SHEET INDEX DESCRIPTION DESCRIPTION COVER SHEET 27 SEDIMENT CONTROL NOTES GENERAL NOTES, LEGEND, AND ABBREVIATIONS 28 SEDIMENT CONTROL DETAILS 29 UTILITY PLAN OVERALL EXISTING CONDITIONS PLAN 30 UTILITY PLAN EXISTING CONDITIONS AND DEMOLITION PLAN 31 UTILITY PLAN 32 STORM DRAIN DRAINAGE AREA MAP EXISTING CONDITIONS AND DEMOLITION PLAN SITE AND GRADING PLAN 33 STORM DRAIN PROFILES SITE AND GRADING PLAN STORM DRAIN PROFILES DOWNSTREAM OUTFALL POI DRAINAGE AREA MAP STORM DRAIN PROFILES STORM DRAIN PROFILES DOWNSTREAM ANALYSIS PLAN STORM DRAIN PROFILES PROPOSED DRAINAGE AREA MAP WATER PROFILE STORMWATER MANAGEMENT PLAN SEWER PROFILE STORMWATER MANAGEMENT PLAN LANDSCAPE PLAN STORMWATER MANAGEMENT DETAILS LANDSCAPE PLAN STORMWATER MANAGEMENT DETAILS LANDSCAPE NOTES AND DETAILS STORMWATER MANAGEMENT DETAILS STORMWATER MANAGEMENT DETAILS 43 SITE DETAILS SITE DETAILS STORMWATER MANAGEMENT DETAILS PHASE I SEDIMENT CONTROL PLAN 45 SITE DETAILS HASE I SEDIMENT CONTROL PLAN 46 SITE DETAILS PHASE II SEDIMENT CONTROL PLAN 47 | SOIL BORING LOGS HASE II SEDIMENT CONTROL PLAN TRAFFIC CONTROL PLAN PHASE II SEDIMENT CONTROL PLAN 49 STRUCTURAL GENERAL NOTES HASE III SEDIMENT CONTROL PLAN STRUCTURAL PLANS AND ELEVATIONS PHASE III SEDIMENT CONTROL PLAN STRUCTURAL SECTIONS AND DETAILS

SEQUENCE OF CONSTRUCTION (NOTE: CONTRACT DURATION IS ONE YEAR

. NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS (410-222-7780) AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL

2. STAKEOUT LIMITS OF DISTURBANCE OF THE ENTIRE PROJECT. CLEAR AND GRUB FOR THE INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCES, INLET

4. CONTACT COUNTY INSPECTOR FOR INITIAL INSPECTION. (1 WEEK)

PHASE III SEDIMENT CONTROL PLAN

PHASE 2

- 6. UPON APPROVAL OF INSPECTOR, BEGIN DEMOLITION, AND CLEARING, CONCURRENT WITH CLEARING AND DEMOLITION, BEGIN CONSTRUCTION OF 48" RCP FACILITIES MAY BE DEFERRED UNTIL MICROBIORETENTION CONSTRUCTION (STRUCTURES 120, 130, 140, 191, 192, 195, AND 199), DO NOT CONNECT UPSTREAM ENI OF BYPASS UNTIL ENTIRE BYPASS SECTION IS CONNECTED. CONNECTION TO EXISTING 48" STORM DRAIN AND EXISTING ON-SITE 15" STORM DRAIN SHALL
- SAME DAY STABILIZATION MEASURES. (8 WEEKS)

- 9. BEGIN INSTALLING STONE AND PAVING/SURFACE FOR ADAPTIVE BALL FIELD. INSTALL CONCRETE PADS AND TRAILS. DELAY TRAIL INSTALLATION FOR AREAS WHERE SEDIMENT CONTROLS ARE IN CONFLICT WITH TRAIL UNTIL SITE IS 95% STABILIZED. WHERE TRAILS ARE OUTSIDE OF SEDIMENT CONTROLS, INSTALL TRAIL USING SAME DAY STABILIZATION MEASURES. STABILIZE DISTURBED AREAS WITH SEED AND STRAW, AND INSTALL SOIL STABILIZATION MATTING IN SWALES AND SLOPES. INSTALL CURBING. INSTALL SIDEWALK DOWN TO LIBRARY/SCHOOL USING SAME DAY STABILIZATION MEASURES. (4 WEEKS)
-) ONCE SITE HAS BEEN PRELIMINARY STABILIZED. COMPLETE FINAL GRADING FOR THE INSTALLATION OF STORMWATER MEASURES AND INSTALL ALI STORMWATER FACILITIES. DEFER INSTALLATION OF MB#6 AND MB#7 UNTIL CONSTRUCTION OF FUTURE COMMUNITY CENTER. MAINTAIN POSITIVEE DRAINAGE TO INLETS I40 AND I93, AND AVOID ANY PONDING IN THE INTERIM CONDITION. STORMWATER FACILITIES SHALL NOT BE INSTALLED UNTIL CONTRIBUTING DRAINAGE AREA IS 95% STABILIZED. IF INSPECTOR ALLOWS EARLIER INSTALLATION, PROTECT PERIMETER OF FACILITY WITH RSF, AND COVER WITH FILTER FABRIC UNTIL LANDSCAPING IS INSTALLED. (3 WEEKS)
- 11.INSTALL LANDSCAPING. FENCING. AND GATES. COMPLETE TRAIL INSTALLATION. (4 WEEKS)
- 12. WITH COMPLETION OF WORK AND STABILIZATION OF SITE, CONTACT COUNTY INSPECTOR FOR FINAL INSPECTION. WITH APPROVAL OF INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. (2 WEEKS)

13. EVALUATE TREES ALONG THE LOD AND TO PROVIDE REPLACEMENTS FOR ANY TREES NOT RETAINED IN THESE AREAS. (1 WEEK)

DAILY STABILIZATION NOTE

THIS NOTE SHOULD BE USED FOR MINIMAL AREAS WITHIN THE LIMITS OF DISTURBANCE THAT DO NOT DRAIN TO A SEDIMENT CONTROL MEASURE AND/OR WHERE THE INSTALLATION OF CONTROLS IS NOT FEASIBLE. (ROAD WIDENING, SIDEWALK INSTALLATION, ETC.) CONTRACTOR SHALL ONLY DISTURB THAT AREA WHICH CAN BE COMPLETED AND STABILIZED BY THE END OF EACH WORKING DAY. STABILIZATION SHALL BE AS

1. FOR AREAS TO BE PAVED, THE APPLICATION OF STONE BASE. 2. FOR AREAS TO BE VEGETATIVELY STABILIZED:

a.) PERMANENT SEED AND SOIL STABILIZATION MATTING OR SOD FOR ALL STEEP SLOPES, CHANNELS OR SWALES.

b.) PERMANENT SEED AND MULCH FOR ALL OTHER AREAS. ANY AREAS WHICH CAN NOT BE STABILIZED BY THE END OF EACH WORKING DAY MUST HAVE SILT FENCE INSTALLED ON THE DOWNSLOPE SIDE.

OUTFALL STATEMENT

THE STORMWATER FLOW FOR THIS PROPERTY WILL DRAIN THROUGH AN EXISTING 48" RCP STORM DRAIN SYSTEM AND OUTFALL INTO AN EXISTING CLOSED STORM DRAIN SYSTEM THAT EXTENDS TO THE NORTHEAST AS IT LEAVES THIS SITE.

THE EXISTING SYSTEM IS A NETWORK THAT BEGINS WITH A BRANCH IN THE COMMERCIAL AREA TO THE WEST OF THE PROPERTY AND A BRANCH LOCATED WITHIN THE RESIDENTIAL AREA TO THE SOUTHWEST OF THE SITE. THESE TWO BRANCHES CONNECT JUST OUTSIDE THE SOUTHWEST CORNER OF THE PROPERTY THEN FLOW THROUGH THE EXISTING 48" PIPE SYSTEM ON SITE. THE EXISTING NETWORK EXITS THIS PROPERTY NEAR THE NORTHEAST CORNER AND ENTERS INTO A RESIDENTIAL NEIGHBORHOOD WHERE THE NETWORK CONTINUES TO ACCEPT TRIBUTARY BRANCHES FROM SURROUNDING RESIDENTIAL AREAS. THE EXISTING PIPES THROUGH THIS AREA TRANSITION TO 54" PIPES, THEN TO 53"x83" ELLIPTICAL PIPES, AND LASTLY THROUGH A 68"x106" ELLIPTICAL PIPE BEFORE ULTIMATELY DISCHARGING AT GRADE INTO A POND LOCATED AT ARUNDEL VILLAGE PARK (ALSO KNOWN AS CROSS STREET PARK).

THE STORMWATER FROM THIS SITE ULTIMATELY FLOWS INTO THE BALTIMORE HARBOR / PATAPSCO RIVER WATERSHED. THE OUTFALLS WERE INVESTIGATED BY PENNONI IN NOVEMBER, 2021. ALL OUTFALLS APPEAR TO BE IN STABLE CONDITION. PHOTOGRAPHS OF THE OUTFALLS ARE INCLUDED IN THE APPENDICES.

CONSULTANT'S CERTIFICATION

THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION O THE PROPERTY COVERED BY THE PLAN. I CERTIFY THAT THIS PLAN OF EROSION AND SEDIMENT CONTROL REPRESENTS A PRACTICAL AND WORKABLE PLAN BASED ON MY PERSONAL KNOWLEDGE OF THIS SITE, AND WAS PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AASCD PLAN SUBMITTAL GUIDELINES AND THE CURRENT MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL. I HAVE REVIEWED THIS EROSION AND SEDIMENT CONTROL PLAN WITH THE OWNER/DEVELOPER.

MD P.E. LICENSE # 21774

FIRM NAME

ADDRESS

JAMES A. RUFF, PE PENNONI ASSOCIATES INC.

8890 MCGAW RD., SUITE 100

CITY COLUMBIA STATE MD ZIP CODE 21045



STATEMENT OF ACCESSIBILITY REVIEW

ICC A117.1-2009 STANDARD.

PRINT NAME: JAMES A. RUFF, PE

I HEREBY CERTIFY THAT THESE PLANS HAVE BEEN DESIGNED IN CONFORMANCE WITH THE 2010 STANDARDS FOR ACCESSIBLE DESIGN, COUNTY CODE, MARYLAND

ACCESSIBILITY CODE AND ACCESSIBLE AND USEABLE BUILDINGS AND FACILITIES -

9/12/2022

CALL "MISS UTILITY" AT LEAST 96

HOURS IN ADVANCE OF CONSTRUCTION AT

1-800-257-7777 OR 811

EXISTING UTILITIES SHOWN ON THIS PLAN SET WERE DRAWN USING EXISTING RECORD DRAWINGS AND BASE FILES FROM THE UTILITY COMPANIES, FROM VISIBLE MARKINGS AND FEATURES WITHIN THE PROJECT LIMITS, FROM FIELD SURVEYS, AND FROM LIMITED TEST PITS. UTILITIES SHOWN ARE FOR INFORMATIONAL PURPOSES ONLY. THE UTILITY INFORMATION SHOWN MAY BE INNACURATE OR INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS OF SIGNATURE: WORK TO HIS OWN SATISFACTION PRIOR TO THE START OF CONSTRUCTION CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EXISTING UTILITIES, SHALL AVOID IMPACTS TO UTILITIES, AND SHALL MAINTAIN UNINTERRUPTED UTILITY SERVICE. ANY DAMAGE INCURRED DUE TO CONTRACTOR'S OPERATIONS SHALL BE REPAIRED IMMEDIATELY AT NO COST TO ANNE ARUNDEL COUNTY IN COORDINATION WITH THE AFFECTED UTILITY COMPANIES.

ANNE ARUNDEL COUNTY

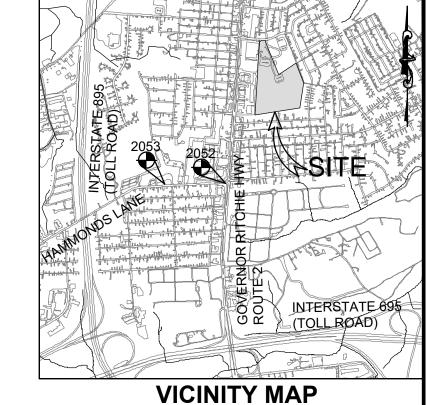
DEPARTMENT OF PUBLIC WORKS BROOKLYN HEIGHTS COMMUNITY CENTER PARK PROJECT NO. 579001 CONSTRUCTION DOCUMENTS



BENCHMARKS BENCHMARK NUMBER: 2052

DESCRIPTION: AACO SURVEY MONUMENT ELEVATION: 164.03 VERTICAL CONTROL: NAVD88 N 564356 478 E 1421498.094

> **BENCHMARK NUMBER: 2053 DESCRIPTION: AACO SURVEY** MONUMENT ELEVATION: 162.78 VERTICAL CONTROL: NAVD88 N 564339.607 E 1420241.256



ENGINEER/LANDSCAPE ARCHITECT

PENNONI ASSOCIATES, INC. 8890 McGAW ROAD.

SUITE 100 COLUMBIA MD, 21045

PROJECT LOCATION:

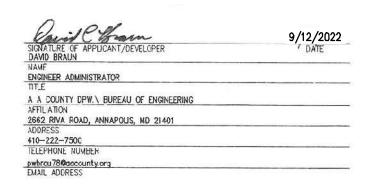
111 E 11TH AVENUE BALTIMORE, MD 21225

OWNER/DEVELOPER

ANNE ARUNDEL COUNTY DEPARTMENT OF RECREATION AND PARKS AND ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS 44 CALVERT STREET ANNAPOLIS, MD 21401 (410) 222-7000

STANDARD RESPONSIBILITY NOTES

- All development and construction will be done in accordance with this sediment and erosion control plan, and further, authorize the right of entry for periodic on-site evaluation by the Anne Arundel Soil Conservation District AASCD Board of Supervisors or their authorized agents. Any responsible personnel involved in the construction project will have a certificate of attendance from the Maryland Department of the Environment's approved training program for the control of sediment and erosion before beginning the project.
- If applicable, the appropriate enclosure will be constructed and maintained on sediment basin(s) included in this plan. Such structure(s) will
- The developer is responsible for the acquisition of all easements, right, and/or rights-of-way that may be required for the sediment and erosion control practices, storm water management practices and the discharge of storm water onto or across adjacent or downstream
- For initial soil disturbance or re-disturbance, permanent and/or temporary stabilization per the AASCD Vegetative Establishment shall be completed within three calendar days for the surface of all controls, dikes, swales, ditches, perimeter slopes and all slopes greater than 3 norizontal to 1 vertical (3:1); and seven days for all other disturbed or graded areas on the project site.
- The grading and sediment control approval on this plan extends only to those areas within the limits of disturbance.
- The approval of this plan for sediment and erosion control does not relieve the developer/consultant from complying with Federal, State or County requirements pertaining to environmental issues.
- The developer must request that the sediment and erosion control inspector approve work completed in accordance with the approved erosion and sediment control plan, the grading or building permit, and the ordinance.
- First phase inspection and approval of the sediment and erosion control inspector shall be required upon completion of the installation of erosion and sediment controls prior to proceeding with any other earth disturbance or grading. Other building or grading inspection approvals may not be authorized until the initial approval by the sediment and erosion control inspector is given. Inspection and Permits may also require that an inspection and certification of the installation of sediment control also be performed by a design professional prior to construction commencing
- Approval from the inspector must be requested on final stabilization of all sites prior to removal of sediment and erosion controls.
- Existing topography must be field verified by responsible personnel to the satisfaction of the sediment control inspector prior to commencing



SITE ANALYSIS SUMMARY

TOTAL SITE AREA/LOD: 13.19 AC (574,398 SF) VOLUME OF CUT: 14,858 CY VOLUME OF FILL: 23,104 CY **VOLUME OF BORROW MATERIAL: 0 CY** AREA VEGETATIVELY STABILIZED: 11.02 ACRES (479,797 SF) EXISTING IMPERVIOUS AREA: 1.85 ACRES (80,449 SF) PROPOSED IMPERVIOUS AREA: 3.20 ACRES (139,340 SF)

VOLUMES ARE FOR PERMITTING ONLY AND ARE NOT TO BE USED FOR BID PURPOSES

GP# G20219457 DWGNO: DD01 PROFESSIONAL CERTIFICATION: I, __JAMES A. RUFF, PE____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # _____ 21774 _____ EXPIRATION DATE ____11/10/2023 REVISIONS DESCRIPTION

PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 Columbia, MD 21045

T 410.997.8900 F 410.997.9282

APPROVET CHIEF ENGINEER PROJECT MANAGER APPROVAL DATE APPROVED CHIEF, RIGHT OF WAY SERVICES ASSISTANT CHIEF ENGINEER

MAY 31, 202 SCALE: 1'' = 200'COVER SHEET DRAWN BY: JSN/SVH CHECKED BY: PJS/JAR SHEET <u>1</u> of <u>51</u> PROJECT #: 579000 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT PROPOSAL #: 579001 ANNE ARUNDEL COUNTY, MC

GENERAL NOTES

- 1. THIS FIELD RUN BOUNDARY WAS PERFORMED BY PENNONI ASSOCIATES, INC. ON OR ABOUT OCTOBER, 2021.
- AERIAL TOPOGRAPHY WAS PERFORMED BY PENNONI DURING OCTOBER, 2021. TOPOGRAPHIC INFORMATION HAS BEEN SUPPLEMENTED BY ANNE ARUNDEL COUNTY AND UTILITY COMPANY GIS INFORMATION.
- THE EXISTENCE OF VEGETATED OR TIDAL WETLANDS, WATERS OF THE U.S. AND/OR HAZARDOUS WASTES HAS BEEN INVESTIGATED, AND IS SHOWN BASED ON A REPORT PREPARED BY WETLAND STUDIES & SOLUTIONS, DATED NOVEMBER 3, 2021. NO STREAMS OR WETLANDS ARE
- 4. THE SPECIMEN TREES SHOWN ON THE PLAN ARE FROM A FOREST STAND DELINEATION PREPARED BY WETLAND STUDIES & SOLUTIONS, DATED
- 5. UNLESS OTHERWISE INDICATED, THE LOCATION OF ALL UNDERGROUND UTILITIES ARE APPROXIMATE AND ARE BASED ON VISIBLE EVIDENCE, OR
- 6. THE EXISTING UTILITIES AND OBSTRUCTIONS SHOWN ARE FROM THE BEST AVAILABLE RECORDS, AND SHALL BE VERIFIED BY THE CONTRACTOR TO HIS OWN SATISFACTION. NECESSARY PRECAUTIONS SHALL BE TAKEN BY THE CONTRACTOR TO PROTECT EXISTING SERVICE MAINS. ANY DAMAGE TO THEM SHALL BE REPAIRED IMMEDIATELY AT NO ADDITIONAL COST TO ANNE ARUNDEL COUNTY OR THE SHA.
- 7. UTILITY RELOCATION WILL BE PERFORMED BY OTHERS UNLESS NOTED OTHERWISE IN THE PLANS, WITH THE EXCEPTION OF STORM DRAINS, WATER, AND SEWER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS CONSTRUCTION WITH THE CONSTRUCTION OF OTHER CONTRACTORS (INCLUDING BUT NOT LIMITED TO BG&E, VERIZON, AND CABLE TV UTILITY). REFER TO PROJECT MANUAL GENERAL SPECIAL
- 8. THE CONTRACTOR SHALL CALL "MISS UTILITY" 1-800-257-7777 A MINIMUM OF 96 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- 9. IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NATURALLY BE REQUIRED TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- 10. THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS (410) 222-4126, AT LEAST FOURTEEN (14) DAYS
- 11. GRID COORDINATES ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD 83/91. VERTICAL ELEVATIONS ARE BASED UPON
- 12. THE CONTRACTOR SHALL ADJUST MANHOLES, WATER, METER VALVES, HAND BOXES, AND OTHER APPURTENANCES TO FINAL GRADE. THE COST OF PERFORMING THESE ACTIVITIES SHALL BE INCIDENTAL TO THE CONTRACT PRICE PAID FOR VARIOUS PAVEMENT ITEMS.
- 13. UNLESS OTHERWISE NOTED, PIPE ELEVATIONS REFER TO THE PIPE INVERT.
- 14. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY EXISTING LIGHT POLES, TRAFFIC BARRIER, SIGNS, ETC., DAMAGED OR REMOVED BY HIM DURING CONSTRUCTION.
- 15. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE ENGINEER OF ANY DEVIATION TO THIS PLAN PRIOR TO ANY FIELD CHANGES BEING MADE. THE CONTRACTOR ASSUMES ALL RESPONSIBILITY FOR ANY FIELD CHANGES OR ADJUSTMENTS WITHOUT NOTIFYING THE
- 16. ALL WORK SHALL COMPLY WITH THE APPLICABLE PROVISIONS OF THE "2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" ISSUED BY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT AND AMENDMENTS BY THE ANNE ARUNDEL SOIL CONSERVATION DISTRICT, CONTAINED HEREIN AND THE 2017 STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS ISSUED BY THE MARYLAND DEPARTMENT OF TRANSPORTATION STATE HIGHWAY ADMINISTRATION.
- 17. THE DESIGN FOR THIS PROJECT INCORPORATES FACILITIES FOR THE HANDICAPPED IN COMPLIANCE WITH STATE AND FEDERAL LEGISLATION.
- 18. WHERE CURB AND GUTTER ENDS ARE EXPOSED, PROVIDE A NOSE DOWN SECTION AT 3:1 SLOPE.
- 19. IN PAVEMENT AND GRAVEL REMOVAL AREAS, THE CONTRACTOR SHALL REMOVE ALL PAVING AND BASE MATERIALS, BACKFILL WITH COMMON BORROW MATERIAL AND 4" OF TOPSOIL AND STABILIZE. THE AREA SHALL BE GRADED TO DRAIN.
- 20. MATERIAL REMOVED DURING CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN
- 21. STORM DRAIN AND UTILITY INSTALLATION IN EXISTING PAVEMENT SHALL BE IN ACCORDANCE WITH ANNE ARUNDEL COUNTY STANDARD DETAIL
- . SUBGRADE DRAINS SHALL BE PLACED WHEN WET SUBGRADE IS ENCOUNTERED AND AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL USE CIRCULAR PIPE UNDERDRAIN OUTLET TO CONNECT ALL EXISTING AND PROPOSED SUBGRADE DRAIN AND PERFORATED CIRCULAR PIPE UNDERDRAN TO PROPOSED INLETS,
- 23. ALL INVERT ELEVATIONS ARE APPROXIMATE. INVERT ELEVATIONS OF INLETS AND PIPES MAY BE MODIFIED AS DIRECTED BY THE ENGINEER TO MEET CONDITIONS ENCOUNTERED DURING INSTALLATION OF DRAINAGE STRUCTURES. ALL PIPES AND DITCHES SHALL BE CONSTRUCTED ON A UNIFORM GRADE BETWEEN INVERT ELEVATIONS NOTED ON THE PLANS, UNLESS INDICATED OTHERWISE ON THE PLANS OR DETAILS OR AS DIRECTED BY THE ENGINEER. THE LOCATION AND LENGTH OF PIPE SHALL BE VERIFIED BY THE CONTRACTOR BEFORE ORDERING.
- 24. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION OF ANNE ARUNDEL, CONTAINED HEREIN.
- 25. CONTRACTOR MUST HAND DIG NEAR EXISTING UNDERGROUND UTILITIES WITH LESS THAN OR EQUAL TO 3.0 FEET CLEAR DISTANCE.
- 26. PROPOSED FENCING SHALL BE BLACK VINYL COATED CHAIN LINK.
- 27. THIS PROJECT SITE IS IN THE PATAPSCO RIVER WATERSHED (MD-DNR #02130903)
- 28. ANY CURB PROPOSED WHERE THERE IS NO PARKING SPACE PROPOSED SHALL BE MARKED AS "NO PARKING".
- 29. PERIMETER SEDIMENT CONTROL DEVICES SHALL BE PLACED AT THE LIMITS OF DISTURBANCE UNLESS SPECIFICALLY NOTED OTHERWISE SEPARATION BETWEEN LOD AND PERIMETER DEVICES IS FOR GRAPHIC PURPOSES ONLY.
- 30. ALL SHEETING AND SHORING IS THE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING ANY NECESSARY ENGINEERING DESIGN OF SHEETING AND

SITE TABULATIONS

EXISTING GROSS SITE AREA 22.29 ACRES (971,021 SF) 100 YEAR FLOODPLAIN AREA 0.00 ACRES (0 SF) WETLAND AREA 0.00 ACRES (0 SF) EXISTING NET SITE AREA 22.29 ACRES (971,021 SF) EXISTING ZONING OS (19.49 ACRES (849,023 SF)) R5 (2.80 ACRES (121,998 SF))

AREA OF DISTURBANCE: 13.19 AC (574,482 SF) (INCLUDES OFF-SITE DISTURBANCE) PROPOSED SITE AREA 13.19 AC (574,482 SF) (INCLUDES OFF-SITE DISTURBANCE)

PROPOSED: 3.19 ACRES (139,124 SF) EXISTING USE:

EXISTING:

MAXIMUM COVERAGE ALLOWED BY STRUCTURE AND PARKING OS ZONE:

EXISTING LOT COVERAGE:

IMPERVIOUS AREA

PROPOSED USE:

R5 ZONE:

PROPOSED LOT COVERAGE: OS ZONE: 15.88% (134,856 SF/849,023 SF x 100%) R5 ZONE: 3.50% (4,268 SF/121,998 SF x 100%)

MINIMUM SETBACKS FOR PRINCIPAL STRUCTURES: FRONT: 25 FEET REAR: 20 FEET SIDE LOT LINES: 7 FEET CORNER SIDE LOT LINE: 20 FEET

FROM LOT LINES: 50 FEET FROM ROAD RIGHTS-OF-WAY: 75 FEET MAXIMUM BUILDING HEIGHT

148 SPACES **EXISTING PARKING:** PROPOSED PARKING: 153 SPACES

SYMBOL LEGEND

RIGHT-OF-WAY ----52----**EXISTING 10' CONTOUR** -----EXISTING TREE LINE EXISTING SOILS

1.85 ACRES (80.449 SF)

COMMUNITY PARK COMMUNITY PARK

> 20% OF GROSS AREA 40% OF GROSS AREA

> > OS ZONE: 4.10% (34,565 SF/849,023 SF x 100%) R5 ZONE: 5.25% (2,286 SF/121,998 SF x 100%)

R5 ZONE: 35 FEET OS ZONE: 45 FEET

PROPERTY LINE AND **EXISTING 2' CONTOUR** EXISTING ASPHALT ROADWAY EXISTING BUILDINGS EXISTING WATER **EXISTING SEWER** _____s ____s ____s ____ EXISTING OVERHEAD ELECTRIC _____OF_____OF____ EXISTING UNDERGROUND ELECTRIC EXISTING STORM DRAIN _____ D ____ D ____ D ____ **EXISTING GAS** ____ G ____ G ____ G ___ SPECIMEN TREE AND CRITICAL ROOT ZONE EXISTING DRAINAGE AREA **EXISTING ZONING** EXISTING 15%-25% SLOPES EXISTING 25%+ SLOPES PROPOSED ASPHALT TRAIL PROPOSED CONCRETE PAVING PROPOSED FENCE PROPOSED STORM DRAIN PROPOSED MICRO-BIORETENTION FACILITY PROPOSED 2' CONTOUR PROPOSED 10' CONTOUR PROPOSED SPOT ELEVATION 21⁵⁰ PROPOSED ASPHALT TRAIL PROPOSED CONCRETE PAVING PROPOSED REINFORCED SILT FENCE PROPOSED SOIL STABILIZATION MATTING PROPOSED STANDARD INLET SIP **PROTECTION** PROPOSED CURB INLET CIP PROTECTION PROPOSED STABILIZED CONSTRUCTION ENTRANCE PROPOSED SAME DAY STABILIZATION SPECIMEN TREE TO BE REMOVED SPECIMEN TREE SIGNAGE TREE PROTECTION FENCE ----- TPD ------**ROOT PRUNING** PROPOSED RIPRAP PROPOSED REFORESTATION PROPOSED LIMIT OF DISTURBANCE PROPOSED TREE PROTECTION DEVICE PROPOSED WATER LINE PROPOSED SEWER LINE PROPOSED BRUSH LINE PROPOSED DRAINAGE AREAS

— LOD — —— TP ——— TP ——— TP ——— PROPOSED 6" WATER

PROPOSED 8" SDR-35

LIST OF ABBREVIATIONS

POINT OF VERTICAL CURVE (OR POLYVINYL CHLORIDE)

DD02

DWG NO:

TRAFFIC CONTROL

A.D.T. AVERAGE DAILY TRAFFIC POINT OF VERTICAL INTERSECTION AHD AHEAD PAVEMENT BALTIMORE GAS AND ELECTRIC COMPANY BGE P.V.T. POINT OF VERTICAL TANGENCY **BITUMINOUS** RADIUS REINFORCED CEMENT CONCRETE PIPE BENCH MARK REFERENCE REVERTIBLE SLOPE EASEMENT BOTTOM OF WALL

ABANDONED ACCORDING TO UTILITY RECORDS

BASELINE

RATE OF TRANSITION ROUTE CENTER POINT OF CURVE RIGHT OF WAY CATV CABLE TELEVISION SANITARY C&G **CURB AND GUTTER** STORM DRAIN CAST IN PLACE (OR CURB INLET PROTECTION) C.I.P. SUPER ELEVATION

C.I.P. CORRUGATED METAL PIPE STATE HIGHWAY ADMINISTRATION C.S.P. CORRUGATED STEEL PIPE SEWER MANHOLE

C.O. CLEAN OUT STOPPING SIGHT DISTANCE COMB. STA. COMBINATION STATION COMM. COMMUNICATION STD. STANDARD STRUCT. CONSTR. CONSTRUCTION STRUCTURE CORRECTION CORR. TELEPHONE

DEPICTED ACCORDING TO UTILITY RECORDS

TEMPORARY CONSTRUCTION EASEMENT DWG. DEGREE OF CURVE TRAFFIC CONTROL PLANS

DELTA (CENTRAL ANGLE), DEGREES TEST HOLE D.H.V. DESIGN HOUR VOLUME TOP OF WALL D.I. DROP INLET TYPICAL DIAMETER UNDERDRAIN PIPE

DESIGN SPEED WB WESTBOUND WATER METER W.M ELECTRIC EΒ **EASTBOUND** WRAPPED STEEL WATERS OF THE UNITED STATES EOI END OF INFORMATION

EORI END OF RECORD INFORMATION WATER VALVE **ERCCP** LENGTH OF VERTICAL CURVE ELLIPITICAL REINFORCED CEMENT CONCRETE PIPE V.C.

EW **ENDWALL OR EACH WAY** EX., EXIST-**EXISTING** F.O. FIBER OPTIC **FULL SUPER**

END STRUCTURE

GAUGE OR GAGE G.H.C. GAS HOUSE CONNECTION

ES

INV.

N/A

GAS VALVE HDWL HEADWALL

HORIZONTAL ELLIPITICAL REINFORCED CEMENT CONCRETE PIPE HANDHOLE H.H.

HEADLIGHT SIGHT DISTANCE HIGH POINT INLET

LENGTH LOW POINT (OR LIGHT POLE)

INVERT

LEVEL SECTION M.B. MAIL BOX

NOT APPLICABLE

MARYLAND MARYLAND DEPARTMENT OF THE ENVIRONMENT

MDE MANHOLE

NO. NUMBER NORMAL SECTION O.C. ON CENTER

O/S OFFSET P.C. - POINT OF CURVE POINT OF CROWN

P.C.C. - POINT OF COMPOUND CURVE OR PORTLAND CEMENT CONCRETE

P/G.E. - PROFILE GRADE ELEVATION P.G.L. - PROFILE GRADE LINE

P./G.L. PROFILE GROUND LINE PUNCH HOLE POINT OF INTERSECTION

POINT ON CURVE POINT ON TANGENT POINT OF ROTATION

POINT OF REVERSE CURVATURE

POINT OF TANGENT

| | | ANNE ART | COLOR COLOR TU | | | | | |
|----------------------------|----------|----------|-------------------|--------------|--|--|--|--|
| DEPARTMENT OF PUBLIC WORKS | | | | | | | | |
| DATE | APPROVED | DATE | SCALE: AS SHOWN | GENERAL NOTI | | | | |
| | | | DRAWN BY: JSN/SVH | GENERAL NOT | | | | |
| | | | _ | DDC | | | | |

SOILS TABLE STRUCTURAL LIMITATIONS | EROSION HYDRIC NAME SYMBOL (%) | GROUP FACTOR HAZARD CaB | Chillum loam 2-5% C .32 Not Limited Low No CaC | Chillum loam Not Limited Moderate No 5-10% C .32 CpB | Chillum-Urban land complex 0-5% Not Rated No C | -Low Moderate Sassafras-Urban land complex 5-15% В No Somewhat Limited C | .37 0-5% UoB Udorthents, loamy Somewhat Limited No D Uz Urban land Not Rated WdaA | Woodstown sandy loam 0-2% С Very Limited Yes .24 WrB | Woodstown-Urban land complex Very Limited Low Yes 0-5% C .28 SOURCE: NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY.

LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # ____21774_____ EXPIRATION DATE ___11/10/2023 REVISIONS APPROVED DESCRIPTION BY DATE

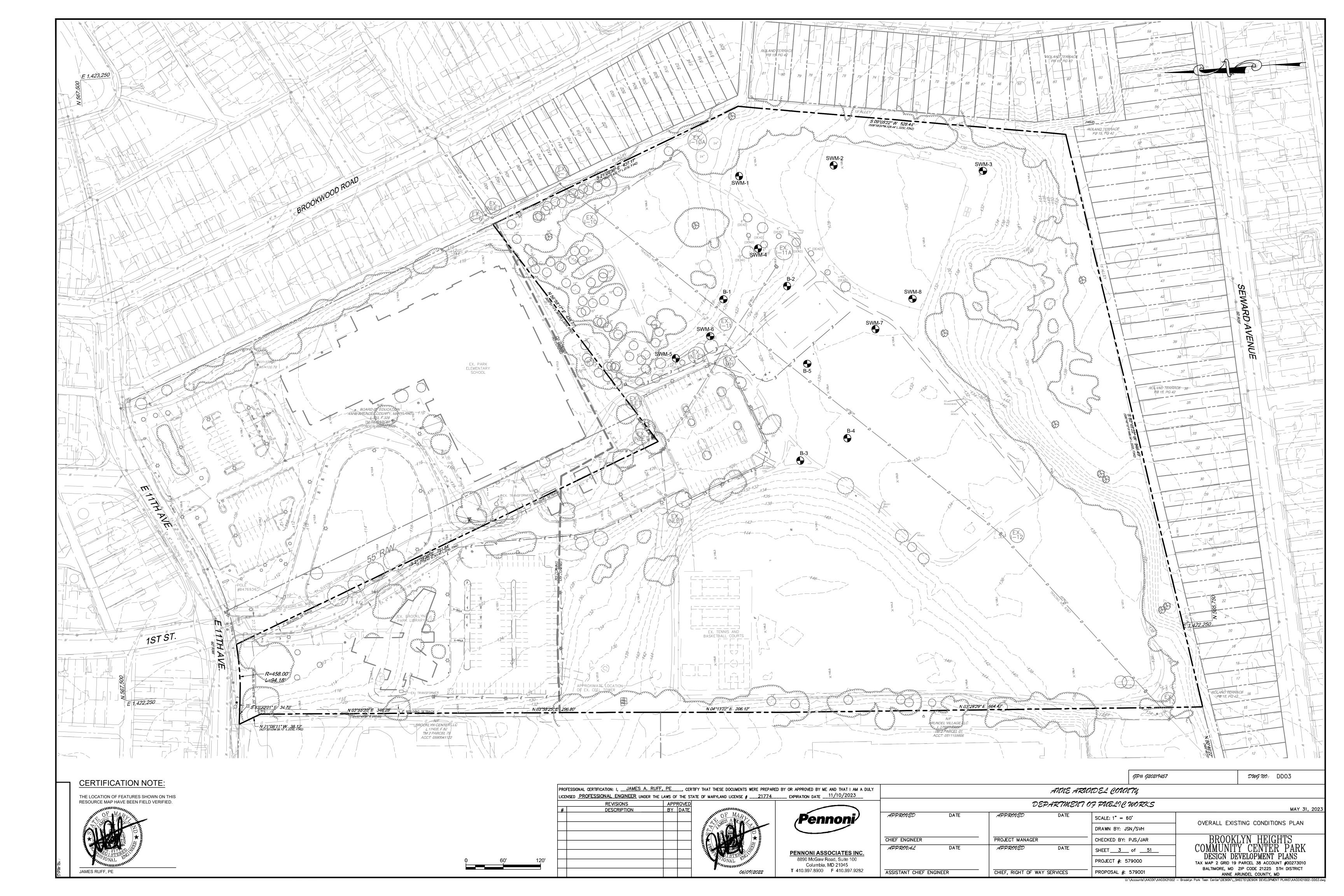


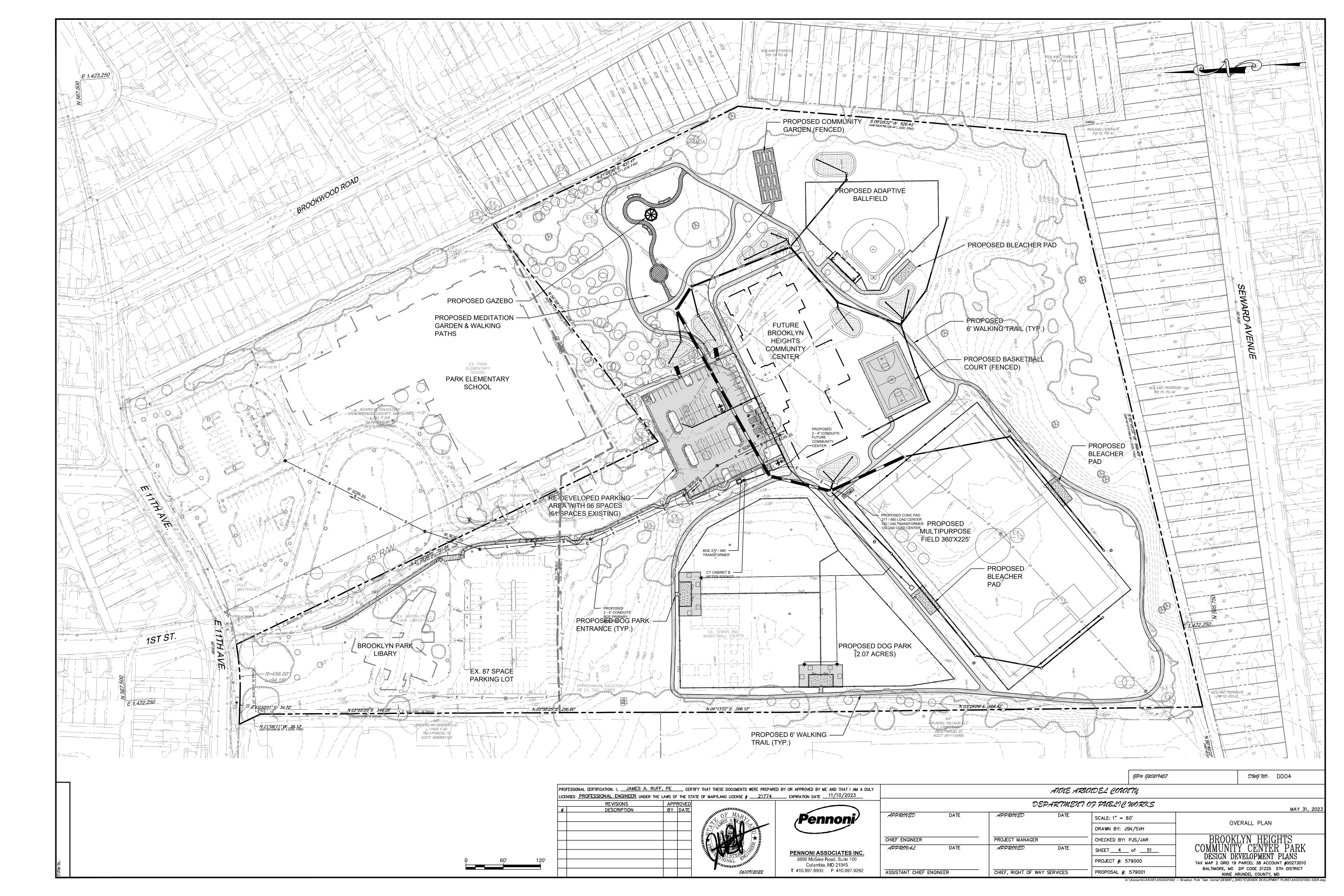
PROFESSIONAL CERTIFICATION: I, __JAMES A. RUFF, PE ___, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY

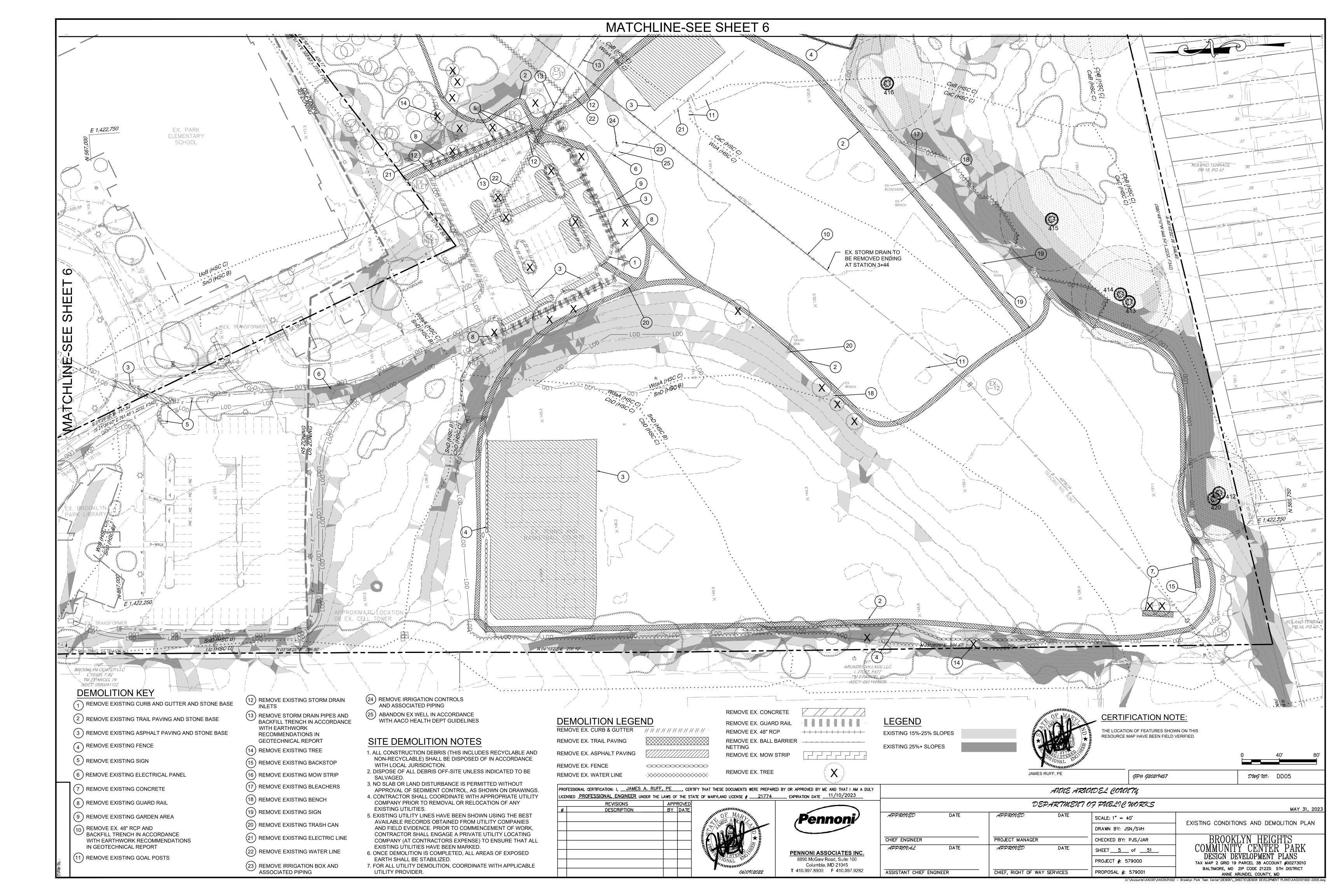


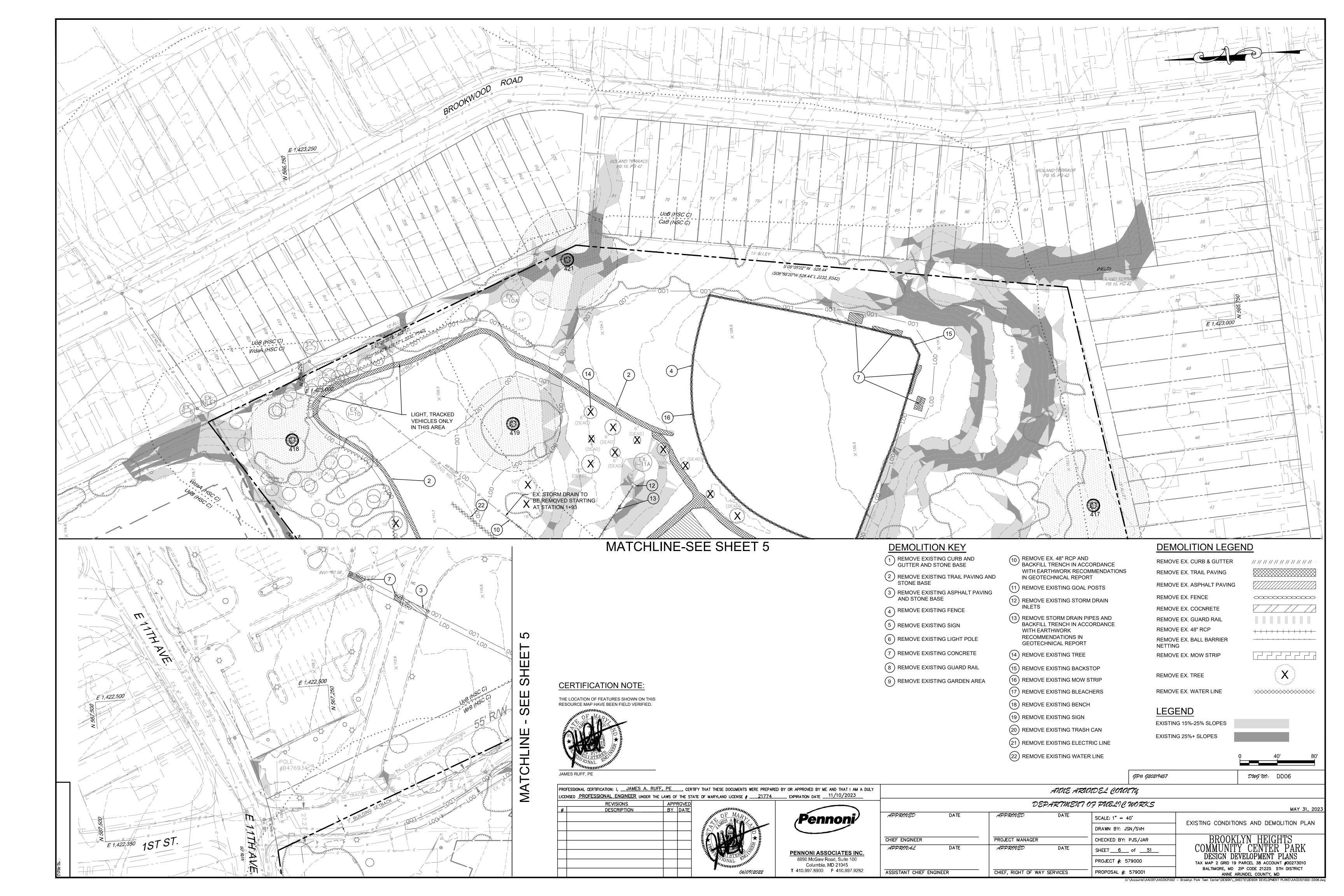
APPROVED TES, LEGEND, AND ABBREVIATIONS CHIEF ENGINEER PROJECT MANAGER CHECKED BY: PJS/JAR APPROVAL DATE APPROVED SHEET <u>2</u> of <u>51</u> PROJECT #: 579000 TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #0027301 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES PROPOSAL #: 579001 ANNE ARUNDEL COUNTY, MD

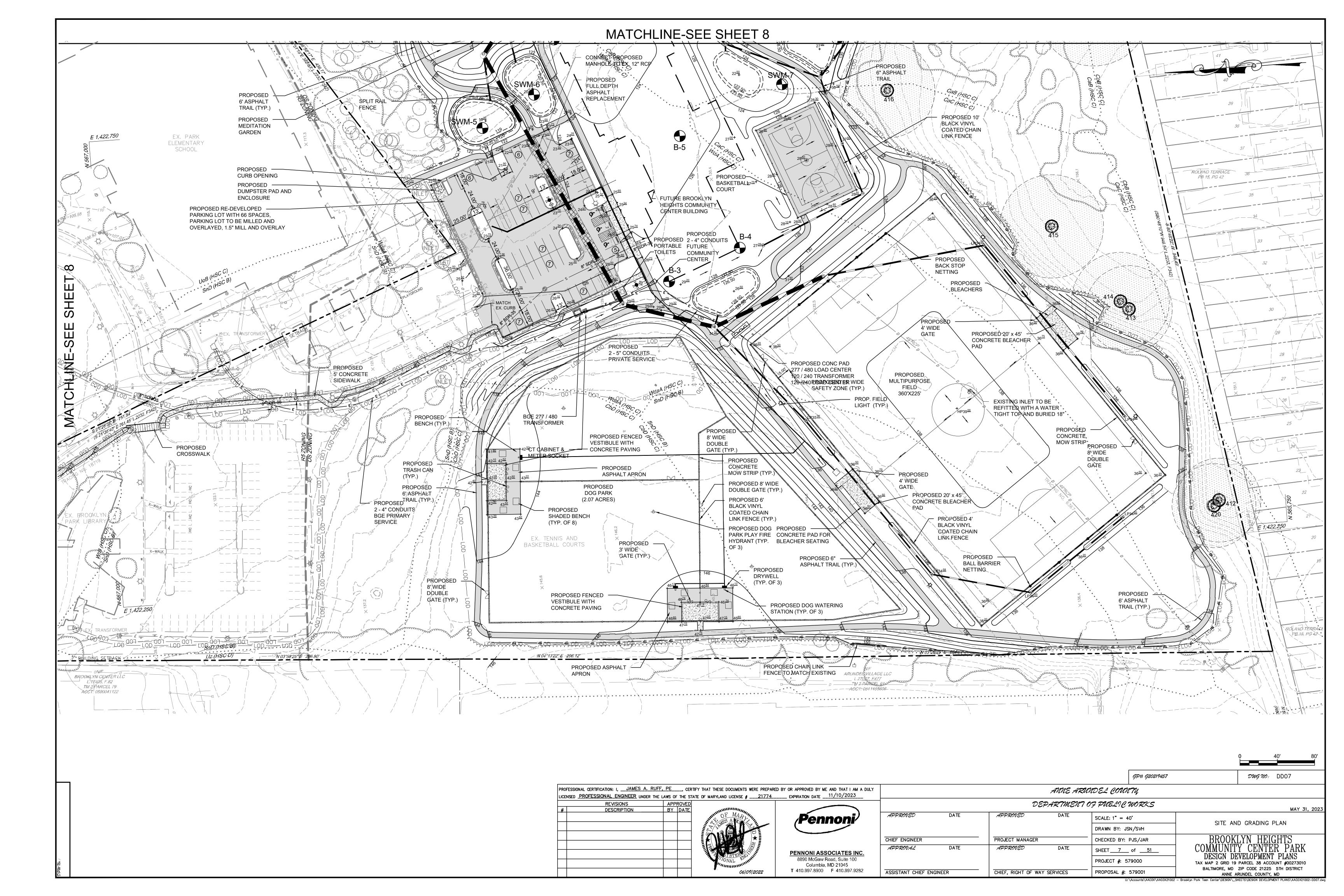
GP# G20219457

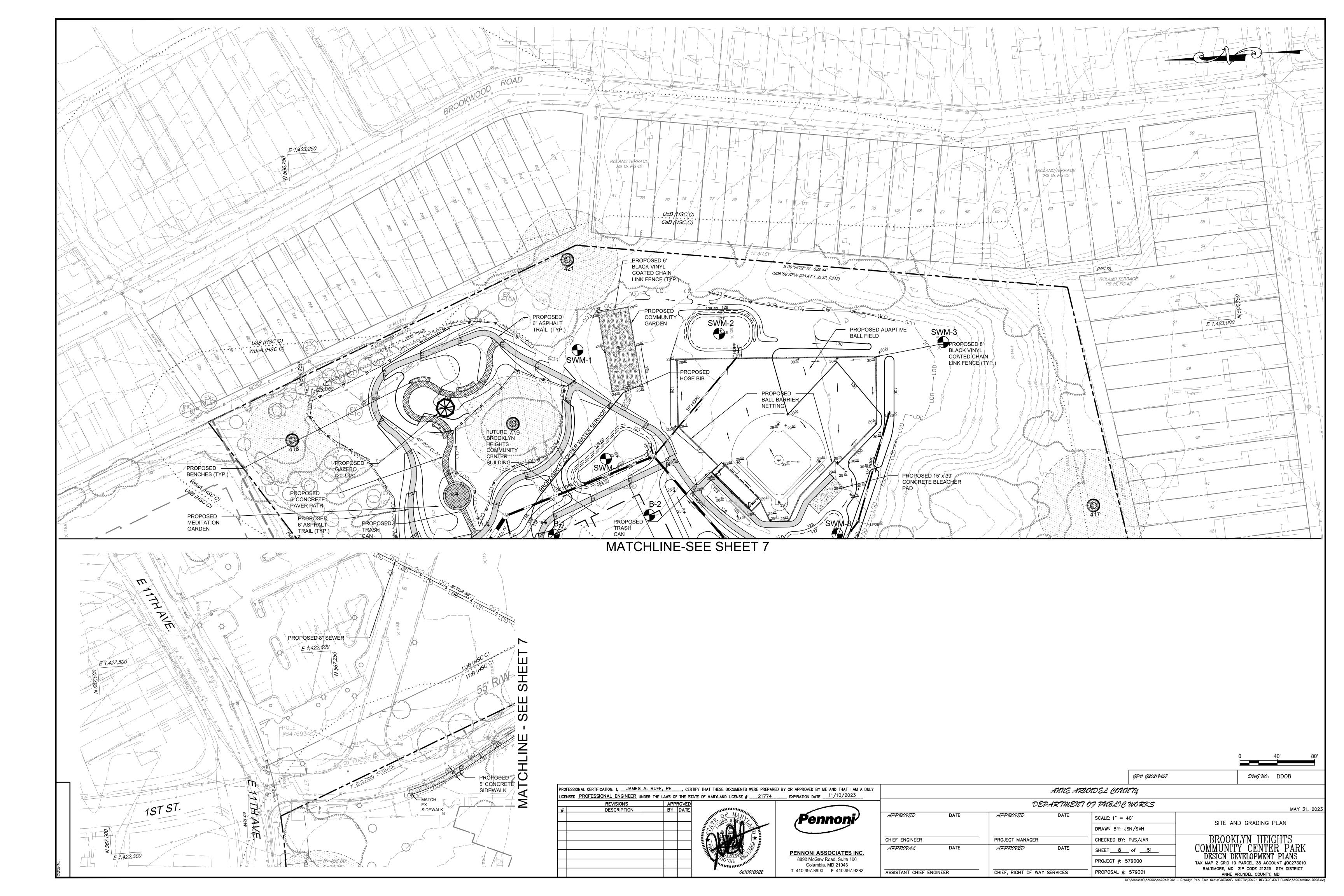


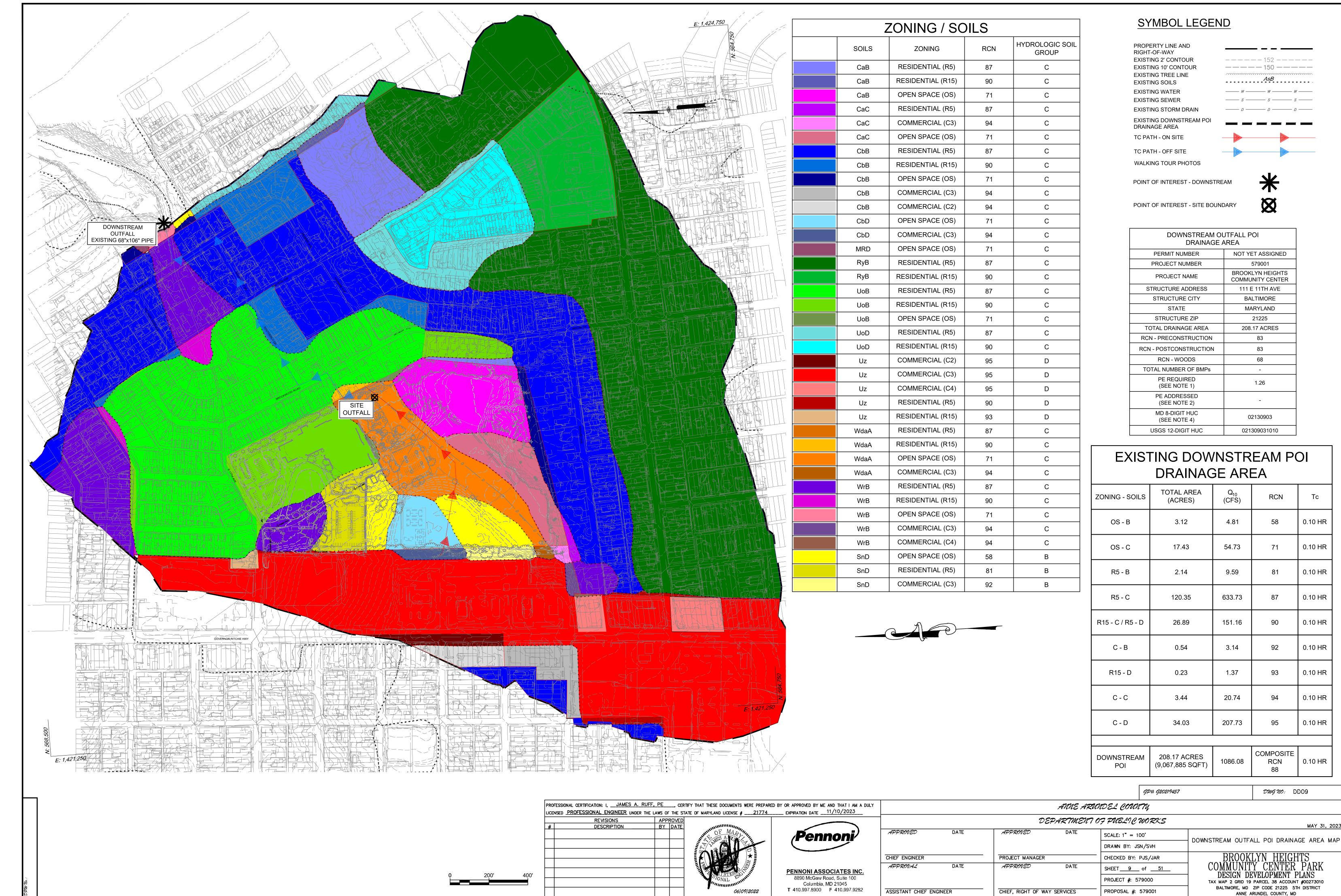














| DOWNSTREAM OUTFALL POI DRAINAGE AREA | | | | | | | | |
|---|--------------------------------------|--|--|--|--|--|--|--|
| PERMIT NUMBER | NOT YET ASSIGNED | | | | | | | |
| PROJECT NUMBER | 579001 | | | | | | | |
| PROJECT NAME | BROOKLYN HEIGHTS COMMUNITY CENTER | | | | | | | |
| STRUCTURE ADDRESS | 111 E 11TH AVE | | | | | | | |
| STRUCTURE CITY | BALTIMORE | | | | | | | |
| STATE | MARYLAND | | | | | | | |
| STRUCTURE ZIP | 21225 | | | | | | | |
| TOTAL DRAINAGE AREA | 208.17 ACRES | | | | | | | |
| RCN - PRECONSTRUCTION | 83 | | | | | | | |
| RCN - POSTCONSTRUCTION | 83 | | | | | | | |
| RCN - WOODS | 68 | | | | | | | |
| TOTAL NUMBER OF BMPs | - | | | | | | | |
| PE REQUIRED (SEE NOTE 1) | 1.26 | | | | | | | |
| PE ADDRESSED | | | | | | | | |

