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# ANNE ARUNDEL COUNTY

## DEPARTMENT OF PUBLIC WORKS

### BROADNECK PENINSULA TRAIL - PHASE III

### PROJECT No. P504100/CONTRACT No. P504104

## SHA CONTRACT NO. AA 751B53

## FA PROJECT NO. TAP - 3(735)E

## CONSTRUCTION DOCUMENTS

### STANDARD RESPONSIBILITY NOTES

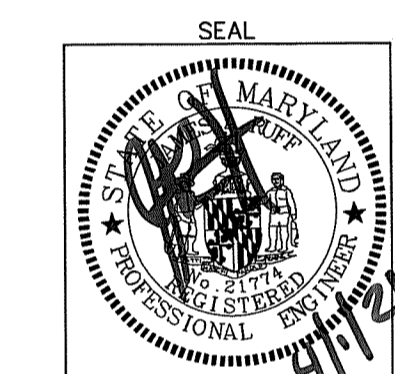
- (We) certify that:
- All development and construction will be done in accordance with this sediment and erosion control plan, and further, authorize the right of entry for periodic on-site evaluation by the Anne Arundel Soil Conservation District AASCD Board of Supervisors or their authorized agents. 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 be in compliance with the Anne Arundel County Code.
- 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 properties included in the plan.
- 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 3:1 horizontal 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.
- All material shall be taken to a site with an approved sediment and erosion control plan.
- 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 work.

David P. Brown  
 DATE: 4/15/21  
 TITLE: PROFESSIONAL ENGINEER  
 FIRM: PENNONI ASSOCIATES, INC.  
 ADDRESS: 8818 CENTRE PARK DRIVE, SUITE 200  
 CITY: COLUMBIA, MD 21045  
 STATE: MD  
 ZIP CODE: 21045  
 PHONE: 410-222-7200  
 FAX: 410-222-7200

### CONSULTANT'S CERTIFICATION

"THE DEVELOPER'S PLAN TO CONTROL SILT AND EROSION IS ADEQUATE TO CONTAIN THE SILT AND EROSION ON 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."

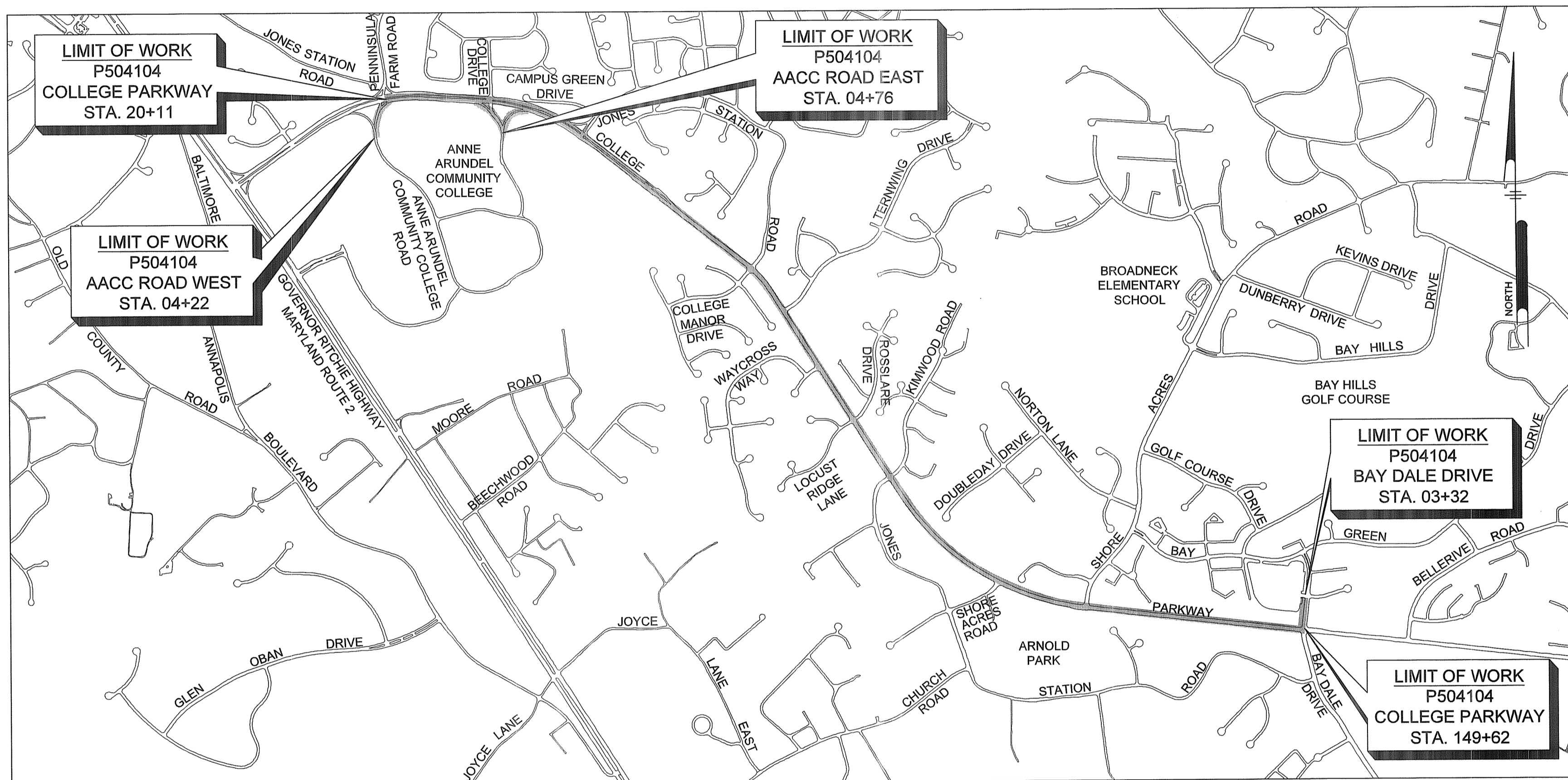
MD P.E. LICENSE # 21774  
 NAME: JAMES A. RUFF, PE  
 FIRM NAME: PENNONI ASSOCIATES, INC.  
 ADDRESS: 8818 CENTRE PARK DR., SUITE 200  
 CITY: COLUMBIA, MD 21045



### SEQUENCE OF CONSTRUCTION

- NOTIFY THE DEPARTMENT OF INSPECTIONS AND PERMITS (410-222-7780) AT LEAST 48 HOURS BEFORE COMMENCING WORK. WORK MAY NOT COMMENCE UNTIL THE PERMITTEE OR THE RESPONSIBLE PERSONNEL HAVE MET ON SITE WITH THE SEDIMENT AND EROSION CONTROL INSPECTOR TO REVIEW THE APPROVED PLANS.
- PHASE 1 - PERIMETER SEDIMENT CONTROLS
2. STAKEOUT LIMITS OF DISTURBANCE ALONG ENTIRE PROJECT AND WALK ALIGNMENT WITH PROJECT MANAGER AND PENNONI PROJECT MANAGER TO DETERMINE TREES ALONG LIMITS OF DISTURBANCE TO REMOVE OR BE RETAINED. (2 WEEKS)
3. CLEAR AND GRUB FOR THE INSTALLATION OF STABILIZED CONSTRUCTION ENTRANCES AND PERIMETER CONTROLS. CONDUCT ROOT PRUNING AS NOTED ON TREE PRESERVATION PLANS AND TREE PRESERVATION SEQUENCE OF CONSTRUCTION. (2 WEEKS)
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES AND PERIMETER CONTROLS. INSTALL THE PIPE SLOPE DRAINS. (3 WEEKS)
5. CONTACT COUNTY INSPECTOR FOR INITIAL INSPECTION. (1 DAY)
6. SOME OR ALL OF THE PHASES SHOWN BELOW WILL RUN CONCURRENTLY, WITH APPROVAL OF THE INSPECTOR. CONSTRUCTION OF BOARDWALKS, ITEMS REQUIRING SAME DAY STABILIZATION AND TRAFFIC SIGNAL WORK MAY BE DONE OUT OF SEQUENCE.
- PHASE 2 - BAY DALE TO SHORE ACRES ROAD
7. UPON APPROVAL OF INSPECTOR BEGINS CLEARING AND GRADING FOR THE INSTALLATION OF TWO STAGING AREAS IMMEDIATELY WEST OF BAYDALE DRIVE. STAGING AREA SHALL BE STABILIZED WITH 6" (MIN.) OF WOODCHIP MULCH, PREFERABLY FROM MATERIAL CLEARED AND CHIPPED ON SITE. (1 WEEK)
8. BEGIN CLEARING FOR THE INSTALLATION OF CULVERT EXTENSIONS, STORM DRAINS, AND DRAINAGE STRUCTURES. (2 DAYS)
9. INSTALL CULVERT EXTENSIONS, STORM DRAINS, STRUCTURES AND RIP RAP. UPON INSTALLATION OF STORM DRAIN INSTALL INLET PROTECTION AS SHOWN ON PLANS. (1 WEEK)
10. UPON COMPLETION OF STORM DRAINAGE WORK, BEGIN CLEARING AND GRADING TO ESTABLISH TRAIL SUBGRADE. ADJUST PIPE SLOPE DRAINS AS NEEDED DURING GRADING, MAINTAINING POSITIVE FLOW THROUGH PSD. AS SLOPES 3:1 AND GREATER ARE COMPLETED, TOPSOIL, SEED, AND PLACE PERMANENT SOIL STABILIZATION MATTING. ALL SOIL STABILIZATION MATTING SHALL BE COMPRISED OF BIODEGRADABLE MATERIAL. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (6 WEEKS)
11. CONCURRENT WITH STEP 10, CONSTRUCT RETAINING WALL A AND B. AS WALLS IN FILL ARE CONSTRUCTED, BRING GRADE UP TO ESTABLISH TRAIL SUBGRADE. ADJUST PIPE SLOPE DRAINS AS NEEDED DURING WALL CONSTRUCTION, MAINTAINING POSITIVE FLOW THROUGH PSD. WHEN FINAL GRADE AT 1110 HAS BEEN ACHIEVED DIRECT ADJACENT PSD TO 1110. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (7 WEEKS)
12. CONSTRUCT BOARDWALK AND BOARDWALK ABUTMENTS. BOARDWALKS TO BE CONSTRUCTED FROM BOARDWALK SURFACE OR TRAIL SUBGRADE. NO DISTURBANCE OR GRADING FOR BOARDWALK CONSTRUCTION IS PERMITTED. CLEARING FOR BOARDWALK SHALL BE THE MINIMUM NECESSARY FOR CONSTRUCTION. ALL TREES SHALL BE REMOVED BY HAND AND STUMPS LEFT IN PLACE WITHIN BOARDWALK FOOTPRINT. (3 WEEKS)
13. WITH THE ESTABLISHMENT OF TRAIL SUBGRADE, BEGIN INSTALLING STONE BASE AND ASPHALT PAVING. COMPLETE ALL WORK AT INTERSECTIONS, INCLUDING TRAFFIC SIGNAL WORK. STABILIZE DISTURBED AREAS WITH SEED AND STRAW, AND INSTALL SOIL STABILIZATION MATTING IN SWALES. (2 WEEKS)
14. ONCE PAVING HAS BEEN COMPLETED AND SITE PRELIMINARY STABILIZED, COMPLETE FINAL GRADING FOR THE INSTALLATION OF STORMWATER MEASURES AND INSTALL ALL STORMWATER FACILITIES. STORMWATER FACILITIES SHALL NOT BE INSTALLED UNTIL CONTRIBUTING DRAINAGE AREA IS 95% STABILIZED. IF INSPECTOR ALLOWS EARLIER INSTALLATION, PROTECT PERIMETER OF FACILITY WITH SILT FENCE, AND COVER WITH FILTER FABRIC UNTIL LANDSCAPING IS INSTALLED. (2 WEEK)
15. INSTALL LANDSCAPING, FENCING, AND REFORESTATION. (2 WEEKS)
16. WITH COMPLETION OF WORK AND STABILIZATION OF SITE, CONTACT COUNTY INSPECTOR FOR FINAL INSPECTION. WITH APPROVAL OF INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. (1 WEEK)
- PHASE 3 - SHORE ACRES ROAD TO KIMWOOD DRIVE
17. UPON APPROVAL OF INSPECTOR BEGINS CLEARING AND GRADING FOR THE INSTALLATION OF A STAGING AREA IMMEDIATELY WEST OF SHORE ACRES ROAD. STAGING AREA SHALL BE STABILIZED WITH 6" (MIN.) OF WOODCHIP MULCH, PREFERABLY FROM MATERIAL CLEARED AND CHIPPED ON SITE. (2 DAYS)
18. BEGIN CLEARING FOR THE INSTALLATION OF STORM DRAINS AND DRAINAGE STRUCTURES. (2 DAYS)
19. INSTALL STORM DRAINS AND RIP RAP. INSTALL INLET PROTECTION AS SHOWN ON PLANS. INSTALL EARTH DIKES AT STRUCTURE 141. STORM DRAIN CONSTRUCTION SHALL OCCUR DURING A 3 DAY (MIN.) CLEAR WEATHER PERIOD. STABILIZE AREAS IMMEDIATELY UPON CONSTRUCTION OF STORM DRAINS. NO SEDIMENT SHALL ENTER EXISTING STORM DRAIN SYSTEMS. (2 WEEKS)
20. UPON COMPLETION OF STORM DRAINAGE WORK, BEGIN CLEARING AND GRADING TO ESTABLISH TRAIL SUBGRADE. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (6 WEEKS)
21. CONCURRENT WITH STEP 20, CONSTRUCT RETAINING WALL D, E, F AND N. AS WALLS IN FILL ARE CONSTRUCTED, BRING GRADE UP TO ESTABLISH TRAIL SUBGRADE. AS SLOPES 3:1 AND GREATER ARE COMPLETED, TOPSOIL, SEED, AND PLACE PERMANENT SOIL STABILIZATION MATTING. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (8 WEEKS)
22. CONSTRUCT BOARDWALKS AND BOARDWALK ABUTMENTS. BOARDWALKS TO BE CONSTRUCTED FROM BOARDWALK SURFACE OR TRAIL SUBGRADE. NO DISTURBANCE OR GRADING FOR BOARDWALK CONSTRUCTION IS PERMITTED. CLEARING FOR BOARDWALK SHALL BE THE MINIMUM NECESSARY FOR CONSTRUCTION. ALL TREES SHALL BE REMOVED BY HAND AND STUMPS LEFT IN PLACE WITHIN BOARDWALK FOOTPRINT. (8 WEEKS)
23. WITH THE ESTABLISHMENT OF TRAIL SUBGRADE, BEGIN INSTALLING STONE BASE AND ASPHALT PAVING. COMPLETE ALL WORK AT INTERSECTIONS INCLUDING TRAFFIC SIGNAL WORK. STABILIZE DISTURBED AREAS WITH SEED AND STRAW, AND PLACE SOIL STABILIZATION MATTING IN SWALES. (2 WEEKS)
24. ONCE PAVING HAS BEEN COMPLETED AND SITE PRELIMINARY STABILIZED, COMPLETE FINAL GRADING FOR THE INSTALLATION OF STORMWATER MEASURES AND INSTALL ALL STORMWATER FACILITIES. STORMWATER FACILITIES SHALL NOT BE INSTALLED UNTIL CONTRIBUTING DRAINAGE AREA IS 95% STABILIZED. IF INSPECTOR ALLOWS EARLIER INSTALLATION, PROTECT PERIMETER OF FACILITY WITH SILT FENCE, AND COVER WITH FILTER FABRIC UNTIL LANDSCAPING IS INSTALLED. (3 WEEKS)
25. INSTALL LANDSCAPING, FENCING, AND REFORESTATION. (2 WEEKS)
26. WITH COMPLETION OF WORK AND STABILIZATION OF SITE, CONTACT COUNTY INSPECTOR FOR FINAL INSPECTION. WITH APPROVAL OF INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. (1 WEEK)

### SEQUENCE OF CONSTRUCTION CONTINUED ON SHEET 3



LOCATION PLAN  
 SCALE: 1" = 1,000'

### OUTFALL STATEMENT

THIS PROJECT HAS 15 DISTINCT OUTFALLS IN THE MAGOOTHY AND SEVERN RIVER WATERSHEDS DUE TO ITS LOCATION UNDER A RIDGE WITHIN THE BROADNECK PENINSULA. THE OUTFALLS WERE INVESTIGATED BY PENNONI DURING 2017-2018. PHOTOGRAPHS OF THE OUTFALLS ARE INCLUDED IN THE APPENDICES.

SITE OUTFALL #1 IS LOCATED AT AN EXISTING 15" CULVERT THAT CROSSES UNDER BAY DALE DRIVE AT COLLEGE PARKWAY AND DRAINS EAST TO A TRIBUTARY OF THE MAGOOTHY RIVER. THIS CULVERT CONNECTS TO STORM DRAIN AND DRAINAGE IMPROVEMENTS THAT ARE BEING INSTALLED AS PART OF BROADNECK PENINSULA TRAIL PHASE 2. THE DRAINAGE FROM PHASE 3 WAS ACCOMMODATED IN THE DESIGN OF THE PHASE 2 IMPROVEMENTS.

SITE OUTFALL #2 IS LOCATED AT AN EXISTING 24" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO A TRIBUTARY OF THE SEVERN RIVER. BASED ON FIELD INVESTIGATION THIS IS A STABLE OUTFALL. STORMWATER MANAGEMENT IMPROVEMENTS AND ADDITIONAL RIP RAP ARE BEING INSTALLED AT THE UPSTREAM END OF THIS CULVERT AS PART OF THE TRAIL PROJECT. BASED ON THESE IMPROVEMENTS AND THE CURRENT CONDITION OF THIS OUTFALL, THIS IS AN ADEQUATE OUTFALL.

SITE OUTFALL #3 IS LOCATED AT AN EXISTING 36" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO A TRIBUTARY OF THE SEVERN RIVER. BASED ON A FIELD INVESTIGATION, THIS OUTFALL IS STABLE AT THE UPSTREAM END, BUT THE DOWNSTREAM END OF THE CULVERT IS ERODED WHERE THE CONCRETE APRON TRANSITIONS TO THE EXISTING RECEIVING CHANNEL. THIS OUTFALL WILL BE STUDIED BY THE DEPARTMENT OF PUBLIC WORKS FOR IMPROVEMENT AS PART OF A FUTURE CAPITAL PROJECT.

SITE OUTFALL #4 IS LOCATED AT AN EXISTING 24" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO A TRIBUTARY OF THE SEVERN RIVER. BASED ON FIELD INVESTIGATION THIS IS A STABLE OUTFALL. STORMWATER MANAGEMENT IMPROVEMENTS, A BOARDWALK STRUCTURE, AND ADDITIONAL RIP RAP ARE BEING INSTALLED AT THE UPSTREAM END OF THIS CULVERT AS PART OF THE TRAIL PROJECT. BASED ON THESE IMPROVEMENTS AND THE CURRENT CONDITION OF THIS OUTFALL, THIS IS AN ADEQUATE OUTFALL.

SITE OUTFALL #5 IS LOCATED AT AN EXISTING 30" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO A TRIBUTARY OF THE SEVERN RIVER. BASED ON FIELD INVESTIGATION THIS IS A STABLE OUTFALL. STORMWATER MANAGEMENT IMPROVEMENTS AND ADDITIONAL RIP RAP ARE BEING INSTALLED AT THE UPSTREAM END OF THIS CULVERT AS PART OF THE TRAIL PROJECT. BASED ON THESE IMPROVEMENTS AND THE CURRENT CONDITION OF THIS OUTFALL, THIS IS AN ADEQUATE OUTFALL.

SITE OUTFALL #6 IS LOCATED AT AN EXISTING 24" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO A TRIBUTARY OF THE SEVERN RIVER. THIS OUTFALL IS STABLE AT THE UPSTREAM END, BUT IS BEGINNING TO EXPERIENCE SOME CHANNEL EROSION DOWNSTREAM OF THE CULVERT. THIS OUTFALL WILL BE STUDIED BY THE DEPARTMENT OF PUBLIC WORKS FOR IMPROVEMENT AS PART OF A FUTURE CAPITAL PROJECT.

SITE OUTFALL #7 IS LOCATED AT AN EXISTING 27" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS NORTH TO FORKED CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. THIS OUTFALL IS SEVERELY ERODED. IMPACTS BY THE TRAIL ARE MINIMIZED THROUGH THE USE OF A BOARDWALK STRUCTURE AND STORMWATER MANAGEMENT PRACTICES. THIS OUTFALL WILL BE STUDIED BY THE DEPARTMENT OF PUBLIC WORKS FOR IMPROVEMENT AS PART OF A FUTURE CAPITAL PROJECT.

SITE OUTFALL #8 IS LOCATED AT THE OUTFALL OF SEVERAL EXISTING CULVERTS AND A CONCRETE CHANNEL AND DRAINS NORTH TO FORKED CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. THIS OUTFALL IS BEGINNING TO EXPERIENCE EROSION. IMPACTS BY THE TRAIL ARE MINIMIZED THROUGH THE USE OF A BOARDWALK STRUCTURE AND STORMWATER MANAGEMENT PRACTICES. THIS OUTFALL WILL BE STUDIED BY THE DEPARTMENT OF PUBLIC WORKS FOR IMPROVEMENT AS PART OF A FUTURE CAPITAL PROJECT.

SITE OUTFALL #9 IS LOCATED AT AN EXISTING 24" STORM DRAIN THAT CROSSES UNDER COLLEGE PARKWAY AND CONNECTS SOUTH TO AN EXISTING STORM DRAIN SYSTEM DISCHARGING INTO MILL CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. THIS IS A STABLE OUTFALL.

SITE OUTFALL #10 IS LOCATED AT AN EXISTING 24" CULVERT THAT CROSSES UNDER JONES STATION ROAD (EAST) AT COLLEGE PARKWAY AND DRAINS WEST TO AN EXISTING SWALE THAT DISCHARGES INTO MILL CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. BASED ON FIELD INVESTIGATIONS, THIS IS A STABLE OUTFALL. STORMWATER MANAGEMENT IMPROVEMENTS AND ADDITIONAL RIP RAP ARE BEING INSTALLED AT THE DOWNSTREAM END OF A PROPOSED CULVERT AS PART OF THE TRAIL PROJECT. BASED ON THESE IMPROVEMENTS AND THE CURRENT CONDITION OF THIS OUTFALL, THIS IS AN ADEQUATE OUTFALL.

SITE OUTFALL #11 IS LOCATED AT AN EXISTING 24" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO AN EXISTING OPEN CHANNEL SYSTEM DISCHARGING INTO MILL CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. THIS OUTFALL IS STABLE AT THE UPSTREAM END OF THE CULVERT BUT IS EXPERIENCING SEVERE EROSION AT THE DOWNSTREAM END WHERE THE CONCRETE CHANNEL TRANSITIONS TO A NATURAL STREAM CHANNEL. THIS OUTFALL WILL BE STUDIED BY THE DEPARTMENT OF PUBLIC WORKS FOR IMPROVEMENT AS PART OF A FUTURE CAPITAL PROJECT.

SITE OUTFALL #12 IS LOCATED AT AN EXISTING 24" CULVERT THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS SOUTH TO AN EXISTING OPEN CHANNEL SYSTEM DISCHARGING INTO MILL CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. BASED ON FIELD INVESTIGATIONS, THIS IS A STABLE OUTFALL. STORMWATER MANAGEMENT IMPROVEMENTS ARE BEING INSTALLED AS PART OF THE TRAIL PROJECT. BASED ON THESE IMPROVEMENTS AND THE CURRENT CONDITION OF THIS OUTFALL, THIS IS AN ADEQUATE OUTFALL.

SITE OUTFALL #13 IS LOCATED AT AN EXISTING 6X12" BOX CULVERT THAT CROSSES UNDER JONES STATION ROAD (WEST) AT COLLEGE PARKWAY AND DRAINS WEST TO MILL CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. THIS OUTFALL IS CURRENTLY BEING IMPROVED UNDER A CAPITAL PROJECT (8552200).

