

OWNER / DEVELOPER / APPLICANT:
 MARYLAND ZOO IN BALTIMORE
 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350

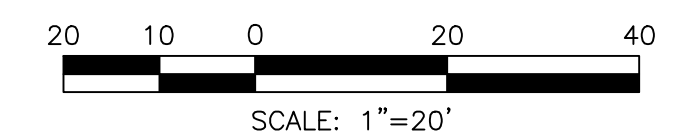
LEGEND

	PROPOSED BUILDING
	PROPOSED MAJOR CONTOUR
	PROPOSED MINOR CONTOUR
	PROPOSED ASPHALT
	PROPOSED CURB
	PROPOSED CONCRETE WALK
	PROPOSED FENCELINE
	LIMIT OF DISTURBANCE
	PROPOSED UNDERGROUND ELECTRIC
	PROPOSED SANITARY LINE
	PROPOSED SANITARY CLEANOUT
	PROPOSED STORMDRAIN LINE
	PROPOSED STORMDRAIN MANHOLE
	PROPOSED WATER LINE
	PROPOSED SMALL SECTIONAL VAULT
	PROPOSED WATER VALVE

PROPOSED NOTES:

- CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION/DEMOLITION AND NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS.
- CONTRACTOR SHALL MAINTAIN PEDESTRIAN & VEHICULAR ACCESS TO AND AROUND OVERALL SITE DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL FURNISH VEHICULAR AND PEDESTRIAN TRAFFIC PROTECTION IN ACCORDANCE WITH MUTCD LATEST VERSION AND THE CITY OF BALTIMORE REQUIREMENTS.
- CONTRACTOR SHALL CONTACT THE OWNER AND DEVELOPER 72 HOURS PRIOR TO COMMENCING ANY WORK.
- ALL UTILITY FRAMES AND COVERS TO REMAIN WITHIN THE PROJECT AREA SHALL BE ADJUSTED BY THE CONTRACTOR TO MEET NEW PAVEMENT OR GROUND ELEVATION. THE CONTRACTOR SHALL MAKE, CHECK, AND BE RESPONSIBLE FOR ALL MEASUREMENTS AND DIMENSIONS NECESSARY FOR THE PROPER CONSTRUCTION OF AND THE PREVENTION OF MISFITTINGS IN THE WORK. VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES BEFORE STARTING CONSTRUCTION IN EACH AREA.
- CONTRACTOR TO COORDINATE WITH MISS UTILITY, THE CITY OF BALTIMORE, AND A PRIVATE UTILITY LOCATOR COMPANY PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITIES COMPANIES PRIOR TO COMMENCING EXCAVATION.
- LIVE UNDERGROUND UTILITIES EXIST WITHIN THE WORK AREA. CONTRACTOR SHALL USE EXTREME CAUTION AND SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
- CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITY STRUCTURES TO REMAIN DURING DEMOLITION AND CONSTRUCTION ACTIVITIES AND TO PREVENT DEBRIS, SEDIMENT, OR WATER FROM ENTERING THE STRUCTURES.
- CONTRACTOR SHALL PROTECT ALL FACILITIES AND UTILITIES TO REMAIN FROM DAMAGE WHETHER SHOWN HEREON OR NOT.
- ALL EXISTING PAINT MARKINGS ADJACENT TO THE PROJECT AREA WHICH BECOME FADED OR OBFUSCATED DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAINTED OR RESTORED AT NO ADDITIONAL COST TO THE OWNER.
- CONTRACTOR SHALL COORDINATE WITH OWNER AND UTILITY PROVIDER TO MINIMIZE DURATION OF UTILITY OUTAGES.
- CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND PLACEMENT OF ALL UTILITY CONDUITS AND ENCASUREMENT. CONTRACTOR SHALL PROVIDE CONDUITS AND PULL STRINGS IN ACCORDANCE WITH UTILITY PROVIDER REQUIREMENTS FOR THEIR RESPECTIVE CONDUITS.
- USE EXTREME CAUTION WHEN WORKING AROUND EXISTING TREES TO REMAIN SO AS NOT TO DAMAGE THE TREES OR ROOT SYSTEMS.
- CONTRACTOR SHALL PROTECT ALL AREAS BEYOND THE LIMITS OF DISTURBANCE AND SHALL RESTORE ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL OR BETTER CONDITION.
- INFORMATION SHOWN ON THIS DRAWING HAS BEEN PROVIDED AS A GUIDE TO ASSIST THE CONTRACTOR IN ESTABLISHING THE LOCATIONS OF PROPOSED CONSTRUCTION WITH RESPECT TO EXISTING SITE IMPROVEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL CONSTRUCTION SURVEY STAKEOUT REQUIRED AND TO CONFIRM ALL INFORMATION SHOWN HEREON.
- CONTRACTOR SHALL FURNISH SHORING, SHEATHING, OR OTHERWISE SUPPORT EXCAVATIONS TO PROTECT EXCAVATIONS FROM CAVE-INS UNTIL BACKFILL PLACEMENT IS COMPLETE PER SPECIFICATIONS.
- SEE EXISTING CONDITIONS PLAN FOR SITE BENCHMARKS. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS THROUGHOUT THE DURATION OF THE PROJECT FOR CONSTRUCTION LAYOUT PURPOSES.
- REFER TO THE SITE LANDSCAPING PLANS FOR SITE FURNISHING AND PLANTING INFORMATION.
- SEE LANDSCAPE PLANS FOR PROPOSED SCORING AND PAVEMENT PATTERNS.
- REFER TO THE ELECTRICAL PLANS FOR ADDITIONAL ELECTRICAL UTILITY INFORMATION.

ALL WORK SHALL CONFORM TO CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS FOR MATERIALS, HIGHWAYS, BRIDGES, UTILITIES, AND INCIDENTAL STRUCTURES 2006, AND SUPPLEMENTARY SPECIFICATIONS IN THE CONTRACT DOCUMENTS.



SCALE: 1"=20'
 BCNR # 11545

STORM DRAIN KEY PLAN

SCALE: 1"=20'

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88



PROJECT TEAM:
ARCHITECT:
 BUELL KRATZER POWELL, P.C.
 1525 LOCUST STREET
 PHILADELPHIA, PA 19102
 T: 215.557.6509
CIVIL ENGINEER:
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DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10.04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION DATE:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 STORM DRAIN
 KEY PLAN

DRAWING NO:
C500

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STORM DRAIN SCHEDULE				
STRUCTURE	RIM	INVERT IN	INVERT OUT	STRUCTURE/GRATE TYPE
I-2	314.00	-----	311.00 (6")	2808AG/0899CGD
HB-3	-----	303.00 (6")	303.00 (6")	6" PVC 45° BEND
I-4	302.50	300.00 (6")	295.35 (6")	2808AG/0899CGD
MH-5	293.19	288.55 (12")	288.45 (12")	1599CGC
I-6	292.75	290.05 (6")	289.55 (12")	1599CGD
I-7	292.25	289.39 (12"); 289.39 (12")	289.29 (12")	3099CGD
EX-8	292.26	291.10 (EX. 6")	289.61 (8")	EXIST. MH.
I-9	302.00	-----	299.00 (8")	1299CGS
TD-10	296.00-296.00	295.00 (UPSTREAM END)	294.80 (DOWNSTREAM END) (4')	8'-8" LONG X 8" WIDE w/ LOCKING GRATE
MH-11	295.80	293.41 (4"); 293.08 (8"); 293.08 (8")	292.98 (12")	1899CGC
I-12	296.00	-----	294.00 (8")	SEE LS PLAN
MH-13	295.85	293.78 (8")	293.68 (8")	1099CGC
MH-14	295.80	292.58 (12"); 292.58 (8")	292.48 (12")	1899CGC
I-15	294.11	292.78 (8")	-----	1299CGD
I-16	293.10	-----	290.60 (6")	0899CGP
I-17	293.10	290.34 (6")	290.24 (6")	0899CGP
I-18	293.10	289.98 (6")	289.88 (8")	1099CGP
I-19	300.10	294.90 (12")	294.80 (12")	1599CGS
MH-20	300.80	295.20 (6"); 296.63 (12")	295.10 (12")	1599CGC
I-21	300.75	-----	297.00 (12")	1299CGS
MH-22	301.25	295.70 (12")	295.60 (12")	1299CGS
MH-23	300.75	296.60 (8"); 296.60 (8")	296.27 (12")	1299CGC
I-24	300.75	-----	297.37 (8")	SEE LS PLAN
I-25	299.25	-----	297.00 (8")	1299CGP
I-26	301.50	-----	295.75 (8")	1299CGD
MH-27	294.50	289.65 (12"); 289.80 (8")	289.55 (12")	1599CGC
TEE-28	-----	289.20 (12"); 289.36 (8")	289.20 (12")	12"x8" TEE
TEE-29	-----	284.28 (12")	284.28 (12")	12" HDPE TEE
EX-30	293.20 (EX)	288.24 (12")	-----	EXIST. MH.
DP-1	300.10	295.25 (6")	-----	STORMBRIX STORAGE CHAMBERS

- NOTES:
1. FIELD VERIFY SIZE, DEPTH, AND MATERIAL OF ALL EXISTING PIPE CONNECTIONS PRIOR TO SUBMISSION OF STRUCTURE SHOP DRAWINGS.
 2. SHOP DRAWINGS FOR STRUCTURES SHALL BE SUBMITTED PRIOR TO INSTALLATION. EQUIVELANT STRUCTURES MAY BE SUBSTITUTED.
 3. ALL GRATES SHALL BE LOCKING TYPE.

PIPE SCHEDULE				
FROM	TO	LENGTH (FEET)	SIZE (INCHES)	MATERIAL
MH-05	EX-30	26	12	HDPE
TEE-29	MH-05	54	12	HDPE
TEE-28	TEE-29	11	12	HDPE
I-07	TEE-28	9	12	HDPE
MH-27	I-07	38	12	HDPE
MH-14	MH-27	36	12	HDPE
I-19	MH-14	52	12	HDPE
MH-20	I-19	21	12	HDPE
I-21	MH-20	28	12	HDPE
I-06	TEE-29	8	12	HDPE
ExMH-08	TEE-28	27	8	PVC
MH-11	I-07	44	12	HDPE
I-18	MH-27	9	8	PVC
I-15	MH-14	40	12	HDPE
DP-01	MH-20	4	6	PVC
I-04	I-06	34	4	PVC
TD-10	MH-11	6	4	PVC
I-17	I-18	26	6	PVC
HB-03	I-04	15	6	PVC
I-16	I-17	26	6	PVC
I-02	HB-03	40	6	PVC
I-09	MH-11	53	8	PVC
MH-13	MH-11	17	8	PVC
I-12	MH-13	6	8	PVC
I-26	PreStor	5	8	PVC
MH-22	PreStor	5	12	HDPE
MH-23	MH-22	58	12	HDPE
I-24	MH-23	13	8	PVC
I-25	MH-26	39	8	PVC
MWS	DP-1	1	12	HDPE
PreStor	MWS	2	8	PVC

- NOTES:
1. ALL HDPE PIPE SHALL BE N-12 DUAL WALL WITH WATER TIGHT JOINTS.
 2. ALL PVC PIPE SHALL BE SCHEDULE 40 WITH SOLVENT WELD JOINTS.

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

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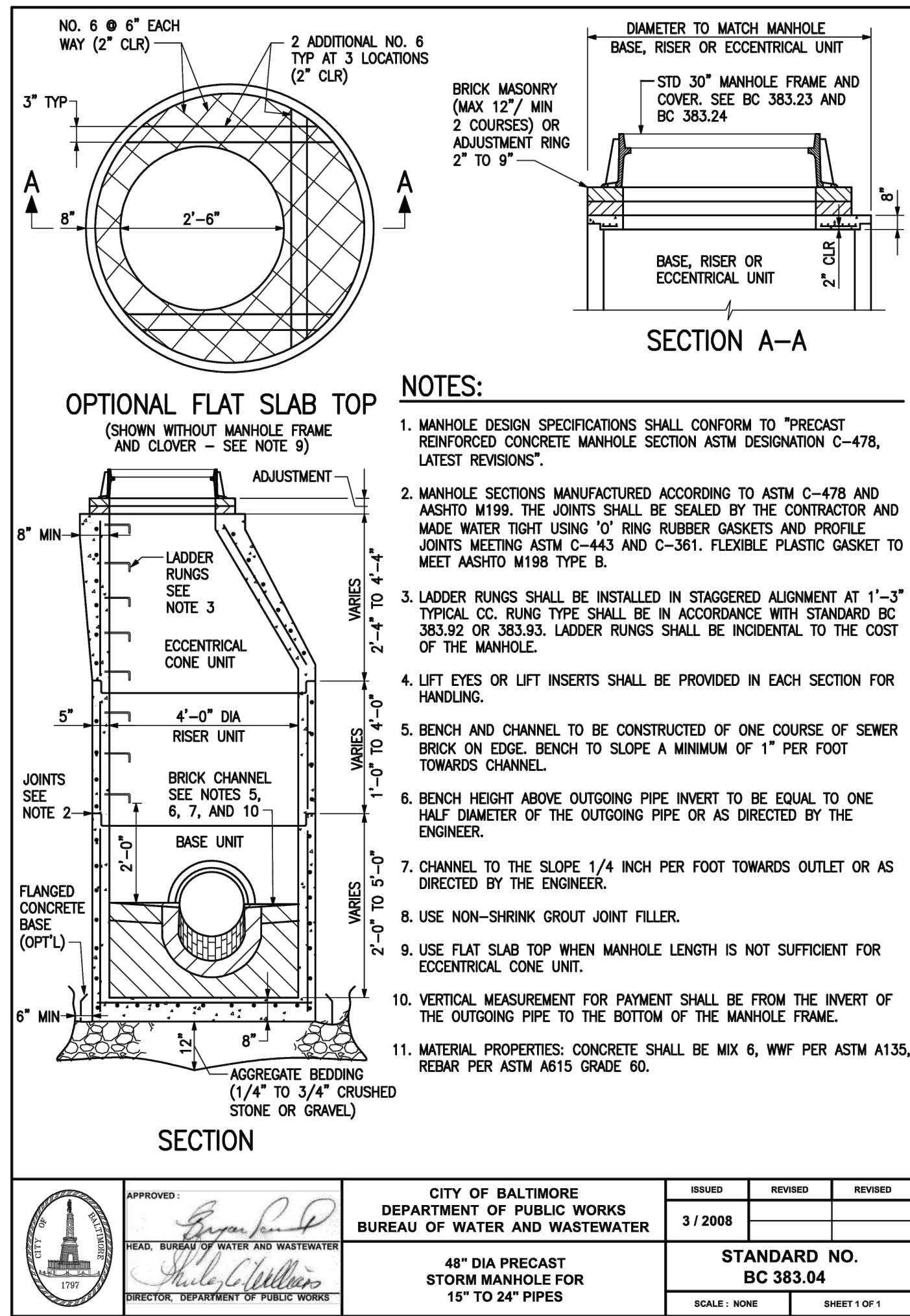


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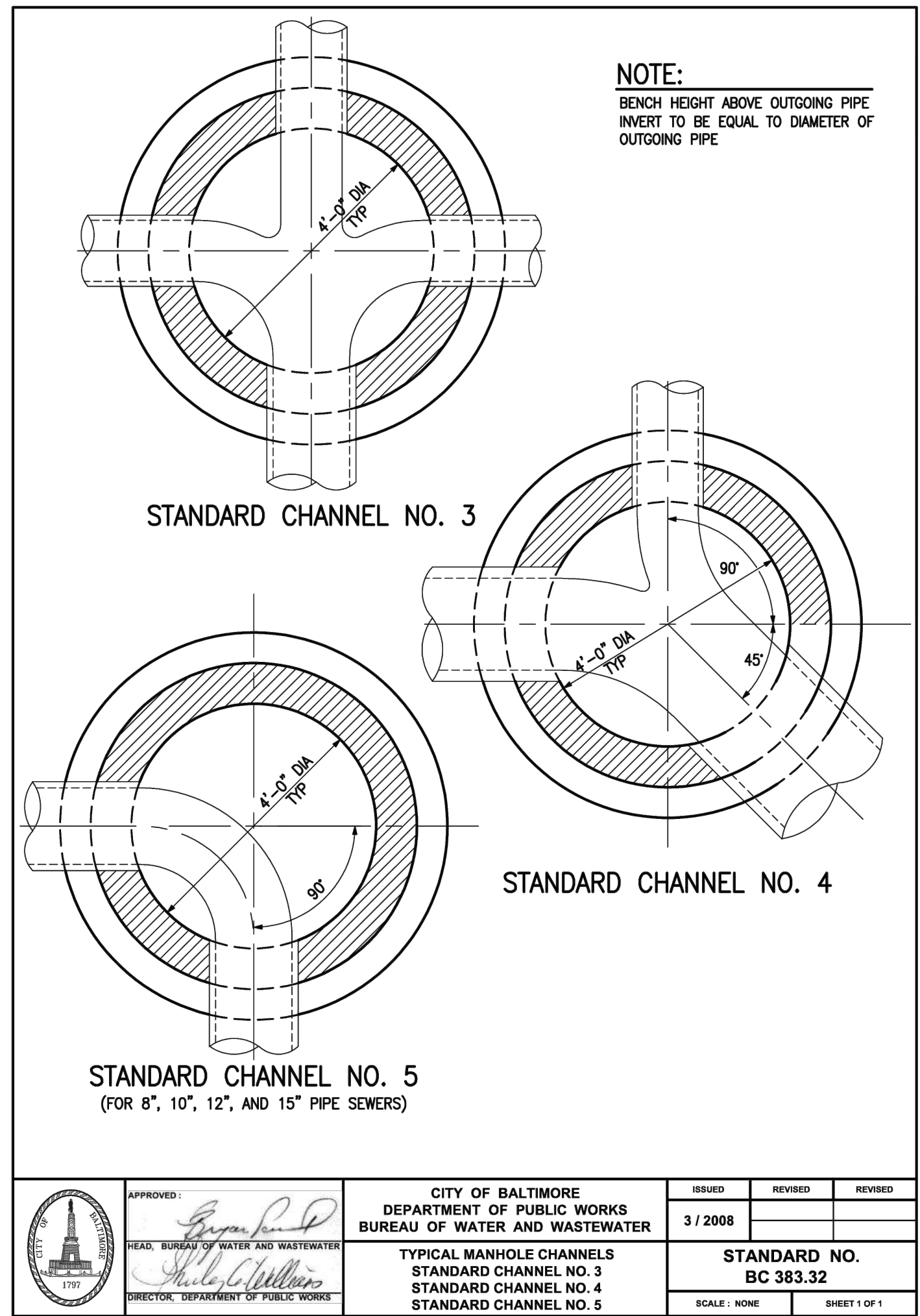
DRAWING TITLE:
STORM DRAIN SCHEDULES