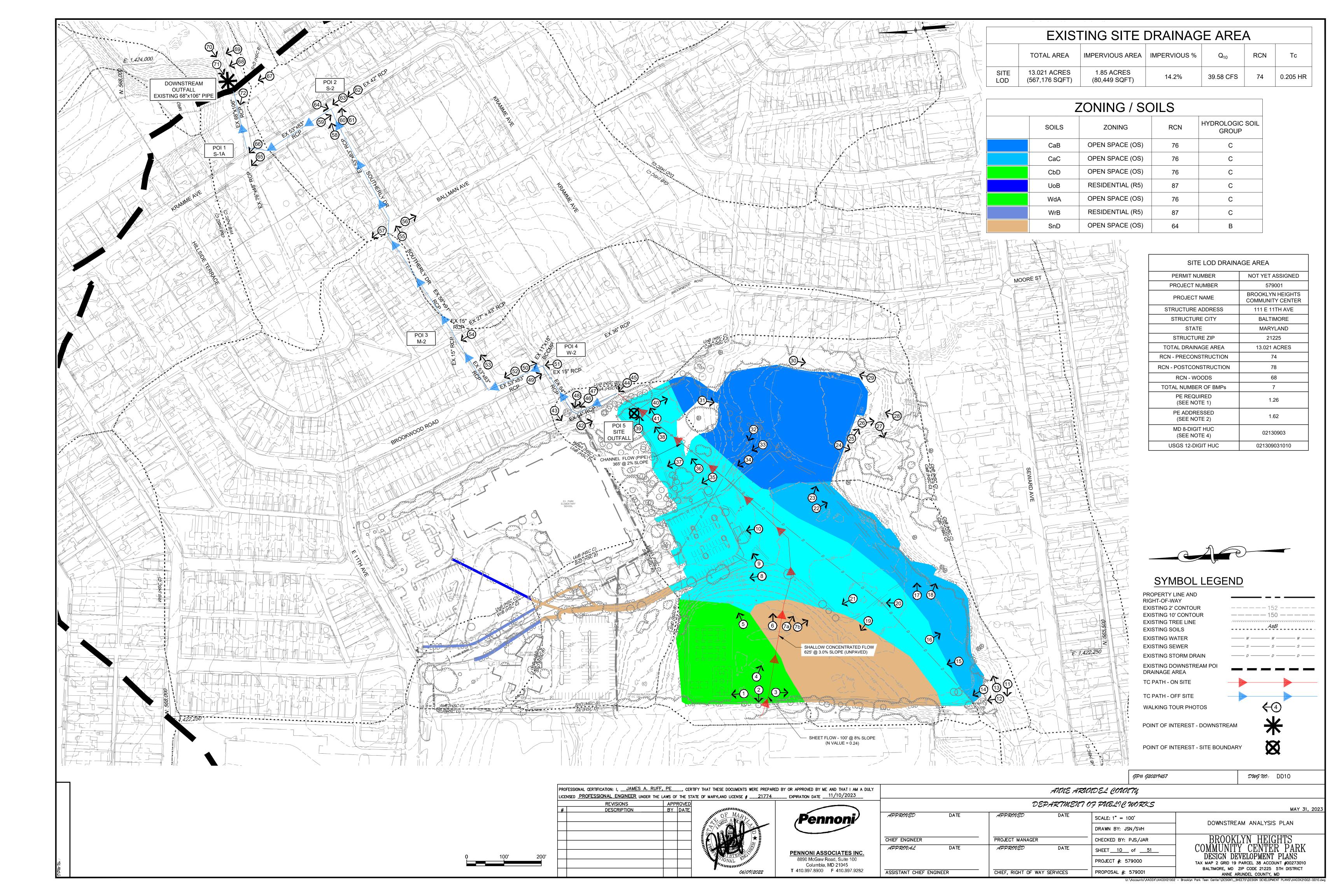
EXISTING DOWNSTREAM POI

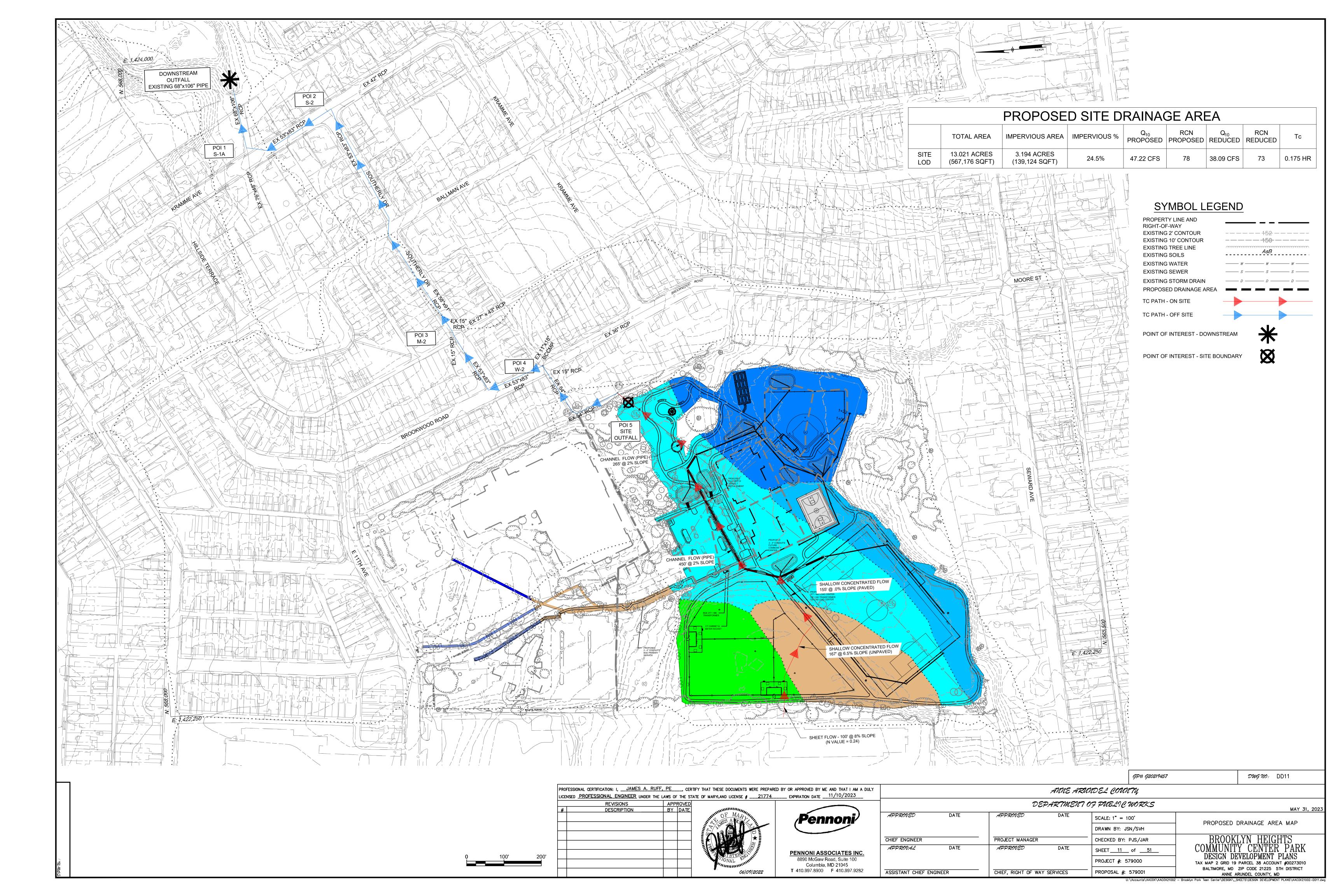
| ZONING - SOILS | TOTAL AREA (ACRES) | Q ₁₀ (CFS) | RCN | Тс |
|-------------------|----------------------------------|--------------------------|------------------|---------|
| OS - B | 3.12 | 4.81 | 58 | 0.10 HR |
| OS - C | 17.43 | 54.73 | 71 | 0.10 HR |
| R5 - B | 2.14 | 9.59 | 81 | 0.10 HR |
| R5 - C | 120.35 633.73 87 | | 0.10 HR | |
| R15 - C / R5 - D | 26.89 | 151.16 | 90 | 0.10 HR |
| C - B | 0.54 | 3.14 | 92 | 0.10 HR |
| R15 - D | 0.23 | 1.37 | 93 | 0.10 HR |
| C - C | 3.44 | 20.74 | 94 | 0.10 HR |
| C - D | 34.03 207.73 95 | | 0.10 HR | |
| | | | | |
| DOWNSTREAM POI | 208.17 ACRES (9,067,885 SQFT) | 1086.08 | COMPOSITE RCN | 0.10 HR |

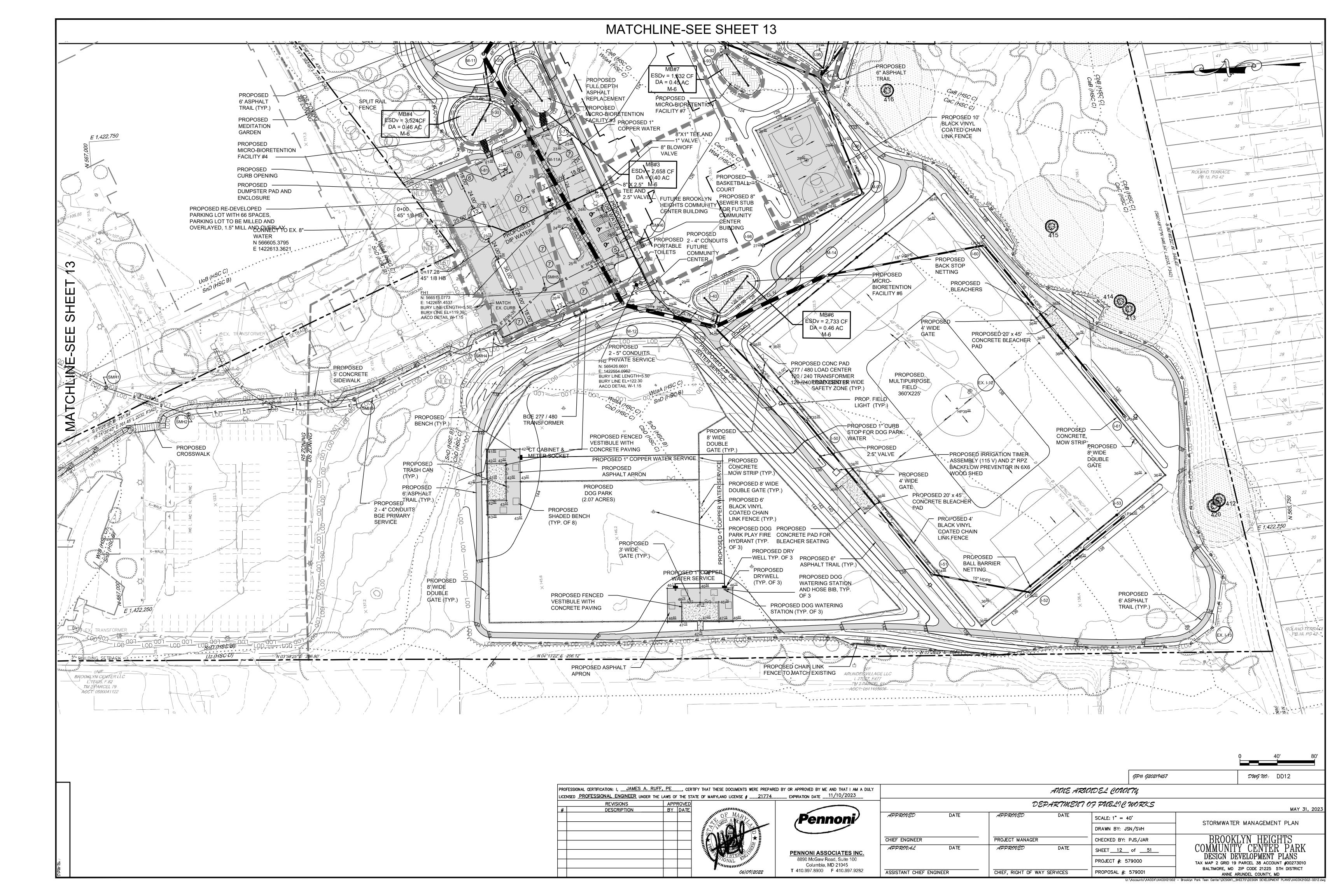
Dugno: DD09

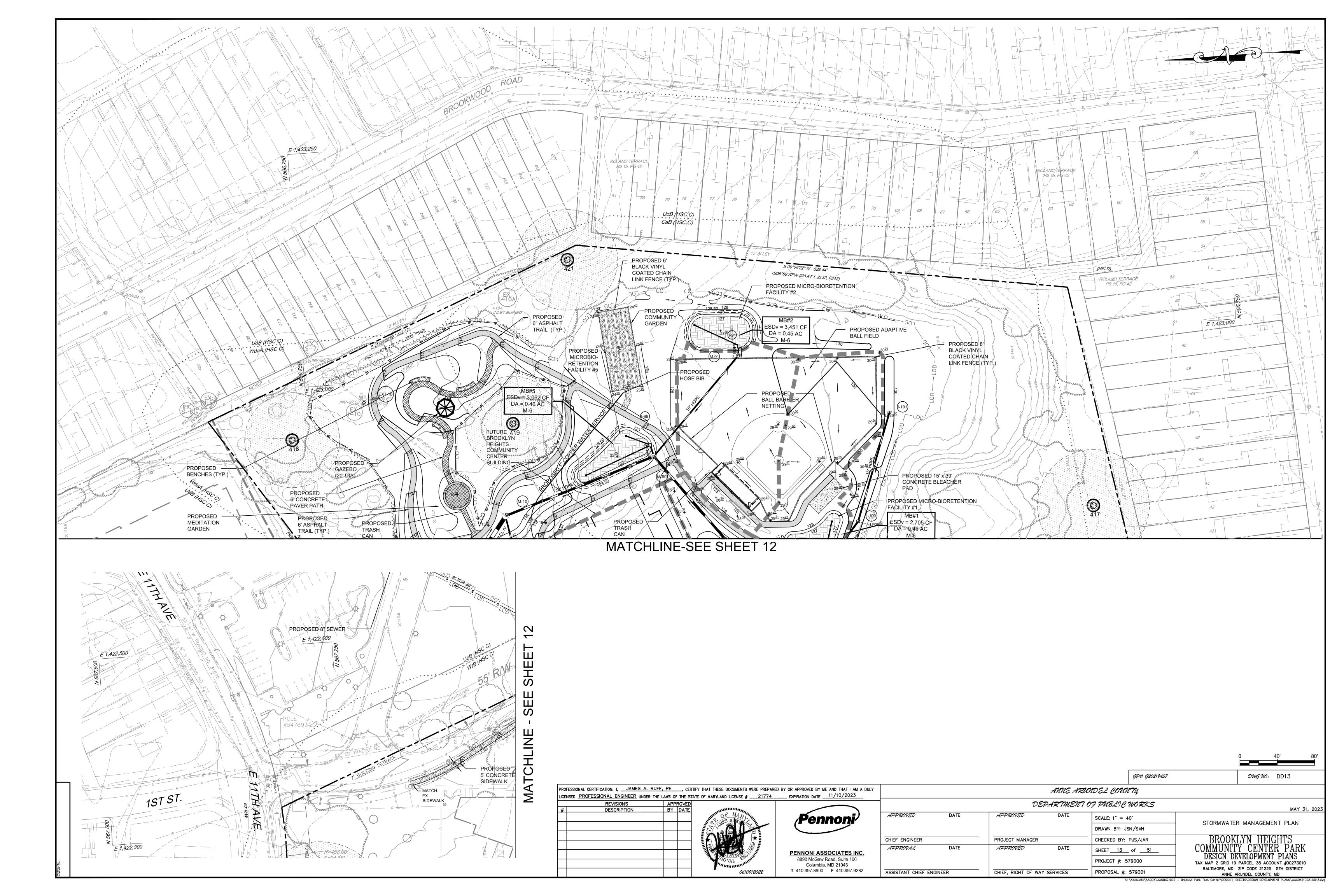
BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ANNE ARUNDEL COUNTY, MD

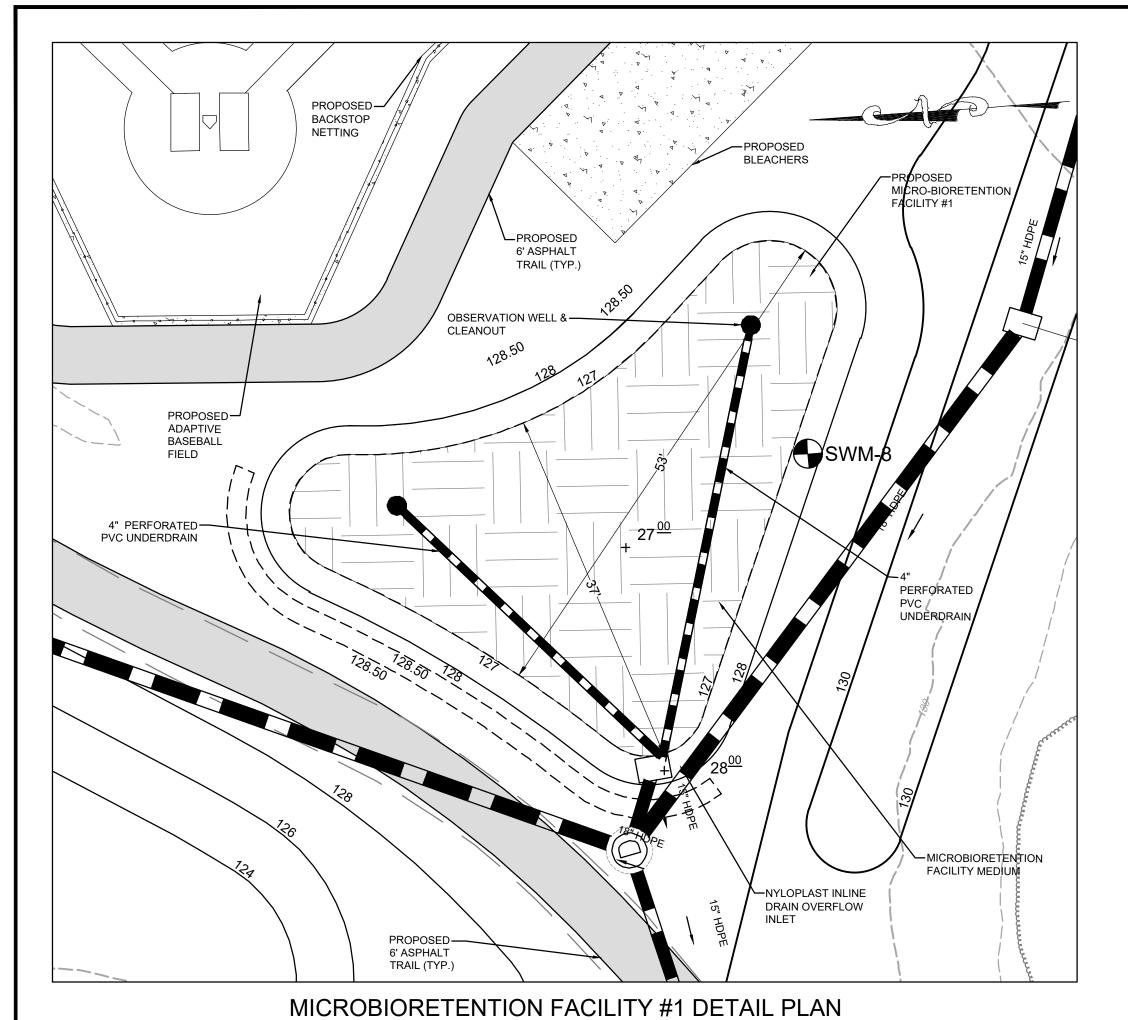
88



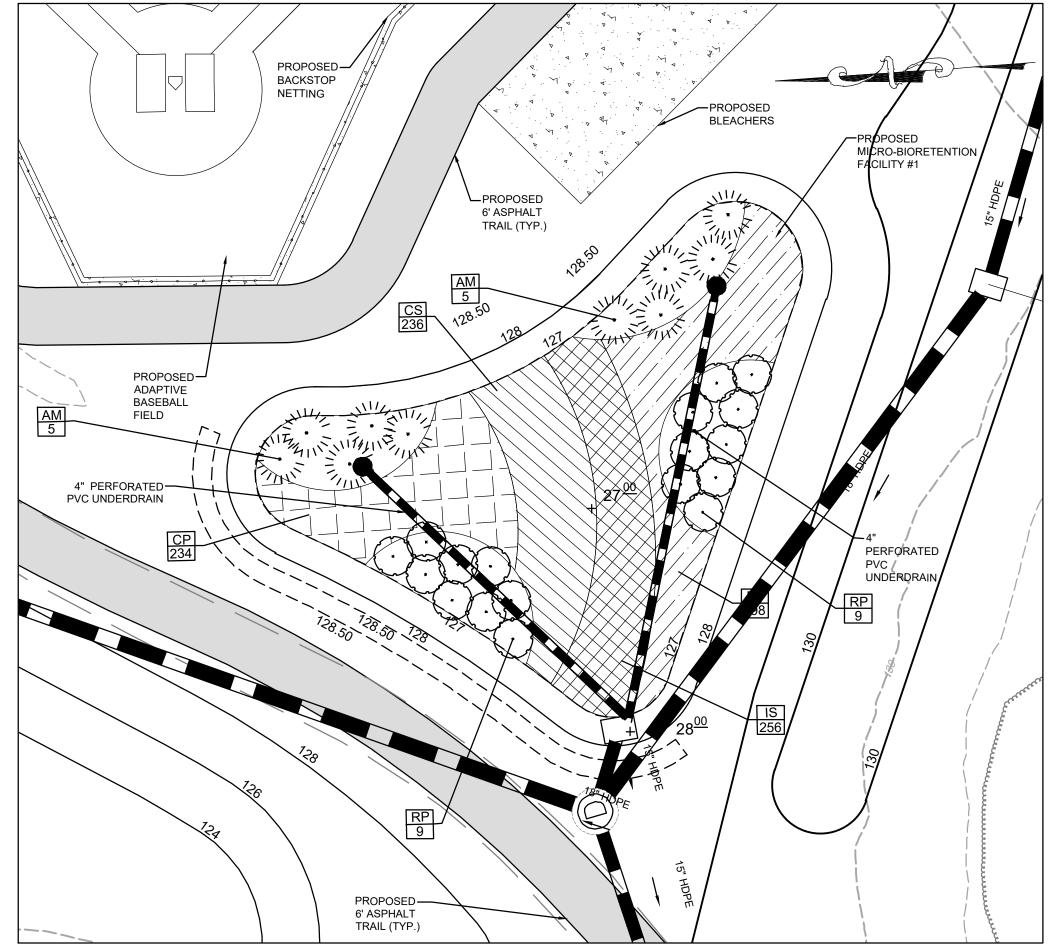






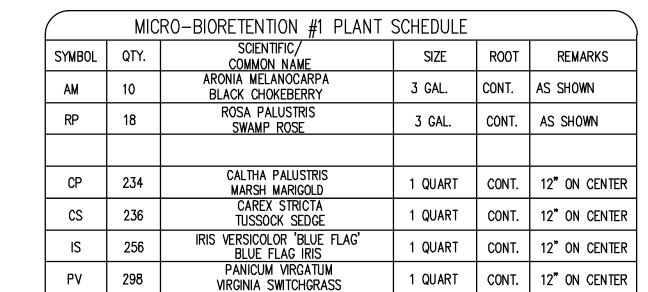


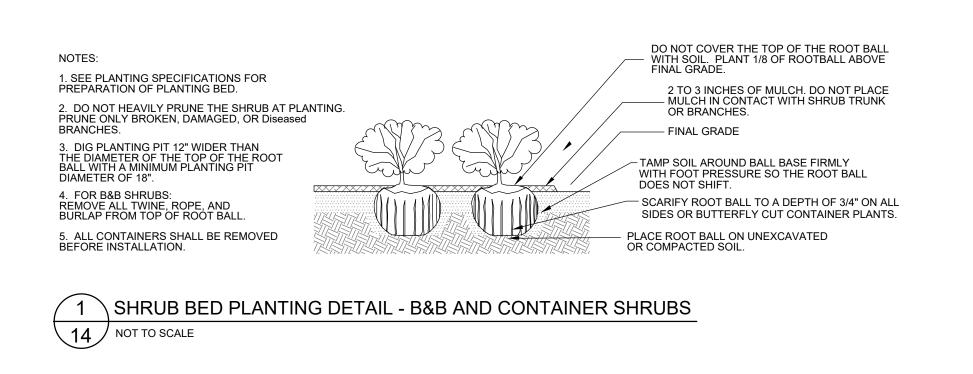
SCALE: 1"=10'



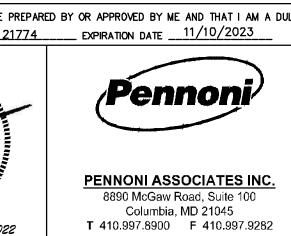
MICROBIORETENTION FACILITY #1 LANDSCAPE PLAN

SCALE: 1"=10'



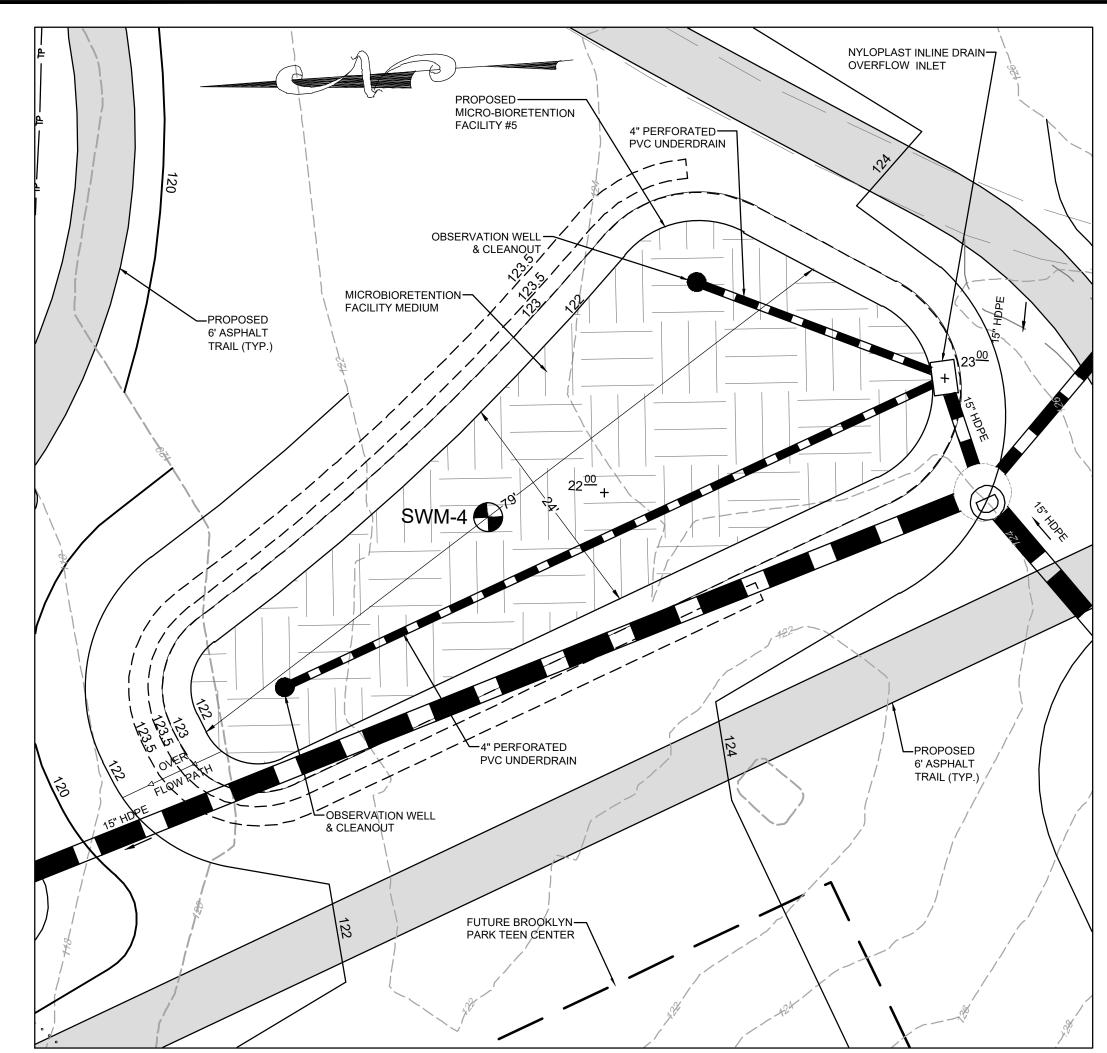


PROFESSIONAL CERTIFICATION: I, _______JAMES A. RUFF, PE_____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DUI LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # _____ 21774 _____ EXPIRATION DATE _____11/10/2023 APPROVED BY DATE REVISIONS DESCRIPTION

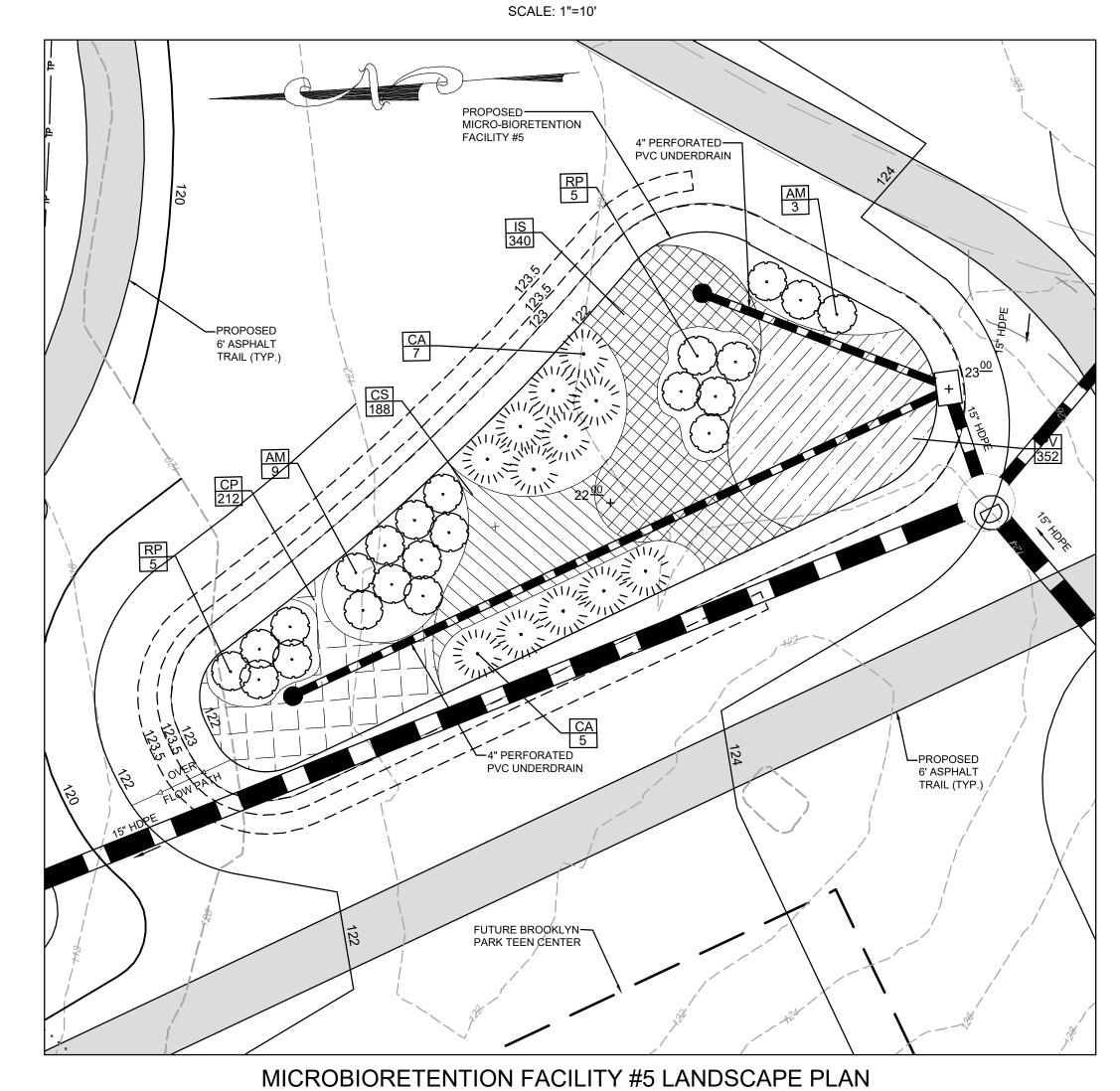


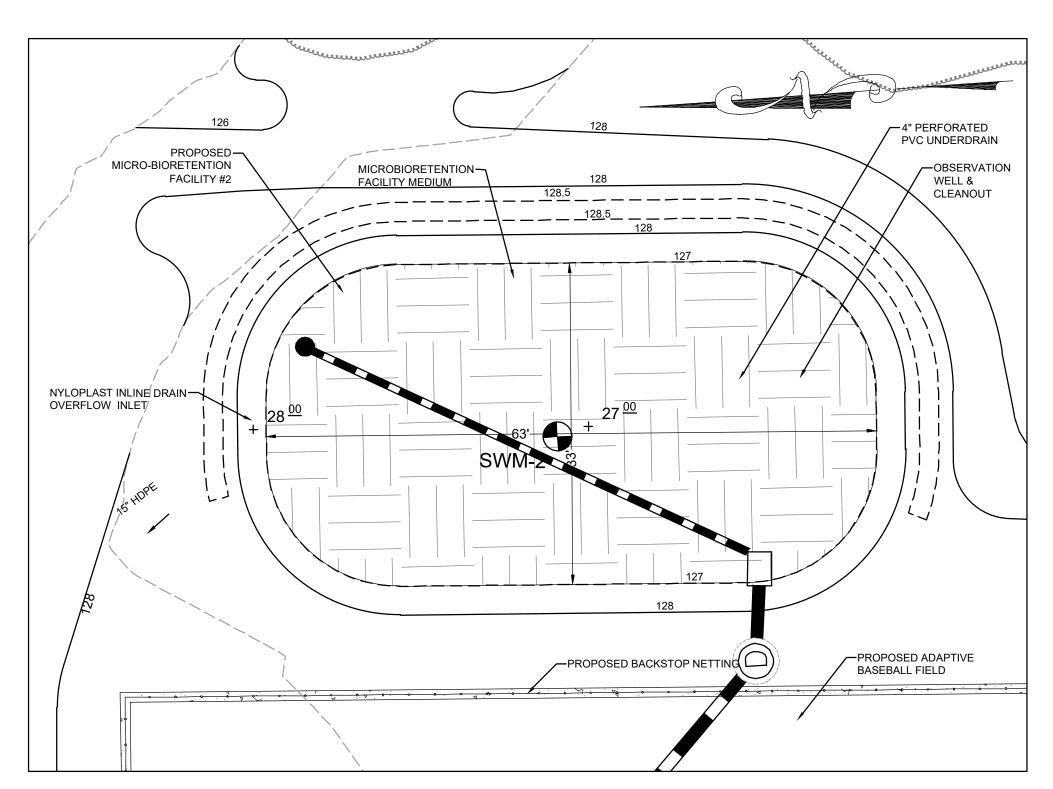
| | | | GP# G20219457 | DWGNO: DD14 | | | | | | | | | |
|------------|--------------------------|------------------------------|---------------------|--|--|--|--|--|--|--|--|--|--|
| DULY | ANNE ARNONDEL COUNTY | | | | | | | | | | | | |
| | | DEPARTMENT (| 07 PUBLIC WORKS | MAY 31, 2023 | | | | | | | | | |
| | APPROVED DATE | APPROVED DATE | SCALE: AS SHOWN | STORMWATER MANAGEMENT DETAILS | | | | | | | | | |
| | | | DRAWN BY: JSN/SVH | STORMWATER MANAGEMENT DETAILS | | | | | | | | | |
| | CHIEF ENGINEER | PROJECT MANAGER | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS | | | | | | | | | |
| ; . | APPROVAL DATE | APPROVED DATE | SHEET 14 of 51 | COMMUNITY CENTER PARK | | | | | | | | | |
| _ | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 | | | | | | | | | |
| 2 | ASSISTANT CHIEF ENGINEER | CHIEF, RIGHT OF WAY SERVICES | PROPOSAL #: 579001 | BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ANNE ARUNDEL COUNTY, MD | | | | | | | | | |

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MICROBIORETENTION FACILITY #5 DETAIL PLAN

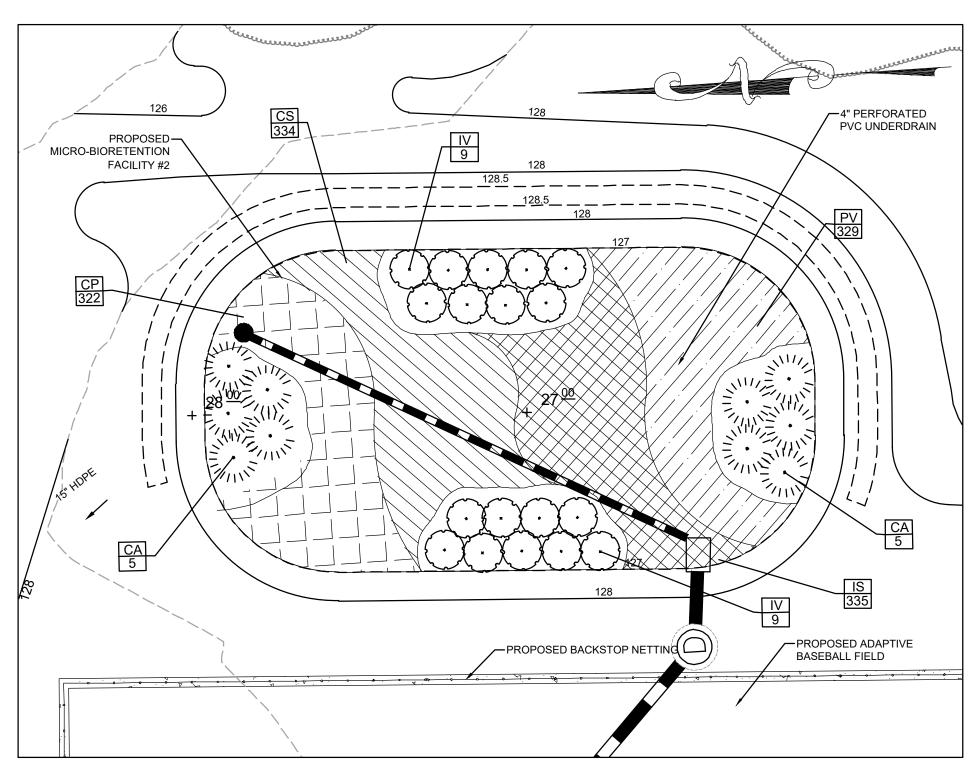




MICROBIORETENTION FACILITY #2 DETAIL PLAN SCALE: 1"=10'

| | MIC | RO-BIORETENTION #2 PLANT | SCHEDULE | | | | | |
|--------|------|---|----------|-------|--------------|--|--|--|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | REMARKS | | | |
| IV | 18 | ILEX VERTICULATA WNTERBERRY | 3 GAL. | CONT. | AS SHOWN | | | |
| CA | 10 | CALLICARPA AMERICANA AMERICAN BEAUTYBERRY | 3 GAL. | CONT. | AS SHOWN | | | |
| | | | | | | | | |
| CP | 322 | CALTHA PALUSTRIS MARSH MARIGOLD | 1 QUART | CONT. | 12" ON CENTE | | | |
| CS | 334 | CAREX STRICTA TUSSOCK SEDGE | 1 QUART | CONT. | 12" ON CENTE | | | |
| IS | 335 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 QUART | CONT. | 12" ON CENTE | | | |
| PV | 329 | PANICUM VIRGATUM VIRGINIA SWITCHGRASS | 1 QUART | CONT. | 12" ON CENTE | | | |

| | MIC | RO-BIORETENTION #5 PLANT | SCHEDULE | | |
|-------------|-----|---|----------|-------|---------------|
| SYMBOL QTY. | | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | REMARKS |
| AM | 12 | ARONIA MELANOCARPA BLACK CHOKEBERRY | 3 GAL. | CONT. | AS SHOWN |
| RP | 10 | ROSA PALUSTRIS SWAMP ROSE | 3 GAL. | CONT. | AS SHOWN |
| CA | 13 | CALLICARPA AMERICANA AMERICAN BEAUTYBERRY | 3 GAL. | CONT. | AS SHOWN |
| | | | | | |
| CP | 212 | CALTHA PALUSTRIS MARSH MARIGOLD | 1 QUART | CONT. | 12" ON CENTER |
| CS | 188 | CAREX STRICTA TUSSOCK SEDGE | 1 QUART | CONT. | 12" ON CENTER |
| IS | 340 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 QUART | CONT. | 12" ON CENTER |
| PV | 352 | PANICUM VIRGATUM VIRGINIA SWITCHGRASS | 1 QUART | CONT. | 12" ON CENTER |



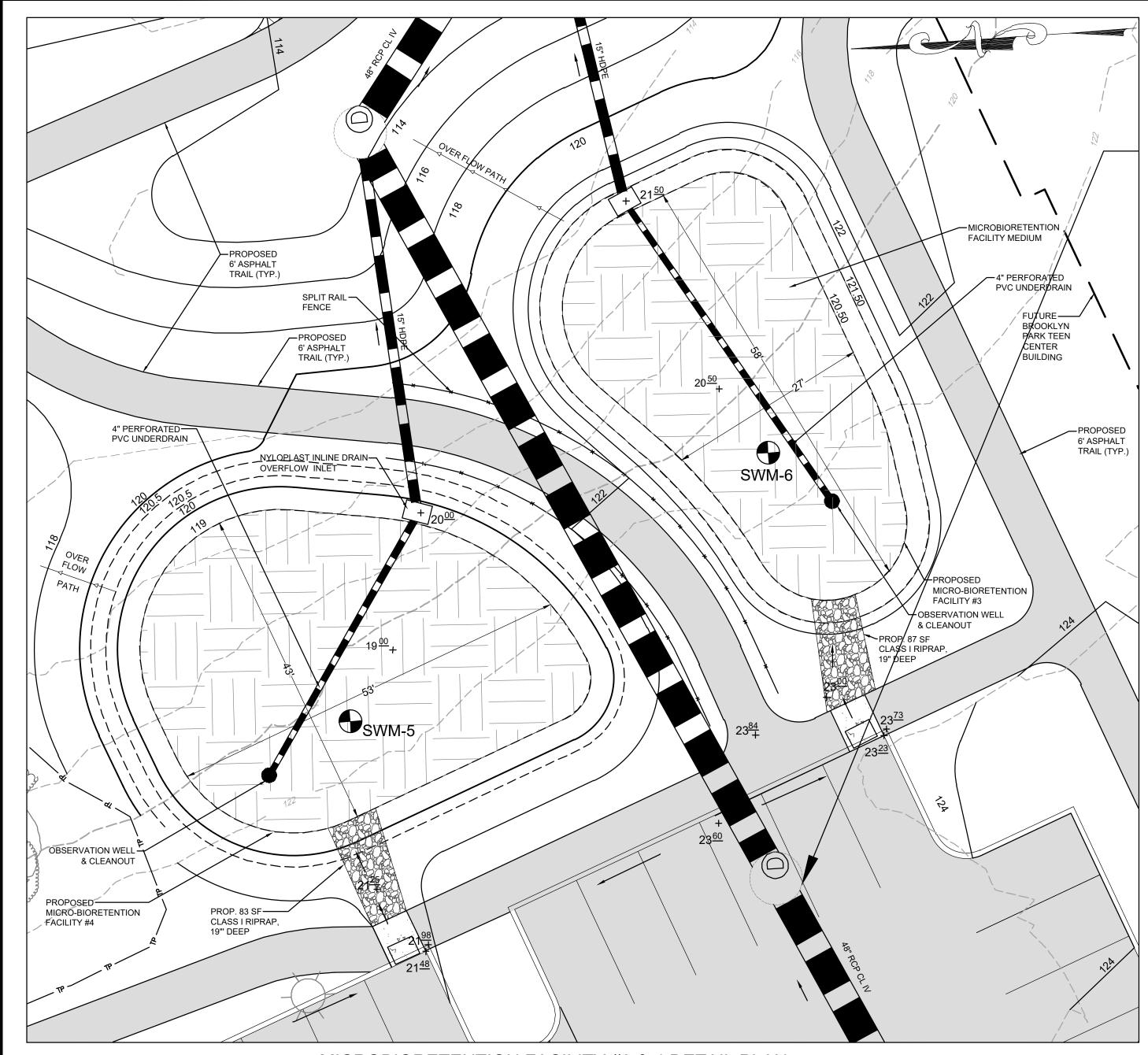
MICROBIORETENTION FACILITY #2 LANDSCAPE PLAN SCALE: 1"=10'

DWGNO: DD15 GP# G20219457 ANNE ARUNDEL COUNTY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # 21774 EXPIRATION DATE 11/10/2023 DEPARTMENT OF PUBLIC WORKS REVISIONS DESCRIPTION APPROVED SCALE: AS SHOWN STORMWATER MANAGEMENT DETAILS DRAWN BY: JSN/SVH CHIEF ENGINEER PROJECT MANAGER CHECKED BY: PJS/JAR DATE APPROVED APPROVAL SHEET 15 of 51 PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 PROJECT #: 579000 Columbia, MD 21045 T 410.997.8900 F 410.997.9282 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT

CHIEF, RIGHT OF WAY SERVICES

PROPOSAL #: 579001

ASSISTANT CHIEF ENGINEER

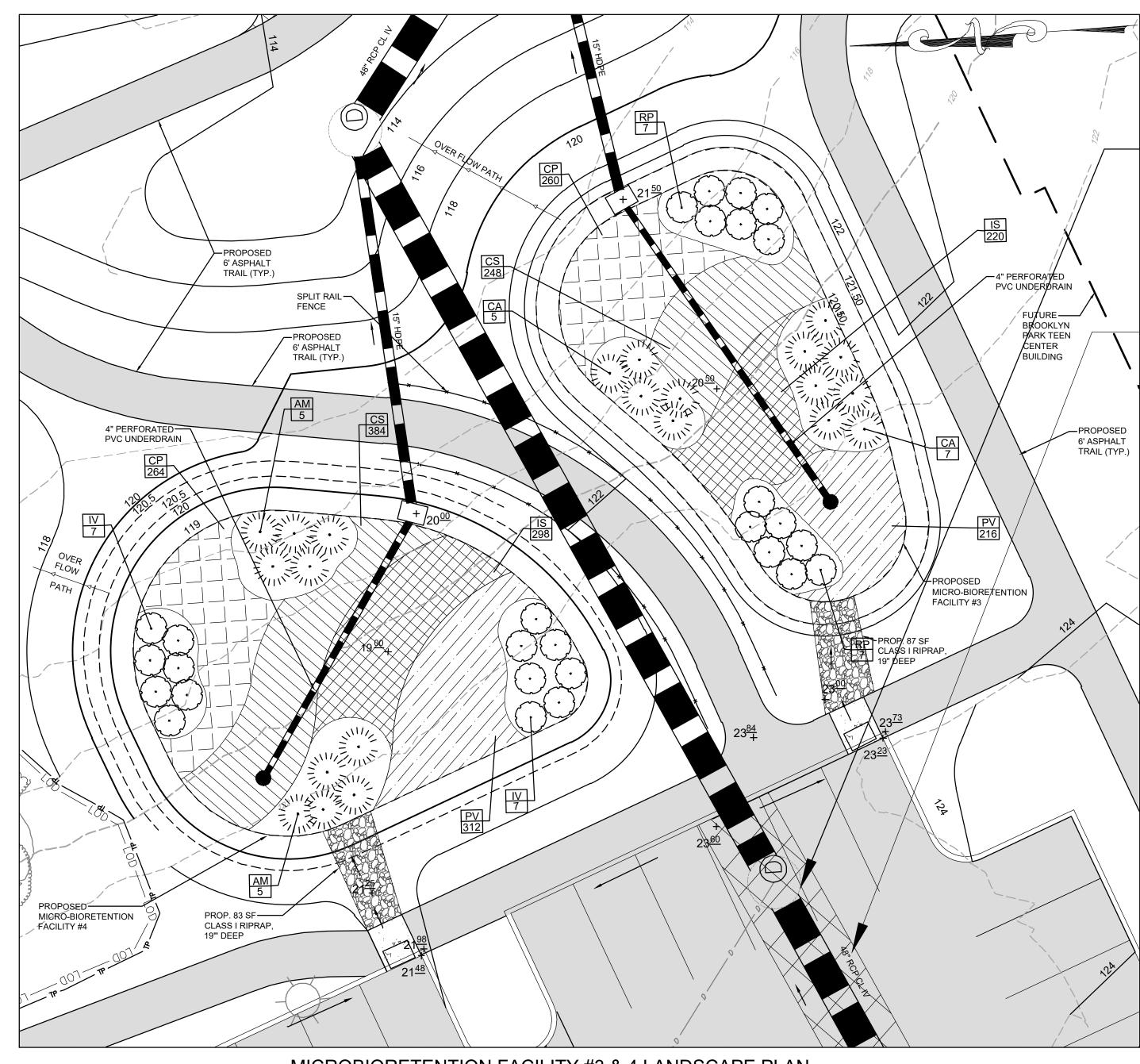


MICROBIORETENTION FACILITY #3 & 4 DETAIL PLAN

SCALE: 1"=10'

| | MICRO-BIORETENTION #3 PLANT SCHEDULE | | | | | | | | | | |
|--------|--------------------------------------|---|----------|-------|---------------|--|--|--|--|--|--|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME SIZE ROOT REMA | | | | | | | | | |
| RP | 14 | ROSA PALUSTRIS SWAMP ROSE | AS SHOWN | | | | | | | | |
| CA | 12 | CALLICARPA AMERICANA AMERICAN BEAUTYBERRY | 3 GAL. | CONT. | AS SHOWN | | | | | | |
| | | | | | | | | | | | |
| CP | 248 | CALTHA PALUSTRIS MARSH MARIGOLD | 1 QUART | CONT. | 12" ON CENTER | | | | | | |
| CS | 260 | CAREX STRICTA TUSSOCK SEDGE | 1 QUART | CONT. | 12" ON CENTER | | | | | | |
| IS | 216 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 QUART | CONT. | 12" ON CENTER | | | | | | |
| PV | 220 | PANICUM VIRGATUM VIRGINIA SWITCHGRASS | 1 QUART | CONT. | 12" ON CENTER | | | | | | |

| | MIC | RO-BIORETENTION #4 PLANT | SCHEDULE | | | | | |
|--------|------|---|----------|-------|---------------|--|--|--|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | REMARKS | | | |
| AM | 10 | ARONIA MELANOCARPA BLACK CHOKEBERRY | 3 GAL. | CONT. | AS SHOWN | | | |
| IV | 14 | ILEX VERTICULATA WINTERBERRY | 3 GAL. | CONT. | AS SHOWN | | | |
| | | | | | | | | |
| СР | 264 | CALTHA PALUSTRIS MARSH MARIGOLD | 1 QUART | CONT. | 12" ON CENTE | | | |
| CS | 384 | CAREX STRICTA TUSSOCK SEDGE | 1 QUART | CONT. | 12" ON CENTE | | | |
| IS | 298 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 QUART | CONT. | 12" ON CENTER | | | |
| PV | 312 | PANICUM VIRGATUM VIRGINIA SWITCHGRASS | 1 QUART | CONT. | 12" ON CENTE | | | |



