DEPARTMENT OF ENERGY & THE ENVIRONMENT

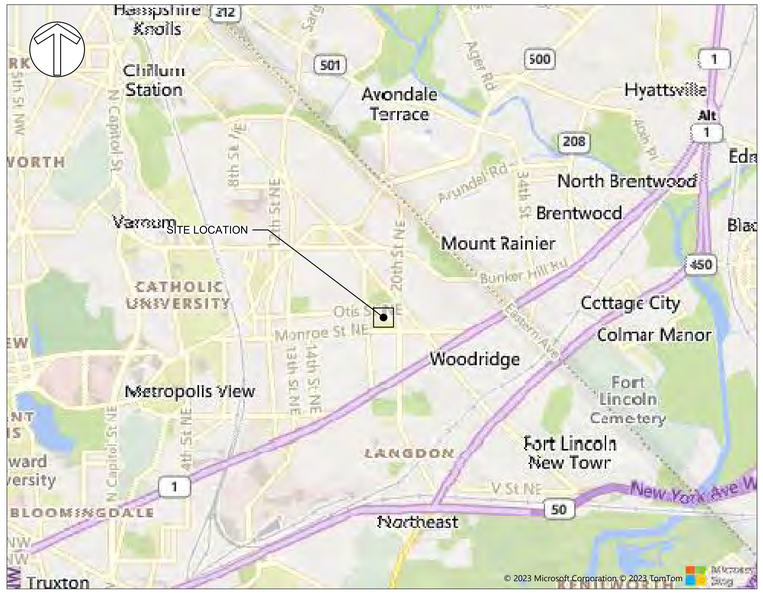
SEMI-FINAL DESIGN DRAWINGS FOR
DPR PARKLAND STORMWATER RETROFITS III

DWIGHT MOSLEY GI RETROFITS

JANUARY 2024

SWM PLAN # XXXX
1800 PERRY ST NE
WASHINGTON, DC 20018

VICINITY MAP



LIMIT OF DISTURBANCE = 0.68 ACRES
PROPERTY OWNER: DISTRICT OF COLUMBIA DEPARTMENT OF PARKS AND RECREATION

SCALE: 1" = 2,000'

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LEGEND

EXISTING

- LIMIT OF SURVEY
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- DITCH
- HEADER CURB (CG-2)
- EDGE OF PAVEMENT
- SOIL LINE
- OVERHEAD UTILITY LINE
- UNDERGROUND POWER LINE
- UNDERGROUND FIBER OPTIC LINE
- UNDERGROUND TELEPHONE LINE
- WATERLINE
- STORM DRAIN (SURVEY)
- STORM DRAIN (GIS)
- SANITARY SEWER (SURVEY)
- SANITARY SEWER (GIS)
- FENCE LINE
- EDGE OF LANDSCAPING
- ROAD/COURT STRIPING
- LANDSCAPE AREA
- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB
- CONTROL POINT
- LIGHT POLE
- SIGN
- SANITARY MANHOLE
- STORM MANHOLE
- ELECTRIC MANHOLE
- UTILITY MANHOLE
- STORM GRATE
- WATER FOUNTAIN
- BICYCLE RACK
- BASKETBALL GOAL
- PARK BENCH
- TRASH CAN
- BOLLARD
- ELEC. TRANS/BOX
- UTILITY BOX
- UTILITY POLE
- GUY POLE
- GUY WIRE
- CROSS CUT FOUND

PROPOSED

- 425 MAJOR CONTOUR
- 424 MINOR CONTOUR
- LOD LIMIT OF DISTURBANCE
- WOODEN WALL
- UNDERDRAIN
- BOULDER SEATING
- MICROHABITAT LOG
- SF SILT FENCE
- TPF TREE PROTECTION FENCE
- BOF BLAZE ORANGE FENCE
- RP ROOT PRUNING
- TREE REMOVAL
- ROOT PROTECTION MATTING
- CRITICAL ROOT ZONE
- STRUCTURAL ROOT ZONE

PROJECT NARRATIVE

THE PROJECT AREA IS IN THE BROOKLAND NEIGHBORHOOD OF NORTHEAST, WASHINGTON, AT 20TH AND OTIS ST NE. THE 9-ACRE SPORTS COMPLEX OFFERS VARIOUS RECREATIONAL AREAS WITH 1.9 ACRES OF IMPERVIOUS AREA. THE PROJECT SITE WAS IDENTIFIED THROUGH DOEE'S DPR PARKLAND STORMWATER RETROFITS III TO DESIGN AND CONSTRUCT LOW IMPACT DEVELOPMENT SOLUTIONS AT FOUR SEPARATE LOCATIONS.

THIS PROJECT INVOLVES THE ADDITION OF FOUR BIORETENTIONS TO CAPTURE BLACKTOP AND WALKWAY DRAINAGE TO REDUCE THE QUANTITY OF STORMWATER RUNOFF AND IMPROVE THE WATER QUALITY BEFORE RETURNING BACK TO THE CONVEYANCE SYSTEM.

STATEMENT BY PROFESSIONAL ENGINEER REGISTERED IN THE DISTRICT OF COLUMBIA

This is to certify that the engineering features of all stormwater best management practices (BMPs), stormwater infrastructure, and land covers (collectively the "Facility") have been designed/examined by me and found to be in conformity with modern engineering principles applicable to the treatment and disposal of stormwater pollutants. I further certify that the Facility has been designed in accordance with the specification required under Chapter 5 of Title 21 of the District of Columbia Municipal Regulations. It is also stated that the undersigned has furnished the applicant with a set of instructions for the maintenance and operation of the site's Facility.

BRYAN ARVAI, PROJECT MANAGER
Name and Title (please type)

2081 CLIPPER PARK RD, BALTIMORE, MD 21211
Address

Date 1/5/2024 Phone No: 410.554.0156

Affix Seal:

AS-BUILT CERTIFICATION BY PROFESSIONAL ENGINEER

Within 21 days after completion of construction of all stormwater best management practices (BMPs), stormwater infrastructure, and land covers (collectively the "Facility"), please send this page to the Watershed Protection Division of the District Department of the Environment.

1. ***Facility information:***

Source Name: _____

Source Location: Street: _____

City: _____

DCRA Permit No.: _____

Date Issued: _____

2. ***As Built Certification***

I hereby certify that all stormwater best management practices (BMPs), stormwater infrastructure, and land covers have been built substantially in accordance with the approved plans and specifications and that any deviations noted below will not prevent the system from functioning in compliance with the requirements Chapter 5 of Title 21 of the District of Columbia Municipal Regulations when properly maintained and operated. These determinations have been based upon on-site observation of construction, scheduled and conducted by me or by a project representative under my direct supervision. I have enclosed one set of as-built engineering drawings.

Signature of Engineer

Name (Please Type) D.C. Reg. No.

Affix Seal:

Company Name

Company Address

Date: _____ Phone No.: _____

Substantial deviations from the approved plans and specifications (attach additional sheets if required).

CLIENT

DEPARTMENT OF ENERGY & ENVIRONMENT

ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA, 1200 FIRST ST, NE 5TH FLOOR, WASHINGTON DC, 20002

WE ARE WASHINGTON DC
DC.gov
MAYOR MURIEL BOWSER

DATE:	ISSUES / REVISIONS
02/21/2023	30% CONCEPT DESIGNS
01/17/2024	60% SEMI-FINAL DESIGNS

60% SEMI-FINAL DESIGN

Biohabitats
The Stables Building 2081 Clipper Park Road
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

DWIGHT MOSLEY GI RETROFITS

TITLE:

COVER SHEET

PROJECT NO. : 23014.01
SCALE: NA
SEAL:
BY: SF
CHECK: BA
DWG. NO. :

C001

CONSTRUCTION NARRATIVE:

THIS PROJECT INVOLVES THE INSTALLATION OF THREE BIORETENTION BASINS TO PROVIDE STORMWATER TREATMENT FOR THE BASKETBALL AND TENNIS COURTS OF DWIGHT MOSELEY SPORTS COMPLEX. THE STORMWATER FEATURES WILL IMPROVE THE WATER QUALITY PRIOR TO IT'S RETURN TO THE STORM DRAIN CONVEYANCE SYSTEM AND PROVIDE A SITE FOR ENVIRONMENTAL EDUCATIONAL TO THE PUBLIC.

SITE NOTES:

OWNERSHIP	DISTRICT DEPARTMENT OF PARKS AND RECREATION
ADDRESS	2350 33RD STREET NE, WASHINGTON DC 20018
SSL NUMBER	4361S 0001 & 0002, PAR 01640059, PAR 01640053
WARD (ANC)	WARD 5 (ANC 5C)
DRAINAGE AREA (MAJOR)	ANACOSTIA RIVER
DRAINAGE AREA (MINOR)	HICKEY RUN
LOT SIZE	107,454 SQ FT
ZONE	R1-B
LAND USE	PARK
LAND DISTURBANCE	<input value>

DISTRICT OF COLUMBIA GENERAL CIVIL NOTES

1. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PERMITTED PLANS AT THE SITE AT ALL TIMES WHEN WORK IS BEING PERFORMED.
2. THE CONTRACTOR IS ENCOURAGED TO MAKE ON-SITE INSPECTIONS OF ALL LOCATIONS AND RELATED CONDITIONS PRIOR TO BIDDING THE CONTRACT.
3. A DISTINCTION BETWEEN NEW AND EXISTING ITEMS HAS BEEN MADE ON THE DRAWINGS BY LINE WEIGHT. BLACK LINES REPRESENT NEW WORK UNDER THIS CONTRACT; GRAY LINES REPRESENT EXISTING FEATURES.
4. CONTRACTOR'S ON-SITE STAGING, PARKING, AND MATERIAL STORAGE SHALL BE MAINTAINED WITHIN THE LIMITS OF DISTURBANCE DESIGNATED ON THE DRAWINGS. PROVIDING ADDITIONAL STORAGE OR PARKING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. THE CONTRACTOR SHALL COMPLY WITH THE GOVERNING AGENCY REGARDING NPDES CONSTRUCTION REQUIREMENTS AND SHALL PROVIDE APPROPRIATE MITIGATION MEASURES OR PROTECTION AND RESTORATION AT ALL LOCATIONS AS REQUIRED BY THEIR OPERATIONS, AND AS DIRECTED BY ENGINEER. SPECIAL CONSTRUCTION REQUIREMENTS, TEMPORARY PROTECTIVE FENCING OR BARRICADES, SHEETING, SHORING, EROSION PROTECTION, AND SURFACE RESTORATION AT CERTAIN LOCATIONS ARE INDICATED ON THE DRAWINGS AND/OR SPECIFIED TO BRING CONTRACTOR'S ATTENTION TO SENSITIVE AREAS.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL PROPERTY CORNER MARKERS. PROPERTY CORNER MARKERS DAMAGED BY CONSTRUCTION ACTIVITIES SHALL BE REESTABLISHED BY A PROFESSIONAL SURVEYOR LICENSED IN THE DISTRICT OF COLUMBIA.
7. CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING TREES, SHRUBS, AND PLANTS AS NOTED.
8. THE CONTRACTOR'S OPERATIONS SHALL CONFORM TO THE RULES AND REGULATIONS OF THE DISTRICT OF COLUMBIA CONSTRUCTION SAFETY ORDERS PERTAINING TO EXCAVATION AND TRENCHING.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SPILLAGE OF RAW SEWAGE OR OTHER SUBSTANCES THAT WOULD BE CONSIDERED DANGEROUS TO THE ENVIRONMENT DURING ITS CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL FURNISH ALL NECESSARY EQUIPMENT (PLUGGING, PUMPING, CONTAINMENT EQUIPMENT, ETC.) TO PREVENT SPILLAGE OR AS REQUIRED TO SUCCESSFULLY TRANSPORT SEWAGE TO COMPLETE HIS WORK. ALL SEWAGE TRANSPORT SHALL BE BY A DISPOSAL CONTRACTOR LICENSED IN ALL JURISDICTIONS FOR WHICH THE SEWAGE WILL BE TRANSPORTED.
10. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ROADWAYS, DRIVEWAYS, WALK PATHS, AND ACCESS ROADS AT ALL TIMES DURING CONSTRUCTION. THE CONTRACTOR, WITH THE ENGINEER'S APPROVAL, SHALL COORDINATE WITH AFFECTED USERS, IF ACCESS OR SERVICE HAS TO BE INTERRUPTED FOR SHORT PERIODS OF TIME.
11. THE CONTRACTOR SHALL TAKE ADEQUATE PRECAUTIONS TO PREVENT CONSTRUCTION MATERIALS OR DEBRIS FROM ENTERING SEWERS OR WATER COURSES.
12. THE CONTRACTOR MAY MAKE FIELD ADJUSTMENTS TO ACCOMODATE EXISTING CONDITIONSIF AUTHORIZED BY THE CLIENT, CLIENT'S REPRESENTATIVE, OR BIOHABITATS, INC.
13. THE CONTRACTOR SHALL RESTORE OR REPLACE, AT THEIR OWN COST, ANY ITEMS TO REMAIN THAT ARE DAMAGED DURING CONSTRUCTION.
14. WHERE NEW WORK MEETS EXISTING, NOTE FIELD LOCATION AND ELEVATIONS OF EXISTING FEATURES BEFORE BEGINNING CONSTRUCTION AND REPORT ANY DISCREPANCY TO THE ARCHITECT OR ENGINEER.
15. VERIFY LOCATION OF EXISTING UTILITIES BEFORE PROCEEDING WITH WORK. NOTIFY OWNER'S REPRESENTATIVE, DC WATER UTILITY INSPECTOR, DC WATER (202-787-4024) AND 'MISS UTILITY' (1-800-257-7777) 48 HOURS BEFORE PROCEEDING WITH ANY EXCAVATIONS. HAND DIG TEST PITS AT ALL UTILITY CROSSINGS AND DETERMINE EXACT CLEARANCE OF ALL PROPOSED INSTALLATIONS WELL IN ADVANCE OF CONSTRUCTION. NOTIFY ENGINEER OF ANY CONFLICTS WITH PLAN ELEVATIONS.
16. IF A 1' MINIMUM VERTICAL CLEARANCE CAN NOT BE MAINTAINED AT UTILITY CROSSING, THE CONTRACTOR IS TO NOTIFY THE ENGINEER BEFORE PROCEEDING WITH WORK.
17. WORK AND MATERIALS IN THE PUBLIC RIGHT-OF-WAY SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE APPLICABLE DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS. ON-SITE WORK AND MATERIALS SHALL CONFORM TO THE LATEST REQUIREMENTS OF THE DISTRICT OF COLUMBIA PLUMBING CODE.
18. DIMENSIONS ARE TO FACE OF WALL AND CURB, EDGE OF WALK AND PAVEMENT, CENTERLINE OF COLUMN, PIPE AND UTILITY STRUCTURE. UNLESS OTHERWISE NOTED.
19. FRAMES AND COVERS OF EXISTING STRUCTURES TO BE ADJUSTED TO MATCH NEW FINISHED GRADES.
20. OMISSIONS AND/OR ADDITIONS OF UTILITIES FOUND DURING CONSTRUCTION SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OR ENGINEER IMMEDIATELY OF ANY INFORMATION CONCERNING FOUND UTILITY, NOT SHOWN ON PLANS.
21. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING EXISTING SIDEWALK, CURB AND GUTTER TO REMAIN OR TO REPLACE SIDEWALK, CURB AND GUTTER DAMAGED DURING CONSTRUCTION.
22. EXISTING SURFACE CONDITIONS DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED TO MATCH EXISTING CONDITIONS AT CONTRACTOR'S EXPENSE. CONTRACTOR TO COORDINATE EXTENT WITH BIOHABITATS, INC.
23. TRANSITION CURB, GUTTER, PAVING AND SIDEWALK TO MEET EXISTING IN LINE AND ON GRADE OR AS DIRECTED BY ENGINEER.
24. ALL CURB SPOT SHOTS ARE TOP OF CURB, UNLESS OTHERWISE NOTED.
25. NOTIFY WASHINGTON GAS AT 202-750-4205, 48 HOURS PRIOR TO ANY EXCAVATION IN THE VICINITY OF ANY EXCAVATION IN THE VICINITY OF ANY TRANSMISSION MAIN. FOR FURTHER INFORMATION OR PROBLEMS, CONTACT MR. CHUCK WHITLEY AT WASHINGTON GAS AT 703-750-4205.
26. PROVIDE A MINIMUM OF 5 FEET HORIZONTAL AND 1 FOOT VERTICAL CLEARANCE BETWEEN 12" DIAMETER AND SMALLER DISTRIBUTION EXISTING GAS FACILITIES AND PROPOSED FACILITIES.
27. PROVIDE A MINIMUM OF 5 FEET HORIZONTAL AND 2 FEET VERTICAL CLEARANCE BETWEEN 16" DIAMETER OR GREATER TRANSMISSION GAS FACILITIES AND PROPOSED FACILITIES.

PROJECT CONTACTS:

PROPERTY OWNER (DCPS)	PROJECT MANAGER (DOEE, WATERSHED PROTECTION DIV.)
NAME	ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
ADDRESS	1200 FIRST STREET, NE 5TH FLOOR
ADDRESS	WASHINGTON DC 20002
PHONE	(202) 741-5361
EMAIL	ELAINE.VIDAL@DC.GOV
CIVIL ENGINEER (BIOHABITATS, INC)	LANDSCAPE ARCHITECT (BIOHABITATS, INC)
BRYAN ARVAI, P.E.	JIM COOPER
2081 CLIPPER PARK ROAD	2081 CLIPPER PARK ROAD
BALTIMORE, MD 21075	BALTIMORE, MD 21075
(410) 554-0156	(667) 401 8505, EXT 1031
BARVAI@BIOHABITATS.COM	JCOOPER@BIOHABITATS.COM
SURVEYOR	GEOTECHNICAL ENGINEER
TIMMONS GROUP	DMY ENGINEERING CONSULTANTS, INC.
20110 ASHBROOK PLACE	7917 CESSNA AVENUE
SUITE 100	UNIT L
ASHBURN, VA 20147	GAITHERSBURG, MD 20879
(703)554-6708	(301)768-4168

PROJECT PERMITS:

1. UNLESS PROVIDED AS PART OF THE CONSTRUCTION DOCUMENTS, THE CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM THE LOCAL OR STATE AGENCIES AT THEIR OWN EXPENSE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR KNOWING AND ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
2. THE CONTRACTOR SHALL MAINTAIN A COPY OF ALL APPROVED PERMITS AT THE SITE AT ALL TIMES.
3. PROJECT PERMITS

SURVEY NOTES:

1. TOPOGRAPHIC DATA DEPICTED BASED ON A CURRENT FIELD SURVEY BY JEFFREY A. SMERALDO L.S. OF TIMMONS GROUP, COMPLETED: OCTOBER 2023.
2. THIS PROPERTY IS DESIGNATED AS PARCEL 157-26 AND IS NOW IN THE NAME OF THE UNITED STATES OF AMERICA AS LISTED AMONG THE LAND RECORDS OF THE DISTRICT OF COLUMBIA.
3. THIS DRAWING IS NOT INTENDED TO ESTABLISH PROPERTY LINES AND THE BOUNDARY INFORMATION SHOWN HEREON CANNOT BE RELIED UPON FOR DESIGN OR CONSTRUCTION. THE BOUNDARY INFORMATION DEPICTED ON THIS DRAWING WAS OBTAINED FROM CITY RECORDS AND VERIFIED IN THE FIELD AS MUCH AS POSSIBLE. MEASURED DIMENSIONS MAY NOT AGREE WITH RECORD DIMENSIONS. ALL PROPERTY LINES IN THE DISTRICT OF COLUMBIA ARE SUBJECT TO CHANGE BY THE OFFICE OF THE SURVEYOR, DISTRICT OF COLUMBIA. THE PROPERTY DATA SHOWN HERE IS TAKEN FROM BOTH GIS AND RECORDS OBTAINED FROM THE DC SURVEYOR'S OFFICE.
4. THIS SURVEY IS REFERENCED TO MARYLAND STATE PLANE COORDINATE SYSTEM AND THE ELEVATIONS ARE REFERENCED TO NAVD88 VERTICAL DATUM AS DETERMINED BY GPS OBSERVATIONS.
5. BEARINGS SHOWN HERE ON ARE REFERENCED TO MARYLAND STATE GRID.
6. CONTOURS SHOWN AT 1.0' INTERVAL.
7. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF UTILITIES WELL IN ADVANCE OF CONDUCTING CONSTRUCTION OPERATIONS WHICH COULD DAMAGE THESE FACILITIES. IN AREAS WHERE PROPOSED CONSTRUCTION MAY CONFLICT WITH EXISTING UTILITIES, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES. IF AN UNDERGROUND UTILITY IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND THE OWNER OF SAID UTILITY. ANY DAMAGE SUSTAINED TO UTILITIES ABOVE OR BELOW GROUND SHALL BE REPAIRED BY OR UNDER THE DIRECTION OF THE UTILITY OWNER AT THE CONTRACTOR'S EXPENSE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BACKFILL AN EXCAVATION AFFECTING SAID UTILITY WITHOUT FIRST RECEIVING PERMISSION FROM THE UTILITY OWNER.
8. THE CONTRACTOR SHALL VERIFY, BY FIELD MEASUREMENT, THE OUTSIDE DIMENSIONS AND MATERIAL OF ALL PIPES, FITTINGS, AND STRUCTURES TO ASSURE PROPER CLEARANCE AND SPACING PRIOR TO FABRICATION OR INSTALLATION.
9. NO ATTEMPT HAS BEEN MADE TO SHOW THE LOCATION OF ALL ABANDONED UNDERGROUND UTILITIES.

