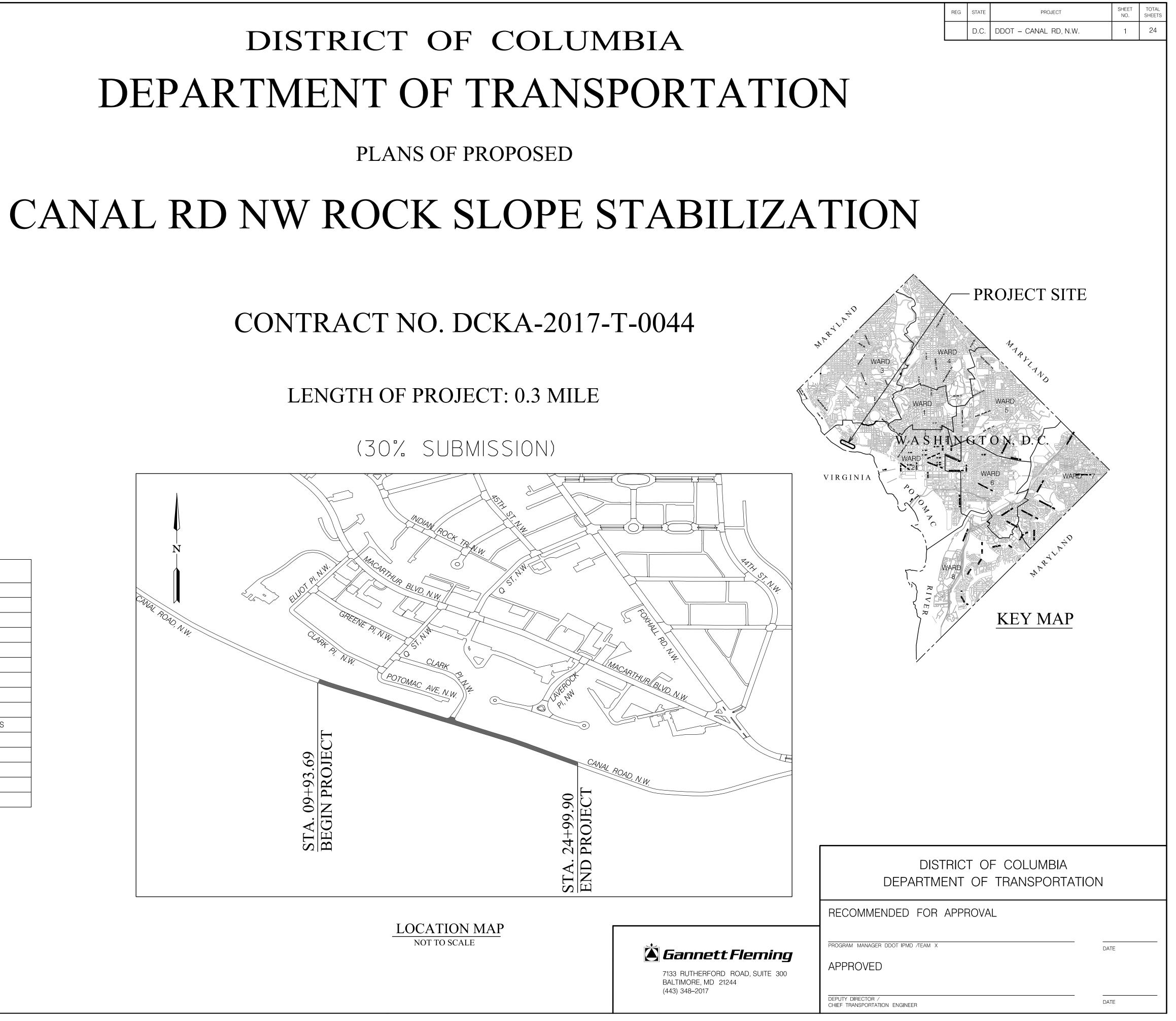
TRAFFIC DATA				
LOCATION	CANAL RD, N.W.			
CONTROLS OF ACCESS	N⁄A			
ADT (2020)	TBD			
ADT (2040)	TBD			
DHV (2040)	TBD			
DISTRIBUTION (%)	TBD			
TRUCKS (%)	TBD			
POSTED V (MPH)	40			
DESIGN V (MPH)	45			
FUNCTIONAL CLASSIFICATION	PRINCIPAL ARTERIAL			

## INDEX OF SHEETS

SHEET NO.	DWG NO.	TITLE			
1	TI-01	TITLE SHEET			
2	GN-01	GENERAL NOTES SHEET			
3	GN-02	SYMBOLS AND ABBREVIATIONS			
4	GS-01	GEOMETRY SHEET			
5–6	EC-01 TO EC-02	EXISTING CONDITIONS PLANS			
7	TS-01	TYPICAL SECTIONS			
8–9	DE-01	MISCELLANEOUS DETAILS			
10–11	HD-01 TO HD-02	PROPOSED ROADWAY PLANS			
12	EN-01	EROSION AND SEDIMENT CONTROL GENERAL NOTES			
13–17	EN-02 TO EN-06	EROSION AND SEDIMENT CONTROL DETAILS			
18	MT-01	TRAFFIC CONTROL PLAN GENERAL NOTES			
19	MT-02	TRAFFIC CONTROL PLAN PHASES			
20	MT-03	TRAFFIC CONTROL PLAN – DETOUR			
21–24	BR-01 TO BR-04	BORING LOGS			

# DISTRICT OF COLUMBIA



- 1. THIS PROJECT SHALL ADHERE TO THE CONTRACT PLANS, SPECIAL PROVISIONS, DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES 2013, SUPPLEMENTAL SPECIFICATIONS 2007 AND STANDARD DRAWINGS 2015.
- 2. IN CASE OF DISCREPANCY AMONG CONTRACT DOCUMENTS REFER TO STANDARD SPECIFICATIONS, SECTION 103.1, ARTICLE 2, ORDER OF PRECEDENCE.
- 3. THE CONTRACTOR SHALL COORDINATE WORK AND ACCESS WITH ADJACENT CONSTRUCTION PROJECTS.
- 4. THE CONTRACTOR SHALL COORDINATE WITH WMATA REGARDING ANY IMPACT OF THIS CONSTRUCTION UPON METRO BUS STOPS OR ROUTES WITHIN THE PROJECT AREA AND VICINITY. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH THE WMATA OFFICE OF JOINT DEVELOPMENT AND ADJACENT CONSTRUCTION PHONE 301-618-1015.
- 5. CONTRACTOR IS RESPONSIBLE FOR OBTAINING PUBLIC SPACE PERMITS FROM THE DISTRICT OF COLUMBIA DEPARTMENT OF CONSUMER AND REGULATORY AFFAIRS (DCRA) LOCATED AT:

1100 4TH STREET SW WASHINGTON, DC 20024

PHONE: (202)442-4400 WEB: dcra dc gov

6. PRIOR TO BEGINNING CONSTRUCTION, PUBLIC SPACE CONSTRUCTION PERMITS WILL BE REQUIRED IF THE CONTRACTOR WISHES TO STORE MATERIALS OR EQUIPMENT IN PUBLIC SPACE A SEPARATE OCCUPANCY PERMIT IS REQUIRED.

APPLICATIONS FOR PUBLIC PERMITS CAN BE INITIATED ONLINE BUT THE PROCESS CAN BE EXPEDITED BY MAKING AN APPOINTMENT TO VISIT DCRA WITH THE ENGINEER.

7. REFER TO THE TRAFFIC CONTROL PLAN - GENERAL NOTES FOR PERMITTED WORK HOURS.

## SURVEY NOTES

1. HORIZONTAL DATUM:

NAVD88

MARYLAND STATE PLANE COORDINATE SYSTEM

	VERTICAL DATUM:	NAVD88
	SURVEY UNIT:	SURVEY FEET
2.	DATE OF SURVEY:	MARCH 2021
	SURVEY PERFORMED BY:	GANNETT FLEMING

ADDRESS:	Valley Forge Corporate Cente
	1010 Adams Avenue
	Audubon, PA 19403–2402
PHONE:	(610) 783–3764
FAX:	(610) 650–8190
EMAIL:	mlarson@gfnet.com

3. THE SURVEYOR HAS MADE EVERY ATTEMPT TO ACCURATELY PORTRAY EXISTING CONDITIONS WITHIN THE LIMITS OF SURVEY. HOWEVER, THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING EXISTING TOPOGRAPHIC FEATURES AND ELEVATIONS, ABOVE AND BELOW, GROUND, PRIOR TO BEGINNING CONSTRUCTION IN THE FIELD.

THE CONTRACTOR SHALL BRING TO THE NOTICE OF THE ENGINEER ANY DISCREPANCY BETWEEN THE PLANS AND ACTUAL FIELD CONDITIONS.

REFER TO THE EXISTING CONDITIONS PLANS FOR LIMITS OF SURVEY.

- 4. GIS PHOTOGRAMMETRIC DATA (I.E. CONTOURS, BUILDING FOOTPRINTS, EDGE OF ROAD, ETC.) IS SHOWN BEYOND THE LIMIT OF SURVEY FOR INFORMATIONAL PURPOSES ONLY AND SHOULD NOT BE USED FOR CONSTRUCTION. THE DATA WAS DOWNLOADED FROM THE DISTRICT OF COLUMBIA - OFFICE OF THE CHIEF TECHNOLOGY OFFICER (OCTO).
- 5. A BOUNDARY SURVEY WAS NOT PERFORMED FOR THE DEVELOPMENT OF THESE PLANS. IF ANY DISPUTE ARISES AS TO THE LOCATION OF RIGHT OF WAY LINES, PROPERTY LINES, OWNERSHIP, ETC, A BOUNDARY SURVEY SHOULD BE PERFORMED BY A SURVEYOR LICENSED IN THE DISTRICT OF COLUMBIA.

RIGHT OF WAY LINES, PROPERTY LINES, OWNERS AND ADDRESSES SHOWN ON THE PLAN ARE SHOWN FOR INFORMATIONAL PURPOSES ONLY.

## GEOTECHNICAL INVESTIGATION

1. GEOTECHNICAL TEST BORINGS AND AND DATA REPORT, DATED MARCH 2021, PREPARED BY: Soil and Land Use Technology, Inc.

ADDRESS:	1818 New York Avenue, NE, Suite 231
	Washington, DC 20002
PHONE:	(202) 387–0022
FAX:	(443) 577–1601
EMAIL:	isyed@SaLUTinc.com

2. GEOTECHNICAL ENGINEERING REPORT, DATED APRIL 2021, PREPARED BY: GANNETT FLEMING.

ADDRESS:

ADDRESS:	Foster Plaza 8 Suite 400 730 Holiday Drive Pittsburgh, PA 15220
PHONE:	(412) 503–4938
FAX:	(412) 922.3717
EMAIL:	mmorris@GFNET.com

# UTILITY NOTES

- 1. UTILITY DESIGNATION WAS NOT PERFORMED FOR THE DEVELOPMENT OF THESE PLANS. IF ANY DISPUTE ARISES AS TO THE LOCATION OF UNDERGROUND UTILITY LINES AND/OR STRUCTURES, A UTILITY DESIGNATION SURVEY SHOULD BE PERFORMED BY A SURVEYOR LICENSED IN THE DISTRICT OF COLUMBIA.
- 2. THE UTILITY INFORMATION ON THE PLAN WAS BASED ON RESEARCH OF UTILITY RECORDS AVAILABLE AT THE TIME THESE PLANS WERE PREPARED AND IS SHOWN FOR INFORMATIONAL PURPOSES ONLY.
- 3. CONTRACTOR SHALL NOTIFY MISS UTILITY (1-800-257-7777) 48 HOURS PRIOR TO ANY EXCAVATION WORK. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL UTILITIES PRIOR TO BEGINNING EXCAVATION.
- 4. NO MECHANIZED EQUIPMENT SHALL BE USED FOR EXCAVATION IN CLOSE PROXIMITY TO UTILITIES. CONTRACTOR SHALL HAND DIG ONLY.
- 5. THE CONTRACTOR IS RESPONSIBLE FOR SUPPORTING AND PROTECTING EXISTING UTILITIES AS DIRECTED BY THE ENGINEER AND UTILITY OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES TO EXISTING UTILITIES DUE TO NEGLIGENCE.
- 6. THE CONTRACTOR SHALL KEEP ALL UTILITIES IN SERVICE DURING CONSTRUCTION. IF ANY UTILITY IS ACCIDENTALLY DISRUPTED DURING CONSTRUCTION, THE UTILITY OWNER AND THE ENGINEER SHALL BE NOTIFIED IMMEDIATELY. TEMPORARY AND /OR PERMANENT RESTORATION OF SERVICE SHALL BE AT THE CONTRACTOR'S EXPENSE. PLANNED DISRUPTIONS IN UTILITY SERVICE MUST BE COORDINATED THROUGH THE ENGINEER.
- 7. MODIFICATIONS TO DC WATER INFRASTRUCTURE SHALL BE IN ACCORDANCE WITH DC WATER STANDARD DETAILS.

# TRAFFIC CONTROL NOTES

- 1. DURING ALL PHASES OF CONSTRUCTION AND THE DURATION OF THE CONTRACT, THE TRAFFIC SHALL BE MAINTAINED IN ACCORDANCE WITH THE CONTRACT DRAWINGS AND SPECIAL PROVISIONS.
- 2. IF THE CONTRACTOR DOES NOT PLAN TO USE THE TRAFFIC CONTROL PLANS IN THE CONTRACT DOCUMENTS, ALTERNATE TRAFFIC CONTROL PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL, AT LEAST 72 HOURS PRIOR TO THE START OF THAT PHASE OF WORK.



				DATE:	04–2021	SCALE:	N.T.S.	GN-01	
				D.C. DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE PROJECT MANAGEMENT DIVISION					
			CANAL I	RD NW ROCK	SLOPE STAB	ILIZATION	PROJECT ENG DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR		
	DESCRIPTION				GENERAL NO	TES SHEET		DIVISION CHIEF	
NO DESCRIPTION NAME DATE REVISIONS							-	FILESHEET 2 OF 24	

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	D.C.	DDOT – CANAL RD, N.W.	2	24

# CONVENTIONAL SYMBOLS EXISTING CONSTRUCTION

PROPERTY LINE		
EDGE OF ROADWAY PAVING		
EXISTING GROUND CONTOURS (10')	50	
EXISTING GROUND CONTOURS (2')		
FENCE		,
EDGE OF WOODED AREAS		~~~
TREE (FREE STANDING)	······	
SIGN		
LIGHT POLE		
MAILBOX		
UTILITY POLE		
STORM DRAIN	:===============================	
WATER LINE		
ABANDON WATER LINE		
SANITARY	(SS) SAN (SS) SAN -	
GAS	G G G	
ELECTRICAL HAND BOX - SIGNALS	н.в.	
ELECTRIC (OVERHEAD)	POLE # POL	.E #
FLOW LINE		
EXISTING ROADWAY		
BASE LINE OR SURVEY LINE	31 +50 32	
FIRE HYDRANT	F.H.	
WETLAND BOUNDARY	·······	•
EXISTING PIPE / CULVERT ·····		
EXISTING DROP INLET		
WETLAND		
WETLAND BUFFER	B B	
WATERS OF THE U.S	WUS WUS	
BUSH /TREE		
CONIFEROUS TREE	M.A.	
SOIL BORING LOCATION	<b></b>	

# <u>CONVENTIONAL SYMBOLS</u> <u>PROPOSED CONSTRUCTION</u>

B CONSTRUCTION	
CURB & GUTTER	
TRAVERSE POINT	$\bigtriangleup$
APPROXIMATE LIMITS OF CUT AND/OR FILL	└──── C ─── ── ── ── F ──── F ──── ──
LIMIT OF DISTURBANCE	LOD
STORM DRAIN PIPE	
DITCH FLOW LINE	<b>&gt;</b> •

# ABBREVIATIONS

AASHTO	American Association of State Highway. Transportation Officials	ł
ADT	-Average Daily Traffic	ł
AHD		1
	Approximate	1
_	Baseline	1
	Back /Book	
	Bituminous	Ì
	Bituminous Concrete	
	Blannous Concrete	
В.М ВОТ		
	Center of Curve	
	Corrugated Aluminum Pipe	
	Corrugated Aluminum Pipe Arch	
	Cable Television	
	California Bearing Ratio	
	Centerline	
CL		
	Chainlink Fence	
	Corrugated Metal Pipe	
	Cleanout	
	Concrete	
	Construction	
COR		
	Corrugated Polyethylene Pipe – Type 'S'	(
	Corrugated Steel Pipe – Aluminized Type 2	(
CSPA	Corrugated Steel Pipe Arch –	(
	Aluminized Type 2	
	Degree of Curve	
DDOT	District of Columbia	I
	Department of Transportation	
	Design Hourly Volume	I
	Drop Inlet	
	Diameter	
	Double Opening	
Е		
Ε		
	External Distance	
EA		
	Eastbound	
	Elevation	
	End Section	
	IST Existing	
FT		
F or FL		
	_Foundation Boring	
	Flat Bottom Ditch	I
	Fire Hydrant	
FWD		ļ
G		I
	_Gas Valve	I
H.B	Handbox	l
	High Density Polyetheylene	ł
	Headwall	I

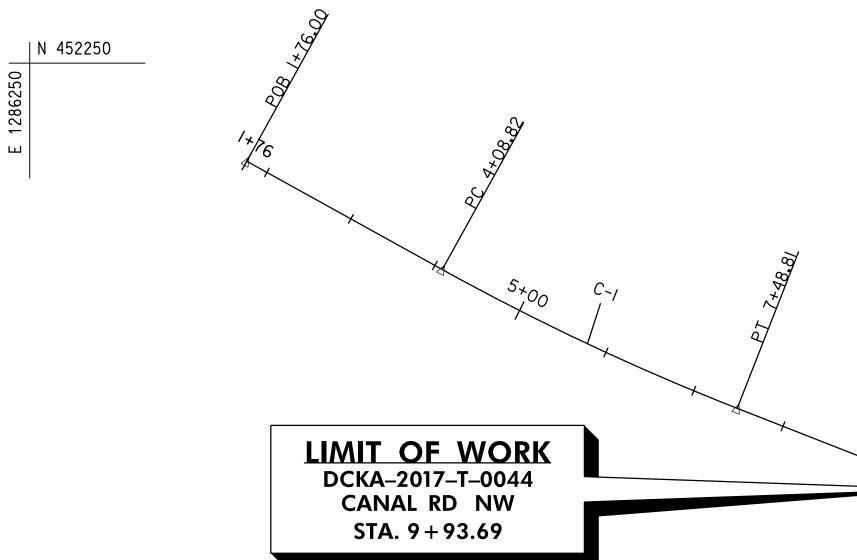
ABF	BREVIATIONS	
HEROP	Horizontal Ellipitical Reinforced	RW or R/WRight of Way
	Concrete Pipe	RCP Reinforced Concrete Pipe
НР	High Point	RCPP Reinforced Concrete Pressure Pipe
IN	-	R.Q.D Rock Quality Designation
	Inlet Sediment Trap	R.M Rootmat
INV	·	S South
	Junction Box	SAN Sanitary Sewer
К		SBSoil Boring
L		S/BSouthbound
	Linear Feet	S.D Storm Drain
	Liquid Limit	S.D.D Surface Drain Ditch
	Low Point	S/E Super Elevation
	Light Pole	SF Silt Fence
LT	-	SF Square Feet
	Macadam	SHT Sheet
	Mail Box	SPP Structural Steel Plate Pipe
	Moisture Content	
		SPPA Structural Steel Plate Pipe Arch
	Maximum Dry Content	S.P.T Standard Penetration Testing
	Maximum	SRP Steel Spiral Rib Pipe –
	Manhole	Aluminized Type 2
	Modified	SRPA Steel Spiral Rib Pipe Arch -
	Minimum	Aluminized Type 2
Ν		SSD Stopping Sight Distance
	Northbound	SSF Super Silt Fence
	Northeast	STD Standard
	Non–Plastic	STA Station
	On Center	SO Single Opening
	Overhead Electric	SY Square Yards
O.M	Optimum Moisture	SWM Stormwater Management
PAV' T	Pavement	T Tangent
PB	Pavement Boring	T Telephone
	Point of Curvature	T.C Top of Cover
	Point of Compound Curvature	T.G Top of Grate
	Point of Crown	T or TL _ Traverse Line
	Profile Grade Elevation	T.MTop of Manhole
	Profile Ground Elevation	TRAV Traverse
	Profile Grade Line	TS Temporary Swale
	Profile Ground Line	T.S Top of Slab
	Point of Rotation	T.S Topsoil
	Plasticity Index	•
	Point of Intersection	TYP Typical U.D Under Drain
	Point On Curve	U.G. Underground
	Point On Tangent	U.PUtility Pole
	Polyvinyl Chloride Profile Wall Pipe	USDA United States Department
	Proposed	of Agriculture
	Point of Reverse Curve	VCL Vertical Clearance
PT		V.C.L Vertical Curve Length
	Point of Tangency	W Water
PVC	Point of Vertical Curve	W West
	Polyvinyl Chloride	WB Westbound
PVI	Point of Vertical Intersection	WB Wetland Buffer
PVRC	Point of Vertical Reverse Curve	W.M Water Meter
PVT	Point of Vertical Tangency	W.S Wrapped Steel
R		WUS Waters of the United States
	Rock Fragments	W.V Water Valve
RT	-	
	<b>U</b>	