MICROBIORETENTION FACILITY #3 & 4 LANDSCAPE PLAN

SCALE: 1"=10"

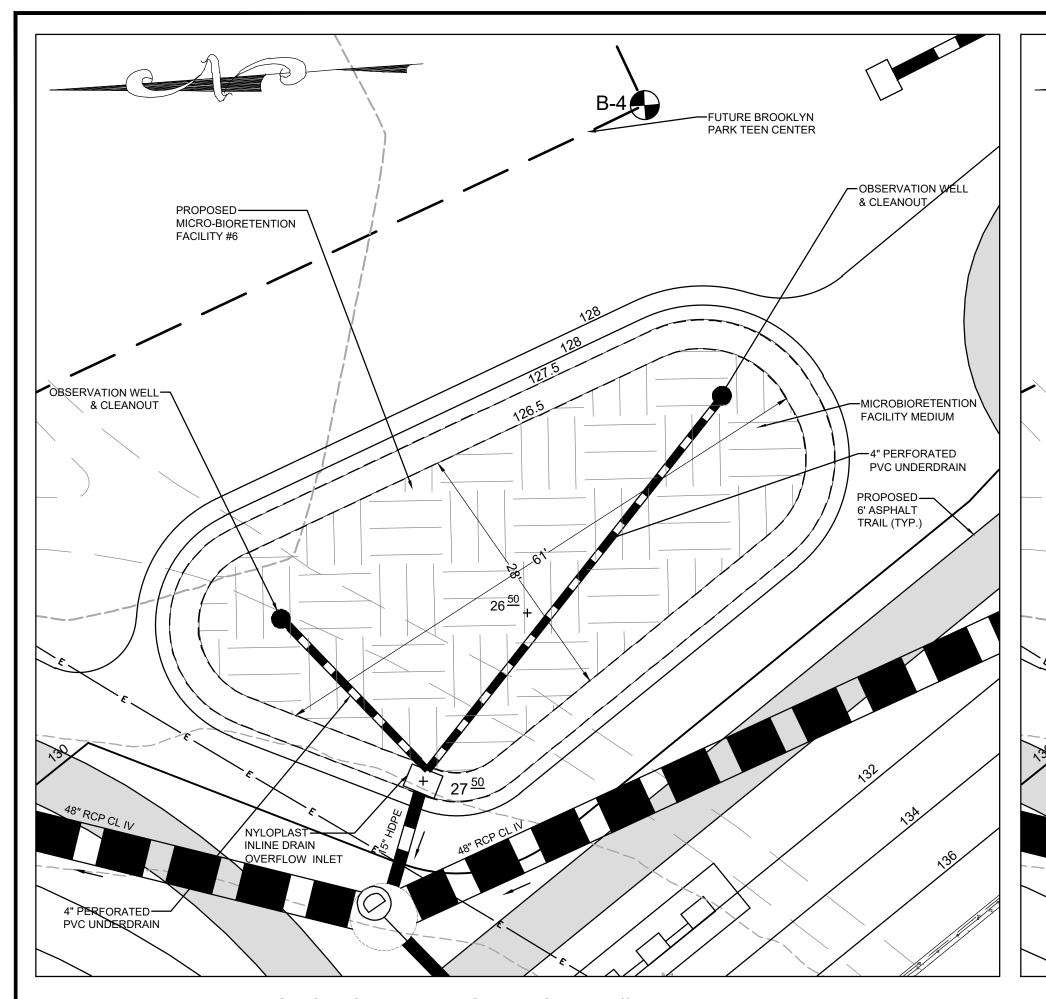


DWGNO: DD16 GP# G20219457 ANNE ARUNDEL COUNTY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # 21774 EXPIRATION DATE 11/10/2023 DEPARTMENT OF PUBLIC WORKS REVISIONS DESCRIPTION MAY 31, 2023 APPROVED APPROVED SCALE: AS SHOWN STORMWATER MANAGEMENT DETAILS DRAWN BY: JSN/SVH PROJECT MANAGER CHIEF ENGINEER CHECKED BY: PJS/JAR APPROVAL DATE APPROVED SHEET 16 of 51 PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 PROJECT #: 579000 Columbia, MD 21045 T 410.997.8900 F 410.997.9282 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES PROPOSAL #: 579001

#: 579001

ANNE ARUNDEL COUNTY, MD

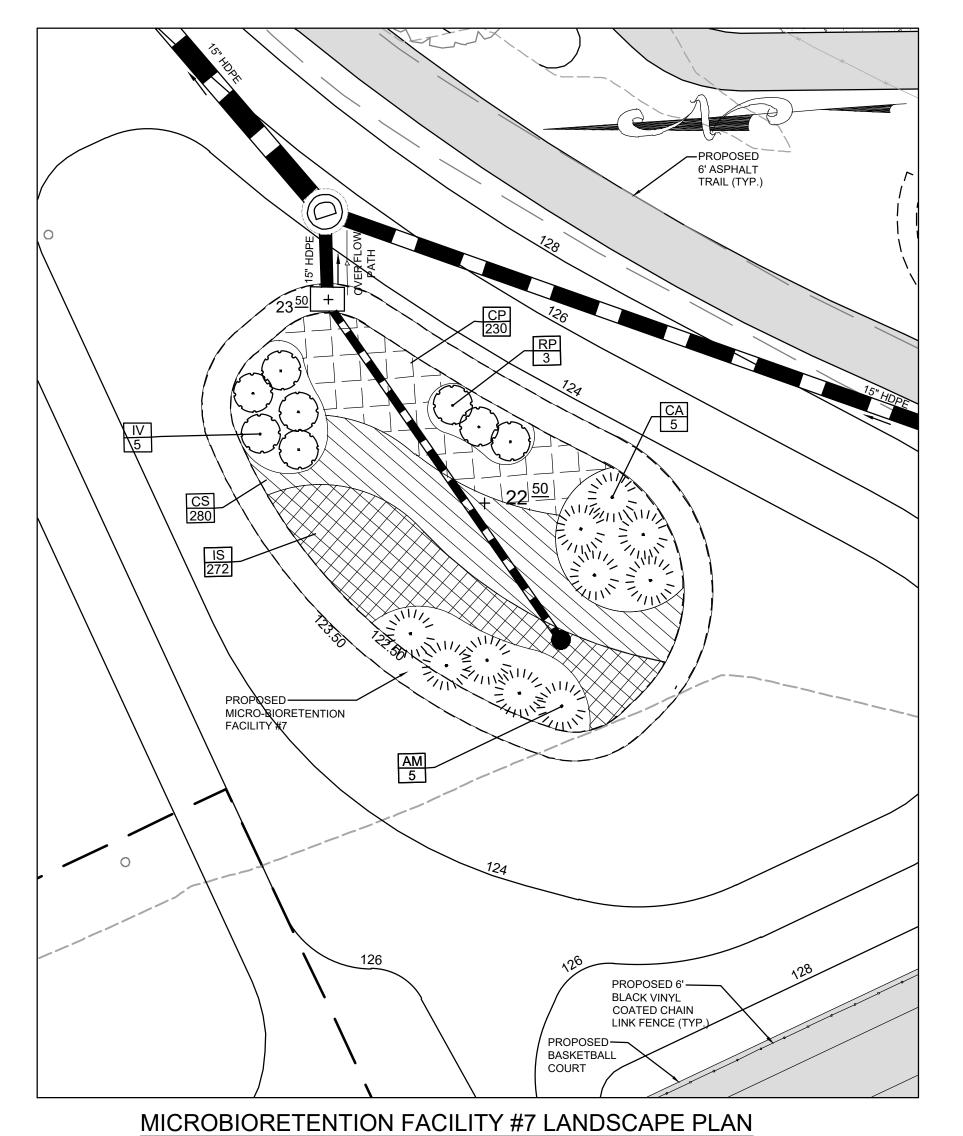
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-FUTURE BROOKLYN PARK TEEN CENTER PROPOSED MICRO-BIORETENTION FACILITY #6 -4" PERFORATED PVC UNDERDRAIN PROPOSED-6' ASPHALT 4" PERFORATED— PVC UNDERDRAIN

MICROBIORETENTION FACILITY #6 DETAIL PLAN SCALE: 1"=10'





SCALE: 1"=10'

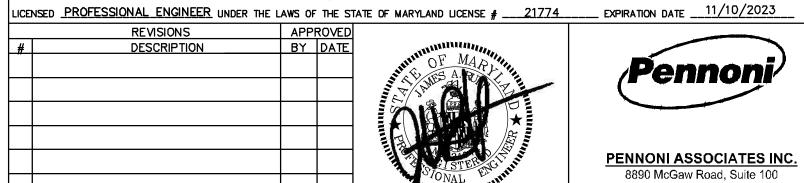
| | MIC | RO-BIORETENTION #6 PLANT | SCHEDULE | | |
|--------|------|---|----------|-------|---------------|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | REMARKS |
| AM | 8 | ARONIA MELANOCARPA BLACK CHOKEBERRY | 3 GAL. | CONT. | AS SHOWN |
| IV | 10 | ILEX VERTICULATA WINTERBERRY | 3 GAL. | CONT. | AS SHOWN |
| RP | 6 | ROSA PALUSTRIS SWAMP ROSE | 3 GAL. | CONT. | AS SHOWN |
| CA | 6 | CALLICARPA AMERICANA AMERICAN BEAUTYBERRY | 3 GAL. | CONT. | AS SHOWN |
| | | | | | |
| CP | 268 | CALTHA PALUSTRIS MARSH MARIGOLD | 1 QUART | CONT. | 12" ON CENTER |
| CS | 240 | CAREX STRICTA TUSSOCK SEDGE | 1 QUART | CONT. | 12" ON CENTER |
| IS | 204 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 QUART | CONT. | 12" ON CENTER |
| PV | 204 | PANICUM VIRGATUM VIRGINIA SWITCHGRASS | 1 QUART | CONT. | 12" ON CENTER |

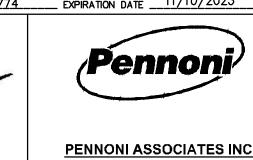
| MICRO-BIORETENTION #7 PLANT SCHEDULE | | | | | | | | | | |
|--------------------------------------|------|---|---------|-------|---------------|--|--|--|--|--|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | REMARKS | | | | | |
| АМ | 5 | ARONIA MELANOCARPA BLACK CHOKEBERRY | 3 GAL. | CONT. | AS SHOWN | | | | | |
| IV | 5 | ILEX VERTICULATA WINTERBERRY | 3 GAL. | CONT. | AS SHOWN | | | | | |
| RP | 3 | ROSA PALUSTRIS SWAMP ROSE | 3 GAL. | CONT. | AS SHOWN | | | | | |
| CA | 5 | CALLICARPA AMERICANA AMERICAN BEAUTYBERRY | 3 GAL. | CONT. | AS SHOWN | | | | | |
| | | | | | | | | | | |
| CP | 230 | CALTHA PALUSTRIS MARSH MARIGOLD | 1 QUART | CONT. | 12" ON CENTER | | | | | |
| CS | 280 | CAREX STRICTA TUSSOCK SEDGE | 1 QUART | CONT. | 12" ON CENTER | | | | | |
| IS | 272 | IRIS VERSICOLOR 'BLUE FLAG' BLUE FLAG IRIS | 1 QUART | CONT. | 12" ON CENTER | | | | | |

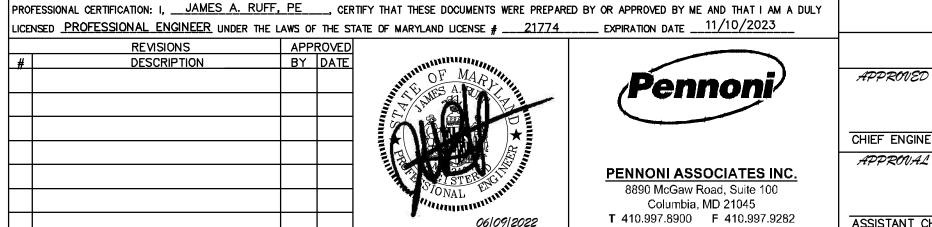
NOTE: THE CONSTRUCTION OF MICROBIORETENTION FACILITIES #6 & #7 WILL BE DEFERRED UNTIL THE FUTURE COMMUNITY CENTER BUILDING IS CONSTRUCTED.

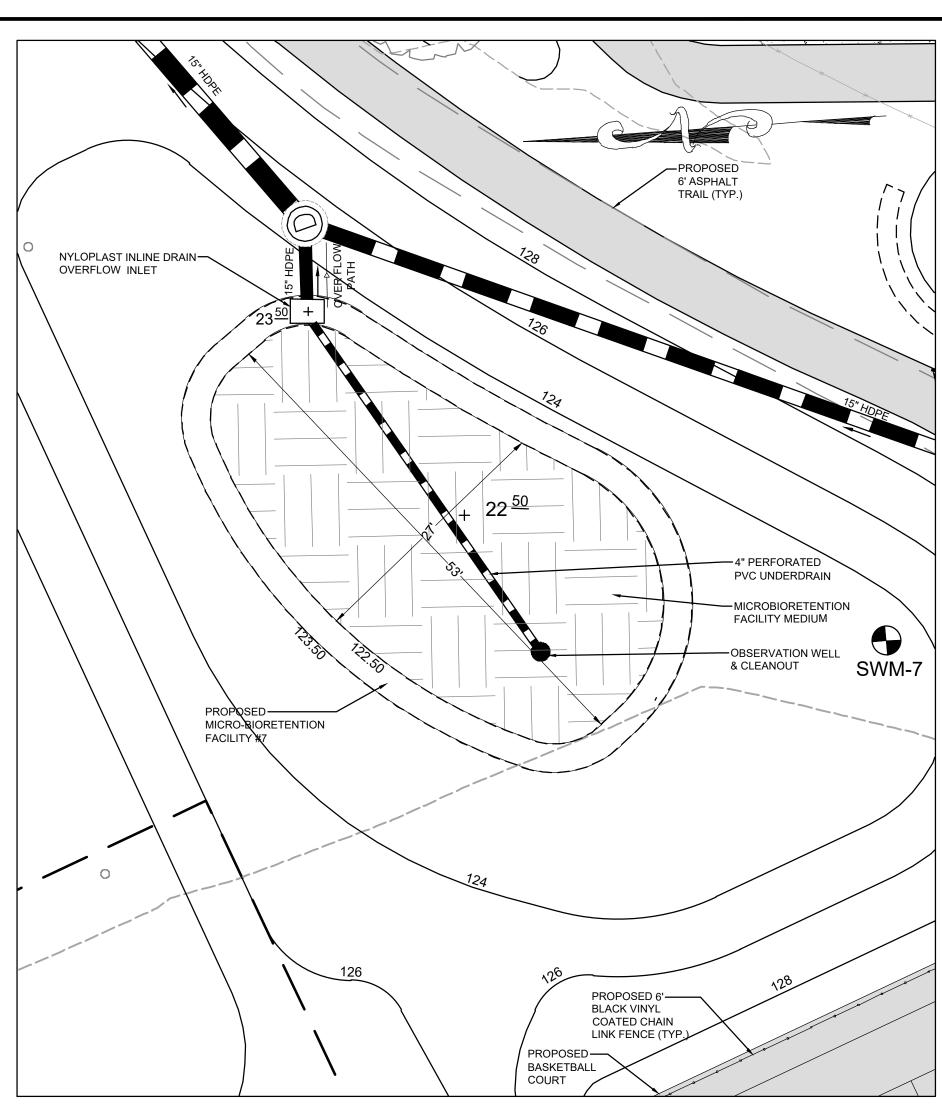
REVISIONS

DESCRIPTION

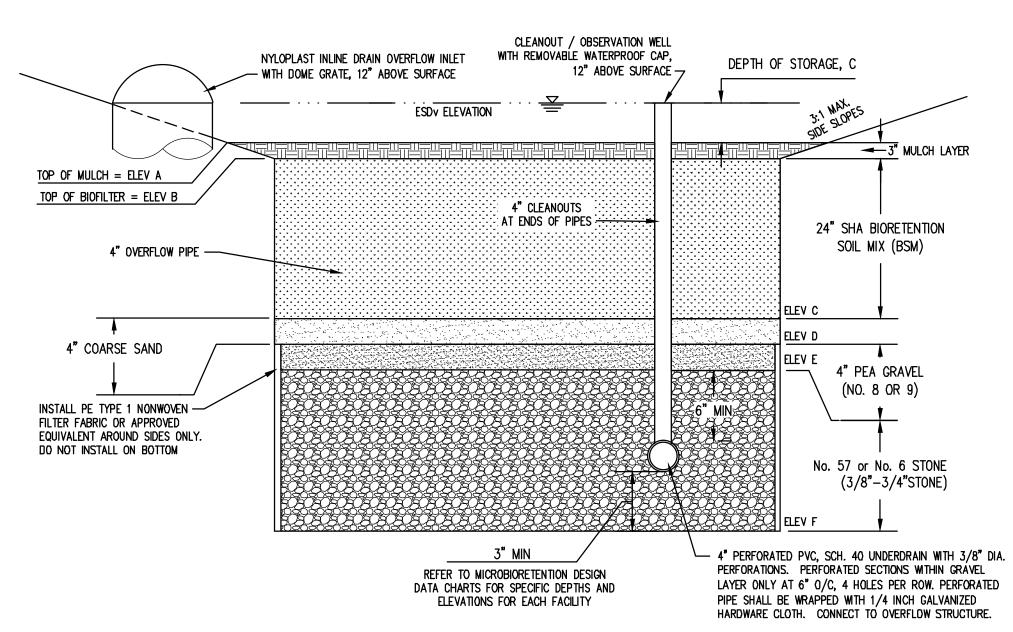








MICROBIORETENTION FACILITY #7 DETAIL PLAN



MICROBIORETENTION TYPICAL SECTION

17 NOT TO SCALE

GP# G20219457

DWGNO: DD17

| | | | ANNE AZ | AUND EL COUNTY | |
|--------------------------------|------|---------------------|-------------------|-------------------------------|---|
| | | DE | PARTMENT | 7 07 PUBLIC WORKS | MAY 31, 2023 |
| APPROVED | DATE | APPROVED | DATE | SCALE: AS SHOWN | STORMWATER MANAGEMENT DETAILS |
| | | | DRAWN BY: JSN/SVH | STORMWATER MANAGEMENT DETAILS | |
| CHIEF ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS |
| APPROVAL | DATE | APPROVED | DATE | SHEET 17 of 51 | COMMUNITY CENTER PARK |
| | | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 |
| ASSISTANT CHIEF ENGINEER CHIEF | | CHIEF, RIGHT OF WAY | ' SERVICES | PROPOSAL #: 579001 | BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ANNE ARUNDEL COUNTY, MD |
| | | | | U: \Accounts\AAC0X\AAC0X2100 | 2 - Brooklyn Park Teen Center\DESIGN_SHEETS\DESIGN DEVELOPMENT PLANS\AACOX21002-DD17.dwg |

MICROBIORETENTION FACILITY AND SPECIFICATIONS

- 1. WHERE REQUIRED, THE UNDERDRAIN PIPE MUST BE 4-INCH DIAMETER SCHEDULE 40 OR STRONGER PERFORATED PVC PIPE AT 0.00% SLOPE. THREE INCHES OF GRAVEL MUST BE PLACED UNDER THE PIPE, WITH A MINIMUM OF 6 INCHES OF GRAVEL OVER THE PIPE. PERFORATIONS MUST BE 3/8 INCH IN DIAMETER AND MUST BE LOCATED 4 INCHES ON CENTER, EVERY 90 DEGREES AROUND THE PIPE. PERFORATED PIPE MUST BEGIN AT LEAST 5FT. INSIDE THE FILTER MEDIA. FILTER FABRIC MUST NOT BE WRAPPED AROUND THE UNDERDRAIN PIPE.
- 2. WHERE REQUIRED FOR UNDERDRAINS, 4" INCH CLEAN-OUTS SHOULD BE USED. CLEANOUTS FOR EACH PIPE SHOULD EXTEND 6 INCHES ABOVE THE TOP OF THE PLANTING MEDIA AND HAVE A REMOVABLE CAP.
- 3. THE GRAVEL LAYER SURROUNDING THE UNDERDRAIN PIPES MUST MEET MSHA SIZE #7 (TABLE 901A), AND MUST PROVIDE A MINIMUM OF 6 INCHES COVER OVER THE PIPE, AND MINIMUM 3 INCHES UNDER THE PIPE. NO GEOTEXTILE OR FILTER FABRIC IS ALLOWED ANYWHERE WITHIN THE FILTER MEDIA (STONE OR SAND).
- 4. A MINIMUM 6-INCH FINE AGGREGATE SAND LAYER SHALL BE PROVIDED BELOW THE SOIL FILTER/PLANTING MEDIA. THE SAND MUST MEET GRADATION REQUIREMENTS FOR WASHED ASTM C33 FINE AGGREGATE CONCRETE SAND. AASHTO M-6 GRADATION IS ALSO ACCEPTABLE. SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTS MAY BE USED. IF MATERIAL IS WHITE OR GREY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE. SAND MUST BE CLEAN. NATURAL, UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE.
- 5. A MINIMUM 4-INCH PEA GRAVEL LAYER SHALL BE PROVIDED BETWEEN THE SAND AND THE STONE.
- 6. THE PLANTING MEDIA MIX SHALL MEET SHA BIORETENTION SOIL MIX STANDARDS. THE SOIL SHALL MEET THE FOLLOWING MINIMUM CRITERIA: A HOMOGENEOUS MIXTURE COMPOSED OF 5 PARTS COARSE SAND, 3 PARTS BASE SOIL, AND 2 PARTS FINE BARK. THE SOIL SHALL BE FREE OF STONES, STUMPS, ROOTS OR OTHER SIMILAR OBJECTS LARGER THAN 2 INCHES. THE PLANTING MATERIAL SHALL BE FLOODED AFTER PLACEMENT. ANY SETTLEMENT THAT OCCURS SHALL BE FILLED BACK TO THE DESIGN ELEVATION.
- 7. THE SURFACE MULCH LAYER WILL CONSIST OF STANDARD FINE SHREDDED AGED HARDWOOD MULCH. THE MULCH SHOULD BE UNIFORMLY TO A DEPTH OF 2 TO 3 INCHES. YEARLY REPLENISHING MAY BE NECESSARY. PINE BARK IS NOT ACCEPTABLE.

OPERATION AND MAINTENANCE SCHEDULE FOR MICRO-BIORETENTION (M-6)

- 1. ANNUAL MAINTENANCE OF PLANT MATERIAL, MULCH LAYER AND SOIL LAYER IS REQUIRED. MAINTENANCE OF MULCH AND SOIL IS LIMITED TO CORRECTING AREAS OF EROSION OR WASH OUT. ANY MULCH REPLACEMENT SHALL BE DONE IN THE SPRING. PLANT MATERIAL SHALL BE CHECKED FOR DISEASE AND INSECT INFESTATION AND MAINTENANCE WILL ADDRESS DEAD MATERIAL AND PRUNING. ACCEPTABLE REPLACEMENT PLANT MATERIAL IS LIMITED TO THE FOLLOWING: 2000 MARYLAND STORMWATER DESIGN MANUAL VOLUME II, TABLE A.4.1 AND 2.
- SCHEDULE OF PLANT INSPECTION WILL BE TWICE A YEAR IN SPRING AND FALL. THIS INSPECTION WILL INCLUDE REMOVAL OF DEAD AND DISEASED VEGETATION CONSIDERED BEYOND TREATMENT, TREATMENT OF ALL DISEASED TREES AND SHRUBS AND REPLACEMENT OF ALL DEFICIENT STAKES AND WIRES.
- 3. MULCH SHALL BE INSPECTED EACH SPRING. REMOVE PREVIOUS MULCH LAYER BEFORE APPLYING NEW LAYER ONCE EVERY 2 TO 3 YEARS.
- 4. SOIL EROSION TO BE ADDRESSED ON AN AS NEEDED BASIS, WITH A MINIMUM OF ONCE PER MONTH AND AFTER HEAVY STORM EVENTS.

SAND SPECIFICATIONS

WASHED ASTM C-33 FINE AGGREGATE CONCRETE SAND IS UTILIZED FOR STORMWATER MANAGEMENT APPLICATIONS. IN ADDITION TO THE ASTM C-33 SPECIFICATION, SAND MUST MEET ALL OF THE FOLLOWING CONDITIONS.

- 1. SAND MUST MEET GRADATION REQUIREMENTS FOR ASTM C-33 FINE AGGREGATE CONCRETE SAND. AASHTO M-8 GRADATION IS ALSO ACCEPTABLE.
- 2. SAND MUST BE SILICA BASED. NO LIMESTONE BASED PRODUCTIONS MAY BE USED. IF THE MATERIAL IS WHITE OR GRAY IN COLOR, IT IS PROBABLY NOT ACCEPTABLE.
- 3. SAND MUST BE CLEAN AND NATURAL. UNWASHED SAND DEPOSITS MAY NOT BE USED. LIKEWISE, SAND THAT HAS BECOME CONTAMINATED BY IMPROPER STORAGE OR INSTALLATION PRACTICES WILL BE REJECTED.
- 4. MANUFACTURED SAND OR STONE DUST IS NOT ACCEPTABLE UNDER ANY CIRCUMSTANCE.

MICROBIORETENTION FACILITY SEQUENCE OF CONSTRUCTION

- 1. DO NOT BEGIN MICROBIORETENTION FACILITY INSTALLATION UNTIL SITE UPSTREAM OF THE FACILITY IS STABILIZED AND FINE GRADING HAS BEEN COMPLETED.
- 2. STAKEOUT LIMITS OF THE FACILITY. COORDINATE WITH THE ENGINEER TO VERIFY DIMENSIONS AND ENSURE THAT ENOUGH STAKEOUT INFORMATION IS PROVIDED TO ACCURATELY CONSTRUCT FACILITY. (1 DAY)
- 3. EXCAVATE MICROBIORETENTION FACILITY. CONSTRUCTION SHALL BE PERFORMED WITH LIGHTWEIGHT. WIDE-TRACKED EQUIPMENT TO MINIMIZE DISTURBANCE AND COMPACTION. IT IS RECOMMENDED THAT THE ENGINEER BE CONTACTED TO VERIFY AND SURVEY LIMITS OF EXCAVATION UPON COMPLETION OF EXCAVATION, PRIOR TO PIPE AND UNDERDRAIN CONSTRUCTION AND MATERIAL BACKFILL. EXCAVATED MATERIALS SHALL BE PLACED IN A CONTAINED AREA. (1 DAY)
- 4. PLACE STONE AND UNDERDRAINS. (1 DAY)
- 5. PLACE SAND LAYER IN LIFTS OF THREE INCHES. (0.5 DAY)
- 6. PLACE PLANTING SOIL AND OBSERVATION WELLS. (1 DAY)
- 7. PLACE MULCH. (0.5 DAY)
- 8. INSTALL PLANT MATERIAL. (1 DAY)
- 9. STABILIZE MICROBIORETENTION FACILITY AREA. (0.5 DAY)
- 10. PREPARE AND SUBMIT AS-BUILTS TO COUNTY.

CONSTRUCTION CRITERIA FOR MICRO BIORETENTION (M-6)

- 1. EROSION AND SEDIMENT CONTROL: MICRO BIORETENTION PRACTICES SHOULD NOT BE CONSTRUCTED UNTIL THE CONTRIBUTING DRAINAGE AREA IS STABILIZED. IF THIS IS IMPRACTICAL, RUNOFF FROM DISTURBED AREAS SHALL BE DIVERTED AWAY AND NO SEDIMENT CONTROL PRACTICES SHALL BE USED NEAR THE PROPOSED LOCATION.
- 2. SOIL COMPACTION: EXCAVATION SHOULD BE CONDUCTED IN DRY CONDITIONS WITH EQUIPMENT LOCATED OUTSIDE OF THE PRACTICE TO MINIMIZE BOTTOM AND SIDEWALL COMPACTION. ONLY LIGHTWEIGHT, LOW GROUND-CONTACT EQUIPMENT SHOULD BE USED WITHIN MICRO BIORETENTION PRACTICES AND THE BOTTOM SCARIFIED A MINIMUM OF 6" BEFORE INSTALLING UNDERDRAINS AND FILTERING MEDIA.
- 3. UNDERDRAIN INSTALLATION: GRAVEL FOR THE UNDERDRAIN SYSTEM SHALL BE CLEAN, WASHED, AND FREE OF FINES. UNDERDRAIN PIPES SHOULD BE CHECKED TO ENSURE THAT BOTH THE MATERIAL AND PERFORATIONS MEET SPECIFICATIONS. THE UPSTREAM ENDS OF THE UNDERDRAIN PIPE SHOULD BE CAPPED PRIOR TO INSTALLATION.
- 4. FILTER MEDIA INSTALLATION: MICRO BIORETENTION SOILS MAY BE MIXED ON-SITE BEFORE PLACEMENT. HOWEVER, SOILS SHOULD NOT BE PLACED UNDER SATURATED CONDITIONS. THE FILTER MEDIA SHOULD BE PLACED AND GRADED USING EXCAVATORS OR BACKHOES OPERATING ADJACENT TO THE PRACTICE AND BE PLACED IN HORIZONTAL LAYERS (12 INCHES PER LIFT MAXIMUM). PROPER COMPACTION OF THE MEDIA WILL OCCUR NATURALLY. SPRAYING OR SPRINKLING WATER ON EACH LIFT UNTIL SATURATED MAY QUICKEN SETTLING TIMES.
- 5. LANDSCAPE INSTALLATION: THE OPTIMUM PLANTING TIME IS DURING THE FALL. SPRING PLANTING IS ALSO ACCEPTABLE BUT MAY REQUIRE ADDITIONAL WATERING.

For Each Practice in the Drainage Area

New development (NEWD), Redvelopment (REDE)

| | | E, S, or A | | or Restoration (REST) | MDP Code | | | | | | | New | New |
|--------------------|----------------------|------------|---------|-----------------------|-------------------------|-----------------|-----------------|----------------|--------------|----------------|------------|----------------------------|----------|
| | | | | | | | | | | | | Maintenance Responsibility | |
| | | | | | | | IMPERVIOUS AREA | | | | | | |
| | | | | | | | DRAINING TO | IMPERVIOUS | MD NORTH | | WQ_ee | | |
| | | MDE BMP | MDE BMP | CONSTRUCTION | | DEVICE DRAINAGE | DEVICE (Square | ACRES RESTORED | COORD | MD EAST COORD | (ft3) (See | | |
| STORM_ID | STRU_NAME | CLASS | TYPE | PURPOSE | ON or OFF SITE LAND USE | AREA (acres) | feet) | (See Note 3) | (NAD83 - FT) | (NAD83 - FT) | Note 5) | | Comments |
| Blank - County Use | | | | | | | | | | | | | |
| | | | | | | 20,000 SF (0.46 | 12,761 SF | | | | | | |
| | Microbioretention #1 | E | MMBR | NEWD | ON 16 | AC) | (0.29 AC) | 0 | 566,216.7525 | 1,422,779.3631 | 2,809 | Owner | |
| | | | | | | 19,758 SF (0.45 | 16,598 SF (0.38 | 3 | | | | | |
| | Microbioretention #2 | E | MMBR | NEWD | ON 16 | AC) | AC) | 0 | 566,331.7326 | 1,423,012.7684 | 3,583 | Owner | |
| | | | | | | 17,321 SF (0.40 | 12,668 SF | | , | | | | |
| | Microbioretention #3 | E | MMBR | NEWD | ON 16 | AC) | (0.29 AC) | 0 | 566,537.6844 | 1,422,799.8099 | 2,760 |) Owner | |
| | | | | | | 19,987 SF (0.46 | 16,962 SF | | | | | | |
| | Microbioretention #4 | E | MMBR | NEWD | ON 16 | AC) | (0.39 AC) | 0 | 566,567.9693 | 1,422,760.7562 | 3,595 | Owner | |
| | | | | | | 19,8780 SF | 14,598 SF | | | | | | |
| | Microbioretention #5 | E | MMBR | NEWD | ON 16 | (0.46 AC) | (0.36 AC) | 0 | 566,385.5936 | 1,422,911.0310 | 3,180 |) Owner | |
| | | | | | | 20,000 SF (0.46 | 12,903 SF | | | | | | |
| | Microbioretention #6 | E | MMBR | NEWD | ON 16 | AC) | (0.30 AC) | 0 | 566,336.8139 | 1,422,522.6203 | 2,838 | 3 Owner | |
| | | | | | | 19,636 SF (0.45 | 8,305 SF (0.19 | | | | | | |
| | Microbioretention #7 | E | MMBR | NEWD | ON 16 | AC) | AC) | 0 | 566,313.1480 | 1,422,795.4386 | 1,903 | 3 Owner | |

- 1 Rainfall target (from Table 5.3, Design Manual pp.5.21-22) used to determine ESD goals and size practices (for new development or redevelopment). If practice is for restoration, then PE_REQ is 1inch.
- 2 Rainfall addressed (using both ESD techniques and practices, and structural practices) by the BMPs within the drainage area
- 3 Equals Impervious Area Draining to Device when PE_ADR = 1 inch (for restoration only)
- https://mde.state.md.us/programs/Water/TMDL/DataCenter/Pages/8DigitWatershed.aspx 4- Maryland 8-Digit HUC (Hydrologic Unit Code) can be found by using the map at:
- 5 Water Quality volume, the smaller of the volume of the actual storage volume in the device or the volume from the 1-year 24-hour storm for the drainage area to the device ((2.7" x Rv x A)/12)

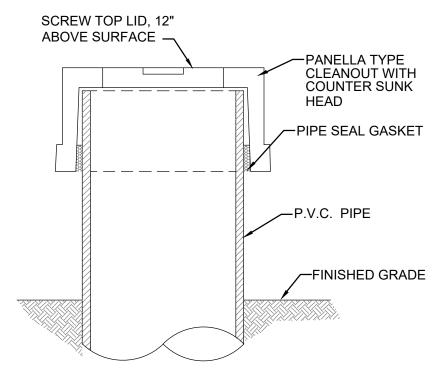
Columbia, MD 21045

T 410.997.8900 F 410.997.9282

6- If other is selected for maintenance responsibility, please explain the comments column.

| Proiect | Table | for I | Drainage | Area | 1 |
|---------|-------|-------|----------|------|---|

| Permit Number | |
|--------------------------------|-----------------------------------|
| Project Number | 579001 |
| Project Name | Brooklyn Heights Community Center |
| StructureAddress | 111 E 11th Ave |
| Structure City | Baltimore |
| State | Maryland |
| Structure Zip | 21225 |
| Total Drainage Area (Acres) | 13.021 Acres |
| RCN - Pre Construction | 74 |
| RCN - Post Construction | 78 |
| RCN - Woods | 68 |
| Total Number of BMPs | 7 |
| PE Required (see Note 1) | 1.26 |
| PE Addressed (see Note 2) | 1.62 |
| MD 8-Digit HUC (see Note 4) | 02130903 |
| USGS 12-Digit HUC | Blank - County Use |



EACH OBSERVATION WELL / CLEANOUT SHALL INCLUDE THE FOLLOWING:

- 1. FOR AN UNDERGROUND FLUSH MOUNTED OBSERVATION WELL/ CLEANOUT. PROVIDE A TUBE MADE OF NON-CORROSIVE MATERIAL, SCHEDULE 40 OR EQUAL, AT LEAST THREE FEET LONG WITH AN INSIDE DIAMETER OF AT LEAST 4" INCHES.
- 2. THE TUBE SHALL HAVE A FACTORY ATTACHED CAST IRON OR HIGH IMPACT PLASTIC COLLAR WITH RIBS TO PREVENT ROTATION WHEN REMOVING SCREW TOP LID. THE SCREW TOP LID SHALL BE CAST IRON OR HIGH IMPACT PLASTIC THAT WILL WITHSTAND ULTRA-VIOLET RAYS.
- 3. ON THE CAP OF THE OBSERVATION WELL MARK THE DEPTH TO THE BOTTOM OF THE SHA BIORETENTION SOIL MIX WITH AN INDELIBLE PEN.

2 CLEAN-OUT / OBSERVATION WELL CAP 18 / NOT TO SCALE

| SITE IMPERVIOUSNESS AND ESD VOLUME | |
|--|--------|
| 7 II TO LOD VOLOIVIL | • |
| SITE AREA/LOD (ACRES) | 13.19 |
| EXISTING IMPERVIOUS SURFACE AREA (ACRES) | 1.85 |
| PROPOSED IMPERVIOUS SURFACE AREA (ACRES) | 3.20 |
| RAINFALL DEPTH (IN) | 1.0 |
| EXISTING IMPERVIOUSNESS | 14.0% |
| PROPOSED IMPERVIOUSNESS | 24.3% |
| ESDv CALCULATION FOR NEW DEVELOPMENT | |
| ESD VOLUME REQUIRED (CF) | 16,124 |
| ESD VOLUME PROVIDED (CF) | 20,668 |

| | MICRO-BIORETENTION SUMMARY TABLE | | | | | | | | | | |
|-----------|----------------------------------|-------------------------|----------------------|--------------|--------------------------------|--------------------------|--------------------------|--------------------------------|-----------------------|------------------------|-------------|
| FACILITY# | DRAINAGE AREA (SF) | IMPERVIOUS AREA (SF) | % IMPERVIOUS AREA | SOIL TYPE | PE REQUIRED (REDEVELOPMENT) | ESDv REQUIRED (CF) | ESDv PROVIDED (CF) | FILTER SURFACE AREA (SF) | PONDING DEPTH (IN) | MEDIA DEPTH (FT) | MAINTENANCE |
| 1 | 20,000 | 12,761 | 64% | С | 2.6 | | 2,809 | 1,486 | 12" | 2 | PRIVATE |
| 2 | 19,758 | 16,598 | 84% | С | 2.6 | | 3,583 | 1,965 | 12" | 2 | PRIVATE |
| 3 | 17,321 | 12,668 | 73% | С | 2.6 | | 2,760 | 1,526 | 12" | 2 | PRIVATE |
| 4 | 19,987 | 16,962 | 85% | С | 2.6 | 16,124 ** | 3,595 | 1,856 | 12" | 2 | PRIVATE |
| 5 | 19,878 | 14,598 | 73% | С | 2.6 | | 3,180 | 1,887 | 12" | 2 | PRIVATE |
| 6 | 20,000 | 12,903 | 65% | С | 2.6 | | 2,838 | 1,553 | 12" | 2 | PRIVATE |
| 7 | 19,636 | 8,305 | 42% | С | 2.6 | | 1,903 | 1,219 | 12" | 2 | PRIVATE |

| | | | | | MIC | RO-BIORE | TENTION | DESIGN D | DATA | | | | | |
|---|----------|----------------|------------|----------------|------------|----------------|----------|----------------|------------|----------------|----------|----------------|----------|----------------|
| | #1 | #1 AS-BUILT | #2 | #2 AS-BUILT | #3 | #3 AS-BUILT | #4 | #4 AS-BUILT | # 5 | #5 AS-BUILT | #6 | #6 AS-BUILT | #7 | #7 AS-BUILT |
| ESDV ELEV & OVERFLOW STRUCTURE RIM | 128.00 | | 128.00 | | 121.50 | | 120.00 | | 123.00 | | 127.50 | | 123.50 | |
| FACILITY TOP ELEV A | 127.00 | | 127.00 | | 120.50 | | 119.00 | | 122.00 | | 126.50 | | 122.50 | |
| MULCH BOTTOM ELEV B | 126.75 | | 126.75 | | 120.25 | | 118.75 | | 121.75 | | 126.25 | | 122.25 | |
| BSM SOIL BOTTOM ELEV C | 124.75 | | 124.75 | | 118.25 | | 116.75 | | 119.75 | | 124.25 | | 120.25 | |
| SAND BOTTOM ELEV D | 124.42 | | 124.42 | | 117.92 | | 116.42 | | 119.42 | | 123.92 | | 119.92 | |
| PEA GRAVEL BOTTOM ELEV E | 124.09 | | 124.09 | | 117.59 | | 116.09 | | 119.09 | | 123.59 | | 119.59 | |
| FACILITY BOTTOM ELEV F | 122.76 | | 122.76 | | 116.26 | | 114.76 | | 117.76 | | 122.26 | | 118.26 | |
| SURFACE AREA AT 'F' (SF) | 1,486 SF | | 1,965 SF | | 1,526 SF | | 1,856 SF | | 1,887 SF | | 1,553 SF | | 1,219 SF | |
| UNDERDRAIN INVERT ELEV AT CLEANOUT | 123.26 | | 123.26 | | 116.76 | | 115.26 | | 118.26 | | 122.76 | | 118.76 | |
| DEPTH OF STONE BELOW UNDERDRAIN | 6" | | 6 " | | 6 " | | 6" | | 6" | | 6" | | 6" | |

| | | | | | ' ' | ' |
|---|----------------|------|-----------------|---------|---------------------|--|
| PROFESSIONAL CERTIFICATION: I,JAMES A. RUFF, PE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE #21774 EXPIRATION DATE11/10/2023 | | | | ANNE AZ | UNDEL COUNTY | · |
| REVISIONS APPROVED # DESCRIPTION BY DATE | | | DE | PARTMEN | 7 07 PUBLIC WORKS | MAY 31, 2023 |
| Pennoni Pennoni | APPROVED | DATE | APPROVED | DATE | SCALE: 1" = 40' | STORMWATER MANAGEMENT DETAILS |
| | | | | | DRAWN BY: JSN/SVH | |
| | CHIEF ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS COMMUNITY CENTER PARK |
| PENNONI ASSOCIATES INC. | APPROVAL | DATE | APPROVED | DATE | SHEET 18 of 51 | COMMUNITY CENTER PARK |
| 8890 McGaw Road, Suite 100 | | | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 |

CHIEF, RIGHT OF WAY SERVICES

ASSISTANT CHIEF ENGINEER

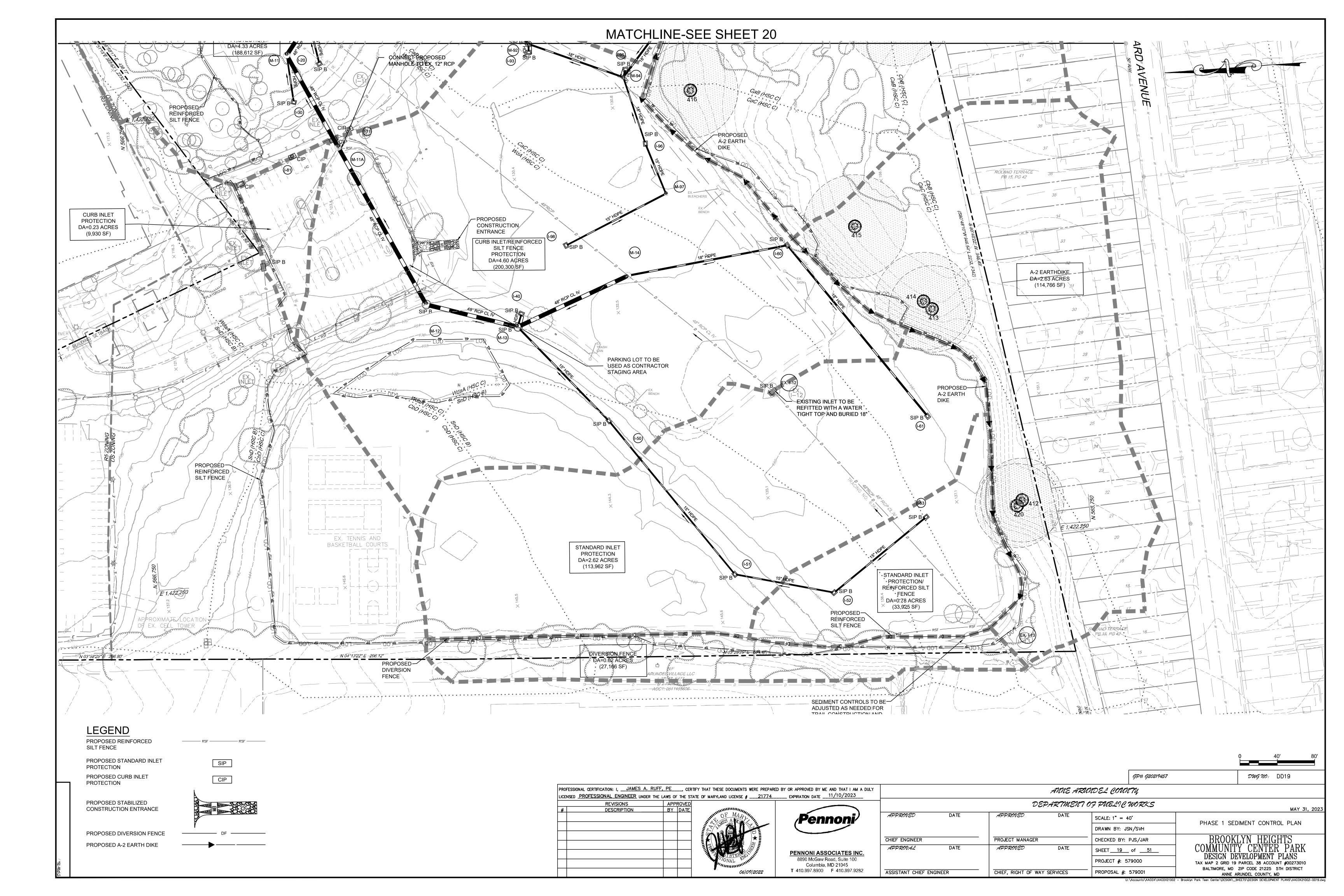
PROPOSAL #: 579001 ANNE ARUNDEL COUNTY, MD

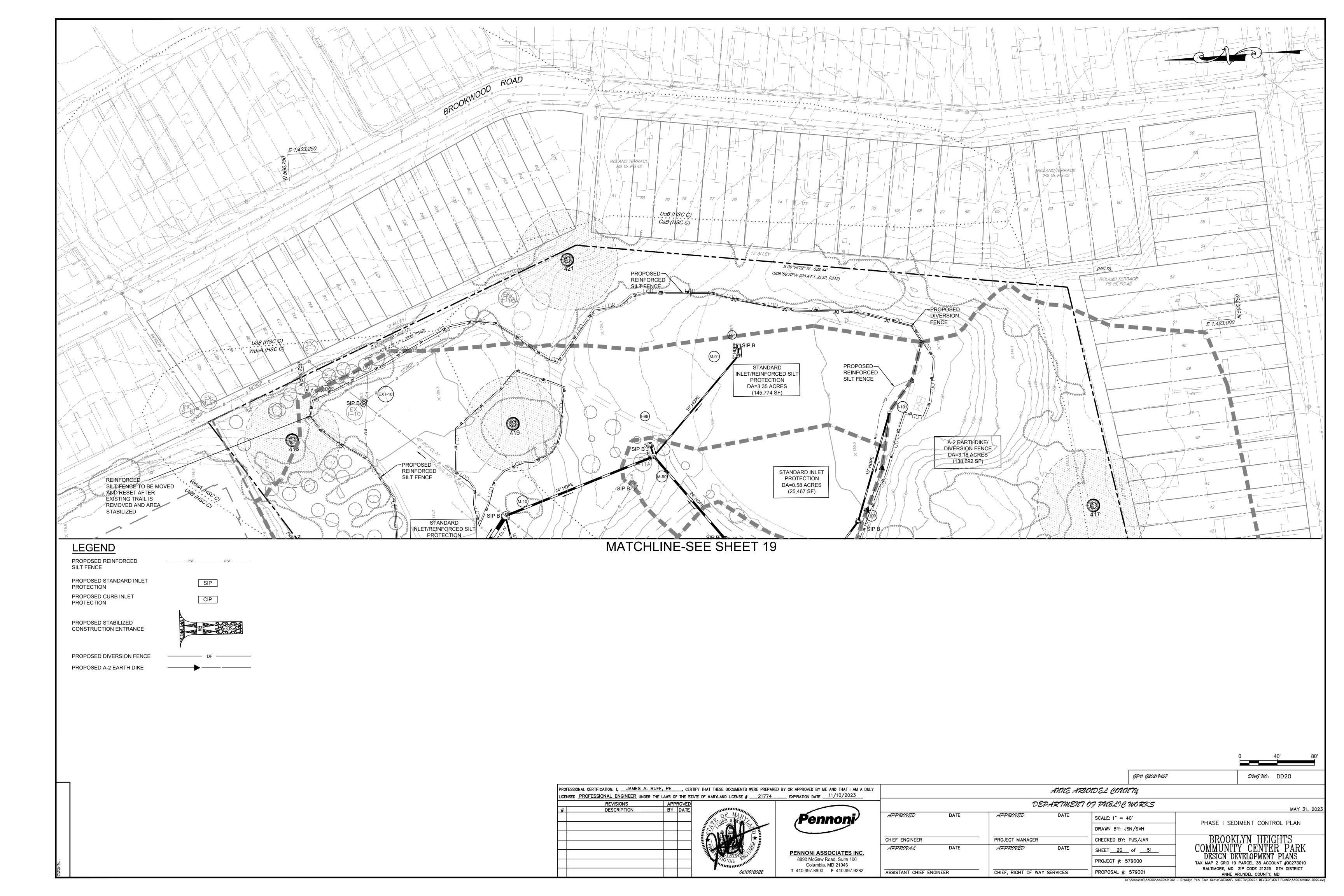
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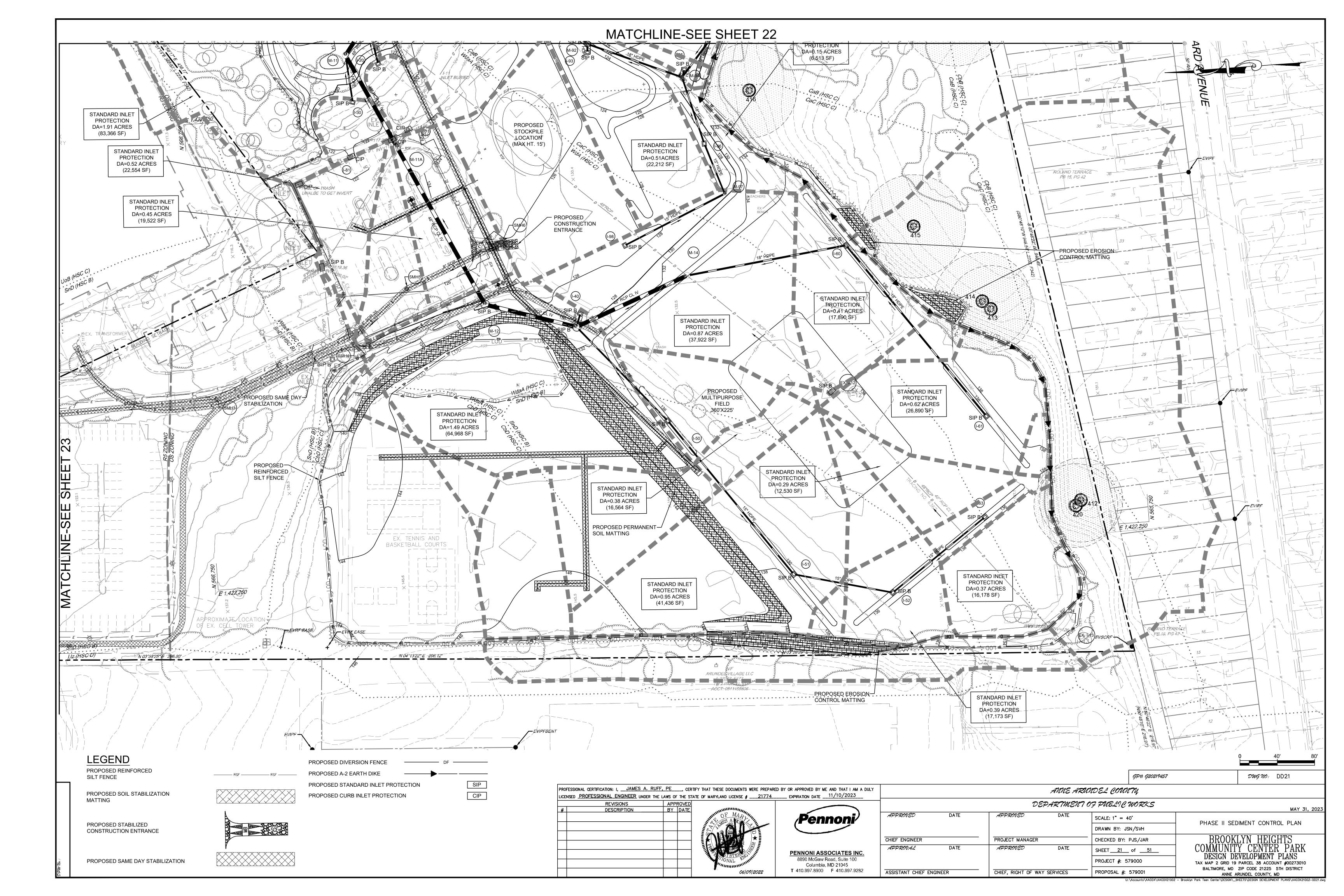
TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010

