INDEX OF SHEETS

SEE SHEET 2

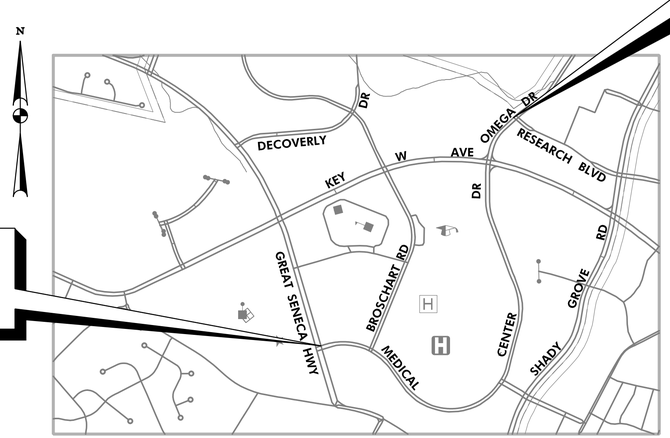
MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING

LIFE SCIENCES CENTER
LOOP TRAIL

C.I.P. PROJECT NO. 0501742

LIMIT OF WORK
CIP NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
OMEGA DRIVE STA. 207+20

LIMIT OF WORK
CIP NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
MEDICAL CENTER DRIVE STA. 100+90



VICINITY MAP
SCALE: 1"=1000'

1000 0 1000 2000 feet

DATUM: NAD 83/91 Horizontal
NAVD 88 Vertical

MONTGOMERY COUNTY
LENGTH OF PROJECT
MEDICAL CENTER DR = 1.17 MILES
OMEGA DR = 0.15 MILES

MISS UTILITY

THE CONTRACTOR SHALL CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ALL UNDERGROUND UTILITIES IN THE AREA OF PROPOSED WORK ARE LOCATED PRIOR TO COMMENCING CONSTRUCTION WORK. THE CONTRACTOR IS RESPONSIBLE FOR COMPLIANCE WITH REQUIREMENTS OF CHAPTER 36A OF THE MONTGOMERY COUNTY CODE.

THE CONTRACTOR IS ALSO RESPONSIBLE FOR LOCATING ALL PRIVATE UTILITIES (NOT LOCATED BY MISS UTILITY) WITHIN M-NCPPC PROPERTY AT THEIR EXPENSE. ALL UTILITIES SHOWN ON THE PLANS ARE PROVIDED FOR INFORMATION ONLY AND SHALL BE CONSIDERED APPROXIMATE. M-NCPPC SHALL NOT BE RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES. ANY UTILITIES OR OTHER UNDERGROUND FACILITIES DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED/REPLACED AT THE CONTRACTOR'S SOLE EXPENSE.

RELATED REQUIRED PERMITS

To be completed by the consultant and placed on the first sheet of the Sediment Control/Stormwater Management plan set for all projects

IT IS THE RESPONSIBLITY OF PERMITTEE/OWNER OF THIS SITE TO OBTAIN ALL REQUIRED PERMITS PRIOR TO ISSUANCE OF THE APPROVED SEDIMENT CONTROL PERMIT

TYPE OF PERMIT	REQ'D	NOT REQ'D	PERMIT NO.	EXPIRATION DATE	WORK RESTRICTION DATES
MCDPS Floodplain district		X			
WATERWAYS/WETLAND(S)					
a. Corps of Engineers		X			
b. MDE		X			
c. MDE Water Quality Certification		X			
MDE Dam Safety		X			
* DPS ROADSIDE TREES PROTECTION PLAN	X				
N.P.D.E.S. NOTICE OF INTENT	X				DATE FILED
FEMA LOMR (REQUIRED POST CONSTRUCTION)		X			
OTHERS (Please List):	X				
a. SHA Access Permit	X				
MNCPPC - CONSTRUCTION		X			
DNR - ROADSIDE TREE PERMIT	X				

* A COPY OF THE APPROVED ROADSIDE TREE PROTECTION PLAN MUST BE DELIVERED TO THE SEDIMENT CONTROL INSPECTOR AT THE PRECONSTRUCTION MEEETING.

TREE CANOPY REQUIREMENTS TABLE

To be completed by the consultant and placed on the first sheet of the Sediment Control / Stormwater Management plan set for all projects

Exempt: Yes ☐ No ☒ If exempt under Section 55-5 of the Code, please check the applicable exemption category below.

Total Property Area	Total Disturbed Area
210,027 square feet	210,027 square feet
Shade Trees Required	**Shade Trees Proposed to be Planted**
79	86
Fee in Lieu (Trees Required – Trees Planted) x $250	$ 0

Required Number of Shade Trees

Area (sq. ft.) of the Limits of Disturbance		Number of Shade Trees Required
FROM	TO	
1	6,000	3
6,001	8,000	6
8,001	12,000	9
12,001	14,000	12
14,001	40,000	15

If the square footage of the limits of disturbance is more than 40,000, then the number of shade trees required must be calculated using the following formula:

(Number of Square Feet in Limits of Disturbance ÷ 40,000) × 15

EXEMPTION CATEGORIES:

☐ 55-5(a) any activity that is subject to Article II of Chapter 22A;
☐ 55-5(b) any commercial logging or timber harvesting operation with an approved exemption from Article II of Chapter 22A;
☐ 55-5(f) any activity conducted by the County Parks Department;
☐ 55-5(g) routine or emergency maintenance of an existing stormwater management facility, including an existing access road, if the person performing the maintenance has obtained all required permits;
☐ 55-5(h) any stream restoration project if the person performing the work has obtained all necessary permits;
☐ 55-5(i) cutting or clearing any tree to comply with applicable provisions of any federal, state, or local law governing safety of dams;
☐ OTHER: Specify per Section 55-5 of the Code.

OWNER/PERMIT APPLICANT:
MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
101 MONROE STREET
ROCKVILLE, MD 20850

PHONE NUMBER:
240–777–7296

CONTACT:
ROBERT GONZALES

ATTENTION

THIS SITE IS WITHIN THE ENVIRONMENTALLY SENSITIVE

PINEY BRANCH SPECIAL PROTECTION AREA

TO HELP PROTECT THE DELICATE AQUATIC HABITAT
FROM THE IMPACTS OF LAND DEVELOPMENT
THESE PLANS MUST BE STRICTLY ADHERED TO

IF THERE IS A PROBLEM, CALL

ANDREW KOHLER AT 240-777-6275

AND THE MCDPS STAFF MEMBER WILL ASSIST YOU
IN DEVELOPING A SOLUTION BEFORE STREAM IMPACTS OCCUR

(MENTION THAT THE SITE IS WITHIN A SPECIAL PROTECTION AREA WHEN YOU CALL)

"LET'S WORK TOGETHER TO KEEP IT CLEAN"

ACKNOWLEDGED JOSE THOMMANA
OWNER/DEVELOPER

DESIGN DESIGNATION

ROADWAY	MEDICAL CENTER DRIVE		OMEGA DRIVE	
CONTROLS / YEARS	2017	2030	2017	2030
AVERAGE DAILY TRAFFIC (A.D.T.)	XX	XX	XX	XX
DESIGN HOURLY VOLUME (D.H.V.)	XX	XX	XX	XX
DIRECTIONAL DISTRIBUTION	XX%	XX%	XX%	XX%
% TRUCKS – A.D.T.	XX%	XX%	XX%	XX%
% TRUCKS – D.H.V.	XX%	XX%	XX%	XX%
DESIGN SPEED M.P.H.	25 M.P.H.		25 M.P.H.	
MASTER PLAN CLASSIFICATION	DOWNTOWN BLVD		DOWNTOWN BLVD	
TERRAIN	LEVEL		LEVEL	
CONTROL OF ACCESS	NONE		NONE	
DESIGN CRITERIA	AASHTO 2018: A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS MONTGOMERY COUNTY COMPLETE STREETS DESIGN GUIDE MAY 2024, VERSION 1.2		AASHTO 2018: A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS AASHTO 2018: A POLICY ON GEOMETRIC DESIGN OF HIGHWAY AND STREETS	
DENSITY	DOWNTOWN		DOWNTOWN	

TECHNICAL REVIEW OF SEDIMENT CONTROL	ADMINISTRATIVE REVIEW
REVIEWED DATE	REVIEWED DATE
TECHNICAL REVIEW OF STORMWATER MANAGEMENT	**SMALL LOT DRAINAGE APPROVAL**
	N/A: ☐ OR
REVIEWED DATE	REVIEWED DATE
MCDPS APPROVAL OF THIS PLAN WILL EXPIRE TWO YEARS FROM THE DATE OF APPROVAL IF THE PROJECT HAS NOT STARTED.	NOTE: MCDPS APPROVAL DOES NOT NEGATE THE NEED FOR A MCDPS ACCESS PERMIT.

DPS approval of a sediment control or stormwater management plan is for demonstrated compliance with minimum environmental runoff treatment standards and does not create or imply any right to divert or concentrate runoff onto any adjacent property without that property owner's permission. It does not relieve the design engineer or other responsible person of professional liability or ethical responsibility for the adequacy of the drainage design as it affects uphill or downhill properties.

SEDIMENT CONTROL PERMIT NO.

SM. FILE NO.
STORMWATER MANAGEMENT:

Gannett Fleming/GPI

90% SUBMISSION
JUNE, 2024

PROFESSIONAL CERTIFICATION:

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

R-O-W PLAT NUMBERS

SURVEY BOOK NUMBERS

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
DIVISION OF TRANSPORTATION ENGINEERING
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

TITLE SHEET

SCALE : NTS DATE: JUNE 2024 TI–01

DPS SC/SWM PERMIT SHEET NO. 1 of 64

C.I.P. Project No. : 0501742 1 of 105

6/28/2024
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5	GT-01	PAVEMENT DETAIL SHEET	N/A
6	DE-01	DETAILS SHEET	N/A
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9	ID-01	INTERSECTION DETAIL SHEET	N/A
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102	LT-11	LIGHTING SCHEDULE	N/A
103	SG-01	TRAFFIC SIGNAL PLAN	N/A
104	SG-02	GENERAL INFORMATION SHEET	N/A
105	GR-01	GRADING TABLE AND SUMMARY OF EARTHWORK	N/A

PLOTTED: 6/28/2024
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
INDEX OF SHEETS

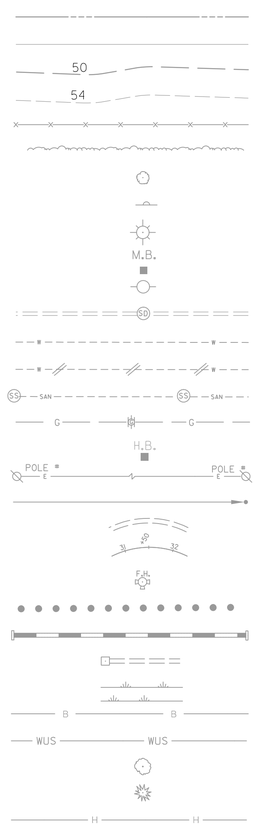
SCALE : NTS DATE: JUNE 2024 IN-01

DPS SC/SWM PERMIT SHEET NO. 2 of 64

C.I.P. Project No. : 0501742 2 of 105

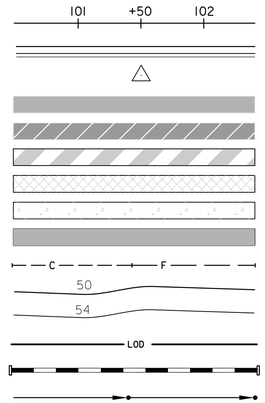
CONVENTIONAL SYMBOLS
EXISTING CONSTRUCTION

PROPERTY LINE
EDGE OF ROADWAY PAVING
EXISTING GROUND CONTOURS (10')
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
GAS
ELECTRICAL HAND BOX - SIGNALS
ELECTRIC (OVERHEAD)
FLOW LINE
EXISTING ROADWAY
BASE LINE OR SURVEY LINE
FIRE HYDRANT
WETLAND BOUNDARY
EXISTING PIPE / CULVERT
EXISTING DROP INLET
WETLAND
WETLAND BUFFER
WATERS OF THE U.S.
BUSH / TREE
CONIFEROUS TREE
HISTORIC BOUNDARY



CONVENTIONAL SYMBOLS
PROPOSED CONSTRUCTION

℄ CONSTRUCTION
CURB & GUTTER
TRAVERSE POINT
FULL DEPTH CONSTRUCTION
PAVEMENT WEDGE AND LEVELING
MILL AND RESURFACE
PAVEMENT REMOVAL
CONCRETE PAVEMENT
HMA SHARED USE PATH
APPROXIMATE LIMITS OF CUT AND/OR FILL
GRADING ELEVATION CONTOURS (10')
GRADING ELEVATION CONTOURS (2')
LIMIT OF DISTURBANCE
STORM DRAIN PIPE
DITCH FLOW LINE



ABBREVIATIONS

AASHTO ..American Association of State Highway Transportation Officials
ADT.....Average Daily Traffic
AHD.....Ahead
APPROX..Approximate
℄ or B/L..Baseline
BK .....Back /Book
BIT. .....Bituminous
B.C. .....Bituminous Concrete
B.M. .....Bench Mark
BOT. .....Bottom
C.C. .....Center of Curve
CAP.....Corrugated Aluminum Pipe
CAPA .....Corrugated Aluminum Pipe Arch
CATV .....Cable Television
C.B.R.....California Bearing Ratio
℄ or C/L..Centerline
CL. .....Class
CLF.....Chainlink Fence
CMP.....Corrugated Metal Pipe
C.O. .....Cleanout
COMB.....Combination
CONC. ....Concrete
CONSTR. .Construction
COR. .....Corner
CORR. ....Correction
CPP-S ....Corrugated Polyethylene Pipe – Type 'S'
CSP .....Corrugated Steel Pipe – Aluminized Type 2
CSPA .....Corrugated Steel Pipe Arch – Aluminized Type 2
DC .....Degree of Curve
D.H.V. .....Design Hourly Volume
D.I. .....Drop Inlet
DIA. .....Diameter
D.O.....Double Opening
E .....East
E .....Electric
E .....External Distance
EA .....Each
EB .....Eastbound
ELEV .....Elevation
ES .....End Section
EX or EXIST. Existing
FT .....Feet
F or FL ...Flowline
FB .....Foundation Boring
F.B.D. ....Flat Bottom Ditch
F.H. .....Fire Hydrant
FWD. .....Forward
G .....Gas
G.V. .....Gas Valve
H.B. .....Handbox
HDPE .....High Density Polyethelene
HDWL. .....Headwall
HERCP.....Horizontal Ellipitical Reinforced Concrete Pipe
HP.....High Point
IN .....Inch
I.S.T.....Inlet Sediment Trap
INV. .....Invert
J.B. .....Junction Box
K .....K Inlet
L .....Length
LF .....Linear Feet
L.L. .....Liquid Limit
LP.....Low Point
L.P. .....Light Pole
LT. .....Left
MAC. .....Macadam
MB .....Mail Box
M.C. .....Moisture Content
M.D.D. .....Maximum Dry Content
MAX. .....Maximum
MC.....Montgomery County
MCDOT.....Montgomery County Department of Transportation
MH.....Manhole
MOD. .....Modified
MIN. .....Minimum
M-NCPPC..Maryland – National Capital Park and Planning Commission
N .....North
N/B .....Northbound
NE .....Northeast
N.P. .....Non-Plastic
O.C. .....On Center
OHE .....Overhead Electric
O.M. .....Optimum Moisture
PAV'T. .....Pavement
PB .....Pavement Boring
PC .....Point of Curvature
PCC .....Point of Compound Curvature
P/C .....Point of Crown
P/GE .....Profile Grade Elevation
P.G.E. .....Profile Ground Elevation
P.G.L. .....Profile Grade Line
P/GL .....Profile Ground Line
P/R .....Point of Rotation
P.I. .....Plasticity Index
PI .....Point of Intersection
POC .....Point On Curve
POT.....Point On Tangent
PPWP.....Polyvinyl Chloride Profile Wall Pipe
PROP.....Proposed
PRC .....Point of Reverse Curve
PT.....Point
PT.....Point of Tangency
PVC.....Point of Vertical Curve
PVC .....Polyvinyl Chloride
PVI .....Point of Vertical Intersection
PVRC.....Point of Vertical Reverse Curve
PVT .....Point of Vertical Tangency
R .....Radius
R.F. .....Rock Fragments
RT.....Right
RW or R/W..Right of Way
RCP .....Reinforced Concrete Pipe
RCPP ....Reinforced Concrete Pressure Pipe
R.Q.D. ...Rock Quality Designation
R.M. .....Rootmat
S .....South
SAN. .....Sanitary Sewer
SB.....Soil Boring
S/B.....Southbound
S.D. .....Storm Drain
S.D.D. ....Surface Drain Ditch
S/E .....Super Elevation
SF .....Silt Fence
SF .....Square Feet
SHT. .....Sheet
SPP .....Structural Steel Plate Pipe
SPPA ....Structural Steel Plate Pipe Arch
S.P.T. ....Standard Penetration Testing
SRP .....Steel Spiral Rib Pipe – Aluminized Type 2
SRPA ....Steel Spiral Rib Pipe Arch – Aluminized Type 2
SSD .....Stopping Sight Distance
SSF .....Super Silt Fence
STD. .....Standard
STA. .....Station
SO. .....Single Opening
SY .....Square Yards
SWM .....Stormwater Management
T .....Tangent
T .....Telephone
T.C. .....Top of Cover
T.G. .....Top of Grate
T or TL ..Traverse Line
T.M. .....Top of Manhole
TRAV. .....Traverse
TS .....Temporary Swale
T.S. .....Top of Slab
T.S. .....Topsoil
TYP. .....Typical
U.D. .....Under Drain
U.G. .....Underground
U.P. .....Utility Pole
USDA ....United States Department of Agriculture
VCL .....Vertical Clearance
V.C.L. ....Vertical Curve Length
W .....Water
W .....West
WB .....Westbound
WB .....Wetland Buffer
W.M. .....Water Meter
W.S. .....Wrapped Steel
WUS .....Waters of the United States
W.V. .....Water Valve

GENERAL NOTES

1. RIGHT OF WAY LINES ARE SHOWN FOR ASSISTANCE IN INTERPRETING PLANS. THESE LINES DO NOT REPRESENT THE OFFICIAL PROPERTY ACQUISITION LINES. FOR OFFICIAL RIGHT OF WAY AND EASEMENT INFORMATION, SEE THE APPROPRIATE RIGHT OF WAY PLAN.
2. INFORMATION CONCERNING UNDERGROUND UTILITIES WAS OBTAINED FROM AVAILABLE RECORDS, BUT THE CONTRACTOR MUST DETERMINE THE EXACT LOCATION AND ELEVATIONS OF THE MAINS BY DIGGING TEST HOLES BY HAND AT ALL UTILITY CROSSINGS, WELL IN ADVANCE OF TRENCHING. IF CLEARANCE IS LESS THAN TWELVE (12) INCHES, THEN CONTACT THE MONTGOMERY COUNTY DOT PROJECT MANAGER AND THE APPROPRIATE UTILITY BEFORE PROCEEDING WITH CONSTRUCTION.
3. THE CONTRACTOR SHALL CALL "MISS UTILITY" AT LEAST 48 HOURS IN ADVANCE OF ANY EXCAVATION WORK AT 1-800-257-7777.
4. REPAIRS TO UTILITIES OR PROPERTY DAMAGED AS A RESULT OF THE CONTRACTOR'S NEGLIGENCE OR METHOD OF OPERATION MUST BE MADE AT THE CONTRACTOR'S EXPENSE BEFORE PROCEEDING WITH CONSTRUCTION.
5. THE EXACT LOCATION AND TYPE OF SEDIMENT CONTROL DEVICES WILL BE SUBJECT TO THE APPROVAL OF THE ENGINEER, WHO RESERVES THE RIGHT TO ORDER ADDITIONAL EROSION AND SEDIMENT CONTROL DEVICES.
6. CONSTRUCTION EQUIPMENT SHALL HAVE TREADS /TIRES CLEANED PRIOR TO LEAVING THE LOD. ALL MATERIAL REMOVAL /LOAD OUT SHALL BE LIFTED FROM THE LOD. ALL SEDIMENT SPILLED, DROPPED OR TRACKED ONTO THE ROAD MUST BE REMOVED IMMEDIATELY BY VACUUMING, SCRAPING OR SWEEPING.
7. REFER TO THE CONTRACT DOCUMENTS FOR ROADWAY BORING, SOIL BORING AND INFILTRATION TESTING DATA SHEETS.
8. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE 2024 MDOT SHA STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS, REVISIONS THEREOF OR ADDITIONS THERETO, THE SPECIAL PROVISIONS INCLUDED IN THE CONTRACT DOCUMENTS, THE LATEST VERSION OF THE MARYLAND MUTCD, AND ALL RELEVANT MONTGOMERY COUNTY STANDARD SPECIFICATIONS.
9. PAVEMENT RESURFACING SHALL BE COMPLETED WITHIN FOURTEEN (14) CALENDAR DAYS AFTER MILLING. PAVEMENT MILLING OPERATIONS SHALL NOT BEGIN UNLESS THERE IS A SUFFICIENT TIME TO RESURFACE THE ROADWAY BEFORE COLD WEATHER. SEE SP508 – MILLING ASPHALT PAVEMENT.
10. CLEARING IS TO BE LIMITED TO LIMIT OF DISTURBANCE (LOD) AS SHOWN ON THE PLANS.
11. ALL GRADING SHALL BE DONE IN SUCH A MANNER AS TO PROVIDE POSITIVE DRAINAGE.
12. ALL DISTURBED AREAS TO BE SEEDED AND MULCHED UNLESS OTHERWISE NOTED.
13. TYPES OF STORM DRAIN STRUCTURES REFER TO THE "DESIGN STANDARDS" OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION, UNLESS OTHERWISE NOTED.
14. WHEN THE DROP ON THE MAIN LINE THROUGH A STORM DRAIN STRUCTURE CAN BE ACCOMMODATED BY AN INVERT SLOPE OF 1.5:1 OR FLATTER, A ROUNDED CHANNEL LINED WITH SEWER BRICK ON EDGE SHALL BE BUILT TO THE CROWN OF THE PIPES. WHEN THE INVERT SLOPES WOULD BE GREATER THAN 1.5:1 A SPECIAL INVERT SHALL BE CONSTRUCTED AS NOTED.
15. ALL STORM DRAIN PIPE SHALL BE INSTALLED WITH CLASS "C" BEDDING UNLESS OTHERWISE SPECIFIED.
16. THE CONTRACTOR SHALL MAKE FIELD ADJUSTMENTS TO STORM DRAIN STRUCTURES, WHEN NECESSARY, TO MEET EXISTING CONDITIONS, AS APPROVED BY MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION'S PROJECT INSPECTOR.

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

GENERAL NOTES AND ABBREVIATIONS

SCALE : NTS DATE: JUNE 2024 GN-01

DPS SC/SWM PERMIT SHEET NO. 3 of 64

C.I.P. Project No. : 0501742 3 of 105

PLOTTED: 6/26/2024
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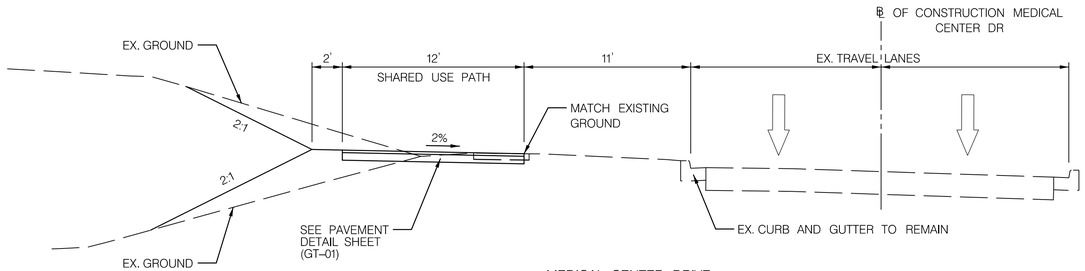
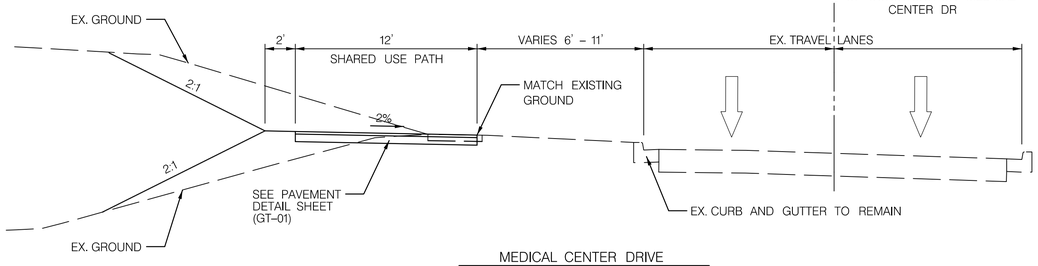


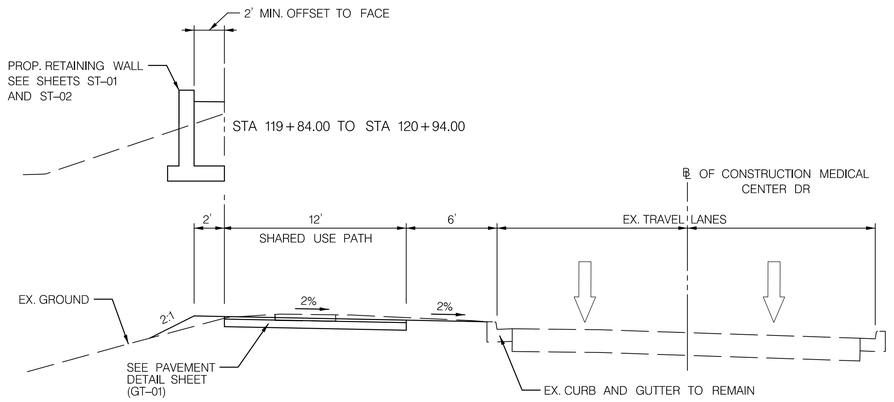
MEDICAL CENTER DRIVE

STA 101+00.00 TO STA 107+50.00
STA 136+50.00 TO STA 142+50.00



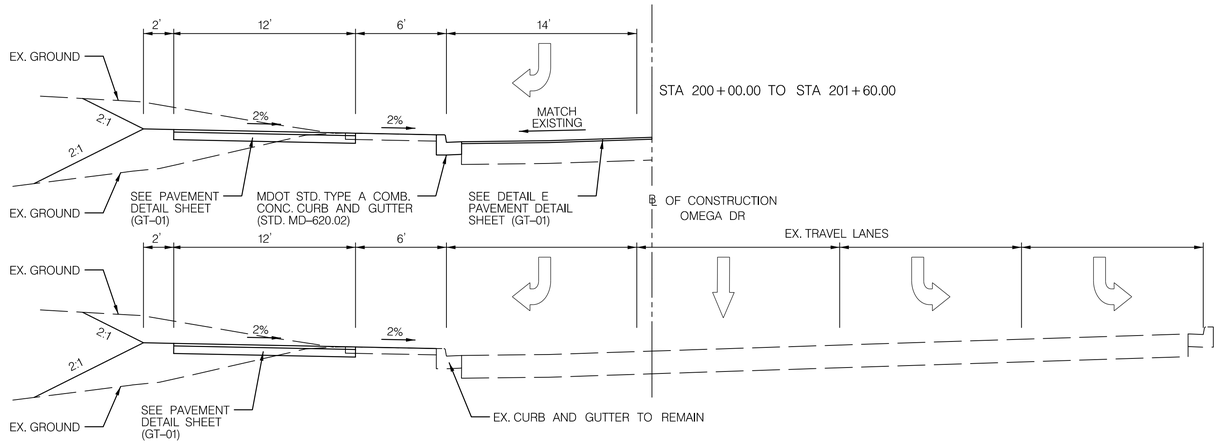
MEDICAL CENTER DRIVE

STA 107+50.00 TO STA 117+00.00
STA 123+50.00 TO STA 129+00.00
STA 134+50.00 TO STA 136+50.00
STA 142+50.00 TO STA 147+75.00
STA 151+50.00 TO STA 158+50.00



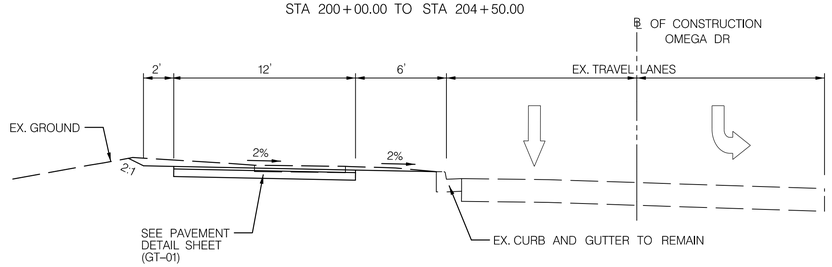
MEDICAL CENTER DRIVE

STA 117+00.00 TO STA 123+50.00
STA 129+00.00 TO STA 134+50.00
STA 147+75.00 TO STA 151+50.00



OMEGA DRIVE

STA 200+00.00 TO STA 204+50.00



OMEGA DRIVE

STA 204+50.00 TO STA 207+20.00

DPS SC/SWM PERMIT SHEET NO.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

TYPICAL SECTIONS

SCALE : NTS DATE: JUNE 2024 TS-01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 4 of 105

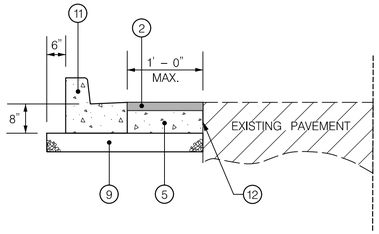
PLOTTED: 6/26/2024
FILE: c:\pwworking\gfpw01\lwilson\d128568\prf-X001_LSCLT.dgn

PAVEMENT LEGEND

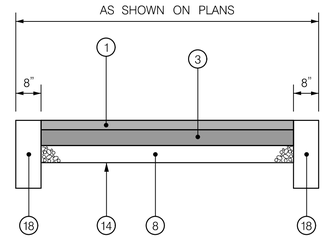
(1)	1.5"	SUPERPAVE ASPHALT MIX 9.5MM FOR SURFACE, PG 64S–22, LEVEL 2
(2)	2"	SUPERPAVE ASPHALT MIX 12.5MM FOR SURFACE, PG 64S–22, LEVEL 2
(3)	2.5"	SUPERPAVE ASPHALT MIX 19.0MM FOR BASE, PG 64S–22, LEVEL 2
(4)	7"	SUPERPAVE ASPHALT MIX 19.0MM FOR BASE, PG 64S–22, LEVEL 2 (2 – 3.5" LIFTS)
(5)	6.5"	PORTLAND CEMENT CONCRETE MIX NO. 9 (SEE NOTE 1)
(6)	5"	PLAIN PORTLAND CEMENT CONCRETE PAVEMENT MIX NO. 7
(7)	3"	GRADED AGGREGATE BASE COURSE
(8)	4"	GRADED AGGREGATE BASE COURSE
(9)	6"	GRADED AGGREGATE BASE COURSE (INCIDENTAL TO CURB AND GUTTER)
(10)	6"	GRADED AGGREGATE BASE COURSE
(11)	–	MDOT STANDARD TYPE A OR TYPE D COMBINATION CONCRETE CURB AND GUTTER (STD. MD–620.02–01) (SEE ROADWAY PLANS FOR DETAILS)
(12)	–	FULL DEPTH SAW CUT (INCIDENTAL TO CURB AND GUTTER)
(13)	–	FULL DEPTH SAW CUT
(14)	–	TOP OF SUBGRADE AND LIMIT OF EXCAVATION
(15)	–	TOP OF EXISTING PAVEMENT AFTER 2" FINE MILLING
(16)	4"	AASHTO NO. 8 STONE
(17)	6"	SELECTED BACKFILL USING AASHTO NO. 57 AGGREGATE
(18)	–	FLUSH CONCRETE CURB (SEE LANDSCAPE PLANS)

NOTES:

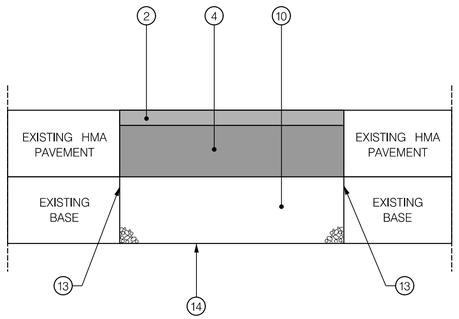
1. REFER TO STANDARD MD 580.03 FOR NEW COMBINATION CURB AND GUTTER PLACEMENT ALONG EXISTING PAVEMENT.



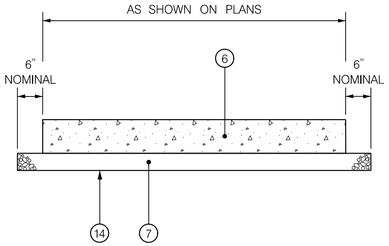
DETAIL A
CURB & GUTTER REPLACEMENT



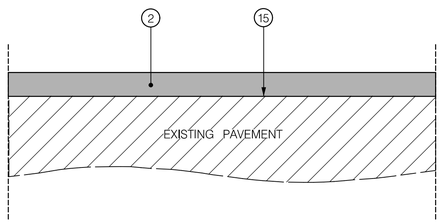
DETAIL B
ASPHALT PAVEMENT – SHARED USE PATH



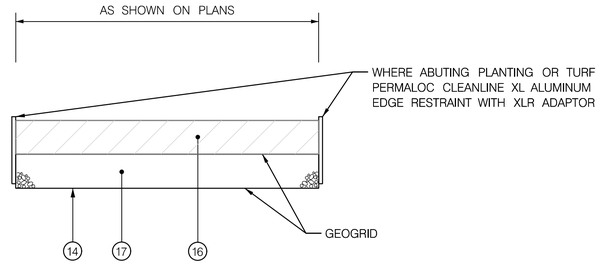
DETAIL C
FULL DEPTH PAVEMENT



DETAIL D
CONCRETE PAVEMENT – SHARED USE PATH



DETAIL E
FINE MILLING AND OVERLAY



DETAIL F
GRAVEL–STONE DUST WALKWAY

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

PAVEMENT DETAIL SHEET

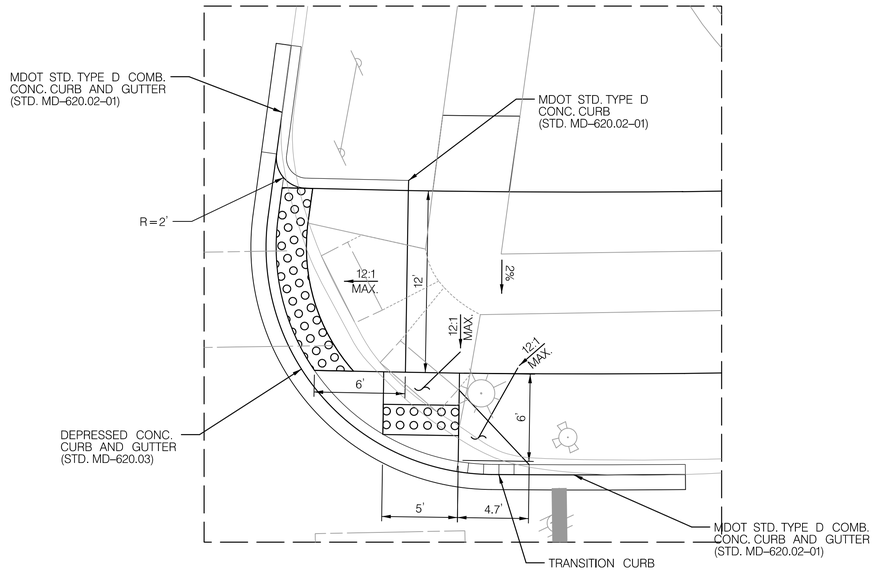
SCALE : NTS DATE: JUNE 2024 GT–01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 5 of 105

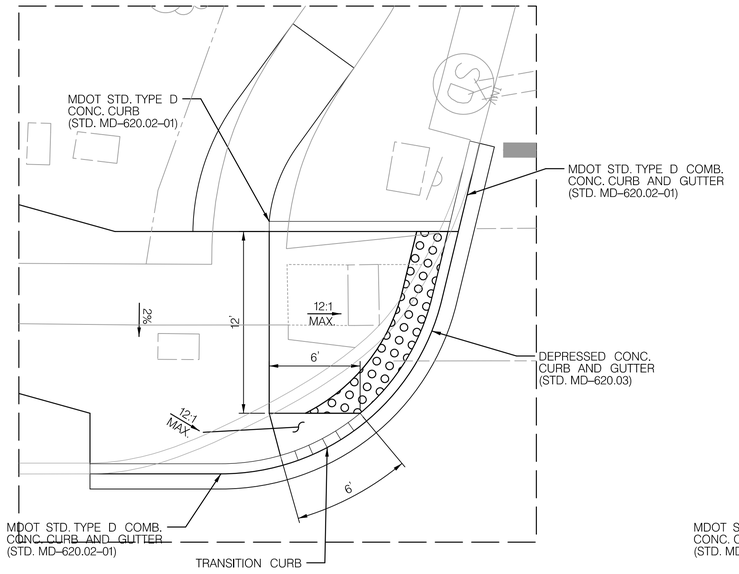
Gannett Fleming/GPI

PLOTTED: 6/28/2024
FILE: c:\uwworking\gfgw01\wilson\d128568\pGT-0001_LSCLT.dgn



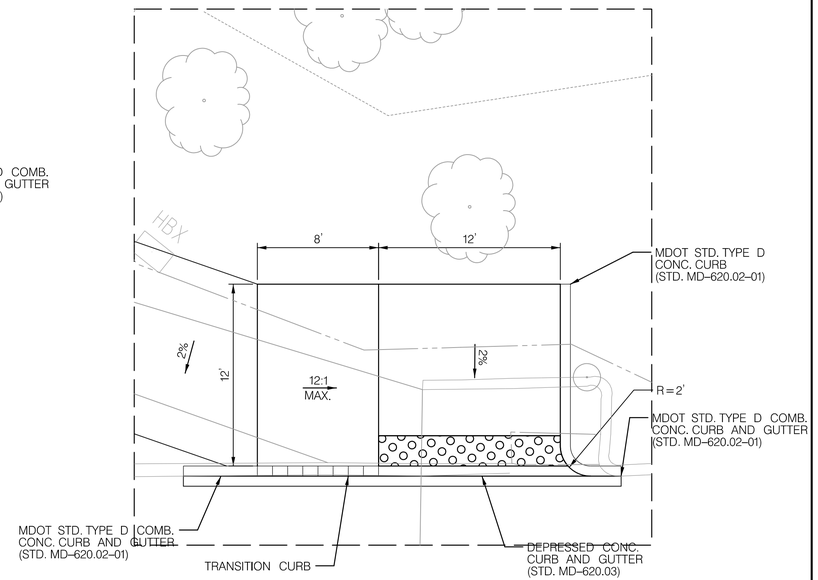
SIDEWALK RAMP DETAIL – STA. 129+60 LT

SCALE: 1" = 5'



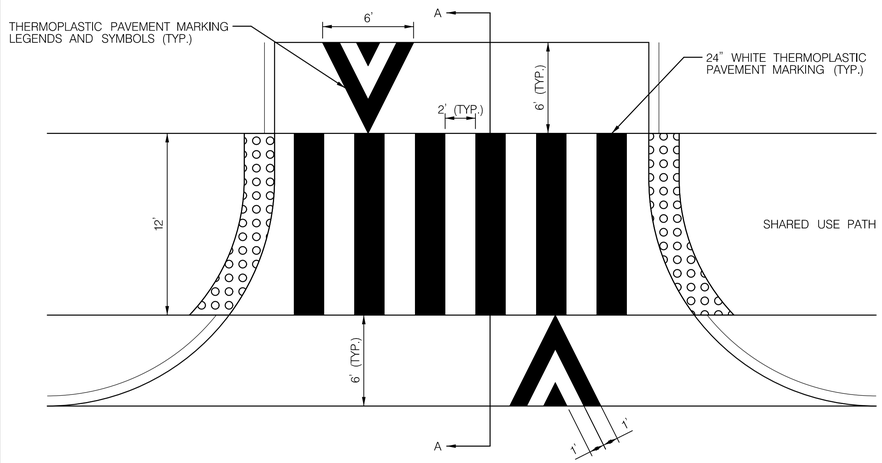
SIDEWALK RAMP DETAIL – STA. 143+80 LT

SCALE: 1" = 5'

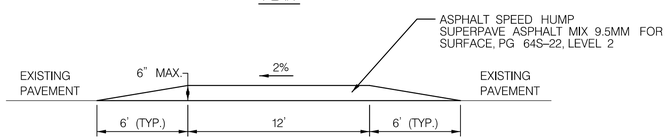


SIDEWALK RAMP DETAIL – STA. 207+00 LT

SCALE: 1" = 5'



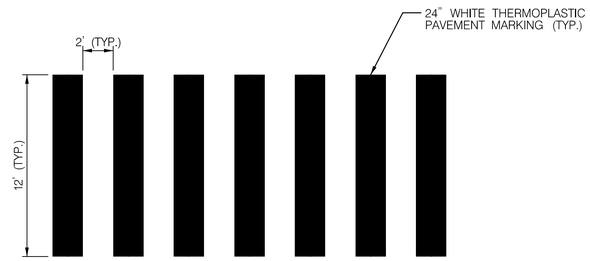
PLAN



SECTION A–A

RAISED CROSSWALK

NTS



CONTINENTAL CROSSWALK

NTS

NOTES:

1. DEPRESSED CURB AND GUTTER WILL BE PAID FOR AT THE CONTRACT UNIT PRICE BID PER LINEAR FOOT FOR STANDARD TYPE A OR D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

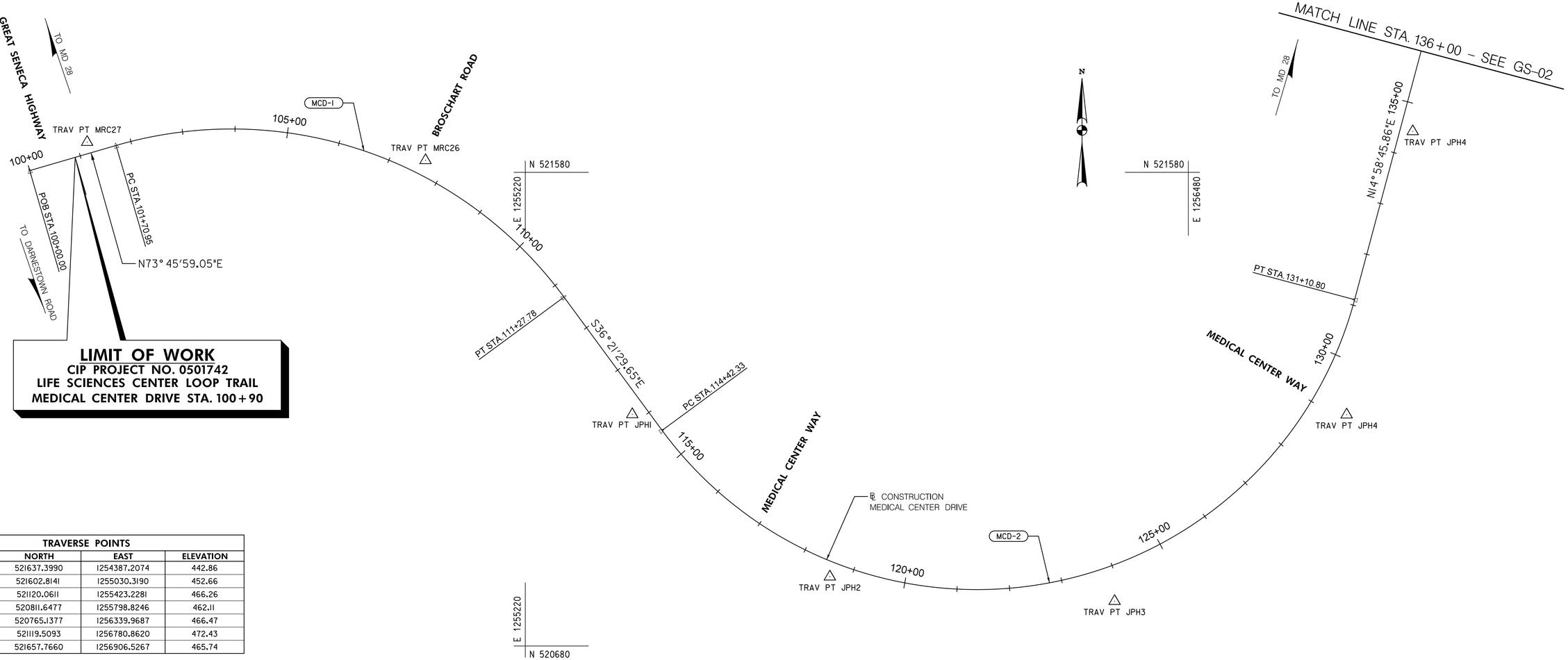
DETAILS SHEET

SCALE : NTS DATE: JUNE 2024 DE–01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 6 of 105

PLOTTED: 6/26/2024
FILE: C:\pwworking\gfshw01\lwilson\d128568\pHD-D001_LSC1.dgn



LIMIT OF WORK
CIP PROJECT NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
MEDICAL CENTER DRIVE STA. 100+90

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
MRC27	521637.3990	1254387.2074	442.86
MRC26	521602.8141	1255030.3190	452.66
JPH1	521120.0611	1255423.2281	466.26
JPH2	520811.6477	1255798.8246	462.11
JPH3	520765.1377	1256339.9687	466.47
JPH4	521119.5093	1256780.8620	472.43
JPH5	521657.7660	1256906.5267	465.74

BASELINE CONTROL COORDINATES – MEDICAL CENTER DRIVE					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POB	100+00.00	521583.3469	1254278.1995	
MCD-1	PC	101+70.95	521631.1365	1254442.3332	N 73° 45'59.05" E
	PI	107+19.04	521784.3576	1254968.5718	
	PT	111+27.78	521342.9655	1255293.4977	S 36° 21'29.65" E
MCD-2	PC	114+42.33	521089.6437	1255479.9778	
	PI	129+88.33	519844.6157	1256396.4915	
	PT	131+10.80	521338.0734	1256796.0870	N 14° 58'45.86" E

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MCD-1	69° 52'31.30" RT	7° 18'10.17"	784.57	548.09	956.82	172.48
MCD-2	128° 39'44.48" LT	7° 42'41.08"	743.00	1545.99	1668.47	972.27

100' 0 100' 200'
SCALE: 1" = 100'

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

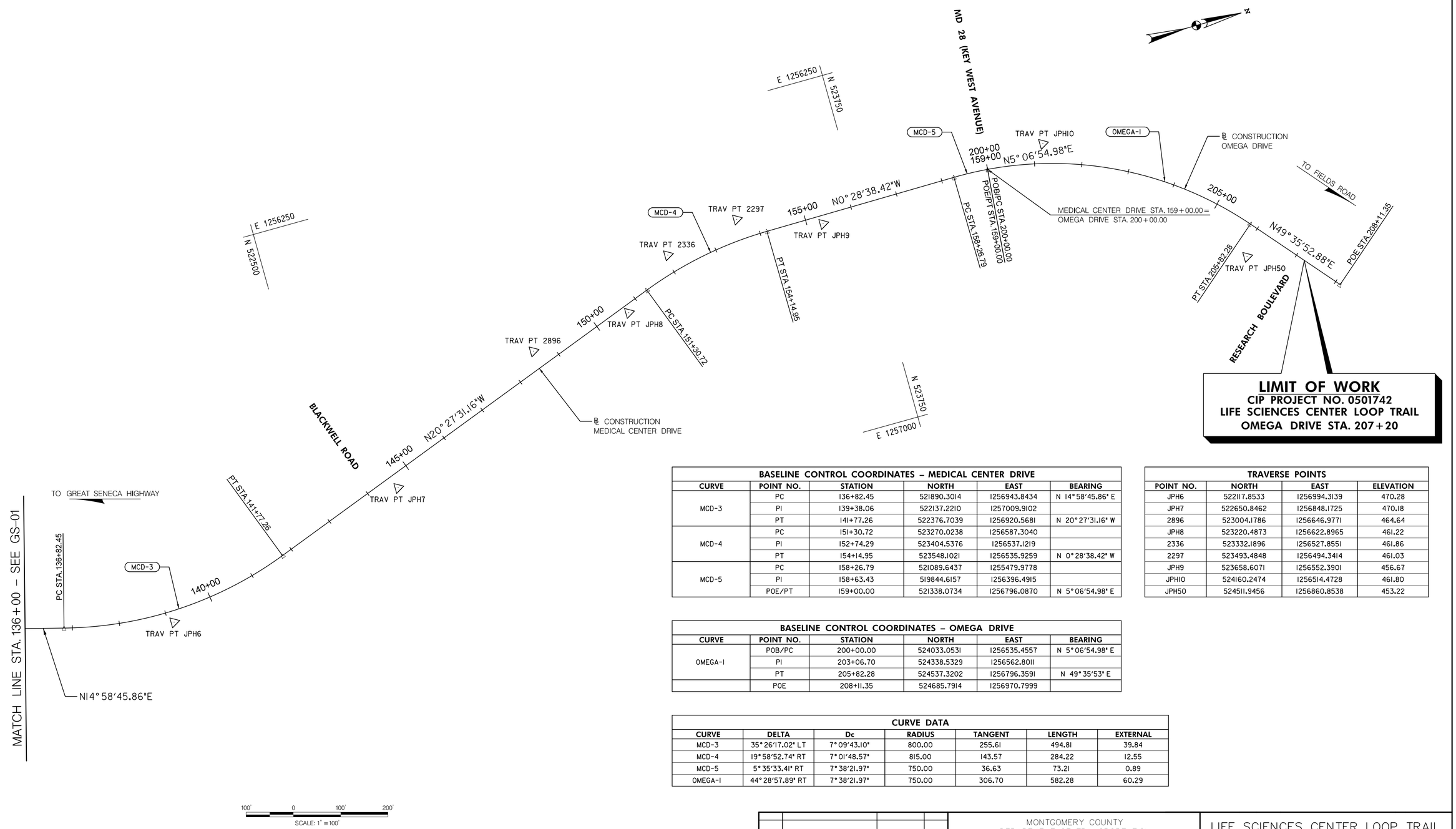
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
GEOMETRY SHEET

SCALE : 1" = 100' DATE: JUNE 2024 GS-01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 7 of 105

PLOTTED: 6/28/2024
FILE: c:\pwworking\gfw01\wilson\d1386685\gGS-P001_LSCLT.dgn



LIMIT OF WORK
CIP PROJECT NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
OMEGA DRIVE STA. 207+20

BASELINE CONTROL COORDINATES – MEDICAL CENTER DRIVE					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
MCD-3	PC	136+82.45	521890.3014	1256943.8434	N 14°58'45.86" E
	PI	139+38.06	522137.2210	1257009.9102	
	PT	141+77.26	522376.7039	1256920.5681	N 20°27'31.16" W
MCD-4	PC	151+30.72	523270.0238	1256587.3040	
	PI	152+74.29	523404.5376	1256537.1219	
	PT	154+14.95	523548.1021	1256535.9259	N 0°28'38.42" W
MCD-5	PC	158+26.79	521089.6437	1255479.9778	
	PI	158+63.43	519844.6157	1256396.4915	
	POE/PT	159+00.00	521338.0734	1256796.0870	N 5°06'54.98" E

TRAVERSE POINTS			
POINT NO.	NORTH	EAST	ELEVATION
JPH6	522117.8533	1256994.3139	470.28
JPH7	522650.8462	1256848.1725	470.18
2896	523004.1786	1256646.9771	464.64
JPH8	523220.4873	1256622.8965	461.22
2336	523332.1896	1256527.8551	461.86
2297	523493.4848	1256494.3414	461.03
JPH9	523658.6071	1256552.3901	456.67
JPH10	524160.2474	1256514.4728	461.80
JPH50	524511.9456	1256860.8538	453.22

BASELINE CONTROL COORDINATES – OMEGA DRIVE					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
OMEGA-1	POB/PC	200+00.00	524033.0531	1256535.4557	N 5°06'54.98" E
	PI	203+06.70	524338.5329	1256562.8011	
	PT	205+82.28	524537.3202	1256796.3591	N 49°35'53" E
	POE	208+11.35	524685.7914	1256970.7999	

CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MCD-3	35°26'17.02" LT	7°09'43.10"	800.00	255.61	494.81	39.84
MCD-4	19°58'52.74" RT	7°01'48.57"	815.00	143.57	284.22	12.55
MCD-5	5°35'33.41" RT	7°38'21.97"	750.00	36.63	73.21	0.89
OMEGA-1	44°28'57.89" RT	7°38'21.97"	750.00	306.70	582.28	60.29

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
GEOMETRY SHEET

SCALE : 1" = 100' DATE: JUNE 2024 GS-02

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 8 of 105

PLOTTED: 6/28/2024
FILE: c:\uworked\gdtwd01\twilson\ch1285685\pGSS-P002_SCLT.dgn

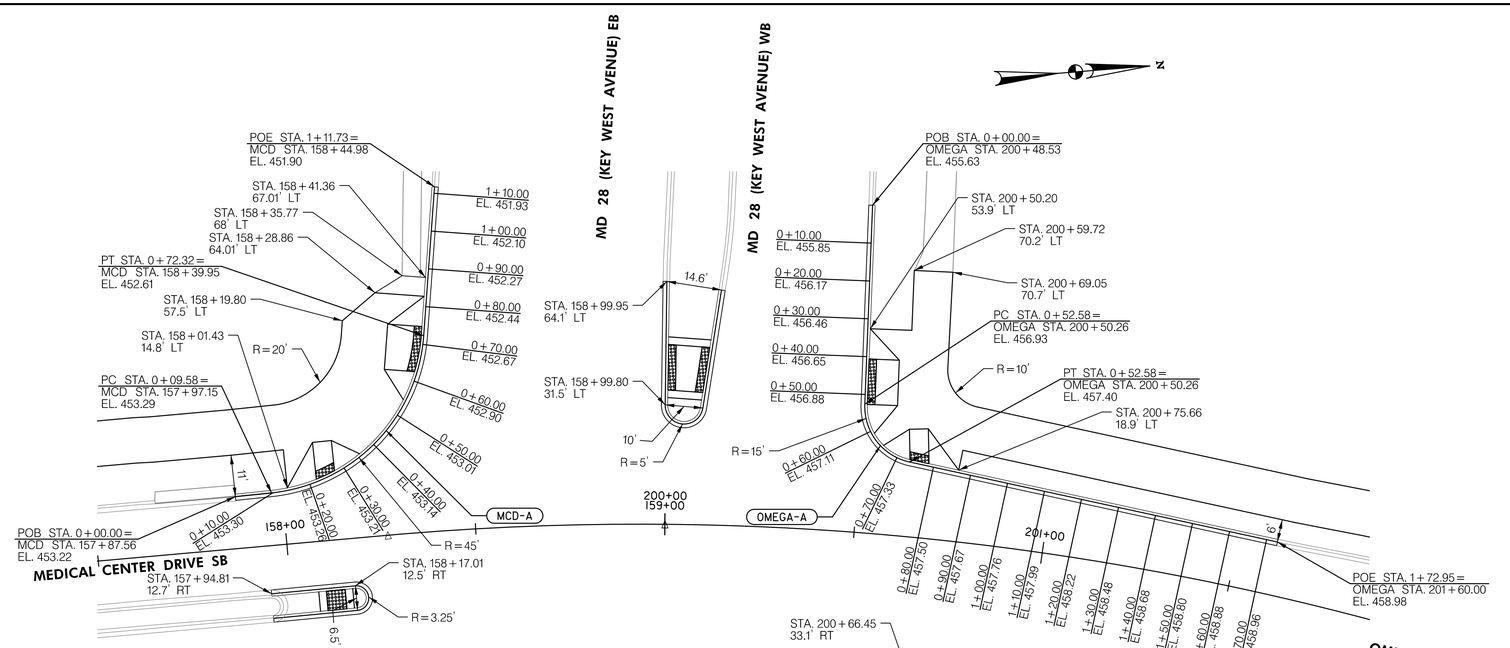
BASELINE CONTROL COORDINATES – MCD–A					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POB	0+00.00	523920.5917	1256519.0983	N 1°22'18.61" W
	PC	0+09.58	523930.1728	1256518.8689	
MCD-A	PI	0+47.26	523967.8417	1256517.9668	
	PT	0+72.32	523973.5720	1256480.7254	N 81°15'09.02" W
	POE	1+11.73	523979.5645	1256441.7800	

BASELINE CONTROL COORDINATES – MCD–B					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POB	0+00.00	523882.3142	1256603.8675	N 0°30'59.69" W
	PC	0+47.10	523929.4138	1256603.4428	
MCD-B	PI	0+84.30	523966.6064	1256603.1075	
	PT	1+00.62	523959.0604	1256639.5281	S 78°17'39.71" E
	POE	1+35.61	523951.9616	1256673.7898	

BASELINE CONTROL COORDINATES – OMEGA–A					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POB	0+00.00	524094.4733	1256455.9023	S 83°09'04.02" E
	PC	0+52.58	524088.2030	1256508.1074	
OMEGA-A	PI	0+65.16	524086.7023	1256520.6020	
	PT	0+73.52	524098.7459	1256524.2516	N 16°51'29.10" E
	POE	1+72.95	524193.8970	1256553.0847	

BASELINE CONTROL COORDINATES – OMEGA–B					
CURVE	POINT NO.	STATION	NORTH	EAST	BEARING
	POB	0+00.00	524065.9635	1256698.3659	N 76°44'04.24" W
	PC	0+50.86	524077.6335	1256648.8652	
OMEGA-B	PI	0+92.54	524087.1984	1256608.2938	
	PT	1+15.34	524127.3412	1256619.5223	N 15°37'37.29" E
	POE	1+96.38	524205.3919	1256641.3541	

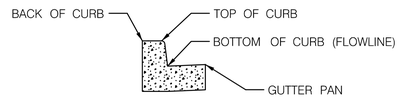
CURVE DATA						
CURVE	DELTA	Dc	RADIUS	TANGENT	LENGTH	EXTERNAL
MCD-A	79°52'50.41" LT	127°19'26.24"	45.00	37.68	62.74	13.69
MCD-B	102°13'19.99" RT	190°59'09.35"	30.00	37.19	53.52	17.78
OMEGA-A	79°59'26.88" LT	381°58'18.71"	15.00	12.58	20.94	4.58
OMEGA-B	92°21'41.53" RT	143°14'22.02"	40.00	41.68	64.48	17.77



MEDICAL CENTER DRIVE /MD 28 INTERSECTION

CURB & GUTTER DETAIL

ALL ELEVATIONS ARE AT BOTTOM OF CURB (FLOWLINE)



20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

INTERSECTION DETAIL SHEET

SCALE : 1" = 20' DATE: JUNE 2024 ID–01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 9 of 105

PLOTTED: 6/28/2024
FILE: C:\powerdrg\gfgw01\wilson\d126568\pID-R001_LSCLT.dgn

REMOVAL OF EXISTING PAVEMENT	
3 CY	MCD - STA. 101+33 LT TO STA. 104+10 LT
0.1 CY	MCD - STA. 104+94 LT TO STA. 104+97 LT
0.3 CY	MCD - STA. 105+80 LT TO STA. 106+25 LT

5 INCH CONCRETE SIDEWALK	
34 SF	MCD - STA. 104+90 LT TO STA. 104+96 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
30 LF	MCD - STA. 101+04 LT TO STA. 101+33 LT
13 LF	MCD - STA. 104+39 LT TO STA. 104+51 LT
27 LF	MCD - STA. 105+06 LT TO STA. 105+32 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
11 LF	MCD - STA. 104+51 LT TO STA. 104+61 LT
6 LF	MCD - STA. 104+66 LT TO STA. 104+66 LT
6 LF	MCD - STA. 104+89 LT TO STA. 104+91 LT
11 LF	MCD - STA. 104+96 LT TO STA. 105+06 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
27 SF	MCD - STA. 104+64 LT
27 SF	MCD - STA. 104+93 LT

GREAT SENECA HIGHWAY NB

EXISTING RIGHT-OF-WAY LINE

TO MD 28

N 521800
E 1254560

RELOCATE EXISTING SIGN

ADJUST HANDBOX TO FINISHED GRADE

MATCH EX. SHARED USE PATH

PERPETUAL EASEMENT

TEMP. EASEMENT

PROPOSED RIGHT-OF-WAY

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

MDOT SIDEWALK RAMP PERPENDICULAR (STD. MD-655.11)

101+00 R=30' 102+00 103+00

MEDICAL CENTER DRIVE SB

NO PARKING
RIGHT LANE MUST TURN

NO PRAKING

DO NOT ENTER

TREE BOX FILTER FT 7-1

AMENITY AREA (SEE LD-01)

℄ OF CONSTRUCTION MEDICAL CENTER DR.

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

RAISED CROSSWALK (SEE DE-01)

MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)

STA. 104+65.9 29.7' LT

STA. 104+90.6 29.8' LT

MATCH EX. SIDEWALK

R=15'

BUS STOP PAD CL INV EL =440.75'

PERPETUAL EASEMENT

TO MD 28

PARCEL "J" SHADY GROVE LIFE SCIENCES CENTER
TM FS41-000-N901
PLAT 19649
9975 MEDICAL CENTER DR
PARCEL J
Area = 187057.64 sq.ft
Area = 4.2943 acres

N 521800
E 1254760

MH I-1 INV EL =442.65'

METAL NO PARKING

PARKING METER

SILVA CELL SWM FACILITY SC 6-1

INV EL =443.21'

EX-I I-C

EX-I I-B

EX-MH I-B

EX-I I-A

EX-MH I-A

INV EL =439.91'

INV EL =439.42'

INV EL =439.10'

INV EL =438.08'

INV EL =438.42'

INV EL =438.61'

INV EL =437.83'

INV EL =438.68'

INV EL =438.37'

15" RCP

TRAV PT #12

TRAV PT #11

TO DARNESTOWN ROAD

MATCH LINE STA. 106+25 – SEE SHEET PS-02

LIMIT OF WORK
CIP PROJECT NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
MEDICAL CENTER DRIVE STA. 100+90

LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

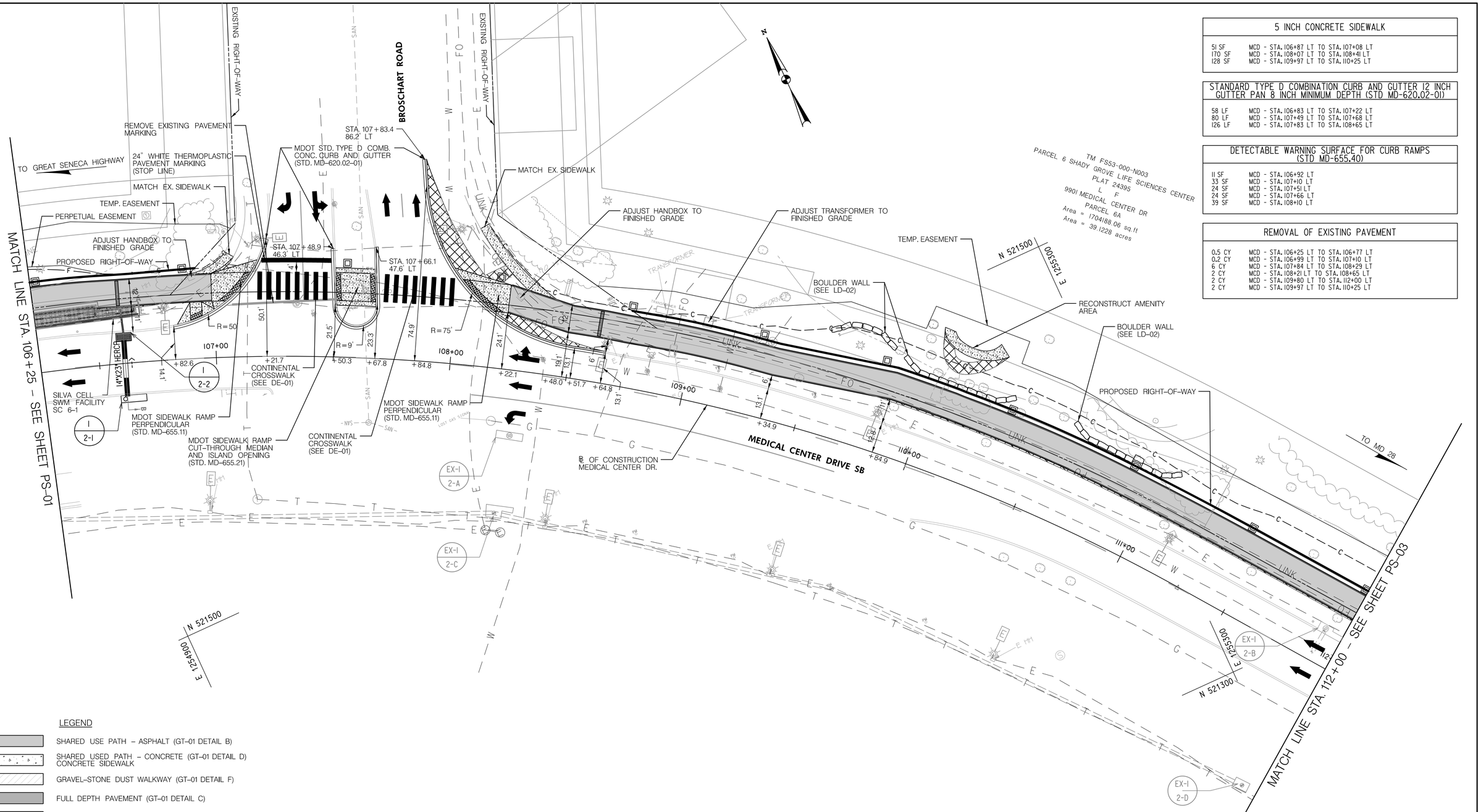
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 10 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\gfpw01\twilson\d2385685\pr4D-P001_LSCLT.dgn



5 INCH CONCRETE SIDEWALK	
51 SF	MCD - STA. 106+87 LT TO STA. 107+08 LT
170 SF	MCD - STA. 108+07 LT TO STA. 108+41 LT
128 SF	MCD - STA. 109+97 LT TO STA. 110+25 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
58 LF	MCD - STA. 106+83 LT TO STA. 107+22 LT
80 LF	MCD - STA. 107+49 LT TO STA. 107+68 LT
126 LF	MCD - STA. 107+83 LT TO STA. 108+65 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
11 SF	MCD - STA. 106+92 LT
33 SF	MCD - STA. 107+10 LT
24 SF	MCD - STA. 107+51 LT
24 SF	MCD - STA. 107+66 LT
39 SF	MCD - STA. 108+10 LT

REMOVAL OF EXISTING PAVEMENT	
0.5 CY	MCD - STA. 106+25 LT TO STA. 106+77 LT
0.2 CY	MCD - STA. 106+99 LT TO STA. 107+10 LT
6 CY	MCD - STA. 107+84 LT TO STA. 108+29 LT
2 CY	MCD - STA. 108+21 LT TO STA. 108+65 LT
2 CY	MCD - STA. 109+80 LT TO STA. 112+00 LT
2 CY	MCD - STA. 109+97 LT TO STA. 110+25 LT

LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-02

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 11 of 105

PLOTTED: 6/28/2024
FILE: C:\powerhkng\dgtwd01\wlbcn\pf285685\pHD-P002_LSCLT.dgn

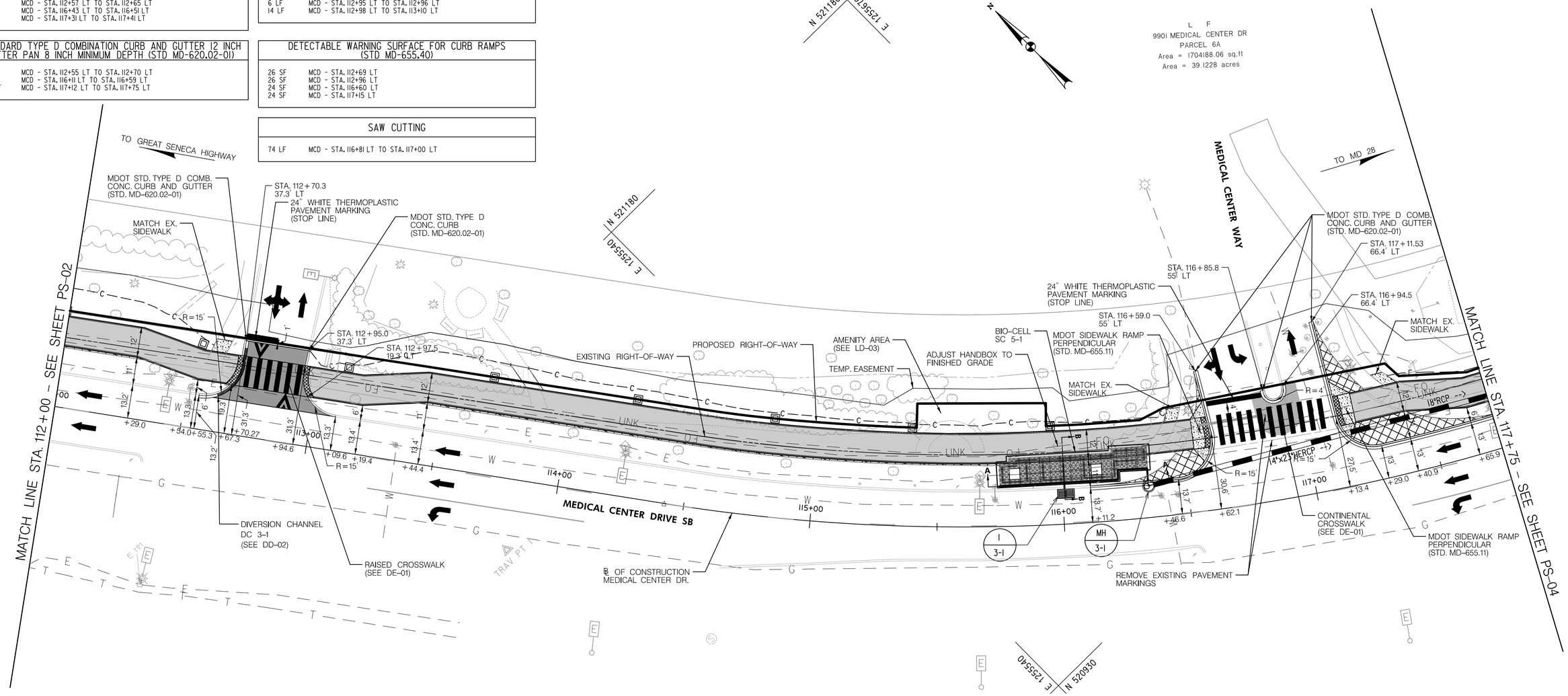
5 INCH CONCRETE SIDEWALK	
30 SF	MCD - STA. 112+57 LT TO STA. 112+65 LT
25 SF	MCD - STA. 116+43 LT TO STA. 116+51 LT
25 SF	MCD - STA. 117+31 LT TO STA. 117+41 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
6 LF	MCD - STA. 112+95 LT TO STA. 112+96 LT
14 LF	MCD - STA. 112+98 LT TO STA. 113+10 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
33 LF	MCD - STA. 112+55 LT TO STA. 112+70 LT
86 LF	MCD - STA. 116+11 LT TO STA. 116+59 LT
107 LF	MCD - STA. 117+12 LT TO STA. 117+75 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
26 SF	MCD - STA. 112+69 LT
26 SF	MCD - STA. 112+96 LT
24 SF	MCD - STA. 116+60 LT
24 SF	MCD - STA. 117+15 LT

SAW CUTTING	
74 LF	MCD - STA. 116+81 LT TO STA. 117+00 LT



LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

REMOVAL OF EXISTING PAVEMENT	
0.3 CY	MCD - STA. 112+00 LT TO STA. 112+32 LT
3 CY	MCD - STA. 113+41 LT TO STA. 116+37 LT
3 CY	MCD - STA. 116+11 LT TO STA. 116+58 LT
0.2 CY	MCD - STA. 116+57 LT TO STA. 116+58 LT
2 CY	MCD - STA. 117+12 LT TO STA. 117+27 LT
5 CY	MCD - STA. 117+18 LT TO STA. 117+75 LT

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
ROADWAY PLAN SHEET

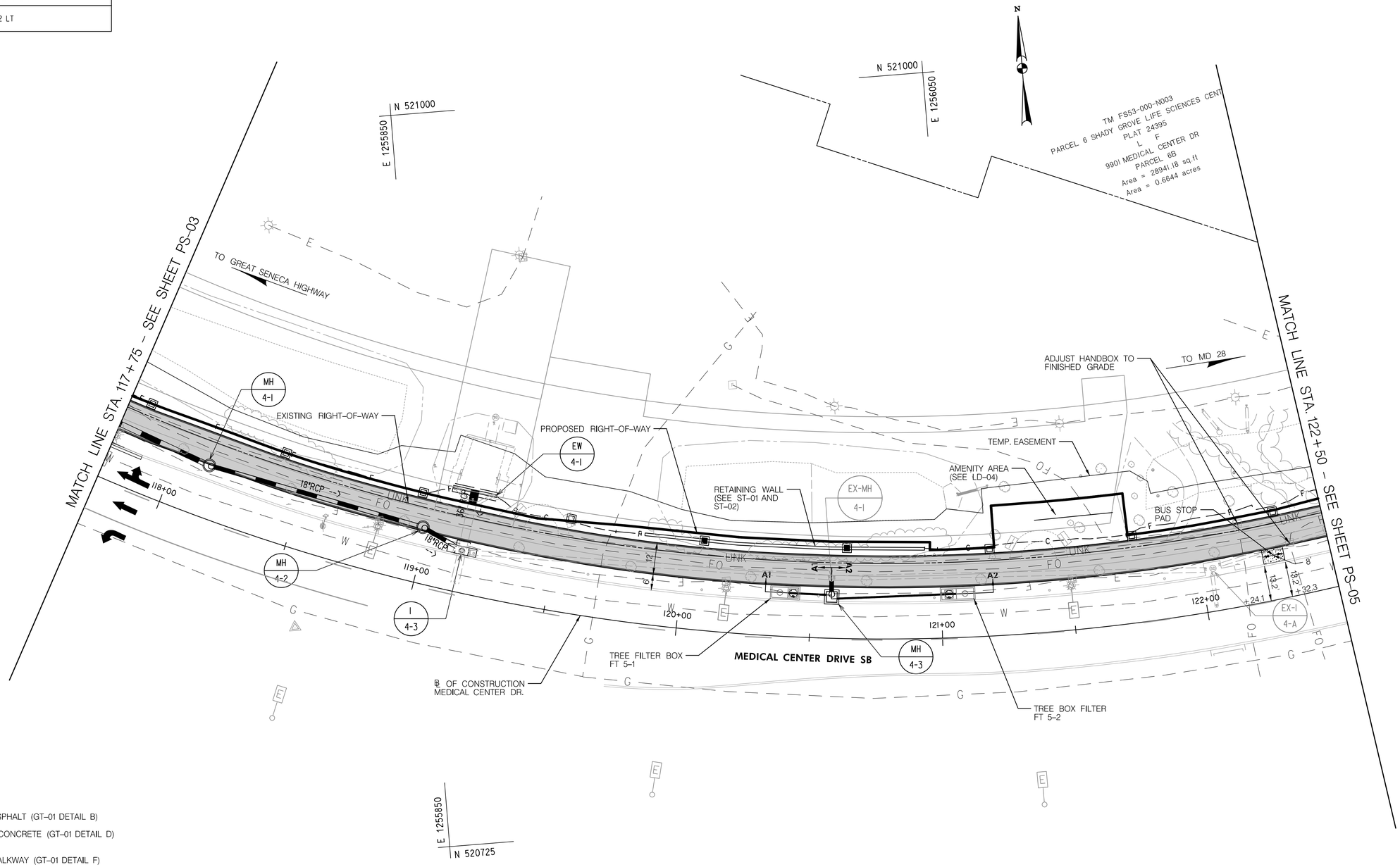
SCALE : 1" = 20' DATE: JUNE 2024 PS-03

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 12 of 105

PLOTTED: 6/9/2024
FILE: c:\pwworking\gfpw01\wilson\d1285685\pHD-P003_LSCLT.dgn

5 INCH CONCRETE SIDEWALK	
42 SF	MCD - STA. 122+24 LT TO STA. 122+32 LT



LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-04

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 13 of 105

PLOTTED: 6/19/2024
FILE: c:\pwworking\gfpw01\wilson\d1285685\p-FD-P004_LSCLT.dgn

5 INCH CONCRETE SIDEWALK		
46 SF	MCD - STA. 122+62 LT TO STA. 122+74 LT	

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
84 LF	MCD - STA. 122+55 LT TO STA. 123+13 LT
44 LF	MCD - STA. 123+34 LT TO STA. 123+45 LT
62 LF	MCD - STA. 123+66 LT TO STA. 124+02 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
10 SF	MCD - STA. 122+65 LT
25 SF	MCD - STA. 123+11 LT
24 SF	MCD - STA. 123+36 LT
24 SF	MCD - STA. 123+43 LT
26 SF	MCD - STA. 123+68 LT

REMOVAL OF EXISTING PAVEMENT	
1 CY	MCD - STA. 122+74 LT TO STA. 123+05 LT
0.1 CY	MCD - STA. 123+11 LT TO STA. 123+12 LT
0.1 CY	MCD - STA. 123+67 LT TO STA. 123+68 LT
1 CY	MCD - STA. 123+74 LT TO STA. 124+02 LT
4 CY	MCD - STA. 124+13 LT TO STA. 127+88 LT

REMOVAL OF EXISTING PIPE	
150 LF	MCD - STA. 124+36, 21 LT TO STA. 125+89, 16 LT

MATCH LINE STA. 122+50 – SEE SHEET PS-04

MATCH LINE STA. 128+25 – SEE SHEET PS-06

TO GREAT SENECA HIGHWAY

TO MD 28

MEDICAL CENTER WAY

MEDICAL CENTER DRIVE SB

℄ OF CONSTRUCTION MEDICAL CENTER DR.

E 1256260 N 521000

E 1256260 N 520760

N 520760 E 1256480

TM FS53-000-N003
PARCEL 6 SHADY GROVE LIFE SCIENCES CENTER
PLAT 24395
L F
9901 MEDICAL CENTER DR
PARCEL 6A
Area = 1704188.06 sq.ft
Area = 39.1228 acres

MATCH EX. SIDEWALK

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

MDOT SIDEWALK RAMP CUT-THROUGH MEDIAN AND ISLAND OPENING (STD. MD-655.21)

STA. 123+34.0
34.4' LT

STA. 123+12.8
45.7' LT

STA. 123+44.5
34.3' LT

STA. 123+66.0
12.7' LT

STA. 124+02.4
12.7' LT

STA. 122+54.6

STA. 122+56.7

MCDOT SIDEWALK RAMP (STD. MC-112.01)

CONTINENTAL CROSSWALK (SEE DE-01)

CONTINENTAL CROSSWALK (SEE DE-01)

REMOVE EXISTING PAVEMENT MARKINGS

MCDOT SIDEWALK RAMP (STD. MC-112.01)

BIO-CELL SC 5-2

BIO-CELL SC 5-3

EX-MH 5-A

MH 5-1

MH 5-2

MH 5-3

MH 5-4

MH 5-5

I 5-1

I 5-2

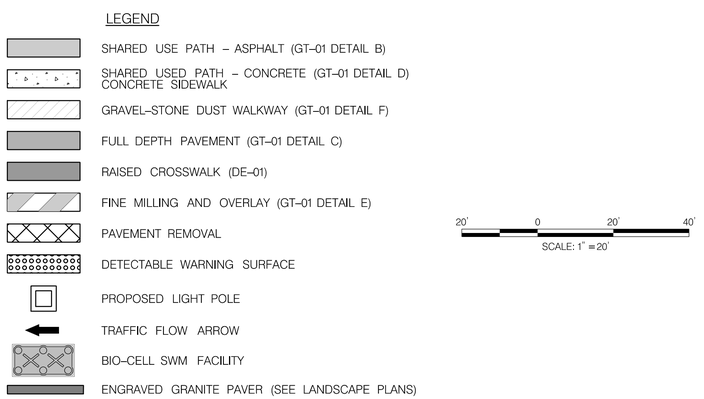
I 5-3

14'x23' HERCP -->

TEMP. EASEMENT

PROPOSED RIGHT-OF-WAY

EXISTING RIGHT-OF-WAY



20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-05

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 14 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\gfpw01\twilson\d1285680\prnPID-P005_LSCLT.dgn

PARCEL C -
PLAT 24390
L F
9901 MEDICAL CENTER DR
PARCEL 6A
Area = 1704188.06 sq.ft
Area = 39.1228 acres

TO GREAT SENECA HIGHWAY

MATCH LINE STA. 128+25 – SEE SHEET PS-05

24" WHITE THERMOPLASTIC PAVEMENT MARKING (STOP LINE)

STA. 128+74.0
45.4' LT

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

MATCH EX. SIDEWALK

STA. 129+01.4
36.7' LT

MEDICAL CENTER WAY

STA. 129+55.4
41.6' LT

MATCH EX. SIDEWALK

TEMP. EASEMENT

PROPOSED RIGHT-OF-WAY

MDOT SIDEWALK RAMP CUT-THROUGH MEDIAN AND ISLAND OPENING (STD. MD-655.21)

EXISTING RIGHT-OF-WAY

MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)

MDOT SIDEWALK RAMP PERPENDICULAR (STD. MD-655.11)

CONTINENTAL CROSSWALK (SEE DE-01)

E 1256725
N 521075

CONTINENTAL CROSSWALK (SEE DE-01)

SIDEWALK RAMP (SEE DE-01)

BUS STOP PAD

REMOVE EXISTING PAVEMENT MARKINGS

℄ OF CONSTRUCTION MEDICAL CENTER DR.