133 RUTHERFORD ROAD, SUITE 300	
ALTIMORE, MD 21244	
43) 348–2017	

				DATE:	04–2021	SCALE:	N.T.S.	GN-02		
				D.C. DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE PROJECT MANAGEMENT DIVISION						
		CANAL F	ILIZATION	PROJECT ENG DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR						
NO.	DESCRIPTION	NAME	DATE	SSTANDA	ARD SYMBOLS	and abbre	-	DIVISION CHIEF		
	REVISIONS						-	GHEET 3 OF 24		

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	D.C.	DDOT – CANAL RD, N.W.	3	24



		CANAL ROAD NW	COORDINATES		
CURVE	DESCRIPTION	STATION	NORTH	EAST	BEARING
	POB	1+76.00	452147.7436	1286476.1290	
	PC	4+08.82	452034.9058	1286679.7791	S 61°°00'36.68" E
C–1	PI	5 + 79.06	451952.3966	1286828.6921	
	PT	7 + 48.81	451890.2614	1286987.1917	S 68°°35'37.57" E
	PC	17+24.74	451534.0685	1287895.7979	S 68°°35'37.57" E
C–2	PI	18 + 38.29	451492.6271	1288001.5102	
	PT	19 + 51.77	451445.1643	1288104.6595	S 65°°17'27.95" E
	POE	24+99.90	451216.0413	1288602.6047	

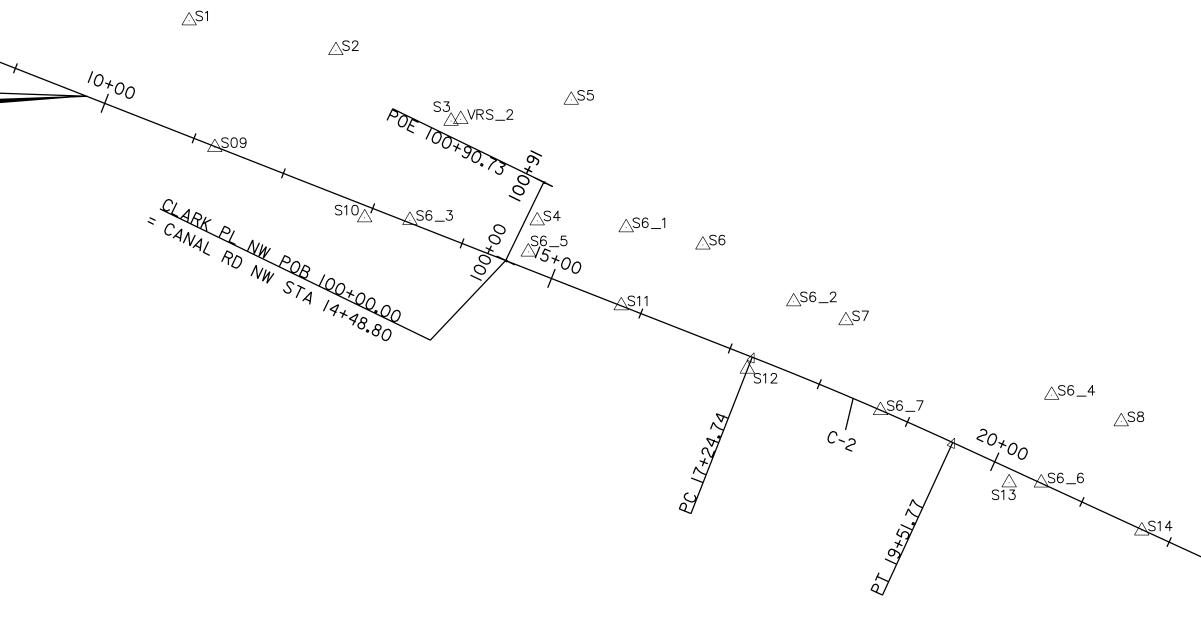
CLARK PL NW COORDINATES								
CURVE DESCRIPTION		STATION	NORTH	EAST	BEARING			
	РОВ	100 + 00.00	451634.7793	1287638.8965	N 25 <sup>°°</sup> 54'06.07" E			
	POE	100 + 90.73	451716.3919	1287678.5284	N 25 54 06.07 E			

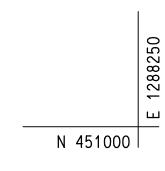
			CURVE DATA			
CURVE	DELTA	Dc	RADIUS	LENGTH	TANGENT	EXTERNAL
C–1	7 <sup>°°</sup> 35'00.89" LT	2 <sup>°°</sup> 13'49.91"	2568.71'	339.99'	170.24'	5.64
C–2	3 <sup>°°</sup> 18'09.61" RT	1 <sup>°°</sup> 27'17.09"	3938.54'	227.03'	113.55'	1.64



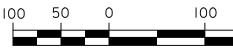


<u>∧</u>VRS\_1





<u>GRAPHIC SCALE</u>



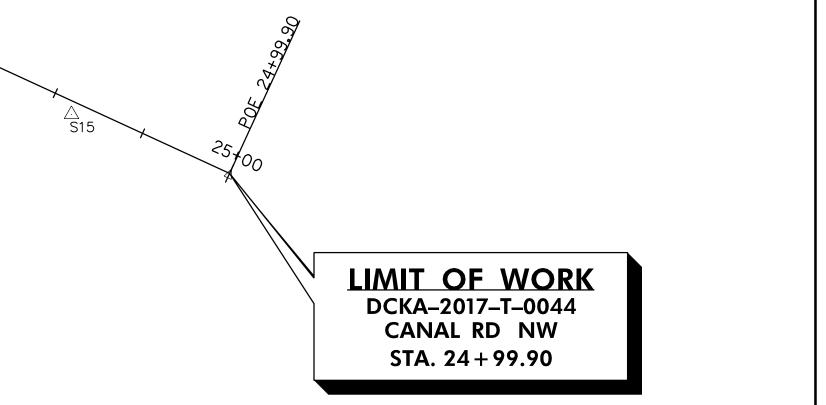
I" = 100'-0" HORIZ.



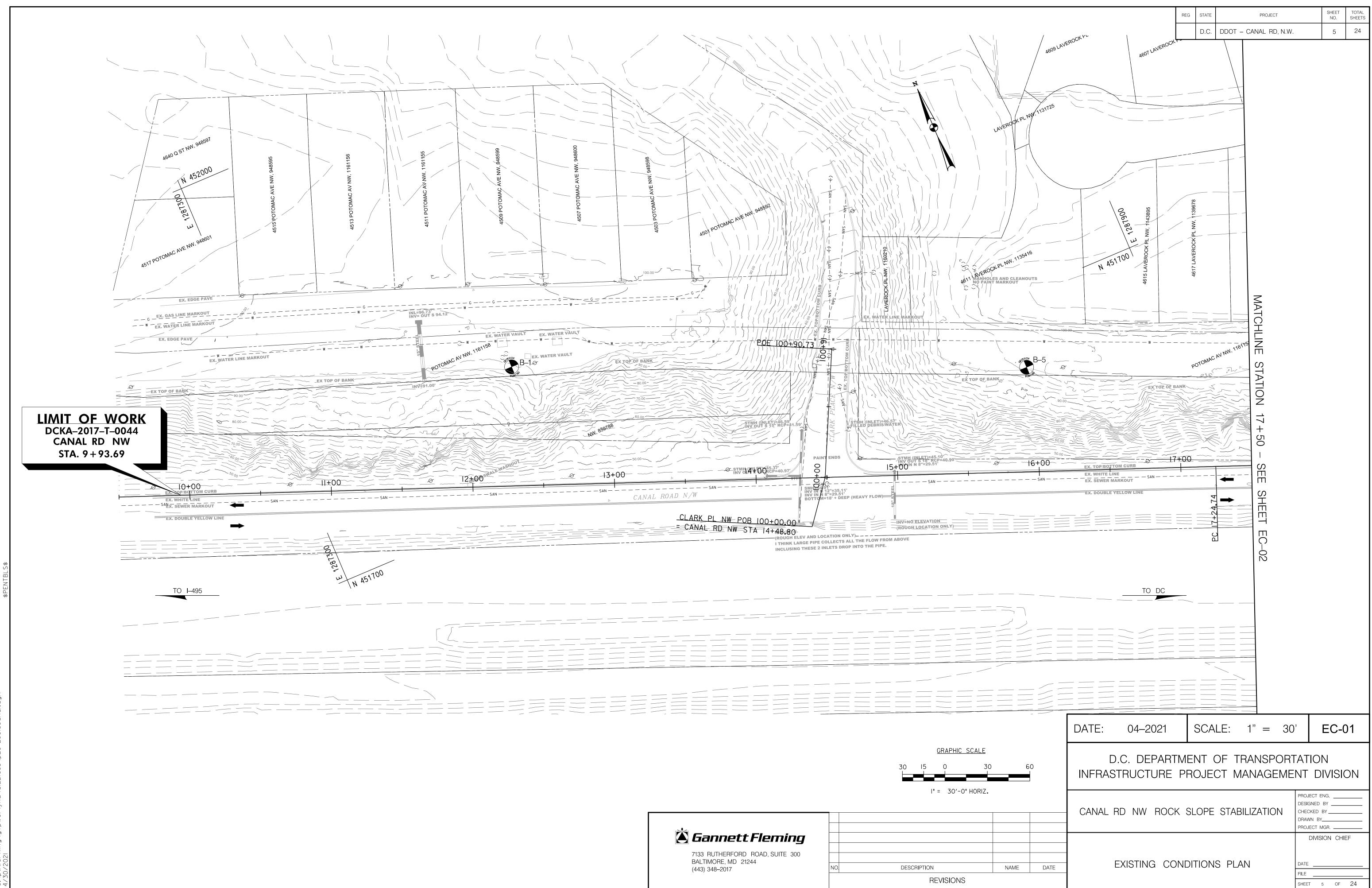
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REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	D.C.	DDOT – CANAL RD, N.W.	4	24

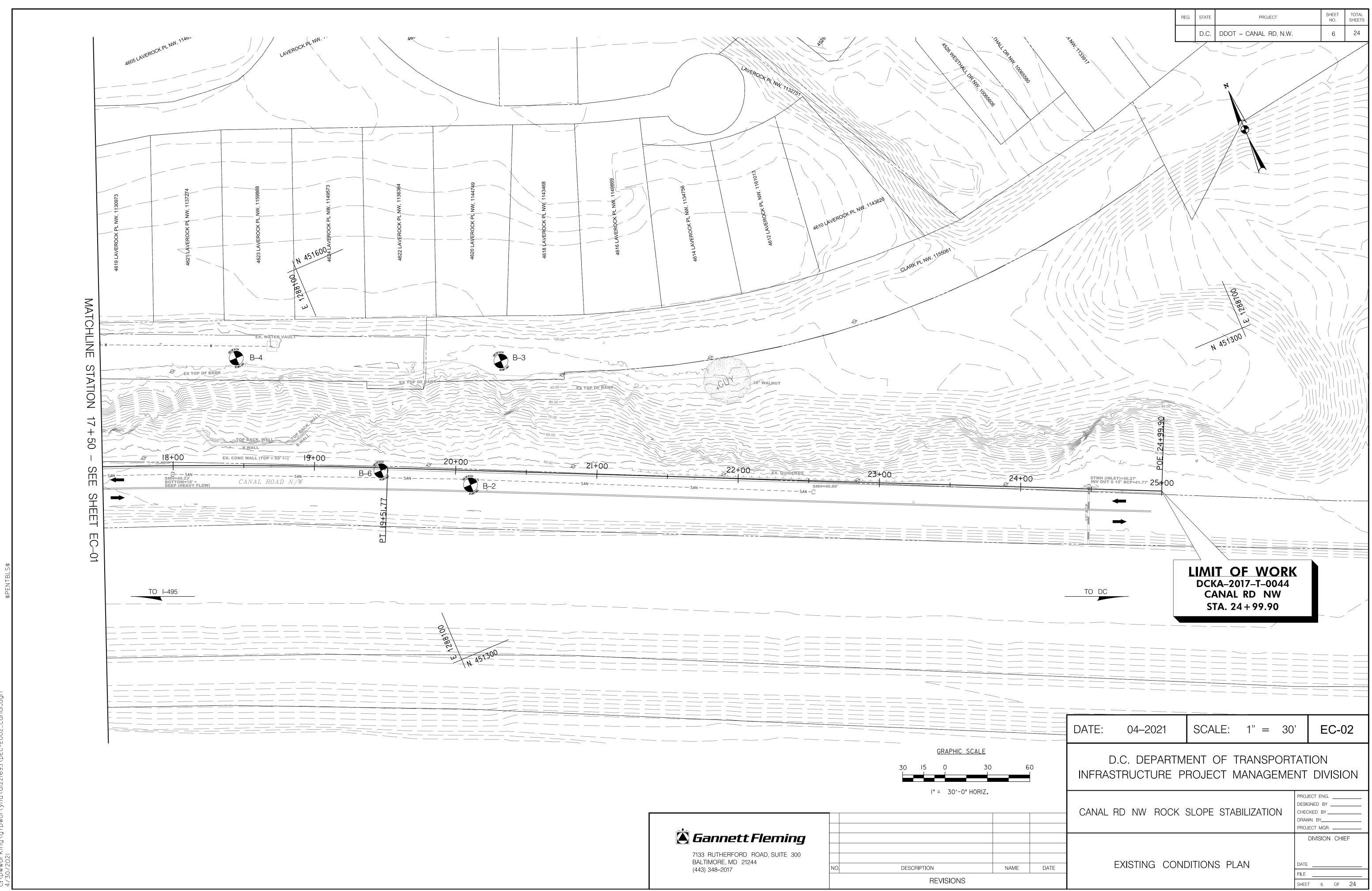
	TRAVER	SE POINTS	
POINT NO.	NORTH	EAST	ELEVATION
S1	451884.5893	1287309.0515	99.21
S2	451853.6277	1287461.9555	99.14
S3	451780.0287	1287582.0145	98.76
S4	451676.1873	1287671.7445	47.44
S5	451801.9418	1287707.2035	63.67
S6	451651.0697	1287844.3575	98.39
S7	451572.1135	1287993.4415	98.35
S8	451466.9043	1288280.2475	99.13
S9	451752.5778	1287335.8075	45.52
S10	451679.397	1287491.9815	45.59
S11	451587.6755	1287759.3005	45.03
S12	451521.7889	1287890.6015	45.91
S13	451403.2916	1288163.4775	47.67
S14	451353.1393	1288301.6805	47.05
S15	451277.5036	1288437.8675	46.65
S6_1	451669.0702	1287764.4385	95.1
S6_2	451591.8446	1287938.9825	98.33
S6_3	451676.7055	1287539.0495	45.61
S6_4	451494.4831	1288207.8055	98.28
S6_5	451643.738	1287662.4685	45.96
S6_6	451403.1453	1288196.9955	47.61
S6_7	451478.5662	1288029.4325	46.79
VRS_1	451949.7232	1287188.7695	102.87
VRS_2	451781.8323	1287592.0775	98.56

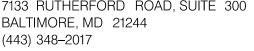


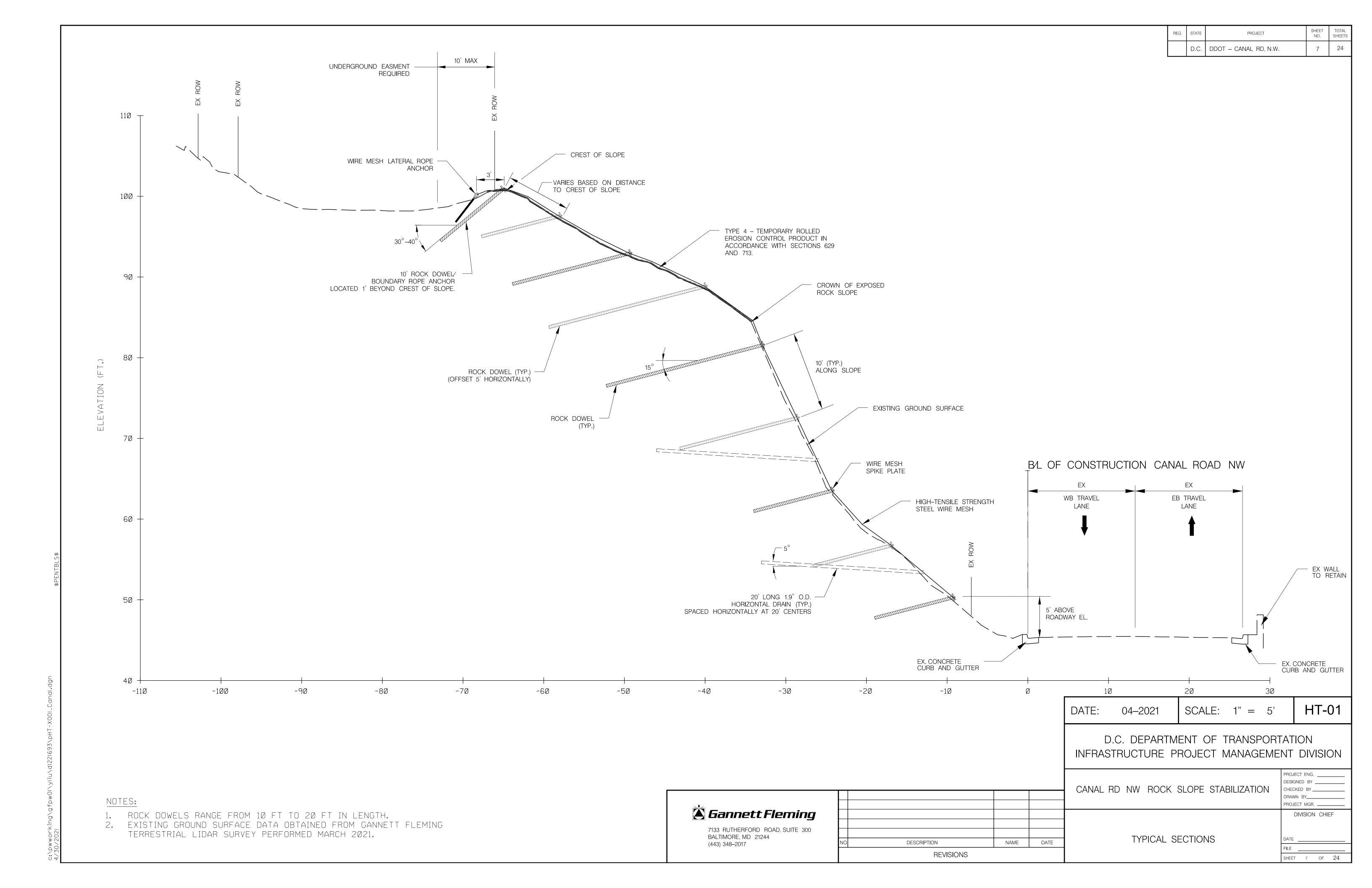
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200		D.C. DEPARTMENT OF TRANSPORTATION INFRASTRUCTURE PROJECT MANAGEMENT DIVISION									
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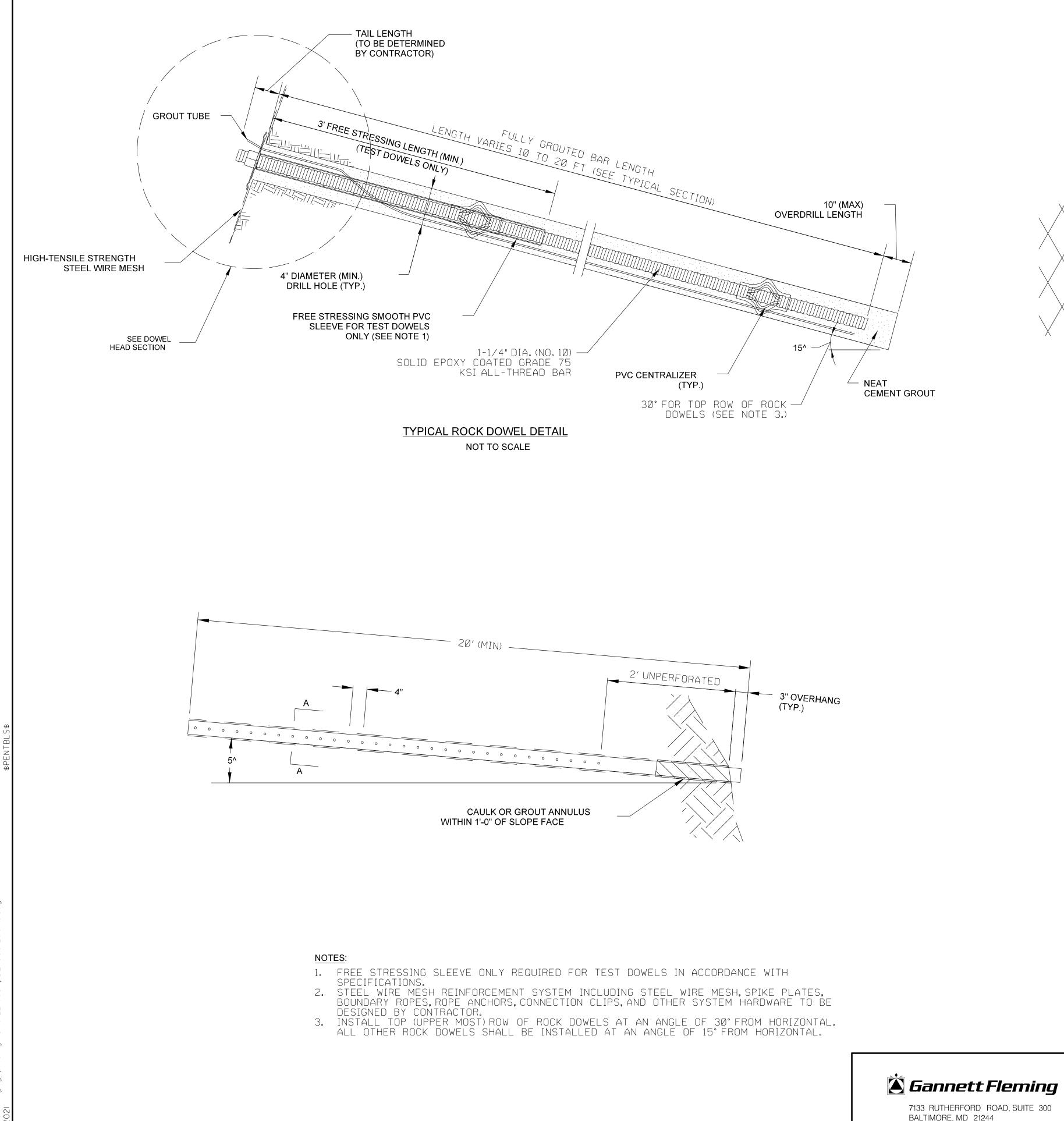