DRAWING NO:
C510

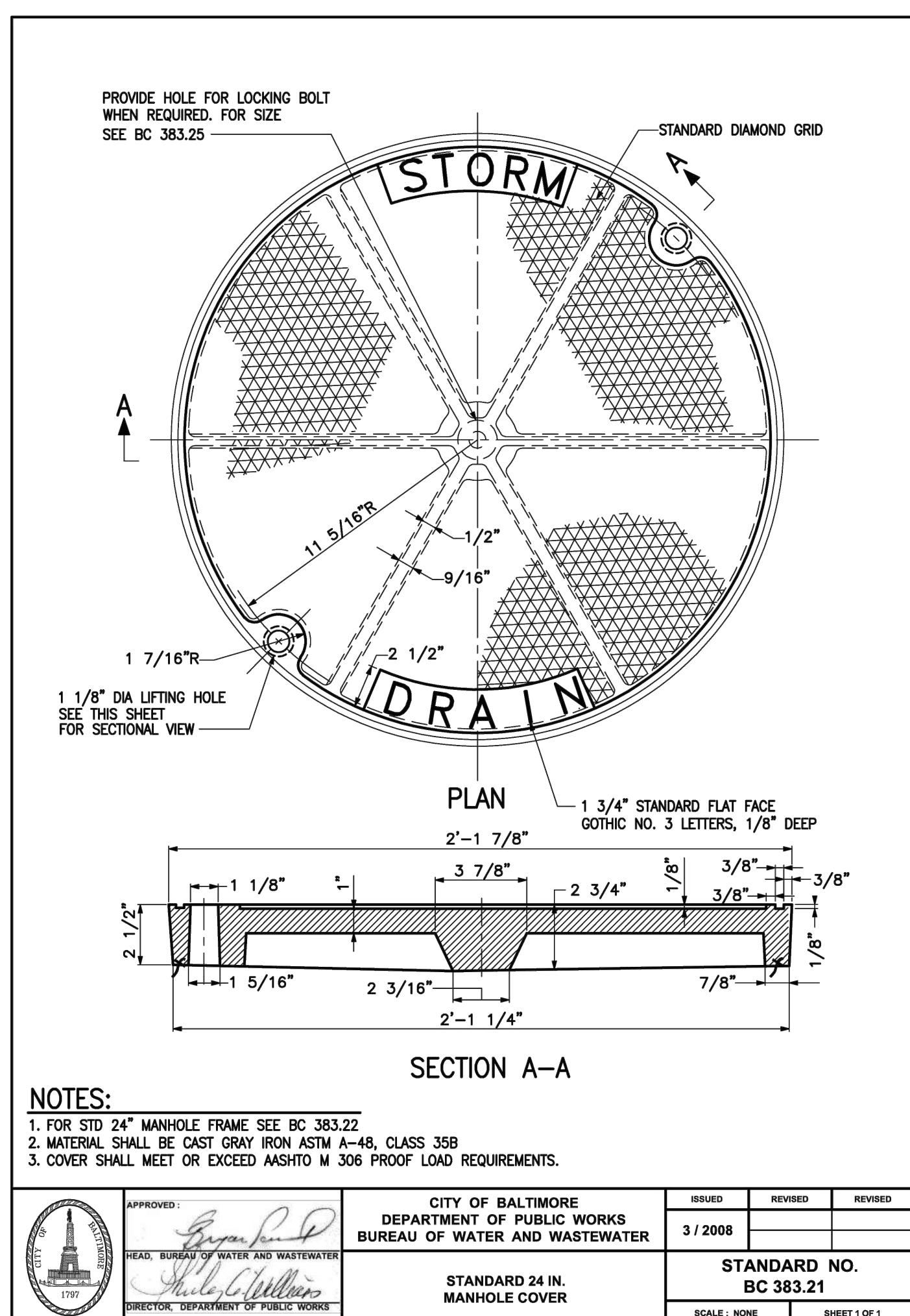
BCNR # 11545



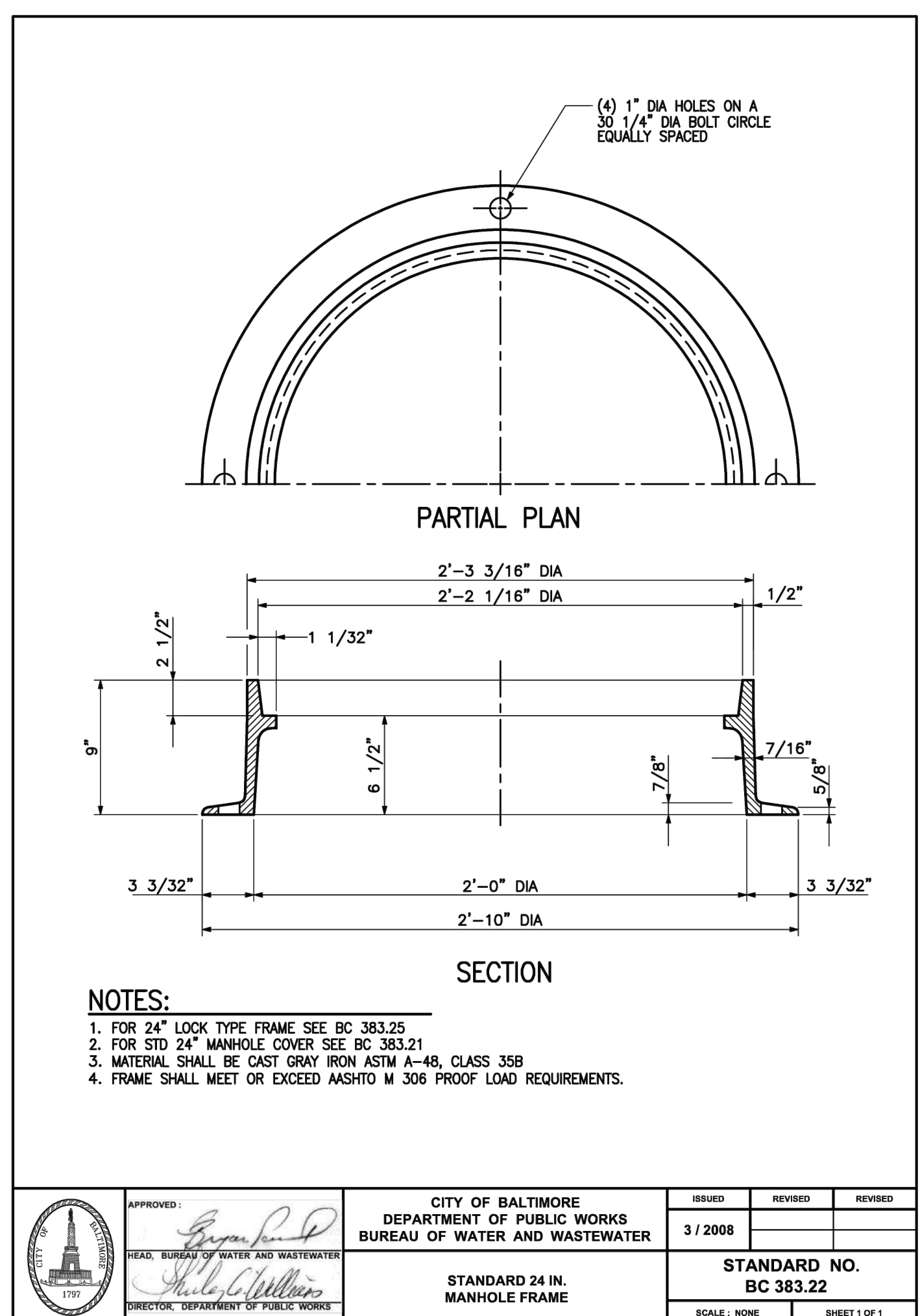
APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVISED	REVISED
		3 / 2008		
48" DIA PRECAST STORM MANHOLE FOR 15" TO 24" PIPES		STANDARD NO. BC 383.04		
SCALE: NONE		SHEET 1 OF 1		



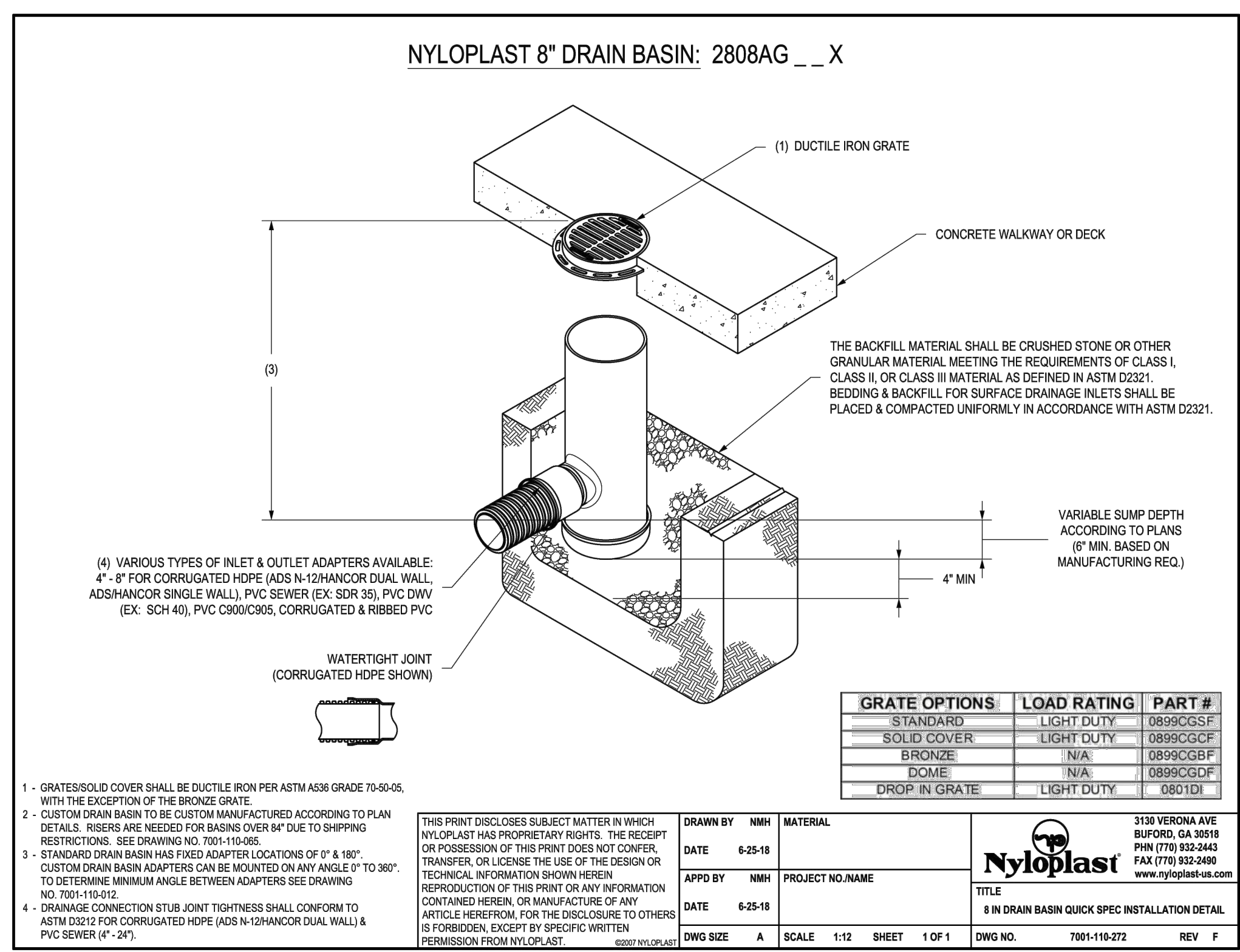
APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVISED	REVISED
		3 / 2008		
TYPICAL MANHOLE CHANNELS STANDARD CHANNEL NO. 3 STANDARD CHANNEL NO. 4 STANDARD CHANNEL NO. 5		STANDARD NO. BC 383.32		
SCALE: NONE		SHEET 1 OF 1		



APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVISED	REVISED
		3 / 2008		
STANDARD 24 IN. MANHOLE COVER		STANDARD NO. BC 383.21		
SCALE: NONE		SHEET 1 OF 1		



APPROVED:	CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS BUREAU OF WATER AND WASTEWATER	ISSUED	REVISED	REVISED
		3 / 2008		
STANDARD 24 IN. MANHOLE FRAME		STANDARD NO. BC 383.22		
SCALE: NONE		SHEET 1 OF 1		



DATE	6-25-18	MATERIAL	3108 VERONA AVE BURLINGAME, CA 94010 PHN (770) 832-2443 FAX (770) 832-2469 www.nyloplast-us.com
APP'D BY	NMH	PROJECT NO	
DATE	6-25-18	TITLE	8 IN DRAIN BASIN QUICK SPEC INSTALLATION DETAIL
DWG SIZE	A	SCALE	1:12 SHEET 1 OF 1
DWG NO.	7001-110-272	REV	F

BKP

PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
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BALTIMORE, MD 21230
T: 410.244.7191

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SEAL:

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 5/25/25.

DATE:	JANUARY 14, 2025
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DRAWN BY:	MJE
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SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
STORM DRAIN
DETAILS

DRAWING NO:
C520

BCNR # 11545

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HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20



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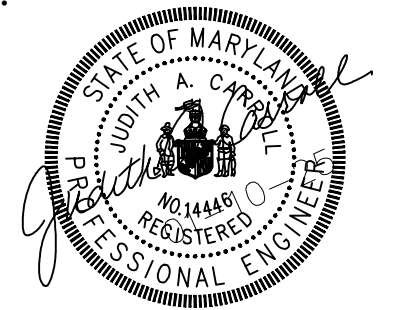


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DRAWING TITLE:
STORM DRAIN
DETAILS

DRAWING NO:
C521

0899CGB
APPROX. DRAIN AREA = 18.77 SQ IN
APPROX. WEIGHT = 2.85 LBS

Ø 8.00
8" BRONZE GRATE
8" INLINE DRAIN OR 8" DRAIN BASIN BODY TOP

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY	EBG	MATERIAL	BRONZE
DATE	3-3-06		
REVISED BY	EBG	PROJECT NO./NAME	
DATE	3-13-10		
DWG SIZE	A	SCALE	1/4 SHEET 1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PH (770) 832-2443
FAX (770) 832-2480
www.nyloplast-us.com

Nyloplast

TITLE: 8 IN BRONZE GRATE ASSEMBLY
DWG NO. 7001-110-196 REV B

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-143

0899CGD
APPROX. DRAIN AREA = 30.00 SQ IN
APPROX. WEIGHT = 4.54 LBS

4.00
Ø 8.00
8" DOME GRATE
8" INLINE DRAIN OR 8" DRAIN BASIN BODY TOP

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DRAWN BY	EBG	MATERIAL	DUCTILE IRON
DATE	3-3-06		
REVISED BY	EBG	PROJECT NO./NAME	
DATE	3-13-10		
DWG SIZE	A	SCALE	1/4 SHEET 1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PH (770) 832-2443
FAX (770) 832-2480
www.nyloplast-us.com

Nyloplast

TITLE: 8 IN DOME GRATE ASSEMBLY
DWG NO. 7001-110-197 REV B

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-228

1099CGC
APPROX. WEIGHT = 6.42 LBS

Ø 10.31
10" SOLID COVER
10" INLINE DRAIN OR 10" DRAIN BASIN BODY TOP

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY	EBG	MATERIAL	DUCTILE IRON
DATE	3-3-06		
REVISED BY	EBG	PROJECT NO./NAME	
DATE	3-13-10		
DWG SIZE	A	SCALE	1/5 SHEET 1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PH (770) 832-2443
FAX (770) 832-2480
www.nyloplast-us.com

Nyloplast

TITLE: 10 IN SOLID COVER ASSEMBLY
DWG NO. 7001-110-199 REV B

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
COVER HAS LIGHT DUTY RATING
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-039

1099CGD
APPROX. DRAIN AREA = 54.00 SQ IN
APPROX. WEIGHT = 8.36 LBS

5.30
Ø 10.25
10" DOME GRATE
10" INLINE DRAIN OR 10" DRAIN BASIN BODY TOP

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DRAWN BY	EBG	MATERIAL	DUCTILE IRON
DATE	3-3-06		
REVISED BY	EBG	PROJECT NO./NAME	
DATE	3-13-10		
DWG SIZE	A	SCALE	1/5 SHEET 1 OF 1

3130 VERONA AVE
BUFORD, GA 30518
PH (770) 832-2443
FAX (770) 832-2480
www.nyloplast-us.com

Nyloplast

TITLE: 10 IN DOME GRATE ASSEMBLY
DWG NO. 7001-110-201 REV B

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST.

DIMENSIONS ARE FOR REFERENCE ONLY
ACTUAL DIMENSIONS MAY VARY
DIMENSIONS ARE IN INCHES
QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-126

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

BCNR # 11545



PROJECT TEAM:

ARCHITECT:
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 28 WEST STATE STREET
 MEDIA, PA 19063
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 STRUCTURAL DESIGN STUDIO, INC
 2225 EAST MURRAY HOLLADAY RD
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 T: 410.244.7191

OWNER / DEVELOPER / APPLICANT:
 MARYLAND ZOO IN BALTIMORE
 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350

CLIENT:
MARYLAND ZOO
 THE MARYLAND ZOO IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

RED PANDA
 THE MARYLAND ZOO
 IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

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SEAL:

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10-04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 STORM DRAIN
 DETAILS

DRAWING NO:
C522

1299CGS
 APPROX. DRAIN AREA = 60.82 SQ IN
 APPROX. WEIGHT WITH FRAME = 40.68 LBS

1299CGP
 APPROX. DRAIN AREA = 50.60 SQ IN
 APPROX. WEIGHT WITH FRAME = 35.04 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY

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	REVISED BY: EBC DATE: 3-13-10	PROJECT NO./NAME: 12 IN STANDARD GRATE ASSEMBLY	TITLE: 12 IN STANDARD GRATE ASSEMBLY
	DWG SIZE: A SCALE: 1:8 SHEET: 1 OF 1	DWG NO.: 7001-110-203	REV: C

1599CGS
 APPROX. DRAIN AREA = 92.70 SQ IN
 APPROX. WEIGHT WITH FRAME = 59.62 LBS

1899CGC
 APPROX. WEIGHT WITH FRAME = 68.50 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY

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	REVISED BY: EBC DATE: 3-13-10	PROJECT NO./NAME: 12 IN PEDESTRIAN GRATE ASSEMBLY	TITLE: 12 IN PEDESTRIAN GRATE ASSEMBLY
	DWG SIZE: A SCALE: 1:8 SHEET: 1 OF 1	DWG NO.: 7001-110-202	REV: C

1599CGS
 APPROX. DRAIN AREA = 92.70 SQ IN
 APPROX. WEIGHT WITH FRAME = 59.62 LBS

1899CGC
 APPROX. WEIGHT WITH FRAME = 68.50 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY

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	REVISED BY: EBC DATE: 3-7-06	PROJECT NO./NAME: 15 IN STANDARD GRATE ASSEMBLY	TITLE: 15 IN STANDARD GRATE ASSEMBLY
	DWG SIZE: A SCALE: 1:8 SHEET: 1 OF 1	DWG NO.: 7001-110-208	REV: C

1599CGS
 APPROX. DRAIN AREA = 92.70 SQ IN
 APPROX. WEIGHT WITH FRAME = 59.62 LBS

1899CGC
 APPROX. WEIGHT WITH FRAME = 68.50 LBS

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY

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	REVISED BY: EBC DATE: 3-13-10	PROJECT NO./NAME: 18 IN SOLID COVER ASSEMBLY - TYPE C	TITLE: 18 IN SOLID COVER ASSEMBLY - TYPE C
	DWG SIZE: A SCALE: 1:10 SHEET: 1 OF 1	DWG NO.: 7001-110-214	REV: C

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88

BCNR # 11545



PROJECT TEAM:

ARCHITECT:
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 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350

CLIENT:
MARYLAND ZOO
 THE MARYLAND ZOO IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

RED PANDA
 THE MARYLAND ZOO
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 1 SAFARI PLACE
 BALTIMORE, MD 21217

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SEAL:

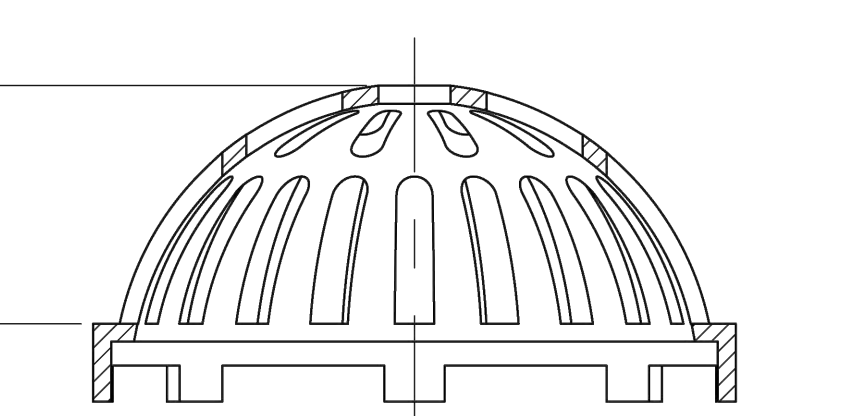
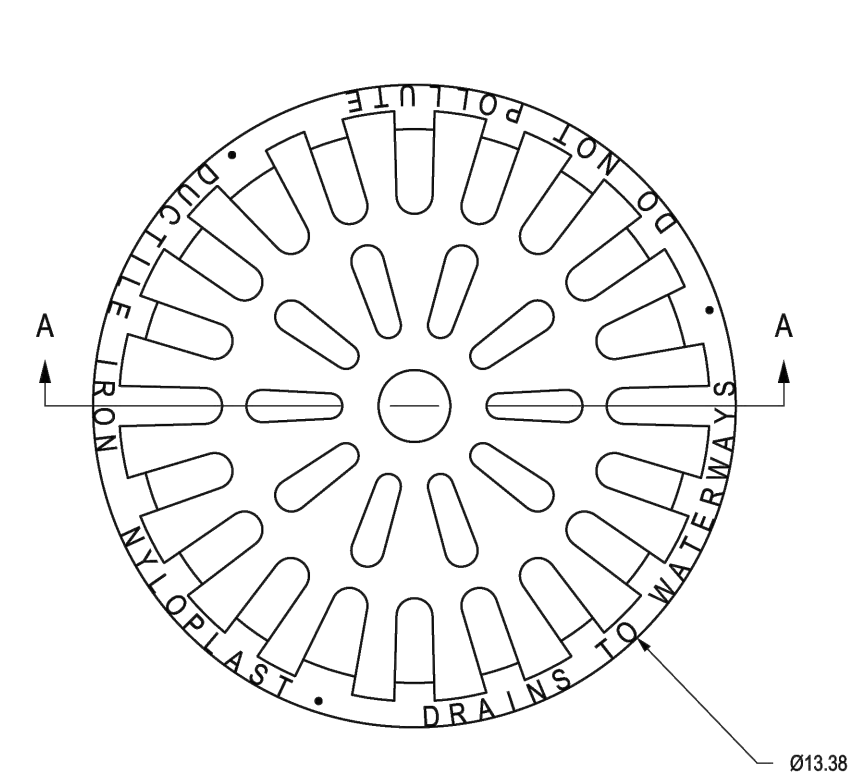
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 9/25/25.