MISC UTILITY NOTES:

THE CONTRACTOR SHALL NOTIFY "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO COMMENCEMENT OF EXCAVATION AND/OR DEMOLITION. CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVAL, DEMOLITION, RECONSTRUCTION, AND RECONNECTION OF EXISTING FACILITIES AS REQUIRED TO COMPLETE THE WORK. IF REQUIRED AFTER FIELD VERIFICATION, CONTRACTOR SHALL COORDINATE WITH THE ENGINEER TO DETERMINE ANY NECESSARY MODIFICATIONS TO NEW WORK.

CONTACT "MISS UTLITY" AT 1-800-257-7777

UTILITY NOTES:

1. UTILITY INFORMATION SHOWN HEREON IS BASED ON ABOVE-GROUND LOCATIONS AND PAINT MARKINGS.
2. UNDERGROUND UTILITY INFORMATION SHOULD BE VERIFIED IN THE FIELD.
3. THE UTILITIES SHOWN ON THE PLANS ARE BASED ON FIELD SURVEY DATA AND/OR RECORD DRAWINGS OF THEIR LOCATIONS. LOCATION OF PIPES NOTED WITH "(GIS)" ARE BEST ESTIMATES BASED ON AVAILABLE GIS DATA AND RECORD DRAWINGS. THE INFORMATION SHOWN IS NOT NECESSARILY COMPLETE AND THE LOCATIONS OF THE UTILITIES SHOWN ARE APPROXIMATE. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE EXISTENCE OF THEM WELL IN ADVANCE OF CONDUCTING CONSTRUCTION OPERATIONS WHICH COULD DAMAGE THESE FACILITIES.
4. IN AREAS WHERE PROPOSED CONSTRUCTION MAY CONFLICT WITH EXISTING UTILITIES, THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO AVOID DAMAGE TO EXISTING UTILITIES. IF AN UNDERGROUND UTILITY IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND THE OWNER OF SAID UTILITY. ANY DAMAGE SUSTAINED TO UTILITIES ABOVE OR BELOW GROUND SHALL BE REPAIRED BY OR UNDER THE DIRECTION OF THE UTILITY OWNER AT THE CONTRACTOR'S EXPENSE. UNDER NO CIRCUMSTANCES SHALL THE CONTRACTOR BACKFILL AN EXCAVATION AFFECTING SAID UTILITY WITHOUT FIRST RECEIVING PERMISSION FROM THE UTILITY OWNER.
5. THE CONTRACTOR SHALL VERIFY, BY FIELD MEASUREMENT, THE OUTSIDE DIMENSIONS AND MATERIAL OF ALL PIPES, FITTINGS, AND STRUCTURES TO ASSURE PROPER CLEARANCE AND SPACING PRIOR TO FABRICATION OR INSTALLATION.
6. NO ATTEMPT HAS BEEN MADE TO SHOW THE LOCATION OF ALL ABANDONED UNDERGROUND UTILITIES.
7. ALL EXCAVATION FOR UNDERGROUND PIPE INSTALLATION MUST COMPLY WITH OSHA STANDARDS FOR THE CONSTRUCTION INDUSTRY (29 CPR PART 1926)
8. THE CONTRACTOR SHALL COORDINATE WITH THE FOLLOWING UTILITY COMPANIES/CONTACTS AND OWNER ON THE REQUIREMENTS FOR AND LIMITS OF UTILITIES NO DETAILED ON THE CIVIL PLANS.

SEWER
STORMDRAIM
WATER
GAS
ELECTRIC
TELECOM

TEST PIT NOTE:

TEST PITS ARE REQUIRED AT ALL PROPOSED UTILITY CROSSINGS WITH ALL EXISTING UTILITY LINES TO DETERMINE THE EXACT HORIZONTAL LOCATIONS, ELEVATION AND ADD SIZE OF THE EXISTING UTILITIES. A MINIMUM OF ONE FOOT VERTICAL CLEARANCE SHALL BE PROVIDED BETWEEN EXISTING AND PROPOSED UTILITIES. TEST PITS SHOULD BE COMPLETED PRIOR TO ORDERING ANY STRUCTURES OR PIPE MATERIALS. UTILITIES FOUND DURING DEMOLITION OR CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF ANY CONTRACTOR ENGAGED IN EXCAVATION AT THIS SITE. NOTIFY ENGINEER OF ANY CONFLICT WITH PROPOSED PLANS.

GRADING, PAVING, AND DRAINAGE NOTES:

1. FOR ALL SITE GRADING, SMOOTH TRANSITIONS SHALL BE MADE BETWEEN CHANGES IN SLOPE. PARABOLIC ROUNDING SHALL APPLY TO ALL CUT AND FILL SECTIONS.
2. UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, GUTTERS, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.
3. ALL UNSUITABLE MATERIAL SHALL BE REMOVED FROM THE CONSTRUCTION LIMITS OF FOOTINGS, PAVED AND/OR HARDSCAPED AREAS.
4. EXISTING PAVEMENT, WALKS AND OTHER SURFACES DISTURBED BY THE CONTRACTOR (WHICH ARE NOT REMOVED) SHALL BE REPAIRED TO PRE-PROJECT CONDITIONS.
5. SPOT ELEVATIONS SHOWN AT TIE IN POINTS WITH THE EXISTING SURFACE ARE APPROXIMATE AND SHALL BE VERIFIED BY THE CONTRACTOR. PROPOSED ELEVATIONS MAY BE MODIFIED WITH APPROVAL FROM BIOHABITATS, INC TO MATCH EXISTING GRADE.
6. MINIMUM SLOPES: 0.5% FOR PAVERD SURFACES, 1.0% FOR GRASSED AND LANDSCAPPED AREAS. UNLESS OTHERWISE NOTED ON THE PLANS OR APPROVED BY BIOHABITATS, INC.
7. UNLESS OTHERWISE NOTED ON THE PLANS, ALL STORM DRAIN SHALL BE SCH. 40 PVC PIPE OR DUAL WALL HDPE PIPE WITH SMOOTH INTERIOR AND CORRUGATED EXTERIOR WALLS.
8. THE SITE MUST BE GRADED AND PAVED SO THAT NO NEW LOW POINTS WITHOUT PROPER DRAINAGE ARE CREATED. NO PONDING SHALL OCCUR ONSITE UNLESS SPECIFICALLY NOTED ON THE STORMWATER MANAGEMENT PLANS WITHIN BMP FACILITIES OR ON THE SEDIMENT CONTROL PLAN.

DESIGN AND CONSTRUCTION STANDARDS:

DC DEPARTMENT OF ENERGY AND ENVIRONMENT - STORMWATER MANAGEMENT GUIDELINES
DC DEPARTMENT OF ENERGY AND ENVIRONMENT - EROSION AND SEDIMENT CONTROL MEASURES

DEMOLITION NOTES:

1. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANIES FOR SHUTOFF, CAPPING AND CONTINUATION OF UTILITY SERVICES AS REQUIRED.
2. CONTRACTOR SHALL REMOVE AND TRANSPORT ALL DEBRIS, RUBBISH AND OTHER MATERIALS RESULTING FROM ALL DEMOLITION OPERATIONS TO A LEGAL DISPOSAL OFF SITE.
3. REMOVAL OF ASPHALT AND CONCRETE PAVEMENT SHALL INCLUDE THE REMOVAL OF ALL SURFACE, BASE AND SUB-BASE MATERIALS.
4. ALL UNDERGROUND UTILITY LOCATIONS, INCLUDING WATER, STORM DRAINAGE, SANITARY SEWER, ELECTRICAL, TELEPHONE AND GAS WERE TAKEN FROM AVAILABLE RECORDS AND FIELD VERIFIED WHERE POSSIBLE. THE LOCATION OF ALL UTILITIES SHOWN ARE APPROXIMATE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY AND DETERMINE THE EXACT LOCATION AND DEPTH OF ALL UTILITIES PRIOR TO COMMENCING WORK. REPORT ANY DISCREPANCY TO THE ENGINEER. MARKING LOCATIONS OF EXISTING UTILITIES, CONTACT "MISS UTILITY' AT 1-800-257-7777, 48-HOURS PRIOR TO ANY EXCAVATION.
5. ALL EROSION & SEDIMENT CONTROL METHODS SHALL BE INSTALLED BEFORE THE START OF ANY EXCAVATION AND/OR DEMOLITION AS PER DISTRICT OF COLUMBIA EROSION AND CONTROL HANDBOOK. IF ANY ONSITE INSPECTION REVEALS FURTHER EROSION CONTROL MEASURES ARE NECESSARY, THE SAME SHALL BE PROVIDED. REFER TO EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
6. SEE EROSION & SEDIMENT CONTROL PLAN FOR ALL EXISTING TREES TO REMAIN AND BE PROTECTED.
7. NOTE PROXIMITY OF ADJACENT STRUCTURES AND UTILITY LINES AND MAINTAIN CONTINUED SERVICE DURING CONSTRUCTION. COORDINATE WITH RESPECTIVE UTILITY COMPANIES AND ENGINEER SHOULD RELOCATION OF SERVICE BE REQUIRED.
8. EXISTING UTILITIES (STRUCTURES AND LINES) NOT REQUIRED FOR FUTURE SERVICE TO BE REMOVED TO FACILITATE CONSTRUCTION. UTILITIES TO BE CAPPED AS PER UTILITY PURVEYOR'S STANDARDS AND SPECIFICATIONS. COORDINATE REQUIREMENTS WITH UTILITY PURVEYOR'S.
9. PAVEMENT TO BE REMOVED PER DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS.
10. CONTRACTOR TO BE RESPONSIBLE FOR LAYOUT, EXTENT AND DESIGN OF SHEETING, SHORING AND SUPPORT OF EXISTING UTILITIES AND ADJACENT STRUCTURES. SHORING, BRACING AND UNDERPINNING SHALL BE DESIGNED BY A STRUCTURAL ENGINEER, LICENSED IN THE DISTRICT OF COLUMBIA, HIRED BY THE CONTRACTOR AS NECESSARY TO ENSURE SUPPORT OF SURROUNDING STRUCTURES AND UTILITIES.
11. NOTIFY DC WATER UTILITY INSPECTOR, CHIEF UTILITY INSPECTION (202)-787-4024 OF DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY 48 HOURS PRIOR TO START OF CONSTRUCTION.
12. UNLESS OTHERWISE SHOWN ON THESE DRAWINGS, EXISTING PAVEMENT <LOCATION> TO REMAIN. PROVIDE PRE-CONSTRUCTION VIDEO OF EXISTING PAVEMENT. EXISTING PAVEMENT, DISTURBED OR DAMAGED DURING CONSTRUCTION, SHALL BE REPLACED PER DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION STANDARDS AND SPECIFICATIONS AT NO ADDITIONAL COST.
13. PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES VERIFY INVERT ELEVATION OF EXISTING UTILITIES. NOTIFY ENGINEER OF ANY DISCREPANCIES WITH INFORMATION SHOWN PRIOR TO ORDERING ANY STRUCTURES.
14. CONTACT DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION - PUBLIC SPACE MAINTENANCE ADMINISTRATION 48 HOURS PRIOR TO START OF CONSTRUCTION AT 202-645-6030 OR 202-645-6031.
15. ALL PROPOSED UTILITY WORK TO BE PERFORMED UNDER THE INSPECTION OF THE DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY.
16. USE MANHOLE ENTRY SEALS WHERE REQUIRED.
17. WHERE PORTIONS OF EXISTING BITUMINOUS OR CONCRETE PAVING ARE TO BE REMOVED, THE EXISTING PAVEMENT SHALL BE SAW-CUT.

LANDSCAPING/PLANTING NOTES:

1. ALL PLANTS PROVIDED BY CONTRACTOR SHALL MEET OR SURPASS THE SPECIFICATIONS GIVEN IN THE PLANT SCHEDULE AND IN THE PROJECT SPECIFICATIONS. PLANTS SHALL BE FULL AND HEAVY, AND IN HEALTHY CONDITIONS AT THE TIME OF PLANTING. LANDSCAPE ARCHITECT SHALL REJECT ANY PLANT NOT MEETING THESE GUIDELINES AND REQUIRE REPLACEMENT.
2. PLANTING SUBSTITUTIONS ARE TO BE APPROVED BY THE LANDSCAPE ARCHITECT PRIOR TO PLANTING. ALLOW ADEQUATE TIME TO OBTAIN APPROVAL AND ACQUIRE REPLACEMENT MATERIAL BEFORE PLANTING.
3. THE CONTRACTOR SHALL VERIFY ALL PLANT QUANTITIES SHOWN ON PLANS AND CLARIFY ANY DISCREPANCIES WITH LANDSCAPE ARCHITECT PRIOR TO PURCHASING PLANTS.
4. ALL PLANT MATERIAL THAT IS UNABLE TO BE IMMEDIATELY PLANTED SHALL BE STORED IN A PROTECTED AREA OUT OF DIRECT SUN AND WIND. PLANTS SHALL BE EVENLY AND CONSISTENTLY WATERED, AS NEEDED, TO PREVENT DRYING OF ROOTS. ROOT BALLS OF B&B STOCK SHALL BE COVERED WITH AT LEAST 4 INCHES OF HARDWOOD MULCH TO MAINTAIN MOISTURE IN ROOTS.
5. PLANT SPECIES ARE SELECTED FOR HARDINESS IN LOCAL CLIMATE. PERMANENT IRRIGATION IS NOT PART OF THIS CONTRACT. PLANTS ARE TO BE WATERED DURING ESTABLISHMENT PERIOD PER SPECIFICATIONS.
6. PLANTING SHALL BE PERFORMED ONLY DURING THE DATES SPECIFIED IN THE PROJECT PLANS AND/OR SPECIFICATIONS WITHOUT PRIOR APPROVAL BY THE LANDSCAPE ARCHITECT.
7. SEE PLANS AND/OR SOIL SPECIFICATIONS FOR PLANTING SOIL REQUIREMENTS.
8. OBTAIN TOPSOIL FROM NATURALLY WELL-DRAINED CONSTRUCTION OR MINING SITES WHERE TOPSOIL DEPTH IS AT LEAST 4 INCHES; DO NOT OBTAIN FROM AGRICULTURAL LAND, BOGS, OR MARSHES.
9. DO NOT USE EXISTING SOIL ON-SITE OR AMENDED AS TOPSOIL. SEE SOIL SPECS FOR FULL SOIL REQUIREMENT.
10. FINISH OFF 2' CLEAR ZONE AROUND TREES WITH A 3" LAYER OF MULCH, BUT DO NOT PLACE UP AGAINST OR MOUND AROUND ROOT FLARE.
11. MIXED GROUNDCOVER TO BE PLANTED IN GROUPS OF 3-5 AND LOCATED AS REQUIRED TO PROVIDE A GENERAL MIXING OF SPECIES. DO NOT PLANT IN ROWS OR REPETITIVE PATTERNS UNLESS OTHERWISE NOTED. LOCATE SPECIES TO PROVIDE A TIERED EFFECT WITH LARGER PLANTS AT THE BOTTOM OF SLOPED LANDSCAPE AREA AND LOWER PLANTINGS AT THE UPPER SLOPE OF THE LANDSCAPED AREAS.

CLIENT

DEPARTMENT OF ENERGY & ENVIRONMENT

ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA, 1200 FIRST ST, NE 5TH FLOOR, WASHINGTON DC, 20002

WE ARE WASHINGTON DC
DC.gov
MAYOR MURIEL BOWSER

DATE:	ISSUES / REVISIONS
02/21/2023	30% CONCEPT DESIGNS
01/17/2024	60% SEMI-FINAL DESIGNS

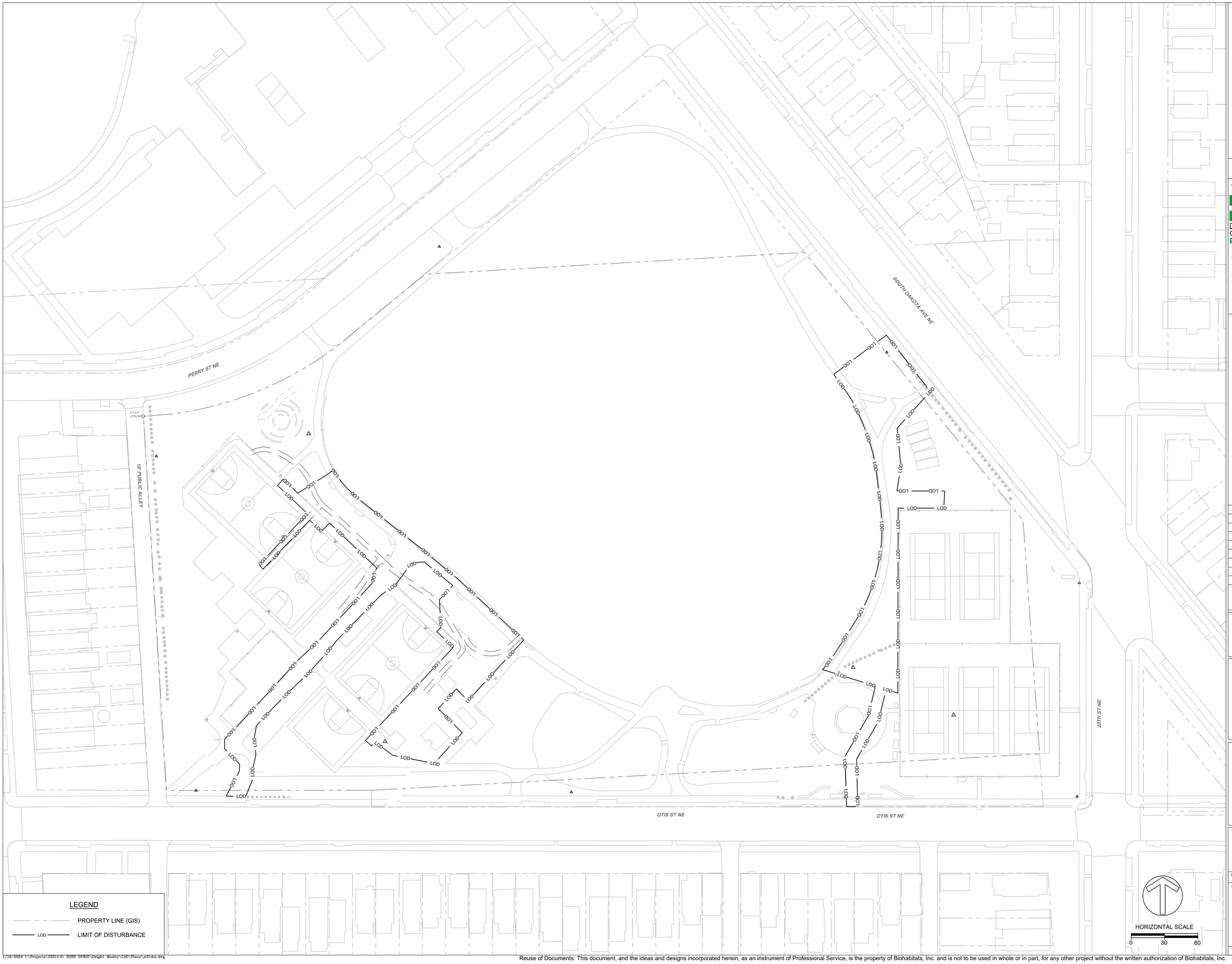
60% SEMI-FINAL DESIGN

Biohabitats
The Stables Building 2081 Clipper Park Road
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

DWIGHT MOSLEY GI RETROFITS

TITLE:
GENERAL NOTES

PROJECT NO. :	23014.01	SCALE: NA	
SEAL:		BY: SF	CHECK: BA
		DWG. NO. : C010	



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DWIGHT MOSLEY GI RETROFITS

TITLE:

SITE PLAN

PROJECT NO. :	23014.01	SCALE:	1"=30'
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C100

1/19/2024 I:\Projects\23014.01 DOEE DPRIII\Dwight Mosley\CAD\Plans\sl01dm.dwg

LEGEND

- LIMIT OF SURVEY
- MAJOR CONTOUR
- MINOR CONTOUR
- PROPERTY LINE
- DITCH
- HEADER CURB (CG-2)
- EDGE OF PAVEMENT
- SOIL LINE
- OHU — OVERHEAD UTILITY LINE
- UGP — UNDERGROUND POWER LINE
- UFO — UNDERGROUND FIBER OPTIC LINE
- UGT — UNDERGROUND TELEPHONE LINE
- W — WATERLINE
- STORM DRAIN (SURVEY)
- SD — STORM DRAIN (GIS)
- SAN — SANITARY SEWER (SURVEY)
- SS — SANITARY SEWER (GIS)
- FENCE LINE
- EDGE OF LANDSCAPING
- ROAD/COURT STRIPING
- LANDSCAPE AREA

- DECIDUOUS TREE
- CONIFEROUS TREE
- SHRUB
- CONTROL POINT
- LIGHT POLE
- SIGN
- SANITARY MANHOLE
- STORM MANHOLE
- ELECTRIC MANHOLE
- UTILITY MANHOLE
- STORM GRATE
- WATER FOUNTAIN
- BICYCLE RACK
- BASKETBALL GOAL
- PARK BENCH
- TRASH CAN
- BOLLARD
- ELEC. TRANS/BOX
- UTILITY BOX
- UTILITY POLE
- GUY POLE
- GUY WIRE
- CROSS CUT FOUND

STORM SEWER TABLE

1-1
STM INLET TOP=78.09'
18" RCP INV.IN=75.02'
18" RCP INV.OUT=72.52'

1-2
STM MH TOP=78.03'
(UNABLE TO OPEN LID-CRAKED)

2
STM INLET TOP=73.78'
12" RCP INV.OUT=70.42'

3
STM DOUBLE INLET TOP=74.09'
12" RCP INV.OUT=69.46'

4
STM INLET TOP=75.83'
12" RCP INV.OUT=71.68'

5-1
STM DOUBLE INLET TOP=76.51'
12" RCP INV.OUT=73.47'

6
STM GRATE INLET TOP=79.33'
(NO VISIBLE PIPES)

7
STM GRATE INLET TOP=79.26'
(NO VISIBLE PIPES)

8
STM GRATE INLET TOP=79.34'
(NO VISIBLE PIPES)

9
STM GRATE INLET TOP=79.72'
(NO VISIBLE PIPES)

10
STM GRATE INLET TOP=79.66'
(NO VISIBLE PIPES)

11
STM GRATE INLET TOP=80.54'
(FULL OF DEBRIS)

12
STM GRATE INLET TOP=80.50'
6" TERRA COTTA INV.OUT=77.65'

13
STM GRATE INLET TOP=80.47'
6" TERRA COTTA INV.OUT=77.52'

14-1
STM GRATE INLET TOP=81.58'
15" TERRA COTTA INV.OUT=78.55'

14-2
STM GRATE INLET TOP=81.64'
15" TERRA COTTA INV.OUT=78.59'

14-3
STM MANHOLE TOP=81.72'
15" TERRA COTTA INV.IN=78.67'
18" TERRA COTTA INV.OUT=73.67'

15
STM INLET TOP=83.22'
18" TERRA COTTA INV.OUT=78.54'

Control Point Table

POINT #	NORTHING	EASTING	ELEV	DESC
1	461973.26	1318611.98	81.07	ROD AND CAP
2	461974.57	1318274.17	84.11	ROD AND CAP
3	462275.54	1318238.54	82.03	ROD AND CAP
4	462464.17	1318493.19	78.24	ROD AND CAP
5	462368.98	1318895.87	74.56	ROD AND CAP
6	462161.36	1319069.09	76.53	ROD AND CAP
7	461969.21	1319067.21	78.08	MAG NAIL

DWIGHT A. MOSELEY
1800 PERRY STREET
WASHINGTON, DC 20018
SQUARE: PAR
SUFFIX: 157
LOT: 0026

PARCEL 0157-0026

SQ. 4201 LOT 44

SOUTH DAKOTA AVE NE

OTIS ST NE

BASEBALL FIELD

TENNIS COURTS

BASKETBALL COURT

COMMUNITY GARDENS

MULCH PLAYGROUND

CONCRETE SIDEWALK

WOOD BOLLARDS

CONEX CONTAINERS

WOODEN DECK

WOOD BENCH

SCOREBOARD

CONCRETE BLEACHER

SEAT WALLS

4' CHAINLINK FENCE

5' CHAINLINK FENCE

10' CHAINLINK FENCE

ASPHALT

GRASS

GRAVEL

PAVERS

MULCH

CONC.