SITE OUTFALL #14 IS LOCATED AT AN EXISTING OPEN CHANNEL SYSTEM IMMEDIATELY WEST OF A 6X12" BOX CULVERT AND DRAINS EAST TO MILL CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. BASED ON FIELD INVESTIGATIONS, THIS IS A STABLE OUTFALL.

SITE OUTFALL #15 IS LOCATED AT AN EXISTING 15" STORM DRAIN SYSTEM THAT CROSSES UNDER COLLEGE PARKWAY AND DRAINS NORTH TO AN EXISTING OPEN CHANNEL SYSTEM DISCHARGING INTO DIVIDING CREEK, A TRIBUTARY OF THE MAGOOTHY RIVER. THIS IS A STABLE OUTFALL.

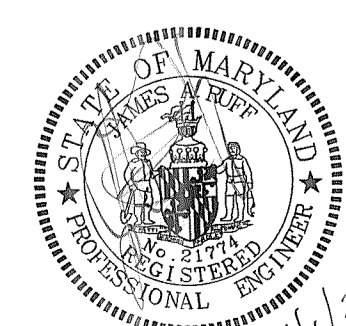
### AS-BUILT CERTIFICATION

"I HEREBY CERTIFY THAT THE STORMWATER BEST MANAGEMENT PRACTICES SHOWN ON THE PLANS HAVE BEEN CONSTRUCTED IN ACCORDANCE WITH THE PLANS AND SPECIFICATION EXCEPT AS NOTED IN RED ON THE 'AS BUILT DRAWINGS'."

NAME (PRINTED):  
 MARYLAND REGISTRATION #

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE
1	ADD STATE CONTRACT #3	<i>[Signature]</i>	4/15/21



**PENNONI ASSOCIATES INC.**  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

APPROVED DATE: *[Signature]* 5/6/21  
 CHIEF ENGINEER  
 APPROVED DATE: *[Signature]* 4/15/21  
 ASSISTANT CHIEF ENGINEER

APPROVED DATE: *[Signature]* 4/15/21  
 PROJECT MANAGER  
 APPROVED DATE: *[Signature]* 4/15/21  
 CHIEF, RIGHT OF WAY SERVICES

SCALE: 1" = 1,000'  
 DRAWN BY: PAI  
 CHECKED BY: PJS/JAR  
 SHEET 1 of 137  
 PROPOSAL #:

CALL "MISS UTILITY" AT LEAST 72 HOURS IN ADVANCE OF CONSTRUCTION AT 1-800-257-7777

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

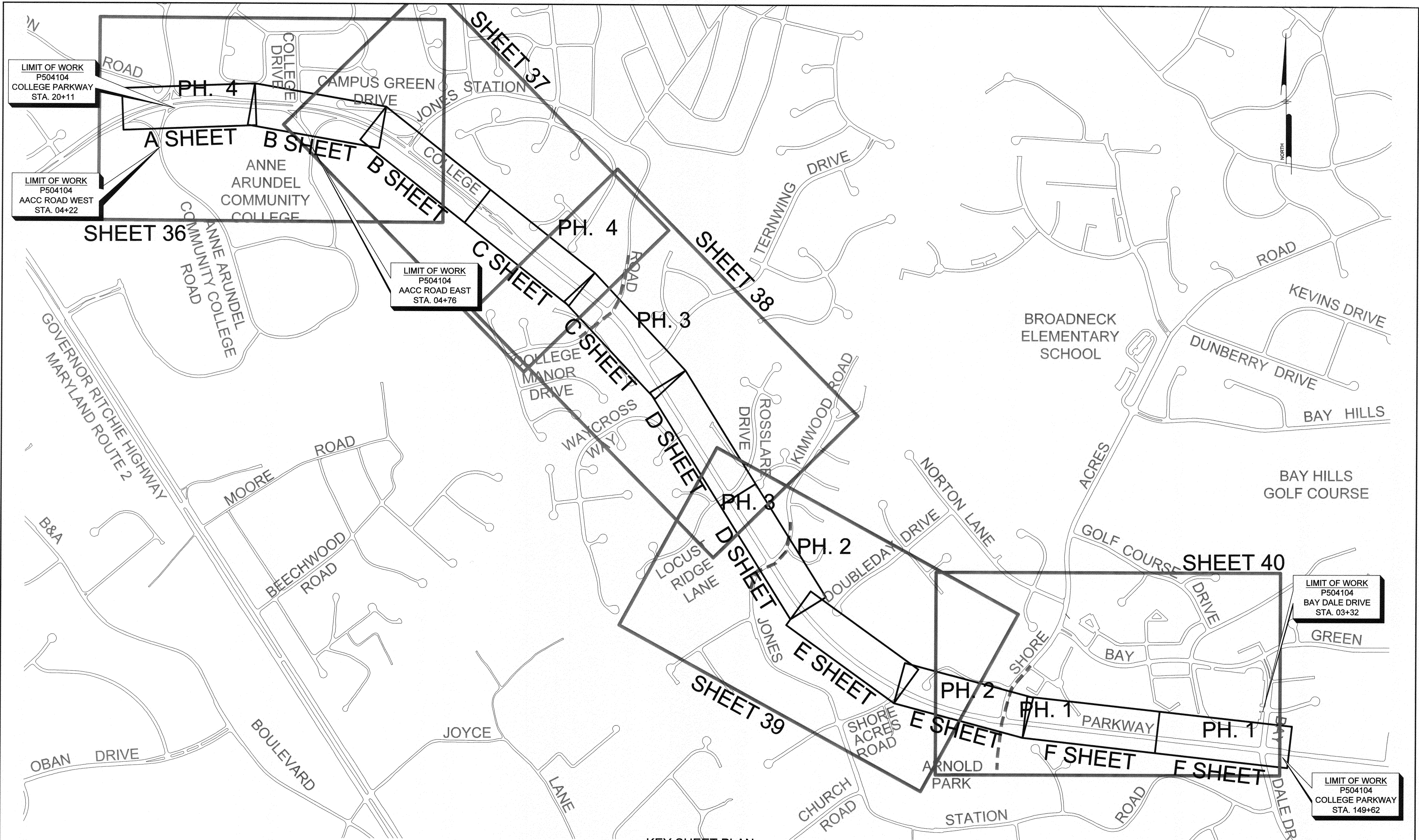
GP# G02017905

DWG NO: DD01A

97068 APRIL 5, 2021

COVER SHEET  
**BROADNECK TRAIL - PHASE III**  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 39, AND 40  
 PROJECT # P504100  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019





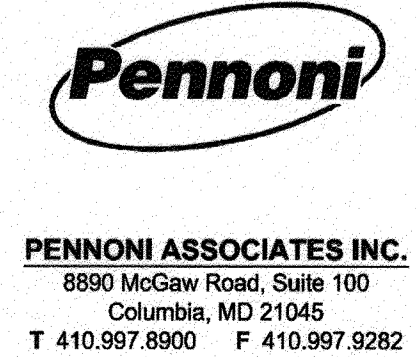
**KEY SHEET PLAN**

SCALE: 1" = 400'

**NOTE:**

1. THE LETTER DESIGNATIONS FOR THE 40 SCALE SHEETS CORRESPOND TO THE DRAWING NO. SHOWN IN THE BOTTOM RIGHT CORNER OF EVERY 40 SCALE PLAN SHEET.
2. THE PHASE NUMBERS SHOWN ON THIS SHEET CORRESPOND TO THE SEDIMENT CONTROL SEQUENCE OF CONSTRUCTION PHASES.

PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , 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 # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>	
REVISIONS	APPROVED
#	DESCRIPTION



APPROVED DATE		APPROVED DATE		SCALE: 1" = 1,000'	
<i>[Signature]</i>	5/6/21	<i>[Signature]</i>	4/15/21	DRAWN BY: PAI	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: PJS/JAR	
APPROVAL DATE		APPROVED DATE		SHEET 2 of 137	
<i>[Signature]</i>	4/21/21	<i>[Signature]</i>	4/16/21	PROJECT #: P504100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		PROPOSAL #:	
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS				97069 APRIL 5, 2021	
GP# G02017905 DWG NO: DD01B				KEY SHEET	
BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS					
TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019					

DRAW No.:



**GENERAL NOTES**

- THIS FIELD RUN BOUNDARY WAS PERFORMED BY PENNONI ASSOCIATES, INC. ON OR ABOUT MARCH, 2017.
- FIELD RUN TOPOGRAPHY WAS PERFORMED BY PENNONI DURING MARCH-JUNE 2017 AND AUGUST-SEPTEMBER 2018. TOPOGRAPHIC INFORMATION HAS BEEN SUPPLEMENTED BY ANNE ARUNDEL COUNTY AND UTILITY COMPANY GIS INFORMATION.
- THE EXISTENCE OF VEGETATED OR TIDAL WETLANDS, AND WATERS OF THE U.S. HAS BEEN INVESTIGATED, AND IS SHOWN BASED ON A REPORT PREPARED BY STRAUGHAN ENVIRONMENTAL, DATED AUGUST 2017.
- THE SPECIMEN TREES SHOWN ON THE PLAN ARE FROM A FOREST STAND DELINEATION PREPARED BY STRAUGHAN ENVIRONMENTAL, DATED MAY 2017.
- EXISTING UTILITIES SHOWN ON THIS PLAN SET WERE DEVELOPED 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 INACCURATE OR INCOMPLETE. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXISTING UTILITIES WITHIN THE PROJECT LIMITS OF 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.
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- UTILITY RELOCATION WILL BE PERFORMED BY CONTRACTOR UNLESS NOTED OTHERWISE IN THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF HIS CONSTRUCTION WITH THE CONSTRUCTION OF OTHER CONTRACTORS (INCLUDING BUT NOT LIMITED TO BSEE, VERIZON, AND CABLE TV UTILITY). REFER TO PROJECT MANUAL GENERAL SPECIAL PROVISIONS.
- CONTRACTOR SHALL MAINTAIN COVER OF 30" OVER ALL ELECTRICAL LINES WHERE FEASIBLE, AND IN COORDINATION WITH BGE AND THE COUNTY. BGE'S DETAIL FOR SHALLOW COVER PROTECTION UNDER SIDEWALKS SHALL BE UTILIZED TO REDUCE THE COVER TO NO LESS THAN 12".
- THE CONTRACTOR SHALL CALL "MISS UTILITY" 1-800-257-7777 A MINIMUM OF 72 HOURS PRIOR TO BEGINNING ANY EXCAVATION.
- IT SHALL BE DISTINCTLY UNDERSTOOD THAT FAILURE TO MENTION SPECIFICALLY ANY WORK WHICH WOULD NATURE TO COMPLETE THE PROJECT SHALL NOT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITY TO COMPLETE SUCH WORK.
- THE CONTRACTOR SHALL NOTIFY THE ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS (410) 222-4126, AT LEAST FOURTEEN (14) DAYS PRIOR TO BEGINNING CONSTRUCTION.
- GRID COORDINATES ARE BASED ON THE MARYLAND STATE PLANE COORDINATE SYSTEM NAD 83/91. VERTICAL ELEVATIONS ARE BASED UPON NAVD 89.
- THE CONTRACTOR SHALL ADJUST MANHOLES, WATER, METER VALVES, HAND BOXES, AND OTHER APPROPRIATE TO THE FINAL GRADE. THE COST OF PERFORMING THESE ACTIVITIES SHALL BE INCIDENTAL TO THE CONTRACT PRICE PAID FOR VARIOUS PAVEMENT ITEMS.
- UNLESS OTHERWISE NOTED, PIPE ELEVATIONS REFER TO THE PIPE INVERT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING ANY EXISTING LIGHT POLES, TRAFFIC BARRIER, SIGNS, ETC., DAMAGED OR REMOVED BY HIM DURING CONSTRUCTION.
- 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 ENGINEER.
- 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.
- THE DESIGN FOR THIS PROJECT INCORPORATES FACILITIES FOR THE HANDICAPPED IN COMPLIANCE WITH STATE AND FEDERAL LEGISLATION.
- WHERE CURB AND GUTTER ENDS ARE EXPOSED, PROVIDE A NOSE DOWN SECTION AT 3:1 SLOPE.
- MATERIAL REMOVED DURING CONSTRUCTION SHALL BECOME THE CONTRACTOR'S PROPERTY UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIAL PROVISIONS.
- STORM DRAIN AND UTILITY INSTALLATION IN EXISTING PAVEMENT SHALL BE IN ACCORDANCE WITH MD STD. 578.1.
- 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 UNDERDRAIN TO PROPOSED INLETS.
- 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.
- ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS AND DETAILS FOR CONSTRUCTION OF ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS, AND THE DETAILS, CONTAINED HEREIN.
- CONTRACTOR MUST HAND DIG NEAR EXISTING UNDERGROUND UTILITIES WITH LESS THAN OR EQUAL TO 3.0 FEET CLEAR DISTANCE.
- EXISTING OVERHEAD POWER LINES ARE IN THE VICINITY OF THE PROJECT. AT NO TIME WILL THE POWER BE PERMITTED TO BE SHUT OFF. AT ALL TIMES DURING CONSTRUCTION, THE CONTRACTOR SHALL COMPLY ABSOLUTELY WITH THE MARYLAND HIGHWAYS ACT. IT IS THE CONTRACTOR'S OBLIGATION TO VERIFY THE EXISTING LOCATION OF THE POWER LINES IN THE FIELD AND TO MAINTAIN AND ENFORCE CLEARANCE REQUIREMENTS SPECIFIED IN THE ACT.
- PROPOSED FENCING SHALL BE 4" HIGH BLACK VINYL COATED CHAIN LINK, EXCEPT WHERE NOTED, OR SPLIT RAIL FENCE, AS SHOWN ON THE PLANS. FENCE TO BE INSTALLED WITH MINIMAL CLEARING.
- ALL SCALED DIMENSIONS ON THE DRAWINGS ARE APPROXIMATE. BEFORE PROCEEDING WITH ANY WORK, THE CONTRACTOR SHALL CAREFULLY CHECK AND VERIFY ALL DIMENSIONS AND QUANTITIES, AND SHALL IMMEDIATELY INFORM THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES BETWEEN THE INFORMATION ON THE DRAWINGS AND THE ACTUAL CONDITIONS, REFRAINING FROM DOING ANY WORK IN SAID AREAS UNTIL GIVEN APPROVAL TO DO SO BY THE OWNER'S REPRESENTATIVE.
- WHEREVER REFERENCES ARE MADE TO STANDARDS OR CODES IN ACCORDANCE WITH WHICH WORK IS TO BE PERFORMED OR TESTED, THE EDITION OR REVISION OF THE STANDARDS AND CODES CURRENT ON THE EFFECTIVE DATE OF THIS CONTRACT SHALL APPLY, UNLESS OTHERWISE EXPRESSLY SET FORTH.
- IN CASE OF CONFLICT AMONG ANY REFERENCED STANDARDS OR CODES OR BETWEEN ANY REFERENCED STANDARDS AND CODES AND THE SPECIFICATIONS, THE MORE RESTRICTIVE STANDARD SHALL APPLY OR OWNER'S REPRESENTATIVE SHALL DETERMINE WHICH SHALL GOVERN.
- DUE TO THE PROJECT'S LOCATION IN THE COUNTY RIGHT-OF-WAY, FOREST CONSERVATION IS NOT REQUIRED BASED ON SECTION 5-103 OF THE NATURAL RESOURCES ARTICLE OF THE STATE OF MARYLAND CODE. CLEARING FOR THIS PROJECT ON OPEN SPACE PARCELS IS LESS THAN 20 SQ. FT. SO FOREST CONSERVATION IS NOT REQUIRED FOR THIS OFFSITE WORK. REFORESTATION WITHIN THE COUNTY RIGHT-OF-WAY HAS BEEN PROVIDED WHERE APPROPRIATE.

**LIST OF ABBREVIATIONS**

AATUR - ABANDONED ACCORDING TO UTILITY RECORDS	N/A - NOT APPLICABLE
A.D.T. - AVERAGE DAILY TRAFFIC	N.I.C. - NOT IN CONTRACT
AHD - AHEAD	NO. - NUMBER
BGE - BALTIMORE GAS AND ELECTRIC COMPANY	N.S. - NORMAL SECTION
BIT. - BITUMINOUS	O.C. - ON CENTER
BK. - BACK	O/S - OFFSET
B.M. - BENCH MARK	P.C. - POINT OF CURVE
BW - BOTTOM OF WALL	P/C - POINT OF CROWN
B/L - BASELINE	P.C.A. - POINT OF COMPOUND CURVE
CATV - CABLE TELEVISION	P.G.E. - PROFILE GRADE ELEVATION
C&G - CURB AND GUTTER	P.G.L. - PROFILE GRADE LINE
C.I.P. - CAST IN PLACE (OR CURB INLET PROTECTION)	P.G.L. - PROFILE GROUND LINE
C.I.P. - CORRUGATED METAL PIPE	P.H. - PUNCH HOLE
C.S.P. - CORRUGATED STEEL PIPE	P.I. - POINT OF INTERSECTION
C.O. - CLEAN OUT	P.O.C. - POINT ON CURVE
COMB. - COMBINATION	P.O.T. - POINT ON TANGENT
COMM. - COMMUNICATION	P/R - POINT OF ROTATION
CONSTR. - CONSTRUCTION	P.R.C. - POINT OF REVERSE CURVATURE
DWG. - DRAWING	P.T. - POINT OF TANGENT
Dc - DEGREE OF CURVE	PVC - POINT OF VERTICAL CURVE (OR POLYVINYL CHLORIDE)
Δ - DELTA (CENTRAL ANGLE), DEGREES	PVI - POINT OF VERTICAL INTERSECTION
D.I. - DROP INLET	PVMT. - PAVEMENT
DIA. - DIAMETER	P.V.A. - POINT OF VERTICAL TANGENCY
D.S. - DESIGN SPEED	R - RADIUS
E - ELECTRIC	R.C.P. - REINFORCED CONCRETE PIPE
EB - EASTBOUND	REF. - REFERENCE
EOI - END OF INFORMATION	R.S.E. - REVERTIBLE SLOPE EASEMENT
EORI - END OF RECORD INFORMATION	RT. - RIGHT
ERCCP - ELLIPTICAL REINFORCED CEMENT CONCRETE PIPE	RTE. - ROUTE
ES - END STRUCTURE	R/W - RIGHT OF WAY
EW - ENDWALL OR EACH WAY	SAN. - SANITARY
EX. EXIST- EXISTING	S.D. - STORM DRAIN
F.O. - FIBER OPTIC	S/E - SUPER ELEVATION
F.S. - FULL SUPER	S.H.A. - STATE HIGHWAY ADMINISTRATION
GA. - GAUGE OR GAGE	SMH. - SEWER MANHOLE
G.H.V. - GAS HOUSE CONNECTION	S.S.D. - STOPPING SIGHT DISTANCE
G.V. - GAS VALVE	STA. - STATION
HDWL - HEADWALL	STD. - STANDARD
G.W. - HANDHOLE	STRUCT. - STRUCTURE
H.P. - HIGH POINT	T - TELEPHONE
I - INLET	TC - TRAFFIC CONTROL
INV. - INVERT	T.C.A. - TEMPORARY CONSTRUCTION EASEMENT
L - LENGTH	T.C.P. - TRAFFIC CONTROL PLANS
L.P. - LOW POINT (OR LIGHT POLE)	T.H. - TEST HOLE
L.S. - LEVEL SECTION	TW - TOP OF WALL
LT. - LEFT	TYP. - TYPICAL
M.B. - MAIL BOX	U.D. - UNDERDRAIN PIPE
MD - MARYLAND	WB - WESTBOUND
MDE - MARYLAND DEPARTMENT OF THE ENVIRONMENT	WM - WATER METER
M.H. - MANHOLE	W.S. - WRAPPED STEEL
	W.U.S. - WATERS OF THE UNITED STATES
	W.V. - WATER VALVE
	V.C. - LENGTH OF VERTICAL CURVE

**PHASE IV - JONES STATION ROAD EAST TO PENNSULA FARM ROAD**

- UPON APPROVAL OF INSPECTOR BEGIN CLEARING AND GRADING FOR THE INSTALLATION OF A STAGING AREA IMMEDIATELY EAST OF JONES STATION ROAD (WEST). STAGING AREA SHALL BE STABILIZED WITH 6" (MIN.) OF WOODCHIP MULCH, PREFERABLY FROM MATERIAL CLEARED AND CHIPPED ON SITE. (2 DAYS)
- BEGIN CLEARING FOR THE INSTALLATION OF STORM DRAINS AND DRAINAGE STRUCTURES. (2 DAYS)
- INSTALL STORM DRAINS AND RIP RAP. INSTALL INLET PROTECTION AS SHOWN ON PLANS. (1 WEEK)
- UPON COMPLETION OF STORM DRAINAGE WORK, BEGIN CLEARING AND GRADING TO ESTABLISH TRAIL SUBGRADE. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (5 WEEKS)
- CONCURRENT WITH STEP 42, CONSTRUCT RETAINING WALL J, L, AND M. AS WALLS IN FILL ARE CONSTRUCTED, BRING GRADE UP TO ESTABLISH TRAIL SUBGRADE. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (4 WEEKS)
- SAWCUT PAVEMENT AND CONSTRUCT ROAD IMPROVEMENTS ALONG COLLEGE PARKWAY EAST OF AACC. IMPROVEMENTS TO BE CONSTRUCTED USING SAME DAY STABILIZATION MEASURES. (6 WEEKS)
- WITH THE ESTABLISHMENT OF TRAIL SUBGRADE, BEING INSTALLING STONE BASE AND ASPHALT PAVING. COMPLETE ALL WORK AT INTERSECTIONS. STABILIZE DISTURBED AREAS WITH SEED AND STRAW. (4 WEEKS)
- ONCE PAVING HAS BEEN COMPLETED AND SITE PRELIMINARY STABILIZED, COMPLETE FINAL GRADING FOR THE INSTALLATION OF STORMWATER MEASURES AND INSTALL ALL STORMWATER FACILITIES. 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. (2 WEEKS)
- INSTALL LANDSCAPING FENCING, AND REFORESTATION. (2 WEEKS)
- WITH COMPLETION OF WORK AND STABILIZATION OF SITE, CONTACT COUNTY INSPECTOR FOR FINAL INSPECTION. WITH APPROVAL OF INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. (1 WEEK)

**SEQUENCE OF CONSTRUCTION (CONTINUED FROM SHEET 1)**

- PHASE 4 - KIMWOOD DRIVE TO JONES STATION ROAD EAST**
- UPON APPROVAL OF INSPECTOR BEGIN CLEARING AND GRADING FOR THE INSTALLATION OF A STAGING AREA IMMEDIATELY EAST OF ROSSLARE DRIVE. STAGING AREA SHALL BE STABILIZED WITH 6" (MIN.) OF WOODCHIP MULCH, PREFERABLY FROM MATERIAL CLEARED AND CHIPPED ON SITE. (2 DAYS)
  - BEGIN CLEARING FOR THE INSTALLATION OF CULVERTS, STORM DRAINS, DRAINAGE STRUCTURES, AND WATER LINE EXTENSION. (2 DAYS)
  - INSTALL CULVERTS, STORM DRAINS, DRAINAGE STRUCTURES, WATER LINE EXTENSION, AND RIP RAP. INSTALL INLET PROTECTION AS SHOWN ON PLANS. (1 WEEK)
  - UPON COMPLETION OF STORM DRAINAGE WORK, BEGIN CLEARING AND GRADING TO ESTABLISH TRAIL SUBGRADE. AS SLOPES 3:1 AND GREATER ARE COMPLETED, TOPSOIL, SEED, AND PLACE PERMANENT SOIL STABILIZATION MATTING. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. ROUGH GRADE SHOULDER WIDENING AREA ACROSS FROM RAINTREE ENTRANCE. MAINTAIN ACCESS TO EXISTING DRIVEWAYS THROUGHOUT CONSTRUCTION. (6 WEEKS)
  - CONCURRENT WITH STEP 32, CONSTRUCT RETAINING WALL I. AS WALLS IN FILL ARE CONSTRUCTED, BRING GRADE UP TO ESTABLISH TRAIL SUBGRADE. COMPLETE WORK WITHIN CRITICAL ROOT ZONES OF SPECIMEN TREES AS NOTED ON SPECIMEN TREE PRESERVATION PLANS. (4 WEEKS)
  - WITH THE ESTABLISHMENT OF TRAIL SUBGRADE, BEING INSTALLING STONE BASE AND ASPHALT PAVING. COMPLETE ALL WORK AT INTERSECTIONS. STABILIZE DISTURBED AREAS WITH SEED AND STRAW, AND INSTALL SOIL STABILIZATION MATTING IN SWALES. (4 WEEKS)
  - COMPLETE CROSSINGS OF COLLEGE PARKWAY AT KIMWOOD DRIVE, LOCUST RIDGE LANE, AND RAINTREE DRIVE. ALL WORK WITH ROADWAY SHALL BE COMPLETED USING SAME DAY STABILIZATION MEASURES. COMPLETE ALL TRAFFIC SIGNAL WORK. (3 WEEKS)
  - ONCE PAVING HAS BEEN COMPLETED AND SITE PRELIMINARY STABILIZED, COMPLETE FINAL GRADING FOR THE INSTALLATION OF STORMWATER MEASURES AND INSTALL ALL STORMWATER FACILITIES. 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)
  - INSTALL LANDSCAPING FENCING, AND REFORESTATION. (2 WEEKS)
  - WITH COMPLETION OF WORK AND STABILIZATION OF SITE, CONTACT COUNTY INSPECTOR FOR FINAL INSPECTION. WITH APPROVAL OF INSPECTOR, REMOVE ALL REMAINING SEDIMENT CONTROL DEVICES. (1 WEEK)