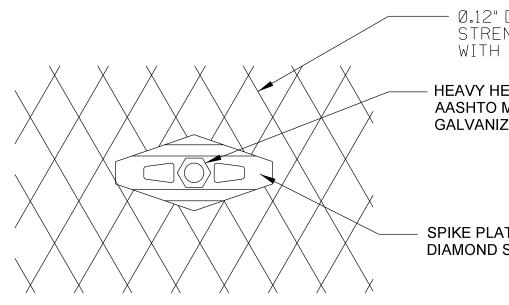
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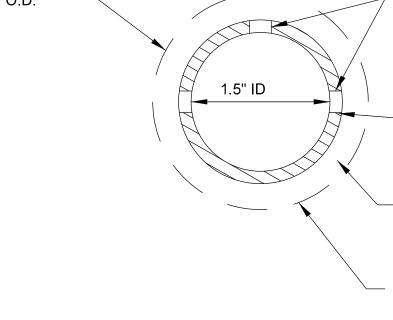






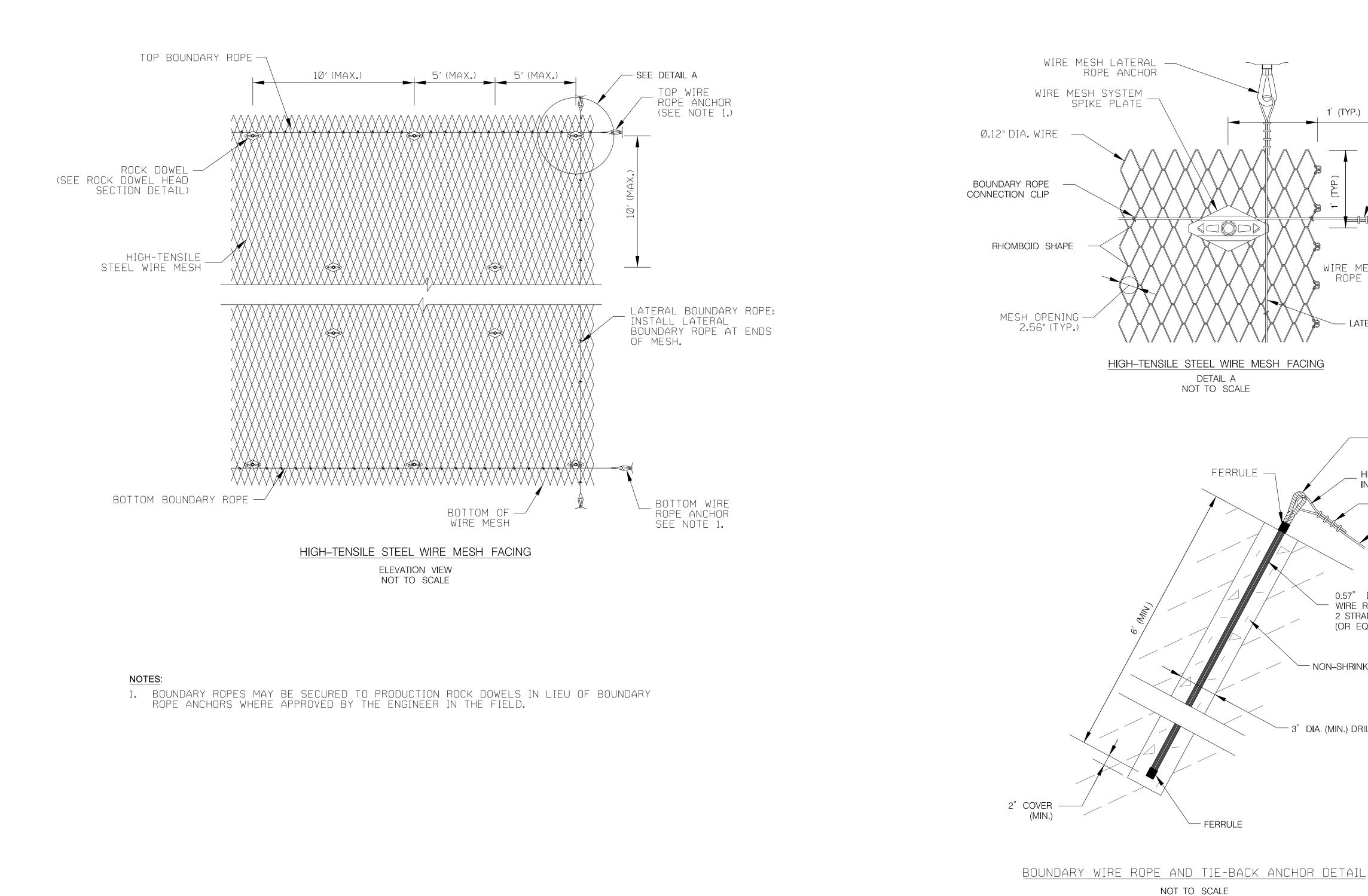


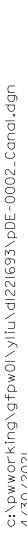




BALTIMORE, MD 21244 (443) 348–2017

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	AAS	HTO M291, (	୮ (FLAT OR § GRADE B							
	GAL	VANIZED								
		E PLATE, 13' OND SHAPE	" x 8" (MIN.), ED, GALVANI	ZED —						
								NEAT CEMENT GRO	UT	
					, ,					
	ROCK D	OWEL HE		<u>IL</u>						
		NOTIOS	JUALL							
		Ç"	DIA. HOLES							
.9" O.D.		PII	PE LENGTH							
Y A	1.5" ID									
		/	1.5" NOMINA PIPE	AL SCHEDULE	80 PVC					
	× ×	_	PIPE							
				UT ANNULUS C SLOPE FACE	DF PVC					
		2.5" D DRILL	IA. (MIN.) . HOLE							
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				DATE:	04 0001					- 01
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				C	D.C. DEPAR	TME	ENT (	OF TRANSPOR	TATION	
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									PROJECT ENG DESIGNED BY	
				CANAL	RD NW ROC	KS	LOPE	STABILIZATION	CHECKED BY DRAWN BY	
									PROJECT MGR	
									DATE	
NO. DESCRIPTIC	N REVISIONS	NAME	DATE		MISCELLAN	EUL	IS DE	I AILS	DATE	
									SHEET 8	of 24





					DATE:	04–2021	SCALE: N.T.S.	DE-02
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					CANAL	RD NW ROCK	SLOPE STABILIZATION	PROJECT ENG DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR
7133 RUTHERFORD ROAD, SUITE 300 BALTIMORE, MD 21244 (443) 348–2017	NO.	DESCRIPTION	NAME	DATE		MISCELLANEO	US DETAILS	DIVISION CHIEF
		REVISIONS						SHEET 9 OF 24

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	D.C.	DDOT – CANAL RD, N.W.	9	24

1'(TYP.)

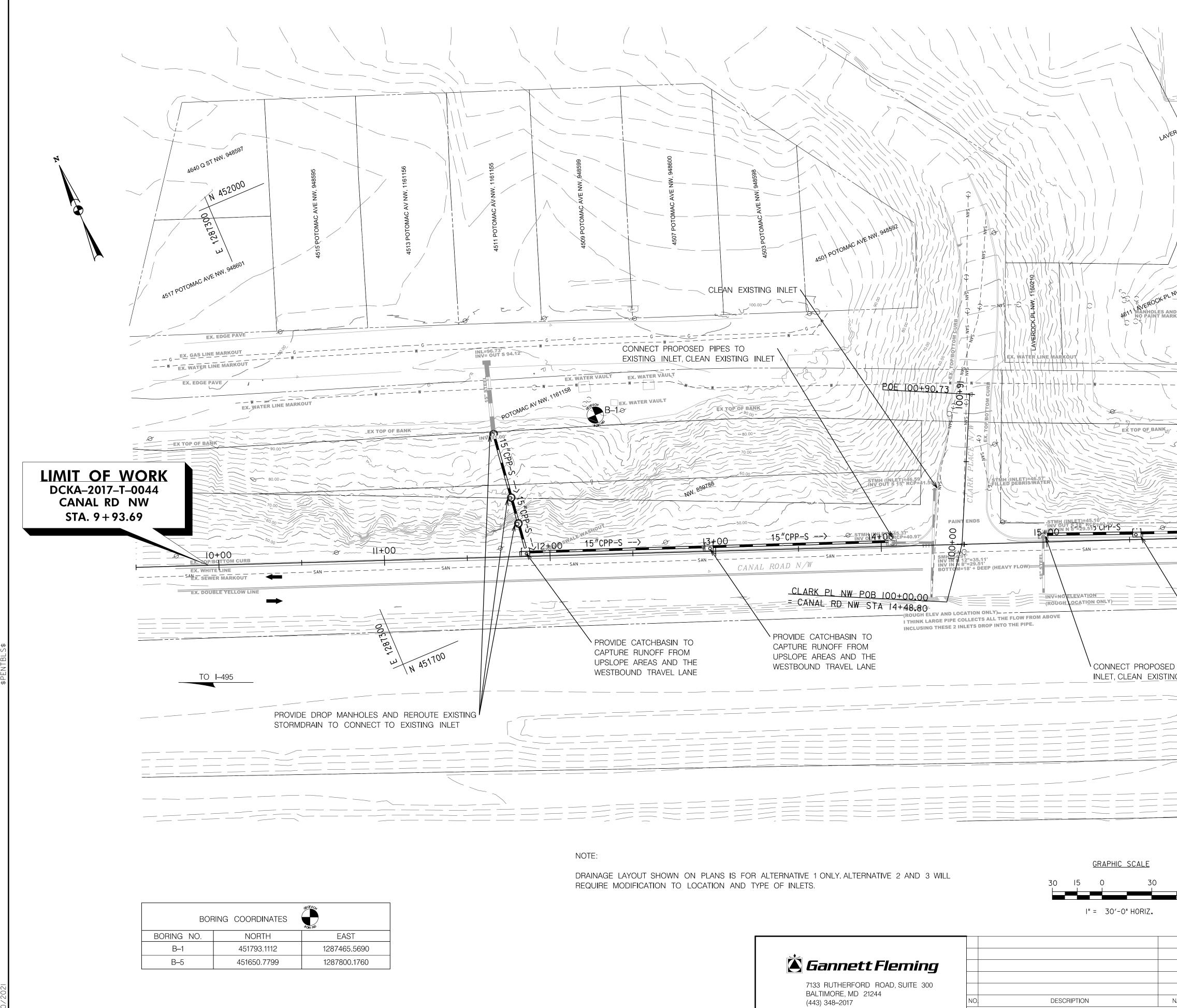
IRE MESH TOP
ROPE ANCHOR
LATERAL BOUNDARY ROPE
TWO HOT-DIPPED GALVANIZED STEEL TUBES IN
HEAVY-DUTY THIMBLE

TWO HOT-DIPPED GALVANIZED STEEL TUBES IN LOOP AREA	
HEAVY-DUTY THIMBLE IN BOUNDARY ROPE LOOP	
WIRE ROPE CLIPS (4) MIN.	
BOUNDARY ROPE	

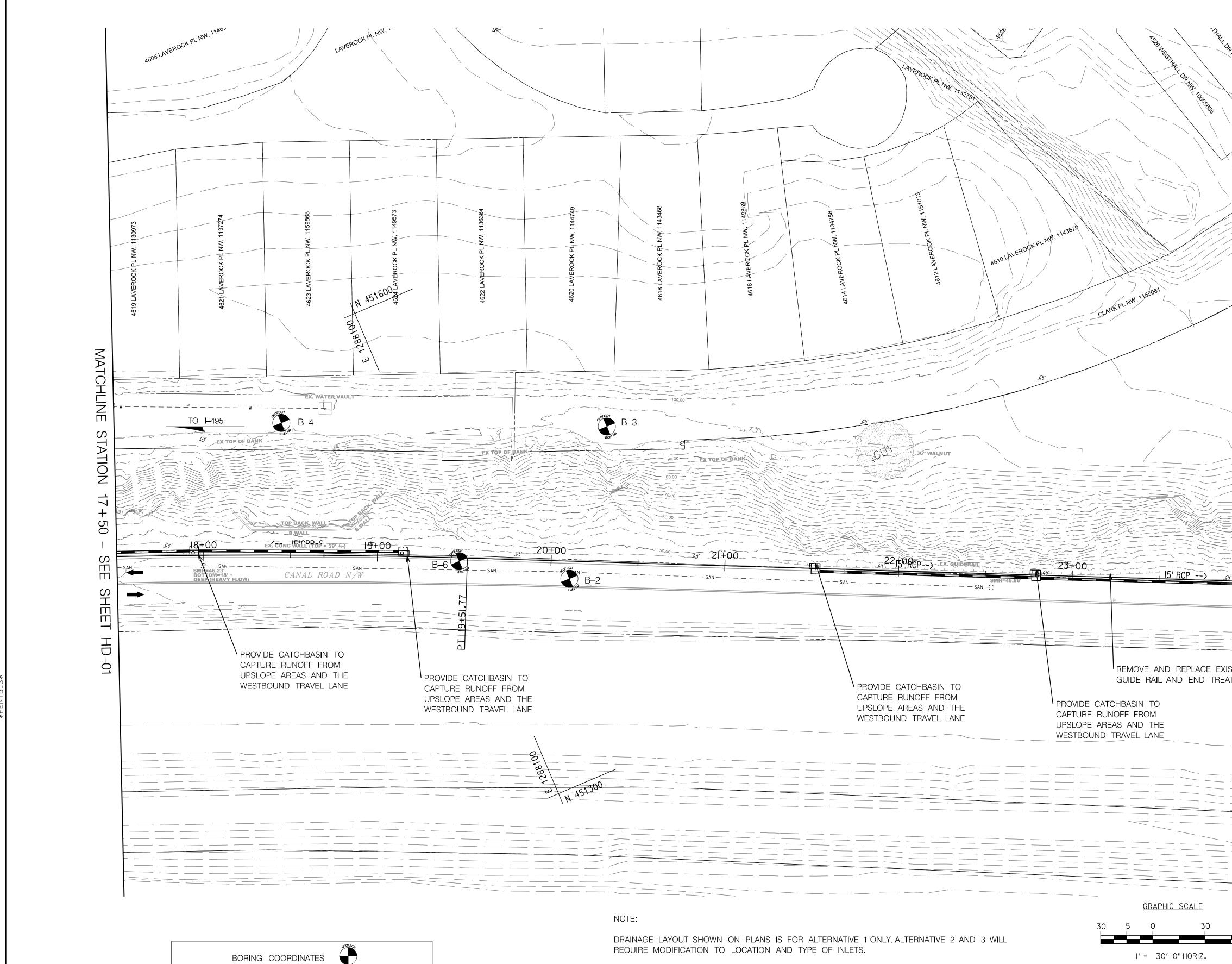
0.57" DIA. SPIRAL WIRE ROPE ANCHOR, 2 STRANDED (OR EQUAL)

- NON-SHRINK GROUT

- 3" DIA. (MIN.) DRILL HOLE



		REG STATE	PROJECT	SHEET NO.	TOTAL SHEETS
		D.C.	DDOT – CANAL RD, N.W.	10	24
		4617 LAVEROCK PL NW. 139678	MATCHLINE STATION 17+50 - SEE		
2"=35.11' =29.51' 8' + DEEP (HEAVY FLOW)	EX. DOUBLE YELLOW LINE		SHEE		
	TCHBASIN TO				
UPSLOPE AR	EAS AND THE CAPT TRAVEL LANE UPSL	URE CATCHE URE RUNOF OPE AREAS	F FROM NO THE		
CONNECT PROPOSED PIPE TO EXISTIN	IG WEST TO DC	TBOUND TRA			
		·			
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BORING NO.	NORTH	EAST
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B-3	451483.5096	1288208.0980
B-4	451558.5940	1288036.4760
B-6	451445.3622	1288099.6590



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## **Project Description**

This project includes slope stabilization along Canal Rd NW in Washington DC. The project is within PROW, tidal MS-4 (Municipal Separate Storm Sewer System) and non-AWDZ (Anacostia Waterfront Development Zone) area. The total disturbed area for the project is xxxx sf.

## **Prohibited Discharges**

The following discharges are prohibited:

Wash-water from concrete, paint, curing compounds, and other construction materials Fuels, oils, equipment-related compounds Soaps, solvents used for vehicle washing Waste, garbage, sanitary waste

Regularly inspect and maintain all mechanized equipment used in or near surface water to prevent contamination from fuels, lubricants, hydraulic fluids, or other toxic materials.

Solid waste generated from the project will consist of construction debris, garbage, and empty containers. Collect and store all waste in dumpsters, or in metal or plastic drums, as appropriate.

Hazardous waste will not be generated from normal construction activities. Equipment fueling and maintenance could generate spills, leaks, and hazardous wastes like motor oil, diesel, gasoline, and battery fluid. If feasible, conduct these activities in a covered area to avoid contact with storm water. Store all hazardous waste materials in appropriate and clearly marked containers away from other nonwaste materials. Do not dispose of hazardous water materials into the on-site dumpsters. Dispose of material according to Federal, State, and local regulations.

Develop and implement a Spill Prevention Control and Countermeasures (SPCC) plan following the requirements under 40 CFR 112. Report spills large enough to discharge to surface waters to the National Response Center at 1-800-424-8802.

## **General Guidelines**

The Erosion & Sediment Control Narrative is meant as a guideline for preventing erosion and controlling sediment. The work consists of applying measures throughout the life of the project to control erosion and to minimize the sedimentation of rivers, streams, and impoundments such as lakes, reservoirs, bays, and coastal waters. The measures consist of soil erosion control measures which are also defined and outlined in the Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects, FP-03, (English) and the Special Contract Requirements.

Do not modify the type, size, or location of any control or practice without prior approval from the Contracting Officer (CO).

No construction access will be permitted through a wetland or waterway.

Do not allow construction vehicles to track sediment outside the project limits.

Do not allow any construction equipment to operate on or access the down-slope side of the perimeter control measures.

Direct storm water to vegetated buffer areas and do not discharge directly into surface waters.

## Sequence of Construction

## Phase I Establish Perimeter Controls

Prior to any clearing, grubbing, and excavation, cor does not leave the project site. Perimeter controls measures outside the construction limits.

#### Phase II Intermediate Controls

Apply intermediate controls during rough grading of culverts as called out in the Erosion and Sediment roadway.

Apply temporary turf establishment in disturbed ar within 7 days. Apply permanent turf establishmen

At the end of each day's grading operations, shape runoff.

Provide silt fence around all stockpiled excavated r stockpiles remaining in place longer than 14 days

## Phase III Final Construction / Stabilization

After completion of roadway construction, do the for Finish grading, and apply permanent turf established Where necessary, replace eroded topsoil and r where vegetation has not established. Remove silt fence only after all upslope areas Remove all other perimeter controls when dire

#### Maintenance and Inspection Procedures

Unless stated otherwise, construct and maintain all according to Section 157, the details shown in the Check and maintain erosion control measures once 0.25 inches or more, and daily during wet weather end of the day.