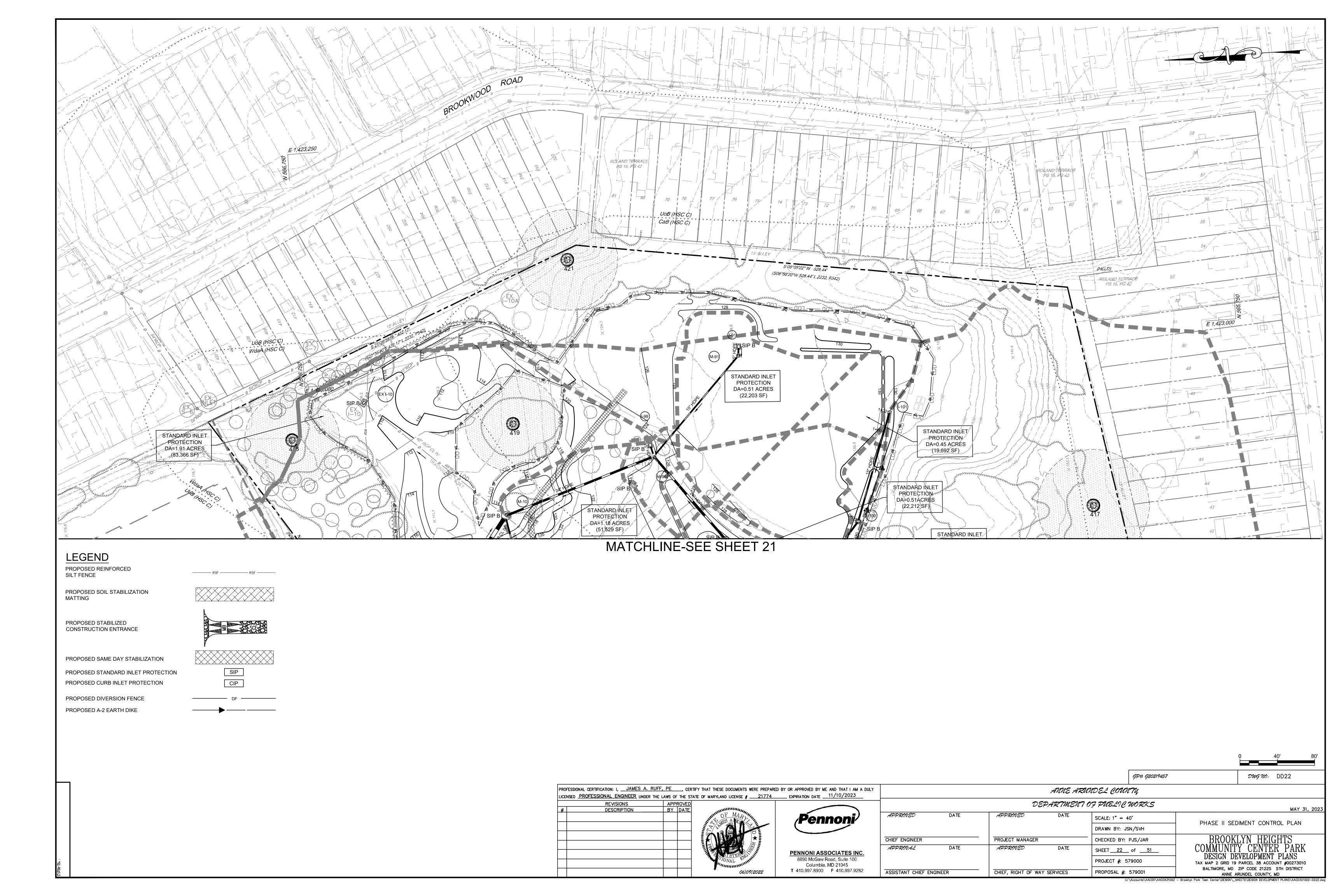
BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT

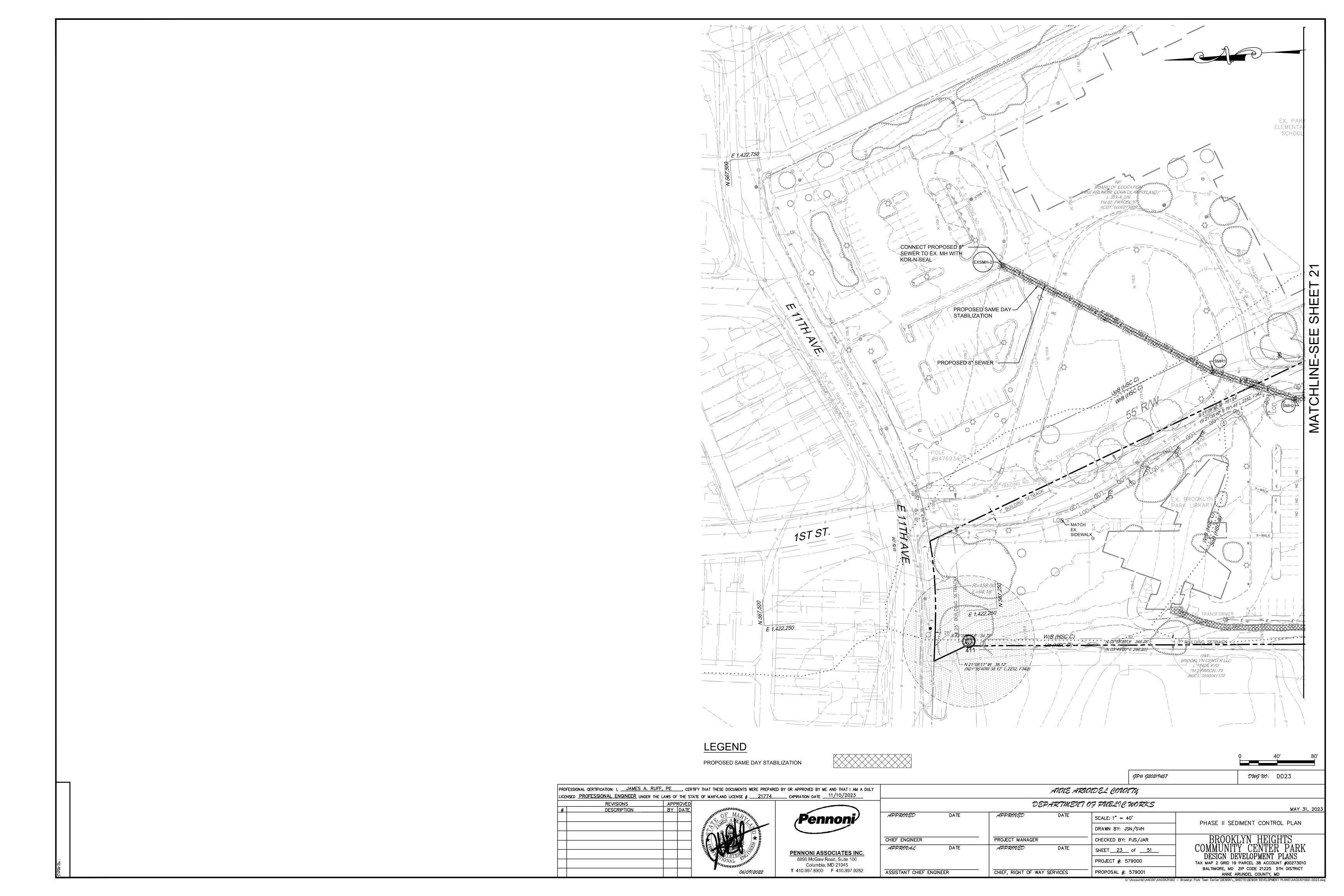
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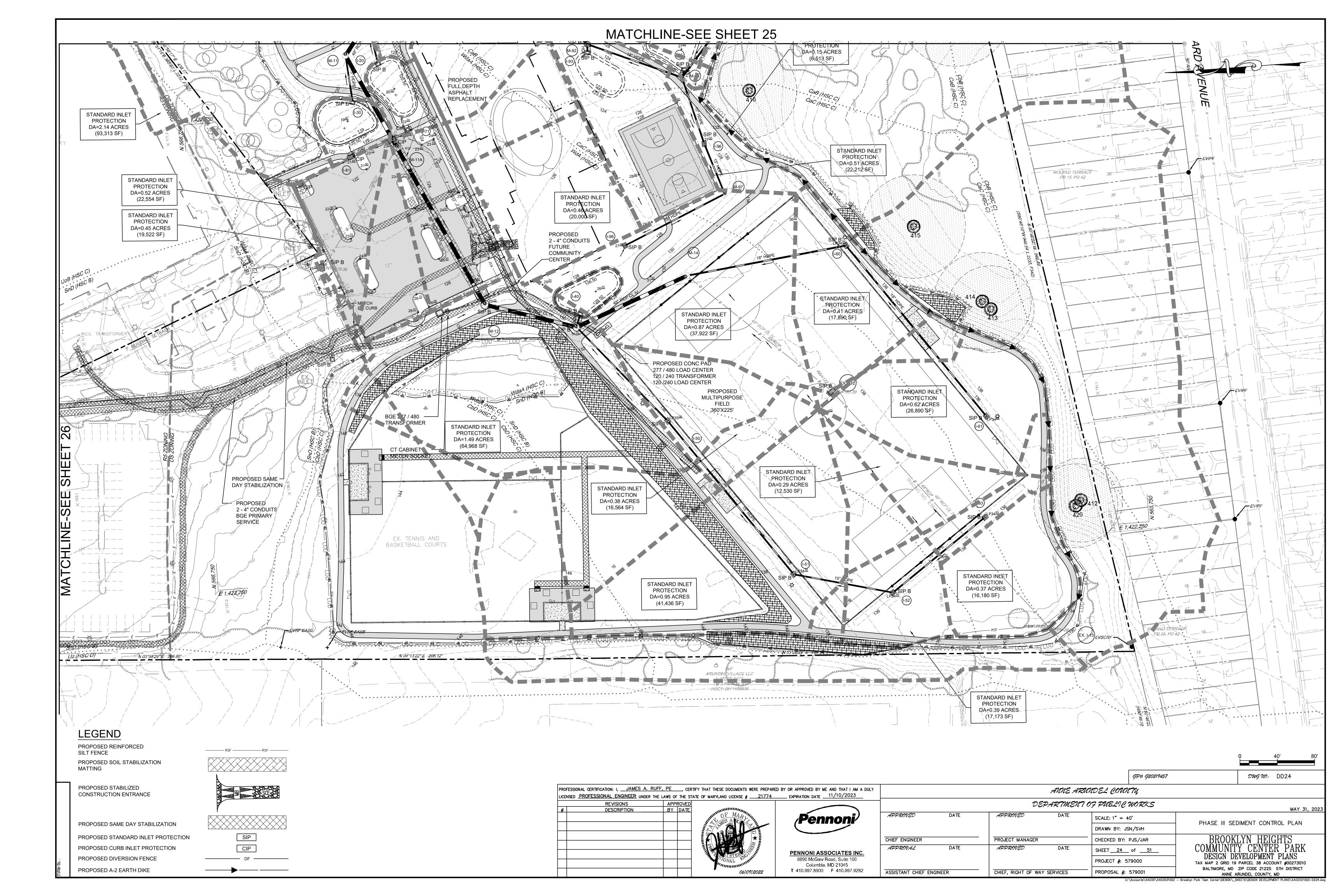


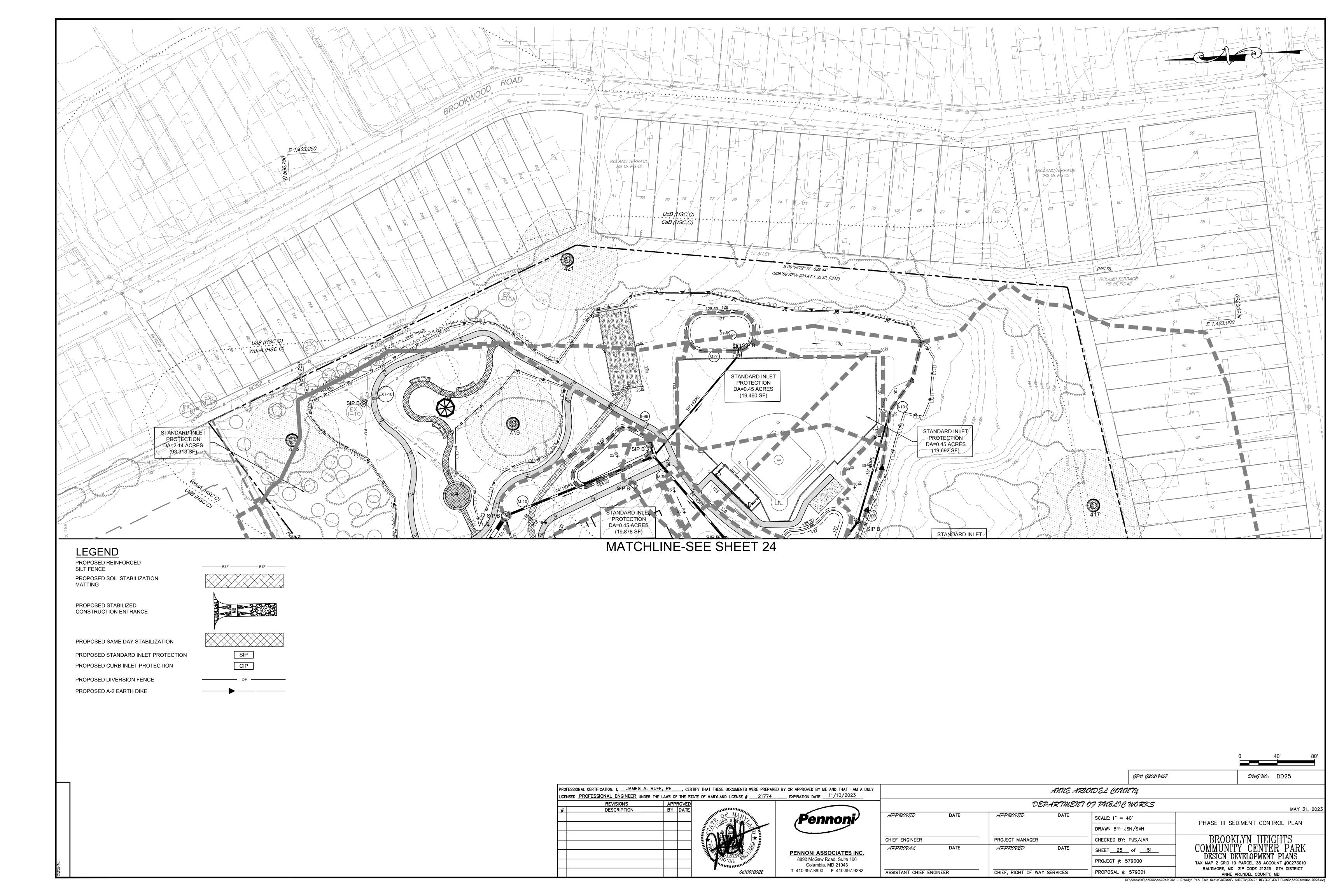


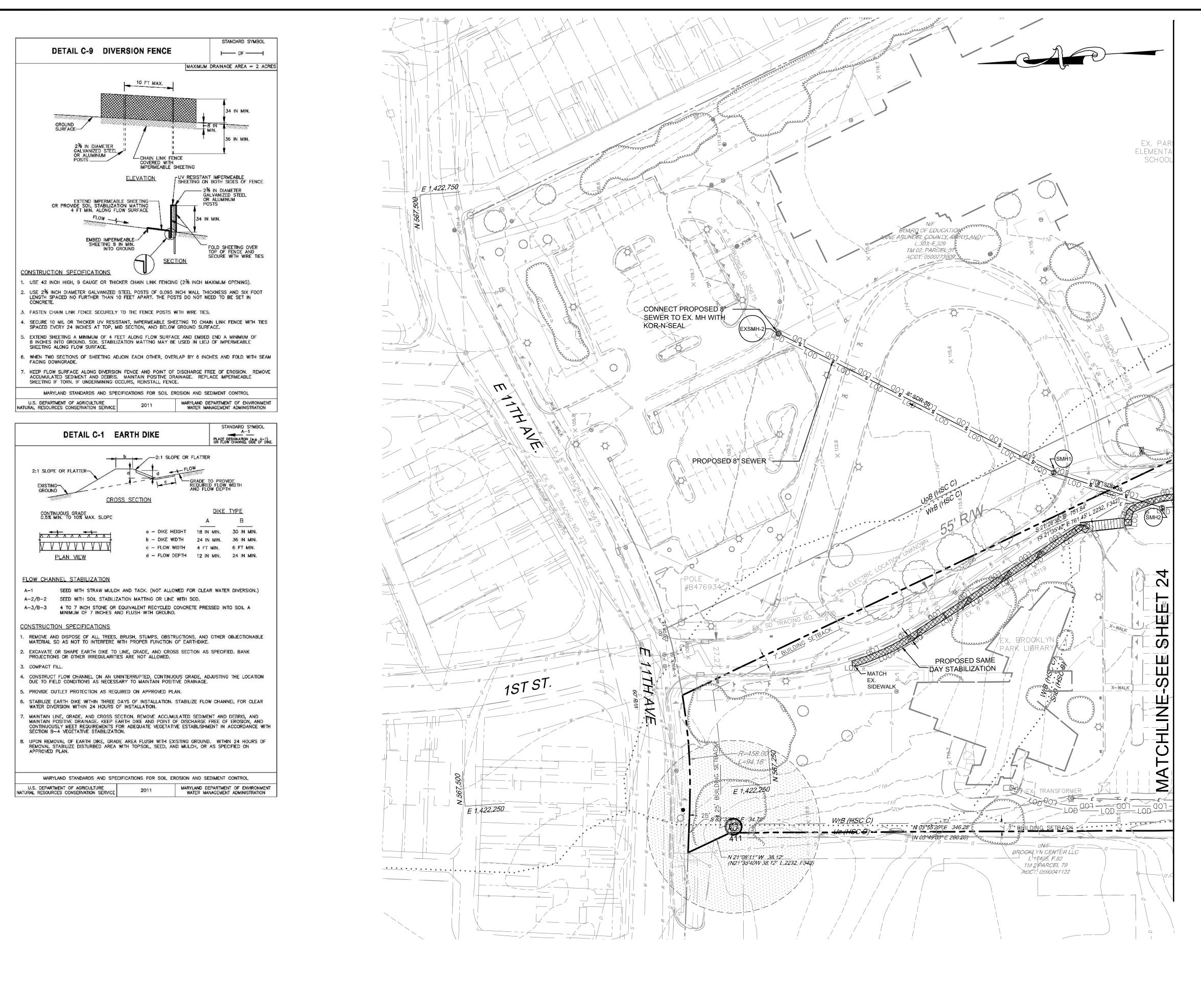












LEGEND

PROPOSED SAME DAY STABILIZATION



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06|09|2022

| EXPIRATION DATE11/10/2023 |
|---|
| Pennoni |
| PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 |

Columbia, MD 21045 T 410.997.8900 F 410.997.9282

| | | , | ANNE AZ | EVANDEL COUNTY | |
|--------------------|---------|------------------------|---------|------------------------------|--|
| | | DEP | ARTMEN | 7 07 PUBLIC WORKS | MAY 31, |
| APPROVED | DATE | APPROVED | DATE | SCALE: 1" = 40' | PHASE III SEDIMENT CONTROL PLAN |
| | | | | DRAWN BY: JSN/SVH | - PHASE III SEDIMENT CONTROL PLAN |
| CHIEF ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS |
| APPROVAL | DATE | APPROVED | DATE | SHEET <u>26</u> of <u>51</u> | COMMUNITY CENTER PARK |
| | | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 |
| ASSISTANT CHIEF EN | NGINEER | CHIEF, RIGHT OF WAY SE | ERVICES | PROPOSAL #: 579001 | BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ANNE ARUNDEL COUNTY, MD |

GP# G20219457

DWGNO: DD26

B-4-2 STANDARDS AND SPECIFICATIONS FOR

SOIL PREPARATION, TOPSOILING, AND SOIL AMENDMENTS

THE PROCESS OF PREPARING THE SOILS TO SUSTAIN ADEQUATE VEGETATIVE STABILIZATION.

TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH.

CONDITIONS WHERE PRACTICE APPLIES

WHERE VEGETATIVE STABILIZATION IS TO BE ESTABLISHED.

A. SOIL PREPARATION

1. TEMPORARY STABILIZATION

a. SEEDBED PREPARATION CONSISTS OF LOOSENING SOIL TO A DEPTH OF 3 TO 5 INCHES BY MEANS OF SUITABLE AGRICULTURAL OR CONSTRUCTION EQUIPMENT, SUCH AS DISC HARROWS OR CHISEL PLOWS OR RIPPERS MOUNTED ON CONSTRUCTION EQUIPMENT. AFTER THE SOIL IS LOOSENED, IT MUST NOT BE ROLLED OR DRAGGED SMOOTH BUT LEFT IN THE ROUGHENED CONDITION. SLOPES 3:1 OR FLATTER ARE TO BE TRACKED WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE.

b. APPLY FERTILIZER AND LIME AS PRESCRIBED ON THE PLANS.

c. INCORPORATE LIME AND FERTILIZER INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

2. PERMANENT STABILIZATION

a. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:

i. SOIL PH BETWEEN 6.0 AND 7.0.

ii. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).

iii. SOIL CONTAINS LESS THAN 40 PERCENT CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30 PERCENT SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30 PERCENT SILT PLUS CLAY) WOULD BE ACCEPTABLE.

iv. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.

v. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.

b. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.

c. Graded areas must be maintained in a true and even grade as specified ON THE APPROVED PLAN, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.

d. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.

e. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3:1 OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

B. TOPSOILING

1. TOPSOIL IS PLACED OVER PREPARED SUBSOIL PRIOR TO ESTABLISHMENT OF PERMANENT VEGETATION. THE PURPOSE IS TO PROVIDE A SUITABLE SOIL MEDIUM FOR VEGETATIVE GROWTH, SOILS OF CONCERN HAVE LOW MOISTURE CONTENT, LOW NUTRIENT LEVELS, LOW PH, MATERIALS TOXIC TO PLANTS, AND/OR UNACCEPTABLE

2. TOPSOIL SALVAGED FROM AN EXISTING SITE MAY BE USED PROVIDED IT MEETS THE STANDARDS AS SET FORTH IN THESE SPECIFICATIONS. TYPICALLY, THE DEPTH OF TOPSOIL TO BE SALVAGED FOR A GIVEN SOIL TYPE CAN BE FOUND IN THE REPRESENTATIVE SOIL PROFILE SECTION IN THE SOIL SURVEY PUBLISHED BY

3. TOPSOILING IS LIMITED TO AREAS HAVING 2:1 OR FLATTER SLOPES WHERE:

a. THE TEXTURE OF THE EXPOSED SUBSOIL/PARENT MATERIAL IS NOT ADEQUATE TO PRODUCE VEGETATIVE GROWTH.

b. THE SOIL MATERIAL IS SO SHALLOW THAT THE ROOTING ZONE IS NOT DEEP ENOUGH TO SUPPORT PLANTS OR FURNISH CONTINUING SUPPLIES OF MOISTURE AND PLANT NUTRIENTS.

c. THE ORIGINAL SOIL TO BE VEGETATED CONTAINS MATERIAL TOXIC TO PLANT

d. THE SOIL IS SO ACIDIC THAT TREATMENT WITH LIMESTONE IS NOT FEASIBLE.

4. AREAS HAVING SLOPES STEEPER THAN 2:1 REQUIRE SPECIAL CONSIDERATION AND

5. TOPSOIL SPECIFICATIONS: SOIL TO BE USED AS TOPSOIL MUST MEET THE FOLLOWING

a. TOPSOIL MUST BE A LOAM, SANDY LOAM, CLAY LOAM, SILT LOAM, SANDY CLAY LOAM, OR LOAMY SAND. OTHER SOILS MAY BE USED IF RECOMMENDED BY AN AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY. TOPSOIL MUST NOT BE A MIXTURE OF CONTRASTING TEXTURED SUBSOILS AND MUST CONTAIN LESS THAN 5 PERCENT BY VOLUME OF CINDERS, STONES, SLAG, COARSE FRAGMENTS, GRAVEL, STICKS, ROOTS, TRASH, OR OTHER MATERIALS LARGER THAN 11/2 INCHES IN DIAMETER.

b. TOPSOIL MUST BE FREE OF NOXIOUS PLANTS OR PLANT PARTS SUCH AS BERMUDA GRASS, QUACK GRASS, JOHNSON GRASS, NUT SEDGE, POISON IVY, THISTLE, OR OTHERS AS SPECIFIED.

C. TOPSOIL SUBSTITUTES OR AMENDMENTS, AS RECOMMENDED BY A QUALIFIED AGRONOMIST OR SOIL SCIENTIST AND APPROVED BY THE APPROPRIATE APPROVAL AUTHORITY, MAY BE USED IN LIEU OF NATURAL TOPSOIL.

TOPSOIL APPLICATION

a. EROSION AND SEDIMENT CONTROL PRACTICES MUST BE MAINTAINED WHEN APPLYING TOPSOIL.

b. UNIFORMLY DISTRIBUTE TOPSOIL IN A 5 TO 8 INCH LAYER AND LIGHTLY COMPACT TO A MINIMUM THICKNESS OF 4 INCHES. SPREADING IS TO BE PERFORMED IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF

ADDITIONAL SOIL PREPARATION AND TILLAGE. ANY IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOILING OR OTHER OPERATIONS MUST BE CORRECTED IN ORDER TO PREVENT THE FORMATION OF DEPRESSIONS OR WATER

c. TOPSOIL MUST NOT BE PLACED IF THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDBED PREPARATION.

C. SOIL AMENDMENTS (FERTILIZER AND LIME SPECIFICATIONS)

1. SOIL TESTS MUST BE PERFORMED TO DETERMINE THE EXACT RATIOS AND APPLICATION RATES FOR BOTH LIME AND FERTILIZER ON SITES HAVING DISTURBED AREAS OF 5 ACRES OR MORE. SOIL ANALYSIS MAY BE PERFORMED BY A RECOGNIZED PRIVATE OR COMMERCIAL LABORATORY. SOIL SAMPLES TAKEN FOR ENGINEERING PURPOSES MAY ALSO BE USED FOR CHEMICAL ANALYSES.

2. FERTILIZERS MUST BE UNIFORM IN COMPOSITION, FREE FLOWING AND SUITABLE FOR ACCURATE APPLICATION BY APPROPRIATE EQUIPMENT, MANURE MAY BE SUBSTITUTED FOR FERTILIZER WITH PRIOR APPROVAL FROM THE APPROPRIATE APPROVAL AUTHORITY. FERTILIZERS MUST ALL BE DELIVERED TO THE SITE FULLY LABELED ACCORDING TO THE APPLICABLE LAWS AND MUST BEAR THE NAME, TRADE NAME OR TRADEMARK AND WARRANTY OF THE PRODUCER.

3. LIME MATERIALS MUST BE GROUND LIMESTONE (HYDRATED OR BURNT LIME MAY BE SUBSTITUTED EXCEPT WHEN HYDROSEEDING) WHICH CONTAINS AT LEAST 50 PERCENT TOTAL OXIDES (CALCIUM OXIDE PLUS MAGNESIUM OXIDE). LIMESTONE MUST BE GROUND TO SUCH FINENESS THAT AT LEAST 50 PERCENT WILL PASS THROUGH A #100 MESH SIEVE AND 98 TO 100 PERCENT WILL PASS THROUGH A #20 MESH

4. LIME AND FERTILIZER ARE TO BE EVENLY DISTRIBUTED AND INCORPORATED INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS.

5. WHERE THE SUBSOIL IS EITHER HIGHLY ACIDIC OR COMPOSED OF HEAVY CLAYS, SPREAD GROUND LIMESTONE AT THE RATE OF 4 TO 8 TONS/ACRE (200-400 POUNDS PER 1,000 SQUARE FEET) PRIOR TO THE PLACEMENT OF TOPSOIL.

B-4-3 STANDARDS AND SPECIFICATIONS

FOR SEEDING AND MULCHING <u>DEFINITION</u>

THE APPLICATION OF SEED AND MULCH TO ESTABLISH VEGETATIVE COVER.

TO PROTECT DISTURBED SOILS FROM EROSION DURING AND AT THE END OF CONSTRUCTION.

CONDITIONS WHERE PRACTICE APPLIES TO THE SURFACE OF ALL PERIMETER CONTROLS, SLOPES, AND ANY DISTURBED AREA NOT UNDER ACTIVE

<u>CRITERIA</u>

A. SEEDING

1. SPECIFICATIONS

GRADING.

a. ALL SEED MUST MEET THE REQUIREMENTS OF THE MARYLAND STATE SEED LAW. ALL SEED MUST BE SUBJECT TO RE-TESTING BY A RECOGNIZED SEED LABORATORY. ALL SEED USED MUST HAVE BEEN TESTED WITHIN THE 6 MONTHS IMMEDIATELY PRECEDING THE DATE OF SOWING SUCH MATERIAL ON ANY PROJECT. REFER TO TABLE B.4 REGARDING THE QUALITY OF SEED. SEED TAGS MUST BE AVAILABLE UPON REQUEST TO THE INSPECTOR TO VERIFY TYPE OF SEED AND SEEDING RATE.

b. MULCH ALONE MAY BE APPLIED BETWEEN THE FALL AND SPRING SEEDING DATES ONLY IF THE GROUND IS FROZEN. THE APPROPRIATE SEEDING MIXTURE MUST BE

c. INOCULANTS: THE INOCULANT FOR TREATING LEGUME SEED IN THE SEED MIXTURES MUST BE A PURE CULTURE OF NITROGEN FIXING BACTERIA PREPARED SPECIFICALLY FOR THE SPECIES. INOCULANTS MUST NOT BE USED LATER THAN THE DATE INDICATED ON THE CONTAINER, ADD FRESH INOCULANTS AS DIRECTED. ON THE PACKAGE. USE FOUR TIMES THE RECOMMENDED RATE WHEN HYDROSEEDING. NOTE: IT IS VERY IMPORTANT TO KEEP INOCULANT AS COOL AS POSSIBLE UNTIL USED. TEMPERATURES ABOVE 75 TO 80 DEGREES FAHRENHEIT CAN WEAKEN BACTERIA AND MAKE THE INOCULANT LESS EFFECTIVE.

d. SOD OR SEED MUST NOT BE PLACED ON SOIL WHICH HAS BEEN TREATED WITH SOIL STERILANTS OR CHEMICALS USED FOR WEED CONTROL UNTIL SUFFICIENT TIME HAS ELAPSED (14 DAYS MIN.) TO PERMIT DISSIPATION OF PHYTO-TOXIC MATERIALS.

2. APPLICATION

a. DRY SEEDING: THIS INCLUDES USE OF CONVENTIONAL DROP OR BROADCAST SPREADERS.

I. INCORPORATE SEED INTO THE SUBSOIL AT THE RATES PRESCRIBED ON TEMPORARY SEEDING TABLE B.1, PERMANENT SEEDING TABLE B.3, OR SITE-SPECIFIC SEEDING SUMMARIES.

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION. ROLL THE SEEDED AREA WITH A WEIGHTED ROLLER TO PROVIDE GOOD SEED TO SOIL CONTACT

b. DRILL OR CULTIPACKER SEEDING: MECHANIZED SEEDERS THAT APPLY AND COVER

i. CULTIPACKING SEEDERS ARE REQUIRED TO BURY THE SEED IN SUCH A FASHION AS TO PROVIDE AT LEAST 1/4 INCH OF SOIL COVERING. SEEDBED MUST BE FIRM

ii. APPLY SEED IN TWO DIRECTIONS, PERPENDICULAR TO EACH OTHER. APPLY HALF THE SEEDING RATE IN EACH DIRECTION.

c. HYDROSEEDING: APPLY SEED UNIFORMLY WITH HYDROSEEDER (SLURRY INCLUDES SEED AND FERTILIZER).

i. IF FERTILIZER IS BEING APPLIED AT THE TIME OF SEEDING, THE APPLICATION RATES SHOULD NOT EXCEED THE FOLLOWING: NITROGEN, 100 POUNDS PER ACRE TOTAL OF SOLUBLE NITROGEN; P205 (PHOSPHOROUS), 200 POUNDS PER ACRE; K2O (POTASSIUM), 200 POUNDS PER ACRE.

ii. LIME: USE ONLY GROUND AGRICULTURAL LIMESTONE (UP TO 3 TONS PER ACRE MAY BE APPLIED BY HYDROSEEDING). NORMALLY, NOT MORE THAN 2 TONS ARE APPLIED BY HYDROSEEDING AT ANY ONE TIME. DO NOT USE BURNT OR HYDRATED LIME WHEN HYDROSEEDING.

iii. MIX SEED AND FERTILIZER ON SITE AND SEED IMMEDIATELY AND WITHOUT INTERRUPTION.

iv. WHEN HYDROSEEDING DO NOT INCORPORATE SEED INTO THE SOIL.

B. MULCHING

1. MULCH MATERIALS (IN ORDER OF PREFERENCE)

a. STRAW CONSISTING OF THOROUGHLY THRESHED WHEAT, RYE, OAT, OR BARLEY AND REASONABLY BRIGHT IN COLOR. STRAW IS TO BE FREE OF NOXIOUS WEED SEEDS AS SPECIFIED IN THE MARYLAND SEED LAW AND NOT MUSTY, MOLDY, CAKED, DECAYED, OR EXCESSIVELY DUSTY. NOTE: USE ONLY STERILE STRAW MULCH IN AREAS WHERE ONE SPECIES OF GRASS IS DESIRED.

b. WOOD CELLULOSE FIBER MULCH (WCFM) CONSISTING OF SPECIALLY PREPARED WOOD CELLULOSE PROCESSED INTO A UNIFORM FIBROUS PHYSICAL STATE.

i. WCFM IS TO BE DYED GREEN OR CONTAIN A GREEN DYE IN THE PACKAGE THAT WLL PROVIDE AN APPROPRIATE COLOR TO FACILITATE VISUAL INSPECTION OF THE UNIFORMLY SPREAD SLURRY.

ii. WCFM. INCLUDING DYE, MUST CONTAIN NO GERMINATION OR GROWTH INHIBITING

iii. WCFM MATERIALS ARE TO BE MANUFACTURED AND PROCESSED IN SUCH A MANNER THAT THE WOOD CELLULOSE FIBER MULCH WILL REMAIN IN UNIFORM SUSPENSION IN WATER UNDER AGITATION AND WILL BLEND WITH SEED. FERTILIZER AND OTHER ADDITIVES TO FORM A HOMOGENEOUS SLURRY. THE MULCH MATERIAL MUST FORM A BLOTTER-LIKE GROUND COVER, ON APPLICATION, HAVING MOISTURE ABSORPTION AND PERCOLATION PROPERTIES AND MUST COVER AND HOLD GRASS SEED IN CONTACT WITH THE SOIL WITHOUT INHIBITING THE GROWTH OF THE GRASS SEEDLINGS.

iv. WCFM MATERIAL MUST NOT CONTAIN ELEMENTS OR COMPOUNDS AT CONCENTRATION LEVELS THAT WILL BE PHYTO-TOXIC.

v. WCFM MUST CONFORM TO THE FOLLOWING PHYSICAL REQUIREMENTS: FIBER LENGTH OF APPROXIMATELY 10 MILLIMETERS, DIAMETER APPROXIMATELY 1 MILLIMETER, PH RANGE OF 4.0 TO 8.5, ASH CONTENT OF 1.6 PERCENT MAXIMUM AND WATER HOLDING CAPACITY OF 90 PERCENT MINIMUM.

2. APPLICATION

a. APPLY MULCH TO ALL SEEDED AREAS IMMEDIATELY AFTER SEEDING.

b. WHEN STRAW MULCH IS USED, SPREAD IT OVER ALL SEEDED AREAS AT THE RATE OF 2 TONS PER ACRE TO A UNIFORM LOOSE DEPTH OF 1 TO 2 INCHES. APPLY MULCH TO ACHIEVE A UNIFORM DISTRIBUTION AND DEPTH SO THAT THE SOIL SURFACE IS NOT EXPOSED. WHEN USING A MULCH ANCHORING TOOL, INCREASE THE APPLICATION RATE TO 2.5 TONS PER ACRE.

c. WOOD CELLULOSE FIBER USED AS MULCH MUST BE APPLIED AT A NET DRY WEIGHT OF 1500 POUNDS PER ACRE. MIX THE WOOD CELLULOSE FIBER WITH WATER TO ATTAIN A MIXTURE WITH A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

3. ANCHORING

a. PERFORM MULCH ANCHORING IMMEDIATELY FOLLOWING APPLICATION OF MULCH TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS (LISTED BY PREFERENCE), DEPENDING UPON THE SIZE OF THE AREA AND EROSION HAZARD:

1. A MULCH ANCHORING TOOL IS A TRACTOR DRAWN IMPLEMENT DESIGNED TO PUNCH AND ANCHOR MULCH INTO THE SOIL SURFACE A MINIMUM OF 2 INCHES. THIS PRACTICE IS MOST EFFECTIVE ON LARGE AREAS, BUT IS LIMITED TO FLATTER SLOPES WHERE EQUIPMENT CAN OPERATE SAFELY. IF USED ON SLOPING LAND, THIS PRACTICE SHOULD FOLLOW THE CONTOUR.

ii. WOOD CELLULOSE FIBER MAY BE USED FOR ANCHORING STRAW. APPLY THE FIBER BINDER AT A NET DRY WEIGHT OF 750 POUNDS PER ACRE, MIX THE WOOD CELLULOSE FIBER WITH WATER AT A MAXIMUM OF 50 POUNDS OF WOOD CELLULOSE FIBER PER 100 GALLONS OF WATER.

iii. SYNTHETIC BINDERS SUCH AS ACRYLIC DLR (AGRO-TACK), DCA-70, PETROSET, TERRA TAX II. TERRA TACK AR OR OTHER APPROVED EQUAL MAY BE USED. FOLLOW APPLICATION RATES AS SPECIFIED BY THE MANUFACTURER. APPLICATION OF LIQUID BINDERS NEEDS TO BE HEAVIER AT THE EDGES WHERE WIND CATCHES MULCH, SUCH AS IN VALLEYS AND ON CRESTS OF BANKS. USE OF ASPHALT BINDERS IS STRICTLY PROHIBITED.

iv. LIGHTWEIGHT PLASTIC NETTING MAY BE STAPLED OVER THE MULCH ACCORDING TO MANUFACTURER RECOMMENDATIONS. NETTING IS USUALLY AVAILABLE IN ROLLS 4 TO 15 FEET WIDE AND 300 TO 3,000 FEET LONG.

B-4-4 STANDARDS AND SPECIFICATIONS FOR TEMPORARY STABILIZATION

<u>DEFINITION</u> TO STABILIZE DISTURBED SOILS WITH VEGETATION FOR UP TO 6 MONTHS.

<u>Purpose</u> TO USE FAST GROWING VEGETATION THAT PROVIDES COVER ON DISTURBED SOILS.

CONDITIONS WHERE PRACTICE APPLIES EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR A PERIOD OF 6 MONTHS OR LESS. FOR LONGER DURATION OF TIME, PERMANENT STABILIZATION PRACTICES ARE REQUIRED.

1. SELECT ONE OR MORE OF THE SPECIES OR SEED MIXTURES LISTED IN TABLE B.1 FOR THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3), AND ENTER THEM IN THE TEMPORARY SEEDING SUMMARY BELOW ALONG WITH APPLICATION RATES, SEEDING DATES AND SEEDING DEPTHS. IF THIS SUMMARY IS NOT PUT ON THE PLAN AND COMPLETED, THEN TABLE B.1 PLUS FERTILIZER AND LIME RATES MUST BE PUT ON THE PLAN.

2. FOR SITES HAVING SOIL TESTS PERFORMED, USE AND SHOW THE RECOMMENDED RATES BY THE TESTING AGENCY. SOIL TESTS ARE NOT REQUIRED FOR TEMPORARY

3. WHEN STABILIZATION IS REQUIRED OUTSIDE OF A SEEDING SEASON, APPLY SEED AND MULCH OR STRAW MULCH ALONE AS PRESCRIBED IN SECTION B-4-3.A.1.B AND MAINTAIN UNTIL THE NEXT SEEDING SEASON.

TEMPORARY SEEDING SUMMARY

| | HARDINESS ZONE (| (FROM FIGURE B.3): | 6B | | FERTILIZER | | |
|-----|--------------------|--------------------------|-------------------------------------|----------------|------------------------------|-----------------|-----------|
| | SEED MIXTURE | RATE (10–20–20) | LIME RATE | | | | |
| NO. | SPECIES | APPLICATION RATE (Ib/ac) | SEEDING DATES | SEEDING DEPTHS | (10 20 20) | | |
| | ANNUAL RYEGRASS | 40 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | 0.5 | | | |
| | BARLEY | 96 | MAR 1 TO MAY 15; AUG 1 TO OCT 15 | 1.0 | 436 lb/ac (10 lb/1000 sf) | 436 lb/ac | 2 tons/ac |
| | OATS | 72 | MAR 1 TO MAY 15; AUG 1 TO DCT 15 | 1.0 | | (90 lb/1000 st) | |
| | PEARL MILLET | 20 | MAY 16 TO JULY 31 | 0.5 | | | |

B-4-5 STANDARDS AND SPECIFICATIONS

FOR PERMANENT STABILIZATION

ON DISTURBED SOILS. CONDITIONS WHERE PRACTICE APPLIES

<u>CRITERIA</u>

a. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED IN TABLE B.3 FOR

SEEDING SUMMARY. THE SUMMARY IS TO BE PLACED ON THE PLAN.

FIELD OFFICE GUIDE, SECTION 342 - CRITICAL AREA PLANTING.

RECOMMENDED BY THE SOIL TESTING AGENCY.

SUMMARY IS TO BE PLACED ON THE PLAN.

PERMANENT SEEDING SUMMARY.

2. TURFGRASS MIXTURES

LEVEL OF MAINTENANCE.

MIXTURE BY WEIGHT.

SQUARE FEET.

THE APPROPRIATE PLANT HARDINESS ZONE (FROM FIGURE B.3) AND BASED ON

THE SITE CONDITION OR PURPOSE FOUND ON TABLE B.2. ENTER SELECTED

MIXTURE(S), APPLICATION RATES, AND SEEDING DATES IN THE PERMANENT

b. ADDITIONAL PLANTING SPECIFICATIONS FOR EXCEPTIONAL SITES SUCH AS

SHORELINES, STREAM BANKS, OR DUNES OR FOR SPECIAL PURPOSES SUCH AS

WILDLIFE OR AESTHETIC TREATMENT MAY BE FOUND IN USDA-NRCS TECHNICAL

c. FOR SITES HAVING DISTURBED AREA OVER 5 ACRES, USE AND SHOW THE RATES

d. FOR AREAS RECEIVING LOW MAINTENANCE, APPLY UREA FORM FERTILIZER

(46-0-0) AT 3 1/2 POUNDS PER 1000 SQUARE FEET (150 POUNDS PER ACRE)

AT THE TIME OF SEEDING IN ADDITION TO THE SOIL AMENDMENTS SHOWN IN THE

a. AREAS WHERE TURFGRASS MAY BE DESIRED INCLUDE LAWNS, PARKS,

PLAYGROUNDS, AND COMMERCIAL SITES WHICH WILL RECEIVE A MEDIUM TO HIGH

b. SELECT ONE OR MORE OF THE SPECIES OR MIXTURES LISTED BELOW BASED ON

i. KENTUCKY BLUEGRASS: FULL SUN MIXTURE: FOR USE IN AREAS THAT RECEIVE

INTENSIVE MANAGEMENT. IRRIGATION REQUIRED IN THE AREAS OF CENTRAL

MARYLAND AND EASTERN SHORE. RECOMMENDED CERTIFIED KENTUCKY BLUEGRASS

CULTIVARS SEEDING RATE: 1.5 TO 2.0 POUNDS PER 1000 SQUARE FEET. CHOOSE

A MINIMUM OF THREE KENTUCKY BLUEGRASS CULTIVARS WITH EACH RANGING

ii. KENTUCKY BLUEGRASS/PERENNIAL RYE: FULL SUN MIXTURE: FOR USE IN FULL

SUN AREAS WHERE RAPID ESTABLISHMENT IS NECESSARY AND WHEN TURF WILL

RECEIVE MEDIUM TO INTENSIVE MANAGEMENT. CERTIFIED PERENNIAL RYEGRASS

CULTIVARS/CERTIFIED KENTUCKY BLUEGRASS SEEDING RATE: 2 POUNDS MIXTURE

PER 1000 SQUARE FEET, CHOOSE A MINIMUM OF THREE KENTUCKY BLUEGRASS

CULTIVARS WITH EACH RANGING FROM 10 TO 35 PERCENT OF THE TOTAL

iii. Tall Fescue/Kentucky Bluegrass: Full sun Mixture: For USE in Drought

PRONE AREAS AND/OR FOR AREAS RECEIVING LOW TO MEDIUM MANAGEMENT IN

FULL SUN TO MEDIUM SHADE. RECOMMENDED MIXTURE INCLUDES; CERTIFIED TALL

FESCUE CULTIVARS 95 TO 100 PERCENT, CERTIFIED KENTUCKY BLUEGRASS

CULTIVARS 0 TO 5 PERCENT. SEEDING RATE: 5 TO 8 POUNDS PER 1000 SQUARE

iv. KENTUCKY BLUEGRASS/FINE FESCUE; SHADE MIXTURE: FOR USE IN AREAS WITH SHADE IN

MIXTURE INCLUDES; CERTIFIED KENTUCKY BLUEGRASS CULTIVARS 30 TO 40 PERCENT AND

SELECT TURFGRASS VARIETIES FROM THOSE LISTED IN THE MOST CURRENT UNIVERSITY OF MARYLAND

CHOOSE CERTIFIED MATERIAL, CERTIFIED MATERIAL IS THE BEST GUARANTEE OF CULTIVAR PURITY. THE

CERTIFICATION PROGRAM OF THE MARYLAND DEPARTMENT OF AGRICULTURE, TURF AND SEED SECTION,

PUBLICATION, AGRONOMY MEMO #77, "TURFGRASS CULTIVAR RECOMMENDATIONS FOR MARYLAND"

PROVIDES A RELIABLE MEANS OF CONSUMER PROTECTION AND ASSURES A PURE GENETIC LINE

WESTERN MD: MARCH 15 TO JUNE 1, AUGUST 1 TO OCTOBER 1 (HARDINESS ZONES: 5B, 6A)

MD: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15 (HARDINESS ZONE: 6B)

(HARDINESS ZONES: 7A, 7B)

GRASSES WILL POSE NO DIFFICULTY.

HOT SEASONS, OR ON ADVERSE SITES.

SOUTHERN MD, EASTERN SHORE: MARCH 1 TO MAY 15, AUGUST 15 TO OCTOBER 15

d. TILL AREAS TO RECEIVE SEED BY DISKING OR OTHER APPROVED METHODS TO A

DEPTH OF 2 TO 4 INCHES, LEVEL AND RAKE THE AREAS TO PREPARE A PROPER

SEEDBED. REMOVE STONES AND DEBRIS OVER 11/2 INCHES IN DIAMETER. THE

RESULTING SEEDBED MUST BE IN SUCH CONDITION THAT FUTURE MOWING OF

e. IF SOIL MOISTURE IS DEFICIENT, SUPPLY NEW SEEDINGS WITH ADEQUATE WATER

FOR PLANT GROWTH (1/2 TO 1 INCH EVERY 3 TO 4 DAYS DEPENDING ON SOIL

TEXTURE) UNTIL THEY ARE FIRMLY ESTABLISHED. THIS IS ESPECIALLY TRUE WHEN

SEEDINGS ARE MADE LATE IN THE PLANTING SEASON, IN ABNORMALLY DRY OR

BLUEGRASS LAWNS. FOR ESTABLISHMENT IN HIGH QUALITY, INTENSIVELY MANAGED TURF AREA.

CERTIFIED FINE FESCUE AND 60 TO 70 PERCENT. SEEDING RATE: 1\frac{1}{2} TO 3 POUNDS PER 1000

FROM 10 TO 35 PERCENT OF THE TOTAL MIXTURE BY WEIGHT.

FEET. ONE OR MORE CULTIVARS MAY BE BLENDED.

c. IDEAL TIMES OF SEEDING FOR TURF GRASS MIXTURES

THE SITE CONDITIONS OR PURPOSE. ENTER SELECTED MIXTURE(S), APPLICATION

RATES, AND SEEDING DATES IN THE PERMANENT SEEDING SUMMARY. THE

TO USE LONG-LIVED PERENNIAL GRASSES AND LEGUMES TO ESTABLISH PERMANENT GROUND COVE

DEFINITION TO STABILIZE DISTURBED SOILS WITH PERMANENT VEGETATION.

A. SEED MIXTURES

1. GENERAL USE

EXPOSED SOILS WHERE GROUND COVER IS NEEDED FOR 6 MONTHS OR MORE.

<u>PURPOSE</u>

HARDINESS ZONE (FROM FIGURE 8.3): (10-20-20) SEED MIXTURE (FROM TABLE B.3): APPLICATION RATE NO. SPECIES SEEDING DATES SEEDING DEPTHS P205 (lb/ac) MAR 1-MAY 15: 100 AUG 15-0CT 15* | 1/4-1/2 IN 8 TALL FESCUE MAR 1-MAY 15; 1/4-1/2 IN PER ACRE PER ACRE PER ACRE PER ACRE PER ACRE |(1.01b/1000 sf)|(2 lb/1000 sf)|(2 lb/1000 sf)|(90 lb/1000 s AUG 15-0CT 15* 1/4-1/2 IN

PERMANENT SEEDING SUMMARY

* FOR MAY 1 TO AUGUST 14, PLANT WITH NURSE CROP OF PEARL MILLET BASED ON 5% OF THE PERMANENT SEED MIX APPLICATION RATE.

B. SOD: TO PROVIDE QUICK COVER ON DISTURBED AREAS (2:1 GRADE OR FLATTER).

1. GENERAL SPECIFICATIONS

a. CLASS OF TURFGRASS SOD MUST BE MARYLAND STATE CERTIFIED. SOD LABELS MUST BE MADE AVAILABLE TO THE JOB FOREMAN AND INSPECTOR.

b. SOD MUST BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4 INCH, PLUS OR MINUS 1/4 INCH, AT THE TIME OF CUTTING. MEASUREMENT FOR THICKNESS MUST EXCLUDE TOP GROWTH AND THATCH. BROKEN PADS AND TORN OR UNEVEN ENDS WILL NOT BE ACCEPTABLE.

c. STANDARD SIZE SECTIONS OF SOD MUST BE STRONG ENOUGH TO SUPPORT THEIR OWN WEIGHT AND RETAIN THEIR SIZE AND SHAPE WHEN SUSPENDED VERTICALLY WITH A FIRM GRASP ON THE UPPER 10 PERCENT OF THE SECTION

d. SOD MUST NOT BE HARVESTED OR TRANSPLANTED WHEN MOISTURE CONTENT (EXCESSIVELY DRY OR WET) MAY ADVERSELY AFFECT ITS SURVIVAL.

e. SOD MUST BE HARVESTED, DELIVERED, AND INSTALLED WITHIN A PERIOD OF 36 HOURS, SOD NOT TRANSPLANTED WITHIN THIS PERIOD MUST BE APPROVED BY AN AGRONOMIST OR SOIL SCIENTIST PRIOR TO ITS INSTALLATION.

2. SOD INSTALLATION

a. During Periods of Excessively high temperature or in Areas having dry SUBSOIL, LIGHTLY IRRIGATE THE SUBSOIL IMMEDIATELY PRIOR TO LAYING THE SOD.

b. LAY THE FIRST ROW OF SOD IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO IT AND TIGHTLY WEDGED AGAINST EACH OTHER. STAGGER LATERAL JOINTS TO PROMOTE MORE UNIFORM GROWTH AND STRENGTH. ENSURE THAT SOD IS NOT STRETCHED OR OVERLAPPED AND THAT ALL JOINTS ARE BUTTED TIGHT IN ORDER TO PREVENT VOIDS WHICH WOULD CAUSE AIR DRYING OF

c. WHEREVER POSSIBLE, LAY SOD WITH THE LONG EDGES PARALLEL TO THE CONTOUR AND WITH STAGGERING JOINTS. ROLL AND TAMP, PEG OR OTHERWISE SECURE THE SOD TO PREVENT SLIPPAGE ON SLOPES. ENSURE SOLID CONTACT EXISTS BETWEEN SOD ROOTS AND THE UNDERLYING SOIL SURFACE.

d. WATER THE SOD IMMEDIATELY FOLLOWING ROLLING AND TAMPING UNTIL THE UNDERSIDE OF THE NEW SOD PAD AND SOIL SURFACE BELOW THE SOD ARE THOROUGHLY WET. COMPLETE THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD WITHIN EIGHT HOURS.

3. SOD MAINTENANCE

a. In the absence of adequate rainfall, water daily during the first week OR AS OFTEN AND SUFFICIENTLY AS NECESSARY TO MAINTAIN MOIST SOIL TO A DEPTH OF 4 INCHES. WATER SOD DURING THE HEAT OF THE DAY TO PREVENT

b. AFTER THE FIRST WEEK, SOD WATERING IS REQUIRED AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE CONTENT.

c. DO NOT MOW UNTIL THE SOD IS FIRMLY ROOTED. NO MORE THAN 1/3 OF THE GRASS LEAF MUST BE REMOVED BY THE INITIAL CUTTING OR SUBSEQUENT CUTTINGS. MAINTAIN A GRASS HEIGHT OF AT LEAST 3 INCHES UNLESS OTHERWISE

STANDARDS AND SPECIFICATIONS FOR STOCKPILE AREA

A MOUND OR PILE OF SOIL PROTECTED BY APPROPRIATELY DESIGNED EROSION AND SEDIMENT

TO PROVIDE A DESIGNATED LOCATION FOR THE TEMPORARY STORAGE OF SOIL THAT CONTROLS THE POTENTIAL FOR EROSION, SEDIMENTATION, AND CHANGES TO DRAINAGE PATTERNS.

CONDITIONS WHERE PRACTICE APPLIES

<u>DEFINITION</u>

STOCKPILE AREAS ARE UTILIZED WHEN IT IS NECESSARY TO SALVAGE AND STORE SOIL FOR LATER USE.

1. THE STOCKPILE LOCATION AND ALL RELATED SEDIMENT CONTROL PRACTICES MUST BE CLEARLY INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN.

2. THE FOOTPRINT OF THE STOCKPILE MUST BE SIZED TO ACCOMMODATE THE ANTICIPATED VOLUME OF MATERIAL AND BASED ON A SIDE SLOPE RATIO NO STEEPER THAN 2:1. BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND GRADING.

3. RUNOFF FROM THE STOCKPILE AREA MUST DRAIN TO A SUITABLE SEDIMENT CONTROL PRACTICE.

4. ACCESS THE STOCKPILE AREA FROM THE UPGRADE SIDE.

5. CLEAR WATER RUNOFF INTO THE STOCKPILE AREA MUST BE MINIMIZED BY USE OF A DIVERSION DEVICE SUCH AS AN EARTH DIKE, TEMPORARY SWALE OR DIVERSION FENCE. PROVISIONS MUST BE MADE FOR DISCHARGING CONCENTRATED FLOW IN A NON-EROSIVE

6. WHERE RUNOFF CONCENTRATES ALONG THE TOE OF THE STOCKPILE FILL, AND APPROPRIATE EROSION/SEDIMENT CONTROL PRACTICE MUST BE SUED TO INTERCEPT THE DISCHARGE.

7. STOCKPILES MUST BE STABILIZED IN ACCORDANCE WITH THE 3/7 DAY STABILIZATION REQUIREMENT AS WELL AS STANDARD B-4-1 INCREMENTAL STABILIZATION AND STANDARD B-4-4 TEMPORARY STABILIZATION.

8. IF THE STOCKPILE IS LOCATED ON AN IMPERVIOUS SURFACE, A LINER SHOULD BE PROVIDED BELOW THE STOCKPILE TO FACILITATE CLEANUP. STOCKPILES CONTAINING CONTAMINATED MATERIAL MUST BE COVERED WITH IMPERMEABLE SHEETING.