**SYMBOL LEGEND**

PROPOSED 2' CONTOUR  
PROPOSED 10' CONTOUR  
PROPOSED SPOT ELEVATION  
PROPOSED SUPER SILT FENCE  
PROPOSED SILT FENCE  
PROPOSED REINFORCED SILT FENCE  
PROPOSED DIVERSION FENCE  
PSD-18

PROPOSED PIPE SLOPE DRAIN  
PROPOSED SOIL STABILIZATION MATTING  
PROPOSED STANDARD INLET PROTECTION  
PROPOSED CURB INLET PROTECTION  
PROPOSED COMBINATION INLET PROTECTION  
STABILIZED CONSTRUCTION ENTRANCE  
SPECIMEN TREE TO BE REMOVED  
EXISTING DRAINAGE AREA  
SPECIMEN TREE SIGNAGE  
HEAVY EQUIPMENT EXCLUSION ZONE  
TREE PROTECTION FENCE  
ROOT PRUNING  
RIP RAP  
PROPOSED SHADE TREE  
PROPOSED SHRUBS  
PROPOSED EVERGREEN TREE  
PROPOSED REFORESTATION

MAP SYMBOL	NAME	EROSION	K FACTOR	HYDRIC	SLOPE (%)	HYDROLOGIC GROUP
A6B	Adelphia-Holmdel complex,	SEVERE	0.37	NO	2-5%	C
AoA	Annapolis loamy sand	SLIGHT	0.17	NO	0-2%	C
AOB	Annapolis loamy sand	SLIGHT	0.17	NO	2-5%	C
AoC	Annapolis loamy sand	SLIGHT	0.17	NO	5-10%	C
AsB	Annapolis fine sandy loam	MODERATE	0.24	NO	2-5%	C
AsC	Annapolis fine sandy loam	MODERATE	0.24	NO	5-10%	C
AsE	Annapolis fine sandy loam	MODERATE	0.24	NO	15-25%	C
AsF	Annapolis fine sandy loam	MODERATE	0.24	NO	25-40%	C
AuB	Annapolis-Urban land complex	MODERATE	0.24	NO	0-5%	C
AuD	Annapolis-Urban land complex	MODERATE	0.24	NO	5-15%	C
CoB	Collington-Wist complex	SLIGHT	0.17	NO	2-5%	B
CoC	Collington-Wist complex	SLIGHT	0.17	NO	5-10%	B
CpD	Collington-Wist-Urban land complex	SLIGHT	0.17	NO	5-15%	B
CRD	Collington and Annapolis soils	SLIGHT	0.17	NO	10-15%	B
CSE	Collington, Wist, and Westphalia soils	SLIGHT	0.17	NO	15-25%	B
DuB	Donlonton-Urban land complex	MODERATE	0.24	NO	0-5%	D
DwB	Downer-Hampton-Urban land complex			NO	0-5%	A
DwD	Downer-Hampton-Urban land complex			NO	5-15%	A
DxC	Downer-Phalanx complex	SLIGHT	0.1	NO	5-10%	A
DxD	Downer-Phalanx complex	SLIGHT	0.1	NO	10-15%	A
EuD	Evesboro-Galestown-Urban land complex			NO	5-15%	A
EVC	Evesboro and Galestown soils			NO	5-10%	A
MxB	Mattapex-Butlertown complex	SEVERE	0.43	NO	2-5%	D
MxC	Mattapex-Butlertown complex	SEVERE	0.43	NO	5-10%	D
MyB	Mattapex-Butlertown-Urban land complex	SEVERE	0.43	NO	0-5%	D
PgB	Patapsco-Fort Mott-Urban land complex	SLIGHT	0.02	NO	0-5%	A
PgD	Patapsco-Fort Mott-Urban land complex	SLIGHT	0.02	NO	5-15%	A
SaB	Sassafras fine sandy loam	SLIGHT	0.15	NO	2-5%	A
SaB	Sassafras loam	MODERATE	0.32	NO	2-5%	B
SME	Sassafras and Croom soils	SLIGHT	0.15	NO	15-25%	B
SnB	Sassafras-Urban land complex	MODERATE	0.24	NO	0-5%	C
SnD	Sassafras-Urban land complex	SLIGHT	0.15	NO	5-15%	A
TSc	Tinton loamy sand	SLIGHT	0.1	NO	5-10%	A
TuC	Tinton-Urban land complex	SLIGHT	0.1	NO	5-10%	A
UxB	Ucorrhents, loamy, sulfidic substratum	MODERATE	0.28	NO	0-5%	C
UxD	Ucorrhents, loamy, sulfidic substratum	MODERATE	0.28	NO	5-15%	C
WBA	Widewater and Issue soils	SEVERE	0.37	YES	0-2%	C/D
ZBA	Zekiah and Issue soils	SEVERE	0.37	YES	0-2%	B/D

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
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 DATE 5/6/21  
APPROVED DATE 4/15/21  
APPROVAL DATE 4/15/21  
APPROVED DATE 4/16/21

SCALE: AS SHOWN  
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 3 OF 137  
PROJECT #: P504100  
PROPOSAL #:

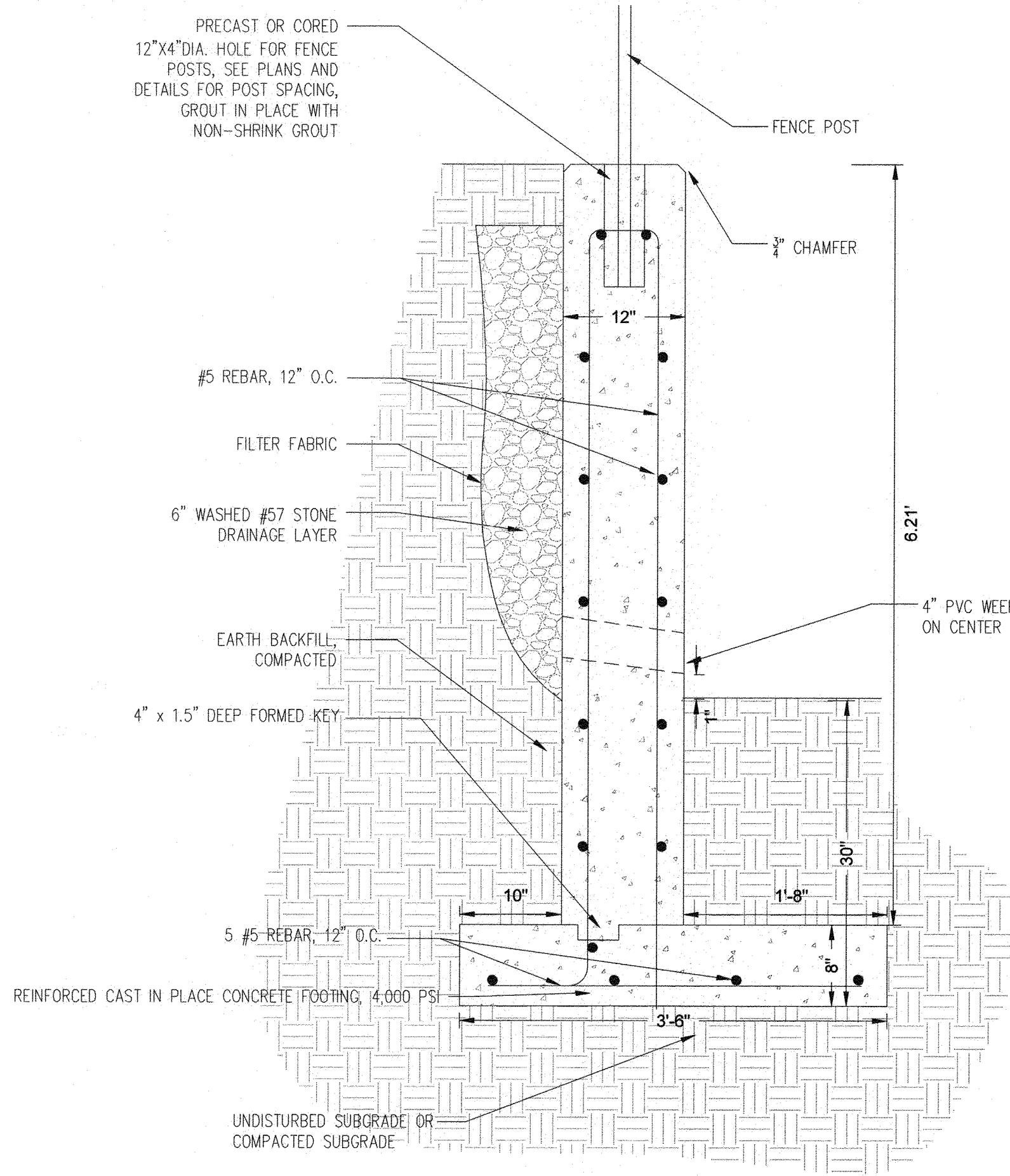
GP# G02017905 DWG NO: DD02

97070 APRIL 5, 2021

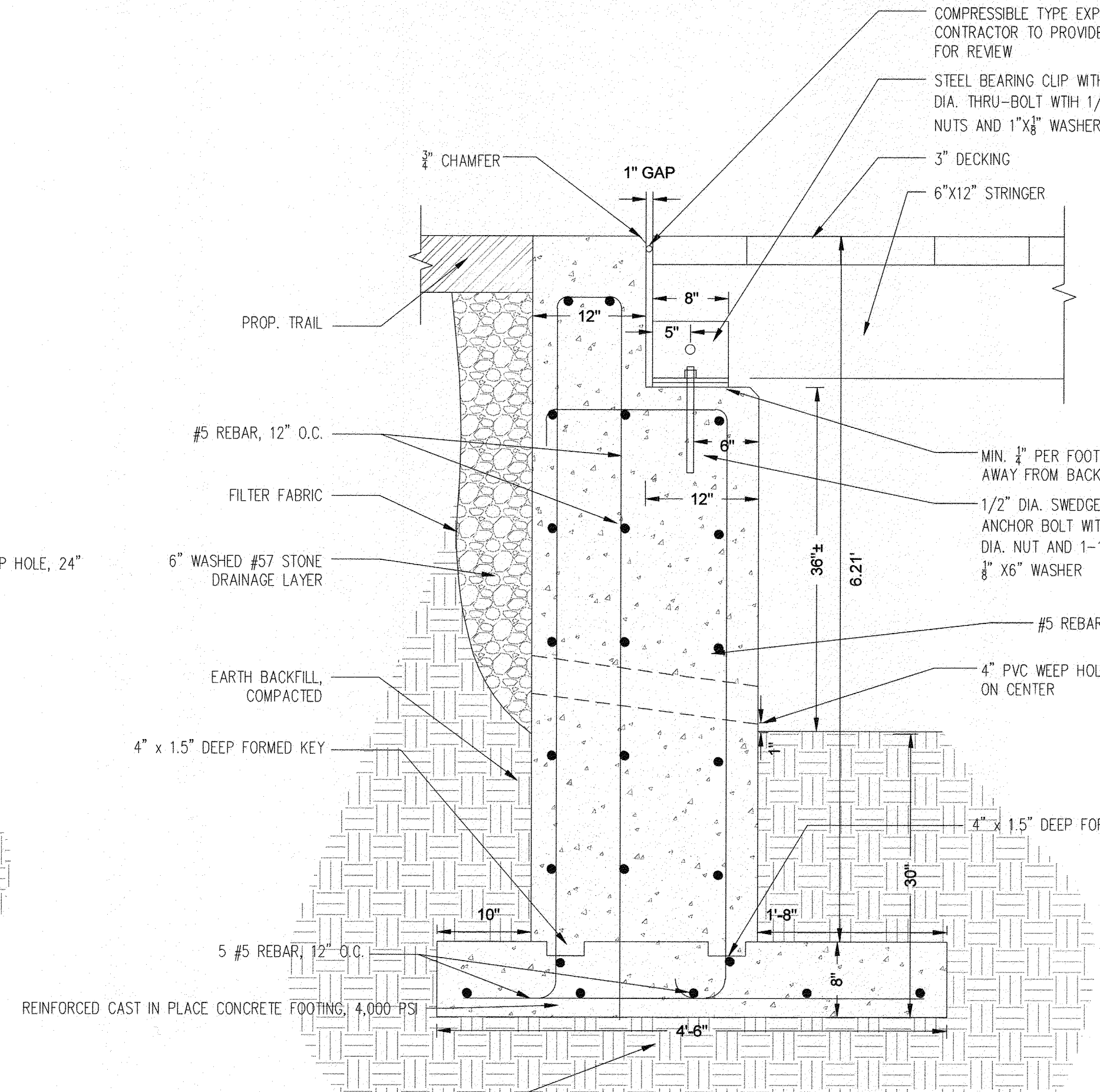
GENERAL NOTES, LEGEND, AND ABBREVIATIONS

**BROADNECK TRAIL - PHASE III**  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 39, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

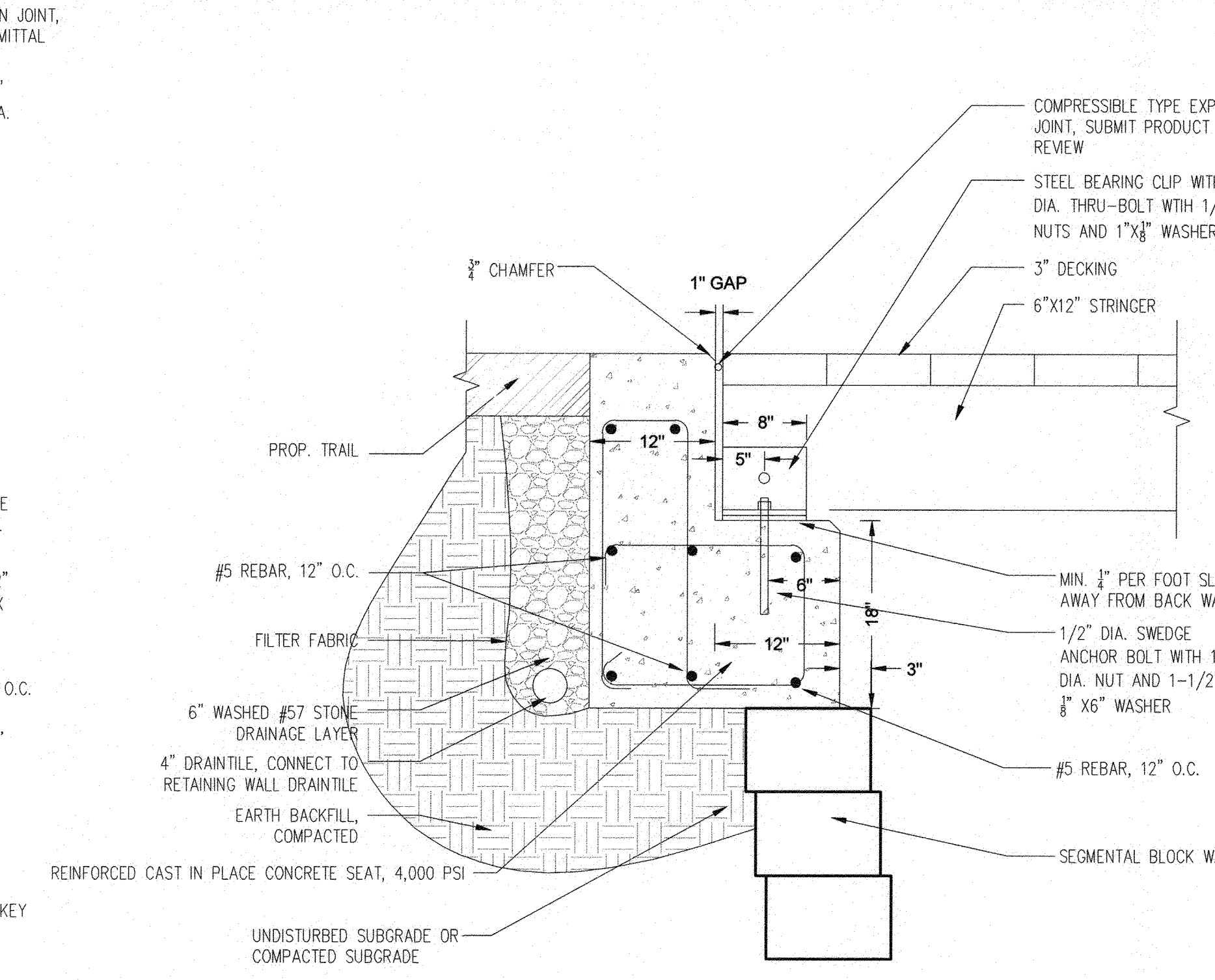




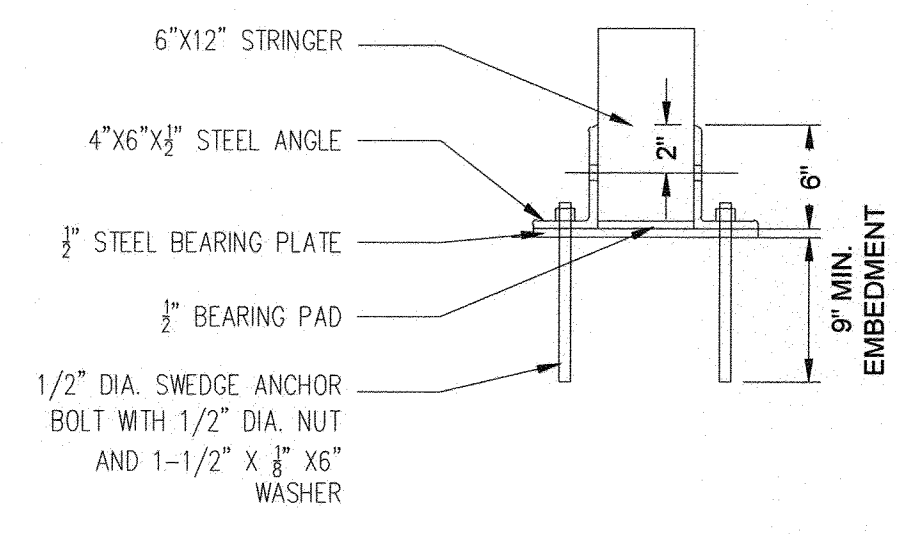
**1 BOARDWALK #1 SEAT WALL - SECTION B**  
SCALE: 1" = 1'



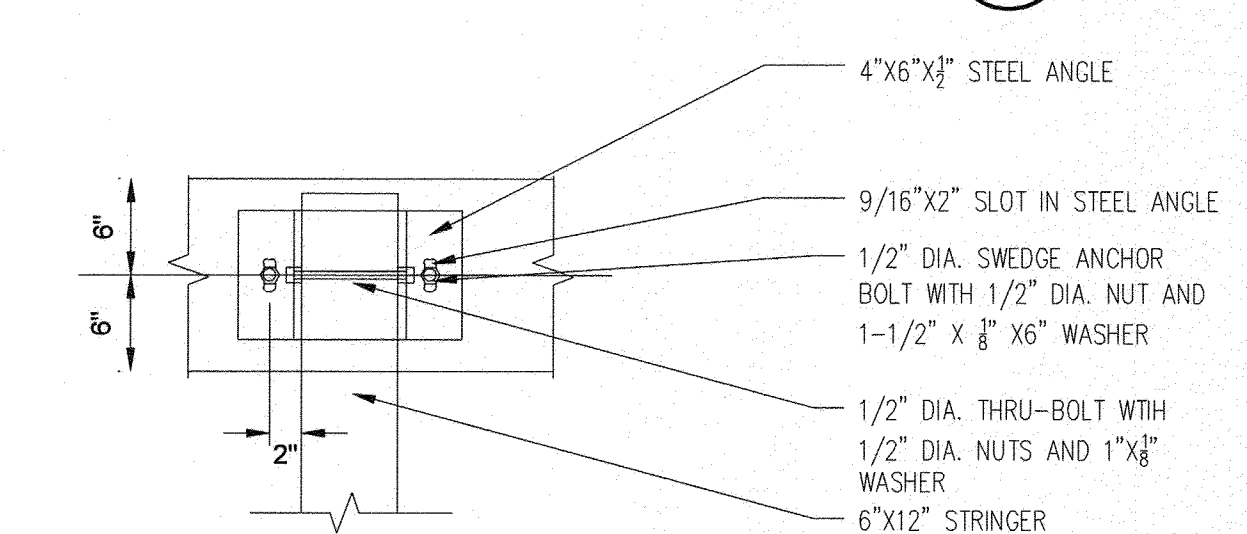
**2 BOARDWALK #1 SEAT WALL - SECTION A**  
SCALE: 1" = 1'