DM-SB-1

DM-SB-2

DM-SB-3

DM-SB-4

U8 SgB

MnB SgB

U8 SgB

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DWIGHT MOSLEY GI RETROFITS

TITLE:

EXISTING CONDITIONS PLAN

PROJECT NO. :	23014.01	SCALE:	1"=20'
SEAL:		BY:	SF
		CHECK:	BA
		DWG. NO. :	C110

HORIZONTAL SCALE
0 20 40

1/19/2024 I:\Projects\23014.01 DOEE DPRIII\Dwight Mosley\CAD\Plans\ec01dn.dwg

Biohabitats

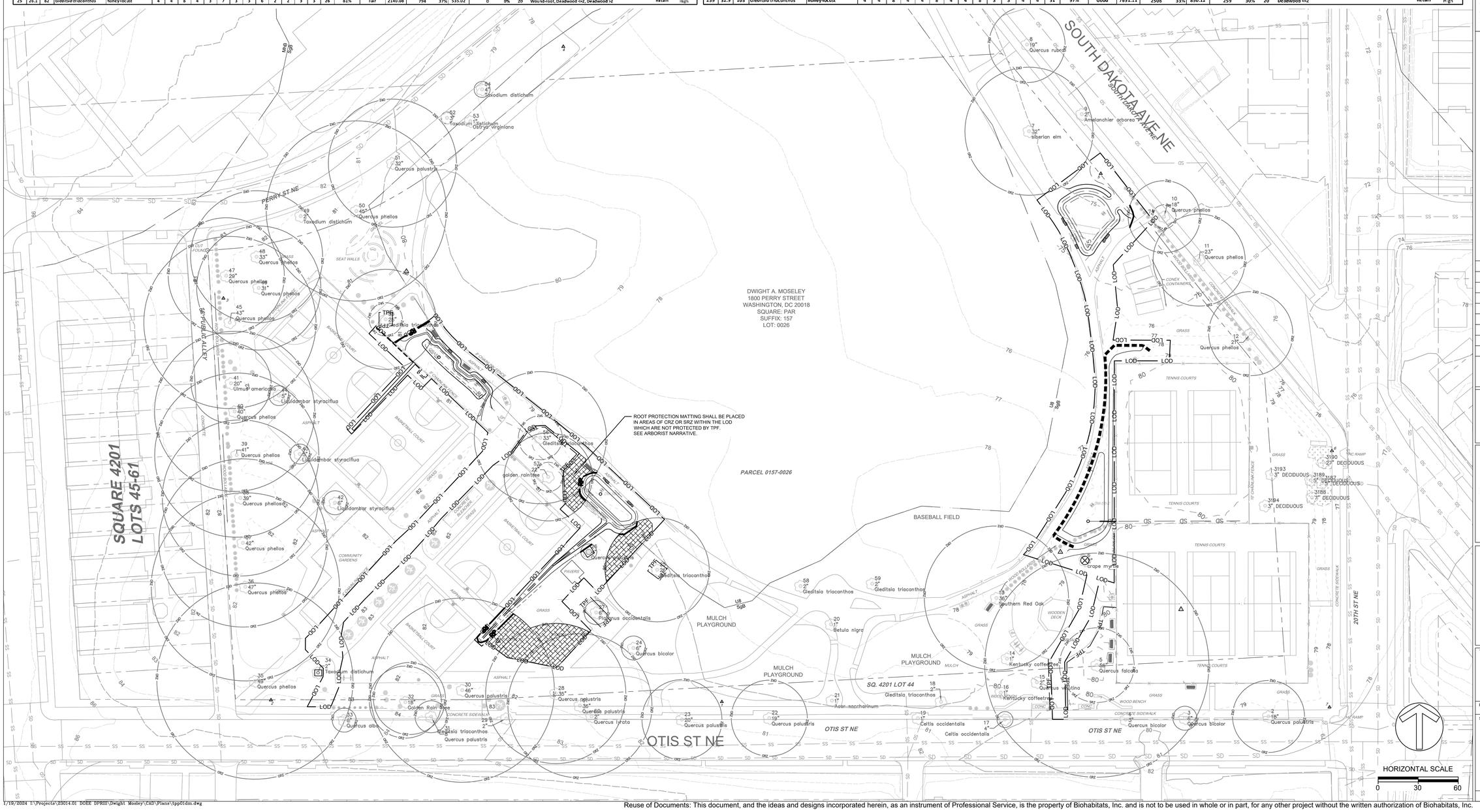
Project No Date
DPR III: Dwight Mosley LID Retr 23014.01

Subject Completed By
Tree Assessment BS

Scoring System

No Apparent Problems	4
Minor Problems	3
Major Problems	2
Extreme Problems	1

TREE					FACTOR 1 ROOTS			FACTOR 2 - TRUNK			FACTOR 3- SCAFFOLD BRANCHES			FACTOR 4- SMALL BRANCHES AND TWIGS		FACTOR 5 - FOLIAGE AND/OR BUDS		TOTAL	CTLA CONDITION RATING	CONDITION RATING	Critical Root Zone (CRZ)			Structural Root Zone (CRZ)			Canopy			STATUS	Constructio n Tolerance
TREE #	DBH (in.)	Circ. (in.)	SCIENTIFIC	COMMON	Structure	Health	Subfocal	Structure	Health	Subfocal	Structure	Health	Subfocal	Health	Subfocal	Health	Subfocal				Total Area (SF)	Impacts (SF)	Impacts (%)	Total Area (SF)	Impacts (SF)	Impacts (%)	Radius (FT)	Deficiencies		
2	18.1	57	*Quercus palustris*	pin oak	3	4	7	4	4	8	4	4	8	4	4	4	4	31	97%	Good	1029.22	0	0%	257.30	0	0%	15		Retain	High
3	6	19	*Quercus bicolor*	swamp white oak	3	3	6	4	4	8	4	4	8	4	4	4	4	30	94%	Good	113.10	0	0%	28.27	0	0%	6		Retain	High
4	2.7	8	*Quercus bicolor*	swamp white oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	22.90	0	0%	5.73	0	0%	2		Retain	High
5	**56.5**	**177**	***Quercus falcata***	**southern red oak**	**3**	**4**	**7**	**3**	**2**	**5**	**2**	**3**	**5**	**4**	**4**	**4**	**4**	**25**	**78%**	**Fair**	**10028.75**	**1514**	**15%**	**2507.19**	**171**	**7%**	**30**	**Cavity-stem, Cavity-root flare, Wound-branch**	**Retain**	**Medium**
6	**2**	**6**	***Lagerstroemia indica***	**crape myrtle**	**4**	**4**	**8**	**4**	**4**	**8**	**4**	**3**	**7**	**4**	**4**	**4**	**4**	**31**	**97%**	**Good**	**12.57**	**12.57**	**100%**	**3.14**	**3.14**	**100%**	**10**		**Remove**	**High**
7	**32.2**	**101**	***Ulmus pumila***	**Siberian elm**	**2**	**2**	**4**	**3**	**2**	**5**	**2**	**2**	**4**	**2**	**2**	**3**	**3**	**18**	**56%**	**Poor**	**3257.33**	**26**	**1%**	**814.33**	**0**	**0%**	**20**	**Cavity-stem, Cavity-root flare, Wound-branch, Deadwood <=2**	**Retain**	**High**
8	19	60	*Quercus rubra*	northern red oak	3	4	7	4	4	8	3	4	7	3	3	4	4	29	91%	Good	1134.11	0	0%	283.53	0	0%	20	Girdling roots present, Deadwood <=2, Wound-branch	Retain	Medium
9	2.5	8	*Amelanchier arborea*	downy serviceberry	3	4	7	3	4	7	4	4	8	4	4	4	4	30	94%	Good	19.63	0	0%	4.91	0	0%	4	Codominant leaders	Retain	High
10	**18**	**57**	***Quercus phellos***	**willow oak**	**3**	**4**	**7**	**4**	**4**	**8**	**3**	**4**	**7**	**4**	**4**	**4**	**4**	**30**	**94%**	**Good**	**1017.88**	**320**	**31%**	**254.47**	**0**	**0%**	**18**	**Wound-root, Wound-branch**	**Retain**	**High**
11	23.3	73	*Quercus phellos*	willow oak	3	4	7	4	4	8	3	4	7	4	4	4	4	30	94%	Good	1705.54	0	0%	426.38	0	0%	20.5	Wound-root, Wound-branch	Retain	High
12	21.2	67	*Quercus phellos*	willow oak	3	4	7	4	4	8	3	4	7	4	4	4	4	30	94%	Good	1411.96	0	0%	352.99	0	0%	25	Wound-root, Wound-branch	Retain	High
13	**35.9**	**113**	***Quercus falcata***	**southern red oak**	**3**	**3**	**6**	**4**	**3**	**7**	**3**	**4**	**7**	**3**	**3**	**4**	**4**	**27**	**84%**	**Good**	**4048.92**	**250**	**6%**	**1012.23**	**0**	**0%**	**30**	**Wound-root flare, Wound-branch, Deadwood <=2**	**Retain**	**Medium**
14	1	3	*Gymnocladus dioicus*	Kentucky coffeetree	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	3.14	0	0%	0.79	0	0%			Retain	High
15	1.5	5	*Quercus velutina*	black oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32.00	100%	Good	7.07	0	0%	1.77	0	0%	2		Retain	Medium
16	1.25	4	*Gymnocladus dioicus*	Kentucky coffeetree	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	4.91	0	0%	1.23	0	0%	2		Retain	High
17	4.5	14	*Celtis occidentalis*	hackberry	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	63.62	0	0%	15.90	0	0%	5		Retain	High
18	1.75	5	*Gleditsia triacanthos*	honeylocust	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	9.62	0	0%	2.41	0	0%	5		Retain	High
19	1.25	4	*Celtis occidentalis*	hackberry	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	4.91	0	0%	1.23	0	0%	3		Retain	High
20	1	3	*Betula nigra*	river birch	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	3.14	0	0%	0.79	0	0%	3	Codominant leaders	Retain	High
21	1.25	4	*Acer saccharinum*	silver maple	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	4.91	0	0%	1.23	0	0%	2		Retain	High
22	18.6	58	*Quercus palustris*	pin oak	3	4	7	4	4	8	4	4	8	4	4	4	4	31	97%	Good	1086.87	0	0%	271.72	0	0%	15	Wound-root flare	Retain	High
23	20	63	*Quercus palustris*	pin oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	1256.64	0	0%	314.16	0	0%	15		Retain	High
24	5.8	18	*Quercus bicolor*	swamp white oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	105.68	0	0%	26.42	0	0%	6		Retain	High
25	**26.1**	**82**	***Gleditsia triacanthos***	**honeylocust**	**4**	**4**	**8**	**4**	**3**	**7**	**3**	**3**	**6**	**2**	**2**	**3**	**3**	**26**	**81%**	**Fair**	**2140.08**	**794**	**37%**	**535.02**	**0**	**0%**	**20**	**Wound-root, Deadwood <=2, Deadwood >2**	**Retain**	**High**
26	**3.9**	**12**	***Quercus palustris***	**pin oak**	**4**	**4**	**8**	**4**	**4**	**8**	**4**	**4**	**8**	**4**	**4**	**4**	**4**	**32**	**100%**	**Good**	**47.78**	**35**	**73%**	**11.95**	**0**	**0%**	**4**		**Retain**	**High**
27	5.7	18	*Platanus occidentalis*	sycamore	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	102.07	0	0%	25.52	0	0%	10		Retain	High
28	**34.7**	**109**	***Quercus palustris***	**pin oak**	**4**	**3**	**7**	**4**	**4**	**8**	**3**	**4**	**7**	**3**	**3**	**4**	**4**	**29**	**91%**	**Good**	**3782.76**	**783**	**21%**	**945.69**	**0**	**0%**	**30**	**Wound-branch, Deadwood <=2**	**Retain**	**High**
29	1.5	5	*Gleditsia triacanthos*	honey-locust	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	7.07	0	0%	1.77	0	0%	2		Retain	High
30	46	145	*Quercus palustris*	pin oak	3	3	6	4	4	8	3	3	6	3	3	4	4	27	84%	Good	6647.61	0	0%	1661.90	0	0%	35	Wound-root flare, Cavity-branch, Wound-branch, Deadwood <=	Retain	High
31	7.6	24	*Quercus palustris*	pin oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	181.46	0	0%	45.36	0	0%	10		Retain	High
32	17.5	55	*Koelreuteria paniculata*	golden raintree	4	4	8	3	3	6	4	4	8	4	4	4	4	30	94%	Good	962.11	0	0%	240.53	0	0%	10	Codominant leaders, Included bark, Cavity-stem	Retain	High
33	5.5	17	*Quercus alba*	white oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	95.03	0	0%	23.76	0	0%	6		Retain	Low
34	1.5	5	*Taxodium distichum*	baldcypress	4	4	8	4	3	7	2	2	4	2	2	2	2	23	72%	Fair	15.90	0	0%	1.77	0	0%	2		Retain	High
35	49	154	*Quercus phellos*	willow oak	4	3	7	4	4	8	3	2	5	2	2	3	3	25	78%	Fair	16971.67		0%	1885.74	0	0%	40	Wound-branch, Cavity-branch, Deadwood <=2	Retain	High
36	47.3	149	*Quercus phellos*	willow oak	4	3	7	4	3	7	3	3	6	3	3	4	4	27	84%	Good	15814.47	0	0%	1757.16	0	0%	40	Wound-stem, Cavity-branch, Wound-branch, Deadwood <=2	Retain	High
37	42.2	133	*Quercus phellos*	willow oak	4	3	7	4	3	7	2	3	5	3	3	4	4	26	81%	Fair	12588.02	0	0%	1398.67	0	0%	30	Cavity-branch, Cavity-stem, Deadwood <=2	Retain	High
38	39	123	*Quercus phellos*	willow oak	3	4	7	3	4	7	4	3	7	3	3	4	4	28	88%	Good	10751.32	0	0%	1194.59	0	0%	30	Codominant leaders, Cavity-branch, Deadwood <=2	Retain	High
39	40.7	128	*Quercus phellos*	willow oak	4	3	7	3	4	7	4	3	7	3	3	4	4	28	88%	Good	11709.04	0	0%	1301.00	0	0%	30	Codominant leaders, Cavity-stem, Wound-branch, Deadwood <	Retain	High
40	39.5	124	*Quercus phellos*	willow oak	3	3	6	4	4	8	2	3	5	3	3	4	4	26	81%	Fair	11028.76	0	0%	1225.42	0	0%	30	Wound-root, Cavity-branch, Wound-branch, Deadwood <=2	Retain	High
41	**20.2**	**63**	***Ulmus americana***	**American elm**	**4**	**3**	**7**	**4**	**4**	**8**	**4**	**3**	**7**	**3**	**3**	**4**	**4**	**29**	**91%**	**Good**	**2884.26**	**0**	**0%**	**320.47**	**0**	**0%**	**20**	**Wound-root, Deadwood <=2, Wound-branch**	**Retain**	**High**
42	5.5	17	*Liquidambar styraciflua*	sweetgum	4	4	8	4	4	8	3	3	4	4	4	4	4	29	91%	Good	213.82	0	0%	23.76	0	0%	5	Wound-branch	Retain	High
43	4.8	15	*Liquidambar styraciflua*	sweetgum	3	4	7	2	2	4	4	4	8	3	3	3	3	25	78%	Fair	162.86	0	0%	18.10	0	0%	3	Wound-stem, Deadwood <=2	Retain	High
44	5	16	*Liquidambar styraciflua*	sweetgum	4	4	8	4	4	8	3	3	2	5	4	4	4	29	91%	Good	176.71	0	0%	19.63	0	0%	4	Deadwood <=2, Uneven crown, Wound-branch	Retain	High
45	42.8	134	*Quercus phellos*	willow oak	4	3	7	4	3	7	4	3	7	3	3	4	4	28	88%	Good	12948.51	0	0%	1438.72	0	0%	30	Wound-root, Cavity-stem, Wound-branch, Deadwood <=2	Retain	High
46	51	97	*Quercus phellos*	willow oak	4	3	7	4	4	8	4	3	7	3	3	4	4	29	91%	Good	6792.91	0	0%	754.77	0	0%	30	Wound-root, Deadwood <=2, Wound-branch, Cavity-stem	Retain	High
47	29.1	91	*Quercus phellos*	willow oak	4	3	7	4	4	8	4	3	7	3	3	4	4	29	91%	Good	5985.75	0	0%	665.08	0	0%	25	Wound-root, Deadwood <=2, Wound-branch	Retain	High
48	32.7	103	*Quercus phellos*	willow oak	4	4	8	4	4	8	4	3	7	4	4	4	4	30	94%	Good	7558.37	0	0%	839.82	0	0%	25	Deadwood <=2, Wound-branch	Retain	High
49	2.5	8	*Taxodium distichum*	baldcypress	3	4	7	4	4	8	4	4	8	4	4	4	4	31	97%	Good	44.18	0	0%	4.91	0	0%	3		Retain	High
50	45.3	142	*Quercus phellos*	willow oak	4	3	7	4	3	7	4	3	7	3	3	4	4	28	88%	Good	14505.37	0	0%	1611.71	0	0%	30	Wound-root, Wound-branch, Wound-stem, Deadwood <=2	Retain	High
51	31.6	99	*Quercus palustris*	pin oak	3	3	6	4	4	8	4	4	8	4	4	4	4	29	91%	Good	7058.40	0	0%	784.27	0	0%	25	Wound-root, Deadwood <=2	Retain	High
52	3	9	*Taxodium distichum*	baldcypress	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	63.62	0	0%	7.07	0	0%	4		Retain	High
53	1.25	4	*Ostrya virginiana*	eastern hophornbeam	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	11.04	0	0%	1.23	0	0%	1.5		Retain	Medium
54	4.5	14	*Taxodium distichum*	baldcypress	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	143.14	0	0%	15.90	0	0%	6		Retain	High
55	**25.1**	**79**	***Gleditsia triacanthos***	**honey-locust**	**4**	**3**	**7**	**3**	**2**	**5**	**3**	**2**	**5**	**2**	**2**	**3**	**3**	**22**	**69%**	**Poor**	**4453.28**	**643**	**14%**	**494.81**	**34**	**7%**	**20**	**Cavity-stem, Wound-branch, Deadwood <=2, Deadwood >2**	**Retain**	**High**
57	**21.9**	**69**	***Koelreuteria paniculata***	**golden raintree**	**2**	**2**	**4**	**2**	**2**	**4**	**2**	**2**	**4**	**3**	**3**	**4**	**4**	**19**	**59%**	**Poor**	**3390.16**	**835**	**25%**	**376.68**	**0**	**0%**	**18**	**Cavity-stem, Cavity-root flare, Wound-stem, Deadwood <=2**	**Retain**	**High**
58	1.7	5	*Gleditsia triacanthos*	honey-locust	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	20.43	0	0%	2.27	0	0%	3		Retain	High
59	1.7	5	*Gleditsia triacanthos*	honey-locust	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	20.43	0	0%	2.27	0	0%	3		Retain	High
60	2.8	7	*Quercus lyrata*	overcup oak	4	4	8	4	4	8	4	4	8	4	4	4	4	32	100%	Good	37.39	0	0%	4.15	0	0%	2	, Girdling roots present	Retain	High
61	**35.6**	**112**	***Quercus palustris***	**pin oak**	**3**	**3**	**6**	**3**	**3**	**6**	**3**	**4**	**7**	**3**	**3**	**4**	**4**	**26**	**81%**	**Fair**	**8958.44**	**1385**	**15%**	**995.38**	**0**	**0%**			**Retain**	**High**
259	**32.9**	**103**	***Gleditsia triacanthos***	**honey-locust**	**4**	**4**	**8**	**4**	**4**	**8**	**4**	**4**	**8**	**3**	**3**	**4**	**4**	**31**	**97%**	**Good**	**7651.11**	**2508**	**33%**	**850.12**	**259**	**30%**	**20**	**Deadwood <=2**	**Retain**	**High**