Inlet protection - inspect for buildup of excess sedi impoundment to its original dimensions when sedi

Silt fence - inspect for buildup of excess sediment, becomes damaged, repair or replace as necessary. it becomes 0.5 ft deep at the fence.

Stabilized Construction Entrance - inspect for build sediment in order to ensure proper functioning of t

Record the inspection date and summary of finding

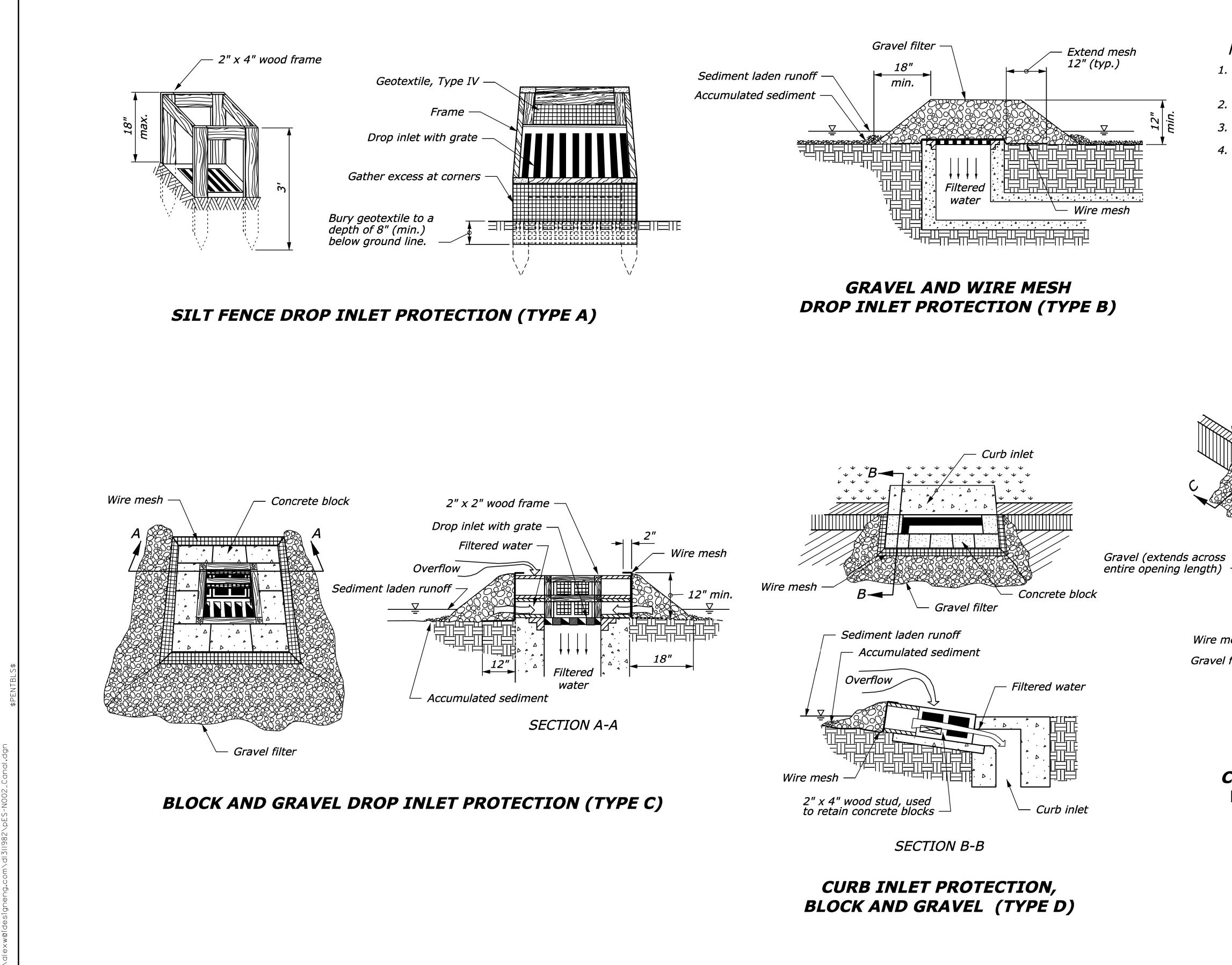
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	CANAL RD NW ROO	CK SI	_OPE	STABILIZATION		BY 3Y	
	Deter         CAMMERD, NW           Peter controls to ensure that disturbed sedime ence, inlet protection, and other approved           Install silt fence in areas surrounding the s. Install filter berms in ditches along the           remain exposed for over 14 calendar days hed slopes according to Section 624 and 625.           ro minimize and control erosion from storm           erial. Apply temporary turf establishment to s of stockpiling.           lirected by the CO: any remaining disturbed areas. manent turf establishment to disturbed areas d and vegetation is well established.           CO.           and structural erosion control practices he individual permitting requirements. s and within 24 hours after a rain of d replace any damaged measures by the           by esediment and restore the cumulated to ½ the design depth.           cg, sags, and other failures. If the fabric diment from behind the silt fence when           esediment. Remove the accumulated thours of completing a site inspection.           DATE:         04–2021           SCALE:         N.T.S.           D.C. DEPARTMENT OF TRANSPORTATION           INFRASTRUCTURE         PROJECT MANAGEMENT			PROJECT	MGR SION CHII		
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GENERAL NOTES

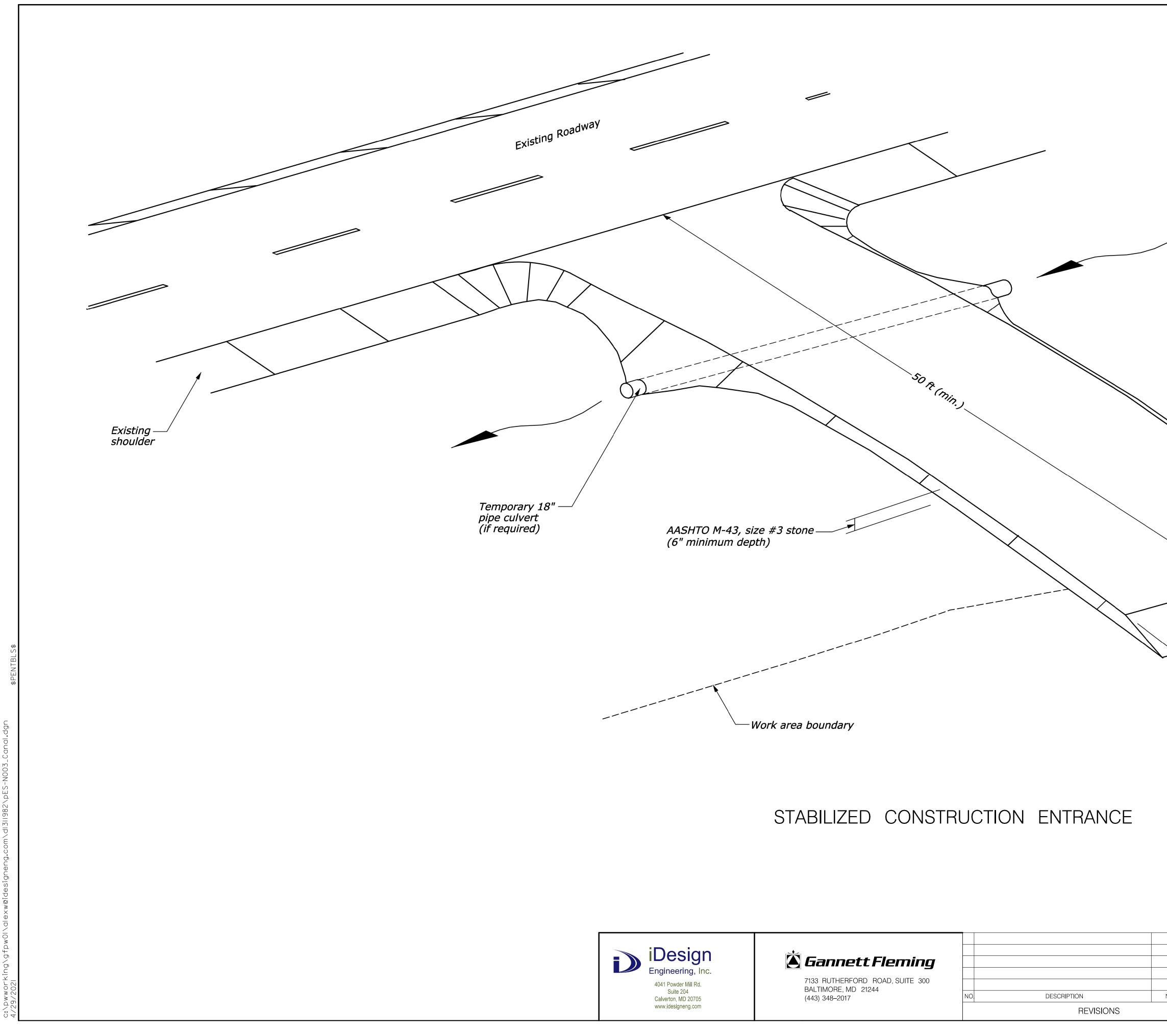
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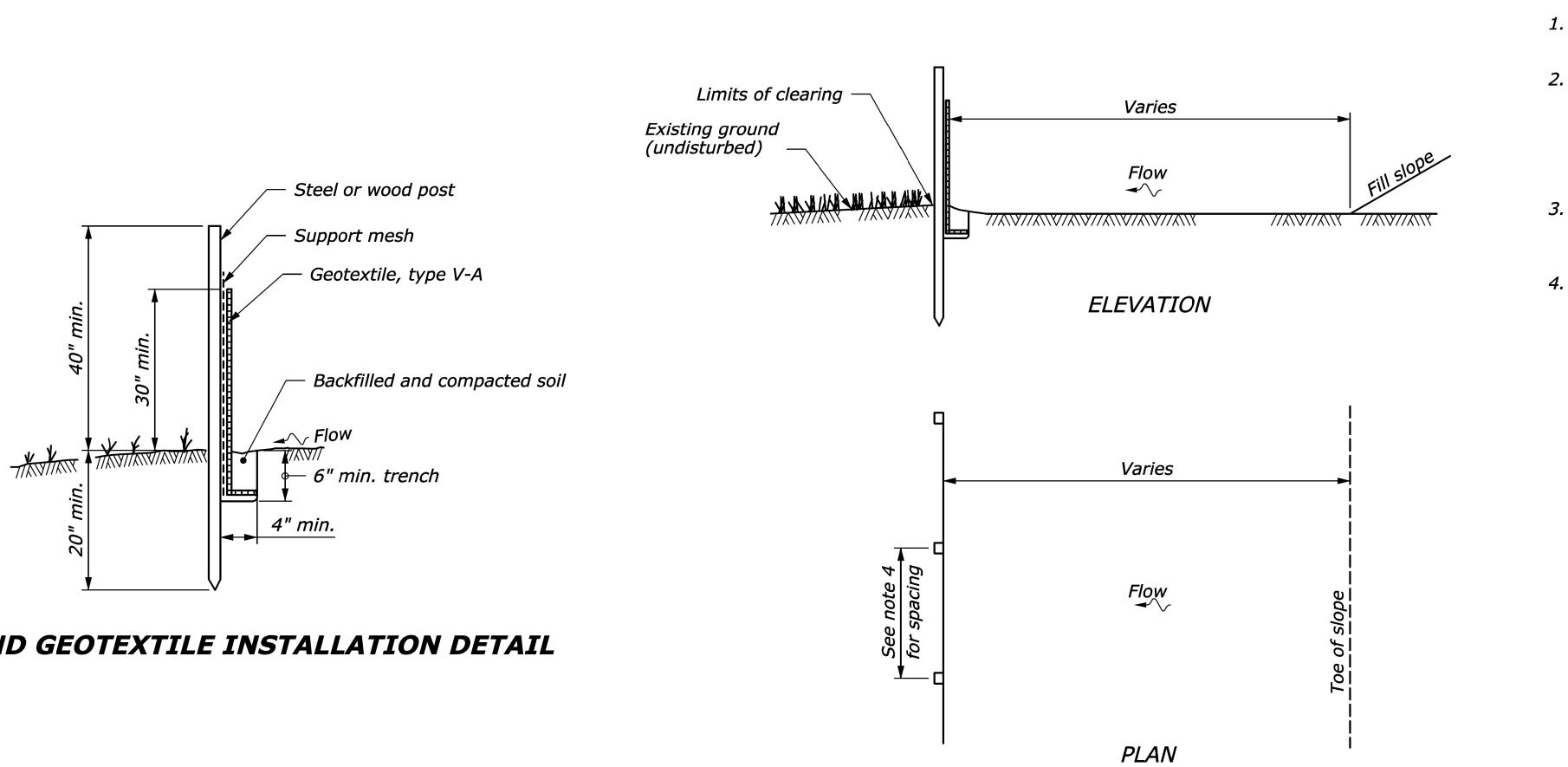


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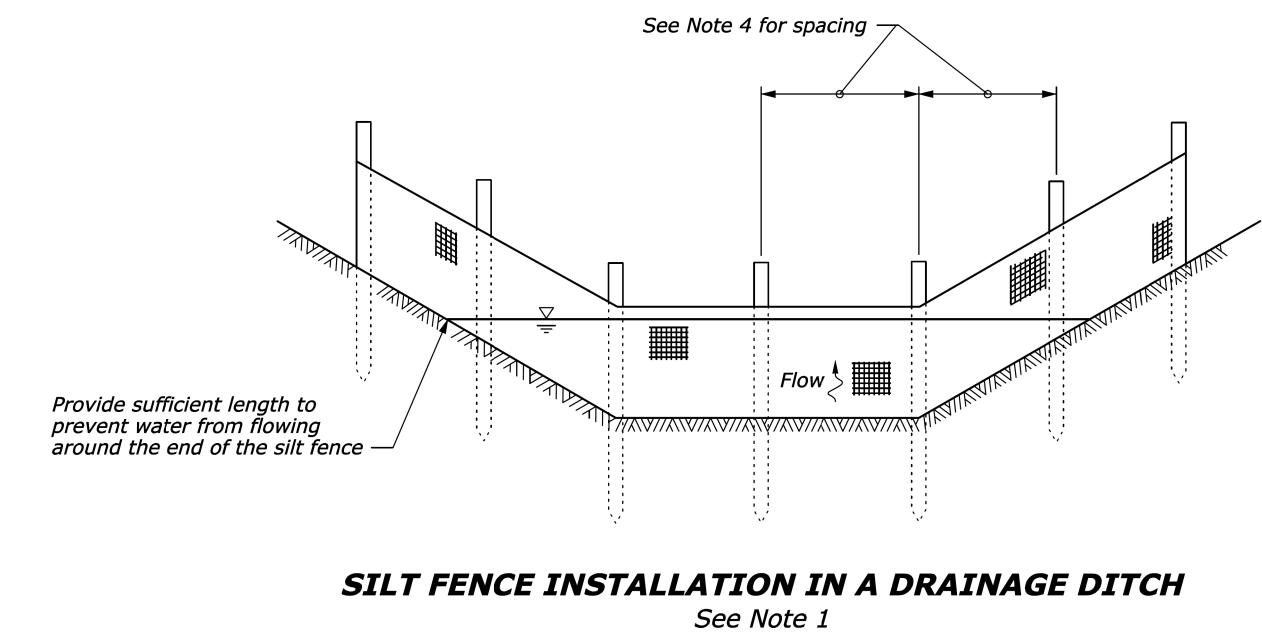
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Extend mesh	<b>NOTE:</b> 1. For gravel fi	ilters use 2"	- 3" diameter	r coarse						
	aggregate. 2 Use wire me	esh with $\frac{1}{2}$ "	x ½" opening	c						
		mesh with $\frac{1}{2}$ " x $\frac{1}{2}$ " openings. A inlet protection in sump locations only.								
	4. Use Type B	-	-							
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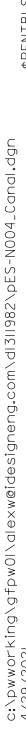


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	1. Const entra	ruct drainag nce when re	ge ditches alo equired.	ng						
	Instal	ll temporary	18" pipe culv rosses existin	verts						
	draina	age ditches.	I USSES EXISLIII	9						
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	the ei the ag	ntire area pi ggregate ba	rior to placing se.	,						
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# POST AND GEOTEXTILE INSTALLATION DETAIL





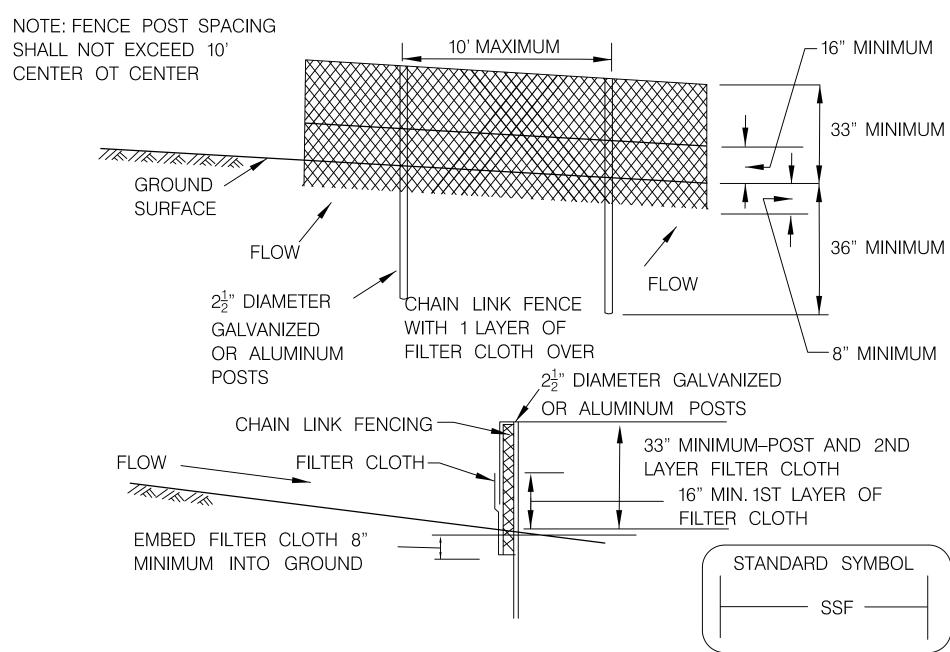
# SILT FENCE INSTALLATION





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Fill Slope	type V-B) w dimensions recommend types must	eassembled silt fill be allowed as are satisfied. Fo ations for install ensure silt fence de down, suppol	long as s llow manu lation proc remains	pecific Ifactu cedure attacl	ed Irer's es. A	s 4//		
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	4. 10 ft. (max. 6 ft. (max.)	) spacing with fo spacing without	ence supp fence sup	ort. oport.				
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Toe of slope								
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		CANAL RD 1	NW ROCK	( SLC	)PE	STABILIZATION	PROJECT ENG DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR	
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# DETAIL – SUPER SILT FENCE



#### Construction Specifications

Fencing shall be 42 inches in height and constructed in accordance with the latest Maryland State Highway Details for Chain Link Fencing. The specification for a 6 foot fence shall be used, substituting 42 inch fabric and 6 foot length posts.

1. The poles do not need to set in concrete.

2. Chain link fence shall be fastened securely to the fence posts with wire ties or staples.

3. Filter cloth shall be fastened securely to the chain link fence with ties spaced every 24" at the top and mid section.

