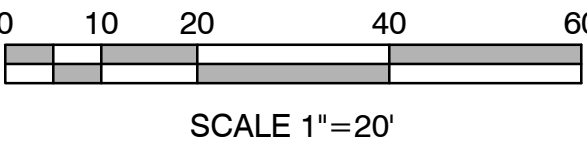
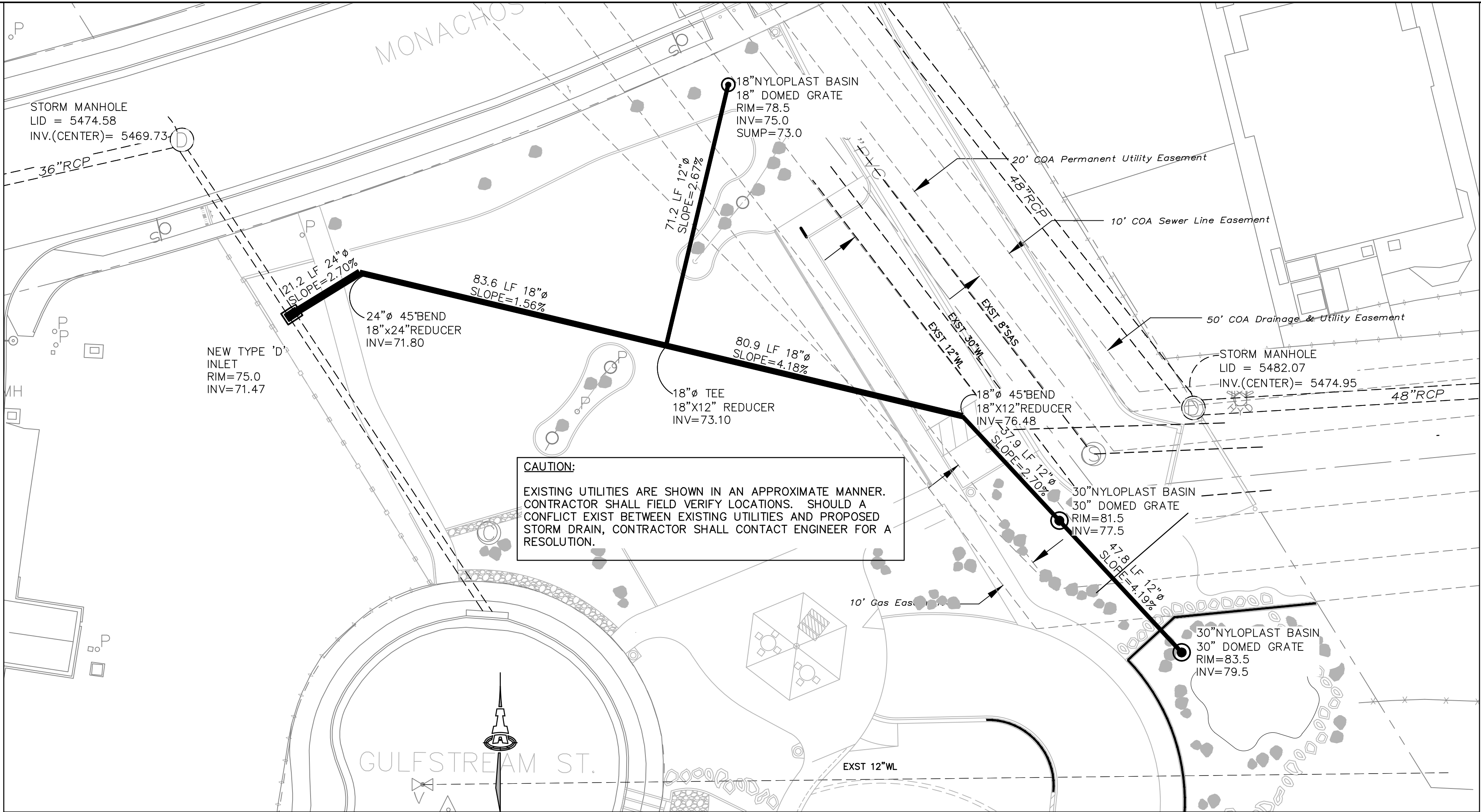
- A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE INSTALLATION OF ALL WORK RELATED TO PROPOSED STORM DRAINS SHOWN ON THIS PLAN INCLUDING: TRENCHING, BACKFILL, SUPPORTS, INLET AND MANHOLE COLLARS, MANHOLES, WATER QUALITY FEATURES, EROSION CONTROL FEATURES, TESTING AND CLEANING. ANY WORK NOT ACCEPTED BY THE ARCHITECT OR ENGINEER DUE TO IMPROPER WORKMANSHIP OR LACK OF PROPER COORDINATION SHALL BE REMOVED AND CORRECTLY INSTALLED AT THE CONTRACTOR'S EXPENSE, AS DIRECTED.
- B. MINIMUM COVER FOR STORM DRAIN PIPES SHALL BE 12", UNLESS OTHERWISE NOTED.
- C. TRENCHING, BORING, AND JACKING SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 700. ALL BACKFILL SHALL BE COMPACTED TO A MINIMUM 95% DENSITY PER ASTM D-1557.
- D. ALL INLET AND AREA DRAIN LIDS & GRATES, MANHOLE RINGS & COVERS, AND OTHER SURFACE ITEMS FOR THE STORM DRAINS SHALL BE ADJUSTED TO FINISHED GRADE, UNLESS OTHERWISE NOTED ON THE PLANS.
- E. ALL STORM DRAIN CROSSINGS OF WATER AND SEWER LINES SHALL HAVE 18" MIN CLEARANCE. IF 18" CLEARANCE IS NOT POSSIBLE, CONTACT THE ENGINEER IMMEDIATELY.
- F. RCP PIPES, PP PIPES, CONCRETE INLETS, MANHOLES, AND CLEANOUTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH COA SPEC. SECT. 900.
- G. HDPE PIPE SHALL BE ADS N-12 (WATERTIGHT). HDPE PIPE SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.
- H. STORM DRAINS SHALL BE INSTALLED AT INVERTS AND SLOPES SPECIFIED ON THE PLANS. THE PIPE SHALL DRAIN AT A CONSTANT SLOPE BETWEEN FITTINGS AND MANHOLES. THE PIPE SHALL DRAIN TOWARD THE OUTLET AT ALL LOCATIONS.