<u>MAINTENANCE</u>

DWGNO: DD27

ANNE ARLINDEL COUNTY MD

\Accounts\AACOX\AACOX21002 - Brooklyn Park Teen Center\DESIGN_SHEETS\DESIGN DEVELOPMENT PLANS\AACOX21002-DD27.dv

MAY 31, 202

THE STOCKPILE AREA MUST CONTINUOUSLY MEET THE REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION. SIDE SLOPES MUST BE MAINTAINED AT NO STEEPER THAN A 2:1 RATIO. THE STOCKPILE AREA MUST BE KEPT FREE OF EROSION. IF THE VERTICAL HEIGHT OF A STOCKPILE EXCEEDS 20 FEET FOR 2:1 SLOPES, 30 FEET FOR 3:1 SLOPES, OR 40 FEET FOR 4:1 SLOPES, BENCHING MUST BE PROVIDED IN ACCORDANCE WITH SECTION B-3 LAND

PROFESSIONAL CERTIFICATION: I, ___JAMES A. RUFF, PE____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # ____21774_____ EXPIRATION DATE ___11/10/2023

REVISIONS APPROVED BY DATE DESCRIPTION





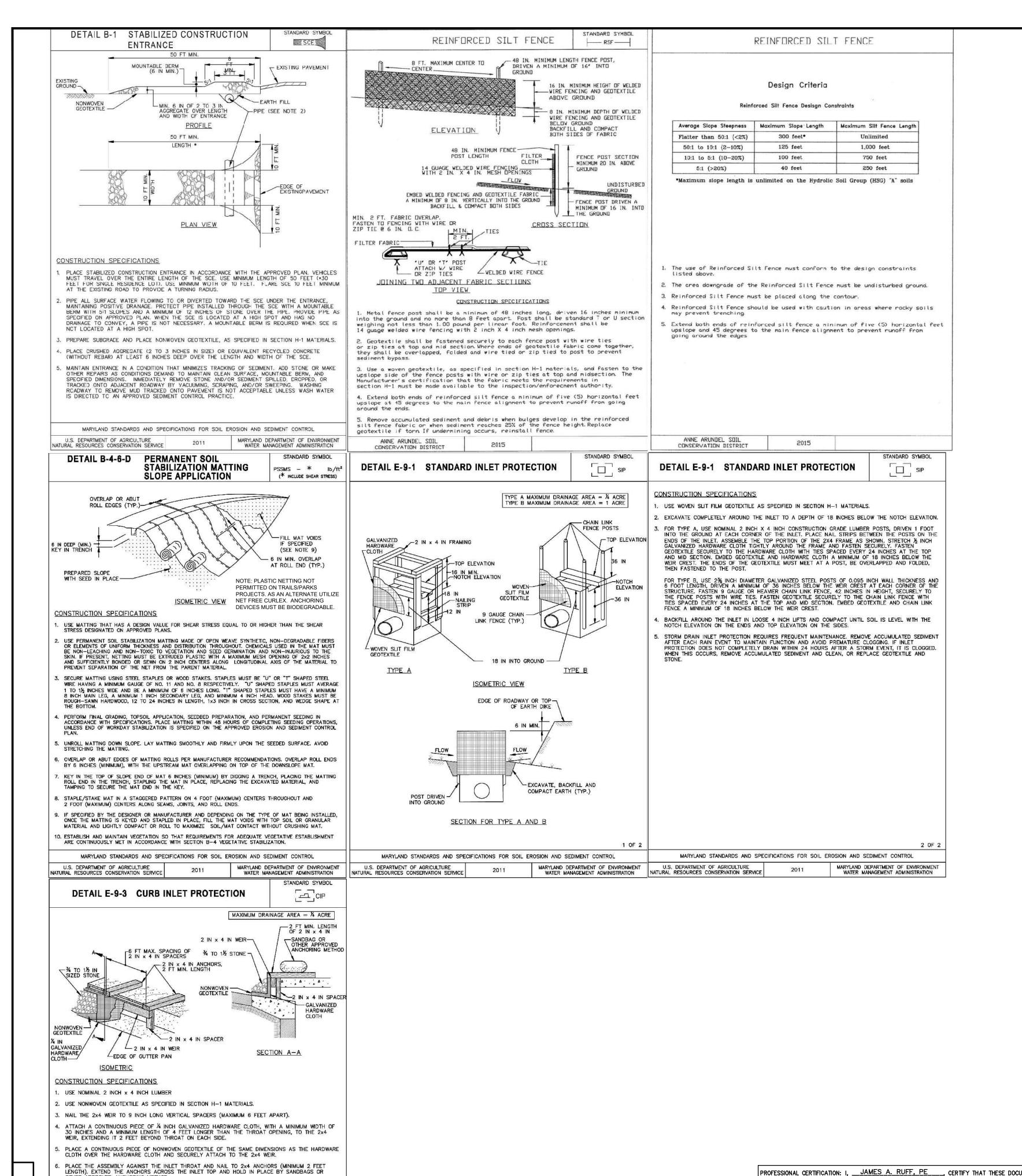
PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 Columbia, MD 21045

T 410.997.8900 F 410.997.9282

DEPARTMENT OF PUBLIC WORKS APPROVED APPROVED DATE SCALE: 1'' = 40'SEDIMENT CONTROL NOTES DRAWN BY: JSN/SVH BROOKLYN HEIGHTS COMMUNITY CENTER PARK CHIEF ENGINEER PROJECT MANAGER CHECKED BY: PJS/JAR APPROVAL DATE APPROVED SHEET <u>27</u> of <u>51</u> DESIGN DEVELOPMENT PLANS PROJECT #: 579000 TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES PROPOSAL #: 579001

ANNE ARUNDEL COUNTY

GP# G20219457



OTHER APPROVED ANCHORING METHOD.

U.S. DEPARTMENT OF AGRICULTURE

INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND THE ENDS OF THE THROAT OPENING.

O. STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT

CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE

8. FORM THE HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND FACE OF CURB TO SPAN THE INLET OPENING, COVER THE HARDWARE CLOTH AND GEOTEXTILE WITH CLEAN 1/4 TO 11/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE.

AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

2011

MARYLAND DEPARTMENT OF ENVIRONMENT WATER MANAGEMENT ADMINISTRATION

AASCD/MAA VEGETATIVE ESTABLISHMENT DETAILS AND SPECIFICATIONS FOR PROJECTS WITHIN 4 MILES OF THE BWI AIRPORT

July 1, 2004

References to ITEM #s noted below are found in Maryland Aviation Administration's manual entitle Specifications for Performing Landscaping Activities for the Maryland Aviation Administration dated May 2001.

SOIL TESTS

- 1. Following initial soil disturbances or re-disturbance, permanent or temporary stabilization shall be completed within three calendar days for the surface of all perimeter controls, dikes, swales, ditches, perimeter slopes, and all slopes greater than 3 horizontal to 1 vertical (3:1) and Seven days for all other disturbed or graded areas on the project site.
- 2. Occurrence of acid sulfate soils (grayish black color) will require covering with a minimum of 12 inches of clean soil with 6 inches minimum capping of top soil. No stockpiling of material is allowed. If needed, soil tests should be done before and after a 6-week incubation period to allow exidation of sulfates.
- The minimum soil conditions required for permanent vegetative establishment are:
- Soil pH shall be between 6.0 and 7.0. b. Soluble salts shall be less than 500 parts per million (ppm).
- c. The soil shall contain less than 40% clay but enough fine grained material (>30% silt plus clay) to provide the capacity to hold a moderate amount of moisture. d. Soil shall contain 1.5% minimum organic matter by weight.
- e. Soil must contain sufficient pore space to permit adequate root penetration f. If these conditions cannot be met by soils on site, adding topsoil is required in accordance to ITEM 901 or amendments made as recommended by a certified agronomist.

<u>SEEDING</u>

ITEM 903 SEEDING DESCRIPTION

903-1.1 GENERAL. This item provides specifications for seeding of areas as designated on plans or as directed by the MAA Engineer. The species, mixtures, and methods of application provided in this item have been designed to reduce the attractiveness of airport grounds to wildlife. Only MAA-approved species, mixtures, and rates of application provided in this item may be used to establish vegetation. All activities associated with seeding including soil preparation, seed application, fertilization, and maintenance shall also conform to these approved standards.

11/2010

MATERIALS

Bermuda Grass (Cynodon dactylon)

903-2.1 SEED. All seed shall comply with the Maryland Seed Law (Agricultural Article of the Annotated Code of Maryland). Only MAA-approved species, mixtures, and rates of application provided in this item may be used to establish vegetation. Seed will be sampled and tested by an inspector from the Turf and Seed Section, Maryland Department of Agriculture (MDA), Annapolis, Maryland. All lawn and turf seed and mixtures shall be free from the following state-listed restricted noxious weeds:

| 'orn Cockle (Agrostemma githago) | Orchardgrass (Dactylis glomerata) |
|----------------------------------|------------------------------------|
| lentgrass (Agrostis spp.)* | Tall Fescue (Festuca arundinacea)* |
| cdtop (Agrostis gigantea)* | Meadow Fescue (Festuca pratensis)* |
| Vild Onion (Allium canadense) | Velvetgrass (Holeus lanatus) |
| Vild Garlic (Allium vineale) | Annual Bluegrass (Poa annua) |
| sindweed (Calstegia spp.) | Rough Bluegrass (Poa trivialis)* |
| Oodder (Cuscuta spp.) | Timothy (Phleum pra |
| ense) | - 552-755 - 115- |
| | |

Johnson Grass (Sorgum halepense)

Restricted noxious-weed seed may not exceed 0.5 percent by weight of any seed mixture. In addition, all seed sold in Maryland shall be free from the following listed prohibited noxious weeds. Balloonvine (Cardiospermum halicacabum), Quackgrass (Elytrigia repens), Sicklepod (Senna obtusifolia), Sorghum (Sorghum spp.), Canada thistle (Cirsium arvense), Plumeless thistle (Carduus spp.-includes musk thistle and curled thistle), and Serrated tussock (Nassella

*These species may be included as a labeled component of a mixture when each is present in excess of five percent of the mixture by weight.

903-2.1.1 APPROVED SPECIES. The following table contains species that are approved by MAA for use in seed mixtures. Purity requirements and germination requirements are also

| MAA SEED MIXTURES | APPROVED | PLANT SPECIES | |
|--|-----------------------------------|---|-----------------------|
| Certified Turf-Type Tall Fescue (Festues anundineess) | Purity * Not Less than % 98 | Minimum % Germination * 90 | Pure Live Seed Factor |
| Certified Kentucky Bluegrass (Poa pratensis) | 90 | 80 | 1,29 |
| Hard Fescue (Festuca longifolia) | 98 | 90 | 1.13 |
| Chewings Red Fescue (Festuca rubra commutata) | 98 | 90 | 1.13 |
| Annual Ryegrass (Lolium multiflorum) | 95 | 85 | 1.24 |
| Perennial Ryegrass (Lolium perenne) | 90 | 80 | 1.39 |
| Fowl Meadow Grass | 90 | 80 | 1.39 |
| Talk | | | - |
| (Poa palustris) Little Bluestem (Andropogon scoparius) | 62 | 94 | 1.71 |
| by their appearance. | | of any agriculture seeds, iner; matter, d shall not include hard seeds unless sp | |

903-2.1.2 PURITY. All seed shall be free of all state-designated noxious weeds listed in Paragraph 2.1.1 and conform to MAA specifications. To ensure compliance, MAA requires sampling and testing of seed by the Turf and Seed Section, Maryland Department of Agriculture (MDA). The Contractor shall furnish the MAA Engineer with duplicate signed copies of a statement by the Turf and Seed Section certifying that each lot of seed has been laboratory tested within six months of date of delivery. This statement shall include the following information:

- Name and address of laboratory,
- Date of test, Let number,
- The results of tests as to name, percentages of purity and of germination Percentage of weed content for the seed furnished, and In the case of a mixture, the proportions of each kind of seed.

Seed shall be furnished in standard containers with the seed name, lot number, net weight, percentages of purity, germination rate and hard seed, and percentage of maximum weed seed content clearly marked. All seed containers shall be tagged with a MDA supervised mix program seed tag.

903-2.1.3 MIXTURES AND APPLICATION RATES. Only seed mixtures and application rates described in this item may be used unless otherwise approved by the MAA Engineer. Seed mixtures shall meet criteria detailed in Paragraph 903-2.1.2. Seed mixtures have heen formulated to minimize the attractiveness of areas to wildlife of common landscape scenarios. The appropriate seed mixture for application will be designated based on environmental conditions and may vary from site to site. All planting rates listed are in pounds of Pure Live Seed (PLS) per acre.

Seed mixtures, application scenarios, and rates for permanent cool-season grasses are as follows:

- a. Seed Mixture No. 1 relatively flat areas (grade less than 4:1) subject to normal conditions and regular mowing (Application rate = 234 lbs PLS/acre). b. Seed Mixture No. 2 - sloped areas (grade greater than 4:1) not subject to regular mowing (Application rate – 115 lbs PLS/acre).
- c. Seed Mixture No. 3 wetlands and their associated buffer zones (Application rate = 131

Seed Mixture No. 1: Relatively flat areas regularly mowed and exposed to normal conditions (Application rate = 234 lbs PLS/acre)

| <u>Seed</u> | Rate of Application (lbs of PLS/acres) |
|-------------------------------------|--|
| 85% Certified Turf-Type Tall Fescue | 192 |
| 10% Certified Kentucky Bluegrass | 28 |
| 5% Perennial Ryegrass | 14 |
| Supplemental Seed | |
| Annual Ryegrass | 25 |

Seed Mixture No. 2: Sloped areas not subject to regular mowing (Application rate = 115 lbs

% Chewings Fo

% Kentucky Bluegras:

| | The state of the s |
|------------------------|--|
| Seed | Rate of Application (lbs of PLS/acre) |
| 60% Fowl Meadow Grass | 83 |
| 30% Chewings Fescue | 34 |
| 10% Perennial Ryegrass | 14 |

903-2.1.4 SEEDING SEASONS. Application of seed and seed mixtures shall occur within a specified seeding season unless otherwise approved by the MAA Engineer. No seed or seed mixtures are to be applied on frozen ground or when the temperature is at or below 35 degrees Fahrenheit. Under these conditions, a layer of mulch should be applied in accordance with Item 905, Mulching, to stabilize the site, and permanent seeding should occur in the subsequent seeding season. Seed application may occur during the seeding season dates listed

below. Seeding performed after October 20 should be a temporary cover of annual ryegrass and followed by overseeding of the appropriate seed mixture during the spring seeding season.

| Permanent Cool-Season Grasses | March 1 to April 20 and August 1 to | |
|--|---|--|
| | October 20, inclusive | |
| Temporary Cover of Annual Rye/Redtop | March 1 to April 30 and August 1 to | |
| | November 30, inclusive | |
| Temporary Cover of Warm-Season Grasses | May 1 to July 31, inclusive. Rate of | |
| (Little Bluestem only) | application should be 13.6 lbs PLS/acre | |

Seeding seasons are based on typical years and can be subject to variation, which may be modified by the MAA Engineer based on seasonal trends.

If the time required to complete any of the operations necessary under this item, within the specified planting season or any authorized extensions thereof, extends beyond the Contract period, then such time will be charged against the Contract time, and liquidated damages will be enforced with respect to this portion of work.

903-2.2 LIME. Lime shall consist of ground limestone and contain at least 85% total carbonates. Lime shall be ground to a fineness so that at least 90% will pass through a No. 20 mesh sieve and 50% will pass through a No. 100 mesh sieve. Dolomitic lime or a high magnesium lime shall contain at least 10% magnesium oxide. Lime shall be applied by approved methods detailed in Section 903-3.3 of this item. The rate of application will be based

903-2.3 FERTILIZER. Fertilizer shall be standard commercial fertilizer (supplied separately or in mixtures) and meet the requirements of applicable state and federal laws (O-F-(41) as well as standards of the Association of Official Agricultural Chemists. Nitrogen-Phosphorus-Potassium (N-P-K) concentrations shall be determined from analysis of soil samples. (Approved fertilizer rate: 21 pounds of 10-10-10 per 1,000 square feet.) Methods of Fertilizer shall be furnished in standard containers that are clearly labeled with name, weight, and guaranteed analysis of the contents (percentage of total nitrogen, available phosphoric acid, and water-soluble potash). Mixed fertilizers shall not contain any hydrated lime or cyanamide compounds. Fertilizers failing to meet the specified analysis may be approved by the MAA

unit of measure without additional cost to MAA. The fertilizers may be supplied in the following forms:

a. A dry, free-flowing fertilizer suitable for application by a common fertilizer spreader b. A finely ground fertilizer soluble in water, suitable for application by power sprayers, or c. A granular or pellet form suitable for application by blower equipment.

Engineer, providing sufficient materials are applied to conform with the specified nutrients per

The rate of application will be based on results of soil tests performed by the University of Maryland Soil Testing Laboratory. By law, persons applying fertilizer to State-owned land shall follow the recommendations of the University of Maryland as set forth in the "Plant Nutrient Recommendations Based on Soil Tests for Turf Maintenance" and the "Plant Nutrient tions Based on Soil Tests for Sod Production" (see Appendix B). Application of the fertilizer shall be in a manner that is consistent with the recommendations of the University of Maryland Cooperative Extension.

CONSTRUCTION METHODS AND EQUIPMENT

903-3.1 GENERAL. This section provides methods for the application of and includes standards for seedbed preparation, methods of application, and equipment to be used during the process. Lime and fertilizer shall be applied to seeded areas before the seed is spread. The mixture of seed will be determined for sites based on environmental conditions as described in Paragraph 903-2.1.3.

903-3.2 ADVANCE PREPARATION. Areas designated for seeding shall be properly prepared in advance of seed application. The area shall be tilled and graded prior to application of lime and fertilizer, and the surface area shall be cleared of an stones larger than 1 inch in diameter, sticks, stumps, and other debris that might interfere with sowing of seed, growth of grasses, or subsequent maintenance of grass-covered areas. Damage caused by erosion or other ces that occur after the completion of grading shall be repaired prior to the application of fertilizer and lime. The Contractor will repair such damage, which may include filling gullies smoothing irregularities, and repairing other incidental damage before beginning the application of fertilizer and ground limestone.

If an area to be seeded is sparsely sodded, weedy, barren and unworked, or packed and hard, all grass and weeds shall first be cut or otherwise satisfactorily disposed of, and the soil then scarified or otherwise loosened to a depth not less than 5 inches (125mm). Clods shall be broken and the top 3 inches (75mm) of soil shall be worked into a satisfactory condition by discing or by use of cultipackers, rollers, drags, harrows, or other appropriate means.

An area to be seeded shall be considered a satisfactory seedbed (without requiring additional treatment) if it has recently been thoroughly loosened and worked to a depth of not less than 5 inches; the top 3 inches of soil is loose, friable, and is reasonably free from large clods, rocks. large roots, or other undesirable matter; appropriate amounts of fertilizer and lime have been added; and, if it has been shaped to the required grade immediately prior to seeding. For slope areas steeper than 3:1 (three horizontal to one vertical), the subsoil shall be loose to a depth of 1

After completion of tilling and grading, lime and fertilizer shall be applied within 48 hours according to the specified rate (Paragraphs 903-2.2 and 2.3) and methods (Paragraphs 903-3.3.1and 903-3.3.2) approved by MAA. The seeding mixture shall be applied within 48 hours after application of lime and fertilizer. To firm the seeded areas, cultipacking shall occur immediately after seeding.

CHIEF, RIGHT OF WAY SERVICES

903-3.3 METHODS OF APPLICATION. Lime, fertilizer, and seed mixes shall be applied by either the dry or wet application methods that have been approved by MAA and are

903-3.3.1 DRY APPLICATION METHOD

a. Liming. If soil test results indicate that lime is needed, the following procedures will be used: following advance preparation of the seedbed, lime shall be applied prior to the application of any fertilizer or seed and only on seedbeds that have been prepared as described in Paragraph 903-3.2. The lime shall be uniformly spread and worked into the top 2 inches of soil, after which the seedbed shall be properly graded again. b. Fertilizing. Following advance preparations (and liming if necessary), fertilizer shall be spread uniformly at the specified rate to provide no less than the minimum quantity stated in Paragraph 903-2.3. Seeding. Seed mixtures shall be sown immediately after fertilization of the seedbed. The fertilizer and seed shall be lightly raked to a depth of I inch for newly graded and

d. Rolling. After the seed has been properly covered, the seedbed shall be immediately

903-3.3.2 WET APPLICATION METHOD/HYDROSEEDING

compacted using a cultipacker or an approved lawnroller.

a. General. The Contractor may elect to apply seed and fertilizer as per Paragraphs c and d of this section in the form of an aqueous mixture by spraying over the previously prepared seedbed using methods and equipment approved by MAA. The rates of application shall be as specified in Paragraphs 903-2.1 through 903-2.3.

b. Spraying Equipment. The spraying equipment shall have a container or water tank equipped with a liquid level gauge capable of reading increments of 50 gallons or less over the entire range of the tank capacity. The liquid level gauge shall be mounted so as to be visible to the nozzle operator at all times. The container or tank shall also be equipped with a mechanical power-driven agitator capable of keeping all the solids in the mixture in complete suspension at all times until used.

The spraying equipment shall also include a pressure pump capable of delivering 100 gallons per minute at a pressure of 100 pounds per square inch. The pressure pump assemblage shall be configured to allow the mixture to flow through the tank when not being sprayed from the nozzle. All pump passages and pipelines shall be capable of providing clearance for 5/8-inch solids. The power unit for the pump and agitator shall have controls mounted so as to be accessible to be accessible to the nozzle operator. A pressure gauge shall be connected to and mounted immediately behind the nozzle.

The nozzle pipe shall be mounted on an elevated supporting stand in such a manner that it can be rotated through 360 degrees horizontally and inclined vertically from at least 20

degrees below to at least 60 degrees above the horizontal. There shall be a quick-acting, ree-way control valve connecting the recirculating line to the nozzle pipe and mounted that the nozzle operator can control and regulate the amount of flow of mixture to be applied so that mixtures may be properly sprayed over a distance varying from 20 feet to 00 feet. One shall be a close-range ribbon nozzle, one a medium-range ribbon nozzle, nd one a long-range jet nozzle. For ease of removal and cleaning, all nozzles shall be onnected to the nozzle pipe by means of quick-release couplings. In order to reach areas inaccessible to the regular equipment, an extension hose at least 50 feet in length shall be ovided to which the nozzles may be connected.

Mixtures. Lime shall be applied separately in the quantity specified, prior to the fertilizing and seeding operations. Lime should be added to and mixed with water at a concentration not to exceed 220 pounds of lime for every 100 gallons of water. After lime has been applied, the tank should be emptied and rinsed with fresh water. Seed and fertilizer shall be mixed together in the relative proportions specified, but the resulting concentration should not exceed 220 pounds of mixture per 100 gallons of water and should be applied within 30 minutes to prevent fertilizer burn of the seeds.

All water used shall be obtained from fresh water sources and shall be free from injurious chemicals and other toxic substances harmful to plant life. Brackish water shall not be used at any time. The Contractor shall identify all sources of water to the MAA Engineer at least two weeks prior to use. The Engineer may take samples of the water at the source or from the tank at any time and have a laboratory test the samples for chemical and saline content. The Contractor shall not use any water from any source that is disapproved by the Engineer following such tests.

All mixtures shall be constantly agitated from the time they are mixed until they are finally applied to the seedbed. All such mixtures shall be used within 30 minutes from the time they were mixed or they shall be wasted and disposed of at a location acceptable to the Engineer.

Spraying. Lime shall be sprayed upon previously prepared seedbeds on which the lime, if required, shall have been worked in already. The mixtures shall be applied using a high-pressure spray which shall always be directed upward into the air so that the mixtures will fall to the ground in a uniform spray. Nozzles or sprays shall never be directed toward the ground in such a manner that might produce erosion or runoff. Particular care shall be exercised to ensure that the application is made uniformly, at the prescribed rate, and to guard against misses and overlapped areas. Predetermined quantities of the mixture shall be used in accordance with specifications to cover specified sections of known areas. To check the rate and uniformity of application, the applicator will observe the degree of wetting of the ground or distribute test sheets of paper or pans over the area at intervals and observe the quantity of material deposited

On surfaces that are to be mulched as indicated by the plans or designated by the MAA Engineer, seed and fertilizer applied by the spray method need not be raked into the soil or rolled. However, on surfaces on which mulch is not to be used, the raking and rolling

903-3.4 MAINTENANCE OF SEEDED AREAS. The contractor shall protect seeded areas against traffic or other use by warning signs or barricades, as approved by the Engineer. Surfaces gullied or otherwise damaged following seeding shall be repaired by regrading and reseeding as directed. The Contractor shall mow, water as directed, and otherwise maintain seeded areas in a satisfactory condition until final inspection and acceptance of the work.

When either the dry or wet application method outlined above is used for work performed out of season, the Contractor will be required to establish a good stand of grass of uniform color and density to the satisfaction of the Engineer. If at the time when the contract has been otherwise completed, it is not possible to make an adequate determination of the color, density, and uniformity of such stand of grass, payment for the unaccepted portions of the areas seeded out of

season will be withheld until such time as these requirements have been met. MULCHING

Mulch shall be applied to all seeded areas immediately after seeding. During the time periods when seeding is not permitted, mulch shall be applied immediately after grading. Mulch shall be

TEMPORARY SEEDING 100 pounds of dolomitic limestone per 1,000 square feet.

operations will be required after the soil has dried.

Fertilizer: 15 pounds of 10-10-10 per 1,000 square feet. Per ITEM 903. Mulch shall be applied as per ITEM 905. Mulch:

No fills may be placed on frozen ground. All fill to be placed in approximately horizontal layers, each layer having a loose thickness of not more than 8 inches. All fill in roadways and parking areas is to be classified Type 2 as per Anne Arundel County Code - Article 16, Sections 2-307, and compacted to 90% density; compactions to be determined by ASTM D-1557-66T (Modified Proctor). Any fill within the building area is to be compacted to a minimum of 95% density as determined by methods previously mentioned. Fills for pond embankments shall be compacted as per MD-378 Construction Specifications. All other fills shall be compacted sufficiently so as to be stable and prevent erosion and slippage.

Installation of sod should follow permanent seeding dates. Seedbed preparation for sod shall be as noted above. Lime and fertilizer per permanent seeding specifications and lightly irrigate soil

prior to laying sod. Sod is to be laid on the contour with all ends tightly abutting. Joints are to be staggered between rows. Water and roll or tamp sod to insure positive root contact with the soil. All slopes steeper than 3:1, as shown, are to be permanently sodded or protected with an approved erosion control netting. Additional watering for establishment may be required. Sod is not to be installed on frozen ground. Sod shall not be transplanted when moisture content (dry or wet) and/or extreme temperature may adversely affect its survival. In the absence of adequate rainfall, irrigation should be performed to ensure establishment of sod. Install sod per ITEM

MINING OPERATIONS

Sediment control plans for mining operations must include the following seeding dates and

For seeding dates of: February 1 through April 30 and August 15 through October 31, use seed mixture of tall fescue at the rate of 2 pounds per 1,000 square feet and red top at the minimum rate of 0.5 pounds per 1.000 square feet.

NOTE: Use of this information does not preclude meeting all of the requirements of the current Maryland Standards and Specifications for Soil Erosion and Sediment Control.

GP# G20219457 DWGNO: DD28

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS MAY 31, 202

:\Accounts\AAC0X\AAC0X21002 — Brooklyn Park Teen Center\DESIGN_SHEETS\DESIGN DEVELOPMENT PLANS\AAC0X21002-DD28.dv

BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT

ANNE ARUNDEL COUNTY, MD

APPROVED APPROVED DATE SCALE: 1'' = 40'SEDIMENT CONTROL DETAILS DRAWN BY: JSN/SVH PROJECT MANAGER CHIEF ENGINEER CHECKED BY: PJS/JAR APPROVAL DATE APPROVED SHEET <u>28</u> of <u>51</u> DESIGN DEVELOPMENT PLANS PROJECT #: 579000 TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010

PROPOSAL #: 579001

PROFESSIONAL CERTIFICATION: I, ___JAMES A. RUFF, PE____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # _____ 21774 _____ EXPIRATION DATE ____11/10/2023 REVISIONS

| BY | DATE DESCRIPTION





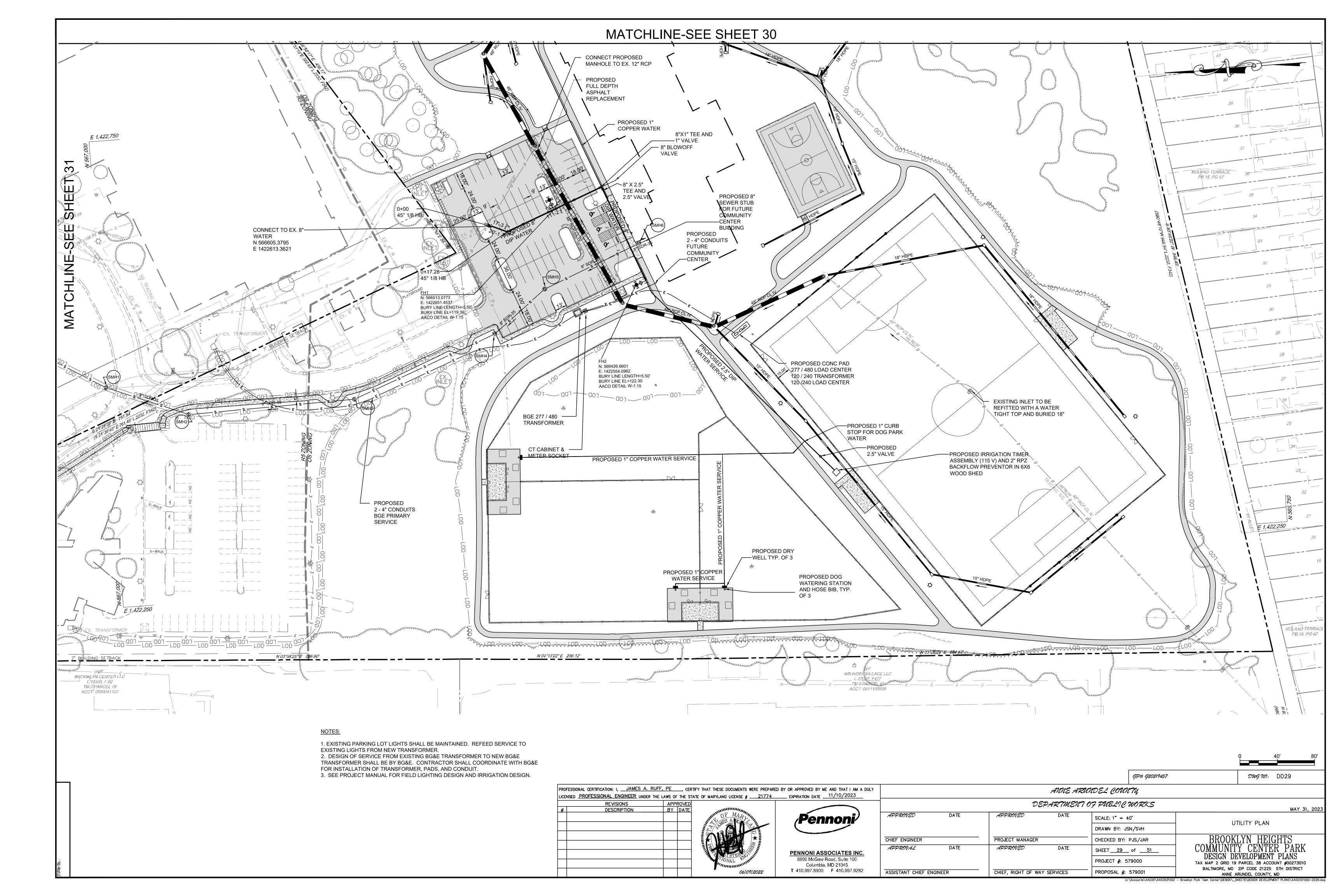
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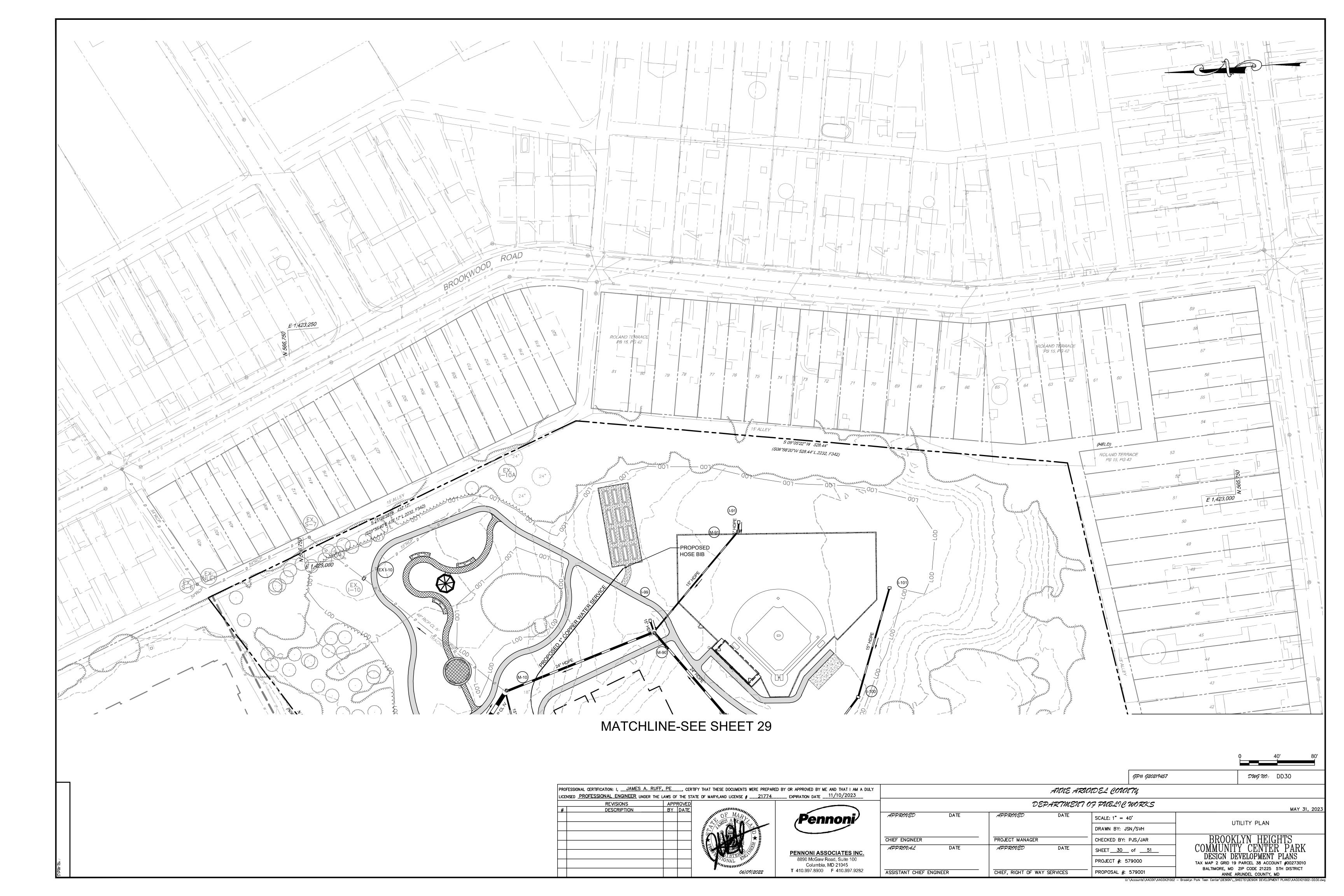
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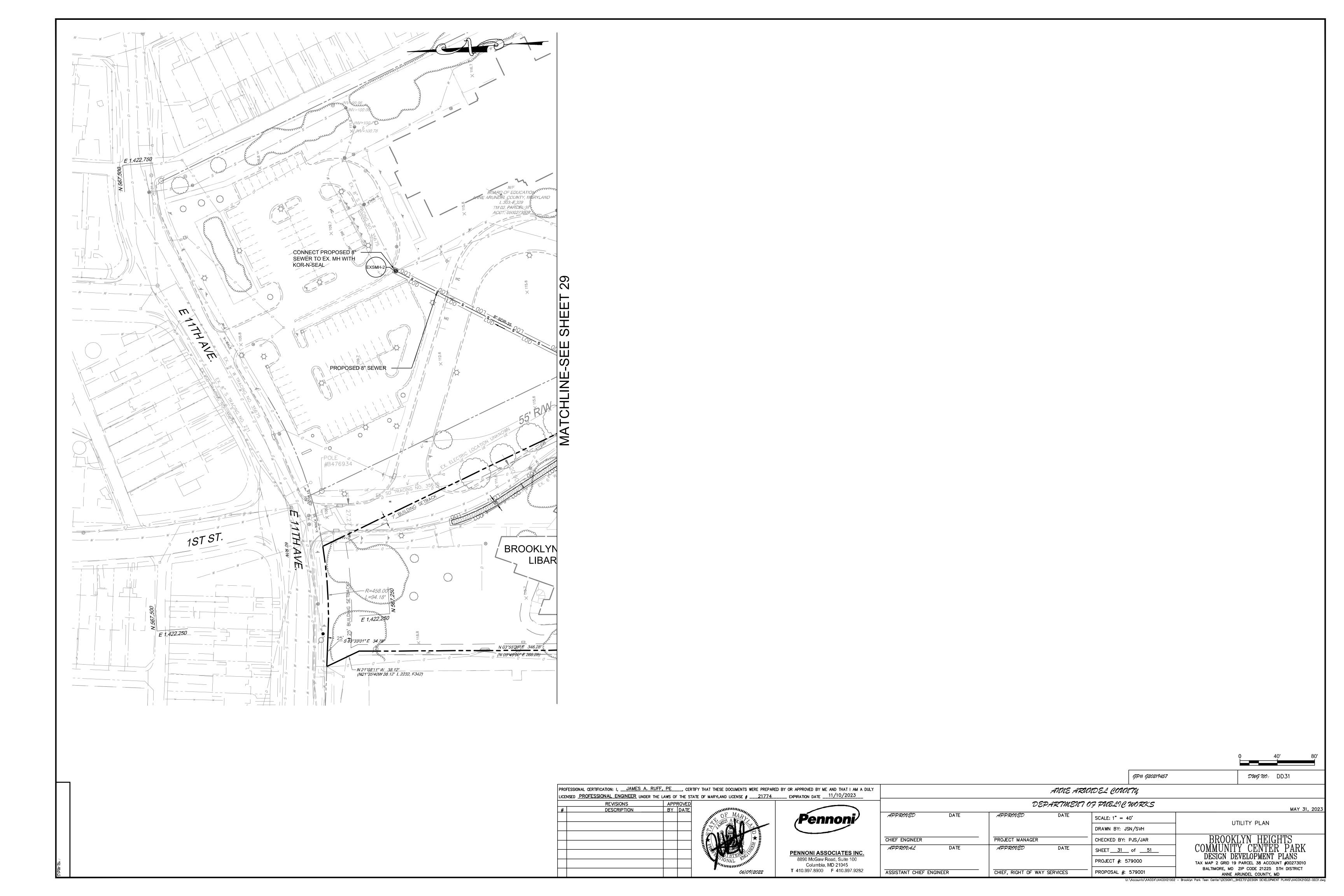


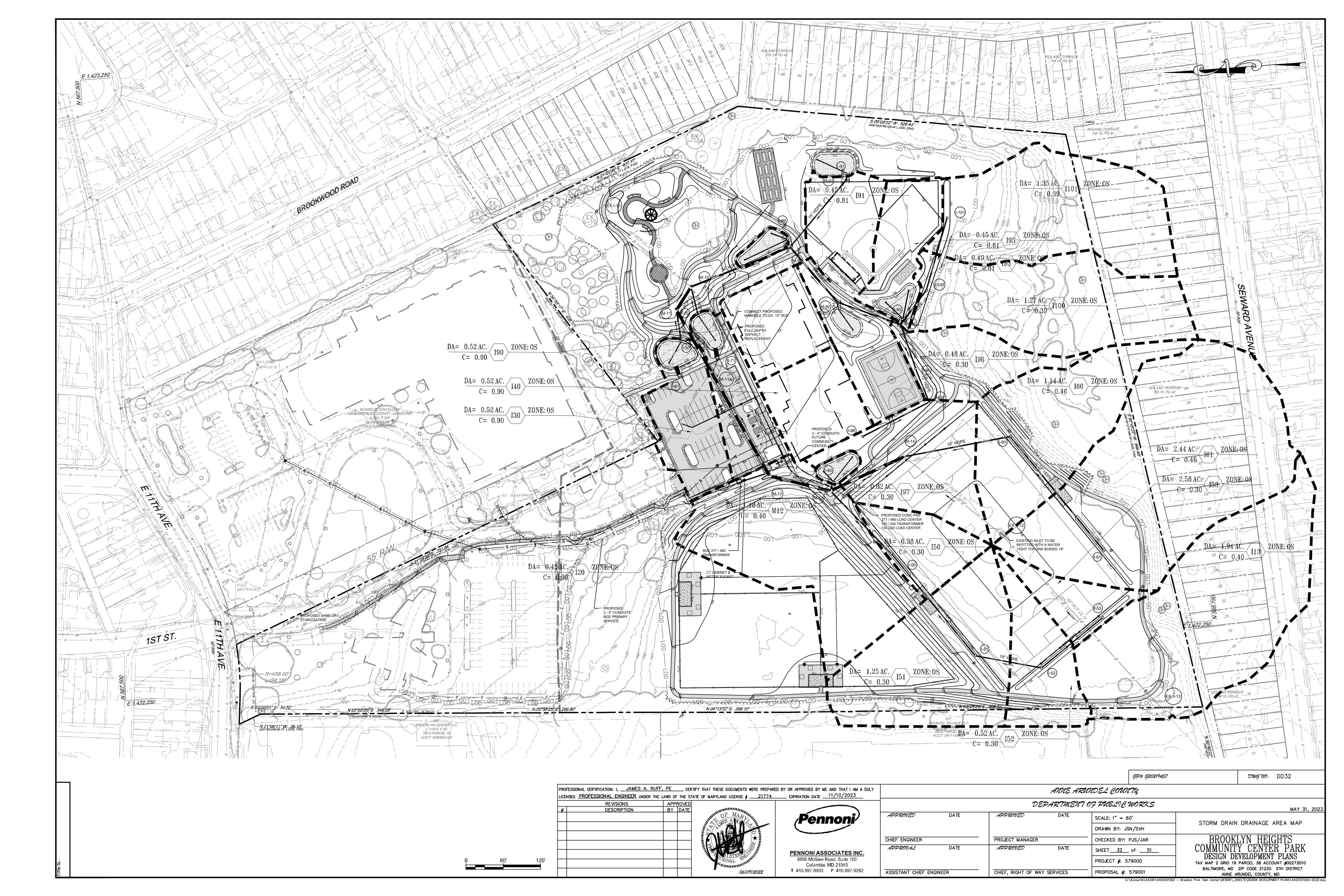
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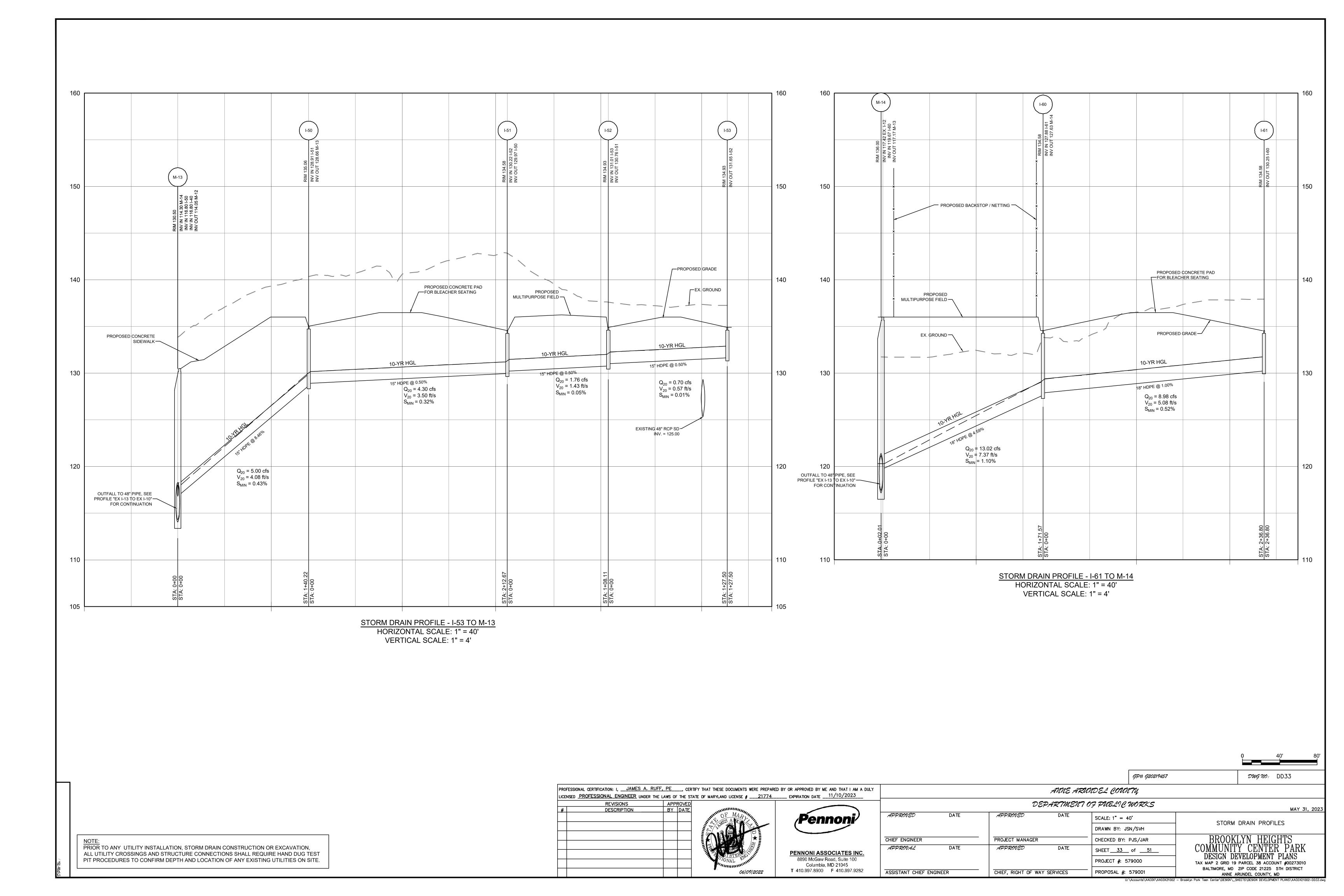
PENNONI ASSOCIATES INC.

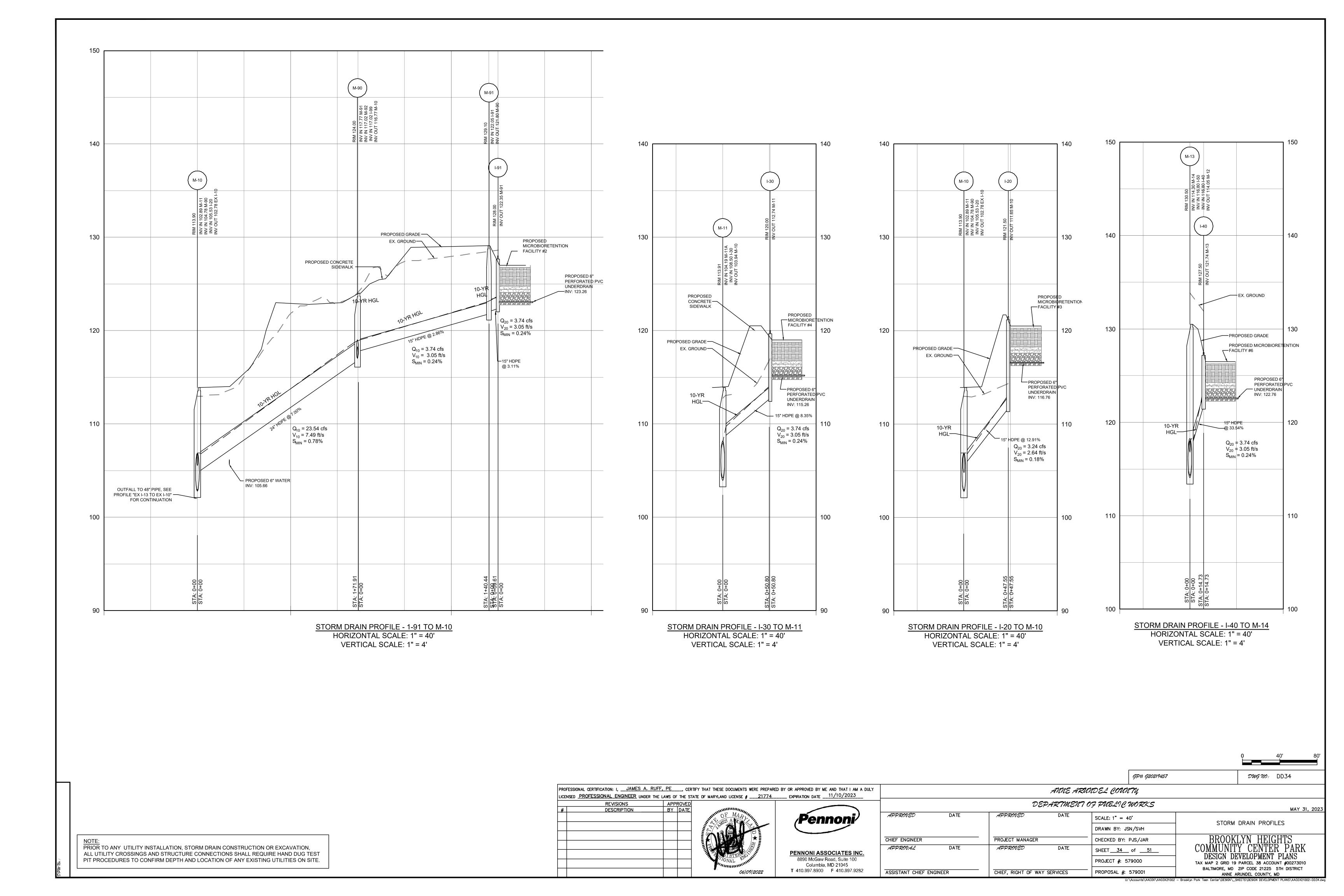


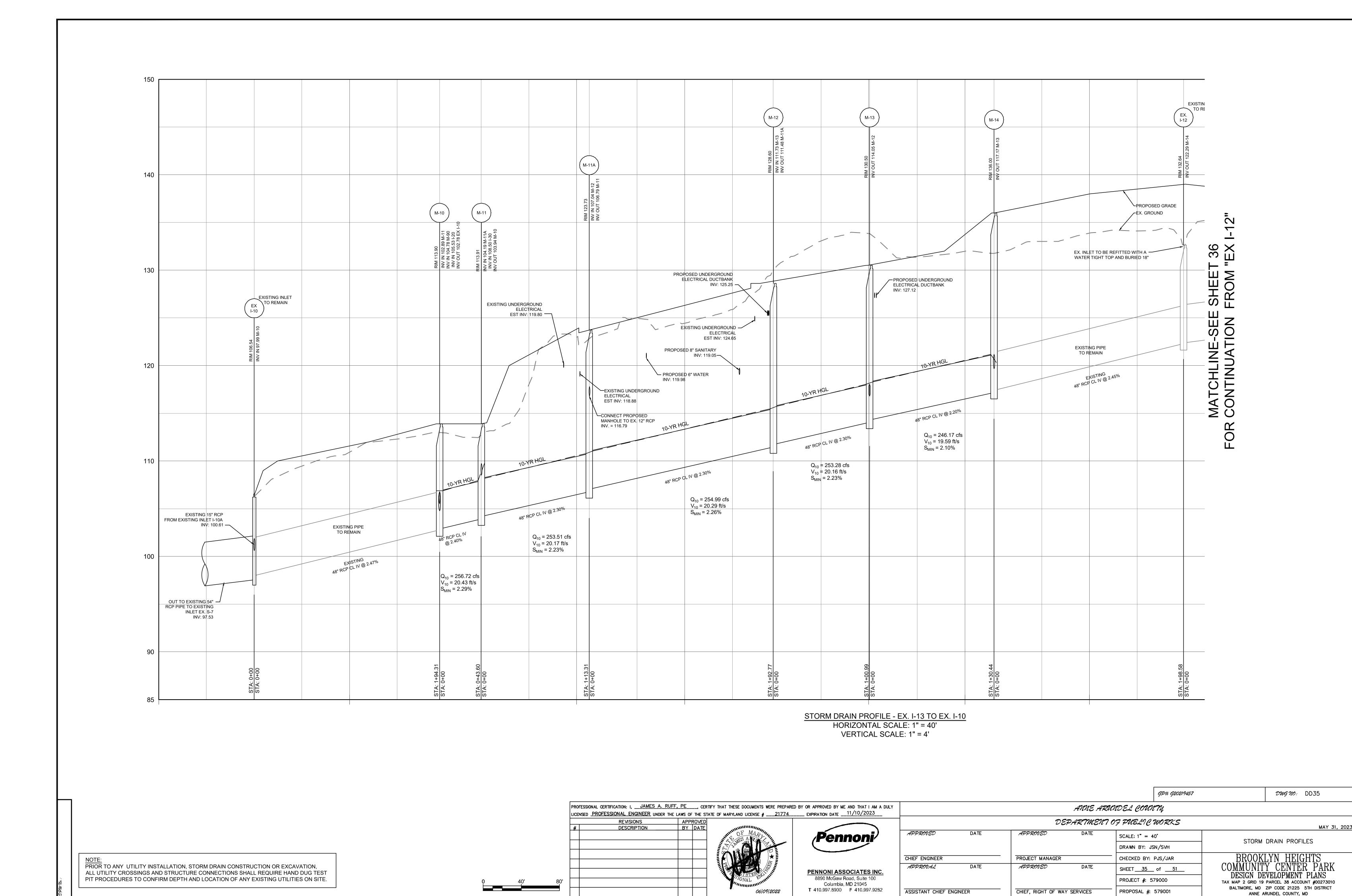


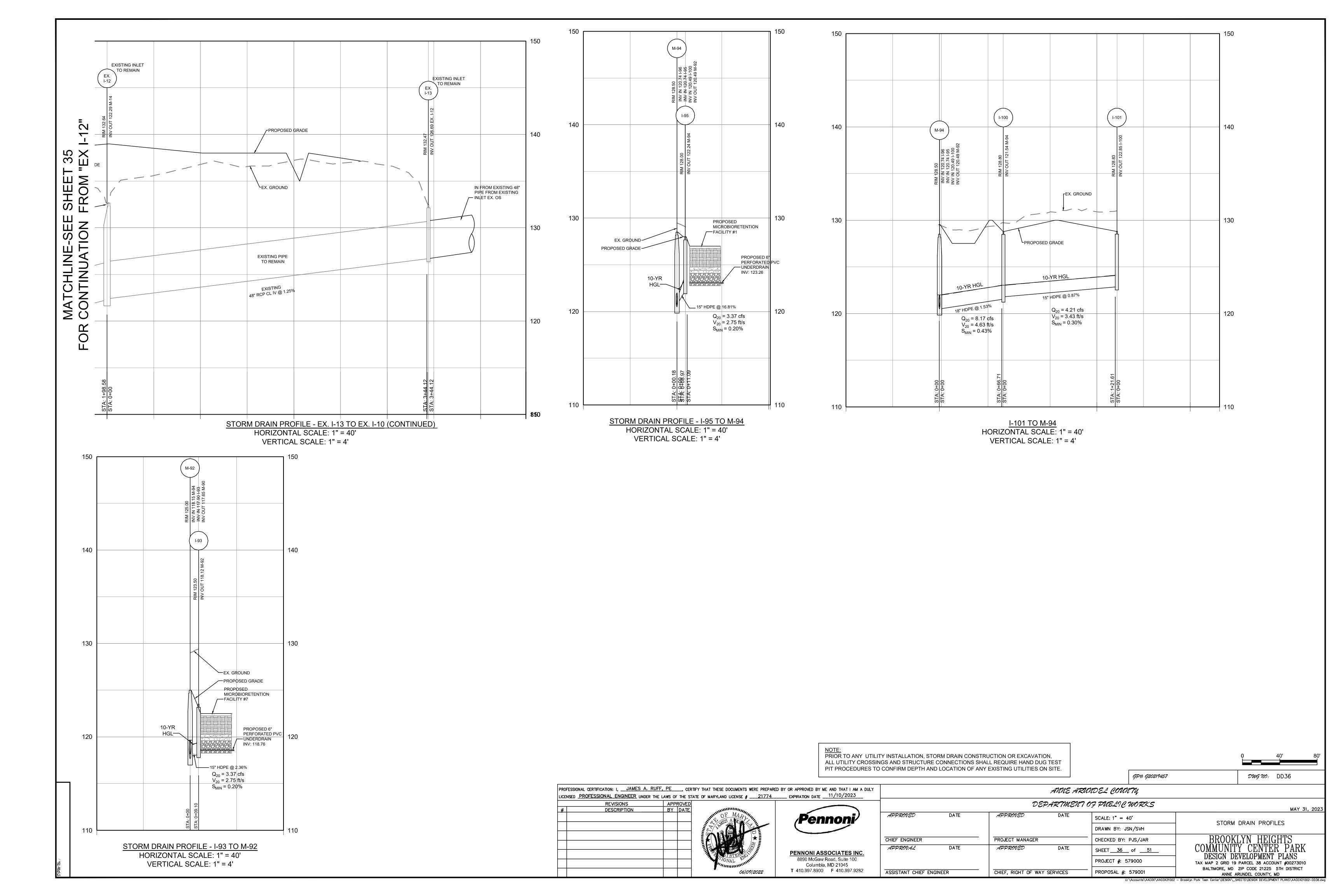


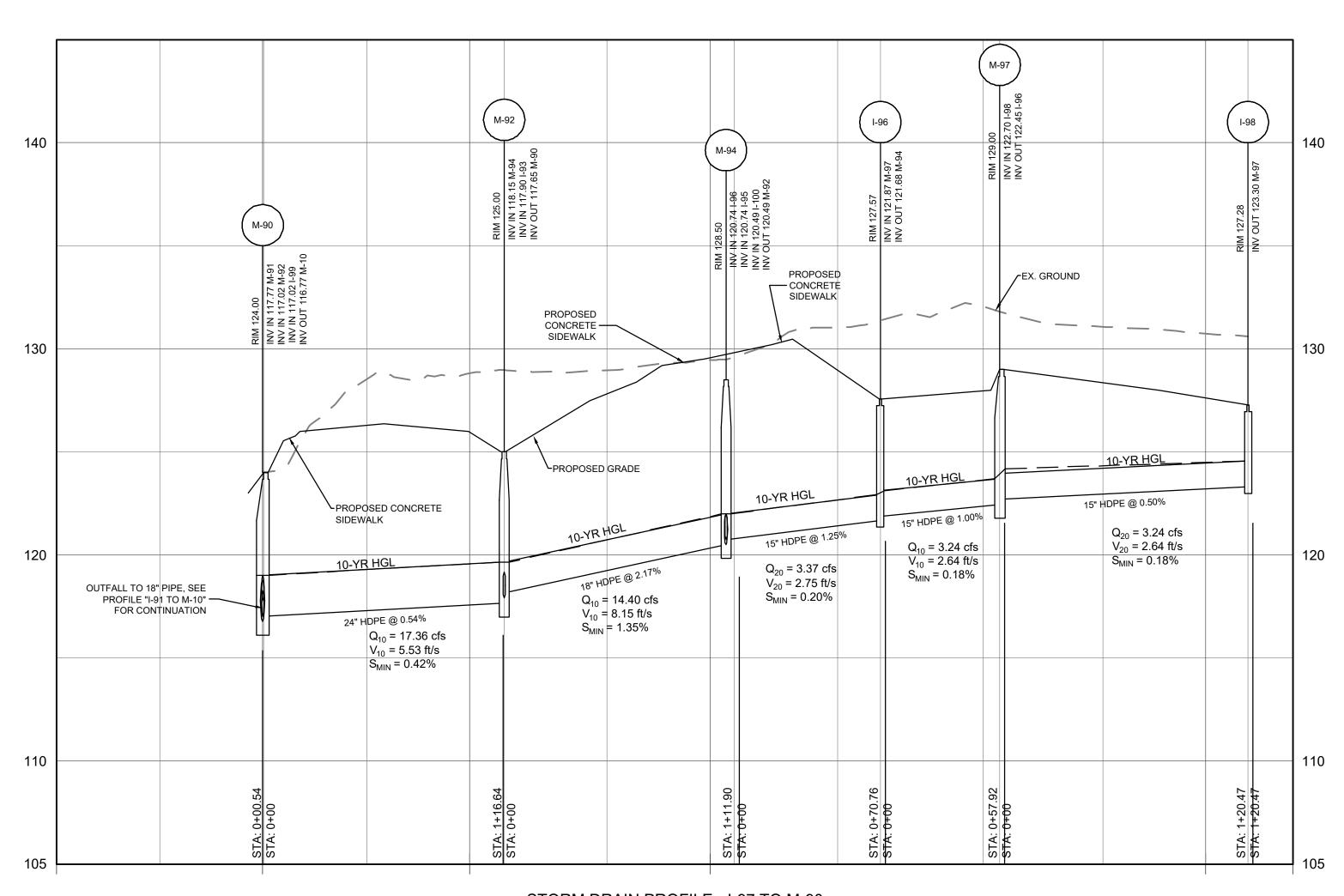












STORM DRAIN PROFILE - I-97 TO M-90 HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