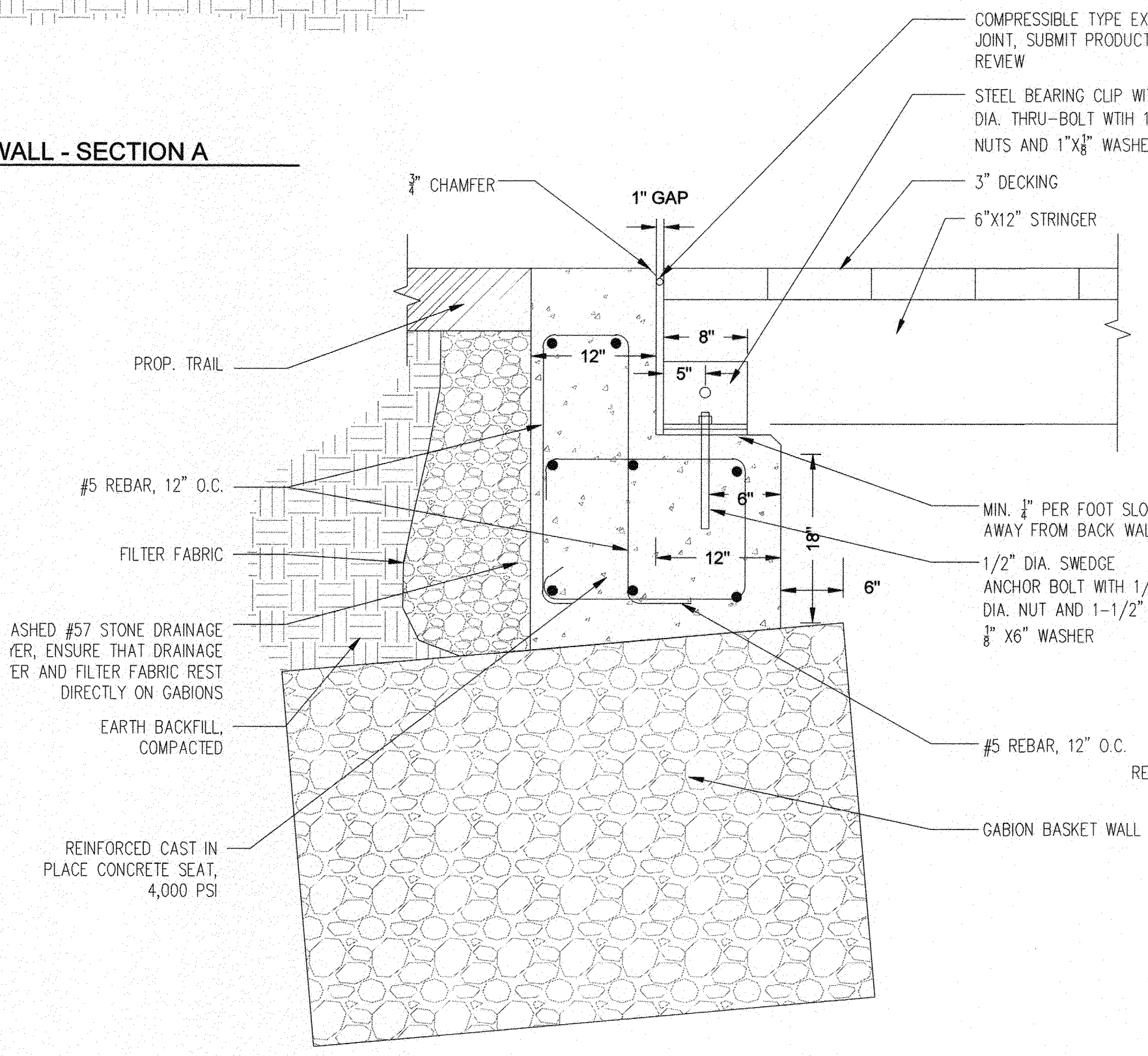
**3 BOARDWALK SEAT WALL AT SEGMENTAL BLOCK WALL**  
SCALE: 1" = 1'



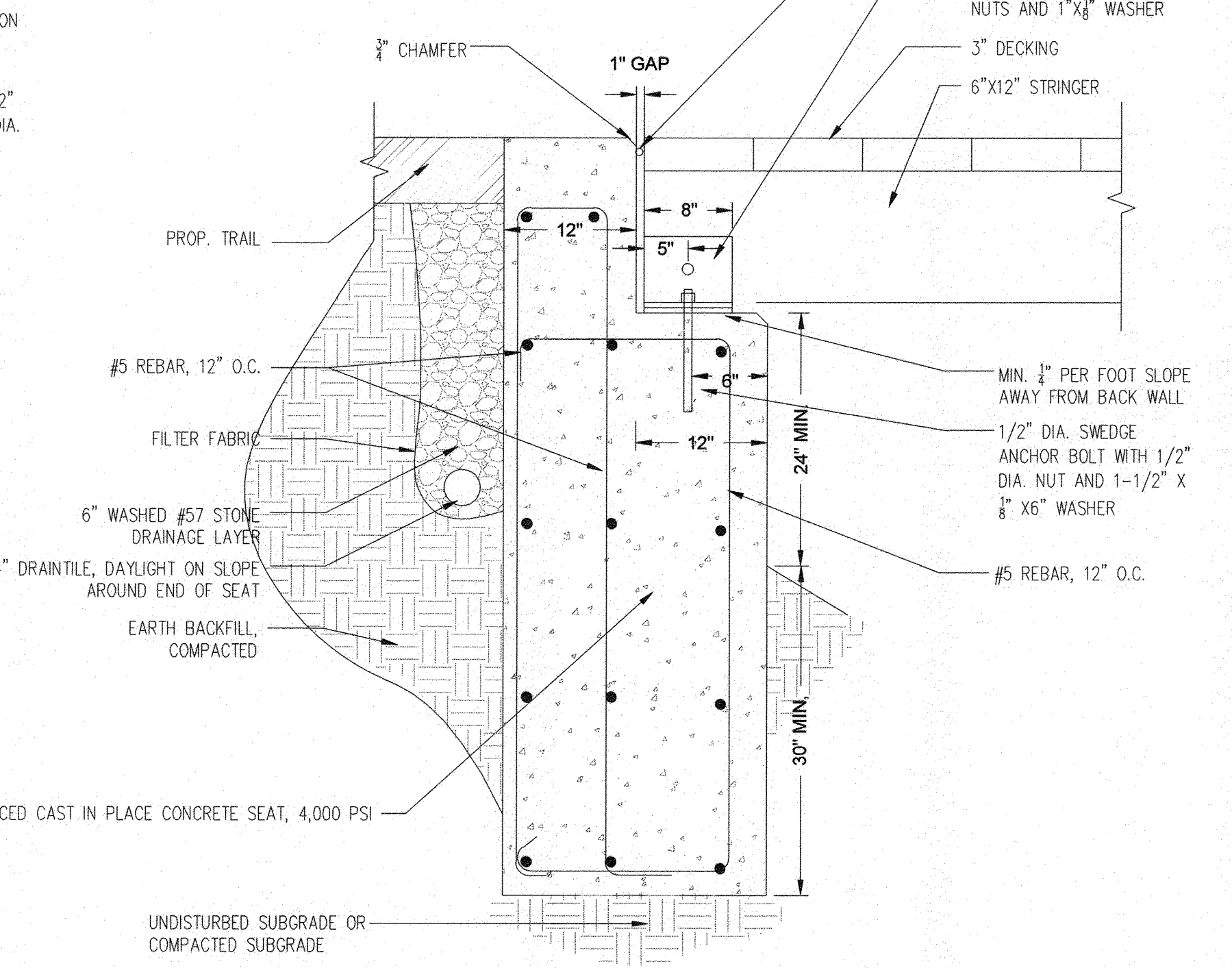
**4 STEEL BEARING CLIP DETAIL**  
SCALE: 1" = 1'



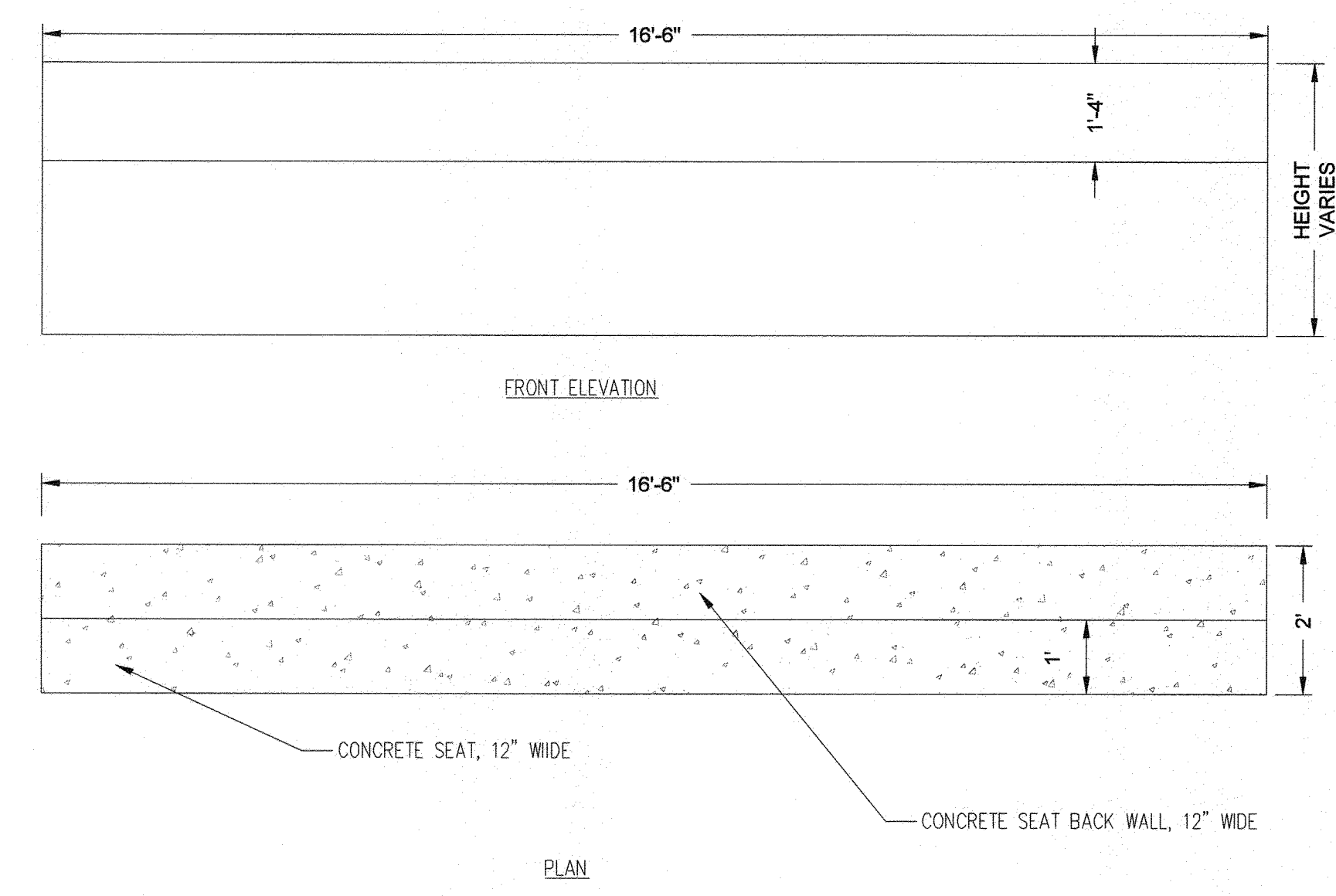
**5 STEEL BEARING CLIP PLAN**  
SCALE: 1" = 1'



**6 BOARDWALK SEAT WALL AT GABION WALL**  
SCALE: 1" = 1'



**7 BOARDWALK SEAT WALL**  
SCALE: 1" = 1'



**8 BOARDWALK SEAT WALL PLAN AND ELEVATION**  
SCALE: 1" = 1'

**SEAT WALL NOTES:**  
THIS DETAIL SHALL BE USED AT THE EAST END OF BOARDWALK #1, THE EAST END OF BOARDWALK #2, AND THE EAST END OF BOARDWALK #3. SEE SHEETS 114 AND 115 FOR DETAILS TO UTILIZE AT THE EAST END OF BOARDWALK #2 AND THE WEST END OF BOARDWALK #3.

- GENERAL NOTES:**
- BEARING PADS SHALL BE A MINIMUM 50 DUROMETER NEOPRENE WITH A MINIMUM THICKNESS OF 1/2".
  - PROVIDE A MINIMUM 1" GAP BETWEEN SUPERSTRUCTURE AND BACKWALL TO ALLOW FOR POSSIBLE EXPANSION OF SUPERSTRUCTURE DUE TO INCREASES IN MOISTURE CONTENT. THE GAP SHALL BE FILLED WITH AN COMPRESSIBLE TYPE EXPANSION JOINT TO PREVENT DEBRIS AND WATER FROM PASSING THROUGH TO THE BEARING PAD.
  - FOR MATERIALS, SEE GENERAL NOTES ON SHEET DD16D.
  - ALL HARDWARE INCLUDING STEEL ANGLES, STEEL BEARING PLATES, BOLTS, SWEDGE ANCHOR BOLTS, THRU-BOLTS, NUTS, AND WASHERS SHALL BE IN ACCORDANCE WITH THE NOTES ON SHEET 116 AND SHALL BE HOT DIPPED GALVANIZED CONFORMING TO ASTM A123.
  - CONCRETE SHALL BE SHA MIX NO. 6.
  - PROVIDE A MINIMUM OF 24" OF CLEAR SPACE BETWEEN BOTTOM OF BOARDWALK AND FINISHED GRADE.

**NOTE: SEE BOARDWALK PLANS SHEETS 113 TO 119 FOR BOARDWALK DETAILS, PLANS, ELEVATIONS, AND SECTIONS.**

PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , 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 # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>	
REVISIONS	APPROVED
DESCRIPTION	BY DATE

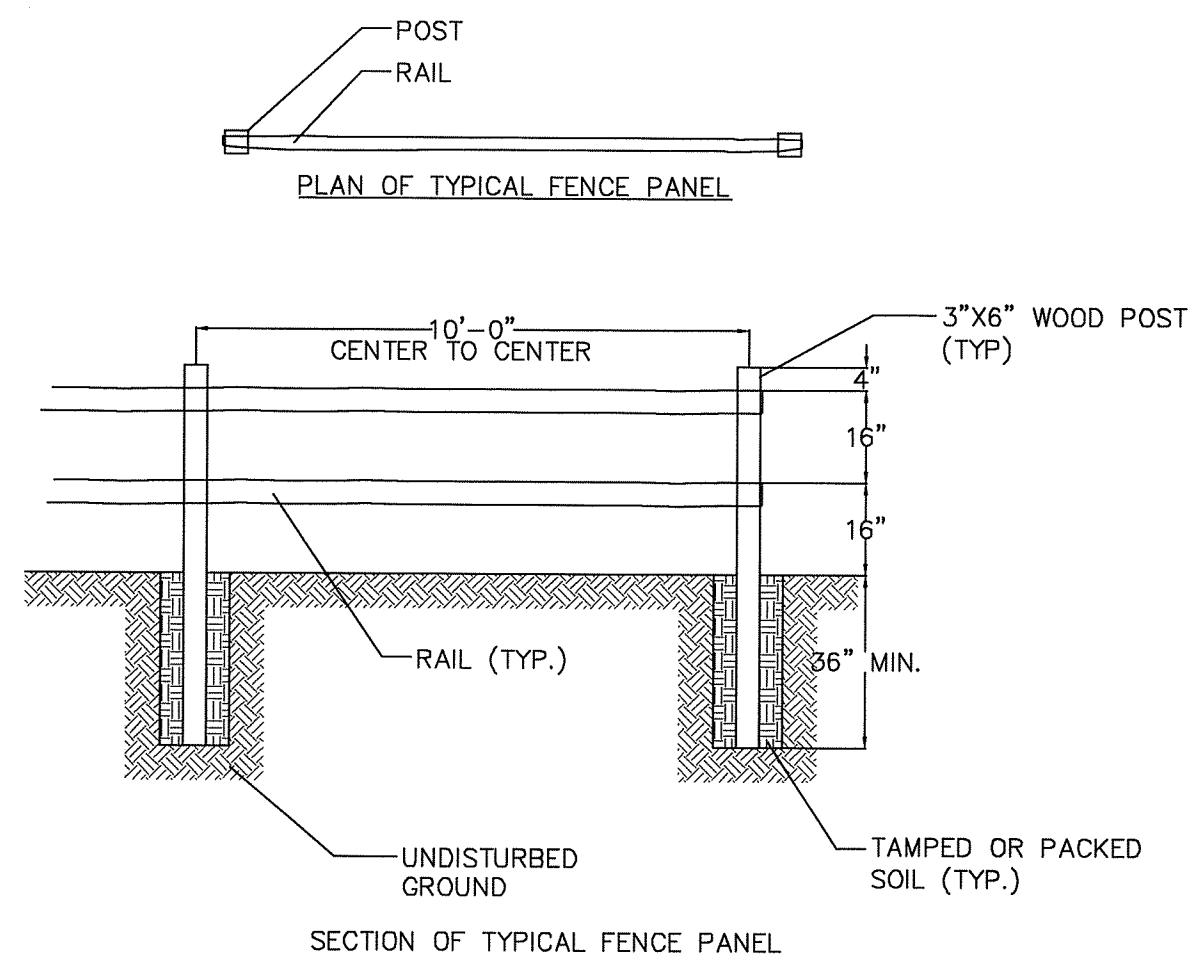


**Pennoni**  
PENNONI ASSOCIATES INC.  
8890 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		GP# G02017905	DWG NO: DD03A
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	5/16/21	<i>[Signature]</i>	4/15/21
CHIEF ENGINEER		PROJECT MANAGER	
APPROVAL	DATE	APPROVED	DATE
<i>[Signature]</i>	4/21/21	<i>[Signature]</i>	4/16/21
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN	DRAWN BY: PAJ		TYPICAL SECTIONS AND DETAILS
CHECKED BY: PJS/JAR	SHEET 4 of 137		BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS
PROJECT # P504100	PROPOSAL #:		TAX MAP 32, 38, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019

DPW No.:

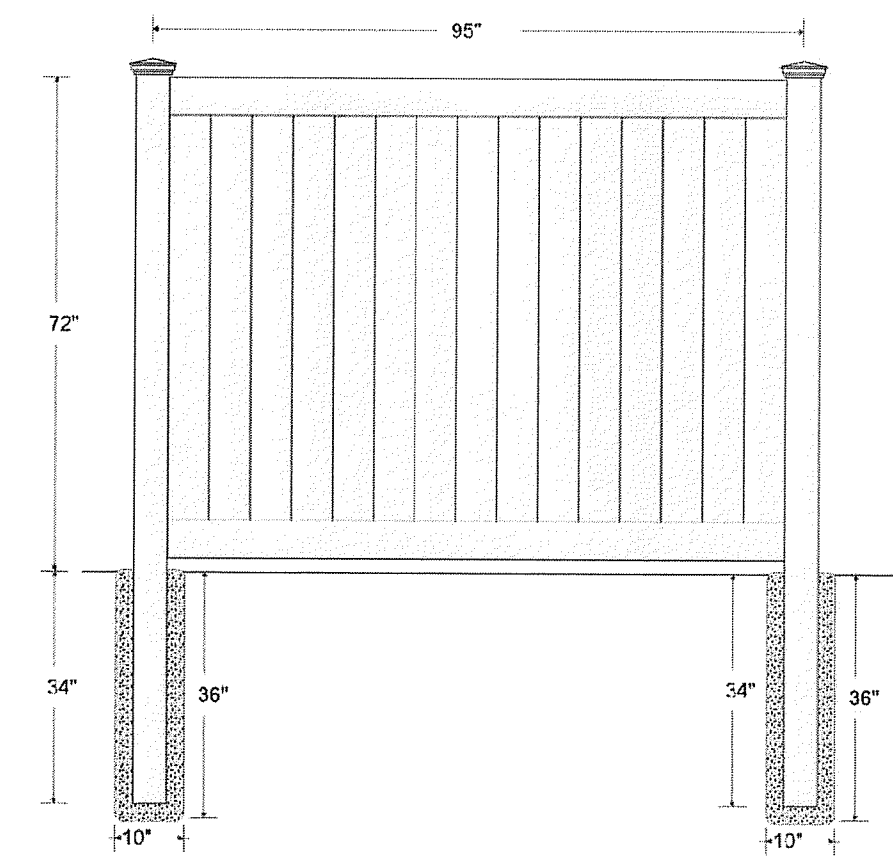




SPLIT RAIL FENCE NOTES:

- POSTS AND RAILS SHALL BE CCA PRESSURE TREATED, LOCUST, CEDAR, OR OTHER ROT RESISTANT WOOD, OR APPROVED ALTERNATE.
- RAILS SHALL BE NAILED TO POSTS WITH GALVANIZED NAILS.

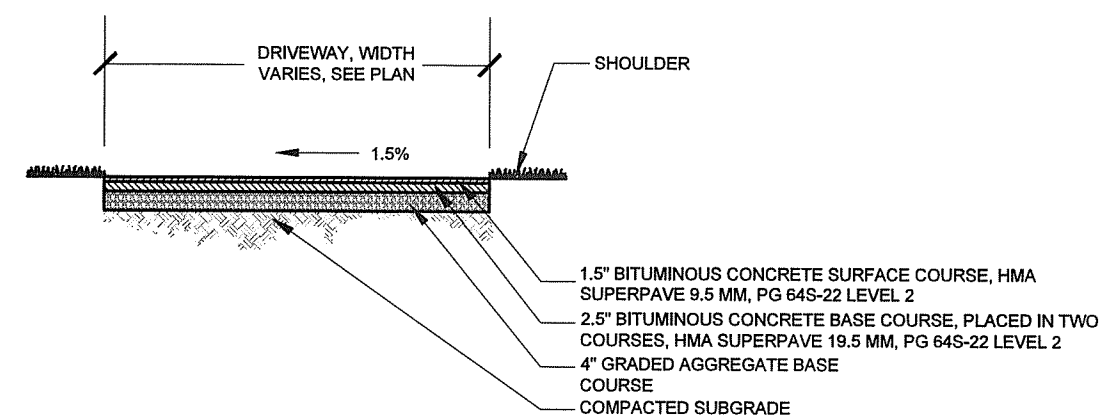
1 SPLIT RAIL FENCE  
5 NOT TO SCALE



PVC PRIVACY FENCE NOTES:

- SUBMIT PRODUCT INFORMATION AND SHOP DRAWINGS OF PRIVACY FENCE FOR COUNTY AND HARTING FARM HOA APPROVAL PRIOR TO CONSTRUCTION.
- TERMINAL POSTS AND LINE POSTS SHALL BE 5"X5"X108" WITH A NEW ENGLAND POST CAP, AND SHALL HAVE 10" FOOTING DIAMETER, AND 36" FOOTING DEPTH.
- TOP AND BOTTOM RAIL SHALL BE 1-3/4" X 5-1/2".
- PICKETS SHALL BE 1" X 6" TONGUE AND GROOVE PICKETS.
- POST SPACING SHALL BE 96".
- FENCE COLOR SHALL BE WHITE.
- FENCE MATERIAL SHALL BE PVC.
- CONCRETE FOR FOOTINGS SHALL BE SHA MIX NO. 2.
- PROVIDE A MOWING GAP UNDER FENCE, MIN. 2", MAX. 4".