4. Filter cloth shall be embedded a minimum 8" into the ground.

5. When two sections of filter cloth adjoin each other, they shall be overlapped by 6" and folded.

6. Maintenance shall be performed as needed and silt buildups removed when "bulges" develop in the silt fence.

STANDARD SYMBOL	
SSF	

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<b>iDesign</b> Engineering, Inc.	🖄 Gannett Fleming		
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Design Criteria

Slope

Steepness

0 - 10:1

10:1 - 5:1

5:1 – 3:1

3:1 - 2:1

2:1 +

Slope

0 - 10%

10 - 20%

20 - 33%

33 - 50%

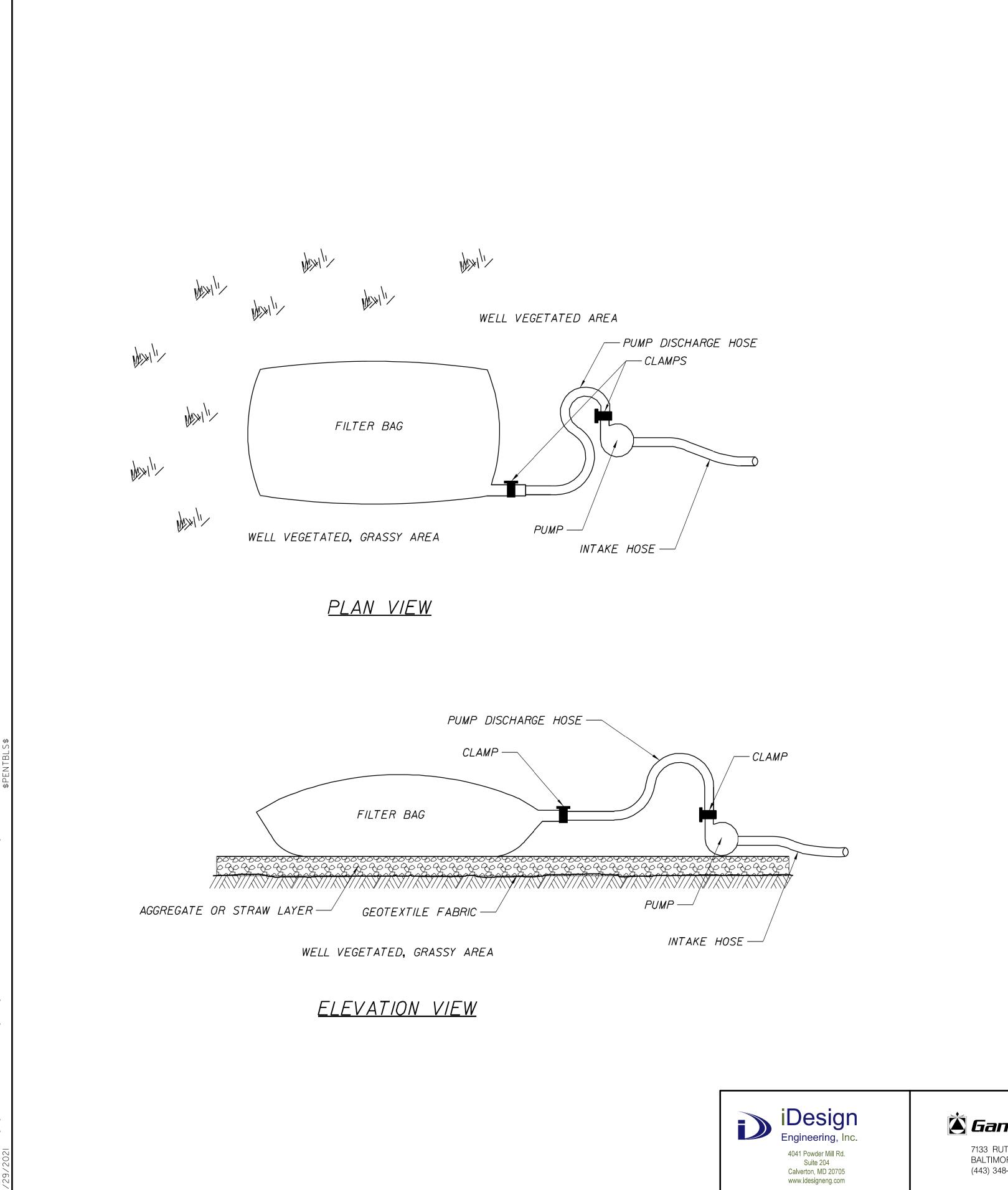
50% +

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REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
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Slope Length (maximum)	Silt Fence Length (maximum)
Unlimited	Unlimited
200 feet	1,500 feet
100 feet	1,000 feet
100 feet	500 feet
50 feet	250 feet

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NOTES:

- I. WATER FILTRATION BAGS:

- local ordinances.
- waters.

- directed by the CO.
- 2. SITE CONDITIONS AND ASSUMPTIONS:
- conditions and design assumptions.



7133 RUTHERFORD ROAD, SUITE 300 BALTIMORE, MD 21244 (443) 348–2017

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				CANAL	RD NW ROCK	SLOPE STAB		ROJECT ENG PESIGNED BY CHECKED BY PRAWN BY ROJECT MGR			
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REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	D.C.	DDOT – CANAL RD, N.W.	17	24

A. Filter or dewatering bags are used to filter water pumped from disturbed areas prior to discharging to waters as indicated in the plans or as directed by the CO.They may also be used to filter water pumped from the sediment storage areas of sediment basins. Follow all manufacturer's instructions for installation, use, and maintenance.

B. Filter bags are made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. The bags should be capable of trapping particles larger than 150 microns.

C. A suitable means of accessing the bag with machinery required for disposal purposes must be provided and approved by the CO. Replace filter bags when they become half full or per manufacturer guidelines. Have spare bags available on site for replacement of those that have failed or are filled. Dispose bags legally off Government property per

D. Locate bags in well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, provide a aggregate or straw flow path. Do not place bags on slopes greater than 5%. Filter bags may not be placed in the stream or any location where a bag failure would result in sediment being released into the stream

E. Insert the pump discharge hose into the bags as specified by the manufacturer and securely clamped.

F. The maximum pumping rate should be set at no greater than 750 gallons per minute or half the maximum as specified by the manufacturer, whichever is less. Pumping rates will vary depending on the size of the filter bag, and the type and amount of sediment discharged to the bag. The pump intake should be floating and screened.

G. Inspect filter bags daily. If any problem is detected, cease pumping immediately and do not resume until the problem is corrected or as

A. See Section 157 of the Special Contract Requirements for site

B. Unless otherwise directed by the CO, the size and the number of filter bags required is based on the assumptions listed in the Special Contract Requirements and per manufacturer's recommendations.

- 1. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THE SAFETY OF THE PUBLIC AND HIS /HER WORKERS THROUGH THE TERM OF THIS CONTRACT. THE MOTORIST MUST BE GUIDED IN A CLEAR AND POSITIVE MANNER WHILE APPROACHING AND PASSING THROUGH THE CONSTRUCTION AREA.
- 2. THE CONTRACTOR SHALL DEVELOP HIS /HER CONSTRUCTION SCHEDULE WITHIN THE FRAMEWORK OF THE TRAFFIC CONTROL PLAN (TCP) PROVIDED HEREIN. THE CONTRACTOR'S ACTIVITIES SHALL NOT CHANGE THE OPERATIONAL REQUIREMENTS SET FORTH IN THIS TCP, EXCEPT AS PROVIDED BY THE ENGINEER PRIOR TO THE EXECUTION OF CONSTRUCTION OPERATIONS OR TASKS IN SUBSEQUENT CONSTRUCTION PHASES.
- 3. THE CONTRACTOR MAY USE AN ALTERNATE TCP. SUBJECT TO APPROVAL BY THE ENGINEER.
- 4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THE INSTALLATION OF TRAFFIC CONTROL DEVICES (TCD) IN CONFORMANCE WITH THE DDOT STANDARD DRAWINGS (2015 EDITION), THE "D.C. TEMPORARY TRAFFIC CONTROL MANUAL" (2006 EDITION) AND THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), 2009 EDITION, PRIOR TO THE BEGINNING OF OPERATIONS. INSTALLATION OF TEMPORARY SIGNS AND DEVICES SHOWN IN THE PLANS IS CONSIDERED AN ESSENTIAL MINIMUM REQUIREMENT, AND DOES NOT RELEASE THE CONTRACTOR FROM HIS /HER RESPONSIBILITY OF ENSURING SAFE CONDITIONS DURING CONSTRUCTION.
- 5. EXISTING TCD'S SHALL BE COVERED OR REMOVED WHEN NOT APPLICABLE. THE PAYMENT IS INCLUDED IN THE "LANE CLOSURE" BID ITEM.
- 6. ANY DRAINAGE, SIGNING, LIGHTING, UTILITY, EROSION AND SEDIMENT CONTROL PROTECTION, PAVEMENT MARKING AND OTHER MISCELLANEOUS WORK SHALL BE PERFORMED AS THE TCP ALLOWS.
- 7. THE CONTRACTOR SHALL USE WATER-FILLED BARRIERS FOR WORK AREA PROTECTION, WITH THE LEADING END SERVING AS ITS OWN PROTECTIVE END-TREATMENT. WATER-FILLED BARRIERS SHALL BE INSTALLED WITH THE FIRST SEGMENT UN-FILLED PER THE MANUFACTURER'S RECOMMENDATIONS.
- 8. THE CONTRACTOR SHALL COVER ALL EXCAVATIONS WITH STEEL PLATES AT THE END OF EACH WORK DAY. THE CONTRACTOR SHALL BACK-FILL ANY EXCAVATION DROP-OFFS GREATER THAN 2.5" WITH AGGREGATE AT 4:1 MAX. SLOPE, AT THE END OF EACH WORK DAY.
- 9. THE CHIEF ENGINEER SHALL ROUTINELY INSPECT THE TCP SETUP DURING EACH CONSTRUCTION PHASE. IF DEFICIENCIES ARE NOTED, THE ENGINEER RESERVES THE RIGHT TO STOP ALL WORK UNTIL CORRECTIVE ACTION IS TAKEN.
- 10. TEMPORARY REMOVABLE REFLECTIVE PAVEMENT TAPE OF AN APPROVED TYPE SHALL BE USED TO DESIGNATE TEMPORARY TRAFFIC LANES ON ALL FINAL PAVEMENT SURFACES THAT REQUIRE TEMPORARY PAVEMENT MARKINGS. TEMPORARY PAINT SHALL ONLY BE USED ON SURFACES THAT ARE SCHEDULED FOR REMOVAL, OR THAT ARE SCHEDULED FOR FINAL SURFACE CONSTRUCTION IN A LATER PHASE. PAVEMENT MARKINGS SHALL BE WHITE OR YELLOW AS NOTED.
- 11. THE CONTRACTOR SHALL ERECT STATIC SIGNS WITH THE MESSAGE "CONSTRUCTION WILL START ON XX/XX" AT BOTH LIMITS OF THE CANAL ROAD, NW PROJECT SEGMENT A MAXIMUM OF FIVE (5) DAYS AFTER RECEIVING THE NOTICE-TO-PROCEED.

## TRAFFIC CONTROL PLAN (TCP) GENERAL NOTES

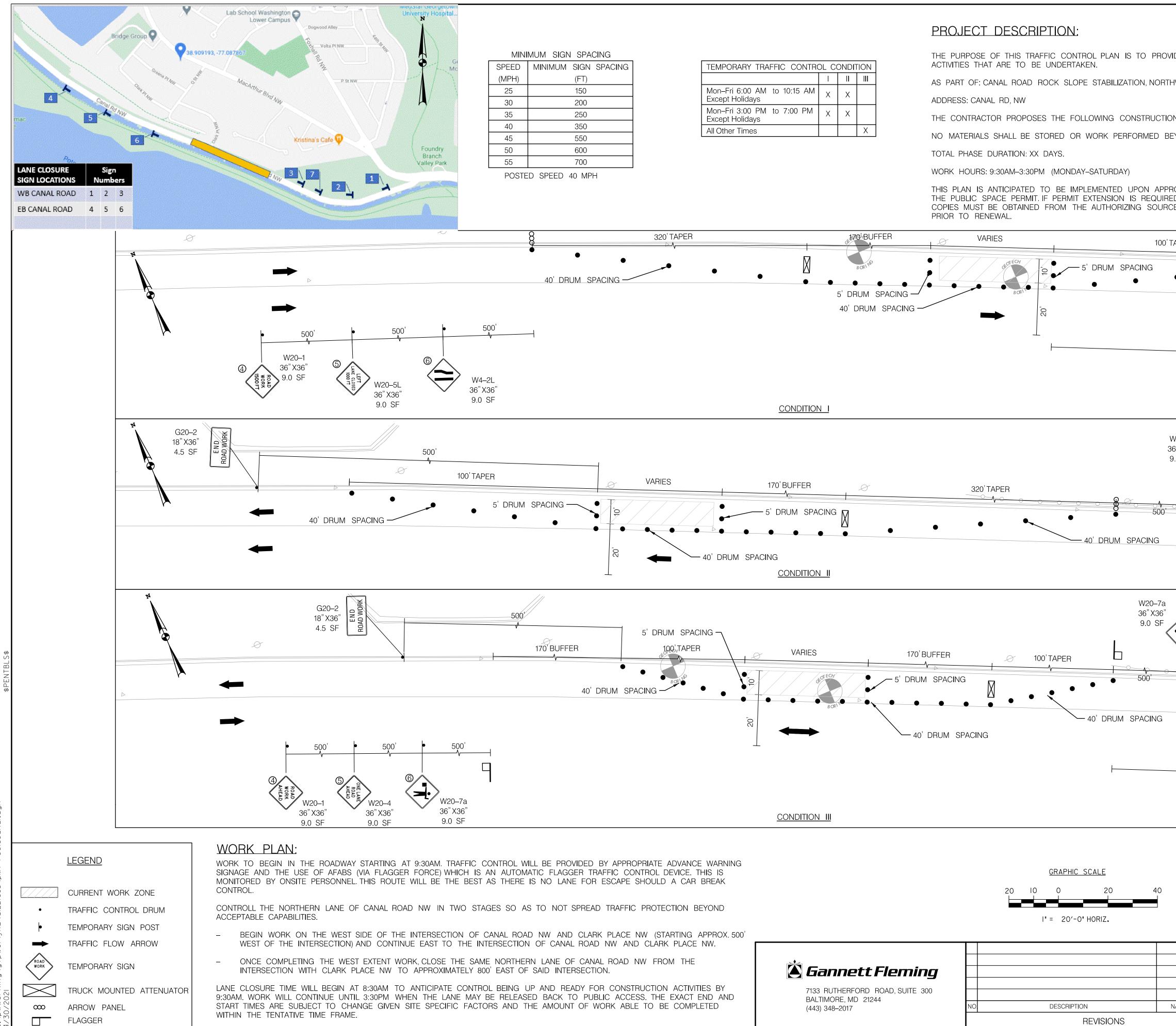
- 12. UNLESS OTHERWISE NOTED, SPACING BETWEEN WARNING SIGNS SHALL BE AT LEAST 250 FT.
- 13. ALL TRAFFIC DRUMS USED FOR THE TRAFFIC CHANNELIZATION AND WORK ZONE DELINATION AND PROTECTION, SHALL BE FABRICATED WITH A LOW-DENSITY MATERIAL UNLESS OTHERWISE NOTED SPACING BETWEEN TRAFFIC DRUMS SHALL BE NO GREATER THAN 40 FT.
- 14. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO THE START OF CONSTRUCTION. ALL EXISTING INLETS IMPACTED BY THE CONSTRUCTION, INCLUDING NEW INLETS, SHALL BE PROTECTED. SEE EROSION AND SEDIMENT CONTROL PLANS FOR DFTAILS.
- 15. NO WORK WILL BE PERMITTED DURING RUSH HOUR PERIODS, EXCEPT WITHIN THE WORK AREA BEHIND THE TEMPORARY BARRIER. RUSH HOUR PERIODS ARE DEFINED AS 6:30 AM TO 9:30 AM, AND 3:30 PM TO 6:30 PM MONDAY THROUGH FRIDAY.
- 16. NIGHTTIME OPERATIONS ARE NOT PERMITTED IN RESIDENTIAL AREAS OR COMMERCIAL AREAS WITHIN ONE (I) BLOCK OF A HOTEL. WORK IN THESE AREAS WILL BE PERMITTED BETWEEN 9:30 AM AND 3:30 PM. NIGHTTIME WORK IN ALL OTHER AREAS WILL BE PERMITTED, WITH THE APPROVAL OF THE CHIEF ENGINEER.
- 17. WORK WILL NOT BE PERMITTED ON SUNDAYS, ON NATIONAL HOLIDAYS OR ON DISTRICT OF COLUMBIA HOLIDAYS, UNLESS OTHERWISE APPROVED BY THE CHIEF ENGINEER.
- 18. NO RESURFACING OR UTILITY WORK THAT IS NOT BEHIND TRAFFIC BARRIERS WILL BE PERMITTED DURING RUSH HOURS. SEE SPECIAL PROVISIONS FOR ALLOWABLE LANE-CLOSURE HOURS.
- 19. DURING EACH CONSTRUCTION PHASE, THE CONTRACTOR SHALL COMPLETE WORK ON INTERSECTION CORNERS AS EARLY AS POSSIBLE, AND REOPEN LANES TO REGULAR TRAFFIC OPERATIONS WHILE THE REMAINDER OF THE WORK IS COMPLETED.
- 20. THE CONTRACTOR SHALL USE TEMPORARY AC, SUPERPAVE SURFACE COURSE 12.5MM FOR TEMPORARY PAVEMENT DURING CONSTRUCTION IF NEEDED.
- 21. THE TRAFFIC CONTROL PLAN HAS BEEN DEVELOPED BASED ON THE POSTED SPEED LIMIT OF 40 MPH FOR CANAL ROAD, NW.
- 22. THE CONTRACTOR SHALL NOTIFY MR. JAMIE CEPLER OF WMATA AT 202-962-6085 A MINIMUM OF 30 DAYS IN ADVANCE OF ANY CONSTRUCTION OR ROAD CLOSURES TO COORDINATE BUS ROUTE AND SCHEDULE ADJUSTMENTS, AND BUS STOP CLOSURES.
- 23. THE CONTRACTOR SHALL COORDINATE WITH DDOT TO SEQUENCE CONSTRUCTION ACTIVITIES TO MINIMIZE TRAFFIC FLOW DISRUPTIONS AND INCONVENIENCE TO RESIDENTS DURING CONSTRUCTION OF THE DDOT PROJECT ALONG CANAL ROAD, NW.



7133 RUTHERFORD ROAD, SUITE 300	)
BALTIMORE, MD 21244	
(443) 348–2017	

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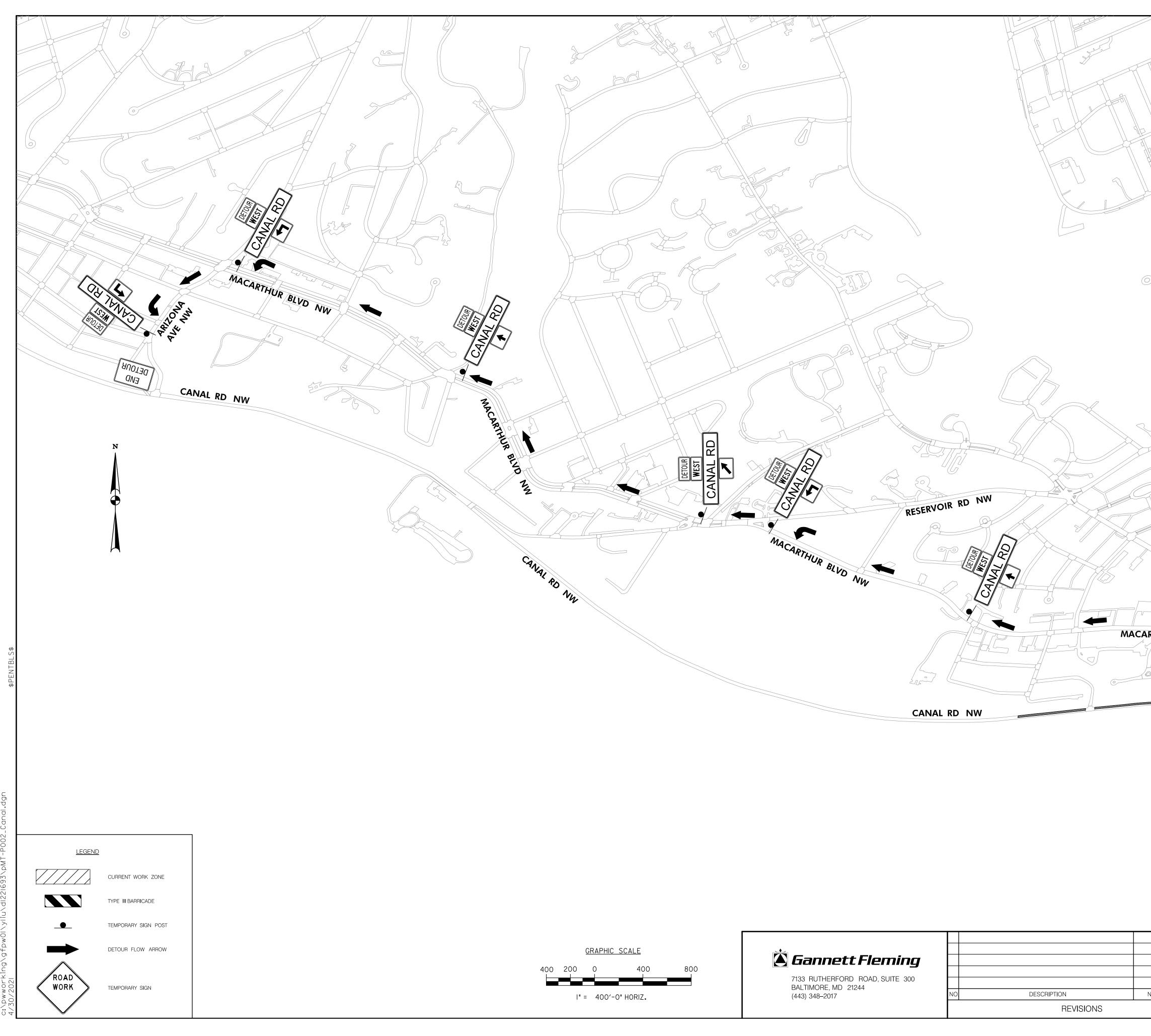