1/19/2024 I:\Projects\23014.01 DOEE DPRIII\Dwight Mosley\CAD\Plans\tpp01dm.dwg

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DEPARTMENT OF ENERGY AND ENVIRONMENT
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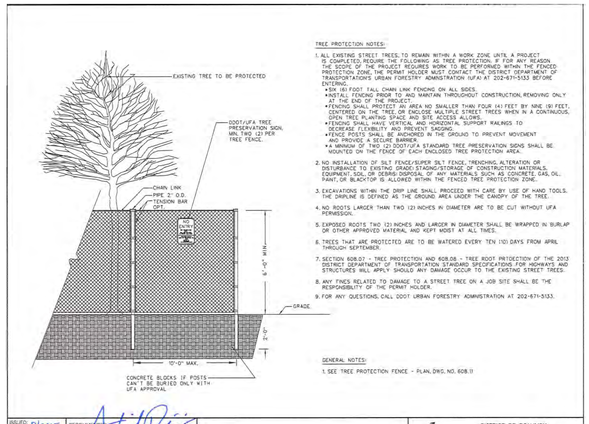
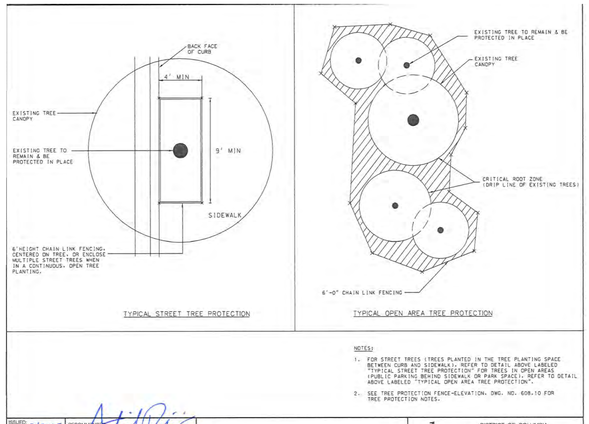
DOEE DPR III: DWIGHT MOSLEY

TITLE:
TREE PROTECTION PLAN

PROJECT NO. :	23014.01	SCALE:	1" = 30'
SEAL:		BY: BS	CHECK: BA
		DWG. NO. :	C001



TYPICAL STREET TREE PROTECTION



TYPICAL OPEN AREA TREE PROTECTION

NOTES:
1. FOR STREET TREES (TREES PLANTED IN THE TREE PLANTING SPACE BETWEEN CURB AND SIDEWALK), REFER TO DETAIL ABOVE LABELED "TYPICAL STREET TREE PROTECTION" FOR TREES IN OPEN AREAS (PUBLIC PARKING BEHIND SIDEWALK OR PARK SPACE), REFER TO DETAIL ABOVE LABELED "TYPICAL OPEN AREA TREE PROTECTION".
2. SEE TREE PROTECTION FENCE-ELEVATION, DWG. NO. 608.10 FOR TREE PROTECTION NOTES.

ISSUED: 8/2015	RECOMMENDED: PROJECT MANAGER	TREE PROTECTION FENCE - ELEVATION	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISION / APPROVAL	APPROVED: CHIEF ENGINEER		DWG. NO. 608.10

ISSUED: 8/2015	RECOMMENDED: PROJECT MANAGER	TREE PROTECTION FENCE - PLAN VIEW	d. DISTRICT OF COLUMBIA DEPARTMENT OF TRANSPORTATION
REVISION / APPROVAL	APPROVED: CHIEF ENGINEER		DWG. NO. 608.11

TREE PROTECTION NOTES:

1. ALL EXISTING STREET TREES, TO REMAIN WITHIN A WORK ZONE UNTIL A PROJECT IS COMPLETED, REQUIRE THE FOLLOWING AS TREE PROTECTION. IF FOR ANY REASON THE SCOPE OF THE PROJECT REQUIRES WORK TO BE PERFORMED WITHIN THE FENCED PROTECTION ZONE, THE PERMIT HOLDER MUST CONTACT ROBERT CORLETTA OF THE DISTRICT DEPARTMENT OF TRANSPORTATION'S URBAN FORESTRY ADMINISTRATION (UFA) AT 202-527-4011 BEFORE ENTERING.
   - SIX (6) FOOT TALL CHAIN LINK FENCING ON ALL SIDES.
   - INSTALL FENCING PRIOR TO AND MAINTAIN THROUGHOUT CONSTRUCTION, REMOVING ONLY AT THE END OF THE PROJECT.
   - FENCING SHALL PROTECT AN AREA NO SMALLER THAN FOUR (4) FEET BY NINE (9) FEET, CENTERED ON THE TREE, OR ENCLOSE MULTIPLE STREET TREES WHEN IN A CONTINUOUS, OPEN TREE PLANTING SPACE AND SITE ACCESS ALLOWS.
   - FENCING SHALL HAVE VERTICAL AND HORIZONTAL SUPPORT RAILINGS TO DECREASE FLEXIBILITYAND PREVENT SAGGING.
   - FENCE POSTS SHALL BE ANCHORED IN THE GROUND TO PREVENT MOVEMENT AND PROVIDE A SECURE BARRIER.
   - A MINIMUM OF TWO (2) DDOT/UFA STANDARD TREE PRESERVATION SIGNS SHALL BE MOUNTED TO THE FENCE OF EACH ENCLOSED TREE PROTECTION AREA.
2. NO INSTALLATION OF SILT FENCE/SUPER SILT FENCE, TRENCHING, ALTERATION OR DISTURBANCE TO EXISTING GRADE; STAGING/STORAGE OF CONSTRUCTION MATERIALS, EQUIPMENT, SOIL, OR DEBRIS; DISPOSAL OF ANY MATERIALS SUCH AS CONCRETE, GAS, OIL, PAINT, OR BLACKTOP IS ALLOWED WITHIN THE FENCED TREE PROTECTION ZONE.
3. EXCAVATIONS WITHIN THE DRIPLINE SHALL PROCEED WITH CARE BY USE OF HAND TOOLS. THE DRIPLINE IS DEFINED AS THE GROUND AREA UNDER THE CANOPY OF THE TREE.
4. NO ROOTS LARGER THAN TWO (2) INCHES IN DIAMETER ARE TO BE CUT WITHOUT UFA PERMISSION.
5. EXPOSED ROOTS TWO (2) INCHES AND LARGER IN DIAMETER SHALL BE WRAPPED IN BURLAP OR OTHER APPROVED MATERIAL AND KEPT MOIST AT ALL TIMES.
6. TREES THAT ARE PROTECTED ARE TO BE WATERED EVERY TEN (10) DAYS FROM APRIL THROUGH SEPTEMBER.
7. SECTIONS 608.07–TREE PROTECTION AND REPLACEMENT AND 608.08–TREE ROOT PROTECTION OF THE 2013 DISTRICT DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND STRUCTURES WILL APPLY SHOULD ANY DAMAGE OCCUR TO THE EXISTING STREET TREES.
8. ANY FINES RELATED TO DAMAGE TO A STREET TREE ON A JOB SITE SHALL BE THE RESPONSIBILITY OF THE PERMIT HOLDER.
9. FOR ANY QUESTIONS, CALL ROBERT CORLETTA OF DDOT URBAN FORESTRY ADMINISTRATION AT 202-527-4011.

TREE REMOVAL NOTES:

1. TREE REMOVALS: TREE #6 (LAGERSTROEMIA INDICA) SHALL BE REMOVED BY CONTRACTOR.

ARBORIST NARRATIVE:

AS PER THE DDOT GUIDANCE, THIS ARBORIST NARRATIVE SUPPORTS THE ADVANCED TREE PRESERVATION PLAN FOR THE DOEE DPR III DWIGHT MOSELEY PARK LID STORMWATER MANAGEMENT RETROFIT PROJECT. THE FOLLOWING TEXT PRESENTS A DESCRIPTION OF THE PROJECT WITH PROPOSED TREE IMPACTS AND TREE PROTECTION MEASURES. THE ATTACHED SITE PLAN PROVIDES LOCATIONS OF TREES, LOCATIONS AND DETAILS FOR TREE PROTECTION MEASURES.

PREPARING ARBORIST:

BRYON W. SALLADIN
ISA CERTIFIED ARBORIST #MA-4478A
BIOHABITATS, INC.
2081 CLIPPER PARK RD
BALTIMORE, MD 21211
410-869-2676
BSALLADIN@BIOHABITATS.COM

TREE INFORMATION

A TREE INVENTORY WAS CONDUCTED BY BIOHABITATS CERTIFIED ARBORIST ON 09/08/2023 AND THE RESULTING DATA ARE PRESENT IN THE ACCOMPANYING ATTACHED TABLE. TREE LOCATIONS FOR EACH ASSOCIATED NUMBERED TREE ARE SHOWN ON THE ATTACHED SITE PLAN. IN TOTAL, 60 TREES WERE INVENTORIED OF WHICH THERE WERE 15 SPECIAL TREES (CIRCUMFERENCE 44"-99.9") AND 16 HERITAGE TREES (CIRCUMFERENCE 100" OR MORE) WITHIN THE INVENTORY AREA. THE COMPLETE INVENTORY IS SHOWN ON THE PROJECT PLAN SET.

PROJECT DESCRIPTION

THE DWIGHT MOSELEY PARK LID STORMWATER MANAGEMENT RETROFIT PROPOSES TO CONSTRUCT FOUR VEGETATED BIORETENTION BASINS FOR THE PURPOSE OF TEMPORARILY CAPTURING AND TREATING STORMWATER RUN-OFF FROM THE UPSLOPE IMPERVIOUS SURFACES. TO ACHIEVE THIS, EXCAVATING BELOW AND FILLING ABOVE THE CURRENT GROUND SURFACE WILL BE NECESSARY WITHIN THE LIMITS OF DISTURBANCE (LOD). THE PROPOSED PROJECT LIMITS ARE SHOWN TO IMPACT GREATER THAN 25% OF THE CRITICAL ROOT ZONE (CRZ) OF 6 TREES AND ANY AMOUNT IMPACT TO THE STRUCTURAL ROOT ZONE (SRZ) OF 4 TREES WITHIN DAKOTA PARK. ONLY 1 TREE IS SHOWN TO BE REMOVED BASED ON THE PROPOSED PROJECT.

TREE PROTECTION MEASURES

TREE PROTECTION FENCING W/SIGNAGE, ROOT PRUNING, ROOT PROTECTION MATTING AND HAND GRADING WITHIN THE CRZ/SRZ ARE METHODS PROPOSED FOR TREE PRESERVATION AND ARE PRESENTED IN THE ATTACHED PLAN SET.

TREE PROTECTION FENCING SHALL BE 6' TALL CHAIN-LINK FENCE SUPPORTED ON 2" GALVANIZED POSTS MOUNTED IN PRE-FABRICATED CONCRETE FOOTERS ON THE EXISTING GROUND SURFACE ALONG THE ENTIRE LOD.

ROOT PRUNING WILL OCCUR ALONG THE LIMITS OF GRADING WITHIN THE CRZ'S. ANY AREA IN THE CRZ THAT HAS BEEN IDENTIFIED FOR ROOT PRUNING SHALL BE EXPOSED TO A PREDETERMINED LENGTH/DEPTH BY PNEUMATIC (AIR) EXCAVATION, HYDRAULIC (WATER) EXCAVATION OR HAND DIGGING. ANY ROOTS EXPOSED SHALL BE CLEANLY SEVERED BY USING A HAND SAW, CIRCULAR SAW, ROCK SAW, OR APPROVED EQUIVALENT.

HAND GRADING WILL OCCUR WITHIN THE SRZ OF THE INDIVIDUAL TREE BEING IMPACTED AFTER THE REMOVAL OF THE TREE PROTECTION FENCE.

ROOT PROTECTION MATTING WILL BE USED IN THE STABILIZED CONSTRUCTION ENTRANCE (SCE) AND UNGRADED AREAS WITHIN THE LOD WHERE TREE CRZ'S OCCUR. ROOT PROTECTION MATTING WILL CONSIST OF THE FOLLOWING: 1) 8" TO 12" OF WOOD CHIP MULCH ON GEOTEXTILE FABRIC WHERE THERE WILL BE LIGHT EQUIPMENT/FOOT TRAFFIC, 2) ¾" MINIMUM THICKNESS PLYWOOD OR ALTURNAMATS OVER 6"-8" LAYER OF WOOD CHIP MULCH, OR 3) 6" OF GRAVEL OVER A TAUT, STAKED, GEOTEXTILE FABRIC WHERE HEAVY EQUIPMENT WILL BE OPERATED.

POST-CONSTRUCTION MONITORING OF PRESERVED TREES WILL OCCUR FOR 1 YEAR FOLLOWING THE COMPLETION OF THE PROJECT.

TREE PROTECTION INSPECTION CHECKLIST:

TASK	DATE	CONTRACTOR	NOTES	SIGNATURE
TREE PROTECTION FENCING & TREE SIGNAGE				
ROOT PRUNING				
SEDIMENT CONTROL DEVICES				
PRE-CON MEETING				
SOIL & ROOT PROTECTION MATTING				
MONITORING PROGRESSION OF PROJECT				
REMOVAL OF PROTECTION MEASURES				
FINAL HAND GRADING WITHIN SRZ				
1ST-YEAR POST CONSTRUCTION INSPECTION				

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WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA, 1200 FIRST ST, NE 5TH FLOOR, WASHINGTON DC, 20002

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01/05/2024	60% SEMI-FINAL DESIGNS

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Restore the Earth & Inspire Ecological Stewardship

DOEE DPR III: DWIGHT MOSLEY

TITLE: TREE PROTECTION PLAN

PROJECT NO. : 23014.01	SCALE: 1" = 20'
SEAL:	BY: BS / CHECK: BA
	DWG. NO. : C001

DWIGHT A. MOSELEY
1800 PERRY STREET
WASHINGTON, DC 20018
SQUARE: PAR
SUFFIX: 157
LOT: 0026

PARCEL 0157-0026

SQ. 4201 LOT 44

ROOT PROTECTION MATTING SHALL BE PLACED IN AREAS OF CRZ OR SRZ WITHIN THE LOD WHICH ARE NOT PROTECTED BY TPF. SEE ARBORIST NARRATIVE.

EROSION AND SEDIMENT CONTROL NOTES:

AREA OF DISTURBANCE = 29,663 SF OR 0.68 AC
CUT = 181 CY
FILL = 123 CY (INCLUDING STRUCTURAL FILL, I.E. BIORETENTION MEDIA, STONE, ETC)

PREDOMINANT SOIL TYPE = U8, UDORTHENTS, SANDY, SMOOTHED, HSG A
SgB, SASSAFRAS- URBAN LAND COMPLEX , HSG B

HORIZONTAL SCALE
0 20 40

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DWIGHT MOSLEY GI RETROFITS

TITLE:

ESC AND GRADING PLAN

PROJECT NO. :	23014.01	SCALE:	1"=20'
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C200

DESIGN DETAIL CALLOUTS

1. 2' WIDE CONCRETE V-GUTTER, 4" DEPTH, 3:1 SLOPES
2. CLEANOUT AND OBSERVATION WELL
3. NYLOPLAST OVERFLOW
4. TIE IN UNDERDRAIN TO EXISTING SD INLET
5. 1' WIDE GRASS SWALE, 2% SLOPE, 3:1 SIDE SLOPES OR FLATTER
6. REMOVE EXISTING PAVERS
7. CURB BERM
8. GRANITE BOULDER SEATING, SIZE RANGE 2'-4' WIDE X 2-3' TALL
9. MICROHABITAT LOGS; 3-5' LENGTH, AT LEAST 6" DIAMETER

BMP DM-1
BIORETENTION
724 CF Sv
$Elev_{Bot}$ = 79.5'
$Elev_{WQv}$ = 80.5'

BMP DM-2
BIORETENTION
813 CF Sv
$Elev_{Bot}$ = 77.0
$Elev_{WQv}$ = 78.0'

PIPE TABLE - DWIGHT MOSELEY

PIPE ID	STR. FROM	STR. TO	SIZE AND TYPE	LENGTH (FT)	SLOPE (FT/FT)
P01	-	F-1	4" PERF PVC	37.0	0.000
P02	-	F-1	4" PERF PVC	10.0	0.000
P03	F-1	12(EX)	4"PVC	14.8	0.033
P04	-	F-2	4" PERF PVC	6.0	0.000
P05	-	F-2	4" PERF PVC	10.0	0.000
P06	F-1	13(EX)	4"PVC	23.3	0.010

STRUCTURE TABLE - DWIGHT MOSELEY

STR. NAME	RIM ELEV.	DESIGN INV. IN		DESIGN INV. OUT		AS-BUILT INV. IN	AS-BUILT INV. OUT	TYPE/NOTES
I-1	80.50	76.21	UD	79.00	12 (EX)			DM-1, Nyloplast Drain
12 (EX)	80.50	78.50	F-1	77.65	EX SD System			DM-1, Basketball Court Existing Drain
I- 2	78.00	73.21	UD	75.00	to upturn elbow tie in for F-2			DM-2, Nyloplast Drain
13 (EX)	80.47	78.00	F-2	77.52	EX SD System			DM-2, Basketball Court Existing Drain

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DWIGHT MOSLEY GI RETROFITS

TITLE: STORMWATER MANAGEMENT PLAN

PROJECT NO. :	23014.01	SCALE:	1"=10'
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C300

HORIZONTAL SCALE
0 10 20

DESIGN DETAIL CALLOUTS

2. CLEANOUT AND OBSERVATION WELL
10. WOOD SLAT WALL, TOP OF WALL = 78.6
11. DAYLIGHT EXISTING SD LINE FROM TENNIS COURTS
12. 12" NYLOPLAST OVERFLOW. TIE INTO EXISTING SD LINE FROM TENNIS COURTS
13. 7.35' WIDE OVERFLOW WEIR, 0.5' DEPTH
14. GRANITE BOULDER SEATING, SIZE RANGE 2'-4' WIDE X 2-3' TALL
15. MICROHABITAT LOGS; 3-5' LENGTH, AT LEAST 6" DIAMETER

BMP DM-4
BIORETENTION
1,798 CF Sv
$Elev_{Bot}$ = 73.5'
$Elev_{WQv}$ = 74.5'

BMP DM-3
BIORETENTION
2,213 CF Sv
$Elev_{Bot}$ = 77'
$Elev_{WQv}$ = 78.0'

PIPE TABLE - DWIGHT MOSELEY

PIPE ID	STR. FROM	STR. TO	SIZE AND TYPE	LENGTH (FT)	SLOPE (FT/FT)
P07	-	F-3	4" PERF PVC	45.0	0.000
P08	-	F-3	4" PERF PVC	10.0	0.000
P09	F-3	EX SD	4"PVC	Field Directed	Field Directed

STRUCTURE TABLE - DWIGHT MOSELEY

STR. NAME	RIM ELEV.	DESIGN INV. IN		DESIGN INV. OUT		AS-BUILT INV. IN		AS-BUILT INV. OUT		TYPE/NOTES
8 (EX)	79.34	-	-	0.00	7 (EX)					DM-3, Tennis Court Existing Drain
7 (EX)	79.26	0.00	8(EX)	0.00	6(EX)					DM-3, Tennis Court Existing Drain
6 (EX)	79.33	0.00	7(EX)	0.00	Daylight DM-3					DM-3, Tennis Court Existing Drain
I-3	78.00	77.08	UD	Field Directed	EX SD System					DM-3, Nyloplast Drain

HORIZONTAL SCALE
0 10 20

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WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA, 1200 FIRST ST, NE 5TH FLOOR, WASHINGTON DC, 20002