4 PVC PRIVACY FENCE  
5 NOT TO SCALE

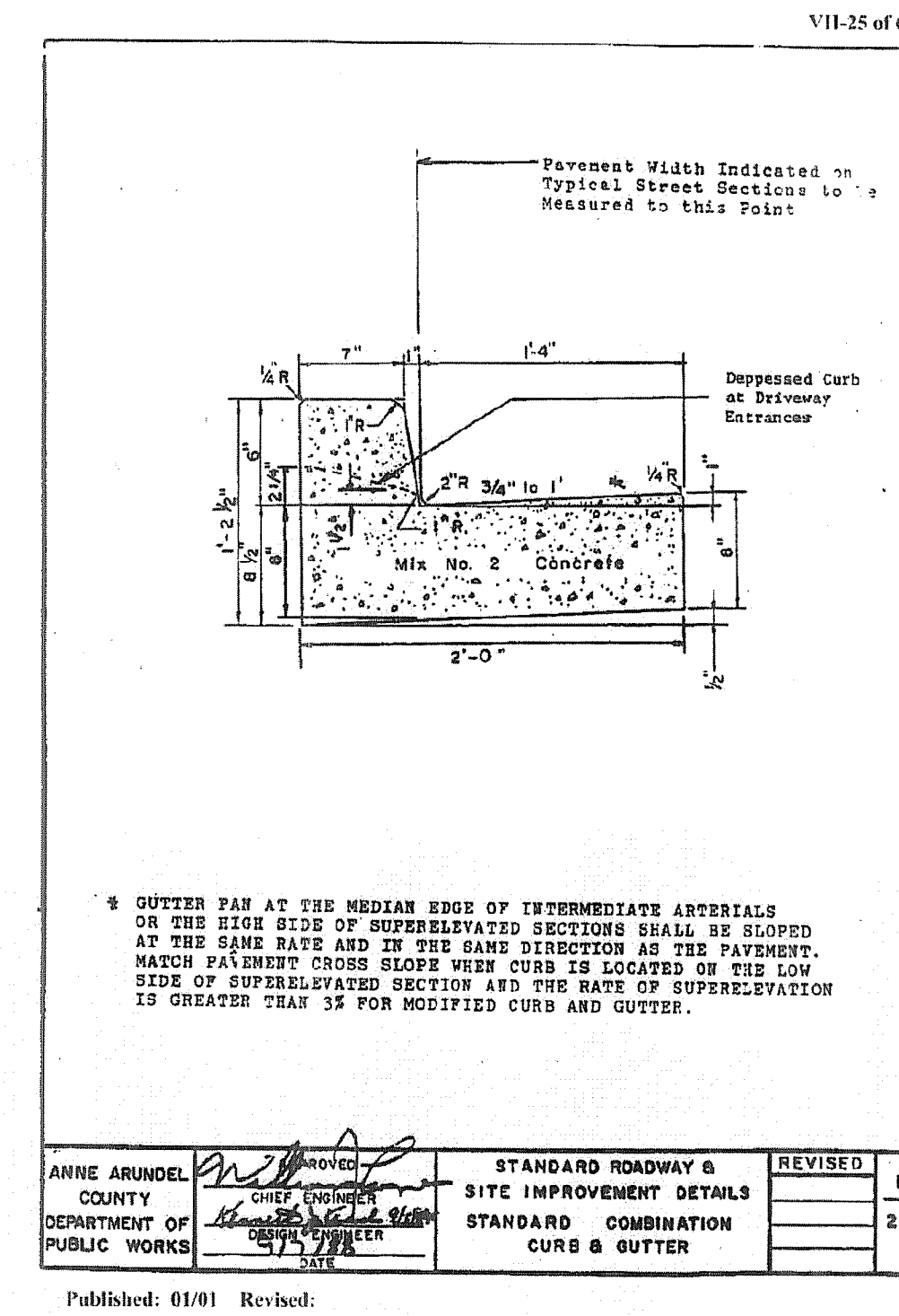


8 RESIDENTIAL DRIVEWAY SECTION  
5 SCALE: 1" = 5'

NOTE:  
FOR ALL MDOT SHA STANDARDS REFERRED TO ON THE PLANS, THE CONTRACTOR MUST GO TO THE BOOK OF STANDARDS FOR HIGHWAY AND INCIDENTAL STRUCTURES WHICH WILL HAVE THE MOST CURRENT VERSION. THE BOOK OF STANDARDS CAN BE ACCESSED AT: [HTTPS://ROADS.MARYLAND.GOV](https://roads.maryland.gov)

- THE FOLLOWING STANDARDS SHALL BE UTILIZED FOR THIS PROJECT:
- TRAFFIC BARRIER: MD 605.03, MD 605.10, MD 605.21, MD 605.23, MD 605.31
- DETECTABLE WARNING: MD 655.40
- RAMPS: MD655.11, MD 655.12, MD 655.13, MD 655.21

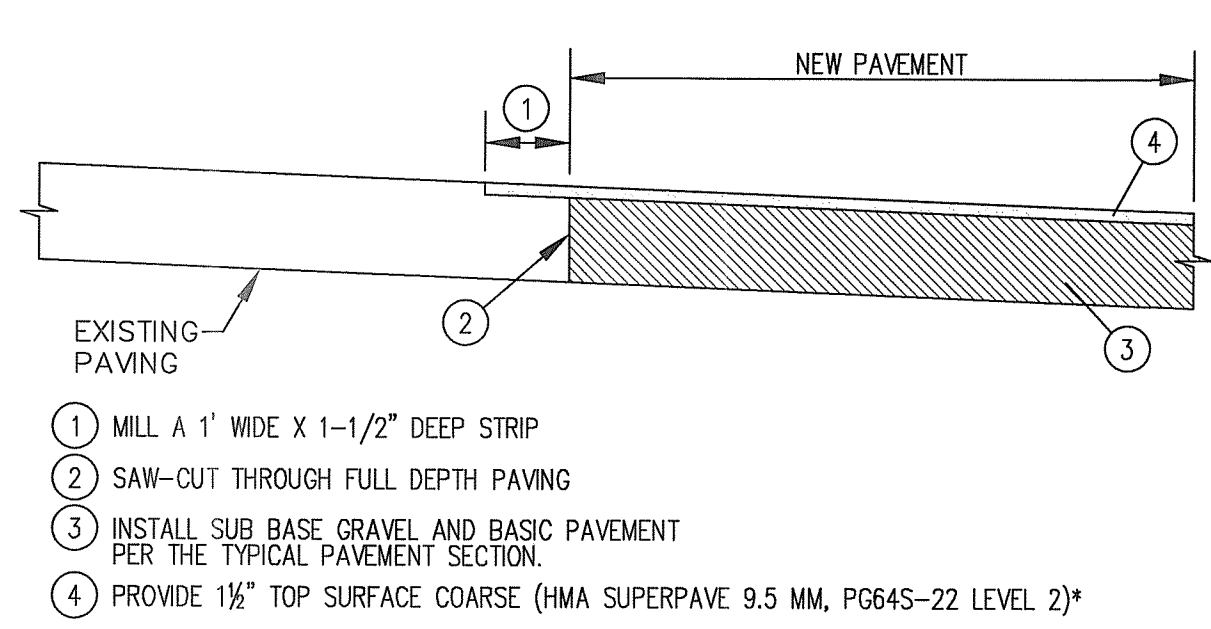
SHA DETAIL NOTES



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS	CHIEF ENGINEER	STANDARD ROADWAY & SITE IMPROVEMENT DETAILS	REVISION	1
		STANDARD COMBINATION CURB & GUTTER		24

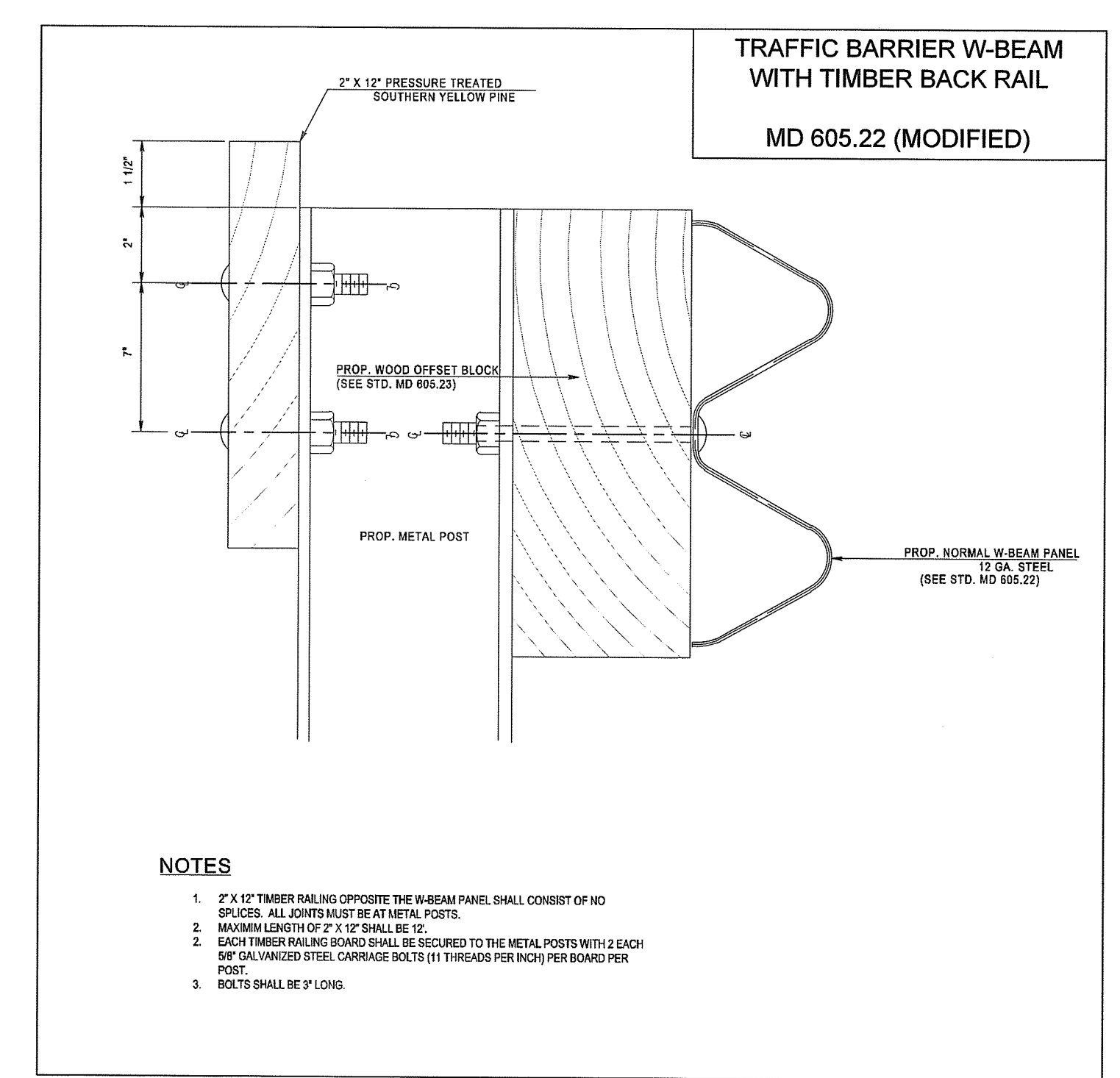
NOTE: CURB SHALL USE SHA MIX NO. 2 CONCRETE.

2 STANDARD COMBINATION CURB & GUTTER  
5 NOT TO SCALE

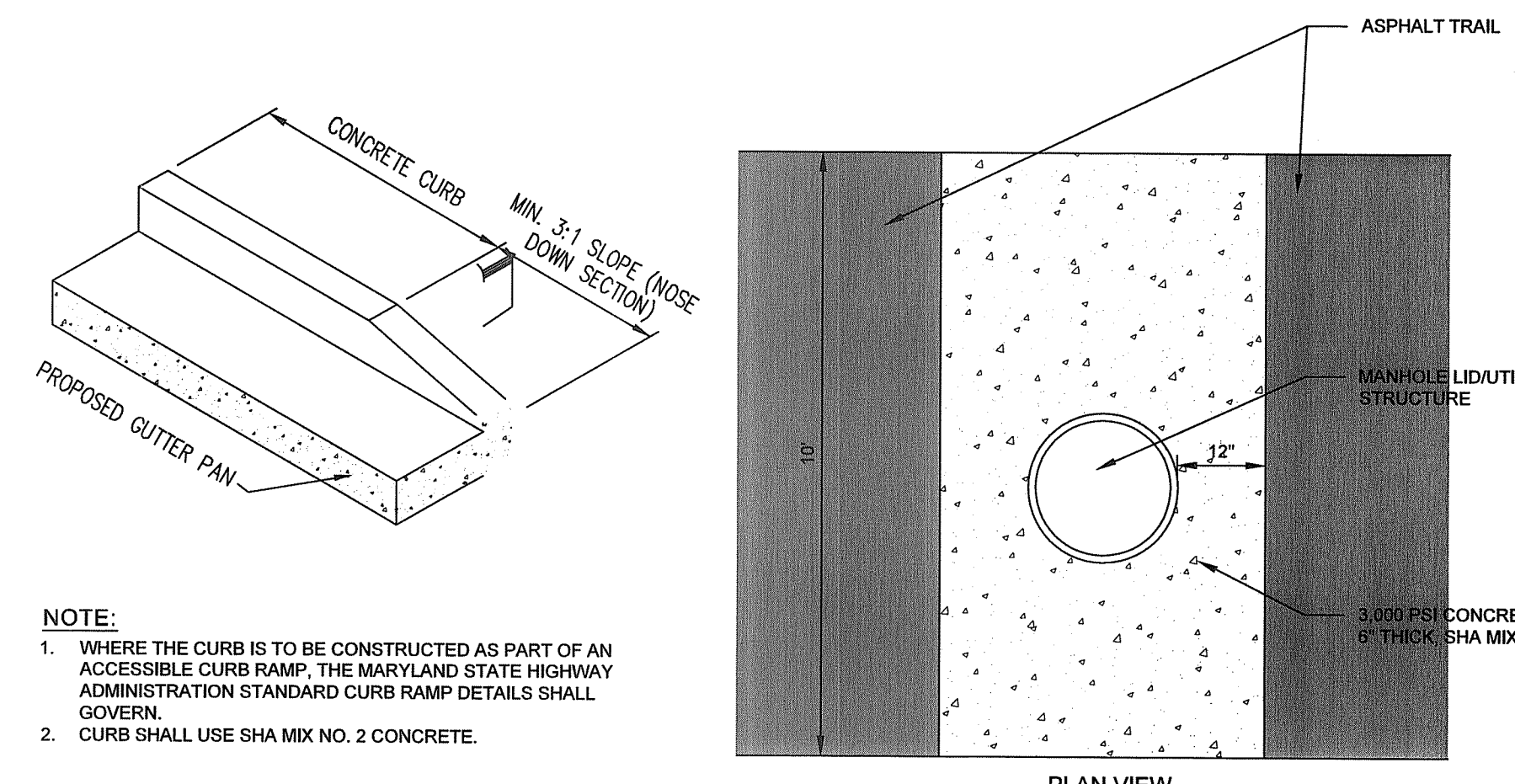


\*NOTE: LONGITUDINAL JOINTS FOR THE TOP SURFACE COARSE MUST NOT COINCIDE WITH THE FULL-DEPTH SAW-CUT JOINT

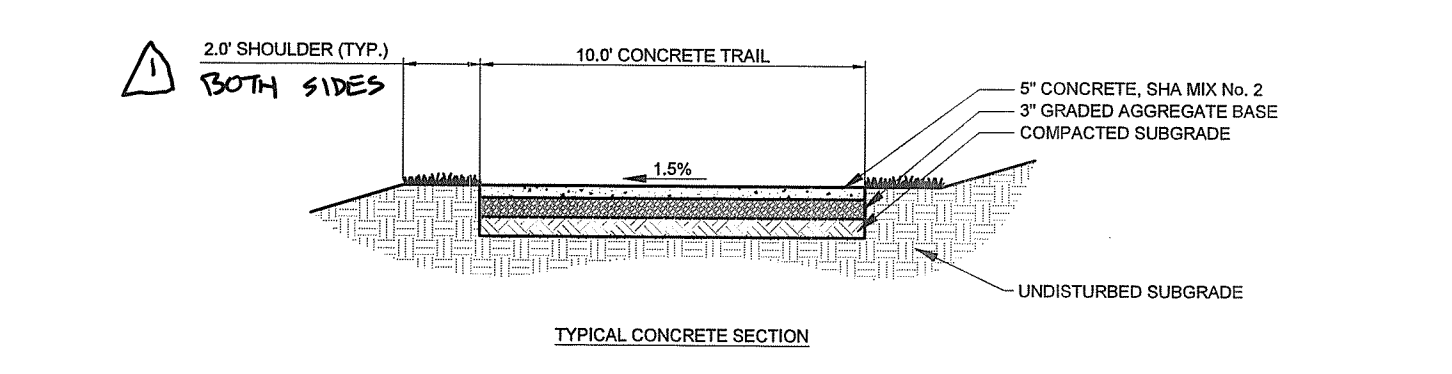
6 PAVEMENT CONNECTION  
5 NOT TO SCALE



3 W-BEAM WITH TIMBER BACK RAIL DETAIL  
5 NOT TO SCALE

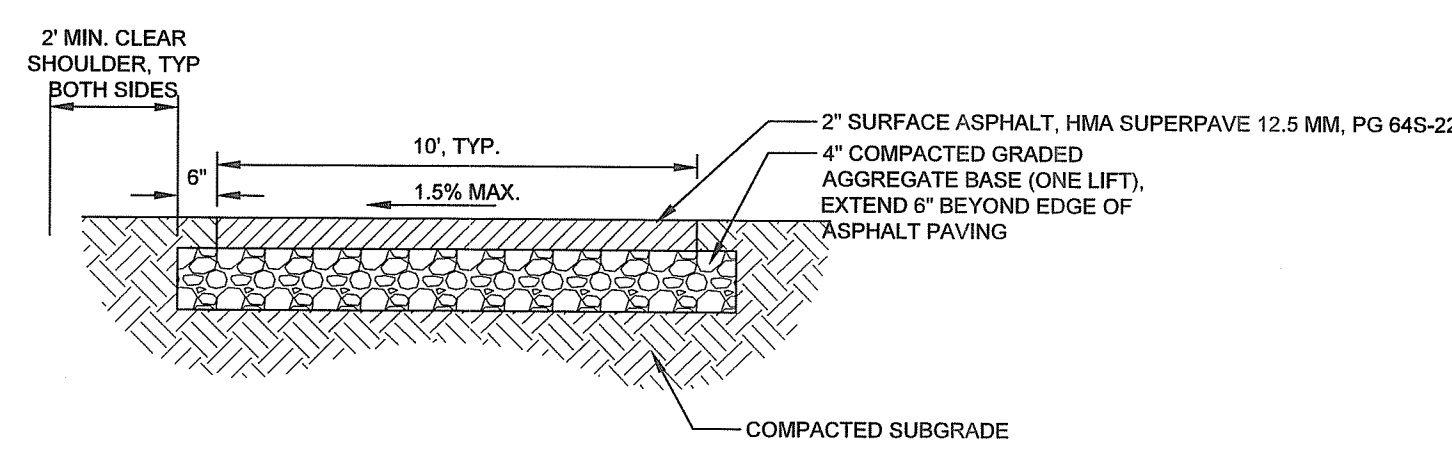


7 NOSE DOWN CURB  
5 NOT TO SCALE



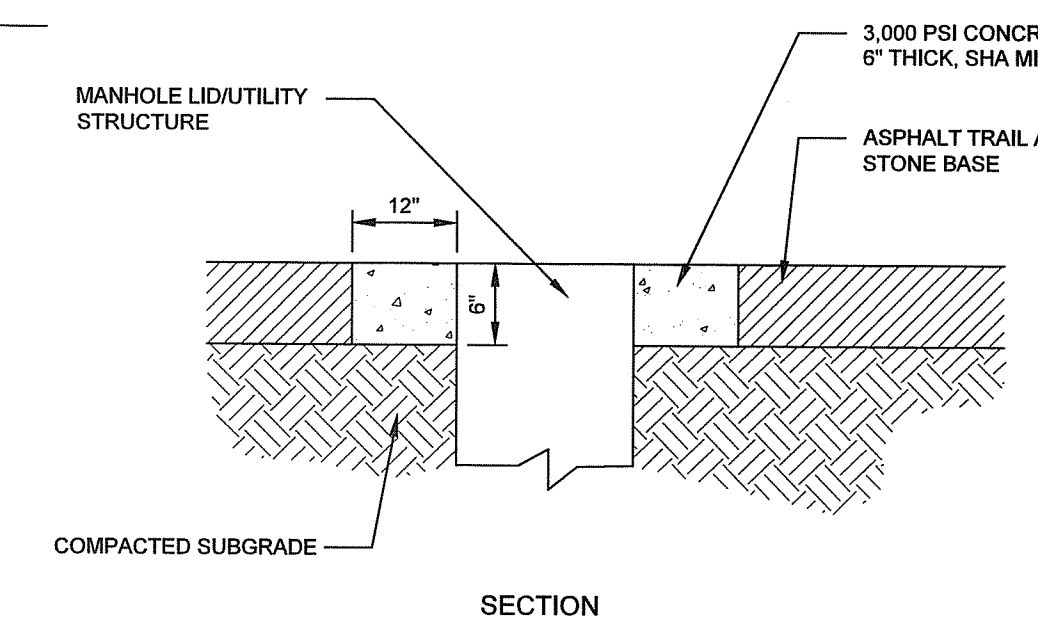
NOTE: CONCRETE TRAIL SHALL USE SHA MIX NO. 2 CONCRETE.

5 TYPICAL CONCRETE PAVED TRAIL  
5 SCALE: 1" = 5'



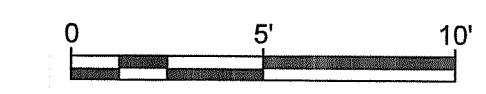
9 ASPHALT TRAIL PAVING SECTION  
5 NOT TO SCALE

- TRAIL SECTION NOTES:
- 2' SHOULDERS WITH MAXIMUM SLOPE OF 1:6 SLOPE SHALL BE PROVIDED ON EACH SIDE OF THE TRAIL.
  - MAXIMUM SLOPE ABOVE OR BELOW THE TRAIL: 3:1 (IN SPECIFIC SITUATIONS ALONG THE PROJECT 2:1 SLOPES ARE UTILIZED. THESE HAVE BEEN NOTED ON THE PLAN.
  - MINIMUM SLOPE AWAY FROM THE TRAIL: 2%.
  - SEE PLAN VIEWS FOR SPECIFIC GRADING ALONG TRAIL.
  - CROSS SLOPE OF TRAIL SHALL BE 1.5%. SEE PLAN VIEWS FOR DIRECTION OF SLOPE.



NOTE:  
1. CONCRETE SHALL BE TROWELED SMOOTH AND BROOM FINISHED.  
2. CONCRETE SHALL EXTEND A MINIMUM OF 12" FROM UTILITY STRUCTURE AND ENCOMPASS THE FULL WIDTH OF THE TRAIL.  
3. PRIOR TO INSTALLING CONCRETE, UTILITY STRUCTURE SHALL BE ADJUSTED SO THAT TOP MATCHES FINAL GRADE.