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10-04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 STORM DRAIN
 DETAILS

DRAWING NO:
C523

1299CGD
 APPROX. DRAIN AREA = 82.87 SQ IN
 APPROX. WEIGHT = 18.50 LBS

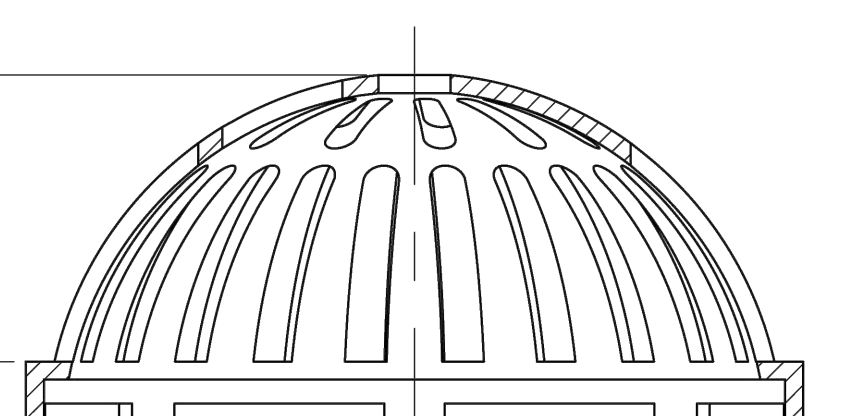
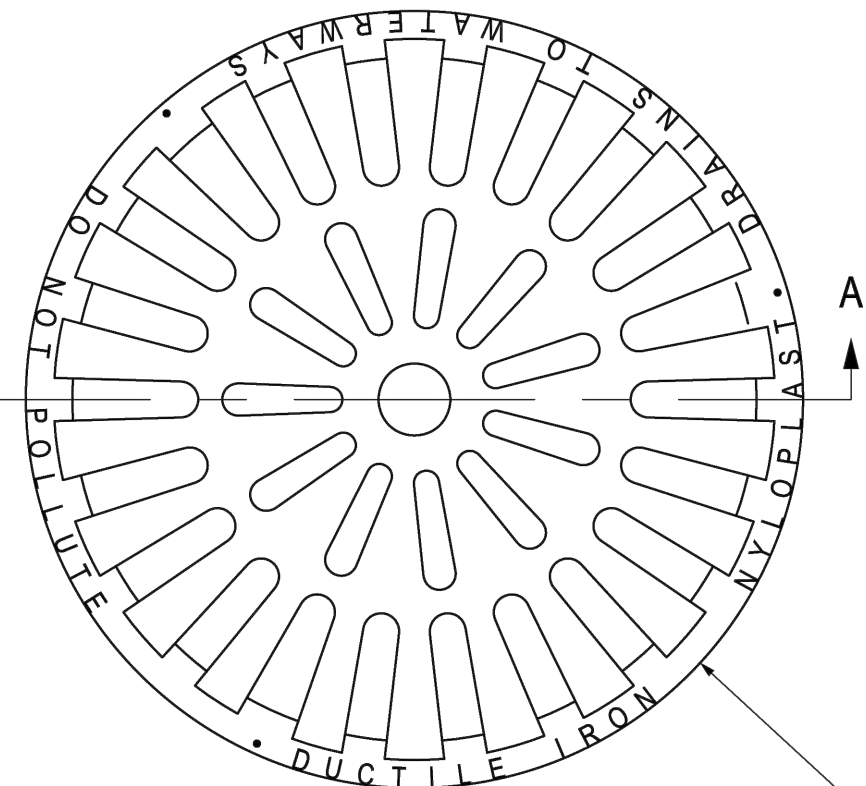


SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY
 DIMENSIONS ARE IN INCHES
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 LOCKING DEVICE AVAILABLE UPON REQUEST

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2010 NYLOPLAST		DRAWN BY EBC	MATERIAL DUCTILE IRON	DATE 3-4-06	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
		REVISOR BY EBC	PROJECT NO. NAME	DATE 3-16-19	Nyloplast
		DWG SIZE A	SCALE 1:4	SHEET 1 OF 1	TITLE 12 IN SOLID COVER ASSEMBLY
		DWG NO. 7001-110-204	REV C		

1599CGD
 APPROX. DRAIN AREA = 122.07 SQ IN
 APPROX. WEIGHT = 26.50 LBS

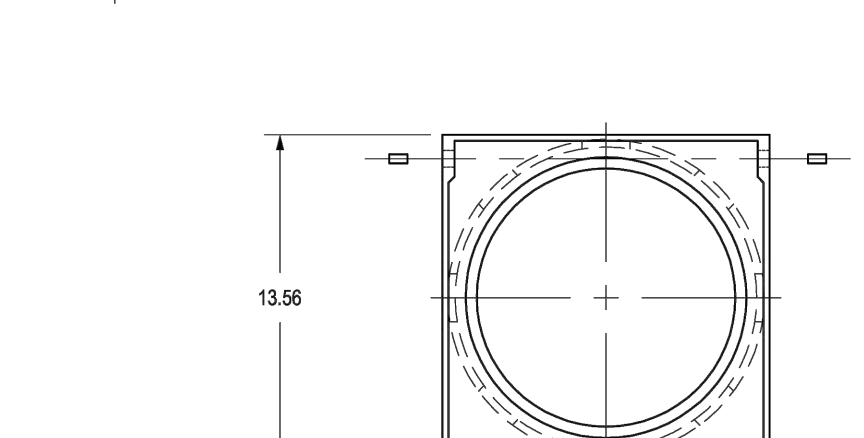
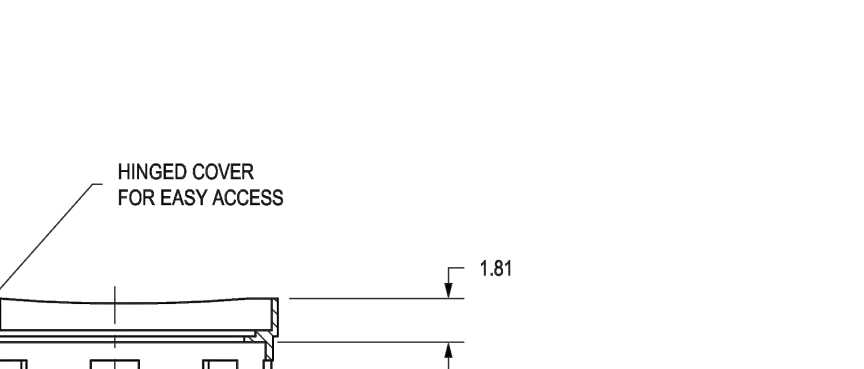


SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY
 DIMENSIONS ARE IN INCHES
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 LOCKING DEVICE AVAILABLE UPON REQUEST

THIS PRINT DISCLOSES SUBJECT MATTER IN WHICH NYLOPLAST HAS PROPRIETARY RIGHTS. THE RECEIPT OR POSSESSION OF THIS PRINT DOES NOT CONFER, TRANSFER, OR LICENSE THE USE OF THE DESIGN OR TECHNICAL INFORMATION SHOWN HEREIN. REPRODUCTION OF THIS PRINT OR ANY INFORMATION CONTAINED HEREIN, OR MANUFACTURE OF ANY ARTICLE HEREFROM, FOR THE DISCLOSURE TO OTHERS IS FORBIDDEN, EXCEPT BY SPECIFIC WRITTEN PERMISSION FROM NYLOPLAST. ©2010 NYLOPLAST		DRAWN BY EBC	MATERIAL DUCTILE IRON	DATE 3-7-06	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
		REVISOR BY EBC	PROJECT NO. NAME	DATE 3-23-11	Nyloplast
		DWG SIZE A	SCALE 1:4	SHEET 1 OF 1	TITLE 15 IN DOME GRATE
		DWG NO. 7001-110-211	REV D		

1299CGC
 APPROX. WEIGHT WITH FRAME = 39.90 LBS

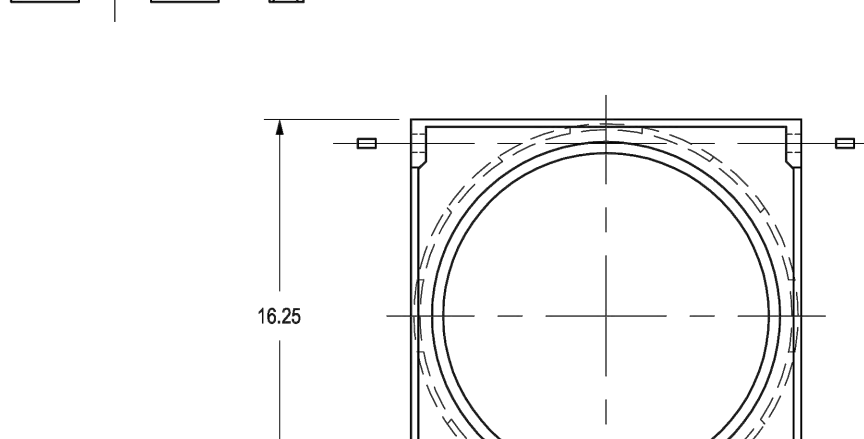
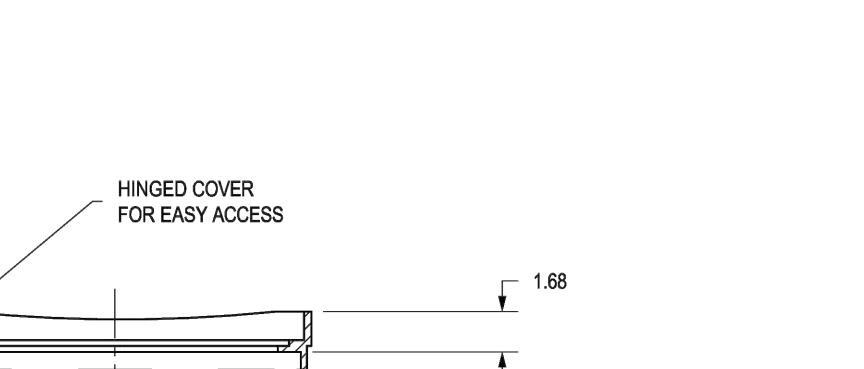


SECTION A-A

DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY
 DIMENSIONS ARE IN INCHES
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-033

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		REVISOR BY EBC	PROJECT NO. NAME	DATE 3-16-19	Nyloplast
		DWG SIZE A	SCALE 1:8	SHEET 1 OF 1	TITLE 12 IN SOLID COVER ASSEMBLY
		DWG NO. 7001-110-204	REV C		

1599CGC
 APPROX. WEIGHT WITH FRAME = 59.00 LBS



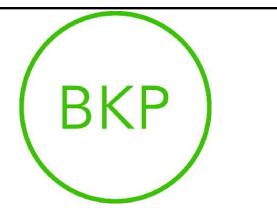
SECTION A-A

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 ACTUAL DIMENSIONS MAY VARY
 DIMENSIONS ARE IN INCHES
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-030

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		REVISOR BY EBC	PROJECT NO. NAME	DATE 3-16-19	Nyloplast
		DWG SIZE A	SCALE 1:8	SHEET 1 OF 1	TITLE 15 IN SOLID COVER ASSEMBLY
		DWG NO. 7001-110-209	REV C		

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88

BCNR # 11545



PROJECT TEAM:

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 T: 410.785.7423

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 THE MARYLAND ZOO IN BALTIMORE
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SEAL:

PROFESSIONAL CERTIFICATION. I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND. LICENSE NO. 14446. EXPIRATION DATE 9/25/25.

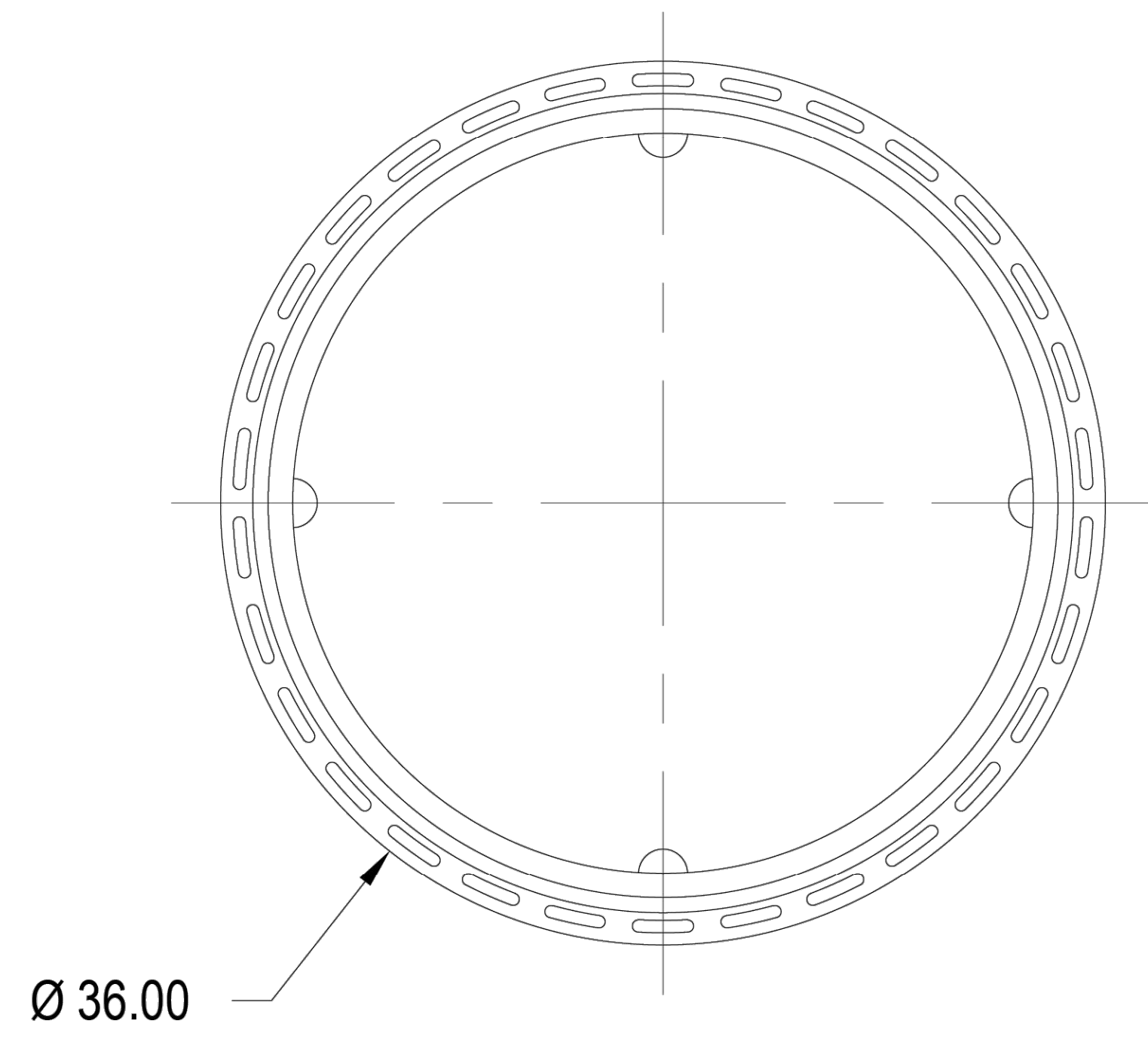
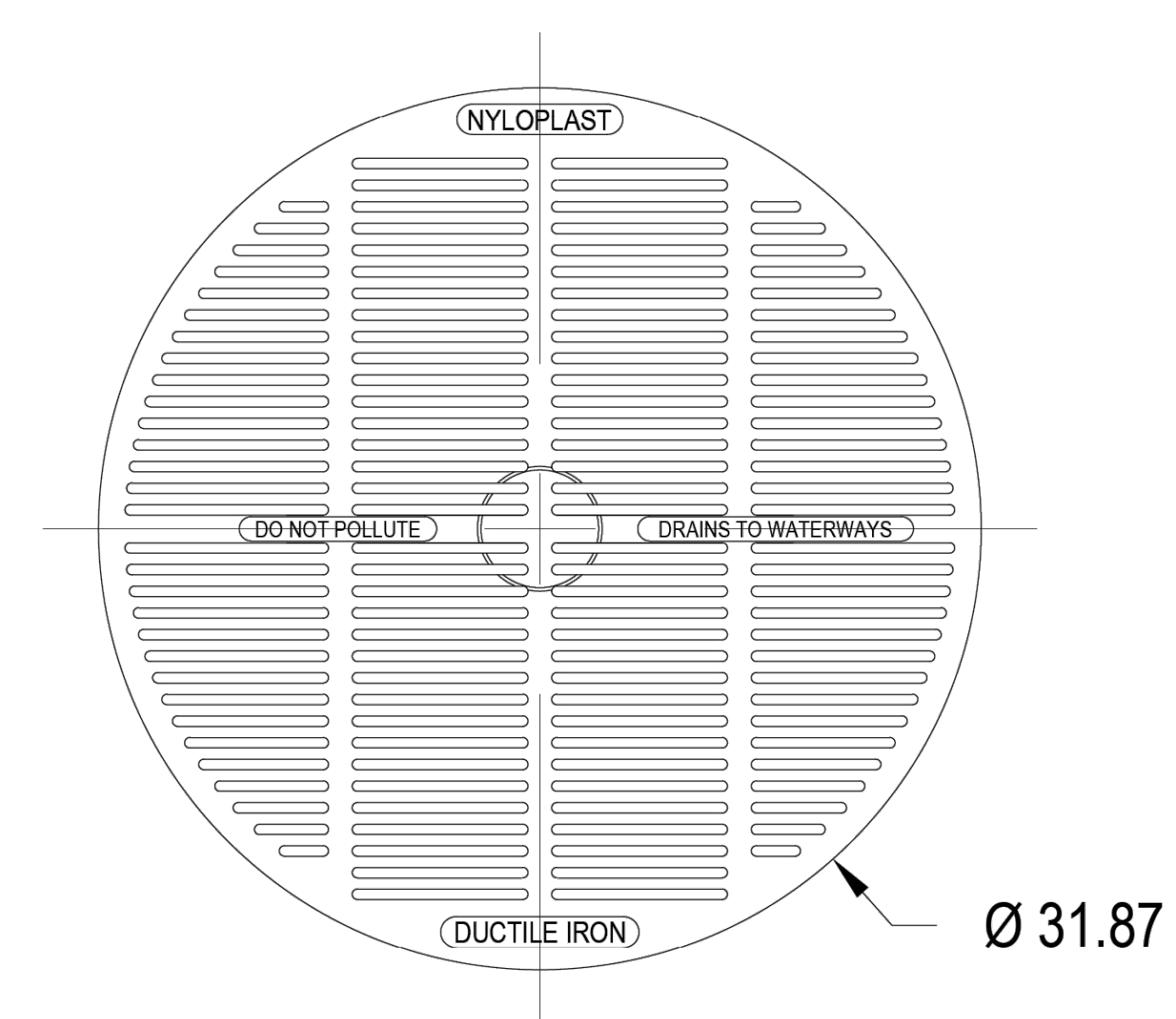
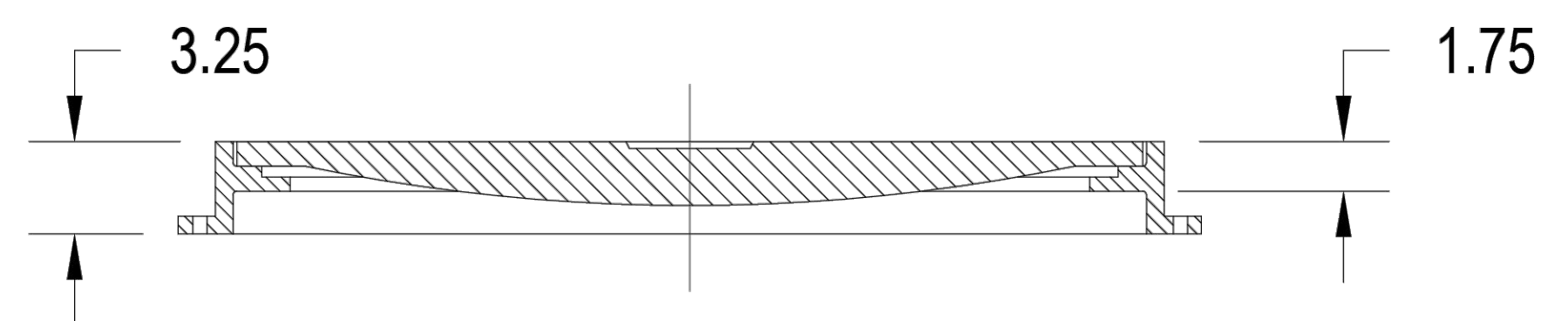
DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10.04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
STORM DRAIN DETAILS