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MAYOR MURIEL BOWSER

DATE:	ISSUES / REVISIONS
02/21/2023	30% CONCEPT DESIGNS
01/17/2024	60% SEMI-FINAL DESIGNS

60% SEMI-FINAL DESIGN

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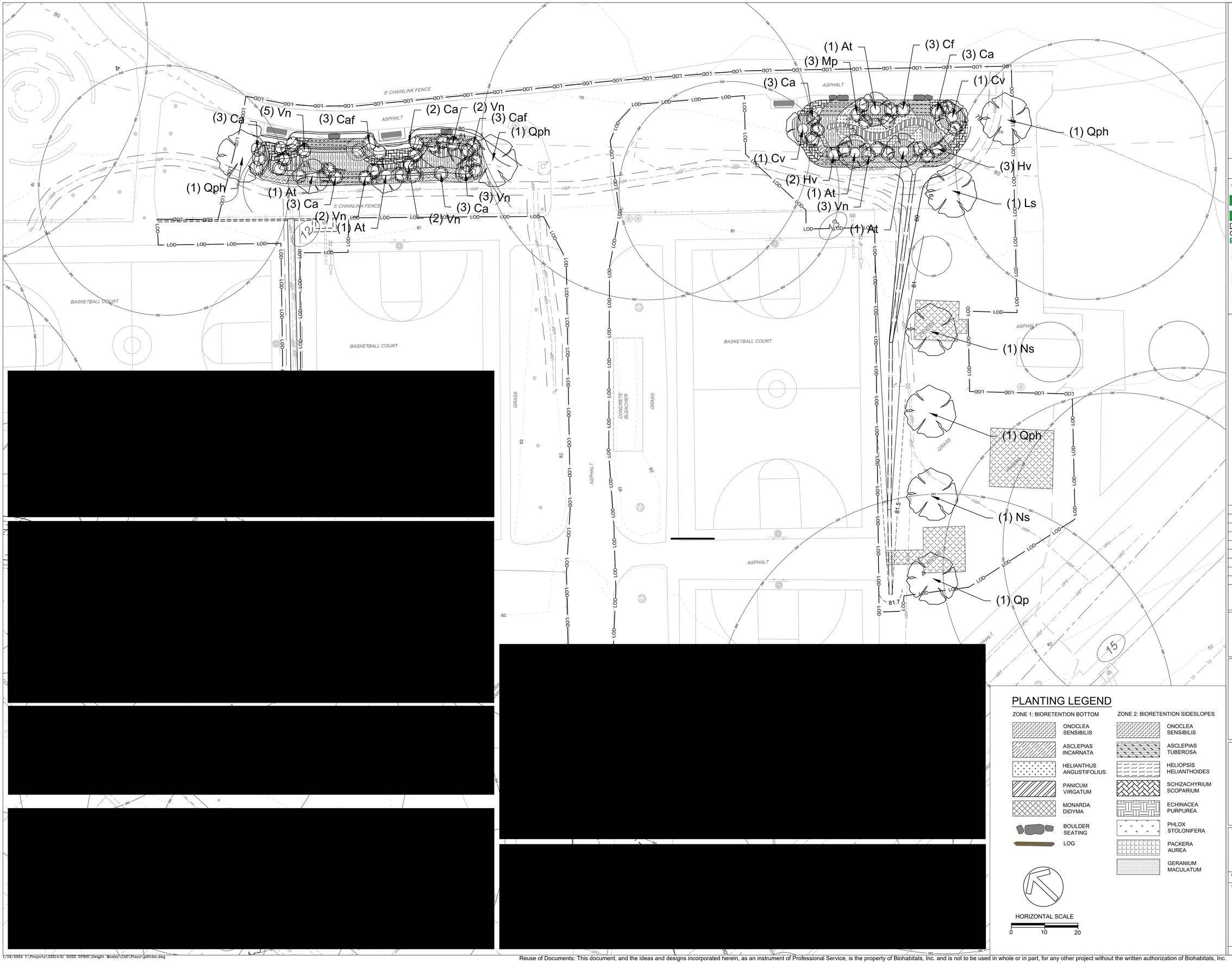
Baltimore, MD 21211 / ph: 410.554.0156
fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

DWIGHT MOSLEY GI RETROFITS

TITLE: STORMWATER MANAGEMENT PLAN

PROJECT NO. :	23014.01	SCALE:	1"=10'
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C310



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PLANTING LEGEND

ZONE 1: BIORETENTION BOTTOM

- ONOCLEA SENSIBILIS
- ASCLEPIAS INCARNATA
- HELIANTHUS ANGUSTIFOLIUS
- PANICUM VIRGATUM
- MONARDA DIDYMA
- BOULDER SEATING
- LOG

ZONE 2: BIORETENTION SIDESLOPES

- ONOCLEA SENSIBILIS
- ASCLEPIAS TUBEROSA
- HELIOPSIS HELIANTHOIDES
- SCHIZACHYRIUM SCOPARIUM
- ECHINACEA PURPUREA
- PHLOX STOLONIFERA
- PACKERA AUREA
- GERANIUM MACULATUM

HORIZONTAL SCALE

0 10 20

CLIENT

DEPARTMENT OF ENERGY & ENVIRONMENT

ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
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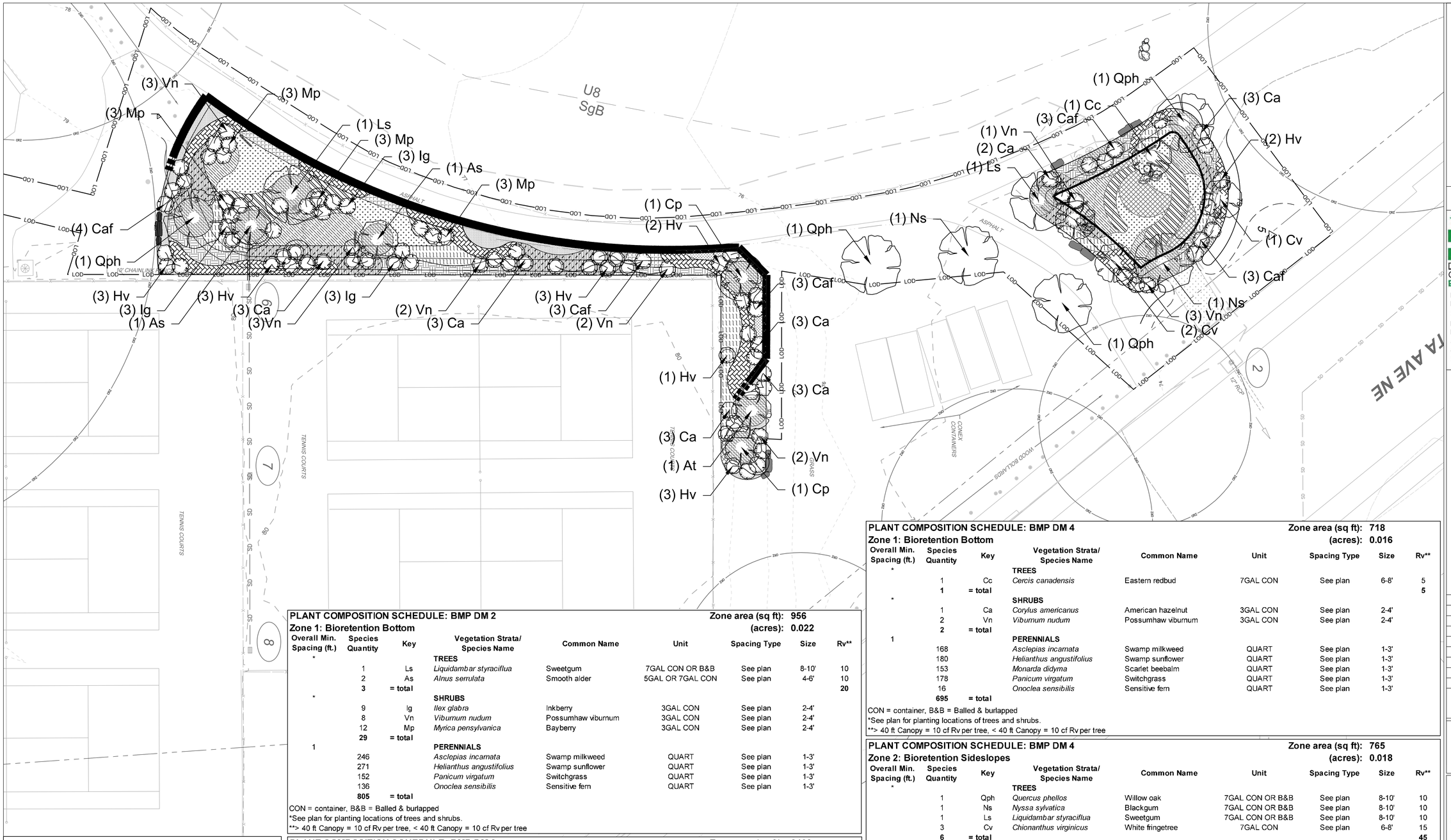
DWIGHT MOSLEY GI RETROFITS

TITLE:

PLANTING PLAN

PROJECT NO. :	23014.01	SCALE:	1"=10'
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	L150



PLANT COMPOSITION SCHEDULE: BMP DM 2

Zone 1: Bioretention Bottom — Zone area (sq ft): 956 — (acres): 0.022

Overall Min. Spacing (ft.)	Species Quantity	Key	Vegetation Strata/ Species Name	Common Name	Unit	Spacing Type	Size	Rv**
*			**TREES**					
	1	Ls	*Liquidambar styraciflua*	Sweetgum	7GAL CON OR B&B	See plan	8-10'	10
	2	As	*Alnus serrulata*	Smooth alder	5GAL OR 7GAL CON	See plan	4-6'	10
	3	**= total**						**20**
*			**SHRUBS**					
	9	Ig	*Ilex glabra*	Inkberry	3GAL CON	See plan	2-4'	
	8	Vn	*Viburnum nudum*	Possumhaw viburnum	3GAL CON	See plan	2-4'	
	12	Mp	*Myrica pensylvanica*	Bayberry	3GAL CON	See plan	2-4'	
	29	**= total**						
1			**PERENNIALS**					
	246		*Asclepias incarnata*	Swamp milkweed	QUART	See plan	1-3'	
	271		*Helianthus angustifolius*	Swamp sunflower	QUART	See plan	1-3'	
	152		*Panicum virgatum*	Switchgrass	QUART	See plan	1-3'	
	136		*Onoclea sensibilis*	Sensitive fern	QUART	See plan	1-3'	
	805	**= total**						

CON = container, B&B = Balled & burlapped
*See plan for planting locations of trees and shrubs.
**> 40 ft Canopy = 10 cf Rv per tree, < 40 ft Canopy = 10 cf Rv per tree

PLANT COMPOSITION SCHEDULE: BMP DM 2

Zone 2: Bioretention Sideslopes — Zone area (sq ft): 2400 — (acres): 0.055

Overall Min. Spacing (ft.)	Species Quantity	Key	Vegetation Strata/ Species Name	Common Name	Unit	Spacing Type	Size	Rv**
*			**TREES**					
	1	Qph	*Quercus phellos*	Willow oak	7GAL CON OR B&B	See plan	8-10'	10
	2	Cp	*Castanea pumila*	Allegheny chinquapin	7GAL CON	See plan	6-8'	10
	1	At	*Asimina triloba*	Paw paw	5GAL OR 7GAL CON	See plan	4-6'	5
	4	**= total**						**25**
*			**SHRUBS**					
	10	Caf	*Calycanthus floridus*	Carolina allspice	3GAL CON	See plan	2-4'	
	11	Ca	*Corylus americanus*	American hazelnut	3GAL CON	See plan	2-4'	
	6	Vn	*Viburnum nudum*	Possumhaw viburnum	3GAL CON	See plan	2-4'	
	15	Hv	*Hamamelis virginiana*	Witchhazel	3GAL CON	See plan	2-4'	
	42	**= total**						
1			**PERENNIALS**					
	214		*Onoclea sensibilis*	Sensitive fern	QUART	See plan	1-3'	
	339		*Asclepias tuberosa*	Butterfly milkweed	QUART	See plan	1-3'	
	474		*Schizachyrium scoparium*	Little bluestem	QUART	See plan	1-3'	
	225		*Echinacea purpurea*	Purple coneflower	QUART	See plan	1-3'	
	261		*Heliopsis helianthoides*	Oxeye sunflower	QUART	See plan	1-3'	
	91		*Phlox stolonifera*	Creeping phlox	QUART	See plan	0.5-1'	
	109		*Packera aurea*	Golden ragwort	QUART	See plan	0.5-1'	
	294		*Geranium maculatum*	Spotted geranuim	QUART	See plan	0.5-1'	
	2007	**= total**						

CON = container, B&B = Balled & burlapped
*See plan for planting locations of trees and shrubs.
**> 40 ft Canopy = 10 cf Rv per tree, < 40 ft Canopy = 10 cf Rv per tree

PLANT COMPOSITION SCHEDULE: BMP DM 4

Zone 1: Bioretention Bottom — Zone area (sq ft): 718 — (acres): 0.016

Overall Min. Spacing (ft.)	Species Quantity	Key	Vegetation Strata/ Species Name	Common Name	Unit	Spacing Type	Size	Rv**
*			**TREES**					
	1	Cc	*Cercis canadensis*	Eastern redbud	7GAL CON	See plan	6-8'	5
	1	**= total**						**5**
*			**SHRUBS**					
	1	Ca	*Corylus americanus*	American hazelnut	3GAL CON	See plan	2-4'	
	2	Vn	*Viburnum nudum*	Possumhaw viburnum	3GAL CON	See plan	2-4'	
	2	**= total**						
1			**PERENNIALS**					
	168		*Asclepias incarnata*	Swamp milkweed	QUART	See plan	1-3'	
	180		*Helianthus angustifolius*	Swamp sunflower	QUART	See plan	1-3'	
	153		*Monarda didyma*	Scarlet beebalm	QUART	See plan	1-3'	
	178		*Panicum virgatum*	Switchgrass	QUART	See plan	1-3'	
	16		*Onoclea sensibilis*	Sensitive fern	QUART	See plan	1-3'	
	695	**= total**						

CON = container, B&B = Balled & burlapped
*See plan for planting locations of trees and shrubs.
**> 40 ft Canopy = 10 cf Rv per tree, < 40 ft Canopy = 10 cf Rv per tree

PLANT COMPOSITION SCHEDULE: BMP DM 4

Zone 2: Bioretention Sideslopes — Zone area (sq ft): 765 — (acres): 0.018

Overall Min. Spacing (ft.)	Species Quantity	Key	Vegetation Strata/ Species Name	Common Name	Unit	Spacing Type	Size	Rv**
*			**TREES**					
	1	Qph	*Quercus phellos*	Willow oak	7GAL CON OR B&B	See plan	8-10'	10
	1	Ns	*Nyssa sylvatica*	Blackgum	7GAL CON OR B&B	See plan	8-10'	10
	1	Ls	*Liquidambar styraciflua*	Sweetgum	7GAL CON OR B&B	See plan	8-10'	10
	3	Cv	*Chionanthus virginicus*	White fringetree	7GAL CON	See plan	6-8'	15
	6	**= total**						**45**
*			**SHRUBS**					
	6	Caf	*Calycanthus floridus*	Carolina allspice	3GAL CON	See plan	2-4'	
	4	Ca	*Corylus americanus*	American hazelnut	3GAL CON	See plan	2-4'	
	4	Vn	*Viburnum nudum*	Possumhaw viburnum	3GAL CON	See plan	2-4'	
	2	Hv	*Hamamelis virginiana*	Witchhazel	3GAL CON	See plan	2-4'	
	16	**= total**						
1			**PERENNIALS**					
	169		*Onoclea sensibilis*	Sensitive fern	QUART	See plan	1-3'	
	142		*Asclepias tuberosa*	Butterfly milkweed	QUART	See plan	1-3'	
	110		*Schizachyrium scoparium*	Little bluestem	QUART	See plan	1-3'	
	96		*Echinacea purpurea*	Purple coneflower	QUART	See plan	1-3'	
	103		*Heliopsis helianthoides*	Oxeye sunflower	QUART	See plan	1-3'	
	620	**= total**						

CON = container, B&B = Balled & burlapped
*See plan for planting locations of trees and shrubs.
**> 40 ft Canopy = 10 cf Rv per tree, < 40 ft Canopy = 10 cf Rv per tree

PLANT COMPOSITION SCHEDULE: BMP DM 4

Zone 3: Adjacent Trees

Overall Min. Spacing (ft.)	Species Quantity	Key	Vegetation Strata/ Species Name	Common Name	Unit	Spacing Type	Size	Rv**
*			**TREES**					
	2	Qph	*Quercus phellos*	Willow oak	7GAL CON OR B&B	See plan	8-10'	20
	1	Ns	*Nyssa sylvatica*	Blackgum	7GAL CON OR B&B	See plan	8-10'	10
	3	**= total**						**30**

CON = container, B&B = Balled & burlapped
*See plan for planting locations of trees and shrubs.
**> 40 ft Canopy = 10 cf Rv per tree, < 40 ft Canopy = 10 cf Rv per tree

PLANTING LEGEND

ZONE 1: BIORETENTION BOTTOM
- ONOCLEA SENSIBILIS
- ASCLEPIAS INCARNATA
- HELIANTHUS ANGUSTIFOLIUS
- PANICUM VIRGATUM
- MONARDA DIDYMA
- BOULDER SEATING
- LOG

ZONE 2: BIORETENTION SIDESLOPES
- ONOCLEA SENSIBILIS
- ASCLEPIAS TUBEROSA
- HELIOPSIS HELIANTHOIDES
- SCHIZACHYRIUM SCOPARIUM
- ECHINACEA PURPUREA
- PHLOX STOLONIFERA
- PACKERA AUREA
- GERANIUM MACULATUM

HORIZONTAL SCALE
0 10 20

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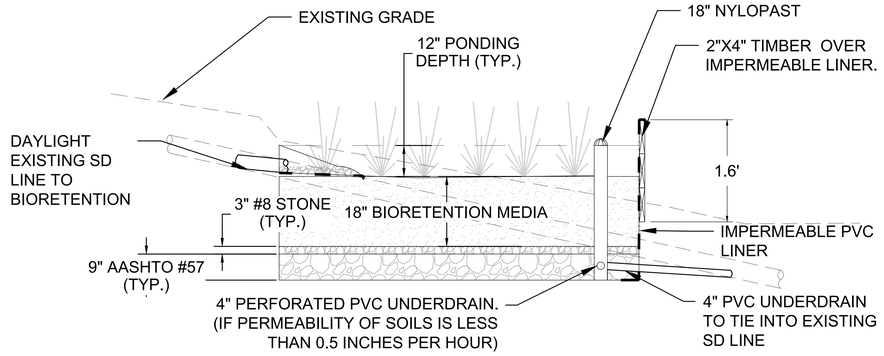
DWIGHT MOSLEY GI RETROFITS

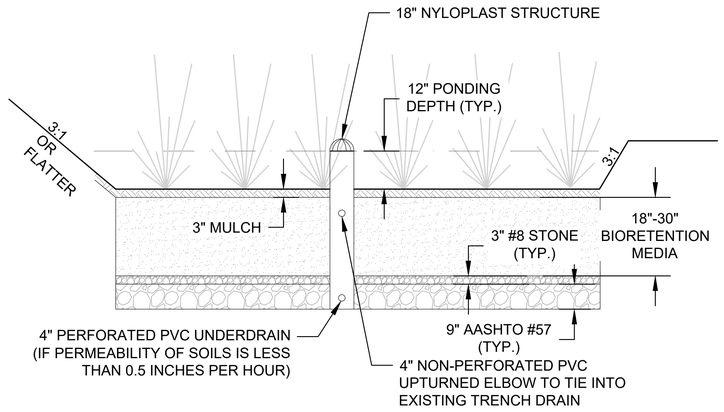
TITLE: PLANTING PLAN

PROJECT NO.:	23014.01	SCALE:	1"=10'
SEAL:		BY: SF	CHECK: BA
		DWG. NO.:	L160



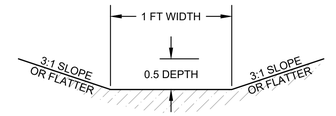
BMP DM-3 (BIORETENTION)
TYPICAL SECTION

NOT TO SCALE



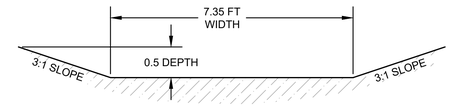
BMPS DM-1 & DM-2 (BIORETENTION)
TYPICAL SECTION

NOT TO SCALE



GRASS SWALE
TYPICAL SECTION

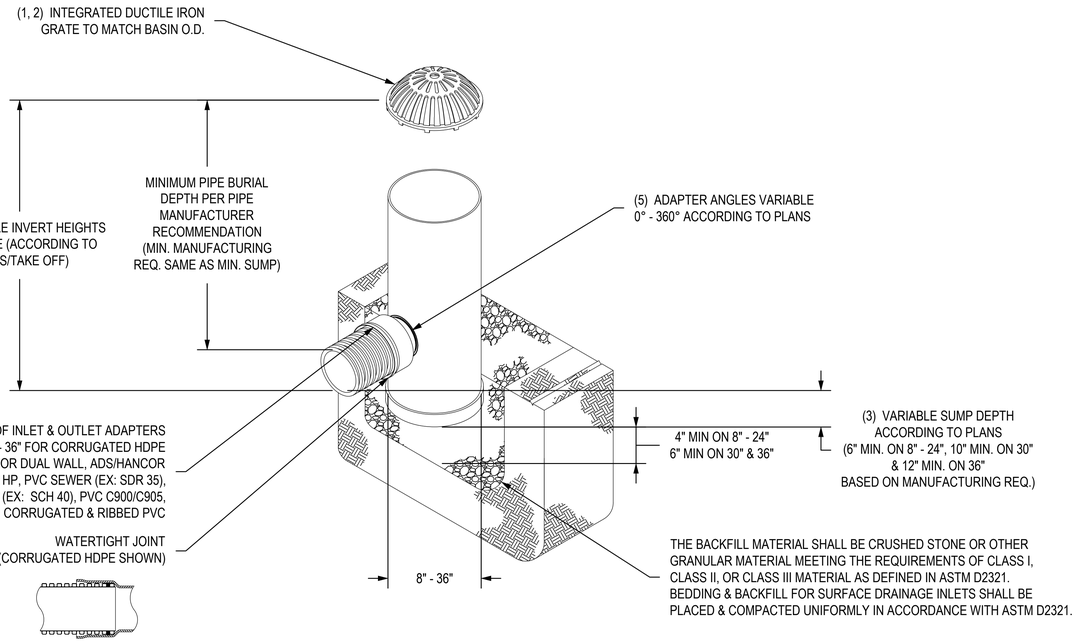
NOT TO SCALE



OVERFLOW WEIR
TYPICAL SECTION

NOT TO SCALE

NYLOPLAST DRAIN BASIN WITH DOME GRATE



1 - 8" - 30" DOME GRATES SHALL BE DUCTILE IRON PER ASTM A536 GRADE 70-50-05.
2 - 8" & 10" DOME GRATES FIT ONTO THE DRAIN BASINS WITH THE USE OF A PVC BODY TOP. SEE DRAWING NO. 7001-110-045.
3 - DRAIN BASIN TO BE CUSTOM MANUFACTURED ACCORDING TO PLAN DETAILS. RISERS ARE NEEDED FOR BASINS OVER 84" DUE TO SHIPPING RESTRICTIONS. SEE DRAWING NO. 7001-110-065.
4 - DRAINAGE CONNECTION STUB JOINT TIGHTNESS SHALL CONFORM TO ASTM D3212 FOR CORRUGATED HDPE (ADS N-12/HANCOR DUAL WALL), N-12 HP, & PVC SEWER (4" - 36").
5 - ADAPTERS CAN BE MOUNTED ON ANY ANGLE 0° TO 360°. TO DETERMINE MINIMUM ANGLE BETWEEN ADAPTERS SEE DRAWING NO. 7001-110-012.
6 - 8" - 30" DOME GRATES HAVE NO LOAD RATING.