CIVIL GENERAL NOTES

- A. THE CONTRACTOR SHALL ABIDE BY ALL STATE, LOCAL, AND FEDERAL LAWS, CODES, RULES AND REGULATIONS WHICH APPLY TO THE CONSTRUCTION OF THESE IMPROVEMENTS, INCLUDING EPA AND ADA REQUIREMENTS.
- B. ALL WORK DETAILED ON THESE PLANS TO BE PERFORMED UNDER CONTRACT SHALL, EXCEPT AS OTHERWISE STATED ON OR PROVIDED FOR HEREON, BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT EDITION OF THE CITY OF ALBUQUERQUE STANDARD SPECIFICATIONS FOR PUBLIC WORKS (COA SPEC.)
- C. NO WORK SHALL BE PERFORMED WITHOUT THE APPROPRIATE PERMITS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FOR THE PROJECT PRIOR TO COMMENCING CONSTRUCTION, OR PRIOR TO OCCUPANCY, AS APPROPRIATE. IF PERMITS ARE DELAYED OR ISSUED WITH CONDITIONS, THE CONTRACTOR SHALL NOTIFY THE OWNER AND ARCHITECT IMMEDIATELY.
- D. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FIELD VERIFY HORIZONTAL AND VERTICAL LOCATIONS OF ALL EXISTING OBSTRUCTIONS, AND CONDITION OF ALL EXISTING INFRASTRUCTURE PRIOR TO CONSTRUCTION. REPORT ALL DISCREPANCIES TO THE ARCHITECT AND VERIFY THE ARCHITECT'S INTENT BEFORE PROCEEDING.
- E. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY.
- F. THE CONTRACTOR SHALL MAINTAIN RECORD DRAWINGS ON SITE AT ALL TIMES.
- G. CONTRACTOR SHALL OBTAIN ALL REQUIRED INSPECTIONS OF THE WORK.
- H. CONSTRUCTION ACTIVITY SHALL BE LIMITED TO THE PROPERTY AND/OR PROJECT LIMITS. ANY DAMAGE TO ADJACENT STRUCTURES RESULTING FROM THE CONSTRUCTION PROCESS SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. CONTRACTOR SHALL BE RESPONSIBLE FOR DOCUMENTING EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
- I. EXISTING UTILITY LINES ARE SHOWN IN AN APPROXIMATE MANNER ONLY AND MAY BE INCOMPLETE, OR OBSOLETE. SUCH LINES MAY OR MAY NOT EXIST WHERE SHOWN OR NOT SHOWN. CONTRACTOR SHALL CONTACT NM-811 FOR UTILITY LINE SPOTS FIVE WORKING DAYS PRIOR TO CONDUCTING SITE FIELD WORK. CONTRACTOR SHALL FIELD VERIFY AND LOCATE ALL UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. CONTRACTOR IS FULLY RESPONSIBLE FOR ANY AND ALL DAMAGE CAUSED BY ITS FAILURE TO LOCATE, IDENTIFY AND PRESERVE ANY AND ALL EXISTING UTILITIES, PIPELINES, AND UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF NECESSARY DRY UTILITY ADJUSTMENTS.
- J. FIVE WORKING DAYS PRIOR TO ANY EXCAVATION, THE CONTRACTOR MUST CONTACT NM811 (811) FOR LOCATION OF EXISTING UTILITIES.
- K. ALL SITE PREPARATION, GRADING OPERATIONS, FOUNDATION CONSTRUCTION, AND PAVEMENT INSTALLATION WORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GEOTECHNICAL REPORT, WHICH WILL BE PROVIDED BY THE OWNER OR ARCHITECT.
- L. ALL TRASH, DEBRIS, & SURFACE VEGETATION SHALL BE CLEARED AND LEGALLY DISPOSED OF OFFSITE.
- M. VIBRATORY COMPACTION SHALL NOT BE USED OVER IN-PLACE UTILITIES.
- N. ADJUST ANY RIMS OF EXISTING UTILITY FEATURES AS NECESSARY TO MATCH NEW GRADES. UTILITIES IN PAVED AREAS SHALL BE HS-25 TRAFFIC RATED.
- O. CONTRACTOR SHALL COMPLY WITH LOCAL REGULATIONS FOR RESEEDING OF DISTURBED AREAS.