TM FS51-000-N925
PARCEL "2A" SHADY GROVE LIFE SCIENCES CENTER
PLAT 19639
L 16765 F 1
9715 MEDICAL CENTER DR
PARCEL 2A
Area = 167321.56 sq.ft
Area = 3.8412 acres

E 1256725
N 521550

STA. 132+59.8
32.3' LT

STA. 132+60.4
38.2' LT

STA. 132+33.5
32.4' LT

PERPETUAL EASEMENT

TO MD 28

18"RCP

24"RCP

MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

MEDICAL CENTER DRIVE SB

RAISED CROSSWALK (SEE DE-01)

DIVERSION CHANNEL DC 6-1 (SEE DD-02)

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

TM FS51-000
PARCEL "2B" SHADY GROVE L
PLAT 196
L 17916 F
9711 MEDICAL CE
PARCEL
Area = 202093
Area = 4.639

MATCH LINE STA. 134+00 – SEE SHEET PS-07

N 521550
E 1256925

EX-EW 6-A
EX-I 6-A
EX-I 6-C
EX-I 6-B
EX-I 6-D
MH 6-1
MH 6-2
ES 6-1

5 INCH CONCRETE SIDEWALK

25 SF	MCD - STA. 128+55 LT TO STA. 128+60 LT
25 SF	MCD - STA. 129+65 LT TO STA. 129+71 LT
43 SF	MCD - STA. 130+12 LT TO STA. 130+20 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)

15 LF	MCD - STA. 128+44 LT TO STA. 128+74 LT
54 LF	MCD - STA. 129+01 LT TO STA. 129+25 LT
50 LF	MCD - STA. 129+55 LT TO STA. 129+83 LT
11 LF	MCD - STA. 132+07 LT TO STA. 132+18 LT
42 LF	MCD - STA. 132+60 LT TO STA. 132+84 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)

10 LF	MCD - STA. 129+55 LT TO STA. 129+64 LT
14 LF	MCD - STA. 132+18 LT TO STA. 132+30 LT
6 LF	MCD - STA. 132+33 LT TO STA. 132+34 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)

10 SF	MCD - STA. 128+57 LT
25 SF	MCD - STA. 128+72 LT
24 SF	MCD - STA. 129+03 LT
32 SF	MCD - STA. 129+16 LT
25 SF	MCD - STA. 129+56 LT
10 SF	MCD - STA. 129+64 LT
26 SF	MCD - STA. 132+32 LT
26 SF	MCD - STA. 132+61 LT

REMOVAL OF EXISTING PAVEMENT

0.1 CY	MCD - STA. 128+44 LT TO STA. 128+49 LT
0.1 CY	MCD - STA. 128+72 LT TO STA. 128+73 LT
0.1 CY	MCD - STA. 129+55 LT TO STA. 129+56 LT
0.2 CY	MCD - STA. 129+72 LT TO STA. 129+83 LT
0.6 CY	MCD - STA. 132+07 LT TO STA. 132+29 LT
0.6 CY	MCD - STA. 132+63 LT TO STA. 132+84 LT

LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-06

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 15 of 105

PLOTTED: 6/28/2024
FILE: C:\Jwworking\gfgw01\wilson\d1285681\prHD-P006_LSCLT.dgn

5 INCH CONCRETE SIDEWALK	
35 SF	MCD - STA. 134+34 LT TO STA. 134+42 LT
82 SF	MCD - STA. 135+24 LT TO STA. 135+32 LT
34 SF	MCD - STA. 136+34 LT TO STA. 136+41 LT
34 SF	MCD - STA. 136+79 LT TO STA. 136+85 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
50 LF	MCD - STA. 134+11 LT TO STA. 134+42 LT
57 LF	MCD - STA. 134+74 LT TO STA. 135+04 LT
52 LF	MCD - STA. 136+05 LT TO STA. 136+41 LT
18 LF	MCD - STA. 136+96 LT TO STA. 137+15 LT
19 LF	MCD - STA. 138+69 LT TO STA. 138+89 LT
64 LF	MCD - STA. 139+31 LT TO STA. 139+73 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
6 LF	MCD - STA. 136+78 LT TO STA. 136+79 LT
14 LF	MCD - STA. 136+84 LT TO STA. 136+96 LT
20 LF	MCD - STA. 138+89 LT TO STA. 139+04 LT
6 LF	MCD - STA. 139+06 LT TO STA. 139+07 LT

TM FS51-000-N870
LIFE SCIENCES CENTER
40
462
NTER DR
B
09 sq.ft
acres

E 1256750
N 521700

TO GREAT SENECA HIGHWAY

PARCEL "2C" SHADY GROVE LIFE SCIENCES CENTER
TM FS51-000-N909
PLAT 19641
L 48020 F 486
9707 MEDICAL CENTER DR
PARCEL 2C
Area = 142987.97 sq.ft
Area = 3.2826 acres

E 1256750
N 521975

TM FS51-000-N803
PARCEL "L" SHADY GROVE LIFE SCIENCES CENTER
PLAT 19638
L 28157 F 452(PARCEL 3)
9701 MEDICAL CENTER DR
PARCEL L
Area = 251158.25 sq.ft
Area = 5.7658 acres

MATCH LINE STA. 134+00 – SEE SHEET PS-06

MATCH LINE STA. 139+75 – SEE SHEET PS-08

PERPETUAL EASEMENT
MATCH EX. SIDEWALK
RELOCATE EXISTING SIGN
MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)
STA. 134+73.8 46.7' LT
STA. 130+40.6 27.4' LT
EX-EW 7-A
EX-I 7-B
EX-I 7-A
PERPETUAL EASEMENT
EXISTING RIGHT-OF-WAY
MATCH EX. SIDEWALK
STA. 136+40.1 32.5' LT
EX-I 7-C
MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)
ADJUST HANDBOX TO FINISHED GRADE
MATCH EX. SIDEWALK
TEMP. EASEMENT
PERPETUAL EASEMENT
PROPOSED RIGHT-OF-WAY
STA. 136+79.5 38.1' LT
MDOT STD. TYPE D CONC. CURB AND GUTTER (STD. MD-620.02-01)
TO MD 28
MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)
STA. 139+30.5 42.1' LT
STA. 139+06.6 42.1' LT
STA. 139+05.7 36.1' LT
STA. 139+30.6 36.1' LT
MATCH EX. SIDEWALK
RELOCATE EXISTING SIGN
MEDICAL CENTER DRIVE SB
BUS STOP PAD
MDOT SIDEWALK RAMP PERPENDICULAR (STD. MD-655.11)
CONTINENTAL CROSSWALK (SEE DE-01)
R/W OF CONSTRUCTION MEDICAL CENTER DR.
MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)
DIVERSION CHANNEL DC 7-1 (SEE DD-02)
RAISED CROSSWALK (SEE DE-01)
MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)
15" RCP
INV EL =464.39'
INV EL =464.38'
EX-I 7-E
EX-I 7-F
EX-I 7-D
R=15'
RAISED CROSSWALK (SEE DE-01)
DIVERSION CHANNEL DC 7-2 (SEE DD-02)
I 7-1
I 7-2
I 7-3
BIO-CELL SC 4-2
MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)
N 521975
E 1257025

LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
26 SF	MCD - STA. 134+39 LT
26 SF	MCD - STA. 134+75 LT
26 SF	MCD - STA. 136+38 LT
26 SF	MCD - STA. 136+82 LT
24 SF	MCD - STA. 139+04 LT
24 SF	MCD - STA. 139+32 LT

REMOVAL OF EXISTING PAVEMENT	
0.5 CY	MCD - STA. 134+18 LT TO STA. 134+32 LT
0.8 CY	MCD - STA. 134+81 LT TO STA. 135+04 LT
0.1 CY	MCD - STA. 135+22 LT TO STA. 135+24 LT
0.5 CY	MCD - STA. 135+32 LT TO STA. 135+82 LT
0.8 CY	MCD - STA. 136+05 LT TO STA. 136+35 LT
0.1 CY	MCD - STA. 136+33 LT TO STA. 136+36 LT
0.8 CY	MCD - STA. 136+85 LT TO STA. 137+15 LT
3 CY	MCD - STA. 137+21 LT TO STA. 139+03 LT
2 CY	MCD - STA. 139+32 LT TO STA. 139+75 LT

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-07

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. :- 0501742 16 of 105

PLOTTED: 6/28/2024
FILE: C:\powerdrg\gfpw01\wilson\d136686\pr\D-P007_LSCLT.dgn

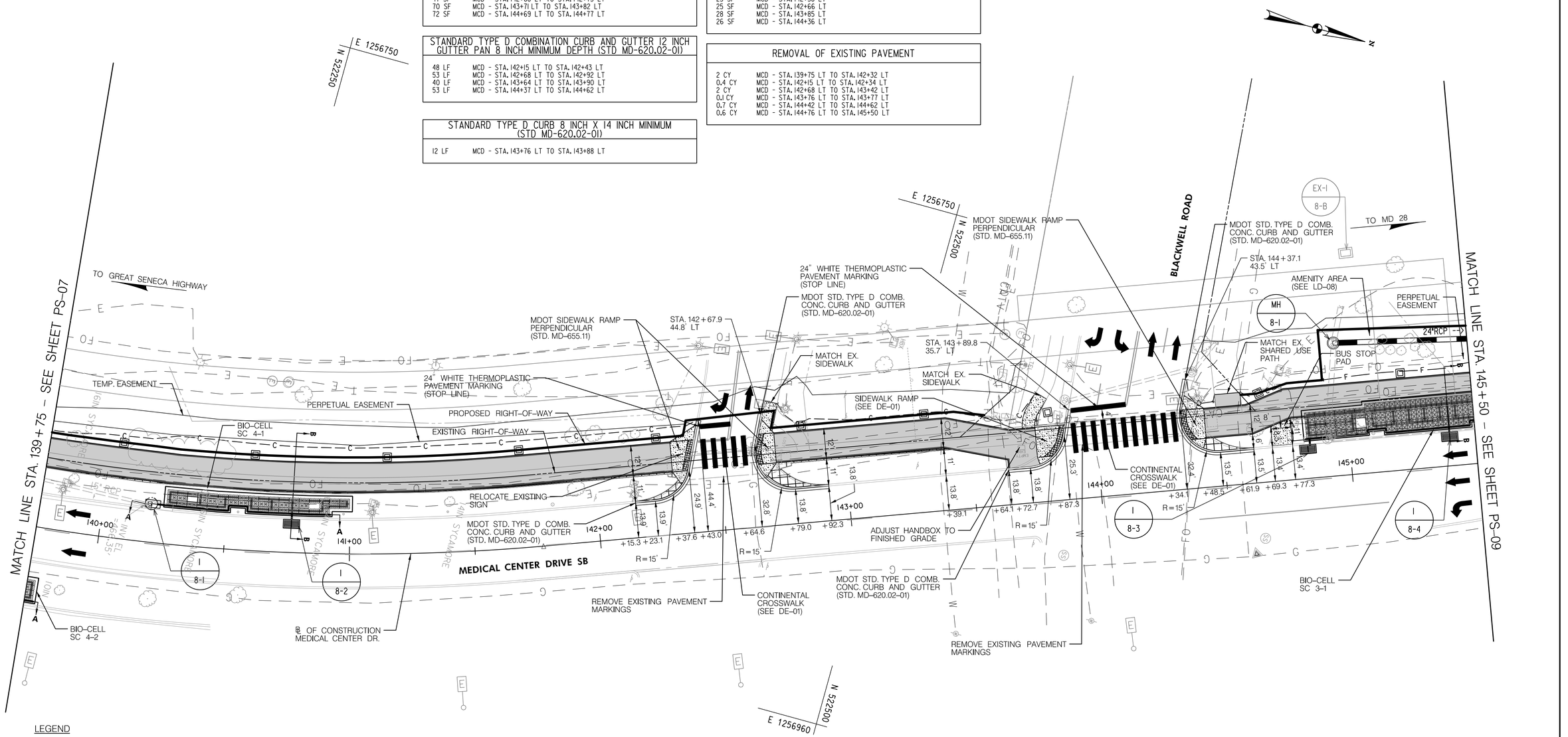
5 INCH CONCRETE SIDEWALK	
47 SF	MCD - STA. 142+68 LT TO STA. 142+75 LT
70 SF	MCD - STA. 143+71 LT TO STA. 143+82 LT
72 SF	MCD - STA. 144+69 LT TO STA. 144+77 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
48 LF	MCD - STA. 142+15 LT TO STA. 142+43 LT
53 LF	MCD - STA. 142+68 LT TO STA. 142+92 LT
40 LF	MCD - STA. 143+64 LT TO STA. 143+90 LT
53 LF	MCD - STA. 144+37 LT TO STA. 144+62 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
12 LF	MCD - STA. 143+76 LT TO STA. 143+88 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
25 SF	MCD - STA. 142+38 LT
25 SF	MCD - STA. 142+66 LT
28 SF	MCD - STA. 143+85 LT
26 SF	MCD - STA. 144+36 LT

REMOVAL OF EXISTING PAVEMENT	
2 CY	MCD - STA. 139+75 LT TO STA. 142+32 LT
0.4 CY	MCD - STA. 142+15 LT TO STA. 142+34 LT
2 CY	MCD - STA. 142+68 LT TO STA. 143+42 LT
0.1 CY	MCD - STA. 143+76 LT TO STA. 143+77 LT
0.7 CY	MCD - STA. 144+42 LT TO STA. 144+62 LT
0.6 CY	MCD - STA. 144+76 LT TO STA. 145+50 LT



LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date
Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-08

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 17 of 105

PLOTTED: 6/19/2024
FILE: c:\pwworking\gfpw01\twilson\d1385685\pr45-P068_LSCLT.dgn

5 INCH CONCRETE SIDEWALK	
50 SF	MCD - STA. 148+87 LT TO STA. 148+92 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
20 LF	MCD - STA. 146+74 LT TO STA. 146+94 LT
8 LF	MCD - STA. 147+31 LT TO STA. 147+39 LT
7 LF	MCD - STA. 147+65 LT TO STA. 147+72 LT
21 LF	MCD - STA. 148+09 LT TO STA. 148+30 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
20 LF	MCD - STA. 146+94 LT TO STA. 147+09 LT
7 LF	MCD - STA. 147+17 LT TO STA. 147+20 LT
15 LF	MCD - STA. 147+31 LT TO STA. 147+34 LT
6 LF	MCD - STA. 147+41 LT TO STA. 147+43 LT
7 LF	MCD - STA. 147+58 LT TO STA. 147+61 LT
15 LF	MCD - STA. 147+69 LT TO STA. 147+72 LT
7 LF	MCD - STA. 147+81 LT TO STA. 147+85 LT
20 LF	MCD - STA. 147+93 LT TO STA. 148+09 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
28 SF	MCD - STA. 147+12 LT
28 SF	MCD - STA. 147+39 LT
28 SF	MCD - STA. 147+63 LT
29 SF	MCD - STA. 147+91 LT

REMOVAL OF EXISTING PAVEMENT	
3 CY	MCD - STA. 145+50 LT TO STA. 147+09 LT
2 CY	MCD - STA. 147+94 LT TO STA. 148+30 LT
2 CY	MCD - STA. 142+68 LT TO STA. 143+42 LT
0.1 CY	MCD - STA. 143+76 LT TO STA. 143+77 LT
0.7 CY	MCD - STA. 144+42 LT TO STA. 144+62 LT
0.6 CY	MCD - STA. 144+76 LT TO STA. 145+50 LT

TM FS51-000-N546
JBG/ROCKVILLE NCI CAMPUS, LLC
EXHIBIT 'B' LEASE AREA ON PARCEL M
MO CO MED CENTER
L 39254 F 178 (N546)
9613 MEDICAL CENTER DR (N546)
GROUND LEASE (PART OF PARCEL M PLAT BOOK 142 PLAT 16292)
Area = 454257.10 sq.ft
Area = 10.4283 acres

N 522800 E 1256600

N 523060 E 1256560

N 523060 E 1256760

MATCH LINE STA. 145+50 – SEE SHEET PS-08

MATCH LINE STA. 150+75 – SEE SHEET PS-10

TO GREAT SENECA HIGHWAY

TO MD 28

AMENITY AREA (SEE LD-09)

BIO-CELL SC 3-2

BIO-CELL SC 3-1

CONCRETE DITCH (SEE DD-02)

RAISED CROSSWALK (SEE DE-01)

RELOCATE EXISTING SIGN

PERPETUAL EASEMENT

MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)

CONCRETE DITCH (SEE DD-02)

EXISTING RIGHT-OF-WAY

TIE PROPOSED SHARED USED PATH INTO EXISTING CAPITAL BIKESHARE

MATCH EX. SIDEWALK

TEMP. EASEMENT

PROPOSED RIGHT-OF-WAY

STA. 147+43.1 42.6' LT
STA. 147+40.8 36.6' LT
STA. 147+20.4 42.6' LT
STA. 147+58.1 42.6' LT
STA. 147+60.8 36.6' LT
STA. 147+68.5 24.6' LT
STA. 147+16.7 36.6' LT
STA. 147+09.4 24.6' LT
STA. 147+05.4 18.6' LT
STA. 146+94.2 13.6' LT
STA. 147+81.3 42.6' LT
STA. 147+85.4 36.6' LT
STA. 147+93.4 24.6' LT
STA. 147+97.6 18.6' LT
STA. 146+74.3 13.6' LT
STA. 146+28.8 18.6' LT
STA. 147+33.73 24.6' LT
STA. 147+38.95 13.6' LT
STA. 147+31.07 13.6' LT
STA. 147+73.87 18.6' LT

MEDICAL CENTER DRIVE SB

℄ OF CONSTRUCTION MEDICAL CENTER DR.

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

RAISED CROSSWALK (SEE DE-01)

MH 9-1 MH 9-3 MH 9-4 MH 9-5 MH 9-6

I 9-1 I 9-2 I 9-4 I 9-5 I 9-6

EX-I 9-A EX-I 9-B EX-I 9-C

24"RCP 42"x29" ERCP 18"RCP

146+00 147+00 148+00 149+00 150+00

+64.8 +71.6 +08.8 +29.7 +64.6 +84.6 +63.8 +27.0

R=70' R=3' R=15'

LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-09

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 18 of 105

PLOTTED: 6/28/2024
FILE: C:\Users\tcw\Desktop\Working\gfgw01\Mdcon\ct285688\pr#D-P009_LSCLT.dgn

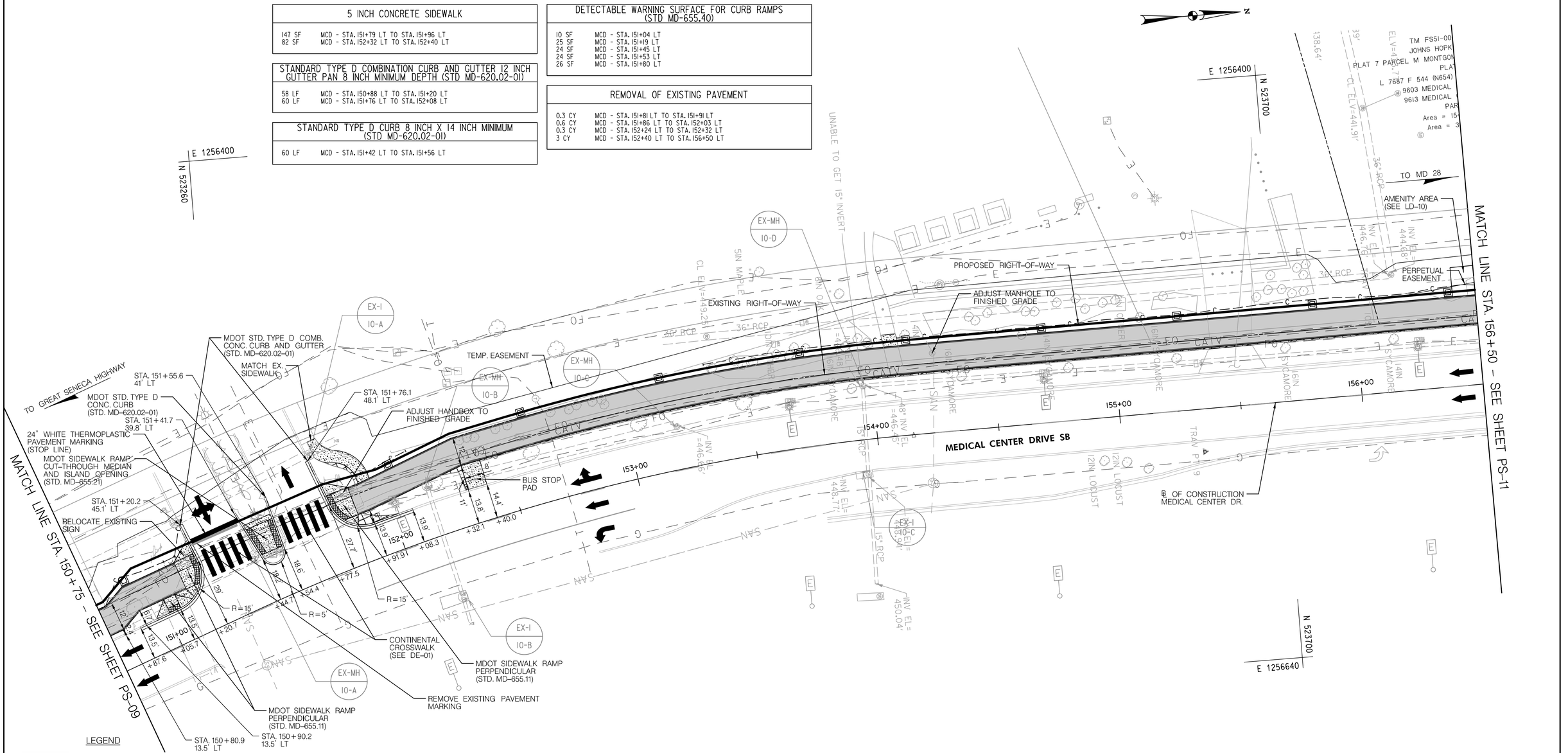
5 INCH CONCRETE SIDEWALK	
147 SF	MCD - STA. 151+79 LT TO STA. 151+96 LT
82 SF	MCD - STA. 152+32 LT TO STA. 152+40 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
58 LF	MCD - STA. 150+88 LT TO STA. 151+20 LT
60 LF	MCD - STA. 151+76 LT TO STA. 152+08 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
60 LF	MCD - STA. 151+42 LT TO STA. 151+56 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
10 SF	MCD - STA. 151+04 LT
25 SF	MCD - STA. 151+19 LT
24 SF	MCD - STA. 151+45 LT
24 SF	MCD - STA. 151+53 LT
26 SF	MCD - STA. 151+80 LT

REMOVAL OF EXISTING PAVEMENT	
0.3 CY	MCD - STA. 151+81 LT TO STA. 151+91 LT
0.6 CY	MCD - STA. 151+86 LT TO STA. 152+03 LT
0.3 CY	MCD - STA. 152+24 LT TO STA. 152+32 LT
3 CY	MCD - STA. 152+40 LT TO STA. 156+50 LT



LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-10

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 19 of 105

PLOTTED: 6/28/2024
FILE: c:\pwworking\gfpw01\twilson\d1386685\girlD-P09g_L&CL7.dgn

5 INCH CONCRETE SIDEWALK

82 SF	MCD - STA. 157+25 LT TO STA. 157+33 LT
48 SF	MCD - STA. 158+29 LT TO STA. 158+41 LT
500 SF	MCD - STA. 157+96 RT TO STA. 158+20 RT
820 SF	OMEGA - STA. 200+63 RT TO STA. 201+00 RT

STANDARD TYPE A COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02)

112 LF	MCD - STA. 157+87 LT TO STA. 158+46 LT
120 LF	MCD - STA. 157+49 RT TO STA. 158+18 RT
54 LF	MCD - STA. 157+95 RT TO STA. 158+20 RT (MCD MEDIAN)
80 LF	OMEGA - STA. 200+00 LT TO STA. 200+13 LT (MD 28 MEDIAN)
173 LF	OMEGA - STA. 200+49 LT TO STA. 201+60 LT
197 LF	OMEGA - STA. 200+60 RT TO STA. 202+01 RT
57 LF	OMEGA - STA. 200+63 RT TO STA. 200+88 RT (OMEGA MEDIAN)

FINE MILLING ASPHALT PAVEMENT 1 INCH TO 2.5 INCH DEPTH

625 SY	MCD STA. 157+49 LT/RT TO OMEGA STA. 201+94 LT/RT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)

11 SF	MCD - STA. 158+12 LT
24 SF	MCD - STA. 158+38 LT
26 SF	MCD - STA. 158+12 RT
12 SF	MCD - STA. 158+12 RT
24 SF	OMEGA - STA. 200+02 LT
24 SF	OMEGA - STA. 200+09 LT
24 SF	OMEGA- STA. 200+52 LT
10 SF	OMEGA - STA. 200+66 LT
29 SF	OMEGA - STA. 200+73 RT
13 SF	OMEGA - STA. 200+78 RT

PAVEMENT MARKING LEGEND

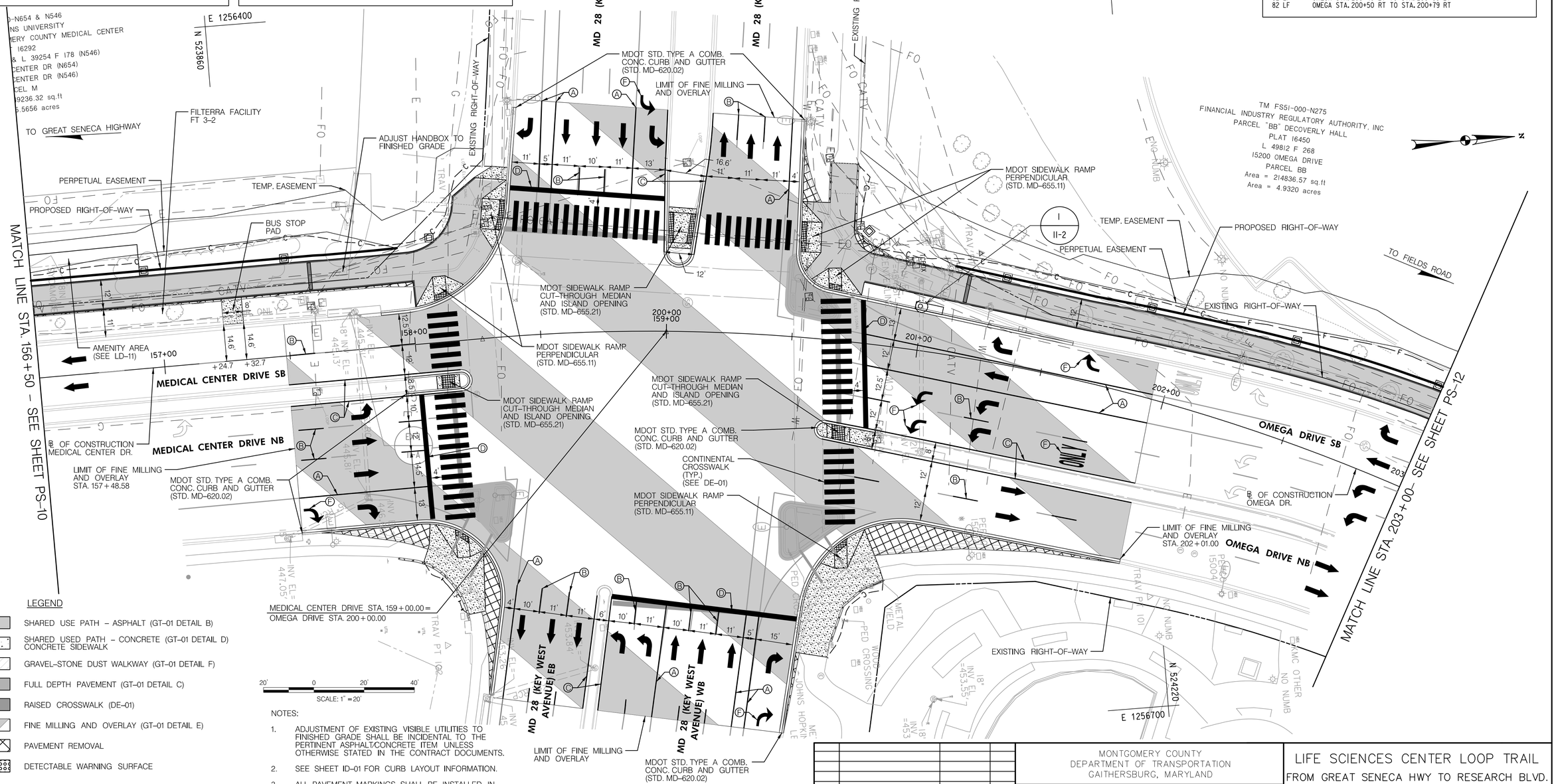
- (A) INSTALL 5 INCH WHITE THERMOPLASTIC PAVEMENT MARKING – SOLID
- (B) INSTALL 5 INCH WHITE THERMOPLASTIC PAVEMENT MARKING – 10' LINE, 30' GAP
- (C) INSTALL 5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKING – SOLID
- (D) INSTALL 24 INCH WHITE THERMOPLASTIC PAVEMENT MARKING – SOLID
- (E) INSTALL WHITE THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS

REMOVAL OF EXISTING PAVEMENT

3 CY	MCD - STA. 157+56 RT TO STA. 158+00 RT
0.5 CY	MCD - STA. 157+86 RT TO STA. 158+12 RT
3 CY	MCD - STA. 158+17 RT TO STA. 158+25 RT
1 CY	OMEGA - STA. 200+49 LT TO STA. 200+57 LT
0.2 CY	OMEGA - STA. 200+60 LT TO STA. 200+61 LT
1 CY	OMEGA - STA. 200+69 LT TO STA. 200+86 LT
0.4 CY	OMEGA - STA. 200+61 RT TO STA. 200+65 RT
0.4 CY	OMEGA - STA. 200+79 RT TO STA. 201+00 RT
8 CY	OMEGA - STA. 200+88 RT TO STA. 202+01 RT

SAW CUTTING

76 LF	MCD STA. 158+12 RT TO STA. 158+36 RT
82 LF	OMEGA STA. 200+46 LT TO STA. 200+69 LT
82 LF	OMEGA STA. 200+50 RT TO STA. 200+79 RT



LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.
2. SEE SHEET ID-01 FOR CURB LAYOUT INFORMATION.
3. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MD MUTCD STANDARDS.
4. LANE WIDTHS ARE MEASURED FROM CENTER OF PAVEMENT MARKING TO CENTER OF PAVEMENT MARKING.
5. ALL PROPOSED PAVEMENT MARKINGS SHALL TIE INTO EXISTING PAVEMENT MARKINGS AT THE LIMITS OF WORK AS SHOWN.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-11

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 20 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\rjohn01\wilson\d128568\plan\ID-P01_LSCLT.dgn

5 INCH CONCRETE SIDEWALK	
42 SF	OMEGA - STA. 205+44 LT TO STA. 205+51 LT
25 SF	OMEGA - STA. 206+62 LT TO STA. 206+68 LT

STANDARD TYPE D COMBINATION CURB AND GUTTER 12 INCH GUTTER PAN 8 INCH MINIMUM DEPTH (STD MD-620.02-01)	
45 LF	OMEGA - STA. 203+89 LT TO STA. 204+15 LT
60 LF	OMEGA - STA. 204+42 LT TO STA. 204+60 LT
50 LF	OMEGA - STA. 204+83 LT TO STA. 205+14 LT
29 LF	OMEGA - STA. 206+81 LT TO STA. 207+10 LT

STANDARD TYPE D CURB 8 INCH X 14 INCH MINIMUM (STD MD-620.02-01)	
12 LF	OMEGA - STA. 207+06 LT TO STA. 207+06 LT

DETECTABLE WARNING SURFACE FOR CURB RAMPS (STD MD-655.40)	
26 SF	OMEGA - STA. 204+12 LT
25 SF	OMEGA - STA. 204+46 LT
25 SF	OMEGA - STA. 204+61 LT
27 SF	OMEGA - STA. 204+89 LT
24 SF	OMEGA - STA. 207+00 LT

REMOVAL OF EXISTING PAVEMENT	
0.2 CY	OMEGA - STA. 207+07 LT TO STA. 207+10 LT

TM FS51-000-N210
RREF DECOVERLY III, LLC
PARCEL "JJ" DECOVERLY HALL
PLAT 17240
L 51431 F 350
15204 OMEGA DRIVE
PARCEL JJ
Area = 194612.66 sq.ft
Area = 4.4677 acres

E 1256740 N 524710

MDOT SIDEWALK RAMP CUT-THROUGH MEDIAN AND ISLAND OPENING (STD. MD-655.21)

HIGH FLOW MEMBRANE FILTER JF 1-1

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

STA. 204+60.5 47.6' LT

EXISTING RIGHT-OF-WAY

PERPETUAL EASEMENT

MATCH EX. SIDEWALK

STA. 204+15.4 52.2' LT

STA. 204+42.0 49.3' LT

STA. 204+83.1 46.2' LT

SILVA CELL SWM FACILITY SC 1-1

MH 12-3

ADJUST HANDBOX TO FINISHED GRADE

STA. 206+84.1 14.2' LT

TO MD 28

MDOT SIDEWALK RAMP PERPENDICULAR (STD. MD-655.11)

PROPOSED RIGHT-OF-WAY

TEMP. EASEMENT

PERPETUAL EASEMENT

R=15'

STA. 205+43.6 15.9' LT

TO FIELDS ROAD

SIDEWALK RAMP (SEE DE-01)

MDOT STD. TYPE D CONC. CURB (STD. MD-620.02-01)

STA. 207+10.1 12.7' LT

MATCH LINE STA. 203+00 – SEE SHEET PS-11

OMEGA DRIVE SB

OMEGA DRIVE NB

CONTINENTAL CROSSWALK (SEE DE-01)

MDOT SIDEWALK RAMP PERPENDICULAR (STD. MD-655.11)

FS I2-1

MH I2-1A

MH I2-1B

BUS STOP PAD

STA. 205+51.5 15.5' LT

I I2-2

MH I2-2

EX-I I2-A

℄ OF CONSTRUCTION OMEGA DR.

CONTINENTAL CROSSWALK (SEE DE-01)

MDOT STD. TYPE D COMB. CONC. CURB AND GUTTER (STD. MD-620.02-01)

REMOVE EXISTING PAVEMENT MARKINGS

RESEARCH BOULEVARD EB

RESEARCH BOULEVARD WB

N 524110 E 1257010

E 1256740 N 524340

LIMIT OF WORK
CIP PROJECT NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
OMEGA DRIVE STA. 207+20

LEGEND

- SHARED USE PATH – ASPHALT (GT-01 DETAIL B)
- SHARED USED PATH – CONCRETE (GT-01 DETAIL D) CONCRETE SIDEWALK
- GRAVEL-STONE DUST WALKWAY (GT-01 DETAIL F)
- FULL DEPTH PAVEMENT (GT-01 DETAIL C)
- RAISED CROSSWALK (DE-01)
- FINE MILLING AND OVERLAY (GT-01 DETAIL E)
- PAVEMENT REMOVAL
- DETECTABLE WARNING SURFACE
- PROPOSED LIGHT POLE
- TRAFFIC FLOW ARROW
- BIO-CELL SWM FACILITY
- ENGRAVED GRANITE PAVER (SEE LANDSCAPE PLANS)
- FLUSHED CONCRETE CURB EDGE (SEE LANDSCAPE PLANS)

20' 0 20' 40'
SCALE: 1" = 20'

NOTES:

1. ADJUSTMENT OF EXISTING VISIBLE UTILITIES TO FINISHED GRADE SHALL BE INCIDENTAL TO THE PERTINENT ASPHALT/CONCRETE ITEM UNLESS OTHERWISE STATED IN THE CONTRACT DOCUMENTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

ROADWAY PLAN SHEET

SCALE : 1" = 20' DATE: JUNE 2024 PS-12

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 21 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\jglyon01\wilson\d128568\psHD-PW12_LSCLT.dgn

GENERAL NOTES FOR MAINTENANCE OF TRAFFIC

(1) ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE MONTGOMERY COUNTY, MDOT SHA WORK ZONE TRAFFIC CONTROL STANDARDS, THE MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES - 2011 EDITION (MD MUTCD) AND SUBSEQUENT REVISIONS ADOPTED BY THE STATE OF MARYLAND, THE PROJECT BOOK OF SPECIAL PROVISIONS, AND THE OTHER CONTRACT DOCUMENTS.

(2) PAVEMENT MARKINGS NO LONGER APPLICABLE SHALL BE REMOVED COMPLETELY AS DIRECTED BY THE ENGINEER.

(3) TEMPORARY PAINT SHALL BE USED ON PAVED SURFACES ONLY AND IS TO BE MAINTAINED TO ENSURE CONTINUOUS REFLECTIVITY AND VISIBILITY. TEMPORARY PAINT SHALL NOT BE USED ON THE FINAL SURFACE. BLACK PAINT SHALL NOT BE PERMITTED.

(4) TEMPORARY TAPE SHALL BE PERMITTED ON EITHER ASPHALT OR CONCRETE SURFACES.

(5) ALL EXISTING SIGNS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE CONSTRUCTION UNLESS A CHANGE IS DIRECTED BY THE ENGINEER.

(6) VARIABLE MESSAGE SIGN(S) MESSAGES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER.

(7) ADVANCE WARNING SIGNS SHALL BE INSTALLED AT A MINIMUM SPACING OF 200 FEET TO AN EXISTING SIGN, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

(8) SIGNS USED FOR TEMPORARY TRAFFIC CONTROL THAT ARE NOT APPLICABLE FOR A PARTICULAR CONSTRUCTION STAGE SHALL BE REMOVED OR COMPLETELY COVERED WITH A NON-TRANSPARENT MATERIAL.

(9) EXCAVATIONS IN AREAS WHERE THE WORK BUFFER IS LESS THAN ONE LANE SHALL BE BACKFILLED WITH GAB FOR MOT PRIOR TO THE END OF THE WORK DAY IN CONFORMANCE WITH STD. MD 104.01-28 OR APPLICABLE MONTGOMERY COUNTY STANDARDS.

(10) NO WORK IS TO BEGIN UNTIL ALL ADVANCE WARNING SIGNS, CHANNELIZATION DEVICES, AND PAVEMENT MARKINGS ARE IN PLACE AND OPERATIONAL.

(11) THE CONTRACTOR SHALL USE STEEL PLATES TO COVER ANY AND ALL OPEN TRENCHES AT THE END OF THE WORK DAY OR WHEN ALL LANES OF TRAFFIC ARE TO BE OPENED TO TRAFFIC.

(12) TYPICAL APPLICATIONS TO BE USED FOR OFF-PEAK HOUR WORK MAY BE MODIFIED AS REQUIRED BASED ON FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

(13) FLAGGING OPERATIONS IDENTIFIED WITHIN SPECIFIC SEQUENCES OF CONSTRUCTION SHALL BE UTILIZED AT THE DISCRETION OF THE COUNTY TRAFFIC ENGINEER. THE COST OF FLAGGING OPERATIONS SHALL BE CONSIDERED INCIDENTAL TO MAINTENANCE OF TRAFFIC OPERATIONS.

(14) THE CONTRACTOR SHALL MAINTAIN A MINIMUM 11' TRAVEL LANE IN EACH DIRECTION.

(15) MAINTAIN TRAFFIC SIGNAL OPERATIONS AT ALL TIMES. CONTRACTOR SHALL CONTACT MR. KAMAL HAMUD OF MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION TO COORDINATE SIGNAL WORK.

(16) ASPHALT AND GRADED AGGREGATE BASE FOR MAINTENANCE OF TRAFFIC WILL BE INCIDENTAL TO MAINTENANCE OF TRAFFIC COST.

(17) THE CONTRACTOR SHALL COORDINATE WITH MOCO AND WMATA REGARDING BUS STOPS WITHIN WORK ZONE.

(18) PORTABLE VARIABLE MESSAGE SIGNS SHALL BE LOCATED AND DISPLAY MESSAGES AS DIRECTED BY THE ENGINEER. PROTECT AND DELINEATE PORTABLE VARIABLE MESSAGE SIGNS IN ACCORDANCE WITH MDSHA STANDARD NO. MD 104.01-22.

(19) PORTABLE VARIABLE MESSAGE SIGNS SHALL BE INSTALLED AND OPERATIONAL ALERTING THE PUBLIC OF UPCOMING CONSTRUCTION AND NEW TRAFFIC PATTERNS AT LEAST 7 DAYS PRIOR TO BEGINNING OF CONSTRUCTION AND SHALL BE USED PRIOR TO ANY NEW PHASE.

(20) TRAFFIC CONTROL DEVICES AND OTHER CONSTRUCTION MATERIALS SHALL NOT INTRUDE INTO THE USABLE WIDTH OF THE SIDEWALK, TEMPORARY PATHWAY, OR OTHER PEDESTRIAN FACILITY.

(21) WHERE A SIDEWALK IS CLOSED DURING CONSTRUCTION, THE CONTRACTOR SHALL INSTALL A BARRIER ACROSS THE FULL WIDTH OF THE SIDEWALK APPROACHING THE CLOSURE. THIS BARRIER SHALL BE DETECTABLE BY A VISUALLY IMPAIRED INDIVIDUAL TRAVELING WITH THE AID OF A CANE.

(22) WHERE SIDEWALK INTERSECTS A TEMPORARY CONSTRUCTION ACCESS, THE CONTRACTOR SHALL PROVIDE AN ADA COMPLIANT PEDESTRIAN CROSSING THROUGH THE TEMPORARY CONSTRUCTION ACCESS.

(23) THE CONTRACTOR SHALL FOLLOW STANDARD NOS. MD 104.06-09A AND 104.06-09C TO MAINTAIN PEDESTRIAN ACCESS THROUGH THE SITE AND SHALL DO SIDEWALK IMPROVEMENTS TO ONE SIDE OF THE ROAD AT A TIME.

(24) THE CONTRACTOR SHALL MAINTAIN ACCESS/ EGRESS FOR ALL EMERGENCY VEHICLES.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

MAINTENANCE OF TRAFFIC
GENERAL NOTES

SCALE : NTS DATE: JUNE 2024 MT-01

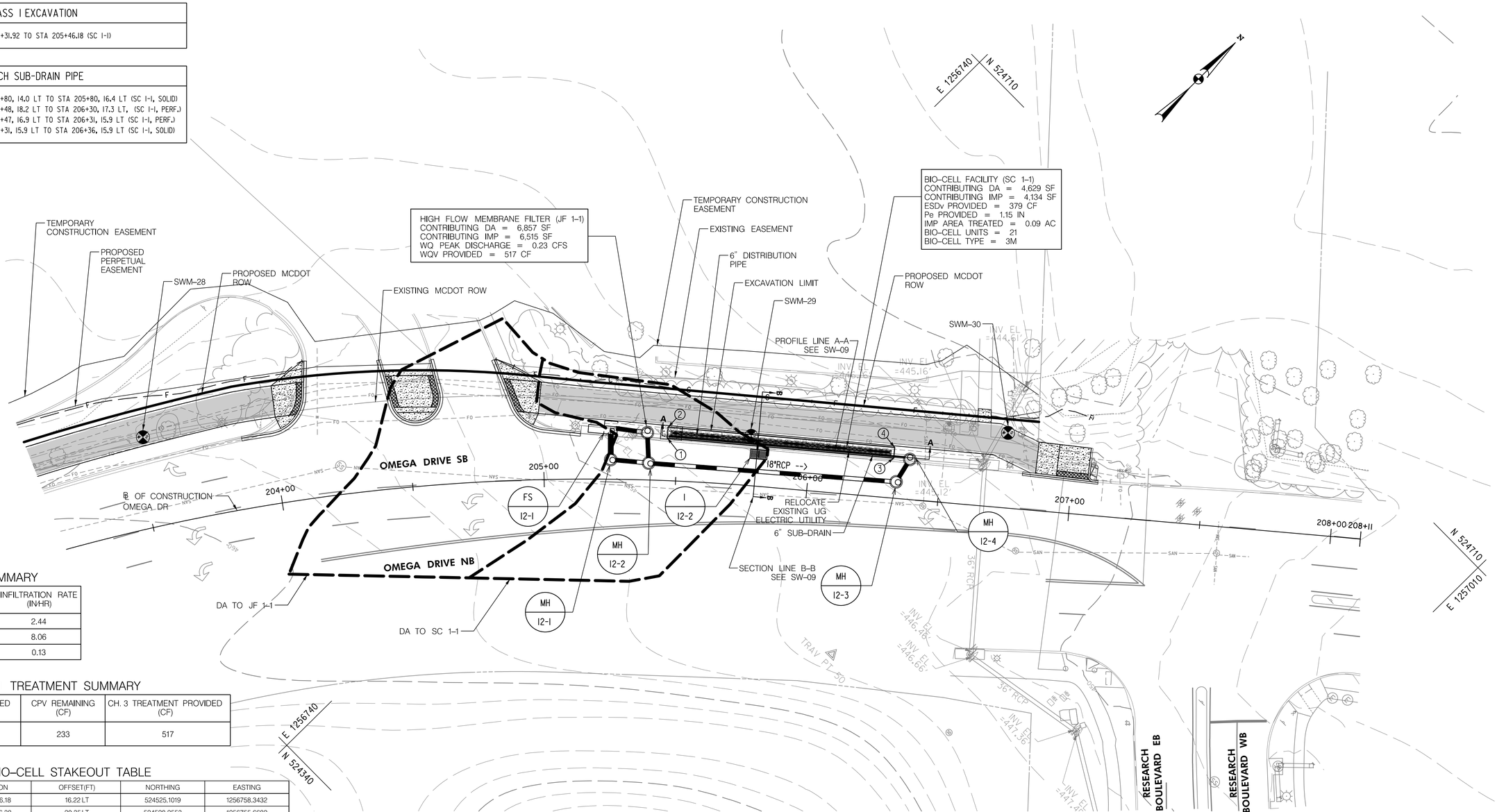
DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 22 of 105

PLOTTED: 6/26/2024
FILE: C:\pwworking\gfswd01\twilson\d128568\pMT-0001_LSCLT.dgn

CLASS I EXCAVATION	
87 CY	OMEGA DR - STA 206+31.92 TO STA 205+46.18 (SC I-1)

6 INCH SUB-DRAIN PIPE	
3 LF	OMEGA DR - STA 205+80, 14.0 LT TO STA 205+80, 16.4 LT (SC I-1, SOLID)
83 LF	OMEGA DR - STA 205+48, 18.2 LT TO STA 206+30, 17.3 LT, (SC I-1, PERF.)
85 LF	OMEGA DR - STA 205+47, 16.9 LT TO STA 206+31, 15.9 LT (SC I-1, PERF.)
5 LF	OMEGA DR - STA 206+31, 15.9 LT TO STA 206+36, 15.9 LT (SC I-1, SOLID)



JF 1-1 AND SC 1-1 PLAN VIEW
SCALE: 1" = 20'

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM-28	N/A	2.44
SWM-29	N/A	8.06
SWM-30	N/A	0.13

POI 1 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)	CPV REMAINING (CF)	CH. 3 TREATMENT PROVIDED (CF)
788	379	233	517

BIO-CELL STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
1	OMEGA DR	205+46.18	16.22 LT	524525.1019	1256758.3432
2	OMEGA DR	205+46.38	20.35 LT	524528.2553	1256755.6682
3	OMEGA DR	206+31.92	15.19 LT	524581.0656	1256824.3135
4	OMEGA DR	206+31.93	19.33 LT	524584.2189	1256821.6384

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL-STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STORMWATER MANAGEMENT PLAN
POI 1

SCALE : AS SHOWN DATE: JUNE 2024 SW-01

DPS SC/SWM PERMIT SHEET NO. 4 of 64

C.I.P. Project No. : 0501742 23 of 105

PLOTTED: 6/27/2024
FILE: c:\pwworking\gjbw01\pwcd$\d1285685\pSW-POI1_SCLT.dgn

BIO–CELL SC 3–1 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
5	MCD	144+81.94	27.11 LT	522652.6840	1256788.6710
6	MCD	144+81.98	14.86 LT	522657.0036	1256800.1421
7	MCD	145+06.14	28.69 LT	522674.8067	1256778.7339
8	MCD	145+06.14	27.23 LT	522675.3233	1256780.1059
9	MCD	145+08.09	16.36 LT	522680.9497	1256789.6086
10	MCD	145+08.10	14.94 LT	522681.4498	1256790.9367
11	MCD	145+14.13	16.37 LT	522686.6028	1256787.4799
12	MCD	145+14.14	14.57 LT	522687.2375	1256789.1654
13	MCD	145+49.05	16.60 LT	522719.2344	1256775.0669
14	MCD	145+49.05	14.65 LT	522719.9198	1256776.8872
15	MCD	145+55.00	16.62 LT	522724.8095	1256772.9675
16	MCD	145+55.01	15.71 LT	522725.1283	1256773.8140
17	MCD	145+57.05	28.88 LT	522722.4388	1256760.7600
18	MCD	145+65.12	27.90 LT	522730.3459	1256758.8605
19	MCD	145+65.16	15.74 LT	522734.6295	1256770.2362

BIO–CELL SC 3–2 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
20	MCD	146+04.00	27.65 LT	522766.8594	1256745.5087
21	MCD	146+04.04	15.04 LT	522771.3024	1256757.3080
22	MCD	146+30.24	17.17 LT	522795.1036	1256746.1530
23	MCD	146+30.24	15.12 LT	522795.8266	1256748.0732
24	MCD	146+36.19	17.19 LT	522800.6787	1256744.0536
25	MCD	146+36.20	15.22 LT	522801.3724	1256745.8958
26	MCD	146+50.42	17.50 LT	522813.9001	1256738.7912
27	MCD	146+50.43	15.26 LT	522814.6873	1256740.8820
28	MCD	146+56.38	17.52 LT	522819.4752	1256736.6919
29	MCD	146+56.38	15.46 LT	522820.1983	1256738.6121
30	MCD	146+58.35	27.81 LT	522817.7205	1256726.3566
31	MCD	146+58.35	25.76 LT	522818.4435	1256728.2768
32	MCD	146+70.50	25.80 LT	522829.8088	1256723.9971
33	MCD	146+70.50	23.75 LT	522830.5318	1256725.9173
34	MCD	146+98.64	23.83 LT	522856.8688	1256715.9999
35	MCD	146+98.67	15.59 LT	522859.7721	1256723.7102

SC 3–1
CONTRIBUTING DA = 25,465 SF
CONTRIBUTING IMP = 19,308 SF
ESDv PROVIDED = 1,913 CF
Pe PROVIDED = 1.23 IN
IMP AREA TREATED = 0.44 AC
BIO–CELL UNITS = 106
BIO–CELL TYPE = 3M

SC 3–2
CONTRIBUTING DA = 9,437 SF
CONTRIBUTING IMP = 7,654 SF
ESDv PROVIDED = 1,595 CF
Pe PROVIDED = 2.60 IN
IMP AREA TREATED = 0.18 AC
BIO–CELL UNITS = 92
BIO–CELL TYPE = 3M

N 522610 E 1256600

N 522910 E 1256600

N 519210 E 1256905

DA TO SC 4–1 SEE SW–03

DA TO SC 4–2 SEE SW–03

DA TO SC 3–1

DA TO SC 3–2

SECTION LINE B–B SEE SHEET SW–11

SECTION LINE B–B SEE SHEET SW–10

EXISTING EASEMENT

EXISTING MCDOT ROW

TEMPORARY CONSTRUCTION EASEMENT

PROPOSED MCDOT ROW

6" DISTRIBUTION PIPE

EXCAVATION LIMITS

SWM–19

SWM–20

24"RCP -->

15" RCP

143+00

144+00

145+00

146+00

147+00

148+00

℄ OF CONSTRUCTION MEDICAL CENTER DRIVE (MCD)

MEDICAL CENTER DRIVE SB

MEDICAL CENTER DRIVE NB

6" SUB–DRAIN

PROFILE LINE A–A SEE SHEET SW–10

PROFILE LINE A–A SEE SHEET SW–11

RELOCATE EXISTING UG ELECTRIC UTILITY

RELOCATE EXISTING UG ELECTRIC UTILITY

MH 9-1

MH 9-3

MH 9-4

MH 9-5

MH 9-6

I 8-3

I 8-4

I 9-1

I 9-2

I 9-4

I 9-5

I 9-6

EX-I 8-B

EX-I 9-A

SC 3–1 AND SC 3–2 PLAN VIEW
SCALE: 1" = 20'

20' 0 20' 40'
SCALE: 1" = 20'

CLASS I EXCAVATION

257 CY	MCD - STA 144+81.98 TO STA 145+65.16 (SC 3-1)
269 CY	MCD - STA 146+04.04 TO STA 146+98.67 (SC 3-2)

6 INCH SUB-DRAIN PIPE

250 LF	MCD - STA 144+84, 20.6 LT TO STA 145+63, 22.5 LT (SC 3-1, PERF.)
3 LF	MCD - STA 144+84, 13.0 LT TO STA 144+84, 15.9 LT (SC 3-1, SOLID)
3 LF	MCD - STA 145+40, 13.3 LT TO STA 145+40, 15.7 LT (SC 3-1, SOLID)
87 LF	MCD - STA 145+40, 15.7 LT TO STA 145+64, 16.5 LT (SC 3-1, PERF.)
8 LF	MCD - STA 145+64, 16.5 LT TO STA 145+64, 8.3 LT (SC 3-1, SOLID)
295 LF	MCD - STA 146+06, 21.2 LT TO STA 146+96, 19.7 LT (SC 3-2, PERF.)
3 LF	MCD - STA 146+28, 13.4 LT TO STA 146+28, 16.2 LT (SC 3-2, SOLID)
5 LF	MCD - STA 146+51, 13.4 LT TO STA 146+51, 18.6 LT (SC 3-2, SOLID)
3 LF	MCD - STA 146+91, 13.6 LT TO STA 146+91, 16.6 LT (SC 3-2, SOLID)
102 LF	MCD - STA 146+05, 15.8 LT TO STA 146+98, 16.4 LT (SC 3-2, PERF.)
3 LF	MCD - STA 146+98, 16.4 LT TO STA 147+01, 16.4 LT (SC 3-2 SOLID)

POI 3 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
3,414	3,508*

*375 CF EXCESS TREATMENT COMPENSATES FOR 9 CF REQUIREMENT IN LOI 1 AND PORTION OF 1531 CF REQUIREMENT IN POI 2.

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM–19	N/A	7.00
SWM–20	N/A	0.13

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL–STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT–OF–WAY
- EXISTING EASEMENT

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STORMWATER MANAGEMENT PLAN
POI 3

SCALE : AS SHOWN DATE: JUNE 2024 SW–02

DPS SC/SWM PERMIT SHEET NO. 5 of 64

C.I.P. Project No. : 0501742 24 of 105

PLOTTED: 6/28/2024
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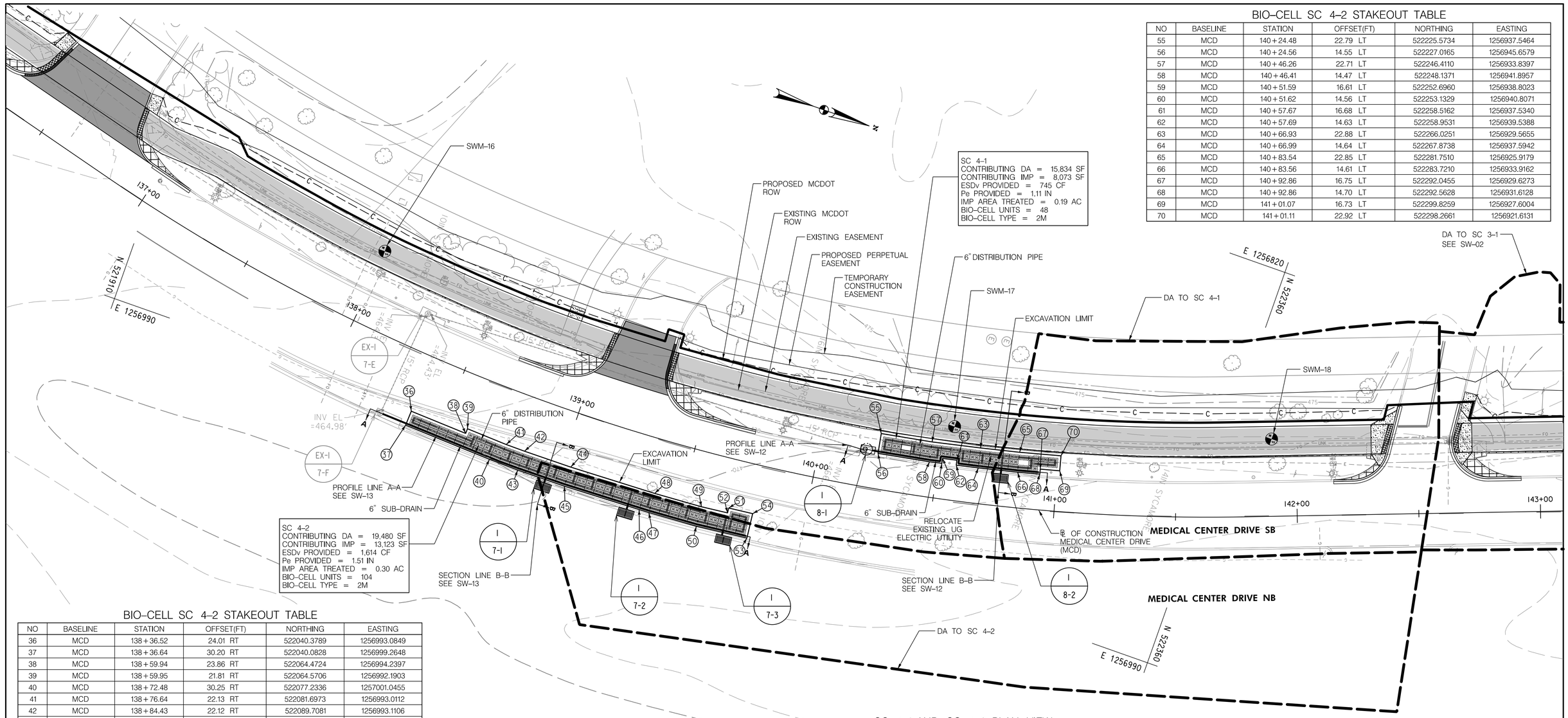


BIO–CELL SC 4–2 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
55	MCD	140+24.48	22.79 LT	522225.5734	1256937.5464
56	MCD	140+24.56	14.55 LT	522227.0165	1256945.6579
57	MCD	140+46.26	22.71 LT	522246.4110	1256933.8397
58	MCD	140+46.41	14.47 LT	522248.1371	1256941.8957
59	MCD	140+51.59	16.61 LT	522252.6960	1256938.8023
60	MCD	140+51.62	14.56 LT	522253.1329	1256940.8071
61	MCD	140+57.67	16.68 LT	522258.5162	1256937.5340
62	MCD	140+57.69	14.63 LT	522258.9531	1256939.5388
63	MCD	140+66.93	22.88 LT	522266.0251	1256929.5655
64	MCD	140+66.99	14.64 LT	522267.8738	1256937.5942
65	MCD	140+83.54	22.85 LT	522281.7510	1256925.9179
66	MCD	140+83.56	14.61 LT	522283.7210	1256933.9162
67	MCD	140+92.86	16.75 LT	522292.0455	1256929.6273
68	MCD	140+92.86	14.70 LT	522292.5628	1256931.6128
69	MCD	141+01.07	16.73 LT	522299.8259	1256927.6004
70	MCD	141+01.11	22.92 LT	522298.2661	1256921.6131

BIO–CELL SC 4–2 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
36	MCD	138+36.52	24.01 RT	522040.3789	1256993.0849
37	MCD	138+36.64	30.20 RT	522040.0828	1256999.2648
38	MCD	138+59.94	23.86 RT	522064.4724	1256994.2397
39	MCD	138+59.95	21.81 RT	522064.5706	1256992.1903
40	MCD	138+72.48	30.25 RT	522077.2336	1257001.0455
41	MCD	138+76.64	22.13 RT	522081.6973	1256993.0112
42	MCD	138+84.43	22.12 RT	522089.7081	1256993.1106
43	MCD	138+84.46	30.35 RT	522089.6608	1257001.3500
44	MCD	139+03.97	22.02 RT	522109.7848	1256992.9502
45	MCD	139+04.02	30.26 RT	522109.9611	1257001.1878
46	MCD	139+35.02	30.26 RT	522142.1174	1257000.0661
47	MCD	139+39.08	30.35 RT	522146.3195	1256999.9195
48	MCD	139+39.16	22.11 RT	522145.9174	1256991.6898
49	MCD	139+58.60	22.30 RT	522165.8564	1256990.4473
50	MCD	139+58.61	30.54 RT	522166.5557	1256998.6584
51	MCD	139+69.32	20.06 RT	522176.6116	1256987.2265
52	MCD	139+69.34	22.12 RT	522176.8312	1256989.2665
53	MCD	139+79.17	30.32 RT	522187.7782	1256996.3750
54	MCD	139+79.19	20.02 RT	522186.6772	1256986.1435

SC 4–1 AND SC 4–2 PLAN VIEW

SCALE: 1" = 20'

POI 4 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
2,663	2,359

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM–16	N/A	0.44
SWM–17	N/A	6.88
SWM–18	N/A	3.06

20' 0 20' 40'

SCALE: 1" = 20'

6 INCH SUB–DRAIN PIPE

162 LF	MCD – STA 140+27, 18.7 LT TO STA 140+99, 19.8 LT (SC 4–1, PERF.)
3 LF	MCD – STA 140+77, 15.7 LT TO STA 140+77, 13.3 LT (SC 4–1, SOLID)
70 LF	MCD – STA 140+25, 15.3 LT TO STA 140+92, 15.4 LT (SC 4–1, PERF.)
3 LF	MCD – STA 140+22, 15.4 LT TO STA 140+25, 15.3 LT (SC 4–1, SOLID)
365 LF	MCD – STA 138+39, 27.1 RT TO STA 139+77, 25.2 RT (SC 4–2, PERF.)
3 LF	MCD – STA 138+96, 31.7 RT TO STA 138+96, 29.2 RT (SC 4–2, SOLID)
3 LF	MCD – STA 139+30, 31.8 RT TO STA 139+30, 29.1 RT (SC 4–2, SOLID)
3 LF	MCD – STA 139+69, 31.7 RT TO STA 139+69, 29.3 RT (SC 4–2, SOLID)
146 LF	MCD – STA 138+38, 29.4 RT TO STA 139+78, 29.6 RT (SC 4–2, PERF.)
11 LF	MCD – STA 138+27, 29.7 RT TO STA 138+37, 29.4 RT (SC 4–2, SOLID)

CLASS I EXCAVATION

110 CY	MCD – STA 140+24.56 TO STA 141+01.07 (SC 4–1)
216 CY	MCD – STA 138+36.64 TO STA 139+79.17 (SC 4–2)

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL–STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT–OF–WAY
- EXISTING EASEMENT

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PLAN
POI 4

SCALE : AS SHOWN DATE: JUNE 2024 SW–03

DPS SC/SWM PERMIT SHEET NO. 6 of 64

C.I.P. Project No. : 0501742 25 of 105

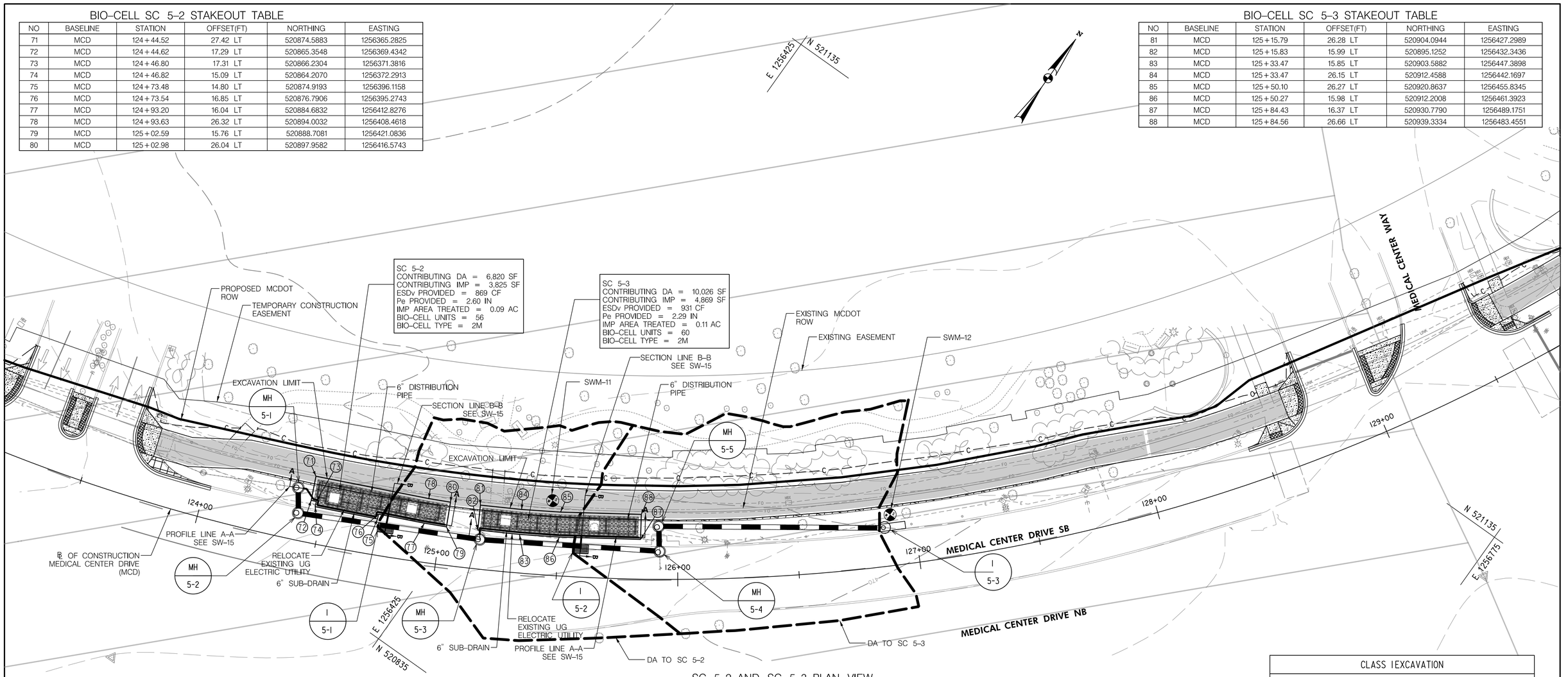
PLOTTED: 6/27/2024
FILE: c:\pwworking\gfpw01\ecw04\d1285688\pSW-P005_LSCLT.dgn

BIO–CELL SC 5–2 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
71	MCD	124+44.52	27.42 LT	520874.5883	1256365.2825
72	MCD	124+44.62	17.29 LT	520865.3548	1256369.4342
73	MCD	124+46.80	17.31 LT	520866.2304	1256371.3816
74	MCD	124+46.82	15.09 LT	520864.2070	1256372.2913
75	MCD	124+73.48	14.80 LT	520874.9193	1256396.1158
76	MCD	124+73.54	16.85 LT	520876.7906	1256395.2743
77	MCD	124+93.20	16.04 LT	520884.6832	1256412.8276
78	MCD	124+93.63	26.32 LT	520894.0032	1256408.4618
79	MCD	125+02.59	15.76 LT	520888.7081	1256421.0836
80	MCD	125+02.98	26.04 LT	520897.9582	1256416.5743

BIO–CELL SC 5–3 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
81	MCD	125+15.79	26.28 LT	520904.0944	1256427.2989
82	MCD	125+15.83	15.99 LT	520895.1252	1256432.3436
83	MCD	125+33.47	15.85 LT	520903.5882	1256447.3898
84	MCD	125+33.47	26.15 LT	520912.4588	1256442.1697
85	MCD	125+50.10	26.27 LT	520920.8637	1256455.8345
86	MCD	125+50.27	15.98 LT	520912.2008	1256461.3923
87	MCD	125+84.43	16.37 LT	520930.7790	1256489.1751
88	MCD	125+84.56	26.66 LT	520939.3334	1256483.4551



SC 5–2 AND SC 5–3 PLAN VIEW
SCALE: 1" = 20'

CLASS I EXCAVATION

91 CY	MCD - STA 124+44.62 TO STA 125+02.59 (SC 5-2)
123 CY	MCD - STA 125+15.83 TO STA 125+84.43 (SC 5-3)

6 INCH SUB-DRAIN PIPE

172 LF	MCD - STA 124+47, 22.3 LT TO STA 124+99, 23.1 LT (SC 5-2, PERF.)
5 LF	MCD - STA 124+78, 13.4 LT TO STA 124+78, 17.8 LT (SC 5-2, SOLID)
59 LF	MCD - STA 124+46, 17.8 LT TO STA 125+3, 16.3 LT (SC 5-2, PERF.)
7 LF	MCD - STA 124+41, 19.5 LT TO STA 124+46, 18.0 LT (SC 5-2, SOLID.)
183 LF	MCD - STA 125+18, 21.3 LT TO STA 125+83, 21.6 LT (SC 5-3, PERF.)
5 LF	MCD - STA 125+60, 13.0 LT TO STA 125+60, 15.3 LT (SC 5-3, SOLID)
65 LF	MCD - STA 125+17, 16.9 LT TO STA 125+84, 16.3 LT (SC 5-3, PERF.)
3 LF	MCD - STA 125+17, 15.6 LT TO STA 125+17, 15.7 LT (SC 5-3, SOLID)

POI 5 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
3,101	3,317

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM–11	N/A	1.19
SWM–12	N/A	0.25

NOTE: POI 5 IS WITHIN PINEY BRANCH SPECIAL PROTECTION AREA.

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL–STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT–OF–WAY
- EXISTING EASEMENT

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PLAN
POI 5

SCALE : AS SHOWN DATE: JUNE 2024 SW–04

DPS SC/SWM PERMIT SHEET NO. 7 of 64

C.I.P. Project No. : 0501742 26 of 105

PLOTTED: 6/28/2024
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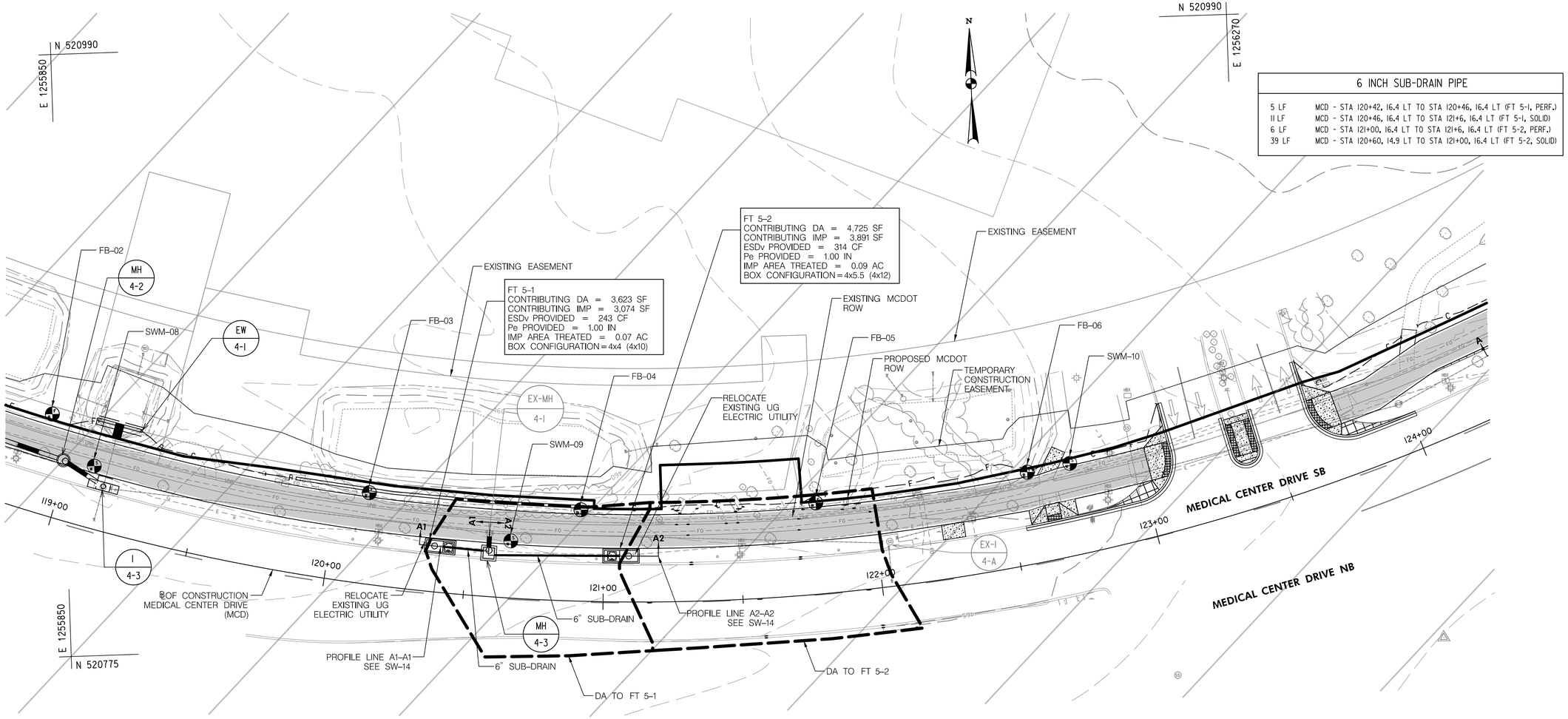


FT 5-1 AND FT 5-2 PLAN VIEW
SCALE: 1" = 20'

6 INCH SUB-DRAIN PIPE	
5 LF	MCD - STA 120+42, 16.4 LT TO STA 120+46, 16.4 LT (FT 5-1, PERF.)
11 LF	MCD - STA 120+46, 16.4 LT TO STA 121+6, 16.4 LT (FT 5-1, SOLID)
6 LF	MCD - STA 121+00, 16.4 LT TO STA 121+6, 16.4 LT (FT 5-2, PERF.)
39 LF	MCD - STA 120+60, 14.9 LT TO STA 121+00, 16.4 LT (FT 5-2, SOLID)

NOTE: POI 5 IS WITHIN PINEY BRANCH SPECIAL PROTECTION AREA.

POI 5 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
3,101	3,317

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM-08	N/A	0.00
SWM-09	N/A	0.12
SWM-10	N/A	0.06
FB-02	N/A	N/A
FB-03	N/A	N/A
FB-04	N/A	N/A
FB-05	450.5	N/A
FB-06	N/A	N/A

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL-STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PLAN
POI 5, CONT.

SCALE : AS SHOWN DATE: JUNE 2024 SW-05

DPS SC/SWM PERMIT SHEET NO. 8 of 64
C.I.P. Project No. :- 0501742 27 of 105

PLOTTED: 6/27/2024
FILE: c:\pwworking\gfpw01\wood\ut386885\pSW-P007_SCLT.dgn

CLASS I EXCAVATION	
138 CY	MCD - STA 115+74.05 TO STA 116+35.74 (SC 5-1)

6 INCH SUB-DRAIN PIPE	
170 LF	MCD - STA 115+76, 20.0 LT TO STA 116+34, 24.9 LT (SC 5-1, PERF.)
3 LF	MCD - STA 116+01, 14.2 LT TO STA 116+02, 16.1 LT (SC 5-1, SOLID)
63 LF	MCD - STA 115+75, 15.8 LT TO STA 116+35, 19.3 LT (SC 5-1, PERF.)
5 LF	MCD - STA 116+35, 16.9 LT TO STA 116+35, 16.8 LT (SC 5-1, SOLID)

BIO-CELL SC 5-1 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
89	MCD	115+73.67	25.38 LT	521009.6956	1255584.2319
90	MCD	115+74.05	15.18 LT	521002.0432	1255577.4768
91	MCD	115+77.76	27.57 LT	521008.5732	1255588.6038
92	MCD	115+77.83	25.52 LT	521007.0349	1255587.2459
93	MCD	116+19.53	27.67 LT	520981.9671	1255618.7437
94	MCD	116+19.57	29.39 LT	520983.2554	1255619.8810
95	MCD	116+23.26	15.31 LT	520970.1502	1255613.6059
96	MCD	116+23.38	19.08 LT	520972.9768	1255616.1011
97	MCD	116+35.74	18.61 LT	520964.9950	1255625.1430
98	MCD	116+36.24	28.80 LT	520972.6473	1255631.8981

SC 5-1
CONTRIBUTING DA = 12,363 SF
CONTRIBUTING IMP = 7,427 SF
ESDv PROVIDED = 1,009 CF
Pe PROVIDED = 1.66 IN
IMP AREA TREATED = 0.17 AC
BIO-CELL UNITS = 65
BIO-CELL TYPE = 2M

TEMPORARY CONSTRUCTION EASEMENT
PROPOSED MCDOT ROW
EXISTING MCDOT ROW
SECTION LINE B-B SEE SW-14
EXCAVATION LIMITS
EXISTING EASEMENT
6" DISTRIBUTION PIPE
SWM-06
SWM-07
SWM-08
FB-01
FB-02
FB-03
114+00
115+00
116+00
117+00
118+00
119+00
120+00
TRAV PT 1
PROFILE LINE A-A SEE SW-14
BOF CONSTRUCTION MEDICAL CENTER DRIVE (MCD)
DA TO SC 5-3
RELOCATE EXISTING UG ELECTRIC UTILITY
6" SUB-DRAIN
MEDICAL CENTER WAY
MEDICAL CENTER DRIVE SB
MEDICAL CENTER DRIVE NB
N 521075
E 1255685
N 520850
E 1255805
EW 4-1
I 3-1
I 4-3
MH 3-1
MH 4-1
MH 4-2

SC 5-1 PLAN VIEW
SCALE: 1" = 20'

	NOTE: POI 5 IS WITHIN PINEY BRANCH SPECIAL PROTECTION AREA.

POI 5 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
3,101	3,317

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM-06	N/A	6.60
SWM-07	N/A	0.96
SWM-08	N/A	0.00
FB-01	N/A	N/A
FB-02	N/A	N/A
FB-03	N/A	N/A

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL-STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT

DATUM: NAD 83\91 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date
Designed by: ECW Drawn by: ECW Checked by: JMA

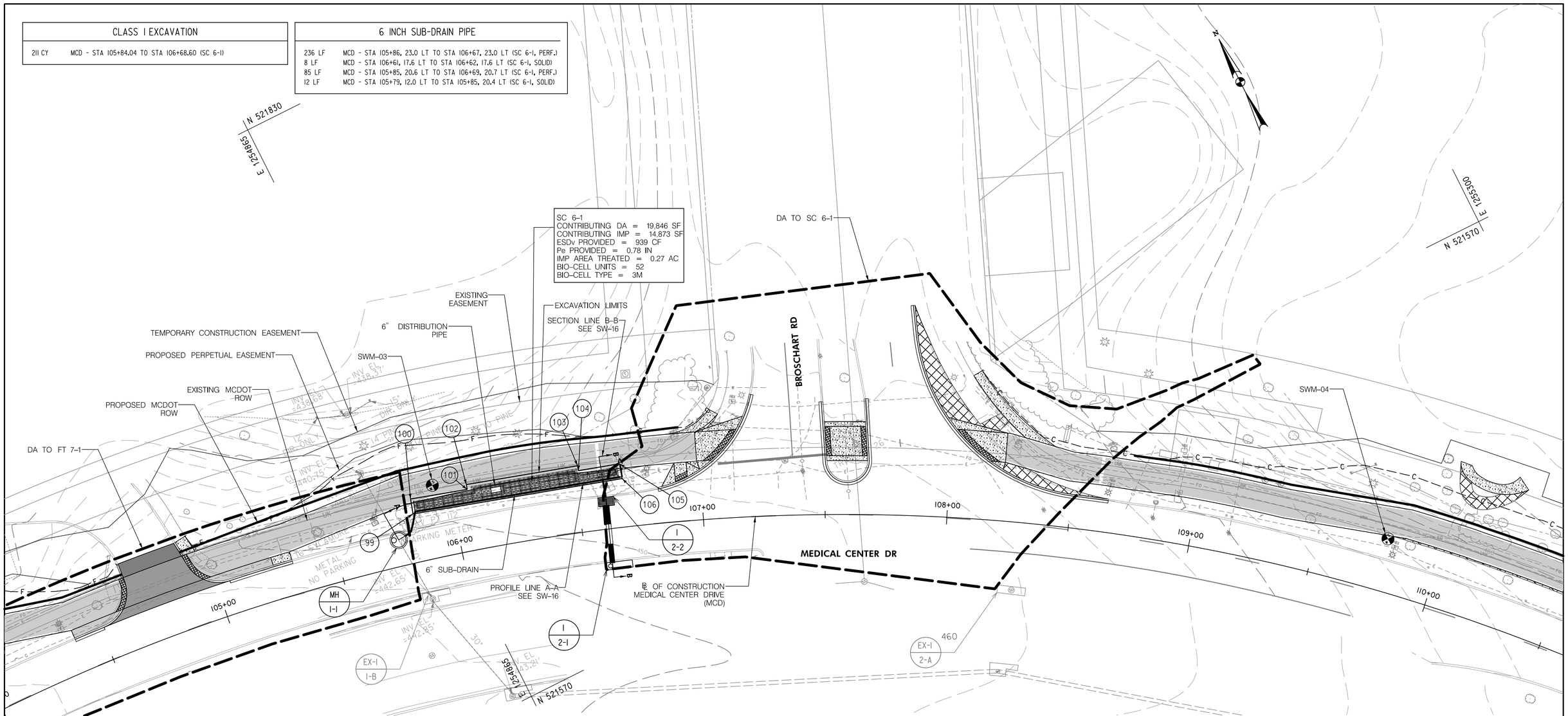
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PLAN
POI 5, CONT.

SCALE : AS SHOWN DATE: JUNE 2024 SW-06
DPS SC/SWM PERMIT SHEET NO. 9 of 64
C.I.P. Project No. : 0501742 28 of 105

PLOTTED: 6/27/2024
FILE: c:\pwworking\gfleva01\swcad\sht\d238568\pSW-P006_LSCLT.dgn

CLASS I EXCAVATION	
211 CY	MCD - STA 105+84.04 TO STA 106+68.60 (SC 6-1)

6 INCH SUB-DRAIN PIPE	
236 LF	MCD - STA 105+86, 23.0 LT TO STA 106+67, 23.0 LT (SC 6-1, PERF.)
8 LF	MCD - STA 106+61, 17.6 LT TO STA 106+62, 17.6 LT (SC 6-1, SOLID)
85 LF	MCD - STA 105+85, 20.6 LT TO STA 106+69, 20.7 LT (SC 6-1, PERF.)
12 LF	MCD - STA 105+79, 12.0 LT TO STA 105+85, 20.4 LT (SC 6-1, SOLID)



SC 6-1 PLAN VIEW
SCALE: 1" = 20'

SILVA CELL SC 6-1 STAKEOUT TABLE

NO	BASELINE	STATION	OFFSET(FT)	NORTHING	EASTING
99	MCD	105+83.76	19.90 LT	521658.7173	1254855.0966
100	MCD	105+84.08	26.08 LT	521664.6332	1254856.9079
101	MCD	106+06.90	25.15 LT	521657.7280	1254879.4606
102	MCD	106+06.95	27.20 LT	521659.6899	1254880.0613
103	MCD	106+51.71	27.38 LT	521646.1328	1254924.3392
104	MCD	106+51.77	25.33 LT	521644.1709	1254923.7385
105	MCD	106+68.33	26.06 LT	521639.1596	1254940.1056
106	MCD	106+68.66	19.89 LT	521633.2437	1254938.2943

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL–STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT–OF–WAY
- EXISTING EASEMENT

POI 6 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
1,861	939

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM-03	442.4	0.19
SWM-04	N/A	1.14

20' 0 20' 40'
SCALE: 1" = 20'

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STORMWATER MANAGEMENT PLAN
POI 6

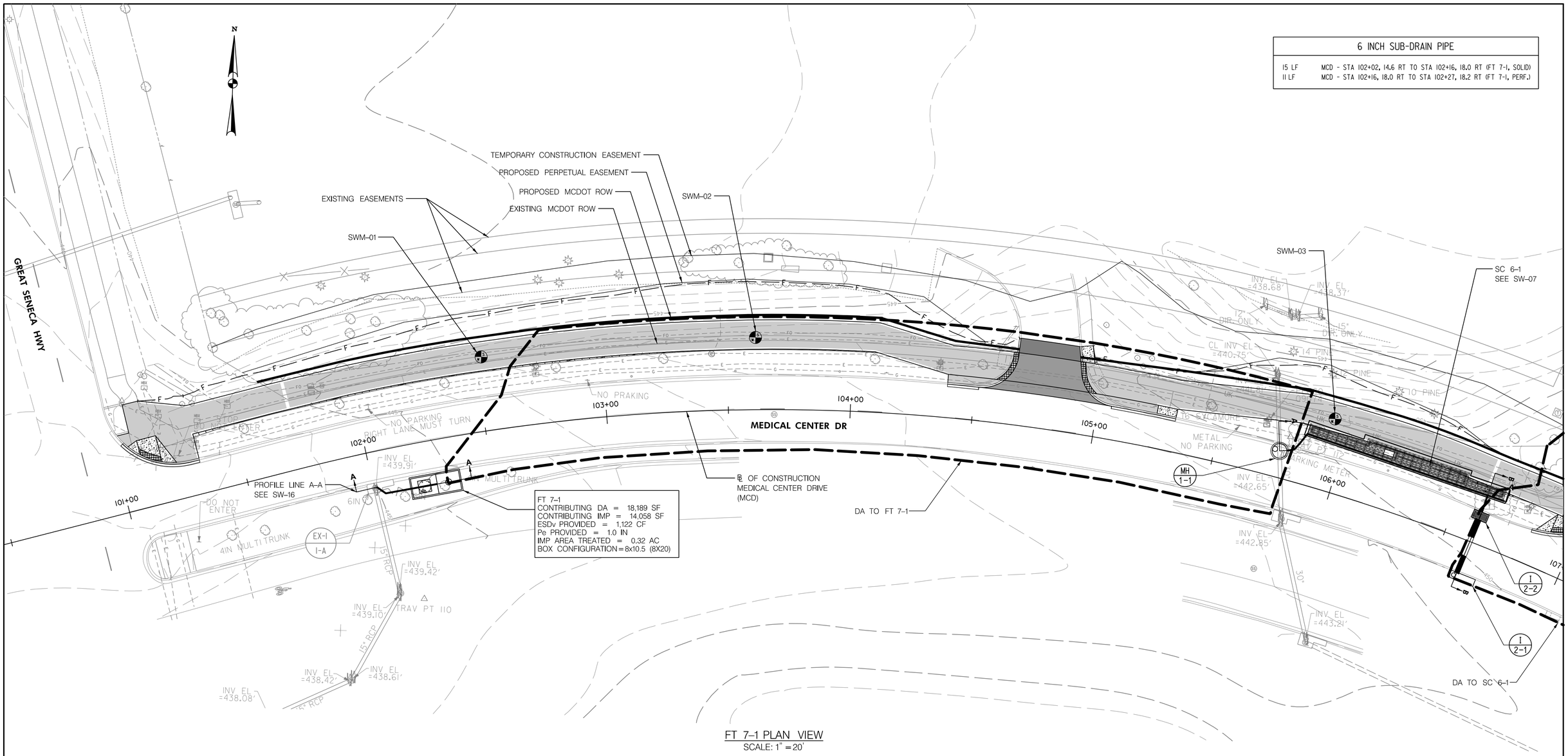
SCALE : AS SHOWN DATE: JUNE 2024 SW-07

DPS SC/SWM PERMIT SHEET NO. 10 of 64

C.I.P. Project No. : 0501742 29 of 105

PLOTTED: 6/27/2024
FILE: c:\pwworking\gfpw01\swc04\d\d2835680\pSW-P009_LSCLT.dgn

6 INCH SUB-DRAIN PIPE	
15 LF	MCD - STA 102+02, 14.6 RT TO STA 102+16, 18.0 RT (FT 7-1, SOLID)
11 LF	MCD - STA 102+16, 18.0 RT TO STA 102+27, 18.2 RT (FT 7-1, PERF.)