DRAWING NO:
C524

3099CGP

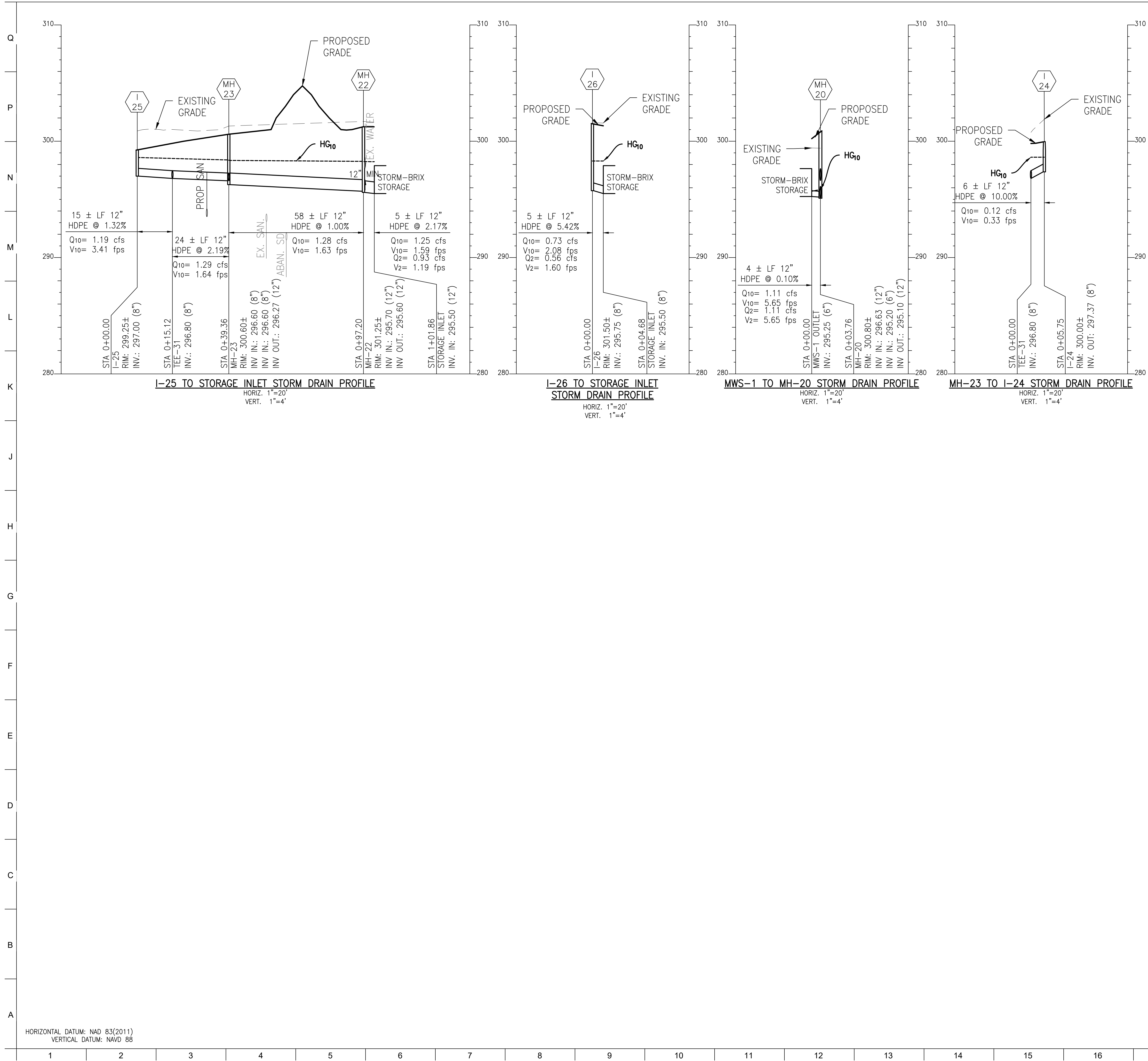
APPROX. DRAIN AREA = 277.95 SQ IN
 APPROX. WEIGHT WITH FRAME = 223.50 LBS



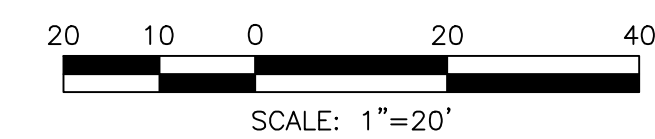
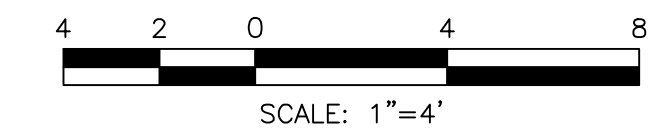
DIMENSIONS ARE FOR REFERENCE ONLY
 ACTUAL DIMENSIONS MAY VARY
 DIMENSIONS ARE IN INCHES
 GRATE MEETS H-20 LOAD RATING
 QUALITY: MATERIALS SHALL CONFORM TO ASTM A536 GRADE 70-50-05
 PAINT: CASTINGS ARE FURNISHED WITH A BLACK PAINT
 SIZE OF OPENING MEETS REQUIREMENTS OF AMERICAN DISABILITY ACT AS STATED IN FEDERAL REGISTER PART III, DEPARTMENT OF JUSTICE, 28 CFR PART 36.
 LOCKING DEVICE AVAILABLE UPON REQUEST SEE DRAWING NO. 7001-110-232

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE ACCEPTABLE FOR THIS PROJECT.

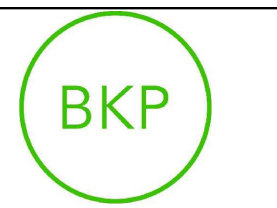
STANDARD DETAIL			4640 TRUEMAN BLVD HILLIARD, OH 43026
NYLOPLAST 30 IN PEDESTRIAN GRATE ASSEMBLY			
DRAWING NUMBER	7001-110-220	DRAWN BY:	NMH
		DATE:	02/06/23
		CHK'D BY:	
		SCALE:	NTS
		SHEET:	1 OF 1



HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88



BCNR # 11545



PROJECT TEAM:
ARCHITECT:
 BUELL KRATZER POWELL, P.C.
 1525 LOCUST STREET
 PHILADELPHIA, PA 19102
 T: 215.557.6509
CIVIL ENGINEER:
 CARROLL ENGINEERING, INC
 215 SCHILLING CIRCLE, STE 102
 HUNT VALLEY, MD 21031
 T: 410.785.7423
LANDSCAPE ARCHITECT:
 ROBINSON ANDERSON SUMMERS
 28 WEST STATE STREET
 MEDIA, PA 19063
 T: 302.888.1544
STRUCTURAL ENGINEER:
 STRUCTURAL DESIGN STUDIO, INC
 2225 EAST MURRAY HOLLADAY RD
 SALT LAKE CITY, UT 84117
 T: 801.274.3950
MEP ENGINEER:
 KOVACS, WHITNEY & ASSOCIATES
 190 WEST OSTEND ST, STE 300
 BALTIMORE, MD 21230
 T: 410.244.7191

OWNER / DEVELOPER / APPLICANT:
 MARYLAND ZOO IN BALTIMORE
 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350

CLIENT:
MARYLAND ZOO
 THE MARYLAND ZOO IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

RED PANDA
 THE MARYLAND ZOO
 IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

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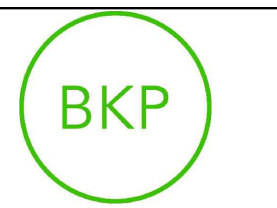
SEAL:

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 9/25/25.

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10.04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 STORM DRAIN
 PROFILES

DRAWING NO:
C530



PROJECT TEAM:

ARCHITECT:
 BUELL KRATZER POWELL, P.C.
 1525 LOCUST STREET
 PHILADELPHIA, PA 19102
 T: 215.557.6509

CIVIL ENGINEER:
 CARROLL ENGINEERING, INC
 215 SCHILLING CIRCLE, STE 102
 HUNT VALLEY, MD 21031
 T: 410.785.7423

LANDSCAPE ARCHITECT:
 ROBINSON ANDERSON SUMMERS
 28 WEST STATE STREET
 MEDIA, PA 19063
 T: 302.888.1544

STRUCTURAL ENGINEER:
 STRUCTURAL DESIGN STUDIO, INC
 2225 EAST MURRAY HOLLADAY RD
 SALT LAKE CITY, UT 84117
 T: 801.274.3950

MEP ENGINEER:
 KOVACS, WHITNEY & ASSOCIATES
 190 WEST OSTEND ST, STE 300
 BALTIMORE, MD 21230
 T: 410.244.7191

CLIENT:
MARYLAND ZOO
 THE MARYLAND ZOO IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

RED PANDA
 THE MARYLAND ZOO
 IN BALTIMORE
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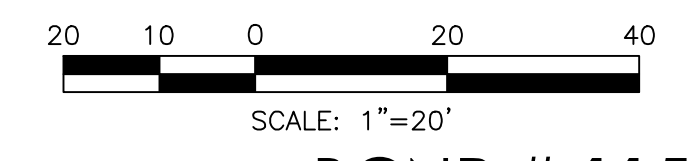
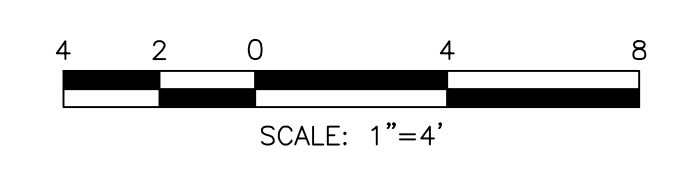
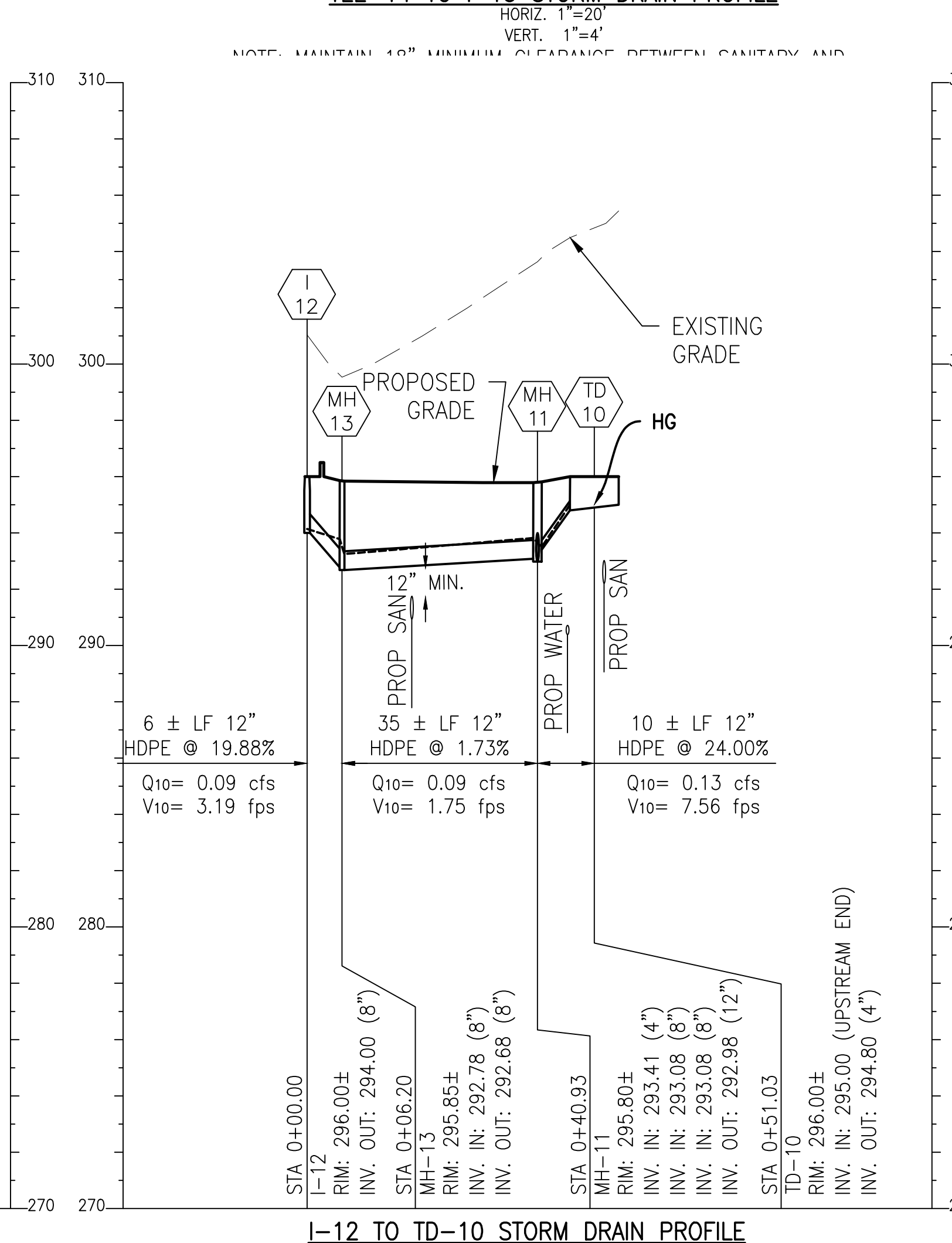
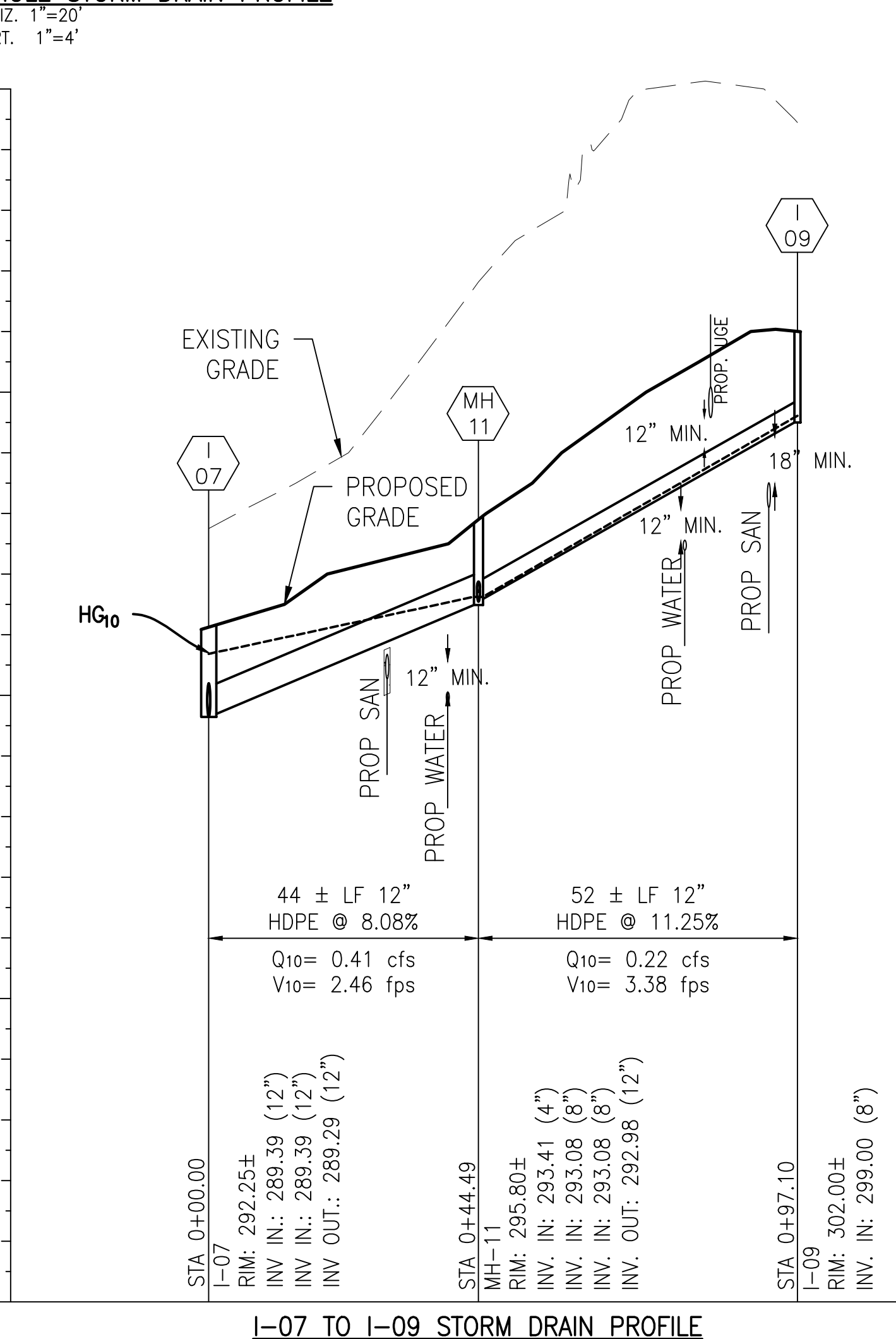
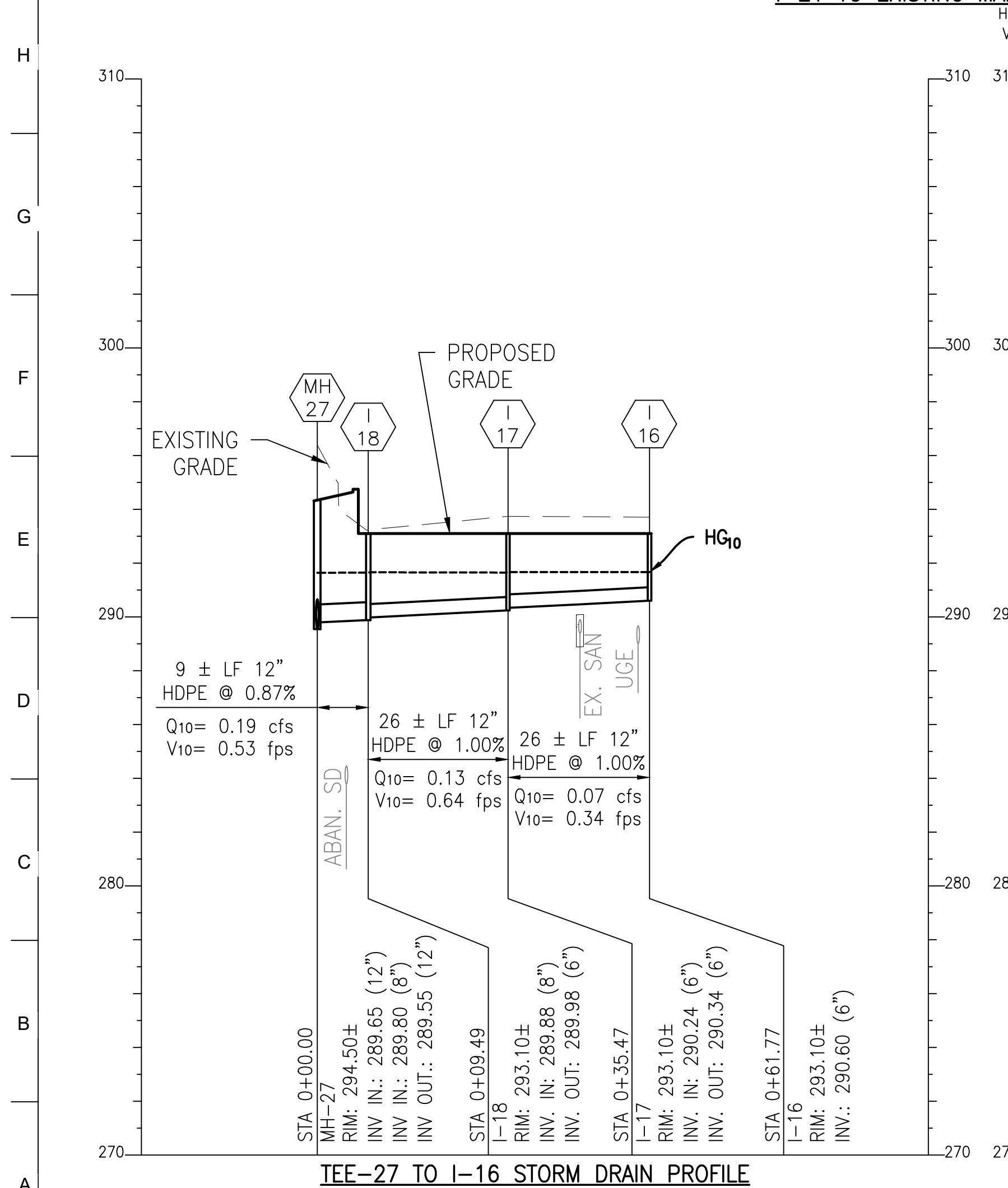
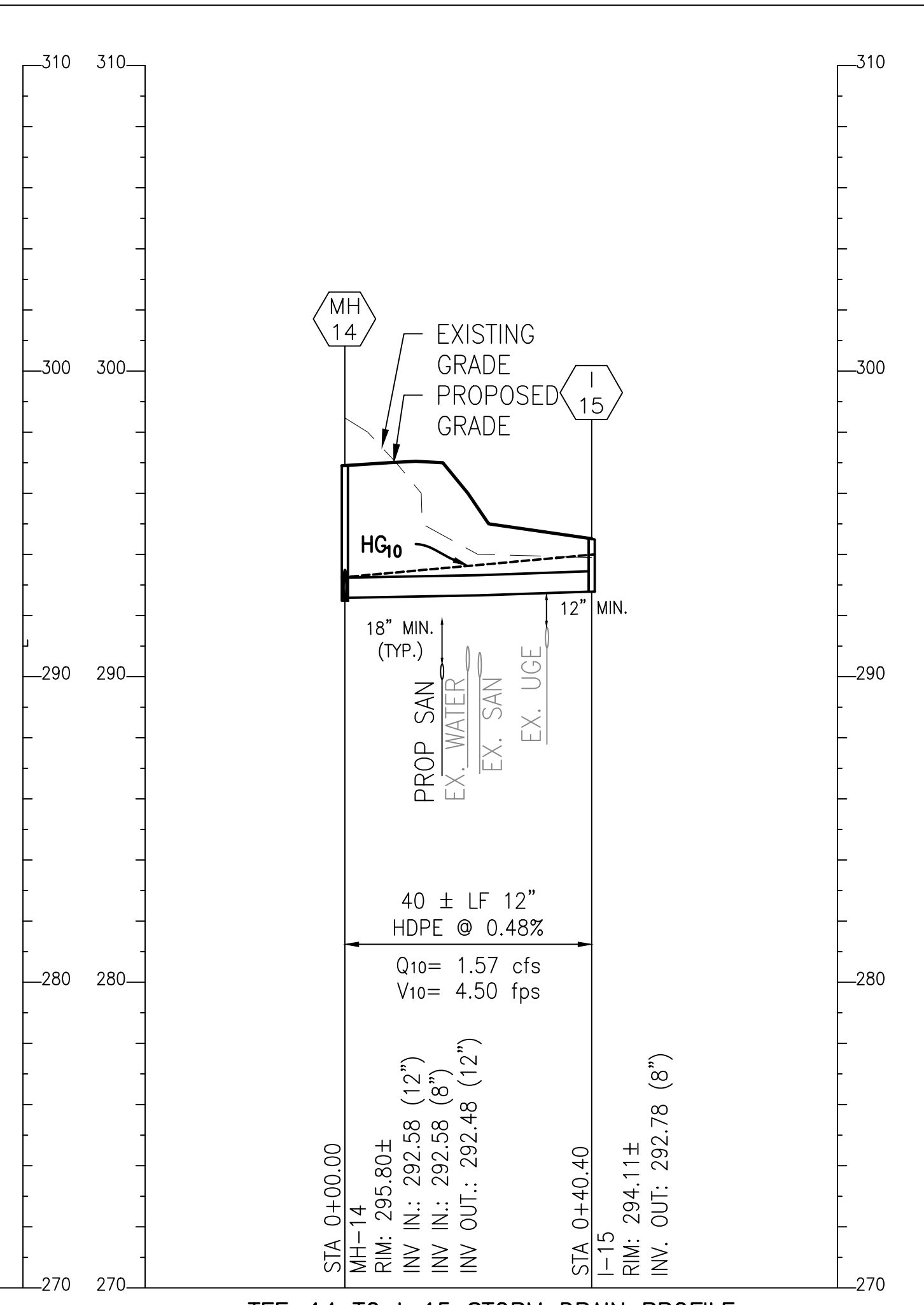
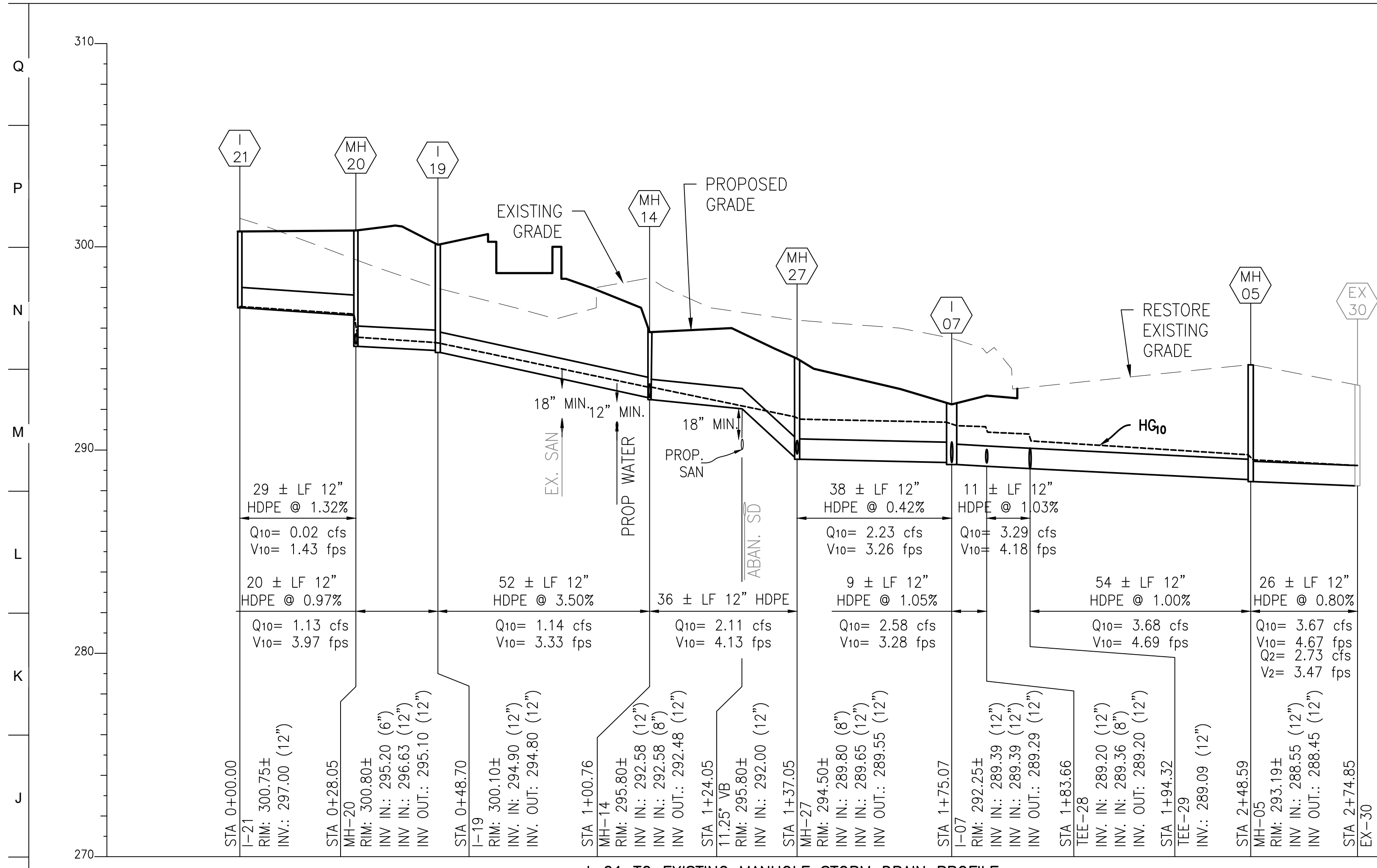
SEAL:

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10.04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 STORM DRAIN
 PROFILES

DRAWING NO:
C531

OWNER / DEVELOPER / APPLICANT:
 MARYLAND ZOO IN BALTIMORE
 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350



BCNR # 11545

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88



PROJECT TEAM:

ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: MR. KARL KRANZ
PHONE: 443-552-3350

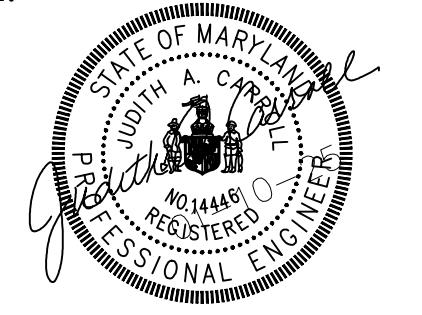
CLIENT:

MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

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SEAL:



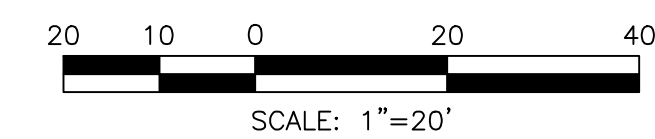
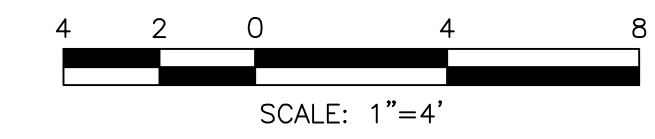
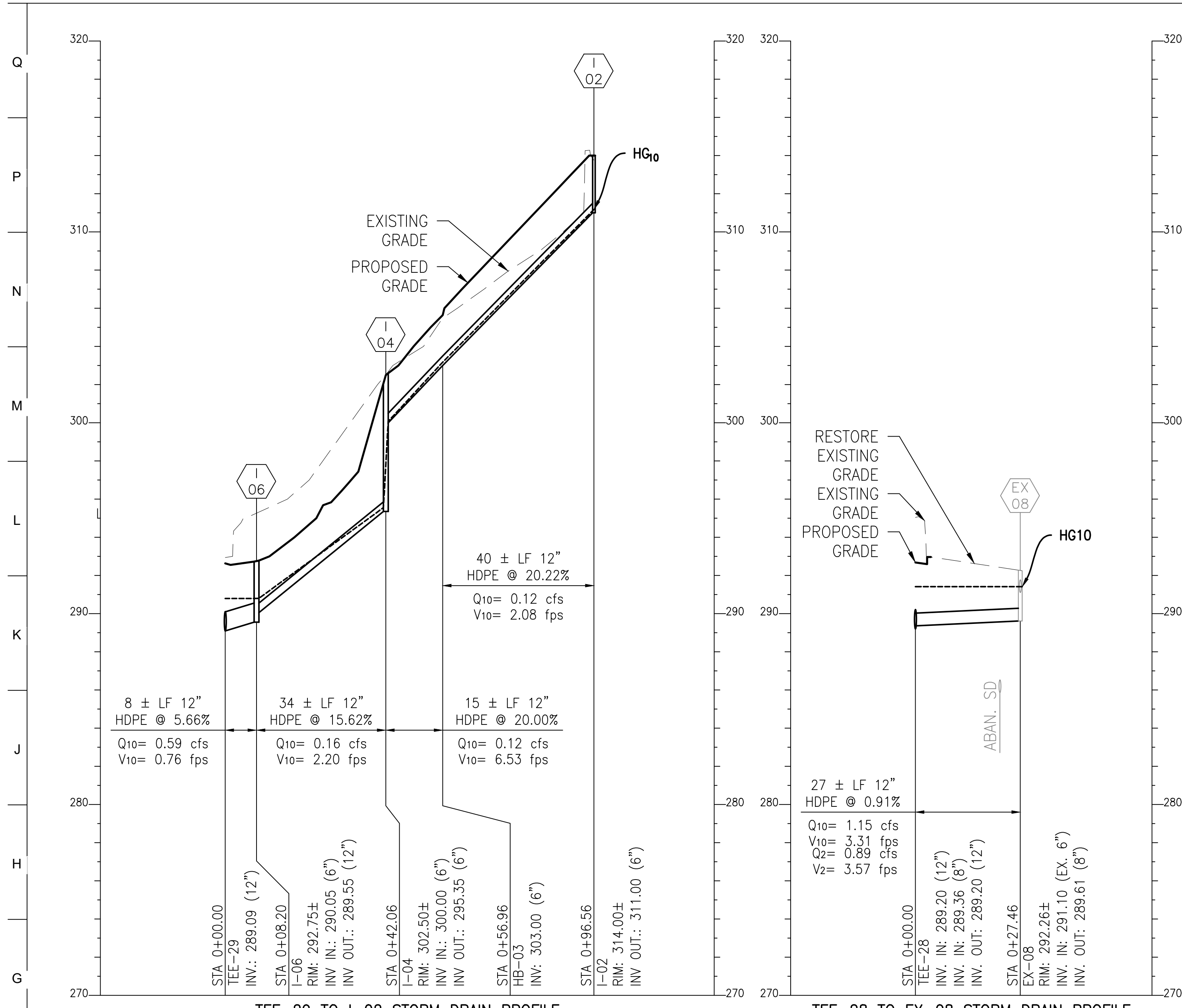
PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 5/25/25.

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10.04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025

REVISION	DATE

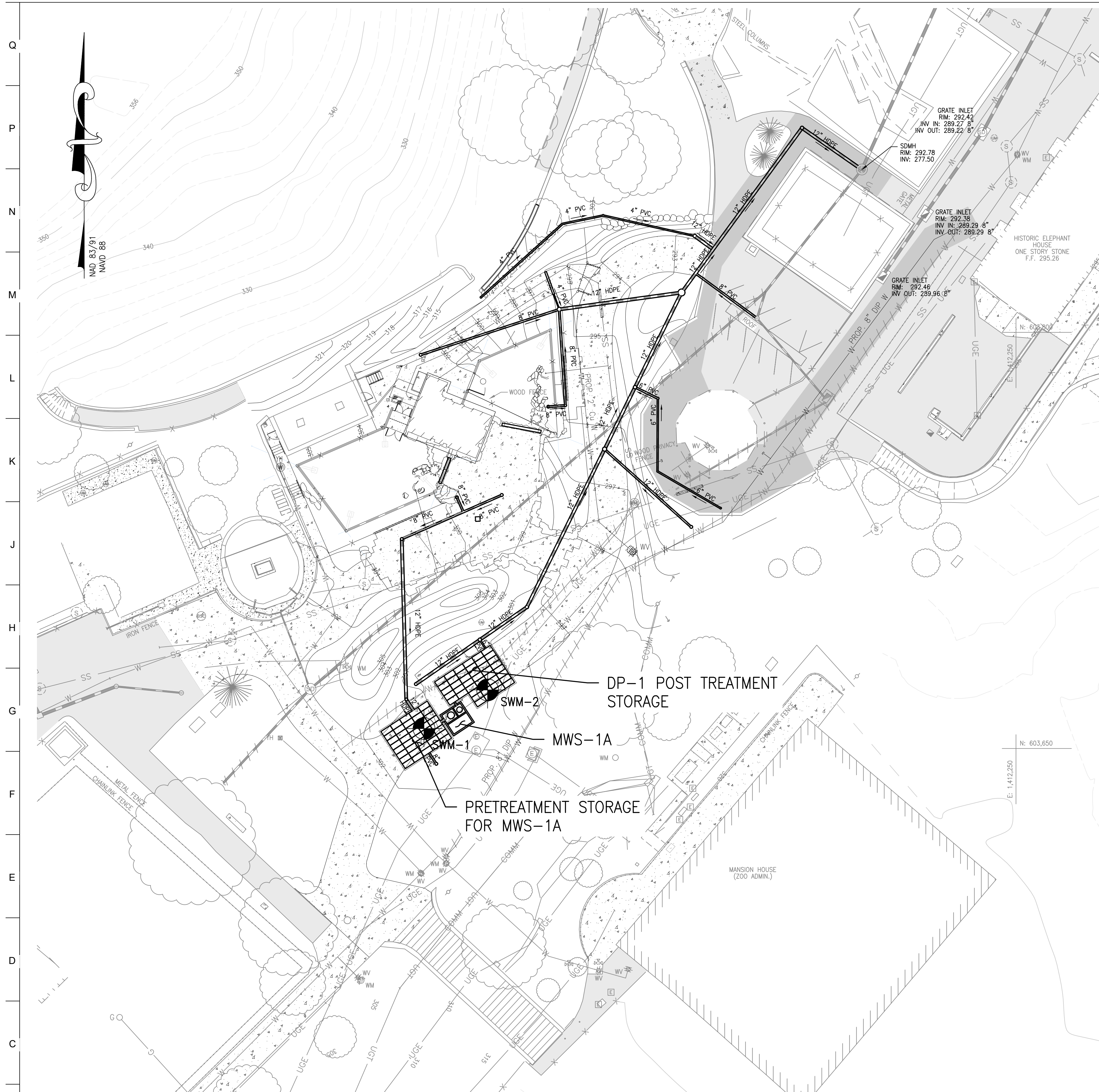
DRAWING TITLE:
STORM DRAIN PROFILES

DRAWING NO:
C532



BCNR # 11545

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



- LEGEND**
- PROPOSED BUILDING
 - 100 PROPOSED MAJOR CONTOUR
 - 99 PROPOSED MINOR CONTOUR
 - PROPOSED ASPHALT
 - PROPOSED CURB
 - PROPOSED CONCRETE WALK
 - PROPOSED FENCELINE
 - LOD LIMIT OF DISTURBANCE
 - UGE PROPOSED UNDERGROUND ELECTRIC
 - SS PROPOSED SANITARY LINE
 - S-C PROPOSED SANITARY CLEANOUT
 - SD PROPOSED STORMDRAIN LINE
 - S-M PROPOSED STORMDRAIN MANHOLE
 - W PROPOSED WATER LINE
 - PROPOSED SMALL SECTIONAL VAULT
 - PROPOSED WATER VALVE
 - B-B BORING LOCATION

OWNER / DEVELOPER / APPLICANT:
 MARYLAND ZOO IN BALTIMORE
 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350

SWM CERTIFICATIONS
 SHEET REVISION DATE: May 18, 2022

OWNER'S/DEVELOPER'S CERTIFICATION
 I/WE HEREBY CERTIFY THAT ALL PROPOSED WORK SHOWN IN THESE CONSTRUCTION DRAWING(S) AND APPROVED SEDIMENT CONTROL DRAWING(S) WILL BE ACCOMPLISHED PURSUANT TO THESE PLANS. I/WE ALSO UNDERSTAND THAT IT IS MY/OUR RESPONSIBILITY TO HAVE THE CONSTRUCTION SUPERVISED AND CERTIFIED INCLUDING THE SUBMITTAL OF "AS-BUILT" PLANS WITHIN THIRTY (30) DAYS OF COMPLETION, BY A REGISTERED PROFESSIONAL ENGINEER.

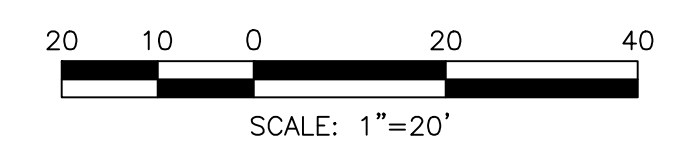
PRINT NAME _____	SIGNATURE _____	DATE _____
ADDRESS _____	TELEPHONE NUMBER _____	

ENGINEER'S CERTIFICATION
 I HEREBY CERTIFY THAT THIS PLAN HAS BEEN PREPARED BY ME OR UNDER MY SUPERVISION AND MEETS THE MINIMUM STANDARDS OF BALTIMORE CITY DEPARTMENT OF PUBLIC WORKS REQUIREMENTS AND SPECIFICATIONS.

PRINT NAME _____	SIGNATURE _____	DATE _____
ADDRESS _____	TELEPHONE NUMBER _____	

PROPOSED NOTES:

1. CONTRACTOR SHALL VERIFY FIELD CONDITIONS PRIOR TO AND DURING CONSTRUCTION/DEMOLITION AND NOTIFY THE OWNER IMMEDIATELY OF ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE APPROVED PLANS.
2. CONTRACTOR SHALL MAINTAIN PEDESTRIAN & VEHICULAR ACCESS TO AND AROUND OVERALL SITE DURING CONSTRUCTION ACTIVITIES. CONTRACTOR SHALL FURNISH VEHICULAR AND PEDESTRIAN TRAFFIC PROTECTION IN ACCORDANCE WITH MUTCD LATEST VERSION AND THE CITY OF BALTIMORE REQUIREMENTS.
3. CONTRACTOR SHALL CONTACT THE OWNER AND DEVELOPER 72 HOURS PRIOR TO COMMENCING ANY WORK.
4. ALL UTILITY FRAMES AND COVERS TO REMAIN WITHIN THE PROJECT AREA SHALL BE ADJUSTED BY THE CONTRACTOR TO MEET NEW PAVEMENT OR GROUND ELEVATION. THE CONTRACTOR SHALL MAKE, CHECK, AND BE RESPONSIBLE FOR ALL MEASUREMENTS AND DIMENSIONS NECESSARY FOR THE PROPER CONSTRUCTION OF AND THE PREVENTION OF MISFITTINGS IN THE WORK. VERIFY LOCATIONS AND ELEVATIONS OF EXISTING UTILITIES BEFORE STARTING CONSTRUCTION IN EACH AREA.
5. CONTRACTOR TO COORDINATE WITH MISS UTILITY, THE CITY OF BALTIMORE, AND A PRIVATE UTILITY LOCATOR COMPANY PRIOR TO COMMENCING ANY WORK. THE CONTRACTOR MUST NOTIFY ALL PUBLIC UTILITY COMPANIES WITH UNDERGROUND FACILITIES IN THE AREA OF PROPOSED EXCAVATION AND HAVE THOSE FACILITIES LOCATED BY THE UTILITY COMPANIES PRIOR TO COMMENCING EXCAVATION.
6. LIVE UNDERGROUND UTILITIES EXIST WITHIN THE WORK AREA. CONTRACTOR SHALL USE EXTREME CAUTION AND SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
7. CONTRACTOR SHALL TAKE NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITY STRUCTURES TO REMAIN DURING DEMOLITION AND CONSTRUCTION ACTIVITIES AND TO PREVENT DEBRIS, SEDIMENT, OR WATER FROM ENTERING THE STRUCTURES.
8. CONTRACTOR SHALL PROTECT ALL FACILITIES AND UTILITIES TO REMAIN FROM DAMAGE WHETHER SHOWN HEREON OR NOT.
9. ALL EXISTING PAINT MARKINGS ADJACENT TO THE PROJECT AREA WHICH BECAME FADED OR OBSCURED DUE TO CONSTRUCTION ACTIVITY SHALL BE REPAINTED OR RESTORED AT NO ADDITIONAL COST TO THE OWNER.
10. CONTRACTOR SHALL COORDINATE WITH OWNER AND UTILITY PROVIDER TO MINIMIZE DURATION OF UTILITY OUTAGES.
11. CONTRACTOR IS RESPONSIBLE FOR THE COORDINATION AND PLACEMENT OF ALL UTILITY CONDUITS AND ENCASEMENT. CONTRACTOR SHALL PROVIDE CONDUITS AND PULL STRINGS IN ACCORDANCE WITH UTILITY PROVIDER REQUIREMENTS FOR THEIR RESPECTIVE CONDUITS.
12. USE EXTREME CAUTION WHEN WORKING AROUND EXISTING TREES TO REMAIN SO AS NOT TO DAMAGE THE TREES OR ROOT SYSTEMS.
13. CONTRACTOR SHALL PROTECT ALL AREAS BEYOND THE LIMITS OF DISTURBANCE AND SHALL RESTORE ANY AND ALL AREAS DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL OR BETTER CONDITION.
14. INFORMATION SHOWN ON THIS DRAWING HAS BEEN PROVIDED AS A GUIDE TO ASSIST THE CONTRACTOR IN ESTABLISHING THE LOCATIONS OF PROPOSED CONSTRUCTION WITH RESPECT TO EXISTING SITE IMPROVEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL CONSTRUCTION SURVEY STAKEOUT REQUIRED AND TO CONFIRM ALL INFORMATION SHOWN HEREON.
15. CONTRACTOR SHALL FURNISH SHORING, SHEATHING, OR OTHERWISE SUPPORT EXCAVATIONS TO PROTECT EXCAVATIONS FROM CAVE-INS UNTIL BACKFILL PLACEMENT IS COMPLETE PER SPECIFICATIONS.
16. SEE EXISTING CONDITIONS PLAN FOR SITE BENCHMARKS. CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING AND MAINTAINING TEMPORARY BENCHMARKS THROUGHOUT THE DURATION OF THE PROJECT FOR CONSTRUCTION LAYOUT PURPOSES.
17. REFER TO THE SITE LANDSCAPING PLANS FOR ADDITIONAL INFORMATION AND DETAILS.
18. REFER TO THE ELECTRICAL PLANS FOR ADDITIONAL ELECTRICAL UTILITY INFORMATION.