GRADING GENERAL NOTES

- A. GRADING SHALL BE PERFORMED AT THE ELEVATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THIS PLAN.
- B. PROPOSED SPOT AND CONTOUR ELEVATIONS SHOWN REPRESENT TOP OF FINISH MATERIAL (I.E. TOP OF CONCRETE, TOP OF CONCRETE BUILDING PAD, TOP OF PAVEMENT MATERIAL, TOP OF LANDSCAPING MATERIAL, ETC.). CONTRACTOR SHALL GRADE, COMPACT SUBGRADE AND DETERMINE EARTHWORK ESTIMATES BASED ON ELEVATIONS SHOWN MINUS FINISH MATERIAL THICKNESSES.
- C. IF FIELD GRADE ADJUSTMENTS ARE REQUIRED, THE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT.
- D. THE ENVIRONMENTAL PROTECTION AGENCY (EPA) AND THE CITY OF ALBUQUERQUE REQUIRE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP), AN NDPES PERMIT, AND AN EROSION AND SEDIMENT CONTROL (ESC) PERMIT FOR PROJECTS WHERE CONSTRUCTION ACTIVITIES MEET THE EPA THRESHOLD. (SWPPP, NPDES PERMIT, AND ESC PLAN BY OTHERS.) A CURRENT CITY-APPROVED ESC PERMIT MUST BE INCLUDED WITH THE CONTRACTOR'S SUBMITTAL FOR A ROUGH GRADING, GRADING, PAVING, BUILDING, OR WORK ORDER PERMIT. CONTRACTOR SHALL COORDINATE WITH OWNER TO DETERMINE WHO WILL PREPARE SWPPP AND INSPECT REQUIRED ELEMENTS..
- E. MEASURES REQUIRED FOR EROSION AND SEDIMENT CONTROL SHALL BE INCIDENTAL TO THE PROJECT COST.
- F. ALL NEW PAVEMENT SURFACES SHALL BE CONSTRUCTED WITH POSITIVE SLOPE TOWARD PROPOSED DRAINAGE PATHS. PAVING AND ROADWAY GRADES SHALL BE ±0.1' FROM PLAN ELEVATIONS.
- G. WHERE GRADES BETWEEN NEW AND EXISTING ARE SHOWN AS 'MATCH' OR '±', TRANSITIONS SHALL BE SMOOTH.
- H. PAVEMENT GRADES IN MARKED HANDICAPPED PARKING AREAS SHALL NOT EXCEED 2.0% IN ANY DIRECTION. FOR ALL ACCESSIBLE ROUTES, MAXIMUM ALLOWABLE CROSS SLOPE IS 2.0% AND MAXIMUM LONGITUDINAL SLOPE WITHOUT RAMP IS 5.0%. FOLLOW ALL ADA ACCESSIBILITY GUIDELINES OR CITY CODES, WHICHEVER IS MORE STRINGENT.
- I. ALL EROSION PROTECTION TO BE INSTALLED AS 6" AVG. DIA. ANGULAR FACED ROCK (F.F. ROCK) PLACED OVER GEOTEX 501 NON-WOVEN GEOTEXTILE (O.E.).
- J. SIDESLOPES STEEPER THAN 3:1 BUT LESS THAN 2:1 MUST HAVE PERMANENT EROSION PROTECTION INSTALLED, TYPICAL. NO SLOPE SHALL BE STEEPER THAN 2:1.