FT 7-1 PLAN VIEW
SCALE: 1" = 20'

POI 7 SWM TREATMENT SUMMARY

ESDv REQUIRED (CF)	ESDv PROVIDED (CF)
1,104	1,122

SOIL BORING SUMMARY

SOIL BORING ID	GW ELEVATION	INFILTRATION RATE (IN/HR)
SWM-01	N/A	0.06
SWM-02	N/A	0.12
SWM-03	442.4	0.19

20' 0 20' 40'
SCALE: 1" = 20'

LEGEND

- SHARED USE PATH – ASPHALT
- SHARED USED PATH – CONCRETE
- GRAVEL-STONE DUST WALKWAY
- FULL DEPTH PAVEMENT
- FINE MILLING AND OVERLAY
- PAVEMENT REMOVAL
- DRAINAGE AREA
- EXISTING MINOR CONTOUR
- EXISTING MAJOR CONTOUR
- PROPOSED MINOR CONTOUR
- PROPOSED MAJOR CONTOUR
- EXISTING RIGHT-OF-WAY
- EXISTING EASEMENT

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PLAN
POI 7

SCALE : AS SHOWN DATE: JUNE 2024 SW-08

DPS SC/SWM PERMIT SHEET NO. 11 of 64

C.I.P. Project No. : 0501742 30 of 105

PLOTTED: 6/27/2024
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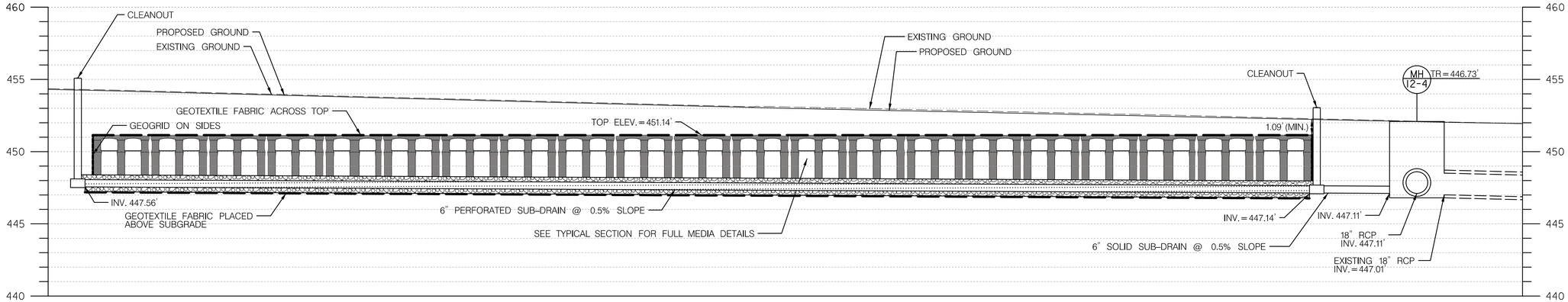
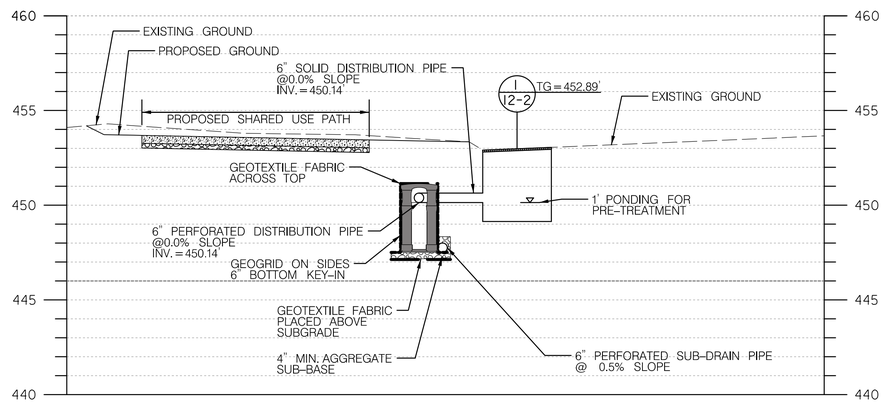
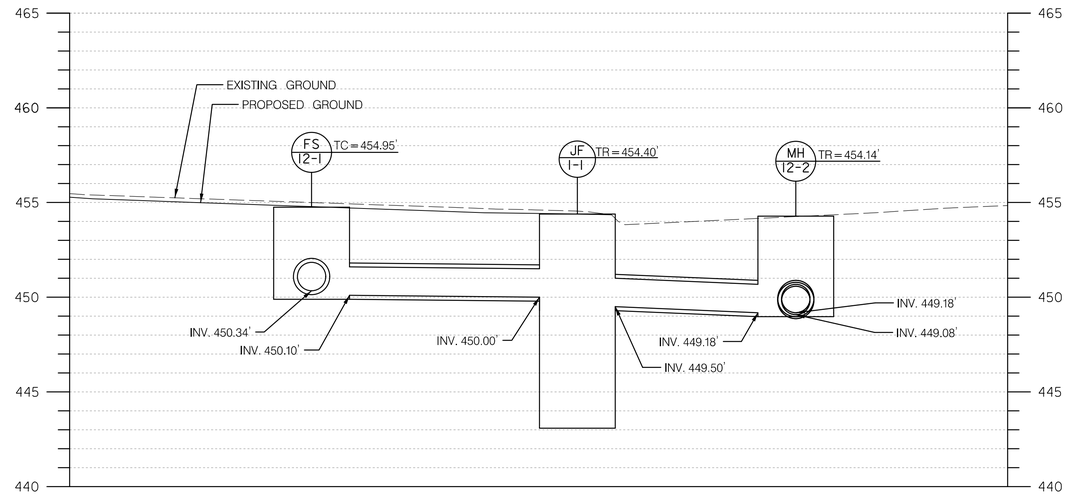


BIO-CELL SC 1-1 SECTION A-A
SCALE: 1" = 4'



BIO-CELL SC 1-1 SECTION B-B
SCALE: 1" = 4'



HIGH FLOW MEMBRANE FILTER JF 1-1 PROFILE
SCALE: 1" = 4'

NOTE:
SEE SW-01 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-09

DPS SC/SWM PERMIT SHEET NO. 12 of 64

C.I.P. Project No. : 0501742 31 of 105

PLOTTED: 6/27/2024
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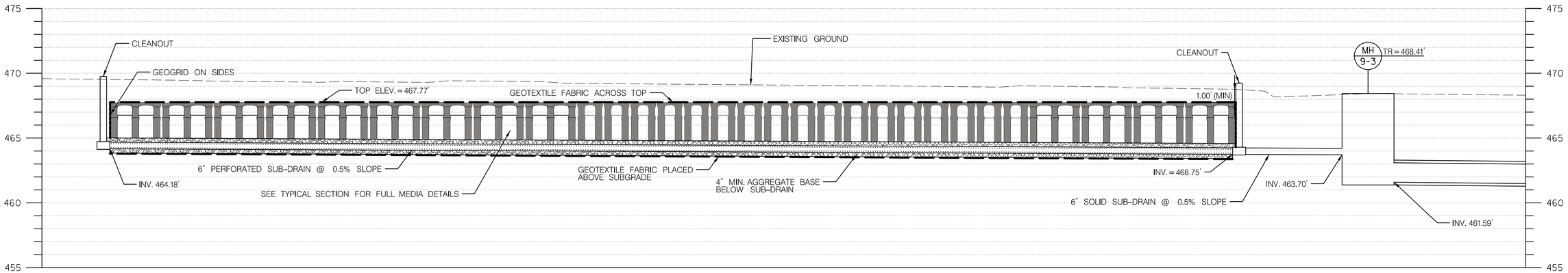
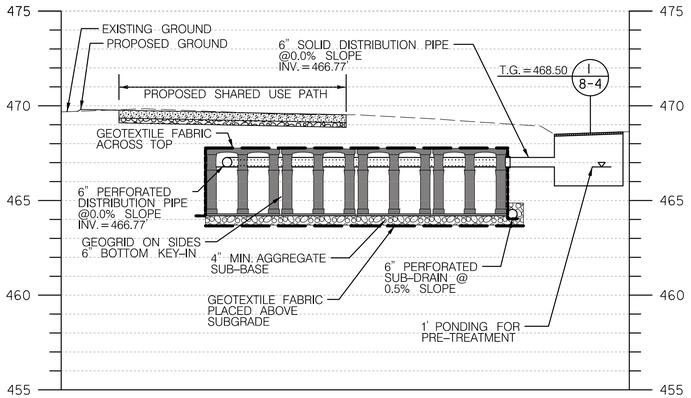


BIO-CELL SC 3-1 PROFILE A-A
SCALE: 1" = 4'



BIO-CELL SC 3-1 SECTION B-B
SCALE: 1" = 4'

NOTE:
SEE SW-02 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-10

DPS SC/SWM PERMIT SHEET NO. 13 of 64

C.I.P. Project No. : 0501742 32 of 105

PLOTTED: 6/27/2024
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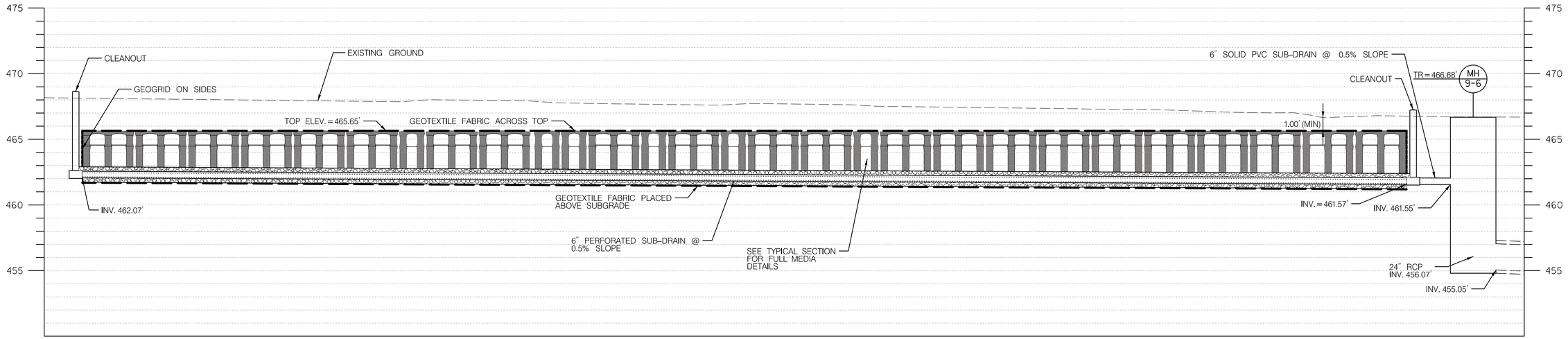
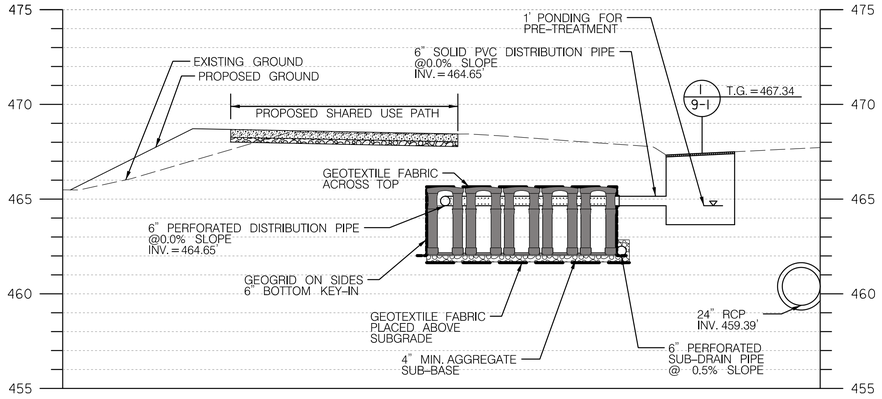


BIO-CELL SC 3-2 PROFILE A-A
SCALE: 1" = 4'



BIO-CELL SC 3-2 SECTION B-B
SCALE: 1" = 4'

NOTE:
SEE SW-02 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-11

DPS SC/SWM PERMIT SHEET NO. 14 of 64

C.I.P. Project No. : 0501742 33 of 105

PLOTTED: 6/27/2024
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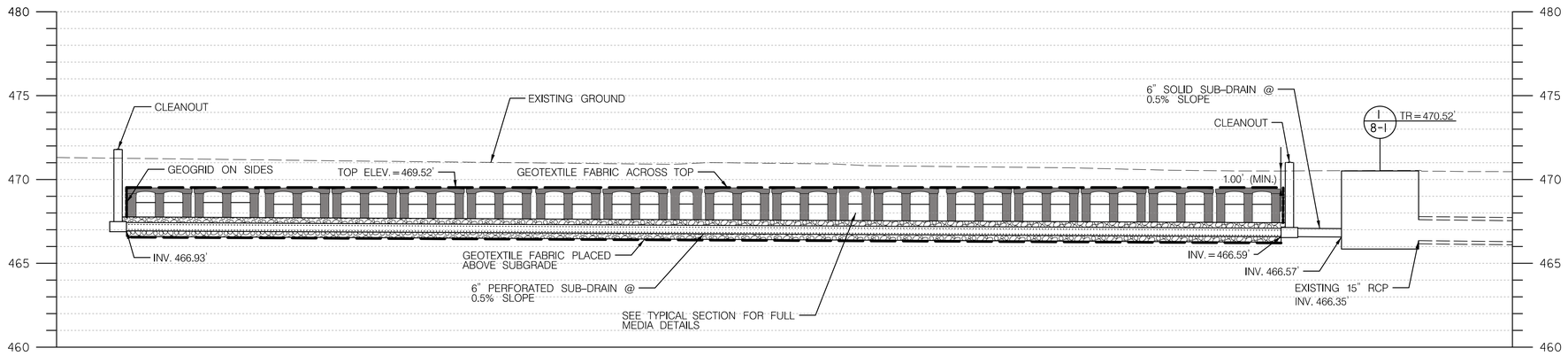
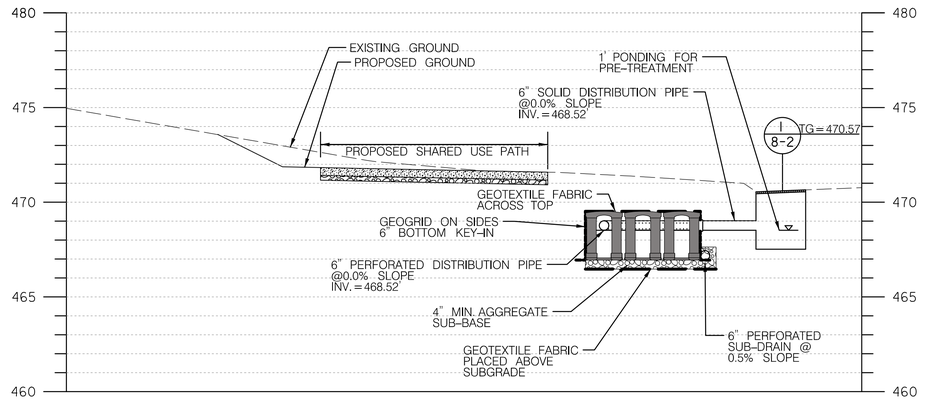


BIO-CELL SC 4-1 PROFILE A-A
SCALE: 1" = 4'



BIO-CELL SC 4-1 SECTION B-B
SCALE: 1" = 4'

NOTE:
SEE SW-03 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

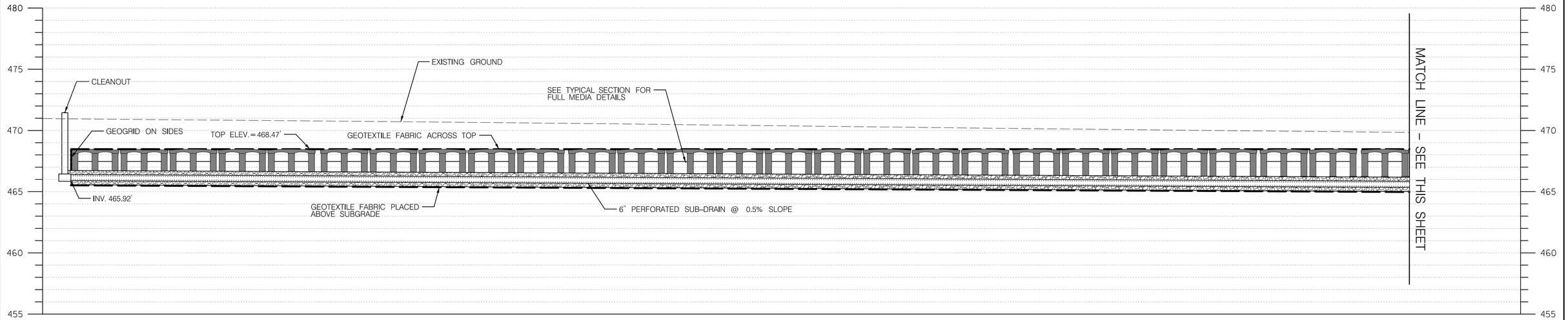
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-12

DPS SC/SWM PERMIT SHEET NO. 15 of 64

C.I.P. Project No. : 0501742 34 of 105

PLOTTED: 6/27/2024
FILE: c:\pwworking\gtlwd01\wxc4\d2385680\pSW-PR14_LSCLT.dgn



BIO-CELL SC 4-2 PROFILE A-A
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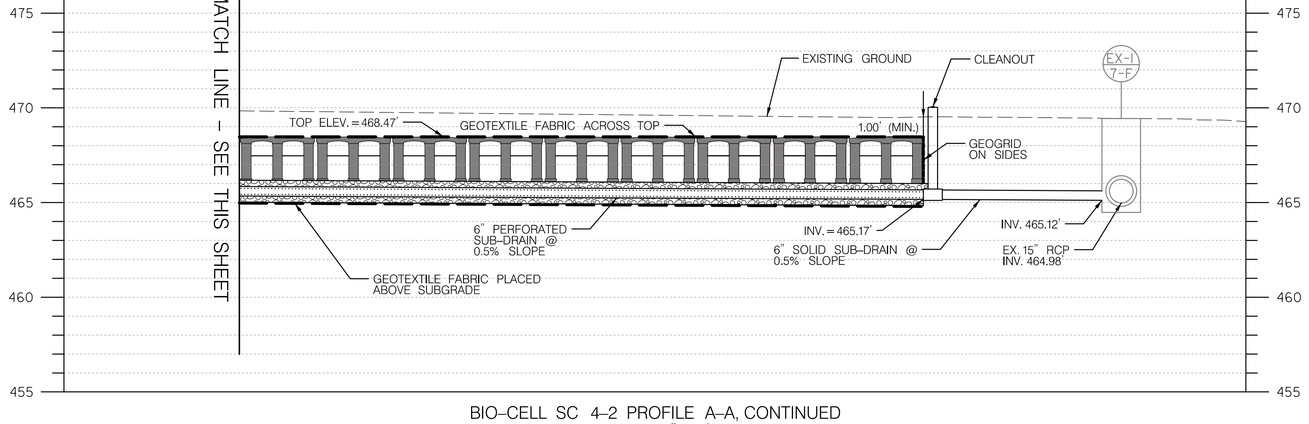
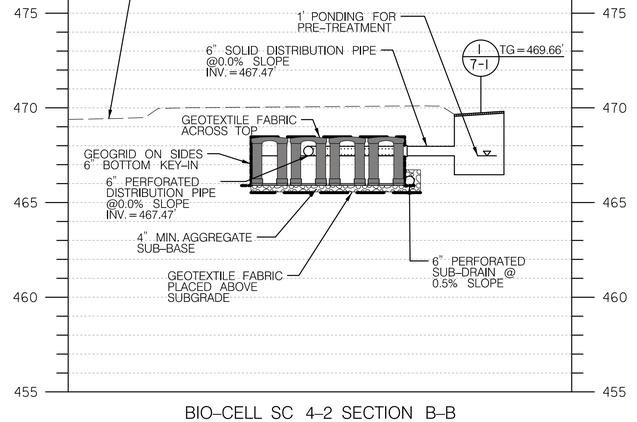


BIO-CELL SC 4-2 PROFILE A-A, CONTINUED
SCALE: 1" = 4'



BIO-CELL SC 4-2 SECTION B-B
SCALE: 1" = 4'

NOTE:
SEE SW-03 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming/GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

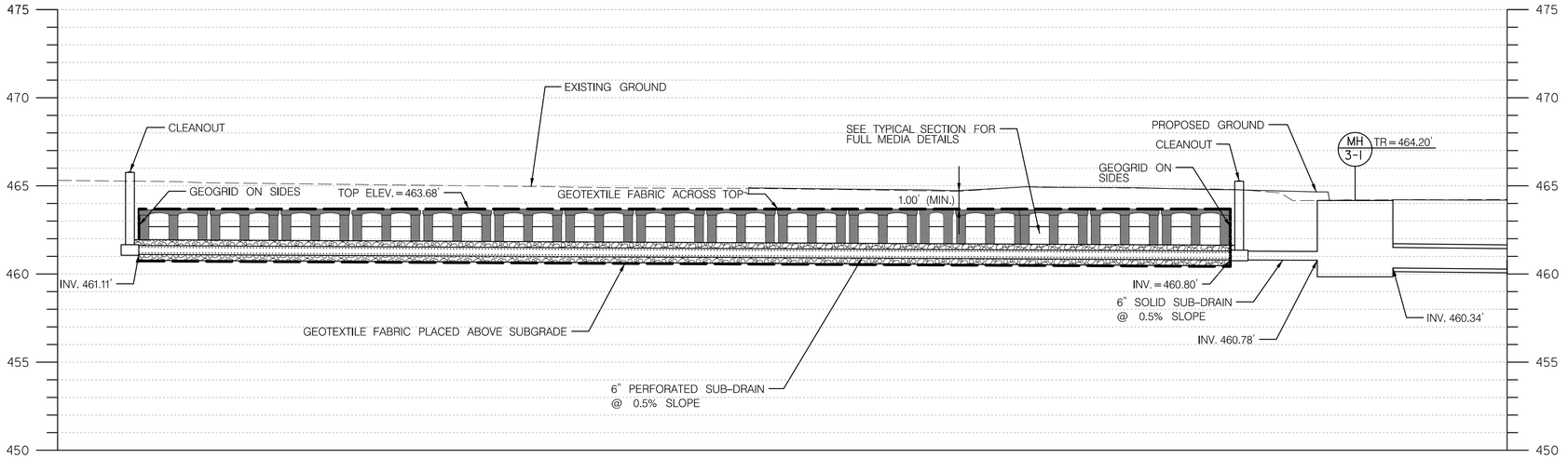
STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-13

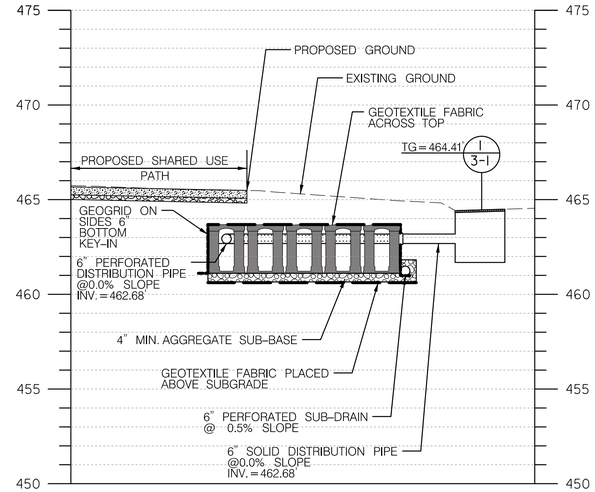
DPS SC/SWM PERMIT SHEET NO. 16 of 64

C.I.P. Project No. : 0501742 35 of 105

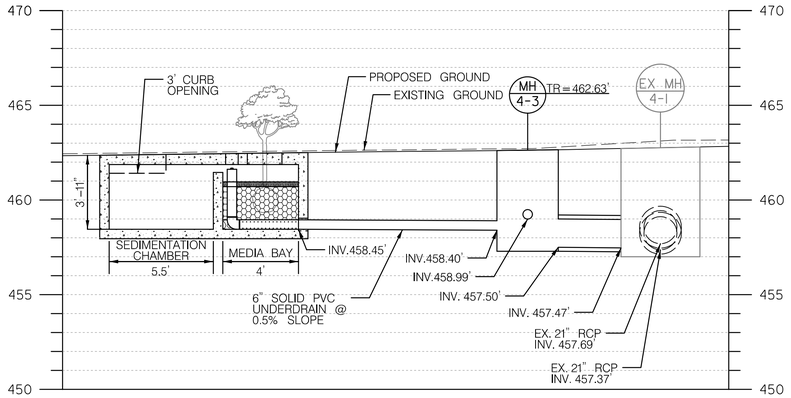
PLOTTED: 6/27/2024
FILE: c:\powerfiling\gfpw01\ewoods\pf285688\pSW-PR16_1SCLT.dgn



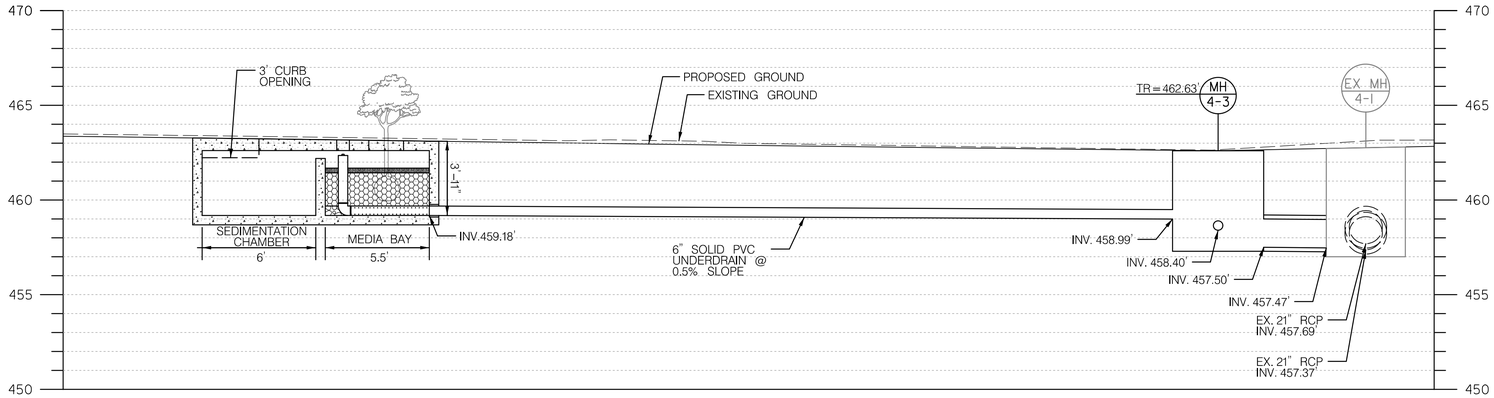
BIO-CELL SC 5-1 PROFILE A-A
SCALE: 1" = 4'



BIO-CELL SC 5-1 SECTION B-B
SCALE: 1" = 4'



TREE BOX FILTER FT 5-1 PROFILE A1-A1
SCALE: 1" = 4'



TREE BOX FILTER FT 5-2 PROFILE A2-A2
SCALE: 1" = 4'

NOTE:
SEE SW-05 AND SW-06 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming/GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

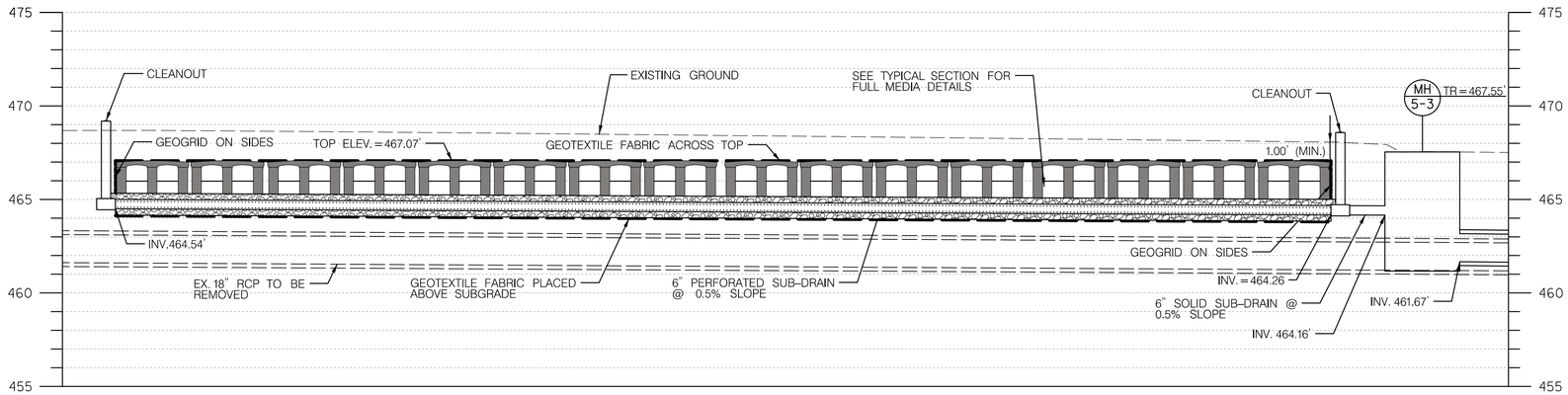
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-14

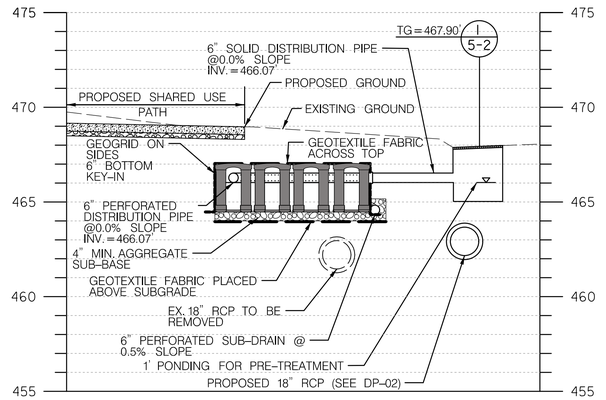
DPS SC/SWM PERMIT SHEET NO. 17 of 64

C.I.P. Project No. : 0501742 36 of 105

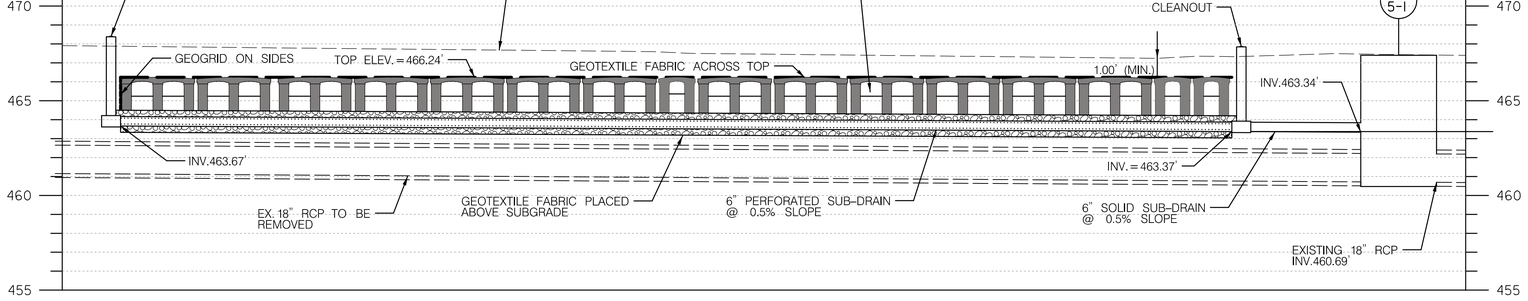
PLOTTED: 6/27/2024
FILE: c:\pwworking\gfpw01\wood\t\d1286585\pSW-PR16_1SCLT.dgn



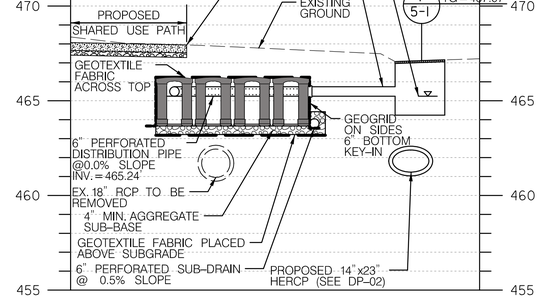
BIO–CELL SC 5–3 PROFILE A–A
SCALE: 1" = 4'



BIO–CELL SC 5–3 SECTION B–B
SCALE: 1" = 4'



BIO–CELL SC 5–2 PROFILE A–A
SCALE: 1" = 4'



BIO–CELL SC 5–2 SECTION B–B
SCALE: 1" = 4'

NOTE:
SEE SW–04 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW–15

DPS SC/SWM PERMIT SHEET NO. 18 of 64

C.I.P. Project No. : 0501742 37 of 105

PLOTTED: 6/27/2024
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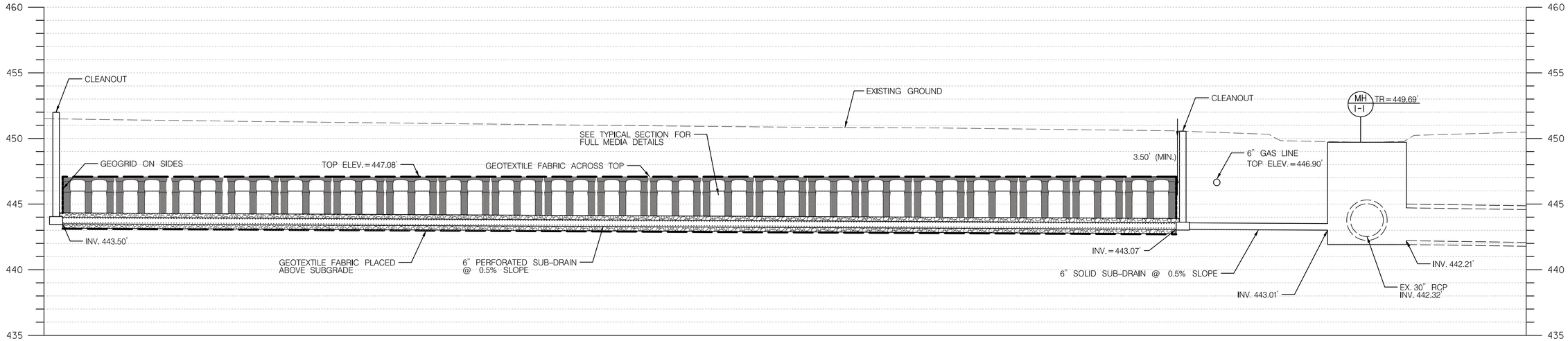
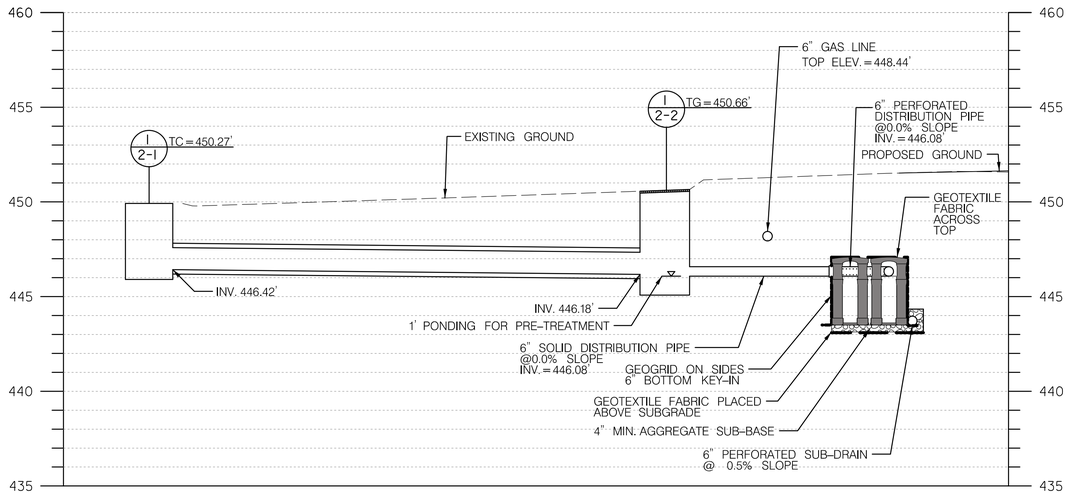
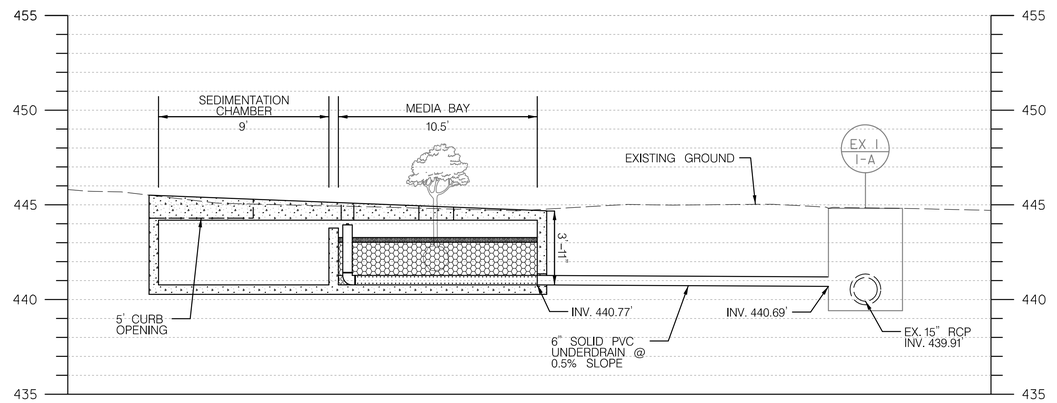


BIO-CELL SC 6-1 PROFILE A-A
SCALE: 1" = 4'



BIO-CELL SC 6-1 SECTION B-B
SCALE: 1" = 4'



TREE BOX FILTER FT 7-1 PROFILE
SCALE: 1" = 4'

NOTE:
SEE SW-07 AND SW-08 FOR LOCATIONS OF PROFILE AND SECTION CUTS.

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STORMWATER MANAGEMENT PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 SW-16

DPS SC/SWM PERMIT SHEET NO. 19 of 64

C.I.P. Project No. : 0501742 38 of 105

PLOTTED: 6/27/2024
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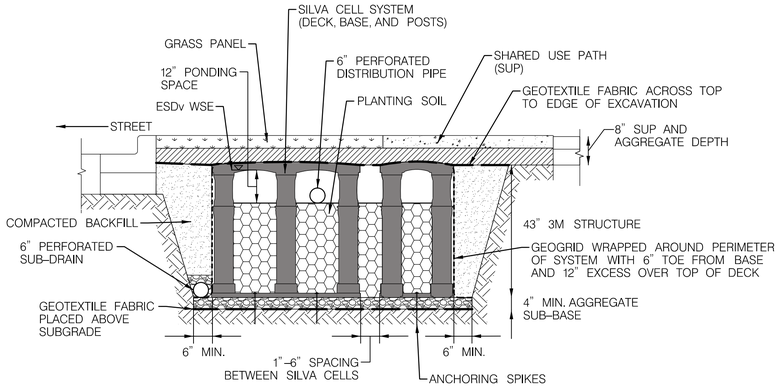
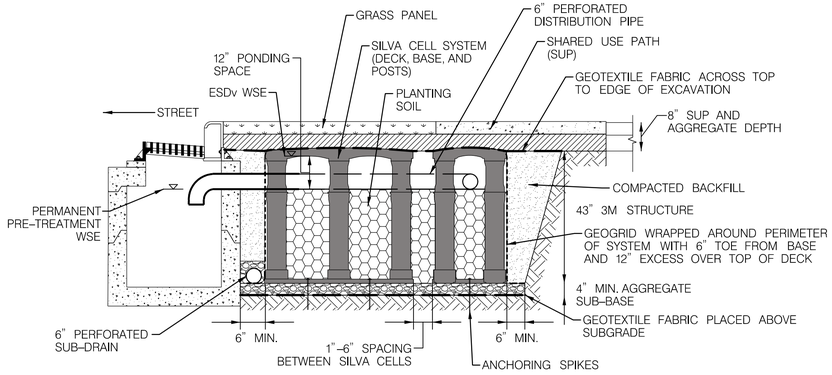
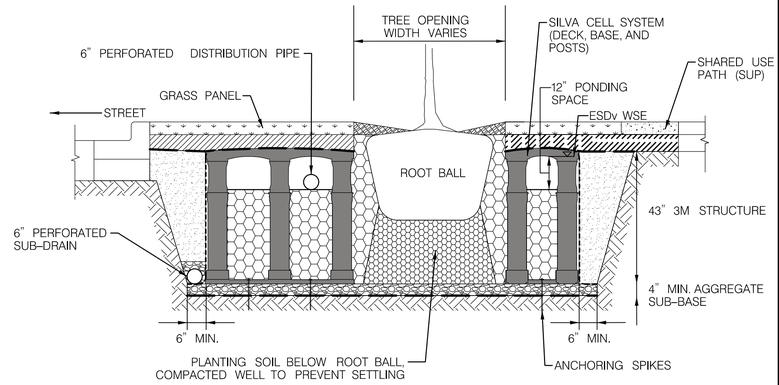


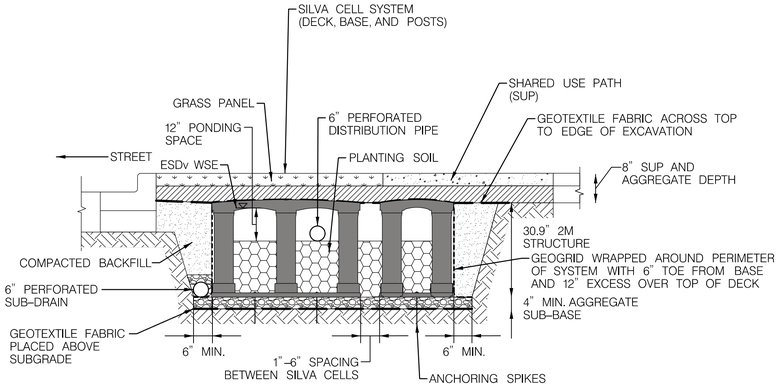
3M SILVA CELL TYPICAL SECTION (THROUGH CURB SECTION)
SCALE: NTS



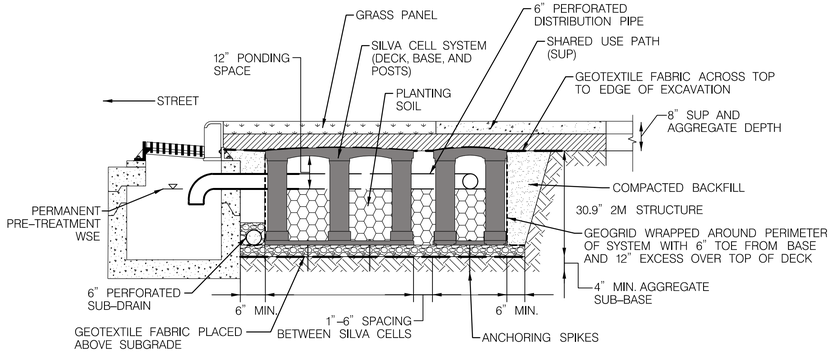
3M SILVA CELL TYPICAL SECTION (THROUGH INLET SECTION)
SCALE: NTS



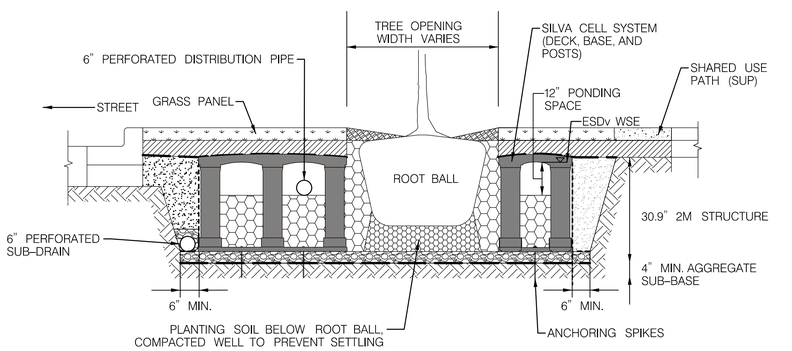
3M SILVA CELL TYPICAL SECTION (THROUGH TREE OPENING)
SCALE: NTS



2M SILVA CELL TYPICAL SECTION (THROUGH CURB SECTION)
SCALE: NTS



2M SILVA CELL TYPICAL SECTION (THROUGH INLET SECTION)
SCALE: NTS



2M SILVA CELL TYPICAL SECTION (THROUGH TREE OPENING)
SCALE: NTS

PLOTTED: 6/27/2024
FILE: C:\powerdrg\gfpwd\lewcoll\ut285685\pSW-0001_SC1.dgn

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

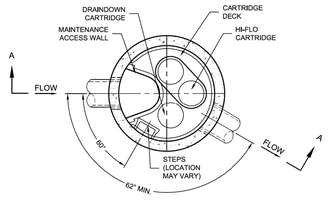
Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT DETAILS

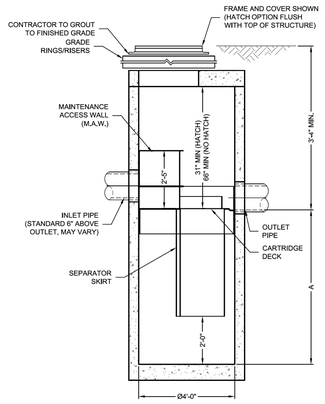
SCALE : AS SHOWN DATE: JUNE 2024 SW-17

DPS SC/SWM PERMIT SHEET NO. 20 of 64

C.I.P. Project No. : 0501742 39 of 105

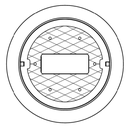


PLAN VIEW

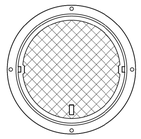


SECTION A-A

CARTRIDGE SELECTION	
CARTRIDGE DEPTH	54"
OUTLET INVERT TO STRUCTURE INVERT (A)	6'-0"
FLOW RATE HIGH-FLO / DRAINDOWN (cfs) (per cart)	0.18 / 0.09
MAX. CARTS HIGH-FLO / DRAINDOWN	2 / 1



FRAME AND COVER
(DIAMETER VARIES)
N.T.S.



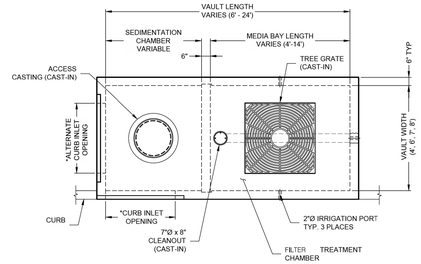
HATCH
(Ø36" CAST INTO SLAB)
N.T.S.

GENERAL NOTES

1. HIGH FLOW MEMBRANE FILTER SHALL BE IN ACCORDANCE WITH ALL DESIGN DATA AND INFORMATION CONTAINED IN THIS DRAWING. CONTRACTOR TO CONFIRM STRUCTURE MEETS REQUIREMENTS OF PROJECT.
2. STRUCTURE SHALL MEET AASHTO HS-20 OR PER APPROVING JURISDICTION REQUIREMENTS, WHICHEVER IS MORE STRINGENT, ASSUMING EARTH COVER OF 0' - 3', AND GROUNDWATER ELEVATION AT, OR BELOW, THE OUTLET PIPE INVERT ELEVATION. ENGINEER OF RECORD TO CONFIRM ACTUAL GROUNDWATER ELEVATION. CASTINGS SHALL MEET AASHTO M306 LOAD RATING .
3. STRUCTURE SHALL BE PRECAST CONCRETE CONFORMING TO ASTM C-478 AND AASHTO LOAD FACTOR DESIGN METHOD.
4. NO PRODUCT SUBSTITUTIONS SHALL BE ACCEPTED UNLESS SUBMITTED 10 DAYS PRIOR TO PROJECT BID DATE, OR AS DIRECTED BY THE ENGINEER OF RECORD.

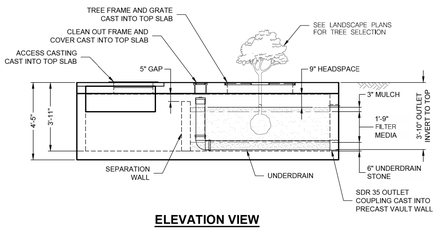
INSTALLATION NOTES

A. ANY SUB-BASE, BACKFILL DEPTH, AND/OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND SHALL BE SPECIFIED BY ENGINEER OF RECORD.
B. CONTRACTOR TO PROVIDE EQUIPMENT WITH SUFFICIENT LIFTING AND REACH CAPACITY TO LIFT AND SET THE STRUCTURE (LIFTING CLUTCHES PROVIDED)
C. CONTRACTOR WILL INSTALL AND LEVEL THE STRUCTURE, SEALING THE JOINTS, LINE ENTRY AND EXIT POINTS (NON-SHRINK GROUT WITH APPROVED WATERSTOP OR FLEXIBLE BOOT)
D. CONTRACTOR TO TAKE APPROPRIATE MEASURES TO PROTECT CARTRIDGES FROM CONSTRUCTION-RELATED EROSION RUNOFF.
E. CARTRIDGE INSTALLATION SHALL OCCUR ONLY AFTER SITE HAS BEEN STABILIZED AND THE UNIT IS CLEAN AND FREE OF DEBRIS.

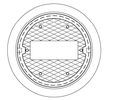


*CURB INLET OPENING LENGTH BY VAULT WIDTH:
4' VAULT WIDTH: 3'-0" CURB OPENING
6' VAULT WIDTH: 4'-0" CURB OPENING
7' VAULT WIDTH: 4'-0" CURB OPENING
8' VAULT WIDTH: 5'-0" CURB OPENING

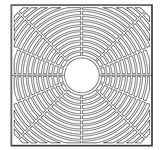
PLAN VIEW



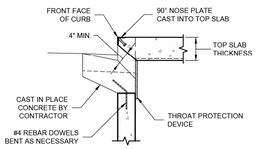
ELEVATION VIEW



FRAME AND COVER
(DIAMETER VARIES)
NOT TO SCALE



TREE GRATE
36" x 36" OR 48" x 48"
(ACTUAL PRODUCT MAY VARY)
NOT TO SCALE

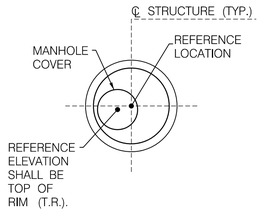


CURB INLET DETAIL
NOT TO SCALE

NOTES:
1. REQUIRED MINIMUM FILTER STORAGE CAPACITY ASSUMES NO STORAGE IN MULCH, MEDIA AND STONE. TREATMENT SURFACE AREA IS 91 SF/20,000 SF OF THE TOTAL DRAINAGE AREA PER MDE.

TREE BOX FILTER DETAIL
SCALE: NTS

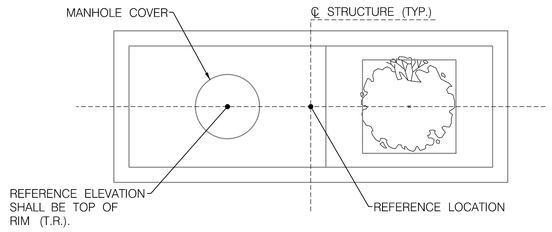
HIGH FLOW MEMBRANE FILTER DETAIL
SCALE: NTS



HIGH FLOW MEMBRANE FILTER STAKEOUT LOCATION
SCALE: NTS

FACILITY ID	STATION	OFFSET	TOP ELEV.
JF 1-1	205+38.75	17.95 LT	454.40

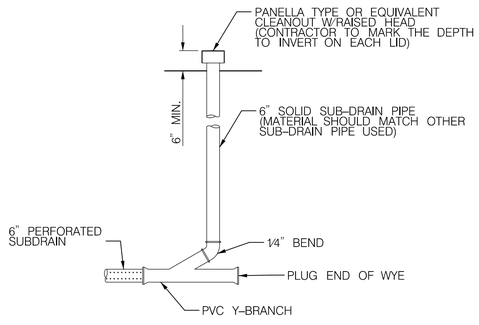
HIGH FLOW MEMBRANE FILTER SCHEDULE



TREE BOX FILTER STAKEOUT LOCATION
SCALE: NTS

FACILITY ID	STATION	OFFSET	TOP ELEV.	VAULT SIZE
FT 5-1	121+06.28	16.40 LT	463.23	4X10
FT 5-2	120+40.15	16.37 LT	462.41	4X12
FT 7-1	102+26.01	18.11 LT	445.27	8X20

TREE BOX FILTER SCHEDULE



CLEANOUT DETAIL
SCALE: NTS

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
STORMWATER MANAGEMENT DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 SW-18

DPS SC/SWM PERMIT SHEET NO. 21 of 64

C.I.P. Project No. : 0501742 40 of 105

PLOTTED: 6/28/2024
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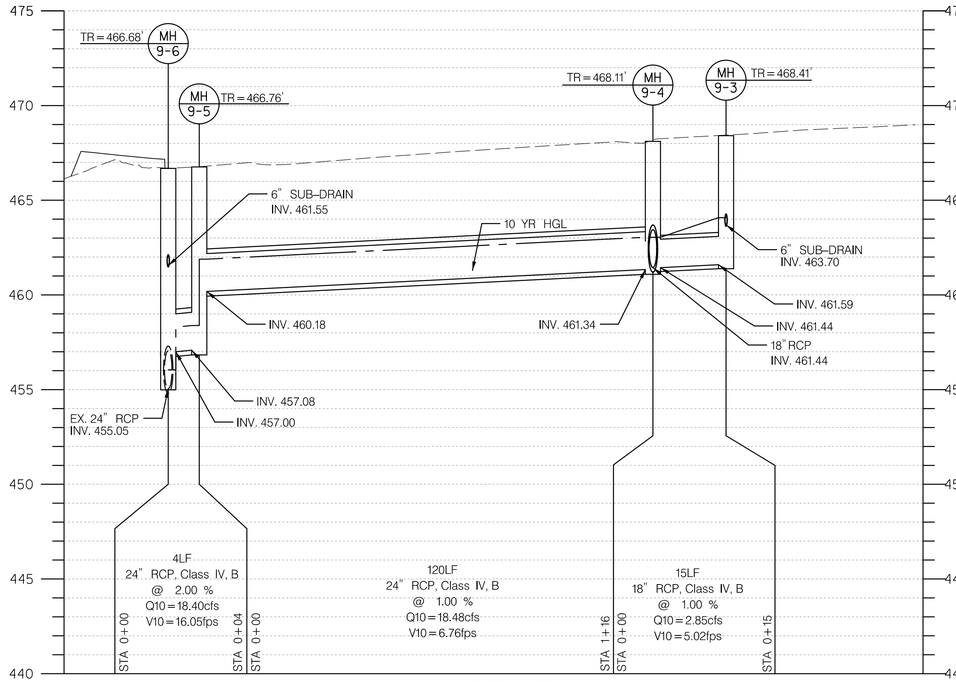
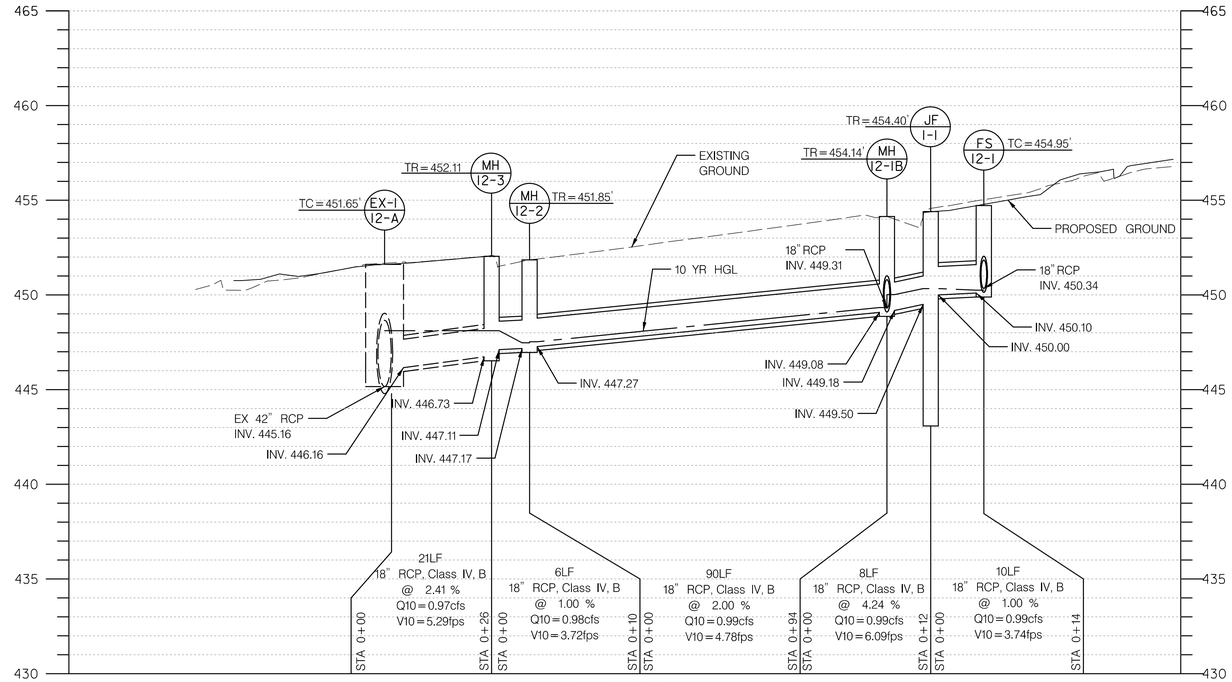
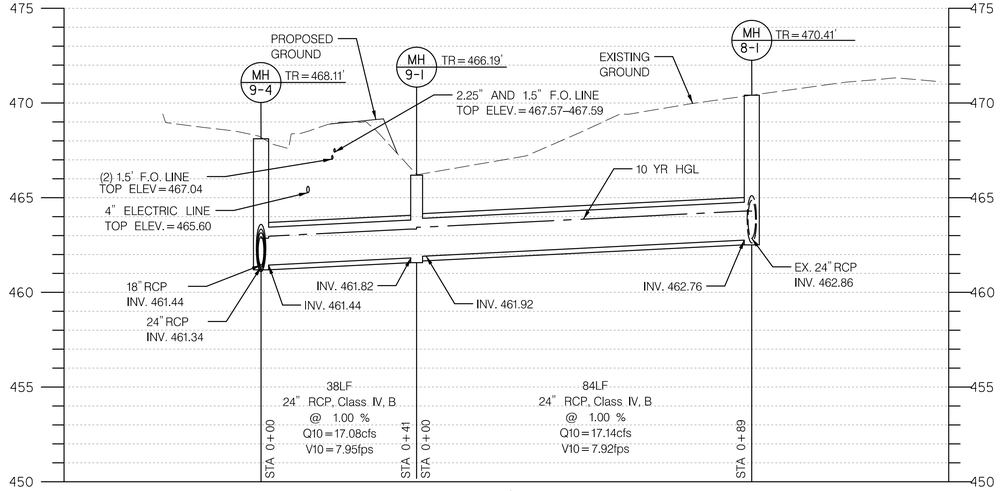


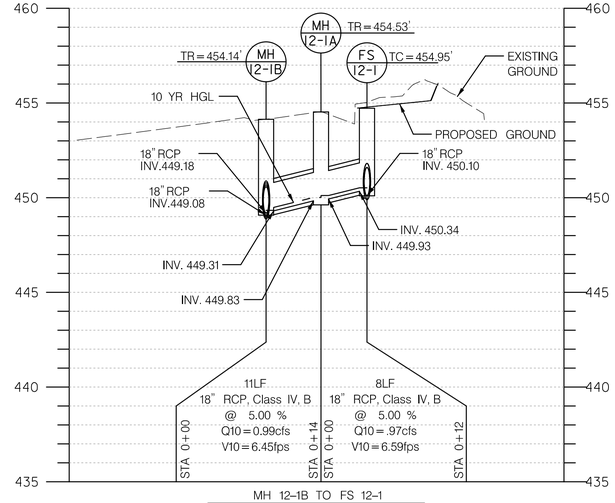
MH 9–6 TO MH 9–3
MCD STA. 147+03.03 TO 145+64.04
HORIZ: 1" = 20'
VERT: 1" = 4'



EX–1 12–A TO FS 12–1
MCD STA. 108+05.49 TO 108+01.29
HORIZ: 1" = 20'
VERT: 1" = 4'



MH 9–4 TO MH 8–1
MCD STA. 145+83.35 TO 144+97.02
HORIZ: 1" = 20'
VERT: 1" = 4'



MH 12–1B TO FS 12–1
MCD STA. 108+03.97 to 108+01.29
HORIZ: 1" = 20'
VERT: 1" = 4'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

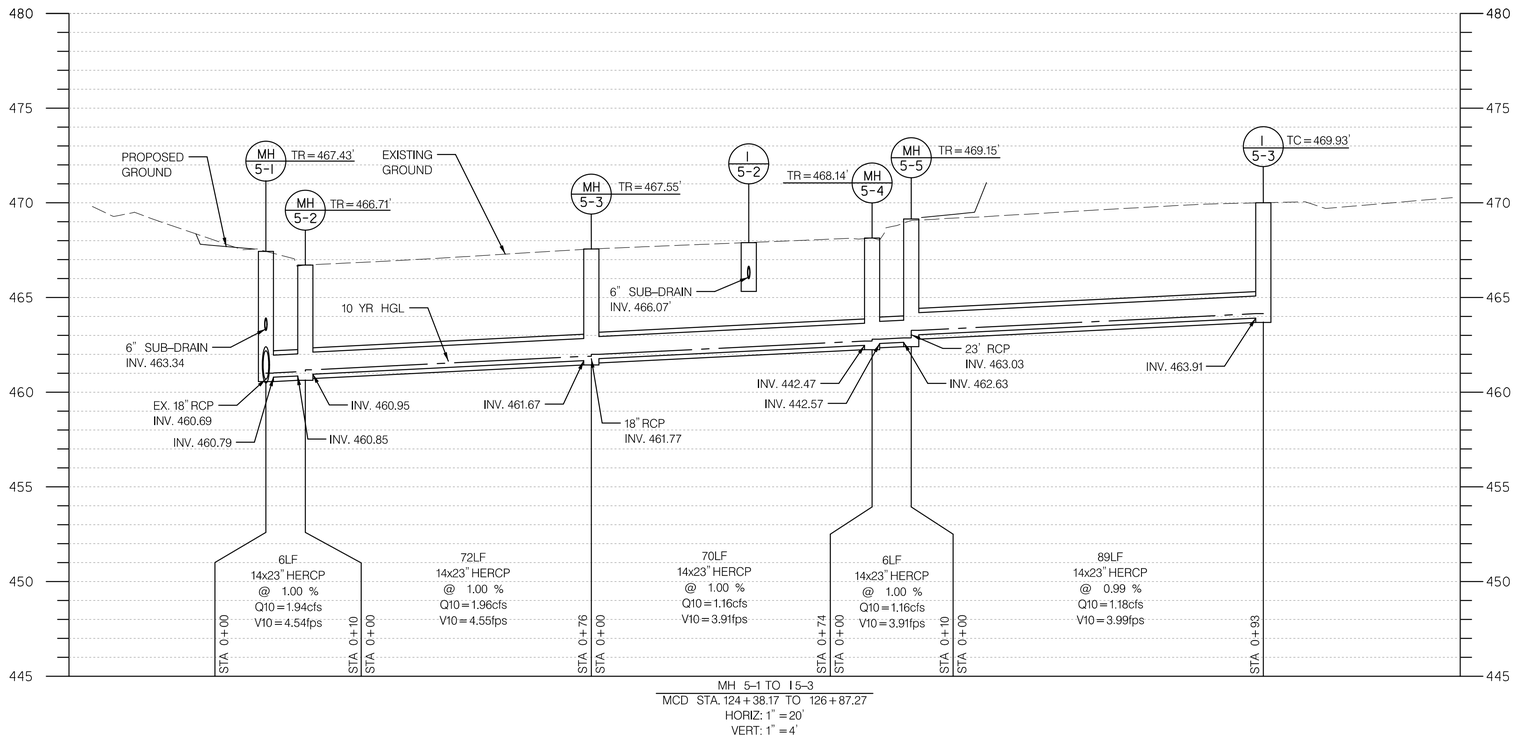
DRAINAGE PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 DP–01

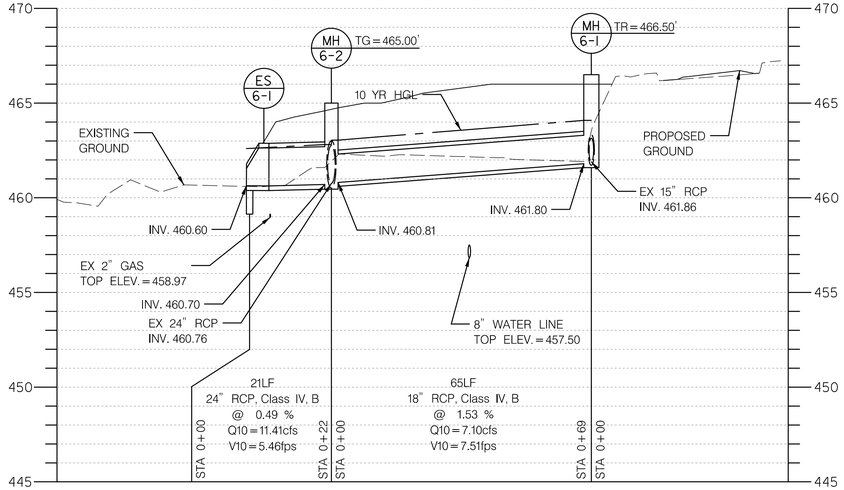
DPS SC/SWM PERMIT SHEET NO. 22 of 64

C.I.P. Project No. : 0501742 41 of 105

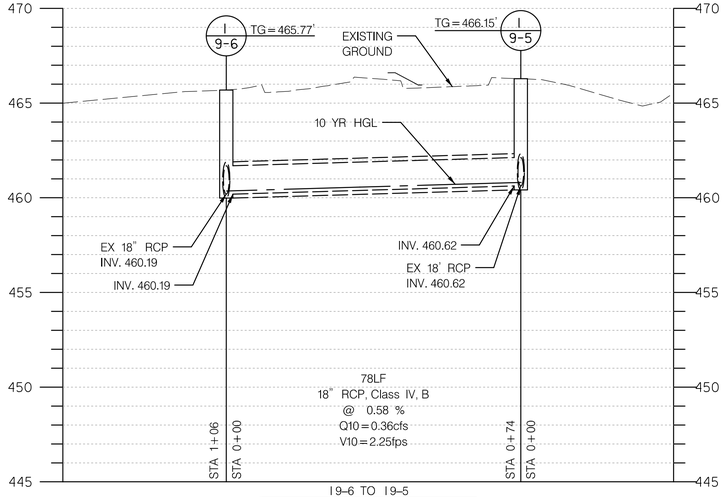
PLOTTED: 6/27/2024
FILE: C:\prworking\dphwh\cjdkoelkebeg@ghnet.com\d1586585\pDP-V01f_LSCLT.dgn



MH 5-1 TO I 5-3
MCD STA. 124+38.17 TO 126+87.27
HORIZ: 1" = 20'
VERT: 1" = 4'



MH 6-2 TO MH 6-1
MCD STA 133+46.73 TO 132+78.37
HORIZ: 1" = 20'
VERT: 1" = 4'



I 9-6 TO I 9-5
MCD STA. 147+03.03 TO 147+03.14
HORIZ: 1" = 20'
VERT: 1" = 4'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

DRAINAGE PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 DP-02

DPS SC/SWM PERMIT SHEET NO. 23 of 64

C.I.P. Project No. : 0501742 42 of 105

PLOTTED: 6/27/2024
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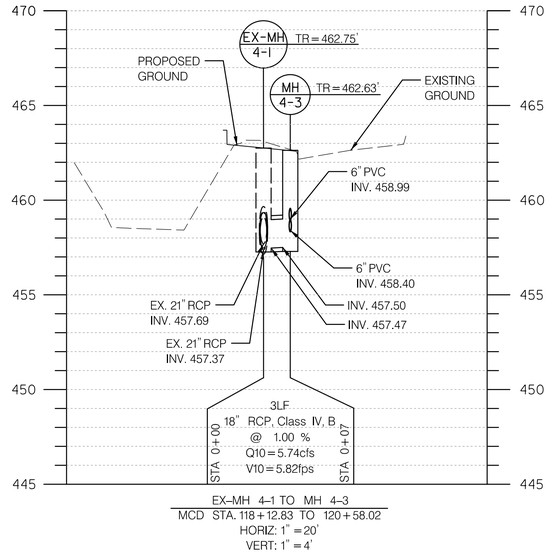
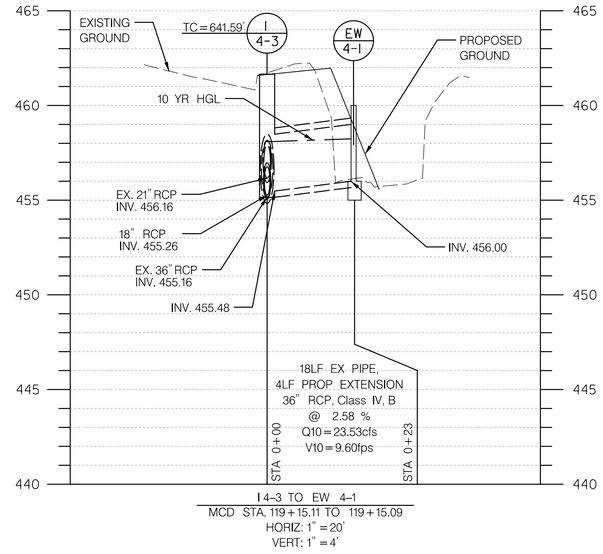
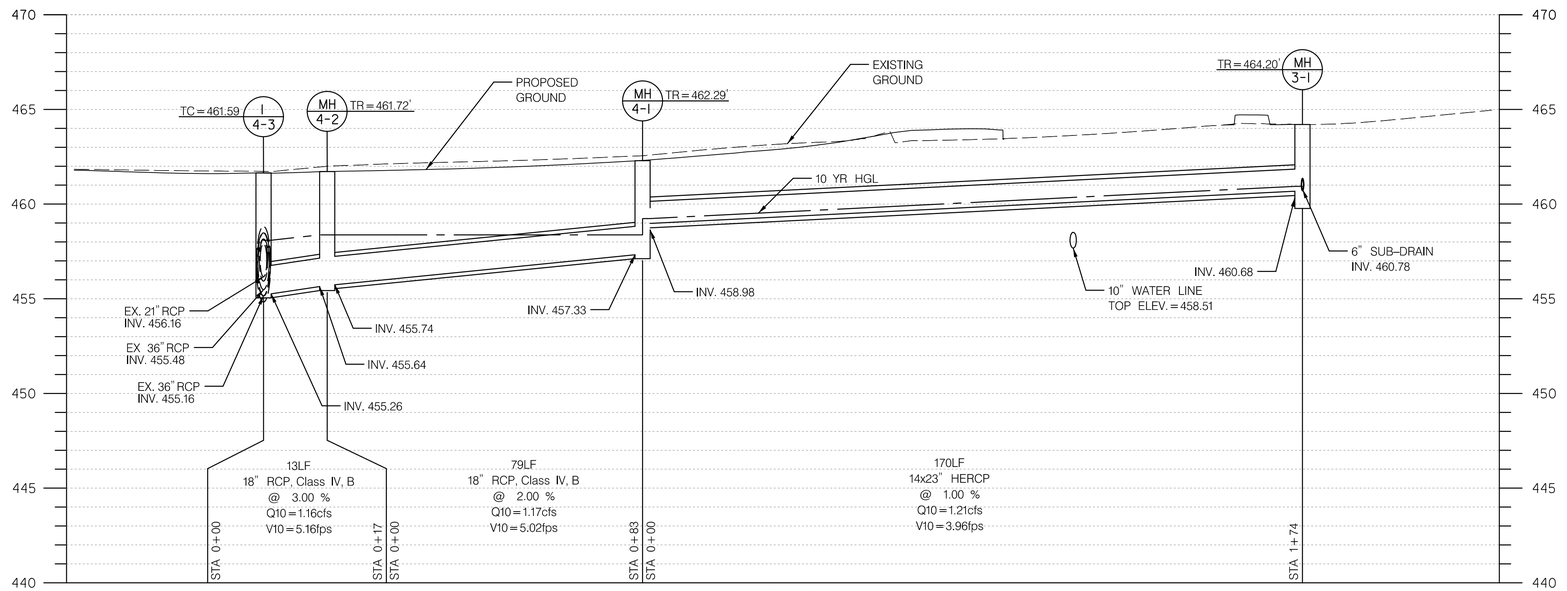


EX–MH 4–1 TO MH 4–3
MCD STA. 118+12.83 TO 120+58.02
HORIZ: 1" = 20'
VERT: 1" = 4'



I 4–3 TO EW 4–1
MCD STA. 119+15.11 TO 119+15.09
HORIZ: 1" = 20'
VERT: 1" = 4'



I 4–3 TO MH 3–1
MCD STA. 119+15.11 TO 116+34.50
HORIZ: 1" = 20'
VERT: 1" = 4'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

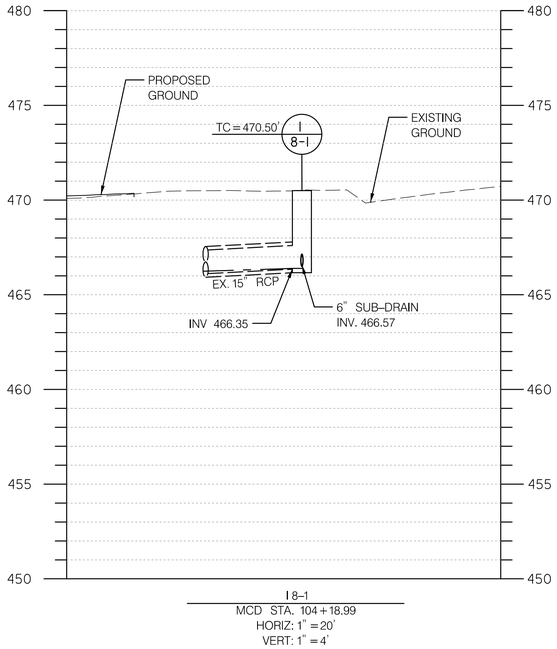
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
DRAINAGE PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 DP–03

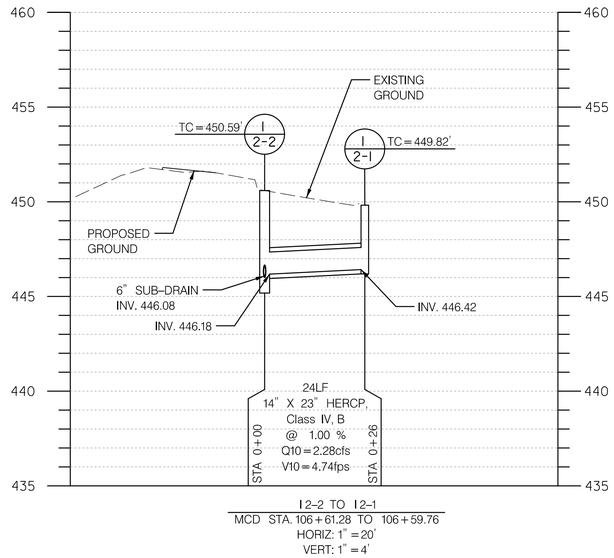
DPS SC/SWM PERMIT SHEET NO. 24 of 64

C.I.P. Project No. : 0501742 43 of 105

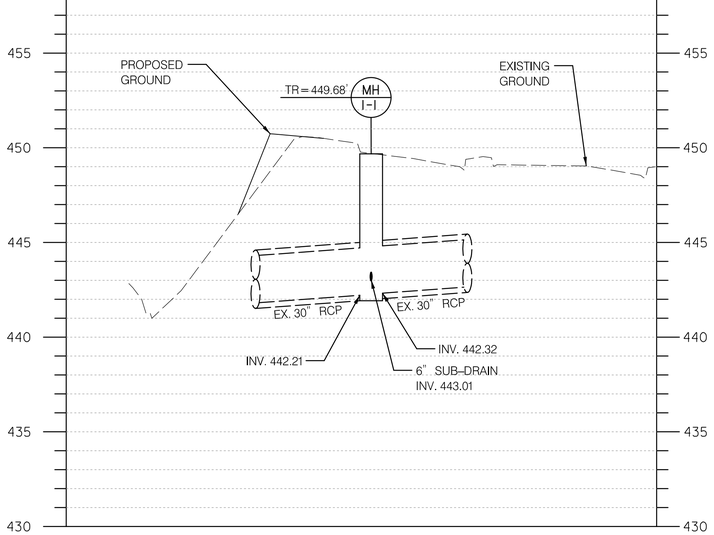
PLOTTED: 6/27/2024
FILE: C:\Users\dkng\Dpdw01\gfkoelkebe@gfnet.com\d\3586685\gDP-V01G_LSC1.dgn



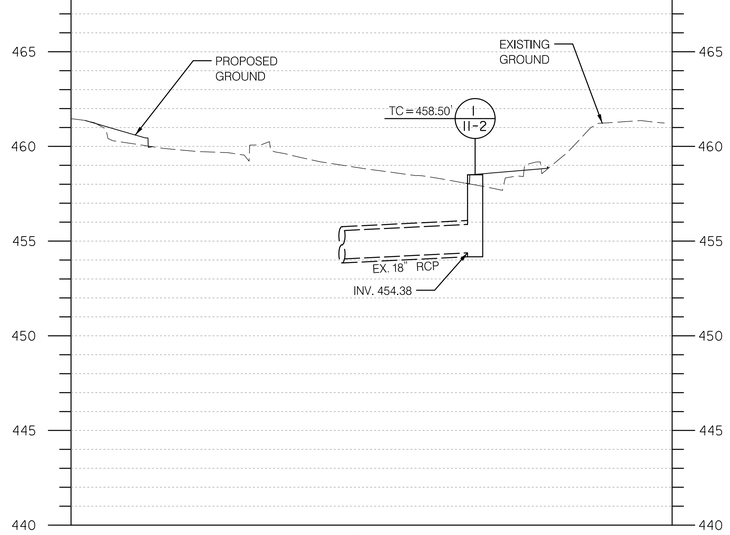
I 8–1
MCD STA. 104 + 18.99
HORIZ: 1" = 20'
VERT: 1" = 4'



I 2–2 TO I 2–1
MCD STA. 106 + 61.28 TO 106 + 59.76
HORIZ: 1" = 20'
VERT: 1" = 4'



MH 1–1
MCD STA. 105 + 75.78
HORIZ: 1" = 20'
VERT: 1" = 4'



I 11–2
MCD STA. 108 + 02.69
HORIZ: 1" = 20'
VERT: 1" = 4'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
DRAINAGE PROFILES

SCALE : AS SHOWN DATE: JUNE 2024 DP–04

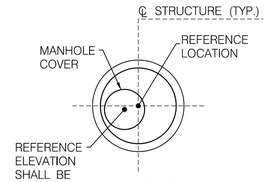
DPS SC/SWM PERMIT SHEET NO. 25 of 64

C.I.P. Project No. : 0501742 44 of 105

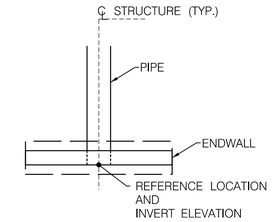
PLOTTED: 6/27/2024
FILE: C:\powerchina\gfshw01\gfkoneise@ghnet.com\c\t2686685\gDP-V01e_LSC1.dgn

STRUCTURE SCHEDULE

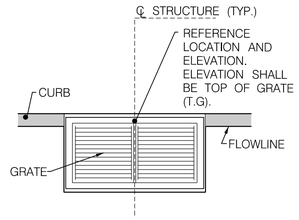
DWG NO.	STRUCT. ID	TYPE	STD. NO.	BASELINE	STATION	OFFSET (FT)	TOP OF STRUCTURE (FT)	DOWNSTREAM INVERT (FT)	TOTAL DEPTH (FT)	REMARKS
PS–01	MH 1–1	60 INCH DIAMETER MANHOLE FOR 27" TO 36" PIPES	MD–384.03	MCD	105+75.78	10.82 LT	TR 449.69	442.21	7.48	EX. 30" RCP
PS–02	I 2–1	PRECAST OR CAST IN PLACE SQUARE COG INLET	MD–374.51	MCD	106+59.76	13.69 RT	TC 450.27	446.42	3.85	10' TROUGH, 14" X 23" HERCP
PS–02	I 2–2	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	106+61.28	13.12 LT	TG 450.66	446.08	4.58	14" X 23" HERCP
PS–03	I 3–1	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	116+01.36	13.79 LT	TG 464.41	462.68	2.23	6" CPP
PS–03	MH 3–1	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	116+34.50	12.39 LT	TR 464.20	460.68	3.52	14" X 23" HERCP
PS–03	MH 4–1	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	118+12.83	19.34 LT	TR 462.29	457.33	4.96	18" RCP
PS–03	MH 4–2	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	118+98.48	20.86 LT	TR 461.72	455.64	6.08	18" RCP
PS–04	I 4–3	PRECAST OR CAST IN PLACE SQUARE COS INLET	MD–374.61	MCD	119+15.11	14.22 LT	TC 461.59	455.16	6.43	10' TROUGH, EX. 36" RCP
PS–04	EW 4–1	STANDARD TYPE C ENDWALL FOR 36 INCH PIPE	MD–354.01	MCD	119+15.09	38.88 LT	— ———	456.00	——	36"RCP
PS–04	MH 4–3	B MANHOLE	MC–515.01	MCD	120+58.02	15.49 LT	TR 462.63	457.50	5.13	18" RCP
PS–05	MH 5–1	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	124+38.17	21.30 LT	TR 467.43	460.69	6.74	18" RCP
PS–05	MH 5–2	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	124+40.36	11.12 LT	TR 466.71	460.85	5.86	14" X 23" HERCP
PS–05	I 5–1	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	124+77.44	13.31 LT	TG 467.07	465.24	2.83	6" CPP
PS–05	MH 5–3	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	125+17.11	12.22 LT	TR 467.55	461.67	5.88	14" X 23" HERCP
PS–05	I 5–2	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	125+59.45	13.37 LT	TG 467.9	466.07	2.83	6" CPP
PS–05	MH 5–4	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	125+92.50	11.48 LT	TR 468.15	462.47	5.68	14" X 23" HERCP
PS–05	MH 5–5	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	125+91.99	21.80 LT	TR 469.04	462.63	6.41	14" X 23" HERCP
PS–05	I 5–3	PRECAST OR CAST IN PLACE CIRCULAR COG INLET	MD–374.62	MCD	126+87.27	14.49 LT	TC 469.93	463.91	6.02	10' TROUGH, 14" X 23" HERCP
PS–06	MH 6–1	B MANHOLE	MC–515.01	MCD	132+78.37	38.91 LT	TR 466.50	461.80	4.70	18" RCP
PS–06	MH 6–2	B MANHOLE	MC–515.01	MCD	133+46.76	43.09 LT	TR 465.00	460.70	4.30	24" RCP
PS–06	ES 6–1	STANDARD CONCRETE END SECTION, ROUND CONCRETE PIPE	MD–368.01	MCD	133+62.38	47.42 LT	— ———	460.60	——	24" RCP
PS–07	I 7–1	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	138+95.97	31.54 RT	TG 469.66	467.47	3.19	6" CPP
PS–07	I 7–2	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	139+30.26	31.58 RT	TG 470.03	467.47	3.56	6" CPP
PS–07	I 7–3	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	139+70.20	31.54 RT	TG 470.42	467.47	3.95	6" CPP
PS–08	I 8–1	PRECAST OR CAST IN PLACE CIRCULAR COG INLET	MD–374.62	MCD	140+19.50	13.34 LT	TC 470.52	466.22	4.30	5' TROUGH, EX. 18"RCP
PS–08	I 8–2	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	140+76.57	13.25 LT	TG 470.57	468.52	3.05	6" CPP
PS–08	I 8–3	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	144+83.34	13.46 LT	TG 468.62	466.77	2.85	6" CPP
PS–08	I 8–4	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	145+39.86	13.50 LT	TG 468.50	466.77	2.73	6" CPP
PS–08	MH 8–1	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	144+97.02	52.76 LT	TR 470.41	462.76	2.85	24" RCP
PS–09	MH 9–1	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	145+84.86	47.85 LT	TR 466.19	461.82	2.73	18" RCP
PS–09	MH 9–3	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	145+64.04	6.28 LT	TR 468.41	461.59	6.82	18" RCP
PS–09	MH 9–4	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	145+83.35	6.25 LT	TR 468.11	461.34	6.77	24" RCP
PS–09	I 9–1	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	146+28.03	13.59 LT	TG 467.33	464.65	3.68	6" CPP
PS–09	I 9–2	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	146+50.55	13.6 LT	TG 467.02	464.65	3.37	6" CPP
PS–09	I 9–4	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	MCD	146+90.76	13.63 LT	TG 466.74	464.65	3.09	6" CPP
PS–09	MH 9–5	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	147+03.14	7.40 LT	TR 466.76	457.08	9.68	24" RCP
PS–09	MH 9–6	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	MCD	147+03.03	15.59 LT	TR 466.68	455.05	11.63	EX. 24" RCP
PS–09	I 9–5	STANDARD SINGLE OPENING TYPE K INLET	MD–378.05	MCD	147+12.70	44.36 LT	TG 466.15	460.62	5.53	EX. 18" RCP
PS–09	I 9–6	STANDARD SINGLE OPENING TYPE K INLET	MD–378.05	MCD	147+90.49	44.80 LT	TG 465.77	460.19	5.58	EX. 18" RCP
PS–12	JF 1–1	HIGH FLOW MEMBRANE FILTER	———	OMEGA	205+38.75	17.95 LT	TR 454.40	449.50	11.40	SEE SW–18
PS–12	FS 12–1	PRECAST OR CAST IN PLACE SQUARE COG INLET	MD–374.51	OMEGA	205+24.93	16.37 LT	TC 454.95	450.10	4.85	10' TROUGH, 18" RCP, FLOW SPLITTER
PS–12	MH 12–1	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	OMEGA	205+25.23	7.46 LT	TR 454.53	449.83	4.70	18" RCP
PS–12	MH 12–2	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	OMEGA	205+39.55	6.44 LT	TR 454.14	449.08	5.06	18" RCP
PS–12	I 12–2	PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM	MD–374.70	OMEGA	205+80.70	13.99 LT	TG 452.89	450.14	3.75	6" CPP
PS–12	MH 12–3	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	OMEGA	206+33.58	6.29 LT	TR 451.85	447.17	4.68	18" RCP
PS–12	MH 12–4	48 INCH DIAMETER MANHOLE FOR 12" TO 24" PIPES	MD–384.01	OMEGA	206+38.05	15.24 LT	TR 446.73	446.73	5.38	EX. 18" RCP
PS–11	I 11–2	PRECAST OR CAST IN PLACE CIRCULAR COG INLET	MD–374.62	OMEGA	200+98.80	16.13 LT	TC 458.50	454.38	4.12	10' TROUGH, EX. 18" RCP



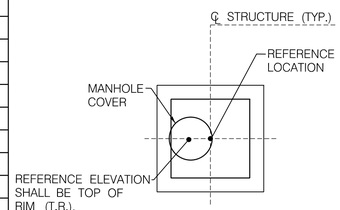
MANHOLE



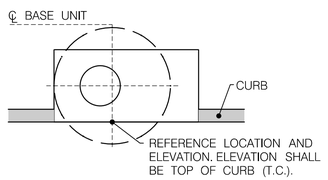
SHA ENDWALL



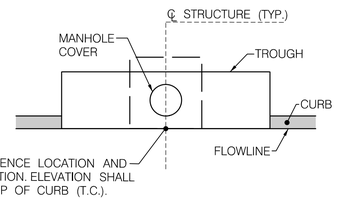
SHA TYPE "S" INLET



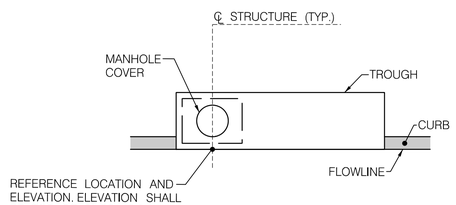
"B" MANHOLE



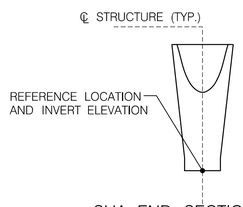
COG INLET FOR SQUARE AND ROUND BASE UNITS



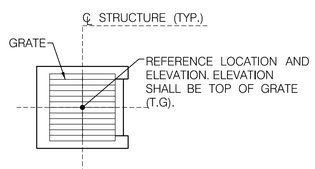
COS INLET FOR SQUARE AND ROUND BASE UNITS