				NO.	SHEETS
		D.C.	DDOT – CANAL RD, N.W.	19	24
IDE ADEQUATE ARE	EA FOR CONSTRUCTION		NOTES:		
HWEST QUADRANT,	WASHINGTON D.C.		1. ALL TEMPORARY TRAFFIC CONTRO MUST BE REMOVE	L MEASURES	DF
	K SLOPE STABILIZATION. DARIES OUTLINED HEREIN		WORK HOURS.		
ED THIS PLAN MUS	S SIMULTANEOUSLY AS ST BE RENEWED AND NEW RIGINAL DATED SIGNATURE				
APER					
•		0 <u> </u>			
- 40' E	DRUM SPACING				
		<b>•</b>			
500'	G20–2 18" V26"	END ROAD WORK			
	18" X36" 4.5 SF	VD WORK			
N4-2R 6" X36" 9.0 SF / 3	W20–5R W20– 36" X36" 36" X36 9.0 SF	<sup>6"</sup> a			
	9.0 SF	WORK WORK			
0000	<u>♦</u> , ○ ○ ○ ♦				
	<b>—</b>				
W3–4 36" X36" 9.0 SF	W20-4 W20-7 36" X36" 36" X36 9.0 SF 2 9.0 SF	<sup>5</sup> ″ • •			
	PREPARED PONELANE PONELA	- ROAD WORK AHEAD			
● <u>500</u> ●	• 500' • 500'	0 0			
		-			
		-			
<b>√</b> 500'					
G20–2 18" X36" 4.5 SF	END ROAD WORK				
	DATE: 04–2021	SCA	LE: 1" = 20	<sup>,</sup> MT-	02
	D.C. DEPART INFRASTRUCTURE		OF TRANSPORT CT MANAGEME		ON
	CANAL RD NW ROCH	K SLOPE	STABILIZATION	PROJECT ENG DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR	
NAME DATE	TRAFFIC PF	ROTECTIO	ON PLAN	DIVISION CH DATE	
				SHEET 19 OF	24

REG STATE

PROJECT

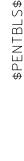
SHEET TOTAL



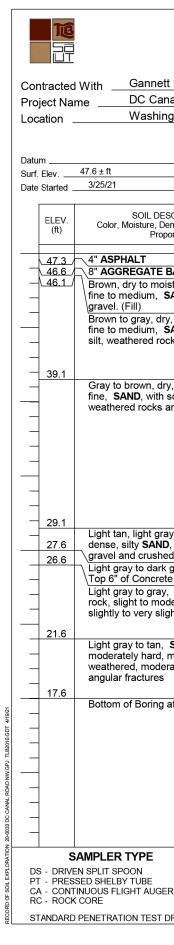
			<u>GR</u>	APHIC	<u>SCALE</u>			
0	20	0	(	) 	40	00	800	
		"	=	400'-C	" HORIZ	79		

		REG STATE	PROJECT	SHEET NO.	TOTAL SHEETS
		D.C.	DDOT – CANAL RD, N.W.	20	24
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	le f		A A		
		]			
G <sup>u</sup>					
R RD NW					~
R KD III					Lb
		1		L.I.	
			A HE ROURS		
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S S S S S S S S S S S S S S S S S S S	L Pa	J	- ANA	I RD NW	
	L RD NW		Chi		
MACARTHUR BLVD N					
SED AD					
Road CLOSED					
RD NW	1.00				
	DATE: 04–2021	SCA	ALE: 1'' = 400'	MT-	03
			OF TRANSPORTA		
	INFRASTRUCTURE				ON
					•
	CANAL RD NW ROCH		D	ROJECT ENG DESIGNED BY CHECKED BY	
			D	RAWN BY ROJECT MGR	
	TRAFFIC			DIVISION CHI	
	DET	OUR FC	R D	ATE	
NO DESCRIPTION NAME DATE REVISIONS	WESTBOUND (	CANAL F	ID CLOSURE 🕞	ILE HEET 20 OF	

		Borin	•	B-1
		Job #	ŧ	20-0033
er 8 in	_ Fore	eman _	M. Fl	letcher
a. <u>2 in</u>	•	pector _	Saga	
d HSA/RC	_ Date	e Compl	leted	3/16/21
SAMPLE				
Blows/6"	No.	Туре	Rec	BORING & SAMPLE NOTES
RQD/REC		Type	(in)	
				1. Drill Rig: Mobile
D 2-1-2	1	DS	2	B-57 with NX core bit for rock
				coring.
D 2-2-2	2	DS	3	2. Rock Coring
D 2-2-2	2	03		started at
			_	29.0-ft
D 10-12-9	3	DS	6	3. Boring location
				was offset by 4.0-ft
D 19-28-36	4	DS	4	4. Representative
				bag sample
				was obtained at 1.0-5.0-ft
D 50/5"	5	DS	5	5. No groundwater encountered in
				soil, Bentonite
				used in flush fluid for rock
				coring. No
D 50/5"	6	DS	6	water reading obtained at
	Ĭ	20		completion and
				@ 24hrs.
				6. Boring
			_	backfilled with auger cuttings
D 50/2"	7	DS	2	upon
				completion and site restored.
RQD=75%	R1	RC	22	
REC=92%				
RQD=51%	R2	RC	51	
REC=85%				
ROD-60%				
REC=85%	R3	RC	51	
N HI	ER DEPTH ft RSft	REC=85%         K3           ER DEPTH         HS/          ft         HS/           RS.        ft	REC=85%         R3         RC           ER DEPTH         BO          ft         HSA - HOL           RSft         CFA - CON	REC=85%         R3         RC         51           ER DEPTH         BORING          ft         HSA - HOLLOW S           RSft         CFA - CONTINUO



ntracted		Fleming Architects								Borin	0	B-1
oject Na		al Road NW Rock S iton DC	slope S	tabiliz	ation					Job #	ŧ	20-0033
cation _	Washing				<b>6</b> 4 1	APLEF	)					
			4.40	11-				0 :				4-b
um f. Elev		Hammer Wt. Hammer Dro				ole Diam ock Core		8 in 2 in		eman _ pector _	M. Fle Sagai	
e Started	0115101	Spoon Size	2 in			oring Me		HSA/RC		te Comp	leted	3/16/21
ELEV.	SOIL DES	CRIPTION	STRA	ы С	王믹			SAMPLE	-			BORING & SAMPLE
(ft)	Color, Moisture, Der Propo		DEPTH (ft)	SOIL	DEPTH SCALE	Core Time (min/ft)	Cond	Blows/6" RQD/REC	No.	Туре	Rec (in)	NOTES
55.2			40.8	22		6.17						
	Dark Gray, SCHIS weathered rock wit			$\mathbb{Z}$		2.93						
-	fractures			$\mathcal{O}$	1 🖡	2.45 3.43		RQD=77%	R4	RC	60	
-				$\mathbb{P}$	45			REC=100%	1.14			
50.2			45.8	$\langle \rangle$	40	3.62						
	Dark Gray, SCHIS weathered, hard ro			$\mathbb{Z}$		4.23						
	fractures			$\bigcirc$	] _	3.45 3.17		RQD=92%	R5	RC	53.2	
-				$\mathbb{P}$	-	3.17		REC=99%				
45.7	Dark Gray, SCHIS	T moderately	50.3	K	50_	3.42						
	weathered, modera	ately hard with		$\mathcal{O}$	1 1	2.63						
	moderate to intens	e fractures		$\mathbb{P}$		2.33		RQD=60% REC=91%	R6	RC	51	
-				$\langle \rangle$	<u>55</u>	2.45 3.28						
40.2			55.8	$\mathcal{O}$	<u> 55 [</u>	7.08						
	Dark Gray, SCHIS fractured, moderate			$\mathbb{P}$								
	weathered, modera			$\bigcirc$	] _	2.83 2.37		RQD=40%	R7	RC	51	
-				$\mathbb{P}$	60	2.95		REC=85%	R/	RC	51	
35.2			60.8	$\mathbb{Z}$	1 00	5.33						
	Gray, SCHIST, inte moderately weather			$\mathbb{P}_{\mathbb{P}}$		6.20						
-	hard rock	·, · · · · · · · · · · · · · · · · ·		$\mathcal{O}$	1 🖡	2.28 2.93		RQD=41%	R8	RC	60	
-				$\mathbb{P}$	65			REC=100%				
30.2			65.8			4.03						
	Gray, SCHIST, mo fractured, moderate			$\mathcal{C}$	1 ]	3.12						
	moderately hard ro			$\mathcal{O}$	] -	2.35 2.53		RQD=30%	R9	RC	49.5	
				$\mathbb{P}$	70	4.27		REC=83%	1.0			
25.2			70.8	$\langle \rangle$		4.17						
	Bottom of Boring a	t 71.0 ft				3.50						
					_	-						
-					75	-						
					75	-						
]						1						
					_	4						
-						-						
	AMPLER TYPE	SAMPLE CC			80 CPC			R DEPTH		PO		METHOD



🎽 Gannett Fleming
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NO.	DESCRIPTION	N					
REVISIONS							

7133 RUTHERFORD ROAD, SUITE 300 BALTIMORE, MD 21244 (443) 348–2017

					REG	STATE			PROJECT			SHEET NO.	TOTAL SHEETS
						D.C.	DDOT	- CA	NAL RD,	N.W.		21	24
Annett Fleming Architects C Canal Road NW Rock Slo ashington DC Hammer Wt. Hammer Drop Spoon Size DIL DESCRIPTION ture, Density, Plasticity, Size Proportions T SATE BASE COURSE to moist, medium dense, tum, SAND, with silt and ay, dry, loose to dense, tum, SAND, with some red rock and mica. (Fill)	SAM 140 lb Hol 30 in Roc 2 in Bor STRA TO H J EPTH OSE	PLER le Diameter ck Core Dia ring Method	LORATION 8 in 2 in HSA/RC 22-12-5 11-5-6 10-31-50/5" 12-12-8	Forem Inspec Date C  	iun	) 1. No l obta to 5 2. Drill B-57 core cori 3. Bori 8.0- ovel clera	G & SAMPLE OTES Bulk sample ined at 1.0 0-ft. Rig: Mobile ' with NX bit for rock						
ight gray, dry, very y SAND, with angular crushed concrete. (Fill) to dark gray, SCHIST, Concrete and Gravel to gray, SCHIST, hard t to moderately weathered, very slightly fractured to tan, SCHIST, y hard, moderately , moderately fractured with ictures Boring at 30.0 ft (PE SAMPLE CON UBE L - INTACT T AUGER U - UNDISTUF L - LOST	26.0 30.0 30.0 30.0 30.0 30 30 30 30 30 30 30 30 30 40 DITIONS GROU 40 DITIONS GROU AFTER CAVE	D 5.5 4.5 2.92 3.25 2.75 3.42 2.83 3.00 1.75 2.83 3.00 1.75 2.83 UNDWATER MPLETION	ft ft it	6   R1   R2   R3   HSA - CFA - DC - MD -	- Hollow - Continu - Driving - Mud Dri	5. No g encision soil. use fluid corir wate obta corr @ 2 6. Upo Con bor bac aug and pate fast quik	red at -ft proundwate: buntered in Bentonite d in flush for rock g. No er reading ined at pletion and 4hrs. n pletion, ng (filled with er cuttings surface hed with grete D ERS						
N TEST DRIVING 2" OD SAMPLER 1'		FALLING 30"	COUNT MADE /		<u>RVALS</u>								
	DATE		04–20	)21		SCA	LE:	١	N.T.S			BR-	01
		ASTR	. DEF UCTU	JRE	PF	OJE	CT N	MAN	IAGE		PROJECT DESIGNED CHECKED DRAWN B		
												ISION CHI	
NAME DATE			B	ORIN	١G	LOGS	5				DATE		
	1												

SHEET 21 OF 24

ntracted	WithGannett Flemin	0								Borin	g#_	B-3
	me DC Canal Road		Slope S	tabiliza	ation					Job #	ŧ	20-0033
ation _	Washington DC	;										
					SAN	1PLEF	R					
m	97.8 ± ft				_	ole Diam		8 in 2 in		eman _		etcher
Elev Started _	0/11/01		p0 2 in			ock Core oring Met		HSA/RC		pector _ te Compl		3/12/21
			1									
ELEV.	SOIL DESCRIPTIOI Color, Moisture, Density, Plas		STRA DEPTH	BOL	DEPTH SCALE	Core		SAMPLE	-		Dee	BORING & SAMPLE
(ft)	Proportions	sticity, Size	(ft)	SYMBOL	SC	Time (min/ft)	Cond	Blows/6" RQD/REC	No.	Туре	Rec (in)	NOTES
96.8	TOPSOIL, some vegetation	n	1.0	· <u>., 1,</u> · . <u>, 1</u>								1. Drill Rig: Mobile
90.0	Brown, dry to moist, mediu	ım dense,	1.0	l III			D	7-10-11	1	DS	7	B-57 with NX
	Fine to medium <b>SAND</b> , wit little mica	h Silt and						7-10-11	•			core bit for rock coring.
94.3	Brown-Tan, moist, very de	nse. Fine	3.5		4			40.04.00	•			2. Rock Coring
	SAND, with Silt, mica, and	,			5		I/D	16-34-20	2	DS	14	started at 9.0-ft
91.8	decomposed rock Light Brown to Light Gray,	dry yer	6.0		-		D	50/1.5"	3	DS	1	3. Boring offset
	dense, Fine SAND, with sc	ome Silt,			;							5.5-ft NNE and
89.3	little fine gravel, decompos	sed rock,	8.5				I/D	50/1.5"	4	DS	1	2.5-ft. ENE
88.8	Light Gray, dry, very dense		9.0	22	10	2.09	1/0		-		'	4. Representative
	SAND, some weathred roc fragments, and rock powde			$\mathbb{Z}$	1	1.70		RQD=71% REC=97%	R1	RC	29	bag sample obtained at
86.3			11.5	65		3.51						1.0-5.0-ft
	Light gray, Tan, SCHIST, weathered and highly frac			$\mathcal{O}$		3.52						5. Water loss at
	some angular and pepend	icular		$\mathbb{V}$		8.49		RQD=65% REC=100%	R2	RC	60	17'6" in Run#3 and continued
	fractures along weathering			$\langle \rangle$	15	4.14 4.04		REC-100%				till 71'6" in
81.3	Light gray, Tan, SCHIST, to highly weathered, mode		16.5	$\left( \right) $	1 🗄	4.04						Run#13
	factured			$\mathbb{Z}$	- 1	4.17						6. No groundwater
	Light gray, Tan, SCHIST, moderately hard to hard ro	ock with		$\bigcirc$	1 -	7.81		RQD=60%	50			encountered in soil. Bentonite
	moderate weathering and	facture		$\mathcal{V}$	20	4.53		REC=91%	R3	RC	54.5	used in flush
76.3			21.5	$\mathbb{Z}$	1 _	5.22						fluid for rock coring. No
10.0	Light gray to dark gray, SO		21.0	77		1.37						water reading obtained at
	hard rock, slightly weather angular fractures	ed with few		$\mathbb{Z}$		3.25 3.33		DOD-700/				completion and
				$\langle \rangle$	25			RQD=70% REC=93%	R4	RC	56	@ 24hrs.
				$\mathcal{O}$		3.03						7. Boring
71.3	Gray, SCHIST, hard rock	with slight	26.5	H		6.50						backfilled with auger cuttings
	weathering and few angula			$\mathcal{O}$		3.53						upon
				$\mathbb{V}$	_	3.38		RQD=85%	R5	RC	60	completion and site restored.
				$\langle \gamma \rangle$	<u>30</u>	2.28		REC=100%				
66.3			31.5	$\langle \rangle$	1 -	2.68 2.92						
	Gray, SCHIST, moderately higly weathered, moderate			P71		2.92						
	intensely fractured, dark gr	ray and		$\langle \rangle$	1 1	4.20		RQD=52%			<u>.</u> .	
	orange weathered surfaces	S.		$\mathcal{O}$	35			REC=90%	R6	RC	54	
61.2			26 5	V		5.25 2.70						
61.3	Gray, SCHIST, moderately	y hard,	36.5	$\left  \right\rangle$		3.40						
	moderately weathered with fractures along solution we	shear		V /	_	2.12						
	planes	autening		$\mathbb{Z}$	-	2.00		RQD=73% REC=100%	R7	RC	60	
	AMPLER TYPE	SAMPLE CO	ן אידורואנ		40 GRC	ערואווע		R DEPTH		BOI		METHOD
	EN SPLIT SPOON	D - DISINTE				OMPLET			HS			TEM AUGERS
- PRES	SED SHELBY TUBE	I - INTACT U - UNDIST			AFTE		HRS	6 ft	CF.	A - CON		JS FLIGHT AUGERS

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ntracted	WithGannett Fleming	Architects								Borin	a#	B-3
ject Nar		W Rock S	lope S	tabiliza	ation					Job #	Ĕ	20-0033
ation _	Washington DC											
					SAN	<b>NPLEF</b>	२					
m		Hammer Wt.			_ н	ole Diam	eter	8 in		eman _		etcher
	97.8 ± ft 3/11/21	Hammer Drop	<b>•</b> ·	in		ock Core		2 in HSA/RC		pector _	PJ, S	Sagar 3/12/21
Started _	or the t	Spoon Size _	2		_ B0	oring Me	unoa	110/1110	Dat	e Compl	elea	0,12,21
ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plastic	ity Sizo	STRA DEPTH	BOL	DEPTH SCALE	Core		SAMPLE	Ξ			BORING & SAM
(ft)	Proportions	ity, Size	(ft)	SYMBOL	SC E	Time (min/ft)	Cond	Blows/6" RQD/REC	No.	Туре	Rec (in)	NOTES
				22		2.53						
56.3	Gray, SCHIST, hard slightly		41.5	$\mathbb{Z}$		2.02						
	weathered rock with mechan	ical		$\mathcal{O}$		4.07						
	fractures			$\mathbb{P}$		2.40		RQD=94% REC=98%	R8	RC	59	
				$\bigcirc$	45	2.38						
51.3	Gray, SCHIST, hard slightly		46.5	$\mathbb{H}$		1.87						
	weathered rock with mechan	ical		$\mathcal{P}$		2.57 2.47						
	fractures			$\mathbb{Z}$	50	2.75		RQD=85% REC=100%	R9	RC	60	
				$\mathcal{O}$	<u> </u>	2.53						
46.3	Gray, SCHIST, fresh, hard,		51.5	$\square$		2.27						
	unfractured rock			$\mathcal{P}$		2.37						
				$\mathbb{Z}$	55	1.90		RQD=100% REC=100%	R10	RC	60	
				$\mathcal{O}$		1.87						
41.3	Gray, SCHIST, moderately h	nard.	56.5	$\mathbb{H}$		2.05						
	moderately weathered rock v pependicular and inclined sh	vith		$\mathbb{P}$	-	2.87 1.58						
	fractures	cui		$\langle \rangle$	60	1.88		RQD=70% REC=100%	R11	RC	60	
			04 5	$\mathcal{O}$		2.07						
36.3	Gray, SCHIST, fresh, hard ro	ock	61.5	$\left  \right\rangle$		2.30 3.25						
	with mechanical fractures			$\mathbb{P}$		2.65		BOD-07%				
				$\bigcirc$	65	2.53		RQD=97% REC=100%	R12	RC	60	
31.3			66.5	$\mathbb{P}$		2.87						
51.5	Gray, SCHIST, Hard, slightly		00.0	27	_	4.42 3.57						
	weathered rock with moderat mechanical fractures	le		$\langle \rangle$	-	3.10		RQD=81%				
				$\mathcal{O}$		3.30		REC=88%	R13	RC	53	
26.3			71.5	$\mathbb{P}$	- 1	2.67 2.17						
	Bottom of Boring at 71.5 ft				1 -	2.17						
					-	1						
					75	1						
					_	-						
					-	-						
					-	1						
					80	1						



NO	DESCRIPTION	Ν
	REVISIONS	

7133 RUTHERFORD ROAD, SUITE 300
BALTIMORE, MD 21244
(443) 348–2017

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS	
	D.C.	DDOT – CANAL RD, N.W.	22	24	

		DATE:	04–2021	SCALE:	N.T.S.	BR-02				
			C. DEPARTM FRUCTURE PI							
		CANAL R	CANAL RD NW ROCK SLOPE STABILIZATION							
			BORING	LOGS		DIVISION CHIEF				
NAME	DATE		DOUING	2000		FILE				
						SHEET 22 OF <b>24</b>				