- K. POND DESIGN PARAMETERS AND STORMWATER CONTROL MEASURES SHOWN ON THIS PLAN (TOP OF POND, BOTTOM OF POND, SIZE OF ORIFICE, AREA OF POND, ETC.) TO BE STRICTLY ADHERED TO FOR CERTIFICATION PURPOSES.
- L. POST-CONSTRUCTION MAINTENANCE FOR PRIVATE STORMWATER FACILITIES WILL BE THE RESPONSIBILITY OF THE FACILITIES OWNER. PERIODIC INSPECTION AND CERTIFICATIONS OF THE FACILITIES MAY BE REQUIRED BY THE CITY ENGINEER. ENGINEER RECOMMENDS THAT OWNER INSPECT SITE YEARLY AND AFTER EACH RAINFALL TO IDENTIFY NEW AREAS OF EROSION AND INSTALL ADDITIONAL EROSION PROTECTION AS NEEDED BASED ON ACTUAL OCCURRENCES.
- P. GRADING OF FIRST FLUSH BASINS WILL BE INSPECTED AS PART OF ENGINEER'S CERTIFICATION FOR CERTIFICATE OF OCCUPANCY. DURING LANDSCAPING, FIRST FLUSH BASINS WILL BE SMOOTHLY INTEGRATED INTO LANDSCAPING WHILE MAINTAINING REQUIRED TOP AND BOTTOM ELEVATION, VOLUME AND INLET / OVERFLOW ELEVATIONS.
- W. SITE CONSTRUCTION LAYOUT / STAKING SHALL BE COORDINATED WITH THE ARCHITECT USING THE ARCHITECT PROVIDED SITE PLAN.



FRACTURED FACE ROCK CHANNEL CONTROL STRUCTURE

EROSION PROTECTION ROCK LINING NOTE:
ALL PERMANENT EROSION CONTROL SHALL BE 6" AVG. DIA., FRACTURED FACE ROCK OVER PERMANENT GEOTECH MATERIAL. DEPTH OF ROCK IS 1' FOR SLOPE PROTECTION; 2' FOR GRADE STRUCTURES.



MRWMLANDSCAPE ARCHITECTS

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CITY OF ALBUQUERQUE

STRATEGIC PLANNING AND DESIGN

PARKS AND RECREATION DEPARTMENT

JUAN TABO HILLS PARK – PHASE 1

STORM DRAIN AND DRAINAGE DETAILS

Design Review Committee

City Engineer Approval

Last Design Update

City Project No.

756190

Zone Map No.

M22

Sheet

LG501

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DESIGNED BY: ANW / BUB

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AS-BUILT INFORMATION		BENCH MARKS		SURVEY INFORMATION		ARCHITECTURAL SEAL		REVISIONS		REMARKS	
CONTRACTOR	DATE	STAKED BY	DATE	NO.	BY	DATE					
INSPECTOR'S ACCEPTANCE BY	DATE	VERIFICATION BY	DATE								
DRAWINGS BY	DATE										
MICRO-FILM INFORMATION											
RECORDED BY	DATE										
NO.											