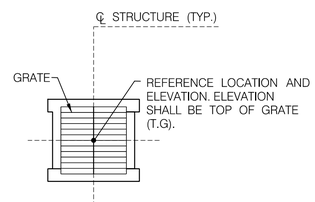
SHA SHALLOW COG INLET



SHA END SECTION



SHA TYPE "K" INLET



SHA DOUBLE OPEN TYPE "K" INLET

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

DRAINAGE DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 DD–01

DPS SC/SWM PERMIT SHEET NO. 26 of 64

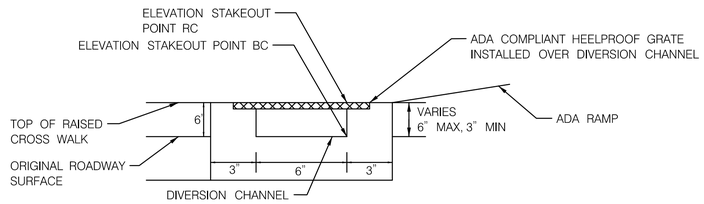
C.I.P. Project No. : 0501742 45 of 105

PLOTTED: 6/28/2024
FILE: c:\pwworking\gfpw01\wwo4\vol2\836683\pDD-D001_LSCLT.dgn

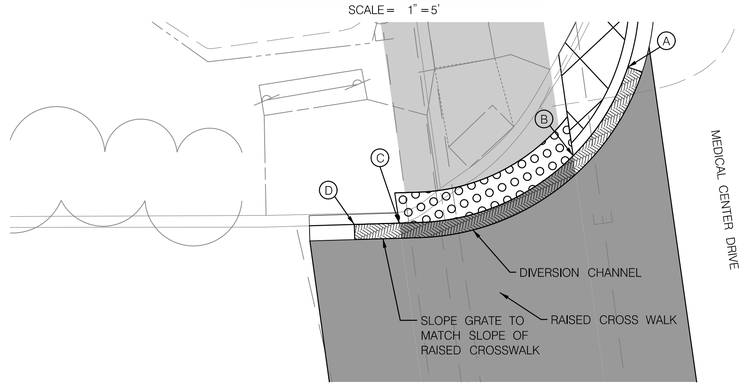
PIPE SCHEDULE

DOWNSTREAM STRUCTURE	UPSTREAM STRUCTURE	SIZE (IN)	TYPE	DOWNSTREAM INV. (FT)	UPSTREAM INV. (FT)	LENGTH (LF)
MH 9–6	MH 9–5	24"	RCP, CLASS IV,B	457.00	457.08	4
MH 9–5	MH 9–4	24"	RCP, CLASS IV,B	457.18	461.34	120
MH 9–4	MH 9–3	18"	RCP, CLASS IV,B	461.44	461.59	15
MH 12–3	MH 12–2	18"	RCP, CLASS IV,B	447.11	447.17	6
MH 12–2	MH 12–1B	18"	RCP, CLASS IV,B	447.27	449.08	90
MH 12–1B	JF 1–1	18"	RCP, CLASS IV,B	449.18	449.50	8
JF 1–1	FS 12–1	18"	RCP, CLASS IV,B	450.00	450.10	10
MH 12–1B	MH 12–1A	18"	RCP, CLASS IV,B	449.31	449.83	11
MH 12–1A	FS 12–1	18"	RCP, CLASS IV,B	449.93	450.34	8
ES 6–1	MH 6–2	24"	RCP, CLASS IV,B	460.60	460.70	21
MH 6–2	MH 6–1	18"	RCP, CLASS IV,B	460.81	461.80	65
MH 5–1	MH 5–2	14x23"	HERCP	460.79	460.85	6
MH 5–2	MH 5–3	14x23"	HERCP	460.95	461.67	72
MH 9–4	MH 9–1	24"	RCP, CLASS IV,B	461.44	461.82	38
MH 9–1	MH 8–1	24"	RCP, CLASS IV,B	461.92	462.76	84
EX MH 4–1	MH 4–3	18"	RCP, CLASS IV,B	457.47	457.50	3
MH 5–3	MH 5–4	14x23"	HERCP	461.77	462.47	70
MH 5–4	MH 5–5	14x23"	HERCP	462.57	462.63	6
MH 5–5	I 5–3	14x23"	HERCP	463.03	463.91	89
I 4–3	EW 4–1	36"	RCP, CLASS IV,B	455.94	456.00	4
I 4–3	MH 4–2	18"	RCP, CLASS IV,B	455.26	455.64	13
MH 4–2	MH 4–1	18"	RCP, CLASS IV,B	455.74	457.33	79
MH 4–1	MH 3–1	14x23"	HERCP	458.98	460.68	170
I 2–2	I 2–1	14x23"	HERCP	446.18	446.42	24

DIVERSION CHANNEL SECTION A–A



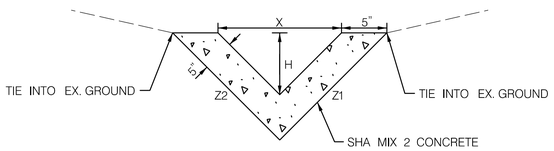
DIVERSION CHANNEL TYPICAL PLAN



DIVERSION CHANNEL SCHEDULE

BASELINE	DWG NO.	DIVERSION CHANNEL ID	Ⓐ			Ⓑ			Ⓒ			Ⓓ			CURB RADIUS
			STATION	ELEV. RC	ELEV. BC	STATION	ELEV. RC	ELEV. BC	STATION	ELEV. RC	ELEV. BC	STATION	ELEV. RC	ELEV. BC	
MCD	PS–03	DC 3–1	STA 112+70.29	464.60	464.35	STA 112+70.27	464.85	464.35	STA 112+67.27	464.53	464.03	STA 112+62.30	463.76	463.51	16'
MCD	PS–06	DC 6–1	STA 132+67.84	465.87	465.62	STA 132+62.54	466.67	466.17	STA 132+59.79	467.00	466.50	STA 132+60.08	466.55	466.30	16'
MCD	PS–07	DC 7–1	STA 136+40.72	467.21	466.96	STA 136+40.09	467.22	466.72	STA 136+36.15	466.93	466.43	STA 136+30.86	466.73	466.48	16'
MCD	PS–07	DC 7–2	STA 139+32.66	470.06	469.81	STA 139+31.30	470.24	469.74	STA 139+30.60	470.48	469.98	STA 139+30.57	470.29	470.04	16'

CONCRETE DITCH TYPICAL SECTION



CONCRETE DITCH SCHEDULE

BASELINE	STATION FROM	OFFSET	ELEV. (FT)	STATION TO	OFFSET	ELEV. (FT)	X (LF)	H (LF)	Z1 (H:1)	Z2 (H:1)
MCD	STA 147+18.87	44.34 LT	466.30	STA 147+20.33	44.31 LT	465.94	1	6	2:1	2:1
MCD	STA 147+80.32	44.74 LT	465.56	STA 147+88.33	44.74 LT	465.72	1	6	2:1	2:1
MCD	STA 134+73.83	43.15 LT	464.69	STA 134+89.96	43.76 LT	464.82	1	6	2:1	2:1
MCD	STA 134+89.96	43.76 LT	464.82	STA 134+96.59	45.54 LT	464.22	1	6	2:1	2:1

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

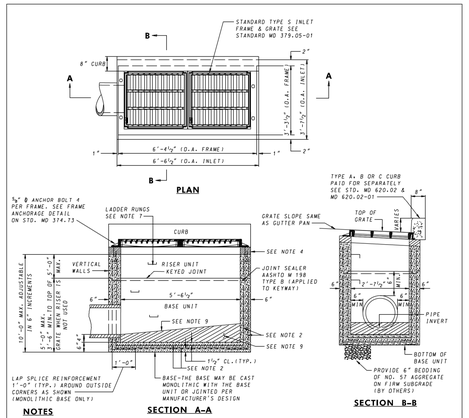
DRAINAGE DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 DD–02

DPS SC/SWM PERMIT SHEET NO. 27 of 64

C.I.P. Project No. : 0501742 46 of 105

PLOTTED: 6/28/2024
FILE: C:\powerdrng\gfpwd01\ewoods\ut285688\pDD-D002_LSCLT.dgn



NOTES

1. CONCRETE TO BE MIX NO. 6 (4500 PSI).
2. REINFORCING: WALLS – 2 LAYERS OF 4X4–W5.0 X W5.0 WELDED WIRE FABRIC; BASE – 2 LAYERS OF 4X4 – W7.0 X W7.0 WELDED WIRE FABRIC
3. THREADED PLASTIC INSERTS TO BE PROVIDED FOR HANDLING.
4. GRADE AND SLOPE ADJUSTMENTS MIN. 2", MAX. 9" SHALL BE COMPLETED IN THE FIELD USING CONCRETE MIX NO. 6.
5. PIPE OPENINGS TO BE PROVIDED AS REQUIRED. FOR SIZE, LOCATION AND INVERT ELEVATIONS REFER TO THE CONSTRUCTION PLANS.
6. PLACEMENT OF SUBGRADE DRAINAGE WILL BE AS DIRECTED BY THE ENGINEER OR AS NOTED ON THE CONSTRUCTION PLANS.
7. LADDER RUNGS SHALL BE IN ACCORDANCE WITH STANDARD MD 383.91 OR 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
8. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 3'-6" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE GRATE AT ITS HIGHEST POINT. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 3'-6" INCLUDING ALL APPURTENANCES.
9. CONCRETE OR BRICK INVERT TO BE PROVIDED IN THE FIELD AND SHALL SLOPE 2 IN./FT TOWARD OUTLET OR AS DIRECTED.
10. BASE WALLS UNIT MAY TAPER PER MANUFACTURER'S DESIGN.
11. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION	CATEGORY CODE ITEMS
305	

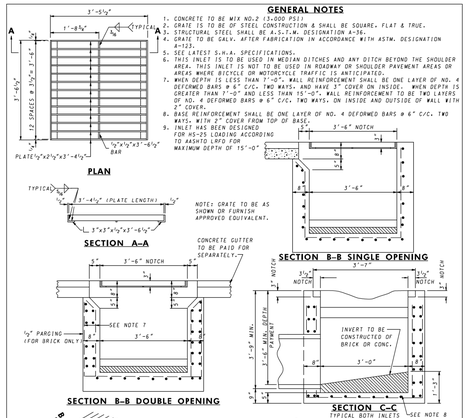
APPROVED _____ DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	2-22-91	1-2-91
REVISED	8-3-10	7-26-10
REVISED	10-7-14	9-29-14
REVISED	–	

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

PRECAST STANDARD TYPE S INLET DOUBLE GRATE TANDEM

STANDARD NO. MD 374.70



GENERAL NOTES

1. CONCRETE TO BE MIX NO.2 (3,000 PSI).
2. GRATE IS TO BE OF STEEL CONSTRUCTION & SHALL BE SQUARE, FLAT & TRUE.
3. STRUCTURAL STEEL SHALL BE A.S.T.M. DESIGNATION A-36.
4. GRATE TO BE GALV. AFTER FABRICATION IN ACCORDANCE WITH ASTM. DESIGNATION A-123.
5. SEE LATEST S.H.A. SPECIFICATIONS.
6. THIS INLET IS TO BE USED IN MEDIAN DITCHES AND ANY DITCH BEYOND THE SHOULDER AREA. THIS INLET IS NOT TO BE USED IN ROADWAY OR SHOULDER PAVEMENT AREAS OR AREAS WHERE BICYCLE OR MOTORCYCLE TRAFFIC IS ANTICIPATED.
7. WHEN DEPTH IS LESS THAN 7'-0" WALL REINFORCEMENT SHALL BE ONE LAYER OF NO. 4 DEFORMED BARS @ 6" C/C, TWO WAYS, AND HAVE 3" COVER ON INSIDE. WHEN DEPTH IS GREATER THAN 7'-0" AND LESS THAN 15'-0", WALL REINFORCEMENT TO BE TWO LAYERS OF NO. 4 DEFORMED BARS @ 6" C/C, TWO WAYS, ON INSIDE AND OUTSIDE OF WALL WITH 2" COVER.
8. BASE REINFORCEMENT SHALL BE ONE LAYER OF NO. 4 DEFORMED BARS @ 6" C/C, TWO WAYS, WITH 2" COVER FROM TOP OF BASE.
9. INLET HAS BEEN DESIGNED FOR HS-25 LOADING ACCORDING TO AASHTO LRFD FOR MAXIMUM DEPTH OF 15'-0"

SPECIFICATION	CATEGORY CODE ITEMS
305	

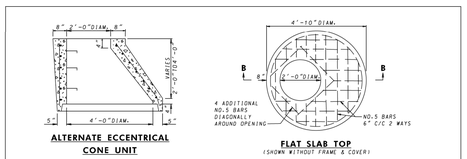
APPROVED _____ DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	5-28-87	
REVISED	10-1-01	6-23-87
REVISED	10-7-14	9-29-14
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

STANDARD SINGLE OR DOUBLE OPENING TYPE K INLET OPEN – END GRATE

STANDARD NO. MD 378.05



NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO. 6 (4500 PSI).
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.12 IN²/FT AND MAXIMUM SPACING OF 12" FOR THE 48" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT SHALL MEET ASTM A 615, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.20 IN²/FT AND A MAXIMUM SPACING OF 10" WITH 2" COVER FROM THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE UNIT OR JOINTED PER THE MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTER, RUBBER O-RING GASKETS MEETING ASTM C 361 & C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92 LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN MULTIPLE OPENINGS IN THE BASE UNIT OR ANY RISOR UNIT IS LESS THAN 6" ADDITIONAL NO. 3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO. 2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. NO 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO. 57 AGGREGATE GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION	CATEGORY CODE ITEMS
305	

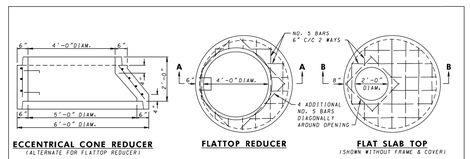
APPROVED _____ DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	2-22-91	1-2-91
REVISED	10-7-14	9-29-14
REVISED	–	
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

48" DIAMETER PRECAST MANHOLE FOR 12" TO 24" PIPES

STANDARD NO. MD 384.01



NOTES

1. MANHOLES SHALL BE CONSTRUCTED IN ACCORDANCE WITH AASHTO M 199.
2. CONCRETE SHALL BE MIX NO.6 (4500PSI).
3. WALL REINFORCEMENT FOR BASE UNITS, RISER UNITS AND ECCENTRICAL CONE UNITS SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.15 IN²/FT AND MAXIMUM SPACING OF 9" FOR THE 60" DIAMETER MANHOLES. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 AND A 82. REINFORCEMENT SHALL MEET ASTM A 615, GRADE 60.
4. BASE REINFORCEMENT SHALL BE REINFORCEMENT BARS OR WELDED WIRE FABRIC WITH A MINIMUM AREA OF 0.27 IN²/FT AND A MAXIMUM SPACING OF 8" WITH 2" COVER FROM THE TOP OF BASE. THE BASE SHALL BE CAST MONOLITHIC WITH THE UNIT OR JOINTED PER THE MANUFACTURER'S DESIGN.
5. THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING (WHERE APPLICABLE) MORTAR, RUBBER O-RING GASKETS MEETING ASTM C 361 AND C 443 OR FLEXIBLE PLASTIC GASKETS MEETING AASHTO M 198 TYPE B.
6. LADDER RUNGS SHALL BE INSTALLED IN VERTICAL ALIGNMENT AT 1'-4" MAXIMUM C/C. RUNG TYPES SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR 383.92. LADDER RUNGS SHALL BE INCIDENTAL TO THE COST OF THE MANHOLE.
7. WHEN THE DISTANCE BETWEEN WUTIPLE OPENINGS IN THE BASE UNIT OR ANY RISER UNIT IS LESS THAN 6" ADDITIONAL NO.3 BARS ARE REQUIRED AROUND OPENINGS.
8. LIFT HOLES OR LIFT EYES SHALL BE PROVIDED IN EACH SECTION FOR HANDLING.
9. MIX NO.2 CONCRETE OR BRICK CHANNEL SHALL BE PROVIDED IN THE FIELD AND SHALL SLOPE 2" PER FOOT TOWARD OUTLET OR AS DIRECTED BY THE ENGINEER.
10. THE DRIP STONE LANDING SHALL BE USED ONLY WHEN THERE ARE PIPES CONNECTED TO THE RISER UNITS. SEE STD. NO 384.13 FOR DETAILS.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 9'-0" MEASURED FROM THE BOTTOM OF THE BASE UNIT TO THE TOP OF THE MANHOLE COVER. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 9'-0". THE COST OF THE DRIP STONE LANDING, NO.57 AGGREGATE, GROUT, SEALANT, AND ALL NECESSARY APPURTENANCES SHALL BE INCIDENTAL TO THE PRICE BID.
12. MANHOLE HAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION	CATEGORY CODE ITEMS
305	

APPROVED _____ DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
APPROVAL	2-22-91	1-2-91
REVISED	10-7-14	9-29-14
REVISED	–	
REVISED		

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES

60" DIAMETER PRECAST MANHOLE FOR 27" TO 36" PIPES

STANDARD NO. MD 384.03

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: ECW Drawn by: ECW Checked by: JMA

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

DRAINAGE DETAILS

SCALE : NTS DATE: JUNE 2024 DD–03

DPS SC/SWM PERMIT SHEET NO. 28 of 64

C.I.P. Project No. : 0501742 47 of 105

PLOTTED: 6/26/2024
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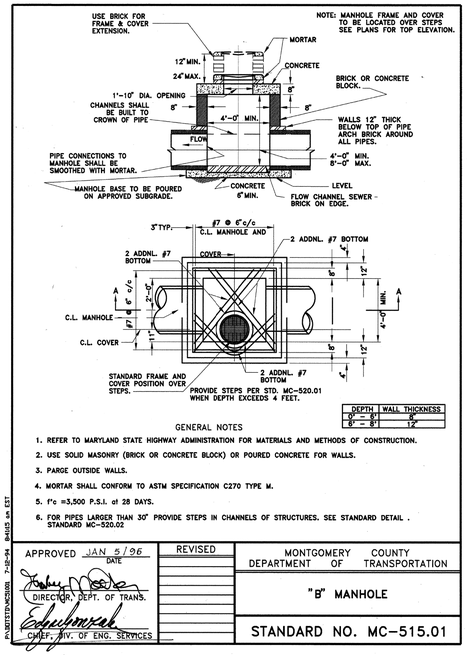
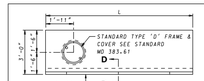


DEPTH	WALL THICKNESS
0' – 8'	8"
8' – 8'-1"	12"

GENERAL NOTES

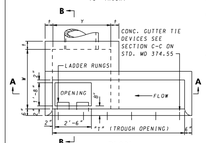
1. REFER TO MARYLAND STATE HIGHWAY ADMINISTRATION FOR MATERIALS AND METHODS OF CONSTRUCTION.
2. USE SOLID MASONRY (BRICK OR CONCRETE BLOCK) OR POURED CONCRETE FOR WALLS.
3. PARGE OUTSIDE WALLS.
4. MORTAR SHALL CONFORM TO ASTM SPECIFICATION C270 TYPE M.
5. f'c =3,500 P.S.I. at 28 DAYS.
6. FOR PIPES LARGER THAN 30" PROVIDE STEPS IN CHANNELS OF STRUCTURES. SEE STANDARD DETAIL . STANDARD MC-520.02

APPROVED JAN 5/96 DATE	REVISED	MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
DIRECTOR, DEPT. OF TRANS.		"B" MANHOLE
CHIEF, DIV. OF ENG. SERVICES		STANDARD NO. MC-515.01

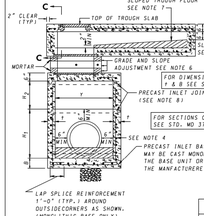


PRECAST CONCRETE TROUGH SLAB

(6" THICK)



PLAN
(SHOWN WITHOUT TROUGH SLAB)



INLET TYPE	T	L
COG – 5	5'-0"	8'– 0"
COG – 10	10'– 0"	13'– 0"
COG – 15	15'– 0"	18'– 0"
COG – 20	20'– 0"	21'– 0"

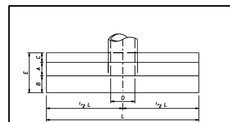
GENERAL NOTES

1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX NO.6 (4500 PSI) FOR PRECAST UNITS AND MIX NO.3 (3500 PSI) FOR STRUCTURES CAST IN PLACE.
4. INLET MAY BE PRECAST OR CAST IN PLACE. ON WALLS: REINFORCEMENT SHALL BE AS SHOWN ON STD NO 357.52-01 TABLE WITH 1½" COVER FOR WELDED WIRE FABRIC (PRECAST) OR 2" COVER FOR DEFORMED BARS (CAST IN PLACE). ON BASE: REINFORCEMENT SHALL BE AS SHOWN ON MD STD. 374.51-01 TABLE WITH 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM TOP OF BASE.
5. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT TOWARD THE OUTLET SHALL BE PROVIDED IN THE FIELD.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. SLOPED TROUGH FLOOR TO BE CAST IN THE FIELD AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
8. PRECAST INLET JOINTS- THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURER'S RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVINIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & MD 374.64.
11. SEE STANDARD MD 374.65 FOR DEPRESSED GUTTER PAN.
12. SEE STANDARD MD 374.64 FOR ALTERNATE PRECAST COG TROUGHS.
13. PAY MEASUREMENTS FOR CAST IN PLACE UNIT SHALL BE THE SAME AS THE PRECAST UNIT. REFER TO NOTE 14. ALL OTHER DIMENSIONS SHOWN FOR PRECAST SHALL APPLY TO CAST IN PLACE.
14. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
15. PRECAST BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
16. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING ACCORDING TO AASHTO LFRD BRIDGE DESIGN SPECIFICATIONS.
17. SEE STD MD 374.51-01 FOR PIPE / PRECAST DIMENSIONS TABLE.

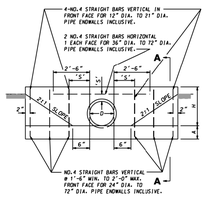
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 3-22-91	APPROVAL 1-3-91
	REVISED 8-3-10	REVISED 7-26-10
	REVISED 10-7-14	REVISED 9-29-14
	REVISED –	REVISED

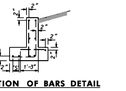
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COG INLETS 5', 10', 15', & 20'
STANDARD NO. MD 374.51



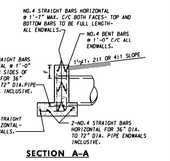
PLAN



ELEVATION



DISPOSITION OF BARS DETAIL



SECTION A-A

'S' DISTANCES

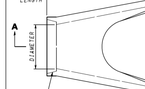
SPECIFICATIONS: LATEST S.H.A.
CONCRETE SHALL BE MIX NO.2
REINFORCING: DEFORMED STEEL BARS-NO.4
CHAMFERS: ALL EXPOSED EDGES 1"x1" OR AS DIRECTED

4" FOR 12" DIA. TO 21" DIA. PIPES INCLUSIVE.
6" FOR 24" DIA. TO 36" DIA. PIPES INCLUSIVE.
8" FOR 42" DIA. TO 72" DIA. PIPES INCLUSIVE.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 8-28-84	APPROVAL 12-12-86
	REVISED 10-1-91	REVISED
	REVISED	REVISED
	REVISED	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD TYPE C ENDWALL METAL OR CONCRETE ROUND PIPE
STANDARD NO. MD 354.01

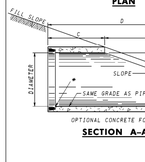


PLAN

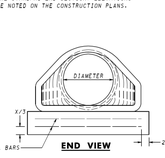
NOTES

1. CONTRACTOR HAS OPTION OF FURNISHING END SECTIONS CONFORMING TO DETAILS ON THIS SHEET OR END SECTIONS CONFORMING TO DETAILS ON STANDARD MD 368.02.
2. END SECTIONS MUST BE REINFORCED TO CONFORM TO AASHTO - CLASS IV REINFORCED CONCRETE PIPE.
3. CONCRETE FOOTER SHALL BE USED WHEN SPECIFIED ON THE PLANS. COST OF CONCRETE FOOTER TO BE INCLUDED IN PRICE OF END SECTION. CONCRETE TO BE MIX. NO.2. REINFORCEMENT TO BE NO.3 BARS.

* INVERT ELEVATION TO BE AT THE PIPE END OF THE STANDARD END SECTION. ELEVATIONS TO BE NOTED ON THE CONSTRUCTION PLANS.



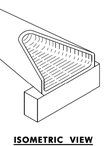
SECTION A-A



END VIEW

QUANTITIES FOR ESTIMATING PURPOSES ONLY

DIMENSIONS							QUANTITIES		QUANTITIES	
CONCRETE END SECTION									CONCRETE FOOTER	
DIA.	SLOPE	A	B	C	D	E	W	X	CONC. C.Y.	STEEL LBS.
12"	3:1	4"	2'-0"	4'-0⅝"	8'-0⅝"	2'-0"	3'-0"	12"	0.08	2.01
15"	3:1	6½"	2'-4"	3'-10"	6'-2"	2'-6"	3'-6"	12"	0.10	2.38
18"	3:1	10⅝"	2'-2"	4'-0"	6'-2"	3'-0"	4'-0"	12"	0.11	2.76
21"	3:1	9"	3'-0"	3'-11½"	6'-11½"	3'-6"	4'-6"	12"	0.13	3.13
24"	3:1	11"	3'-4"	2'-8"	6'-3"	4'-0"	5'-0"	15"	0.17	3.51
27"	3:1	10⅝"	2'-2"	6'-11½"	6'-4"	4'-6"	5'-6"	15"	0.19	3.89
30"	3:1	1'-1"	4'-0"	1'-10"	6'-3"	5'-0"	6'-0"	15"	0.21	4.26
33"	3:1	1'-2"	4'-1"	2'-2"	6'-9"	5'-6"	6'-6"	15"	0.23	4.64
36"	3:1	1'-3½"	5'-3"	2'-1"	8'-4"	6'-0"	7'-3"	15"	0.25	5.20



ISOMETRIC VIEW

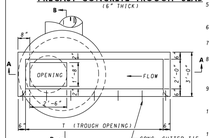
SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 8-28-86	APPROVAL 12-12-86
	REVISED 3-15-06	REVISED 4-05-06
	REVISED 7-1-09	REVISED 7-27-09
	REVISED	REVISED

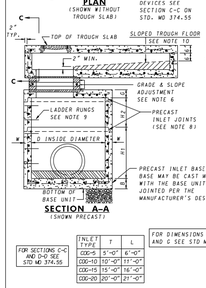
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
STANDARD CONCRETE END SECTION ROUND CONCRETE PIPE
STANDARD NO. MD 368.01

PRECAST CONCRETE TROUGH SLAB

(6" THICK)



PLAN
(SHOWN WITHOUT TROUGH SLAB)



FOR SECTIONS C-C AND D-D SEE STD MD 374.55

FOR DIMENSIONS H1, H2, W, B, D, AND G SEE STD MD 374.62-01

INLET TYPE	T	L
COG-5	5'-0"	6'-0"
COG-10	10'-0"	11'-0"
COG-15	15'-0"	16'-0"
COG-20	20'-0"	21'-0"

NOTES

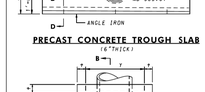
1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX. NO.6(4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3(3500 PSI) FOR CAST IN PLACE UNITS.
4. INLET MAY BE PRECAST OR CAST IN PLACE. REINFORCEMENT SHALL BE EITHER WELDED WIRE FABRIC (PRECAST) OR REINFORCING BARS (CAST IN PLACE)AND SHALL CONFORM TO THE AREAS GIVEN UNDER IN THE CHART ON STD NO 374.62-01. WALL REINFORCEMENT SHALL BE CENTERED AT THE MIDDLE OF THE WALL. BASE REINFORCEMENT SHALL HAVE 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE) FROM THE TOP OF THE BASE.
5. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & 374.64.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT. TOWARD OUTLET SHALL BE PROVIDED IN THE FIELD.
8. PRECAST INLET JOINTS-THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURERS RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS SHALL BE IN ACCORDANCE WITH STANDARDS MD 383.91 OR MD 383.92. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. SLOPED TROUGH FLOOR TO BE CONSTRUCTED IN THE FIELD USING BRICK OR CONCRETE AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS.WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
11. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
12. INLET SLAB NOT REQUIRED FOR 36" DIAMETER INLET. TROUGH SITS DIRECTLY ON TOP OF THE CIRCULAR UNIT. MORTAR AREA BETWEEN THE OUTSIDE WALLS OF THE TROUGH AND THE UNIT WALL.
13. SEE STD. MD 374.64 FOR ALTERNATE PRECAST COG TROUGHS AND STD. MD 374.65 FOR DEPRESSED GUTTER PAN DETAILS.
14. BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
15. FROM CURB LINE, INLET WAS BEEN DESIGNED FOR HS-25 LOADING, ACCORDING TO AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 10-7-14	APPROVAL 9-29-14
	REVISED	REVISED
	REVISED	REVISED

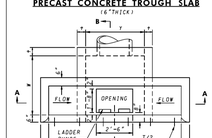
Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE CIRCULAR COG/COS INLETS 5', 10', 15', & 20'
STANDARD NO. MD 374.62

CIRCULAR BASE AND RISER UNIT DIMENSIONS											INLET SLAB	
PIPE SIZE MIN. TO MAX.	H_1 BASE	H_2 RISER	W	WALL STEEL AREA IN²/FT	MAX SPACING IN.	B	BASE STEEL AREA IN²/FT	MAX SPACING IN.	D	G	MIN. THICK	Min. Distance: ℄ Top of Curb - Pipe Invert
12"	2' 10 4"	1' 11 4"	4"	.09	12"	6.5"	.15	6"	36"	90° REG.	8"	3.84
15" TO 24"	3' 10 5"	1' 10 5"	5"	.12	12"	6.5"	.18	6"	48"	8"	4.11-4.92	
27" TO 33"	5' 10 6"	1' 10 6"	6"	.15	12"	6.5"	.27	6"	60"	8"	5.19-5.73	
36"	5' 10 6"	1' 10 6"	6"	.15	12"	6.5"	.27	6"	60"	8"	6.00	
42"	5' 10 7"	1' 10 7"	7"	.18	11"	7.5"	.30	6"	72"	8"	6.55	
48"	6' 10 7"	1' 10 7"	7"	.18	11"	7.5"	.30	6"	72"	8"	7.09	
54"	6' 10 8"	1' 10 8"	8"	.21	8"	9.5"	.36	6"	84"	8"	7.63	
60"	7' 10 8"	1' 10 8"	8"	.21	8"	9.5"	.36	6"	84"	8"	8.17	
66" TO 72"	8' 10 9"	1' 10 8"	9"	.24	7"	9.5"	.40	6"	96"	8"	8.71-9.25	
78" TO 84"	9' 10 10"	1' 10 8"	10"	.27	4"	12.5"	.40	6"	120"	8"	9.80-10.34	

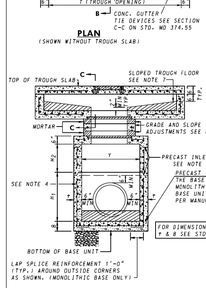


PRECAST CONCRETE TROUGH SLAB

(6" THICK)



PLAN
(SHOWN WITHOUT TROUGH SLAB)



INLET TYPE	T	L
COS-5	5'-0"	6'-0"
COS-10	10'-0"	11'-0"
COS-15	15'-0"	16'-0"
COS-20	20'-0"	21'-0"

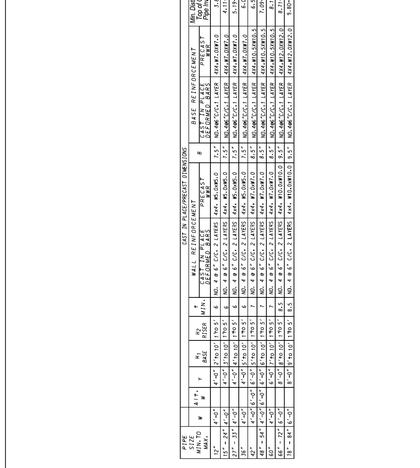
NOTES

1. THIS STANDARD TO BE USED WITH TYPE A COMBINATION CURB AND GUTTER ONLY.
2. CURB OPENINGS SHALL NOT ENCROACH ON CROSSWALK AREAS.
3. CONCRETE SHALL BE MIX NO.6 (4500 PSI) FOR PRECAST UNITS AND CONCRETE MIX NO.3 (3500 PSI) FOR CAST IN PLACE UNITS.
4. INLET MAY BE PRECAST OR CAST IN PLACE. ON WALLS: REINFORCEMENT SHALL BE AS SHOWN ON TABLE (STD NO 379.61-01) WITH 2"COVER FOR WELDED WIRE FABRIC (PRECAST) OR 2" COVER FOR DEFORMED BARS (CAST IN PLACE). ON BASE: REINFORCEMENT SHALL BE AS SHOWN ON STD NO 374.61-01 WITH 1½" COVER (PRECAST) AND 2" COVER (CAST IN PLACE)FROM TOP OF BASE.
5. A CONCRETE OR BRICK CHANNEL WHICH SLOPES AT LEAST 2 IN./FT TOWARD THE OUTLET SHALL BE PROVIDED IN THE FIELD.
6. GRADE AND SLOPE ADJUSTMENTS SHALL BE COMPLETED IN THE FIELD USING PRECAST ADJUSTMENT COLLAR AND MORTAR.
7. SLOPED TROUGH FLOOR TO BE CAST IN THE FIELD AND USED ONLY WHEN ROAD GRADE IS 1.5% OR LESS. WHEN SLOPED TROUGH FLOOR IS USED, ROUGHEN PRECAST TROUGH FLOOR.
8. PRECAST INLET JOINTS-THE MANUFACTURER SHALL FORM MALE AND FEMALE ENDS OF JOINTS USING THEIR OWN DESIGN. THE JOINTS SHALL BE SEALED BY THE CONTRACTOR AND MADE WATERTIGHT USING THE MANUFACTURER'S RECOMMENDED ASTM OR AASHTO APPROVED SEALANT.
9. LADDER RUNGS SHALL BE PLACED IN VERTICAL ALIGNMENT AT 1'-3" C/C. RUNGS ARE INCIDENTAL TO THE COST OF THE INLET.
10. ANGLE IRON AND SHEAR STUD CONNECTORS SHALL BE GALVANIZED AFTER WELDING IN ACCORDANCE WITH ASTM A 123. SEE STDS. MD 374.55 & MD 374.64.
11. SEE STANDARD MD 374.65 FOR DEPRESSED GUTTER PAN.
12. SEE STANDARD MD 374.64 FOR ALTERNATE PRECAST COS TROUGHS.
13. PAY MEASUREMENTS FOR CAST IN PLACE UNIT SHALL BE THE SAME AS THE PRECAST UNIT. REFER TO NOTE 14. ALL OTHER DIMENSIONS SHOWN FOR PRECAST UNIT SHALL APPLY TO CAST IN PLACE UNIT.
14. MINIMUM DEPTH PAYMENT PER EACH SHALL BE 6'-2" MEASURED FROM THE PIPE INVERT TO THE TOP OF THE TROUGH SLAB. VERTICAL DEPTH PAYMENT PER LINEAR FOOT SHALL INCLUDE ALL DEPTHS IN EXCESS OF 6'-2" INCLUDING ALL APPURTENANCES.
15. PRECAST BASE UNIT WALLS MAY TAPER PER MANUFACTURER'S DESIGN.
16. FROM CURB LINE, INLET HAS BEEN DESIGNED FOR HS-25 LOADING. ACCORDING TO AASHTO LFRD BRIDGE DESIGN SPECIFICATIONS.

SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

SHA State Highway Administration	APPROVAL • SHA REVISIONS	APPROVAL • FEDERAL HIGHWAY ADMINISTRATION
	APPROVAL 3-22-91	APPROVAL 1-3-91
	REVISED 8-3-10	REVISED 7-26-10
	REVISED 10-7-14	REVISED 9-29-14
	REVISED –	REVISED

Maryland Department of Transportation
STATE HIGHWAY ADMINISTRATION
STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES
PRECAST OR CAST IN PLACE SQUARE AND RECTANGULAR COS INLETS 5', 10', 15' & 20'
STANDARD NO. MD 374.61



SPECIFICATION 305	CATEGORY CODE ITEMS
APPROVED	DIRECTOR – OFFICE OF HIGHWAY DEVELOPMENT

| SHA State Highway Administration | APPROVAL • SHA RE

STANDARD EROSION AND SEDIMENT CONTROL NOTES

1. THE PERMITTEE SHALL NOTIFY THE DEPARTMENT OF PERMITTING SERVICES (DPS) FORTY-EIGHT (48) HOURS BEFORE COMMENCING ANY LAND DISTURBING ACTIVITY AND, UNLESS WAIVED BY THE DEPARTMENT, SHALL BE REQUIRED TO HOLD A PRE-CONSTRUCTION MEETING BETWEEN THEM OR THEIR REPRESENTATIVE, THEIR ENGINEER AND AN AUTHORIZED REPRESENTATIVE OF THE DEPARTMENT.'

2. THE PERMITTEE MUST OBTAIN INSPECTION AND APPROVAL BY DPS AT THE FOLLOWING POINTS:
   A. AT THE REQUIRED PRE-CONSTRUCTION MEETING.
   B. FOLLOWING INSTALLATION OF SEDIMENT CONTROL MEASURES AND PRIOR TO ANY OTHER LAND DISTURBING ACTIVITY.
   C. DURING THE INSTALLATION OF A SEDIMENT BASIN OR STORMWATER MANAGEMENT STRUCTURE AT THE REQUIRED INSPECTION POINTS (SEE INSPECTION CHECKLIST ON PLAN). NOTIFICATION PRIOR TO COMMENCING CONSTRUCTION IS MANDATORY.
   D. PRIOR TO REMOVAL OR MODIFICATION OF ANY SEDIMENT CONTROL STRUCTURE(S).
   E. PRIOR TO FINAL ACCEPTANCE.

3. THE PERMITTEE SHALL CONSTRUCT ALL EROSION AND SEDIMENT CONTROL MEASURES PER THE APPROVED PLAN AND CONSTRUCTION SEQUENCE, SHALL HAVE THEM INSPECTED AND APPROVED BY THE DEPARTMENT PRIOR TO BEGINNING ANY OTHER LAND DISTURBANCES, SHALL ENSURE THAT ALL RUNOFF FROM DISTURBED AREAS IS DIRECTED TO THE SEDIMENT CONTROL DEVICES, AND SHALL NOT REMOVE ANY EROSION OR SEDIMENT CONTROL MEASURE WITHOUT PRIOR PERMISSION FROM THE DEPARTMENT.

4. THE PERMITTEE SHALL PROTECT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS TO PREVENT THE DEPOSITION OF MATERIALS ONTO TRAVERSED PUBLIC THOROUGHFARE(S). ALL MATERIALS DEPOSITED ONTO PUBLIC THOROUGHFARE(S) SHALL BE REMOVED IMMEDIATELY.

5. THE PERMITTEE SHALL INSPECT PERIODICALLY AND MAINTAIN CONTINUOUSLY IN EFFECTIVE OPERATING CONDITION, ALL EROSION AND SEDIMENT CONTROL MEASURES UNTIL SUCH TIME AS THEY ARE REMOVED WITH PRIOR PERMISSION FROM THE DEPARTMENT. THE PERMITTEE IS RESPONSIBLE FOR IMMEDIATELY REPAIRING OR REPLACING ANY SEDIMENT CONTROL MEASURES WHICH HAVE BEEN DAMAGED OR REMOVED BY THE PERMITTEE OR ANY OTHER PERSON.

6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   A. THREE (3) CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES AND ALL SLOPES STEEPER THAN 3 HORIZONTAL TO 1 VERTICAL (3:1); AND
   B. SEVEN (7) CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

   ALL AREAS DISTURBED OUTSIDE OF THE PERIMETER SEDIMENT CONTROL SYSTEM MUST BE MINIMIZED AND STABILIZED IMMEDIATELY. MAINTENANCE MUST BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION.

7. THE PERMITTEE SHALL APPLY SOD, SEED, AND ANCHORED STRAW MULCH, OR OTHER APPROVED STABILIZATION MEASURES TO ALL DISTURBED AREAS WITHIN SEVEN (7) CALENDAR DAYS AFTER STRIPPING AND GRADING ACTIVITIES HAVE CEASED ON THAT AREA. MAINTENANCE SHALL BE PERFORMED AS NECESSARY TO ENSURE CONTINUED STABILIZATION. ACTIVE CONSTRUCTION AREAS SUCH AS BORROW OR STOCKPILE AREAS, ROADWAY IMPROVEMENTS, AND AREAS WITHIN FIFTY (50) FEET OF A BUILDING UNDER CONSTRUCTION MAY BE EXEMPT FROM THIS REQUIREMENT, PROVIDED THAT EROSION AND SEDIMENT CONTROL MEASURES ARE INSTALLED AND MAINTAINED TO PROTECT THOSE AREAS.

8. PRIOR TO REMOVAL OF SEDIMENT CONTROL MEASURES, THE PERMITTEE SHALL STABILIZE ALL CONTRIBUTORY DISTURBED AREAS WITH REQUIRED SOIL AMENDMENTS AND TOPSOIL, USING SOD OR AN APPROVED PERMANENT SEED MIXTURE AND AN APPROVED ANCHORED MULCH. WOOD FIBER MULCH MAY ONLY BE USED IN SEEDING SEASON WHEN THE SLOPE DOES NOT EXCEED 10% AND GRADING HAS BEEN DONE TO PROMOTE SHEET FLOW DRAINAGE. AREAS BROUGHT TO FINISHED GRADE DURING THE SEEDING SEASON SHALL BE PERMANENTLY STABILIZED WITHIN SEVEN (7) CALENDAR DAYS OF ESTABLISHMENT. WHEN PROPERTY IS BROUGHT TO FINISHED GRADE DURING THE MONTHS OF NOVEMBER THROUGH FEBRUARY, AND PERMANENT STABILIZATION IS FOUND TO BE IMPRACTICAL, AN APPROVED TEMPORARY SEED AND STRAW ANCHORED MULCH SHALL BE APPLIED TO DISTURBED AREAS. THE FINAL PERMANENT STABILIZATION OF SUCH PROPERTY SHALL BE COMPLETED PRIOR TO THE FOLLOWING APRIL 15.

9. THE SITE PERMIT, WORK, MATERIALS, APPROVED SC\SM PLANS, AND TEST REPORTS SHALL BE AVAILABLE AT THE SITE FOR INSPECTION BY DULY AUTHORIZED OFFICIALS OF MONTGOMERY COUNTY.

10. SURFACE DRAINAGE FLOWS OVER UNSTABILIZED CUT AND FILL SLOPES SHALL BE CONTROLLED BY EITHER PREVENTING DRAINAGE FLOWS FROM TRAVERSING THE SLOPES OR BY INSTALLING MECHANICAL DEVICES TO LOWER THE WATER DOWN SLOPE WITHOUT CAUSING EROSION. DIKES SHALL BE INSTALLED AND MAINTAINED AT THE TOP OF CUT OR FILL SLOPES UNTIL THE SLOPE AND DRAINAGE AREA TO IT ARE FULLY STABILIZED, AT WHICH TIME THEY MUST BE REMOVED AND FINAL GRADING DONE TO PROMOTE SHEET FLOW DRAINAGE. MECHANICAL DEVICES MUST BE PROVIDED AT POINTS OF CONCENTRATED FLOW WHERE EROSION IS LIKELY TO OCCUR.

11. PERMANENT SWALES OR OTHER POINTS OF CONCENTRATED WATER FLOW SHALL BE STABILIZED WITHIN 3 CALENDAR DAYS OF ESTABLISHMENT WITH SOD OR SEED WITH AN APPROVED EROSION CONTROL MATTING OR BY OTHER APPROVED STABILIZATION MEASURES.

12. SEDIMENT CONTROL DEVICES SHALL BE REMOVED, WITH PERMISSION OF THE DEPARTMENT, WITHIN THIRTY (30) CALENDAR DAYS FOLLOWING ESTABLISHMENT OF PERMANENT STABILIZATION IN ALL CONTRIBUTORY DRAINAGE AREAS. STORMWATER MANAGEMENT STRUCTURES USED TEMPORARILY FOR SEDIMENT CONTROL SHALL BE CONVERTED TO THE PERMANENT CONFIGURATION WITHIN THIS TIME PERIOD AS WELL.

13. NO PERMANENT CUT OR FILL SLOPE WITH A GRADIENT STEEPER THAN 3:1 WILL BE PERMITTED IN LAWN MAINTENANCE AREAS OR ON RESIDENTIAL LOTS. A SLOPE GRADIENT OF UP TO 2:1 WILL BE PERMITTED IN NONMAINTENANCE AREAS PROVIDED THAT THOSE AREAS ARE INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN WITH A LOW-MAINTENANCE GROUND COVER SPECIFIED FOR PERMANENT STABILIZATION. SLOPE GRADIENT STEEPER THAN 2:1 WILL NOT BE PERMITTED WITH VEGETATIVE STABILIZATION.

14. THE PERMITTEE SHALL INSTALL A SPLASHBLOCK AT THE BOTTOM OF EACH DOWNSPOUT UNLESS THE DOWNSPOUT IS CONNECTED BY A DRAIN LINE TO AN ACCEPTABLE OUTLET.

15. FOR FINISHED GRADING, THE PERMITTEE SHALL PROVIDE ADEQUATE GRADIENTS SO AS TO PREVENT WATER FROM STANDING ON THE SURFACE OF LAWNS MORE THAN TWENTY-FOUR (24) HOURS AFTER THE END OF A RAINFALL, EXCEPT IN DESIGNATED DRAINAGE COURSES AND SWALE FLOW AREAS, WHICH MAY DRAIN AS LONG AS FORTY-EIGHT (48) HOURS AFTER THE END OF A RAINFALL.

16. SEDIMENT TRAPS OR BASINS ARE NOT PERMITTED WITHIN 20 FEET OF A BUILDING WHICH IS EXISTING OR UNDER CONSTRUCTION. NO BUILDING MAY BE CONSTRUCTED WITHIN 20 FEET OF A SEDIMENT TRAP OR BASIN.

17. ALL INLETS IN NON-SUMP AREAS SHALL HAVE ASPHALT BERMS INSTALLED AT THE TIME OF BASE PAVING ESTABLISHMENT.

STANDARD EROSION AND SEDIMENT CONTROL NOTES:CONTINUED

18. THE SEDIMENT CONTROL INSPECTOR HAS THE OPTION OF REQUIRING ADDITIONAL SEDIMENT CONTROL MEASURES, AS DEEMED NECESSARY.

19. ALL TRAP ELEVATIONS ARE RELATIVE TO THE OUTLET ELEVATION, WHICH MUST BE ON EXISTING UNDISTURBED GROUND.

20. VEGETATIVE STABILIZATION SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

21. SEDIMENT TRAP(S)/BASIN(S) SHALL BE CLEANED OUT AND RESTORED TO THE ORIGINAL DIMENSIONS WHEN SEDIMENT HAS ACCUMULATED TO THE POINT OF ONE-HALF (1/2) THE WET STORAGE DEPTH OF THE TRAP/BASIN (1/4 THE WET STORAGE DEPTH FOR ST-III) OR WHEN REQUIRED BY THE SEDIMENT CONTROL INSPECTOR.

22. SEDIMENT REMOVED FROM TRAPS/BASINS SHALL BE PLACED AND STABILIZED IN APPROVED AREAS, BUT NOT WITHIN A FLOODPLAIN.

23. ALL SEDIMENT BASINS AND TRAPS MUST BE SURROUNDED WITH A WELDED WIRE SAFETY FENCE. THE FENCE MUST BE AT LEAST 42 INCHES HIGH, HAVE POSTS SPACED NO FARTHER APART THAN 8 FEET, HAVE MESH OPENINGS NO GREATER THE TWO INCHES IN WIDTH AND FOUR INCHES IN HEIGHT, WITH A MINIMUM OF 14 GAUGE WIRE. SAFETY FENCE MUST BE MAINTAINED IN GOOD CONDITION AT ALL TIMES.

24. NO EXCAVATION IN THE AREAS OF EXISTING UTILITIES IS PERMITTED UNLESS THEIR LOCATION HAS BEEN DETERMINED. CALL "MISS UTILITY" AT 1-800-257-7777, 48 HOURS PRIOR TO THE START OF WORK.

25. OFF-SITE SPOIL OR BORROW AREAS MUST HAVE PRIOR APPROVAL BY DPS.

26. SEDIMENT TRAP/BASIN DEWATERING FOR CLEANOUT OR REPAIR MAY ONLY BE DONE WITH THE DPS INSPECTOR'S PERMISSION. THE INSPECTOR MUST APPROVE THE DEWATERING METHOD FOR EACH APPLICATION. THE FOLLOWING METHODS MAY BE CONSIDERED:
   A. PUMP DISCHARGE MAY BE DIRECTED TO ANOTHER ON-SITE SEDIMENT TRAP OR BASIN, PROVIDED IT IS OF SUFFICIENT VOLUME AND THE PUMP INTAKE IS FLOATED TO PREVENT AGITATION OR SUCTION OF DEPOSITED SEDIMENTS; OR
   B. THE PUMP INTAKE MAY UTILIZE A REMOVABLE PUMPING STATION AND MUST DISCHARGE INTO AN UNDISTURBED AREA THROUGH A NON-EROSIVE OUTLET; OR
   C. THE PUMP INTAKE MAY BE FLOATED AND DISCHARGE INTO A DIRT BAG (12 OZ. NON-WOVEN FABRIC), OR APPROVED EQUIVALENT, LOCATED IN AN UNDISTURBED BUFFER AREA.

REMEMBER: DEWATERING OPERATION AND METHOD MUST HAVE PRIOR APPROVAL BY THE DPS INSPECTOR.

27. THE PERMITTEE MUST NOTIFY THE DEPARTMENT OF ALL UTILITY CONSTRUCTION ACTIVITIES WITHIN THE PERMITTED LIMITS OF DISTURBANCE PRIOR TO THE COMMENCEMENT OF THOSE ACTIVITIES.

28. TOPSOIL MUST BE APPLIED TO ALL PERVIOUS AREAS WITHIN THE LIMITS OF DISTURBANCE PRIOR TO PERMANENT STABILIZATION IN ACCORDANCE WITH MDE *STANDARDS AND SPECIFICATIONS FOR SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS*.

MISS UTILITY

Call "Miss Utility" at 1-800-257-7777, 48 hours prior to the start of work. The excavator must notify all public utility companies with under ground facilities in the area of proposed excavation and have those facilities located by the utility companies prior to commencing excavation. The excavator is responsible for compliance with requirements of Chapter 36A of the Montgomery County Code.

STANDARD SYMBOLS

AT-GRADE INLET PROTECTION — AGIP
BAFFLE BOARDS — BB
CATCH BASIN INSERT — CBI
CLEAR WATER DIVERSION PIPE — CWD - 12 (NOTE: DESIGNATION CWD-12 REFERS TO CLEAR WATER DIVERSION WITH 12 INCH PIPE.)
COMBINATION INLET PROTECTION — COIP
CURB INLET PROTECTION — CIP
DIVERSION FENCE — DF
EARTH DIKE — A-I (PLACE DESIGNATION (A-1, B-2, etc.) ON FLOW CHANNEL SIDE OF DIKE.)
EMERGENCY SPILLWAY — ES
FILTER BAG — FB
FILTER BERM — FB-A / FB-B
FILTER LOG — FL-18 (NOTE: DESIGNATION FL-18 REFERS TO FILTER LOG WITH 18 INCH DIAMETER.)
GABION INFLOW PROTECTION — GP
GABION INLET PROTECTION — GIP
LIMIT OF DISTURBANCE — LOD
MEDIAN INLET PROTECTION — MIP
MEDIAN SUMP INLET PROTECTION — MSIP
MOUNTABLE BERM — MB
PERIMETER DIKE/SWALE — PDS-I
PERMANENT SOIL STABILIZATION MATTING-TYPE B
PERMANENT SOIL STABILIZATION MATTING-TYPE C
PIPE OUTLET SEDIMENT TRAP ST I — ST-I
PIPE SLOPE DRAIN — PSD - 12 (NOTE: DESIGNATION PSD-12 REFERS TO PIPE SLOPE DRAIN WITH 12 IN PIPE.)
PLUNGE POOL — PP
PORTABLE SEDIMENT TANK — PST
REMOVABLE PUMPING STATION — RPS
RIPRAP INFLOW PROTECTION — RRP
RIPRAP OUTLET SEDIMENT TRAP ST III — ST-III
ROCK OUTLET PROTECTION I — ROPI
SAME DAY STABLIZATION
HOSE
TEMPORARY SOIL STABILIZATION MATTING-TYPE A
TEMPORARY SOIL STABILIZATION MATTING-TYPE E
TEMPORARY SOIL STABILIZATION MATTING-TYPE D
TEMPORARY STONE OUTLET STRUCTURE — TSOS
TEMPORARY SWALE — A-I (PLACE DESIGNATION (A-1, B-2, etc.) ON FLOW CHANNEL SIDE OF SWALE.)

WETLAND BUFFER — B
100-YEAR FLOODPLAIN
ROCK OUTLET PROTECTION II — ROPII
ROCK OUTLET PROTECTION III — ROPIII
SILT FENCE — SF
SILT FENCE ON PAVEMENT — SFOP
SOD
MODIFIED STABILIZED CONSTRUCTION ENTRANCE
STANDARD INLET PROTECTION — SIP
STOCKPILE AREA
STONE CHECK DAM — ST-MI / CD
STONE/RIPRAP OUTLET SEDIMENT TRAP ST II — ST-II
SUBSURFACE DRAINS — SSD
SUMP PIT — SP
SUPER SILT FENCE — SSF
TEMPORARY ACCESS CULVERT — TAC
TEMPORARY ASPHALT BERM — TAB
TEMPORARY BARRIER DIVERSION — TBD
TEMPORARY GABION OUTLET STRUCTURE — TGOS
WASH RACK OPTION — WR
CHESAPEAKE BAY CRITICAL AREA — CBCA
DRAINAGE BOUNDARY — DA
EXISTING CONTOURS — - 100 -
PROPOSED CONTOURS — 100
TREE PROTECTION FENCE — TPF
TREE REMOVAL
TEMPORARY CONSTRUCTION FENCE
WETLAND
TEMP. RIPRAP — (TRR)
DRAINAGE AREA

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL
GENERAL NOTES

SCALE : NTS DATE: JUNE 2024 EN-01

DPS SC/SWM PERMIT SHEET NO. 30 of 64

C.I.P. Project No. : 0501742 49 of 105

PLOTTED: 6/27/2024
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SEQUENCE OF CONSTRUCTION

1. PRIOR TO CLEARING OF TREES, INSTALLING SEDIMENT CONTROL MEASURES, OR GRADING, A PRE–CONSTRUCTION MEETING MUST BE CONDUCTED ON–SITE WITH THE MONTGOMERY COUNTY DEPARTMENT OF PERMITTING SERVICES (MCDPS) SEDIMENT CONTROL INSPECTOR (240) 777–6210 (48 HOURS NOTICE), THE OWNERS REPRESENTATIVE, AND THE SITE ENGINEER. IN ORDER FOR THE MEETING TO OCCUR, THE APPLICANT MUST PROVIDE ONE PAPER SET OF APPROVED SEDIMENT CONTROL PLANS TO THE MCDPS SEDIMENT CONTROL INSPECTOR AT THE PRE–CONSTRUCTION MEETING. IF NO PLANS ARE PROVIDED, THE MEETING SHALL NOT OCCUR AND WILL NEED TO BE RESCHEDULED PRIOR TO COMMENCING ANY WORK.

2. THE LIMITS OF DISTURBANCE MUST BE FIELD MARKED PRIOR TO CLEARING OF TREES, INSTALLATION OF SEDIMENT CONTROL MEASURES, CONSTRUCTION, OR OTHER LAND DISTURBING ACTIVITIES.

3. PERFORM CLEARING AND GRUBBING FOR THE INSTALLATION OF THE EROSION AND SEDIMENT PERIMETER CONTROLS. NO VEHICLES SHALL LEAVE THE CONSTRUCTION SITE WITHOUT ENSURING THAT TIRES ARE FREE OF SEDIMENTS.

4. INSTALL ALL E&S PERIMETER CONTROL MEASURES INCLUDING SILT FENCE (SF), SILT FENCE ON PAVEMENT (SFOP), SUPER SILT FENCE (SSF) DIVERSION FENCE (DF), TEMPORARY ASPHALT BERM (TAB), AND FILTER LOGS (FL–18) AND ALL TEMPORARY INLET PROTECTION DEVICES. DO NOT INSTALL ANY DEVICES COUPLED WITH SANDBAGS, SUMP PITS, PORTABLE SEDIMENT TANK.

5. WHILE WORKING IN STATION 117+00 TO 123+60–INSTALL SP 4–1 AND SB 4–1 INSTALL THE INSTALL SP 4–1 AND SB 4–1. MEASURES MUST BE MAINTAINED UNTIL AREAS BETWEEN THE STATIONS ARE PERMANENTLY STABILIZATION.

6. INSTALL ALL SWM FACILITIES AND ASSOCIATED DRAINAGE. ALL PROPOSED STORMDRAIN PIPES AND STRUCTURES DURING A NOAA 3 DAY DRY FORECAST PERIOD. INSTALL INLET PROTECTIONS IMMEDIATELY AFTER EACH NEW INLET IS CONSTRUCTED.

7. CONSTRUCT ALL PROPOSED UTILITY FEATURES AS INDICATED ON PLANS. SMALL DISTURBED AREAS SHOWN ON CONSTRUCTION PLANS, AND DESIGNATED AS SAME DAY STABILIZATION SHALL BE PERMANENTLY STABILIZED AT THE END OF EACH WORK DAY.

8. PERFORM CONSTRUCTION ACTIVITIES AS SHOWN IN THE CONSTRUCTION PLANS INCLUDING DEMOLITION OF EXISTING FEATURES. INSTALL NEW SIDEWALK AS SHOWN ON PLANS. PERFORM EXCAVATION AS SHOWN. INSTALL. NO VEHICLES SHALL LEAVE THE CONSTRUCTION SITE WITHOUT ENSURING THAT TIRES ARE FREE OF SEDIMENTS.

9. INSTALL EW 4–1 AND PIPE EXTENSION TO EW 4–1 AFTER THE INSTALLATION OF SP 4–1 AND SB 4–1.

10. CONDUCT LANDSCAPING ACTIVITIES AND PERFORM PERMANENT STABILIZATION FOR ALL DISTURBED AREAS.

11. ONCE ALL DISTURBED AREAS ARE PERMANENTLY STABILIZED, WITH THE APPROVAL FROM THE DPS INSPECTOR, REMOVE ALL SEDIMENT CONTROL DEVICES. ALL AREAS DISTURBED BY THE REMOVAL OF E&S CONTROLS SHALL BE STABILIZED THE SAME DAY.

12. CONTRACTOR MUST SUBMIT ALL OF THE SWM CONSTRUCTION INFORMATION INCLUDING TICKETS USED FOR AS–BUILT REVIEW TO DPS FOR APPROVAL

PLOTTED: 6/27/2024
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

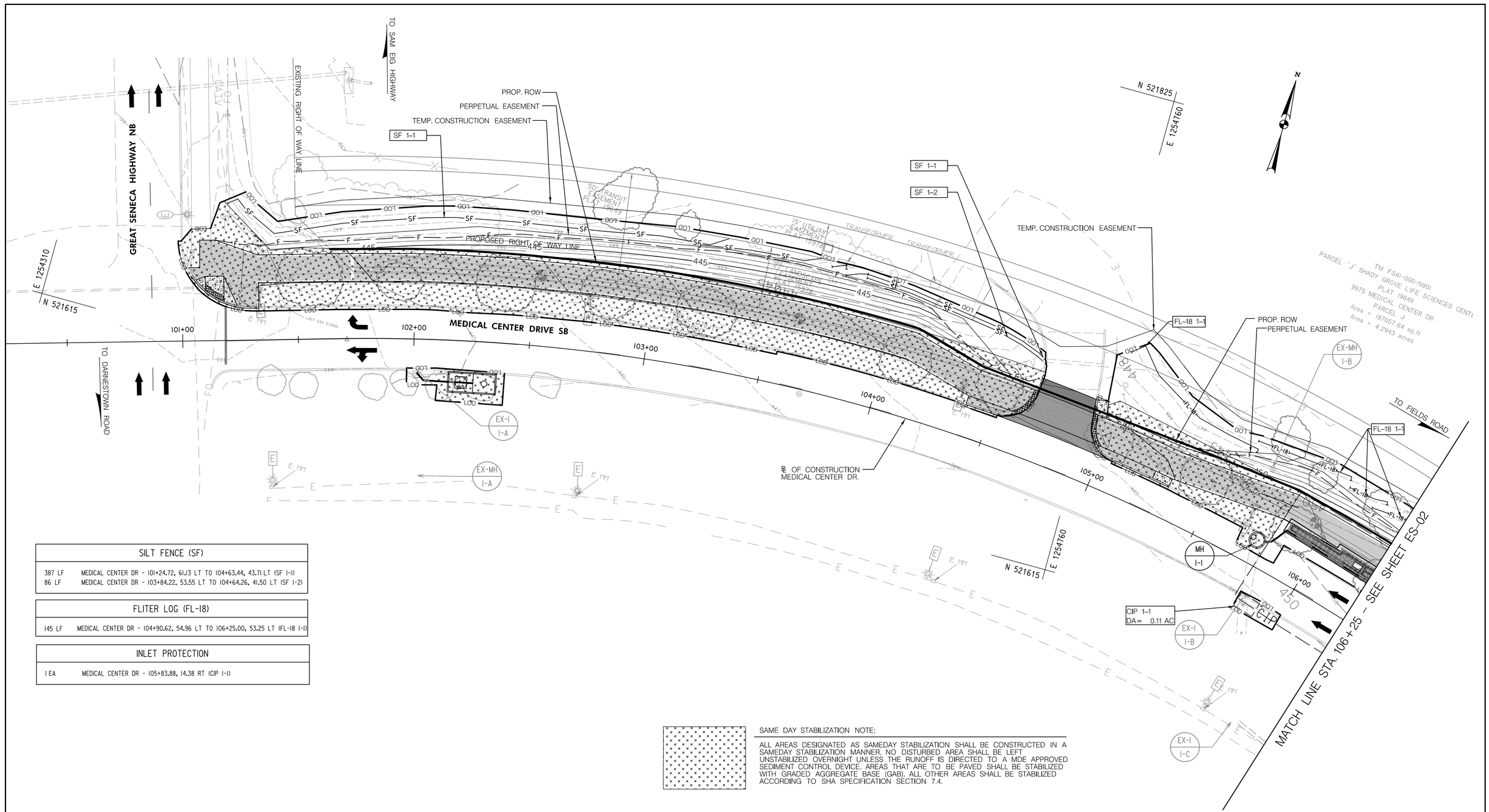
FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL
SEQUENCE OF CONSTRUCTION

SCALE : NTS DATE: JUNE 2024 EN–02

DPS SC/SWM PERMIT SHEET NO. 31 of 64

C.I.P. Project No. : 0501742 50 of 105



SILT FENCE (SF)	
387 LF	MEDICAL CENTER DR - 101+24.72, 61.13 LT TO 104+63.44, 43.71 LT (SF 1-1)
86 LF	MEDICAL CENTER DR - 103+84.22, 53.55 LT TO 104+64.26, 41.50 LT (SF 1-2)

FLITER LOG (FL-18)	
145 LF	MEDICAL CENTER DR - 104+90.62, 54.96 LT TO 106+25.00, 53.25 LT (FL-18 1-1)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 105+83.88, 14.38 RT (CIP 1-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-01

DPS SC/SWM PERMIT SHEET NO. 32 of 64

C.I.P. Project No. : 0501742 51 of 105

PLOTTED: 6/27/2024
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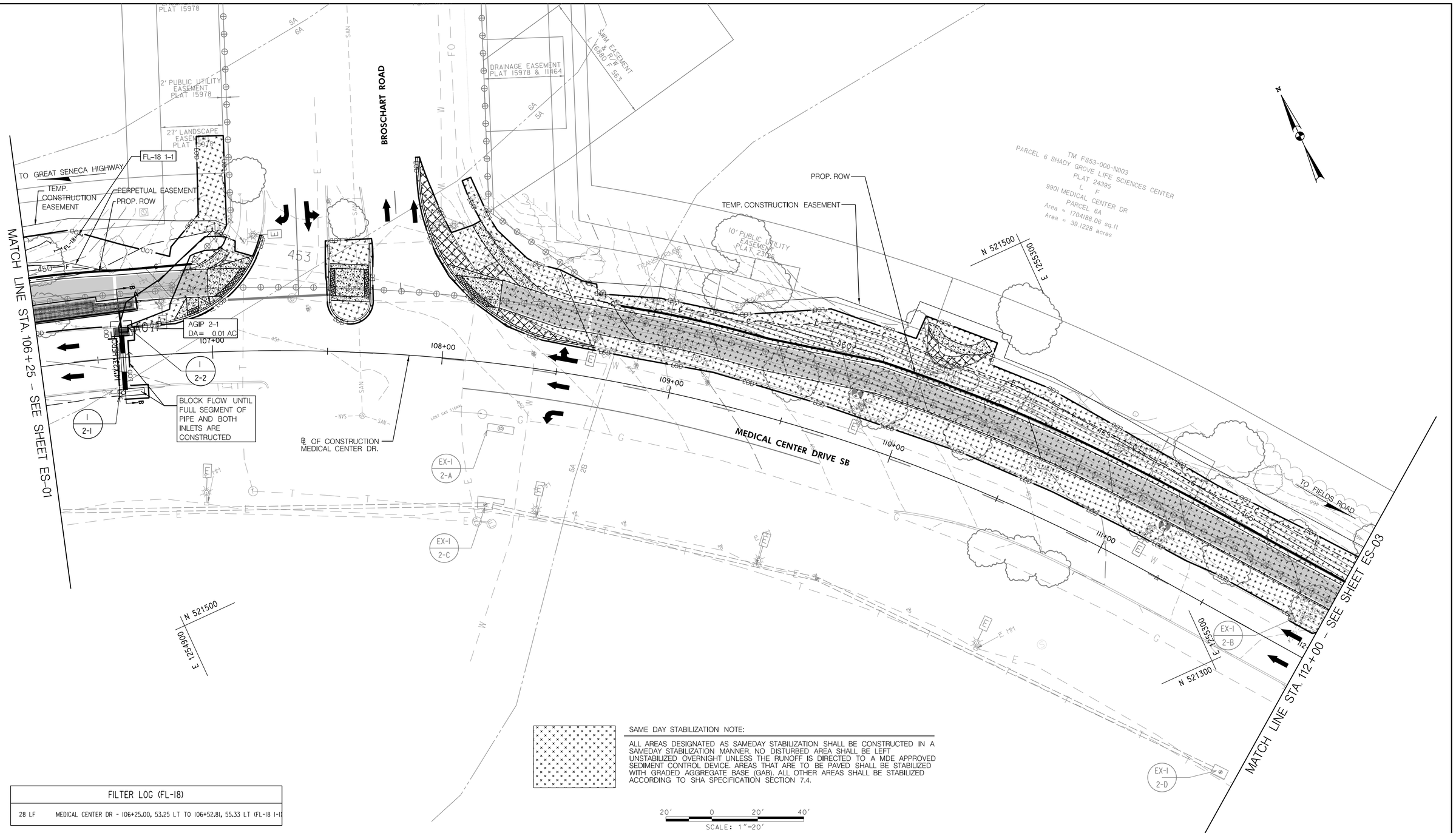

FILTER LOG (FL-18)	
28 LF	MEDICAL CENTER DR - 106+25.00, 53.25 LT TO 106+52.81, 55.33 LT (FL-18 1-1)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 106+61.08, 10.74 LT (AGIP 2-1)

NO.	REVISION	DATE	BY

Gannett Fleming/GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-02

DPS SC/SWM PERMIT SHEET NO. 33 of 64

C.I.P. Project No. : 0501742 52 of 105

PLOTTED: 6/19/2024
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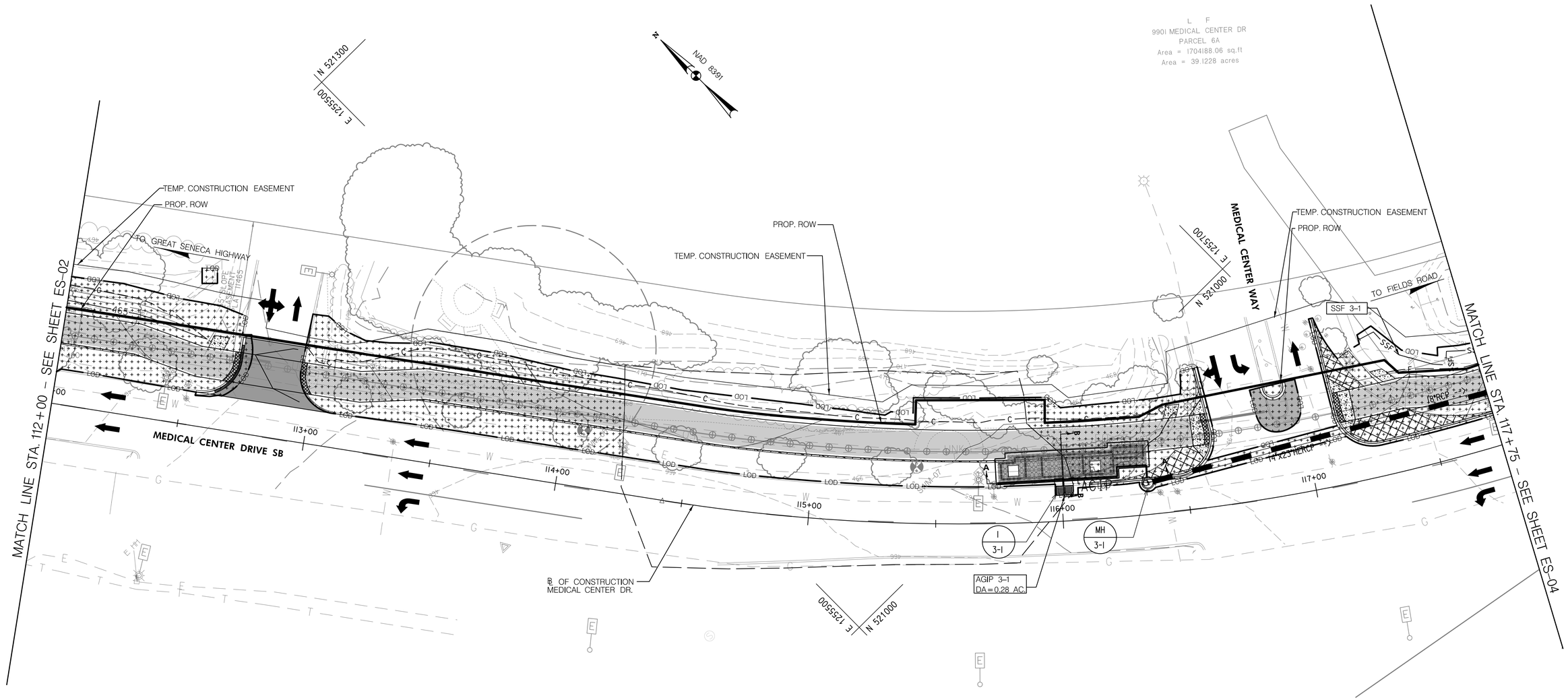

SUPER SILT FENCE (SSF)	
64 LF	MEDICAL CENTER DR - 117+36.34, 55.88 LT TO 117+75.00, 38.76 LT (SSF 3-1)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 116+01.41, 14.09 RT (AGIP 3-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-03

DPS SC/SWM PERMIT SHEET NO. 34 of 64

C.I.P. Project No. : 0501742 53 of 105

PLOTTED: 6/19/2024
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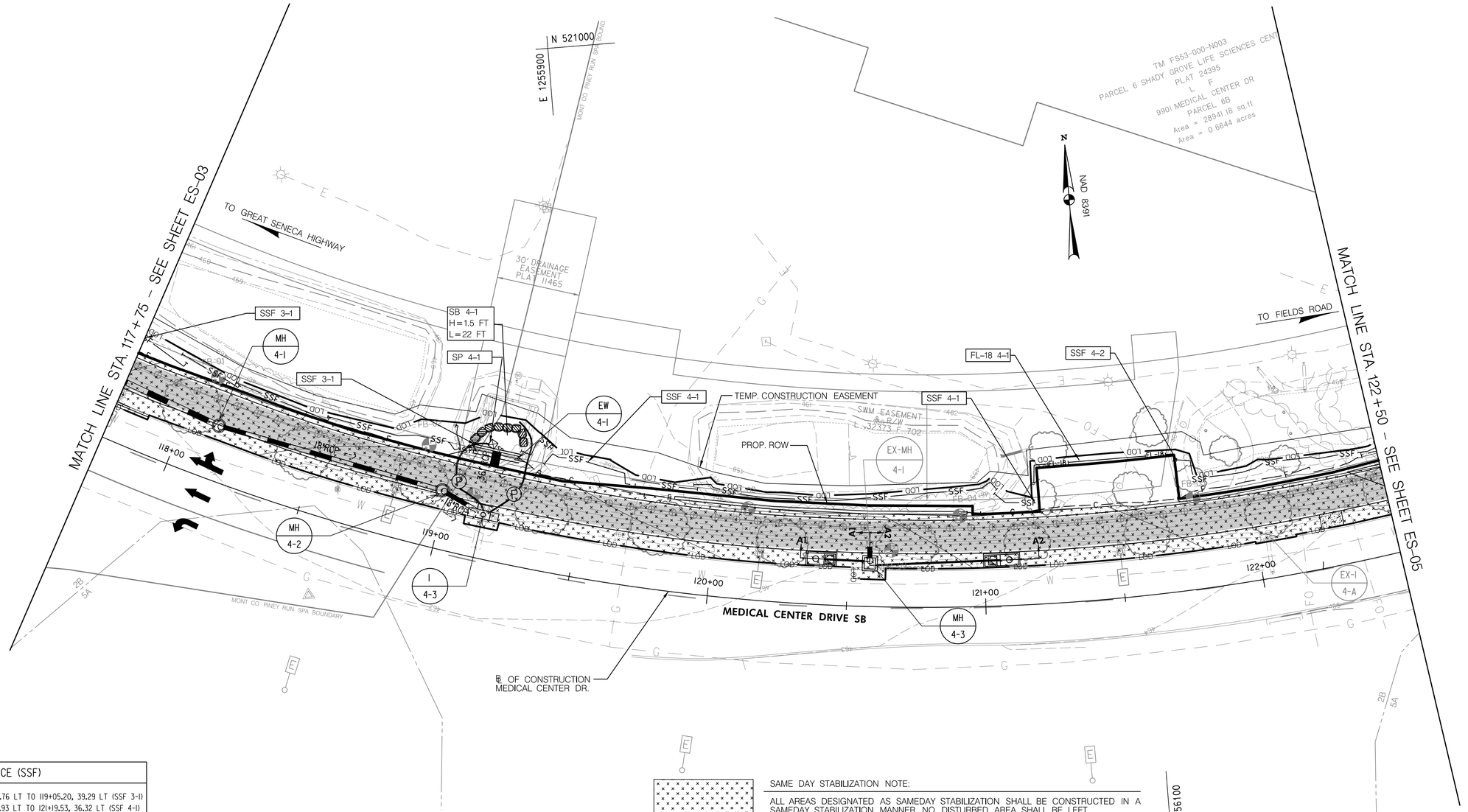


SUPER SILT FENCE (SSF)	
145 LF	MEDICAL CENTER DR - 117+75.00, 38.76 LT TO 119+05.20, 39.29 LT (SSF 3-1)
207 LF	MEDICAL CENTER DR - 119+23.94, 40.93 LT TO 121+19.53, 36.32 LT (SSF 4-1)
78 LF	MEDICAL CENTER DR - 121+74.69, 46.98 LT TO 122+50.00, 38.98 LT (SSF 4-2)

SUMP PIT (SP)	
1 EA	MEDICAL CENTER DR - 119+13.02, 41.00 LT (SP 4-1)

FILTER LOG (FL-18)	
60 FT	MEDICAL CENTER DR - 121+20.14, 49.81 LT TO 121+73.49, 49.33 LT (FL-18 4-1)

E 1255900
N 520700
E 1256100
N 520700

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-04

DPS SC/SWM PERMIT SHEET NO. 35 of 64

C.I.P. Project No. : 0501742 54 of 105

PLOTTED: 6/29/2024
FILE: c:\pwworking\gfpw01\dhodakura\d1286585\pES-P004_1SCLT.dgn

MATCH LINE STA 122+50 – SEE SHEET ES-04

MATCH LINE STA 128+25 – SEE SHEET ES-06

TEMP. CONSTRUCTION EASEMENT

PROP. ROW

TO GREAT SENECA HIGHWAY

SSF 4-2

TEMP. CONSTRUCTION EASEMENT

PROP. ROW

TO FIELDS ROAD

E 1256300 / N 521000

TM FS53-000-N003
PARCEL 6 SHADY GROVE LIFE SCIENCES CENTER
PLAT 24395
L F
9901 MEDICAL CENTER DR
PARCEL 6A
Area = 1704188.06 sq.ft
Area = 39.1228 acres

EX-MH 5-A

MEDICAL CENTER DRIVE SB

123+00

124+00

125+00

126+00

127+00

128+00

E 1256300

N 520800

℄ OF CONSTRUCTION MEDICAL CENTER DR.

14'x23"HERCP

MH 5-1

MH 5-2

MH 5-3

MH 5-4

MH 5-5

I 5-1

I 5-2

I 5-3

AGIP 5-1
DA=0.16 AC.

AGIP 5-2
DA= 0.23 AC.

CIP 5-1
DA=0.29

N 520800 / E 1256500

SUPER SILT FENCE (SSF)	
28 LF	MEDICAL CENTER DR - 122+50.00, 38.98 LT TO 122+69.18, 43.73 LT (SSF 4-2)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 124+77.41, 11.90 LT (AGIP 5-1)
1 EA	MEDICAL CENTER DR - 125+59.27, 11.84 LT (AGIP 5-2)
1 EA	MEDICAL CENTER DR - 126+90.51, 15.76 LT (CIP 5-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

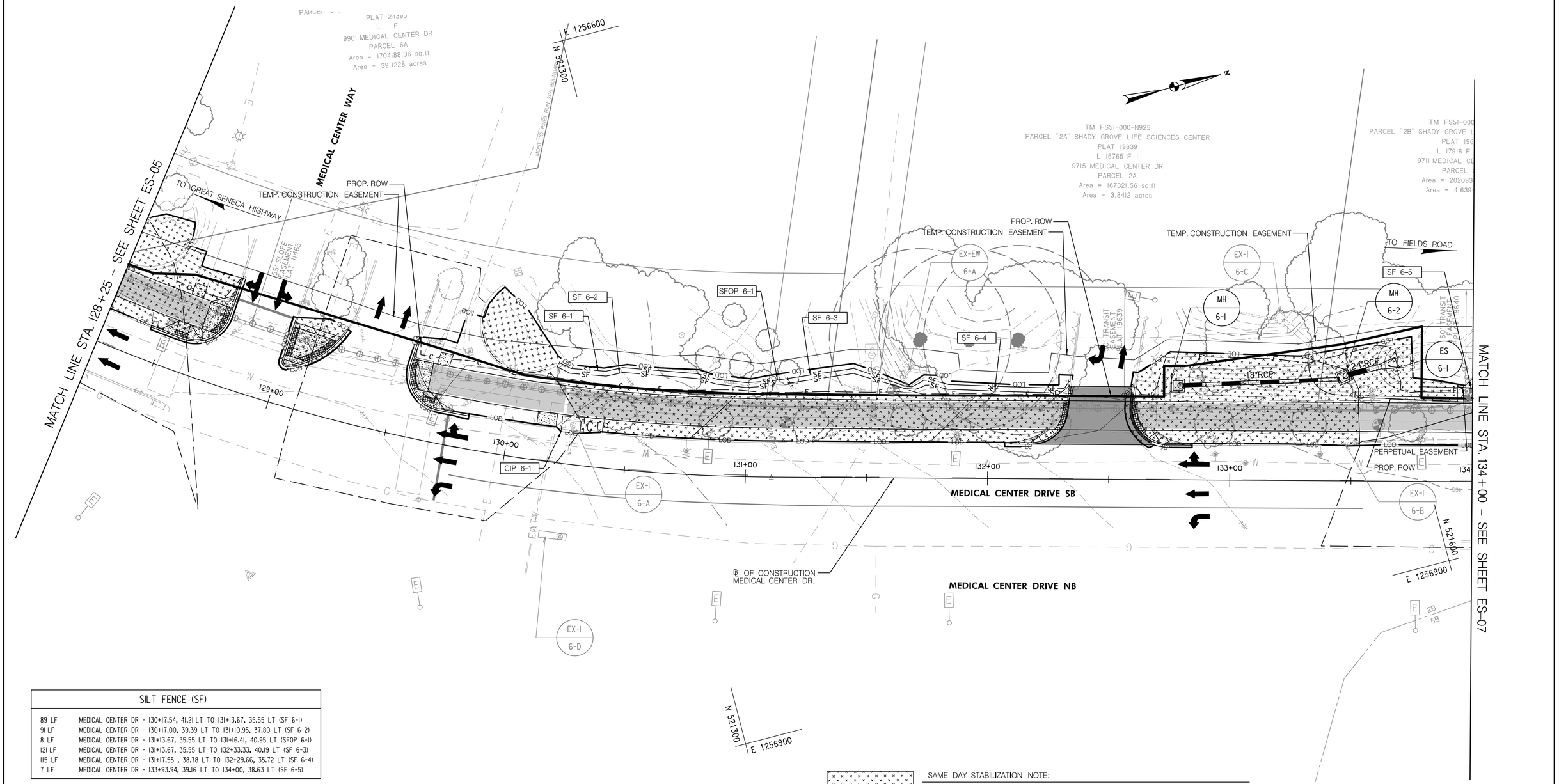
EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-05

DPS SC/SWM PERMIT SHEET NO. 36 of 64

C.I.P. Project No. : 0501742 55 of 105

PLOTTED: 6/28/2024
FILE: C:\powerfiling\gfpwd01\dmotakura\d2806585\pES-P060_SCLT.dgn



SILT FENCE (SF)	
89 LF	MEDICAL CENTER DR - 130+17.54, 41.21 LT TO 131+13.67, 35.55 LT (SF 6-1)
91 LF	MEDICAL CENTER DR - 130+17.00, 39.39 LT TO 131+10.95, 37.80 LT (SF 6-2)
8 LF	MEDICAL CENTER DR - 131+13.67, 35.55 LT TO 131+16.41, 40.95 LT (SFOP 6-1)
121 LF	MEDICAL CENTER DR - 131+13.67, 35.55 LT TO 132+33.33, 40.19 LT (SF 6-3)
115 LF	MEDICAL CENTER DR - 131+17.55 , 38.78 LT TO 132+29.66, 35.72 LT (SF 6-4)
7 LF	MEDICAL CENTER DR - 133+93.94, 39.16 LT TO 134+00, 38.63 LT (SF 6-5)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 130+26.86, 15.70 LT (CIP 6-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

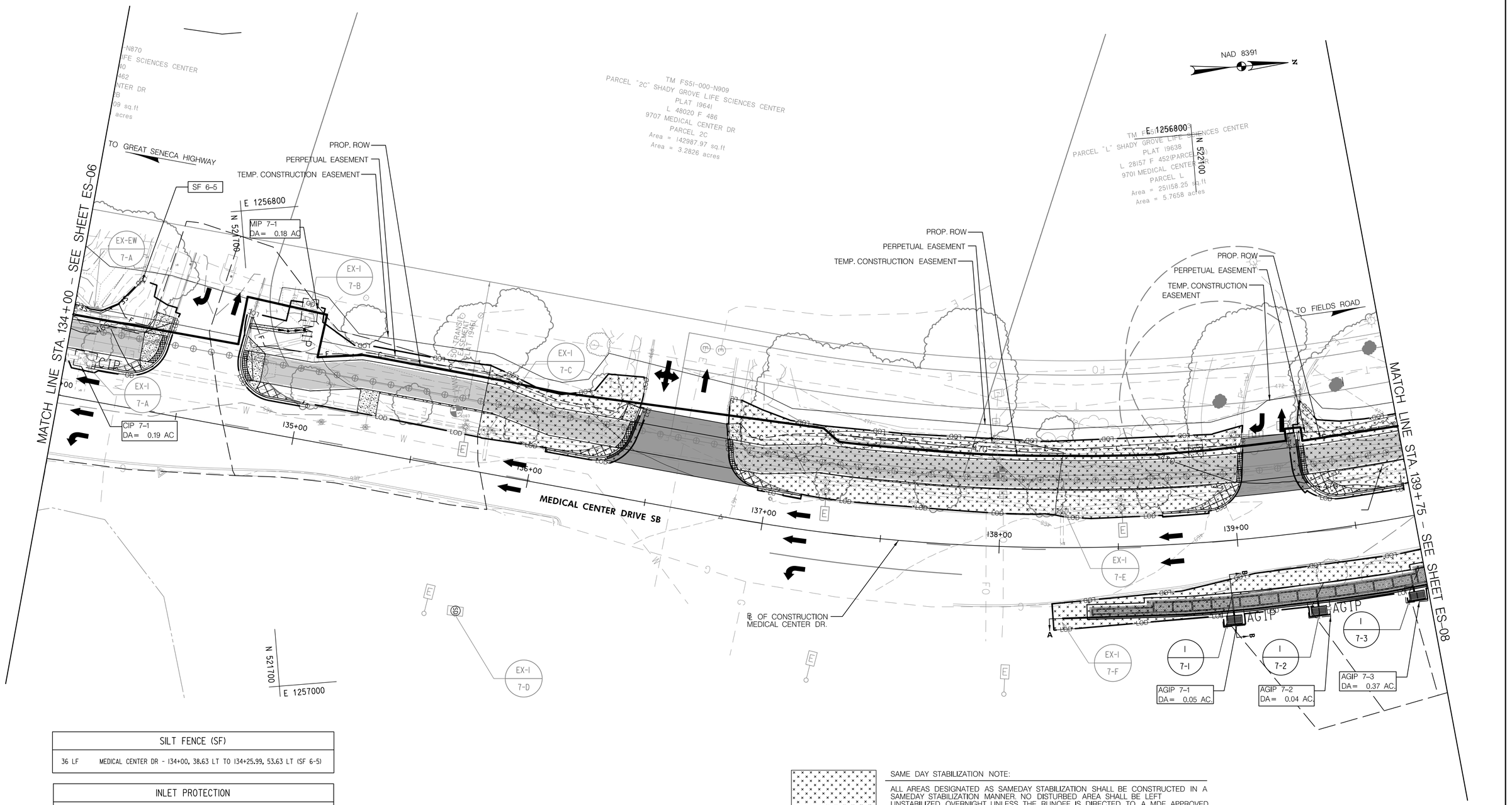
EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-06

DPS SC/SWM PERMIT SHEET NO. 37 of 64

C.I.P. Project No. : 0501742 56 of 105

PLOTTED: 6/28/2024
FILE: C:\powerbkng\gfpw01\dmotakun\d2806865\pES-P006_SCLT.dgn



SILT FENCE (SF)	
36 LF	MEDICAL CENTER DR - 134+00, 38.63 LT TO 134+25.99, 53.63 LT (SF 6-5)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 134+08.67, 16.79 LT (CIP 7-1)
1 EA	MEDICAL CENTER DR - 134+96.75, 52.68 LT (MIP 7-1)
1 EA	MEDICAL CENTER DR - 138+95.84, 32.75 RT (AGIP 7-1)
1 EA	MEDICAL CENTER DR - 139+30.11, 33.15 RT (AGIP 7-2)
1 EA	MEDICAL CENTER DR - 139+70.09, 33.14 RT (AGIP 7-3)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-07

DPS SC/SWM PERMIT SHEET NO. 38 of 64

C.I.P. Project No. : 0501742 57 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\dpfowl\\dmt0akura\d0280680\pES-P007_LSCLT.dgn

NAD 83\91

E 1256800
N 522300

TO GREAT SENECA HIGHWAY

PROP. ROW
PERPETUAL EASEMENT
TEMP. CONSTRUCTION EASEMENT

BLACKWELL ROAD

EX-1
8-B

TO FIELDS ROAD

PERPETUAL EASEMENT
TEMP. CONSTRUCTION EASEMENT
PROP. ROW

MH
8-1

24" RCP

MATCH LINE STA. 145+50 – SEE SHEET ES-09

15' UTILITY EASEMENT PLAT 15979

27' LANDSCAPE EASEMENT PLAT 15979

15' UTILITY EASEMENT PLAT 15979

AGIP

AGIP 8-3
DA = 0.09 AC.

AGIP 8-2
DA = 0.49 AC.

CIP 8-1
DA = 0.11 AC.