BCNR # 11545

STORMWATER MANAGEMENT PLAN

SCALE: 1" = 20'

ALL WORK SHALL CONFORM TO CITY OF BALTIMORE DEPARTMENT OF PUBLIC WORKS SPECIFICATIONS FOR MATERIALS, HIGHWAYS, BRIDGES, UTILITIES, AND INCIDENTAL STRUCTURES 2006, AND SUPPLEMENTARY SPECIFICATIONS IN THE CONTRACT DOCUMENTS.

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88



PROJECT TEAM:

ARCHITECT:
 BUELL KRATZER POWELL, P.C.
 1525 LOCUST STREET
 PHILADELPHIA, PA 19102
 T: 215.557.6509

CIVIL ENGINEER:
 CARROLL ENGINEERING, INC
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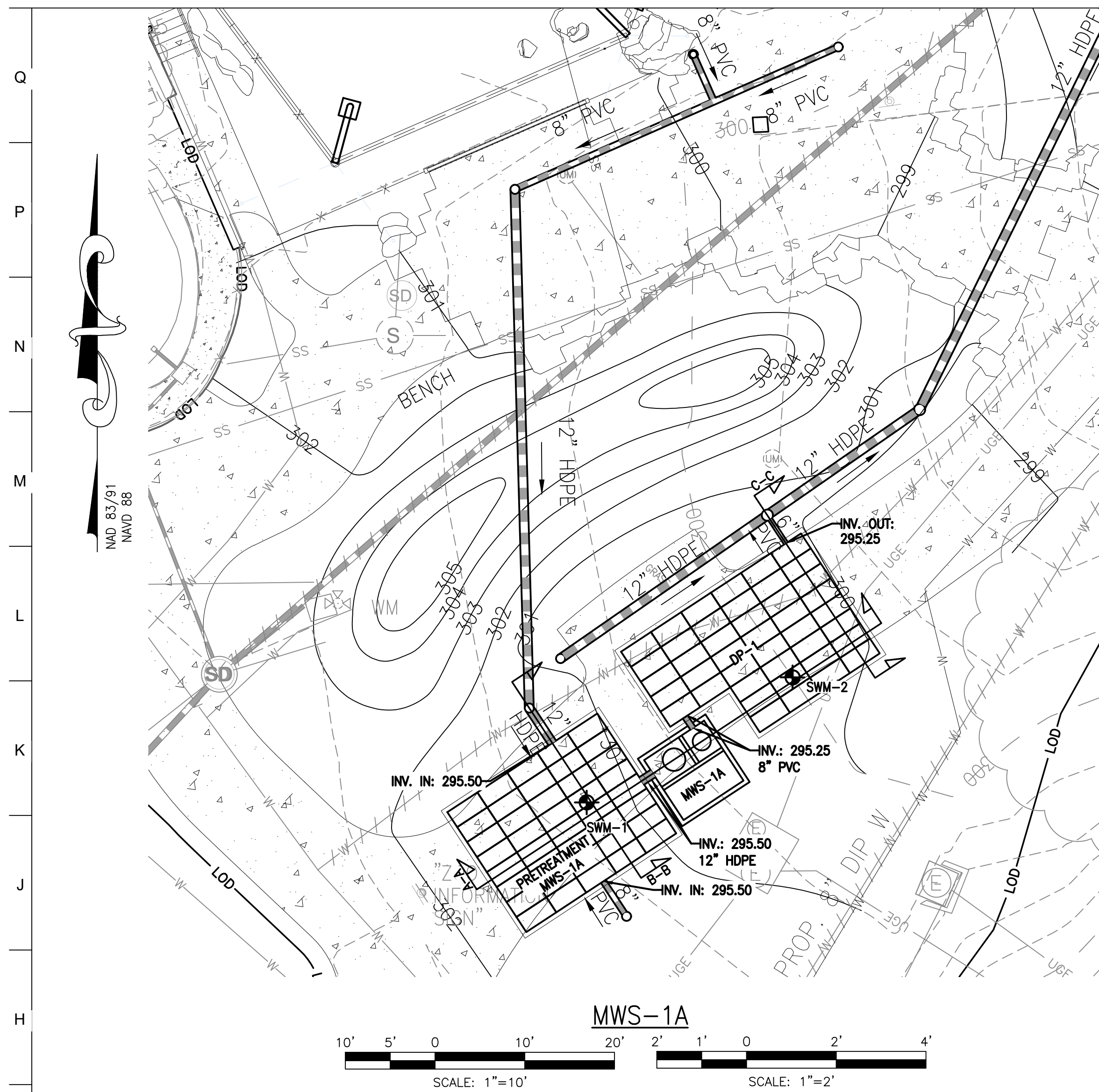
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SEAL:

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10-04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION DATE:	
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 STORMWATER
 MANAGEMENT
 PLAN

DRAWING NO:
C600



PROJECT NAME: MARYLAND ZOO RED PANDA EXHIBIT BALTIMORE CITY BCNR NO. 11545		
AS-BUILT DATA FOR MODULAR WETLAND FACILITY		
*TO BE COMPLETED BY THE PROJECT CONTRACTOR		
BMP ID: MWS-1A		
FEATURE	DESIGN	*AS-BUILT
FACILITY DETAIL	MWS-L-8-8-V	
FACILITY LW	9' x 9'	
TOP OF FACILITY	300.40	
MIN. TOP OF GRADE (3" MULCH)	300.65	
BOTTOM OF FACILITY (INTERNAL)	295.25	
BOTTOM OF FACILITY (EXTERNAL)	294.59	
INLET SIZE & TYPE	12" HDPE	
INLET INVERT	295.50	
MWS INTERNAL WIER LENGTH / ELEVATION	3.5' / 298.12	
PRETREATMENT CHAMBER SIZE & TYPE	STORMBRIX 2'W X 4'L X 3'H	
TOTAL PRETREATMENT CHAMBER UNITS/VOLUME	40 UNITS / 796 C.F.	
PRETREATMENT CHAMBER INVERT	295.50	
OUTLET PIPE SIZE & TYPE	1.5 FT 8" PVC	
OUTLET INVERT	295.25	
OUTLET STRUCTURE COORDINATES (CENTER OF STRUCTURE)	BCSC: N 9,527.04 E -9,014.47 NAD83: N 603,666.70 E 1,412,047.56	

* BYPASS PIPES TO BE CONNECTED AT UPSTREAM ACCESS STRUCTURE
DATE AS-BUILT ACCEPTED BY BALTIMORE CITY: _____

MAINTENANCE AND LIABILITY
MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITY AND APPURTENANT DRAINAGE STRUCTURES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPERTY OWNER SHALL ALSO BE FULLY LIABLE FOR ALL DAMAGE OR INJURIES THAT MAY BE SUSTAINED BY ANY PERSON OR PROPERTY AS A RESULT OF ANY FAILURE OR MALFUNCTION OF THE STORMWATER MANAGEMENT FACILITY AND APPURTENANCES.

PRINT NAME _____ SIGNATURE _____ DATE _____
ADDRESS _____ TELEPHONE NUMBER _____

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PRINT NAME _____ SIGNATURE _____ DATE _____
ADDRESS _____ TELEPHONE NUMBER _____

CONTRACTOR AS-BUILT NOTE

AS-BUILT PLANS AND CERTIFICATIONS ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER. BALTIMORE CITY WILL NOT PERFORM THE INSPECTION OR PREPARE THE AS-BUILT PLANS OR CERTIFICATION. THE STORMWATER MANAGEMENT PERMIT SECURITY WILL NOT BE RELEASED UNTIL THE AS-BUILT PLANS AND CERTIFICATION ARE APPROVED BY BALTIMORE CITY. IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS AND CERTIFICATIONS, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION AS REQUIRED BY THE CURRENT BALTIMORE CITY STORMWATER MANAGEMENT POLICY AND DESIGN MANUAL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

FACILITIES BEING CERTIFIED:
MODULAR WETLAND SYSTEM (MWS-1A)

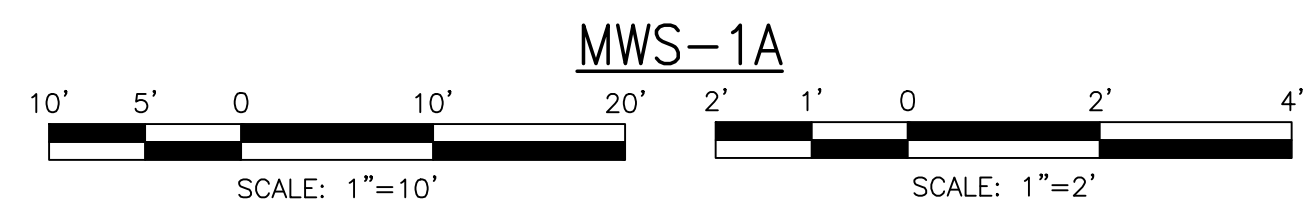
"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

- NOTES:**
- ALL MATERIALS AND CONSTRUCTION PRACTICES SHALL BE IN ACCORDANCE WITH THE CURRENT MARYLAND STORMWATER DESIGN MANUAL AND CITY STANDARDS.
 - ROOF DRAINS SHALL NOT BE CONNECTED UNTIL APPROVAL BY THE CITY INSPECTOR, ALL ROOF AREAS ARE FREE OF DEBRIS, AND OUTLET PIPE INSTALLATION HAS BEEN COMPLETED.
 - SEE EROSION AND SEDIMENT CONTROL PLAN FOR EROSION AND SEDIMENT CONTROL MEASURES.
 - SEE LANDSCAPE PLANS FOR FACILITY PLANTING SCHEDULE AND REQUIREMENTS.

OWNER / DEVELOPER / APPLICANT:
MARYLAND ZOO IN BALTIMORE
1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: MR. KARL KRANZ
PHONE: 443-552-3350

LEGEND

- PROPOSED BUILDING
- 100 PROPOSED MAJOR CONTOUR
- 99 PROPOSED MINOR CONTOUR
- PROPOSED ASPHALT
- PROPOSED CURB
- PROPOSED CONCRETE WALK
- PROPOSED FENCELINE
- LOD LIMIT OF DISTURBANCE
- UGE PROPOSED UNDERGROUND ELECTRIC
- SS PROPOSED SANITARY LINE
- SC PROPOSED SANITARY CLEANOUT
- SD PROPOSED STORMDRAIN LINE
- S PROPOSED STORMDRAIN MANHOLE
- W PROPOSED WATER LINE
- WV PROPOSED SMALL SECTIONAL VAULT
- WV PROPOSED WATER VALVE
- B-f BORING LOCATION



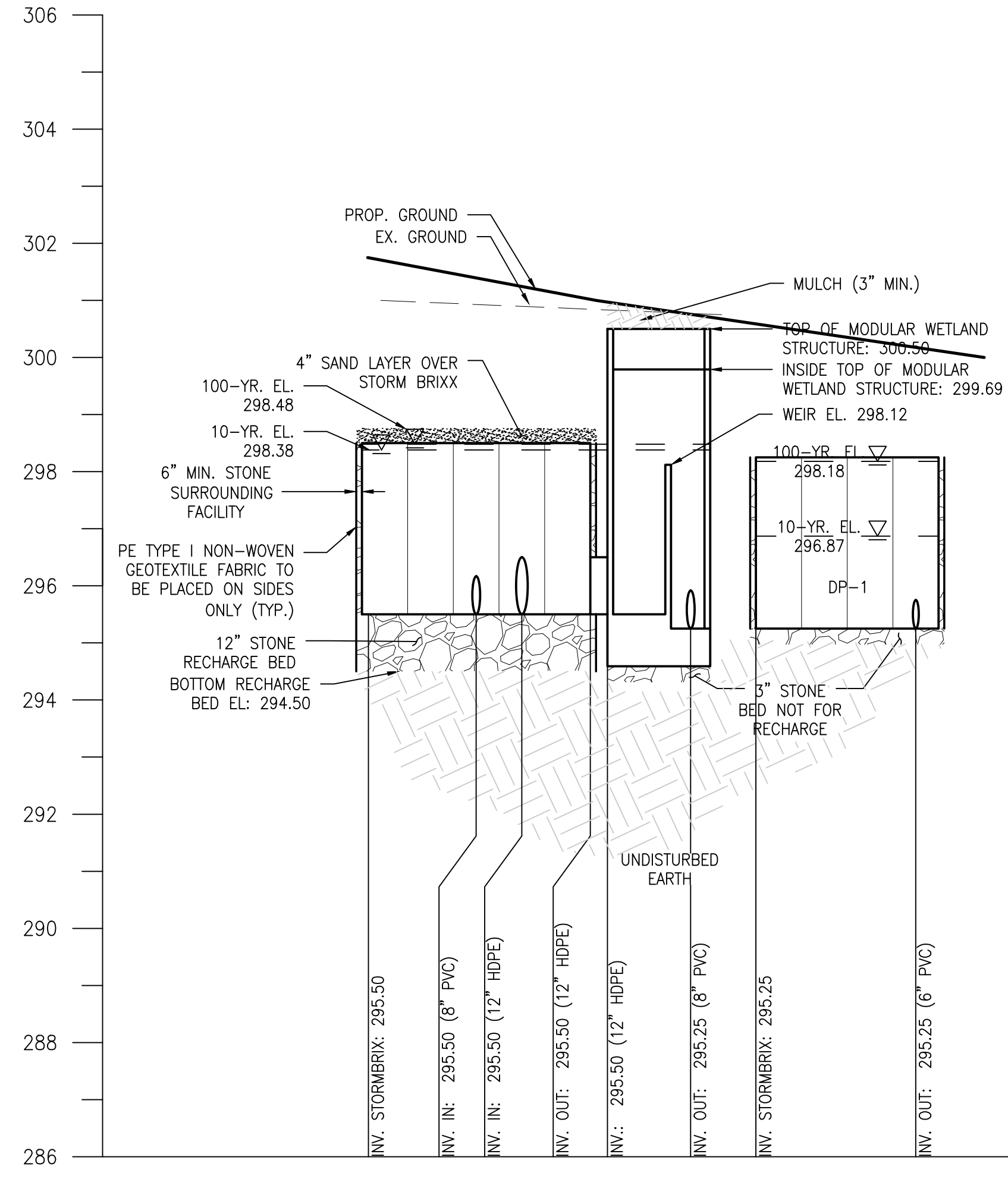
AS-BUILT NOTE:

THE CONTRACTOR SHALL SUPPLY ALL OF THE FOLLOWING INFORMATION DURING AND AFTER THE CONSTRUCTION OF THE SWM SYSTEM. ALL REQUIRED DOCUMENTS SHALL BE SUBMITTED WITHIN THIRTY (30) DAYS OF THE DATE OF SUBSTANTIAL COMPLETION AS ACCEPTED BY THE OWNER:

- AS-BUILT TOPOGRAPHIC SURVEY BASED ON THE SAME DATUM AND BENCHMARKS AS THE ORIGINAL SURVEY USED IN DESIGN. THE AS-BUILT SURVEY SHALL SHOW THE FOLLOWING:
 - SIZE, ELEVATIONS, AND GRADES OF EXCAVATION FOR BMP(S).
 - SURFACE ELEVATIONS AND GRADES FOR EACH LAYER OF DIFFERENT MATERIAL IN THE BMP(S).
 - INVERT ELEVATIONS FOR ALL UNDERDRAINS, STORM PIPING, AND APPURTENANCE STRUCTURES IN THE BMP(S).
 - SURFACE ELEVATIONS AND SPOT GRADES OF THE COMPLETED BMP(S) IN LOCATIONS TO MATCH THE APPROVED SWM PLANS AND DETAILS. THE SURVEY SHALL BE IN AUTOCAD FORMAT. CONTACT THE ENGINEER FOR CADD STANDARDS TO BE USED.
- MATERIAL TICKETS FOR ALL MATERIALS USED IN CONSTRUCTION OF THE BMP(S).
- PHOTOGRAPHS OF CRITICAL INSPECTIONS INCLUDING, BUT NOT LIMITED TO:
 - PHOTOS OF EACH LAYER OF DIFFERENT MATERIAL IN THE BMP(S)
 - PHOTOS OF PLACEMENT OF ALL UNDERDRAINS, STORM PIPING, AND APPURTENANT STRUCTURES IN THE BMP(S).
 - PHOTOS OF THE COMPLETED BMP(S) INCLUDING ALL STABILIZATION AND LANDSCAPING.
- COMPLETED AS-BUILT TABLES WITH THE INSPECTOR'S INITIALS IN ORIGINAL HANDWRITING - SEE THIS SHEET FOR REQUIRED INFORMATION.
- AS-BUILT DEPTH TO INVERT OF THE VERTICAL UNDERDRAIN MANIFOLD MUST BE MARKED ON THE CAP.

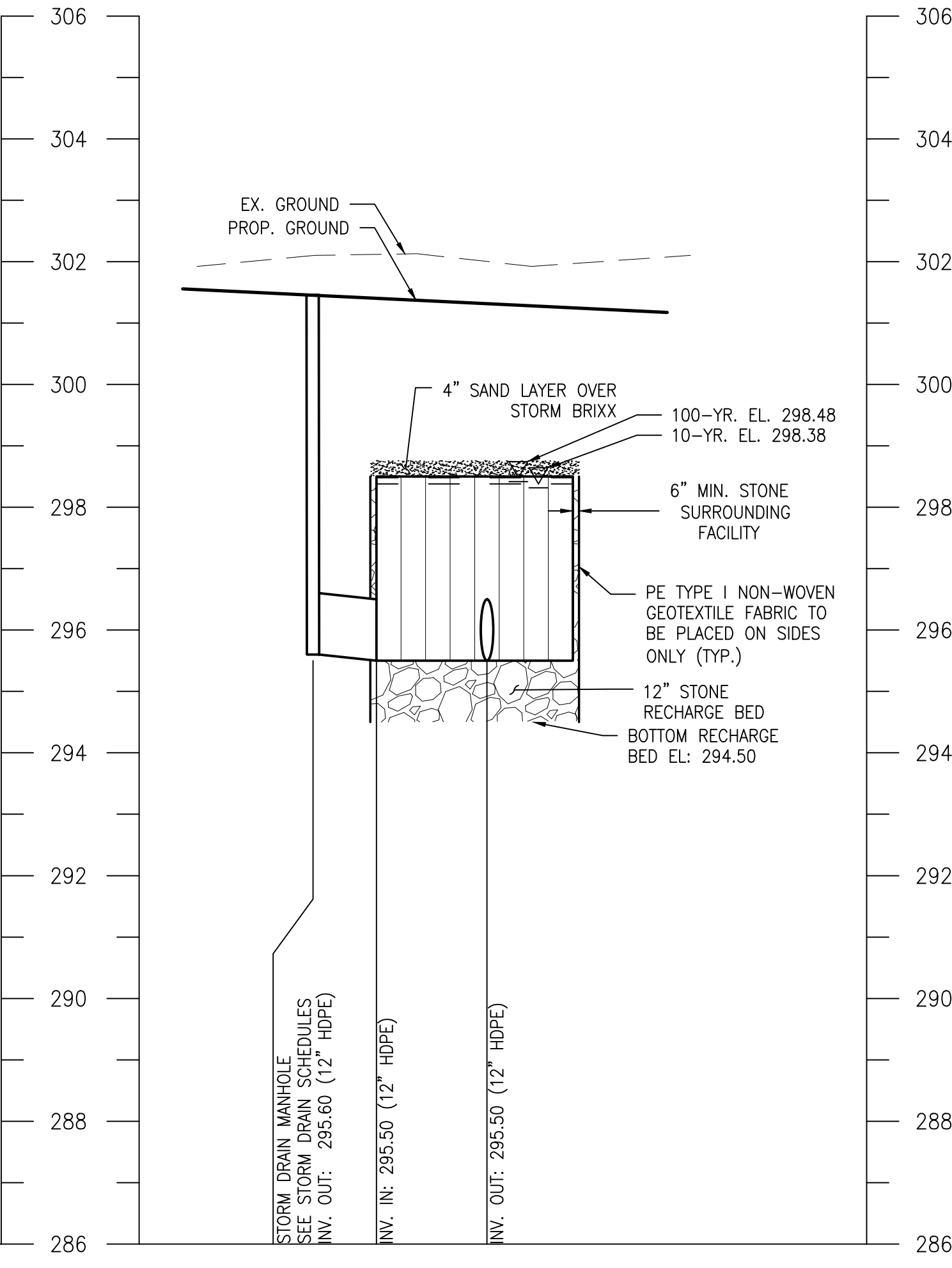
SWM SEQUENCE OF CONSTRUCTION

- THIS SEQUENCE OF CONSTRUCTION SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION AS SHOWN ON THE APPROVED EROSION AND SEDIMENT CONTROL DRAWINGS FOR THIS PROJECT. THE CONTRIBUTING DRAINAGE AREA INTO THESE SWM FACILITIES MUST EITHER BE STABILIZED PRIOR TO BEGINNING WORK, OR THE FLOW INTO THE FACILITY MUST BE DIVERTED AROUND THE CONSTRUCTION AREA. A STORMWATER MANAGEMENT APPROVAL MUST BE OBTAINED PRIOR TO THE CONSTRUCTION OF THIS FACILITY.
- NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST THREE (3) WORKING DAYS PRIOR TO BEGINNING THIS WORK.
- NOTIFY AS-BUILT ENGINEER, PROFESSIONAL ENGINEER WHO WILL BE PERFORMING THE AS-BUILT CERTIFICATION, AND GEOTECHNICAL ENGINEER OF THE SWM FACILITY AT LEAST FIVE (5) WORKING DAYS PRIOR TO BEGINNING THE WORK.
- WITH THE WRITTEN APPROVAL OF THE CITY SEDIMENT CONTROL INSPECTOR, CONSTRUCT THE SWM FACILITIES IN ACCORDANCE WITH THE RESPECTIVE SEQUENCE OF CONSTRUCTION ON SHEET C700 ESC COVER SHEET.
- PERMANENTLY STABILIZE THE DISTURBED AREAS AND INSTALL PROPOSED LANDSCAPE MATERIAL AS SHOWN ON THE PROPOSED LANDSCAPE PLANS.
- WITHIN 30 DAYS OF THE COMPLETION OF THE STORMWATER MANAGEMENT FACILITY, SUBMIT FINAL "AS-BUILT" THROUGH PROJECTDOX.