| | | | STORM SEV | WER PI | PE TABLE | STORM 5 | | | | |
|----------------|---------|----------|-----------------|--------|----------|------------------|-----------|----------------|--------|-------------------|
| FROM STRUCTURE | INV OUT | AS BUILT | TO STRUCTURE | INV IN | AS BUILT | DIAMETER (in) | MATERIAL | LENGTH (ft) | SLOPE | PUBLIC PRIVATE |
| EX. I-12 | 122.29 | | M-14 | 117.42 | | 48" | RCP CL IV | 199' | 2.45% | PUBLIC |
| EX. I-13 | 126.69 | | EX. I-12 | 122.39 | | 48" | RCP CL IV | 344' | 1.25% | PUBLIC |
| I-20 | 111.65 | | M-10 | 105.53 | | 15" | HDPE | 47' | 12.91% | PUBLIC |
| I-30 | 112.74 | | M-11 | 108.50 | | 15" | HDPE | 51' | 8.35% | PUBLIC |
| I-40 | 121.74 | | M-13 | 116.80 | | 15" | HDPE | 15' | 33.54% | PUBLIC |
| I-50 | 128.66 | | M-13 | 116.80 | | 15" | HDPE | 140' | 8.46% | PUBLIC |
| I-51 | 129.97 | | I-50 | 128.91 | | 15" | HDPE | 213' | 0.50% | PUBLIC |
| I-52 | 130.76 | | I-51 | 130.22 | | 15" | HDPE | 108' | 0.50% | PUBLIC |
| I-53 | 131.65 | | I-52 | 131.01 | | 15" | HDPE | 127' | 0.50% | PUBLIC |
| I-60 | 127.63 | | M-14 | 119.67 | | 18" | HDPE | 174' | 4.59% | PUBLIC |
| I-61 | 130.25 | | I-60 | 127.88 | | 18" | HDPE | 237' | 1.00% | PUBLIC |
| I-91 | 122.35 | | M-91 | 122.05 | | 15" | HDPE | 10' | 3.11% | PUBLIC |
| I-96 | 121.68 | | M-94 | 120.74 | | 15" | HDPE | 75' | 1.25% | PUBLIC |
| I-99 | 117.53 | | M-90 | 117.02 | | 15" | HDPE | 13' | 4.04% | PUBLIC |
| I-101 | 122.85 | | I-100 | 121.79 | | 15" | HDPE | 122' | 0.87% | PUBLIC |
| M-10 | 102.78 | | EX I-10 | 97.99 | | 48" | RCP CL IV | 194' | 2.47% | PUBLIC |
| M-11 | 103.94 | | M-10 | 102.89 | | 48" | RCP CL IV | 44' | 2.40% | PUBLIC |
| M-11A | 106.79 | | M-11 | 104.19 | | 48" | RCP CL IV | 113' | 2.30% | PUBLIC |
| M-11A | 107.04 | | M-12 | 111.48 | | 48" | RCP CL IV | 193' | 2.30% | PUBLIC |
| M-13 | 114.05 | | M-12 | 111.73 | | 48" | RCP CL IV | 101' | 2.30% | PUBLIC |
| M-14 | 117.17 | | M-13 | 114.30 | | 48" | RCP CL IV | 130' | 2.20% | PUBLIC |
| M-90 | 116.77 | | M-10 | 104.78 | | 24" | HDPE | 171' | 7.00% | PUBLIC |
| M-91 | 121.80 | | M-90 | 117.77 | | 15" | HDPE | 141' | 2.86% | PUBLIC |
| M-92 | 117.90 | | I - 93 | 118.12 | | 15" | HDPE | 9' | 2.36% | PUBLIC |
| M-92 | 117.65 | | M-90 | 117.02 | | 24" | HDPE | 117' | 0.54% | PUBLIC |
| M-94 | 120.49 | | I-100 | 121.54 | | 18" | HDPE | 68' | 1.53% | PUBLIC |
| M-94 | 120.74 | | I - 95 | 122.24 | | 15" | HDPE | 9' | 16.81% | PUBLIC |
| M-94 | 120.49 | | M-92 | 118.15 | | 18" | HDPE | 108' | 2.17% | PUBLIC |
| M-97 | 122.45 | | I-96 | 121.87 | | 15" | HDPE | 58' | 1.00% | PUBLIC |
| M-97 | 122.70 | | I-98 | 123.30 | | 15" | HDPE | 120' | 0.50% | PUBLIC |

| | | | | STO | RM DRAIN STRUCTURE | SCHEDUL | _E | | | |
|----------|------------------|----------|--|----------|---------------------------------|----------------------------------|--|-------------|--------------|-------------------|
| ID | RIM ELEVATION | AS-BUILT | INV IN (FROM) | AS-BUILT | INV OUT (TO) | AS-BUILT | TYPE | NORTHING | EASTING | PUBLIC PRIVATE |
| EX I-10 | 106.54 | | 97.99 (48" RCP CL IV @ 2.47%) M-10 | | 97.53 (EX 45" RCP) EX. S-7 | | EXISTING INLET | 566688.1857 | 1422978.6943 | PUBLIC |
| EX. I-12 | 132.64 | | 122.39 (48" RCP CL IV @ 1.25%) EX. I-13 | | 122.29 (48" RCP CL IV) M-14 | | EXISTING 72" MH | 566078.6750 | 1422414.3667 | PUBLIC |
| EX. I-13 | 132.47 | | 126.76 (EX 48" RCP) EX. OS | | 126.69 (48" RCP CL IV) EX. I-12 | | EXISTING INLET | 565865.0069 | 1422144.6490 | PUBLIC |
| I-20 | 121.50 | | MICROBIORETENTION #3 | | 111.65 (15" HDPE) M-10 | | 24" NYLOPLAST DRAIN BASIN - DOME GRATE | 566537.6844 | 1422799.8099 | PUBLIC |
| I-30 | 120.00 | | MICROBIORETENTION #4 | | 112.74 (15" HDPE) M-11 | | 24" NYLOPLAST DRAIN BASIN - DOME GRATE | 566567.9693 | 1422760.7562 | PUBLIC |
| I-40 | 127.50 | | MICROBIORETENTION #6 | | 121.74 (15" HDPE) M-13 | | 24" NYLOPLAST DRAIN BASIN - DOME GRATE | 566341.3922 | 1422516.8572 | PUBLIC |
| I-50 | 135.06 | | 128.91 (15" HDPE @ 0.50%) I-51 | | 128.66 (15" HDPE) M-13 | | TYPE S INLET (D-40) | 566256.3931 | 1422395.5691 | PUBLIC |
| I-51 | 134.58 | | 130.22 (15" HDPE @ 0.50%) I-52 | | 129.97 (15" HDPE) I-50 | | TYPE S INLET (D-40) | 566133.8957 | 1422221.7201 | PUBLIC |
| I-52 | 134.93 | | 131.01 (15" HDPE @ 0.50%) I-53 | | 130.76 (15" HDPE) I-51 | | TYPE S INLET (D-40) | 566029.3011 | 1422194.3739 | PUBLIC |
| I-53 | 134.93 | | GRADE - MULTIPURPOSE FIELD | | 131.65 (15" HDPE) I-52 | | TYPE S INLET (D-40) | 565925.0757 | 1422267.8131 | PUBLIC |
| I-60 | 134.58 | | 127.88 (18" HDPE @ 1.00%) I-61 | | 127.63 (18" HDPE) M-14 | | TYPE S INLET (D-40) | 566052.0308 | 1422569.0834 | PUBLIC |
| I-61 | 134.58 | | GRADE - MULTIPURPOSE FIELD | | 130.25 (18" HDPE) I-60 | | TYPE S INLET (D-40) | 565915.6355 | 1422375.5104 | PUBLIC |
| I-71 | 123.32 | | GRADE - PARKING LOT | | MICROBIORETENTION #3 | | TYPE A-1 INLET (D-23) MODIFIED FOR PASS THRU OUTLET | 566511.4616 | 1422727.3612 | PUBLIC |
| I-81 | 121.12 | | GRADE - PARKING LOT | | MICROBIORETENTION #4 | | TYPE A-1 INLET (D-23) MODIFIED FOR PASS THRU OUTLET | 566573.8706 | 1422703.1210 | PUBLIC |
| I-91 | 128.00 | | MICROBIORETENTION #2 | | 122.35 (15" HDPE) M-91 | | 24" NYLOPLAST DRAIN BASIN - DOME GRATE | 566283.2932 | 1423009.3885 | PUBLIC |
| I-93 | 123.50 | | MICROBIORETENTION #7 | | 118.12 (15" HDPE) M-92 | 24" NYLOPLAST DRAIN BASIN - DOME | | 566313.1480 | 1422795.4386 | PUBLIC |
| I-95 | 128.00 | | MICROBIORETENTION #1 | | 122.24 (15" HDPE) M-94 | | 24" NYLOPLAST DRAIN BASIN - DOME GRATE | 566210.9701 | 1422769.8194 | PUBLIC |
| I-96 | 127.57 | | 121.87 (15" HDPE @ 1.00%) M-97 | | 121.68 (15" HDPE) M-94 | | TYPE S INLET (D-40) | 566195.6023 | 1422688.8414 | PUBLIC |
| I-98 | 127.28 | | GRADE | | 123.30 (15" HDPE) M-97 | | TYPE S INLET (D-40) | 566288.3669 | 1422586.3379 | PUBLIC |
| I-99 | 123.00 | | MICROBIORETENTION #5 | | 117.53 (15" HDPE) M-90 | | 24" NYLOPLAST DRAIN BASIN - DOME GRATE | 566385.5936 | 1422911.0310 | PUBLIC |
| I-100 | 128.80 | | 121.79 (15" HDPE @ 0.87%) I-101 | | 121.54 (18" HDPE) M-94 | | TYPE S INLET (D-40) | 566169.3613 | 1422813.2331 | PUBLIC |
| I-101 | 128.83 | | GRADE | | 122.85 (15" HDPE) I-100 | | TYPE S INLET (D-40) | 566127.3028 | 1422927.3318 | PUBLIC |
| M-10 | 113.90 | | 102.89 (48" RCP CL IV @ 2.40%) M-11 104.78 (24" HDPE @ 7.00%) M-90 105.53 (15" HDPE @ 12.91%) I-20 | | 102.78 (48" RCP CL IV) EX I-10 | | 72" TYPE C MANHOLE (D-14) WITH OPEN GRATE TOP | 566545.7044 | 1422846.5678 | PUBLIC |
| M-11 | 113.91 | | 104.19 (48" RCP CL IV @ 2.30%) M-11A 108.50 (15" HDPE @ 8.35%) I-30 | | 103.94 (48" RCP CL IV) M-10 | | 72" TYPE C MANHOLE (D-14) | 566571.9184 | 1422811.3975 | PUBLIC |
| M-11A | 123.73 | | 107.04 (48" RCP CL IV @ 2.30%) M-12 | | 106.79 (48" RCP CL IV) M-11 | | 72" TYPE C MANHOLE (D-14) | 566524.0580 | 1422709.0737 | PUBLIC |
| M-12 | 128.60 | | 111.73 (48" RCP CL IV @ 2.30%) M-13 | | 111.48 (48" RCP CL IV) M-11A | | 72" TYPE C MANHOLE (D-14) WITH OPEN GRATE TOP | 566442.4052 | 1422534.1049 | PUBLIC |
| M-13 | 130.50 | | 114.30 (48" RCP CL IV @ 2.20%) M-14 116.80 (15" HDPE @ 8.46%) I-50 116.80 (15" HDPE @ 33.54%) I-40 | | 114.05 (48" RCP CL IV) M-12 | | 72" TYPE C MANHOLE (D-14) WITH OPEN GRATE TOP | 566346.4660 | 1422503.0293 | PUBLIC |
| M-14 | 136.00 | | 117.42 (48" RCP CL IV @ 2.45%) EX. I-12 119.67 (18" HDPE @ 4.59%) I-60 | | 117.17 (48" RCP CL IV) M-13 | | 72" TYPE C MANHOLE (D-14) | 566224.4710 | 1422549.2122 | PUBLIC |
| M-90 | 124.00 | | 117.77 (15" HDPE @ 2.86%) M-91 117.02 (24" HDPE @ 0.54%) M-92 117.02 (15" HDPE @ 4.04%) I-99 | | 116.77 (24" HDPE) M-10 | | 60" TYPE C MANHOLE (D-14) | 566382.4593 | 1422898.8174 | PUBLIC |
| M-91 | 129.10 | | 122.05 (15" HDPE @ 3.11%) I-91 | | 121.80 (15" HDPE) M-90 | | 48" TYPE A-1 MANHOLE (D-11) | 566284.3608 | 1422999.8432 | PUBLIC |
| M-92 | 125.00 | | 118.15 (18" HDPE @ 2.17%) M-94 117.90 (15" HDPE @ 2.36%) I-93 | | 117.65 (24" HDPE) M-90 | | 48" TYPE A-1 MANHOLE (D-11) WITH OPEN GRATE TOP | 566312.7584 | 1422804.5350 | PUBLIC |
| M-94 | 128.50 | | 120.74 (15" HDPE @ 1.25%) I-96 120.74 (15" HDPE @ 16.81%) I-95 120.49 (18" HDPE @ 1.53%) I-100 | | 120.49 (18" HDPE) M-92 | | 48" TYPE A-1 MANHOLE (D-11) | 566214.0665 | 1422761.4535 | PUBLIC |
| M-97 | 129.00 | | 122.70 (15" HDPE @ 0.50%) I-98 | | 122.45 (15" HDPE) I-96 | | 48" TYPE A-1 MANHOLE (D-11) | 566177.6328 | 1422633.7788 | PUBLIC |

| STORM DRAIN PIPE SCHEDULE | | | | | | | |
|---------------------------|-----------|------|----------|--|--|--|--|
| USE | TYPE | SIZE | LENGTH | | | | |
| STORM DRAIN | HDPE | 15" | 2,203 LF | | | | |
| STORM DRAIN | HDPE | 18" | 592 LF | | | | |
| STORM DRAIN | HDPE | 24" | 290 LF | | | | |
| STORM DRAIN | RCP CL IV | 48" | 775 LF | | | | |
| UNDERDRAIN | PVC | 4" | 440 LF | | | | |
| | | | | | | | |

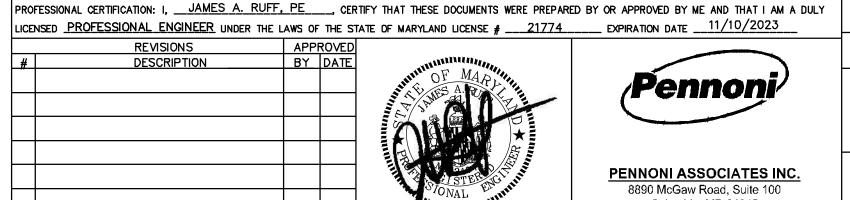
PRIOR TO ANY UTILITY INSTALLATION OF EXCAVATION, ALL UTILITY CROSSINGS SHALL REQUIRE HAND DUG TEST PIT PROCEDURES TO CONFIRM DEPTH AND LOCATION OF ANY EXISTING UTILITIES ON SITE.

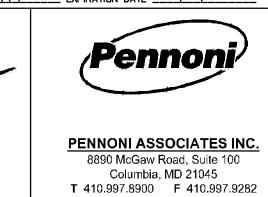
GENERAL NOTES

- 1. ALL MANHOLE, PIPING, AND TENCHING DETAILS ARE IN THE AACO DESIGN STANDARDS LOCATED HERE:
- https://www.aacounty.org/departments/public-works/engineering/design-manual/ 2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FROM THE PRECASTER FOR REVIEW PROIOR TO FABRICATION.
- 3. INLETS I-71 AND I-81 ARE TO SPAN THE ENTIRE WIDTH OF THE PROPOSED WALKWAY

NOTE: PRIOR TO ANY UTILITY INSTALLATION, STORM DRAIN CONSTRUCTION OR EXCAVATION, ALL UTILITY CROSSINGS AND STRUCTURE CONNECTIONS SHALL REQUIRE HAND DUG TEST PIT PROCEDURES TO CONFIRM DEPTH AND LOCATION OF ANY EXISTING UTILITIES ON SITE.

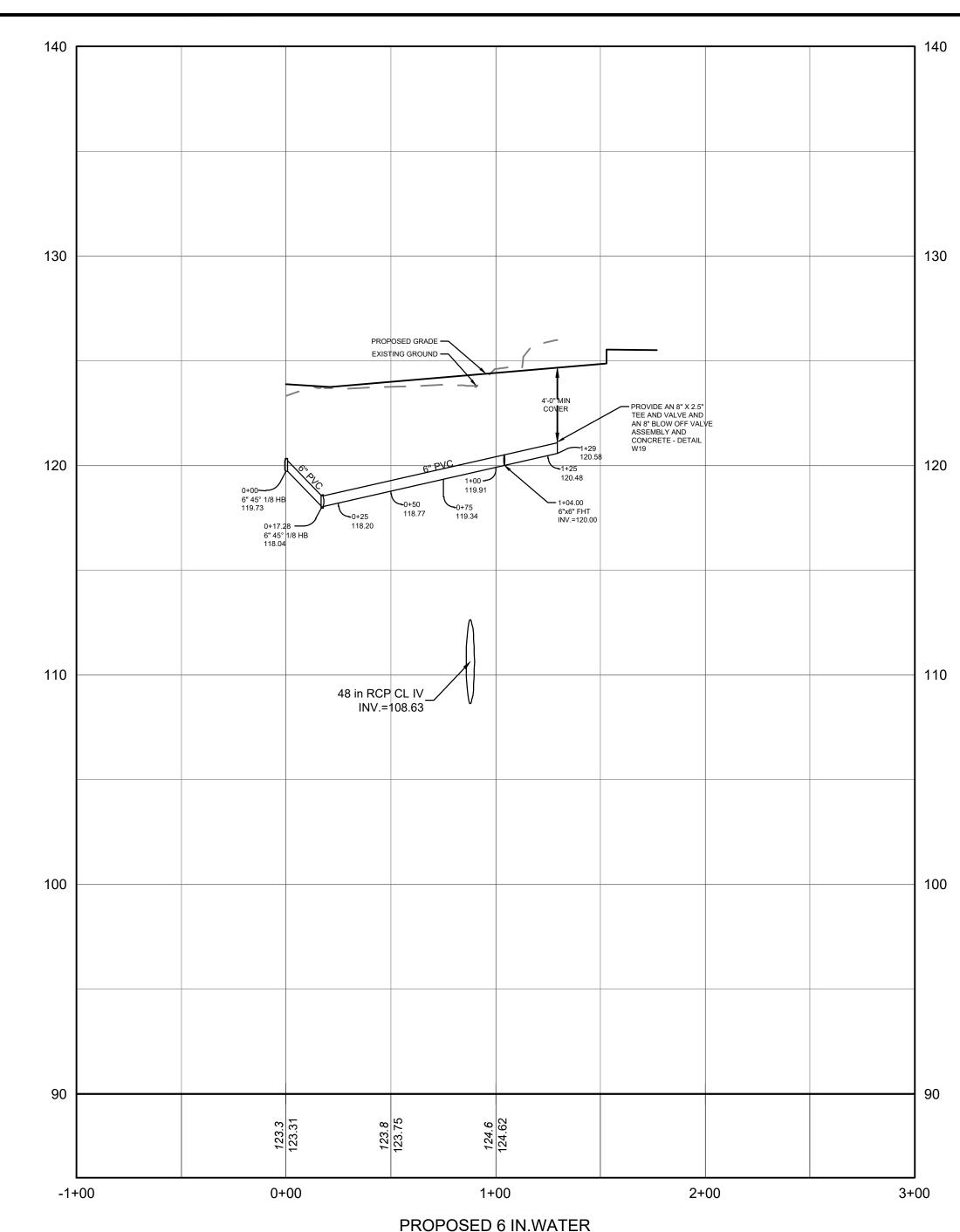
DWGNO: DD37 GP# G20219457







| DULY | | | | | | |
|------|--------------------|---------|--------------------|------------|------------------------------|--|
| | | | DE | PARTMEN | 7 07 PUBLIC WORKS | MAY |
| | APPROVED | DATE | APPROVED | DATE | SCALE: 1" = 40' | |
| | | | | | DRAWN BY: JSN/SVH | STORM DRAIN PROFILES |
| | CHIEF ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS |
| - | APPROVAL | DATE | APPROVED | DATE | SHEET <u>37</u> of <u>51</u> | COMMUNITY CENTER PAR |
| - | | | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #002730 |
| | ASSISTANT CHIEF EN | IGINEER | CHIEF, RIGHT OF WA | Y SERVICES | PROPOSAL #: 579001 | BALTIMORE, MD ZIP CODE 21225 5TH DISTRIC |

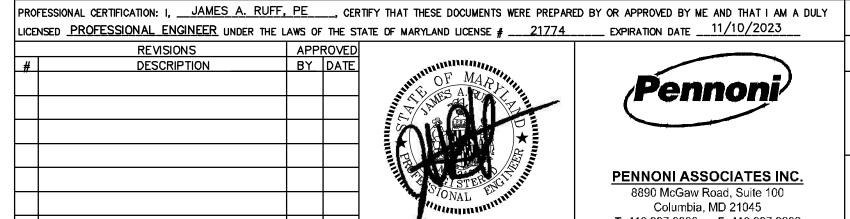


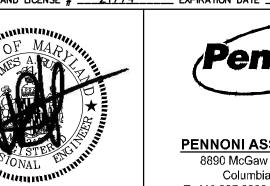
PROPOSED 6 IN.WATER
HORIZONTAL SCALE: 1" = 40' VERTICAL SCALE: 1" = 4'

WATER NOTES

- ALL WATER MAIN SHALL BE INSTALLED IN ACCORDANCE WITH ANNE ARUNDEL COUNTY SPECIFICATIONS AND DETAILS, AND THE CURRENT DPW DESIGN MANUAL.
- 2. ALL WATER PIPE SHALL BE PVC.

NOTE:
PRIOR TO ANY UTILITY INSTALLATION, WATER CONSTRUCTION OR EXCAVATION,
ALL UTILITY CROSSINGS AND STRUCTURE CONNECTIONS SHALL REQUIRE HAND DUG TEST
PIT PROCEDURES TO CONFIRM DEPTH AND LOCATION OF ANY EXISTING UTILITIES ON SITE.





| 11/10/2023 | |
|-------------------|-------|
| | |
| noni ⁾ | APP |
| | CHIEF |
| SOCIATES INC. | APP |
| a MD 21045 | |

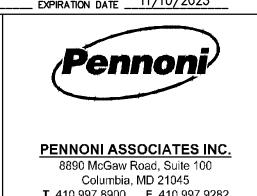
| | I | | - 0 | | |
|--|--------------------|---------|--------------------|------------|---|
| (Pennoni) | APPROVED | DATE | APPROVED | DATE | s |
| | | | | | D |
| | CHIEF ENGINEER | | PROJECT MANAGER | | c |
| PENNONI ASSOCIATES INC. | APPROVAL | DATE | APPROVED | DATE | s |
| 8890 McGaw Road, Suite 100 Columbia, MD 21045 | | | | | Р |
| T 410.997.8900 F 410.997.9282 | ASSISTANT CHIEF EN | IGINEER | CHIEF, RIGHT OF WA | Y SERVICES | Р |

| | | ANNE AR | NADEL COUNTY | |
|---------|---------------------|------------|------------------------------|---|
| | DE | PARTMEN | 7 07 PUBLIC WORKS | MAY 31, 2023 |
| DATE | APPROVED | DATE | SCALE: 1" = 40' | WATER PROFILE |
| | | | DRAWN BY: JSN/SVH | WATER PROFILE |
| | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS |
| DATE | APPROVED | DATE | SHEET <u>38</u> of <u>51</u> | COMMUNITY CENTER PARK |
| | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 |
| IGINEER | CHIEF, RIGHT OF WAY | Y SERVICES | PROPOSAL #: 579001 | BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ANNE ARUNDEL COUNTY, MD |
| | | | U: \Accounts\AACOX\AACOX210(| 2 - Brooklyn Park Teen Center\DESIGN_SHEETS\DESIGN DEVELOPMENT PLANS\AACOX21002-DD38.dwg |

GP# G20219457

DWGNO: DD38

PROFESSIONAL CERTIFICATION: I, _____JAMES A. RUFF, PE____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # ______ EXPIRATION DATE ______ 11/10/2023 REVISIONS DESCRIPTION APPROVED BY DATE



CHIEF E ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES

| PROPOSAL #: 579001

GP# G20219457

10+00

MAY 31, 2023 PARK PLANS #00273010 ANNE ARUNDEL COUNTY, MD

DUGNO: DD39

| SIVIDO | 123 | .00 | 110.55 (6 5 | DIX-33 @ 1.0 | 10 70) SIVII 10 | | 1 18.45 (8 3DIX-35) SIVII 14 |
|--------|------|------|---------------------------------|--------------|-----------------|---|------------------------------|
| SMH6 | 126 | .35 | 119.77 (8" SDR-35 @ 1.03%) I-24 | | | | 119.67 (8" SDR-35) SMH5 |
| | | | | | | _ | |
| WAT | ER/S | SEWE | R PIPE | SCHE | DULE | | |
| USE | | Т | YPE | SIZE | LENGTH | Н | |
| WATE | ER | ı | PVC | 6" | 177 LF | | |
| SEWE | ER | SI | DR-35 | 8" | 900 LF | | |

CONNECT PROPOSED 8"
SEWER TO EX. MH WITH
KOR-N-SEAL

GENERAL NOTES

0+00

- ALL MANHOLE, PIPING, AND TENCHING DETAILS ARE IN THE AACO DESIGN STANDARDS LOCATED HERE: https://www.aacounty.org/departments/public-works/engineering/design-manual/
- 2. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FROM THE PRECASTER FOR REVIEW PROIOR TO FABRICATION.

1+00

NOTE:
PRIOR TO ANY UTILITY INSTALLATION, SEWER CONSTRUCTION OR EXCAVATION,
ALL UTILITY CROSSINGS AND STRUCTURE CONNECTIONS SHALL REQUIRE HAND DUG TEST
PIT PROCEDURES TO CONFIRM DEPTH AND LOCATION OF ANY EXISTING UTILITIES ON SITE.

6+00

Columbia, MD 21045 T 410.997.8900 F 410.997.9282

7+00

| | | | | • | |
|----------------|---------|--------------------|-------------|----------------------|--|
| PROVED | DATE | APPROVED | DATE | SCALE: 1" = 40' | - SEWER PROFILE |
| | | | | DRAWN BY: JSN/SVH | SEWER PROFILE |
| F ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS |
| PROVAL | DATE | APPROVED | DATE | SHEET 39 of 51 | COMMUNITY CENTER P |
| | | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLA TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #0 |
| CTANT CHIEF EN | CINIFED | CHIEF PICHT OF WAY | / CED/I/CEC | — PROPOSAL #: 579001 | BALTIMORE, MD ZIP CODE 21225 5TH D |

| ID | RIM ELEVATION | INV IN (FROM) | AS-BUILT | INV OUT (TO) | AS-BUILT | TYPE | NORTHING-EASTING |
|---------|------------------|---------------------------------|----------|----------------------------|----------|-----------------------|--------------------------|
| EXSMH-2 | 110.21 | 102.66 (8" SDR-35 @ 4.09%) SMH1 | | 102.58 (8" SDR-35) | | 48" MH (EXISTING) | 567216.5918,1422615.7031 |
| I-24 | 120.57 | | | 119.84 (8" SDR-35) SMH6 | | NULL STRUCTURE | 566414.6068,1422600.6473 |
| SMH1 | 119.41 | 113.07 (8" SDR-35 @ 1.00%) SMH2 | | 112.97 (8" SDR-35) EXSMH-2 | | 48" MH (PUBLIC), S-14 | 567000.7801,1422485.8596 |
| SMH2 | 121.13 | 114.10 (8" SDR-35 @ 1.00%) SMH3 | | 114.00 (8" SDR-35) SMH1 | | 48" MH (PUBLIC), S-14 | 566914.6454,1422450.8153 |
| SMH3 | 123.87 | 115.98 (8" SDR-35 @ 1.00%) SMH4 | | 115.88 (8" SDR-35) SMH2 | | 48" MH (PUBLIC), S-14 | 566736.3976,1422454.2692 |
| SMH4 | 128.10 | 117.73 (8" SDR-35 @ 1.00%) SMH5 | | 117.63 (8" SDR-35) SMH3 | | 48" MH (PUBLIC), S-14 | 566581.7942,1422512.7918 |
| SMH5 | 125.80 | 118.55 (8" SDR-35 @ 1.00%) SMH6 | | 118.45 (8" SDR-35) SMH4 | | 48" MH (PUBLIC), S-14 | 566524.7877,1422556.9842 |
| SMH6 | 126.35 | 119.77 (8" SDR-35 @ 1.03%) I-24 | | 119.67 (8" SDR-35) SMH5 | | 48" MH (PUBLIC), S-14 | 566420.8879,1422598.0428 |

2+00

| | SANITARY SEWER STRUCTURE SCHEDULE | | | | | | | |
|---------|-----------------------------------|---------------------------------|----------|----------------------------|----------|-----------------------|--------------------------|--|
| ID | RIM ELEVATION | INV IN (FROM) | AS-BUILT | INV OUT (TO) | AS-BUILT | TYPE | NORTHING-EASTING | |
| EXSMH-2 | 110.21 | 102.66 (8" SDR-35 @ 4.09%) SMH1 | | 102.58 (8" SDR-35) | | 48" MH (EXISTING) | 567216.5918,1422615.7031 | |
| I-24 | 120.57 | | | 119.84 (8" SDR-35) SMH6 | | NULL STRUCTURE | 566414.6068,1422600.6473 | |
| SMH1 | 119.41 | 113.07 (8" SDR-35 @ 1.00%) SMH2 | | 112.97 (8" SDR-35) EXSMH-2 | | 48" MH (PUBLIC), S-14 | 567000.7801,1422485.8596 | |
| SMH2 | 121.13 | 114.10 (8" SDR-35 @ 1.00%) SMH3 | | 114.00 (8" SDR-35) SMH1 | | 48" MH (PUBLIC), S-14 | 566914.6454,1422450.8153 | |
| SMH3 | 123.87 | 115.98 (8" SDR-35 @ 1.00%) SMH4 | | 115.88 (8" SDR-35) SMH2 | | 48" MH (PUBLIC), S-14 | 566736.3976,1422454.2692 | |
| SMH4 | 128.10 | 117.73 (8" SDR-35 @ 1.00%) SMH5 | | 117.63 (8" SDR-35) SMH3 | | 48" MH (PUBLIC), S-14 | 566581.7942,1422512.7918 | |
| SMH5 | 125.80 | 118.55 (8" SDR-35 @ 1.00%) SMH6 | | 118.45 (8" SDR-35) SMH4 | | 48" MH (PUBLIC), S-14 | 566524.7877,1422556.9842 | |

| 5+00 |
|--------------------|
| PROPOSED 8IN SEWER |

4+00

8" SDR-35 @ 1.00%

3+00

EX. 12" RCP — INV. = 122.64 8" SDR-35 @ 1.00% 8" SDR-35 @ 1.00%

PROPOSED 8" SEWER STUB AND CAP FOR FUTURE COMMUNITY CENTER BUILDING

PROPOSED GRADE —

SMH6

8" SDR-35 @ 1.03%

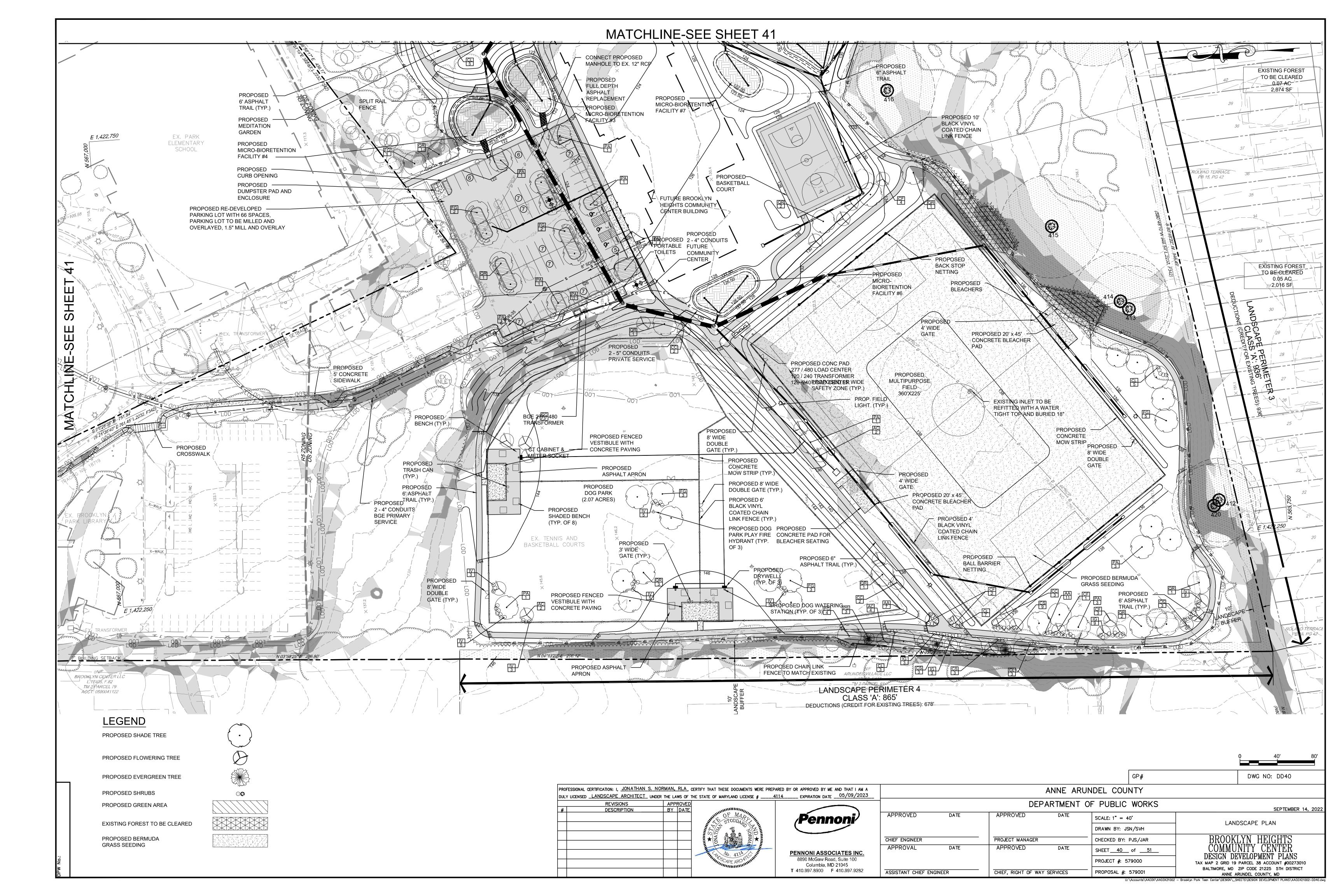
48 in RCP CL IV_ INV.=110.29

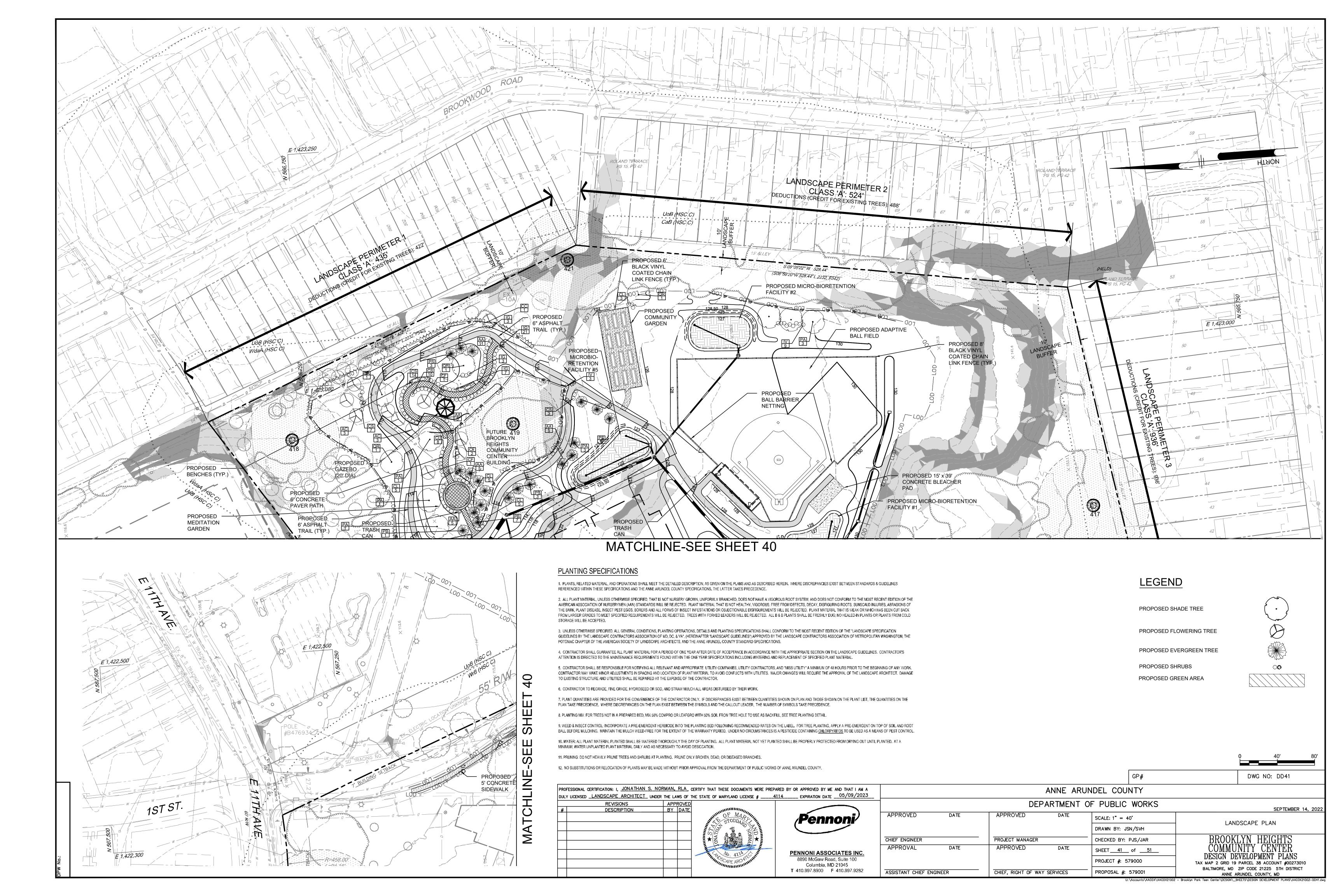
8" SDR-35 @ 1.00% 8" SDR-35 @ 1.00%

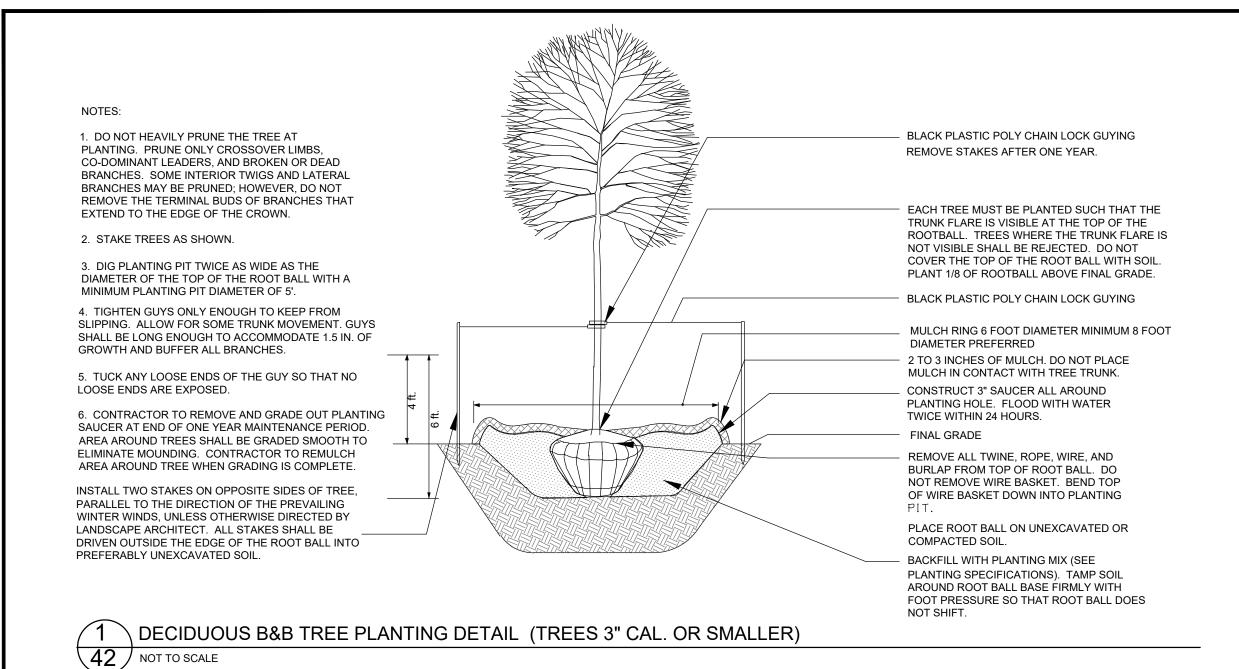
8+00

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

9+00







NOTES: DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL. PLANT 1/8 OF ROOTBALL ABOVE 1. SEE PLANTING SPECIFICATIONS FOR PREPARATION OF PLANTING BED. - 2 TO 3 INCHES OF MULCH. DO NOT PLACE 2. DO NOT HEAVILY PRUNE THE SHRUB AT PLANTING. MULCH IN CONTACT WITH SHRUB TRUNK OR BRANCHES. PRUNE ONLY BROKEN, DAMAGED, OR Diseased BRANCHES. FINAL GRADE 3. DIG PLANTING PIT 12" WIDER THAN THE DIAMETER OF THE TOP OF THE ROOT BALL WITH A MINIMUM PLANTING PIT DIAMETER OF 18". TAMP SOIL AROUND BALL BASE FIRMLY WITH FOOT PRESSURE SO THE ROOT BALL 4. FOR B&B SHRUBS: SCARIFY ROOT BALL TO A DEPTH OF 3/4" ON ALL REMOVE ALL TWINE, ROPE, AND BURLAP FROM TOP OF ROOT BALL. SIDES OR BUTTERFLY CUT CONTAINER PLANTS. 5. ALL CONTAINERS SHALL BE REMOVED PLACE ROOT BALL ON UNEXCAVATED BEFORE INSTALLATION.