AGIP 8-1
DA = 0.36 AC.

AGIP

140+00
141+00
142+00
143+00
144+00
145+00

MEDICAL CENTER DRIVE SB

I 8-1
I 8-2
I 8-3
I 8-4

℄ OF CONSTRUCTION
MEDICAL CENTER DR.

MATCH LINE STA. 139+75 – SEE SHEET ES-07

N 522300
E 1257000

N 522500
E 1257000

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 140+20.36, 15.08 LT (CIP 8-1)
1 EA	MEDICAL CENTER DR - 140+77.23, 11.86 LT (AGIP 8-1)
1 EA	MEDICAL CENTER DR - 144+83.44, 11.32 LT (AGIP 8-2)
1 EA	MEDICAL CENTER DR - 145+39.84, 12.42 LT (AGIP 8-3)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
EROSION AND SEDIMENT CONTROL PLAN

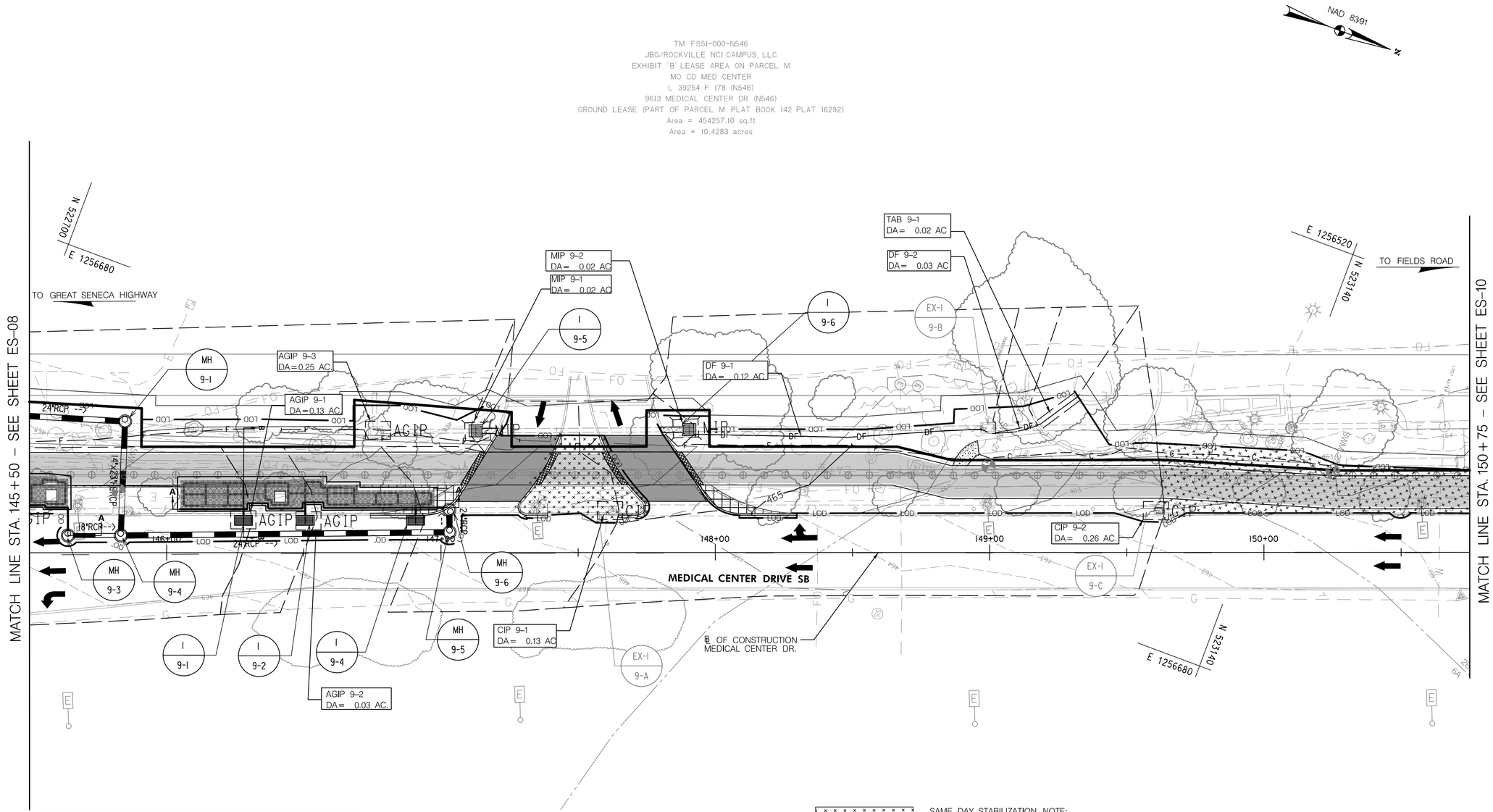
SCALE : 1"=20' DATE: JUNE 2024 ES–08

DPS SC/SWM PERMIT SHEET NO. 39 of 64

C.I.P. Project No. : 0501742 58 of 105

PLOTTED: 6/28/2024
FILE: C:\powerdrg\gfpw01\dmotalura\d1256680\pES-R008_LSCLT.dgn

TM FS5I-000-N546
JBG/ROCKVILLE NCI CAMPUS, LLC
EXHIBIT 'B' LEASE AREA ON PARCEL M
MO CO MED CENTER
L. 39254 F. 178 (N546)
9613 MEDICAL CENTER DR (N546)
GROUND LEASE (PART OF PARCEL M PLAT BOOK 142 PLAT 16292)
Area = 454257.10 sq.ft
Area = 10.4283 acres



DIVERSION FENCE (DF)	
112 LF	MEDICAL CENTER DR - 147+92.20, 43.04 LT TO 148+96.82, 44.80 LT (DF 9-1)
33 LF	MEDICAL CENTER DR - 149+02.25, 43.62 LT TO 149+17.56, 46.53 LT (DF 9-2)

INLET PROTECTION	
1 EA	MEDICAL CENTER DR - 146+28.37, 12.02 LT (AGIP 9-1)
1 EA	MEDICAL CENTER DR - 146+52.13, 12.01 LT (AGIP 9-2)
1 EA	MEDICAL CENTER DR - 146+76.16, 47.52 LT (AGIP 9-3)
1 EA	MEDICAL CENTER DR - 147+12.70, 44.36 LT (MIP 9-1)
1 EA	MEDICAL CENTER DR - 147+90.58, 44.80 LT (MIP 9-2)
1 EA	MEDICAL CENTER DR - 147+62.77, 15.35 LT (CIP 9-1)
1 EA	MEDICAL CENTER DR - 149+62.05, 14.83 LT (CIP 9-1)

TEMPORARY ASPHALT BERM (TAB)	
18 LF	MEDICAL CENTER DR - 149+17.56, 46.63 LT TO 149+32.17, 56.88 LT (TAB 9-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

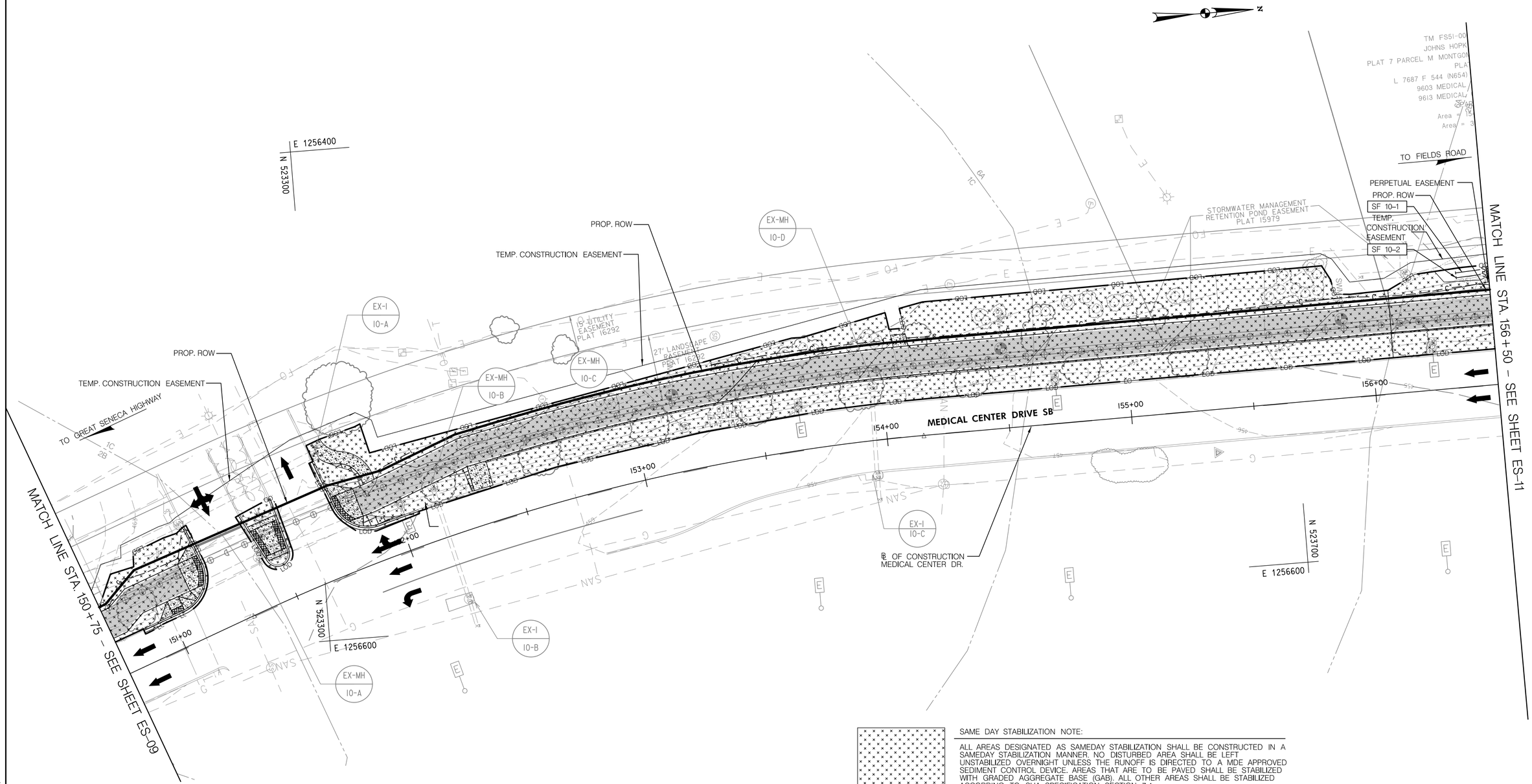
LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-09

DPS SC/SWM PERMIT SHEET NO. 40 of 64

C.I.P. Project No. : 0501742 59 of 105

PLOTTED: 6/28/2024
FILE: C:\powerorkg\gfpw01\chnotaura\dt2856881\plES-P909_LSCLT.dgn



SILT FENCE (SF)	
16 LF	MEDICAL CENTER DR - 156+36.77, 46.97 LT TO 156+50.00, 47.76 LT (SF 10-1)
16 LF	MEDICAL CENTER DR - 156+36.77, 44.97 LT TO 156+50.00, 47.76 LT (SF 10-2)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES–10

DPS SC/SWM PERMIT SHEET NO. 41 of 64

C.I.P. Project No. : 0501742 60 of 105

PLOTTED: 6/28/2024
FILE: c:\pwworking\gjbwith\dmotaleura\d0586680\pES-P010_LSCLT.dgn

MATCH LINE STA. 156+50 - SEE SHEET ES-10

MATCH LINE STA. 203+00- SEE SHEET ES-12

TO GREAT SENECA HIGHWAY

TO FIELDS ROAD

KEY WEST AVENUE EB

KEY WEST AVENUE WB

OMEGA BOULEVARD SB

OMEGA BOULEVARD NB

℄ OF CONSTRUCTION MEDICAL CENTER DR.

℄ OF CONSTRUCTION OMEGA BLVD.

50' TRANSCONTINENTAL GAS RIGHT-OF-WAY

PEPCO EASEMENT L. 7050 F. 386

10' P.U.E. PLAT 12896

N654 & N546
NS UNIVERSITY
ERY COUNTY MEDICAL CENTER
16292
& L 39254 F 178 (N546)
CENTER DR (N654)
CENTER DR (N546)
CEL M
9236.32 sq.ft
5656 acres

TM FS51-000-N275
FINANCIAL INDUSTRY REGULATORY AUTHORITY, INC
PARCEL "BB" DECOVERLY HALL
PLAT 16450
L. 49812 F. 268
15200 OMEGA DRIVE
PARCEL BB
Area = 214836.57 sq.ft
Area = 4.9320 acres

E 1256400 N 523845

E 1256400 N 524200

N 523845 E 1256645

PROP. ROW
PERPETUAL EASEMENT
TEMP. CONSTRUCTION EASEMENT

SF 10-1
SF 10-2
SF 11-1
SF 11-1
SF 11-1
SFOP 11-1

REVERTIBLE SLOPE EASEMENT

CIP 11-1
DA = 0.30 AC

EX-I II-A
EX-I II-D

I II-2

157+00
158+00
159+00
200+00
201+00
202+00
203+00

SILT FENCE (SF)

151 LF	MEDICAL CENTER DR - 156+50.00, 47.76 LT TO 157+68.28, 48.67 LT (SF 10-1)
119 LF	MEDICAL CENTER DR - 156+50.00, 45.76 LT TO 157+66.28, 46.67 LT (SF 10-2)
146 LF	OMEGA BLVD - 201+54.60, 39.45 LT TO 202+66.81, 54.47 LT (SF 11-1)
36 LF	OMEGA BLVD - 202+75.59, 50.15 LT TO 203+00, 50.15 LT (SFOP 11-1)

INLET PROTECTION

1 EA	OMEGA BLVD - 201+01.28, 18.00 LT (CIP 11-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-11

DPS SC/SWM PERMIT SHEET NO. 42 of 64

C.I.P. Project No. : 0501742 61 of 105

PLOTTED: 6/27/2024
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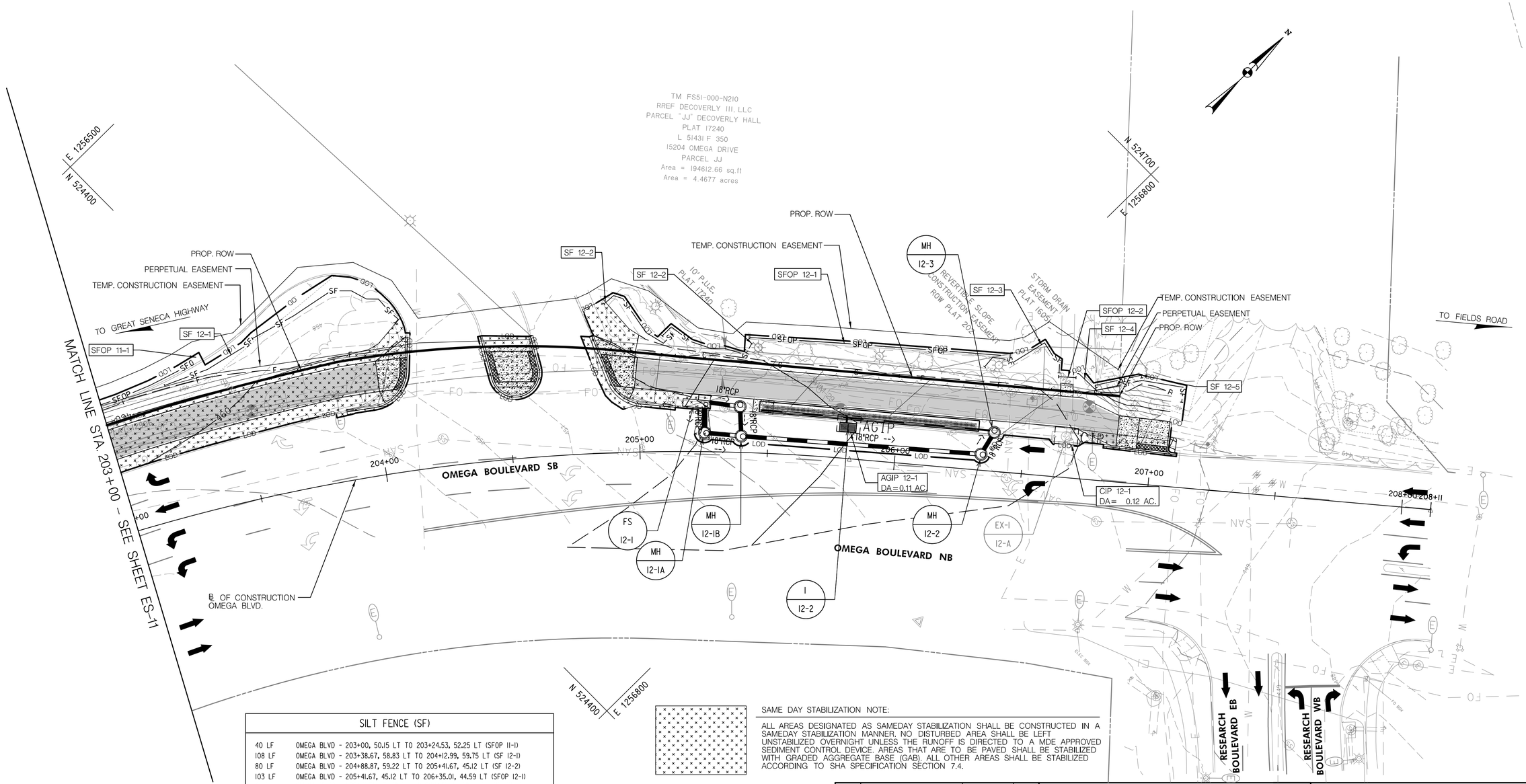


SILT FENCE (SF)	
40 LF	OMEGA BLVD - 203+00, 50.15 LT TO 203+24.53, 52.25 LT (SFOP 11-1)
108 LF	OMEGA BLVD - 203+38.67, 58.83 LT TO 204+12.99, 59.75 LT (SF 12-1)
80 LF	OMEGA BLVD - 204+88.87, 59.22 LT TO 205+41.67, 45.12 LT (SF 12-2)
103 LF	OMEGA BLVD - 205+41.67, 45.12 LT TO 206+35.01, 44.59 LT (SFOP 12-1)
43 LF	OMEGA BLVD - 206+41.62, 45.78 LT TO 206+61.36, 40.75 LT (SF 12-3)
7 LF	OMEGA BLVD - 206+61.16, 39.28 LT TO 206+68.13, 59.50 LT (SFOP 12-2)
53 LF	OMEGA BLVD - 206+67.19, 40.99 LT TO 207+10.56, 39.37 LT (SF 12-4)
21 LF	OMEGA BLVD - 206+75.90, 37.21 LT TO 206+93.64, 42.64 LT (SF 12-5)

INLET PROTECTION	
1 EA	OMEGA BLVD - 205+80.39, 12.33 LT (AGIP 12-1)
1 EA	OMEGA BLVD - 206+66.64, 15.58 LT (CIP 12-1)

SAME DAY STABILIZATION NOTE:

ALL AREAS DESIGNATED AS SAMEDAY STABILIZATION SHALL BE CONSTRUCTED IN A SAMEDAY STABILIZATION MANNER. NO DISTURBED AREA SHALL BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO A MDE APPROVED SEDIMENT CONTROL DEVICE. AREAS THAT ARE TO BE PAVED SHALL BE STABILIZED WITH GRADED AGGREGATE BASE (GAB). ALL OTHER AREAS SHALL BE STABILIZED ACCORDING TO SHA SPECIFICATION SECTION 7.4.

20' 0 20' 40'
SCALE: 1" = 20'

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL PLAN

SCALE : 1"=20' DATE: JUNE 2024 ES-12

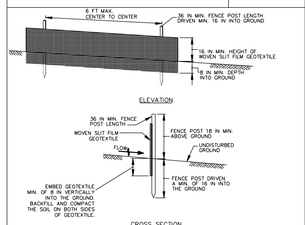
DPS SC/SWM PERMIT SHEET NO. 43 of 64

C.I.P. Project No. : 0501742 62 of 105

PLOTTED: 6/27/2024
FILE: C:\pwworking\ghwo1\dtrotakura\d128568\pES-P002_LSCLT.dgn

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF



1 OF 2

DETAIL E-1 SILT FENCE

STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. USE WOOD POSTS 1½ x 1½ x ¾ INCH (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. USE WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS AND FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN; OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

2 OF 2

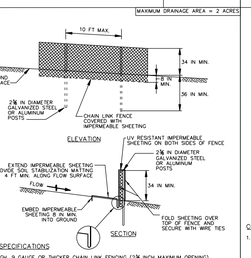
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9 DIVERSION FENCE

STANDARD SYMBOL: DF

MAXIMUM DRAINAGE AREA = 2 ACRES



CONSTRUCTION SPECIFICATIONS

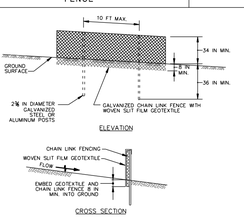
1. USE 42 INCH HIGH, 9 GAUGE OR THICKER CHAIN LINK FENCING (2¾ INCH MAXIMUM OPENING).
2. USE 2¾ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. THE POSTS ARE TO BE SET IN CONCRETE.
3. FASTEN CHAIN LINK FENCE SECURELY TO THE FENCE POSTS WITH WIRE TIES.
4. SECURE 10 MIL OR THICKER UV RESISTANT, IMPERMEABLE SHEETING TO CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT TOP, MID SECTION, AND BELOW GROUND SURFACE.
5. EXTEND SHEETING A MINIMUM OF EIGHT INCHES BELOW GROUND AND EMBED FOR A MINIMUM OF 8 INCHES INTO GROUND. SOIL STABILIZATION MATTING MAY BE USED IN LIEU OF IMPERMEABLE SHEETING ALONG FLOW SURFACE.
6. WHEN TWO SECTIONS OF SHEETING ADJOIN EACH OTHER, OVERLAP BY 6 INCHES AND FOLD WITH SEAM FACING DOWNGRADE.
7. KEEP FLOW SURFACE ALONG DIVERSION FENCE AND POINT OF DISCHARGE FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE. REPLACE IMPERMEABLE SHEETING IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-3 SUPER SILT FENCE

STANDARD SYMBOL: SSF



CONSTRUCTION SPECIFICATIONS

1. INSTALL 2¾ INCH DIAMETER GALVANIZED STEEL POSTS OF 0.095 INCH WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2¾ INCH MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.

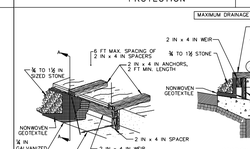
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-3 CURB INLET PROTECTION

STANDARD SYMBOL: CIP

MAXIMUM DRAINAGE AREA = ¼ ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH x 4 INCH LUMBER.
2. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
3. NAIL THE 2x4 WEIR TO 9 INCH LONG VERTICAL SPACERS (MAXIMUM 6 FEET APART).
4. ATTACH A CONTINUOUS PIECE OF ¼ INCH GALVANIZED HARDWARE CLOTH, WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2x4 WEIR, EXTENDING 17 2 FEET BEYOND THROAT ON EACH SIDE.
5. PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE OF THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH TO THE 2x4 WEIR.
6. PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2x4 ANCHORS (MINIMUM 2 FEET LONG). PLACE SANDBAGS AGAINST THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
7. INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.
8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING. COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
9. AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
10. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

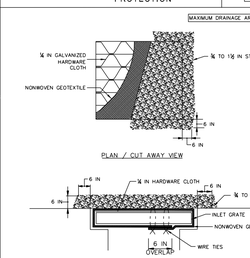
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. LIFT GRATE AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS. SECURE WITH WIRE TIES AND SET GRATE BACK IN PLACE.
3. PLACE CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE 6 INCHES THICK ON THE GRATE.
4. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

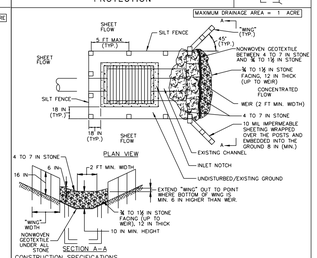
MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-9-4 MEDIAN INLET PROTECTION

STANDARD SYMBOL: MIP

MAXIMUM DRAINAGE AREA = 1 ACRE



CONSTRUCTION SPECIFICATIONS

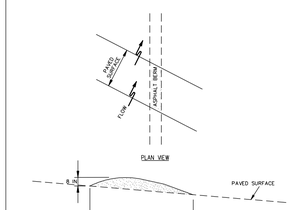
1. USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
2. INSTALL SILT FENCE ON ALL SIDES OF INLET RECEIVING SHEET FLOW. FENCE IS TO BE INSTALLED IN ACCORDANCE WITH SILT FENCE DETAIL E-1, EXCEPT POSTS ARE TO BE SPACED A MAXIMUM OF 5 FEET APART.
3. INSTALL STONE STRUCTURE WITH THE WEIR 10 INCHES ABOVE THE INVERT OF THE CHANNEL AND THE WEIR OPENING THE SAME WIDTH AS THE CHANNEL BOTTOM OR 2 FEET MINIMUM. USE CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE. PLACE NONWOVEN GEOTEXTILE ON THE UPSTREAM FACE AND COVER WITH A 12 INCH THICK LAYER OF CLEAN ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE.
4. CONSTRUCT "WINGS" IN ACCORDANCE WITH DIVERSION FENCE DETAIL C-9.
5. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL C-5 TEMPORARY ASPHALT BERM

STANDARD SYMBOL: 18



CONSTRUCTION SPECIFICATIONS

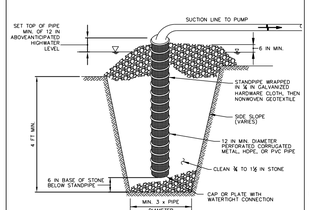
1. CONSTRUCT BERM ON AN UNINTERRUPTED, CONTINUOUS GRADE.
2. INSTALL BERM TO CONFORM TO CROSS SECTION DIMENSIONS OF A UNIFORM HEIGHT OF 8 INCHES MINIMUM AND APPROXIMATE WIDTH OF 3½ FEET.
3. PROVIDE OUTLET PROTECTION AS REQUIRED ON PLAN.
4. COMPACT ASPHALT BERM.
5. REPAIR DAMAGED ASPHALT. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.
6. UPON REMOVAL OF ASPHALT BERM, RETURN TO ORIGINAL CONDITIONS OR AS SPECIFIED ON APPROVED PLAN.
7. ASPHALT MIXS IN ACCORDANCE WITH 904.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL F-2 SUMP PIT

STANDARD SYMBOL: SP



CONSTRUCTION SPECIFICATIONS

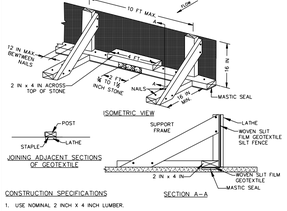
1. USE 12 INCH OR LARGER DIAMETER CORRUGATED METAL, HDPE, OR PVC PIPE WITH 1 INCH DIAMETER PERFORATIONS, 6 INCHES ON CENTER, BOTTOM OF PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
2. WRAP PIPE WITH ¼ INCH GALVANIZED HARDWARE CLOTH AND WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
3. EXCAVATE PIT TO THREE TIMES THE PIPE DIAMETER AND FOUR FEET IN DEPTH. PLACE ¾ TO 1½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
4. SET TOP OF PIPE MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. BACKFILL PIT AROUND THE PIPE WITH ¾ TO 1½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
6. DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
7. A SUMP PIT REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, REMOVE PERFORATED PIPE AND REPLACE GEOTEXTILE AND STONE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL E-2 SILT FENCE ON PAVEMENT

STANDARD SYMBOL: SFOP



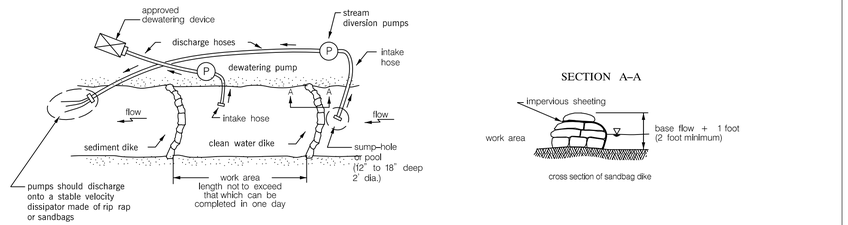
CONSTRUCTION SPECIFICATIONS

1. USE NOMINAL 2 INCH X 4 INCH LUMBER.
2. USE WOVEN SLIT FILM GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS.
3. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS IN SECTION H-1 MATERIALS.
4. SPACE UPRIGHT SUPPORTS NO MORE THAN 10 FEET APART.
5. PROVIDE A TWO FOOT OPENING BETWEEN EVERY SET OF SUPPORTS AND PLACE STONE IN THE OPENING OVER GEOTEXTILE.
6. KEEP SILT FENCE TAUT AND SECURELY STAPLE TO THE UPSLOPE SIDE OF UPRIGHT SUPPORTS. EXTEND GEOTEXTILE UNDER 2x4.
7. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN; OVERLAP, FOLD, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL. ATTACH LATHE.
8. PROVIDE A MASTIC SEAL BETWEEN PAVEMENT, GEOTEXTILE, AND 2x4 TO PREVENT SEDIMENT-LADEN WATER FROM ESCAPING BENEATH SILT FENCE INSTALLATION.
9. SECURE BOARDS TO PAVEMENT WITH 400 5 INCH MINIMUM LENGTH NAILS.
10. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. MAINTAIN WATER TIGHT SEAL ALONG BOTTOM. REPLACE STONE IF DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

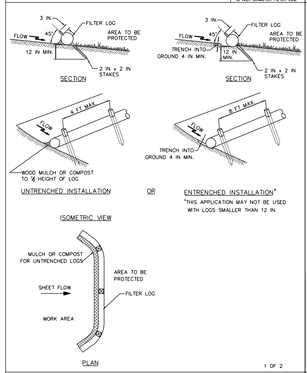
U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

DETAIL 1.2: PUMP-AROUND PRACTICE



DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18 (DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG)



1 OF 2

DETAIL E-6 FILTER LOG

STANDARD SYMBOL: FL-18 (DESIGNATION FL-18 REFERS TO 18 INCH DIAMETER FILTER LOG)

CONSTRUCTION SPECIFICATIONS

1. PRIOR TO INSTALLATION, CLEAR ALL OBSTRUCTIONS INCLUDING ROCKS, CLODS, AND DEBRIS GREATER THAN ONE INCH THAT MAY INTERFERE WITH PROPER FUNCTION OF FILTER LOG.
2. FILL LOG NETTING UNIFORMLY WITH COMPOST (IN ACCORDANCE WITH SECTION H-1 MATERIALS), OR OTHER APPROVED BIODEGRADABLE MATERIAL TO DESIRED LENGTH SUCH THAT LOGS DO NOT DEFORM.
3. INSTALL FILTER LOGS PERPENDICULAR TO THE FLOW DIRECTION AND PARALLEL TO THE SLOPE WITH THE BEGINNING AND END OF THE INSTALLATION POINTING SLIGHTLY UP THE SLOPE CREATING A "J" SHAPE AT EACH END TO PREVENT BYPASS.
4. FOR UNTRENCHED INSTALLATION BLOW OR HAND PLACE MULCH OR COMPOST ON UPHILL SIDE OF THE SLOPE ALONG LOG.
5. STAKE FILTER LOG EVERY 4 FEET OR CLOSER ALONG ENTIRE LENGTH OF LOG OR TRENCH LOG INTO GROUND A MINIMUM OF 4 INCHES AND STAKE LOG EVERY 8 FEET OR CLOSER.
6. USE STAKES WITH A MINIMUM NOMINAL CROSS SECTION OF 2X2 INCH AND OF SUFFICIENT LENGTH TO ATTAIN A MINIMUM OF 12 INCHES INTO THE GROUND AND 3 INCHES PROTRUDING ABOVE LOG.
7. WHEN MORE THAN ONE LOG IS NEEDED, OVERLAP ENDS 12 INCHES MINIMUM AND STAKE.
8. REMOVE SEDIMENT WHEN IT HAS ACCUMULATED TO A DEPTH OF ½ THE EXPOSED HEIGHT OF LOG AND REPLACE MULCH. REPLACE FILTER LOG IF TORN. REINSTALL FILTER LOG IF UNDERMINING OR DISLODGING OCCURS. REPLACE CLOGGED FILTER LOGS. FOR PERMANENT APPLICATIONS, ESTABLISH AND CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION.

2 OF 2

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

U.S. DEPARTMENT OF AGRICULTURE NATURAL RESOURCES CONSERVATION SERVICE	2011	MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

COMPLETE A UNTRENCHED INLTALLATION UNLESS STATED OTHERWISE.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: DBT Drawn by: DBT Checked by: ECW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

EROSION AND SEDIMENT CONTROL DETAILS

SCALE : NTS DATE: JUNE 2024 ED-01

DPS SC/SWM PERMIT SHEET NO. 44 of 64

C.I.P. Project No. : 0501742 63 of 105

PLOTTED: 6/27/2024
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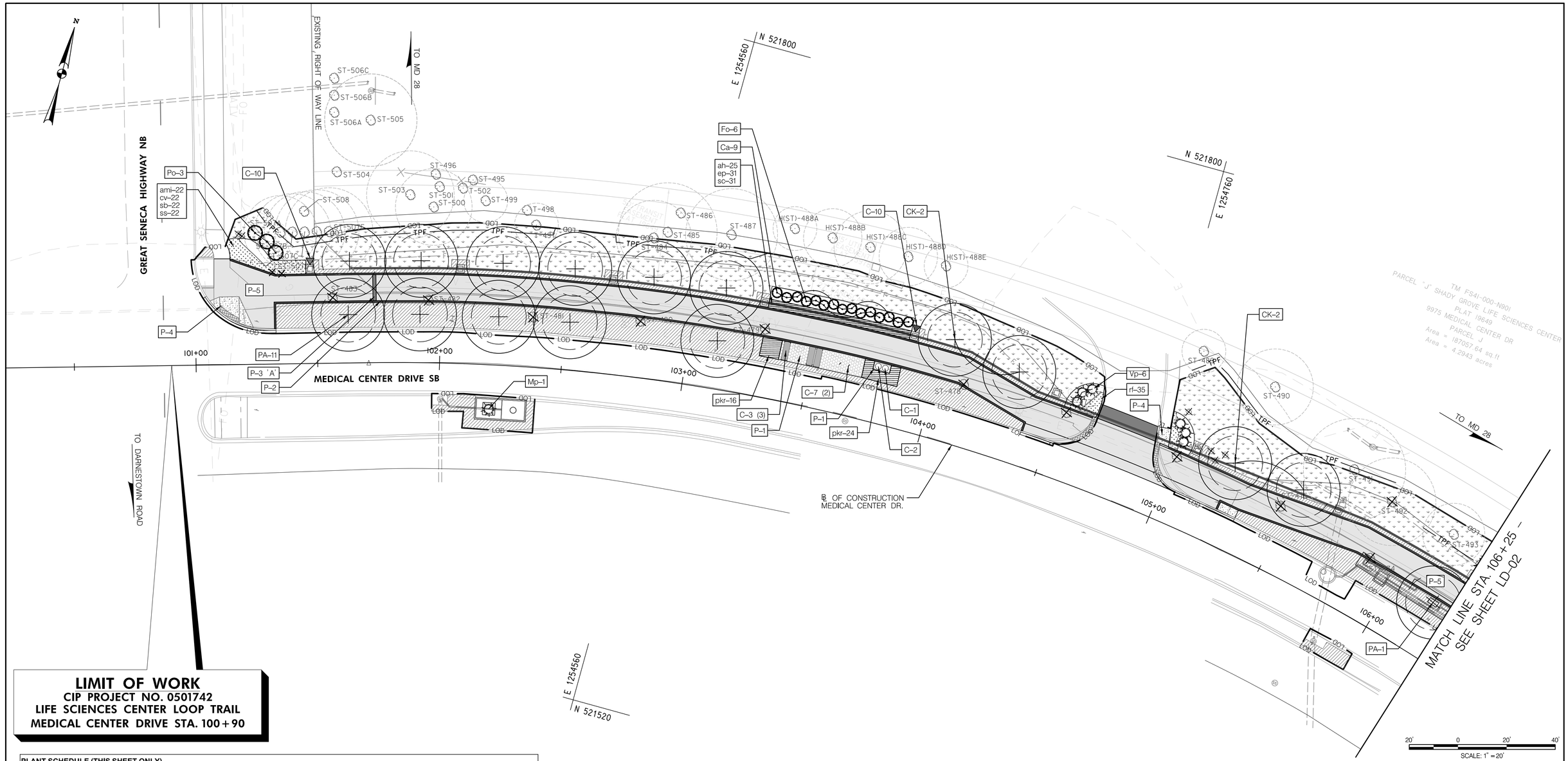

LIMIT OF WORK
CIP PROJECT NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
MEDICAL CENTER DRIVE STA. 100+90

PLANT SCHEDULE (THIS SHEET ONLY)

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
CK	4	*Cladrastis kentukea*	American Yellowwood	3" Cal.	B&B	
PA	12	*Platanus x acerifolia*	London Plane Tree	3" Cal.	B&B	
SHRUBS						
Ca	9	*Clethra alnifolia 'Hummingbird'*	Summersweet	18" Ht.	#3 Cont.	
Fo	6	*Fothergilla gardenii*	Fothergilla	18" Ht.	#3 Cont.	
Mp	1	*Morella pennsylvanica*	Northern Bayberry	30" Ht.	#7 Cont.	
Po	3	*Physocarpus opulifolius 'Summer Wine'*	Common Ninebark	24" Ht.	#5 Cont.	
Vp	6	*Viburnum pragense*	Prague Viburnum	30" Ht.	#7 Cont.	
PERENNIAL/GRASSES						
ah	25	*Asmonia hubrichtii*	Threadleaf bluestar		#1 Cont.	24" O.C.
ami	22	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
cv	22	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
ep	31	*Echinacea purpurea*	Purple Coneflower		#1 Cont.	18" O.C.
pkr	40	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
rf	35	*Rudbeckia fulgida 'Little Godstar'*	Black Eyed Susan		#1 Cont.	18" O.C.
sb	22	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
sc	31	*Salvia nemorosa 'Caradonna'*	Sage		#1 Cont.	18" O.C.
ss	22	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SEED	962	Turfgrass Seed Establishment (SY)				
SOD	510	Turfgrass Sod Establishment (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
UNDERSTORY TREE
SHRUBS
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
BOULDER WALL

FLOURA TEETER
landscape architects
1001 North Charles St. Ste. 500
Baltimore, Maryland 21201
Phone: 410.528.8395
Fax: 410.528.8425

Gannett Fleming/GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date
Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD-01

DPS SC/SWM PERMIT SHEET NO. 45 of 64
C.I.P. Project No. : 0501742 64 of 105

PLOTTED: 6/9/2024
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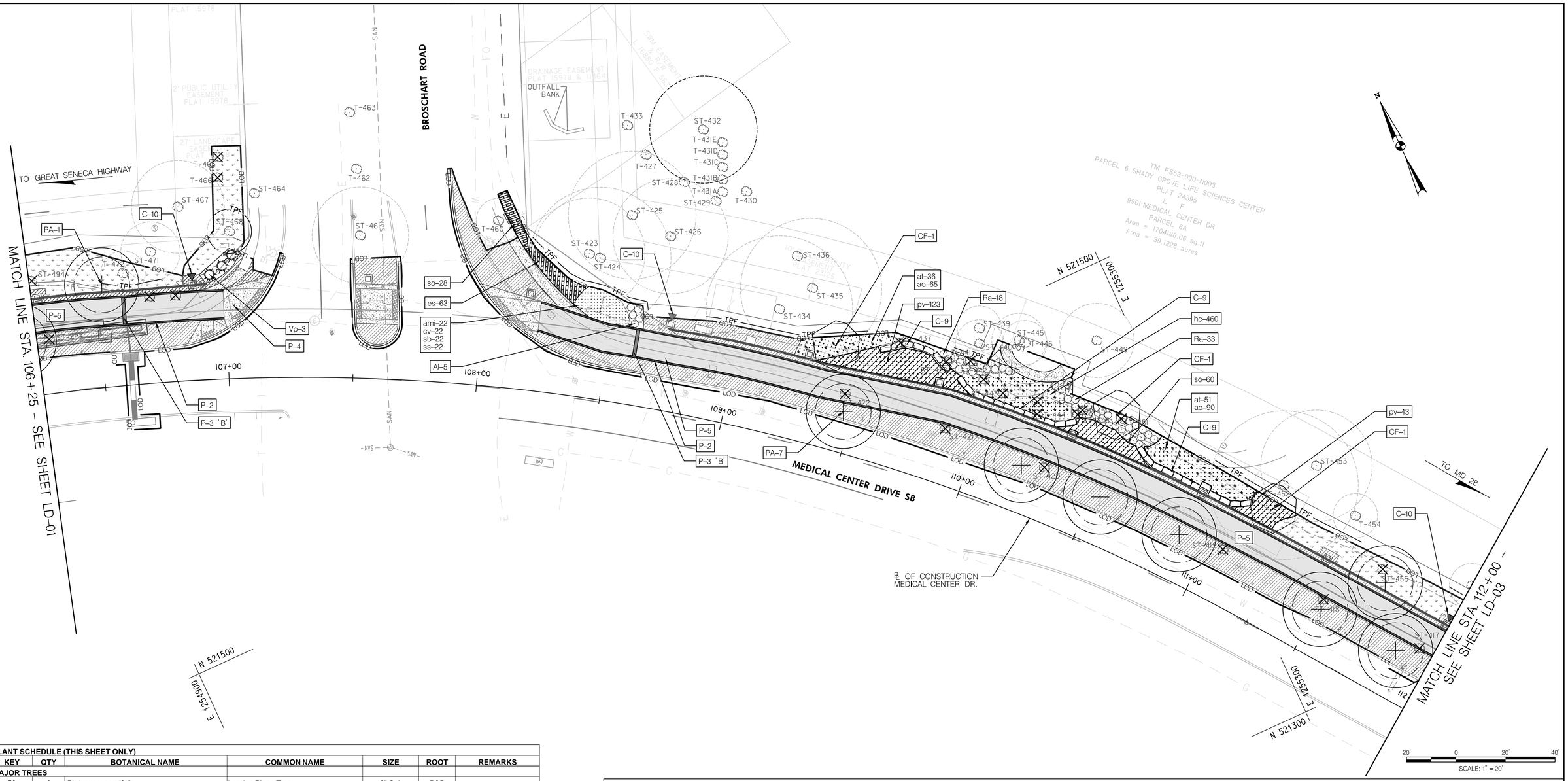

PLANT SCHEDULE (THIS SHEET ONLY)

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
PA	8	*Platanus x acerifolia*	London Plane Tree	3" Cal.	B&B	
TA	1	*Tilia americana*	American Linden	3" Cal.	B&B	
UNDERSTORY TREES						
CF	3	*Cornus florida*	Flowering Dogwood	2" Cal.	B&B	
SHRUBS						
Al	5	*Aronia melanocarpa 'Low Scape Mound'*	Black Chokeberry	18" Ht.	#3 Cont.	
Ra	51	*Rhus aromatica 'Gro-Low'*	Fragrant Sumac	18" Ht.	#3 Cont.	
Vp	3	*Viburnum pragense*	Prague Viburnum	30" Ht.	#7 Cont.	
PERENNIAL/GRASSES						
ami	22	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
ao	155	*Aster oblongifolius 'October Skies'*	Aromatic Aster		#1 Cont.	18" O.C.
at	87	*Amsonia tabernaemontana*	Eastern Bluestar		#1 Cont.	18" O.C.
cv	22	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
es	63	*Eragrostis spectabilis*	Purple Love Grass		#1 Cont.	18" O.C.
hc	460	*Hypericum calycinum*	St. John's Wort		SP4/DP5	12" O.C.
pv	166	*Panicum virgatum 'Cape Breeze'*	Switch Grass		#1 Cont.	24" O.C.
sb	22	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
so	88	*Schizachyrium scoparium* Standing Ovation'	Standing Ovation Little Bluestem		#1 Cont.	18" OC
ss	22	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SEED	257	Turfgrass Seed Establishment (SY)				
SOD	666	Turfgrass Sod Establishment (SY)				
CPB	394	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TURFGRASS ESTABLISHMENT
- TURFGRASS SOD ESTABLISHMENT
- MAJOR TREE & PLANTING AREA
- SHRUBS
- UNDERSTORY TREE
- PERENNIAL PLANTING AREAS
- TPF — TREE PROTECTION FENCE
- POLE MOUNTED WAYFINDING SIGN
- ENGRAVED GRANITE PAVER
- FLUSH CONCRETE CURB EDGE
- LOD — LIMIT OF DISTURBANCE (LOD)
- ACCENT PAVER
- BOULDER WALL

FLOURA TEETER
landscape architects
1001 North Charles St. Ste. 500
Baltimore, Maryland 21201
Phone: 410.528.8395
Fax: 410.528.8425

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD–02

DPS SC/SWM PERMIT SHEET NO. 46 of 64

C.I.P. Project No. : 0501742 65 of 105

PLOTTED: 6/26/2024
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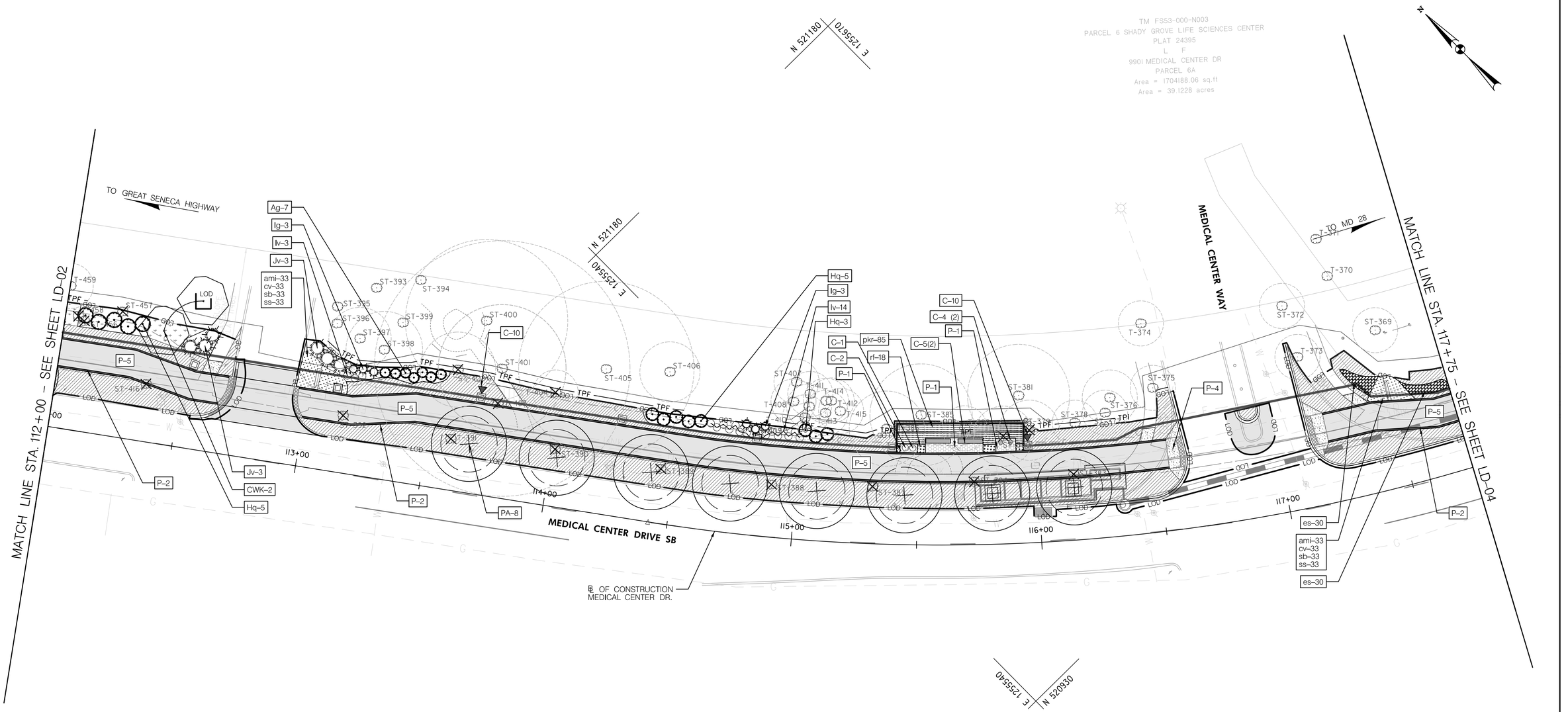

20' 0 20' 40'
SCALE: 1" = 20'

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
PA	8	*Platanus x acerifolia*	London Plane Tree	3" Cal.	B&B	
UNDERSTORY TREES						
CWK	2	*Crataegus viridis* Winter King'	Green Hawthorne	2" Cal.	B&B	
SHRUBS						
Ag	7	*Abelia x grandiflora 'Rose Creek'*	Glossy Abelia	18" Ht.	#3 Cont.	
Hq	13	*Hydrangea quercifolia 'Snow Queen'*	Oakleaf Hydrangea	24" Ht.	#5 Cont.	
Ig	6	*Ilex glabra 'Compacta'*	Compact Inkberry	24" Ht.	#5 Cont.	
Iv	17	*Itea virginica 'Little Henry'*	Virginia Sweetspire	18" Ht.	#3 Cont.	
Jv	6	*Juniperus virginiana 'Emerald Sentinel'*	Eastern Red Cedar	6' Ht.	B&B	
PERENNIAL/GRASSES						
ami	66	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
cv	66	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
es	60	*Eragrostis spectabilis*	Purple Love Grass		#1 Cont.	18" O.C.
pkr	85	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
rf	18	*Rudbeckia fulgida "Little Goldstar'*	Black Eyed Susan		#1 Cont.	18" O.C.
sb	66	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
ss	66	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SEED	22	Turfgrass Seed Establishment (SY)				
SOD	772	Turfgrass Sod Establishment (SY)				
CPB	188	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
UNDERSTORY TREE
SHRUBS
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
BOULDER WALL

FLOURA TEETER
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD-03

DPS SC/SWM PERMIT SHEET NO. 47 of 64
C.I.P. Project No. : 0501742 66 of 105

PLOTTED: 6/26/2024
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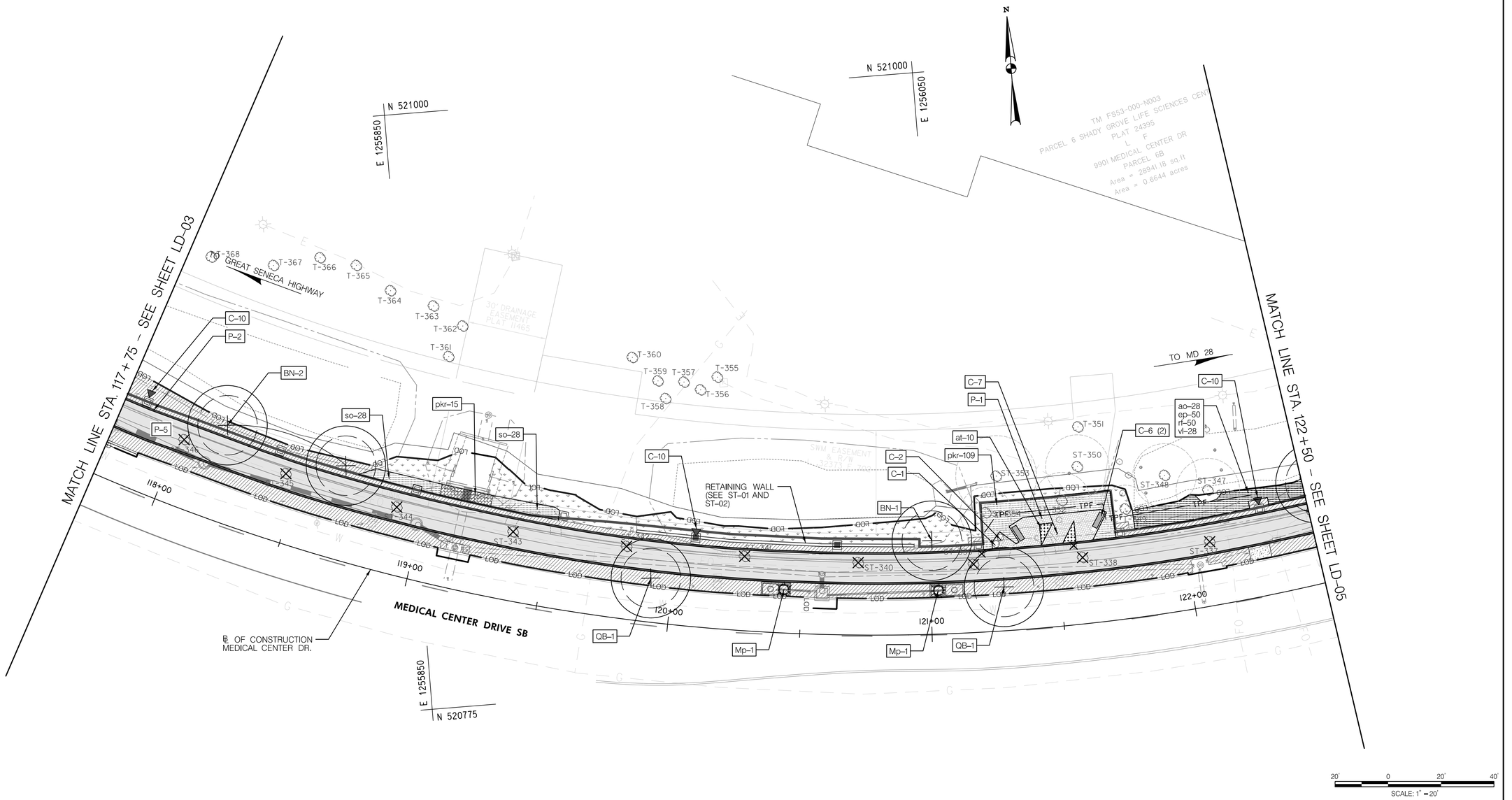

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
BN	3	*Betula nigra*	River Birch	10' Ht.	B&B	Multi-stem (3 stems)
QB	2	*Quercus bicolor*	Swamp White Oak	3" Cal.	B&B	Multi-stem (3 stems)
SHRUBS						
Mp	2	*Morella pennsylvanica*	Northern Bayberry	30" Ht.	#7 Cont.	
PERENNIAL/GRASSES						
ao	28	*Aster oblongifolius 'October Skies'*	Aromatic Aster		#1 Cont.	18" O.C.
at	10	*Amsonia tabernaemontana*	Eastern Bluestar		#1 Cont.	18" O.C.
ep	50	*Echinacea purpurea*	Purple Coneflower		#1 Cont.	18" O.C.
pkr	124	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
rf	50	*Rudbeckia fulgida "Little Goldstar'*	Black Eyed Susan		#1 Cont.	18" O.C.
so	56	*Schizachyrium scoparium 'Standing Ovation'*	Little Bluestem		#1 Cont.	24" O.C.
vl	28	*Vernonia lettermannii 'Iron Butterfly'*	New York Ironweed		#1 Cont.	24" O.C.
MISC. ITEMS/SEED MIXES						
SEED	200	Turfgrass Seed Establishment (SY)				
SOD	386	Turfgrass Sod Establishment				
CPB	198	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
SHRUBS
UNDERSTORY TREE
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
BOULDER WALL

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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date
Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD-04

DPS SC/SWM PERMIT SHEET NO. 48 of 64

C.I.P. Project No. : 0501742 67 of 105

PLOTTED: 6/26/2024
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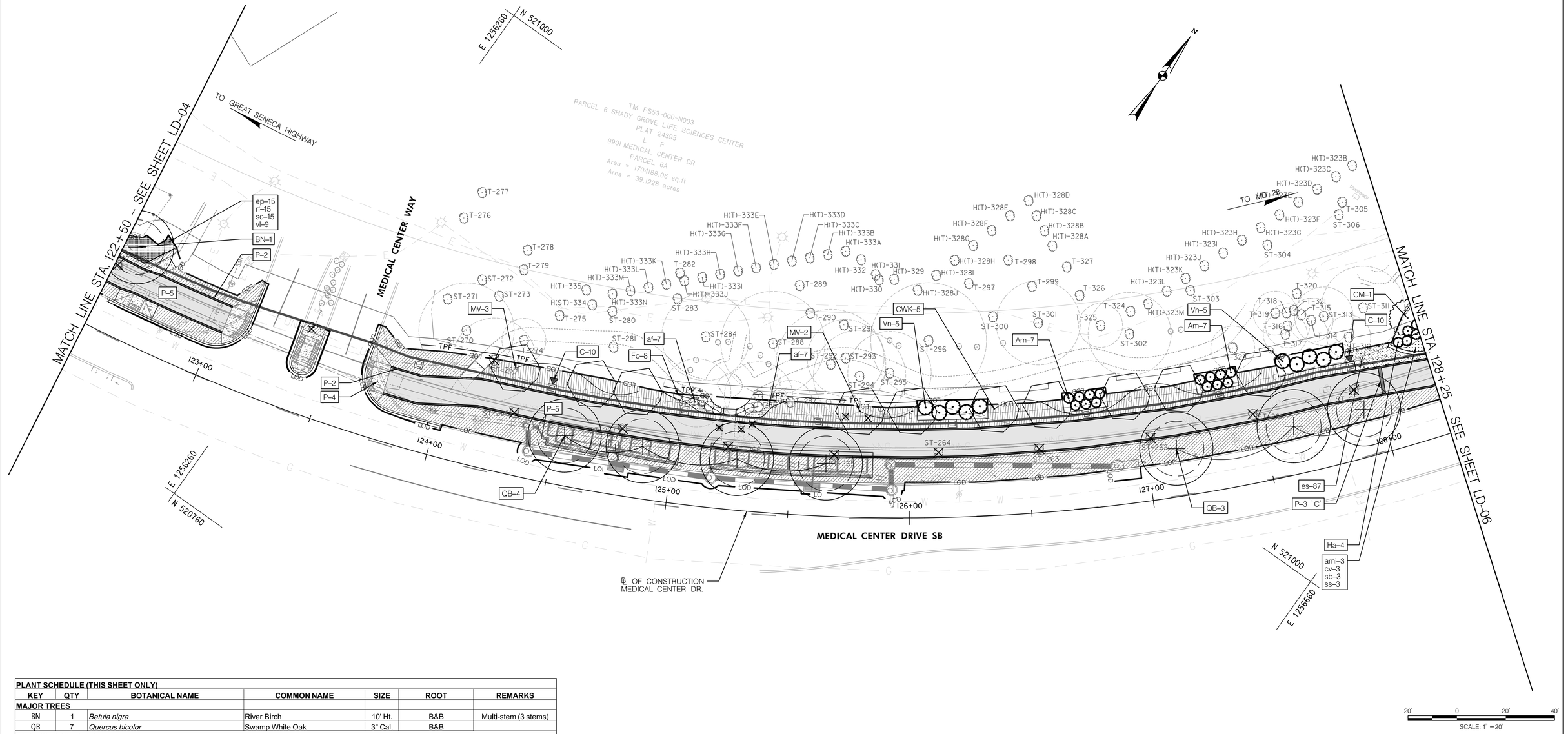

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
BN	1	*Betula nigra*	River Birch	10' Ht.	B&B	Multi-stem (3 stems)
QB	7	*Quercus bicolor*	Swamp White Oak	3" Cal.	B&B	
UNDERSTORY TREES						
CM	1	*Cercis canadensis 'Merlot'*	Eastern Redbud	2" Cal.	B&B	
CWK	5	*Crataegus viridis* Winter King'	Green Hawthorne	2" Cal.	B&B	
MV	5	*Magnolia virginiana*	Sweetbay Magnolia	8' Ht.	B&B	Multi-stem (3 stems)
SHRUBS						
Am	14	*Aronia melanocarpa*	Black Chokeberry	18" Ht.	#3 Cont.	
Ha	4	*Hydrangea aborescens*	Smooth Hydrangea	24" Ht.	#5 Cont.	
Fo	8	*Fothergilla gardenii*	Fothergilla	18" Ht.	#3 Cont.	
Vn	10	*Viburnum nudum 'Brandywine'*	Smooth Witherod	30" Ht.	#7 Cont.	
PERENNIAL/GRASSES						
ami	3	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
af	14	*Athyrium felix-femina*	Lady Fern		#1 Cont.	18" O.C.
cv	3	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
ep	15	*Echinacea purpurea*	Purple Coneflower		#1 Cont.	18" O.C.
es	87	*Eragrostis spectabilis*	Purple Love Grass		#1 Cont.	18" O.C.
rf	15	*Rudbeckia fulgida "Little Goldstar'*	Black Eyed Susan		#1 Cont.	18" O.C.
sb	3	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
sc	15	*Salvia nemorosa 'Caradonna'*	Sage		#1 Cont.	18" O.C.
ss	3	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
vl	15	*Vernonia lettermannii 'Iron Butterfly'*	New York Ironweed		#1 Cont.	24" O.C.
MISC. ITEMS/SEED MIXES						
SOD	838	Turfgrass Sod Establishment				
CPB	156	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
UNDERSTORY TREE
SHRUBS
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
BOULDER WALL

FLOURA TEETER
landscape architects
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD–05

DPS SC/SWM PERMIT SHEET NO. 49 of 64

C.I.P. Project No. : 0501742 68 of 105

PLOTTED: 6/26/2024
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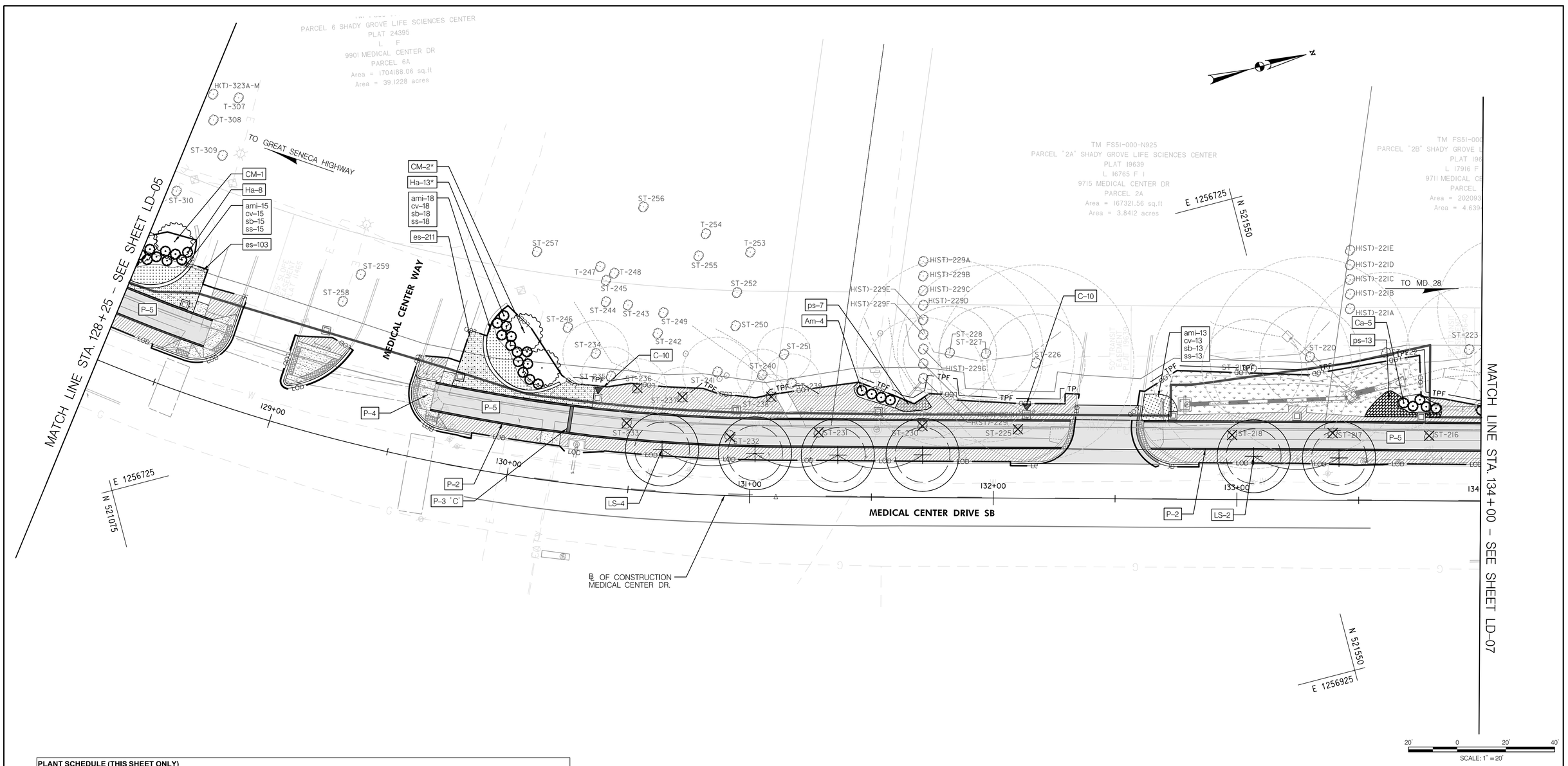

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
LS	6	*Liquidambar styraciflua 'Rotundiloba'*	Sweetgum (seedless)	3" Cal.	B&B	
UNDERSTORY TREES						
CM	1	*Cercis canadensis 'Merlot'*	Eastern Redbud	2" Cal.	B&B	
CM*	2	*Cercis canadensis 'Merlot'*	Eastern Redbud			Transplanted from
SHRUBS						
Am	4	*Aronia melanocarpa*	Black Chokeberry	18" Ht.	#3 Cont.	
Ca	5	*Clethra alnifolia 'Hummingbird'*	Summersweet	18" Ht.	#3 Cont.	
Ha	8	*Hydrangea aborescens*	Smooth Hydrangea	24" Ht.	#5 Cont.	
Ha*	13	*Hydrangea aborescens*	Smooth Hydrangea			Transplanted from
PERENNIAL /GRASSES						
ami	46	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
cv	46	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
es	314	*Eragrostis spectabilis*	Purple Love Grass		#1 Cont.	18" O.C.
ps	20	*Panicum virgatum 'Shenandoah'*	Switchgrass		#1 Cont.	36" O.C.
sb	46	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
ss	46	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SEED	168	Turfgrass Seed Establishment (SY)				
SOD	503	Turfgrass Sod Establishment (SY)				
CPB	262	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
SHRUBS
UNDERSTORY TREE
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
BOULDER WALL

FLOURA TEETER
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Gannett Fleming/GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date
Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD–06

DPS SC/SWM PERMIT SHEET NO. 50 of 64
C.I.P. Project No. : 0501742 69 of 105

PLOTTED: 6/26/2024
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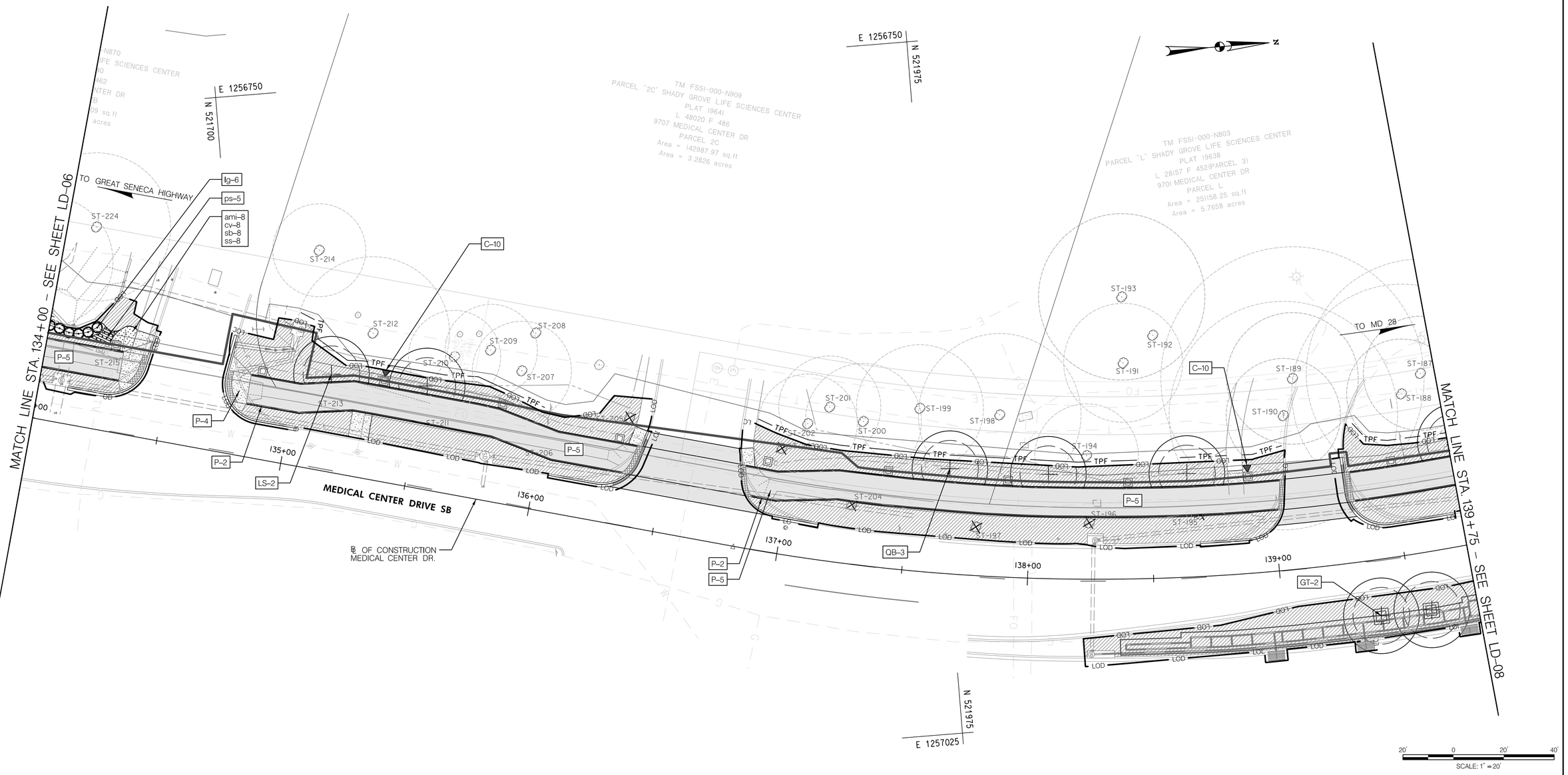

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
GT	2	*Gleditsia triacanthos 'Shademaster'*	Honeylocust (thornless, fruitless)	3" Cal.	B&B	
LS	2	*Liquidambar styraciflua 'Rotundiloba'*	Sweetgum (seedless)	3" Cal.	B&B	
QB	3	*Quercus bicolor*	Swamp White Oak	3" Cal.	B&B	
SHRUBS						
lg	6	*Ilex glabra 'Compacta'*	Compact Inkberry	24" Ht.	#5 Cont.	
PERENNIAL /GRASSES						
ami	8	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
cv	8	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
ps	5	*Panicum virgatum 'Shenandoah'*	Switchgrass		#1 Cont.	36" O.C.
sb	8	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
ss	8	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SOD	1,068	Turfgrass Sod Establishment (SY)				
CPB	23	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TURFGRASS ESTABLISHMENT
- TURFGRASS SOD ESTABLISHMENT
- MAJOR TREE & PLANTING AREA
- UNDERSTORY TREE
- SHRUBS
- PERENNIAL PLANTING AREAS
- TPF — TREE PROTECTION FENCE
- POLE MOUNTED WAYFINDING SIGN
- ENGRAVED GRANITE PAVER
- FLUSH CONCRETE CURB EDGE
- LOD — LIMIT OF DISTURBANCE (LOD)
- ACCENT PAVER
- BOULDER WALL

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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD–07

DPS SC/SWM PERMIT SHEET NO. 51 of 64

C.I.P. Project No. : 0501742 70 of 105

PLOTTED: 6/26/2024
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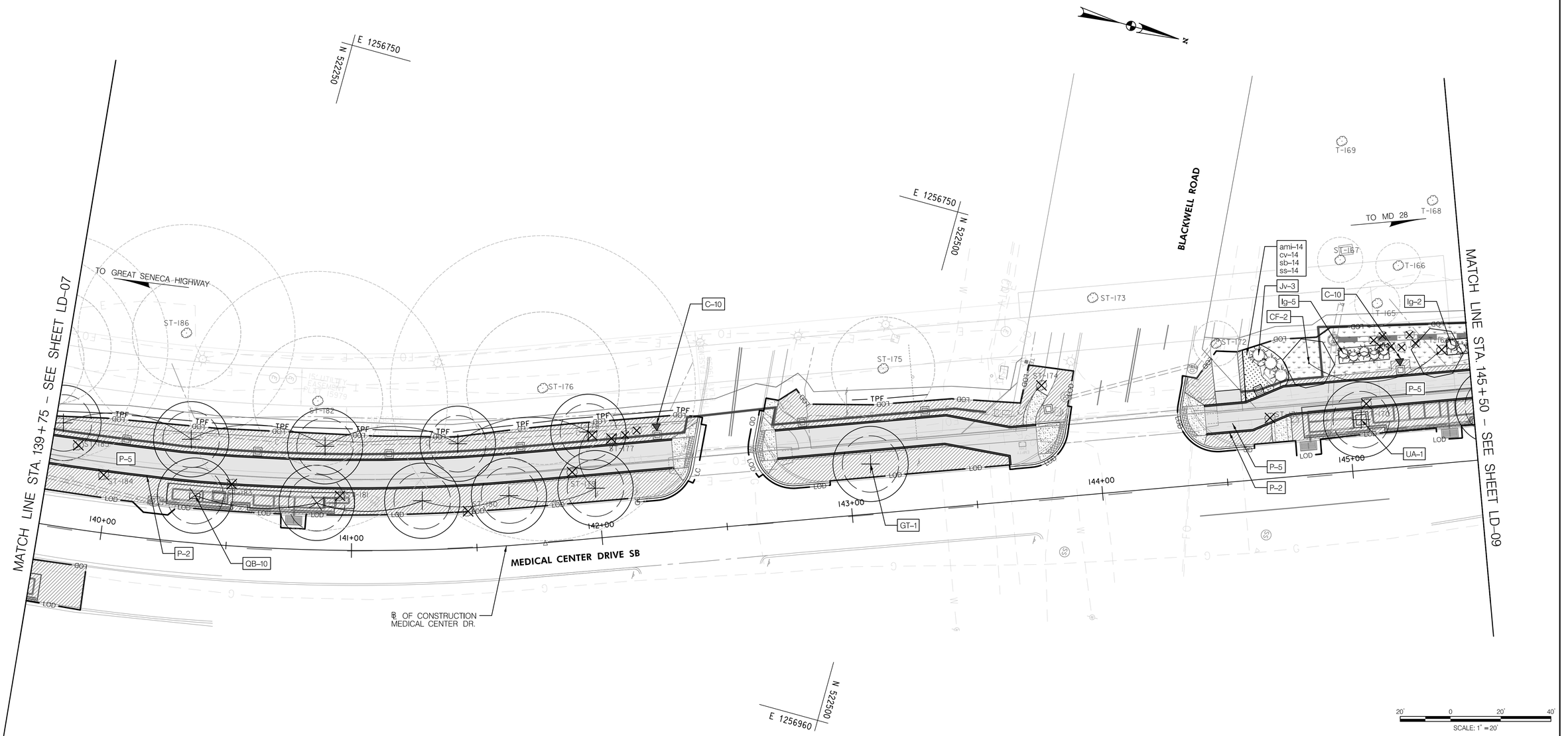

PLANT SCHEDULE (THIS SHEET ONLY)

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
GT	1	*Gledetsia triacanthos 'Shademaster'*	Honeylocust (thornless, fruitless)	3" Cal.	B&B	
QB	10	*Quercus bicolor*	Swamp White Oak	3" Cal.	B&B	
UA	1	*Ulmus americana 'Valley Forge'*	American Elm	3" Cal.	B&B	
UNDERSTORY TREES						
CF	2	*Cornus florida*	Flowering Dogwood	2" Cal.	B&B	
SHRUBS						
Ig	7	*Ilex glabra 'Compacta'*	Compact Inkberry	24" Ht.	#5 Cont.	
Jv	3	*Juniperus virginiana 'Emerald Sentinel'*	Eastern Red Cedar	6' Ht.	B&B	
PERENNIAL /GRASSES						
ami	14	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
cv	14	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
sb	14	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
ss	14	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SEED	125	Turfgrass Seed Establishment (SY)				
SOD	930	Turfgrass Sod Establishment (SY)				
CPB	50	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TURFGRASS ESTABLISHMENT
- TURFGRASS SOD ESTABLISHMENT
- MAJOR TREE & PLANTING AREA
- SHRUBS
- UNDERSTORY TREE
- PERENNIAL PLANTING AREAS
- TPF — TREE PROTECTION FENCE
- POLE MOUNTED WAYFINDING SIGN
- ENGRAVED GRANITE PAVER
- FLUSH CONCRETE CURB EDGE
- LOD — LIMIT OF DISTURBANCE (LOD)
- ACCENT PAVER
- BOULDER WALL

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Baltimore, Maryland 21201
Phone: 410.528.8395
Fax: 410.528.8425

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

LANDSCAPE PLANS

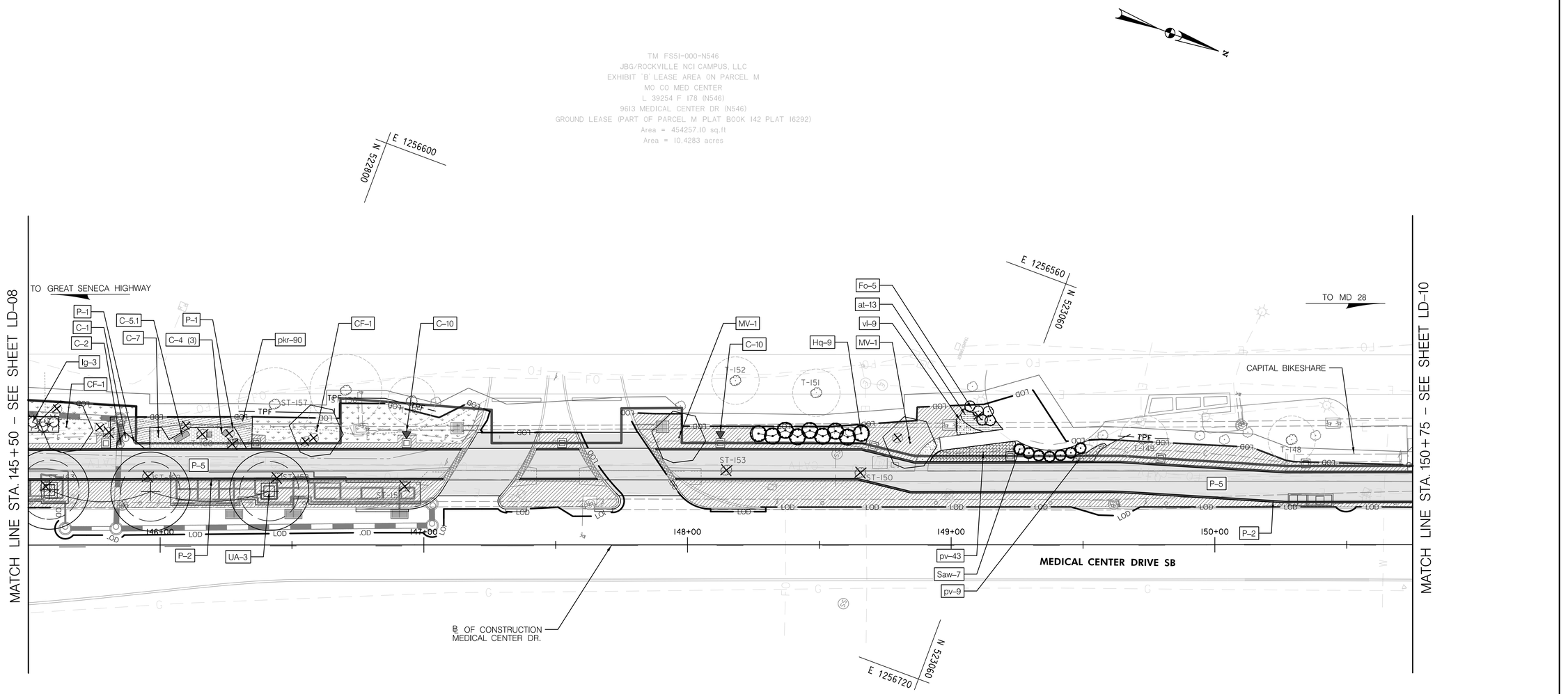
SCALE : 1" = 20' DATE: JUNE 2024 LD–08

DPS SC/SWM PERMIT SHEET NO. 52 of 64

C.I.P. Project No. : 0501742 71 of 105

PLOTTED: 6/26/2024
FILE: C:\powerchina\gfs\w01\mmaffeo@flourateeter.com\d0280569\pLD-P008_SCLT.dgn

TM FS5I-000-N546
JBG/ROCKVILLE NCI CAMPUS, LLC
EXHIBIT 'B' LEASE AREA ON PARCEL M
MO CO MED CENTER
L 39254 F 178 (N546)
9613 MEDICAL CENTER DR (N546)
GROUND LEASE (PART OF PARCEL M PLAT BOOK 142 PLAT 16292)
Area = 454257.10 sq.ft
Area = 10.4283 acres



PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
UA	3	*Ulmus americana 'Valley Forge'*	American Elm	3" Cal.	B&B	
UNDERSTORY TREES						
CF	2	*Cornus florida*	Flowering Dogwood	2" Cal.	B&B	
MV	2	*Magnolia virginiana*	Sweetbay Magnolia	8' Ht.	B&B	Multi-stem (3 stems)
SHRUBS						
Fo	5	*Fothergilla gardenii*	Fothergilla	18" Ht.	#3 Cont.	
Hq	9	*Hydrangea quercifolia 'Snow Queen'*	Oakleaf Hydrangea	24" Ht.	#5 Cont.	
Ig	3	*Ilex glabra 'Compacta'*	Compact Inkberry	24" Ht.	#5 Cont.	
Saw	7	*Spiraea x bumalda 'Anthony Waterer'*	Spiraea	18" Ht.	#3 Cont.	
PERENNIAL /GRASSES						
at	13	*Amsonia tabernaemontana*	Eastern Bluestar		#1 Cont.	18" O.C.
pkr	90	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
pv	52	*Panicum virgatum 'Cape Breeze'*	Switch Grass		#1 Cont.	24" O.C.
vl	9	*Vernonia lettermannii 'Iron Butterfly'*	New York Ironweed		#1 Cont.	24" O.C.

LANDSCAPE LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TURFGRASS ESTABLISHMENT
- TURFGRASS SOD ESTABLISHMENT
- MAJOR TREE & PLANTING AREA
- SHRUBS
- UNDERSTORY TREE
- PERENNIAL PLANTING AREAS
- TPF — TREE PROTECTION FENCE
- POLE MOUNTED WAYFINDING SIGN
- ENGRAVED GRANITE PAVER
- FLUSH CONCRETE CURB EDGE
- LOD — LIMIT OF DISTURBANCE (LOD)
- ACCENT PAVER
- BOULDER WALL

FLOURA TEETER
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Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD-09

DPS SC/SWM PERMIT SHEET NO. 53 of 64

C.I.P. Project No. : 0501742 72 of 105

PLOTTED: 6/26/2024
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E 1256400
N 523260

E 1256400
N 523700

N 523700
E 1256640

TO GREAT SENECA HIGHWAY

MATCH LINE STA. 150+75 – SEE SHEET LD-09

MATCH LINE STA. 156+50 – SEE SHEET LD-11

TO MD 28

MEDICAL CENTER DRIVE SB

℄ OF CONSTRUCTION
MEDICAL CENTER DR.