DRAWN BY EBC	MATERIAL	Nyloplast®	3130 VERONA AVE BUFORD, GA 30518 PHN (770) 932-2443 FAX (770) 932-2490 www.nyloplast-us.com
DATE 03-25-10			
REVISED BY NMH	PROJECT NO./NAME	TITLE	DRAIN BASIN WITH DOME GRATE QUICK SPEC INSTALLATION DETAIL
DATE 06-12-18			
DWG SIZE A	SCALE 1:40 SHEET 1 OF 1	DWG NO. 7001-110-397	REV E

BMP DM-4 (BIORETENTION)
TYPICAL SECTION

NOT TO SCALE

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ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
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DWIGHT MOSLEY GI RETROFITS

TITLE:

DETAILS

PROJECT NO.: 23014.01	SCALE: NTS	
SEAL:	BY: SF	CHECK: BA
	DWG. NO.: C500	

SEQUENCE OF CONSTRUCTION:

THE CONTRACTOR SHALL FOLLOW ALL "DOEE SOIL EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES," "STORMWATER MANAGEMENT PLAN (SWMP) GOOD HOUSEKEEPING STAMP NOTES," AND "STANDARD EROSION AND SEDIMENT CONTROL MEASURES AND SEQUENCE" OF THESE PLANS. THE CONTRACTOR IS RESPONSIBLE FOR ALL ESC REPORTING REQUIREMENTS.

THE CONTRACTOR SHALL CONTACT DOEE INSPECTION (202) 535-2977 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST THREE (3) BUSINESS DAYS BEFORE COMMENCEMENT OF A LAND-DISTURBING ACTIVITY.

CONSTRUCTION SHALL NOT BEGIN UNTIL ALL EROSION AND SEDIMENT CONTROL (ESC) MEASURES HAVE BEEN INSTALLED AND APPROVED BY DOEE INSPECTORS. ADDITIONAL LOCATIONS AND TYPES OF THE ESC MEASURES WILL BE DETERMINED AS DEEMED NECESSARY BY INSPECTORS FROM THE CONSTRUCTION AND MAINTENANCE BRANCH, WATERSHED PROTECTION DIVISION, DEPARTMENT OF ENERGY AND ENVIRONMENT.

THE CONTRACTOR SHALL STAY WITHIN THE LIMIT OF DISTURBANCE AS SHOWN ON THE PLANS AND MINIMIZE DISTURBANCE WITHIN THE WORKING AREA WHEREVER POSSIBLE. THROUGHOUT THE TIMEFRAME OF CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ASSURING THAT THE EROSION AND SEDIMENT CONTROL MEASURES (ESC) ARE FUNCTIONAL ON A DAY TO DAY BASIS. NO DISTURBED AREAS ARE TO BE ALLOWED TO DRAIN DIRECTLY OFF SITE. DISTURBED AREAS SHALL BE STABILIZED IMMEDIATELY AFTER COMPLETION.

EROSION AND SEDIMENT CONTROL SETUP

1. PRIOR TO THE PRE-CONSTRUCTION MEETING, THE CONTRACTOR SHALL STAKE OUT THE LIMITS OF DISTURBANCE (LOD). ALL UNDERGROUND UTILITIES WITHIN THE LOD SHALL BE MARKED AND FLAGGED. TREES DESIGNATED FOR TREE PROTECTION AND REMOVAL SHALL BE FLAGGED.
2. THE CONTRACTOR SHALL CONDUCT A PRE-CONSTRUCTION MEETING ONSITE WITH DOEE TO REVIEW THE LIMITS OF DISTURBANCE, EROSION AND SEDIMENT CONTROL REQUIREMENTS, TREE PROTECTION AND REMOVAL, AND THE SEQUENCE OF CONSTRUCTION. THE PARTICIPANTS WILL ALSO VERIFY THE LOCATION OF THE TEMPORARY STOCKPILE AREA AND/OR ANY NECESSARY STAGING AREA.
3. THE CONTRACTOR SHALL INSTALL THE PERIMETER CONTROLS AND INLET PROTECTION.
4. ALL MATERIAL AND/OR DEBRIS STOCKPILE AREAS MUST BE LOCATED WITHIN THE LIMIT OF DISTURBANCE.
5. DOEE WILL BE NOTIFIED UPON COMPLETION OF THE SEDIMENT CONTROL INSTALLATION. UPON APPROVAL, THE CONTRACTOR MAY BEGIN GRADING OPERATIONS. CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION, GRADING PLANS, AND EROSION AND SEDIMENT CONTROL STANDARD DETAILS AND NOTES. CLEAR AND GRUB ONLY AS APPROVED BY THE ENGINEER.

CONSTRUCTION ACTIVITIES

1. CARE SHALL BE TAKEN TO SAVE EXISTING TREES WHERE NOT EXPLICITLY MARKED FOR REMOVAL.
2. BLOCK ALL INLETS INTO THE BIORETENTION UNTIL FINAL VEGETATIVE STABILIZATION. WHEN NEEDED TO MAINTAIN A DRY ACTIVE WORK AREA, DEWATER USING AN APPROVED PUMP AROUND PRACTICE.
3. STOCKPILED MATERIAL NOT BEING ACTIVELY USED OR ADDED TO SHALL BE STABILIZED WITH MULCH, TEMPORARY VEGETATION, HYDROSEED OR PLASTIC WITHIN FIFTEEN (15) CALENDAR DAYS AFTER ITS LAST USE OR ADDITION. OVERSEED WITH PERMANENT SEED AS PER CONSTRUCTION PLANS AND SPECIFICATIONS AS COMPLETED AREAS ARE APPROVED BY INSPECTOR/ENGINEER.
4. WHEN CONSTRUCTION IS COMPLETE, STABILIZE ANY REMAINING DISTURBED AREAS. UPON STABILIZATION OF THE SITE WITH ESTABLISHED PERMANENT SEED OR OTHER VEGETATION AND WITH THE APPROVAL OF THE SEDIMENT CONTROL INSPECTOR, REMOVE REMAINING SEDIMENT CONTROL DEVICES. STABILIZE ANY AREAS DISTURBED BY SEDIMENT CONTROL REMOVAL.

BIORETENTION INSTALLATION SOC

1. CONTRACTOR SHALL BEGIN EXCAVATION OF BIORETENTION BASIN.
2. INSTALL THE DIRECT CONNECTION OF THE UNDERDRAIN TO THE EXISTING STORM DRAIN INLET.
3. PLACE THE 2 INCHES OF NO. 57 STONE (CLEAN, WASHED) ON THE BOTTOM, INSTALL THE PERFORATED UNDERDRAIN PIPE AND CONNECT THE DRAIN BASIN AND CLEANOUT/OBSERVATION WELL TO THE PERFORATED UNDERDRAIN PIPE. PLACE THE REMAINING 6 INCHES OF NO. 57 STONE (CLEAN, WASHED) AND ADD THE 4 INCHES OF NO. 8 STONE (CLEAN, WASHED) AS A FILTER BETWEEN THE UNDERDRAIN AND THE SOIL MEDIA LAYER.
4. APPLY THE BIORETENTION MEDIA IN 12-INCH LIFTS UNTIL THE DESIRED TOP ELEVATION OF THE BIORETENTION AREA IS ACHIEVED. WAIT A FEW DAYS TO CHECK FOR SETTLEMENT AND ADD ADDITIONAL MEDIA, AS NEEDED, TO ACHIEVE THE DESIGN ELEVATION. CONTRACTOR MAY ALSO FILL THE BIORETENTION WITH WATER AND LET IT NATURALLY DRAIN TO HYDRO-COMPACT THE MEDIA. REPEAT AS NECESSARY UNTIL FINAL PROPOSED GRADE IS ACHIEVED.

NOTE: THE BATCH RECEIPT CONFIRMING THE SOURCE OF THE SOIL MEDIA MUST BE SUBMITTED TO THE DOEE INSPECTOR AND BIOHABITATS REPRESENTATIVE ON SITE.

SEQUENCE OF CONSTRUCTION (CONT'D):

5. INSTALL THE 2 INCHES OF MULCH ONCE THE BIORETENTION MEDIA FINAL PROPOSED GRADE IS ACHIEVED.
6. CONSTRUCT STONE HEADWALL AS SHOWN ON THE PLANS AND BEGIN EXCAVATION OF GRASSED SWALE FROM THE BIORETENTION TO THE SIDEWALK. EXCAVATED SWALE SHALL BE STABILIZED SAME DAY USING TURFGRASS SEED AND STRAW..
7. PREPARE FILTER MEDIA FOR PLANTS. PREPARE PLANTING HOLES FOR ANY SHRUBS.
8. INSTALL THE PLANT MATERIALS AS SHOWN, AND WATER THEM UNTIL ESTABLISHED INCLUDING THE INSTALLATION OF ANY TEMPORARY IRRIGATION.
9. CONDUCT THE FINAL CONSTRUCTION INSPECTION USING A QUALIFIED PROFESSIONAL PROVIDING DOEE WITH AN AS-BUILT, THEN LOG THE GPS COORDINATES FOR EACH BIORETENTION FACILITY, AND SUBMIT THEM FOR ENTRY INTO THE MAINTENANCE TRACKING DATABASE.

SITE PLANTING

1. ONCE SITE HAS REACHED FINAL GRADES AND HAS BEEN STABILIZED, PLANT ACCORDING TO PLAN, SCHEDULE, AND DETAILS PROVIDED.
2. PLANTING CONTRACTOR TO INCLUDE SITE WATERING BASED ON THE FOLLOWING SCHEDULE:
   A. WATERING VEGETATION EVERY OTHER DAY FOR THE FIRST TWO WEEKS AFTER PLANTING;
   B. WATERING VEGETATION ONCE A WEEK FOR THE TWO MONTHS FOLLOWING THE FIRST TWO WEEK PERIOD IF THE PRECIPITATION IS LESS THAN 1-INCH PER WEEK; AND
   C. WATERING VEGETATION AS NEEDED AFTER THE FIRST TWO MONTHS DURING FIRST GROWING SEASON (APRIL-OCTOBER), DEPENDING ON RAINFALL.
3. PLANTING CONTRACTOR TO PROVIDE A ONE (1) YEAR WARRANTY TO INCLUDE REPLACEMENT OF UP TO 85% SURVIVABILITY ON ALL NEWLY PLANTED MATERIAL. MORTALITY WILL BE DETERMINED AT A SITE WALK TO OCCUR BEFORE THE EXPIRATION OF THE ONE YEAR WARRANTY.

DOEE SOIL EROSION AND SEDIMENT CONTROL PLAN GENERAL NOTES:

1. FOLLOWING INITIAL LAND DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR INTERIM STABILIZATION MUST BE COMPLETED WITHIN SEVEN (7) CALENDAR DAYS FOR THE SURFACES OF ALL PERIMETER CONTROLS, DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND SLOPES GREATER THAN THREE (3) HORIZONTAL TO ONE (1) VERTICAL (3:1); AND FOURTEEN (14) DAYS FOR ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE. THESE REQUIREMENTS DO NOT APPLY TO AREAS SHOWN ON THE PLAN THAT ARE USED FOR MATERIAL STORAGE OTHER THAN STOCKPILING, OR FOR THOSE AREAS ON THE PLAN WHERE ACTUAL CONSTRUCTION ACTIVITIES ARE BEING PERFORMED. MAINTENANCE SHALL BE PERFORMED AS NECESSARY SO THAT STABILIZED AREAS CONTINUOUSLY MEET THE APPROPRIATE REQUIREMENTS OF THE DISTRICT OF COLUMBIA STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL (ESC). [21 DCMR § 542.9 (O)]
2. ESC MEASURES SHALL BE IN PLACE BEFORE AND DURING LAND DISTURBANCE. [21 DCMR § 543.6]
3. CONTACT DOEE INSPECTION (202) 535-2977 TO SCHEDULE A PRECONSTRUCTION MEETING AT LEAST THREE (3) BUSINESS DAYS BEFORE THE COMMENCEMENT OF A LAND-DISTURBING ACTIVITY. [21 DCMR § 503.7 (A)]
4. A COPY OF THE APPROVED PLAN SET WILL BE MAINTAINED AT THE CONSTRUCTION SITE FROM THE DATE THAT CONSTRUCTION ACTIVITIES BEGIN TO THE DATE OF FINAL STABILIZATION AND WILL BE AVAILABLE FOR DOEE INSPECTORS. [21 DCMR § 542.15]
5. ESC MEASURES SHALL BE IN PLACE TO STABILIZE AN EXPOSED AREA AS SOON AS PRACTICABLE AFTER CONSTRUCTION ACTIVITY HAS TEMPORARILY OR PERMANENTLY CEASED BUT NO LATER THAN FOURTEEN (14) DAYS FOLLOWING CESSATION, EXCEPT THAT TEMPORARY OR PERMANENT STABILIZATION SHALL BE IN PLACE AT THE END OF EACH DAY OF UNDERGROUND UTILITY WORK THAT IS NOT CONTAINED WITHIN A LARGER DEVELOPMENT SITE. [21 DCMR § 543.7]
6. STOCKPILED MATERIAL BEING ACTIVELY USED DURING A PHASE OF CONSTRUCTION SHALL BE PROTECTED AGAINST EROSION BY ESTABLISHING AND MAINTAINING PERIMETER CONTROLS AROUND THE STOCKPILE. [21 DCMR § 543.16 (A)]
7. STOCKPILED MATERIAL NOT BEING ACTIVELY USED OR ADDED TO SHALL BE STABILIZED WITH MULCH, TEMPORARY VEGETATION, HYDRO-SEED OR PLASTIC WITHIN FIFTEEN (15) CALENDAR DAYS AFTER ITS LAST USE OR ADDITION. [21 DCMR § 543.16 (B)]
8. FILL MATERIAL MUST BE FREE OF CONTAMINATION LEVELS OF ANY POLLUTANT THAT IS, OR MAY BE CONSIDERED TO REPRESENT, A POSSIBLE HEALTH HAZARD TO THE PUBLIC OR MAY BE DETRIMENTAL TO SURFACE OR GROUND WATER QUALITY, OR WHICH MAY CAUSE DAMAGE TO PROPERTY OR THE DRAINAGE SYSTEM. ALL FILL MATERIAL MUST BE FREE OF HAZARDOUS MATERIALS AND COMPLY WITH ALL APPLICABLE DISTRICT AND FEDERAL REGULATIONS.
9. PROTECT BEST MANAGEMENT PRACTICES FROM SEDIMENTATION AND OTHER DAMAGE DURING CONSTRUCTION FOR PROPER POST CONSTRUCTION OPERATION. [21 DCMR § 543.5]
10. REQUEST A DOEE INSPECTOR'S APPROVAL AFTER THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROLS, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING. [21 DCMR § 542.12 (A)]
11. REQUEST A DOEE INSPECTOR'S APPROVAL AFTER FINAL STABILIZATION OF THE SITE AND BEFORE THE REMOVAL OF EROSION AND SEDIMENT CONTROLS. [21 DCMR § 542.12 (B)]
12. FINAL STABILIZATION MEANS THAT ALL LAND-DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED AND EITHER OF THE FOLLOWING TWO CRITERIA HAVE BEEN MET: (1) A UNIFORM (FOR EXAMPLE, EVENLY DISTRIBUTED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF SEVENTY PERCENT (70%) OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR (2) EQUIVALENT PERMANENT STABILIZATION MEASURES HAVE BEEN EMPLOYED (SUCH AS THE USE OF RIPRAP, GABIONS, OR GEOTEXTILES). [21 DCMR § 542.12 (B.1, B.2)]
13. FOLLOW THE REQUIREMENTS OF THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY APPROVED STORMWATER POLLUTION PREVENTION PLAN (SWPPP) AND MAINTAIN A LEGIBLE COPY OF THIS SWPPP ON SITE. [21 DCMR § 543.10 (B)]
14. POST A SIGN THAT NOTIFIES THE PUBLIC TO CONTACT DOEE IN THE EVENT OF EROSION OR OTHER POLLUTION. THE SIGN WILL BE PLACED AT EACH ENTRANCE TO THE SITE OR AS DIRECTED BY THE DOEE INSPECTOR. EACH SIGN WILL BE NO LESS THAN 18 X 24 INCHES IN SIZE AND MADE OF MATERIALS THAT WILL WITHSTAND WEATHER FOR THE DURATION OF THE PROJECT. LETTERING WILL BE AT LEAST 1 INCH IN HEIGHT AND EASILY READABLE BY THE PUBLIC FROM A DISTANCE OF TWELVE FEET (12 FT). THE SIGN MUST DIRECT THE PUBLIC, IN SUBSTANTIALLY THE FOLLOWING FORM: "TO REPORT EROSION, RUNOFF, OR STORMWATER POLLUTION" AND WILL PROVIDE THE CONSTRUCTION SITE ADDRESS, DOEE'S TELEPHONE NUMBER (202-535-2977), DOEE'S E-MAIL ADDRESS (IEB.SCHEDULING@DC.GOV), AND THE 311 MOBILE APP HEADING ("CONSTRUCTION-EROSION RUNOFF"). [21 DCMR § 543.22]
15. A RESPONSIBLE PERSON MUST BE PRESENT OR AVAILABLE WHILE THE SITE IS IN A LAND-DISTURBING PHASE. THE RESPONSIBLE PERSON IS CHARGED WITH BEING AVAILABLE TO (A) INSPECT THE SITE AND ITS ESC MEASURES AT LEAST ONCE BIWEEKLY AND AFTER A RAINFALL EVENT TO IDENTIFY AND REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM, (B) RESPOND TO EACH POTENTIAL OR ACTUAL EROSION PROBLEM IDENTIFIED BY CONSTRUCTION PERSONNEL, AND (C) SPEAK ON SITE WITH DOEE TO REMEDY EACH POTENTIAL OR ACTUAL EROSION PROBLEM. A RESPONSIBLE PERSON SHALL BE (A) LICENSED IN THE DISTRICT OF COLUMBIA AS A CIVIL OR GEOTECHNICAL ENGINEER, A LAND SURVEYOR, OR ARCHITECT; OR (B) CERTIFIED THROUGH A TRAINING PROGRAM THAT DOEE APPROVES, INCLUDING A COURSE ON EROSION CONTROL PROVIDED BY ANOTHER JURISDICTION OR PROFESSIONAL ASSOCIATION. DURING CONSTRUCTION, THE RESPONSIBLE PERSON SHALL KEEP ON SITE PROOF OF PROFESSIONAL LICENSING OR OF SUCCESSFUL COMPLETION OF A DOEE-APPROVED TRAINING PROGRAM. [21 DCMR § 547]
16. THE SITE WORK SHALL MAXIMIZE THE PRESERVATION OF NATURAL VEGETATION AND LIMIT THE REMOVAL OF VEGETATION TO WHAT IS NECESSARY FOR CONSTRUCTION OR LANDSCAPING ACTIVITY.
17. REMOVE OFF-SITE ACCUMULATIONS OF SEDIMENT DAILY DURING CONSTRUCTION AND IMMEDIATELY AT THE REQUEST OF A DOEE INSPECTOR.
18. CONTRACTOR TO COORDINATE ESC MEASURE PLACEMENT WITH DOEE INSPECTOR AND INSTALL ADDITIONAL MEASURES AS REQUIRED BY THE DOEE INSPECTOR.
19. CONTRACTOR TO FOLLOW THE DESIGN, CONSTRUCTION, AND MAINTENANCE SPECIFICATIONS FOR EACH EROSION AND SEDIMENT CONTROL MEASURE PER THE 2017 DOEE EROSION AND SEDIMENT CONTROL GUIDEBOOK.