2 SHRUB BED PLANTING DETAIL - B&B AND CONTAINER SHRUBS

3 EVERGREEN B&B PLANTING DETAIL

TOTAL NUMBER OF PLANTING UNITS (PU) PROVIDED

42 NOT TO SCALE

42 NOT TO SCALE

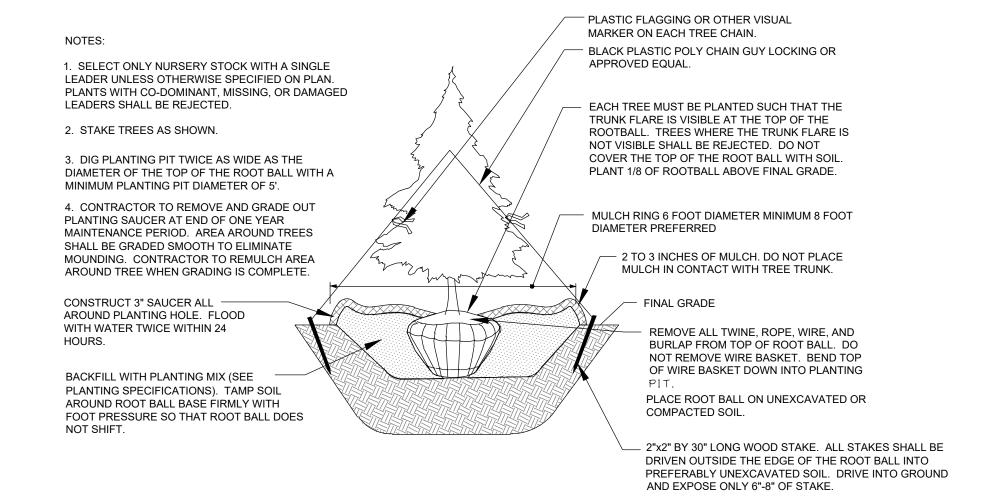


TABLE 2: PERMITER/R.O.W. BUFFER REQUIREMENTS PERIMETER 435 LF.± 524 LF.± 936 LF.± 865 LF.± TOTAL PERIMETER/R.O.W. | DEDUCTIONS (ENTRANCES, CREDIT FOR EXISTING TREES) 422 LF.± 488 LF.± 936 LF.± 678 LF.± 13 LF.± 187 LF.± 36 LF.± 0 LF.± NET TOTAL CLASS REQUIRED (A, B, C, D OR E) A (1 PU/10 LF) A (1 PU/10 LF) A (1 PU/10 LF) A (1 PU/10 LF) NUMBER OF SHADE TREES REQUIRED 2 MAJOR SHADE TREES 4 MAJOR SHADE TREES O MAJOR SHADE TREES 19 MAJOR SHADE TREES AND 6 SHRUBS AND 12 SHRUBS AND 0 SHRUBS AND 57 SHRUBS -0R--0R--0R--0R-4 MINOR DECIDUOUS 8 MINOR DECIDUOUS O MINOR DECIDUOUS 38 MINOR DECIDUOUS TREES AND 10 SHRUBS TREES AND 20 SHRUBS TREES AND 0 SHRUBS TREES AND 95 SHRUBS NUMBER OF EVERGREEN/ORNAMENTAL TREES REQUIRED -0R--0R--0R--0R-6 EVERGREEN TREES 12 EVERGREEN TREES O EVERGREEN TREES 57 EVERGREEN TREES NUMBER OF TREES PROVIDED SHADE TREES FLOWERING TREES EVERGREEN TREES SHRUBS

19

| TABLE 1: | |
|---|-------------------|
| PARKING LOT LANDSCAPE REQUIREMEN | NTS |
| NO. OF PARKING SPACES | 66 SPACES |
| NO. OF ISLANDS REQUIRED (1/12 SPACES) (82 SP/12 = 7) | 6 ISLANDS |
| NO. OF ISLANDS PROVIDED | 8 ISLANDS |
| AREA OF PARKING LOT (INCLUDING DRIVE AISLES) | 25,070 SF± |
| GREEN AREA FACTOR (10%) | x 0.10 |
| GREEN AREA REQUIRED | 2,507 SF± |
| GREEN AREA PROVIDED | 3,808 SF± |
| NUMBER OF PU'S REQUIRED (±2,507 S.F. / 250 S.F.) | 11 PU |
| NUMBER OF TREES PROVIDED SHADE TREES MINOR DECIDUOUS TREES EVERGREEN TREES SHRUBS | 13 0 0 0 |
| TOTAL NUMBER OF PU'S PROVIDED | 13 PU |

PLANTING UNIT:

ONE PLANTING UNIT (PU) EQUALS:

-ONE MAJOR DECIDUOUS SHADE TREE 2-2.5 INCHES IN CALIPER AT INSTALLATION AND 3 SHRUBS OR:

-TWO MINOR DECIDUOUS TREES 1.5-1.75 INCHES IN

-THREE EVERGREEN TREES, 6 FEET IN HEIGHT AT

CALIPER AT INSTALLATION AND 5 SHRUBS OR;

INSTALLATION

| | | PLANT SC | CHEDULE | | |
|-----------|---------|---|-------------|-------|----------------|
| SYMBOL | QTY. | SCIENTIFIC/ COMMON NAME | SIZE | ROOT | REMARKS |
| SHADE TRE | ES | | • | • | |
| FG | 20 | FAGUS GRANDIFOLIA AMERICAN BEECH | 2" CAL | B&B | PLANT AS SHOWN |
| PA | 20 | PLATANUS X ACERFOLIA 'COLUMBIA' COLUMBIA LONDON PLANE TREE | 2.5-3" CAL. | B&B | PLANT AS SHOWN |
| QR | 20 | QUERCUS RUBRA NORTHERN RED OAK | 1 2 " CAI | | |
| FLOWERING | S TREES | | | | |
| AC | 14 | AMELANCHIER CANADENSIS CANADIAN SERVICEBERRY | 2" CAL | B&B | PLANT AS SHOWN |
| СС | 14 | CERCIS CANADENSIS EASTERN REDBUD | 2.5-3" CAL. | B&B | PLANT AS SHOWN |
| CF | 14 | CORNUS FLORIDA FLOWERING DOGWOOD | 2." CAL. | B&B | PLANT AS SHOWN |
| EVERGREE | N TREES | | | | |
| PS | 12 | PINUS STROBUS WHITE PINE | 6'-8' HT. | B&B | PLANT AS SHOWN |
| РВ | 11 | PICEA ABIES NORWAY SPRUCE | 6'-8' HT. | B&B | PLANT AS SHOWN |
| SHRUBS | | | | | |
| AA | 49 | ARONIA ARBUTIFOLIA CHOKECHERRY | 24-30" | CONT. | PLANT AS SHOWN |
| CL | 49 | CLETHRA ALNIFOLIA SWEET PEPPERBUSH | 24-30" | CONT. | PLANT AS SHOWN |
| CS | 49 | CORNUS SERICEA 'FLAVIRAMEA' RED TWIG DOGWOOD | 24-30" | CONT. | PLANT AS SHOWN |
| IG | 49 | ILEX GLABRA INKBERRY HOLLY | 24-30" | CONT. | PLANT AS SHOWN |
| IV** | 49 | ILEX VERTICILLATA WINTERBERRY HOLLY | 24-30" | CONT. | PLANT AS SHOWN |

*CONTRACTOR TO PLANT 1 MALE WINTERBERRY PER EVERY 6 WINTERBERRIES, AND ENSURE THAT 1 MALE WINTERBERRY IS LOCATED IN EVERY GROUPING OF PLANTINGS.

| | | CONSERVATION W | · · · · · · · · · · · · · · · · · · · | | | |
|--|--------------------------------------|---|---------------------------------------|----------------|----------------|------------------------------------|
| iables | Unique Tract 1 | Unique Tract 2 | Unique Tract 3 | Unique Tract 4 | Unique Tract 5 | |
| Information | | | | | | |
| Growth Management Area | Priority Funding Area | Targeted Growth Area | 0 | 0 | 0 | |
| and Use Type | Institutional | Institutional | 0 | 0 | 0 | |
| otal Unique Tract Area | 9.2 | 13.1 | 0.0 | 0.0 | 0.0 | |
| Iniversal Deductions (Critical Area or 100-Yr Floodplain) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| npervious Surface Deductions for Targeted Growth and Priority Funding Areas | 0.8 | 2.7 | 0.0 | 0.0 | 0.0 | |
| xisting Forest Cover within Net Unique Tract Area | 1.2 | 0.8 | 0.0 | 0.0 | 0.0 | |
| roposed Forest Clearing within Net Unique Tract Area | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | Total Net Tract Area |
| et Unique Tract Area = (C)-(D)-(E) | 8.5 | 10.4 | 0.0 | 0.0 | 0.0 | 19 |
| tal Net Tract Area less than or equal to 5 Acres? | No | No | No | No | No | |
| or lookup table | Priority Funding ArealnstitutionalNo | Targeted Growth Area InstitutionalNo | No | No | No | |
| onservation Threshold | 20% | 20% | 0% | 0% | 0% | |
| forestation Threshold | 15% | 15% | 0% | 0% | 0% | |
| st Conservation | | | | | | |
| nservation Threshold Area = (H) X (I) | 1.7 | 2.1 | 0.0 | 0.0 | 0.0 | |
| a of Forest Above Conservation Threshold = (F) - (K) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| akeven Point (Amount of forest that must be retained so that no mitigation is ed.) Area of Forest Above Conservation Threshold (L) is greater than 0, then M = | 1.2 | 0.8 | 0.0 | 0.0 | 0.0 | |
| 33) $X(L)$) + (K). If the Area of Forest Above Conservation Threshold is equal to $nM = (F)$. | | | | | | |
| rest Clearing Permitted without Mitigation = (F) - (M) | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | \dashv |
| pposed Forest Retention = (F) - (G) | 0.0 | 0.7 | 0.0 | 0.0 | 0.0 | - |
| orestation for Retention Above the Threshold posed Forest Clearing (G) is > Area of Forest Above Conservation Threshold (L), P) = (L) X (0.5). If not, then (P) = (G) X (0.5). | | 0.0 | 0.0 | 0.0 | 0.0 | |
| Credit for Retention Above the Threshold roposed Forest Clearing (G) is > Area of Forest Above Conservation Threshold (L), n (R) = 0. If not, then (R) = (L) - (G). | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | |
| eforestation for Retention Below the Threshold roposed Forest Clearing (G) < Area of Forest Above Conservation Threshold (L), n (R) = 0. If not, then (R) = ((G) - (L)) X 2 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | |
| otal Reforestation Required = (P) + (R) - (Q) | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | |
| forestation Threshold Area = (H) X (I) | 1.3 | 1.6 | 0.0 | 0.0 | 0.0 | |
| otal Afforestation Required isting Forestation Threshold Area (T), then $\{U\} = \{T\} \cdot \{F\}$. If | 0.0 | 0.8 | 0.0 | 0.0 | 0.0 | Total Mitigation Required for Site |
| then $(U)=0$. | | | | | | (Acres)* |
| otal Mitigation Required By Tract = (S) + (U) | 0.1 | 1.0 | 0.0 | 0.0 | 0.0 | 1.0 |

NOTE:
THE AMOUNT OF CLEARING FOR THIS PROJECT IS LESS THAN 20,000 SF. THEREFORE, THIS PROJECT IS EXEMPT FROM FOREST CONSERVATION REQUIREMENTS ACCORDING TO ARTICLE 17-6-301(B)(7) OF THE ANNE ARUNDEL COUNTY CODE..

| ANCHOR POSTS SHOULD BE MINIMUM 2" STEEL `U' CHANNEL OR 2" X 2" TIMBER, 6' IN LENGTH | HIGHLY VISIBLE FLAGGING ATTACHED TO TOPS OF ANCHOR POSTS |
|---|---|
| ANCHOR POSTS MUST BE INSTALLED TO A DEPTH OF NO LESS THAN 1/3 OF THE TOTAL HEIGHT OF POST | MINIMUM 36" HEIGHT USE 8" WIRE 'U' TO SECURE FENCE BOTTOM |

1. BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR FOREST PROTECTION DEVICE, ONLY. 2. SUPER SILT FENCE MAY BE SUBSTITUTED FOR TREE PROTECTION

ANNE ARUNDEL COUNTY, MD

3. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS. 4. BOUNDARIES OF RETENTION AREA SHOULD BE STAKED AND FLAGGED PRIOR TO INSTALLING DEVICE. 5. AVOID DAMAGE TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR

SEVER LARGE ROOTS WHEN INSTALLING POSTS. 6. PROTECTION SIGNS ARE REQUIRED, SEE SIGN DETAIL. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

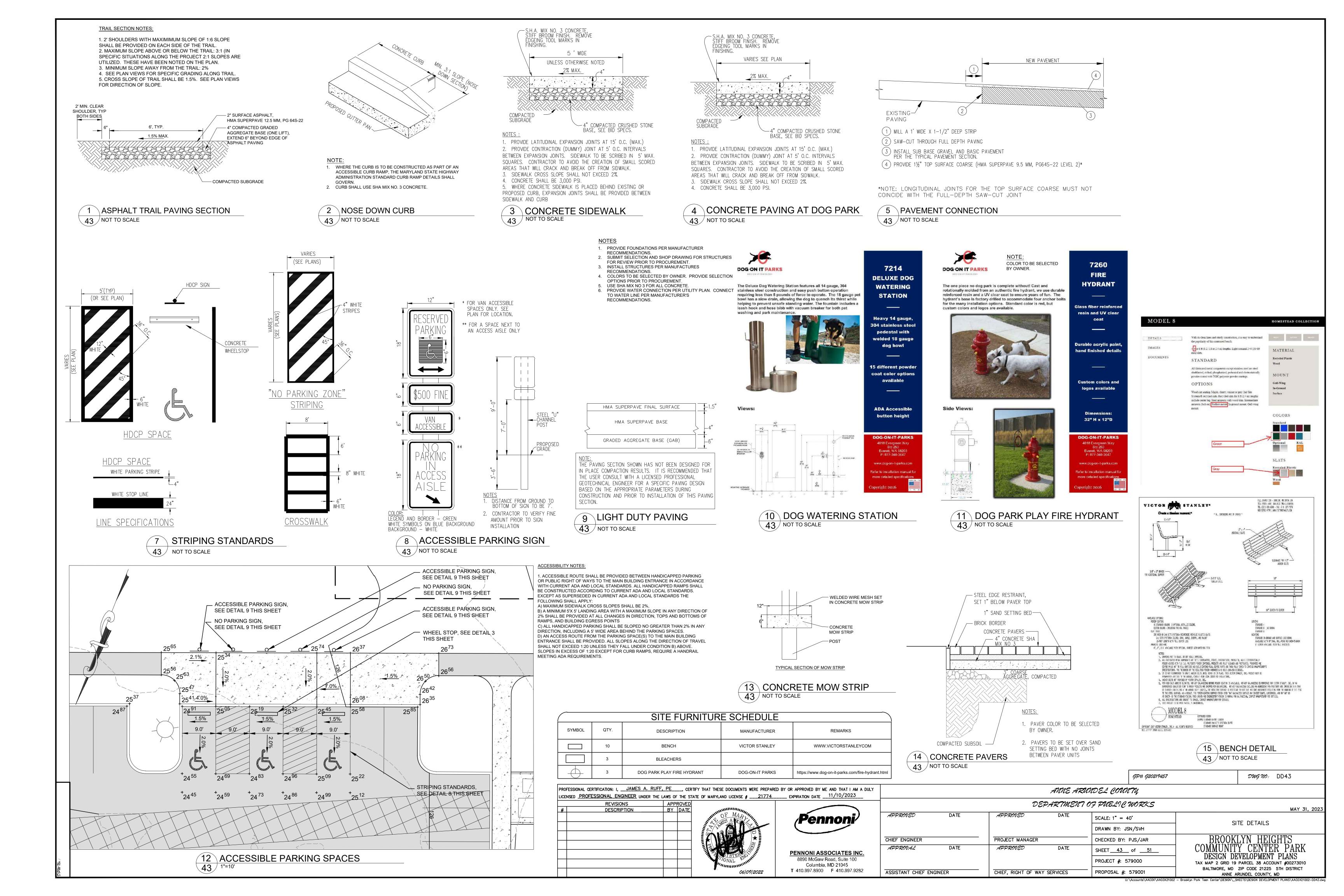
4 TREE PROTECTION FENCING 42 NOT TO SCALE

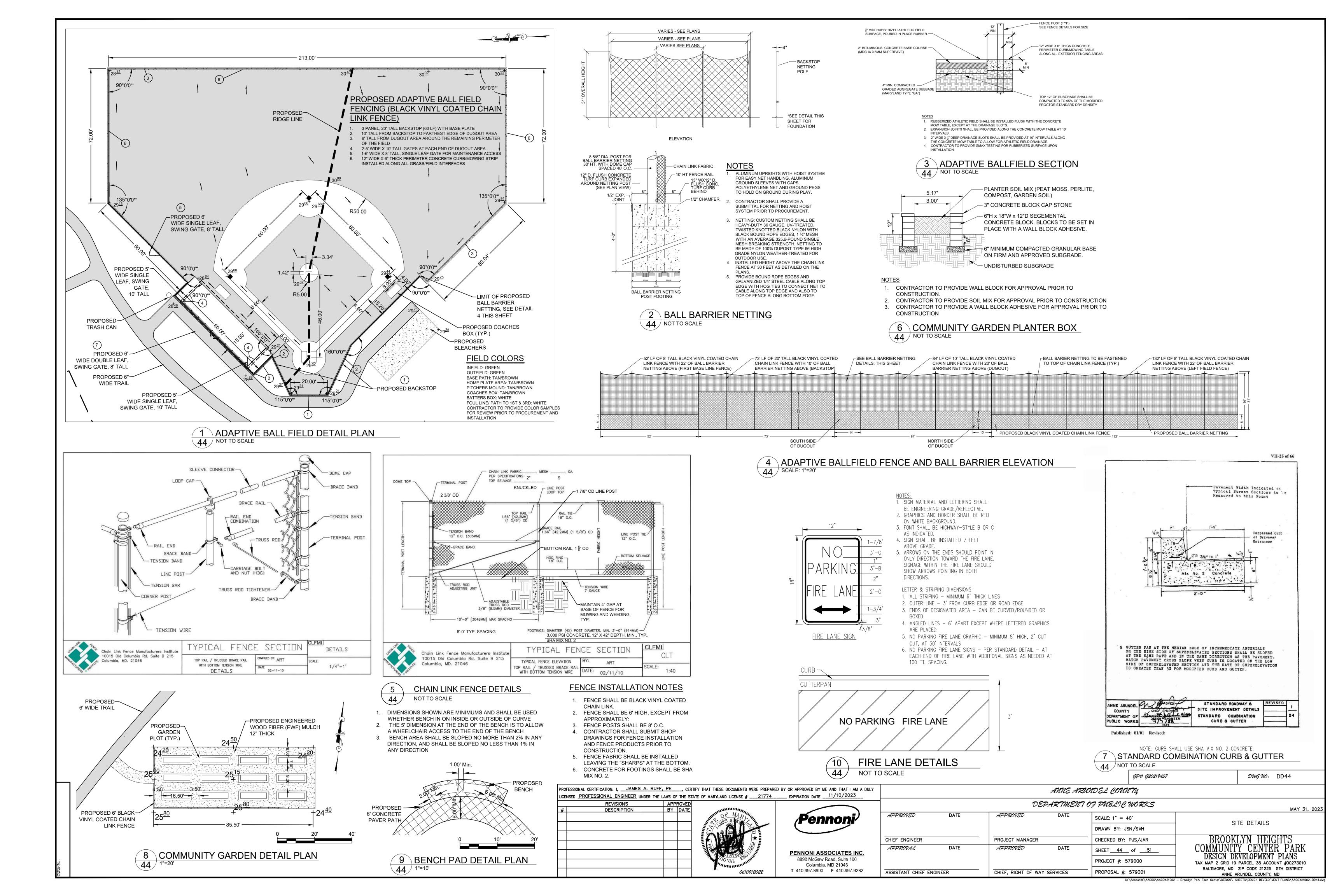
CD#

| | | | | | GP# | | DWG NO: DD42 |
|--|--------------------|--------|---------------------|----------|---------------------|-----------|---|
| PROFESSIONAL CERTIFICATION: I, <u>JONATHAN S. NORMAN, RLA</u> , CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED <u>LANDSCAPE ARCHITECT</u> UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # <u>4114</u> EXPIRATION DATE <u>05/09/2023</u> | | | | ANNE ARU | JNDEL COUNTY | | |
| REVISIONS APPROVED # DESCRIPTION BY DATE | | | DEP | ARTMENT | OF PUBLIC WORKS | | SEPTEMBER 14, 2022 |
| Pennoni) | APPROVED | DATE | APPROVED | DATE | SCALE: 1" = 40' | LANDSCAPE | NOTES AND DETAILS |
| | | | | | DRAWN BY: JSN/SVH | | |
| | CHIEF ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKI | LYN HEIGHTS |
| PENNONI ASSOCIATES INC. | APPROVAL | DATE | APPROVED | DATE | SHEET 42 of 51 | COMMUI | |
| 8890 McGaw Road, Suite 100 Columbia, MD 21045 | | | | | PROJECT #: 579000 | | VELOPMENT PLANS PARCEL 38 ACCOUNT #00273010 |
| T 440 007 0000 F 440 007 0000 | ASSISTANT CHIEF EN | GINEER | CHIEF, RIGHT OF WAY | SERVICES | PROPOSAL #: 579001 | | ZIP CODE 21225 5TH DISTRICT RUNDEL COUNTY, MD |

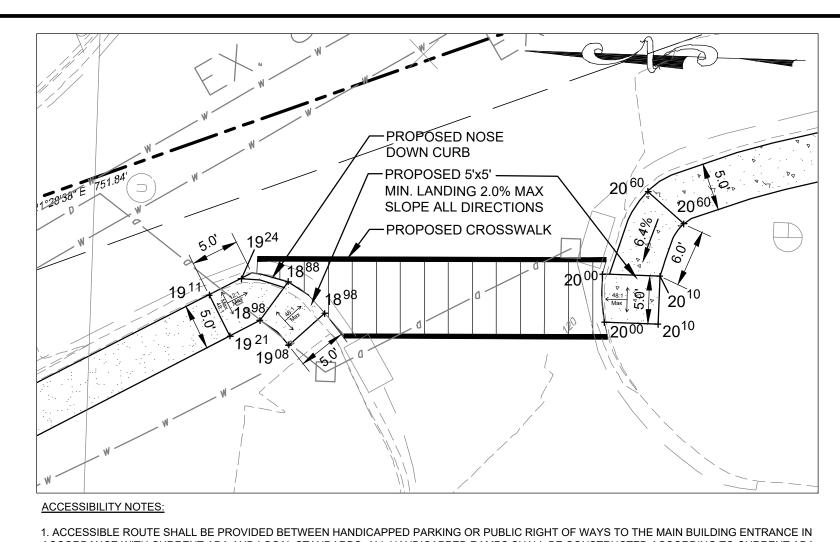
fulfill a conditional approval.

other conditional mitigation such as mitigation to cure a violation of







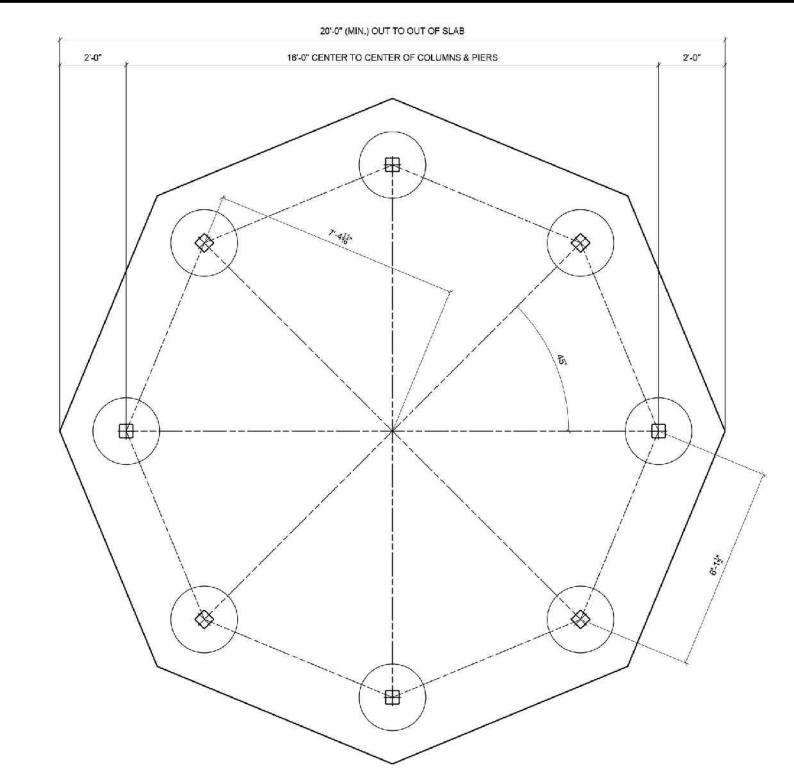


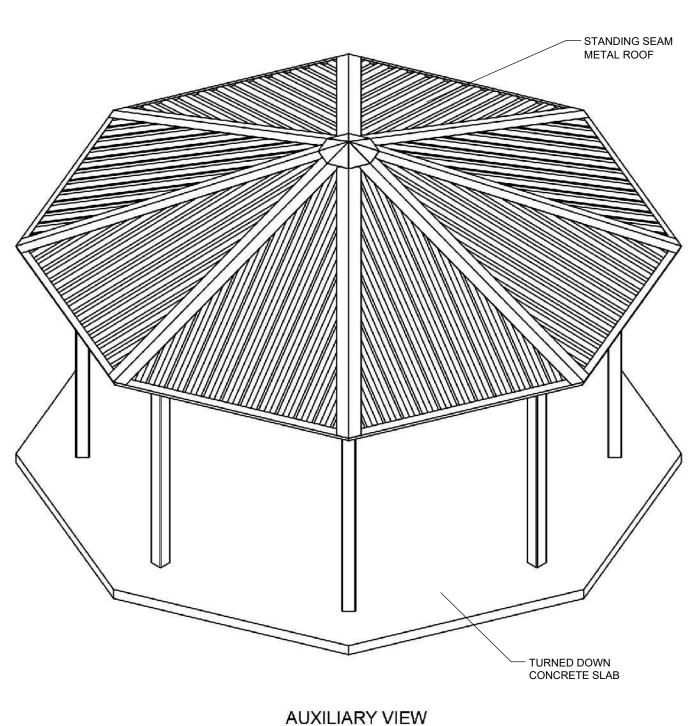
ACCORDANCE WITH CURRENT ADA AND LOCAL STANDARDS. ALL HANDICAPPED RAMPS SHALL BE CONSTRUCTED ACCORDING TO CURRENT ADA AND LOCAL STANDARDS. EXCEPT AS SUPERSEDED IN CURRENT ADA AND LOCAL STANDARDS THE FOLLOWING SHALL APPLY: A) MAXIMUM SIDEWALK CROSS SLOPES SHALL BE 2%, B) A MINIMUM 5'X 5' LANDING AREA WITH A MAXIMUM SLOPE IN ANY DIRECTION OF 2% SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION, TOPS AND BOTTOMS OF RAMPS. AND BUILDING EGRESS POINTS C) ALL HANDICAPPED PARKING SHALL BE SLOPED NO GREATER THAN 2% IN ANY DIRECTION, INCLUDING A 5' WIDE AREA BEHIND THE PARKING

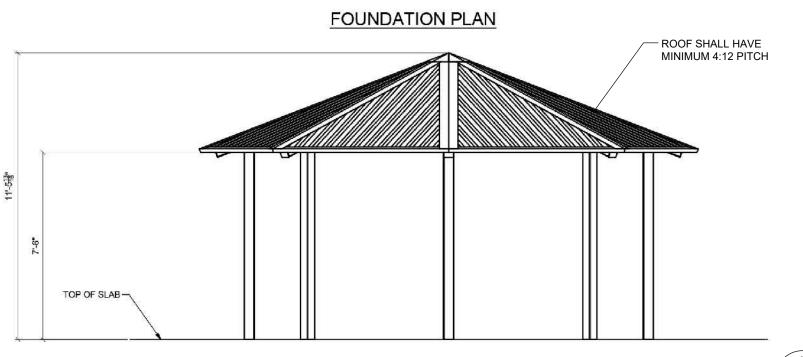
D) AN ACCESS ROUTE FROM THE PARKING SPACE(S) TO THE MAIN BUILDING ENTRANCE SHALL BE PROVIDED. ALL SLOPES ALONG THE DIRECTION OF TRAVEL SHALL NOT EXCEED 1:20 UNLESS THEY FALL UNDER CONDITION B) ABOVE. SLOPES IN EXCESS OF 1:20 EXCEPT FOR CURB RAMPS,

REQUIRE A HANDRAIL MEETING ADA REQUIREMENTS.

2 ADA RAMPS AT LIBRARY ENTRANCE







- 1. PROVIDE A 5" THICK SLAB WITH TURNED DOWN EDGES. SLABE EDGES SHALL ALIGN WITH TURNED DOWN EDGES.
 SLABE EDGES SHALL ALIGN WITH DRIP EDGE OF ROOF.
 SEE DETAILS FOR TURNED DOWN SLAB ON SHEET 51.
 PROVIDE FOUNDATIONS FOR POSTS PER MANUFACTURER
- RECOMMENDATIONS.

 3. SUBMIT SELECTION AND SHOP DRAWING FOR STRUCTURES FOR REVIEW PRIOR TO PROCUREMENT.

 4. INSTALL STRUCTURES PER MANUFACTURER'S
- RECOMMENDATIONS. 5. COLORS TO BE SELECTED BY OWNER. PROVIDE
- SELECTION OPTIONS PRIOR TO PROCUREMENT. 6. USE SHA MIX NO 3 FOR ALL CONCRETE.
- 7. PERMITS FOR STRUCTURES ARE THE RESPONSIBILITY OF THE CONTRACTOR

GP# G20219457

PROPOSAL #: 579001

1 GAZEBO SHADE STRUCTURE 45 NOT TO SCALE





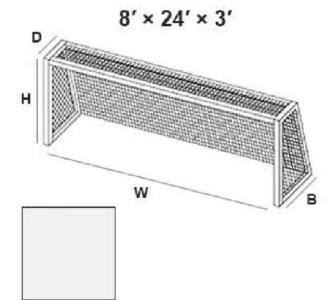
THE PREFABRICATED STRUCTURES ON THIS SHEET SHALL INCLUDE

THAT THEY WILL BE RESPONSIBLE FOR THE BUILDING PERMITS FOR

STAMPED, ENGINEERED DRAWINGS WITH THEIR SUBMITTAL AND

THESE ITEMS.





PEVO 8x24 Soccer Goal Net - PE - 8' x 24' x 3' x 8' - 4mm

This product is Made in the USA

The Pevo Park Series Goal features an all aluminum, powder coated white, 3" round upright, crossbar, ground bar, and 1-3/8" round aluminum backstay. The net is attached in the built in channel using MP Clips. The finished, rounded bottom means this goal can easily be maneuvered around all surfaces without damaging the grass or turf and ensuring safety of the users. The Park Series Goal meets ASTM and

This goal comes in five pieces; two sides, crossbar, ground bar, kit box, and can easily be assembled in 30 minutes.

- Lightweight 3" Round Tubing with Built-in Channel Around the Entire Goal that comes in a Powder Coated White Finish High Strength, Durable, Aerospace Grade Aluminum Corner Castings
- Designed and Tested to meet ASTM Standard F2673-08 and NFSHSA Rules 5 Year Limited Warranty

Model: SGM-8x24P Includes: 8x24 Net, PEVO MP Clips, Ground Anchors

Welght: 187.5 lbs Height: 8' Width: 24' Depth: 3' Base: 8'

Finish: Powder Coated

SOCCER GOAL NOT TO SCALE

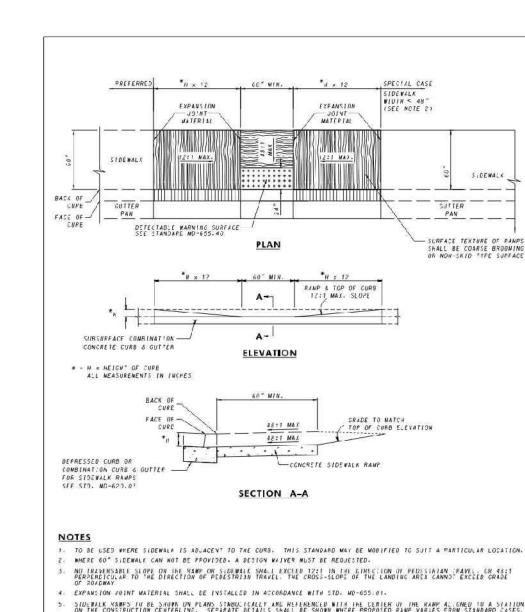
SUBMIT SELECTION AND SHOP DRAWING

FOR STRUCTURES FOR REVIEW PRIOR TO PROCUREMENT. COLORS TO BE SELECTED BY OWNER. PROVIDE SELECTION OPTIONS PRIOR TO

T 410.997.8900 F 410.997.9282

SPECIAL CASE
SIDEMALK WIDTH + BUFFER WIDTH
<(H × 12) - 48" - N = METCHT OF CURB ALL MEASUREMENTS IN INCHES ELEVATION - CONCRETE SIDEWALK RAMP DEPRESSED CURS OF COMBINATION CORE & SEE STO. NO 620.03 SECTION A-A . TO BE USED ON WIGE SIDEWALKS OR SIDEWALKS WITH SIGNIFICANT SEPARATION FROM THE READWAY WHERE THE GEOMETRY SPECIFIED IN THE DETAILS ABOVE CAN BE SATISFIED. MAY BE MODIFIED TO SUIT A PARTICULAR LOCATION. . WHERE 60' SIDEWALK CAN NOT BE PROYICED. A DESIGN WAIVER MUST BE REQUESTED

NO TRAVERSABLE SLOPE ON THE RAMP OR SIDEWALK SHALL EXCEED 12:1 IN THE DIRECTION OF PEDESTRIAN TRAVEL. OR <8:1
PERFENDICULAR TO THE DIRECTION OF PEDESTRIAN TRAVEL. EXPANSION JOINT MATERIAL SHALL BE INSTALLED IN ACCORDANCE WITH STD. NO-555.01. SIDEMALK PAMPS TO BE SKOWN ON PLANS SYMBOLICALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALIGNED TO A STATION ON THE CONSTRUCTION CENTERINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES. TRANSITION FAMELS TO THE INTO EXISTING SIDEWALK MUST BE A MINIMUM OF 5' IN LENGTH. SPECIFICATION CATEGORY CODE ITEMS Maryland Department of Transportation STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES SIDEWALK RAMPS



SIDEWALK KAMPS TO BE SHOWN ON PLANS STRBUCTCALLY AND REFERENCED WITH THE CENTER OF THE RAMP ALTCHED TO A STATION ON THE CONSTRUCTION CENTERLINE. SEPARATE DETAILS SHALL BE SHOWN WHERE PROPOSED RAMP VARIES FROM STANDARD CASES.

| SPECIFICATION 603 & 611 | CATEGORY CODE IT | ENS | Maryland Department of Transportation |
|----------------------------|---|---|---|
| APPROVED | оньстон – оннов он | HIGHWAY DEVELOPMENT | STATE HIGHWAY ADMINISTRATION STANDARDS FOR HIGHWAYS AND INCIDENTAL STRUCTURES |
| <u> </u> | APPROVAL • SHA REVISIONS APPROVAL 2 10 04 | APPROVAL * FETT-RAI HIGHWAY ADMINISTRATION APPROVAL 3 31 04 | SIDEWALK RAMPS PARALLEL |
| | RPVISED 3-25-08 | FFV8FD 4-5-05 | |

Dugno: DD45

BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT

ANNE ARUNDEL COUNTY, MD

| APPROVAL - SHA ZPPROVAL - FFD-RAL SIDEWALK RAMPS | |
|---|---|
| TREVISIONS HIGHWAY AUMINISTRATION | |
| APPROVAL 2 10 04 APPROVAL 3 31 04 PARALLEL | |
| PRINT 3-25-08 FFMFD 4-5-06 | |
| StateHighway FEMBEL 6-2-14 FEMBEL 5-20-14 STANDARD NO. MD 655.1 | • |
| MD 655.1 | Z |

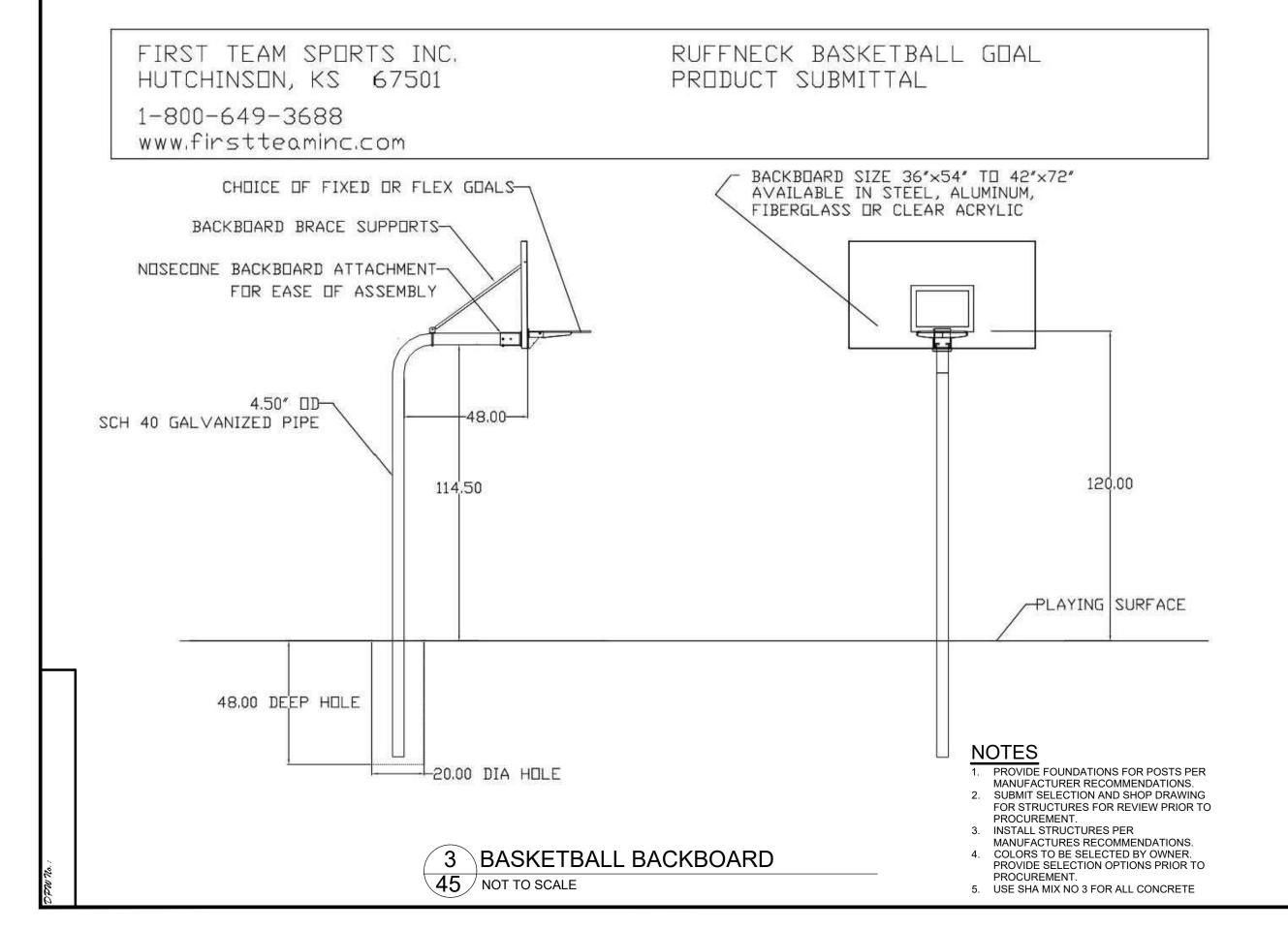
| PROFESSIONAL CERTIFICATION: I,JAMES A. RUFF, PE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVE LICENSED | | | | ANNE AR | UNDEL COUNTY | |
|--|--|------|-----------------|---------|---------------------|--|
| REVISIONS APPROVED # DESCRIPTION BY DATE | | | DEP, | ARTMENT | OF PUBLIC WORKS | MAY 31, 2023 |
| | ennoni APPROVED | DATE | APPROVED | DATE | SCALE: 1" = 40' | SITE DETAILS |
| | | | | | DRAWN BY: JSN/SVH | SITE DETAILS |
| | CHIEF ENGINEER | | PROJECT MANAGER | | CHECKED BY: PJS/JAR | BROOKLYN HEIGHTS |
| | NI ASSOCIATES INC. | DATE | APPROVED | DATE | SHEET 45 of 51 | COMMUNITY CENTER PARK |
| 8890 | McGaw Road, Suite 100 olumbia, MD 21045 | | | | PROJECT #: 579000 | DESIGN DEVELOPMENT PLANS TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 |

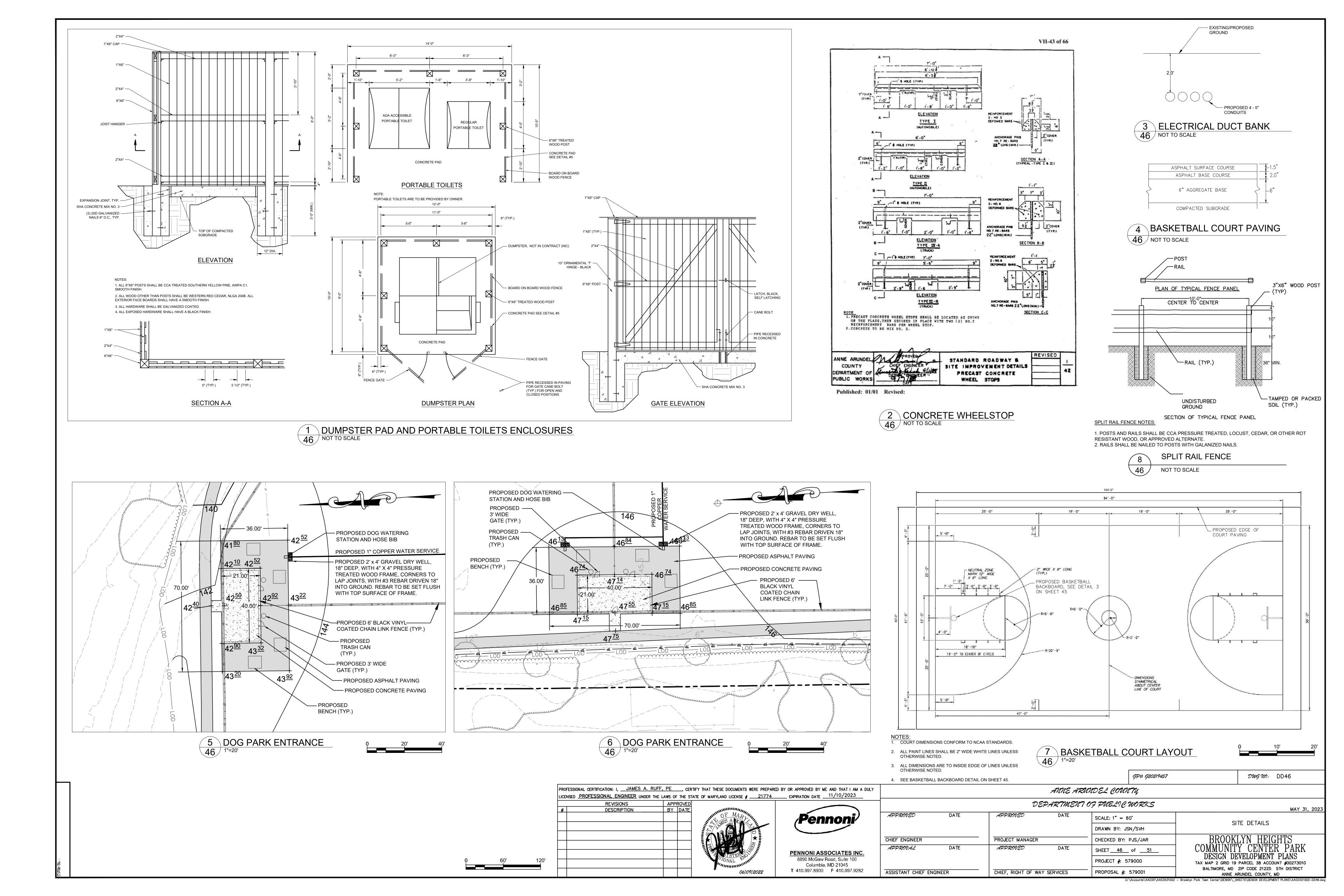
ASSISTANT CHIEF ENGINEER

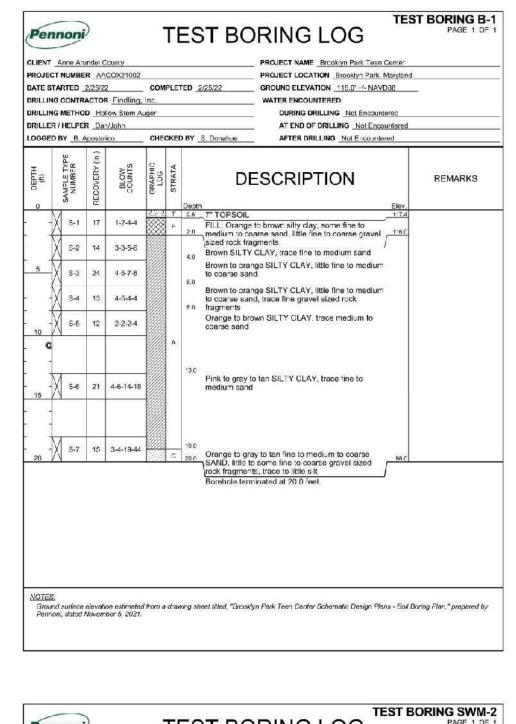
STANDARD NO.

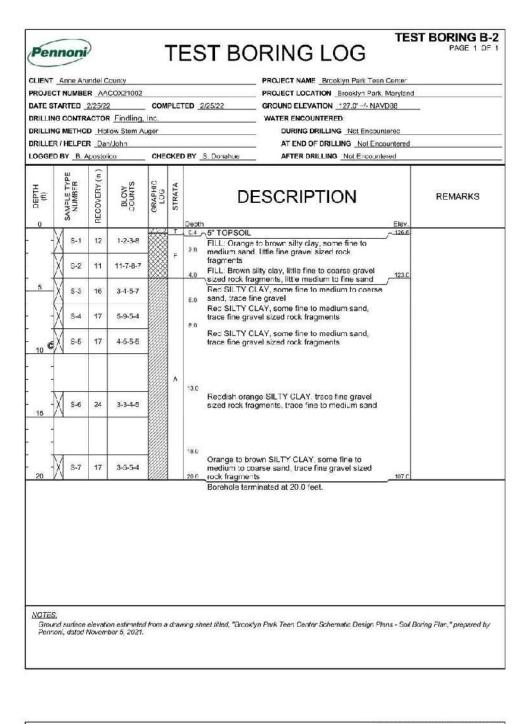
MD 655.11

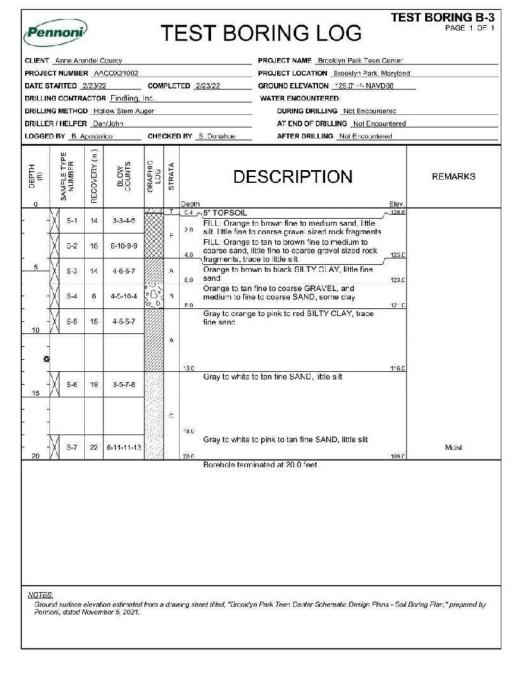
CHIEF, RIGHT OF WAY SERVICES

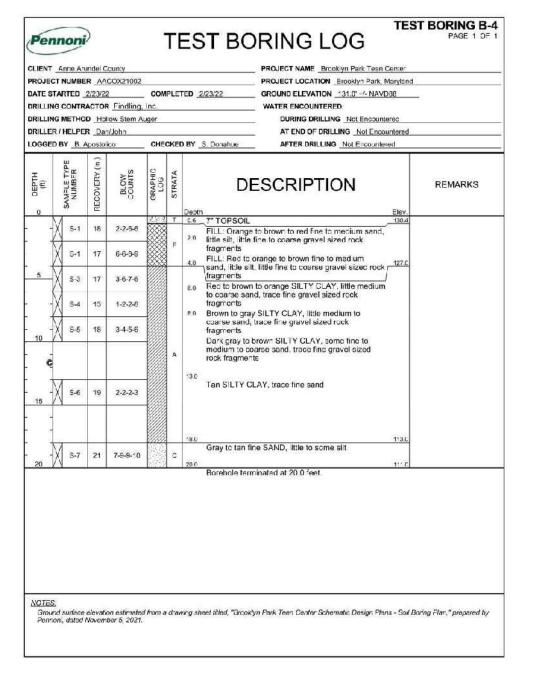


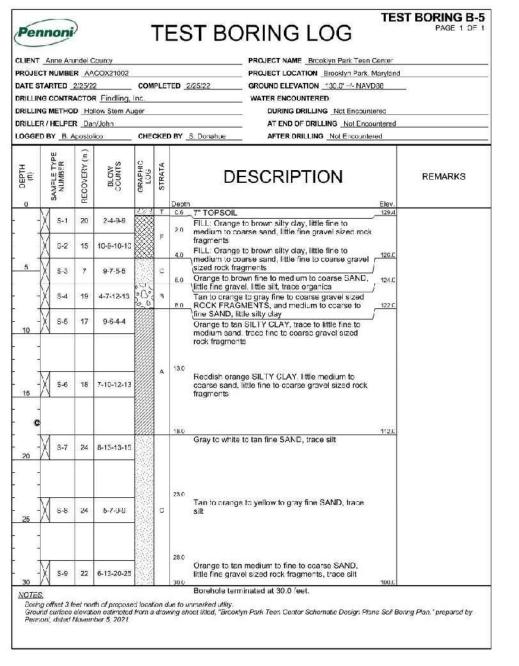


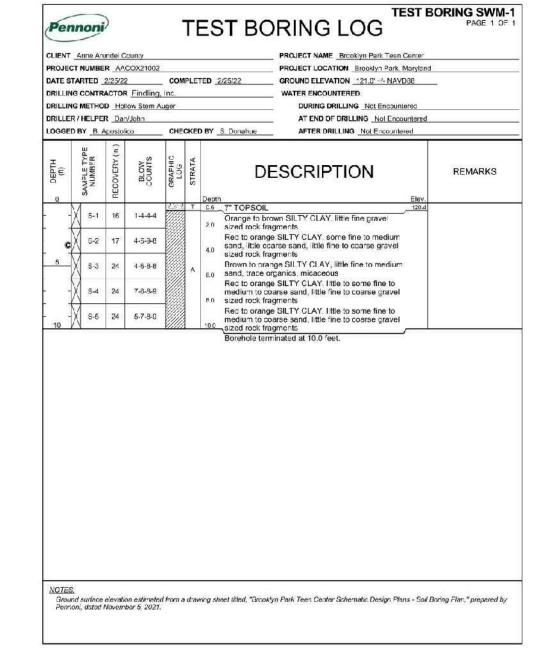




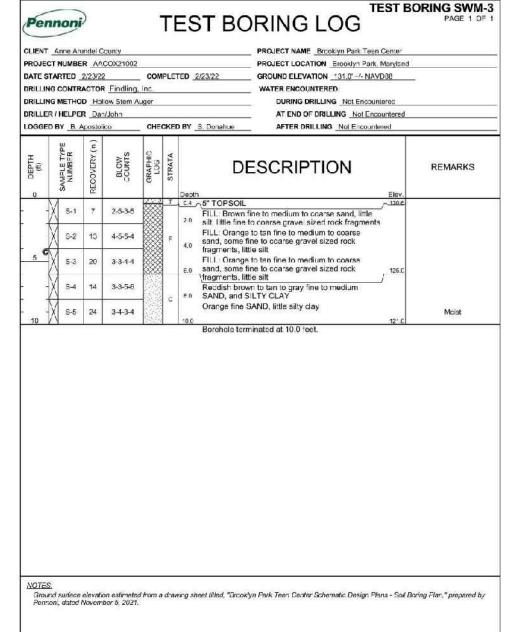


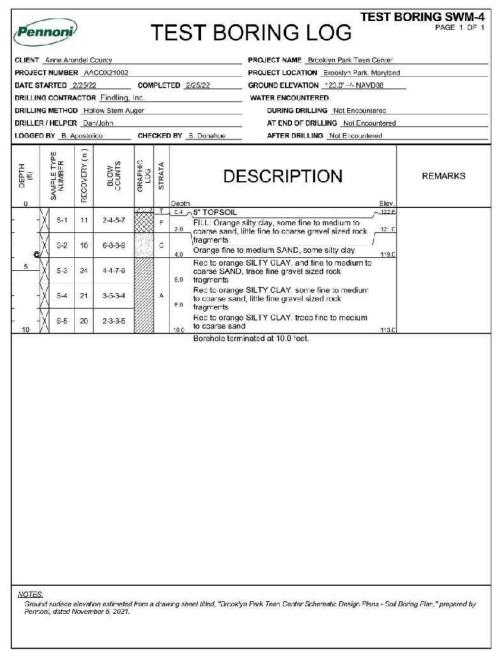


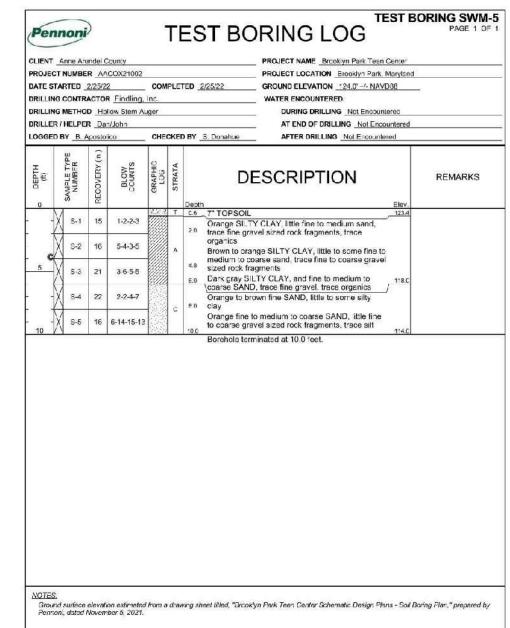


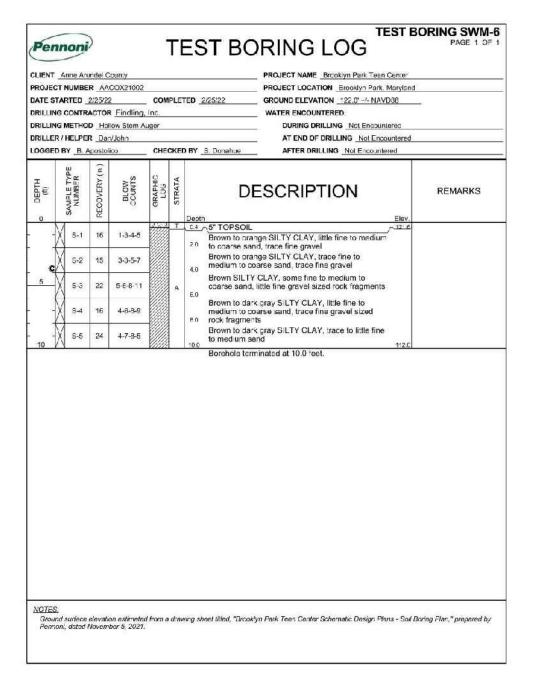


| Penr | oni |) | | • | T | EST BC | RING LOG | BORING SWM-2 PAGE 1 OF 1 | | | |
|--|-----------------------|-------------|-----------|----------------|--------|--------------------------------|---|-----------------------------|--|--|--|
| CLIENT Anne Arundel County PROJECT NUMBER AACOX21002 DATE STARTED 2/23/22 DIRILLING CONTRACTOR Findling, 1 DIRILLING METHOD Hollow Stem Aug | | | | | PLET | FED <u>2/23/22</u> | PROJECT NAME <u>Brooklyn Park Teen Center</u> PROJECT LOCATION <u>Brooklyn Park Marylan</u> GROUND ELEVATION <u>125.0' -/- NAVD36</u> WATER ENCOUNTERED | d | | | |
| RILLER / | HELPER | R Dar | /John | Jger . | | | AT END OF DRILLING Not Encountered AT END OF DRILLING Not Encountered | | | | |
| OGGED E | 276.54 | ~ | ico | CHE | CKED | BY S. Donahue | AFTER DRILLING Not Encountered | | | | |
| OEPTH | SAMPLE TYPE NUMBER | RECOVERY (n | BLOW | GRAPHIC LOG | STRATA | DI | ESCRIPTION | REMARKS | | | |
| -X | S-1 | 17 | 1-3-5-4 | *** | т | C.7 8" TOPSOIL FILL: Orange | to brown silty day, some fine to | | | | |
| | S-2 | 15 | 7-10-9-10 | | F | sized rock fragme | to gray to grange slity clay, some fine | | | | |
| 5 | S-3 | 24 | 4-E-8-10 | | | gravel sized | coarse sand, little fine to coarse rock fragments to orange silty clay, some fine to 123.0 | | | | |
| -X | 3-4 | 24 | 4-5-5-7 | | | medium to be sized rock fra | parse sand, little fine to coarse gravel | | | | |
| 10 | S-5 | 23 | 6-5-7-8 | | A | medium sand Orange SILT | | | | | |
| | | | | | | | | | | | |









| | | | COX21002 | | | | PROJECT LOCATION _Brooklyn Park, Marylan | a |
|--|-----------------------|--------------|---|--|--------|--------------------------------|--|-------------|
| TE STARTED 2/23/22 COM ILLING CONTRACTOR Findling, Inc. | | | | | PLET | TED 2/23/22 | GROUND ELEVATION 129.0'-/- NAVD38 WATER ENCOUNTERED | |
| | | | llow Stem Au | | | | DURING DRILLING Not Encountered | |
| | HELPER | | | ** | | | AT END OF DRILLING Not Encountered | À. |
| 3GED | BY B. A | posto | lico | CHE | CKE | BY S. Donahue | AFTER DRILLING Not Encountered | |
| (g) | SAMPLE TYPE NUMBER | RECOVERY (n) | BLOW | GRAPHIC LOG | STRATA | DE | ESCRIPTION | REMARKS |
| 1 | 1 | 1227 | | ************************************** | T | €3 ∧4" TOPSOIL | <u>∫~128.7</u> | |
| 1 | S-1 | 19 | 2-6-5-7 | | F | | to red to brown silty clay, little to medium to coarse sand, little to some | |
|) | 5-2 | 14 | 6-9-9-10 | | ĮΠ | fine to coarse | gravel sized rock fragments | |
| C | | 111 | 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - 3 - | | | medium to co | to tan to gray slity clay, some fine to arse sand, little fine gravel sized rock | |
| \rightarrow | S-3 | 17 | 6-7-9-11 | | | fragments E.o Gray to orang | e SILTY CLAY, little fine to medium | |
| 1 | 8-4 | 13 | 7 14 45 13 | | A | | d, little fine gravel sized rock | |
| V | 0-4 | 13 | 7-11-15-12 | | * | | v SILTY CLAY, trace fine sand | |
| -\ | S-5 | 22 | 7-11-15-13 | | | fine seno | purple SILTY CLAY, trace to little | |
|) / | Y | Alte- | III/AZIA IWA MEN | SHIA | | 10.0 | ninated at 10.0 feet. | |
| | | | | | | | | |
| | | | | | | | | |

DWGNO: DD47

l:\Accounts\AACOX\AACOX21002 — Brooklyn Park Teen Center\DESIGN_SHEETS\DESIGN DEVELOPMENT PLANS\AACO

MAY 31, 2023

| PROJEC DATE S' DRILLIN DRILLIN | Anne Arun TARTED 21 G CONTRAC G METHOD | 23/22 CTOR Hol | COX21002 Findling | inc. | PLET | PROJECT NAME Brooklyn Park Teen Cen PROJECT LOCATION Brooklyn Park Mary D 2/23/22 GROUND ELEVATION 129.0' -/- NAVD08 WATER ENCOUNTERED DURING DRILLING Not Encountered AT END OF DRILLING Not Encountered | land |
|---|--|----------------------|----------------------|-------------|--------|---|-----------------------------------|
| | BY <u>B. Ac</u> | | | GRAPHIC DIA | STRATA | BY S. Donahue AFTER DRILLING Not Encountered DESCRIPTION | REMARKS |
| 0 | 3 | 분 | | 252 | _ | Death El | 256 |
| e 4 | S-1 | 17 | 1-3-4-7 | | Т | 10 Orange to red to tan SILTY CLAY, trace fine sand | 8.C |
| a | S-2 | 12 | 7-9-11-12 | | | Red to gray to orange to purple SILTY CLAY, trace fine sand 4.0 | Mottling/Discolored Striations |
| 5 | S-3 | 22 | 4-6-9-11 | | А | Gray to pink SILTY CLAY, trace fine sand 6.0 | |
| - | 8-4 | 19 | 5-7-10-10 | | 52741 | Gray to pink SILTY CLAY, some fine sand | |
| 10 | X S-5 | 23 | 5-8-7-10 | | | Gray to pink SILTY CLAY, little fine sand | 9.Cl |
| | | | | | | | |

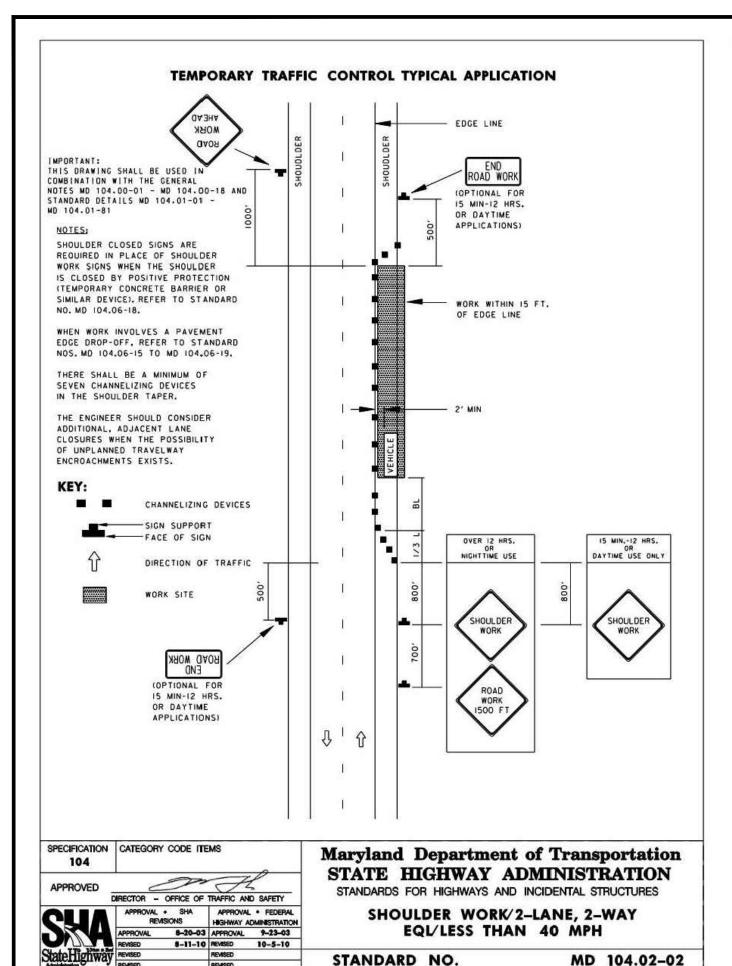
PROFESSIONAL CERTIFICATION: I, ____JAMES A. RUFF, PE____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # _____ 21774 _____ EXPIRATION DATE ____ 11/10/2023 REVISIONS DESCRIPTION BY DATE

PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 Columbia, MD 21045

T 410.997.8900 F 410.997.9282

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS APPROVED APPROVED SCALE: NOT TO SCALE SOIL BORING LOGS DRAWN BY: JSN/SVH PROJECT MANAGER CHIEF ENGINEER CHECKED BY: PJS/JAR APPROVED APPROVAL DATE SHEET <u>47</u> of <u>51</u> PROJECT #: 579000 TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES PROPOSAL #: 579001 ANNE ARUNDEL COUNTY, MD

GP# G20219457



THIS DRAWING SHALL BE USED IN COMBINATION WITH THE GENERAL

STANDARD DETAILS MD 104.01-01 -

THE LANES ON EITHER SIDE OF THE CENTER WORK SPACE SHALL HAVE A MINIMUM WIDTH OF 10 FT AS

MEASURED FROM THE NEAR EDGE OF THE CHANNELIZING DEVICES TO THE EDGE OF PAVEMENT OR THE

THE ENGINEER SHOULD CONSIDER ADDITIONAL, ADJACENT LANE CLOSURES WHEN THE POSSIBILITY

F UNPLANNED TRAVELWAY

OUTSIDE EDGE OF PAVED SHOULDER.