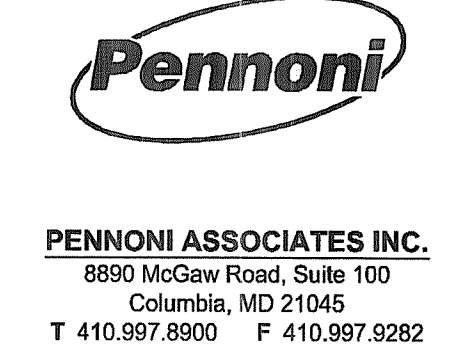
10 MANHOLE TRANSITION DETAIL  
5 NOT TO SCALE



GP# G02017905 DWG NO: DD03B

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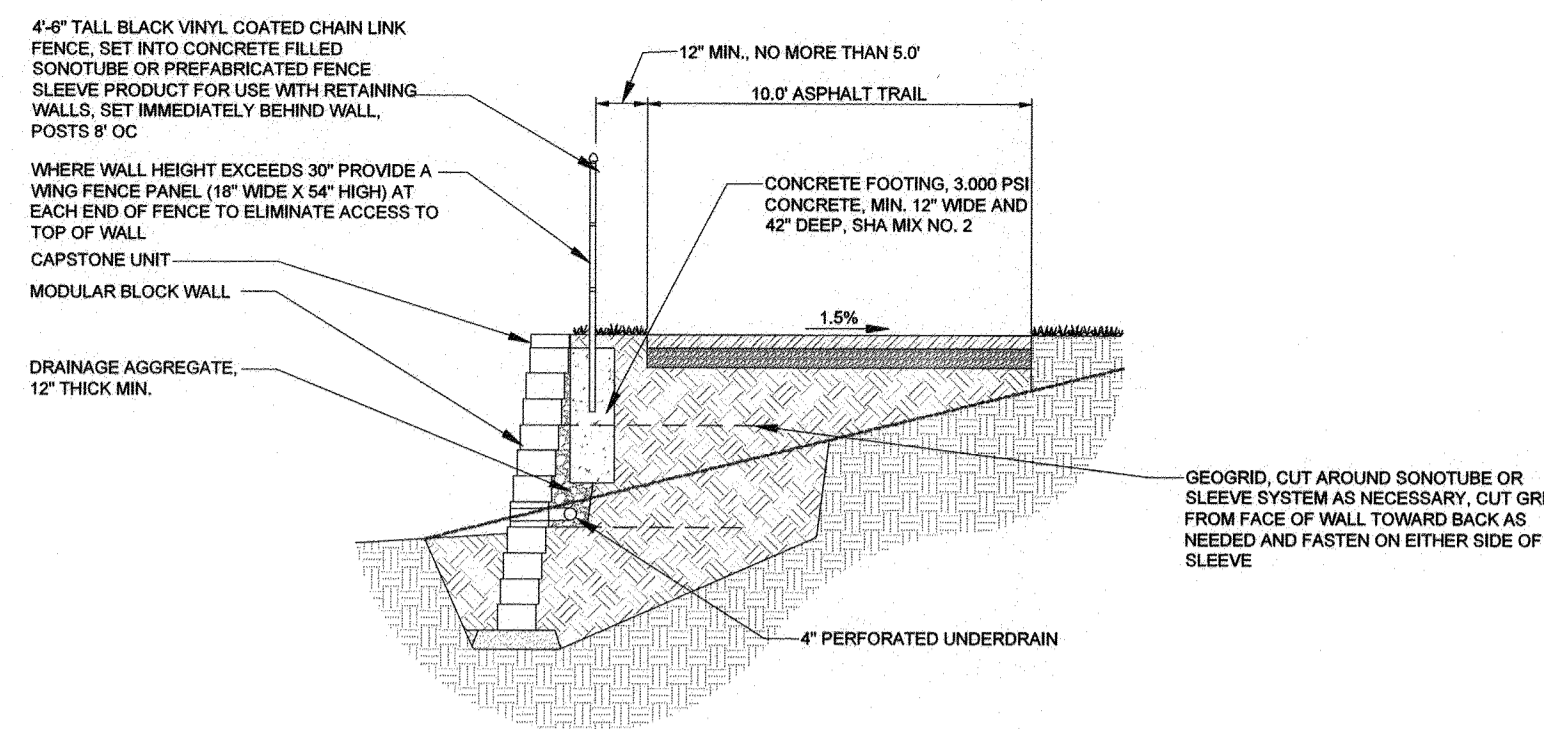
#	REVISIONS DESCRIPTION	APPROVED BY	DATE
1	ADD NOTE TO CONC. TRAIL DET.	JAR	11/12/21



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS				97072		APRIL 5, 2021	
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	TYPICAL SECTIONS AND DETAILS		
<i>JAR</i>	5/6/21	<i>PJS</i>	4/15/21	DRAWN BY: PAI	BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS		
CHECKED BY:		CHECKED BY:		SHEET 5 OF 137	TAX MAP 32, 39, AND 40		
<i>PJS</i>		<i>JAR</i>		PROJECT #: P504100	ARNOLD, MD ZIP CODE 21012 3RD DISTRICT		
APPROVAL	DATE	APPROVED	DATE	PROPOSAL #:	ANNE ARUNDEL COUNTY, MD		
<i>ASR</i>	4/21/21	<i>NSL</i>	4/6/21		NOVEMBER 2019		
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES					

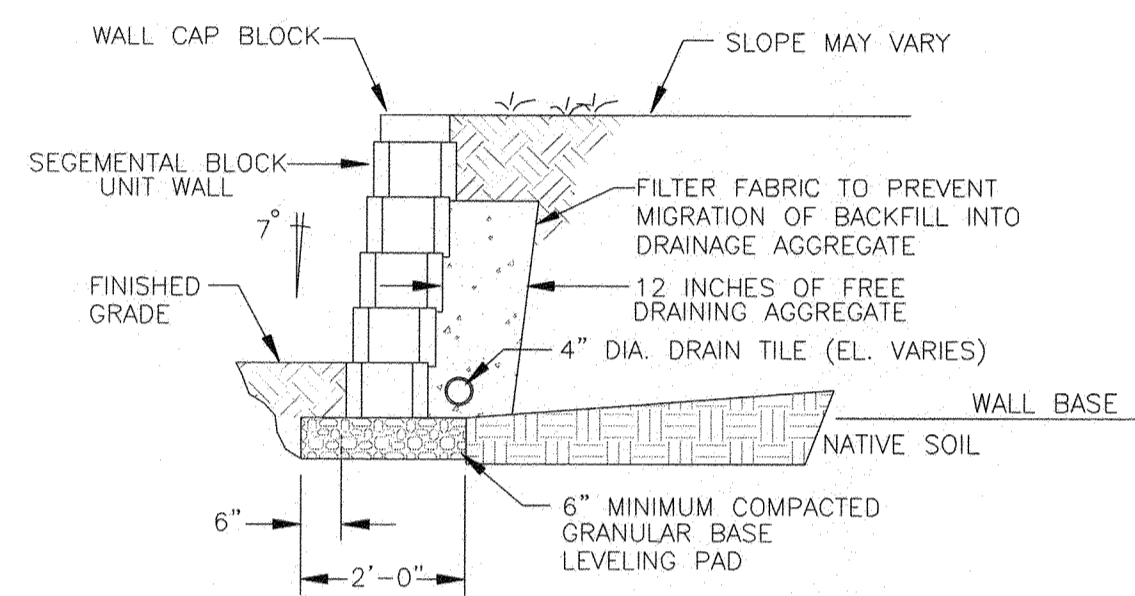
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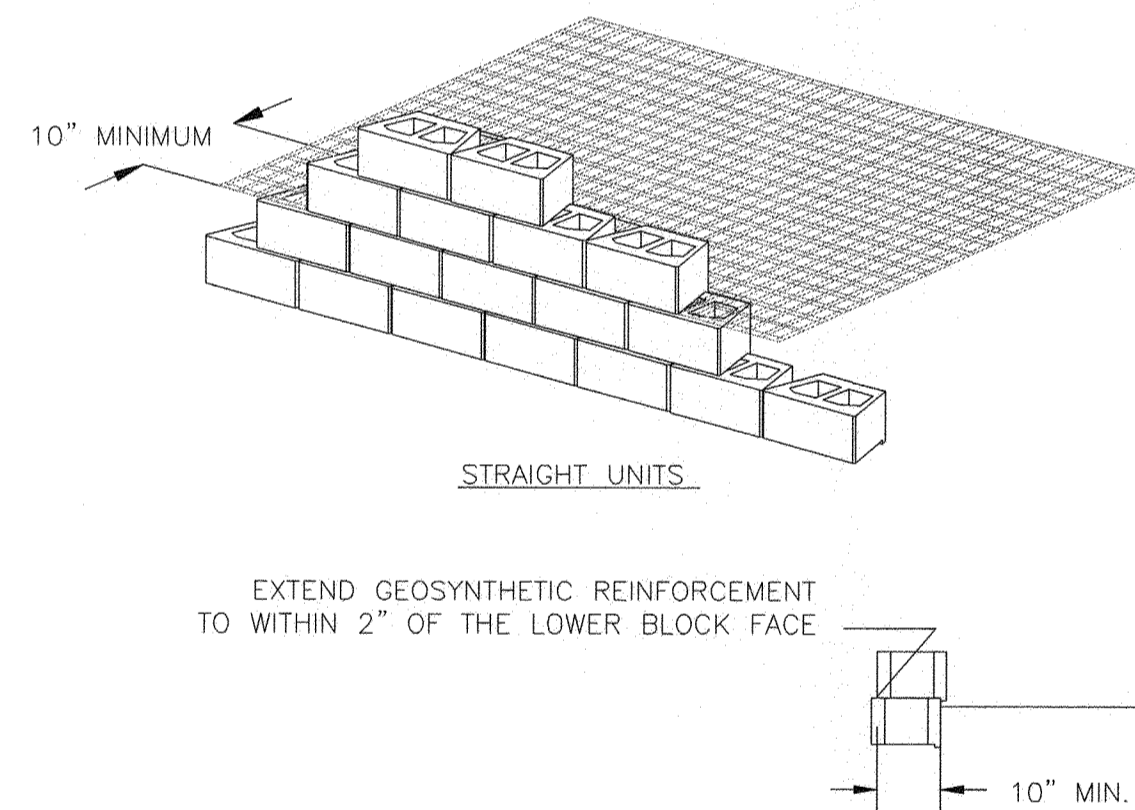


- FENCE SLEEVE INSTALLATION NOTES**
1. SET SONOTUBE SLEEVE OR PREFABRICATED SLEEVE IN POSITION IMMEDIATELY BEHIND TOPMOST WALL UNIT AS WALL IS BEING CONSTRUCTED. SLEEVE SHALL BE SET 4\"/>
  - 2. COVER SLEEVE DURING COMPLETION OF WALL CONSTRUCTION TO KEEP SLEEVE CLEAR.
  - 3. AS FENCE CONSTRUCTION STARTS, FILL SLEEVE WITH CONCRETE AND SET FENCE POST.
  - 4. PROVIDE SUBMITTAL FOR SLEEVE PRODUCTS PRIOR TO START OF CONSTRUCTION.
  - 5. CONCRETE SHALL BE SHA MIX NO. 2.

**1** FENCE POST SLEEVE IN MODULAR BLOCK WALLS  
**6** NOT TO SCALE



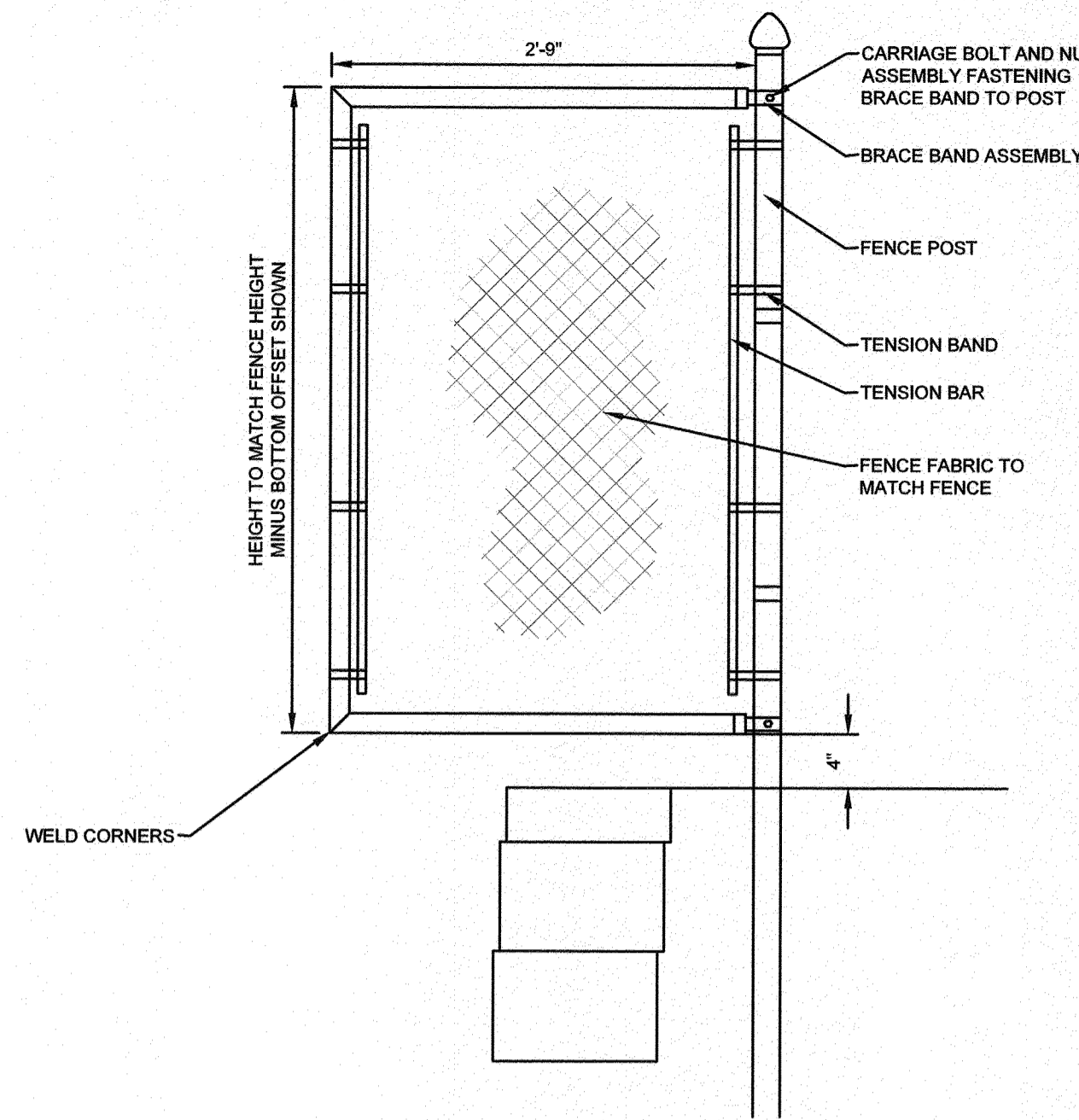
**2** UNREINFORCED WALL  
**6** NOT TO SCALE



**3** REINFORCEMENT CONNECTION  
**6** NOT TO SCALE

**NOTE: IN AREAS WHERE UNSUITABLE MATERIAL IS ENCOUNTERED AT THE BOTTOM OF THE RETAINING WALLS, IT SHALL BE EXCAVATED AND REPLACED WITH A COMPACTED GRADED AGGREGATE BASE IN 6\"/>**

**NOTE: THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE RETAINING WALLS. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL INCLUDE ALL RELEVANT INFORMATION SUCH AS DESIGN CRITERIA, AND MATERIAL SPECIFICATIONS. A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND WILL SIGN AND SEAL ALL DRAWINGS AND CALCULATIONS.**



**FENCE INSTALLATION NOTES**

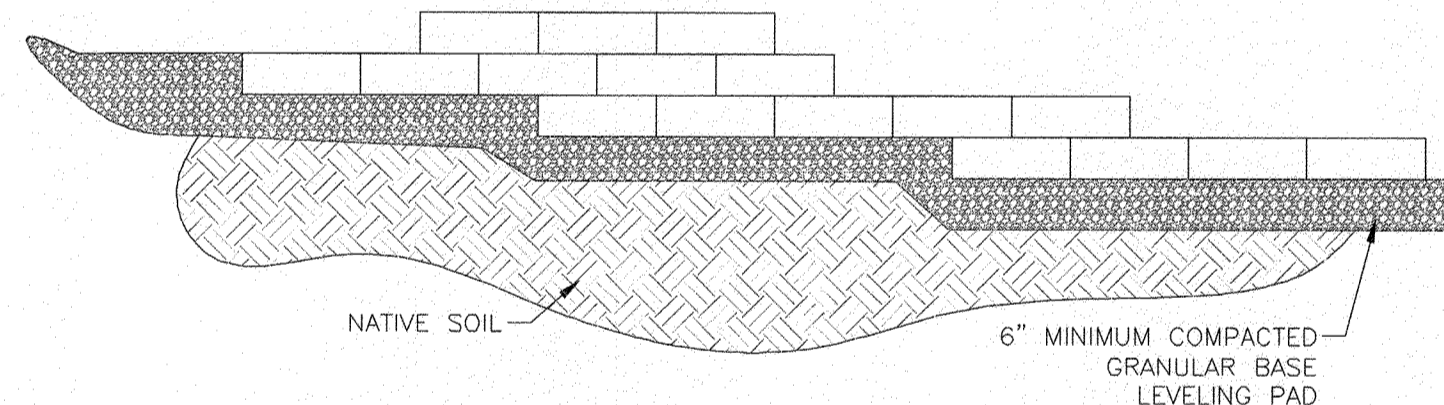
1. FENCE SHALL BE BLACK VINYL COATED CHAIN LINK.
2. FENCE SHALL BE 54\"/>
  - a. TRAIL STA 3+70 TO STA 12+50 WHERE FENCE SHALL BE 8\"/>
  - b. TRAIL STA 12+50 TO STA 15+15 WHERE FENCE SHALL BE 8\"/>
  - c. TRAIL STA 39+50 TO STA 42+30 WHERE FENCE SHALL BE 8\"/>
3. FENCE POSTS SHALL BE 8\"/>
- 4. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR FENCE INSTALLATION AND FENCE PRODUCTS PRIOR TO CONSTRUCTION.
- 5. FENCE FABRIC SHALL BE INSTALLED LEAVING THE \"SHARPS\" AT THE BOTTOM.
- 6. A 4\"/>
- 7. WHERE NOTED ON THE PLAN, BLACK VINYL PRIVACY SLATS SHALL BE PROVIDED WITHIN THE CHAINLINK FENCE. CONTRACTOR TO SUBMIT PRODUCT INFORMATION ON PRIVACY SLATS FOR APPROVAL PRIOR TO CONSTRUCTION.
- 8. CONCRETE FOR FOOTINGS SHALL BE SHA MIX NO. 2.
- 9. WHERE FENCE IS INSTALLED ALONG THE TOP OF A RETAINING WALL, FENCES AND POSTS SHALL BE INSTALLED SO THAT THERE ARE NO GAPS, HORIZONTALLY OR VERTICALLY, BETWEEN THE WALL AND THE FENCE OF GREATER THAN 4\"/>

**ANTI-CLIMB PANELS**

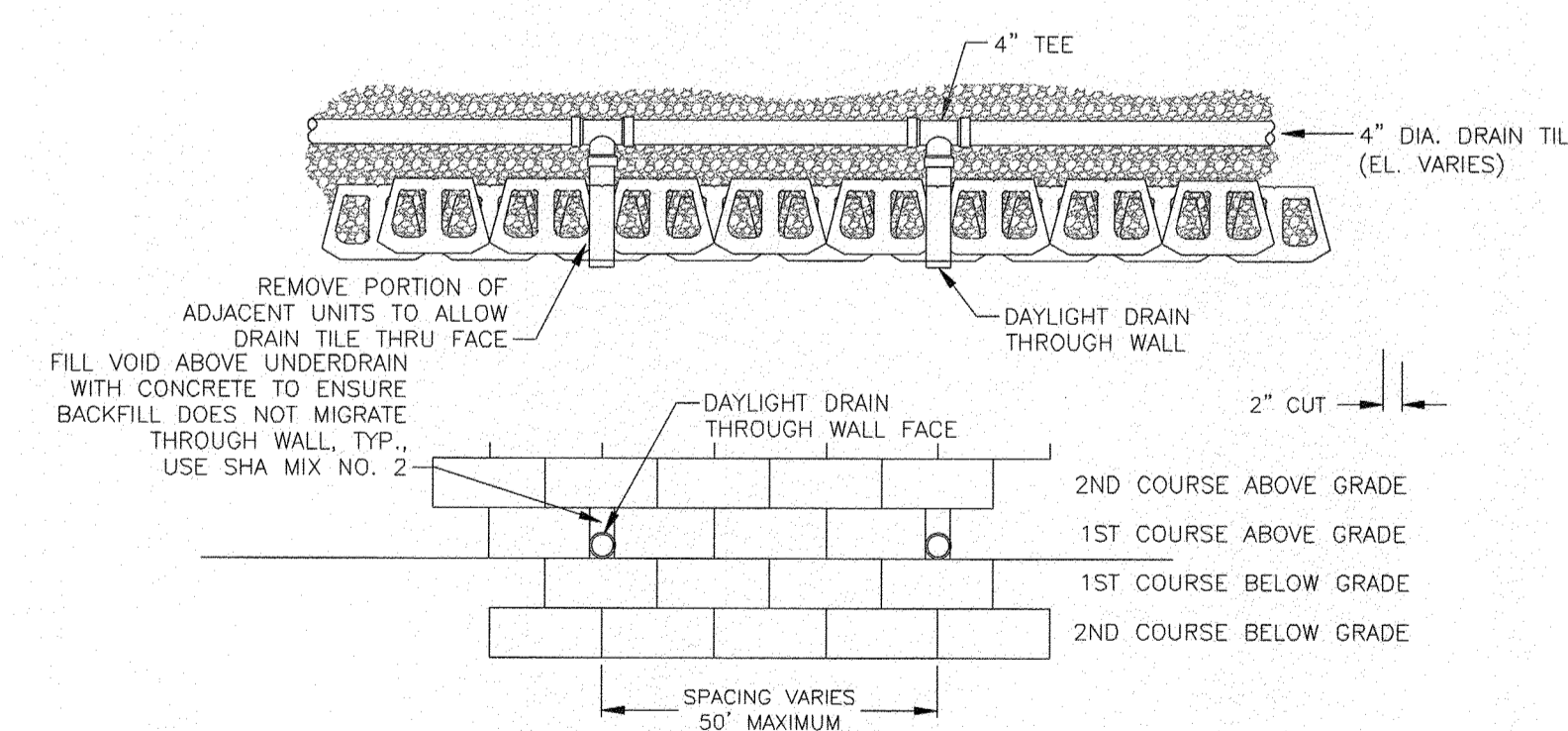
**ANTI-CLIMB PANEL INSTALLATION NOTES**

1. WHERE WALL HEIGHT EXCEEDS 36\"/>
- 2. PANEL TO BE FASTENED TO FENCE POSTS WITH BRACE BAND AND CARRIAGE BOLT ASSEMBLY. CARRIAGE BOLT TO BE INSTALLED THROUGH BRACE BAND AND POST.
- 3. PANEL TO BE FABRICATED FROM SOME MATERIAL AS FENCE.
- 4. TOP OF PANEL TO BE ALIGNED WITH TOP RAIL OF FENCE.
- 5. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR REVIEW AND APPROVAL.