		DECO		2011		001/						Page 1 of
Contracted	With Gannett Flemi			SOIL	. / R			LORATIO		Borin	a #	B-4
Project Nar		<u> </u>		tabiliza	ation					.loh #	9 <i>π</i> _ !	20-0033
ocation _	Marahim stan D		•							000 <del>/</del>		
	U				SAN	1PLEF	ł					
atum		Hammer Wt	140	lb	На	le Diam	ator	8 in	For	eman _	M. Fk	etcher
urf. Elev.	98.5 ± ft				_	ock Core		2 in		pector _		
ate Started _	3/10/21		2 in			ring Met		HSA/RC		te Compl		3/11/21
		•				-				•		1
ELEV.	SOIL DESCRIPTIO		STRA	BOL	<b>TH</b>	Core		SAMPLE	-	1	_	BORING & SAMPLE
(ft)	Color, Moisture, Density, Pla Proportions	Islicity, Size	DEPTH (ft)	SYMBOL	DEPTH SCALE	Time (min/ft)	Cond	Blows/6" RQD/REC	No.	Туре	Rec (in)	NOTES
97.5	TOPSOIL, some vegetation	on	1.0	<u>, 1, 1</u>								1. Drill Rig: Mobile
	Brown to Light Gray, dry t						D	12-10-5	1	DS	8	B-57 with NX
	medium dense, Silty <b>SAN</b> mica and little organics	ID, with			-1			12-10-0				core bit for rock coring.
95.0	Dark Brown to Brown, dry		3.5									
7	Silty SAND, with mica	, 10086,			5		D	3-5-5	2	DS	6	10. Boring backfilled with
92.5	. ,		6.0									auger cuttings
	Brown, dry, medium dens						D	5-12-16	3	DS	5	at completion
	SAND, with mica, and we rock	athered					-	0	-			and site restored
90.0	Light Brown to Light Gray	moist	8.5									
	dense, Silty SAND, with n				10		I/D	11-19-28	4	DS	18	2. Rock Coring started at
												19.0-ft
												2 Paring location
			10.5									3. Boring location was offset 7-ft
85.0	Brown to Tan, moist, very	dense.	13.5				D	15-50/5"	5	DS	3	NNE
	Silty SAND, with some mi				15		D	10-00/0	5			4. Representative
												bag sample
												collected at
80.0			18.5									1.0-5.0-ft
79.5	┐ Light Brown to Light Gray	, dry to	19.0	<u>     </u>			D	50/4"	6	DS	4	6. Core barrel
_	moist, very dense, Silty S			$\langle \rangle$	<u>20</u>	3.33		RQD=18%	R1	RC	15	jammed at 40'4". Rock
77.0	some mica and rock fragi	nents	21.5	$\int$	1 _	4.32		REC=50%	ΓI	RC	15	core sample for
	∫ Dark Brown, SCHIST, mo	oderately /	21.0	77		1.83						Run#5 was
-	hard, moderately to highly			22		2.15						collected in 2 parts
-	\rock with moderate angul Gray, SCHIST, moderate			$P_{i}$		2.00		RQD=21% REC=42%	R2	RC	25	(36'6"-40'4' and
_	moderate to highly weath	ered rock,		1	25	2.00 3.85		RLC=42 /0				40'4"-41'6")
72.0	moderate to highly weath angular shear and mecha		26.5	$\langle \rangle$	1 🗄							7. Core barrel
_				$\overline{P}$	] _	3.93 2.45						jammed at 55'6". Rock
-	Dark Gray, SCHIST, mod			$\mathbb{Z}$	1 -	2.45		DOD-220/				core sample for
-	hard, moderately weather with angular and shear fra			$\langle \rangle \rangle$	30	2.00		RQD=33% REC=63%	R3	RC	38	Run#8 was
-	with angular and shear ne			$\int$	<u> </u>	9.75						collected in 2 parts
67.0			31.5	ŗ <i>,,</i>	] -	4.12						(51'6"-55'6" and
-	Gray, SCHIST, moderate moderately to highly weat			KI		3.33						55'6"-56'6")
-	multiple angular breaks			K/J	1 1	2.28		RQD=68%				8. Water loss at
-				$\mathcal{O}$	35	2.72		REC=100%	R4	RC	60	40'6"-41'6" in Run#5 and
				V		2.48						minor water
62.0	Gray, SCHIST, moderate	ly hard	36.5	H		2.88						loss in Run#6
7	slightly weathered rock w			1	1 1	2.77						(41'6"-46'6" depth)
7	mechanical fractures			$\mathcal{O}$	] [	3.23		RQD=71%	<b>D</b> 2	<b>D</b>	50	
				$\mathcal{V}$	40	3.25		REC=98%	R5	RC	59	9. No groundwater
S	AMPLER TYPE	SAMPLE CO	ONDITIO	ONS	GRO	UNDV	VATE	R DEPTH		BOF	RING I	METHOD
	N SPLIT SPOON	D - DISINTI	EGRATED			MPLET				A - HOL	LOW S	TEM AUGERS
	SED SHELBY TUBE INUOUS FLIGHT AUGER	I - INTACT U - UNDIST				R R 24 HR		6 ft ft		A - CON - DRIN		JS FLIGHT AUGERS ASING
RC - ROCK		L - LOST				ED AT				- MUE		
	PENETRATION TEST DRIVING	2" OD SAMPLER	1' WITH	140# HA	MMER		G 30":	COUNT MADE	AT 6" IN	TERVAL	S	

\$PENTBLS

(ft)       CODI, INSUE, Defailing, relating, size       DC//II       DS       DE       DE <thde< th=""></thde<>				DOF	SOIL	. / R	OCK	EXP	LORATIO	N			
Same         SAMPLER           main         Hammer Mu         140 b           Bex         98 5 : ft           Bex         Hammer Mu         140 b           Samed         3/10/21         Somo Sce         2 in           Box         Color, Modeline: beasts, Prevention         Box         Feedback         PJ           Samed         3/10/21         Somo Sce         2 in         Box         Feedback         PJ           EE.EV.         Color, Modeline: beasts, Prevention         Color, Modeline: beasts, Prevention         SAMPLER         SAMPLER         No         Type Ref.         Boniton & Same           57.0         Cray, SCHIST, hard, slightly         41.5         Color, Socialisant         Same         Color, Box         Boniton & Same           42.0         Gray, SCHIST, hard, slightly         46.5         Sast         RCD=91%         R7         RC         60           42.0         Gray, SCHIST, hard, slightly         55.5         Sast         RCD=91%         R7         RC         60           42.0         Gray, SCHIST, hard, slightly         Sast         Sast         RCD=96%         R8         RC         49           42.0         Gray, SCHIST, hard, slightly         Sast         Sast	ntracted										Borin	•	
SAMPLER       SAMPLER       Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2">Image: Colspan="2" Image: Colspan="2" Im	ject Na		NW Rock S	slope S	tabiliz	ation					Job #		20-0033
Image: Tex       Berner Torop       Join Program       Heinmer Torop       Join Program       Methed       Methed       Foreman       Methed       Methed         Started       3/10/21       Spoon Size       2 in       Boring Method       HSARC       Date Completed       3/11/21         ELEV       Cobr, Modulur, Presiduty, Size       DEFTH       95       SMMLE       SMMLE       Dete Completed       3/11/21         ELEV       Cobr, Modulur, Presiduty, Size       DEFTH       95       SS       SMMLE       BORNG 4 SAMK         S7.0       Cray, SCHIST, hard, slightly       41.5       Cobr, Size	ation	Washington DC											
Bit     Bit     Hermiter Torp     Join     Red Core Bas     2 in     Index Core Bas     2 in       Started     3/10/21     Spon Size     2 in     Booing Method     HSARC     Date Completed     2/11/21       Started     SOIL DESCRIPTION     Soil DESCRIPTION     Started						SAN	<b>NPLEF</b>	र					
EW         Bit and         Jammer Drog         30 m.         Rod Core Dia         2 m.         respect         J11/21           Started         J11021         Core, Monsture, Domethy, Fasticity, Size         J11         Boring Method         HSARE         Date Completed         J11/21           ELEW, (II)         Color, Monsture, Domethy, Fasticity, Size         DEPTH         J0         J0         Elew, Minite         Color, Monsture, Domethy, Fasticity, Size         DEPTH         J0         J0         Elew, Minite         Color, Monsture, Domethy, Fasticity, Size         DEPTH         J0         J0         Elew, Minite         Color, Monsture, Domethy, Fasticity, Size         Dentified Color, Minite         Dentified Color, Minit	m		Hammer Wt	140	lb	Н	ole Diam	eter	8 in	For	eman	M. Fl	etcher
ELEV. (III)     SOIL DESCRIPTION Color, Mosture, Density, Plasticity, Size Proportions     STRA (IV)     Image: Color (IV)     SAMPLE     BORING & SAMP. (IV)       57.0     Gray, SCHIST, hard, slightly weathered, with mechanical fractures     41.5     Image: Color (IV)     2.00					in							PJ	
57.0     Gray, SCHIST, hard, slightly weathered, with mechanical fractures     41.5     62.5     2.00     ROD=85%, REC=98%     R6     RC     59     encountered Bencionite us rotwording rotwording or obtained at rotwording rotwording       52.0     Gray, SCHIST, hard, slightly weathered rock with equidistant shear fractures and some mechanical breaks     46.5     3.55     ROD=89%, REC=98%     R7     RC     60       47.0     Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures     51.5     9     ROD=88%, REC=100%, REC=82%     R8     RC     49       42.0     Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks separating long contineous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     56.5     R0D=96%, REC=88%, R10     R10     RC     59       32.0     Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     66.5     85     RD=96%, REC=80%, R10     R10     RC     59       32.0     Light Gray, SCHIST, Hard, slightly weathered nock with multiple angular shear breaks     66.5     66.5     85     R11     RC     48       27.0     Bottom of Boring at 71.5 ft     71.5     75     75     80     80     80       27.0     Bottom of Boring at 71.5 ft     9     0     0     0     10     10	Started .	3/10/21	Spoon Size _	2 in		Во	oring Me	thod	HSA/RC	Dat	te Compl	eted	3/11/21
57.0     Gray, SCHIST, hard, slightly weathered, with mechanical fractures     41.5     62.5     2.00     ROD=85%, REC=98%     R6     RC     59     encountered Bencionite us rotwording rotwording or obtained at rotwording rotwording       52.0     Gray, SCHIST, hard, slightly weathered rock with equidistant shear fractures and some mechanical breaks     46.5     3.55     ROD=89%, REC=98%     R7     RC     60       47.0     Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures     51.5     9     ROD=88%, REC=100%, REC=82%     R8     RC     49       42.0     Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks separating long contineous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     56.5     R0D=96%, REC=88%, R10     R10     RC     59       32.0     Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     66.5     85     RD=96%, REC=80%, R10     R10     RC     59       32.0     Light Gray, SCHIST, Hard, slightly weathered nock with multiple angular shear breaks     66.5     66.5     85     R11     RC     48       27.0     Bottom of Boring at 71.5 ft     71.5     75     75     80     80     80       27.0     Bottom of Boring at 71.5 ft     9     0     0     0     10     10									SAMDLE	=			
57.0     Gray, SCHIST, hard, slightly weathered, with mechanical fractures     41.5     62.5     2.00     ROD=85%, REC=98%     R6     RC     59     encountered Bencionite us rotwording rotwording or obtained at rotwording rotwording       52.0     Gray, SCHIST, hard, slightly weathered rock with equidistant shear fractures and some mechanical breaks     46.5     3.55     ROD=89%, REC=98%     R7     RC     60       47.0     Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures     51.5     9     ROD=88%, REC=100%, REC=82%     R8     RC     49       42.0     Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks separating long contineous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     56.5     R0D=96%, REC=88%, R10     R10     RC     59       32.0     Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     66.5     85     RD=96%, REC=80%, R10     R10     RC     59       32.0     Light Gray, SCHIST, Hard, slightly weathered nock with multiple angular shear breaks     66.5     66.5     85     R11     RC     48       27.0     Bottom of Boring at 71.5 ft     71.5     75     75     80     80     80       27.0     Bottom of Boring at 71.5 ft     9     0     0     0     10     10					BOL	ALE	Core					Rec	BORING & SAMPL
57.0     Gray, SCHIST, hard, slightly weathered, with mechanical fractures     41.5     62.5     2.00     ROD=85%, REC=98%     R6     RC     59     encountered Bencionite us rotwording rotwording or obtained at rotwording rotwording       52.0     Gray, SCHIST, hard, slightly weathered rock with equidistant shear fractures and some mechanical breaks     46.5     3.55     ROD=89%, REC=98%     R7     RC     60       47.0     Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures     51.5     9     ROD=88%, REC=100%, REC=82%     R8     RC     49       42.0     Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks separating long contineous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     56.5     R0D=96%, REC=88%, R10     R10     RC     59       32.0     Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks     66.5     85     RD=96%, REC=80%, R10     R10     RC     59       32.0     Light Gray, SCHIST, Hard, slightly weathered nock with multiple angular shear breaks     66.5     66.5     85     R11     RC     48       27.0     Bottom of Boring at 71.5 ft     71.5     75     75     80     80     80       27.0     Bottom of Boring at 71.5 ft     9     0     0     0     10     10	(π)		5.		SYs	E E S S	Time (min/ft)	Cond		No.	Туре		NOTES
57.0       Gray, SCHIST, hard, slightly weathered, with mechanical fractures       41.5       7       2.00       2.40       Bontonite us infush fluid         52.0       Gray, SCHIST, hard, slightly weathered nock with equidisant shear fractures and some mechanical breaks       46.5       5.7       ROD=85%, REC=98%       R6       RC       59       Soft area rock coring.         47.0       Gray, SCHIST, hard, slightly weathered nock with equidisant shear fractures and some mechanical breaks       51.5       50       2.97       RD=85%, REC=100%       R7       RC       60         47.0       Gray, SCHIST, hard, slightly weathered nock with moderate angular and mechanical fractures       51.5       50       2.97       RD=68%, REC=100%       R7       RC       60         42.0       Gray, SCHIST, hard, slightly weathered nock, with moderate angular and mechanical fractures       56.5       55       68.8       RD=68%, REC=98%       R8       RC       49         42.0       Gray, SCHIST, Long continuous sections, some hard, fresh nock, long contineous sections seperated by mechanical breaks       66.5       5.27       RD=58%, REC=88%       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered nock, with multiple angular shear breaks       66.5       5.27       70       3.33       ROD=58%, REC=88%       R11       RC       48					<b>—</b>		· · ·						anountared i
Gray, SCHIST, hard, slightly weathered rock with mechanical fractures     3.57     ROD=85%     R6     RC     59     Betnonite us rock coring obtained at rock coring obtained at shear fractures and some mechanical breaks     Betnonite us shear fractures and some mechanical breaks     80     2.40     ROD=85%     R6     RC     59     Betnonite us rock coring obtained at rock coring obtained at shear fractures and some mechanical breaks     80     2.43     RQD=81%     R7     RC     60       47.0     Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical breaks seperating long contineous sections     51.5     4.88     RC     49       42.0     Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long contineous sections     56.5     56.8     8.8     RC     49       32.0     Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks     65.5     5.27     3.82     RDD=95% 3.82     R11     RC     59       32.0     Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks     65.5     5.78     8.11     RC     48       32.0     SAMPLER TYPE     SAMPLE CONDITIONS     GROUNDWATER DEPTH     BORING METHOD       SAMPLET SPOON     D. DISINTEGRATE     ATCOMPLETION	57.0			41.5	$\bigcirc$	1 -							
SAMPLER TYPE         SAMPLE CONDITIONS         GROUNDWATER DEPTH         BORING METHOD           SAMPLER TYPE         SAMPLE CONDITIONS         GROUNDWATER DEPTH         BORING METHOD		Gray, SCHIST, hard, slightl	y I fraaturaa		$\mathbb{Z}$	1 +	2.40						Bentonite use
52.0         Gray, SCHIST, hard, slightly weathered rock with equidistant shear fractures and some mechanical breaks         46.5         3.57         REC=98%         RO         RC         59         Water reacing or mpletion a completion a ge 24ms.           47.0         Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures         50         2.43         RQD=91%         R7         RC         60           42.0         Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical breaks separating long continuous sections.         56.5         6.65         6.65         8.85         RQD=95% REC=82%         R9         RC         59           37.0         Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical breaks separating long continuous sections.         61.5         55         6.85         7.27         R8         RC         49           37.0         Gray, SCHIST, Long continuous sections.         61.5         5.27         3.32         R2C=98%         R10         RC         59           32.0         Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks         65.5         3.23         R2C=98%         R11         RC         48           22.0         Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks         65.5         3.82         3.31<		weathered, with mechanical	Inactures		$\langle \rangle$	1 =	2.75		BOD-95%				rock coring. N
32.0       Gray, SCHIST, hard, slightly       46.5       3.55       ROD=91%, R7       RC       60         47.0       51.5       5.5       3.55       ROD=91%, R7       RC       60         47.0       51.5       4.23       ROD=91%, R7       RC       60         47.0       51.5       4.23       ROD=91%, R7       RC       60         47.0       Gray, SCHIST, hard, slightly       4.24       RC       425         42.0       56.5       56.5       56.8       RC=82%       R8       RC       49         42.0       56.5       56.5       56.8       REC=82%       R8       RC       49         42.0       56.5       56.5       56.8       REC=82%       R8       RC       49         42.0       56.5       56.5       56.8       REC=82%       R8       RC       59         37.0       Gray, SCHIST, hard, slightly       55.7       5.68       RD=95%, R10       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections some hard, fresh rook, long continuous sections       3.33       3.33       ROD=58%, R10       R11					$\langle \rangle$		3.57			R6	RC	59	water reading
52.0       Gray, SCHIST, hard, slightly weathered rock with equidistant shear fractures and some mechanical breaks       3.33 3.50 2.97       ROD=91%, REC=100%, 4.25       R7       RC       60         47.0       Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures       51.5       9.43 55.5       ROD=81%, REC=100%, 4.26       R7       RC       60         42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks       61.5       6.5       ROD=95%, 3.55       R9       RC       59         32.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sectors separated by mechanical breaks       66.5       6.5       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       70       3.33 3.23 3.31       RQD=96%, REC=98%, R10       R11       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       70       3.23 3.31       RQD=96%, REC=80%       R11       RC       48         27.0       Bottom of Boring at 71.5 ft       71.5       71.5       75       80       80       80       80         27.0       Do					$\mathcal{O}$	1-1	3.65						completion ar
weathered rock with equidistant shear fractures and some mechanical breaks       51.5       50       2.43       RDD=91% REC=100%       R7       RC       60         47.0       Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures       51.5       56       2.83       RDD=91% REC=100%       R7       RC       60         42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       56.5       685       ROD=69% 8.65       R8       RC       49         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks       61.5       60       3.65       3.62       R0D=96% 8.65       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       70       3.33       RQD=96% 8.0       R10       RC       59         37.0       Gray, SCHIST, Hard, slightly mechanical breaks       66.5       76       3.32       RQD=96% 8.0       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       76       5.8       8.8       R10       R2       48 <t< td=""><td>52.0</td><td>Cray SCHIST bard alight</td><td></td><td>46.5</td><td><math>\left[ \right]</math></td><td></td><td>3.43</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	52.0	Cray SCHIST bard alight		46.5	$\left[ \right]$		3.43						
arechanical breaks       51.5       50       3.55       PRD_P17%       R7       RC       60         47.0       Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical breaks seperating long contineous sections       56.5       1.5       2.83       RQD=68%       R8       RC       49         42.0       Gray, SCHIST, hard, slightly weathered rock, with ew mechanical breaks seperating long contineous sections       56.5       5.68       RD=95%       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections       61.5       5.27       RD=96%       R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       5.27       RQD=96%       R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.52       3.23       RQD=96%       R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       71.5       70       3.23       3.23       RD=58%       R11       RC       48         27.0       Softom of Boring at 71.5 ft       T1.5       71.5       71.5       71.5       71.5       71.5       71.5       71.5					$\int$	1 -							
47.0       51.5       50       3.30       REC=100%       Rational and a real strength of the strengt of the strength of the strength of the streng					$\mathcal{O}$				RQD=91%	D7	BC	60	
47.0       Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures       51.5       4.25       2.83       RD=68%       R8       RC       49         42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks separating long contineous sections       56.5       5.66       8.68       7.66       7.65       7.6       7.6       7.8       RC       49         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       61.5       6.65       3.65       RD=95%       R9       RC       59         32.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       66.5       3.65       3.77       7.0       7.0       3.23       RQD=96% REC=98%       R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.82       3.23       RD=96% REC=88%       R11       RC       48         27.0       7.0       71.5       7.0       3.23       3.23       8.0       8.0       8.0       8.0         27.0       8       8       8       8       8       8       4.8       4.8       4.8       4.8      <		mechanical breaks			$\mathcal{V}$	50			REC=100%	R/	RC	60	
Gray, SCHIST, hard, slightly weathered rock with moderate angular and mechanical fractures       2.80 4.68 55 56.5       RQD=68% 4.68 6.65 555       R8       RC       49         42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long contineous sections       56.5       56.68 5.55       RQD=68% 6.68 5.55       R8       RC       49         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       61.5       4.30 5.27       RQD=96% 8.28       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       5.27       RQD=96% 3.322       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.22       RQD=96% 3.323       R11       RC       48         27.0       71.5       71.5       5.18       80       REC=80%       R11       RC       48         27.0       80tom of Boring at 71.5 ft       71.5       75       80       80       80       811       RC       48         27.0       90       90       80       80       80       811       RC       48         27.0       90	47.0			51 E	$\mathbb{V}$								
weathered rock with moderate angular and mechanical fractures       2.43       2.43       RQD=68%, REC=82%, R8       RC       49         42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long contineous sections       56.5       4.68       RQD=68%, REC=82%, R9       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       52.7       4.30       RQD=96%, R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.77       5.27       8.80       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.77       5.27       8.80       R11       RC       48         27.0       71.5       70       3.15       5.18       RQD=58%, R11       R11       RC       48         27.0       71.5       75       3.23       3.15       5.18       80       80       80       811       RC       48         27.0       70       71.5       75       5.18       80       80       80       811       R       80 <t< td=""><td>47.0</td><td>Gray, SCHIST, hard. slightl</td><td>y</td><td>51.5</td><td><math>\left  \right\rangle</math></td><td></td><td>3</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	47.0	Gray, SCHIST, hard. slightl	y	51.5	$\left  \right\rangle$		3						
42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long continuous sections       56.5       4.68 6.85       RQD=69% REC=82%       R8       RC       49         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long continuous sections seperated by mechanical breaks       61.5       64.85       RQD=95% 3.65       R9       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       5.225       RQD=96% 3.33       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       5.25       3.82       3.33       RQD=96% REC=98%       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       71.5       5.25       3.82       3.33       RQD=58% REC=80%       R11       RC       48         27.0       Bottom of Boring at 71.5 ft       71.5       5.18       8       Light Gray, SCHIST, Hard, Slightly weathered rock with multiple angular       66.5       5.18       8       R11       RC       48         27.0       Bottom of Boring at 71.5 ft       71.5       7       7       8       BORING METHOD       BORING METHOD         BORING METHO		weathered rock with modera	ate		V		3						
42.0       56.5       4.08       REU=82%       Rel=82%       Rel=82%         42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long contineous sections       56.5       5.68       4.33       2.85       RQD=95%       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       61.5       5.27       4.30       5.27       RQD=96%       R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.32       3.33       RQD=96%       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.32       3.33       RQD=58%       R11       RC       48         27.0       T1.5       T1.5       T1.5       T1.5       5.18       RC=80%       R11       RC       48         27.0       Bottom of Boring at 71.5 ft       T1.5       T1.5       T1.5       T1.5       RC=80%       R11       RC       48         27.0       D - DISINTEGRATED       D - DISINTEGRATED       ACOMPLETION		angular and mechanical frac	ciures		$V \sim$		5			R8	RC	49	
42.0       Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long contineous sections       56.5       RQD=95% 3.65       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       61.5       4.33       2.85       RQD=95% 3.65       R9       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       525       3.77       820       REC=98%       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       525       3.82       3.33       3.23       RD=58% 8.15       R11       RC       48         27.0       71.5       70       5.18       70       5.18       8       8       4         27.0       71.5       75       5.18       8       8       4       4       4         27.0       71.5       75       5.18       8       8       8       4       4         27.0       8       SAMPLE CONDITIONS       GROUNDWATER DEPTH       BORING METHOD       8       BORING METHOD         . DRIVEN SPLIT SPOON       D - DISINTEGRATED       AT COMPLETIO					PPI	55			REC=82%				
Gray, SCHIST, hard, slightly weathered rock, wit few mechanical breaks seperating long continuous sections       4.33 2.85 3.65 3.65 3.65       ROD=95% REC=98%       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       61.5       4.30 5.27       RD=96% 8.27       R10       RC       59         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.92       RD=96% 3.32       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.92       RD=96% 3.32       R11       RC       48         27.0       70       71.5       70       3.15       5.18       ReC=80%       R11       RC       48         27.0       70       71.5       75       80       RD=58%       R11       RC       48         27.0       71.5       75       80       RD       RD       REC=80%       R11       RC       48         27.0       Bottom of Boring at 71.5 ft       75       80       ROUDWATER DEPTH       BORING METHOD         2. DRIVEN SPLIT SPOON       D - DISINTEGRATED       AT COMPLETION	42.0			56.5	$\langle \rangle$	1 🖡	3						
Weathered Tock, Will few mechanical breaks separated long contineous sections       2.85       RQD=95%       R9       RC       59         37.0       Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections separated by mechanical breaks       61.5       4.30       5.27       4.30         32.0       Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.77       S.223       RQD=96%       R10       RC       59         32.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       3.82       3.33       RQD=96%       R11       RC       59         27.0       71.5       70       3.15       5.18       80       R11       RC       48         27.0       71.5       75       90       1					177	] –							
37.0       61.5       60       3.65       RQD=95%       R9       RC       59         37.0       61.5       4.30       5.27       4.30       5.27       RQD=96%       R10       RC       59         32.0       66.5       3.77       5.25       3.82					$\gamma \gamma$	-							
37.0       61.5       3.55       4.30         Gray, SCHIST, Long continuous sections seperated by mechanical breaks       61.5       4.30       5.27       RQD=96%       R10       RC       59         32.0       66.5       5.25       3.82       3.82       3.82       3.82       3.33         27.0       Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       66.5       70       3.23       3.31       RQD=58%       R11       RC       48         27.0       71.5       71.5       5.18       70       3.15       5.18       REC=80%       R11       RC       48         27.0       71.5       75       5.18       80       80       80       80       80       80       80       8111       RC       48         27.0       71.5       75       5.18       80					K	160	3.65			R9	RC	59	
Gray, SCHIST, Long continuous sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       5.27       RQD=96%       R10       RC       59         32.0       66.5       3.92       82       3.92       RQD=96%       R10       RC       59         32.0       66.5       5.27       3.92       82       3.33       RQD=96%       R10       RC       59         32.0       66.5       7.0       5.25       3.82       3.33       3.23       RQD=58%       R11       RC       48         27.0       71.5       71.5       5.18       5.18       REC=80%       R11       RC       48         27.0       71.5       75       5.18       80       80       80       80       80       80       80       80       811       RC       48         27.0       71.5       75       5.18       80					$\mathcal{O}$		3.55						
sections, some hard, fresh rock, long contineous sections seperated by mechanical breaks       3.2.7 4.2.7 4.2.7 86.5       RQD=96% REC=98%       R10       RC       59         32.0       66.5       3.77 5.25       3.82 3.33       3.82 3.33       3.82 3.33       RQD=58% REC=80%       R11       RC       48         27.0       71.5       70 5.18       3.15 5.18       5.18       R11       RC       48         27.0       71.5       75 5.18       70 5.18       3.15 5.18       5.18       R11       RC       48         27.0       71.5       75 6.5       75 6.18       70 75 6.18       70 75 6.18       811       RC       48         27.0       80tom of Boring at 71.5 ft       75 75 75       80       80       80       80       80       80         SAMPLER TYPE       SAMPLE CONDITIONS 8.0       GROUNDWATER DEPTH AT COMPLETION ft       BORING METHOD	37.0	Gray SCHIET Long contin		61.5	$\mathbb{H}$		3						
contineous sections seperated by mechanical breaks       4.27       3.92       3.92       3.92       3.77       800       R10       RC       59         32.0       66.5       5.25       3.82       3.82       82					$\int$	1 1	5.27						
32.0       66.5       5.25       3.82         Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       3.82       3.33       3.23         27.0       71.5       70       3.15       5.18       RCD=58% REC=80%       R11       RC       48         27.0       71.5       75       5.18       76       48       48         27.0       71.5       75       5.18       82       48       48         27.0       71.5       75       5.18       8       8       8       8         SAMPLER TYPE       SAMPLE CONDITIONS       GROUNDWATER DEPTH       BORING METHOD       BORING METHOD         BORING METHOD       D - DISINTEGRATED       AT COMPLETION ft       HSA - HOLLOW STEM AUGERS		contineous sections sepera	· · · · ·		$\mathcal{D}$		4.27			D10	PC	50	
32.0       66.5       5.25       3.82         Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       3.82       3.33       3.23         27.0       71.5       70       3.15       5.18       REC=80%       R11       RC       48         27.0       71.5       75       5.18       82       3.33       3.15       5.18       811       RC       48         27.0       71.5       75       1       5.18       1		mechanical breaks			V	65	3.92		REC=98%			59	
Light Gray, SCHIST, Hard, slightly weathered rock with multiple angular shear breaks       3.82         27.0       71.5         Bottom of Boring at 71.5 ft       71.5         SAMPLER TYPE       SAMPLE CONDITIONS         BORING METHOD         0       0         0	32 0			66 5	22		3.77						
27.0     71.5     70     3.33     RQD=58%     R11     RC     48       27.0     71.5     71.5     5.18     R11     RC     48       Bottom of Boring at 71.5 ft     75     1     5.18     1     1     1     1       SAMPLER TYPE     SAMPLE CONDITIONS     GROUNDWATER DEPTH     BORING METHOD       Bottom SPLIT SPOON     D - DISINTEGRATED     AT COMPLETION ft     HSA - HOLLOW STEM AUGERS	52.0			00.0	$\forall 2$								
27.0     71.5     70     3.23     RQD=58%     R11     RC     48       27.0     71.5     1     5.18     1     R     48       Bottom of Boring at 71.5 ft     1     5.18     1     1     1     1     1       SAMPLER TYPE     SAMPLE CONDITIONS     GROUNDWATER DEPTH     BORING METHOD       BORING METHOD     AT COMPLETION     TOMPLETION     HSA - HOLLOW STEM AUGERS			e angular		$V \sim$	-							
27.0     71.5     71.5     3.15     5.18       Bottom of Boring at 71.5 ft     75     1     5.18       75     1     75     1       80     80     1     1       SAMPLER TYPE       SAMPLER TYPE     SAMPLE CONDITIONS       D - DISINTEGRATED     AT COMPLETION ft     BORING METHOD		SILCA DICARS			$\gamma \gamma$	-				R11	RC	48	
27.0       71.5       -       5.18       -					K	1 10							
SAMPLER TYPE       SAMPLE CONDITIONS       GROUNDWATER DEPTH       BORING METHOD         - DRIVEN SPLIT SPOON       D - DISINTEGRATED       AT COMPLETION ft       HSA - HOLLOW STEM AUGERS	27.0			71.5	$\int \int$	1 -							
SAMPLER TYPE       SAMPLE CONDITIONS       GROUNDWATER DEPTH       BORING METHOD         BO - DISINTEGRATED       AT COMPLETION       ft       HSA - HOLLOW STEM AUGERS		Bottom of Boring at 71.5 ft				-	1						
SAMPLER TYPE       SAMPLE CONDITIONS       GROUNDWATER DEPTH       BORING METHOD         B - DRIVEN SPLIT SPOON       D - DISINTEGRATED       AT COMPLETION ft       HSA - HOLLOW STEM AUGERS						-	1						
SAMPLER TYPE       SAMPLE CONDITIONS       GROUNDWATER DEPTH       BORING METHOD         S - DRIVEN SPLIT SPOON       D - DISINTEGRATED       AT COMPLETION ft       HSA - HOLLOW STEM AUGERS						75	1						
SAMPLER TYPE         SAMPLE CONDITIONS         GROUNDWATER DEPTH         BORING METHOD           5 - DRIVEN SPLIT SPOON         D - DISINTEGRATED         AT COMPLETIONft         HSA - HOLLOW STEM AUGERS							]						
SAMPLER TYPE         SAMPLE CONDITIONS         GROUNDWATER DEPTH         BORING METHOD           5 - DRIVEN SPLIT SPOON         D - DISINTEGRATED         AT COMPLETIONft         HSA - HOLLOW STEM AUGERS													
SAMPLER TYPE         SAMPLE CONDITIONS         GROUNDWATER DEPTH         BORING METHOD           S - DRIVEN SPLIT SPOON         D - DISINTEGRATED         AT COMPLETIONft         HSA - HOLLOW STEM AUGERS													
SAMPLER TYPE         SAMPLE CONDITIONS         GROUNDWATER DEPTH         BORING METHOD           S - DRIVEN SPLIT SPOON         D - DISINTEGRATED         AT COMPLETIONft         HSA - HOLLOW STEM AUGERS							4						
S - DRIVEN SPLIT SPOON D - DISINTEGRATED AT COMPLETION ft HSA - HOLLOW STEM AUGERS													
			D - DISINTE I - INTACT	GRATE	)								