MWS-1A SECTION A-A

SCALE: HORIZ. 1"=10'
VERT. 1"=2'



MWS-1A SECTION B-B

SCALE: HORIZ. 1"=10'
VERT. 1"=2'

BCNR # 11545

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88



PROJECT TEAM:
ARCHITECT:
BUELL KRATZER POWELL, P.C.
1525 LOCUST STREET
PHILADELPHIA, PA 19102
T: 215.557.6509

CIVIL ENGINEER:
CARROLL ENGINEERING, INC
215 SCHILLING CIRCLE, STE 102
HUNT VALLEY, MD 21031
T: 410.785.7423

LANDSCAPE ARCHITECT:
ROBINSON ANDERSON SUMMERS
28 WEST STATE STREET
MEDIA, PA 19063
T: 302.888.1544

STRUCTURAL ENGINEER:
STRUCTURAL DESIGN STUDIO, INC
2225 EAST MURRAY HOLLADAY RD
SALT LAKE CITY, UT 84117
T: 801.274.3950

MEP ENGINEER:
KOVACS, WHITNEY & ASSOCIATES
190 WEST OSTEND ST, STE 300
BALTIMORE, MD 21230
T: 410.244.7191

CLIENT:
MARYLAND ZOO
THE MARYLAND ZOO IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

RED PANDA
THE MARYLAND ZOO
IN BALTIMORE
1 SAFARI PLACE
BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HOW THEY AFFECT THE WORK. SUBMITTALS OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

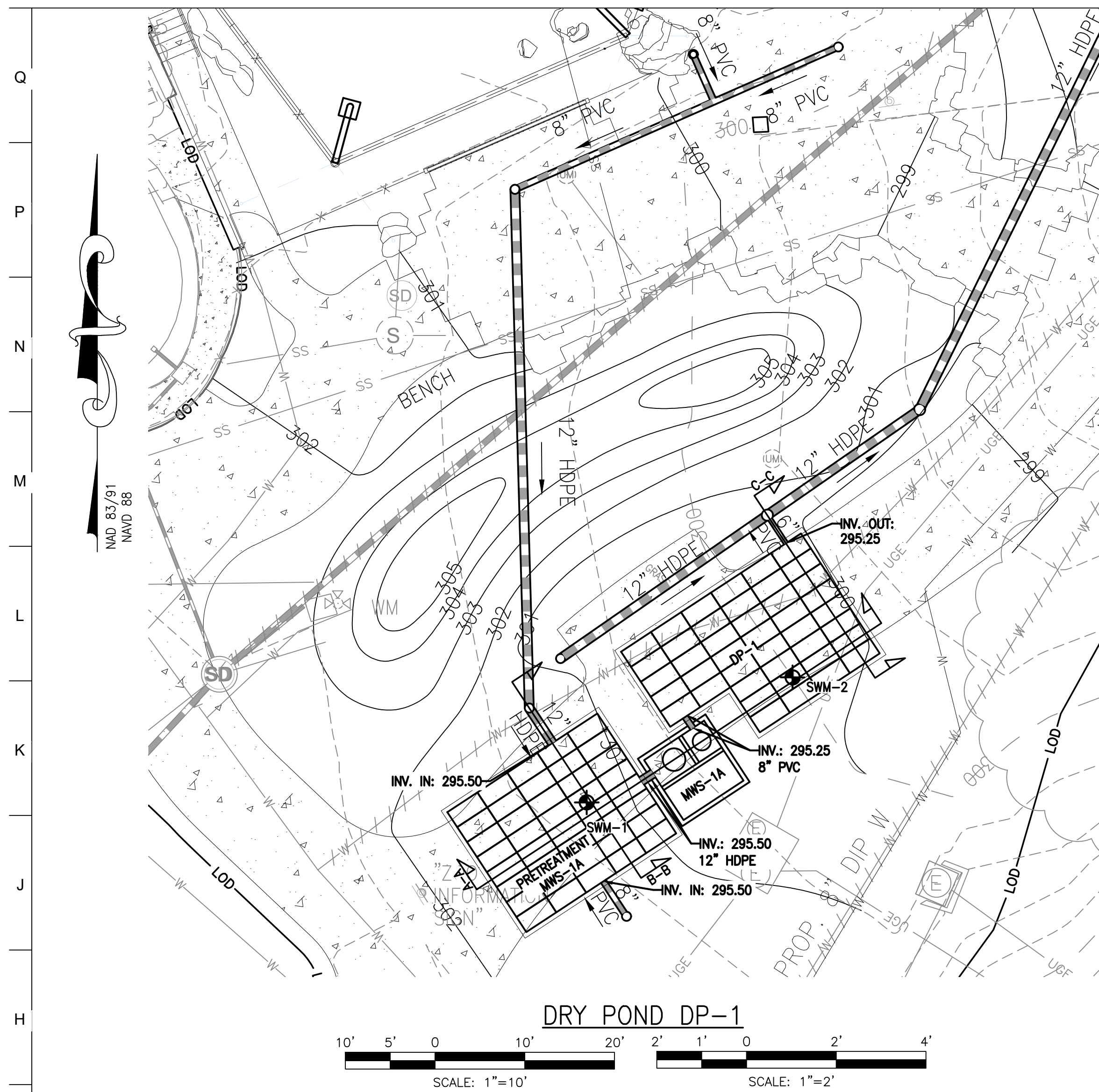


SEAL:

DATE: JANUARY 14, 2025	
PROJECT NO: 2023-10.04	
DRAWN BY: MJE	
CHECKED BY: CMS	
SUBMISSION: DATE	
BID SET: 01/14/2025	
REVISION: DATE	

DRAWING TITLE:
MWS-1A
SECTIONS

DRAWING NO:
C610



PROJECT NAME: MARYLAND ZOO RED PANDA EXHIBIT BALTIMORE CITY BCNR NO. 11545		
AS-BUILT DATA FOR DRY POND		
*TO BE COMPLETED BY THE PROJECT CONTRACTOR		
BMP ID: DP-1		
FEATURE	DESIGN	*AS-BUILT
FACILITY DETAIL	DP-1	
INLET SIZE & TYPE	8" PVC	
INLET INVERT	295.25	
DRY POND CHAMBER SIZE & TYPE	STORMBRIX 2'W X 4'L X 3'H	
DRY POND CHAMBER UNITS/VOLUME	42 UNITS / 958 C.F.	
PRETREATMENT CHAMBER INVERT	295.25	
OUTLET PIPE SIZE & TYPE	6" PVC	
OUTLET INVERT	295.25	
OUTLET STRUCTURE COORDINATES (CENTER OF STRUCTURE)	BCSC: N 9,549.49 E -9,005.21 NAD83: N 603,689.19 E 1,412,056.72	

* BYPASS PIPES TO BE CONNECTED AT UPSTREAM ACCESS STRUCTURE
DATE AS-BUILT ACCEPTED BY BALTIMORE CITY: _____

MAINTENANCE AND LIABILITY
MAINTENANCE OF THE STORMWATER MANAGEMENT FACILITY AND APPURTENANT DRAINAGE STRUCTURES SHALL BE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE PROPERTY OWNER SHALL ALSO BE FULLY LIABLE FOR ALL DAMAGE OR INJURIES THAT MAY BE SUSTAINED BY ANY PERSON OR PROPERTY AS A RESULT OF ANY FAILURE OR MALFUNCTION OF THE STORMWATER MANAGEMENT FACILITY AND APPURTENANCES.

PRINT NAME _____ SIGNATURE _____ DATE _____
ADDRESS _____ TELEPHONE NUMBER _____

AS-BUILT CERTIFICATION
I HEREBY CERTIFY THAT THE FACILITY SHOWN ON THIS PLAN WAS CONSTRUCTED AS SHOWN ON THE "AS-BUILT" PLANS AND MEETS THE APPROVED PLANS AND SPECIFICATIONS.

PRINT NAME _____ SIGNATURE _____ DATE _____
ADDRESS _____ TELEPHONE NUMBER _____

CONTRACTOR AS-BUILT NOTE

AS-BUILT PLANS AND CERTIFICATIONS ARE REQUIRED FOR THIS STORMWATER MANAGEMENT FACILITY. THESE MUST BE PREPARED AND SEALED BY A MARYLAND REGISTERED PROFESSIONAL ENGINEER. BALTIMORE CITY WILL NOT PERFORM THE INSPECTION OR PREPARE THE AS-BUILT PLANS OR CERTIFICATION. THE STORMWATER MANAGEMENT PERMIT SECURITY WILL NOT BE RELEASED UNTIL THE AS-BUILT PLANS AND CERTIFICATION ARE APPROVED BY BALTIMORE CITY. IN ORDER TO PREPARE THE REQUIRED AS-BUILT PLANS AND CERTIFICATIONS, THIS STORMWATER MANAGEMENT FACILITY MUST BE INSPECTED BY THE ENGINEER AT SPECIFIC STAGES DURING CONSTRUCTION AS REQUIRED BY THE CURRENT BALTIMORE CITY STORMWATER MANAGEMENT POLICY AND DESIGN MANUAL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FIVE (5) WORKING DAYS PRIOR TO STARTING ANY WORK SHOWN ON THESE PLANS.

FACILITIES BEING CERTIFIED:
MODULAR WETLAND SYSTEM (DP-1)

"CERTIFY" MEANS TO STATE OR DECLARE A PROFESSIONAL OPINION BASED ON SUFFICIENT AND APPROPRIATE ONSITE INSPECTIONS AND MATERIAL TESTS CONDUCTED DURING CONSTRUCTION.

- NOTES:**
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1876 MANSION HOUSE DRIVE
BALTIMORE MD 21217
CONTACT: MR. KARL KRANZ
PHONE: 443-552-3350

LEGEND

- PROPOSED BUILDING
- 100 PROPOSED MAJOR CONTOUR
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- PROPOSED CURB
- PROPOSED CONCRETE WALK
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- LOD LIMIT OF DISTURBANCE
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- PROPOSED STORMDRAIN MANHOLE
- PROPOSED WATER LINE
- PROPOSED SMALL SECTIONAL VALV
- PROPOSED WATER VALVE
- BORING LOCATION

PROJECT TEAM:

ARCHITECT:
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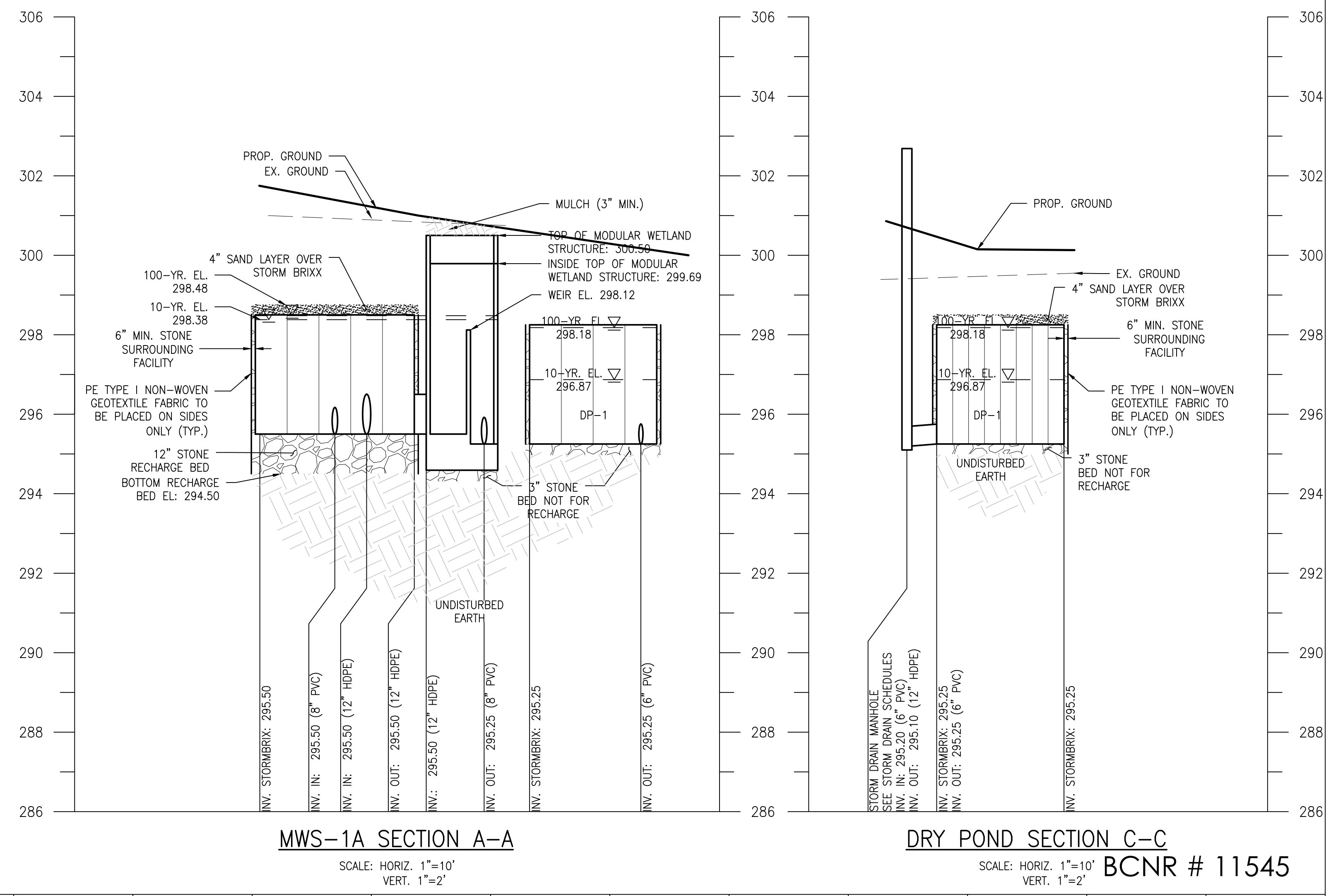
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DATE: JANUARY 14, 2025	
PROJECT NO: 2023-10.04	
DRAWN BY: MJE	
CHECKED BY: CMS	
SUBMISSION: DATE	
BID SET: 01/14/2025	
REVISION: DATE	

DRAWING TITLE:
DP-1
SECTIONS

DRAWING NO:
C611



- AS-BUILT NOTE:**
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- SWM SEQUENCE OF CONSTRUCTION**
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 - NOTIFY MISS UTILITY AT 1-800-257-7777 AT LEAST THREE (3) WORKING DAYS PRIOR TO BEGINNING THIS WORK.
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 - WITH THE WRITTEN APPROVAL OF THE CITY SEDIMENT CONTROL INSPECTOR, CONSTRUCT THE SWM FACILITIES IN ACCORDANCE WITH THE RESPECTIVE SEQUENCE OF CONSTRUCTION ON SHEET C700 ESC COVER SHEET.
 - PERMANENTLY STABILIZE THE DISTURBED AREAS AND INSTALL PROPOSED LANDSCAPE MATERIAL AS SHOWN ON THE PROPOSED LANDSCAPE PLANS.
 - WITHIN 30 DAYS OF THE COMPLETION OF THE STORMWATER MANAGEMENT FACILITY, SUBMIT FINAL "AS-BUILT" THROUGH PROJECTDOX.

HORIZONTAL DATUM: NAD 83(2011)
VERTICAL DATUM: NAVD 88

MARYLAND ZOO RED PANDA EXHIBIT EROSION AND SEDIMENT CONTROL 1 SAFARI PLACE BALTIMORE, MARYLAND BCNR # 11545

SITE INFORMATION:

A. AREA DISTURBED: 0.77 ACRES – 33,535 S.F.
 B. TOTAL CUT: 1,625 CUBIC YARDS
 C. TOTAL FILL: 525 CUBIC YARDS
 CUT/ FILL TOTALS ARE FOR PERMIT REVIEW ONLY. CONTRACTOR IS RESPONSIBLE FOR CALCULATING CUT/ FILL QUANTITIES FOR ESTIMATION PURPOSES. ENGINEER OFFERS NO GUARANTEE TO QUANTITIES ACTUALLY ENCOUNTERED DURING CONSTRUCTION.

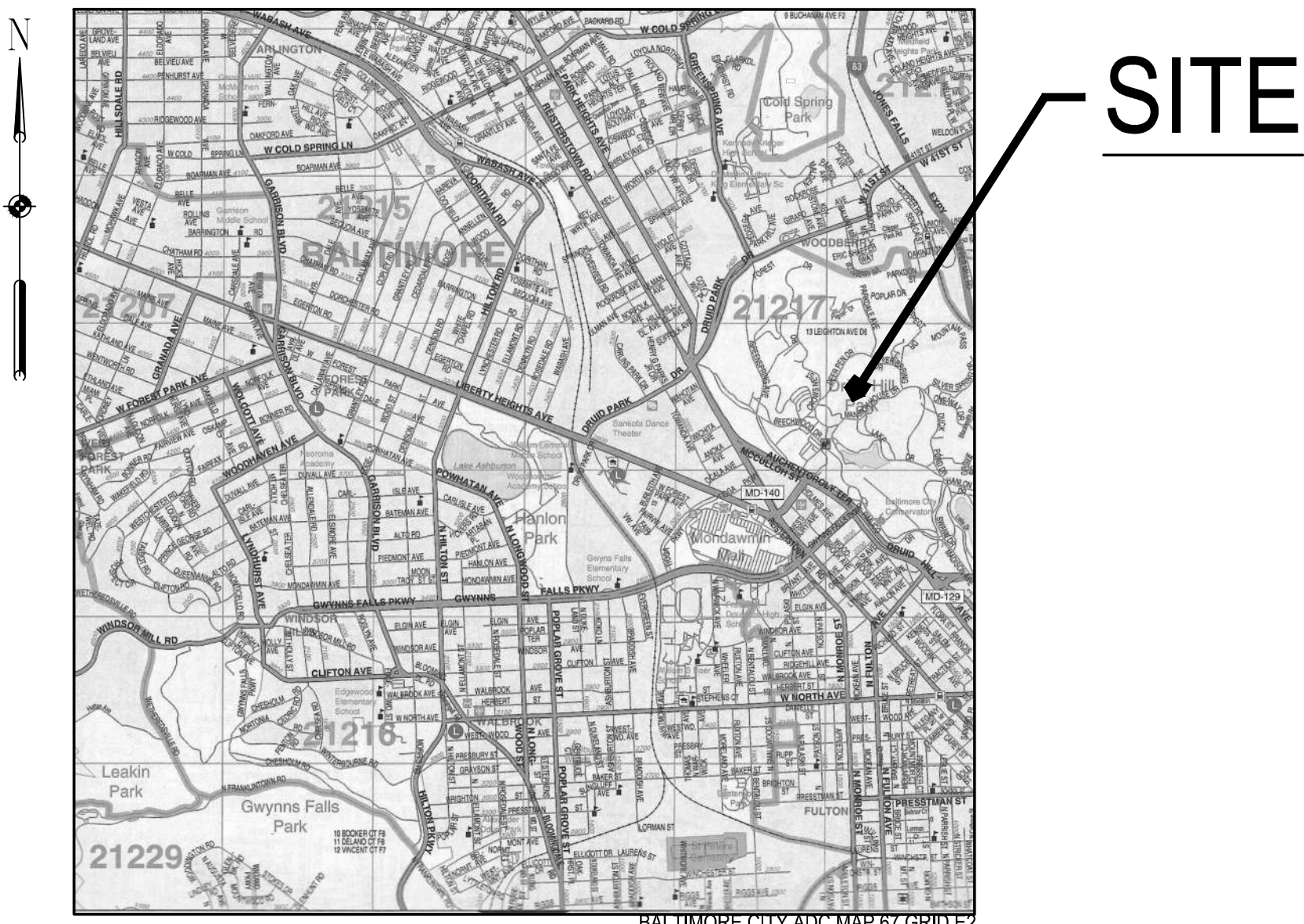
OWNER / DEVELOPER / APPLICANT:
 MARYLAND ZOO IN BALTIMORE
 1876 MANSION HOUSE DRIVE
 BALTIMORE MD 21217
 CONTACT: MR. KARL KRANZ
 PHONE: 443-552-3350