STORMWATER MANAGEMENT PLAN (SWMP) GOOD HOUSEKEEPING STAMP NOTES:

1. FUELS AND OILS- ON-SITE REFUELING WILL BE CONDUCTED IN A DEDICATED LOCATION AWAY FROM ACCESS TO SURFACE WATERS. INSTALL CONTAINMENT BERMS AND, OR SECONDARY CONTAINMENTS AROUND REFUELING AREAS AND STORAGE TANKS. SPILLS WILL BE CLEANED UP IMMEDIATELY AND CONTAMINATED SOILS DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS. PETROLEUM PRODUCTS WILL BE STORED IN CLEARLY LABELED TIGHTLY SEALED CONTAINERS. ALL VEHICLES ON SITE WILL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTIVE MAINTENANCE ACTIVITIES. ANY ASPHALT SUBSTANCES USED ON SITE WILL BE APPLIED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SPILL KITS WILL BE INCLUDED WITH ALL FUELING SOURCES AND MAINTENANCE ACTIVITIES.
2. SOLID WASTE- NO SOLID MATERIALS SHALL BE DISCHARGED TO SURFACE WATER. SOLID MATERIALS INCLUDING BUILDING MATERIALS, GARBAGE AND PAINT DEBRIS SHALL BE CLEANED UP DAILY AND DEPOSITED INTO DUMPSTERS, WHICH WILL BE PERIODICALLY REMOVED AND DEPOSITED INTO A LANDFILL.
3. ABRASIVE BLASTING- WATER BLASTING, SAND BLASTING, AND OTHER FORMS OF ABRASIVE BLASTING ON PAINTED SURFACES BUILT PRIOR TO 1978 MAY ONLY BE PERFORMED IF AN EFFECTIVE CONTAINMENT SYSTEM PREVENTS DISPERSAL OF PAINT DEBRIS.
4. FERTILIZER- FERTILIZERS WILL BE APPLIED ONLY IN THE MINIMUM AMOUNTS RECOMMENDED BY THE MANUFACTURER, WORKED INTO THE SOIL TO LIMIT EXPOSURE TO STORMWATER, AND STORED IN A COVERED SHED. PARTIALLY USED BAGS WILL BE TRANSFERRED TO A SEALABLE BIN TO AVOID SPILLS.
5. PAINT AND OTHER CHEMICALS- ALL PAINT CONTAINERS AND CURING COMPOUNDS WILL BE TIGHTLY SEALED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT WILL NOT BE DISCHARGED TO THE STORM SEWERS, BUT WILL BE PROPERLY DISPOSED OF ACCORDING TO MANUFACTURER'S RECOMMENDATIONS. SPRAY GUNS WILL BE CLEANED ON A REMOVABLE TARP. CHEMICALS USED ON SITE ARE KEPT IN SMALL QUANTITIES AND IN CLOSED CONTAINERS UNDERCOVER AND KEPT OUT OF DIRECT CONTACT WITH STORMWATER. AS WITH FUELS AND OILS, ANY INADVERTANT SPILLS WILL BE CLEANED UP IMMEDIATELY AND DISPOSED OF ACCORDING TO FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS.
6. CONCRETE- CONCRETE TRUCKS WILL NOT BE ALLOWED TO WASH OUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH ON SITE, EXCEPT IN A SPECIALLY DESIGNATED CONCRETE DISPOSAL AREA. FORM RELEASE OIL FOR DECORATIVE STONE WORK WILL BE APPLIED OVER A PALLET COVERED WITH AN ABSORBENT MATERIAL TO COLLECT EXCESS FLUID. THE ABSORBENT MATERIAL WILL BE REPLACED AND DISPOSED OF PROPERLY WHEN SATURATED.
7. WATER TESTING- WHEN TESTING AND, OR CLEANING WATER SUPPLY LINES, THE DISCHARGE FROM THE TESTED PIPE WILL BE COLLECTED AND CONVEYED TO A COMPLETED STORMWATER CONVEYANCE SYSTEM FOR ULTIMATE DISCHARGE INTO A STORMWATER BEST MANAGEMENT PRACTICE (BMP).
8. SANITARY WASTE- PORTABLE LAVATORIES LOCATED ON SITE WILL BE SERVICED ON A REGULAR BASIS BY A CONTRACTOR. PORTABLE LAVATORIES WILL BE LOCATED IN AN UPLAND AREA AWAY FROM DIRECT CONTACT WITH SURFACE WATERS. ANY SPILLS OCCURRING DURING SERVICING WILL BE CLEANED IMMEDIATELY AND CONTAMINATED SOILS DISPOSED OF IN ACCORDANCE WITH ALL FEDERAL AND DISTRICT OF COLUMBIA REGULATIONS.

CLIENT

DEPARTMENT OF ENERGY & ENVIRONMENT

ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA, 1200 FIRST ST, NE 5TH FLOOR, WASHINGTON DC, 20002

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DC.gov

MAYOR MURIEL BOWSER

DATE:	ISSUES / REVISIONS
02/21/2023	30% CONCEPT DESIGNS
01/17/2024	60% SEMI-FINAL DESIGNS

60% SEMI-FINAL DESIGN

Biohabitats
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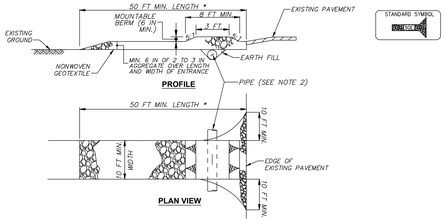
fx: 410.554.0168 / www.biohabitats.com
Restore the Earth & Inspire Ecological Stewardship

DWIGHT MOSLEY GI RETROFITS

TITLE:

ESC NOTES

PROJECT NO. :	23014.01	SCALE:	NA
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C510



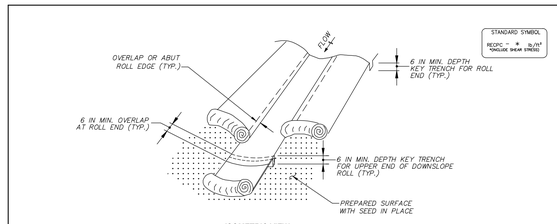
STANDARD SYMBOL: SCE

CONSTRUCTION SPECIFICATIONS

1. PLACE THE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE A MINIMUM LENGTH OF 50 FEET (*30 FEET FOR SINGLE-FAMILY RESIDENCE LOT) AND A MINIMUM WIDTH OF 10 FEET. FLARE THE SCE AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE MAINTAINING POSITIVE DRAINAGE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. PROVIDE PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5:1 SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. WHEN THE SCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN THE SCE IS NOT LOCATED AT A HIGH SPOT.
3. PREPARE SUBGRADE AND PLACE NONWOVEN GEOTEXTILE.
4. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE SCE.
5. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

DATE	APPR.		STABILIZED CONSTRUCTION ENTRANCE	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 201.1
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS



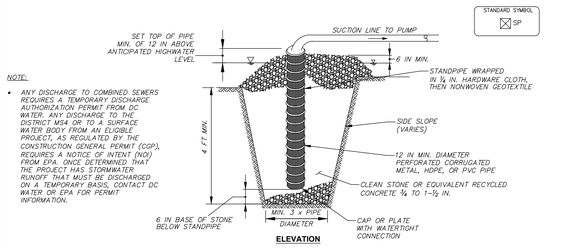
STANDARD SYMBOL: RECPC (* lb/ft² *INCLUDE SHEAR STRESS)

CONSTRUCTION SPECIFICATIONS

1. PREPARE SOIL BEFORE INSTALLING MATTING, INCLUDING APPLICATION OF LIME, FERTILIZER, AND SEED. FOR SOIL-FILLED RECPs, THE PLANTING BED MAY BE INSTALLED AFTER THE PRODUCT IS INSTALLED.
2. START LAYING THE PROTECTIVE COVERING AT THE CHANNEL INLET (I.E., HIGHEST ELEVATION) ALONG THE BOTTOM OF THE CHANNEL. UNROLL IN THE DIRECTION OF FLOW.
3. AT THE CHANNEL INLET, BURY THE FIRST MATS IN AN ANCHOR SLOT NO LESS THAN 6 INCHES DEEP. TAMP EARTH FIRMLY OVER THE MATERIAL. STAPLE THE MATERIAL AT A MINIMUM OF EVERY 12 INCHES ACROSS THE TOP END.
4. LAY MATS END OVER END WITH A 6-INCH OVERLAP AND SECURED WITH A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART.
5. IN HIGH FLOW APPLICATIONS, INSTALL A STAPLE CHECK DAM (A DOUBLE ROW OF STAGGERED STAPLES 4 INCHES APART ACROSS THE ENTIRE CHANNEL WIDTH), AT 30-FOOT TO 40-FOOT INTERVALS.
6. ANCHOR THE TERMINAL END OF EACH MAT IN A 6-INCH BY 6-INCH TRENCH. BACKFILL AND COMPACT AFTER STAPLING.
7. MATS INSTALLED ALONG THE SIDE SLOPES SHOULD OVERLAP THE CENTER MAT BY 4 INCHES. INSTALL WITH A STAPLE DENSITY OR SPACING PER MANUFACTURERS' RECOMMENDATIONS.

DATE	APPR.		ROLLED EROSION CONTROL PRODUCTS CHANNEL STABILIZATION	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 209.2
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS



STANDARD SYMBOL: SP

NOTE:

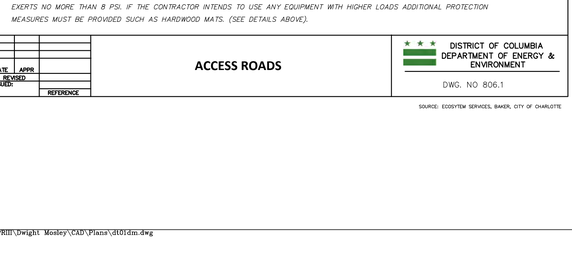
- ANY DISCHARGE TO COMBINED SEWERS REQUIRES A TEMPORARY DISCHARGE AUTHORIZATION PERMIT FROM DC WATER. ANY DISCHARGE TO THE DISTRICT MS4 OR TO A SURFACE WATER BODY FROM AN ELIGIBLE PROJECT, AS REGULATED BY THE CONSTRUCTION GENERAL PERMIT (CGP), REQUIRES A NOTICE OF INTENT (NOI) FROM EPA. ONCE DETERMINED THAT THE PROJECT HAS STORMWATER RUNOFF THAT MUST BE DISCHARGED ON A TEMPORARY BASIS, CONTACT DC WATER OR EPA FOR PERMIT INFORMATION.

CONSTRUCTION SPECIFICATIONS

1. WRAP THE PIPE WITH ¾ INCH GALVANIZED HARDWARE CLOTH AND THEN GEOTEXTILE OVER THE HARDWARE CLOTH.
2. EXCAVATE THE PIT TO 3 TIMES THE PIPE DIAMETER AND 4 FEET IN DEPTH. PLACE CLEAN ¾ TO 1-½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
3. SET THE TOP OF PIPE A MINIMUM OF 12 INCHES ABOVE THE ANTICIPATED WATER SURFACE ELEVATION.
4. BACKFILL PIT AROUND THE OUTER PIPE WITH ¾ TO 1-½ INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
5. PLACE THE SUCTION HOSE FROM THE PUMP INSIDE THE PIPE TO BEGIN DEWATERING. PLACE THE DISCHARGE HOSE IN A STABILIZED AREA DOWNSLOPE OF UNSTABILIZED AREAS TO PREVENT EROSION. MEADOW OR WOODED AREAS ARE PREFERRED DISCHARGE LOCATIONS BUT STORM DRAINS AND PAVED AREAS ARE ACCEPTABLE.

DATE	APPR.		SUMP PIT	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 702.1
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS



STANDARD SYMBOL: SF

CONSTRUCTION SPECIFICATIONS

1. FENCE POSTS MUST BE A MINIMUM OF 36 IN. LONG DRIVEN 16 IN. MINIMUM INTO THE GROUND. WOOD POSTS MUST BE OF SOUND QUALITY HARDWOOD WITH 1-1/2 IN. MINIMUM WIDTH WHEN SQUARE CUT, OR 1-3/4 IN. MINIMUM DIAMETER WHEN ROUND. STEEL POSTS MUST BE STANDARD T OR U SECTION WEIGHING NOT LESS THAN 1.00 POUND PER LINEAR FOOT.
2. FASTEN GEOTEXTILE SECURELY TO EACH FENCE POST WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION. GEOTEXTILE MUST MEET THE FOLLOWING REQUIREMENTS (GEOTEXTILE CLASS F):

PROPERTY	VALUE	TEST METHOD
TENSILE STRENGTH	50 LBS/IN (MIN.)	ASTM D-4595
TENSILE MODULUS	20 LBS/IN (MIN.)	ASTM D-4595
FLOW RATE	0.3 GAL/FT²/MINUTE (MAX.)	ASTM D-5141
FILTERING EFFICIENCY	75% (MIN.)	ASTM D-5141

3. WHERE ENDS OF GEOTEXTILE FABRIC COME TOGETHER, OVERLAP, FOLD, AND STAPLE THEM TO PREVENT SEDIMENT BYPASS.
4. INSPECT SILT FENCE AFTER EACH RAINFALL EVENT, AT LEAST DAILY DURING SUSTAINED RAINFALL EVENTS, AND MAINTAIN WHEN BULGES OCCUR OR WHEN SEDIMENT ACCUMULATION REACHES 30% OF THE FABRIC HEIGHT.

DATE	APPR.		SILT FENCE-1	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 301.1
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS

SILT FENCE DESIGN CRITERIA:

TABLE 3.1: SILT FENCE SLOPE LENGTH AND FENCE LENGTH CONSTRAINTS

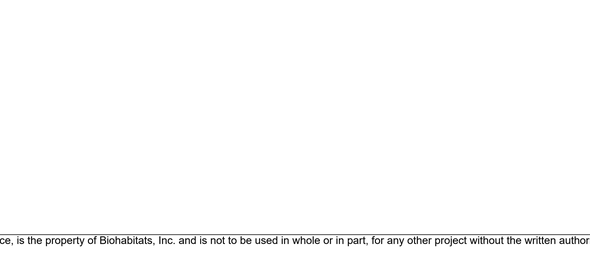
SLOPE STEEPNESS	SLOPE LENGTH (MAXIMUM) (FEET)	SILT FENCE LENGTH (MAXIMUM) (FEET)
FLATTER THAN 50:1 (2%)	UNLIMITED	UNLIMITED
> 50:1 TO 10:1 (2% to 10%)	125	1,000
> 10:1 TO 5:1 (10% to 20%)	100	750
> 5:1 TO 3:1 (20% to 33%)	60	500
> 3:1 TO 2:1 (33% to 50%)	40	250
> 2:1 (> 50%)	20	125

NOTE:

- IN AREAS OF LESS THAN 2% SLOPE AND SANDY SOILS (USDA GENERAL CLASSIFICATION SYSTEM, SOIL CLASS A) MAXIMUM SLOPE LENGTH AND SILT FENCE LENGTH WILL BE UNLIMITED. IN THESE AREAS A SILT FENCE MAY BE THE ONLY PERIMETER CONTROL REQUIRED.
- TO AVOID CIRCUMVENTION, EXTEND THE ENDS OF THE SILT FENCE UPSLOPE TO PREVENT WATER AND SEDIMENT FROM FLOWING AROUND THE ENDS OF THE FENCE.

DATE	APPR.		SILT FENCE-2	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 301.2
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS & SPECIFICATIONS

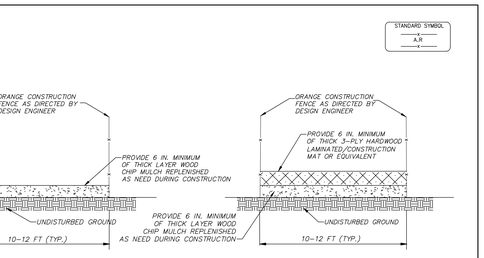


CONSTRUCTION SPECIFICATIONS

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON 8 INCHES SUITABLE BASE LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. AND DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.

DATE	APPR.		PUMPED WATER FILTER BAGS	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 704.1
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS

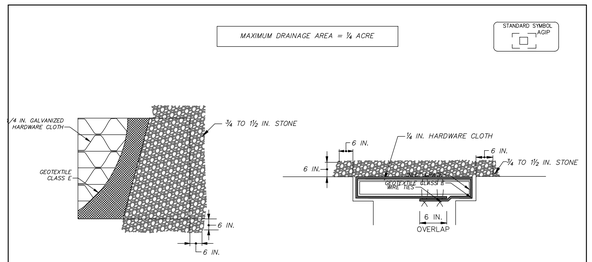


CONSTRUCTION SPECIFICATIONS

1. ACCESS ROUTES TO BE VERIFIED BY ENGINEER AT PRE-CONSTRUCTION MEETING. REVISIONS TO THE ALIGNMENT THAT MINIMIZE TREE DISTURBANCE ARE ENCOURAGED AND REQUIRE REVIEW AND APPROVAL BY DESIGN ENGINEER.
2. CONTRACTOR SHALL MAINTAIN MULCH MAT THROUGHOUT CONSTRUCTION PERIOD.
3. THE HAUL ROAD IS DESIGNED TO PREVENT COMPACTION OF EXISTING SOILS USING LOW GROUND PRESSURE EQUIPMENT WHICH EXERTS NO MORE THAN 8 PSI. IF THE CONTRACTOR INTENDS TO USE ANY EQUIPMENT WITH HIGHER LOADS ADDITIONAL PROTECTION MEASURES MUST BE PROVIDED SUCH AS HARDWOOD MATS. (SEE DETAILS ABOVE).

DATE	APPR.		ACCESS ROADS	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 806.1
		REFERENCE		

SOURCE: ECOSYSTEM SERVICES, BAKER, CITY OF CHARLOTTE



CONSTRUCTION SPECIFICATIONS

1. LIFT GRATE AND WRAP WITH GEOTEXTILE CLASS E TO COMPLETELY COVER ALL OPENINGS, SECURE WITH WIRE TIES, THEN SET GRATE BACK IN PLACE.
2. PLACE CLEAN ¾ TO 1-½ INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 4 TO 6 INCHES THICK ON THE GRATE TO SECURE THE FABRIC.
3. IF THERE ARE ANY SIGNS OF STREET FLOODING OR WATER PONDING, THIS STRUCTURE MUST BE CLEANED OR REPLACED, OR REDESIGNED WITH A VIABLE ALTERNATIVE.

DATE	APPR.		AT GRADE INLET PROTECTION STORM DRAIN INLET PROTECTION	DISTRICT OF COLUMBIA DEPARTMENT OF ENERGY & ENVIRONMENT
REVISED				
ISSUED:				DWG. NO 307.2
		REFERENCE		

SOURCE: 2011 MARYLAND STANDARDS AND SPECIFICATIONS

CLIENT

DEPARTMENT OF ENERGY & ENVIRONMENT

ELAINE VIDAL, ENVIRONMENTAL PROTECTION SPECIALIST
WATERSHED PROTECTION DIVISION
DEPARTMENT OF ENERGY AND ENVIRONMENT
GOVERNMENT OF THE DISTRICT OF COLUMBIA, 1200 FIRST ST, NE 5TH FLOOR, WASHINGTON DC, 20002

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MAYOR MURIEL BOWSER

DATE:	ISSUES / REVISIONS
02/21/2023	30% CONCEPT DESIGNS
01/17/2024	60% SEMI-FINAL DESIGNS

60% SEMI-FINAL DESIGN

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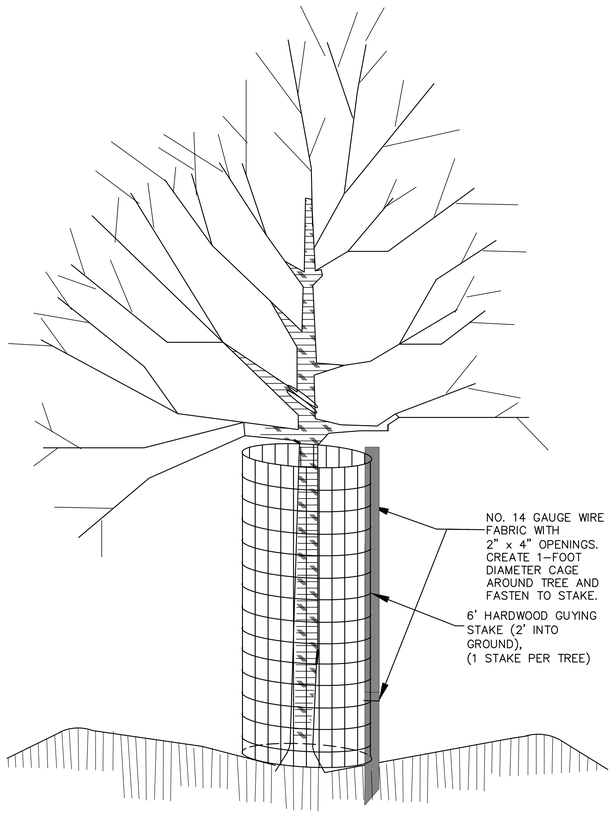
DWIGHT MOSLEY GI RETROFITS

TITLE: ESC DETAILS

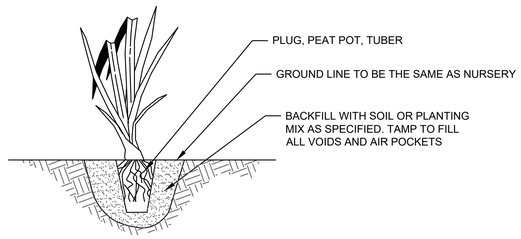
PROJECT NO. :	23014.01	SCALE:	NTS
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C530



NOTES:
1. DEER PROTECTION CAGES TO BE INSTALLED AROUND ALL PLANTED TREES AND SHRUB CLUSTERS AS DIRECTED BY LANDSCAPE ARCHITECT.
2. HEIGHT OF CAGE SHALL BE 4-FEET (MIN.)
3. CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11-INCH RELEASABLE CABLE TIES (ONE AT TOP AND ONE 6" (MIN.) ABOVE THE GROUND.
4. DO NOT DAMAGE TREE DURING INSTALLATION.
5. DEER BARK PROTECTORS (ITEM #bg48, BY A.M. LEONARD, OR EQUAL) MAY BE SUBSTITUTED FOR TREES GREATER THAN 3/4" CALIPER. ALL OTHER SUBSTITUTIONS MUST BE APPROVED BY FOREST ECOLOGIST.
6. CAGES TO BE REMOVED AT DIRECTION OF FOREST ECOLOGIST.
7. ENSURE CAGE IS SECURE TO GROUND TO PREVENT UPLIFT BY DEER.