Ag–7
Al–7
So–32
Vd–3
To–6
Vd–2
QB–1
CK–1
C–1
C–2
Pkr–20
C–10
ami–11
cv–11
sb–11
ss–11
Vl–11
ami–15
cv–15
sb–15
ss–15
Po–3
P–1
P–2
P–4
P–5

ST-144 ST-145 ST-146 ST-147 ST-148 ST-149 ST-150 ST-151 ST-152 ST-153 ST-154 ST-155 ST-156 ST-157 ST-158 ST-159 ST-160 ST-161 ST-162 ST-163 ST-164 ST-165 ST-166 ST-167 ST-168 ST-169 ST-170 ST-171 ST-172 ST-173 ST-174 ST-175 ST-176 ST-177 ST-178 ST-179 ST-180 ST-181 ST-182 ST-183 ST-184 ST-185 ST-186 ST-187 ST-188 ST-189 ST-190 ST-191 ST-192 ST-193 ST-194 ST-195 ST-196 ST-197 ST-198 ST-199 ST-200 ST-201 ST-202 ST-203 ST-204 ST-205 ST-206 ST-207 ST-208 ST-209 ST-210 ST-211 ST-212 ST-213 ST-214 ST-215 ST-216 ST-217 ST-218 ST-219 ST-220 ST-221 ST-222 ST-223 ST-224 ST-225 ST-226 ST-227 ST-228 ST-229 ST-230 ST-231 ST-232 ST-233 ST-234 ST-235 ST-236 ST-237 ST-238 ST-239 ST-240 ST-241 ST-242 ST-243 ST-244 ST-245 ST-246 ST-247 ST-248 ST-249 ST-250 ST-251 ST-252 ST-253 ST-254 ST-255 ST-256 ST-257 ST-258 ST-259 ST-260 ST-261 ST-262 ST-263 ST-264 ST-265 ST-266 ST-267 ST-268 ST-269 ST-270 ST-271 ST-272 ST-273 ST-274 ST-275 ST-276 ST-277 ST-278 ST-279 ST-280 ST-281 ST-282 ST-283 ST-284 ST-285 ST-286 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T-131 T-132

151+00 152+00 153+00 154+00 155+00 156+00

LOD TPF

20' 0 20' 40'
SCALE: 1" = 20'

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
CK	1	*Cladrastis kentukea*	American Yellowwood	3" Cal.	B&B	
QB	1	*Quercus bicolor*	Swamp White Oak	3" Cal.	B&B	
SHRUBS						
Ag	7	*Abelia x grandiflora 'Rose Creek'*	Glossy Abelia	18" Ht.	#3 Cont.	
Al	7	*Aronia melanocarpa 'Low Scape Mound'*	Black Chokeberry	18" Ht.	#3 Cont.	
Po	3	*Physocarpus opulifolius 'Summer Wine'*	Common Ninebark	24" Ht.	#5 Cont.	
Tp	6	*Thuja plicata 'Steeplechase'*	Arborvitae	6' Ht.	#25 Cont.	
Vd	5	*Viburnum dentatum 'Blue Muffin'*	Arrowwood Viburnum	30" Ht.	#7 Cont.	
PERENNIAL /GRASSES						
ami	26	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
cv	26	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
pkr	20	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
sb	26	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
ss	26	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
so	32	*Schizachryrium scoparium 'Standing Ovation'*	Little Bluestem		#1 Cont.	24" O.C.
vl	11	*Vernonia lettermannii 'Iron Butterfly'*	New York Ironweed		#1 Cont.	24" O.C.
MISC. ITEMS/SEED MIXES						
SEED	223	Turfgrass Seed Establishment (SY)				
SOD	734	Turfgrass Sod Establishment (SY)				
CPB	137	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
SHRUBS
UNDERSTORY TREE
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
BOULDER WALL

FLOURA TEETER
landscape architects
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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD–10

DPS SC/SWM PERMIT SHEET NO. 54 of 64

C.I.P. Project No. :- 0501742 73 of 105

PLOTTED: 6/26/2024
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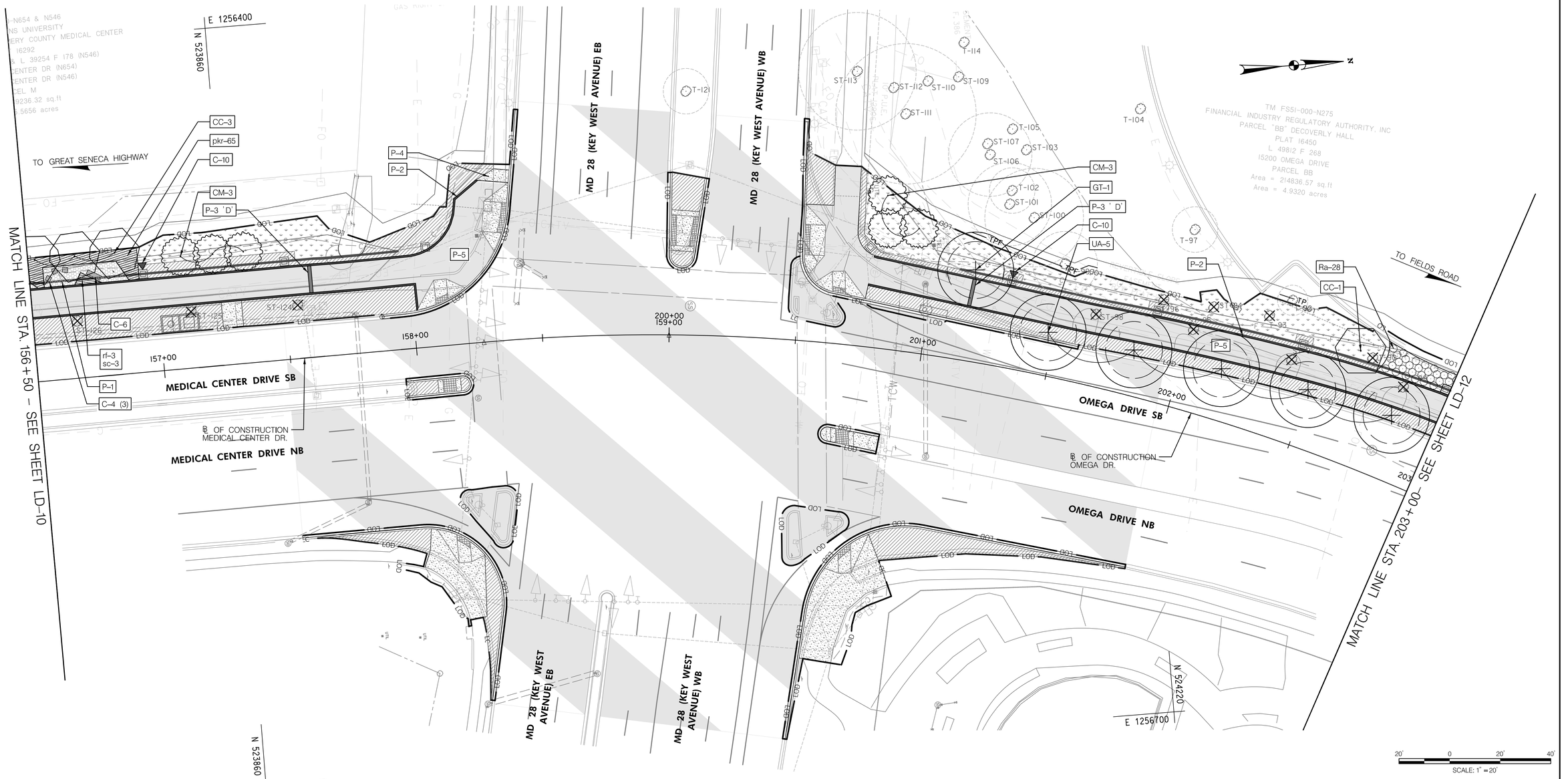

PLANT SCHEDULE (THIS SHEET ONLY)						
KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
GT	1	*Gledetsia triacanthos 'Shademaster'*	Honeylocust (thornless, fruitless)	3" Cal.	B&B	
UA	5	*Ulmus americana 'Valley Forge'*	American Elm	3" Cal.	B&B	
UNDERSTORY TREES						
CC	4	*Carpinus caroliniana 'Native Flame'*	American Hornbeam	2" Cal.	#5 Cont.	
CM	6	*Cercis canadensis 'Merlot'*	Eastern Redbud	2" Cal.	B&B	
SHRUBS						
Ra	28	*Rhus aromatica 'Gro-Low'*	Fragrant Sumac	18" Ht.	#3 Cont.	
PERENNIAL/GRASSES						
pkr	65	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
rf	3	*Rudbeckia fulgida "Little Goldstar'*	Black Eyed Susan		#1 Cont.	18" O.C.
sc	3	*Salvia nemorosa 'Caradonna'*	Sage		#1 Cont.	18" O.C.
MISC. ITEMS/SEED MIXES						
SEED	401	Turfgrass Seed Establishment (SY)				
SOD	607	Turfgrass Sod Establishment (SY)				
CPB	62	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

- TREE TO REMAIN
- TREE TO BE REMOVED
- TURFGRASS ESTABLISHMENT
- TURFGRASS SOD ESTABLISHMENT
- MAJOR TREE & PLANTING AREA
- UNDERSTORY TREE
- SHRUBS
- PERENNIAL PLANTING AREAS
- POLE MOUNTED WAYFINDING SIGN
- ENGRAVED GRANITE PAVER
- FLUSH CONCRETE CURB EDGE
- TPF — TREE PROTECTION FENCE
- LOD — LIMIT OF DISTURBANCE (LOD)
- ACCENT PAVER
- BOULDER WALL

FLOURA TEETER
landscape architects
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Fax: 410.528.8425

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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD–11

DPS SC/SWM PERMIT SHEET NO. 55 of 64

C.I.P. Project No. : 0501742 74 of 105

PLOTTED: 6/28/2024
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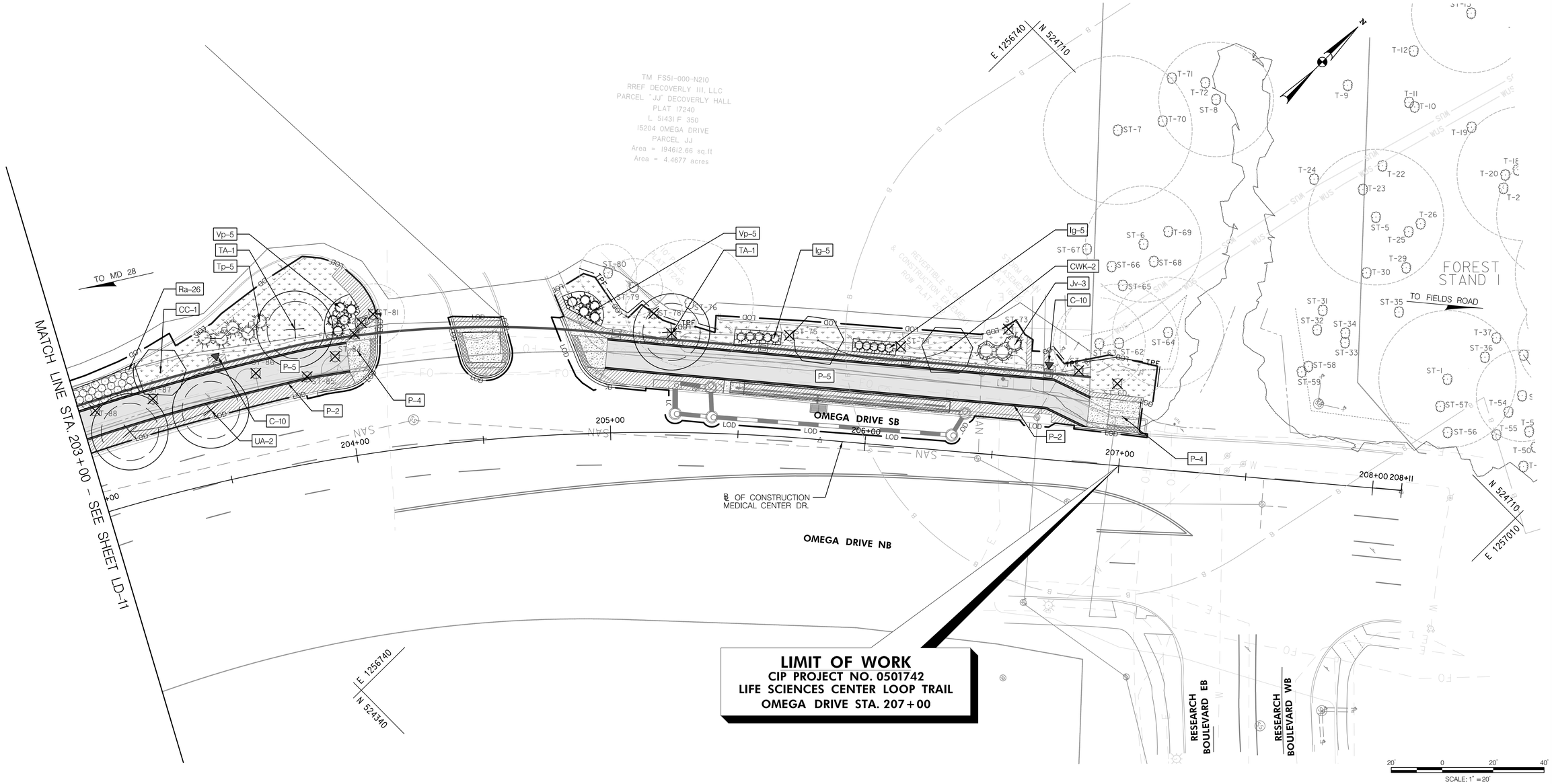

LIMIT OF WORK
CIP PROJECT NO. 0501742
LIFE SCIENCES CENTER LOOP TRAIL
OMEGA DRIVE STA. 207+00

PLANT SCHEDULE (THIS SHEET ONLY)

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	REMARKS
MAJOR TREES						
TA	2	*Tilia americana*	American Linden	3" Cal.	B&B	
UA	2	*Ulmus americana 'Valley Forge'*	American Elm	3" Cal.	B&B	
UNDERSTORY TREES						
CC	1	*Carpinus caroliniana 'Native Flame'*	American Hornbeam	2" Cal.	#5 Cont.	
CWK	2	*Crataegus viridis 'Winter King'*	Green Hawthorne	2" Cal.	B&B	
SHRUBS						
Ig	10	*Ilex glabra 'Compacta'*	Compact Inkberry	24" Ht.	#5 Cont.	24" O.C.
Jv	3	*Juniperus virginiana 'Emerald Sentinel'*	Eastern Red Cedar	6' Ht.	B&B	24" O.C.
Ra	26	*Rhus aromatica 'Gro-Low'*	Fragrant Sumac	18" Ht.	#3 Cont.	
Tp	5	*Thuja plicata 'Steeplechase'*	Arborvitae	6' Ht.	#25 Cont.	24" O.C.
Vp	10	*Viburnum pragense*	Prague Viburnum	30" Ht.	#7 Cont.	24" O.C.
MISC. ITEMS/SEED MIXES						
SEED	396	Turfgrass Seed Establishment (SY)				
SOD	285	Turfgrass Sod Establishment (SY)				
CPB	92	Constructed Planting Bed (SY)				

LANDSCAPE LEGEND

TREE TO REMAIN
TREE TO BE REMOVED
TURFGRASS ESTABLISHMENT
TURFGRASS SOD ESTABLISHMENT
MAJOR TREE & PLANTING AREA
SHRUBS
UNDERSTORY TREE
PERENNIAL PLANTING AREAS
TPF — TREE PROTECTION FENCE
POLE MOUNTED WAYFINDING SIGN
ENGRAVED GRANITE PAVER
FLUSH CONCRETE CURB EDGE
LOD — LIMIT OF DISTURBANCE (LOD)
ACCENT PAVER
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MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LANDSCAPE PLANS

SCALE : 1" = 20' DATE: JUNE 2024 LD-12

DPS SC/SWM PERMIT SHEET NO. 56 of 64
C.I.P. Project No. : 0501742 75 of 105

PLOTTED: 6/26/2024
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MASTER LANDSCAPE PLANT SCHEDULE						
Key	Quantity	Botanical Name	Common Name	Size	Root	Spacing
MAJOR TREES						
BN	4	*Betula nigra*	River Birch	10' Ht.	B&B	Multi-stem (3 stems)
CK	5	*Cladrastis kentukea*	American Yellowwood	3" Cal.	B&B	
TA	3	*Tilia americana*	American Linden	3" Cal.	B&B	
PA	28	*Platanus x acerifolia*	London Plane Tree	3" Cal.	B&B	
GT	4	*Gledetsia triacanthos 'Shademaster'*	Honeylocust (thornless, fruitless)	3" Cal.	B&B	
LS	8	*Liquidambar styraciflua 'Rotundiloba'*	Sweetgum (seedless)	3" Cal.	B&B	
QB	23	*Quercus bicolor*	Swamp White Oak	3" Cal.	B&B	
UA	11	*Ulmus americana 'Valley Forge'*	American Elm	3" Cal.	B&B	
UNDERSTORY TREES						
CC	5	*Carpinus caroliniana 'Native Flame'*	American Hornbeam	2" Cal.	B&B	
CF	7	*Cornus florida*	Flowering Dogwood	2" Cal.	B&B	
CM	8	*Cercis canadensis 'Merlot'*	Eastern Redbud	2" Cal.	B&B	
CWK	9	*Crataegus viridis* Winter King'	Green Hawthorne	2" Cal.	B&B	
MV	7	*Magnolia virginiana*	Sweetbay Magnolia	8' Ht.	B&B	Multi-stem (3 stems)
SHRUBS						
Ag	14	*Abelia x grandiflora 'Rose Creek'*	Glossy Abelia	18" Ht.	#3 Cont.	
Al	12	*Aronia melanocarpa 'Low Scape Mound'*	Black Chokeberry	18" Ht.	#3 Cont.	
Am	18	*Aronia melanocarpa*	Black Chokeberry	18" Ht.	#3 Cont.	
Ca	14	*Clethra alnifolia 'Hummingbird'*	Summersweet	18" Ht.	#3 Cont.	
Fo	19	*Fothergilla gardenii*	Fothergilla	18" Ht.	#3 Cont.	
Ha	12	*Hydrangea aborescens*	Smooth Hydrangea	24" Ht.	#5 Cont.	
Hq	22	*Hydrangea quercifolia* 'Snow Queen'	Oakleaf Hydrangea	24" Ht.	#5 Cont.	
Ig	32	*Ilex glabra 'Compacta'*	Compact Inkberry	24" Ht.	#5 Cont.	
Iv	17	*Itea virginica 'Little Henry'*	Virginia Sweetspire	18" Ht.	#3 Cont.	
Jv	12	*Juniperus virginiana 'Emerald Sentinel'*	Eastern Red Cedar	6' Ht.	B&B	
Mp	3	*Morella pennsylvanica*	Northern Bayberry	30" Ht.	#7 Cont.	
Po	6	*Physocarpus opulifolius 'Summer Wine'*	Common Ninebark	24" Ht.	#5 Cont.	
Ra	105	*Rhus aromatica 'Gro-Low'*	Fragrant Sumac	18" Ht.	#3 Cont.	
Saw	7	*Spiraea x bumalda 'Anthony Waterer'*	Spiraea	18" Ht.	#3 Cont.	
Tp	11	*Thuja plicata 'Steeplechase'*	Arborvitae	6' Ht.	#25 Cont.	
Vd	5	*Viburnum dentatum 'Blue Muffin'*	Arrowwood Viburnum	30" Ht.	#7 Cont.	
Vn	10	*Viburnum nudum 'Brandywine'*	Smooth Witherod	30" Ht.	#7 Cont.	
Vp	19	*Viburnum pragense*	Prague Viburnum	30" Ht.	#7 Cont.	
PERENNIAL/GRASSES						
af	14	*Athyrium felix-femina*	Lady Fern		#1 Cont.	18" O.C.
ah	25	*Asmonia hubrichtii*	Threadleaf bluestar		#1 Cont.	24" O.C.
ami	207	*Allium 'Millenium'*	Ornamental Onion		#1 Cont.	18" O.C.
ao	183	*Aster oblongifolius 'October Skies'*	Aromatic Aster		#1 Cont.	18" O.C.
at	110	*Amsonia tabernaemontana*	Eastern Bluestar		#1 Cont.	18" O.C.
cv	207	*Coreopsis verticillata 'Zagreb'*	Tickseed		#1 Cont.	18" O.C.
ep	96	*Echinacea purpurea*	Purple Coneflower		#1 Cont.	18" O.C.
es	524	*Eragrostis spectabilis*	Purple Love Grass		#1 Cont.	18" O.C.
hc	460	*Hypericum calycinum*	St. John's Wort		SP4/DP50	12" O.C.
pkr	424	*Pennisetum alopecuroides 'Karley Rose'*	Oriental Pink Fountain Grass		#1 Cont.	24" O.C.
ps	25	*Panicum virgatum 'Shenandoah'*	Switchgrass		#1 Cont.	36" O.C.
pv	218	*Panicum virgatum 'Cape Breeze'*	Switch Grass		#1 Cont.	24" O.C.
rf	121	*Rudbeckia fulgida "Little Goldstar'*	Black Eyed Susan		#1 Cont.	18" O.C.
sb	207	*Salvia nemorosa 'Blue Hill'*	Sage		#1 Cont.	18" O.C.
sc	49	*Salvia nemorosa 'Caradonna'*	Sage		#1 Cont.	18" O.C.
so	176	*Schizachryrium scoparium 'Standing Ovation'*	Little Bluestem		#1 Cont.	24" O.C.
ss	207	*Sedum spectabile 'Brilliant'*	Stonecrop		#1 Cont.	18" O.C.
vl	63	*Vernonia lettermannii 'Iron Butterfly'*	New York Ironweed		#1 Cont.	24" O.C.
MISC. ITEM/SEED MIXES						
SEED	2,342	Turfgrass Seed Establishment (SY)				
SOD	8,101	Turfgrass Sod Establishment (SY)				
CPB	1,823	Constructed Planting Bed (SY)				

Notes:
Per Montgomery County Roadside Tree Protection Law, allocation of funds into the ***Street Tree Replacement Fund*** is required.

Eighty Six (86) trees require removal within county right of way tree that are 6" + DBH, fair or better condition.
$64,500.00 is required for the Street Tree Replacement Fund ($750.00 per tree removed)
Note: Tree replacement fee to be paid prior to scheduled construction

CONSTRUCTION NOTES			
SYMBOL	ITEM TYPE	NOTES	REFERENCE
C-1	LITTER RECEPTACLE	REFER TO SPECIAL PROVISIONS	4/LD-18
C-2	RECYCLE RECEPTACLE	REFER TO SPECIAL PROVISIONS	4/LD-18
C-3	BENCH - CLIFFHANGER WITH BACK	REFER TO SPECIAL PROVISIONS	3/LD-18
C-4	CUBE BENCH - BLOCQ	REFER TO SPECIAL PROVISIONS	5/LD-18
C-5	PARK BENCH - BLOCQ WITH BACK 118"	REFER TO SPECIAL PROVISIONS	6/LD-18
C-5.1	PARK BENCH - BLOCQ WITH BACK 72"	REFER TO SPECIAL PROVISIONS	6/LD-19
C-6	PARK BENCH - BLOCQ BACKLESS 72"	REFER TO SPECIAL PROVISIONS	6/LD-18
C-7	BIKE RACK	REFER TO SPECIAL PROVISIONS	1+2/LD-18
C-8	CONSTRUCTED PLANTING BED	REFER TO STANDARD SPECIFICATIONS	
C-9	BOULDER RETAINING WALL	REFER TO SPECIAL PROVISIONS	2/LD-20
C-10	POLE MOUNTED WAYFINDING SIGN	REFER TO SPECIAL PROVISIONS	1/LD-20
PAVEMENT NOTES			
SYMBOL	PAVER TYPE	NOTES	REFERENCE
P-1	ACCENT PAVER	REFER TO SPECIAL PROVISIONS	4/LD-19
P-2	FLUSH CONCRETE CURB EDGE	REFER TO SPECIAL PROVISIONS	3/LD-18
P-3	ENGRAVED GRANITE PAVER	REFER TO SPECIAL PROVISIONS	1+2/LD-19
P-4	CONCRETE	REFER TO ROADWAY PLANS	

GENERAL PLANT NOTES:

1. THE CONTRACTOR MUST CONTACT MISS UTILITY TO LOCATE ALL EXISTING UTILITIES. CONTRACTOR TO PROVIDE NOTICE TO UTILITY COMPANIES PRIOR TO BEGINNING ANY WORK.

2. IN SOME INSTANCES THE TREE PROTECTION FENCE IS SHOWN OUTSIDE OF THE LIMIT OF DISTURBANCE FOR GRAPHIC PURPOSES ONLY. THE CONTRACTOR SHALL INSTALL TREE PROTECTION FENCE AT THE LIMIT OF DISTURBANCE LINE WHERE THIS OCCURS. WHERE TREE PROTECTION FENCE IS SHOWN INSIDE THE LIMIT OF DISTURBANCE THE CONTRACTOR SHALL INSTALL AS SHOWN ON THE PLANS.

3. THE CONTRACTOR SHALL FLAG ALL TREES TO BE REMOVED FOR INSPECTION AND APPROVAL BY THE LANDSCAPE ARCHITECT OR COUNTY ARBORIST AT THE PRE–CONSTRUCTION MEETING. NO CLEARING SHALL OCCUR UNTIL INSPECTION AND APPROVAL HAS BEEN PROVIDED IN WRITING. IF POSSIBLE, TREE REMOVALS SHOULD BE AVOIDED BETWEEN APRIL 1– JULY 1 OR SEPTEMBER 1– DECEMBER 1 TO MINIMIZE IMPACTS TO MIGRATORY BIRD SPECIES.

4. PLANT MATERIAL TYPES AND SIZES MAY VARY DUE TO MARKET AVAILABILITY AT TIME OF CONSTRUCTION. ANY SUBSTITUTIONS ARE TO BE OF EQUIVALENT TYPE AND SIZE, AND MUST BE APPROVED IN WRITING BY THE LANDSCAPE ARCHITECT. FOR SHRUB CONTAINERIZED STOCK, B&B STOCK MAY BE SUBSTITUTED WITH WRITTEN APPROVAL BY THE LANDSCAPE ARCHITECT.

5. WHERE THE CONDITION EXISTS THAT B&B TREES ARE DELIVERED IN WIRE BASKETS, THE WIRE BASKETS SHALL BE CUT DOWN THE SIDE OF EACH MESH AND PEELED AWAY FROM THE ROOTBALL OR REMOVED IN ENTIRETY. NO PORTION OF THE WIRE BASKET SHALL REMAIN INTACT AROUND THE SIDES OF THE ROOTBALL OR EXTEND ABOVE FINISHED GRADE.

6. DISTURBANCE SHALL BE LIMITED TO ONLY THE AREA OF WORK THAT CAN BE COMPLETED IN ONE DAY. NO EXPOSED PLANTING PITS SHALL BE EXPOSED OVERNIGHT.

7. PLANTS SHALL BE IN ACCORDANCE WITH AMERICAN STANDARD FOR NURSERY STOCK ANSI Z60.1, LATEST EDITION, AMERICAN NURSERY & LANDSCAPE ASSOCIATION. PLANTS SHALL BE INSPECTED BY LANDSCAPE ARCHITECT OR COUNTY ARBORIST FOR QUALITY AND COMPLIANCE PRIOR TO INSTALLATION.

8. THE CONTRACTOR SHALL CONSTRUCT CONTINUOUS PLANTING BEDS FOR SHRUB MASSINGS AND PERENNIAL PLANTINGS AS SHOWN ON THE PLANS. IN LOCATIONS WHERE PLANTING BEDS ARE WITHIN THE CRITICAL ROOT ZONE OF EXISITNG TREES, CONTRACTOR SHALL HAND DIG TO MINIMIZE IMPACTS TO EXSTING TREE ROOTS.

9. TREE GUARDS SHALL BE INSTALLED FOR ALL MAJOR AND UNDERSTORY TREES TO PROTECT FROM POTENTIAL DAMAGE FROM DEER.

10. ALL PLANTINGS SHALL BE GUARANTEED BY THE CONTRACTOR FOR A ONE–YEAR MAINTENANCE PERIOD.

11. CONTRACTOR SHALL TAKE CARE TO PROTECT EXISTING SITE FEATURES TO BE PRESERVED IN PLACE, INCLUDING MONUMENT SIGNS, STONE WALLS, PARKING METERS, STREET LIGHTS AND UTILITY POLES. ANY DAMAGE WILL REQUIRE REPLACEMENT IN KIND AT THE CONTRACTOR`S COST.

STANDARD TREE CANOPY NOTES:

ANY SHADE TREE PLANTED TO COMPLY WITH CHAPTER 55 OF THE COUNTY CODE MUST CONFORM TO THE FOLLOWING:

1. EACH SHADE TREE MUST MEET THE REQUIREMENTS FOR PLANT MATERIAL IN ANSI Z60.1.

2. EACH SHADE TREE MUST BE A MINIMUM OF 2–INCH CALIPER.

3. INSTALLATION OF EACH SHADE TREE MUST MEET ALL REQUIREMENTS OF ANSI A300.

4. AT THE TIME OF PLANTING:

a. TREE GUARDS TO PROTECT TREES FROM DEER RUBBING, MOWERS, WEE EATERS, OTHER EQUIPMENT AND LARGE RODENTS MUST BE INSTALLED ON ALL SHADE TREES.
b. MULCH MUST BE APPLIED.
c. SUFFICIENT WATER MUST BE APPLIED TO AID IN PROPER PLANTING.

5. SHADE TREES MUST BE INSTALLED BETWEEN OCTOBER 15TH AND MAY 15TH AS LONG AS THE GROUND IS NOT FROZEN, SATURATED, OR COVERED WITH SNOW SUCH THAT A SUITABLE HOLE CANNOT BE DUG.

6. SHADE TREES MUST NOT BE INSTALLED BETWEEN MAY 16TH AND OCTOBER 14TH OF EACH YEAR. IF INSTALLATION CANNOT OCCUR BETWEEN OCTOVER 15TH AND MAY 15TH FOR ANY REASON, OR IF PROPPOSED TREES ARE NOT PLANTED FOR ANY OTHER REASON, THE PERMITTEE MUST PAY THE REQUIRED FEE IN LIEU.

7. IF SHADE TREES ARE INSTALLED PRIOR TO FINAL STABILIZATION OF THE LAND DISTURBING ACTIVITY THEN NO ADDITIONAL DISTURBANCE MUST OCCUR WITHIN FIVE FEET OF THE STEM OF THE TREE. PROTECTIVE FENCING MUST BE INSTALLED AT THE EDGE OF THIS AREA AT THE SAME TIME THE TREE IS INSTALLED AND MUST REMAIN IN PLACE UNTIL FINAL STABILIZATION OCCURS.

8. THE LOCATION OF GROWING ZONES AND PLANTING AREAS MUST BE CLEARLY MARKED IN THE FIELD PRIOR TO INSTALLATION OF ANY SHADE TREE.

9. A COPY OF THE APPROVED SEDIMENT CONTROL PLAN SHOWING ALL APPROVED GROWING ZONES AND PLANTING AREAS MUST BE AVAILABLE ON THE SITE AT ALL TIMES.

10. AT LEAST ONE INSPECTION MUST OCCUR AFTER ALL CONSTRUCTINO ACTIVITIES ARE COMPLETED TO DETERMINE THE LEVEL OF COMPLIANCE WITH SHADE TREE PLANTING REQUIREMENTS.

FLOURA TEETER
landscape architects
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
MASTER PLANT SCHEDULE AND NOTES

SCALE : N/A DATE: JUNE 2024 LD–13

DPS SC/SWM PERMIT SHEET NO. 57 of 64

C.I.P. Project No. : 0501742 76 of 105

PLOTTED: 6/26/2024
FILE: C:\pwworking\rjshaw01\mmaffoo@flourateeter.com\d0380699\pLD-D013_SCLT.dgn.dgn

Tree ID	Common Name	*Scientific Name*	DBH (inches)	Trunk	Condition	Comments	Recommendations Save/Remove
ST-01	Tulip Poplar	*Liriodendron tulipfer*	35.9	Single	Good	Specimen	Save
ST-02	Tulip Poplar	*Liriodendron tulipfer*	36.5	Single	Good	Specimen	Save
ST-03	Tulip Poplar	*Liriodendron tulipfer*	34.7	Single	Good	Specimen	Save
ST-04	Tulip Poplar	*Liriodendron tulipfer*	35.2	Single	Good	Specimen	Save
ST-05	Red Maple	*Acer rubrum*	35.5	Single	Good	Specimen	Save
ST-06	Red Maple	*Acer rubrum*	30.4	Single	Good	Specimen	Save
ST-07	Red Maple	*Acer rubrum*	38.9	Single	Good	Specimen	Save
ST-08	Tulip Poplar	*Liriodendron tulipfer*	30.0	Single	Good	Specimen	Save
T-09	Princess Tree	*Paulownia tomentos*	12.0	Single	Good		Save
T-10	Red Maple	*Acer rubrum*	16.0	Single	Fair		Save
T-11	Red Maple	*Acer rubrum*	21.0	Single	Good		Save
T-12	Red Maple	*Acer rubrum*	15.0	Single	Fair		Save
ST-13	Tulip Poplar	*Liriodendron tulipfer*	31.2	Single	Good	Specimen	Save
T-14	Red Maple	*Acer rubrum*	11.0	Single	Good		Save
ST-15	Red Maple	*Acer rubrum*	31.1	Single	Good	Specimen	Save
ST-16	Red Maple	*Acer rubrum*	26.6	Single	Good		Save
T-17	Red Maple	*Acer rubrum*	12.5	Single	Good		Save
T-18	Red Maple	*Acer rubrum*	12.8	Single	Good		Save
T-19	Black Gum	*Nyssa silvatica*	8.0	Single	Good		Save
T-20	Red Maple	*Acer rubrum*	14.0	Single	Fair		Save
T-21	Red Maple	*Acer rubrum*	15.0	Single	Fair		Save
T-22	Tulip Poplar	*Liriodendron tulipfer*	10.2	Single	Good		Save
T-23	Tulip Poplar	*Liriodendron tulipfer*	8.5	Single	Good		Save
T-24	Black Willow	*Salix nigra*	10.0	Single	Good		Save
T-25	Tulip Poplar	*Liriodendron tulipfer*	9.5	Single	Good		Save
T-26	Red Maple	*Acer rubrum*	18.0	Single	Poor		Save
T-27	Red Maple	*Acer rubrum*	8.5	Single	Fair		Save
T-28	Red Maple	*Acer rubrum*	11.0	Single	Good		Save
T-29	Red Maple	*Acer rubrum*	16.5	Single	Good		Save
T-30	Red Maple	*Acer rubrum*	14.0	Single	Good		Save
ST-31	Tulip Poplar	*Liriodendron tulipfer*	10.5	Single	Good		Save
ST-32	Sycamore	*Platanum occidentali*	17.0	Single	Good		Save
ST-33	Sycamore	*Platanum occidentali*	13.0	Single	Good		Save
ST-34	Sycamore	*Platanum occidentali*	9.0	Single	Good		Save
ST-35	Red Maple	*Acer rubrum*	14.5	Single	Good		Save
ST-36	Red Maple	*Acer rubrum*	19.0	Single	Good		Save
T-37	Black Gum	*Nyssa silvatica*	9.0	Single	Good		Save
T-38	Red Maple	*Acer rebrum*	17.0	Single	Fair		Save
ST-39	Tulip Poplar	*Liriodendron tulipfer*	26.0	Single	Good		Save
ST-40	Tulip Poplar	*Liriodendron tulipfer*	25.0	Single	Good		Save
T-41	Red Maple	*Acer rubrum*	22.0	Single	Fair		Save
ST-42	Red Maple	*Acer rubrum*	25.0	Single	Fair		Save
T-43	Sycamore	*Platanum occidentali*	18.5	Single	Fair		Save
T-44	Tulip Poplar	*Liriodendron tulipfer*	15.0	Single	Good		Save
T-45	Sycamore	*Platanum occidentali*	11.0	Single	Good		Save
T-46	American Elm	*Ulmus americana*	9.5	Single	Good		Save
T-47	Red Maple	*Acer rubrum*	9.5	Single	Good		Save
T-48	Tulip Poplar	*Liriodendron tulipfer*	8.0	Single	Good		Save
T-49	Red Maple	*Acer rubrum*	9.5	Single	Good		Save
T-50	Red Maple	*Acer rubrum*	9.0	Single	Good		Save
T-51	White Mulberry	*Morus alba*	13.0	Single	Good		Save
T-52	Red Maple	*Acer rubrum*	10.5	Single	Good		Save
ST-53	Tulip Poplar	*Liriodendron tulipfer*	24.0	Single	Fair		Save
T-54	Tulip Poplar	*Liriodendron tulipfer*	12.5	Single	Fair		Save
T-55	Red Maple	*Acer rubrum*	10.0	Single	Good		Save
ST-56	Black Locust	*Robinian pseudoacaci*	8.0	Single	Good		Save
ST-57	Sycamore	*Platanum occidentali*	21.0	Single	Good		Save
ST-58	Sycamore	*Platanum occidentali*	12.5	Single	Good		Save
ST-59	Tulip Poplar	*Liriodendron tulipfer*	9.5	Single	Good		Save
ST-60	Red Maple	*Acer rubrum*	11.5	Single	Good		Remove
ST-61	Black Walnut	*Juglans nigra*	11.0	Single	Good		Remove
ST-62	Red Maple	*Acer rubrum*	15.5	Single	Good		Save - Tree Protection
ST-63	Black Cherry	*Prunus serotina*	12.0	Single	Fair		Save - Tree Protection
ST-64	Tulip Poplar	*Liriodendron tulipfer*	14.5	Single	Good		Save - Tree Protection
ST-65	Red Maple	*Acer rubrum*	12.0	Single	Fair		Save
ST-66	Red Maple	*Acer rubrum*	21.0	Single	Fair		Save
ST-67	Tulip Poplar	*Liriodendron tulipfer*	14.0	Single	Fair		Save
ST-68	Red Maple	*Acer rubrum*	21.0	Single	Good		Save
T-69	Red Maple	*Acer rubrum*	15.0	Single	Fair		Save
T-70	Red Maple	*Acer rubrum*	19.0	Single	Good		Save
T-71	Tulip Poplar	*Liriodendron tulipfer*	22.0	Single	Good		Save
T-72	Black Cherry	*Prunus serotina*	8.5	Single	Good		Save
ST-73	Red Mulberry	*Morus rubra*	22.0	Single	Good		Remove
ST-74	London Plane	*Platanus x acerifolia*	16.0	Single	Good		Remove
ST-75	London Plane	*Platanus x acerifolia*	14.5	Single	Good		Remove
ST-76	Red Mulberry	*Morus rubra*	16.5	Single	Good		Save - Tree Protection
ST-77	London Plane	*Platanus x acerifolia*	9.5	Single	Good		Remove
ST-78	Chinese Holly	*Ilex cornuta*	6.5/7.0/7.5	Triple	Good		Remove
ST-79	Chinese Holly	*Ilex cornuta*	6.5/7.0/7.5	Triple	Good		Save - Tree Protection
ST-80	Chinese Holly	*Ilex cornuta*	6.5/7.0/7.5	Triple	Good		Save - Tree Protection
ST-81	Chinese Holly	*Ilex cornuta*	7.0/7.0/7.0/8.0	Multi-Stem	Good		Remove
ST-82	Chinese Holly	*Ilex cornuta*	6.0/11.0/12.0	Triple	Good		Remove
ST-83	Chinese Holly	*Ilex cornuta*	10.0/13.0	Double	Good		Remove
ST-84	Chinese Holly	*Ilex cornuta*	6.0/6.5/7.5/10.5	Multi-Stem	Good		Remove
ST-85	Chinese Holly	*Ilex cornuta*	9.0/11.0	Double	Good		Remove

Tree ID	Common Name	*Scientific Name*	DBH (inches)	Trunk	Condition	Comments	Recommendations Save/Remove
ST-86	London Plane	*Platanus x acerifolia*	14.5	Single	Good		Remove
ST-87	London Plane	*Platanus x acerifolia*	12.0	Single	Good		Remove
ST-88	London Plane	*Platanus x acerifolia*	2.0	Single	Good		Remove
ST-89	London Plane	*Platanus x acerifolia*	10.0	Single	Good		Remove
ST-90	London Plane	*Platanus x acerifolia*	2.0	Single	Good		Remove
ST-91	London Plane	*Platanus x acerifolia*	10.5	Single	Good		Remove
ST-92	London Plane	*Platanus x acerifolia*	2.9	Single	Good		Save - Tree Protection
ST-93	London Plane	*Platanus x acerifolia*	4.0	Single	Good		Remove
ST-94	Flowering Cherry	*Prunus serrulata*	18.0	Single	Fair		Remove
ST-95	London Plane	*Platanus x acerifolia*	8.5	Single	Good		Remove
ST-96	London Plane	*Platanus x acerifolia*	8.5	Single	Good		Remove
ST-97	London Plane	*Platanus x acerifolia*	3.4	Single	Good		Save
ST-98	London Plane	*Platanus x acerifolia*	16.5	Single	Good		Remove
ST-99	London Plane	*Platanus x acerifolia*	8.5	Single	Good		Save - Tree Protection
ST-100	Flowering Cherry	*Prunus serrulata*	13.0	Single	Good		Save - Tree Protection
ST-101	Flowering Cherry	*Prunus serrulata*	11.0	Single	Good		Save - Tree Protection
ST-102	Flowering Cherry	*Prunus serrulata*	5.0	Single	Poor		Save
ST-103	Flowering Cherry	*Prunus serrulata*	13.0	Single	Good		Save
T-104	London Plane	*Platanus x acerifolia*	3.5	Single	Good		Save
T-105	Flowering Cherry	*Prunus serrulata*	2.5	Single	Good		Save
ST-106	Flowering Cherry	*Prunus serrulata*	11.5	Single	Good		Save
ST-107	Flowering Cherry	*Prunus serrulata*	14.0	Single	Poor		Save
T-108	London Plane	*Platanus x acerifolia*	3.4	Single	Good		Save
T-109	Flowering Cherry	*Prunus serrulata*	11.5	Single	Good		Save
ST-110	Flowering Cherry	*Prunus serrulata*	14.0	Single	Good		Save
ST-111	Flowering Cherry	*Prunus serrulata*	18.5	Single	Good		Save
ST-112	Flowering Cherry	*Prunus serrulata*	12.5	Single	Good		Save
ST-113	Flowering Cherry	*Prunus serrulata*	15.5	Single	Good		Save
T-114	London Plane	*Platanus x acerifolia*	11.5	Single	Good		Save
T-115	London Plane	*Platanus x acerifolia*	4.0	Single	Good		Save
T-116	London Plane	*Platanus x acerifolia*	2.5	Single	Good		Save
ST-117	London Plane	*Platanus x acerifolia*	15.9	Single	Good		Save
ST-118	London Plane	*Platanus x acerifolia*	18.0	Single	Good		Save
ST-119	Sawtooth Oak	*Quercus acutissima*	12.0	Single	Good		Save
ST-120	Sawtooth Oak	*Quercus acutissima*	12.5	Single	Good		Save
T-121	Sawtooth Oak	*Quercus acutissima*	5.5	Multi-Stem	Fair		Save
T-122	London Plane	*Platanus x acerifolia*	11.5	Single	Good		Save
T-123	London Plane	*Platanus x acerifolia*	10.0	Single	Good		Save
ST-124	London Plane	*Platanus x acerifolia*	15.5	Single	Fair	Slight Lean	Remove
ST-125	London Plane	*Platanus x acerifolia*	12.5	Single	Fair	Slight Lean	Remove
ST-126	London Plane	*Platanus x acerifolia*	14.2	Single	Fair	Slight Lean	Remove
ST-127	London Plane	*Platanus x acerifolia*	13.4	Single	Fair	Slight Lean	Remove
ST-128	London Plane	*Platanus x acerifolia*	13.3	Single	Fair	Limb Dieback	Remove
ST-129	London Plane	*Platanus x acerifolia*	16.0	Single	Poor	Crack at Base; Slight Lean; Limb Dieback	Remove
T-130	Honey Locust	*Gleditsia triacanthos*	9.3	Double	Good	Outside of LOD	Save
T-131	Honey Locust	*Gleditsia triacanthos*	9.0	Single	Good	Outside of LOD	Save
T-132	Honey Locust	*Gleditsia triacanthos*	9.0	Single	Good	Outside of LOD	Save
ST-133	Honey Locust	*Gleditsia triacanthos*	6.3	Single	Good		Remove
ST-134	London Plane	*Platanus x acerifolia*	14.0	Single	Fair	Slight Lean	Remove
ST-135	Honey Locust	*Gleditsia triacanthos*	6.7	Single	Good		Remove
ST-136	London Plane	*Platanus x acerifolia*	16.1	Single	Good		Remove
ST-137	Honey Locust	*Gleditsia triacanthos*	6.0	Single	Good		Remove
ST-138	London Plane	*Platanus x acerifolia*	15.9	Single	Fair	Slight Lean	Remove
ST-139	Northern Red Oak	*Quercus rubra*	8.2	Single	Good		Remove
ST-140	London Plane	*Platanus x acerifolia*	12.3	Single	Fair	Slight Lean	Remove
ST-141	London Plane	*Platanus x acerifolia*	15.9	Single	Fair	Slight Lean, Split	Remove
ST-142	London Plane	*Platanus x acerifolia*	12.7	Single	Fair	Slight Lean	Remove
ST-143	London Plane	*Platanus x acerifolia*	18.7	Single	Fair	Slght Lean, Split	Remove
ST-144	Pin Oak	*Quercus palustris*	22.4	Single	Good		Save - Tree Protection
ST-145	Northern Red Oak	*Quercus rubra*	6.2	Single	Good		Save
ST-146	Northern Red Oak	*Quercus rubra*	7.0	Single	Good		Save
ST-147	Northern Red Oak	*Quercus rubra*	6.3	Single	Good		Save
ST-148	London Plane	*Platanus x acerifolia*	3.1	Single	Good		Save
ST-149	London Plane	*Platanus x acerifolia*	3.0	Single	Good		Save - Tree Protection
ST-150	London Plane	*Platanus x acerifolia*	19.3	Single	Fair	Slight Lean	Remove
ST-151	Northern Red Oak	*Quercus rubra*	4.0	Single	Good		Save
ST-152	London Plane	*Platanus x acerifolia*	4.7	Single	Good		Save
ST-153	London Plane	*Platanus x acerifolia*	12.8	Single	Fair	Slight Lean; Dead	Remove
ST-154	London Plane	*Platanus x acerifolia*	14.0	Single	Fair	Slight Lean	Remove
ST-155	London Plane	*Platanus x acerifolia*	5.2	Single	Good		Save - Tree Protection
ST-156	Willow Oak	*Quercus phellos*	9.1	Single	Good		Save - Tree Protection
ST-157	Willow Oak	*Quercus phellos*	9.2	Single	Good		Save - Tree Protection
ST-158	London Plane	*Platanus x acerifolia*	12.9	Single	Good		Remove
ST-159	Eastern Redbud	*Cercis canadensis*	3.5	Multi-Stem	Good		Remove
ST-160	Eastern Redbud	*Cercis canadensis*	3.5	Multi-Stem	Good		Remove
ST-161	Eastern Redbud	*Cercis canadensis*	3.5	Multi-Stem	Good		Remove
ST-162	Sycamore	*Platanus occidentalis*	10.8	Single	Good		Remove
ST-163	London Plane	*Platanus x acerifolia*	16.2	Single	Good		Remove
ST-164	London Plane	*Platanus x acerifolia*	4.1	Single	Good		Remove
ST-165	Northern Red Oak	*Quercus rubra*	4.3	Single	Good		Save
T-166	London Plane	*Platanus x acerifolia*	3.9	Single	Good		Save
T-167	London Plane	*Platanus x acerifolia*	6.1	Single	Good		Save
T-168	Northern Red Oak	*Quercus rubra*	6.5	Single	Good		Save
T-169	River Birch	*Betula nigra*	6.2	Triple	Good		Save

Tree ID	Common Name	*Scientific Name*	DBH (inches)	Trunk	Condition	Comments	Recommendations Save/Remove
ST-170	London Plane	*Platanus x acerifolia*	18.1	Single	Fair	Slight Lean	Remove
ST-171	London Plane	*Platanus x acerifolia*	16.7	Single	Fair	Slight Lean	Remove
ST-172	White Oak	*Quercus alba*	6.0	Single	Good		Save
ST-173	White Oak	*Quercus alba*	7.6	Single	Good		Save
ST-174	Crepe Myrtle	*Lagerstroemia indica*	18.1	Multi-Stem	Fair	Measured 6" from	Remove
ST-175	Willow Oak	*Quercus phellos*	27.4	Single	Good		Save - Tree Protection
ST-176	Willow Oak	*Quercus phellos*	40.5	Single	Good	Specimen	Save - Tree Protection
ST-177	Flowering Dogwood	*Cornus florida*	4.0/4.9/5.0/6.0	Multi-Stem	Good		Remove
ST-178	Callery Pear	*Pyrus calleryana*	5.4	Multi-Stem	Good		Remove
ST-179	London Plane	*Platanus x acerifolia*	16.2	Single	Fair	Slight Lean	Remove
ST-180	London Plane	*Platanus x acerifolia*	14.0	Single	Fair	Slight Lean	Remove
ST-181	London Plane	*Platanus x acerifolia*	12.7	Single	Good		Remove
ST-182	Willow Oak	*Quercus phellos*	34.4	Single	Good	Specimen	Save - Tree Protection
ST-183	London Plane	*Platanus x acerifolia*	15.1	Single	Good		Remove
ST-184	London Plane	*Platanus x acerifolia*	14.3	Single	Good		Remove
ST-185	Flowering Dogwood	*Cornus florida*	11.5	Multi-Stem	Good		Remove
ST-186	Willow Oak	*Quercus phellos*	28.8	Single	Good		Save
ST-187	Willow Oak	*Quercus phellos*	30.2	Single	Good	Specimen	Save
ST-188	Willow Oak	*Quercus phellos*	29.0	Single	Good		Save - Tree Protection
ST-189	Willow Oak	*Quercus phellos*	34.8	Single	Good	Specimen	Save - Tree Protection
ST-190	Willow Oak	*Quercus phellos*	30.2	Single	Good	Specimen	Save - Tree Protection
ST-191	Sweet Gum	*Liquidambar styraciflu*	15.8	Single	Fair	Girdled Root	Save
ST-192	Brewer Spruce	*Picea breweriana*	16.0	Single	Good		Save
ST-193	Willow Oak	*Quercus phellos*	44.0	Single	Good	Specimen	Save
ST-194	Flowering Dogwood	*Cornus florida*	13.7	Single	Good		Save - Tree Protection
ST-195	London Plane	*Platanus x acerifolia*	14.6	Single	Good		Remove
ST-196	London Plane	*Platanus x acerifolia*	14.2	Single	Good		Remove
ST-197	London Plane	*Platanus x acerifolia*	13.9	Single	Good		Remove
ST-198	Flowering Cherry	*Prunus serrulata*	21.5	Single	Fair	Trunk Cavity	Save - Tree Protection
ST-199	Flowering Cherry	*Prunus serrulata*	16.8	Single	Good		Save - Tree Protection
ST-200	Flowering Cherry	*Prunus serrulata*	15.3	Single	Good		Save - Tree Protection
ST-201	Flowering Cherry	*Prunus serrulata*	13.5	Single	Good		Save - Tree Protection
ST-202	Flowering Cherry	*Prunus serrulata*	13.1	Single	Fair	Split Trunk	Save - Tree Protection
ST-203	Flowering Cherry	*Prunus serrulata*	14.5	Single	Good		Remove
ST-204	London Plane	*Platanus x acerifolia*	12.5	Single	Fair	Limbs on Light Pole	Remove
ST-205	Flowering Cherry	*Prunus serrulata*	13.0	Single	Good		Remove
ST-206	London Plane	*Platanus x acerifolia*	15.5	Single	Good		Remove
ST-207	Flowering Cherry	*Prunus serrulata*	13.1	Single	Poor		Save
ST-208	Flowering Cherry	*Prunus serrulata*	15.3	Single	Poor	Measured 3" from	Save - Tree Protection
ST-209	Flowering Cherry	*Prunus serrulata*	12.1	Single	Fair	Trunk Cavity	Save - Tree Protection
ST-210	Flowering Cherry	*Prunus serrulata*	12.2	Single	Fair	Exposed Roots	Save - Tree Protection
ST-211	London Plane	*Platanus x acerifolia*	13.7	Single	Good		Remove
ST-212	Flowering Cherry	*Prunus serrulata*	20.2	Single	Fair		Save - Tree Protection
ST-213	London Plane	*Platanus x acerifolia*	14.9	Single	Good		Remove
ST-214	Flowering Cherry	*Prunus serrulata*	12.3	Single	Good		Save
ST-215	London Plane	*Platanus x acerifolia*	18.1	Single	Good		Remove
ST-216	London Plane	*Platanus x acerifolia*	13.0	Single	Good		Remove
ST-217	London Plane	*Platanus x acerifolia*	15.0	Single	Good		Remove
ST-218	London Plane	*Platanus x acerifolia*	15.1	Single	Good		Remove
ST-219	Pin Oak	*Quercus palustris*	27.3	Single	Good		Save - Tree Protection
ST-220	Northern Red Oak	*Quercus rubra*	27.5	Single	Good		Save - Tree Protection
H(ST)-221A	White Pine	*Pinus strobus*	14.0	Single	Good	GPS Point -	Save
H(ST)-221B	White Pine	*Pinus strobus*	15.0	Single	Good	No GPS Point	Save
H(ST)-221C	White Pine	*Pinus strobus*	16.0	Single	Good	No GPS Point	Save
H(ST)-221D	White Pine	*Pinus strobus*	18.0	Single	Good	No GPS Point	Save
H(ST)-221E	White Pine	*Pinus strobus*	20.0	Single	Good	No GPS Point	Save
ST-222	Northern Red Oak	*Quercus rubra*	22.0	Single	Good		Save - Tree Protection
ST-223	Pin Oak	*Quercus palustris*	17.1	Single	Good		Save - Tree Protection
ST-224	Flowering Cherry	*Prunus serrulata*	19.6	Single	Good		Save
ST-225	London Plane	*Platanus x acerifolia*	15.5	Single	Good		Remove
ST-226	Pin Oak	*Quercus palustris*	26.8	Single	Good		Save - Tree Protection
ST-227	Pin Oak	*Quercus palustris*	24.2	Single	Poor		Save - Tree Protection
ST-228	Pin Oak	*Quercus palustris*	25.6	Single	Good	GPS Point -	Save
H(ST)-229A	White Pine	*Pinus strobus*	12.0	Single	Good	No GPS Point	Save
H(ST)-229B	White Pine	*Pinus strobus*	12.5	Single	Good	No GPS Point	Save
H(ST)-229C	White Pine	*Pinus strobus*	14.0	Single	Good	No GPS Point	Save
H(ST)-229D	White Pine	*Pinus strobus*	14.5	Single	Good	No GPS Point	Save
H(ST)-229E	White Pine	*Pinus strobus*	15.0	Single	Good	No GPS Point	Save
H(ST)-229F	White Pine	*Pinus strobus*	15.0	Single	Good	No GPS Point	Save
H(ST)-229G	White Pine	*Pinus strobus*	15.5	Single	Good	No GPS Point	Save - Tree Protection
H(ST)-229H	White Pine	*Pinus strobus*	16.0	Single	Good	No GPS Point	Save - Tree Protection
H(ST)-229I	White Pine	*Pinus strobus*	16.5	Single	Good	No GPS Point	Save - Tree Protection
ST-230	London Plane	*Platanus x acerifolia*	16.7	Single	Good		Remove
ST-231	London Plane	*Platanus x acerifolia*	16.4	Single	Good		Remove
ST-232	London Plane	*Platanus x acerifolia*	16.0	Single	Good		Remove
ST-233	London Plane	*Platanus x acerifolia*	18.3	Single	Fair	Broken Branch	Remove
T-234	River Birch	*Betula nigra*	7.0/7.9/8.0/9.0	Multi-Stem	Good		Save - Tree Protection
T-235	River Birch	*Betula nigra*	4.0/6.0/7.0/7.0	Multi-Stem	Good		Save - Tree Protection
T-236	River Birch	*Betula nigra*	7.6	Single	Good		Remove
T-237	Eastern Redbud	*Cercis canadensis*	8.2	Single	Good		Remove
T-238	River Birch	*Betula nigra*	2.5/4.0/6.0/6.0/6.5	Multi-Stem	Good		Remove
T-239	Eastern Redbud	*Cercis canadensis*	8.7	Single	Good		Save - Tree Protection
T-240	Eastern Redbud	*Cercis canadensis*	5.5/7.0	Double	Good		Save - Tree Protection
T-241	Eastern Redbud	*Cercis canadensis*	8.2/9.5	Double	Good		Save - Tree Protection
T-242	Callery Pear	*Pyrus calleryana*	4.0/5.0/5.3/7.3	Multi-Stem	Fair	Limbs Trimmed	Save

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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

TREE PROTECTION CHARTS AND DETAILS

SCALE : N/A DATE: JUNE 2024 LD-14

DPS SC/SWM PERMIT SHEET NO. 58 of 64

C.I.P. Project No. : 0501742 77 of 105

PLOTTED: 6/26/2024
FILE: C:\powork\kg\gfpw01\mmaffice@flourateeter.com\d0285699\pLD-D014_SC17.rgn

Tree ID	Common Name	*Scientific Name*	DBH (inches)	Trunk	Condition	Comments	Recommendations Save/Remove
T-243	Callery Pear	*Pyrus calleryana*	4.0/4.2/5.0/5.1/6.5/7.1	Multi-Stem	Good		Save
T-244	Callery Pear	*Pyrus calleryana*	6.1	Single	Good		Save - Tree Protection
T-245	Callery Pear	*Pyrus calleryana*	3.7/4.7/5.1/6.0	Multi-Stem	Fair	Limbs Trimmed	Save
ST-246	Blue Spruce	*Picea pungens*	11.6	Single	Good		Save
T-247	Callery Pear	*Pyrus calleryana*	2.5/2.6/3.2/3.5/4.5/5.3	Multi-Stem	Good		Save
T-248	Flowering Dogwood	*Cornus florida*	3.6/5.0	Double	Good		Save
ST-249	Sweet Crabapple	*Malus coronaria*	4.0/6.0/8.0/8.0/9.0	Multi-Stem	Fair	Twisted; Dead	Save
ST-250	Eastern Redbud	*Cercis canadensis*	3.3/7.6	Double	Fair	Split Trunk	Save
ST-251	Eastern Redbud	*Cercis canadensis*	3.7/5.0/7.6	Multi-Stem	Fair	Trunk Wounds	Save
T-252	River Birch	*Betula nigra*	7.5/7.6/8.5	Triple	Good		Save
T-253	River Birch	*Betula nigra*	5.5/5.5/6.9	Triple	Good		Save
T-254	River Birch	*Betula nigra*	4.6/6.7/6.9	Triple	Good		Save
T-255	Eastern Redbud	*Cercis canadensis*	5.6/9.0	Double	Good		Save
ST-256	Pin Oak	*Quercus palustris*	22.6	Single	Good		Save
T-257	Saucer Magnolia	*Magnolia x soulangian*	8.6	Single	Good		Save
ST-258	Crepe Myrtle	*Lagerstroemia indica*	5.5/6.6/7.2/8.0	Multi-Stem	Good		Save
ST-259	Crepe Myrtle	*Lagerstroemia indica*	3.5/4.0/5.0/5.0/5.0/6.0	Multi-Stem	Good		Save
ST-260	London Plane	*Platanus x acerifolia*	15.4	Single	Good		Remove
ST-261	London Plane	*Platanus x acerifolia*	11.9	Single	Fair	Limbs on Light Pole	Remove
ST-262	London Plane	*Platanus x acerifolia*	12.2	Single	Good		Remove
ST-263	London Plane	*Platanus x acerifolia*	11.9	Single	Good		Remove
ST-264	London Plane	*Platanus x acerifolia*	13.9	Single	Good		Remove
ST-265	London Plane	*Platanus x acerifolia*	14.4	Single	Good		Remove
ST-266	London Plane	*Platanus x acerifolia*	16.0	Single	Fair	Slight Lean	Remove
ST-267	London Plane	*Platanus x acerifolia*	15.9	Single	Good		Remove
ST-268	London Plane	*Platanus x acerifolia*	15.7	Single	Good		Remove
ST-269	Willow Oak	*Quercus phellos*	11.4	Single	Good		Remove
ST-270	Willow Oak	*Quercus phellos*	13.0	Single	Good		Save - Tree Protection
ST-271	Scarlet Oak	*Quercus coccinea*	12.3	Single	Good		Save
ST-272	Scarlet Oak	*Quercus coccinea*	13.8	Single	Good		Save
ST-273	Scarlet Oak	*Quercus coccinea*	7.7	Single	Good		Save
ST-274	Flowering Cherry	*Prunus serrulata*	5.5	Single	Good		Save - Tree Protection
ST-275	Flowering Cherry	*Prunus serrulata*	5.3	Single	Good		Save
T-276	River Birch	*Betula nigra*	6.1	Single	Good		Save
T-277	River Birch	*Betula nigra*	7.0	Single	Good		Save
T-278	Norway Spruce	*Picea abies*	6.0	Single	Good		Save
T-279	Chinese Holly	*Ilex cornuta*	4.0/4.0/5.5	Triple	Good		Save
ST-280	Flowering Cherry	*Prunus serrulata*	6.5	Single	Good		Save
ST-281	Red Maple	*Acer rubrum*	9.0	Single	Good		Save
T-282	London Plane	*Platanus x acerifolia*	5.8	Single	Good		Save
T-283	Flowering Cherry	*Prunus serrulata*	8.0	Single	Good		Save
ST-284	Flowering Cherry	*Prunus serrulata*	12.0	Single	Good		Save
ST-285	Flowering Cherry	*Prunus serrulata*	9.4	Single	Good		Save - Tree Protection
ST-286	Flowering Cherry	*Prunus serrulata*	9.5	Single	Good		Save - Tree Protection
ST-287	London Plane	*Platanus x acerifolia*	3.6	Single	Good		Save - Tree Protection
ST-288	Flowering Cherry	*Prunus serrulata*	14.2	Single	Good		Save
T-289	London Plane	*Platanus x acerifolia*	7.8	Single	Good		Save
T-290	Flowering Cherry	*Prunus serrulata*	7.1	Single	Good		Save
ST-291	Pin Oak	*Quercus palustris*	19.5	Single	Fair		Save
ST-292	Sweet Crabapple	*Malus coronaria*	15.0	Single	Good		Save
ST-293	Sweet Crabapple	*Malus coronaria*	10.5	Single	Fair		Save
ST-294	Sweet Crabapple	*Malus coronaria*	12.6	Single	Fair	Cut Limbs	Save - Tree Protection
ST-295	Sweet Crabapple	*Malus coronaria*	11.4	Single	Fair	Cut Limbs, Trunk	Save - Tree Protection
ST-296	Norway Maple	*Acer plantanoides*	15.8	Single	Fair	Trunk Wounds	Save
T-297	Flowering Cherry	*Prunus serrulata*	5.0	Single	Good		Save
T-298	Flowering Cherry	*Prunus serrulata*	2.6	Single	Good		Save
T-299	Flowering Cherry	*Prunus serrulata*	3.0	Single	Fair		Save
ST-300	River Birch	*Betula nigra*	6.0/6.2/7.5	Multi-Stem	Good		Save
ST-301	River Birch	*Betula nigra*	3.5/7.0/11.5	Multi-Stem	Good		Save
ST-302	Flowering Cherry	*Prunus serrulata*	7.5/7.7/9.5/9.5/11.3	Multi-Stem	Poor	Trunk Wounds, Cracked Branches,	Save
ST-303	Flowerng Cherry	*Prunus serrulata*	12.3	Single	Fair	Trunk Wounds	Save
T-304	Flowering Cherry	*Prunus serrulata*	9.6	Single	Good		Save
T-305	Flowering Cherry	*Prunus serrulata*	10.0	Single	Good		Save
ST-306	Flowering Cherry	*Prunus serrulata*	12.1	Single	Good		Save
T-307	Flowering Cherry	*Prunus serrulata*	11.7	Single	Good		Save
T-308	Flowering Cherry	*Prunus serrulata*	10.8	Single	Good		Save
T-309	Saucer Magnolia	*Magnolia x soulangian*	6.5/7.1	Double	Good		Save
ST-310	Norway Spruce	*Picea abies*	14.9	Single	Good		Save
ST-311	London Plane	*Platanus x acerifolia*	11.2	Single	Good		Save
ST-312	Eastern Redbud	*Cercis canadensis*	6.5/7.2	Double	Fair	Slight Lean	Save
ST-313	Callery Pear	*Pyrus calleryana*	3.5/3.7/4.5/5.0/7.3/8.0	Multi-Stem	Fair	Twisted Stems	Save
ST-314	Callery Pear	*Pyrus calleryana*	2.0/2.0/3.0/3.0	Multi-Stem	Fair		Save
ST-315	Callery Pear	*Pyrus calleryana*	3.0/3.0/4.0/4.0	Multi-Stem	Good		Save
ST-316	Flowering Dogwood	*Cornus florida*	5.7	Single	Good		Save
ST-317	Callery Pear	*Pyrus calleryana*	1.0/2.0/3.0/3.0	Multi-Stem	Good		Save
ST-318	Callery Pear	*Pyrus calleryana*	2.6/3.0/3.0	Multi-Stem	Good		Save
ST-319	Callery Pear	*Pyrus calleryana*	2.0/2.5/3.0/3.5/4.0	Multi-Stem	Fair	Missing Bark, Trunk	Save
ST-320	Callery Pear	*Pyrus calleryana*	2.0/3.0/4.0	Multi-Stem	Fair	Missing Bark	Save
ST-321	Flowering Dogwood	*Cornus florida*	2.0/3.0/3.0	Multi-Stem	Good		Save
ST-322	Flowering Dogwood	*Cornus florida*	2.0/3.0/3.0/4.0	Multi-Stem	Fair		Save
H(T)-323A	Norway Spruce	*Picea abies*	6.5	Single	Good	GPS Point -	Save
H(T)-323B	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323C	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323D	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323E	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323F	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323G	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323H	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323I	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323J	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323K	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323L	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-323M	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
ST-324	Chinese Holly	*Ilex cornuta*	4.0	Single	Good	GPS Point -	Save
ST-325	Chinese Holly	*Ilex cornuta*	5.0	Single	Good	GPS Point - Hedgerow Corner	Save
T-326	Chinese Holly	*Ilex cornuta*	4.8	Single	Fair	Twisted Stems	Save
T-327	Chinese Holly	*Ilex cornuta*	8.5	Single	Good	GPS Point -	Save
H(T)-328A	Norway Spruce	*Picea abies*	7.5	Single	Good	GPS Point -	Save
H(T)-328B	Norway Spruce	*Picea abies*	8.0	Single	Good	No GPS Point	Save
H(T)-328C	Norway Spruce	*Picea abies*	8.0	Single	Good	No GPS Point	Save
H(T)-328D	Norway Spruce	*Picea abies*	7.5	Single	Good	GPS Point - Hedgerow Corner	Save
H(T)-328E	Norway Spruce	*Picea abies*	7.0	Single	Good	No GPS Point	Save
H(T)-328F	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-328G	Norway Spruce	*Picea abies*	6.0	Single	Good	No GPS Point	Save
H(T)-328H	Norway Spruce	*Picea abies*	5.5	Single	Good	No GPS Point	Save
H(T)-328I	Norway Spruce	*Picea abies*	5.0	Single	Good	No GPS Point	Save
H(T)-328J	Norway Spruce	*Picea abies*	4.5	Single	Good	GPS Point - Hedgerow Corner	Save
T-329	Chinese Holly	*Ilex cornuta*	4.0	Single	Good	GPS Point - Hedgerow Corner	Save
T-330	Chinese Holly	*Ilex cornuta*	3.0	Single	Good	GPS Point - Hedgerow Corner	Save
T-331	Chinese Holly	*Ilex cornuta*	3.0	Single	Good	GPS Point - Hedgerow Corner	Save
T-332	Chinese Holly	*Ilex cornuta*	2.4	Single	Good	GPS Point - Hedgerow Corner	Save
H(T)-333A	Norway Spruce	*Picea abies*	5.5	Single	Good	GPS Point -	Save
H(T)-333B	Norway Spruce	*Picea abies*	6.0	Single	Good	No GPS Point	Save
H(T)-333C	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-333D	Norway Spruce	*Picea abies*	6.0	Single	Good	GPS Point - Hedgerow Corner	Save
H(T)-333E	Norway Spruce	*Picea abies*	5.5	Single	Good	No GPS Point	Save
H(T)-333F	Norway Spruce	*Picea abies*	6.0	Single	Good	No GPS Point	Save
H(T)-333G	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-333H	Norway Spruce	*Picea abies*	6.0	Single	Good	No GPS Point	Save
H(T)-333I	Norway Spruce	*Picea abies*	5.5	Single	Good	No GPS Point	Save
H(T)-333J	Norway Spruce	*Picea abies*	6.0	Single	Good	No GPS Point	Save
H(T)-333K	Norway Spruce	*Picea abies*	6.5	Single	Good	No GPS Point	Save
H(T)-333L	Norway Spruce	*Picea abies*	6.0	Single	Good	No GPS Point	Save
H(T)-333M	Norway Spruce	*Picea abies*	5.5	Single	Good	No GPS Point	Save
H(T)-333N	Norway Spruce	*Picea abies*	6.0	Single	Good	GPS Point -	Save
ST-334	Chinese Holly	*Ilex cornuta*	7.0	Single	Good	GPS Point - Hedgerow Corner	Save
T-335	Chinese Holly	*Ilex cornuta*	4.0/5.0	Double	Good	GPS Point - Hedgerow Corner	Save
ST-336	London Plane	*Platanus x acerifolia*	14.2	Single	Poor	Column of Decay Along Stem, Dead	Remove
ST-337	London Plane	*Platanus x acerifolia*	14.9	Single	Good		Remove
ST-338	London Plane	*Platanus x acerifolia*	13.8	Single	Good		Remove
ST-339	London Plane	*Platanus x acerifolia*	16.5	Single	Good		Remove
ST-340	London Plane	*Platanus x acerifolia*	15.7	Single	Good		Remove
ST-341	London Plane	*Platanus x acerifolia*	15.9	Single	Good		Remove
ST-342	London Plane	*Platanus x acerifolia*	15.4	Single	Good		Remove
ST-343	London Plane	*Platanus x acerifolia*	15.6	Single	Good		Remove
ST-344	London Plane	*Platanus x acerifolia*	14.0	Single	Good		Remove
ST-345	London Plane	*Platanus x acerifolia*	12.7	Single	Good		Remove
ST-346	London Plane	*Platanus x acerifolia*	12.7	Single	Good		Remove
ST-347	River Birch	*Betula nigra*	4.0/6.0/8.0	Multi-Stem	Good		Save - Tree Protection
ST-348	River Birch	*Betula nigra*	6.0/7.0/8.0	Multi-Stem	Good		Save - Tree Protection
ST-349	River Birch	*Betula nigra*	3.0/4.0/5.0	Multi-Stem	Good		Save - Tree Protection
ST-350	Eastern Redbud	*Cercis canadensis*	8.0	Single	Good		Save
ST-351	Northern Red Oak	*Quercus rubra*	4.2	Single	Good		Save
ST-352	London Plane	*Platanus x acerifolia*	7.1	Single	Good		Save - Tree Protection
ST-353	Eastern Redbud	*Cercis canadensis*	10.2	Single	Good		Save - Tree Protection
ST-354	London Plane	*Platanus x acerifolia*	6.5	Single	Good		Save - Tree Protection
T-355	Chinese Holly	*Ilex cornuta*	3.0	Triple	Good		Save
T-356	Chinese Holly	*Ilex cornuta*	3.0	Double	Good		Save
T-357	Willow Oak	*Quercus phellos*	9.7	Single	Good		Save
T-358	Northern Red Oak	*Quercus rubra*	4.5	Single	Good		Save
T-359	Chinese Holly	*Ilex cornuta*	3.0	Single	Good		Save
T-360	Eastern Redbud	*Cercis canadensis*	2.0/2.5/3.0/3.5/4.0	Multi-Stem	Good		Save
T-361	River Birch	*Betula nigra*	4.5/5.0/5.5	Triple	Good		Save
T-362	Willow Oak	*Quercus phellos*	5.0	Single	Good		Save
T-363	River Birch	*Betula nigra*	3.0/3.5/4.0/4.5	Multi-Stem	Good		Save
T-364	River Birch	*Betula nigra*	2.5/3.0/3.5	Triple	Good		Save
T-365	River Birch	*Betula nigra*	2.0/2.5/3.0	Triple	Good		Save
T-366	River Birch	*Betula nigra*	3.0/3.5/4.0/4.5	Multi-Stem	Good		Save
T-367	Northern Red Oak	*Quercus rubra*	6.0	Single	Good		Save
T-368	Northern Red Oak	*Quercus rubra*	4.0	Single	Good		Save
ST-369	Eastern Redbud	*Cercis canadensis*	3.0	Single	Good		Save
T-370	Northern Red Oak	*Quercus rubra*	8.2	Single	Good		Save
T-371	Northern Red Oak	*Quercus rubra*	5.2	Single	Good		Save
T-372	Honey Locust	*Gleditsia triacanthos*	6.5	Single	Good		Save
ST-373	Honey Locust	*Gleditsia triacanthos*	5.7	Single	Good		Save
T-374	Honey Locust	*Gleditsia triacanthos*	5.7	Single	Good		Save
ST-375	Honey Locust	*Gleditsia triacanthos*	6.1	Single	Good		Save - Tree Protection
ST-376	Flowering Cherry	*Prunus serrulata*	7.4	Single	Fair	Cut Limbs	Save - Tree Protection
ST-377	Flowering Cherry	*Prunus serrulata*	7.2	Single	Good		Save - Tree Protection
ST-378	Flowering Cherry	*Prunus serrulata*	4.2/6.4	Double	Good		Save - Tree Protection
ST-379	Flowering Cherry	*Prunus serrulata*	8.0	Single	Good		Save - Tree Protection
ST-380	Flowering Cherry	*Prunus serrulata*	6.8	Single	Good		Remove
ST-381	Northern Red Oak	*Quercus rubra*	13.6	Single	Good		Save - Tree Protection
ST-382	London Plane	*Platanus x acerifolia*	4.5	Single	Good		Save - Tree Protection
ST-383	London Plane	*Platanus x acerifolia*	14.5	Single	Good		Remove
ST-384	London Plane	*Platanus x acerifolia*	17.4	Single	Good		Remove
ST-385	Flowering Cherry	*Prunus serrulata*	13.6	Single	Fair		Save - Tree Protection
ST-386	Flowering Cherry	*Prunus serrulata*	10.0	Single	Good		Save - Tree Protection
ST-387	London Plane	*Platanus x acerifolia*	16.3	Single	Good		Remove
ST-388	London Plane	*Platanus x acerifolia*	14.1	Single	Good		Remove
ST-389	London Plane	*Platanus x acerifolia*	12.3	Single	Good		Remove
ST-390	London Plane	*Platanus x acerifolia*	8.8	Single	Fair		Remove
T-391	London Plane	*Platanus x acerifolia*	8.5	Single	Good		Remove
ST-392	London Plane	*Platanus x acerifolia*	11.1	Single	Good		Remove
ST-393	White Pine	*Pinus strobus*	23.0	Single	Good		Save
ST-394	Flowering Cherry	*Prunus serrulata*	21.0	Single	Good		Save
ST-395	Red Maple	*Acer rubrum*	8.3	Single	Good		Save
ST-396	Red Maple	*Acer rubrum*	9.3	Single	Good		Save - Tree Protection
ST-397	Red Maple	*Acer rubrum*	8.3	Single	Good		Save - Tree Protection
ST-398	Red Maple	*Acer rubrum*	10.2	Single	Good		Save - Tree Protection
ST-399	White Pine	*Pinus strobus*	22.0	Single	Good		Save
ST-400	Pin Oak	*Quercus palustris*	21.6	Single	Good		Save
ST-401	Pin Oak	*Quercus palustris*	34.0	Single	Good	Specimen	Save - Tree Protection
ST-402	Flowering Cherry	*Prunus serrulata*	7.0/10.4	Double	Fair	Dead Branch, Trunk	Remove
ST-403	Flowering Dogwood	*Cornus florida*	3.5/4.0/4.0	Multi-Stem	Good		Remove
ST-404	Flowering Dogwood	*Cornus florida*	3.0/3.0/3.0/4.0/4.0	Multi-Stem	Fair	Cracked Stem	Remove
ST-405	Pin Oak	*Quercus palustris*	23.3	Single	Good		Save - Tree Protection
ST-406	Northern Red Oak	*Quercus rubra*	8.8	Single	Good		Save - Tree Protection
ST-407	Northern Red Oak	*Quercus rubra*	8.3	Single	Good		Save - Tree Protection
ST-408	Callery Pear	*Pyrus calleryana*	3.5/4.0/4.5/5.0/5.5	Multi-Stem	Good		Save - Tree Protection
ST-409	Callery Pear	*Pyrus calleryana*	3.5/4.0/4.0/4.5	Multi-Stem	Good		Save - Tree Protection
ST-410	Callery Pear	*Pyrus calleryana*	5.5	Triple	Good		Save - Tree Protection
ST-411	Callery Pear	*Pyrus calleryana*	3.0	Triple	Fair		Save - Tree Protection
ST-412	Callery Pear	*Pyrus calleryana*	3.0/3.0/4.0/4.0	Multi-Stem	Good		Save - Tree Protection
ST-413	Callery Pear	*Pyrus calleryana*	2.0/2.5/3.0/3.5	Multi-Stem	Good		Save - Tree Protection
ST-414	Callery Pear	*Pyrus calleryana*	2.0/2.5/3.0/3.5	Multi-Stem	Good		Save - Tree Protection
ST-415	Callery Pear	*Pyrus calleryana*	2.0/2.5/3.0/3.5/4.0	Multi-Stem	Fair		Save - Tree Protection
ST-416	London Plane	*Platanus x acerifolia*	12.3	Single	Good		Remove
ST-417	London Plane	*Platanus x acerifolia*	14.5	Single	Good		Remove
ST-418	London Plane	*Platanus x acerifolia*	13.9	Single	Good		Remove
ST-419	London Plane	*Platanus x acerifolia*	12.2	Single	Good		Remove
ST-420	London Plane	*Platanus x acerifolia*	16.5	Single	Good		Remove
ST-421	London Plane	*Platanus x acerifolia*	16.7	Single	Good		Remove
ST-422	London Plane	*Platanus x acerifolia*	17.3	Single	Good		Remove
ST-423	Red Maple	*Acer rubrum*	15.0	Single	Good		Save - Tree Protection
ST-424	Red Maple	*Acer rubrum*	19.0	Single	Good		Save - Tree Protection
ST-425	White Pine	*Pinus strobus*	17.2	Single	Good		Save
ST-426	Norway Spruce	*Picea abies*	15.5	Single	Good		Save
T-427	Eastern Redbud	*Cercis canadensis*	11.4	Single	Fair		Save
ST-428	White Pine	*Pinus strobus*	13.6	Single	Fair		Save
ST-429	Norway Spruce	*Picea abies*	12.3	Single	Good		Save
T-430	Eastern Redbud	*Cercis canadensis*	5.0	Single	Good		Save
T-431	White Pine	*Pinus strobus*	8.5	Single	Good		Save
T-431A	White Pine	*Pinus strobus*	8.0	Single	Good	No GPS Point	Save
T-431B	White Pine	*Pinus strobus*	7.5	Single	Good	No GPS Point	Save
T-431C	White Pine	*Pinus strobus*	8.0	Single	Good	No GPS Point	Save
T-431D	White Pine	*Pinus strobus*	8.5	Single	Good	No GPS Point	Save
T-431E	White Pine	*Pinus strobus*	9.0	Single	Good	No GPS Point	Save
ST-432	White Pine	*Pinus strobus*	28.9	Single	Fair	Specimen	Save
T-433	White Pine	*Pinus strobus*	10.2	Single	Fair		Save
ST-434	Pin Oak	*Quercus palustris*	19.7	Single	Good		Save - Tree Protection
ST-435	Pin Oak	*Quercus palustris*	19.0	Single	Good		Save - Tree Protection
ST-436	Red Maple	*Acer rubrum*	11.5	Single	Good		Save
ST-437	Norway Spruce	*Picea abies*	9.4	Single	Fair	Exposed Roots	Remove
ST-438	Red Maple	*Acer rubrum*	11.0	Single	Fair	Exposed Roots	Remove
ST-439	Flowering Cherry	*Prunus serrulata*	6.0	Single	Fair	Leaning, Fungus	Save - Tree Protection
ST-440	Flowering Cherry	*Prunus serrulata*	6.5	Single	Good		Save - Tree Protection
ST-441	Flowering Cherry	*Prunus serrulata*	4.5	Single	Good		Remove
ST-442	Flowering Cherry	*Prunus serrulata*	7.0	Single	Good		Remove
ST-443	Flowering Cherry	*Prunus serrulata*	7.5	Single	Good		Remove
ST-444	Eastern Redbud	*Cercis canadensis*	4.0/4.5/5.0/5.5	Multi-Stem	Good		Remove
ST-445	Norway Spruce	*Picea abies*	7.3	Single	Good		Save - Tree Protection
ST-446	Japanese Maple	*Acer palmatum*	2.0	Multi-Stem	Good		Save - Tree Protection
ST-447	Flowering Dogwood	*Cornus florida*	3.5	Single	Good		Remove
ST-448	Callery Pear	*Pyrus calleryana*	6.0	Single	Good		Remove
ST-449	Red Maple	*Acer rubrum*	9.9	Single	Fair		Save

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NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

TREE PROTECTION CHARTS AND DETAILS

SCALE : N/A DATE: JUNE 2024 LD-15

DPS SC/SWM PERMIT SHEET NO. 59 of 64

C.I.P. Project No. : 0501742 78 of 105

PLOTTER: 6/26/2024
FILE: c:\jworks\fg\jdtw01\mnuffko@floorateeter.com\d0286899.pLD_D015_LSCLT.dgn

Tree ID	Common Name	*Scientific Name*	DBH (inches)	Trunk	Condition	Comments	Recommendations Save/Remove
ST-450	Flowering Dogwood	*Cornus florida*	2.0	Single	Good		Remove
ST-451	Flowering Dogwood	*Cornus florida*	4.0	Single	Good		Remove
ST-452	White Pine	*Pinus strobus*	20.0	Single	Good		Save - Tree Protection
ST-453	White Pine	*Pinus strobus*	15.0	Single	Dead	Dead Tree to be	Save - Tree Protection
ST-454	Crepe Myrtle	*Lagerstroemia indica*	2.0	Single	Good		Save - Tree Protection
ST-455	Pin Oak	*Quercus palustris*	22.0	Single	Good		Remove
ST-456	Pin Oak	*Quercus palustris*	16.1	Single	Good		Remove
ST-457	White Pine	*Pinus strobus*	19.3	Single	Good		Remove
ST-458	Crepe Myrtle	*Lagerstroemia indica*	2.5	Multi-Stem	Good	Total of Fourteen	Remove
ST-459	Flowering Dogwood	*Cornus florida*	3.0	Single	Good		Save - Tree Protection
ST-460	Red Maple	*Acer rubrum*	3.5	Single	Good		Save
ST-461	Sweet Crabapple	*Malus coronaria*	13.0	Single	Fair		Save
T-462	Sweet Crabapple	*Malus coronaria*	4.0	Double	Good		Save
T-463	Sweet Crabapple	*Malus coronaria*	7.0	Single	Good		Save
ST-464	Honey Locust	*Gleditsia triacanthos*	18.7	Single	Good		Save
T-465	Black Walnut	*Juglans nigra*	8.0	Single	Good		Remove
T-466	Black Walnut	*Juglans nigra*	7.0	Single	Good		Save - Tree Protection
ST-467	Red Maple	*Acer rubrum*	12.5	Single	Good		Save
ST-468	White Mulberry	*Morus alba*	6.0	Multi-Stem	Good		Remove
ST-469	Black Walnut	*Juglans nigra*	6.0	Single	Good		Remove
ST-470	Red Maple	*Acer rebrum*	8.0	Single	Good		Remove
ST-471	Red Maple	*Acer rebrum*	8.0	Single	Good		Save - Tree Protection
ST-472	Red Maple	*Acer rebrum*	4.0	Multi-Stem	Good		Save - Tree Protection
ST-473	London Plane	*Platanus x acerifolia*	17.0	Single	Fair	Slight Lean	Remove
ST-474	London Plane	*Platanus x acerifolia*	16.6	Single	Good		Remove
ST-475	London Plane	*Platanus x acerifolia*	17.2	Single	Good		Remove
ST-476	London Plane	*Platanus x acerifolia*	17.0	Single	Good		Remove
ST-477	London Plane	*Platanus x acerifolia*	18.6	Single	Good		Remove
ST-478	London Plane	*Platanus x acerifolia*	19.6	Single	Good		Remove
ST-479	London Plane	*Platanus x acerifolia*	19.0	Single	Good		Remove
ST-480	London Plane	*Platanus x acerifolia*	16.5	Single	Good		Remove
ST-481	London Plane	*Platanus x acerifolia*	17.0	Single	Good		Remove
ST-482	London Plane	*Platanus x acerifolia*	15.0	Single	Good		Remove
ST-483	London Plane	*Platanus x acerifolia*	14.9	Single	Good		Save - Tree Protection
ST-484	White Pine	*Pinus strobus*	10.3	Single	Good		Save - Tree Protection
ST-485	White Pine	*Pinus strobus*	13.5	Single	Good		Save - Tree Protection
ST-486	White Pine	*Pinus strobus*	11.6	Single	Good		Save - Tree Protection
ST-487	White Pine	*Pinus strobus*	12.6	Single	Fair	Lean	Save - Tree Protection
H(ST)-488A	Flowering Cherry	*Prunus serrulata*	6.0	Single	Good		Save
H(ST)-488B	Flowering Cherry	*Prunus serrulata*	8.0	Single	Good	No GPS Point	Save
H(ST)-488C	Flowering Cherry	*Prunus serrulata*	10.0	Double	Good	No GPS Point	Save
H(ST)-488D	Flowering Cherry	*Prunus serrulata*	8.0	Multi-Stem	Good	No GPS Point	Save
H(ST)-488E	Flowering Cherry	*Prunus serrulata*	6.0	Single	Good		Save
ST-489	Chinese Holly	*Ilex cornuta*	9.0	Double	Good		Save - Tree Protection
ST-490	Red Maple	*Acer rubrum*	10.4	Single	Good		Save - Tree Protection
ST-491	Red Maple	*Acer rubrum*	14.0	Single	Good		Save - Tree Protection
ST-492	White Pine	*Pinus strobus*	12.0	Single	Good		Remove
ST-493	White Pine	*Pinus strobus*	8.5	Single	Good		Save - Tree Protection
ST-494	White Pine	*Pinus strobus*	13.0	Single	Good		Remove
ST-495	Pitch Pine	*Pinus rigida*	8.0	Single	Fair	Slight Lean, Uneven	Save
ST-496	Pitch Pine	*Pinus rigida*	10.0	Single	Fair	Slight Lean, Uneven	Save
ST-497	Pin Oak	*Quercus palustris*	2.0	Single	Good		Save - Tree Protection
ST-498	Red Maple	*Acer rubrum*	2.0	Single	Good		Save - Tree Protection
ST-499	White Mulberry	*Morus alba*	10.0	Single	Good		Save
ST-500	Callery Pear	*Pyrus calleryana*	9.5/10.0/10.5	Triple	Good		Save - Tree Protection
ST-501	White Pine	*Pinus strobus*	6.0	Single	Good		Save
ST-502	Northern Red Oak	*Quercus rubra*	2.0	Single	Good		Save
ST-503	Callery Pear	*Pyrus calleryana*	12.0	Single	Good		Save - Tree Protection
ST-504	Red Maple	*Acer rubrum*	7.0	Single	Good		Save
ST-505	Red Maple	*Acer rubrum*	25.3	Single	Good		Save
ST-506A	Brewer Spruce	*Picea breweriana*	15.5	Single	Good		Save
ST-506B	Brewer Spruce	*Picea breweriana*	16.0	Single	Good	No GPS Point	Save
ST-506C	Brewer Spruce	*Picea breweriana*	16.5	Single	Good	No GPS Point	Save
ST-507A	White Cedar	*Thuja occidentalis*	10.0	Single	Good		Save - Tree Protection
ST-507B	White Cedar	*Thuja occidentalis*	10.5	Single	Good	No GPS Point	Save - Tree Protection
ST-507C	White Cedar	*Thuja occidentalis*	11.0	Single	Good	No GPS Point	Save - Tree Protection
ST-507D	White Cedar	*Thuja occidentalis*	11.5	Single	Good	No GPS Point	Save - Tree Protection
ST-507E	White Cedar	*Thuja occidentalis*	12.0	Single	Good	No GPS Point	Save - Tree Protection
ST-508	White Mulberry	*Morus alba*	8.0	Single	Good		Save - Tree Protection

Notes:
Per Montgomery County Roadside Tree Protection Law, allocation of funds into the ***Street Tree Replacement Fund*** is required.