NO	DESCRIPTION	N
	REVISIONS	

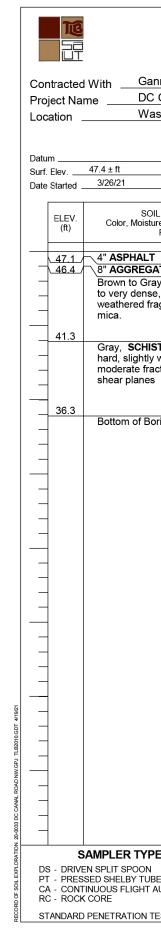
7133 RUTHERFORD ROAD, SUITE 300
BALTIMORE, MD 21244
(443) 348–2017

REG	STATE	PROJECT	SHEET NO.	TOTAL SHEETS
	D.C.	DDOT – CANAL RD, N.W.	23	24

		DATE:	04–2021	SCALE:	N.T.S.	BR-03
			.C. DEPARTM TRUCTURE PI			
		CANAL F	RD NW ROCK	SLOPE STAB	ILIZATION	PROJECT ENG DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR
NAME	DATE		BORING	LOGS		DIVISION CHIEF
INAIVIE	DATE					FILE
					2	SHEET 23 OF <b>24</b>

		With <u>Gannett Flem</u> ne <u>DC Canal Ro</u>			tabiliza							-	B-5 20-0033
-		Washington E									JOD #	r	
						SAN	/IPLER	ł					
) otumo			Hammer Wt	140	lb	114	la Diama	otor	8 in	Fer	eman _	M Fle	etcher
Datum Surf. E	lev	96.8 ± ft		·			ole Diame ock Core		2 in		eman _ pector _	-	
	tarted _	0/0/04	Spoon Size				oring Met		HSA/RC	_	e Compl		3/9/21
				1			[		SAMPLE				1
E	ELEV. (ft)	SOIL DESCRIPTI Color, Moisture, Density, P Proportions		STRA DEPTH (ft)	SYMBOL	DEPTH SCALE	Core Time (min/ft)	Cond	Blows/6" RQD/REC	No.	Туре	Rec (in)	BORING & SAMPLE NOTES
	05.0	TOP SOIL, with organic I	natter	4.0	1. 1. N. N. 1								1. Representative
-	<u>95.8</u> 93.3	Brown, moist, medium d SAND, some decompose mica present	ense, Silty	<u>1.0</u> 3.5				I/D	4-7-7	1	DS	12	bag sample obtained at 1.0-5.0-ft
	90.8	Brown, dry to moist, med Silty <b>SAND</b> , some decon rock and mica present	nposed	6.0		5		I/D	7-6-7	2	DS	12	2. Drill Rig: Mobile B-57 with NX core bit for rock coring.
	88.3	Brown, moist, dense, Sil some decomposed rock present Brown, moist, medium d	and mica	8.5				D	13-17-20	3	DS	7	3. Boring offset by 8.0-ft.
_		SAND, mica present				<u>10</u>		I/D	30-15-12	4	DS	13	4. Rock coring started at 19.0-ft
	83.3	Brown, moist, very dense SAND, mica present	e, Silty	13.5		  		I/D	50/2"	5	DS	2	<ol> <li>No groundwater encountered in soil layer.</li> <li>Bentonite used in flush fluid for rock coring. No</li> </ol>
	78.3 77.8	─ Tan to Brown, moist, ver		18.5 19.0		20	4.50	I/D	50/2"	6	DS	2	water reading obtained at completion and @ 24hrs.
_	72.8	weathered mica schist Light Gray, Brown, SCH moderately hard, highly with intense angular she along solution weatherin	weathered ar fractures	24.0			2.50 3.83 3.17 1.83		RQD=28% REC=76%	R1	RC	45.5	6. Boring backfilled with auger cuttings at completion and site
_		Brown, SCHIST, modera highly weathered with int angular fractures along planes	ense		P	25	3.63 4.2 2.93		RQD=30% REC=77%	R2	RC	46	restored.
	67.8	Light Gray, Brown, <b>SCH</b> moderately hard, modera weathered rock with inte and mechanical fractures	ately nse shear	29.0		<u>30</u> -	3.5 3.55 3.42 2.58 3.02		RQD=60% REC=93%	R3	RC	56	
	62.8	Dark Gray, Brown, SCH moderately soft, intensel highly weathered rock wi fracture pattern, some cr fragments	y fractured, th no distinct	34.0			3.55 3.17 2.55 3.55 3.15		RQD=28% REC=80%	R4	RC	48	
+	57.8	-		39.0		40	3.45 5.17						
	S	AMPLER TYPE	SAMPLE CO		<u>Y ( (</u> DNS				R DEPTH		BOI		METHOD

oject Na	meDC Canal R	ming Architects oad NW Rock S	lope S	tabiliz	ation					Borin Job #	-	B-5 20-0033
cation	Washington	DC			0.41	1PLER						
			140	Ь				9 in				etcher
um f. Elev		Hammer Wt. Hammer Drop				ole Diamo ock Core		8 in 2 in		eman pector	Saga	
e Started	0.10.10.1	Spoon Size	2 in			ring Met		HSA/RC		e Compl	eted	3/9/21
	SOIL DESCRIF	TION	STRA	рг С	王픽			SAMPLE	=			
ELEV. (ft)	Color, Moisture, Density, Proportion	Plasticity, Size	DEPTH (ft)	SYMBOL	DEPTH SCALE	Core Time (min/ft)	Cond	Blows/6" RQD/REC	No.	Туре	Rec (in)	BORING & SAMPLE NOTES
-	Gray, <b>SCHIST</b> , hard, s weathered rock with m fractures along inclined fracture planes <i>(contin</i>	oderate d shear		P		5.22 5.18 5.17		RQD=68% REC=100%	R5	RC	60	
	SCHIST, hard, slightly rock with moderate fra shear planes		44.0			3.83 4.33 4.15 5		RQD=91% REC=97%	R6	RC	58	
47.8	SCHIST, hard, slightly rock with moderate fra inclined shear fracture	ctures along	49.0		50 -	3.93 4.6 4.97 4.63 3.72		RQD=68%	R7	RC	60	
42.8	SCHIST, hard, slightly	weathered	54.0		-	5.25 4.92 4.77		REC=100%	K/	RC	60	
-	rock with moderate fra inclined shear fracture	ctures along		$\mathcal{P}$	55	3.33 4.00 4.08		RQD=75% REC=100%	R8	RC	60	
37.8	SCHIST, hard, slightly rock with moderate fra inclined shear fracture	ctures along	59.0			4.22 4.17 4.43 4.03 13.75		RQD=79% REC=78%	R9	RC	47	
32.8	SCHIST, hard, slightly rock with moderate fra inclined shear fracture	ctures along	64.0		65	4.70 4.23 6.05 5.00		RQD=39%	R10	RC	59	
27.8	Bottom of Boring at 69	.0 ft	69.0	$\mathbb{Z}$		3.00 4.65		REC=98%	RIU	RC	59	
- - -					<u></u>							
-					80							





					R	REG STATE	PROJECT	SHEET NO.	TOTAL SHEETS
						D.C.	DDOT – CANAL RD, I	N.W. 24	24
	AT.1 4" AS 46.4 8" AG Brown to very weath mica. 41.3 Gray, hard, s model shear 36.3 Bottor 36.3 Bottor Bot	Gannett Fleming Architects         DC Canal Road NW Rock SI         Washington DC         Hammer Wt	SAMPLI 140 b 30 in 2 in Boring I STRA DEPTH (ft) 0.3 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	ER ameter <u>8 in</u> ore Dia. <u>2 in</u> Method HSA/RC SAMPLI Cond Blows/6" RQD/REC D 6-50/2" D 50/0.5" 55 56 60 75 75 75 75 75 75 75 75 75 75	Boring Job # Job #	g #       B-6         20-00         W. Massey         B.Adhikari         sted       3/26/21         Rec       BORIN         (in)       1. Rep         2       2. Dril         0.5       2. Dril         60       3. Root state         60       3. Root state         60       4. No         9.5       Corrot state         10.5       5. Upor Corrot state         10.5       State<	Page 1 of 1 33 Gassample anined at 5.0-ft Fig: Mobile 7 with NX e bit for rock ing. ck coring ted at 8-ft groundwater ountered in .Bentonite d in flush for rock ing. ck coring ted at 8-ft groundwater countered in .Bentonite d in flush for rock ing. ck coring ted at 8-ft fig. crete. ched with fig. crete. ched with fig. crete. ched with fig. crete. ched with fig. fig. crete. ched with fig. fig. fig. fig. fig. fig. fig. fig.		
					PARTM	I 1ENT	ALE: N.T.S. OF TRANSPC CT MANAGEN		
			CANAL	RD NW	ROCK	SLOPE	E STABILIZATION	DESIGNED BY CHECKED BY DRAWN BY PROJECT MGR DIVISION CH	
NO DESCRIPT	TION REVISIONS	NAME DATE	-	B	ORING	LOGS	6	DATE FILE SHEET 24 OF	_