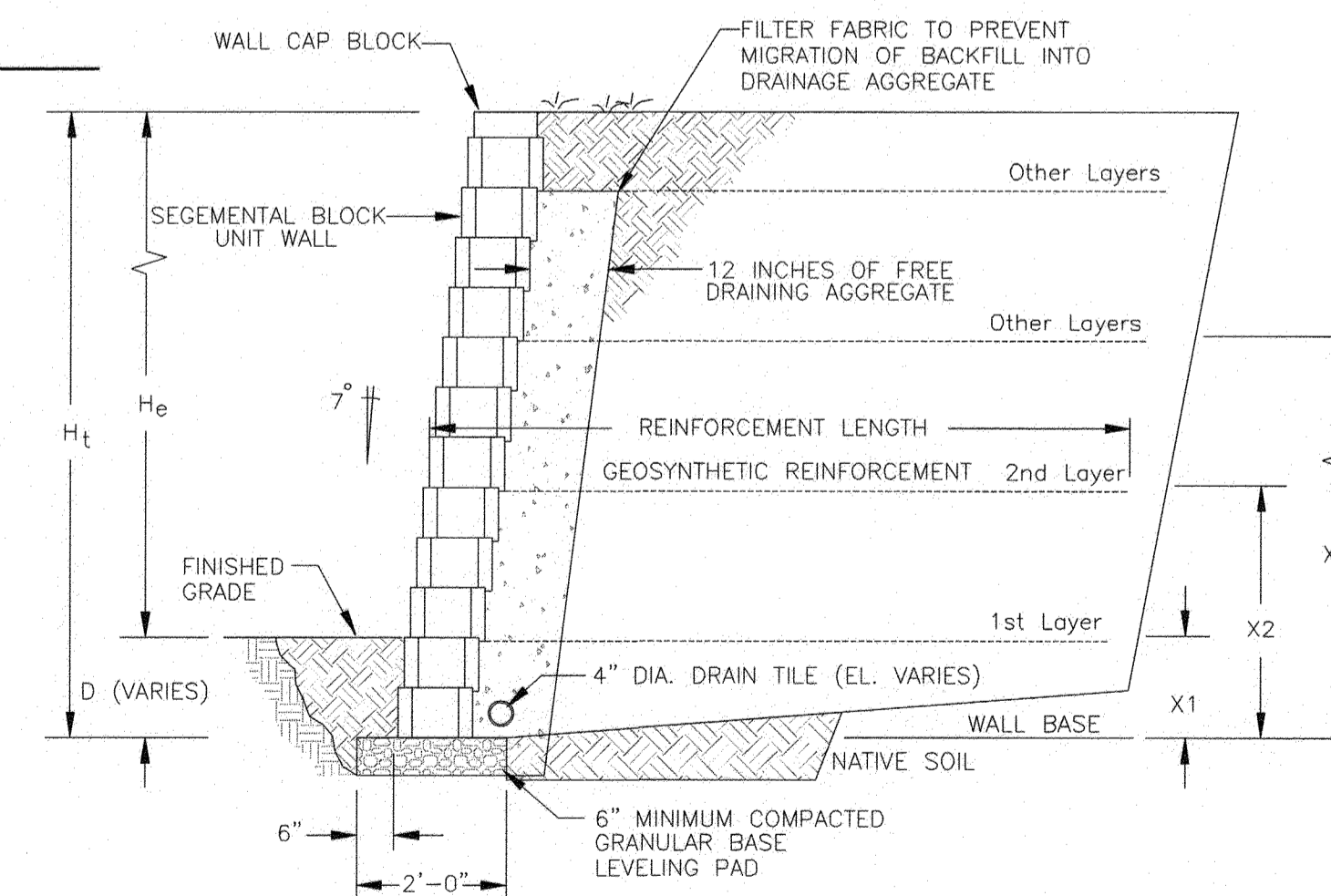
**4** CHAIN LINK FENCE DETAILS  
**6** NOT TO SCALE



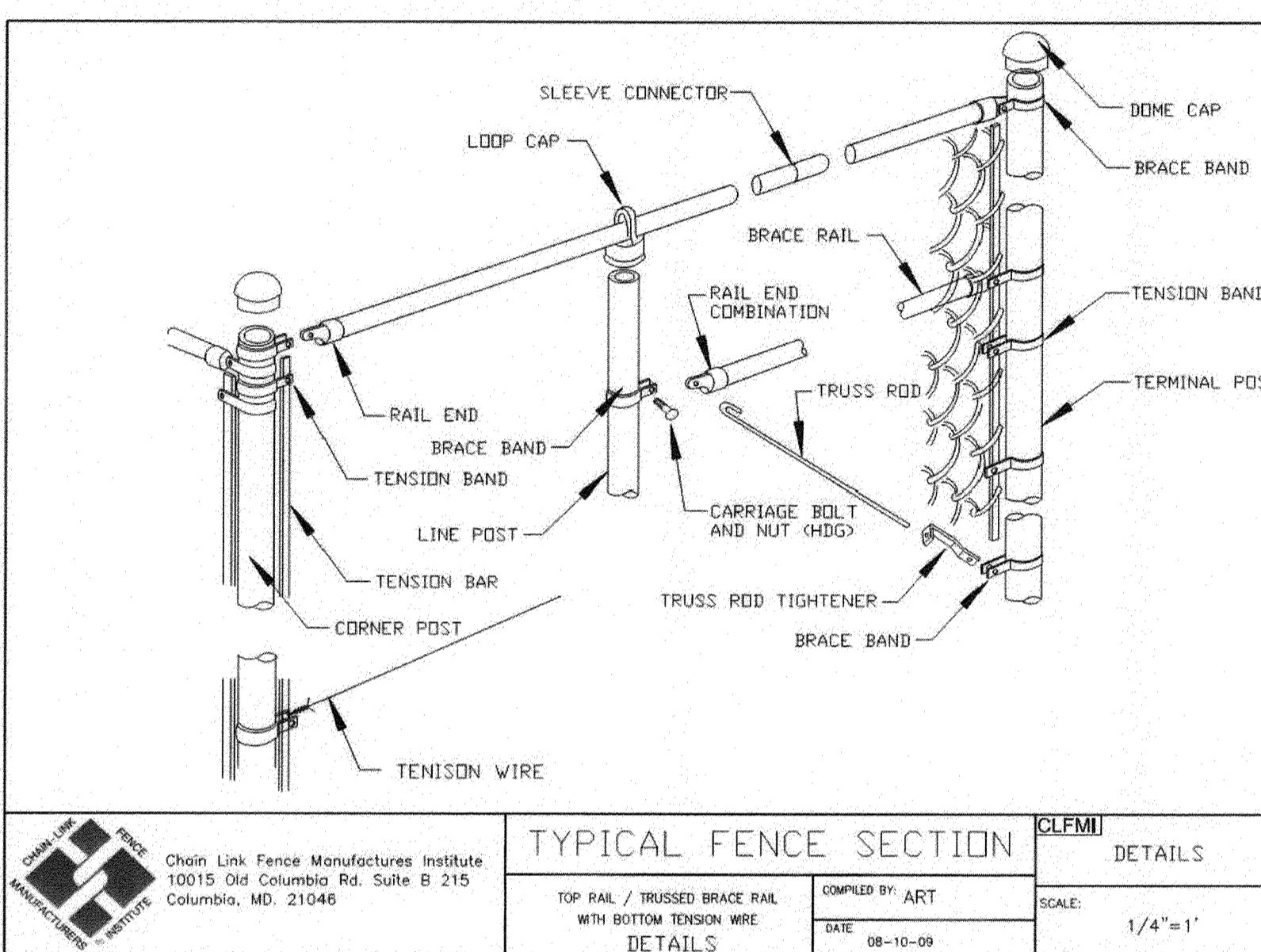
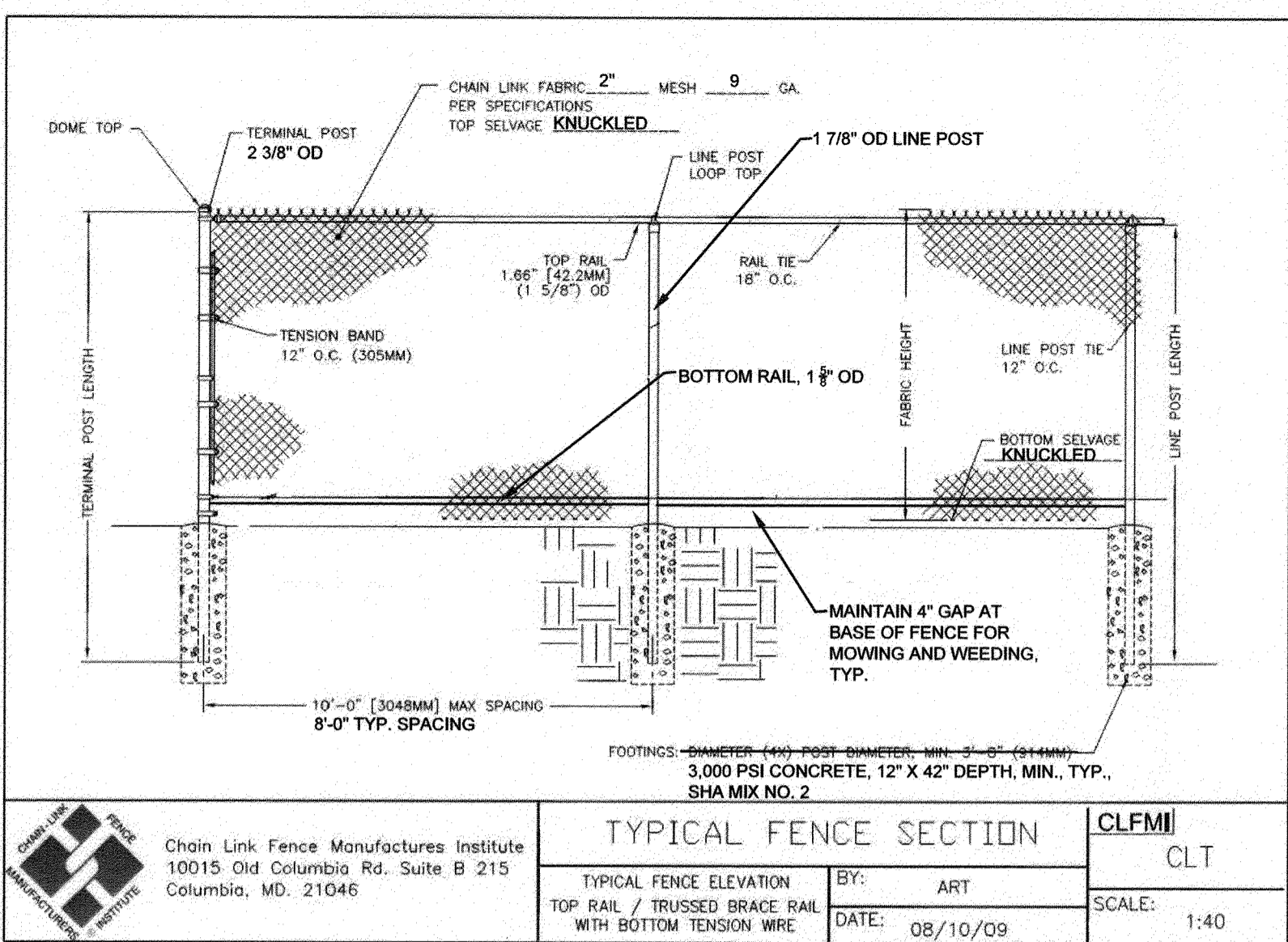
**5** TYPICAL STEP-UP  
**6** NOT TO SCALE



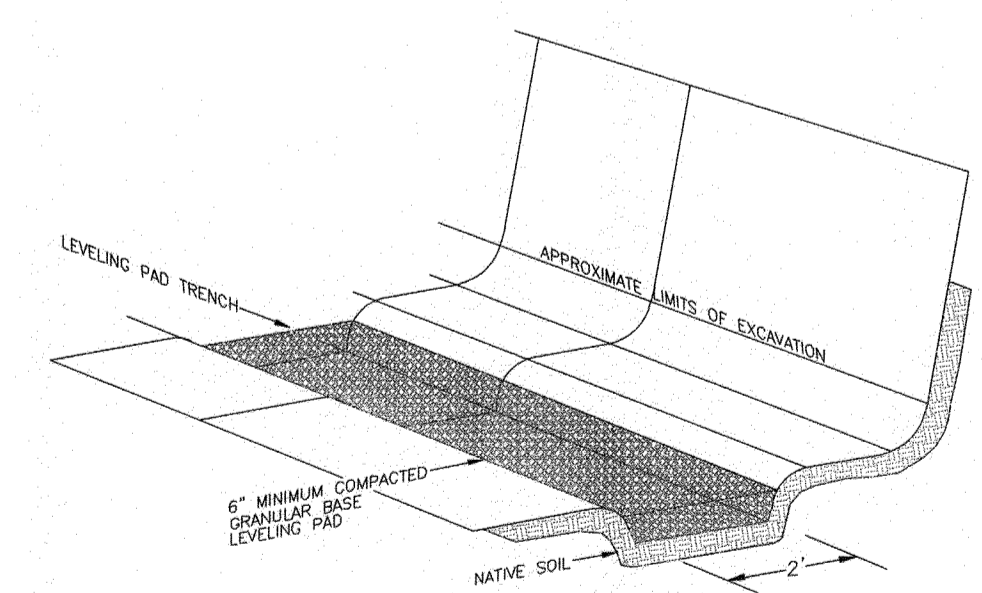
**6** DRAIN TILE THROUGH WALL  
**6** NOT TO SCALE



**7** GEOSYNTHETIC REINFORCED WALL  
**6** NOT TO SCALE



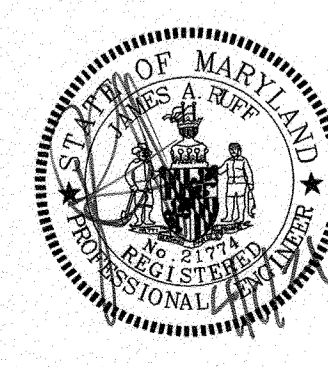
**8** TYPICAL BASE PREPARATION  
**6** NOT TO SCALE



**8** TYPICAL BASE PREPARATION  
**6** NOT TO SCALE

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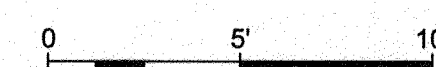


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Columbia, MD 21045  
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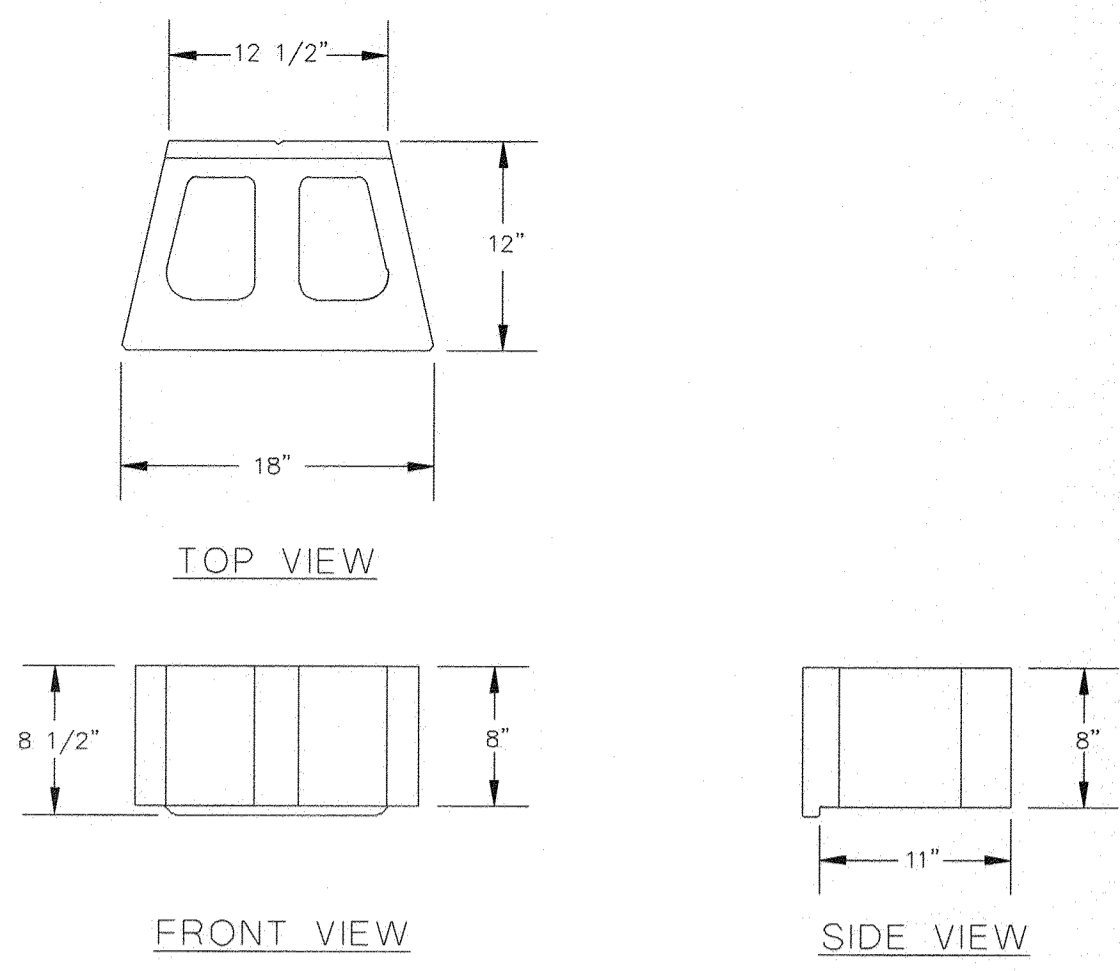
APPROVED DATE 10/21/21  
CHIEF ENGINEER  
APPROVAL DATE 11/21/21  
ASSISTANT CHIEF ENGINEER

APPROVED DATE 4/15/21  
PROJECT MANAGER  
APPROVED DATE 4/15/21  
CHIEF, RIGHT OF WAY SERVICES

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS  
97073  
APRIL 5, 2021  
SCALE: AS SHOWN  
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 6 of 137  
PROJECT #: P504100  
PROPOSAL #:  
TYPICAL SECTIONS AND DETAILS  
BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 35, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019



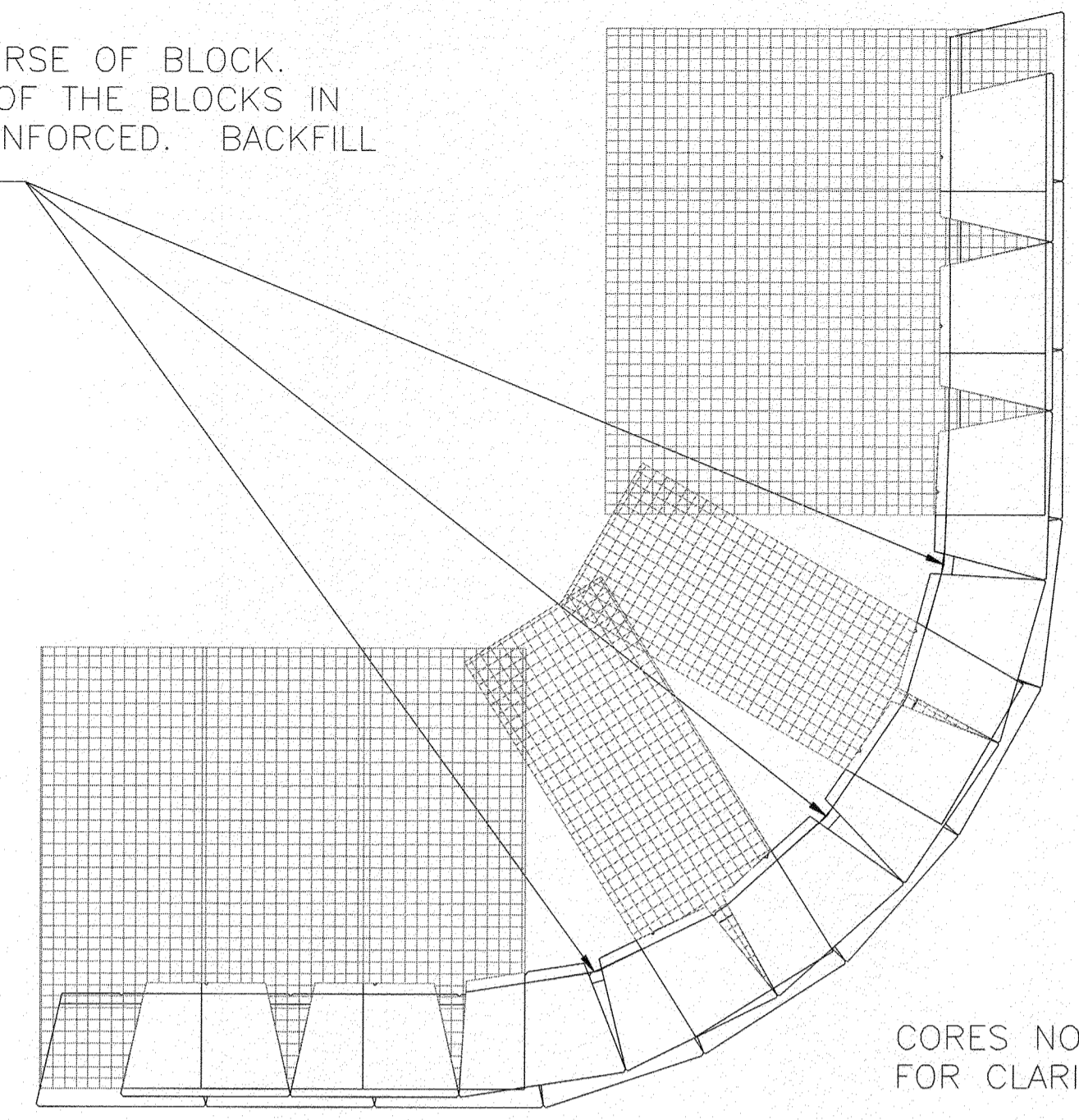




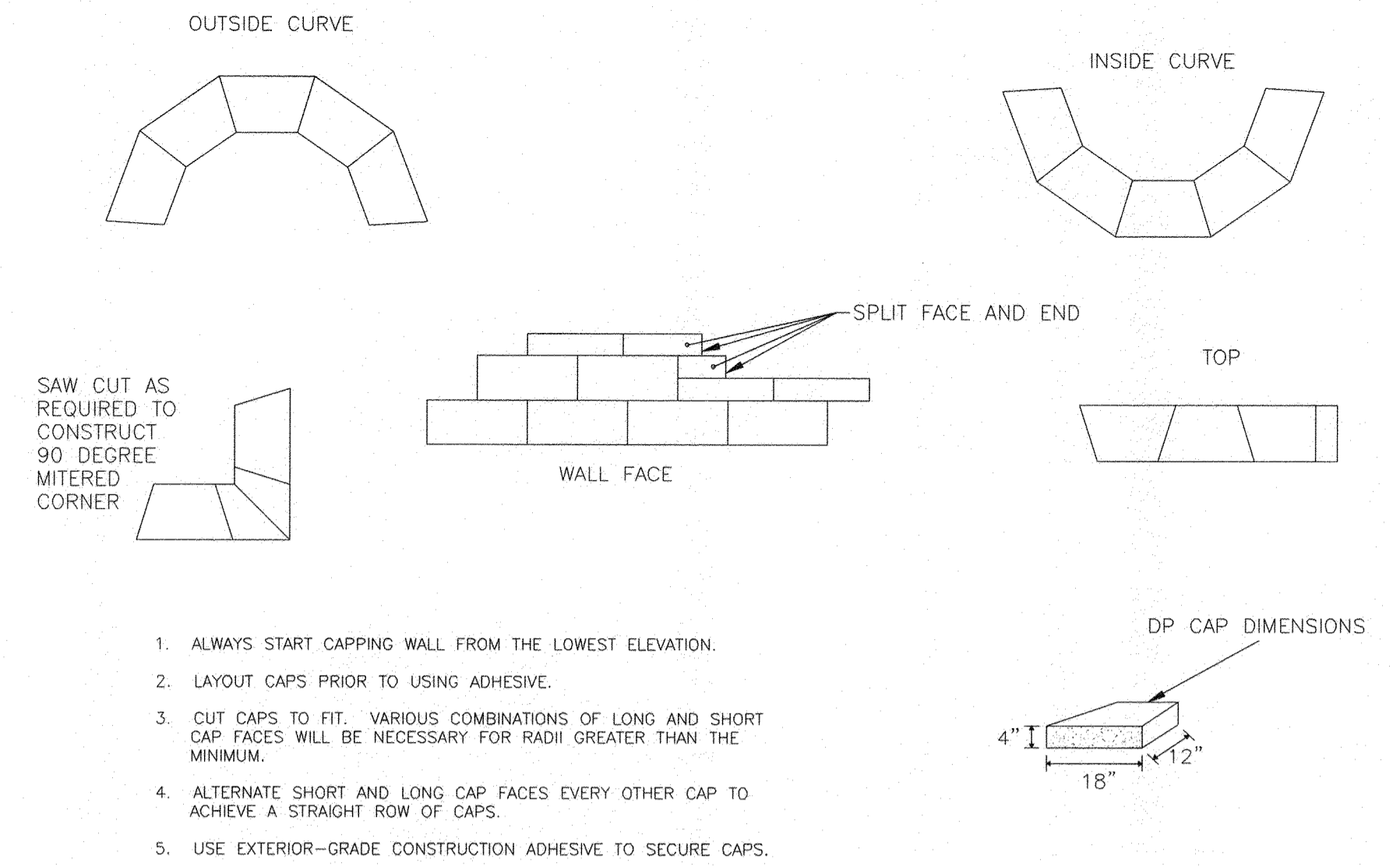
1  
7 **BLOCK UNIT**  
NOT TO SCALE

**NOTE: THE CONTRACTOR SHALL PREPARE SHOP DRAWINGS AND DESIGN CALCULATIONS FOR THE RETAINING WALLS. SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL INCLUDE ALL RELEVANT INFORMATION SUCH AS DESIGN CRITERIA, AND MATERIAL SPECIFICATIONS. A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF MARYLAND WILL SIGN AND SEAL ALL DRAWINGS AND CALCULATIONS.**

**STEP 2 - LAY THE NEXT COURSE OF BLOCK. MAKE A MARK ON THE BACK OF THE BLOCKS IN THE AREAS THAT ARE NOT REINFORCED. BACKFILL AND COMPACT THAT COURSE.**