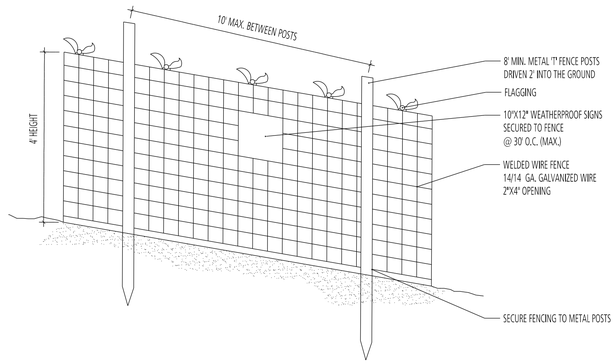
Eighty Six (86) trees require removal within county right of way tree that are 6" + DBH, fair or better condition.
$64,500.00 is required for the Street Tree Replacement Fund ($750.00 per tree removed)
Note: Tree replacement fee to be paid prior to scheduled construction

NOTES - WHEN USED AS DEER PROTECTION FENCING:

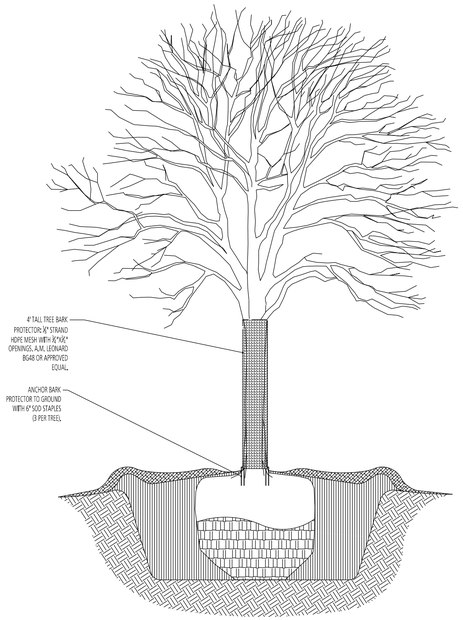
1.) THIS DETAIL TO BE USED FOR MULTI-STEM TREES AND EVERGREEN TREES.
2.) CAGE SHALL BE FASTENED TO STAKE WITH THREE (MIN.) TWIST TIES WITH ONE AT TOP AND ONE 6" (MIN.) ABOVE THE GROUND.
3.) CAGE SHALL SURROUND TREES WITH A 1-FOOT (MIN.) SPACING FROM THE OUTSIDE OF THE TREE.
4.) CAGES TO BE REMOVED AFTER THE ONE-YEAR WARRANTY PERIOD OR AT THE DIRECTION OF THE COUNTY.

NOTES - WHEN USED AS TREE PROTECTION FENCING:

1.) PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING.
2.) INSTANCES WHERE TREE PROTECTION FENCE IS SHOWN OUTSIDE OF THE LOD, THE CONTRACTOR SHALL INSTALL THE FENCE AT THE LOD LINE. INSTANCES WHERE TREE PROTECTION FENCE IS SHOWN INSIDE THE LOD, THE CONTRACTOR SHALL INSTALL THE FENCE AT THE LOCATION SHOWN ON THE PLANS.
3.) BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSTALLING PROTECTIVE DEVICE.
4.) ROOT DAMAGE SHOULD BE AVOIDED.
5.) PROTECTION SIGNAGE IS REQUIRED.
6.) FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.



1 TREE/DEER PROTECTION FENCE - MONTGOMERY COUNTY — d-TPF.dwg
DETAIL — SCALE: 1"=1'-0"



2 TREE BARK GUARD — d-tree bark protection.dwg
SECTION — SCALE: 3/4"=1'-0"

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landscape architects
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Gannett Fleming/GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
TREE PROTECTION CHARTS AND DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 LD-16

DPS SC/SWM PERMIT SHEET NO. 60 of 64

C.I.P. Project No. : 0501742 79 of 105

PLOTTED: 6/26/2024
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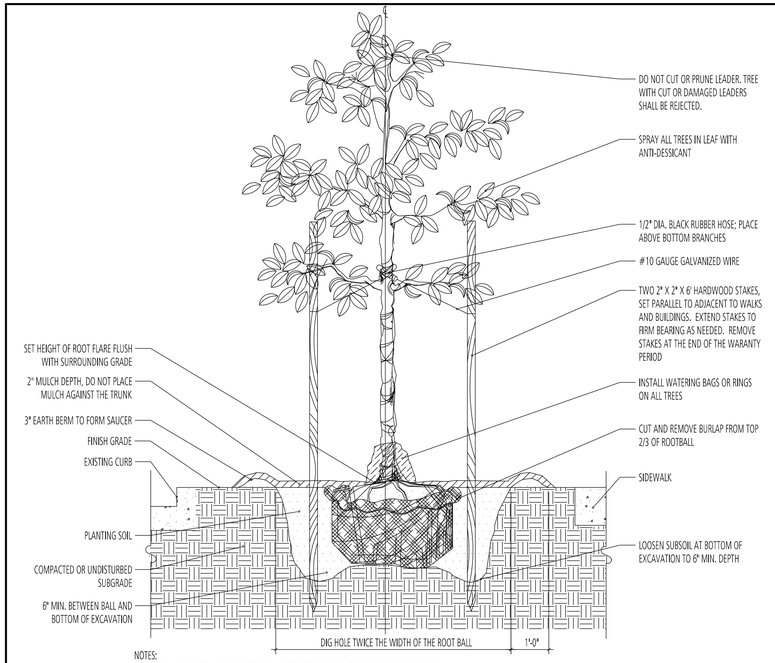
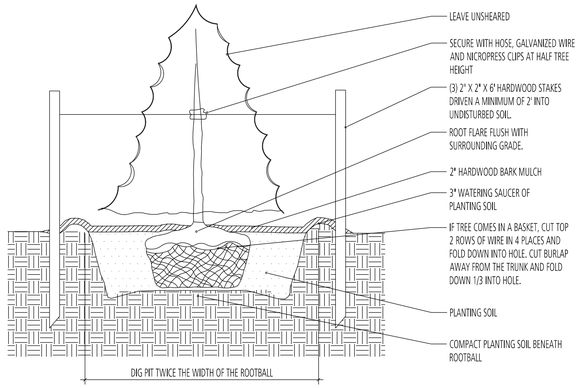


NOTES:
1. REMOVE ANY BROKEN OR DAMAGED BRANCHES WITH CLEAN CUTS. DO NOT CUT THE LEADER.
2. ALL TREES GREATER THAN 3" CALIPER SHALL BE GUYED, RATHER THAN STAKED.
3. IF TREE COMES IN A BASKET, CUT TOP TWO ROWS OF WIRE IN FOUR PLACES AND FOLD DOWN INTO HOLE. CUT BURLAP AWAY FROM THE TRUNK AND FOLD DOWN INTO HOLE AFTER LOCATION AND DEPTH HAVE BEEN APPROVED BY THE OWNER.

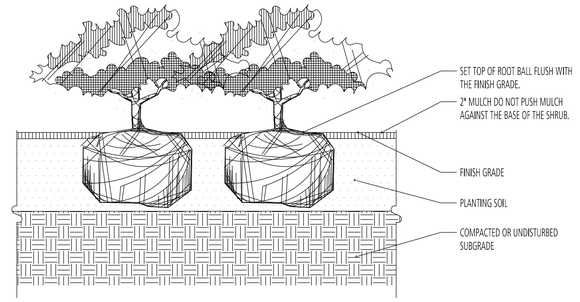
1 TREE PLANTING

SECTION — d-tree_planting.dwg — SCALE: 1/2" = 1'-0"



2 EVERGREEN TREE PLANTING

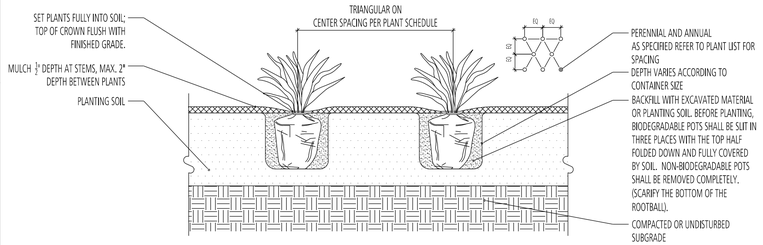
SECTION — d-ever-tree.dwg — SCALE: 1/2" = 1'-0"



NOTES:
1. COMPLETELY REMOVE ALL NON-BIODEGRADABLE CONTAINERS AND SCARIFY ROOTBALL.
2. FOR B&B, CUT AND REMOVE BURLAP FROM TOP 1/3 OF ROOTBALL.
3. PROVIDE CONTINUOUS PLANTING SOIL DEPTH FOR SHRUB BEDS.
4. SHRUBS IN PLANTING BEDS SHALL BE CONTINUALLY MULCHED WITHIN A BED WITH CLEAN SPADED EDGE.

3 SHRUB PLANTING

SECTION — d-shrub_planting.dwg — SCALE: 1/2" = 1'-0"



NOTES:
1. WHERE PERENNIAL PLANTING IS PROPOSED WITHIN THE CRITICAL ROOT ZONE OF EXISTING TREES, EXISTING SOIL SHALL REMAIN. PLACE 2" OF LEAFGRO PRIOR TO INSTALLING PERENNIALS, MULCH PER DETAILS.

4 PERENNIAL PLANTING

SECTION — d-grndcover_planting.dwg — SCALE: 1/2" = 1'-0"

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landscape architects
1001 North Charles St. Ste. 500
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Phone: 410.528.8395
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

PLANTING DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 LD–17

DPS SC/SWM PERMIT SHEET NO. 61 of 64

C.I.P. Project No. : 0501742 80 of 105

PLOTTED: 6/26/2024
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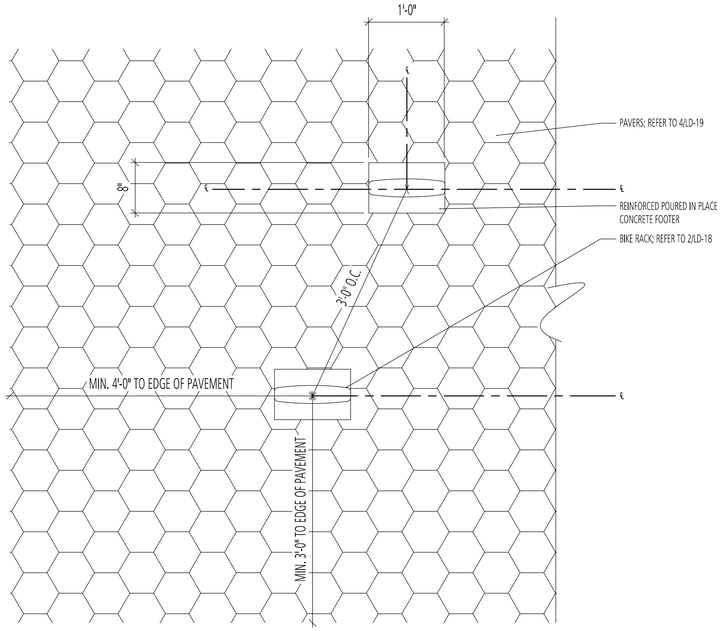
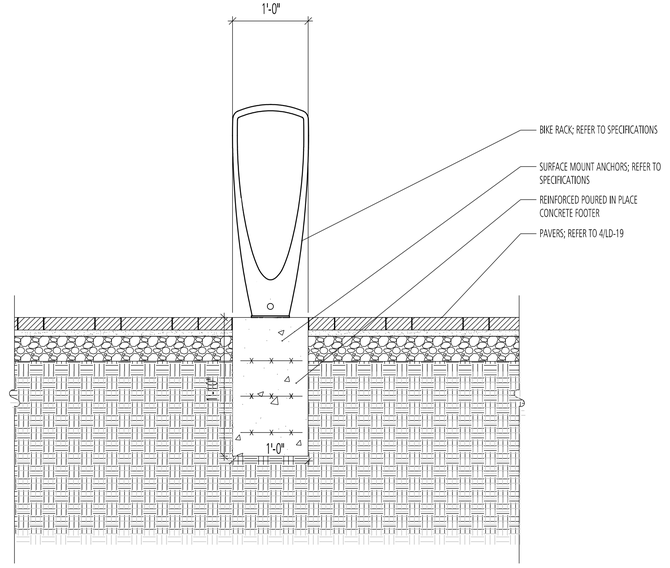
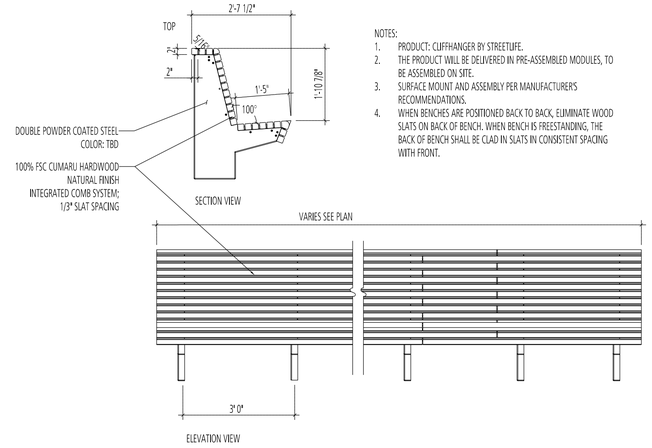


1 BIKE RACK — d-bike rack.dwg
PLAN — SCALE: 1"=1'-0"

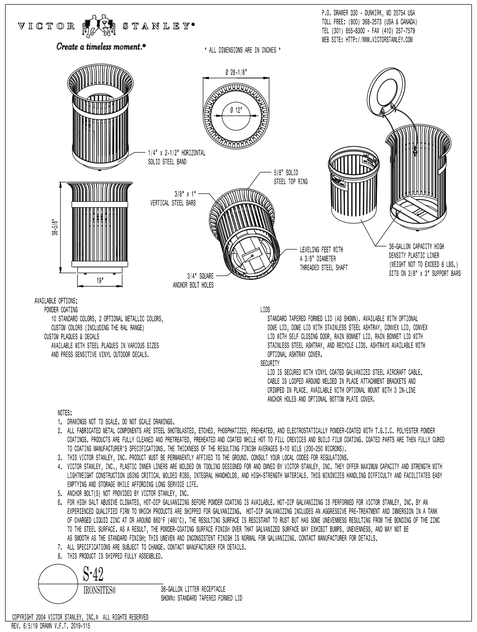


2 BIKE RACK — d-bike rack.dwg
ELEVATION — SCALE: 1"=1'-0"

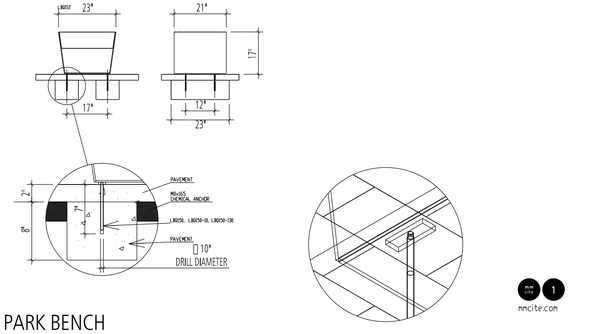


NOTES:
1. PRODUCT: CLIFFHANGER BY STREETLIFE.
2. THE PRODUCT WILL BE DELIVERED IN PRE-ASSEMBLED MODULES, TO BE ASSEMBLED ON SITE.
3. SURFACE MOUNT AND ASSEMBLY PER MANUFACTURER'S RECOMMENDATIONS.
4. WHEN BENCHES ARE POSITIONED BACK TO BACK, ELIMINATE WOOD SLATS ON BACK OF BENCH. WHEN BENCH IS FREESTANDING, THE BACK OF BENCH SHALL BE CLAD IN SLATS IN CONSISTENT SPACING WITH FRONT.

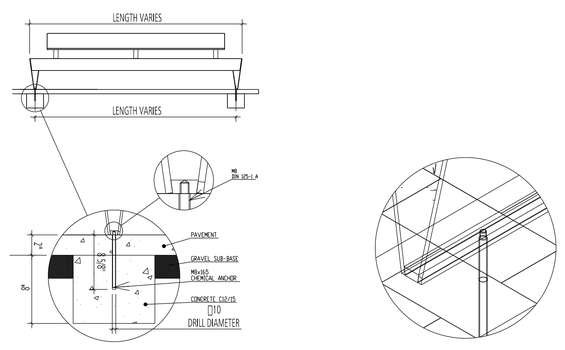
3 BENCH CLIFFHANGER W/ BACK
SECTION AND ELEVATION — SCALE: 1/2" = 1'-0"



4 TRASH AND RECYCLING RECEPTACLE — d-trash.dwg
SECTION — SCALE: 1"=1'-0"



5 CUBE PARK BENCH
SECTION — SCALE: NTS



6 BLOCQ BENCHES
SECTION — SCALE: NTS

mncite.com

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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL
Chief, Design Section — Date
APPROVED
Chief, Division of Capital Development — Date
Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
HARDSCAPE DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 LD–18
DPS SC/SWM PERMIT SHEET NO. 62 of 64
C.I.P. Project No. : 0501742 81 of 105

PLOTTED: 6/26/2024
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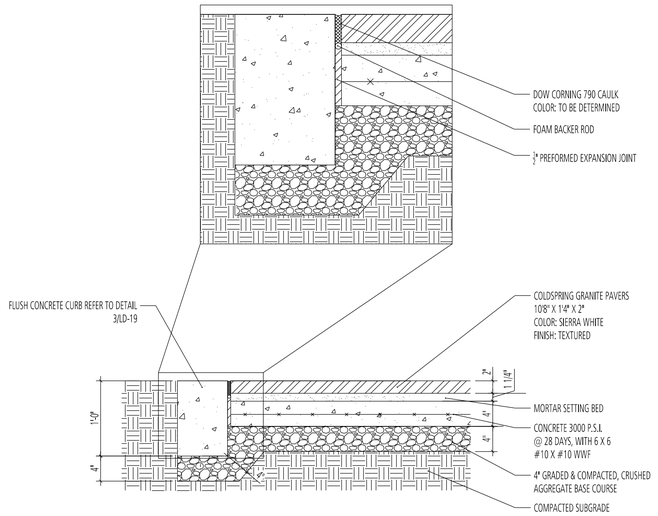
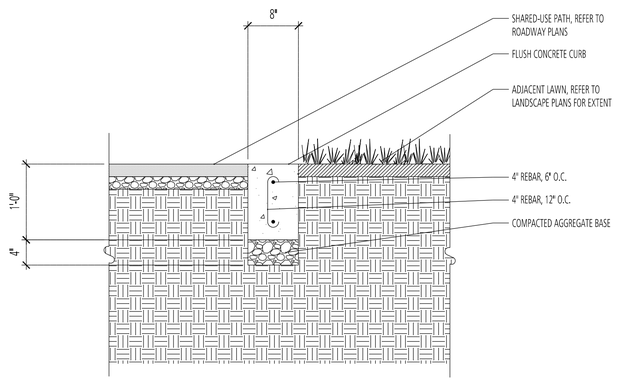


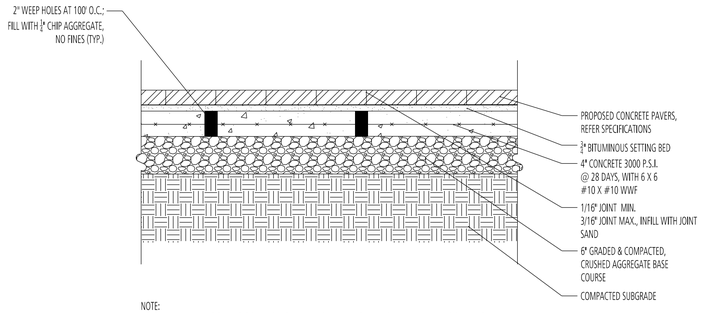
1 ENGRAVED GRANITE PAVER
SECTION
SCALE: 1"=1'-0"

NOTE:
1. FONT TO BE OPTIMA BOLD.
2. FOLLOW PAVER MANUFACTURER'S RECOMMENDATIONS FOR ENGRAVING DEPTH.
3. PAVER TO BE ORIENTED SO THAT TEXT IS READABLE TO USERS APPROACHING THE INTERSECTION.

2 ENGRAVED GRANITE PAVER
PLAN
d-granite paver text.dwg
SCALE: 1"=1'-0"



3 FLUSH CONCRETE CURB
SECTION
SCALE: 1"=1'-0"



NOTE:
1. ALL WALKING SURFACES SHALL SATISFY ADA REQUIREMENTS. LIPPAGE BETWEEN PAVERS SHALL NOT EXCEED 1/8"

4 ACCENT PAVER DETAIL
SECTION
SCALE: 1"=1'-0"

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Gannett Fleming / GPI

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MONTGOMERY COUNTY
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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: SG Drawn by: KB Checked by: MM

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
HARDSCAPE DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 LD–19

DPS SC/SWM PERMIT SHEET NO. 63 of 64

C.I.P. Project No. : 0501742 82 of 105

PLOTTED: 6/26/2024
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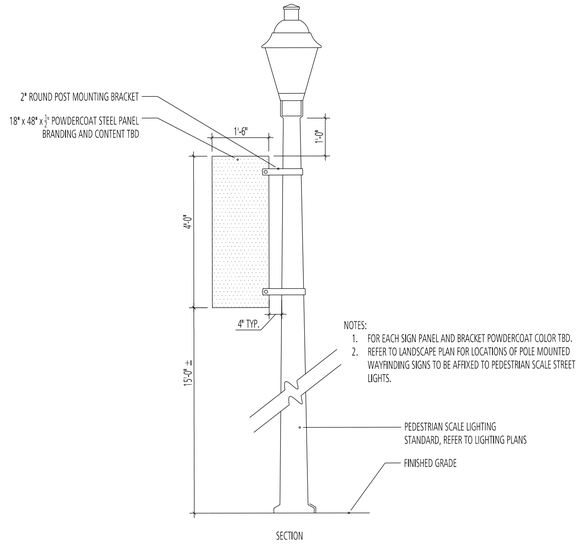
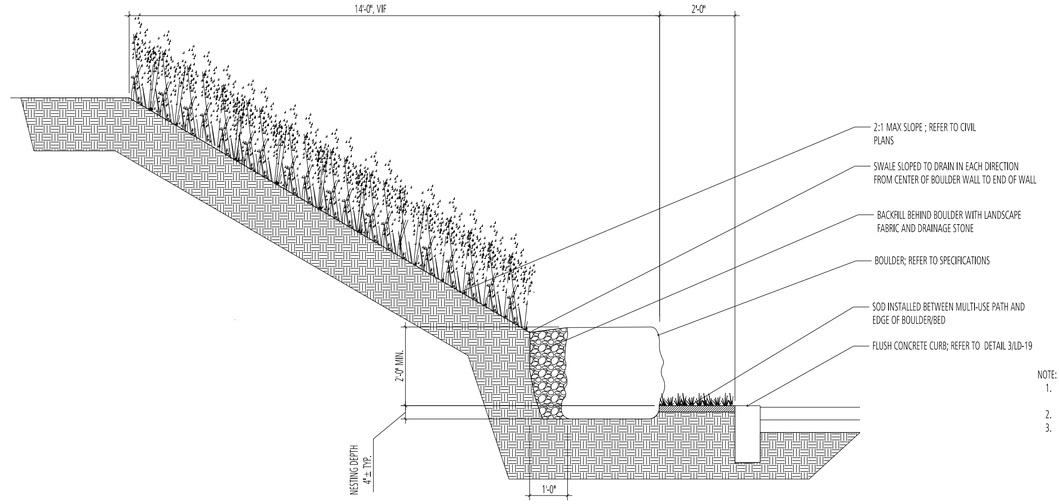


1 POLE MOUNTED WAYFINDING SIGN

ELEVATION

SCALE: 1/2" = 1'-0"



NOTE:
1. CONTRACTOR SHALL PROVIDE PHOTOS OR QUARRY SITE VISIT FOR APPROVAL OF BOULDER SELECTION.
2. COLORATION OF BOULDERS SHALL MATCH AS CLOSELY AS POSSIBLE.
3. CONTRACTOR MUST CONTACT THE LANDSCAPE ARCHITECT TO APPROVE LAYOUT AND ORIENTATION OF BOULDERS PRIOR TO INSTALLATION. CONTRACTOR SHALL STAKE LAYOUT PRIOR REQUESTING LAYOUT INSPECTION.

2 BOULDER RETAINING WALL

SECTION

SCALE: 1/2" = 1'0"

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LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

HARDSCAPE DETAILS

SCALE : AS SHOWN DATE: JUNE 2024 LD–20

DPS SC/SWM PERMIT SHEET NO. 64 of 64

C.I.P. Project No. : 0501742 83 of 105

PLOTTED: 6/26/2024
FILE: C:\pwworking\gfshw01\mmaffoo@flourateeter.com\d0280569\pLD-D020_SCLT.dgn

SPECIFICATIONS: – SHA SPECIFICATIONS DATED JULY 2024
– REVISIONS THEREOF AND ADDITIONS THERETO AND SPECIAL PROVISIONS FOR MATERIALS AND CONSTRUCTION.

DESIGN: AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS DATED 2020 AND ALL INTERIMS.

CONCRETE: LOAD AND RESISTANCE FACTOR DESIGN METHOD. THE DESIGN COMPRESSIVE STRENGTH SHALL BE f'c = 3000 PSI FOR ELEMENTS USING MIX NO. 3 CONCRETE

REINFORCING STEEL: fy = 60 000 PSI.

CONCRETE: ALL CONCRETE SHALL BE MIX NO. 3 (3500 PSI).

REINFORCING STEEL: REINFORCING STEEL SHALL CONFORM TO ASTM A 615 GRADE 60.

ONLY GRADE 60 CAN BE USED ON THIS PROJECT.

ALL SPLICES, NOT SHOWN, SHALL BE LAPPED AS PER BAR LAP CHARTS. MINIMUM COVER FOR ANY BAR SHALL BE 2" UNLESS OTHERWISE NOTED, WITH THE EXCEPTION OF BARS AT THE TOP OF PIERS AND BARS AT THE BOTTOM AND SIDES OF ALL FOOTINGS WHICH SHALL HAVE 3" MINIMUM COVER.

KEYS: ALL CONCRETE CONSTRUCTION KEYS ARE NOMINAL SIZE.

EXISTING STRUCTURE: ALL DIMENSIONS AFFECTED BY THE GEOMETRICS, AND/OR LOCATION OF THE EXISTING STRUCTURE(S) SHALL BE CHECKED IN THE FIELD BY THE CONTRACTOR, BEFORE ANY CONSTRUCTION IS DONE, AND BEFORE ANY MATERIAL IS ORDERED OR FABRICATED. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO SUPPLY THE ENGINEER WITH ALL FIELD DIMENSIONS REQUIRED TO CHECK DETAIL DRAWINGS. THE ± MARKS SHOWN WITH DIMENSIONS AND STATIONS DO NOT INDICATE ANY DEGREE OF PRECISION. THESE MARKS ± INDICATE EXISTING DIMENSIONS AND STATIONS THAT MAY VARY AND DO REQUIRE FIELD VERIFICATION BY THE CONTRACTOR.

RESTRICTIONS FOR PLACING AND USING EQUIPMENT ON EXISTING OR NEW STRUCTURE/OR STORING MATERIALS ON/OR AGAINST STRUCTURES: THERE ARE RESTRICTIONS ON PLACING EQUIPMENT ON EXISTING AND NEW STRUCTURE(S) AND STORING MATERIALS ON/OR AGAINST EXISTING AND NEW STRUCTURE(S) ELEMENTS. THE LIMITATIONS BASICALLY RELATE TO LOADS THAT ARE BEYOND MARYLAND'S LEGAL VEHICLES AND/OR POSTED LOAD LIMITS (WHERE APPLICABLE) AND MATERIALS STOCKPILED ON/OR AGAINST STRUCTURE'S OR STRUCTURES' ELEMENTS. FOR DETAILS OF SUCH RESTRICTIONS SEE SECTION TC 6.14 TITLED "RESTRICTIONS FOR PLACING AND USING EQUIPMENT ON STRUCTURES, OR STORING MATERIALS ON/OR AGAINST STRUCTURES" IN THE IN ORDER TO COMPLY WITH THIS ARTICLE, THE CONTRACT DOCUMENTS. CONTRACTOR SHALL READ SECTION TC 6.14 PRIOR TO COMMENCING ANY WORK ON STRUCTURE(S) IN THIS CONTRACT.

DESIGN PARAMETERS: RETAINING WALL FOLLOWS MDOT SHA TYPE C STANDARD SECTIONS FOR "POOR" SOIL AND TWO FOOT SURCHARGE.

DESIGN SAFE BEARING PRESSURE = 3.0 KSF

EARTH PRESSURE CALCULATED BASED ON COULOMB THEORY.

ANGLE OF INTERNAL FRICTION" = 30 DEGREES

SAFE BEARING PRESSURES ARE FACTORED RESISTANCES.

CONCRETE FORM LINER:

A. THE FORM LINER FINISH SHALL MATCH THE TEXTURED FINISH SPECIFIED IN THE CONTRACT DOCUMENTS. THE MATERIALS USED IN CONSTRUCTION OF THE ARCHITECTURAL TREATMENT SHALL COMPLY WITH SECTION 420.02 FOR CONCRETE MATERIALS AND FORM WORK. THE CONTRACTOR SHALL SUBMIT SAMPLES TO THE ENGINEER FOR APPROVAL.

B. FORM LINERS SHALL BE A HIGH QUALITY REUSABLE PRODUCT MANUFACTURED OF HIGH STRENGTH URETHANE. THE FORM LINER SHALL ATTACH EASILY TO THE FORMING SYSTEM, AND SHALL NOT COMPRESS MORE THAN 0.021 FT WHEN POURED VERTICALLY AT A RATE OF 10 FT/HOUR. THE LINERS SHALL BE CAPABLE OF WITHSTANDING ANTICIPATED CONCRETE POUR PRESSURES WITHOUT LEAKING OR CAUSING PHYSICAL OR VISUAL DEFECTS. THE LINERS SHALL BE REMOVABLE WITHOUT CAUSING CONCRETE SURFACE DETERIORATION OR WEAKNESS IN THE SUBSTRATE.

C. PRIOR TO EACH POUR, THE FORM LINERS SHALL BE CLEANED AND FREE OF BUILD-UP. EACH LINER SHALL BE VISUALLY INSPECTED FOR BLEMISHES AND TEARS. REPAIRS SHALL BE MADE IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

D. FORM LINERS SHALL BE SECURELY ATTACHED TO FORMS IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, AND WITH LESS THAN A 1/4 INCH SEAM.

E. WHEN FORM OR WALL TIES ARE USED WHICH RESULT IN A PORTION OF THE TIE PERMANENTLY EMBEDDED IN THE CONCRETE, THE CONTRACTOR SHALL SUBMIT THE TYPE OF FORM TIES TO THE ENGINEER FOR APPROVAL.

F. THE RELEASE AGENT SHALL BE COMPATIBLE WITH THE SURFACE FINISH AND CONCRETE STAIN TO BE APPLIED. FORM RELEASE AGENT SHALL BE A NONSTAINING PETROLEUM DISTILLATE FREE FROM WATER, ASPHALTIC AND OTHER INSOLUBLE RESIDUE, OR EQUIVALENT PRODUCT. THE RELEASE AGENT SHALL BE APPLIED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.

CONCRETE FORM LINER (CONT.):

G. SIMULATED STONE FORM LINERS SHALL BE INSTALLED, PREPARED, STRIPPED, HANDLED, OR OTHERWISE UTILIZED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS, OR AS DIRECTED BY THE ENGINEER. LINER BUTT JOINTS SHALL BE CAREFULLY BLENDED INTO THE APPROVED PATTERN AND BE REMOVED DURING FINISHING OF THE FINAL CONCRETE SURFACE. VISIBLE VERTICAL OR HORIZONTAL SEAMS OR CONSPICUOUS FORM MARKS CREATED BY BUTT JOINTS JOINING THE SIMULATED STONE FORM LINERS WILL BE CAUSE FOR REJECTION. FORM TIE HOLES SHALL BE PLACED IN THE GROUT PATTERN JOINTS. THE TIES SHALL BE DESIGNED SO THAT ALL MATERIAL IN THE DEVICE BE TO A DEPTH OF AT LEAST 1 INCH BEHIND THE CONCRETE FACE (BOTTOM OF GROUT PATTERN JOINT) CAN BE DISENGAGED AND REMOVED WITHOUT SPALLING OR DAMAGING THE CONCRETE. THE TIE HOLES SHALL BE FINISHED IN CONFORMANCE WITH STANDARD CONCRETE PRACTICES AND ACCEPTABLE TO THE ENGINEER. ALL PATCHING MATERIAL SHALL MATCH THE COLOR AND APPEARANCE OF THE CAST CONCRETE SURFACE.

H. COLOR AND SURFACE FINISH
1. THE APPROVED SAMPLE PANELS SHALL BE THE BASIS FOR DETERMINING THE APPROPRIATE COLOR/STAIN APPLICATION. ANY AREAS LACKING A UNIFORM APPEARANCE CONSISTENT WITH THE APPROVED SAMPLES SHALL BE RECOLORED TO THE SATISFACTION OF THE ENGINEER AT NO ADDITIONAL COST TO THE COUNTY.

2. THE CONTRACTOR SHALL PRESSURE WASH THE SURFACE WITH WATER, WITH A PRESSURE WASHER SET AT 3000 PSI TO REMOVE LAITANCE. THE FAN NOZZLE SHALL BE HELD PERPENDICULAR TO THE SURFACE AT A DISTANCE OF 1 TO 2 FT. ABRASIVE BLASTING WILL BE PROHIBITED EXCEPT WHERE SPECIFIED. THE COMPLETED SURFACE SHALL BE FREE OF BLEMISHES, DISCOLORATIONS, SURFACE VOIDS, AND CONSPICUOUS FORM MARKS TO THE SATISFACTION OF THE ENGINEER. THE CONTRACTOR SHALL CORRECT ANY SURFACE PROBLEMS AT NO ADDITIONAL COST TO THE COUNTY.

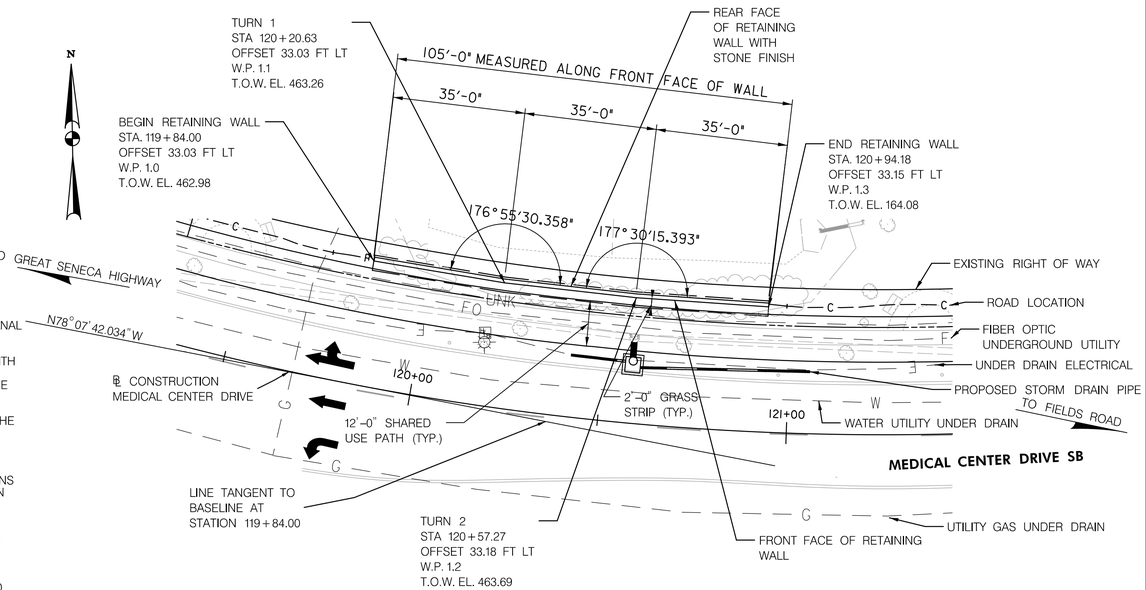
3. ALL MATERIALS SHALL BE FURNISHED, PREPARED, APPLIED, CURED, AND STORED IN CONFORMANCE WITH THE MANUFACTURER'S RECOMMENDATIONS FOR USE INTENDED AS SPECIFIED HEREIN, WITH SPECIAL ATTENTION GIVEN TO RECOMMENDED TEMPERATURE RANGE.

4. THE EXPANSION JOINTS SHOWN ON THE PLANS SHALL BE FINISHED IN A MANNER THAT WILL VISUALLY CONTINUE AN UNINTERRUPTED SIMULATED STONE PATTERN. A SAMPLE OF THE COLOR EXPANSION JOINT MATERIAL SHALL BE INCLUDED IN THE SAMPLE PANEL FOR APPROVAL.

5. SPECIAL SURFACE FINISH SHALL BE APPLIED TO ALL EXPOSED SIMULATED STONE FORMED CONCRETE SURFACES EXCEPT THE PARAPET CAPS, WHICH SHALL BE UNFINISHED AND SEALED WITH A MATTE FINISH TRANSPARENT WATERPROOFING COATING.

I. THE FORM LINER PATTERN SHALL BE CUSTOM ROCK INTERNATIONAL PATTERN #2211 OR AN APPROVED EQUIVALENT. THE FORM LINER SHALL REPLICATE A REAL STONE PATTERN CONSISTING OF RANDOM CUT STONE VENEER.

J. CONCRETE STAIN. FINAL COLORATION OF THE CAST STONE CONCRETE SURFACE SHALL ACCURATELY SIMULATE THE APPEARANCE OF NATURAL STONE INCLUDING THE MULTIPLE COLORS. IT SHALL ALSO DEMONSTRATE THE COLORS THAT MAY BE APPARENT FROM AGING, SUCH AS STAINING FROM OXIDATION, RUSTING, AND/OR ORGANIC STAINING FROM SOIL, AND/OR VEGETATION. CONTRACTOR SHALL COORDINATE WITH MONTGOMERY COUNTY TO DETERMINE AN ACCEPTABLE CONCRETE COLOR STAIN FOR THE RETAINING WALL.



GENERAL PLAN – RETAINING WALL
SCALE: 1" = 20'

NOTES:
1. PROPOSED GRADING NOT SHOWN ON RETAINING WALL PLAN FOR CLARITY.
2. BASELINE OFFSETS ARE MEASURED TO THE FRONT FACE OF THE RETAINING WALL.
3. RETAINING WALL MUST BE CAST-IN-PLACE CONCRETE CANTILEVER CONSTRUCTION. NO OTHER WALL TYPES WILL BE ACCEPTED.
4. RETAINING WALL SHOP DRAWINGS MUST BE REVIEWED AND APPROVED BY THE ENGINEER AND MCDOT.
5. FOR RETAINING WALL ELEVATION AND SECTION, REFER TO SHEET ST-02.
6. FOR STANDARD REINFORCING DETAILS, REFER TO SHEETS ST-03 & ST-04.
7. FOR STANDARD JOINT DETAILS, REFER TO SHEET ST-04.
8. FOR BORING LOGS REFER TO SHEETS ST-05.

WORKING POINT LOCATION CHART		
WORKING POINT	NORTHING	EASTING
1.0	1255932.2810	520835.3344
1.1	1255966.6995	520828.9810
1.2	1256001.4093	520824.4831
1.3	1256036.2820	520821.5009

DATUM: NAD 8391 Horizontal
NAVD 88 Vertical

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: KAC Drawn by: AR Checked by: VTD

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

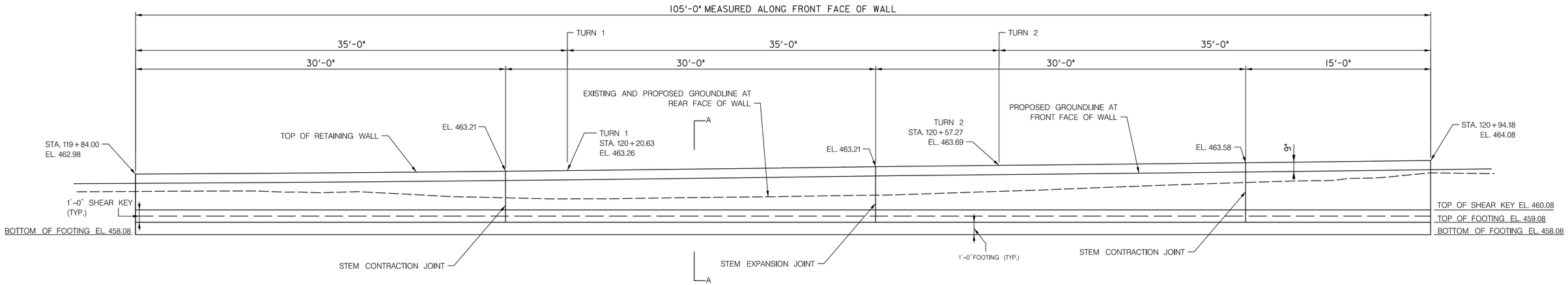
RETAINING WALL PLAN

SCALE : 1" = 20' DATE: JUNE 2024 ST-01

DPS SC/SWM PERMIT SHEET NO. _____ of 64

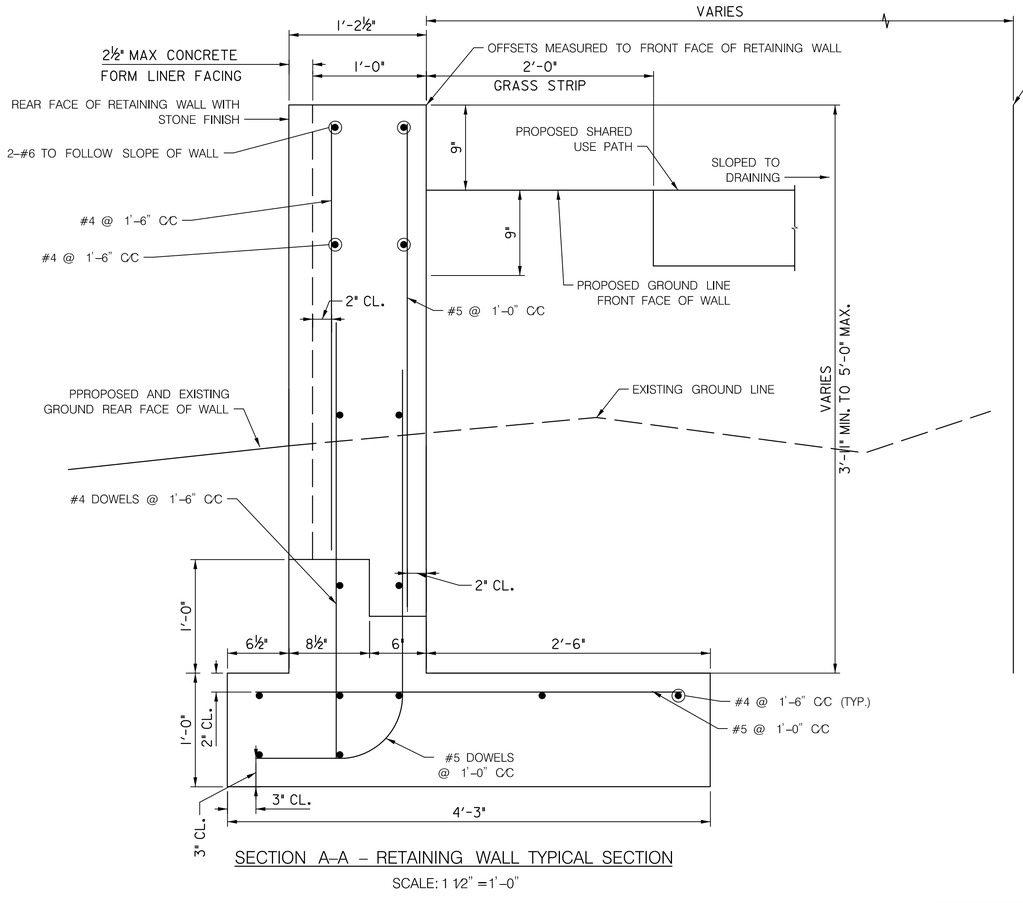
C.I.P. Project No. : 0501742 84 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\jghwh\\arab@gfnet.com\d126568\pST-P001_LSCLT.dgn



RETAINING WALL ELEVATION

SCALE: 1/4" = 1'-0"



SECTION A-A – RETAINING WALL TYPICAL SECTION

SCALE: 1 1/2" = 1'-0"

NOTES:
1. FOR STANDARD REINFORCING DETAILS, REFER TO SHEETS ST-03 & ST-04.
2. FOR STANDARD JOINT DETAILS, REFER TO SHEET ST-04.

NO.	REVISION	DATE	BY

Gannett Fleming / GPI

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: KAC Drawn by: AR Checked by: VTD

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

RETAINING WALL ELEVATION AND TYPICAL SECTION

SCALE : AS NOTED DATE: JUNE 2024 ST-02

DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. : 0501742 85 of 105

PLOTTED: 6/28/2024
FILE: c:\powerbrkng\gfpwd01\smallj@gfnet.com\d0826588\pST-P002_LSCLT.dgn

LOCATION CATEGORY A								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	2'-5"	3'-1"	2'-5"	2'-10"	2'-5"	2'-10"	2'-5"	2'-10"
#5	3'-1"	4'-0"	3'-0"	3'-10"	3'-0"	3'-7"	3'-0"	3'-7"
#6	4'-5"	5'-9"	3'-7"	4'-8"	3'-7"	4'-8"	3'-7"	4'-8"
#7	6'-0"	7'-10"	4'-6"	5'-11"	4'-2"	5'-5"	4'-2"	5'-5"
#8	7'-10"	10'-3"	5'-11"	7'-8"	4'-9"	6'-2"	4'-9"	6'-2"
#9	10'-0"	13'-0"	7'-6"	9'-9"	6'-0"	7'-10"	5'-10"	7'-8"
#10	-	-	9'-6"	12'-5"	7'-7"	9'-11"	7'-2"	9'-5"
#11	-	-	11'-8"	15'-3"	9'-4"	12'-3"	8'-8"	11'-4"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-9"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-7"	2'-4"	3'-5"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	5'-1"	2'-9"	4'-1"	2'-9"	4'-1"	2'-9"	4'-1"
#7	4'-8"	6'-11"	3'-6"	5'-3"	3'-2"	4'-9"	3'-2"	4'-9"
#8	6'-1"	9'-1"	4'-7"	6'-10"	3'-8"	5'-5"	3'-8"	5'-5"
#9	7'-8"	11'-6"	5'-9"	8'-8"	4'-8"	6'-11"	4'-6"	6'-9"
#10	-	-	7'-4"	10'-11"	5'-10"	8'-9"	5'-7"	8'-4"
#11	-	-	9'-0"	13'-6"	7'-2"	10'-9"	6'-8"	10'-0"

Location Category B - All bars not in Location Category A.

□ = Non-epoxy coated ▨ = Epoxy coated

Notes:
1. When bar lap is not specified on the Plans, the above dimensions shall be used.
2. These bar laps do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These bar laps only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These bar laps assume cover of 2". Greater lap lengths will be required for cover less than 2".
5. These bar laps are Class B splices based on the development lengths in Det. No. REBAR-DL-101. Class B splices are 1.3 times the development length.
6. Class A splices may be used when (a) the area of reinforcement provided is at least twice that required by analysis over the entire length of the lap splice and (b) one-half or less of the total reinforcement is spliced within the required lap splice length. Class A splices are 1.0 times the development length.

APPROVAL: Director, Office of Structures — DATE: 03/31/2007 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR LAP DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I) CONCRETE

DETAIL NO. REBAR-DL-101 — SHEET 1 OF 1

REBAR-DL-101

LOCATION CATEGORY A								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-10"	2'-5"	1'-10"	2'-2"	1'-10"	2'-2"	1'-10"	2'-2"
#5	2'-5"	3'-1"	2'-4"	3'-0"	2'-4"	2'-9"	2'-4"	2'-9"
#6	3'-5"	4'-5"	2'-9"	3'-7"	2'-9"	3'-7"	2'-9"	3'-7"
#7	4'-8"	6'-1"	3'-6"	4'-7"	3'-2"	4'-2"	3'-2"	4'-2"
#8	6'-1"	7'-11"	4'-7"	5'-11"	3'-8"	4'-9"	3'-8"	4'-9"
#9	7'-8"	10'-0"	5'-9"	7'-6"	4'-8"	6'-0"	4'-6"	5'-11"
#10	-	-	7'-4"	9'-6"	5'-10"	7'-8"	5'-7"	7'-3"
#11	-	-	9'-0"	11'-9"	7'-2"	9'-5"	6'-8"	8'-8"

Location Category A - Bars in horizontal layers in top of pour with 12" or more of concrete below them such as in: footings, pier caps, etc.

LOCATION CATEGORY B								
BAR SIZE	CENTER TO CENTER SPACING							
	3"		4"		5"		≥ 6"	
#4	1'-5"	2'-1"	1'-5"	1'-8"	1'-5"	1'-8"	1'-5"	1'-8"
#5	1'-10"	2'-9"	1'-9"	2'-8"	1'-9"	2'-1"	1'-9"	2'-1"
#6	2'-8"	3'-11"	2'-1"	3'-2"	2'-1"	3'-2"	2'-1"	3'-2"
#7	3'-7"	5'-4"	2'-8"	4'-0"	2'-6"	3'-8"	2'-6"	3'-8"
#8	4'-8"	7'-0"	3'-6"	5'-3"	2'-10"	4'-2"	2'-10"	4'-2"
#9	5'-11"	8'-10"	4'-5"	6'-8"	3'-7"	5'-4"	3'-6"	5'-2"
#10	-	-	5'-8"	8'-5"	4'-6"	6'-9"	4'-3"	6'-5"
#11	-	-	6'-11"	10'-4"	5'-7"	8'-4"	5'-2"	7'-8"

Location Category B - All bars not in Location Category A.

□ = Non-epoxy coated ▨ = Epoxy coated

Notes:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete. Greater lengths are required for this material.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. These development lengths assume cover of 2". Greater development lengths will be required for cover less than 2".
5. The Excess Reinforcement Factor was assumed to be 1.0 when calculating these dimensions.
6. λ&r was assumed to be 0 when calculating the Reinforcement Confinement Factor.
7. If depth of member does not allow bar development length indicated in Location Categories A and B, then hooks shall be added to all bars not conforming, as per D, E, and F per Det. No. REBAR-DL-204.

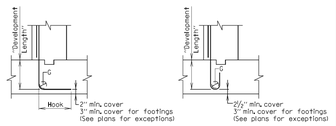
APPROVAL: Director, Office of Structures — DATE: 03/31/2007 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

DEVELOPMENT LENGTH DIMENSIONS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I) CONCRETE

DETAIL NO. REBAR-DL-101 — SHEET 1 OF 1

REBAR-DL-101



STANDARD 90° HOOK — STANDARD 180° HOOK

BAR SIZE	* LOCATION CATEGORY		
	D	E	F
#4	8"	11"	9"
#5	10"	1'-2"	11"
#6	1'-0"	1'-5"	1'-2"
#7	1'-2"	1'-8"	1'-4"
#8	1'-4"	1'-10"	1'-6"
#9	1'-6"	2'-1"	1'-8"
#10	1'-8"	2'-4"	1'-10"
#11	1'-10"	2'-7"	2'-1"

Notes
For Hook Dimensions and Bends, see Detail No. REBAR-BB-102.

* LOCATION CATEGORY:
D- All bars terminating with a standard 180° hook with side cover (normal to plane of hook) not less than 2½" and for 90° deg. hook, cover on bar extension beyond hook not less than 2".
E- All bars not in Category D.
F- All bars with hook enclosed vertically or horizontally within ties or stirrup-ties spaced along the full development length not greater than 3d where d is the diameter of the hooked bar.

Notes:
1. When development length is not specified on the Plans, the above dimensions shall be used.
2. These development lengths do not apply when bar is in lightweight concrete or any other strength of concrete.
3. These development lengths only apply where the General Notes indicate Reinforcing Steel Design, fy = 60 ksi, and Concrete Design, f'c = 3000 psi.
4. If depth of member does not allow bar development length indicated in Categories A, B, and C (Detail No. REBAR-DL-101), then hook shall be added to all bars not conforming, as per D, E & F.

APPROVAL: Director, Office of Structures — DATE: 05/01/2014 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

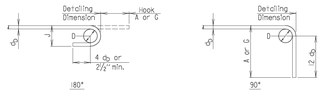
DEVELOPMENT LENGTH DIMENSIONS OF HOOKED BARS FOR GRADE 60 REINFORCING STEEL IN MIX NO.3 (3500 P.S.I) CONCRETE NON-EPOXY COATED REINFORCING

DETAIL NO. REBAR-DL-201 — SHEET 1 OF 1

REBAR-DL-201

HOOKS
TABLE I
REFERENCES

1. ACI Types I thru 26
2. SHA Standard Pin Bending
3. SHA Radius Bending



RECOMMENDED END HOOKS, ALL GRADES			
BAR SIZE	Finished bend diameter	180 - deg hook	90 - deg hook
	D, in.	A or G in.	J, in.	A or G in.
#3	2½	5	3	6
#4	3	6	4	8
#5	3¾	7	5	10
#6	4½	8	6	1'-0
#7	5¼	10	7	1'-2
#8	6	11	8	1'-4
#9	9½	1'-3	1'-3	1'-7
#10	10¾	1'-5	1'-4	1'-10
#11	12	1'-7	1'-5½	2'-0
#14	18¼	2'-3	1'-9½	2'-7
#18	24	3'-0	2'-6½	3'-5

APPROVAL: Director, Office of Structures — DATE: 03/31/2007 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

REINFORCING STEEL HOOK TABLES AND DIAGRAMS

DETAIL NO. REBAR-BB-102 — SHEET 2 OF 2

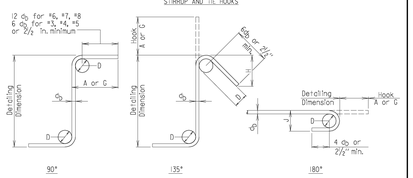
REBAR-BB-102

HOOKS
TABLE II
REFERENCES

1. ACI Types SI thru SII
2. ACI Types TI thru TB
3. SHA Ties and Stirrups

(Note: Tie and stirrup types supplied in sizes #3-#8)

STIRRUP AND TIE HOOKS



STIRRUP AND TIE HOOK DIMENSIONS, In.				
BAR SIZE	D, In.	90 - deg hook	135 - deg hook	
		A or G	A or G	¼ approx
#3	1½	4	4	2½
#4	2	4½	4½	3
#5	2½	6	5½	3½
#6	4½	1'-0	7¾	4½
#7	5¼	1'-2	9	5¼
#8	6	1'-4	10¼	6

RECOMMENDED END HOOKS, ALL GRADES			
BAR SIZE	Finished bend diameter	180 - deg hook	
	D, In.	A or G In.	J, In.
#3	2½	5	3
#4	3	6	4
#5	3¾	7	5
#6	4½	8	6
#7	5¼	10	7
#8	6	11	8

APPROVAL: Director, Office of Structures — DATE: 11/7/1997 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

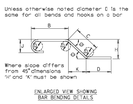
REINFORCING STEEL HOOK TABLES AND DIAGRAMS

DETAIL NO. REBAR-BB-102 — SHEET 2 OF 2

REBAR-BB-102

TYPICAL BAR BENDS
DETAILS AND NOTES

SPIRAL



Notes:
1. All dimensions are out-to-out of bar or to tangent points for 135° and 180° hook.
2. Dimensions on 180° hooks to be shown only where necessary to restrict hook size. Otherwise standard hooks are to be used.
3. Where 'J' is not shown, 'J' will be kept equal to or less than ½ of truss bars. Where 'J' can exceed ½ it should be shown.
4. 'H' dimension on stirrups to be shown where necessary to fit within concrete.
5. Where bars are to be bent more accurately than standard bending tolerances, bending dimensions which require closer fabrication should have limits indicated.

NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (1) NOMINAL AD BENDING TOLERANCES

APPROVAL: Director, Office of Structures — DATE: 02/01/1994 — VERSION: 1.0

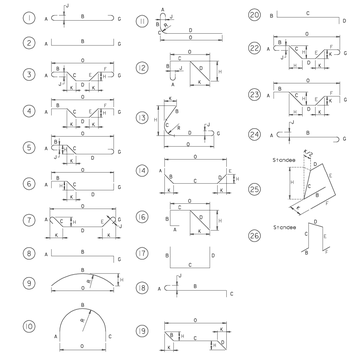
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
GENERAL NOTES

DETAIL NO. REBAR-BB-101 — SHEET 1 OF 8

REBAR-BB-101

ACI TYPICAL BAR BENDS
STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (1) NOMINAL AD BENDING TOLERANCES

APPROVAL: Director, Office of Structures — DATE: 02/01/1994 — VERSION: 1.0

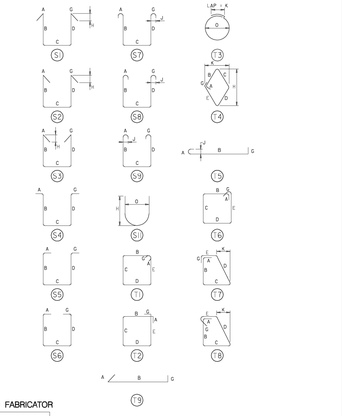
STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
ACI - STANDARD PIN BENDING

DETAIL NO. REBAR-BB-101 — SHEET 2 OF 8

REBAR-BB-101

ACI TYPICAL BAR BENDS
TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (1) NOMINAL AD BENDING TOLERANCES

APPROVAL: Director, Office of Structures — DATE: 02/01/1994 — VERSION: 1.0

STATE OF MARYLAND
DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION
OFFICE OF STRUCTURES

BAR BEND TYPES
ACI - TIES A

DETAIL NO. REBAR-BB-101 — SHEET 3 OF 8

REBAR-BB-101

PLOTTED: 6/28/2024
FILE: C:\pwworking\gfgw01\ural@gmail.com_dt585680_pST-PP04_ISC1.dgn

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: KAC — Drawn by: GMJ — Checked by: VTD

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

STANDARD DETAILS 1

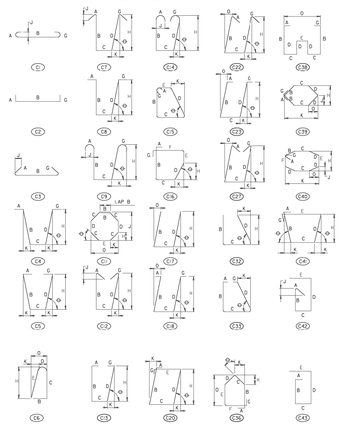
SCALE : N.T.S. — DATE: JUNE 2024 — ST-03

DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. : 0501742 — 86 of 105

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

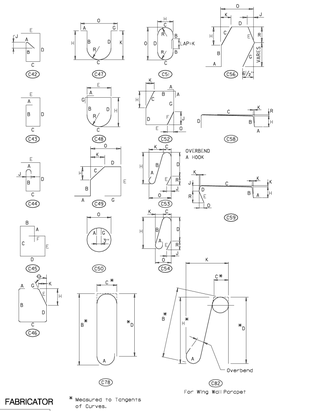
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL AO BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. RCBAR-BB-101 SHEET 4 OF 8

RCBAR-BAR BENDS

SHA TYPICAL BAR BENDS

TIES AND STIRRUPS



NOTE TO FABRICATOR

* Measured to Tangents of Curves.

BENDING TOLERANCE NOTE

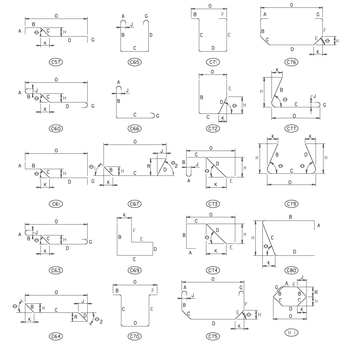
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL AO BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - TIES AND STIRRUPS
VERSION 1.0	DETAIL NO. RCBAR-BB-101 SHEET 5 OF 8

RCBAR-BAR BENDS

SHA TYPICAL BAR BENDS

STANDARD PIN BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

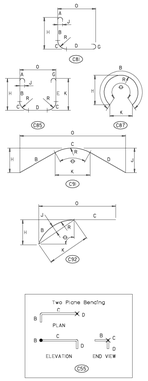
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL AO BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - STANDARD PIN BENDING
VERSION 1.0	DETAIL NO. RCBAR-BB-101 SHEET 6 OF 8

RCBAR-BAR BENDS

SHA TYPICAL BAR BENDS

RADIUS BENDING



NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

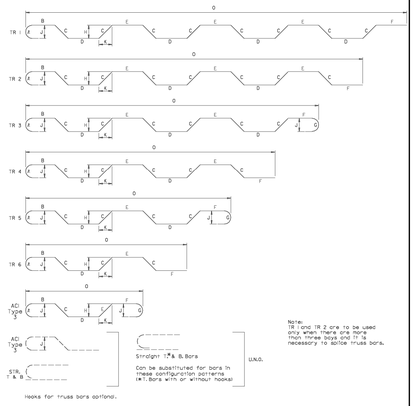
TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL AO BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES SHA - RADIUS BENDING
VERSION 1.0	DETAIL NO. RCBAR-BB-101 SHEET 7 OF 8

RCBAR-BAR BENDS

SHA TYPICAL BAR BENDS

TRUSS BAR CONFIGURATIONS



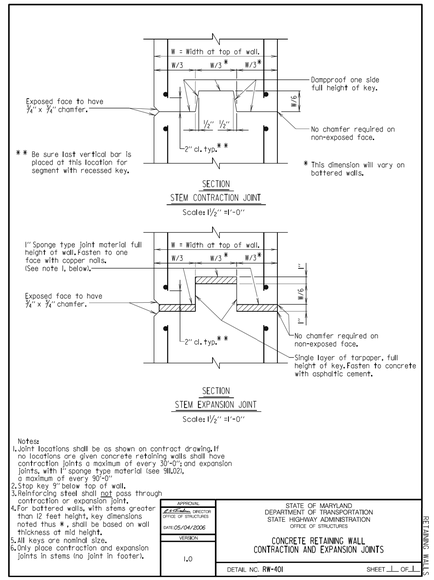
NOTE TO FABRICATOR

BENDING TOLERANCE NOTE

TIES AND STIRRUPS SHALL BE BENT WITH A PLUS ZERO INCH (+0") MINUS (-) NORMAL AO BENDING TOLERANCES

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 02/01/1994	BAR BEND TYPES TRUSS BAR CONFIGURATIONS
VERSION 1.0	DETAIL NO. RCBAR-BB-101 SHEET 8 OF 8

RCBAR-BAR BENDS



Notes

1. Joint locations shall be as shown on contract drawing. If no locations are given concrete retaining walls shall have contraction joints a maximum of every 30'-0" and expansion joints, with 1" sponge type material (see 911.02), a maximum of every 90'-0".
2. Stop key 9" below top of wall.
3. Reinforcing steel shall not pass through contraction or expansion joint.
4. For battered walls, with stems greater than 12 feet height, key dimensions noted thus *, shall be based on wall thickness at mid height.
5. All keys are nominal size.
6. Only place contraction and expansion joints in stems (no joint in footer).

APPROVAL	STATE OF MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION OFFICE OF STRUCTURES
DIRECTOR, OFFICE OF STRUCTURES DATE: 05/04/2006	CONCRETE RETAINING WALL CONTRACTION AND EXPANSION JOINTS
VERSION 1.0	DETAIL NO. RW-401 SHEET 1 OF 1

RW-401 (MOD)

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: KAC Drawn by: GMJ Checked by: VTD

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

STANDARD DETAILS 2

SCALE : N.T.S. DATE: JUNE 2024 ST-04

DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. : 0501742 87 of 105

PLOTTED: 6/28/2024
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RECORD OF SUBSURFACE EXPLORATION

Project: Life Sciences Center Loop Trail
Location: Montgomery County, MD
Job Number: 4738-11
Inspector: Girish Bhatt
Boring Method: HSA
Hole Diameter: 8"
Water Level at Completion: Dry, caved @ 3.5 '

Boring Number: FB-03
Drilling Company: Connelly & Associates, Inc.
Driller: Josh Cogan
Date Drilled: 09-24-21
Surface Elevation: 461' (est)
Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Backfilled upon completion

Elevation (ft)	Water/Caved Depth (ft)	Description	Depth (ft)	Sampler	Number	Blows/6"	Recovery (inches)	Remarks
461			0.0					3 inches of topsoil.
460		Brown / light brown, moist, medium stiff, SILT, trace sand & gravel (Fill).						
459		T.O.F. EL. 459.08			S-1	3 - 2 - 3	18	
458		B.O.F. EL. 458.08	2.5					
457	⊻	Reddish brown / light brown / light gray, moist, medium stiff, SILT, trace sand (Residual Soil).			S-2	3 - 4 - 4	18	
456			5.0					
455		Reddish brown / dark brown / light gray, moist, loose, silty SAND, trace mica & rock fragments (Residual Soil).			S-3	4 - 5 - 5	18	
454			7.5					
453								
452		Reddish brown / dark brown / light gray, moist, loose, silty SAND, trace mica & rock fragments (Residual Soil).			S-4	3 - 4 - 4	18	
451			10.0					
450		Bottom of Boring @ 10.0 ft						
449			12.5					
448								
447								

BORING LOG (NO COORDINATES) 4738-11 LSCLT SWM IMPROVEMENTS.GPJ EBA ENGINEERING INC.GDT 10/1/21

EBA ENGINEERING — **EBA Engineering, Inc.**
6100 Chevy Chase Drive, Suite 200
Laurel, Maryland 20707

■ = Split Spoon
▽ Water Level At Completion
▼ Water Level After 24 hrs
⊔ Caved Depth At Completion
⊠ Caved Depth After 24 hrs

Sheet: 1 of 1

RECORD OF SUBSURFACE EXPLORATION

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Location: Montgomery County, MD
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Hammer Weight/Drop: 140 lb/30 in
Water Level After 24 hrs: Backfilled upon completion

Elevation (ft)	Water/Caved Depth (ft)	Description	Depth (ft)	Sampler	Number	Blows/6"	Recovery (inches)	Remarks
463			0.0					Offset approximately 20' East due to existing utilities, bushes & slope.
462		Reddish brown / light brown, moist, medium stiff, SILT, trace sand (Residual Soil).			S-1	1 - 4 - 4	18	
461			2.5					2 inches of topsoil.
460		T.O.F. EL. 459.08						
459	⊔	Reddish brown / light brown, moist, medium stiff, SILT, trace sand & mica (Residual Soil).			S-2	6 - 4 - 3	18	
458		B.O.F. EL. 458.08	5.0					
457		Reddish brown / light brown / dark brown, moist, stiff, SILT, trace sand & rock fragments (Residual Soil).			S-3	4 - 4 - 5	18	
456			7.5					
455								
454		Reddish brown / light brown / dark brown, moist, medium stiff, SILT, trace sand & rock fragments (Residual Soil).			S-4	2 - 3 - 3	18	
453			10.0					
452		Bottom of Boring @ 10.0 ft						
451			12.5					
450								
449								

BORING LOG (NO COORDINATES) 4738-11 LSCLT SWM IMPROVEMENTS.GPJ EBA ENGINEERING INC.GDT 10/1/21

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▽ Water Level At Completion
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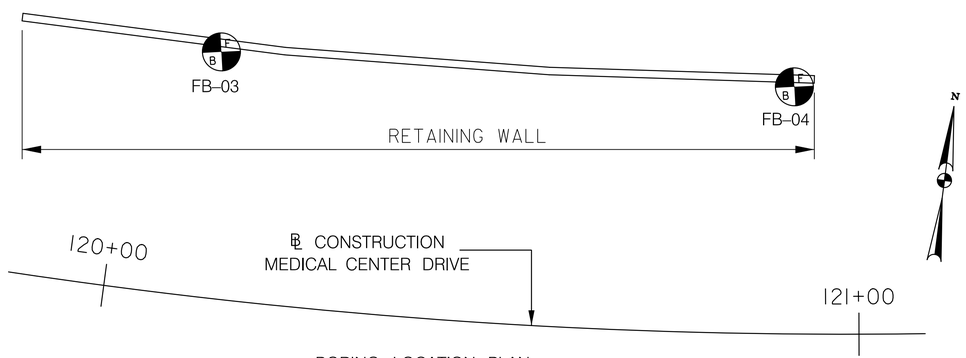
Sheet: 1 of 1



BORING LOCATION PLAN
SCALE: N.T.S.

BORING LOGS
SCALE: N.T.S.

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: KAC Drawn by: GMJ/AR Checked by: VTD

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

BORING LOGS

SCALE : N.T.S. DATE: JUNE 2024 ST–05

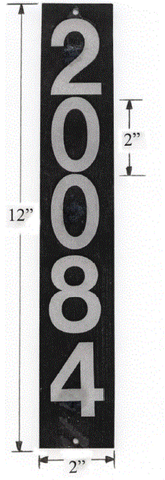
DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. : 0501742 88 of 105

PLOTTED: 6/28/2024
FILE: C:\pwworking\gfpw01\arai@gfnet.com\d0356581\pST-P006_LSCLT.dgn

GENERAL NOTES:

1. ALL WORK SHALL COMPLY WITH THE LATEST EDITION OF NATIONAL ELECTRICAL CODE AND THE REQUIREMENTS OF ALL LOCAL CODES AND REGULATIONS OF AUTHORITIES HAVING JURISDICTION OVER THE WORK.
2. ALL UNDERGROUND UTILITIES ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL CONTACT "MISS UTILITY" AT LEAST 48 HOURS PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN THE UTILITIES AND THE LIGHTING STRUCTURE WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY SO THAT THE CONFLICT CAN BE RESOLVED.
3. ALL STREET LIGHT EQUIPMENT AND MATERIALS SHALL BE SUBMITTED TO MCDOT FOR APPROVAL PRIOR TO BEING INSTALLED ON THE PROJECT.
4. INSTALLATION OF ALL UNDERGROUND LIGHTING FACILITIES ARE ALSO SUBJECT TO PEPCO INSPECTION AND WRITTEN APPROVAL BEFORE CONCEALMENT. FAILURE TO OBTAIN SUCH INSPECTION WILL RESULT IN THE UNCOVERING OF FACILITIES AT THE CONTRACTOR'S EXPENSE. CALL 301-670-8808 OR 301-670-8828 7:00 TO 9:00 AM OR 3:00 TO 4:00 PM TWO WORKING DAYS IN ADVANCE TO ARRANGE INSPECTION.
5. ALL CONDUITS SHALL BE INSTALLED PRIOR TO TRAIL CONSTRUCTION.
6. RUN TWO WAY CONDUIT FOR ROADWAY AND DRIVEWAY CROSSINGS BETWEEN LIGHTING HANDHOLES. RUN ONE WAY CONDUIT BETWEEN OTHER LIGHTING HANDHOLES AND BETWEEN LIGHTING HANDHOLE AND THE POLE LOCATION.
7. MINIMUM TRENCH DIMENSIONS SHALL BE BASED ON PROVIDING ADEQUATE COVER PER NEC AND NESC CODES (DEPTH) AND ACCEPTABLE WORKING AREAS (WIDTH). CONDUIT IS TO HAVE TWO (2) FEET MINIMUM OF COVER OVER IT.
8. THE BOTTOM OF THE TRENCH SHALL BE RELATIVELY SMOOTH, UNDISTURBED EARTH, WELL-TAMPED EARTH, OR SAND, WHICH IS FREE OF ROCK, CINDERS OR SHARP OBJECTS.
9. ALL SWEEPBENDS SHALL BE A MINIMUM OF 36 INCHES RADIUS.
10. ALL JOINTS SHALL BE GLUED TOGETHER. CONDUIT SHALL BE CLEANED AND PLUGGED AT EACH END TO KEEP WATER AND DIRT OUT. 1/4" UNBROKEN NYLON PULL LINE SHALL BE INSTALLED IN EACH CONDUIT DUCT.
11. CONTRACTOR SHALL INSTALL MARKING TAPE ONE FOOT (1') ABOVE EACH CONDUIT RUN.
12. CONTRACTOR SHALL BACKFILL AROUND ALL CONDUITS WITH SIX (6) INCHES OF STONE DUST. THE REMAINDER OF THE TRENCH SHALL BE BACKFILLED WITH NATIVE SOIL AND NOT CONTAIN LARGE ROCKS (GREATER THAN 4 INCH) OR ROCKS WITH SHARP EDGES.
13. BACKFILL SHALL BE COMPACTED IN SIX INCH LAYERS BY HAND OR USING WITH PNEUMATIC OR VIBRATING TAMPING EQUIPMENT TO LESSEN THE EFFECTS OF SETTING.
14. ALL LIGHTING HANDHOLES SHALL BE PEPCO 12X24X24 STREET LIGHT SPLICE BOX AS SHOWN AND SHALL BE PURCHASED FROM PEPCO.
15. ALL SPLICE BOX SHALL BE INSTALLED WITH THE LONG DIMENSION PARALLEL TO THE ROADWAY/TRAIL.
16. ALL SPLICE BOX SHALL INCLUDE A GROUND ROD.



STREETLIGHT POST NUMBERING TAG

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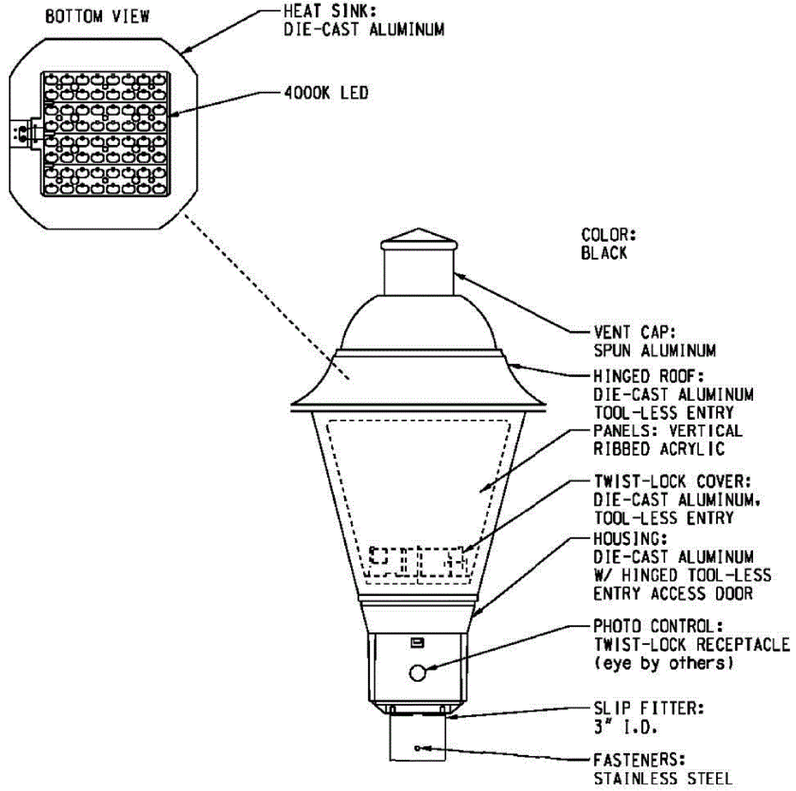
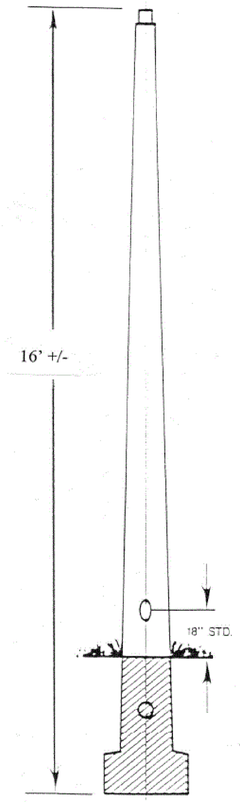


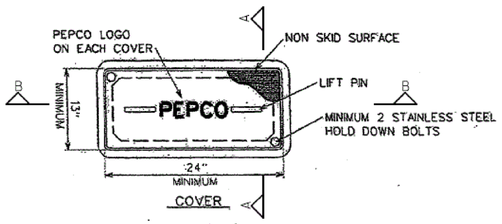
COLONIALPOST-TOP LED LUMINAIRE

SCALE: N.T.S.

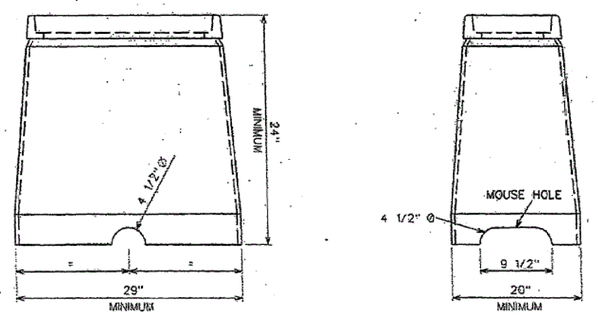


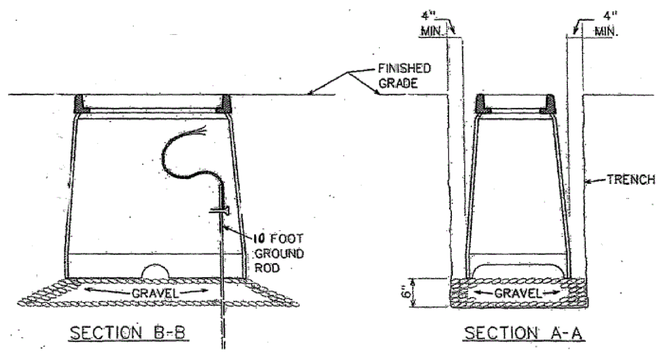
DIRECT BURIAL FIBERGLASS POLE

SCALE: N.T.S.



NOTE:
SPLICE BOX SHALL BE DESIGNED FOR LIGHT TRUCK LOADING PER ASTM C857.





PEPCO 12X24X24 STREET LIGHT SPLICE BOX

SCALE: N.T.S.

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.

LIGHTING GENERAL NOTES AND DETAILS

SCALE : N.T.S. DATE: JUNE 2024 LT-01

DPS SC/SWM PERMIT SHEET NO. ____ of ____

C.I.P. Project No. : 0501742 89 of 105

PLOTTED: 6/22/2024
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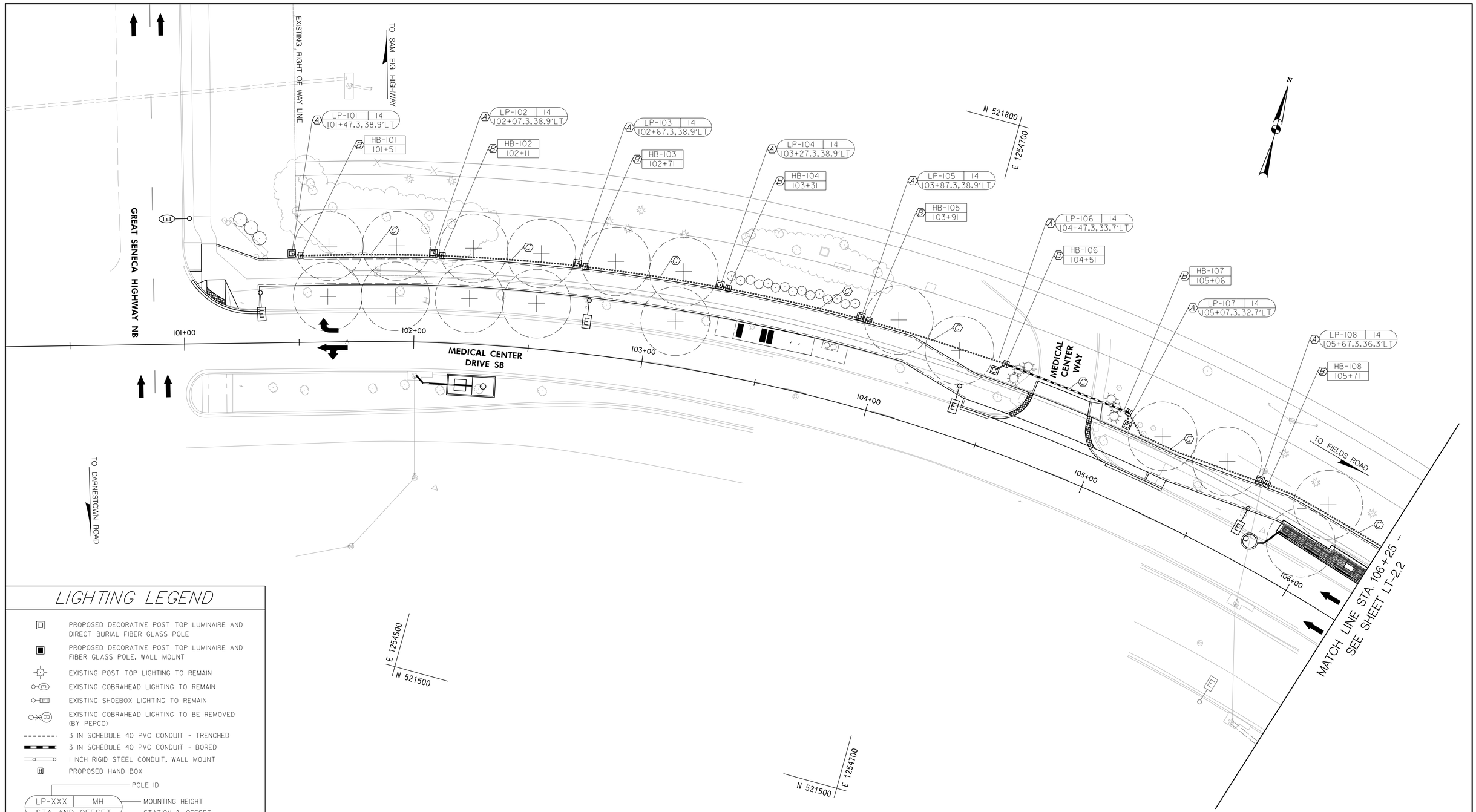

LIGHTING LEGEND

- PROPOSED DECORATIVE POST TOP LUMINAIRE AND DIRECT BURIAL FIBER GLASS POLE
- PROPOSED DECORATIVE POST TOP LUMINAIRE AND FIBER GLASS POLE, WALL MOUNT
- EXISTING POST TOP LIGHTING TO REMAIN
- EXISTING COBRAHEAD LIGHTING TO REMAIN
- EXISTING SHOEBOX LIGHTING TO REMAIN
- EXISTING COBRAHEAD LIGHTING TO BE REMOVED (BY PEPCO)
- 3 IN SCHEDULE 40 PVC CONDUIT - TRENCHED
- 3 IN SCHEDULE 40 PVC CONDUIT - BORED
- 1 INCH RIGID STEEL CONDUIT, WALL MOUNT
- PROPOSED HAND BOX

LP-XXX | MH — POLE ID; MOUNTING HEIGHT
STA. AND OFFSET — STATION & OFFSET

HB-XXX — HAND HOLE ID
XXX — STATION

CONSTRUCTION DETAIL

- (A) PATHWAY LIGHTING POLE AND LUMINAIRE (TO BE INSTALLED BY PEPCO)
- (B) INSTALL LIGHTING HAND HOLE
- (C) FURNISH AND INSTALL PVC CONDUIT
- (D) FURNISH AND INSTALL RIGID STEEL CONDUIT, WALL MOUNT

UTILITY LEGEND

- SAN — SANITARY SEWER
- G — GAS
- W — WATER
- E — ELECTRIC
- T — TELEPHONE
- FO — CABLE TV
- CATV — FIBER OPTIC

PLOTTED: 6/27/2024
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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL

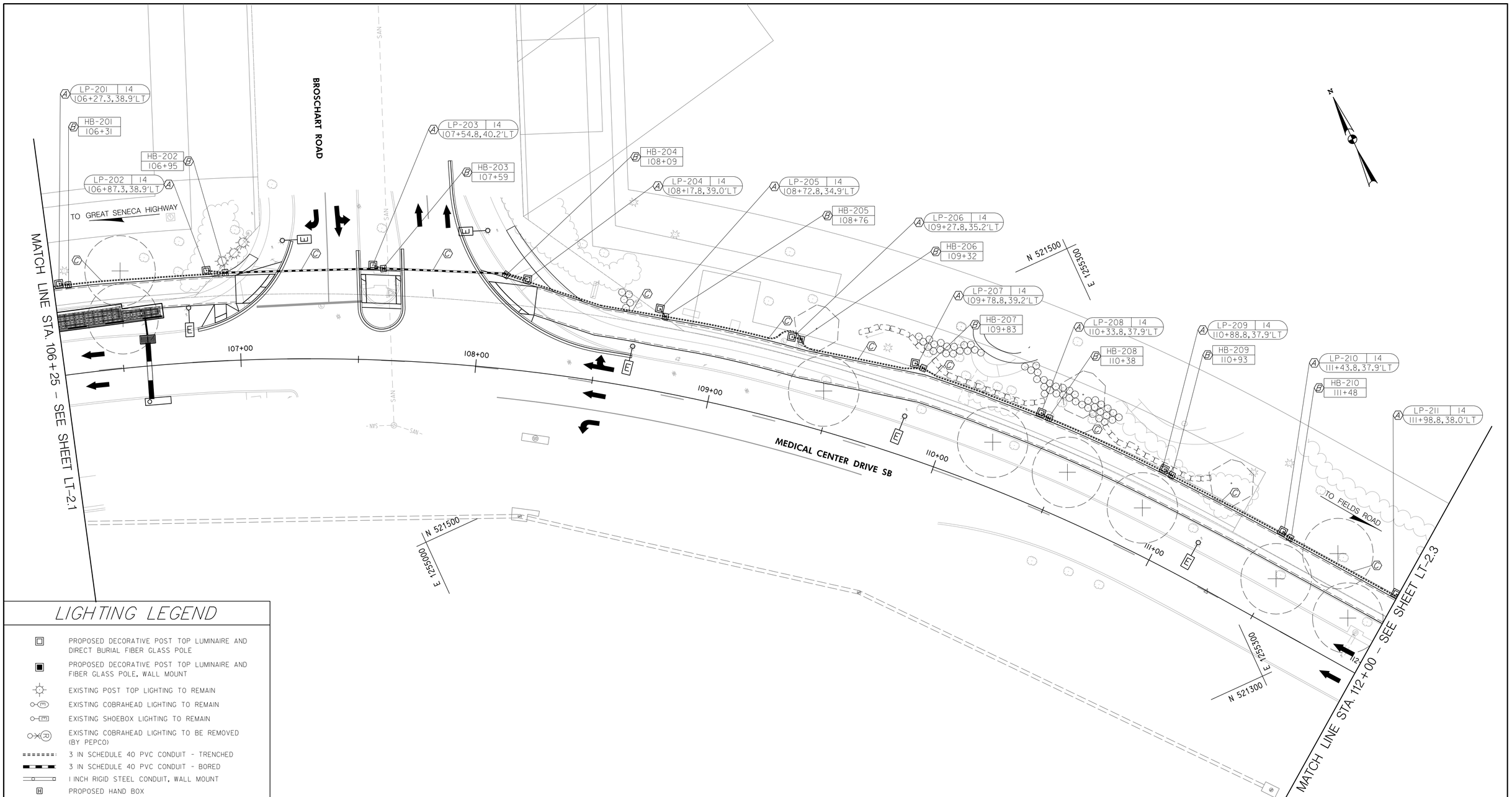
FROM GREAT SENECA HWY TO RESEARCH BLVD.

LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.1

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 90 of X 105



LIGHTING LEGEND

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STA. AND OFFSET — STATION & OFFSET

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XXX — STATION

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- G — GAS
- W — WATER
- E — ELECTRIC
- T — TELEPHONE
- FO — CABLE TV
- CATV — FIBER OPTIC

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.2

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 91 of 105

PLOTTED: 6/27/2024
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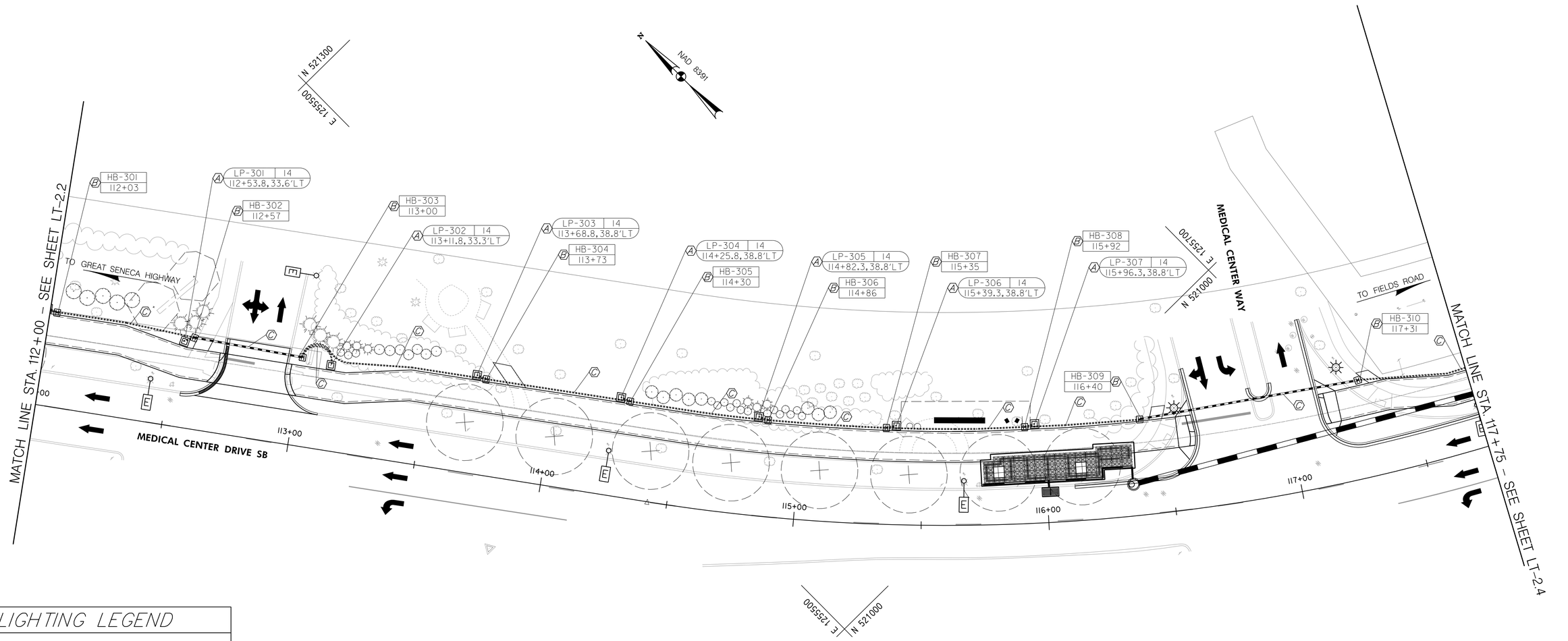

LIGHTING LEGEND

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POLE ID
LP-XXX | MH — MOUNTING HEIGHT
STA. AND OFFSET — STATION & OFFSET

HB-XXX — HAND HOLE ID
XXX — STATION

CONSTRUCTION DETAIL

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UTILITY LEGEND

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- FO — CABLE TV
- CATV — FIBER OPTIC

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.3

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 92 of 105

PLOTTED: 6/27/2024
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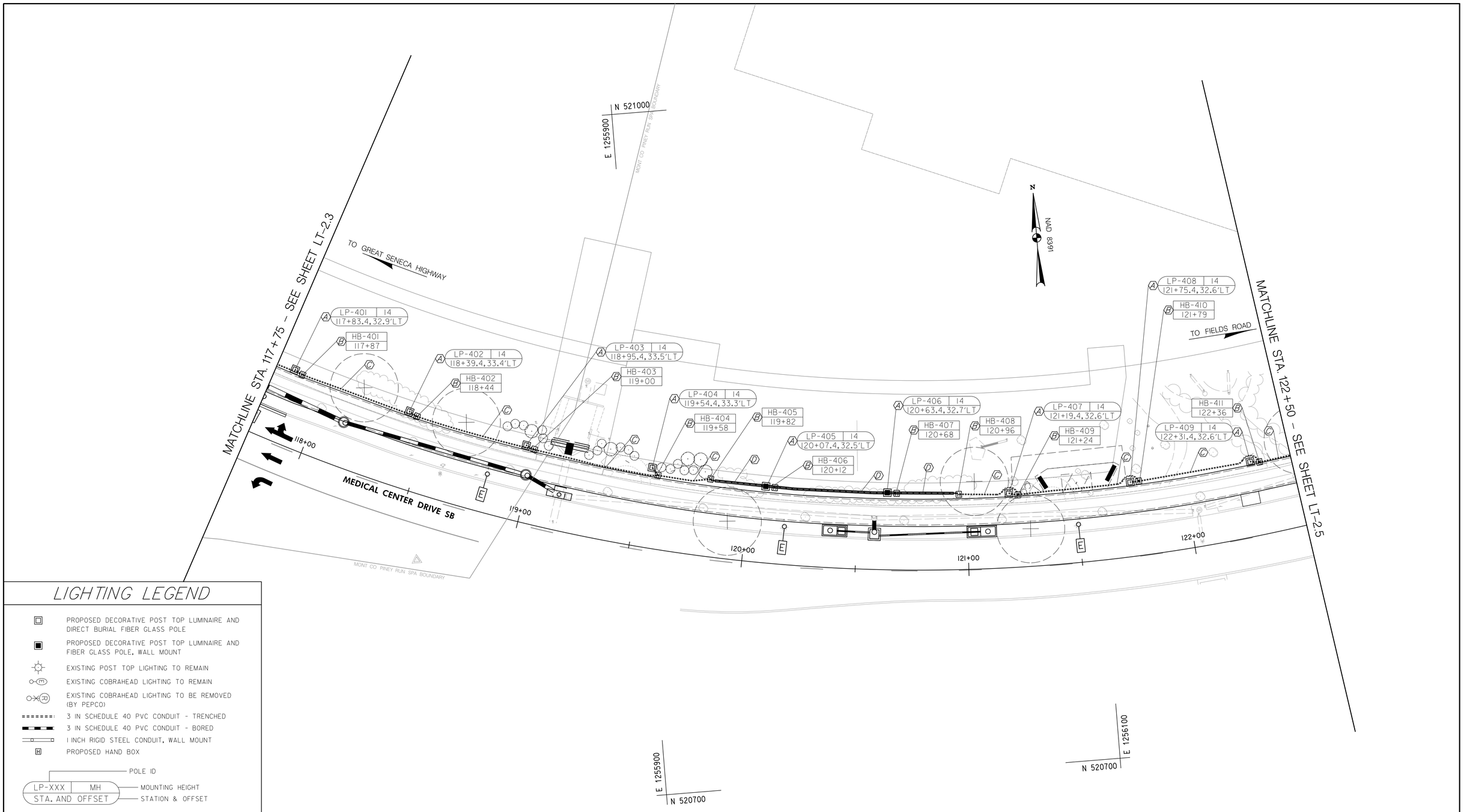

LIGHTING LEGEND

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- PROPOSED DECORATIVE POST TOP LUMINAIRE AND FIBER GLASS POLE, WALL MOUNT
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- 3 IN SCHEDULE 40 PVC CONDUIT - BORED
- I INCH RIGID STEEL CONDUIT, WALL MOUNT
- [H] PROPOSED HAND BOX

LP-XXX	MH
STA. AND OFFSET	

POLE ID; MOUNTING HEIGHT; STATION & OFFSET

HB-XXX
XXX

HAND HOLE ID; STATION

CONSTRUCTION DETAIL

- (A) PATHWAY LIGHTING POLE AND LUMINAIRE (TO BE INSTALLED BY PEPCO)
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- G – GAS
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- FO – CABLE TV
- CATV – FIBER OPTIC

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

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LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT–2.4

DPS SC/SWM PERMIT SHEET NO. _____ of _____

C.I.P. Project No. : 0501742 93 of 87

PLOTTED: 6/25/2024
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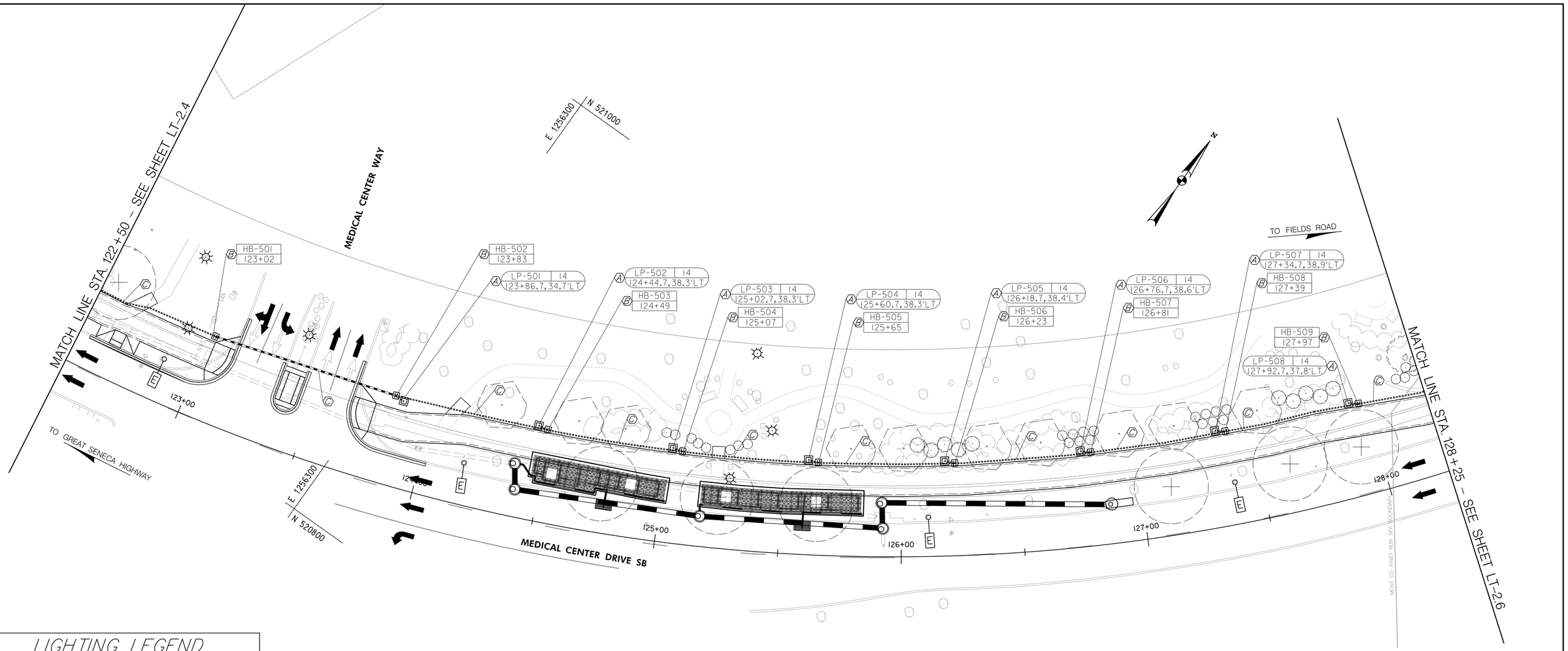

LIGHTING LEGEND

- PROPOSED DECORATIVE POST TOP LUMINAIRE AND DIRECT BURIAL FIBER GLASS POLE
- PROPOSED DECORATIVE POST TOP LUMINAIRE AND FIBER GLASS POLE, WALL MOUNT
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- PROPOSED HAND BOX

LP-XXX | MH — MOUNTING HEIGHT
STA. AND OFFSET — STATION & OFFSET
(POLE ID)

HB-XXX — HAND HOLE ID
XXX — STATION

CONSTRUCTION DETAIL

- (A) PATHWAY LIGHTING POLE AND LUMINAIRE (TO BE INSTALLED BY PEPCO)
- (B) INSTALL LIGHTING HAND HOLE
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UTILITY LEGEND

- SAN — SANITARY SEWER
- G — GAS
- W — WATER
- E — ELECTRIC
- T — TELEPHONE
- FO — CABLE TV
- CATV — FIBER OPTIC

PLOTTED: 6/27/2024
FILE: C:\powerdrgn\gfpw01\Wk\ut1256569\ut1-P005_LSCLT.dgn

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
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GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

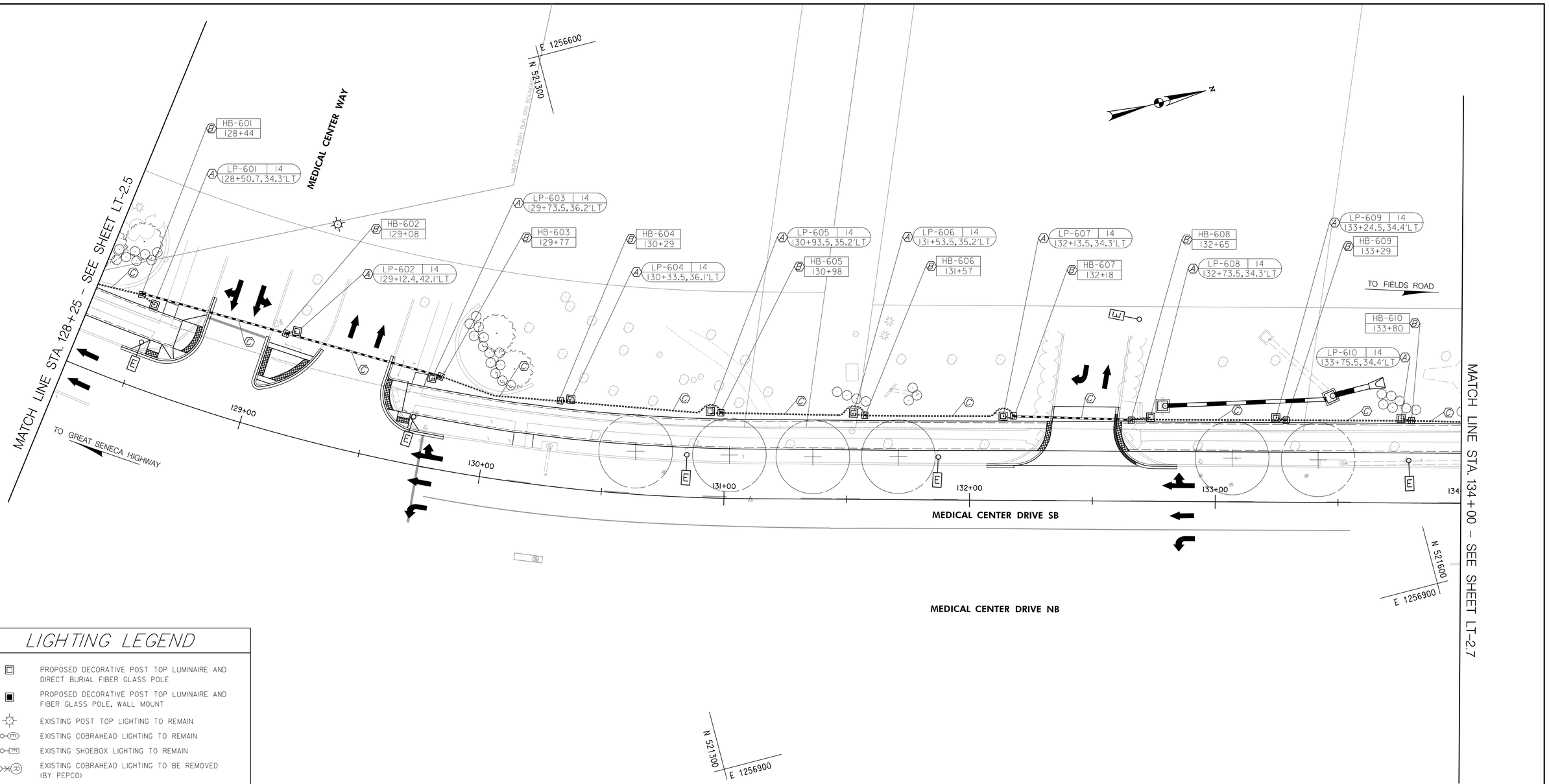
Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT–2.5

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 94 of 105



LIGHTING LEGEND

- PROPOSED DECORATIVE POST TOP LUMINAIRE AND DIRECT BURIAL FIBER GLASS POLE
- PROPOSED DECORATIVE POST TOP LUMINAIRE AND FIBER GLASS POLE, WALL MOUNT
- EXISTING POST TOP LIGHTING TO REMAIN
- EXISTING COBRAHEAD LIGHTING TO REMAIN
- EXISTING SHOEBOX LIGHTING TO REMAIN
- EXISTING COBRAHEAD LIGHTING TO BE REMOVED (BY PEPCO)
- 3 IN SCHEDULE 40 PVC CONDUIT - TRENCHED
- 3 IN SCHEDULE 40 PVC CONDUIT - BORED
- 1 INCH RIGID STEEL CONDUIT, WALL MOUNT
- PROPOSED HAND BOX

LP-XXX | MH — POLE ID; MOUNTING HEIGHT
STA. AND OFFSET — STATION & OFFSET

HB-XXX — HAND HOLE ID
XXX — STATION

CONSTRUCTION DETAIL

- (A) PATHWAY LIGHTING POLE AND LUMINAIRE (TO BE INSTALLED BY PEPCO)
- (B) INSTALL LIGHTING HAND HOLE
- (C) FURNISH AND INSTALL PVC CONDUIT
- (D) FURNISH AND INSTALL RIGID STEEL CONDUIT, WALL MOUNT

UTILITY LEGEND

- SAN — SANITARY SEWER
- G — GAS
- W — WATER
- E — ELECTRIC
- T — TELEPHONE
- FO — CABLE TV
- CATV — FIBER OPTIC

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT–2.6

DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. :- 0501742 95 of 105

PLOTTED: 6/27/2024
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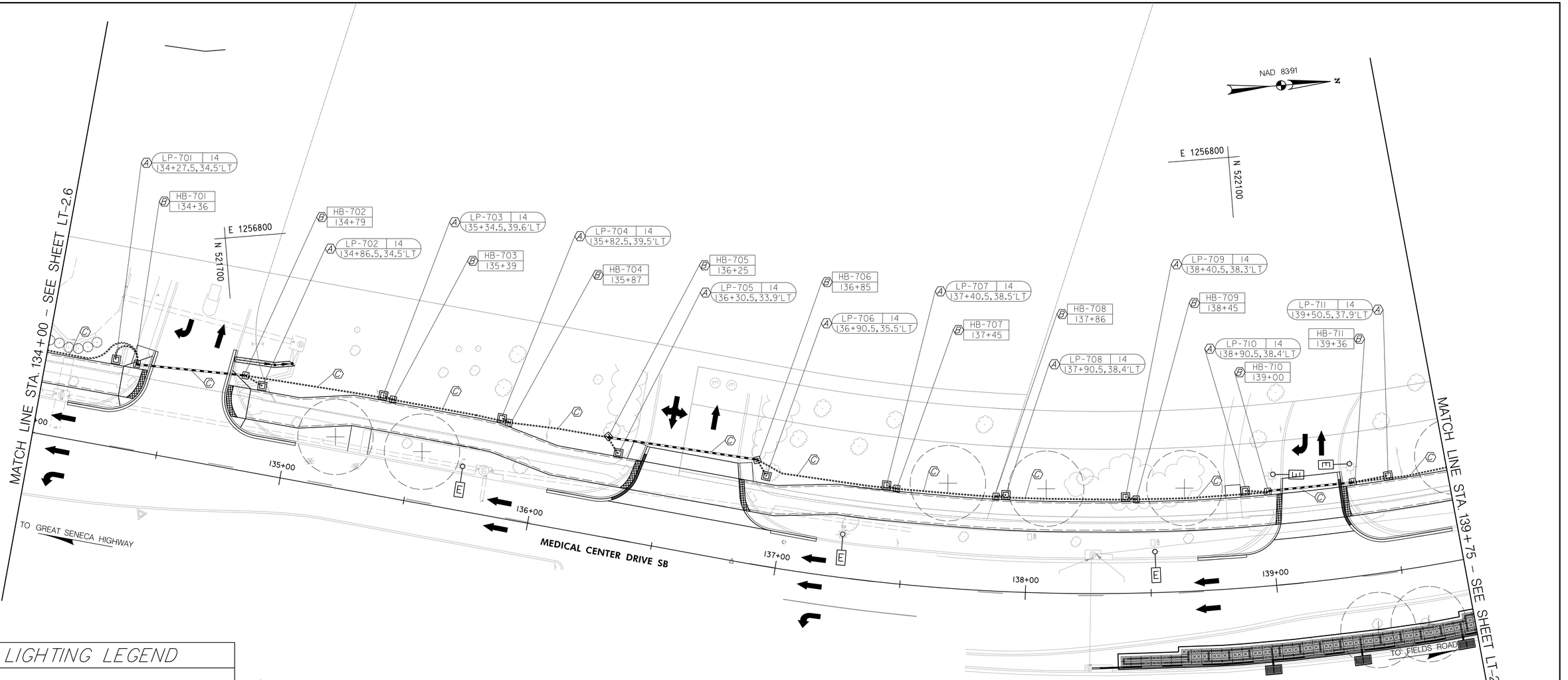

LIGHTING LEGEND

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N 521700
E 1257000

UTILITY LEGEND

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- CATV — FIBER OPTIC

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Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

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Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL

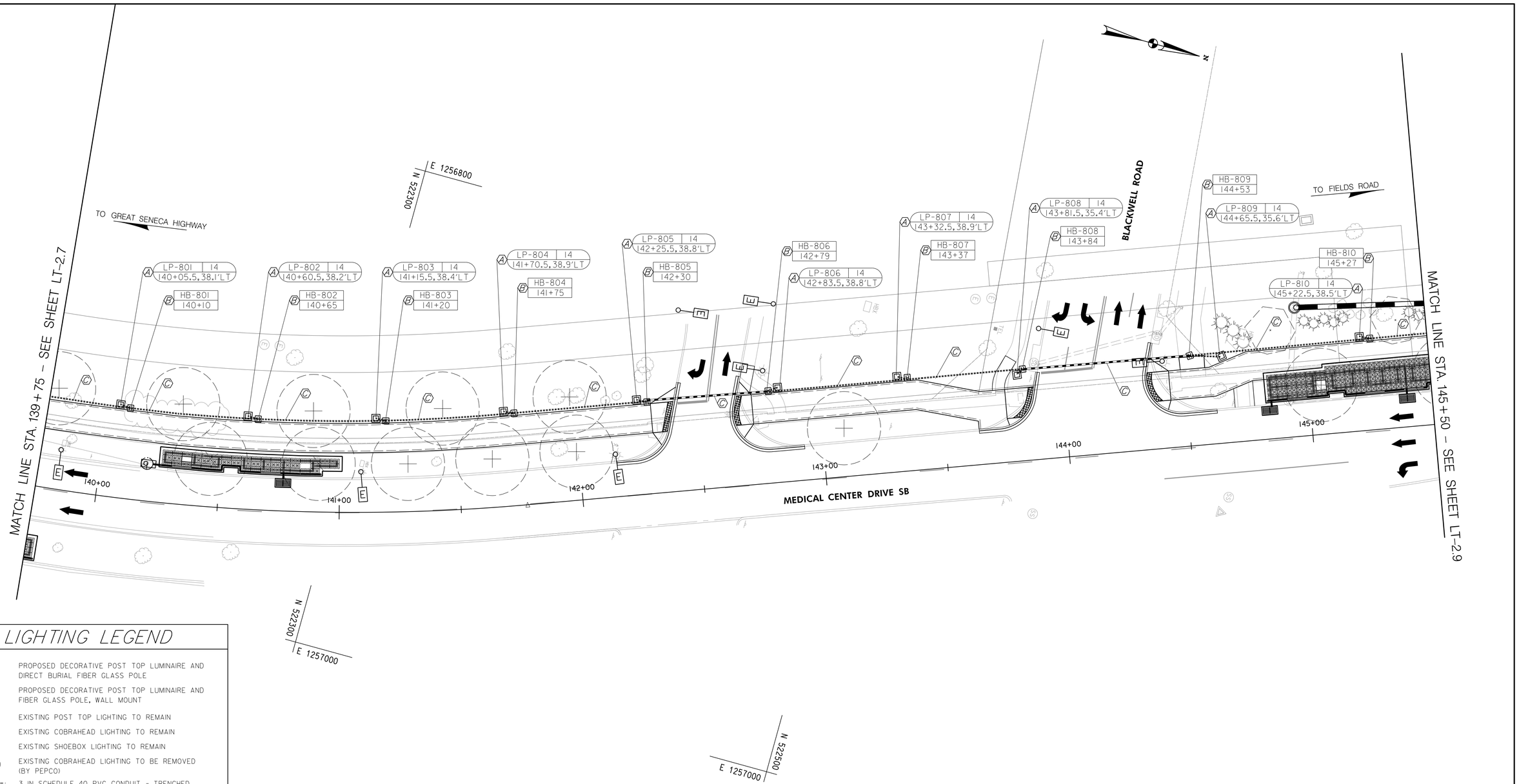
FROM GREAT SENECA HWY TO RESEARCH BLVD.

LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT–2.7

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 96 of 105



LIGHTING LEGEND

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LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.8

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 97 of 105

PLOTTED: 6/27/2024
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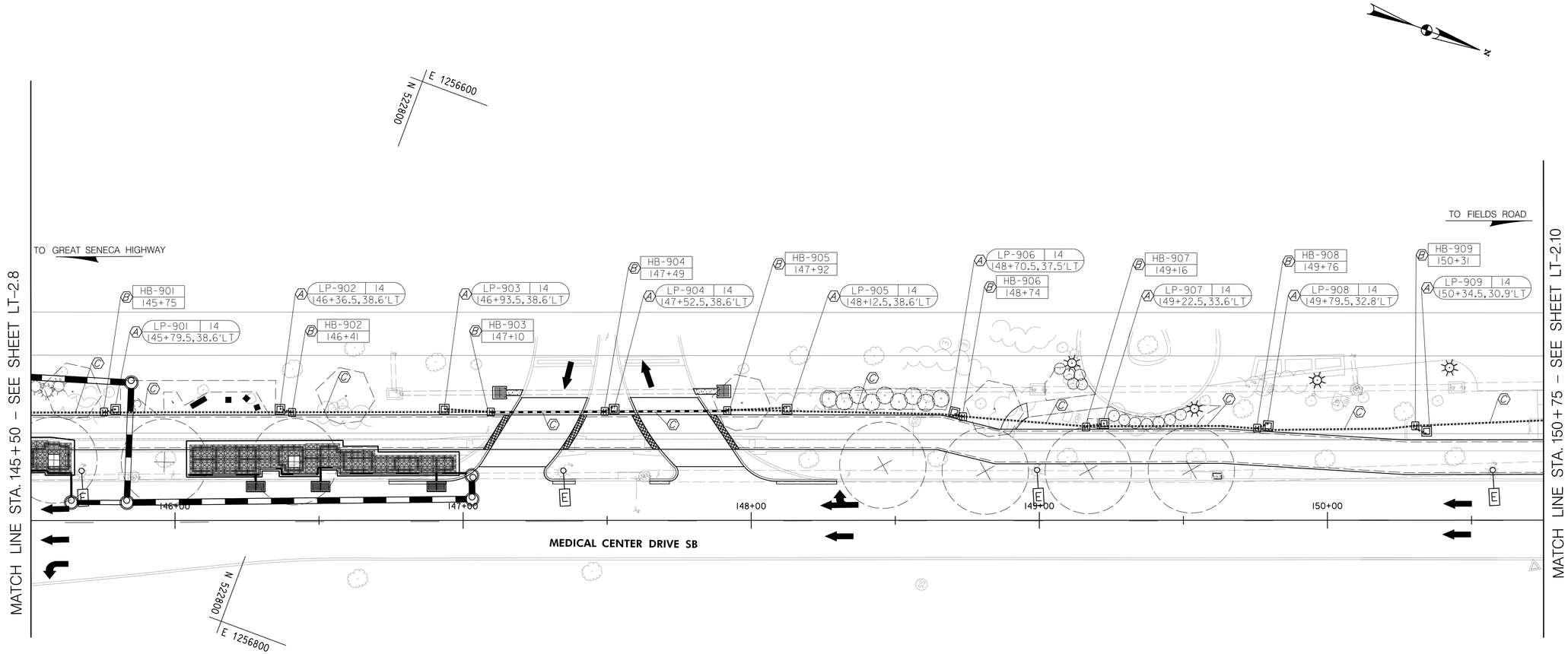

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LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT–2.9

DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. : 0501742 98 o. 105

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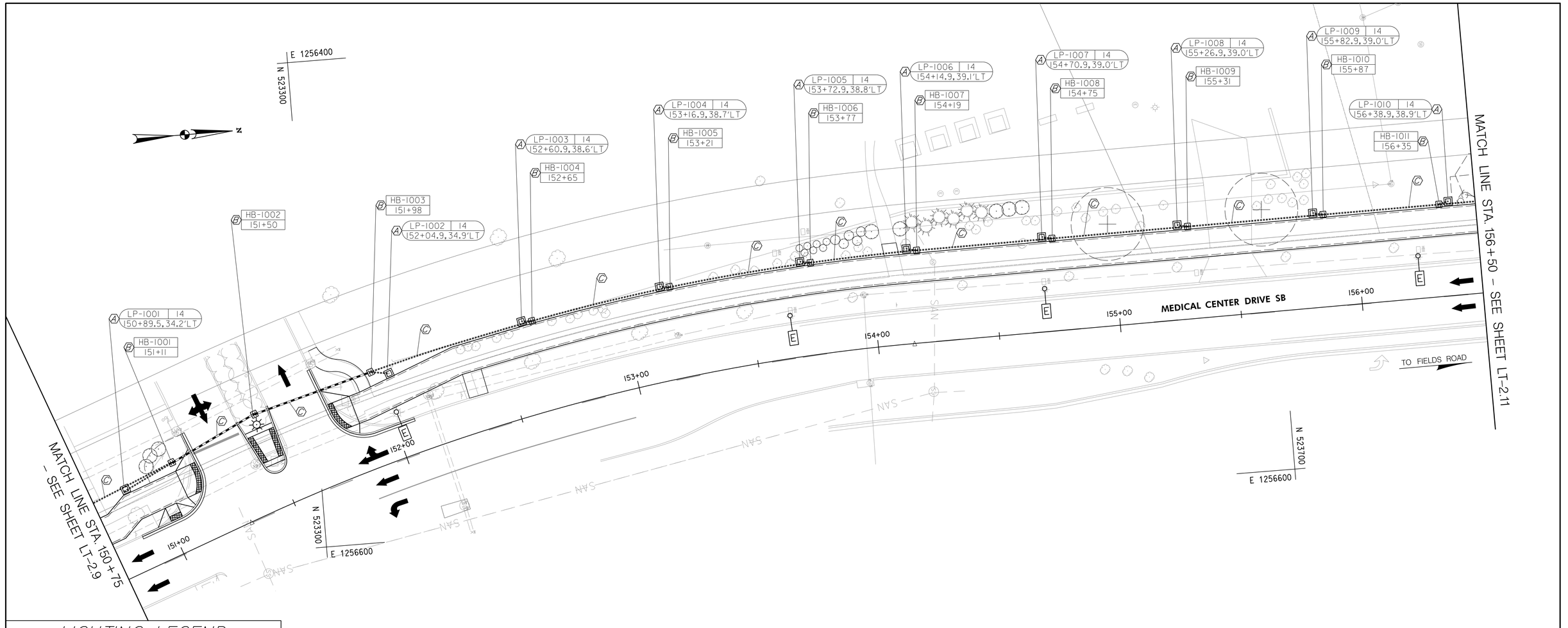

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LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.10

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 99 of 105

PLOTTED: 6/27/2024
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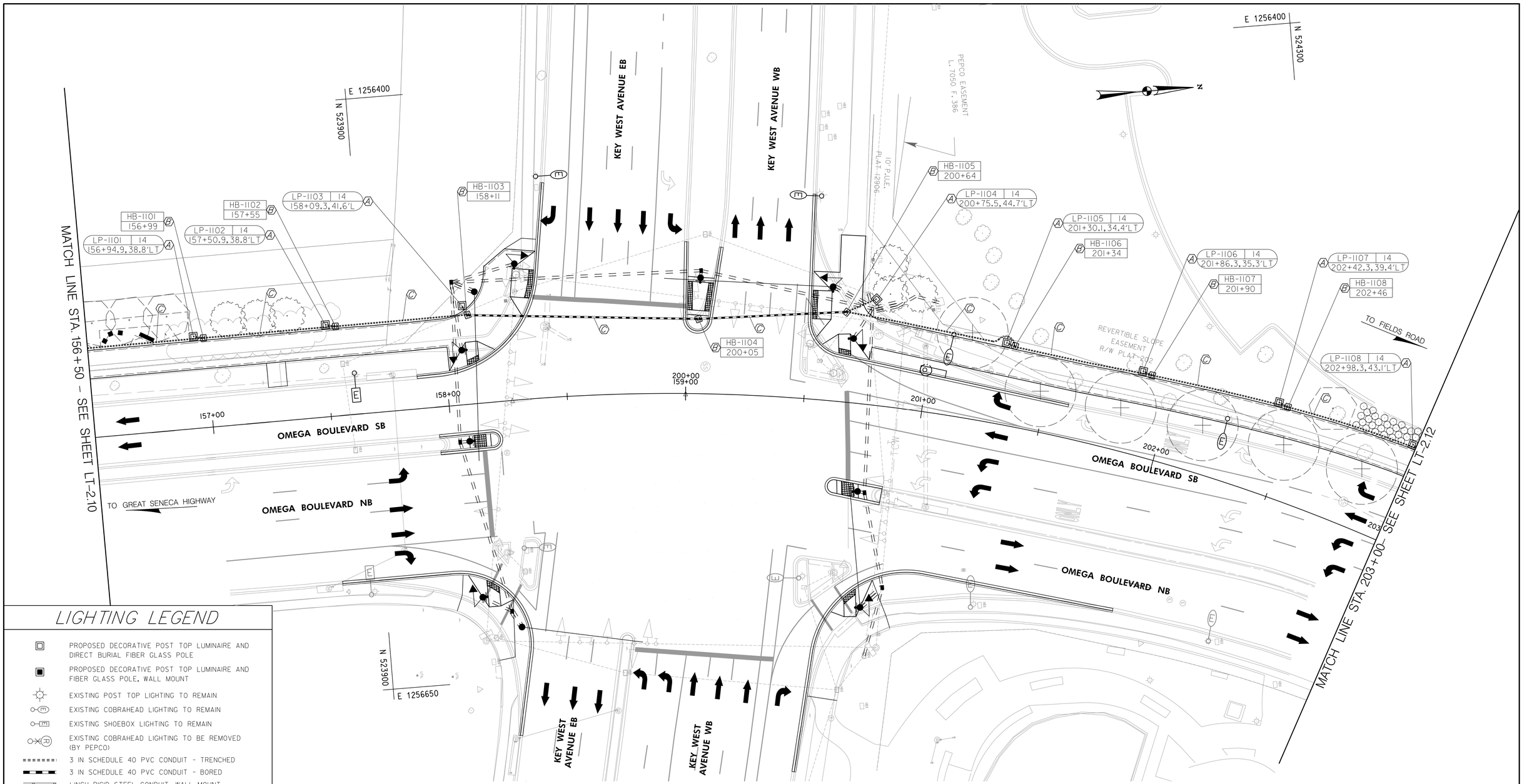

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LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.11

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 100 of 105

PLOTTED: 6/26/2024
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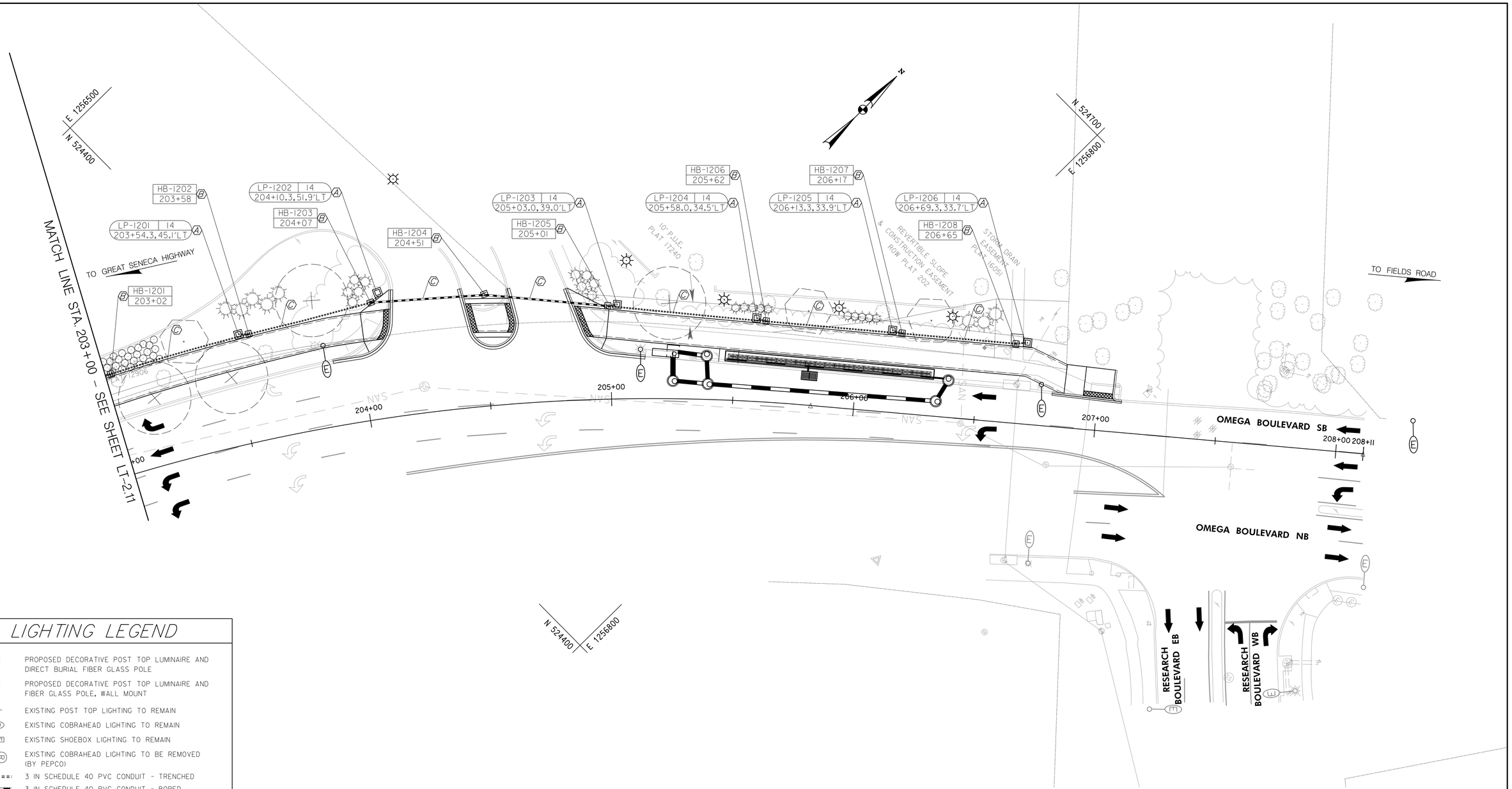

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PLOTTED: 6/28/2024
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LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

LIGHTING PLAN SHEETS

SCALE : 1" = 20' DATE: JUNE 2024 LT-2.12

DPS SC/SWM PERMIT SHEET NO. _____ of 64

C.I.P. Project No. : 0501742 101 of 105

HAND HOLE SCHEDULE

HAND HOLE ID	DRAWING NUMBER	STATION
HB–101	LT–2.1	101+51
HB–102	LT–2.1	102+11
HB–103	LT–2.1	102+71
HB–104	LT–2.1	103+31
HB–105	LT–2.1	103+91
HB–106	LT–2.1	104+51
HB–107	LT–2.1	105+06
HB–108	LT–2.1	105+71
HB–201	LT–2.2	106+31
HB–202	LT–2.2	106+95
HB–203	LT–2.2	107+59
HB–204	LT–2.2	108+09
HB–205	LT–2.2	108+76
HB–206	LT–2.2	109+32
HB–207	LT–2.2	109+83
HB–208	LT–2.2	110+38
HB–209	LT–2.2	110+93
HB–210	LT–2.2	111+48
HB–301	LT–2.3	112+03
HB–302	LT–2.3	112+57
HB–303	LT–2.3	113+00
HB–304	LT–2.3	113+73
HB–305	LT–2.3	114+30
HB–306	LT–2.3	114+86
HB–307	LT–2.3	115+35
HB–308	LT–2.3	115+92
HB–309	LT–2.3	116+40
HB–310	LT–2.3	117+31
HB–401	LT–2.4	117+87
HB–402	LT–2.4	118+44
HB–403	LT–2.4	119+00
HB–404	LT–2.4	119+58
HB–405	LT–2.4	119+82
HB–406	LT–2.4	120+12
HB–407	LT–2.4	120+68
HB–408	LT–2.4	120+96
HB–409	LT–2.4	121+24
HB–410	LT–2.4	121+79
HB–411	LT–2.4	122+36
HB–501	LT–2.5	123+02
HB–502	LT–2.5	123+83
HB–503	LT–2.5	124+49
HB–504	LT–2.5	125+07
HB–505	LT–2.5	125+65
HB–506	LT–2.5	126+23
HB–507	LT–2.5	126+81
HB–508	LT–2.5	127+39
HB–509	LT–2.5	127+97
HB–601	LT–2.6	128+44
HB–602	LT–2.6	129+08
HB–603	LT–2.6	129+77
HB–604	LT–2.6	130+29
HB–605	LT–2.6	130+98
HB–606	LT–2.6	131+57
HB–607	LT–2.6	132+18
HB–608	LT–2.6	132+65
HB–609	LT–2.6	133+29
HB–610	LT–2.6	133+80

HAND HOLE SCHEDULE

HAND HOLE ID	DRAWING NUMBER	STATION
HB–701	LT–2.7	134+36
HB–702	LT–2.7	134+79
HB–703	LT–2.7	135+39
HB–704	LT–2.7	135+87
HB–705	LT–2.7	136+25
HB–706	LT–2.7	136+85
HB–707	LT–2.7	137+45
HB–708	LT–2.7	137+86
HB–709	LT–2.7	138+45
HB–710	LT–2.7	139+00
HB–711	LT–2.7	139+36
HB–801	LT–2.8	140+10
HB–802	LT–2.8	140+65
HB–803	LT–2.8	141+20
HB–804	LT–2.8	141+75
HB–805	LT–2.8	142+30
HB–806	LT–2.8	142+79
HB–807	LT–2.8	143+37
HB–808	LT–2.8	143+84
HB–809	LT–2.8	144+53
HB–810	LT–2.8	145+27
HB–901	LT–2.9	145+75
HB–902	LT–2.9	146+41
HB–903	LT–2.9	147+10
HB–904	LT–2.9	147+49
HB–905	LT–2.9	147+92
HB–906	LT–2.9	148+74
HB–907	LT–2.9	149+16
HB–908	LT–2.9	149+76
HB–909	LT–2.9	150+31
HB–1001	LT–2.10	151+11
HB–1002	LT–2.10	151+50
HB–1003	LT–2.10	151+98
HB–1004	LT–2.10	152+65
HB–1005	LT–2.10	153+21
HB–1006	LT–2.10	153+77
HB–1007	LT–2.10	154+19
HB–1008	LT–2.10	154+75
HB–1009	LT–2.10	155+31
HB–1010	LT–2.10	155+87
HB–1011	LT–2.10	156+35
HB–1101	LT–2.11	156+99
HB–1102	LT–2.11	157+55
HB–1103	LT–2.11	158+11
HB–1104	LT–2.11	200+05
HB–1105	LT–2.11	200+64
HB–1106	LT–2.11	201+34
HB–1107	LT–2.11	201+90
HB–1108	LT–2.11	202+46
HB–1201	LT–2.12	203+02
HB–1202	LT–2.12	203+58
HB–1203	LT–2.12	204+07
HB–1204	LT–2.12	204+51
HB–1205	LT–2.12	205+01
HB–1206	LT–2.12	205+62
HB–1207	LT–2.12	206+17
HB–1208	LT–2.12	206+65

POLE SCHEDULE

POLE ID	DRAWING NUMBER	HEIGHT AND TYPE OF POLE	SETBACK FROM BACK EDGE OF SIDEPATH	LUMINAIRE/ WATTAGE	TYPE OF BASE	POLE LOCATION
LP–101	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	101+47.3,38.9'LT
LP–102	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	102+07.3,38.9'LT
LP–103	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	102+67.3,38.9'LT
LP–104	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	103+27.3,38.9'LT
LP–105	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	103+87.3,38.9'LT
LP–106	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	104+47.3,33.7'LT
LP–107	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	105+07.3,32.7'LT
LP–108	LT–2.1	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	105+67.3,36.3'L
LP–201	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	106+27.3,38.9'LT
LP–202	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	106+87.3,38.9'LT
LP–203	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	107+54.8,40.2'LT
LP–204	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	108+17.8,39.0'LT
LP–205	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	108+72.8,34.9'LT
LP–206	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	109+27.8,35.2'LT
LP–207	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	109+78.8,39.2'LT
LP–208	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	110+33.8,37.9'LT
LP–209	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	110+88.8,37.9'LT
LP–210	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	111+43.8,37.9'LT
LP–211	LT–2.2	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	111+98.8,38.0'LT
LP–301	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	112+53.8,33.6'LT
LP–302	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	113+11.8,33.3'LT
LP–303	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	113+68.8,38.8'LT
LP–304	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	114+25.8,38.8'LT
LP–305	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	114+82.3,38.8'LT
LP–306	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	115+39.3,38.8'LT
LP–307	LT–2.3	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	115+96.3,38.8'LT
LP–401	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	117+83.4,32.9'LT
LP–402	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	118+39.4,33.4'LT
LP–403	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	118+95.4,33.5'LT
LP–404	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	119+54.4,33.3'LT
LP–405	LT–2.4	14' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	WALL MOUNT	120+07.4,32.5'LT
LP–406	LT–2.4	14' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	WALL MOUNT	120+63.4,32.7'LT
LP–407	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	121+19.4,32.6'LT
LP–408	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	121+75.4,32.6'LT
LP–409	LT–2.4	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	122+31.4,32.6'LT
LP–501	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	123+86.7,34.7'LT
LP–502	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	124+44.7,38.3'LT
LP–503	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	125+02.7,38.3'LT
LP–504	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	125+60.7,38.3'LT
LP–505	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	126+18.7,38.4'LT
LP–506	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	126+76.7,38.6'LT
LP–507	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	127+34.7,38.9'LT
LP–508	LT–2.5	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	127+92.7,37.8'LT
LP–601	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	128+50.7,34.3'LT
LP–602	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	129+12.4,42.1'LT
LP–603	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	129+73.5,36.2'LT
LP–604	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	130+33.5,36.1'LT
LP–605	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	130+93.5,35.2'LT
LP–606	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	131+53.5,35.2'LT
LP–607	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	132+13.5,34.3'LT
LP–608	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	132+73.5,34.3'LT
LP–609	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	133+24.5,34.4'LT
LP–610	LT–2.6	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	133+75.5,34.4'LT

ALL DIMENSIONS SHOWN ARE MEASURED FROM OBJECT TO CENTER LINE OF PROPOSED LIGHT POLE.

POLE SCHEDULE

POLE ID	DRAWING NUMBER	HEIGHT AND TYPE OF POLE	SETBACK FROM BACK EDGE OF SIDEPATH	LUMINAIRE/ WATTAGE	TYPE OF BASE	POLE LOCATION
LP–701	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	134+27.5,34.5'LT
LP–702	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	134+86.5,34.5'LT
LP–703	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	135+34.5,39.6'LT
LP–704	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	135+82.5,39.5'LT
LP–705	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	136+30.5,33.9'LT
LP–706	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	136+90.5,35.5'LT
LP–707	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	137+40.5,38.5'LT
LP–708	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	137+90.5,38.4'LT
LP–709	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	138+40.5,38.3'LT
LP–710	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	138+90.5,38.4'LT
LP–711	LT–2.7	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	139+50.5,37.9'LT
LP–801	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	140+05.5,38.1'LT
LP–802	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	140+60.5,38.2'LT
LP–803	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	141+15.5,38.4'LT
LP–804	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	141+70.5,38.9'LT
LP–805	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	142+25.5,38.8'LT
LP–806	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	142+83.5,38.8'LT
LP–807	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	143+32.5,38.9'LT
LP–808	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	143+81.5,35.4'LT
LP–809	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	144+65.5,35.6'LT
LP–810	LT–2.8	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	145+22.5,38.5'LT
LP–901	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	145+79.5,38.6'LT
LP–902	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	146+36.5,38.6'LT
LP–903	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	146+93.5,38.6'LT
LP–904	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	147+52.5,38.6'LT
LP–905	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	148+12.5,38.6'LT
LP–906	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	148+70.5,37.5'LT
LP–907	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	149+22.5,33.6'LT
LP–908	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	149+79.5,32.8'LT
LP–909	LT–2.9	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	150+34.5,30.9'LT
LP–1001	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	150+89.5,34.2'LT
LP–1002	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	152+04.9,34.9'LT
LP–1003	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	152+60.9,38.6'LT
LP–1004	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	153+16.9,38.7'LT
LP–1005	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	153+72.9,38.8'LT
LP–1006	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	154+14.9,39.1'LT
LP–1007	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	154+70.9,39.0'LT
LP–1008	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	155+26.9,39.0'LT
LP–1009	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	155+82.9,39.0'LT
LP–1010	LT–2.10	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	156+38.9,38.9'LT
LP–1101	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	156+94.9,38.8'LT
LP–1102	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	157+50.9,38.8'LT
LP–1103	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	158+09.3, 41.6'LT
LP–1104	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	200+75.5,44.7'LT
LP–1105	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	201+30.1,34.4'LT
LP–1106	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	201+86.3,35.3'LT
LP–1107	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	202+42.3,39.4'LT
LP–1108	LT–2.11	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	202+98.3,43.1'LT
LP–1201	LT–2.12	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	203+54.3,45.1'LT
LP–1202	LT–2.12	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	204+10.3,51.9'LT
LP–1203	LT–2.12	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	205+03.0,39.0'LT
LP–1204	LT–2.12	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	205+58.0,34.5'LT
LP–1205	LT–2.12	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	206+13.3,33.9'LT
LP–1206	LT–2.12	16' BLACK FIBERGLASS POLE	2.0'	40 WATT LED	DIRECT BURIAL	206+69.3,33.7'LT

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: YLIU Drawn by: YLIU Checked by: TCW

LIFE SCIENCES CENTER LOOP TRAIL

FROM GREAT SENECA HWY TO RESEARCH BLVD.

LIGHTING SCHEDULE

SCALE : N.T.S. DATE: JUNE 2024 LT–11

DPS SC/SWM PERMIT SHEET NO. ____ of 64

C.I.P. Project No. : 0501742 102 of 105

PLOTTED: 6/27/2024
FILE: C:\pwworking\ylhw01\d0585681\pLT-S000_LSCLT.dgn

BORDER REV. DATE: MARCH 22, 2023

DRILL HOLES

DRILL HOLES

DRILL HOLES

BY: twilson -

PROPOSED SIGNALS

1,2,5,6,7,10, 11,14,15,16

12″

3,4,8,9,12, 13,17,18

12″

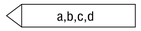
19-24

16″ LED COUNTDOWN PEDESTRIAN SIGNAL

PROPOSED HD IP-BASED VIDEO DETECTION

a,b,c,d

PROPOSED VIDEO DETECTION ZONES

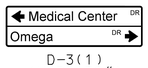


PROPOSED SIGNS

25-30

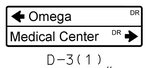
R3-5(L) (30″x36″)

31



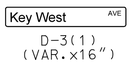
D-3(1) (VAR.x32″)

32



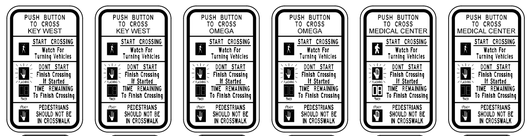
D-3(1) (VAR.x32″)

33,34



D-3(1) (VAR.x16″)

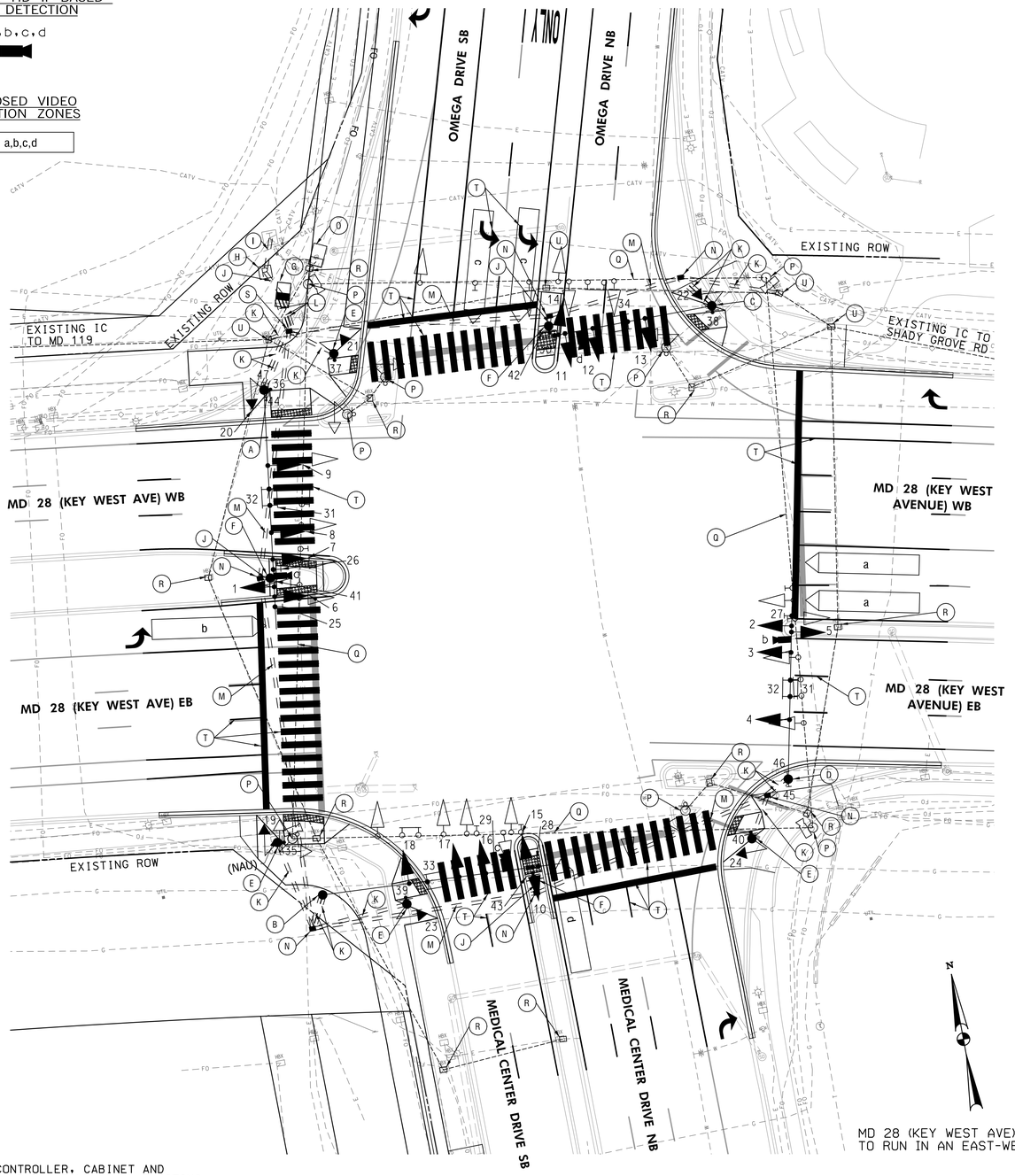
35 36 37 38 39 40



R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″

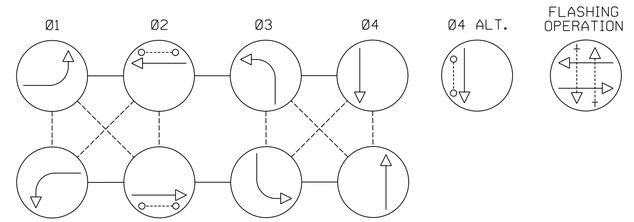
CONSTRUCTION DETAILS

A. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH ONE 70 FT. MAST ARM WITH SIGNAL HEADS, SIGNS, COUNTDOWN PEDESTRIAN SIGNAL, PUSHBUTTON STATION AND SIGN, AND OVERHEAD VIDEO DETECTION CAMERA WITH 5 FT EXTENSION POLE (NOTE: INSTALL 2-3 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
B. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH ONE 70 FT. MAST ARM WITH SIGNAL HEADS, SIGNS, AND OVERHEAD VIDEO DETECTION CAMERA WITH 5 FT EXTENSION POLE (NOTE: INSTALL 2-3 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
C. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH ONE 50 FT. MAST ARM WITH SIGNAL HEADS, SIGNS, COUNTDOWN PEDESTRIAN SIGNAL, PUSHBUTTON STATION AND SIGN, AND OVERHEAD VIDEO DETECTION CAMERAS WITH 5 FT EXTENSION POLE (NOTE: INSTALL 2-3 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
D. INSTALL CONCRETE FOUNDATION WITH A 27 FT. STEEL POLE WITH ONE 50 FT. MAST ARM WITH SIGNAL HEADS, SIGNS, AND OVERHEAD VIDEO DETECTION CAMERAS WITH 5 FT EXTENSION POLE (NOTE: INSTALL 2-3 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
E. INSTALL CONCRETE FOUNDATION WITH A 10 FT. STEEL PEDESTAL POLE WITH BREAKAWAY COUPLINGS PER MD STD 801.01-01, COUNTDOWN PEDESTRIAN SIGNAL, PUSHBUTTON STATION AND SIGN (NOTE: INSTALL 1-2 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
F. INSTALL CONCRETE FOUNDATION WITH A 6 FT. STEEL PEDESTAL POLE WITH BREAKAWAY COUPLINGS PER MD STD 801.01-01, AND PUSHBUTTON STATION AND SIGN (NOTE: INSTALL 1-2 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
G. INSTALL A NEMA SIZE 'S' BASE MOUNTED CONTROLLER AND CABINET WITH UNINTERUPTIBLE POWER SUPPLY EQUIPMENT AND ALL OTHER NECESSARY EQUIPMENT (NOTE: INSTALL 3-4 IN. AND 1-2 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
H. INSTALL 100 AMP EMBEDDED METERED SERVICE PEDESTAL (NOTE: INSTALL 3-2 IN. AND 1-4 IN. 90° PVC SCHEDULE 80 CONDUIT BENDS).
I. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT FOR ELECTRICAL SERVICE - TRENCHED. STUB OUT CONDUIT BEND AT EXISTING TRANSFORMER.
J. INSTALL 2 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED.
K. INSTALL 3 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED (CAP UNUSED IN HANDHOLE).
L. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - TRENCHED (CAP UNUSED IN HANDHOLE).
M. INSTALL 4 IN. PVC SCHEDULE 80 ELECTRICAL CONDUIT - BORED.
N. INSTALL HANDHOLE.
O. REMOVE EXISTING BASE MOUNTED CONTROLLER, CABINET AND FOUNDATION 12 IN. BELOW GRADE AND BACKFILL. PULL EXISTING INTERCONNECT CABLE FROM THE EX CABINET AND REROUTE TO THE NEW CABINET.
P. REMOVE EXISTING POLE, ALL ATTACHED EQUIPMENT AND FOUNDATION 12 IN. BELOW GRADE AND BACKFILL.
Q. REMOVE EXISTING SPAN WIRE AND ALL ASSOCIATED EQUIPMENT.
R. REMOVE EXISTING HANDHOLE.
S. INSTALL OVERSIZED HANDHOLE PER MD STD 811.05 - 811.07.
T. PROPOSED PAVEMENT MARKING. SEE ROADWAY PLANS FOR DETAIL.
U. USE EXISTING HANDHOLE.



MD 28 (KEY WEST AVE) IS ASSUMED TO RUN IN AN EAST-WEST DIRECTION

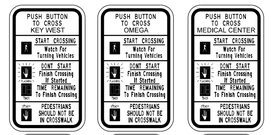
NEMA PHASING



NOTE:
PHASES ASSOCIATED BY A DASHED LINE WILL OPERATE CONCURRENTLY.
PHASES ASSOCIATED BY A SOLID LINE WILL NOT OPERATE CONCURRENTLY.

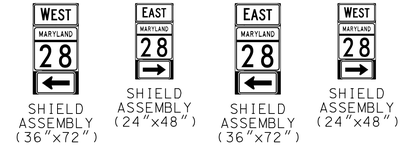
PROPOSED SIGNS (CONT'D)

41 42 43



R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″ | R10-3(1) 9″ x 15″

44 45 46 47



SHIELD ASSEMBLY (36″x72″) | SHIELD ASSEMBLY (24″x48″) | SHIELD ASSEMBLY (36″x72″) | SHIELD ASSEMBLY (24″x48″)

GENERAL NOTES

1. VIDEO CAMERA LOCATION / ALIGNING SHALL BE COORDINATED WITH THE SHA AND MC-DOT ENGINEER.
2. THE CONTRACTOR SHALL VERIFY ALL PROPOSED POLE AND CABINET LOCATIONS PRIOR TO INSTALLATION.
3. FOR FINAL PAVEMENT MARKINGS REFER TO THE PAVEMENT MARKING PLANS, OTHER THAN THOSE DETAILED ON THIS PLAN. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH MDOT SHA STANDARDS.
4. ALL EXISTING TRAFFIC SIGNAL EQUIPMENT REMOVED SHALL BECOME THE PROPERTY OF THE SIGNAL CONTRACTOR UPON COMPLETION OF THE NEW SIGNAL.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE TO THE APPROPRIATE TERMINALS AND PROPERLY LABEL EACH CABLE.
6. THE CONTRACTOR SHALL VERIFY ALL UNDERGROUND UTILITIES PRIOR TO INSTALLING PROPOSED SIGNAL EQUIPMENT. IF ANY UTILITY CONFLICTS SHOULD ARISE THE CONTRACTOR SHALL CONTACT THE PROJECT ENGINEER.
7. ALL TRAFFIC SIGNAL FOUNDATIONS SHALL BE INSTALLED AT THE FINAL SIDEWALK OR CURB GRADE FOR CLOSED SECTIONS. TO MEET CLEARANCES AS SPECIFIED IN MD 816.03, MD 818.01, MD 818.02, MD 818.04. THE CONTRACTOR SHALL VERIFY ULTIMATE GRADES PRIOR TO THE INSTALLATION OF ALL SIGNAL EQUIPMENT.
8. FOR CONSTRUCTION OF SIDEWALK, SHARED USE PATH AND CURB RAMPS REFER TO THE ROADWAY PLANS.
9. SIGNAL PLANS ARE ONLY VALID FOR ONE YEAR FROM DATE OF MD SHA APPROVAL.
10. PUSHBUTTONS ARE TO BE LOCATED SO THAT THEY CAN BE ACTIVATED BY A PERSON IN A WHEELCHAIR REACHING LESS THAN 18″ FROM A 60″ X 60″ LEVEL LANDING AREA WITH A CROSS SLOPE OF LESS THAN OR EQUAL TO 2%.
11. THE 10' SEPARATION BETWEEN PUSHBUTTONS IS TO BE MEASURED FROM FACE OF PUSHBUTTON TO FACE OF PUSHBUTTON, NOT CENTER TO CENTER OF POLE.
12. PUSHBUTTON ARROWS ARE TO BE PARALLEL TO THE CROSSING FOR WHICH THEY ARE INTENDED.
13. ALL SIDEWALK RAMPS SHALL BE INSTALLED AS PER STANDARDS MD 655.11, MD 655.12 AND MD655.21 AS SHOWN ON ROADWAY PLANS.
14. LOCATION OF ACCESSIBLE PEDESTRIAN SIGNAL PUSHBUTTONS MUST MEET LOCATION REQUIREMENTS OF MUTCD SEC. 4E.08 AND 4E.10 AND FIG. 4E-3 AND 4E-4 OF THE NCHRP PUBLICATION. "ACCESSIBLE PEDESTRIAN SIGNALS: GUIDE TO BEST PRACTICE". IF NOT MET, THE CONTRACTOR IS TO STOP WORK ON PUSHBUTTON LOCATIONS UNTIL A DESIGN WAIVER IS OBTAINED, APPROVED BY THE DIRECTION, OFFICE OF TRAFFIC AND SAFETY.

GEOMETRIC LEGEND

EXISTING
PROPOSED

UTILITY LEGEND

SD SD STORM DRAIN
G G GAS MAIN
W W WATER MAIN
S S SEWER MAIN
E E ELECTRIC CABLES
A A AERIAL CABLES
T T TELEPHONE CABLES
F F FIBER-OPTIC

Gannett Fleming / GPI

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

LIFE SCIENCES CENTER LOOP TRAIL
MD 28 (KEY WEST AVENUE) AT
MEDICAL CENTER DRIVE /OMEGA DRIVE

APPROVALS	REVISIONS
TEAM LEADER	(1) RECONSTRUCT SIGNAL
ASST. DIV. CHIEF	C.I.P. PROJECT NO. 0501742 6/2024
DIVISION CHIEF	GF
OFFICE DIRECTOR	

ORIGINAL ON FILE

TRAFFIC SIGNAL PLAN

SCALE 1" = 20' ADVERTISED DATE ____ CONTRACT NO. ____

DESIGNED BY TCW | COUNTY MONTGOMERY
DRAWN BY TCW | LOGMILE 15002819.16
CHECKED BY TCW | TIMS NO. L846
MDE/PRD N/A | TOD NO. N/A

TS NO. 4057G | DRAWING SG-01 OF 02 | SHEET NO. 103 OF 105

PLOTTED: 6/28/2024
FILE: c:\pwworking\gfpw01\twilson\d1285685\pSG-P001_LSCLT.dgn

BORDER REV. DATE: MARCH 22, 2023

DRILL HOLES

DRILL HOLES

DRILL HOLES

BY: twilson

PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE RECONSTRUCTION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD 28 (KEY WEST AVE) AND MEDICAL CENTER DR/OMEGA DR IN MONTGOMERY COUNTY. MD 28 IS ASSUMED TO RUN IN A EAST-WEST DIRECTION.

THE PROJECT WILL RECONSTRUCT THE EXISTING SPAN WIRE SIGNAL TO A MAST ARM SIGNAL. NEW SIGNAL HEADS, VIDEO DETECTION CAMERAS, OVERHEAD SIGNS. AUDIBLE PEDESTRIAN PUSHBUTTON STATIONS WITH COUNTDOWN PEDESTRIAN SIGNAL HEADS SHALL BE INSTALLED ACROSS THE NORTH, SOUTH AND WEST LEGS OF THE INTERSECTION. THIS PROJECT WILL ALSO REPLACE THE EXISTING BASE MOUNTED CABINET WITH A NEW NEMA SIZE "S" BASE MOUNTED CABINET WITH BATTERY BACKUP.

II. INTERSECTION OPERATION

1. THE SIGNAL IS TO OPERATE IN A NEMA EIGHT (8) PHASE, FULLY-ACTUATED MODE. THERE WILL BE AN EXCLUSIVE LEFT TURN PHASE FOR THE EAST AND WESTBOUND MOVEMENTS OF MD 28. THE MD 28 THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY WITH CONCURRENT PEDESTRIAN MOVEMENTS ACROSS THE NORTH AND SOUTH LEGS OF THE INTERSECTION. THE MEDICAL CENTER DR/OMEGA DR MOVEMENTS WILL OPERATE WITH AN EXCLUSIVE LEFT TURN PHASE FOR THE NORTH AND SOUTHBOUND MOVEMENTS. THE THROUGH MOVEMENTS WILL OPERATE CONCURRENTLY WITH AN ACTUATED PEDESTRIAN MOVEMENT ACROSS THE WEST LEG OF THE INTERSECTION.

2. A PROPOSED NEMA FULL-TRAFFIC-ACTUATED, EIGHT (8) PHASE CONTROLLER WITH VIDEO DETECTION INTERFACE, 2 WIRE APS CENTRAL CONTROL UNIT, BATTERY BACKUP AND ALL NECESSARY EQUIPMENT HOUSED IN A NEMA SIZE "S" BASE MOUNTED CABINET SHALL BE INSTALLED AT THIS INTERSECTION.

III. SPECIAL NOTES

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLES TO THE APPROPRIATE TERMINALS AND SHALL PROPERLY LABEL EACH CABLE.

2. ALL UNDERGROUND AND OVERHEAD UTILITIES SHOWN ON THESE PLANS ARE SCHEMATIC ONLY AND MAY NOT BE COMPLETE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING MISS UTILITY PRIOR TO CONSTRUCTION SO THAT ALL UTILITIES MAY BE LOCATED IN THE FIELD. IF THE CONTRACTOR PERCEIVES THAT A CONFLICT BETWEEN UTILITIES AND THE TRAFFIC SIGNAL WILL OCCUR, THE CONTRACTOR SHALL NOTIFY THE PROJECT ENGINEER IMMEDIATELY SO THAT THE CONFLICT MAY BE RESOLVED.

3. APS WILL FUNCTION AS FOLLOWS:

TO CROSS MD 28 (KEY WEST AVE):

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS KEY WEST AT MEDICAL CENTER, WAIT".

B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS MEDICAL CENTER DR:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS MEDICAL CENTER AT KEY WEST, WAIT".

B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

TO CROSS OMEGA DR:

A. WHEN A PEDESTRIAN LOCATES AND PRESSES THE PUSHBUTTON FOR AN EXTENDED TIME, THE PUSHBUTTON UNIT WILL ANNOUNCE THE FOLLOWING MESSAGE: "WAIT TO CROSS OMEGA AT KEY WEST, WAIT".

B. WHEN THE WALK PHASE BEGINS, THE PUSHBUTTON UNIT WILL PROVIDE A RAPID TICK WHICH WILL LAST FOR THE DURATION OF THE WALK PHASE.

THE FOLLOWING CONTACT PERSONS FOR THIS PROJECT ARE AS FOLLOWS:

DISTRICT #3:

MR. DEREK GUNN
DISTRICT ENGINEER
PHONE: (301) 513-7498

MR. ERICH FLORENCE
DEPUTY DISTRICT ENGINEER
PHONE: (410) 841-1041

QIANYU HU
ASSISTANT DISTRICT ENGINEER - TRAFFIC

MR. JOHN GOVER
ASSISTANT DISTRICT ENGINEER - CONSTRUCTION
PHONE: (301) 513-7336

MR. GREGORY EDWARDS
ASSISTANT DISTRICT ENGINEER - MAINTENANCE
PHONE: (301) 513-7304

MR. MARK LOEFFLER
DISTRICT UTILITY ENGINEER
PHONE: (301) 513-7350

OFFICE OF TRAFFIC & SAFETY:

MS. VIVIAN BERRA-FIGUEREO, P.E.
DEPUTY DIRECTOR, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. DAVID JONES
CHIEF, SIGN OPERATION SECTION
PHONE: (410) 787-7670

MR. MICHAEL BOYLE
SECTION CHIEF, INVENTORY
PHONE: (410) 787-7673

Gannett Fleming/GPI

EQUIPMENT LIST

A. EQUIPMENT TO BE SUPPLIED BY MDOT SHA AND INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	QUANTITY	
971043	CABINET EXTENSION BASE, SIZE "S"	1	EA
971044	UPS EQUIPMENT FOR "S" CABINET	1	EA
971045	VIDEO DETECTION INTERFACE EQUIPMENT:1-8 CAMERAS	1	EA
971047	CONTROLLER CABINET, SIZE "S" WITH CONTROLLER AND HD IP-BASED VIDEO DETECTION COMMUNICATION MANAGER INTERFACE PANEL	1	EA
973023	SHEET ALUMINUM SIGNS	106	SF
	- PEDESTRIAN PUSHBUTTON STATION AND PEDESTRIAN EDUCATION R10-3(1) SIGN (9"X15"). (NOTE: SIGN TO READ "PUSH BUTTON TO CROSS KEY WEST HIGHWAY").	3	EA
	- PEDESTRIAN PUSHBUTTON STATION AND PEDESTRIAN EDUCATION R10-3(1) SIGN (9"X15"). (NOTE: SIGN TO READ "PUSH BUTTON TO CROSS MEDICAL CENTER DR").	3	EA
	- PEDESTRIAN PUSHBUTTON STATION AND PEDESTRIAN EDUCATION R10-3(1) SIGN (9"X15"). (NOTE: SIGN TO READ "PUSH BUTTON TO CROSS OMEGA DR").	3	EA
	- LEFT TURN ONLY R3-5L SIGN (30"X36") MAST ARM MOUNTED.	6	EA
	- SHIELD ASSEMBLY (24"X48") MAST ARM POLE MOUNTED.	2	EA
	- SHIELD ASSEMBLY (36"X72") MAST ARM POLE MOUNTED.	2	EA

B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

ITEM NO.	DESCRIPTION	QUANTITY	
203030	TEST PIT EXCAVATION	12	CY
800000	ELECTRICAL CABLE - 3 CONDUCTOR (NO. 18 AWG)	850	LF
801004	CONCRETE FOR SIGNAL FOUNDATION	22	CY
802501	NO. 6 AWG STRANDED BARE COPPER GROUND WIRE	650	LF
802570	1 CONDUCTOR #2/0 AWG CABLE	30	LF
805118	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-BORED	450	LF

EQUIPMENT LIST (CONT'D)

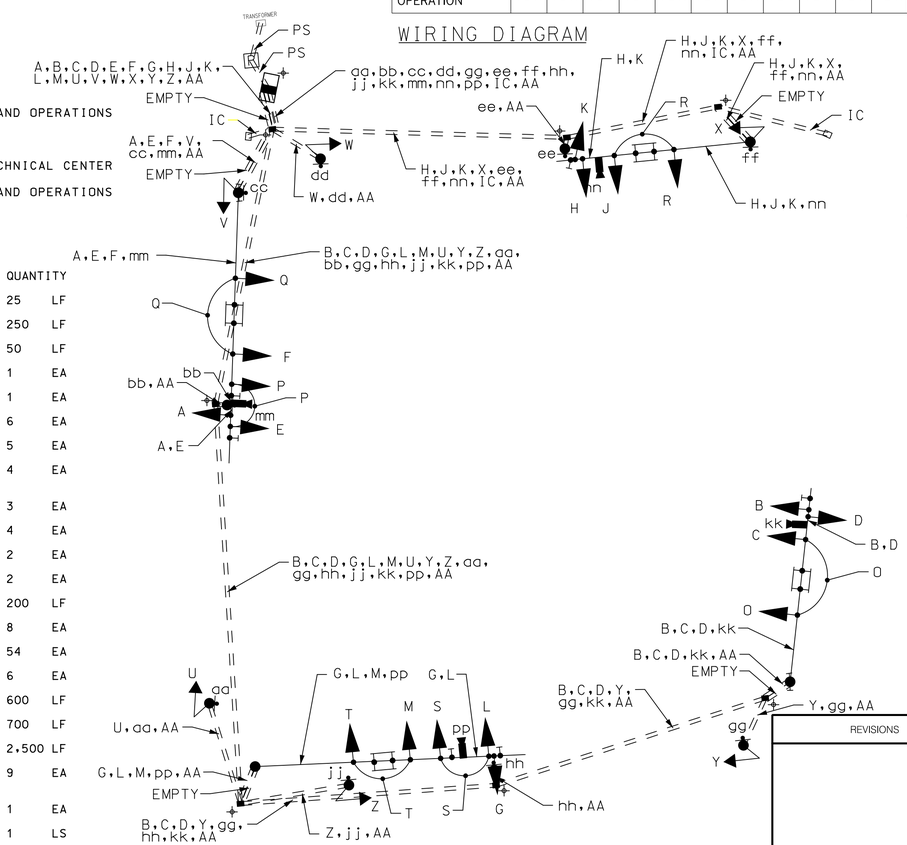
ITEM NO.	DESCRIPTION	QUANTITY	
805125	2 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	25	LF
805135	3 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	250	LF
805140	4 INCH SCHEDULE 80 RIGID PVC CONDUIT-TRENCHED	50	LF
807500	EMBEDDED METERED SERVICE PEDESTAL	1	EA
811000	OVERSIZED ELECTRICAL HANDHOLE	1	EA
811001	FURNISH AND INSTALL ELECTRICAL HANDHOLE	6	EA
811002	REMOVE ELECTRICAL HANDHOLE	5	EA
816003	HD IP-BASED VIDEO DETECTION CAMERA AND ANY LENGTH LEAD-IN CABLE	4	EA
818003	6 FOOT BREAKAWAY PEDESTAL POLE	3	EA
818004	10 FOOT BREAKAWAY PEDESTAL POLE	4	EA
818036	STEEL POLE WITH A SINGLE 50 FOOT MAST ARM	2	EA
818052	STEEL POLE WITH A SINGLE 70 FOOT MAST ARM	2	EA
822002	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)	200	LF
837001	GROUND ROD - 3/4 INCH DIAMETER X 10 FOOT LENGTH	8	EA
860284	12 INCH LED VEHICULAR TRAFFIC SIGNAL HEAD SECTION	54	EA
860285	16 INCH LED COUNTDOWN PEDESTRIAN SIGNAL HEAD	6	EA
861105	ELECTRICAL CABLE - 2 CONDUCTOR (NO. 14 AWG)	600	LF
861107	ELECTRICAL CABLE - 5 CONDUCTOR (NO. 14 AWG)	700	LF
861108	ELECTRICAL CABLE - 7 CONDUCTOR (NO. 14 AWG)	2,500	LF
865210	AUDIBLE/TACTILE PEDESTRIAN PUSHBUTTON STATION AND SIGNS	9	EA
865300	2-WIRE APS CENTRAL CONTROL UNIT	1	EA
873002	REMOVE AND DISPOSE OF EXISTING SIGNAL EQUIPMENT	1	LS

C. ALL MATERIALS TO BE REMOVED BY THE CONTRACTOR SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

PHASE CHART

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
PHASE 1 AND 5	←G–	←G–	R	R	←G–	←G–	←G–	R	R	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
1 AND 5 CHANGE TO 1 AND 6, 2 AND 5, OR 2 AND 6																								
PHASE 1 AND 6	←G–	←G–	G	G	←R–	←R–	←R–	R	R	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
1 CHANGE	←Y–	←Y–	G	G	←R–	←R–	←R–	R	R	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 AND 5	←R–	←R–	R	R	←G–	←G–	←G–	G	G	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
5 CHANGE	←R–	←R–	R	R	←Y–	←Y–	←Y–	G	G	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
PHASE 2 AND 6	←R–	←R–	G	G	←R–	←R–	←R–	G	G	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	WK	WK	WK	WK
PED CLEARANCE	←R–	←R–	G	G	←R–	←R–	←R–	G	G	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	FL/DW	FL/DW	FL/DW	FL/DW
2 AND 6 CHANGE	←R–	←R–	Y	Y	←R–	←R–	←R–	Y	Y	←R–	←R–	R	R	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
PHASE 3 AND 7	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←G–	←G–	R	R	←G–	←G–	←G–	R	R	DW	DW	DW	DW	DW	DW
3 AND 7 CHANGE TO 3 AND 8, 4 AND 7, OR 4 AND 8																								
PHASE 3 AND 8	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←G–	←G–	G	G	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
3 CHANGE	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←Y–	←Y–	G	G	←R–	←R–	←R–	R	R	DW	DW	DW	DW	DW	DW
PHASE 4 AND 7	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	R	R	←G–	←G–	←G–	G	G	DW	DW	DW	DW	DW	DW
7 CHANGE	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	R	R	←Y–	←Y–	←Y–	G	G	DW	DW	DW	DW	DW	DW
PHASE 4 AND 8	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	G	G	←R–	←R–	←R–	G	G	DW	DW	DW	DW	DW	DW
4 AND 8 CHANGE	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	Y	Y	←R–	←R–	←R–	Y	Y	DW	DW	DW	DW	DW	DW
PHASE 4 ALT	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	G	G	←R–	←R–	←R–	G	G	WK	WK	DW	DW	DW	DW
PED CLEARANCE	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	G	G	←R–	←R–	←R–	G	G	FL/DW	FL/DW	DW	DW	DW	DW
4 ALT CHANGE	←R–	←R–	R	R	←R–	←R–	←R–	R	R	←R–	←R–	Y	Y	←R–	←R–	←R–	Y	Y	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK

WIRING DIAGRAM



WIRING KEY

A,B,C,D,E,F,G,H,J,K,L,M	7 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
O,P,Q,R,S,T,U,V,W,X,Y,Z	5 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
aa,bb,cc,dd,ee,ff,gg,hh,jj	2 CONDUCTOR ELECTRICAL CABLE (NO. 14 AWG)
kk,mm,nn,pp	VIDEO DETECTION CABLE (3 CONDUCTOR NO. 18 AWG)
IC	12-PAIR COMMUNICATION CABLE, JELLYFILLED (UNDERGROUND)
AA	1 CONDUCTOR (NO. 6 AWG) STRANDED BARE COPPER GROUND WIRE
PS	PROPOSED POWER SERVICE - 1 CONDUCTOR 2/O AWG ELECTRICAL CABLE
+	GROUND ROD

MARYLAND DEPARTMENT OF TRANSPORTATION
STATE HIGHWAY ADMINISTRATION

OFFICE OF TRAFFIC & SAFETY
TRAFFIC ENGINEERING DESIGN DIVISION

LIFE SCIENCES CENTER LOOP TRAIL
MD 28 (KEY WEST AVENUE) AT
MEDICAL CENTER DRIVE /OMEGA DRIVE

REVISIONS

GENERAL INFORMATION SHEET

SCALE NTS ADVERTISED DATE . . CONTRACT NO. .

DESIGNED BY TCW
DRAWN BY TCW
CHECKED BY YLIU
MDE/PRD N/A

COUNTY MONTGOMERY
LOGMILE 15002819.16
TIMS NO. L846
TOD NO. N/A

TS NO. 4057G | DRAWING SG-02 OF 02 | SHEET NO. 104 OF 105

PLOTTED: 6/28/2024
FILE: c:\pwworking\gfpw01\twilson\d1285685\pSG-P002_LSCLT.dgn

GRADING TABLE

ROADWAY	STATIONS FROM	STATIONS TO	EXCAVATION CLASS 1 CUT FROM XSECTS	TOPSOIL CUT	TOPSOIL FILL	ROOTMAT CUT	ROOTMAT FILL	TOTAL	SUITABLE FOR EMBANK.	SHRINK/SWELL FACTOR (%)	AVAIL. FOR EMBANK.	CLASS 2 TOTAL FROM XSECS	CLASS 2 LOSS DUE TO HANDLING	CLASS 2 AVAIL. FOR EMBANK.	EROSION & SEDIMENT ORIGINAL EXCAVATION	EROSION & SEDIMENT CLEAN-OUT EXCAVATION	EMBANKMENT FILL FROM •XSECT	EMBANKMENT FILL TOT. REQ. BEFORE DENSIFICATION	EMBANKMENT CAPPING BORROW CAPPING	EMBANKMENT CAPPING BORROW TOT. REQ. AFTER DENSIFICATION	EMBANKMENT SELECT BORROW FROM• XSECT	EMBANKMENT SELECT BORROW TOT. REQ. AFTER DENSIFICATION
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒
MCD	101+50	158+00	1910	·	·	·	·	1910	·	·	·	·	·	·	·	·	418	418	·	·	·	·
	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
OMEGA	201+00	207+00	154	·	·	·	·	154	·	·	·	·	·	·	·	·	129	129	·	·	·	·
	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
SWM	·	·	·	·	·	·	·	1502	·	·	·	·	·	·	·	·	·	·	·	·	·	·
	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
E&S	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	240	·	·	·	·	·	·
	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·	·
	SHEET TOTAL		2064	·	·	·	·	3566	·	·	·	·	·	·	·	240	547	547	·	·	·	·
	TOTALS		2064	·	·	·	·	3566	·	·	·	·	·	·	·	240	547	547	·	·	·	·

SUMMARY OF EARTHWORK

EXCAVATION

Ⓐ	TOTAL CLASS I EXCAVATION (COL. 8)	3566	C.Y.
Ⓑ	TOTAL CLASS 2 EXCAVATION (COL. 12)	·	C.Y.
Ⓒ	TOTAL EXCAVATION AVAILABLE FOR EMBANKMENT (COL. 11 + COL. 14)	·	C.Y.
Ⓓ	TOTAL EROSION & SEDIMENT CONTROL EXCAVATION (COL. 15 + COL. 16)	240	C.Y.

EMBANKMENT

Ⓔ	TOTAL COMMON BORROW REQUIRED (COL. 18) (COLS. 17 + 5 + 7)	547	C.Y.
Ⓕ	TOTAL CAPPING BORROW REQUIRED (COL. 20)	·	C.Y.
Ⓖ	TOTAL SELECT BORROW REQUIRED (COL. 22)	·	C.Y.
Ⓗ	WASTE (10%)	55	C.Y.
Ⓘ	COMMON BORROW REQUIRED	602	C.Y.
Ⓙ	BORROW DENSIFIED (20%)	120	C.Y.
Ⓚ	TOTAL COMMON BORROW REQUIRED	722	C.Y.

PROPOSAL QUANTITIES

CLASS I EXCAVATION	3600	C.Y.
CLASS I-A EXCAVATION	50	C.Y.
CLASS 2 EXCAVATION	·	C.Y.
COMMON BORROW	730	C.Y.
CAPPING BORROW	·	C.Y.
SELECT BORROW	50	C.Y.

SHEET REVISION DATE: SEPTEMBER 5, 2017

PLOTTED: 6/28/2024
FILE: C:\pwworking\gfsw01\twilson\d128568\pGR-S001_LSCLT.dgn

Gannett Fleming / GPI

NO.	REVISION	DATE	BY

MONTGOMERY COUNTY
DEPARTMENT OF TRANSPORTATION
GAITHERSBURG, MARYLAND

RECOMMENDED FOR APPROVAL

Chief, Design Section — Date

APPROVED

Chief, Division of Capital Development — Date

Designed by: TCW Drawn by: TCW Checked by: YLIU

LIFE SCIENCES CENTER LOOP TRAIL
FROM GREAT SENECA HWY TO RESEARCH BLVD.
GRADING TABLE AND
SUMMARY OF EARTHWORK

SCALE : NTS DATE: JUNE 2024 GR-01

DPS SC/SWM PERMIT SHEET NO. N/A of 64

C.I.P. Project No. : 0501742 105 of 105