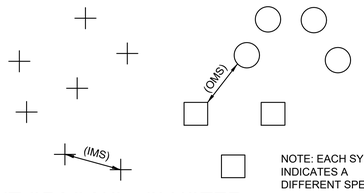
DEER PROTECTION CAGE

NOT TO SCALE



HERBACEOUS PLANTING - QUARTS

NOT TO SCALE

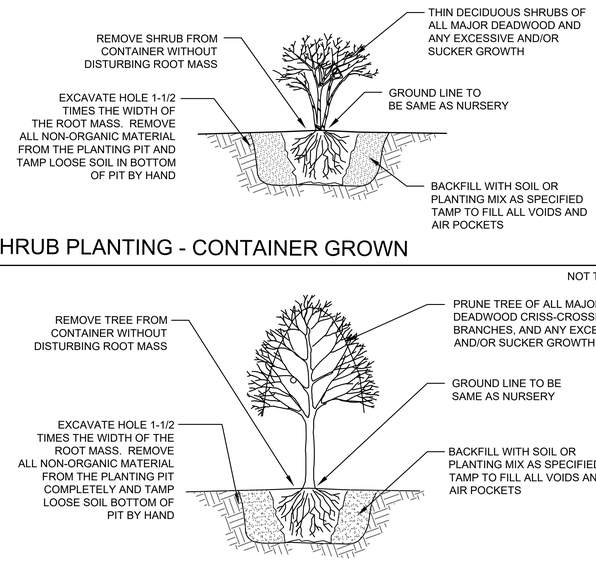


NOTE: EACH SYMBOL INDICATES A DIFFERENT SPECIES

1. PLANTS ARE ARRANGED IN CLUSTERS CONSISTING OF THE SAME SPECIES.
2. SPACING BETWEEN EACH CLUSTER IS DETERMINED BY THE OVERALL MINIMUM SPACING DISTANCE (OMS).
3. SPACING BETWEEN EACH SPECIES WITHIN EACH CLUSTER IS DETERMINED BY THE INDIVIDUAL MINIMUM SPACING DISTANCE (IMS).
4. CLUSTERS, WHENEVER POSSIBLE, SHALL CONSIST OF ODD NUMBERS WITH NO LESS THAN 3 AND NO MORE THAN 11 INDIVIDUALS OF ONE SPECIES.

PLANT SPACING - CLUSTER PLAN VIEW

NOT TO SCALE

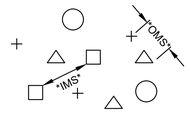


SHRUB PLANTING - CONTAINER GROWN

NOT TO SCALE

TREE PLANTING - CONTAINER GROWN

NOT TO SCALE



OMS- AN OVERALL MINIMUM SPACING DISTANCE *OMS* IS ASSIGNED TO THE PLANTING CONFIGURATION *SEE PLANT SCHEDULE*
IMS- AN INDIVIDUAL MINIMUM SPACING DISTANCES *IMS* IS ASSIGNED TO EACH INDIVIDUAL SPECIES *SEE PLANT SCHEDULE*

PLANT SPACING - RANDOM PLAN VIEW

NOTE: EACH SYMBOL INDICATES A DIFFERENT SPECIES

NOT TO SCALE

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DWIGHT MOSLEY GI RETROFITS

TITLE:

PLANTING DETAILS

PROJECT NO. : 23014.01	SCALE: NTS	
SEAL:	BY: SF	CHECK: BA
	DWG. NO. : C560	

LEGEND

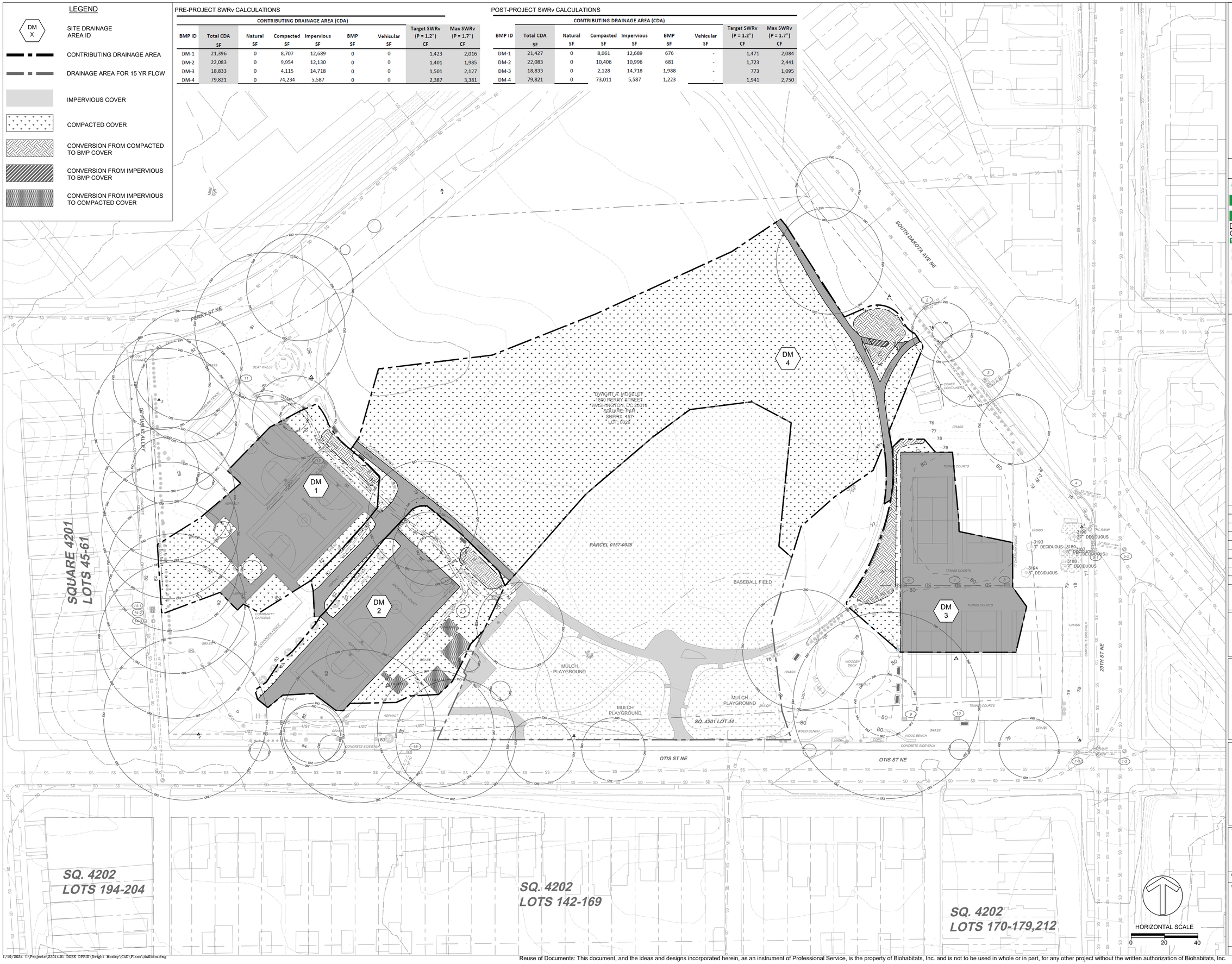
- DM X — SITE DRAINAGE AREA ID
- CONTRIBUTING DRAINAGE AREA
- DRAINAGE AREA FOR 15 YR FLOW
- IMPERVIOUS COVER
- COMPACTED COVER
- CONVERSION FROM COMPACTED TO BMP COVER
- CONVERSION FROM IMPERVIOUS TO BMP COVER
- CONVERSION FROM IMPERVIOUS TO COMPACTED COVER

PRE-PROJECT SWRv CALCULATIONS

	CONTRIBUTING DRAINAGE AREA (CDA)							
BMP ID	Total CDA SF	Natural SF	Compacted SF	Impervious SF	BMP SF	Vehicular SF	Target SWRv (P = 1.2") CF	Max SWRv (P = 1.7") CF
DM-1	21,396	0	8,707	12,689	0	0	1,423	2,016
DM-2	22,083	0	9,954	12,130	0	0	1,401	1,985
DM-3	18,833	0	4,115	14,718	0	0	1,501	2,127
DM-4	79,821	0	74,234	5,587	0	0	2,387	3,381

POST-PROJECT SWRv CALCULATIONS

	CONTRIBUTING DRAINAGE AREA (CDA)							
BMP ID	Total CDA SF	Natural SF	Compacted SF	Impervious SF	BMP SF	Vehicular SF	Target SWRv (P = 1.2") CF	Max SWRv (P = 1.7") CF
DM-1	21,427	0	8,061	12,689	676	-	1,471	2,084
DM-2	22,083	0	10,406	10,996	681	-	1,723	2,441
DM-3	18,833	0	2,128	14,718	1,988	-	773	1,095
DM-4	79,821	0	73,011	5,587	1,223	-	1,941	2,750



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60% SEMI-FINAL DESIGN

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DWIGHT MOSLEY GI RETROFITS

TITLE:

DA PLAN

PROJECT NO. :	23014.01	SCALE:	1"= 20'
SEAL:		BY: SF	CHECK: BA
		DWG. NO. :	C600

BMP TREATMENT VOLUME CALCULATIONS:

Biohabitats

Project	No	Date
DOEE DPR III - Dwight Mosley	23014.01	10/6/2024
Subject	**Completed By**	**QAQC By**
DM-1 Bioretention Basin Design Calculations	SF	BA

Calculations

BMP 1

Step 1: Determine Max. Filter Depth from SA:CDA & RvCDA (Table 3.21)

SA:CDA = 253:21396
***SA:CDA* = 3.2%**

$R_v CDA = (A_{comp} * 0.25 + A_{impervious} * 0.95 + 0 * A_{Natural}) / A_{total}$
$R_v CDA$ = **0.67**

From DDOE Table 3.21 for SA:CDA & RvCDA Above
***Max. Filter Media Depth* = 48 inches**

Step 2: Select Ponding & Media Depths, based on Site Constraints
Note: Gravel Depth layer to the Underdrain ($d_{gravel\text{-}UD}$) has been capped at 12" during treatment calculations

$d_{ponding}$ = 12.0 inches
d_{media} = 30.0 inches
$d_{gravel\text{-}UD}$ = 12.0 inches
$d_{gravel\text{-}sump}$ = 0.0 inches
d_p = 42.0 inches

Step 3: Calculate Storage Volume

$S_v = SA_{Bottom} \times [(d_{media} \times \eta_{media}) + (d_{stone} \times \eta_{stone})] + [(SA_{bottom} + SA_{top}) / 2 \times d_{ponding\text{-}bio}]$
S_v = 676 * [(2.5 x 0.25) + (1 x 0.4)] + [(253+676) / 2 x 1]
S_v = 724 cubic feet

Step 4: Check Sv vs SWRv of Drainage Area

S_v:SWRv = 724:1423
S_v:SWRv = 51%

Biohabitats

Project	No	Date
DOEE DPR III - Dwight Mosley	23014.01	1/19/2024
Subject	**Completed By**	**QAQC By**
DM-2 Bioretention Basin Design Calculations	SF	BA

Calculations

BMP 1

Step 1: Determine Max. Filter Depth from SA:CDA & RvCDA (Table 3.21)

SA:CDA = 371:22083
***SA:CDA* = 3.1%**

$R_v CDA = (A_{comp} * 0.25 + A_{impervious} * 0.95 + 0 * A_{Natural}) / A_{total}$
$R_v CDA$ = **0.00**

From DDOE Table 3.21 for SA:CDA & RvCDA Above
***Max. Filter Media Depth* = #N/A inches**

Step 2: Select Ponding & Media Depths, based on Site Constraints
Note: Gravel Depth layer to the Underdrain ($d_{gravel\text{-}UD}$) has been capped at 12" during treatment calculations

$d_{ponding}$ = 12.0 inches
d_{media} = 18.0 inches
$d_{gravel\text{-}UD}$ = 12.0 inches
$d_{gravel\text{-}sump}$ = 0.0 inches
d_p = 30.0 inches

Step 3: Calculate Storage Volume

$S_v = SA_{Bottom} \times [(d_{media} \times \eta_{media}) + (d_{stone} \times \eta_{stone})] + [(SA_{bottom} + SA_{top}) / 2 \times d_{ponding\text{-}bio}]$
S_v = 1222.9 * [(3 x 0.25) + (1 x 0.4)] + [(719+1223) / 2 x 1]
S_v = 1,798 cubic feet

Step 4: Check Sv vs SWRv of Drainage Area

S_v:SWRv = 1798:2387
S_v:SWRv = 75%

Biohabitats

Project	No	Date
DOEE DPR III - Dwight Mosley	23014.01	1/19/2024
Subject	**Completed By**	**QAQC By**
DM-3 Bioretention Basin Design Calculations	SF	BA

Calculations

BMP 1

Step 1: Determine Max. Filter Depth from SA:CDA & RvCDA (Table 3.21)

SA:CDA = 956:18833
***SA:CDA* = 10.6%**

$R_v CDA = (A_{comp} * 0.25 + A_{impervious} * 0.95 + 0 * A_{Natural}) / A_{total}$
$R_v CDA$ = **0.80**

From DDOE Table 3.21 for SA:CDA & RvCDA Above
***Max. Filter Media Depth* = NA inches**

Step 2: Select Ponding & Media Depths, based on Site Constraints
Note: Gravel Depth layer to the Underdrain ($d_{gravel\text{-}UD}$) has been capped at 12" during treatment calculations

$d_{ponding}$ = 12.0 inches
d_{media} = 18.0 inches
$d_{gravel\text{-}UD}$ = 12.0 inches
$d_{gravel\text{-}sump}$ = 0.0 inches
d_p = 30.0 inches

Step 3: Calculate Storage Volume

$S_v = SA_{Bottom} \times [(d_{media} \times \eta_{media}) + (d_{stone} \times \eta_{stone})] + [(SA_{bottom} + SA_{top}) / 2 \times d_{ponding\text{-}bio}]$
S_v = 1987.538 * [(1.5 x 0.25) + (1 x 0.4)] + [(956+1988) / 2 x 1]
S_v = 2,213 cubic feet

Step 4: Check Sv vs SWRv of Drainage Area

S_v:SWRv = 2213:1501
S_v:SWRv = 93%

Biohabitats

Project	No	Date
DOEE DPR III - Dwight Mosley	23014.01	1/19/2024
Subject	**Completed By**	**QAQC By**
DM-4 Bioretention Basin Design Calculations	SF	BA

Calculations

BMP 1

Step 1: Determine Max. Filter Depth from SA:CDA & RvCDA (Table 3.21)

SA:CDA = 719:79821
***SA:CDA* = 1.5%**

$R_v CDA = (A_{comp} * 0.25 + A_{impervious} * 0.95 + 0 * A_{Natural}) / A_{total}$
$R_v CDA$ = **0.30**

From DDOE Table 3.21 for SA:CDA & RvCDA Above
***Max. Filter Media Depth* = 42 inches**

Step 2: Select Ponding & Media Depths, based on Site Constraints
Note: Gravel Depth layer to the Underdrain ($d_{gravel\text{-}UD}$) has been capped at 12" during treatment calculations

$d_{ponding}$ = 12.0 inches
d_{media} = 36.0 inches
$d_{gravel\text{-}UD}$ = 12.0 inches
$d_{gravel\text{-}sump}$ = 0.0 inches
d_p = 48.0 inches

Step 3: Calculate Storage Volume

$S_v = SA_{Bottom} \times [(d_{media} \times \eta_{media}) + (d_{stone} \times \eta_{stone})] + [(SA_{bottom} + SA_{top}) / 2 \times d_{ponding\text{-}bio}]$
S_v = 1222.9 * [(3 x 0.25) + (1 x 0.4)] + [(719+1223) / 2 x 1]
S_v = 1,798 cubic feet

Step 4: Check Sv vs SWRv of Drainage Area

S_v:SWRv = 1798:2387
S_v:SWRv = 75%

DESIGN FLOW CALCULATIONS:

Biohabitats

Project	No	Date
Dakota Park	22021-02	1/19/2024
Subject	**Completed By**	**QAQC By**
Stormwater Retention Volume Peak Discharge Calculations	KT	BA

Hydrologic Drainage Areas

Hydrologic DA ID	Total DA SF	Natural SF	Compacted SF	Impervious SF	BMP SF	Vehicular SF	Target SWRv (P = 1.2") CF	Max SWRv (P = 1.7") CF	Provided SWRv CF
DM-1	21,427	-	8,061	12,689	676.0	-	1,407	1,993	716
DM-2	22,083		10,406	10,996	680.8		1,305	1,848	757
DM-3	18,833	-	2,128	14,718	1,987.5	-	1,451	2,056	2,139
DM-4	79,821		73,011	5,587	1,222.9		2,356	3,338	1,775

$$CN = \frac{1{,}000}{10 + 5P + 10Q_a - 10(Q_a^2 + 1.25Q_aP)^{0.5}}$$

where:
CN = Adjusted Curve Number
P = Rainfall (in.) (typically 1.2 in, adjusted to equivalent rainfall depth provided by retrofit BMP)
Q_a = runoff volume (watershed inches), equal to SWRv divided by drainage area

ADJUSTED CURVE NUMBERS

DM-1

P=	0.61
Qa [watershed in]=	0.40
DA [sf]=	21,427
CN=	97.75

DM-2

P=	0.70
Qa [watershed in]=	0.41
DA [sf]=	22,083
CN=	96.77

$$q_{PSWRv} = q_u \times A \times Q_a$$

where:
q_{PSWRv} = Stormwater Retention Volume peak discharge (cfs)
q_u = unit peak discharge (cfs/mi^2/in.)
A = drainage area (mi^2)
Q_a = runoff volume (watershed inches = SWRv/A)

DM-3

P=	1.77
Qa [watershed in]=	1.36
DA [sf]=	18,833
CN=	96.13

DM-4

P=	0.90
Qa [watershed in]=	0.27
DA [sf]=	79,821
CN=	90.23

STORMWATER RETENTION PEAK DISCHARGE

DM-1

Ia=	0.05
Tc [hr]*=	0.1
qu [cfs/ac/in]**=	1.5
DA [AC]=	0.49
qpSWRv [cfs]=	0.30

DM-2

Ia=	0.07
Tc [hr]*=	0.07
qu [cfs/ac/in]**=	1.6
DA [AC]=	0.51
qpSWRv [cfs]=	0.33

* *Time of concentration calculations were performed using WinTR-55. Due to the small watersheds and impervious cover, Tc values for both athletic courts and the Pipe drainage areas fell beneath the minimum 6 minute value. For the Channel drainage area, see the WinTR-55 calculations below.*

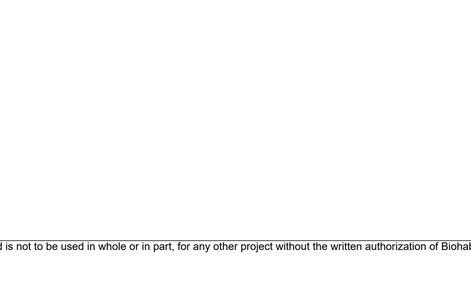
** q_u *values taken from NRCS exhibit 2-II- Unit peak discharge (q_u) for SCS Type II rainfall distribution*

Time of Concentration Details

Sub-area Name: Channel | Rename | Clear | 2-Year Rainfall (in): 3.2 | **Time of Concentration Details**

Flow Type	Length (ft)	Slope (ft/ft)	Surface (Manning's n)	n	Area (ft²)	WP (ft)	Velocity (f/s)	Time (hr)
Sheet	46	0.020	Grass-Range, Short (0.15)					0.046
Shallow Concentrated	200	0.0050	Paved					0.039
Shallow Concentrated								
Channel	121	0.0050		0.009	0.20	1.57	3.056	0.011
Channel	150	0.1300		0.040	0.22	2.00	2.976	0.014
Total	517						1.3056	0.110

Exhibit 2-II—Unit peak discharge (q_u) for SCS Type II rainfall distribution



OVERFLOW WEIR CALCULATIONS:

Biohabitats

Project	No	Date
Dwight Moseley DM-4	23014.01	1/4/2024
Subject	**Completed By**	**QAQC By**
Overflow Spillway Weir Calcs	SJF	BA

BIORETENTION OVERFLOW SPILLWAY WEIR CALCULATIONS

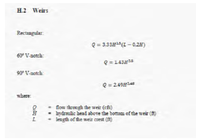
WEIR FLOW DEPTH CALCULATIONS:

$$Q = 3.33H^{1.5}(L - 0.2H)$$

where:
Q = Flowrate [cfs]
H = Hydraulic head above the bottom of the weir [ft]
L = Length of weir crest [ft]

Weir Invert (elev)	74.50	FT NAVD88
Weir Width (L)	7.35	ft
Weir Depth	6	inch
Weir Flow Depth (H)	3	inch
	0.25	ft
Calculated Q=	3.04	cfs
Required 15-Year Q=	3.04	cfs

*from TR-55 model



15-yr WSE= 74.75

WEIR OVERFLOW VELOCITY CALCULATIONS:

Manning's Equation:

$$Q = VA = \left(\frac{1.49}{n}\right) AR^{\frac{2}{3}}\sqrt{S} \quad [U.S.]$$

where:
Q = Flowrate [cfs]
V = Velocity (ft/s)
A = Flow Area (ft^2)
n = manning's roughness constant
R = Hydraulic Radius (ft)
S = Channel Slope (ft/ft)

Required 15-Year Q=	3.04	cfs
n =	0.03	(From Table B.1 of DOEE ESC Manual
S =	0.01	ft/ft
Flow depth (d) =	3	in
A =	1.84	sf
V =	1.89	ft/s

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60% SEMI-FINAL DESIGN

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DWIGHT MOSLEY GI RETROFITS

TITLE:
STORMWATER CALCULATIONS

PROJECT NO. : 23014.01	SCALE: NA	
SEAL:	BY: SF	CHECK: BA
	DWG. NO. : C700	