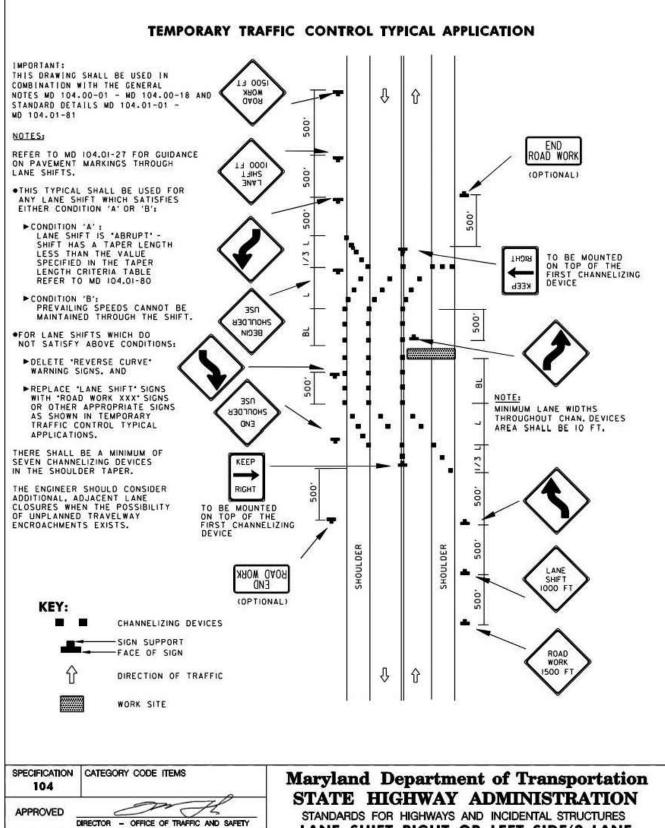
■ CHANNELIZING DEVICES

WORK SITE

DIRECTION OF TRAFFIC

FACE OF SIGN

SPECIFICATION | CATEGORY CODE ITEMS



LANE SHIFT RIGHT OR LEFT SIDE/2-LANE,

2-WAY EQL/LESS THAN 40 MPH/15 MIN -

12 HRS. OR DAYTIME ONLY

MD 104.02-04

STANDARD NO.

ANNE ARUNDEL COUNTY - TRAFFIC ENGINEERING TRAFFIC CONTROL PLAN GENERAL NOTES

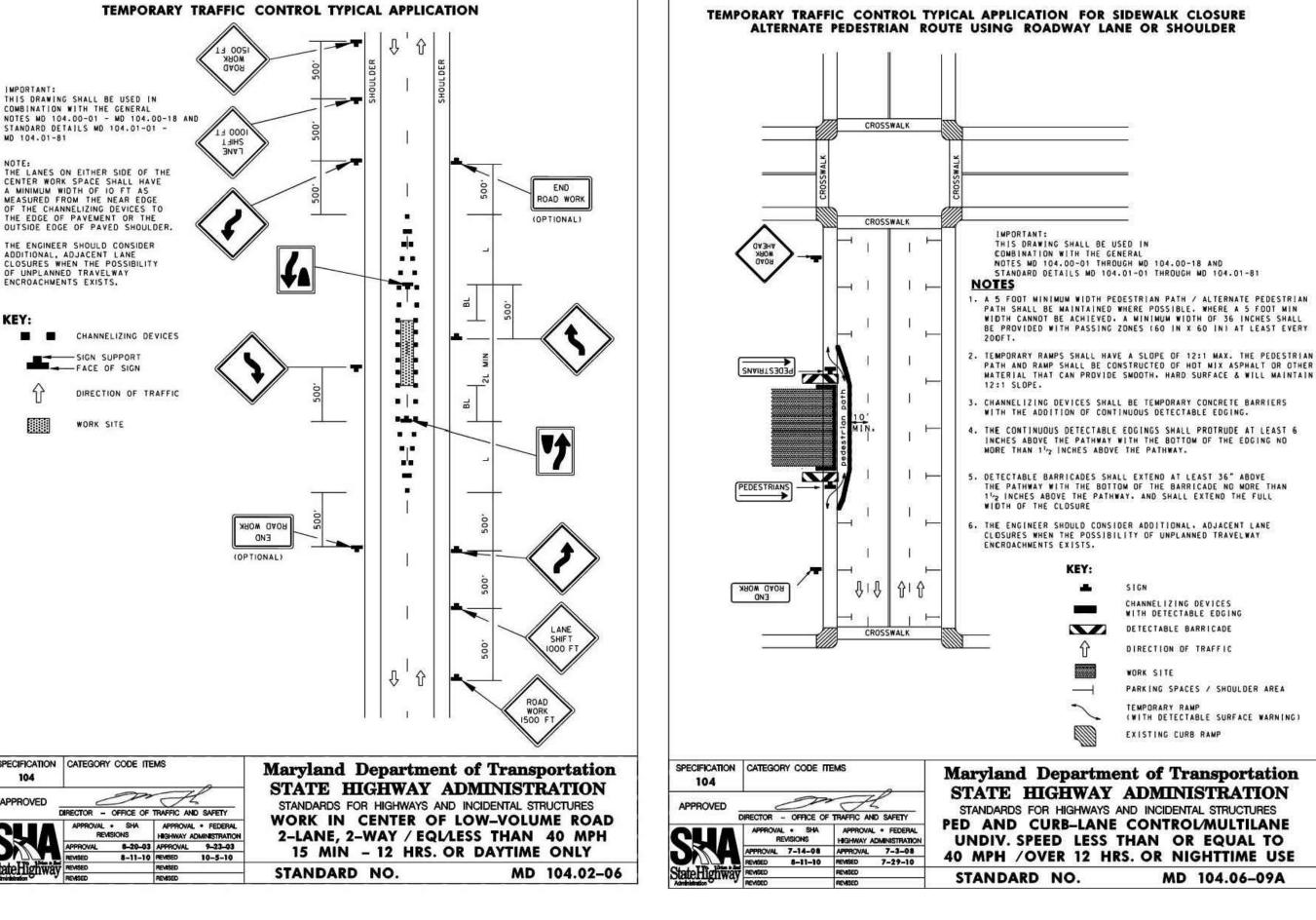
- 1. ANNE ARUNDEL COUNTY SHALL BE NOTIFIED AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING ANY WORK IN ORDER TO SCHEDULE A FIELD INSPECTION OF TRAFFIC CONTROL DEVICES. NOTIFY INSPECTIONS AND PERMITS AT EITHER 410-222-7794 OR 410-222-7542.
- 2. ALL CONSTRUCTION AND MATERIALS FOR THE TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE STANDARDS CONTAINED IN THE LATEST EDITION OF THE STATE OF MARYLAND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.
- 3. NO WORK SHALL BE PERFORMED IN THE ROADWAY FROM 7:00 AM TO 9:00 AM AND 2:00 PM TO 4:00 PM.
- 4. TRAVEL LANES SHALL BE A MINIMUM OF TEN FEET IN WIDTH. WHEN ONLY ONE LANE IS OPEN, FLAGGERS AND THE APPROPRIATE SIGNING SHALL BE PROVIDED. THE ROADWAY SHOULD BE REOPENED TO TWO LANES AT NIGHT.
- 5. REFLECTORIZED TRAFFIC DRUMS SHALL BE USED AS CHANNELIZING DEVICES AT NIGHT ALONG THE CONSTRUCTION AREA.
- 6. IF A DROP-OFF MEASURES GREATER THAN 2". A BARRIER OR 2:1 SLOPE OF COMPACTED CRUSH-RUN GRAVEL WILL BE REQUIRED.
- 7. PAVEMENT DISRUPTIONS OF ONE INCH (1") OR GREATER SHALL BE RAMPED WITH A BEVELED EDGE OF FOUR HORIZONTAL TO ONE VERTICAL (4:1).
- 8. ALL OPEN TRENCHES SHALL BE CLOSED AT THE END OF EACH DAY. IF STEEL PLATES ARE TO BE USED, APPROPRIATE SIGNING WILL BE REQUIRED. STEEL PLATES MUST ADHERE TO DESIGN STANDARDS. STEEL PLATES MUST BE PINNED. STEEL PLATES ON ARTERIAL ROADWAYS MUST BE RECESSED, AS MUST ALL STEEL PLATES TO BE PLACED FOR MORE THAN 24 HOURS BETWEEN DECEMBER AND MARCH. ALL OTHER STEEL PLATES MUST BE RAMPED.
- 9. CONTRACTOR SHALL INSTALL "CAUTION STEEL PLATES AHEAD" SIGNS IN ADVANCE OF STEEL PLATE BRIDGING.
- 10. ALL TEMPORARY SIGNS THAT DO NOT APPLY SHALL BE COVERED OR REMOVED.

- 11. CHANNELIZING DEVICES AND TEMPORARY STRIPING SHALL BE REMOVED AS SOON AS PRACTICAL
- 12. ALL TRAFFIC CONTROL DEVICES SHALL BE KEPT IN THEIR PROPER POSITION AT ALL TIMES, AND SHALL BE REPAIRED, REPLACED, OR CLEANED AS NECESSARY TO PRESERVE THEIR APPEARANCE AND CONTINUITY.
- 13. ACCESS SHALL BE PROVIDED TO ALL EXISTING DRIVEWAYS AT ALL TIMES UNLESS COVERED BY THE APPROVED TRAFFIC CONTROL PLAN.
- 14. ALL CONES AND FLAGMEN SHALL BE MOVED ACCORDINGLY AS CONSTRUCTION PROGRESSES.
- 15. ALL CONSTRUCTION SIGNING SHALL BE IN ACCORDANCE WITH THE TYPICAL SIGN PLACEMENT SHOWN ON THESE PLANS AND SHALL NOT OBSTRUCT **EXISTING TRAFFIC CONTROL DEVICES.**
- 16. ANY CHANGES TO THE TCP SHALL BE SUBMITTED TO THE TRAFFIC ENGINEERING DIVISION FOR REVIEW AND APPROVAL. REQUESTS FOR DETOURS AND ROAD CLOSURES SHALL BE SUBMITTED TO RIGHT OF WAY MANAGEMENT SECTION.
- 17. THE CONTRACTOR MUST CONTACT TRAFFIC ENGINEERING FOR APPROVAL PRIOR TO PLACEMENT OF ANY TEMPORARY PARKING RESTRICTIONS. IF RESTRICTIONS ARE APPROVED, THE CONTRACTOR MUST NOTIFY ALL AFFECTED RESIDENTS AT LEAST 48 HOURS IN ADVANCE AND MUST SUPPLY AND INSTALL ALL NECESSARY SIGNING.
- 18. CONSTRUCTION & WORKER'S VEHICLES SHALL NOT BE PARKED IN A MANNER THAT WILL IMPEDE TRAFFIC OR IMPAIR SIGHT DISTANCE. THESE VEHICLES SHOULD BE PARKED OFF-STREET ON THE CONSTRUCTION SITE OR ON A SIDE STREET NOT UNDER CONSTRUCTION.
- 19. CONTRACTORS SHALL ADHERE TO ANNE ARUNDEL COUNTY'S, DEPARTMENT OF PUBLIC WORKS, DESIGN MANUAL AND STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION, SECTION VLLL - TRAFFIC
- 20. ALL WORK SHALL BE PERFORMED ON DAYS WHEN THE COUNTY'S DEPARTMENT OF PUBLIC WORKS IS OPEN

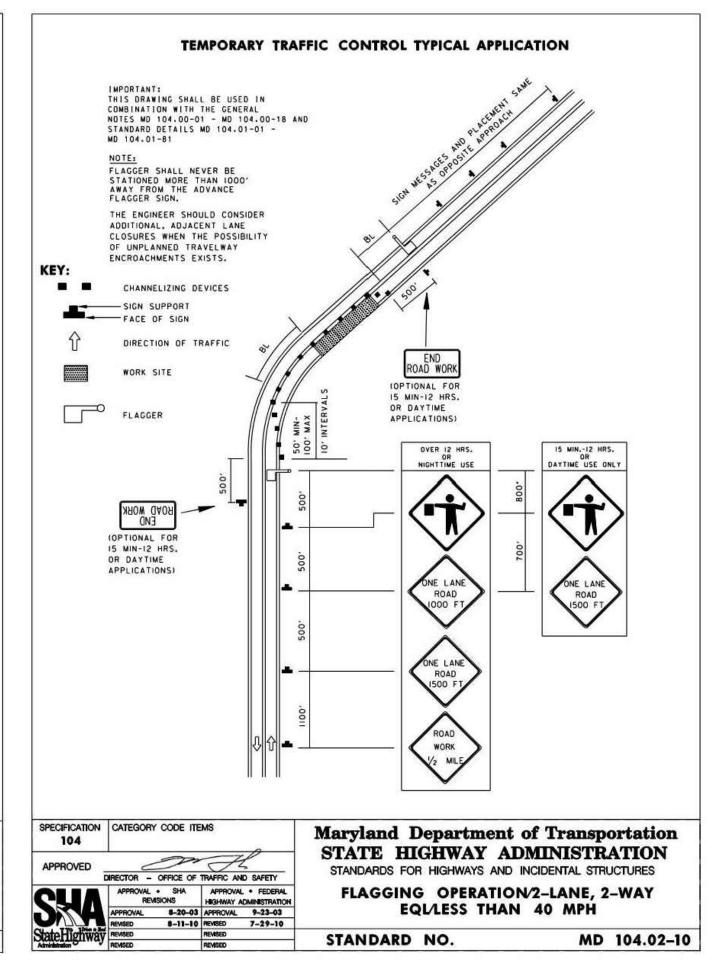
MAINTENANCE OF TRAFFIC SEQUENCE OF **CONSTRUCTION:**

- 1. CHANNELIZING DEVICES AND MAINTENANCE OF TRAFFIC SIGNAGE ARE TO BE INSTALLED PER THE PLAN. TEMPORARY CHANNELIZING DEVICES AND SIGNAGE ARE TO BE PLACED SO THAT TRAFFIC CAN BE SAFELY DIVERTED AROUND THE PROPOSED WORK AREA.
- 2. SIGNAGE SHALL REMAIN COVERED UNTIL ASSOCIATED WORK IS STARTED.
- 3. INSTALL 8" SEWER CONNECTION TO FUTURE BUILDING LOCATION WITHIN PARK AND SCHOOL DRIVEWAY INSTALL NEW SIDEWALK ALONG PARK AND SCHOOL DRIVEWAY INSTALL ELECTRICAL CONDUIT IN PARK AND SCHOOL DRIVEWAY, PERFORM 1' SAW CUT WHERE PAVEMENT REMOVAL IS REQUIRED. EXCAVATE AS NEEDED TO INSTALL UTILITIES AND NEW STRUCTURES.
- 4. BACKFILL UTILITY EXCAVATION, AND INSTALL PAVEMENT PATCH
- MAINTAIN CHANNELIZING DEVICES, AND SIGNAGE UNTIL ALL PHASES OF CONSTRUCTION ARE COMPLETE.

NOTE: NO WORK OR DELIVERIES SHALL BE PERFORMED IN THE SCHOOL DRIVEWAYS DURING DROPOFF AND PICKUP TIMES (7:00 AM TO 9:00 AM AND 2:00 PM to 4:00 PM).



APPROVAL • SHA APPROVAL • FEDERAL



GP# G20219457 Dugno: DD48 PROFESSIONAL CERTIFICATION: I, ____JAMES A. RUFF, PE____, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY ANNE ARUNDEL COUNTY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # ____21774_____ EXPIRATION DATE ___11/10/2023 DEPARTMENT OF PUBLIC WORKS DESCRIPTION BY DATE APPROVED SCALE: AS SHOWN TRAFFIC CONTROL PLAN DRAWN BY: JSN/SVH PROJECT MANAGER CHIEF ENGINEER CHECKED BY: PJS/JAR APPROVAL DATE APPROVED SHEET <u>48</u> of <u>51</u> **PENNONI ASSOCIATES INC.** DESIGN DEVELOPMENT PLANS 8890 McGaw Road, Suite 100 PROJECT #: 579000 TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 Columbia, MD 21045 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT T 410.997.8900 F 410.997.9282 ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES PROPOSAL #: 579001 ANNE ARUNDEL COUNTY, MD

GENERAL STRUCTURAL AND CONSTRUCTION NOTES

I.O <u>GENERAL</u>

- ALL WORK SHALL CONFORM TO THE "2018 INTERNATIONAL BUILDING CODE" AND TO ALL OTHER APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS. ALL SUBCODES REFERENCED IN THE GENERAL NOTES HEREAFTER ARE THE LATEST EDITIONS REQUIRED BY THE REFERENCED GOVERNING CODE.
- 2. ALL CODES AND STANDARDS REFERENCED IN THESE NOTES INCLUDING SPECIFICATIONS REFERENCED WITHIN, AND ALL FEDERAL, STATE, AND LOCAL REGULATIONS APPLY TO THE DESIGN, CONSTRUCTION, DEMOLITION, QUALITY CONTROL, AND SAFETY OF ALL WORK PERFORMED ON THE PROJECT. USE THE LATEST ADOPTED EDITIONS OF THE CODES AND STANDARDS.
- IN CASE OF CONFLICT BETWEEN THE GENERAL NOTES AND DETAILS, THE MOST RIGID REQUIREMENTS SHALL GOVERN.
- 4. WORK NOT INDICATED ON A PART OF THE DRAWINGS BUT REASONABLY IMPLIED TO BE SIMILAR TO THAT SHOWN AT CORRESPONDING PLACES SHALL BE REPEATED AND PROVIDED AT NO ADDITIONAL COST. MINOR DETAILS OR INCIDENTAL ITEMS NOT SHOWN OR SPECIFIED, BUT NECESSARY FOR A PROPER AND COMPLETE INSTALLATION, SHALL BE INCLUDED IN THE WORK.
- JOB SITE SAFETY AND CONSTRUCTION PROCEDURES ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL PROVIDE FOR DEWATERING AS REQUIRED DURING EXCAVATION AND CONSTRUCTION. REFER TO SPECIFICATIONS FOR ADDITIONAL
- THE CONTRACTOR SHALL COORDINATE OPENINGS, SLEEVES, CONCRETE HOUSEKEEPING PADS, INSERTS, AND DEPRESSIONS SHOWN ON THE ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS.
- 8. ALL COSTS OF INVESTIGATION, REDESIGN AND/OR RE-INSTALLATION DUE TO CONTRACTOR IMPROPER INSTALLATION OF STRUCTURAL ELEMENTS OR OTHER ITEMS NOT IN CONFORMANCE WITH THE CONTRACT DOCUMENTS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL VERIFY AND/OR ESTABLISH ALL EXISTING CONDITIONS AND DIMENSIONS AT THE SITE. FAILURE TO NOTIFY ENGINEER OF UNSATISFACTORY CONDITIONS CONSTITUTES ACCEPTANCE OF UNSATISFACTORY CONDITIONS.
- 10. IF THE EXISTING FIELD CONDITIONS DO NOT PERMIT THE INSTALLATION OF THE WORK IN ACCORDANCE WITH THE DETAILS SHOWN, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY AND PROVIDE A SKETCH OF THE CONDITION WITH HIS PROPOSED MODIFICATION OF THE DETAILS GIVEN ON THE CONTRACT DOCUMENTS. DO NOT COMMENCE WORK UNTIL CONDITION IS RESOLVED AND MODIFICATION IS APPROVED BY THE ARCHITECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE TO DETERMINE ALLOWABLE CONSTRUCTION LOADS AND TO PROVIDE DESIGN AND CONSTRUCTION OF FALSEWORK, FORMWORK, STAGINGS, BRACING, SHEETING, AND SHORING, ETC.
- 12. CONTRACTOR TO PROVIDE SHEETING, BRACING, AND UNDERPINNING AS NECESSARY TO PREVENT ANY LATERAL OR VERTICAL MOVEMENTS OF EXISTING BUILDINGS, STREETS, AND ANY EXISTING UTILITY LINES.
- 13. IN NO CASE SHALL HEAVY EQUIPMENT BE PERMITTED CLOSER THAN 8'-0" FROM ANY FOUNDATION WALL. IF IT IS NECESSARY TO OPERATE SUCH EQUIPMENT CLOSER THAN 8'-O" TO THE WALL, THE CONTRACTOR SHALL BE THE SOLE RESPONSIBLE PARTY AND, AT HIS OWN EXPENSE, SHALL PROVIDE ADEQUATE SUPPORTS OR BRACE THE WALL TO WITHSTAND THE ADDITIONAL LOADS SUPERIMPOSED FROM SUCH EQUIPMENT.
- 14. NO BLASTING SHALL BE PERMITTED WITHOUT WRITTEN APPROVAL
- 15. SHOP DRAWINGS FOR ALL STRUCTURAL MATERIALS TO BE SUBMITTED TO ARCHITECT [ENGINEER IF NO ARCHITECT INVOLVED] FOR REVIEW PRIOR TO THE START OF FABRICATION OR COMMENCEMENT OF WORK. REVIEW PERIOD SHALL BE A MINIMUM OF TWO (2) WEEKS.
- 16. REPRODUCTION OF ANY PORTION OF THE STRUCTURAL CONTRACT DRAWINGS FOR RESUBMITTAL AS SHOP DRAWINGS IS PROHIBITED. SHOP DRAWINGS PRODUCED IN SUCH A MANNER WILL BE REJECTED AND RETURNED.
- 17. SHOP DRAWINGS SHALL BEAR THE CONTRACTOR'S STAMP OF APPROVAL WHICH SHALL CONSTITUTE CERTIFICATION THAT THE CONTRACTOR HAS VERIFIED ALL CONSTRUCTION CRITERIA, MATERIALS, AND SIMILAR DATA AND HAS CHECKED EACH DRAWING FOR COMPLETENESS, COORDINATION, AND COMPLIANCE WITH THE CONTRACT DOCUMENTS.
- 18. THE DRAWINGS HAVE BEEN PRODUCED ENTIRELY ON PENNONI CADD SYSTEM. ANY OTHER LETTERING, LINES OR SYMBOLS, OTHER THAN PROFESSIONAL STAMPS AND SIGNATURES, HAVE BEEN MADE WITHOUT THE AUTHORIZATION OF PENNONI ARE
- 19. THE STRUCTURAL DRAWINGS SHALL GOVERN THE WORK FOR ALL STRUCTURAL FEATURES, UNLESS NOTED OTHERWISE. THE ARCHITECTURAL DRAWINGS SHALL GOVERN THE WORK FOR ALL DIMENSIONS.
- 20. INSPECTION IS REQUIRED OF ALL CONSTRUCTION DELINEATED ON THE STRUCTURAL DRAWINGS AND/OR SPECIFICATIONS. THE CONTRACTOR SHALL EMPLOY A TESTING/INSPECTION AGENCY WHICH SHALL PROVIDE PERSONNEL WITH THE FOLLOWING MINIMUM QUALIFICATIONS:
- A. CERTIFIED BY INSTITUTE OF CERTIFIED ENGINEERING TECHNICIANS, OR OTHER RECOGNIZED COMPARABLE ORGANIZATION, AND,
 - FOR INSPECTION, SAMPLING, TESTING CONCRETE AND MASONRY: ACI CERTIFIED CONCRETE FIELD-TESTING TECHNICIAN, GRADE I; AND CONSTRUCTION INSPECTOR, LEVEL II.
- STRUCTURAL STEEL INSPECTION: AWS CERTIFIED WELDING INSPECTOR.
- 21. SUBMIT PERIODIC REPORTS WITHIN ONE BUSINESS DAY AFTER RECEIPT BY THE CONTRACTOR TO ENGINEER AND THE CONSTRUCTION CODE OFFICIAL DURING CONSTRUCTION. SUBMIT FINAL INSPECTION REPORT SUMMARY FOR EACH DIVISION OF WORK, CERTIFIED BY A LICENSED PROFESSIONAL ENGINEER, THAT INSPECTIONS WERE PERFORMED AND THAT WORK WAS PERFORMED IN ACCORDANCE WITH CONTRACT DOCUMENTS.
- 22. THE CONTRACTOR SHALL ENGAGE A TESTING AGENCY TO PROVIDE TESTING SERVICES AS INDICATED IN EACH SECTION OF THESE GENERAL NOTES.
- 23. ALL MATERIALS SHALL BE STORED TO PROTECT THEM FROM EXPOSURE TO THE ELEMENTS.

2.0 EARTHWORK

- ENGINEERED (CONTROLLED COMPACTED) FILL WITHIN THE BUILDING AREA SHALL BE CONSTRUCTED PRIOR TO FOOTING (OR PILE CAP) EXCAVATION. SEE SPECIFICATIONS FOR REQUIREMENTS OF CONTROLLED COMPACTED FILL. 2. EXCAVATION SHALL BE PERFORMED SO AS NOT TO DISTURB EXISTING ADJACENT
- BUILDINGS, STREETS, AND UTILITY LINES. VERIFY LOCATION OF ALL UTILITIES PRIOR TO COMMENCEMENT OF WORK. HAND EXCAVATE AROUND UTILITIES AS REQUIRED. SEE THE SPECIFICATIONS AND GEOTECHNICAL REPORT FOR EXCAYATION, BACKFILL
- AND PREPARATION OF THE FOUNDATION AND SLAB-ON-GRADE SUBGRADE, INCLUDING COMPACTION REQUIREMENTS.

4. SATISFACTORY FILL MATERIALS ARE THOSE COMPLYING WITH ASTM D2487, GROUPS

- GW, GP, GM, SM, SW, AND SP. ON SITE BORROW MATERIAL SHALL BE TESTED TO DETERMINE SUITABILITY FOR USE AS FILL MATERIAL
- 5. COMPACT SOIL TO NOT LESS THAN THE FOLLOWING PERCENTAGES OF MAXIMUM DENSITY OF MODIFIED PROCTOR (ASTM DI557):

UNDER BUILDING FOUNDATIONS - 98%

- UNDER BUILDING SLABS, STEPS, PAVEMENTS 95%
- REMOVE EXISTING VEGETATION, TOPSOIL, AND UNSATISFACTORY SOIL MATERIALS. PROOF ROLL SUBGRADE TO OBTAIN UNIFORMLY DENSIFIED SUBSTRATA PRIOR TO PLACING FILL MATERIAL EVENLY IN 8" THICK (MAXIMUM) LAYERS AND COMPACTING TO REQUIRED DENSITY.
- THE CONTRACTOR SHALL RETAIN THE SERVICES OF A PROFESSIONAL GEOTECHNICAL ENGINEER, SUBJECT TO THE APPROVAL OF THE ARCHITECT, TO PERFORM SOIL TESTING AND INSPECTION. THE ENGINEER SHALL INSPECT THE SUBGRADE TO VERIFY BEARING LEVELS AND ENSURE THAT THE SAFE BEARING CAPACITY MEETS OR EXCEEDS THE DESIGN VALUE INDICATED BELOW. REPORTS SHALL BE SUBMITTED TO THE ARCHITECT OUTLINING THE WORK PERFORMED AND TEST RESULTS.

3.0 FOUNDATIONS

- FOUNDATIONS HAVE BEEN DESIGNED AND FOOTING ELEVATIONS ESTABLISHED ON THE BASIS OF A SUBSURFACE INVESTIGATION REPORT AND RECOMMENDATIONS PREPARED BY PENNONI INC., DATED MARCH 16, 2022. SEE THE REPORT FOR ADDITIONAL REQUIREMENTS. THE REQUIREMENTS CONTAINED IN THE GEOTECHNICAL REPORT ARE PART OF THE CONSTRUCTION DOCUMENTS.
- 2. FOOTINGS SHALL BEAR ON UNDISTURBED STRATUM OR ENGINEERED FILL WITH A MINIMUM BEARING CAPACITY OF 2000 PSF
- PRIOR TO FOOTING CONCRETE PLACEMENT, THE FOOTING SUBGRADE SHALL BE APPROVED BY THE INSPECTING GEOTECHNICAL ENGINEER. IF CONDITIONS PROVE TO BE UNACCEPTABLE AT ELEVATIONS SHOWN, FOOTING BOTTOMS SHALL BE LOWERED TO ACCEPTABLE SUBGRADE MATERIAL. FILL OVER-EXCAVATION WITH LEAN CONCRETE (2,500 PSI).
- THE BOTTOM OF EXTERIOR FOOTINGS SHALL BE A MINIMUM OF THREE (3) FEET BELOW FINISHED GRADE, OR AS REQUIRED BY LOCAL BUILDING CODES.
- SLABS ON GRADE SHALL BEAR ON MECHANICALLY COMPACTED SOIL CAPABLE OF SUPPORTING 150 PSF. DRAINAGE FILL UNDER SLABS SHALL BE COMPACTED GRAVEL OR CRUSHED STONE.
- CONCRETE FOR FOUNDATIONS SHALL BE POURED ON THE SAME DAY THE SUBGRADE IS APPROVED BY THE GEOTECHNICAL ENGINEER.
- UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT THE STRUCTURAL ENGINEER'S APPROVAL.
- 6. THE CONTRACTOR SHALL OBSERVE WATER CONDITIONS AT THE SITE AND TAKE THE NECESSARY PRECAUTIONS TO ENSURE THAT THE FOUNDATION EXCAVATIONS REMAIN DRY DURING CONSTRUCTION. ANY SHEETING OR SHORING REQUIRED FOR DEWATERING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

4.0 CAST-IN-PLACE CONCRETE

- CONCRETE SHALL BE DESIGNED AND DETAILED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI-318), AND CONSTRUCTED IN ACCORDANCE WITH THE CRSI MANUAL OF STANDARD PRACTICE.
- CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE 28-DAY STRENGTH OF 4,000 PSI. AIR ENTRAINMENT 4% TO 6% IN ALL EXPOSED CONCRETE WORK. MAXIMUM WATER/CEMENT RATIO OF 0.45.
- REINFORCING STEEL: ASTM A615 GRADE 60.
- 4. EPOXY COATED REINFORCING STEEL: ASTM A775.
- WELDED WIRE REINFORCEMENT: (WWR) ASTM A-185
- 6. LEVELING GROUT SHALL BE NON-SHRINK, NON-METALLIC TYPE, FACTORY PRE-MIXED GROUT IN ACCORDANCE WITH CE-CRD-C621 OR ASTM C109, WITH A MINIMUM COMPRESSIVE 28-DAY STRENGTH OF 5,000 PSI.
- REINFORCING STEEL CLEAR COVER SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE.

| , I I I I I I I I I I I I I I I I I I I | |
|---|--------|
| REINFORCING STEEL IN CONCRETE CAST AGAINST SOIL | 3" |
| REINFORCING STEEL IN CONCRETE EXPOSED TO SOIL OR WEATHER | |
| #5 BARS AND SMALLER | l I/2" |
| #6 BARS AND LARGER | 2" |
| SLAB AND WALL REINFORCING NOT EXPOSED TO SOIL OR WEATHER | 3/4" |

TOLERANCE FOR CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI IIT

- SUBMIT TO ENGINEER REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL AND MIX DESIGNS FOR REVIEW PRIOR TO PLACING ANY CONCRETE.
- A. REINFORCING STEEL PLACING DRAWINGS SHALL BE PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 314-92, "DETAILS AND DETAILING OF CONCRETE REINFORCING". THE PLACING DRAWINGS SHALL SHOW ALL INFORMATION NECESSARY TO FABRICATE AND PLACE THE REINFORCING 6.0 ROOFING
- B. THE SPACING OF ALL REINFORCING STEEL MUST BE COMPUTED BY THE REINFORCING STEEL DETAILER AND MUST BE INDICATED ON THE PLACING DRAWINGS. EXTENT ARROWS MUST BE USED TO CLEARLY INDICATE THE LOCATIONS WHERE GROUPS OF REINFORCING BARS ARE TO BE INSTALLED.
- C. A LIST OF ALL APPLICABLE REINFORCING STEEL PLACEMENT TOLERANCES SHALL BE INDICATED ON ALL REINFORCING STEEL PLACING DRAWINGS. PLACING DRAWINGS THAT DO NOT SHOW SUFFICIENT INFORMATION NEEDED TO PLACE THE REINFORCING STEEL WILL BE REJECTED.
- 9. ALL REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED. ADDITIONAL BARS, STIRRUPS OR CHAIRS SHALL BE PROVIDED BY THE CONTRACTOR TO FURNISH SUPPORT FOR ALL BARS.
- 10. LAP WELDED WIRE REINFORCEMENT TWO (2) FULL WIRE SPACES AT SPLICES AND WIRE TOGETHER. PLACING OF CONCRETE SHALL NOT START UNTIL THE PLACEMENT OF REINFORCING
- HAS BEEN APPROVED BY THE INSPECTION AGENCY. 12. NO SLEEVE SHALL BE PLACED THROUGH ANY CONCRETE ELEMENT UNLESS SHOWN ON THE APPROVED SHOP DRAWINGS OR SPECIFICALLY AUTHORIZED IN WRITING BY THE STRUCTURAL ENGINEER. THE CONTRACTOR SHALL VERIFY DIMENSIONS AND LOCATIONS OF ALL SLOTS, PIPE SLEEVES, ETC. AS REQUIRED FOR MECHANICAL
- TRADES BEFORE CONCRETE IS PLACED. 13. PRIOR TO CONCRETE PLACEMENT, THE CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER FOR REVIEW, CONCRETE MIX DESIGNS PREPARED IN ACCORDANCE WITH THE SPECIFICATIONS AND REQUIREMENTS INDICATED IN THE
- 14. CONCRETE SHALL NOT BE PUMPED THROUGH ALUMINUM PIPES AND SHALL NOT BE PLACED IN CONTACT WITH ALUMINUM FORMS, MIXING DRUMS, BUGGIES, CHUTES, CONVEYORS OR OTHER EQUIPMENT MADE OF ALUMINUM.
- 15. ALL INSERTS AND SLEEVES SHALL BE CAST-IN-PLACE WHENEVER FEASIBLE. DRILLED OR POWDER DRIVEN FASTENERS WILL BE PERMITTED WHEN PROVEN TO THE SATISFACTION OF THE STRUCTURAL ENGINEER THAT THE FASTENERS WILL NOT SPALL THE CONCRETE AND HAVE THE SAME CAPACITY AS CAST-IN-PLACE INSERTS
- 16. WHEN INSTALLING EXPANSION BOLTS OR ADHESIVE ANCHORS, THE CONTRACTOR SHALL TAKE MEASURES TO AVOID DRILLING OR CUTTING OF ANY EXISTING REINFORCING AND DESTRUCTION OF CONCRETE. HOLES SHALL BE BLOWN CLEAN PRIOR TO PLACING BOLTS OR ADHESIVE ANCHORS.
- 17. CHAMFER ALL EXPOSED CONCRETE CORNERS UNLESS NOTED OTHERWISE ON ARCHITECTURAL DRAWINGS.
- 18. EARLY DRYING OUT OF CONCRETE, ESPECIALLY DURING THE FIRST 24 HOURS, SHALL BE CAREFULLY GUARDED AGAINST. ALL SURFACES SHALL BE MOIST CURED OR PROTECTED USING A MEMBRANE CURING AGENT APPLIED AS SOON AS FORMS ARE REMOVED. IF MEMBRANE CURING AGENT IS USED, EXERCISE CARE NOT TO DAMAGE COATING.
- COLD WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI-306. HOT WEATHER CONCRETING SHALL BE IN ACCORDANCE WITH ACI-305R.
- 20. THROUGHOUT CONSTRUCTION, THE CONCRETE WORK SHALL BE ADEQUATELY PROTECTED AGAINST DAMAGE DUE TO EXCESSIVE LOADING, CONSTRUCTION EQUIPMENT, MATERIALS OR METHODS, ICE, RAIN, SNOW, EXCESSIVE HEAT, AND FREEZING TEMPERATURES.

- 21. PREPARE CONCRETE TEST CYLINDERS FROM EACH DAY'S POUR. CYLINDERS SHALL BE PROPERLY CURED AND STORED. SAMPLE FRESH CONCRETE IN ACCORDANCE WITH ASTM CI72.
- 22. RETAIN LABORATORY TO PROVIDE TESTING SERVICE. SLUMP PER ASTM 143 AIR CONTENT PER ASTM C231 OR C173, CYLINDER TESTS PER ASTM C31 AND C39. ONE SET OF SIX (6) CYLINDERS FOR EACH 50 CUBIC YARDS FOR EACH MIX USED. REPORTS OF ALL TESTS TO BE SUBMITTED TO THE ARCHITECT.

5.0 STRUCTURAL WOOD

- DESIGN, FABRICATION, AND CONSTRUCTION OF WOOD FRAMING SHALL CONFORM WITH THE FOLLOWING CODES AND STANDARDS.
- A. "NATIONAL DESIGN SPECIFICATIONS FOR WOOD CONSTRUCTION". (WITH SUPPLEMENT), AMERICAN FOREST AND PAPER ASSOCIATION.
- B. "TIMBER CONSTRUCTION MANUAL", FOURTH EDITION, AS ADOPTED BY THE AMERICAN INSTITUTE OF TIMBER CONSTRUCTION, INCLUDING THE "CODE OF STANDARD PRACTICE", AITC 106.
- C. ANSI/TPI I "DESIGN SPECIFICATIONS FOR METAL PLATE-CONNECTED WOOD TRUSS CONSTRUCTION AND COMMENTARY", TRUSS PLATE INSTITUTE.
- D. BUILDING COMPONENT SAFETY INFORMATION BCSI I "GUIDE TO GOOD PRACTICE FOR HANDLING, INSTALLING & BRACING OF METAL PLATE CONNECTED WOOD TRUSSES," WOOD TRUSS COUNCIL OF AMERICA AND TRUSS PLATE INSTITUTE.
- ALL PLYWOOD SHEATHING SHALL COMPLY WITH APA. PLYWOOD SHALL MEET C-D INTERIOR APA, STRUCTURAL I AND II C-D INTERIOR APA, OR STRUCTURAL I AND II C-C EXTERIOR APA. ATTACHMENT TO BE IN ACCORDANCE WITH IBC REQUIREMENTS. ALL PLYWOOD TO HAVE EXTERIOR GLUE.
- A. ROOF SHEATHING SHALL BE APA RATED SHEATHING, 5/8" THICK, 42/20.
- WOOD FRAMING MARKED PARALLAM PSL (PARALLEL STRAND LUMBER) SHALL BE AS MANUFACTURED BY TRUSS JOIST MACMILLAN OR APPROVED EQUAL. MINIMUM EXTREME FIBER IN BENDING, FB = 2,900 PSI; MINIMUM HORIZONTAL SHEAR, FV = 290 PSI; MINIMUM MODULUS OF ELASTICITY, E = 2,000,000 PSI.
- 4. ALL MEMBERS SHOWN ON PLAN WITH DESIGNATION "PSL" SHALL BE PARALLAM PSL MEMBERS. ALL PARALLAM STRUCTURAL LUMBER SHALL BE APA RATED, EXPOSURE I. ALL ADHESIVES SHALL COMPLY WITH ANSI/AIV AI90.I "WET-USE" TYPE.
- 5. ALL SIDE LOADED PARALLAM BEAMS OR COLUMNS SHALL BE SOLID AND SHALL NOT BE COMPOSED OF MULTIPLE PLIES. TOP LOADED PARALLAM BEAMS MAY BE COMPOSED OF MULTIPLE PLIES OF I-3/4" INCH THICKNESS MEMBERS AND SHALL BE NAILED BY MINIMUM OF TWO ROWS OF 16D NAILS AT 12 INCHES ON CENTER AND GLUED TOGETHER WITH AN EXTERIOR TYPE ADHESIVE.
- PROVIDE END-COAT SEALING TO END AND CROSS CUTS AFTER CUTTING TO FINAL LENGTH FOR ALL PARALLAM BEAMS.
- 7. PROVIDE NAILING PATTERN IN COMPLIANCE WITH IBC RECOMMENDED FASTENING SCHEDULE WHEN JOINING TWO OR MORE FRAMING MEMBERS.
- HANGER CONNECTIONS FOR JOISTS, BEAMS, TRUSSES, AND MANUFACTURED WOOD FRAMING SHALL BE STRONG-TIE CONNECTORS BY SIMPSON.
- SEE INTERNATIONAL BUILDING CODE FOR MINIMUM BRACING AND FASTENING
- 10. MEMBERS SHALL BE SET WITH CROWN UP AND HAVE A MINIMUM OF 3" BEARING.
- II. ALL JOISTS AND RAFTERS SHALL BE RIGIDLY BRIDGED AT INTERVALS NOT EXCEEDING 8'-0".
- 12. GUYS AND OTHER BRACING REQUIRED TO PROVIDE LATERAL STABILITY TO WOOD FRAMES SHALL BE ADEQUATELY SIZED AND ANCHORED. THIS BRACING SHALL REMAIN UNTIL PERMANENT BRACING ELEMENTS AND ATTACHED CONSTRUCTION IS INSTALLED.
- I3. ALL BOLTS AND LAG BOLTS SHALL BE FITTED WITH GALVANIZED, MALLEABLE IRON OR STEEL PLATE WASHERS.
- 14. ALL WOOD MEMBERS EXPOSED TO EXTERIOR TO BE PRESSURE TREATED.
- PROVIDE FASTENERS, ANCHORS AND CONNECTORS WITH ADEQUATE CORROSION PROTECTION, WHERE IN CONTACT WITH TREATED WOOD. PROVIDE MINIMUM ZMAX COATING WHERE SIMPSON CONNECTORS ARE USED IN CONTACT WITH TREATED MOOD.

- CONTRACTOR SHALL NOT OVERLOAD THE ROOF WITH MATERIALS THAT SHALL EXCEED A LIVE LOAD ON THE ROOF OF 20 PSF. ALL MATERIALS STORED ON THE ROOF SHALL BE PLACED ON PROTECTION TO PREVENT DAMAGE TO THE EXISTING ROOF MEMBRANE. ALL MATERIAL SHALL BE STORED ON PALLETS OR DUNNAGE AT LEAST 4" ABOVE GROUND OR ROOF LEVEL AND COVERED WITH TARPAULINS OR OTHER SUITABLE BREATHABLE COVERINGS AND WEIGHED DOWN AS NECESSARY TO PREVENT BLOW-OFF. FACTORY COVERING OF ALL BOARD STOCK IS NOT AN ACCEPTABLE COVERING FOR STORAGE OF MATERIALS.
- 2. THE CONTRACT DOCUMENTS, INCLUDING SPECIFIC INSTALLATION DETAILS SHOWN ON THE DRAWINGS, ESTABLISH THE MINIMUM INSTALLATION REQUIREMENTS FOR THIS PROJECT. IF DETAILS SHOWN ARE MORE STRINGENT THAN THE ROOFING MANUFACTURER'S STANDARD DETAILS, IN THE SOLE OPINION OF THE ENGINEER, THE DETAILS SHOWN WILL GOVERN THE INSTALLATION OF THAT PORTION OF WORK. IF THE ROOFING MANUFACTURER'S STANDARD DETAILS ARE MORE STRINGENT THAN DETAILS SHOWN, THE MANUFACTURER'S DETAILS WILL GOVERN THE INSTALLATION OF THAT PORTION OF WORK, SUBJECT TO APPROVAL BY THE ENGINEER. ALL MANUFACTURER REQUIREMENTS IN EXCESS OF THAT REQUIRED BY THE CONTRACT DOCUMENTS MUST BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR MUST REVIEW THE DRAWINGS WITH THE MANUFACTURER.
- THE CONTRACTOR IS TO PROVIDE ALL LABOR AND MATERIAL REQUIRED FOR A COMPLETE AND WATERTIGHT INSTALLATION, THAT IS FULLY WARRANTED/GUARANTEED BY THE ROOFING MANUFACTURER. ANY DETAILS OR WORK REQUIRED, BUT NOT SHOWN OR SPECIFIED, ARE TO BE PROVIDED IN ACCORDANCE WITH THE ROOFING MANUFACTURER'S RECOMMENDATIONS AND/OR REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER OR ENGINEER.
- T THE COLOR OF THE ROOF IS TO BE SELECTED BY OWNER. CONTRACTOR TO PROVIDE OPTIONS FOR SELECTION. ROOF COLOR SHALL BE COORDINATED WITH OTHER STRUCTURES ON SITE

7.0 STRUCTURAL STEEL

- FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE "STEEL CONSTRUCTION MANUAL", AMERICAN INSTITUTE OF STEEL CONSTRUCTION (LRFD) INCLUDING SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, AND AISC CODE OF STANDARD PRACTICE.
- ALL WELDING SHALL BE PERFORMED BY CERTIFIED WELDERS AND SHALL CONFORM TO "STRUCTURAL WELDING CODE ANSI/AWS DI.I", AMERICAN WELDING SOCIETY.

3. MATERIALS: SPECIFICATION SHAPE ||STRUCTURAL SHAPES & PLATES: ASTM A36, A572 OR A992.

| STEEL PIPE: | ASTM A53, GRADE B. |
|---|---|
| GALVANIZED STRUCTURAL STEEL: | |
| STRUCTURAL SHAPES AND RODS | ASTM AI23. |
| BOLTS, FASTENERS AND HARDWARE | ASTM AI53. |
| OLTED CONNECTIONS ASTM A325 HIGH STRENGT BOLTS 3/4" MINIMUM DIAME UNLESS NOTED OTHERWISE | |
| WELDING ELECTRODES (MINIMUM WELD SIZE SHALL BE 3/16" UNLESS NOTED OTHERWISE) | ETOXX (FOR MANUAL ARC WELDING) FTX-EXXX (FOR GURMERGED ARC WELDING) |

SUBMERGED ARC WELDING)

4. CONNECTIONS

- A. ALL BOLTED CONNECTIONS SHALL BE WITH ASTM A325 HIGH STRENGTH BOLTS 3/4" MINIMUM DIAMETER, UNLESS NOTED OTHERWISE. ALL BOLTS SHALL BE INSTALLED SNUG TIGHT UNLESS NOTED OTHERWISE IN CONTRACT DOCUMENTS OR
- B. ALTERNATE CONNECTION DETAILS MAY BE USED IF SUCH DETAILS ARE SUBMITTED TO THE ENGINEER FOR REVIEW AND APPROVAL. HOWEVER, THE ENGINEER SHALL BE THE SOLE JUDGE OF ACCEPTANCE AND THE CONTRACTOR'S BID SHALL ANTICIPATE THE USE OF THOSE DETAILS SHOWN ON THE DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR THE DESIGN OF SUCH ALTERNATE DETAILS WHICH HE PROPOSES.
- PROVIDE SIGNED AND SEALED CALCULATIONS FOR ALL CONNECTION DESIGNS NOT INDICATED ON THE DRAWINGS. THE FABRICATOR IS RESPONSIBLE FOR THE SELECTION, DESIGN, AND DETAILING OF ALL CONNECTIONS NOT FULLY DETAILED IN THE CONTRACT DOCUMENTS. TYPICAL CONNECTION DETAILS HAVE BEEN INDICATED ON THE DRAWINGS FOR DESIGN INTENT ONLY. THE FABRICATOR SHALL HAVE A REGISTERED PROFESSIONAL ENGINEER LICENSED IN PROJECT'S JURISDICTION PREPARE AND/OR REVIEW THE CONNECTION DESIGNS PRIOR TO SUBMITTING THE SHOP DRAWINGS TO THE ARCHITECT/ENGINEER FOR REVIEW AND APPROVAL. THE INITIAL SHOP DRAWINGS SUBMITTAL SHALL INCLUDE PROPOSED CONNECTION DETAILS AND JOB STANDARDS. CALCULATIONS SHALL SHOW DESIGN CAPACITIES FOR ALL CONNECTIONS. SHOP DRAWINGS SHALL DIRECTLY REFERENCE CONNECTION DETAILS ON SUBMITTAL.
- THE GENERAL CONTRACTOR AND STEEL ERECTOR SHALL NOTIFY THE STRUCTURAL ENGINEER OF ANY FABRICATION OR ERECTION ERRORS OR DEVIATIONS AND RECEIVE WRITTEN APPROVAL BEFORE ANY FIELD CORRECTIONS ARE MADE.
- 6. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED PER ASTM AI23.
- 7. FIELD WELDED EXPOSED GALVANIZED SURFACES WITHIN FOUR (4) INCHES OF WELD SHALL BE CLEANED AND GROUND SMOOTH. AFTER WELDING COAT THE EXPOSED AREA MITH GALVANIZING REPAIR PAINT. GALVANIZING REPAIR PAINT SHALL BE A HIGH ZINC DUST CONTENT PAINT COMPLYING WITH FEDERAL SPECIFICATIONS DOD-P-21035A OR SSPC-PAINT-20, COLD GALVANIZING COMPOUND BY ZRC PRODUCTS CO. OR EQUAL.
- 6. GUYS AND OTHER BRACING REQUIRED TO PROVIDE LATERAL STABILITY TO STEEL FRAME SHALL BE ADEQUATELY SIZED AND ANCHORED. THIS BRACING SHALL REMAIN UNTIL PERMANENT BRACING ELEMENTS AND ATTACHED CONSTRUCTION IS INSTALLED.

| LATERAL LOAD DESIGN | | | |
|---|---------------------------------------|---------|--|
| DESCRIPTION | SYMBOL | VALUE | |
| BASIC WIND SPEED (3 SEC. GUST) | V | III mph | |
| RISK CATEGORY | | П | |
| WIND EXPOSURE CATEGORY | | C | |
| INTERNAL PRESSURE COEFFICIENT | GC _{PI} | ±0.l8 | |
| SEISMIC | | | |
| DESCRIPTION | SYMBOL | VALUE | |
| IMPORTANCE FACTOR | l _E | 1.00 | |
| RISK CATEGORY | | 11 | |
| MAPPED SPECTRAL RESPONSE SHORT PERIOD ACCELERATION | S _s | 0.169 | |
| MAPPED SPECTRAL RESPONSE I-SECOND ACCELERATION | Sı | 0.0419 | |
| LONG-PERIOD TRANSITION PERIOD | T∟ | 85 | |
| SITE CLASSIFICATION | | D | |
| DESIGN SPECTRAL RESPONSE SHORT PERIOD ACCELERATION | Sps | 0.13g | |
| DESIGN SPECTRAL RESPONSE I-SECOND ACCELERATION | Spl | 0.058g | |
| SEISMIC DESIGN CATEGORY | SDC | Α | |
| ANALYSIS PROCEDURE | EQUIVALENT LATERAL FORCE PROCEDURE | | |

| SNOW DESIGN LOADS | | | |
|-----------------------------|---------|--------|--|
| DESCRIPTION | SYMBOL | VALUE | |
| GROUND SNOW LOAD | Pg | 25 PSF | |
| SNOW EXPOSURE FACTOR | C. | 1.0 | |
| SNOW LOAD IMPORTANCE FACTOR | ls | 1.0 | |
| THERMAL FACTOR | C_{t} | 1.2 | |
| SNOW SLOPE FACTOR | Cs | 1.0 | |
| ROOF SNOW LOAD (1) | Ρ, | 21 PSF | |

(I) ACTUAL PF USED FOR DESIGN = 21 PSF. SNOW DRIFT LOADS OR UNBALANCED SNOW LOADS ARE SHOWN ON THE PLANS.

| FLOOR DESIGN LOADS | | |
|-------------------------------|-------------|--|
| DEAD LOAD (I) | | |
| DESCRIPTION | VALUE (PSF) | |
| FINISHES | 3 | |
| MISCELLANEOUS | 2 | |
| TOTAL | 5 | |
| LIVE LOAD | | |
| BASIC LIVE LOAD | 100 | |
| (1) SELE WEIGHT OF STRUCTURAL | | |

(1) SELF WEIGHT OF STRUCTURAL COMPONENTS (BEAMS, SLABS, COLUMNS) ARE INCLUDED SEPARATELY, U.N.O. (2) REDUCED PER IBC CHAPTER 16. PARTITION I OAD IS NOT REDUCED

| PARTITION LOAD IS NOT | REDUCED | | |
|-----------------------|-------------|--|--|
| ROOF DESIGN LOADS | | | |
| DEAD LOAD (I) | | | |
| DESCRIPTION | VALUE (PSF) | | |
| ROOFING | 3 | | |
| ROOF DECK | 3 | | |
| MISCELLANEOUS | 4 | | |
| TOTAL | Ю | | |
| LIVE LOAD | | | |
| ROOF LIVE LOAD | 20 | | |
| A | | | |

(I) SELF WEIGHT OF STRUCTURAL COMPONENTS (BEAMS, SLABS, COLUMNS) ARE INCLUDED SEPARATELY, U.N.O.

> GP# G20219457 DWG NO: S001

> > :\Accounts\AACOX\AACOX21002 — Brooklyn Park Teen Center\DESIGN\S\S001.dw

PROFESSIONAL CERTIFICATION: I, ROSS EVAN STUART, PE , CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY ANNE ARUNDEL COUNTY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # $\frac{53964}{}$ EXPIRATION DATE $\frac{2/19/2023}{}$ DEPARTMENT OF PUBLIC WORKS REVISIONS APPROVED BY DATE DESCRIPTION APPROVED APPROVED DATE STRUCTURAL GENERAL SCALE: AS NOTED **Pennon** NOTES DRAWN BY: JSN/SVH PROJECT MANAGER CHIEF ENGINEER CHECKED BY: PJS/JAR COMMUNITY CENTER PARK APPROVAL APPROVED DATE DATE SHEET 49 of 51 ENNONI ASSOCI<u>ATES INC.</u> DESIGN DEVELOPMENT PLANS 3890 McGaw Road, Suite 100 PROJECT #: 579000 TAX MAP 2 GRID 19 PARCEL 38 ACCOUNT #00273010 Columbia, MD 21045 BALTIMORE, MD ZIP CODE 21225 5TH DISTRICT T 410.997.8900 F 410.997.9282 ASSISTANT CHIEF ENGINEER CHIEF, RIGHT OF WAY SERVICES PROPOSAL #: 579001 ANNE ARUNDEL COUNTY, MD