INDEX OF SHEETS

SHEET NO.	SHEET DESIGNATION	DESCRIPTION
1	C700	ESC COVER SHEET
2	C701	ESC PLAN
3	C710	ESC DETAILS
4	C720	ESC NOTES
5	C721	ESC NOTES
6	C722	ESC SECTIONS
7	DA-1	DRAINAGE AREA EXHIBIT
8	SWM-1	EXISTING CONDITIONS SWM EXHIBIT
9	SWM-2	IART EXHIBIT
10	SWM-3	BMP EXHIBIT
11	SWM-4	PROPOSED CONDITIONS SWM EXHIBIT
12	SWM-5	EXISTING CONDITIONS SITE PHOTOS EXHIBIT
13	C100	EXISTING CONDITIONS PLAN
14	C101	EXISTING CONDITIONS UTILITY PLAN
15	C110	BORING PLAN
16	C111	BORING LOGS
17	C120	DEMOLITION PLAN
18	C200	PROPOSED CONDITIONS PLAN
19	C210	PROPOSED GRADING PLAN
20	C300	DETAIL REFERENCE PLAN
21	C310	SITE DETAILS
22	C311	SITE DETAILS
23	C400	PROP UTILITIES PLAN
24	C410	UTILITY PROFILES
25	C411	UTILITY PROFILES
26	C412	UTILITY PROFILES
27	C420	UTILITY DETAILS
28	C421	UTILITY DETAILS
29	C500	STORM DRAIN KEY PLAN
30	C510	STORM DRAIN SCHEDULES
31	C520	STORM DRAIN DETAILS
32	C521	STORM DRAIN DETAILS
33	C522	STORM DRAIN DETAILS
34	C523	STORM DRAIN DETAILS
35	C524	STORM DRAIN DETAILS
36	C530	STORM DRAIN PROFILES
37	C531	STORM DRAIN PROFILES
38	C532	STORM DRAIN PROFILES
39	C600	STORMWATER MANAGEMENT PLAN
40	C610	MWS-1A SECTIONS
41	C611	DP-1 SECTIONS
42	C620	SWM DETAILS
43	C800	RETAINING WALL PLAN & PROFILES

SEQUENCE OF CONSTRUCTION

1. PROVIDE ALL PROPER PERMITS PRIOR TO THE START OF CONSTRUCTION.
2. THE CONTRACTOR MUST SUBMIT A WRITTEN NOTIFICATION SWM/ESC INSPECTION SECTION AT LEAST 72 HOURS PRIOR TO THE START OF CONSTRUCTION TO THE DEPARTMENT OF PUBLIC WORKS, OFFICE OF RESEARCH AND ENVIRONMENTAL PROTECTION: 3001 DRUID PARK DRIVE, ROOM 228, BALTIMORE, MD 21215; PHONE: 410-396-0732; EMAIL DPW.ESCINSPECTIONS@BALTIMORECITY.GOV. THE NOTIFICATION MUST INCLUDE:
 - A. REQUEST FOR A PRE-CONSTRUCTION MEETING
 - B. WHEN CONTRACTOR INTENDS TO BEGIN CONSTRUCTION,
 - C. WHEN CONTRACTOR INTENDS TO INSTALL STORMWATER MANAGEMENT FACILITIES,
 - D. SOURCE OF BORROW MATERIAL,
 - E. LOCATION OF DISPOSAL AREA WITH AN ACTIVE PERMIT,
 - F. CONTRACTOR'S TENTATIVE CLOSING DATE.
3. CONDUCT ON-SITE PRE-CONSTRUCTION MEETING WITH ALL PARTIES, INCLUDING BUT NOT LIMITED TO THE BALTIMORE CITY SEDIMENT CONTROL INSPECTOR, OWNER'S REPRESENTATIVES, CONTRACTOR'S REPRESENTATIVES AND ARCHITECT TO DISCUSS ISSUES INCLUDING, BUT NOT LIMITED TO WAYS AND MEANS AND LIMITS OF RESPONSIBILITIES AND WORK, AND TO INSPECT THE SITE FOR ANY UNFORESEEN CONDITIONS.
4. UPON WRITTEN APPROVAL OF THE BALTIMORE CITY ESC INSPECTOR, CLEAR AND GRUB THE AREA FOR THE INSTALLATION OF PERIMETER SEDIMENT CONTROL DEVICES ONLY.
5. UPON WRITTEN APPROVAL OF THE BALTIMORE CITY ESC INSPECTOR, INSTALL REMAINING SEDIMENT CONTROL DEVICES SEDIMENT CONTROL DEVICES AND BEGIN CONSTRUCTION. CONTRACTOR SHALL INSTALL DEWATERING CONTROLS DURING ALL TRENCHING AND EXCAVATION AT THE DISCRETION OF THE EROSION AND SEDIMENT CONTROL INSPECTOR.
6. PERFORM SITE DEMOLITION AND SITE GRADING TO FACILITATE THE INSTALLATION OF THE PROPOSED SITE FEATURES, THE CONTRACTOR SHALL REMOVE FROM ANY MATERIAL FROM THE SITE THAT EXCEEDS THE ALLOWABLE STOCKPILE AREA LIMIT BY THE END OF EACH WORKDAY.
7. BEGIN CONSTRUCTION OF THE PROPOSED BUILDING AND ANIMAL EXHIBITS. PERFORM SITE GRADING, AND STABILIZE ALL AREAS DISTURBED BY THIS PROCESS.
8. BEGIN UTILITY CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, STORM DRAIN STRUCTURES, STORM WATER MANAGEMENT FACILITIES, AND ALL STORM DRAIN, SANITARY SEWER, AND WATER PIPING. DO NOT INSTALL STORM WATER FILTRATION MEDIA IN THE MODULAR WETLAND AT THIS TIME. SEE APPROVED STORM WATER MANAGEMENT SHEETS FOR THE STORM WATER SEQUENCE OF CONSTRUCTION. STABILIZE ALL AREAS DISTURBED BY THIS PROCESS
9. BEGIN CONSTRUCTION OF HARDESCAPED AREAS INCLUDING, BUT NOT LIMITED TO, ASPHALT PAVING, CONCRETE PAVING, FENCE INSTALLATION, AND ITEMS ASSOCIATED WITH THE ANIMAL EXHIBITS. PERMANENTLY STABILIZE ALL AREAS DISTURBED BY THIS PROCESS.
12. AFTER ALL STORM DRAIN AND STORM WATER MANAGEMENT DEVICES HAVE BEEN INSTALLED AND HAVE BEEN PROPERLY CONNECTED, FLUSH THE STORM DRAIN NETWORK, INSTALL THE FILTRATION MEDIA IN THE MODULAR WETLAND, AND ACTIVATE THE STORM DRAIN SYSTEM. CONTRACTOR MUST CAPTURE ALL SEDIMENT FROM THE STORM DRAIN NETWORK FLUSH.
13. NOTIFY AS-BUILT ENGINEER, PROFESSIONAL ENGINEER WHO WILL BE PERFORMING THE AS-BUILT CERTIFICATION, AND GEOTECHNICAL ENGINEER OF THE SWM FACILITY AT LEAST FIVE (5) WORKING DAYS PRIOR TO BEGINNING THE WORK.
14. PERFORM FINE GRADING AND PERMANENTLY STABILIZE THE AREAS DISTURBED BY THIS PROCESS.
15. ONCE THE SITE HAS BEEN PERMANENTLY STABILIZED AND WITH WRITTEN PERMISSION FROM THE BALTIMORE CITY SEDIMENT CONTROL INSPECTOR, REMOVE ESC MEASURES AND IMMEDIATELY STABILIZE ANY DISTURBANCE FROM REMOVAL.
16. AS REQUIRED, WITH INSPECTOR'S WRITTEN APPROVAL, CONTRACTOR TO FILE NOTICE OF TERMINATION (NOT) TO MDE AND CLOSE ANY APPLICABLE PERMITS.



VICINITY MAP
 SCALE: 1"=2000'

STANDARD STABILIZATION NOTE:

*STABILIZATION PRACTICES ON ALL PROJECTS MUST BE IN COMPLIANCE WITH THE REQUIREMENTS OF COMAR 26.17.1.08 G REGULATIONS.

FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:

A.) THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND

B.) SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

CONSTRUCTION ENTRANCE NOTE:

WHERE NO CONSTRUCTION ENTRANCE IS PROVIDED CONTRACTOR SHALL MAINTAIN THE SITE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED OUTSIDE THE LOD BY VACUUMING, SCRAPING, AND/OR SWEEPING. CONTRACTOR MUST CLEAN CONSTRUCTION EQUIPMENT PRIOR TO LEAVING THE LOD TO MINIMIZE SEDIMENT TRACK OUT. WASHING EQUIPMENT AND SUFACES TO REMOVE SEDIMENT IS ONLY ACCEPTABLE WHEN, SEDIMENT LADEN WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

NOTE TO CONTRACTOR:

"EROSION AND SEDIMENT CONTROL SHALL BE STRICTLY ENFORCED. FAILURE TO MAINTAIN SEDIMENT CONTROLS IN AN OPERABLE CONDITION WILL NOT BE ACCEPTABLE"

DAILY STABILIZATION NOTE:

CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS FOLLOWS:

1. FOR AREAS TO BE PAVED, THE APPLICATION OF BASE STONE.
2. FOR AREAS TO BE VEGETATIVELY STABILIZED;
 - 2.a. PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR STEEP SLOPES, CHANNELS OR SWALES.
 - 2.b. PERMANENT SEED AND MULCH FOR ALL OTHER AREAS.

ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

MAINTENANCE NOTE:

CONTRACTOR SHALL INSPECT AND MAINTAIN ALL SEDIMENT CONTROL MEASURES AND DEVICES AFTER EVERY STORM EVENT. MAINTENANCE SHALL INCLUDE, BUT NOT LIMITED TO THE REMOVAL OF ALL ACCUMULATED SEDIMENT. GEOTEXTILE FABRIC SHALL BE REPLACED AS NEEDED TO ENSURE PROPER FUNCTION.

SEDIMENT CONTROL NOTE:

SEDIMENT CONTROLS ARE OFFSET FROM THE LIMIT OF DISTURBANCE (LOD) FOR VISUAL CLARITY. ALL SEDIMENT CONTROLS WILL BE CONSTRUCTED AT THE LOD.

SURVEY CONTROL STATEMENT
 HORIZONTAL AND VERTICAL DATUM WERE DERIVED USING STATIC GPS METHODS AND PROCESSED USING THE NATIONAL GEODETICS SURVEYS OPUS PROGRAM. COR STATIONS USED: DL2039 LOYQ CORS DH8807 LOYC CORS

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88

PROJECT TEAM:

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 T: 410.244.7191

CLIENT:
MARYLAND ZOO
 THE MARYLAND ZOO IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

RED PANDA
 THE MARYLAND ZOO
 IN BALTIMORE
 1 SAFARI PLACE
 BALTIMORE, MD 21217

THIS DRAWING IS TO ILLUSTRATE THE WORK TO BE DONE. THE ARCHITECT IS NOT RESPONSIBLE FOR THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES USED TO DO THE WORK OR THE SAFETY ASPECTS OF CONSTRUCTION, AND NOTHING ON THIS DRAWING EXPRESSED OR IMPLIED CHANGES THIS CONDITION. CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HOW THEY AFFECT THE WORK. SUBMITTAL OF A BID TO PERFORM THIS WORK IS AN ACKNOWLEDGMENT OF THESE RESPONSIBILITIES, AND THAT THEY HAVE BEEN FULLY CONSIDERED IN PLANNING OF THE WORK, AND THE BID PRICE. NO CLAIMS FOR EXTRA CHARGES DUE TO THESE CONDITIONS WILL BE FORTHCOMING.

SEAL:

DATE:	JANUARY 14, 2025
PROJECT NO:	2023-10-04
DRAWN BY:	MJE
CHECKED BY:	CMS
SUBMISSION:	DATE
BID SET:	01/14/2025
REVISION:	DATE

DRAWING TITLE:
 EROSION AND
 SEDIMENT
 CONTROL
 COVER SHEET

DRAWING NO:
C700

BCNR # 11545

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SEAL:

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DAILY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 14446, EXPIRATION DATE 9/25/25.

DATE: JANUARY 14, 2025
 PROJECT NO: 2023-10.04
 DRAWN BY: MJE
 CHECKED BY: CMS
 SUBMISSION: DATE
 BID SET: 01/14/2025

REVISION: DATE

DRAWING TITLE:
 EROSION AND SEDIMENT CONTROL PLAN

DRAWING NO:
C701

LEGEND

- 100 PROPOSED BUILDING
- 99 PROPOSED MAJOR CONTOUR
- 99 PROPOSED MINOR CONTOUR
- PROPOSED ASPHALT
- PROPOSED CURB
- PROPOSED CONCRETE WALK
- X PROPOSED FENCELINE
- LOD LIMIT OF DISTURBANCE
- UGE PROPOSED UNDERGROUND ELECTRIC
- SS PROPOSED SANITARY LINE
- o PROPOSED SANITARY CLEANOUT
- PROPOSED STORMDRAIN LINE
- o PROPOSED STORMDRAIN MANHOLE
- W PROPOSED WATER LINE
- PROPOSED SMALL SECTIONAL VAULT
- WV PROPOSED WATER VALVE
- SSF PROPOSED SUPER SILT FENCE
- SFOP SILT FENCE ON PAVEMENT
- SF SILT FENCE
- DF DIVERSION FENCE
- CF TEMPORARY CONSTRUCTION FENCE
- AGIP AT GRADE INLET PROTECTION
- SAME DAY STABILIZATION
- SP FB SUMP PIT / FILTER BAG
- LOW LIMIT OF WORK
- SCE STABILIZED CONSTRUCTION ENTRANCE

GENERAL NOTES:

- FIELD RUN TOPOGRAPHIC SURVEY WAS PERFORMED BY CLSI IN FEBRUARY 2024.
- EXISTING UNDERGROUND UTILITIES DESIGNATED ON THE PLANS ARE BASED ON CURRENTLY AVAILABLE INFORMATION AND ARE SHOWN FOR REFERENCE ONLY. THE OWNER AND ENGINEER DISCLAIM ANY RESPONSIBILITY FOR THE ACCURACY OR COMPLETENESS OF SAID INFORMATION BEYOND THE DESIGNATION INDICATED. THE QUALITY LEVEL DESIGNATED IS IN ACCORDANCE WITH ASCE "STANDARD GUIDELINE FOR THE COLLECTION AND DEPICTION OF EXISTING SUBSURFACE UTILITY DATA" (CI/ASCE 38-02). THE CONTRACTOR SHALL MAKE HIMSELF FAMILIAR WITH THOSE STANDARDS PRIOR TO ANY RELIANCE ON THE INFORMATION SHOWN ON THESE PLANS. PRIOR TO ANY EXCAVATION, IN THE ABSENCE OF QUALITY LEVEL A OR B DESIGNATION, THE CONTRACTOR SHALL VERIFY, TO HIS OWN SATISFACTION, THE EXISTENCE, DEPTH, SIZE, MATERIAL, AND LOCATION OF ALL UNDERGROUND UTILITIES, AND DETERMINE WHETHER THOSE UTILITIES ARE LIVE. ANY EARTHWORK IN LOCATIONS WHERE UTILITIES ARE POSSIBLE SHALL BE DONE WITH EXTREME CAUTION. THE GIVING OF INFORMATION ON THE PLANS WILL NOT RELIEVE THE CONTRACTOR OF HIS OBLIGATION TO SUPPORT AND PROTECT ALL DESIGNATED OR UNDESIGNATED EXISTING UTILITIES AND APPURTENANCES. SHOULD ANY EXISTING UTILITY BE DAMAGED BY THE CONTRACTOR, THE CONTRACTOR SHALL REPAIR THE DAMAGE CAUSED TO THE UTILITY OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
- LIVE UNDERGROUND UTILITIES MAY EXIST WITHIN THE WORK AREA. CONTRACTOR SHALL USE EXTREME CAUTION AND SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS.
- INFORMATION SHOWN ON THIS DRAWING HAS BEEN PROVIDED AS A GUIDE TO ASSIST THE CONTRACTOR IN ESTABLISHING THE LOCATIONS OF PROPOSED CONSTRUCTION WITH RESPECT TO EXISTING SITE IMPROVEMENTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE ALL CONSTRUCTION SURVEY STAKEOUT REQUIRED AND TO CONFIRM ALL INFORMATION SHOWN HEREON.

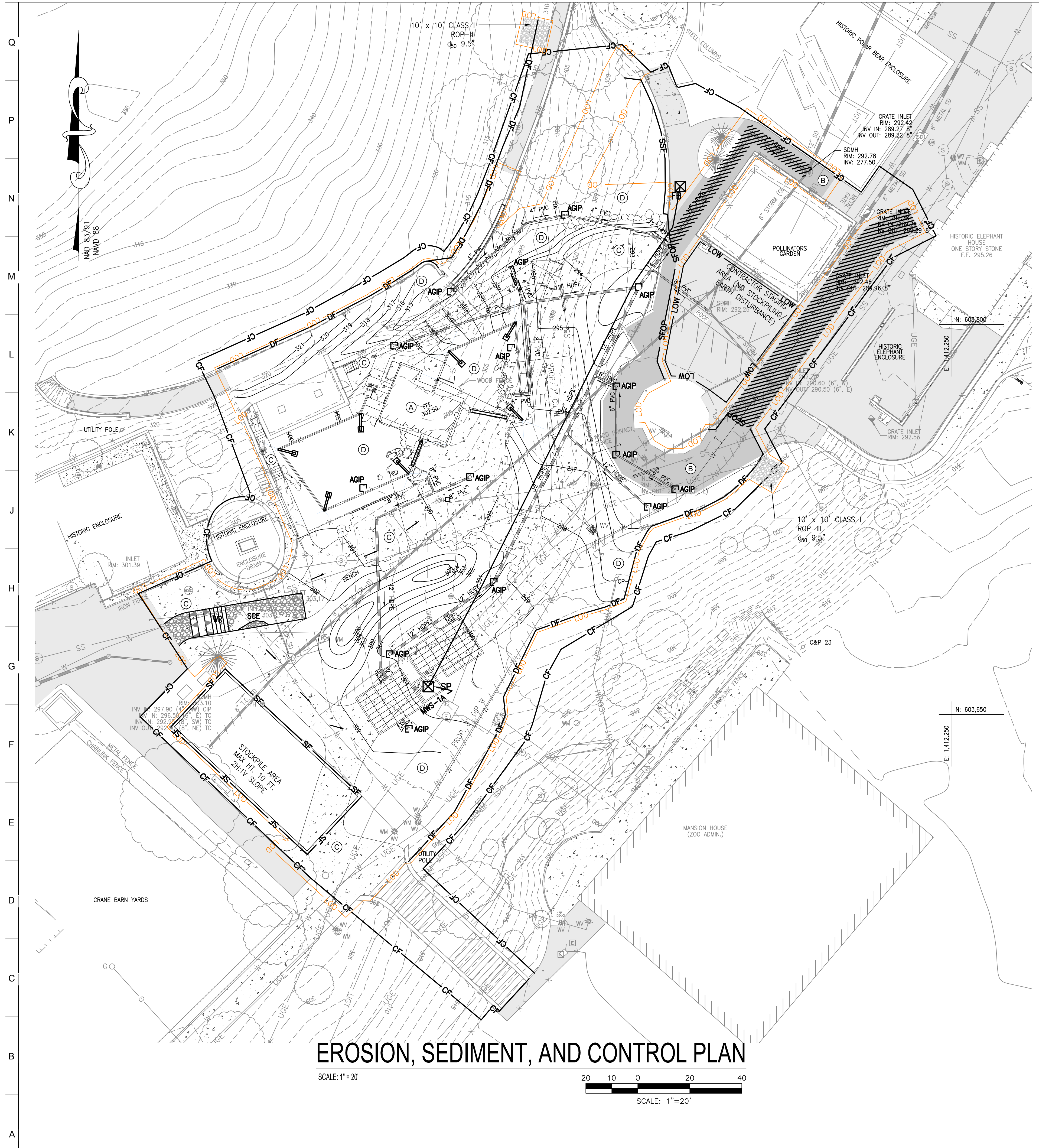
NOTE:

- LIMIT OF DISTURBANCE OFFSET TWO FEET FOR VISUAL CLARITY. ESC CONTROLS TO BE PLACED ON THE LIMITS OF DISTURBANCE.
- TOTAL LIMIT OF DISTURBANCE: 33,535 S.F. / 0.77 ACRES
 **PROJECT WILL REQUIRE MDE APPROVAL.
- ANY SILT FENCE OR SILT FENCE ON PAVEMENT REMOVED FOR DAILY ACCESS SHALL BE REINSTALLED AT THE END OF EACH WORKING DAY. ANY SEDIMENT INADVERTENTLY TRACKED OUTSIDE OF THE FENCE SHALL BE IMMEDIATELY CLEANED AND SWEEPED.

STABILIZATION SCHEDULE			
AREA	SQ.FT.	TYPE OF STABILIZATION	SEQUENCE
A BUILDINGS	2,265	EXCAVATED AREA (temporary)	6
		COMPLETED STRUCTURE (permanent)	7
B ROADWAYS	3,365	STONE BASE (temporary)	9
		CONC./BITUMINOUS PAVING (permanent)	9
C CURBS & SIDEWALKS	11,210	TEMPORARY SEEDING (temporary)	7,8
		CONCRETE CURBS/WALKS (permanent)	9
D PERVIOUS AREAS	16,695	TEMPORARY SEEDING (temporary)	7,8
		SEED/SOD/LANDSCAPING (permanent)	9
E SEDIMENT CONTROLS		SEEDING/STONE (temporary)	4,5
		PERMANENT SEED/SOD (permanent)	15

AREAS ARE TO BE VEGETATIVELY STABILIZED TO SATISFY THE 3/7 DAY REQUIREMENT AS PER THE BALTIMORE CITY STANDARD EROSION AND SEDIMENT CONTROL NOTES.

SITE DATA				
SITE AREA	743.98	AC		SF
LOD	0.77	AC	33,535	SF
CUT	1,625	CY		
FILL	525	CY		



EROSION, SEDIMENT, AND CONTROL PLAN

SCALE: 1"=20'

SCALE: 1"=20'

HORIZONTAL DATUM: NAD 83(2011)
 VERTICAL DATUM: NAVD 88

BCNR # 11545