CORES NOT SHOWN FOR CLARITY

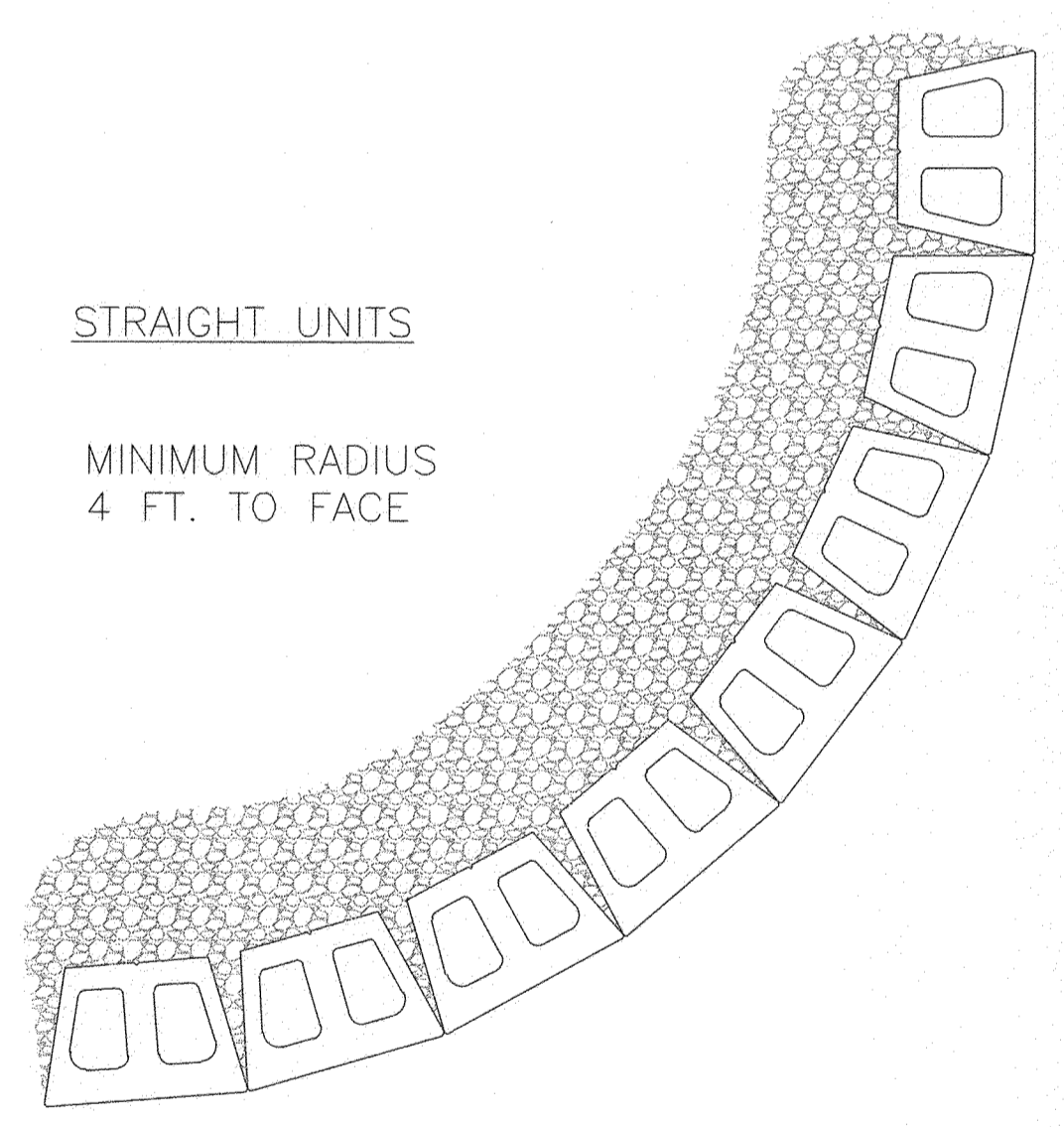


2  
7 **CAP BLOCK**  
NOT TO SCALE

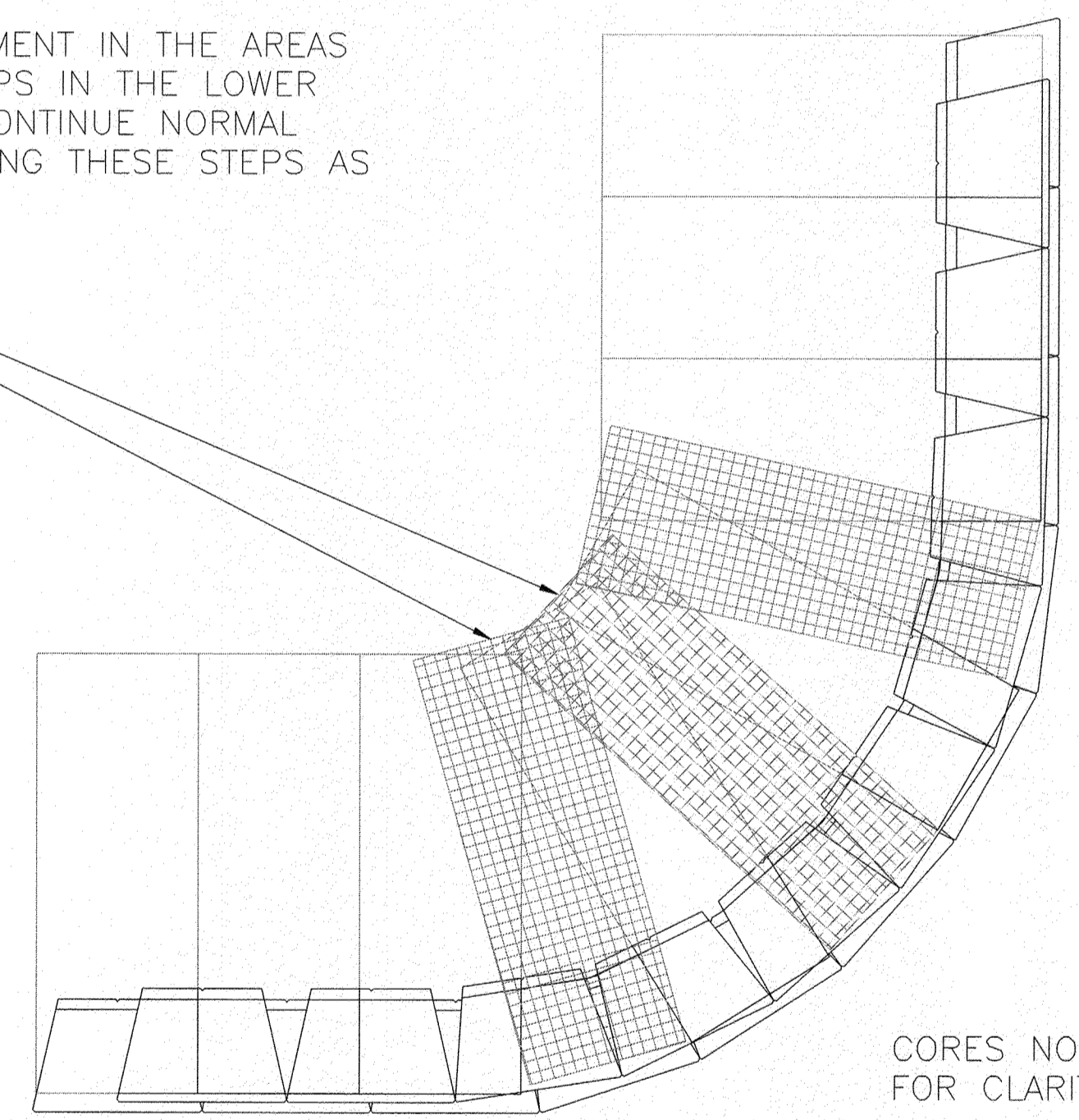
1. ALWAYS START CAPPING WALL FROM THE LOWEST ELEVATION.
2. LAYOUT CAPS PRIOR TO USING ADHESIVE.
3. CUT CAPS TO FIT. VARIOUS COMBINATIONS OF LONG AND SHORT CAP FACES WILL BE NECESSARY FOR RADI GREATER THAN THE MINIMUM.
4. ALTERNATE SHORT AND LONG CAP FACES EVERY OTHER CAP TO ACHIEVE A STRAIGHT ROW OF CAPS.
5. USE EXTERIOR-GRADE CONSTRUCTION ADHESIVE TO SECURE CAPS.

**NOTE: SEE RETAINING WALL PLANS SHEETS 106 TO 112 FOR WALL PLANS, ELEVATIONS, AND SECTIONS.**

**STEP 3 - PLACE REINFORCEMENT IN THE AREAS WHERE THE MARKS SHOW GAPS IN THE LOWER REINFORCEMENT PATTERN. CONTINUE NORMAL WALL CONSTRUCTION, REPEATING THESE STEPS AS NEEDED.**



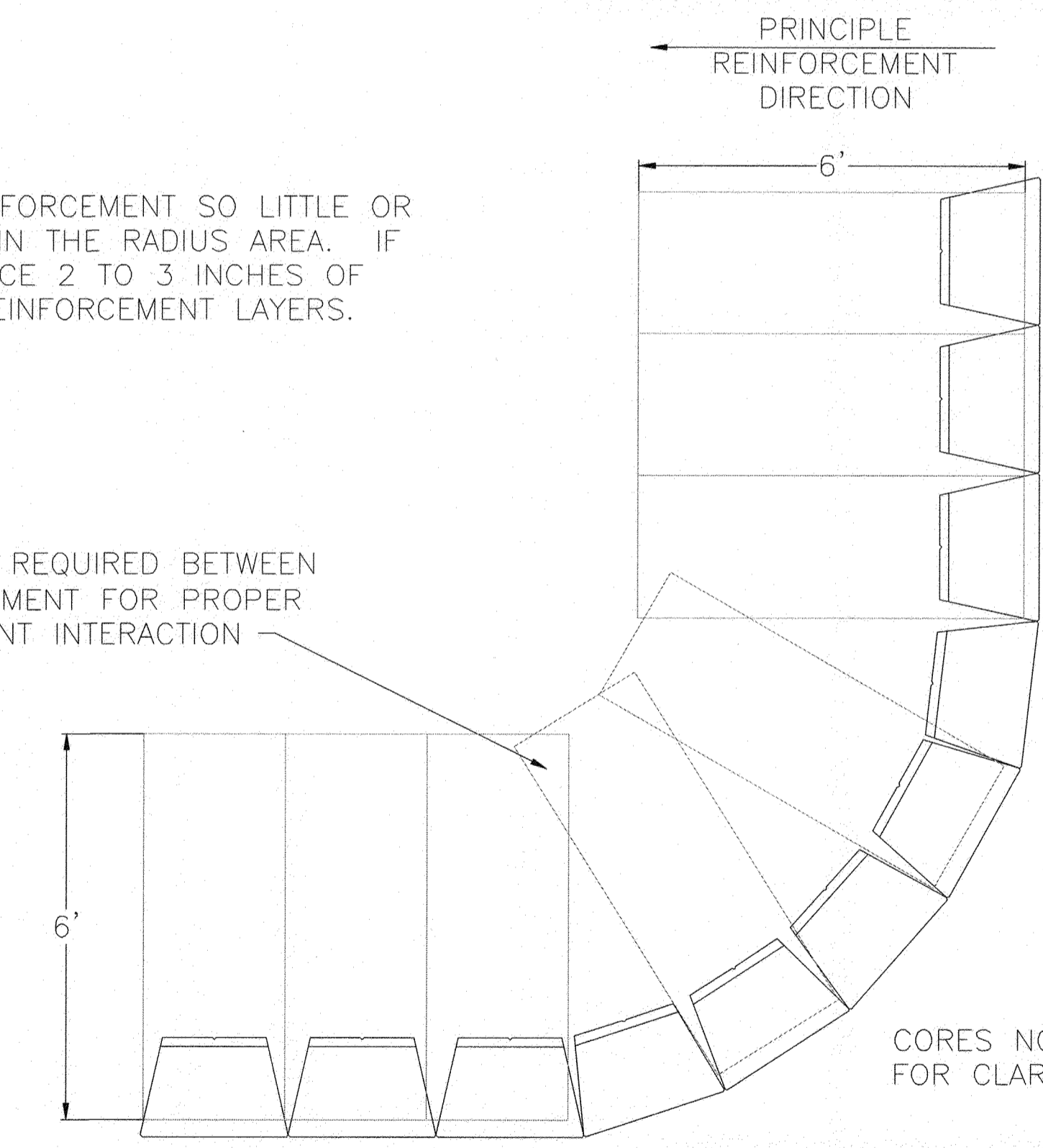
STRAIGHT UNITS  
MINIMUM RADIUS  
4 FT. TO FACE



CORES NOT SHOWN FOR CLARITY

**STEP 1 - PLACE REINFORCEMENT SO LITTLE OR NO OVERLAP OCCURS IN THE RADIUS AREA. IF OVERLAP OCCURS, PLACE 2 TO 3 INCHES OF SAND BETWEEN THE REINFORCEMENT LAYERS.**

2" TO 3" OF SOIL FILL REQUIRED BETWEEN OVERLAPPED REINFORCEMENT FOR PROPER SOIL AND REINFORCEMENT INTERACTION



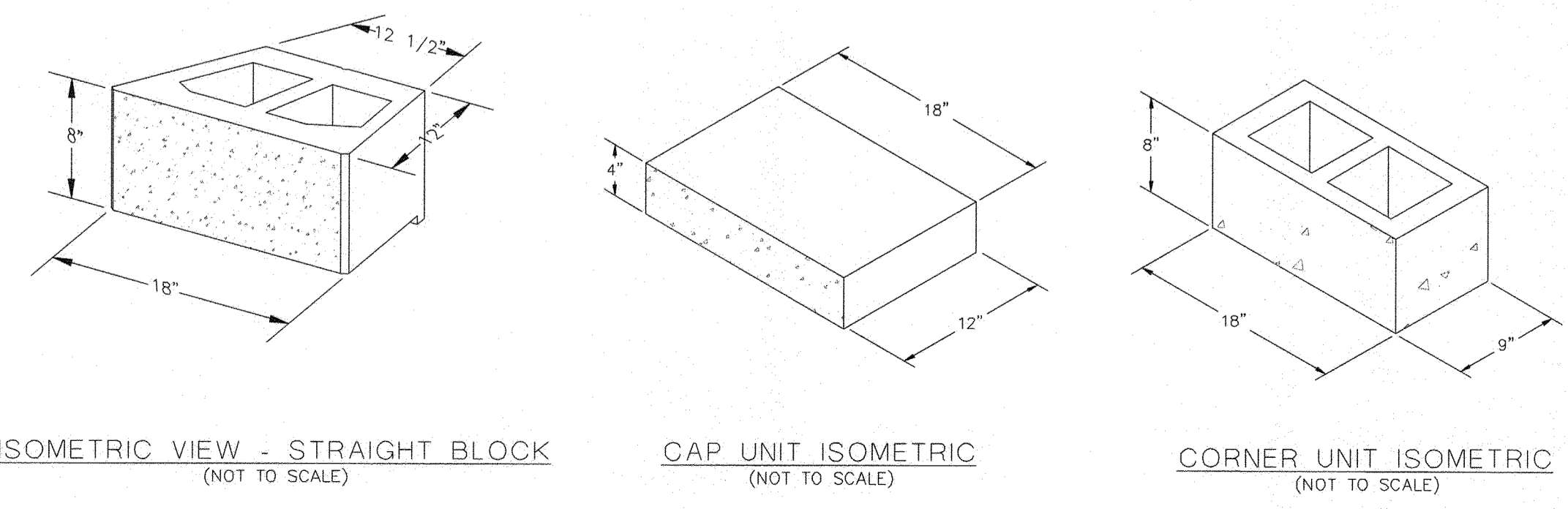
CORES NOT SHOWN FOR CLARITY

OUTSIDE CURVE WITH GRID

3  
7 **CURVED WALLS**  
NOT TO SCALE

**NOTE: ENDS OF RETAINING WALLS SHALL BE TURNED BACK INTO SLOPE AT A 90° ANGLE FROM THE WALL FACE FOR A MINIMUM DISTANCE OF 12" IN ORDER TO TRANSITION TO EXISTING GRADE**

**NOTE: IN AREAS WHERE UNSUITABLE MATERIAL IS ENCOUNTERED AT THE BOTTOM OF THE RETAINING WALLS, IT SHALL BE EXCAVATED AND REPLACED WITH A COMPACTED GRADED AGGREGATE BASE IN 6" LIFTS (MAX.). THIS SHALL BE DONE AT THE DIRECTION OF THE COUNTY'S CONSTRUCTION MANAGER AND PAYMENT FOR THIS SHALL BE BASED ON COUNTY UNIT PRICES FOR UNSUITABLE MATERIAL.**



ISOMETRIC VIEW - STRAIGHT BLOCK  
(NOT TO SCALE)

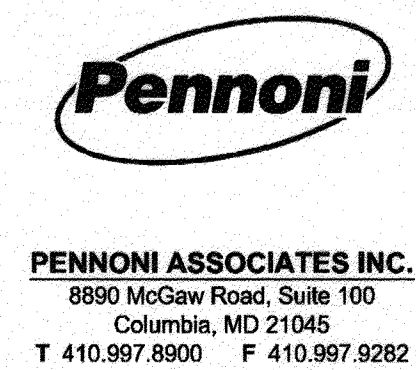
CAP UNIT ISOMETRIC  
(NOT TO SCALE)

CORNER UNIT ISOMETRIC  
(NOT TO SCALE)

4  
7 **BLOCK UNITS**  
NOT TO SCALE

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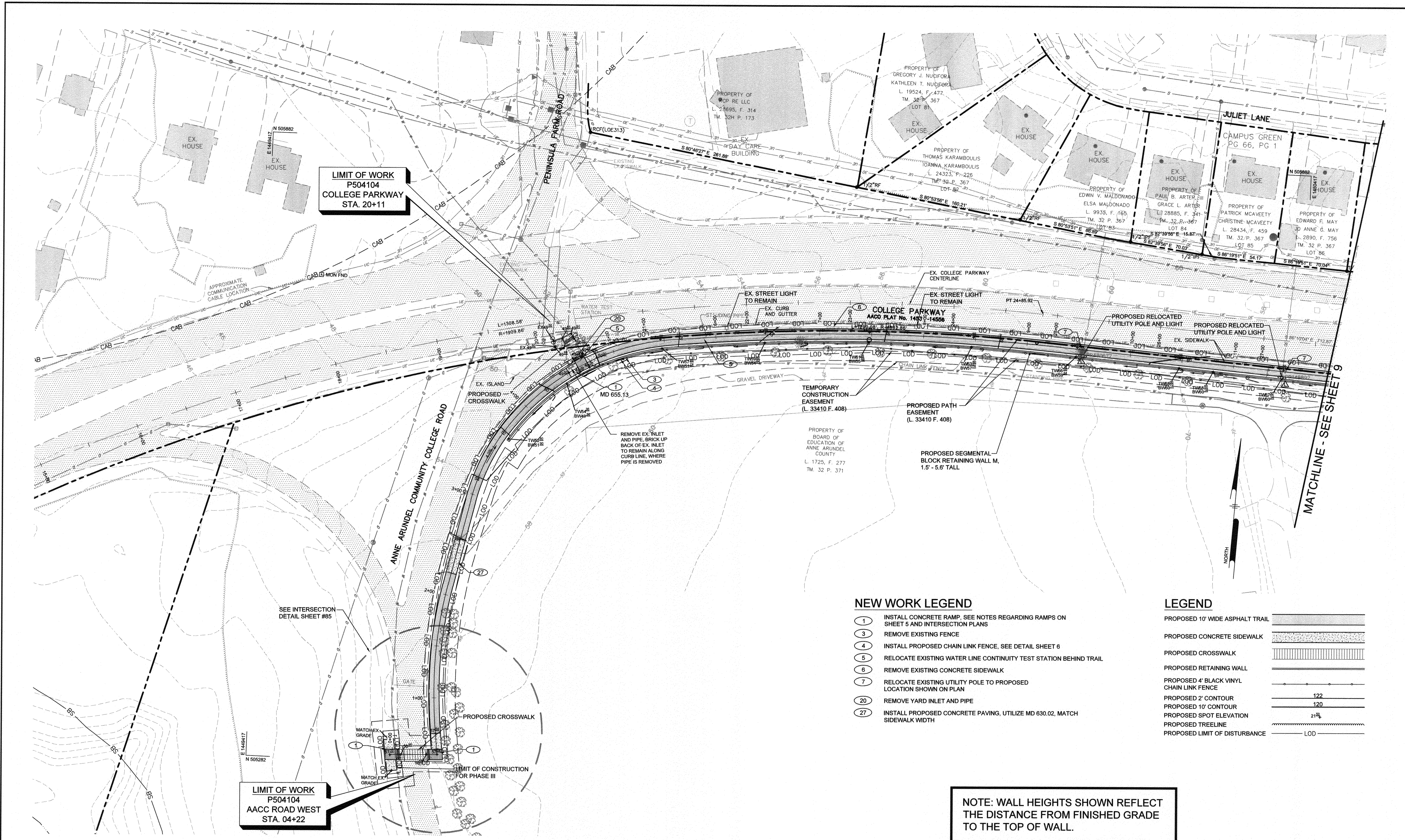


ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS				97074		APRIL 5, 2021	
APPROVED	DATE	APPROVED	DATE	SCALE: AS SHOWN	TYPICAL SECTIONS AND DETAILS		
<i>[Signature]</i>	5/16/21	<i>[Signature]</i>	4/15/21	DRAWN BY: PAI	BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019		
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: PJS/JAR			
APPROVAL	DATE	APPROVED	DATE	SHEET 7 of 137			
<i>[Signature]</i>	4/16/21	<i>[Signature]</i>	4/16/21	PROJECT #: P504100	PROPOSAL #:		
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES					

DPW No.:

GP# G02017905 DWG NO: DD03D





LIMIT OF WORK  
P504104  
COLLEGE PARKWAY  
STA. 20+11

LIMIT OF WORK  
P504104  
AACC ROAD WEST  
STA. 04+22

NOTE: WALL HEIGHTS SHOWN REFLECT  
THE DISTANCE FROM FINISHED GRADE  
TO THE TOP OF WALL.

**NEW WORK LEGEND**

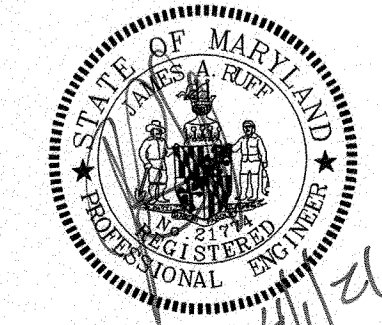
- 1 INSTALL CONCRETE RAMP, SEE NOTES REGARDING RAMPS ON SHEET 5 AND INTERSECTION PLANS
- 3 REMOVE EXISTING FENCE
- 4 INSTALL PROPOSED CHAIN LINK FENCE, SEE DETAIL SHEET 6
- 5 RELOCATE EXISTING WATER LINE CONTINUITY TEST STATION BEHIND TRAIL
- 6 REMOVE EXISTING CONCRETE SIDEWALK
- 7 RELOCATE EXISTING UTILITY POLE TO PROPOSED LOCATION SHOWN ON PLAN
- 20 REMOVE YARD INLET AND PIPE
- 27 INSTALL PROPOSED CONCRETE PAVING, UTILIZE MD 630.02, MATCH SIDEWALK WIDTH

**LEGEND**

- PROPOSED 10' WIDE ASPHALT TRAIL
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CROSSWALK
- PROPOSED RETAINING WALL
- PROPOSED 4' BLACK VINYL CHAIN LINK FENCE
- PROPOSED 2' CONTOUR 122
- PROPOSED 10' CONTOUR 120
- PROPOSED SPOT ELEVATION 21.5
- PROPOSED TREELINE
- PROPOSED LIMIT OF DISTURBANCE LOD

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 11/10/2021.

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



**Pennoni**  
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 DATE	APPROVED DATE
<i>[Signature]</i> 5/6/21 CHIEF ENGINEER	<i>[Signature]</i> 4/15/21 PROJECT MANAGER
APPROVAL DATE	APPROVED DATE
<i>[Signature]</i> 4/16/21 ASSISTANT CHIEF ENGINEER	<i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES

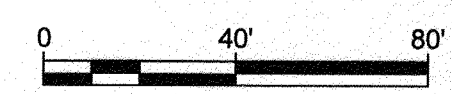
GP# G02017905 DWG NO: DD04A

97075 APRIL 5, 2021

SITE AND GRADING PLAN

**BROADNECK TRAIL - PHASE III**  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 38, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

DPTW No.



E:\PROJECTS\AA\CO\AA001701-Broadneck Peninsula Phase III\DESIGN\_PUBLISH\00 - 00 SET\AA001701-0004.dwg

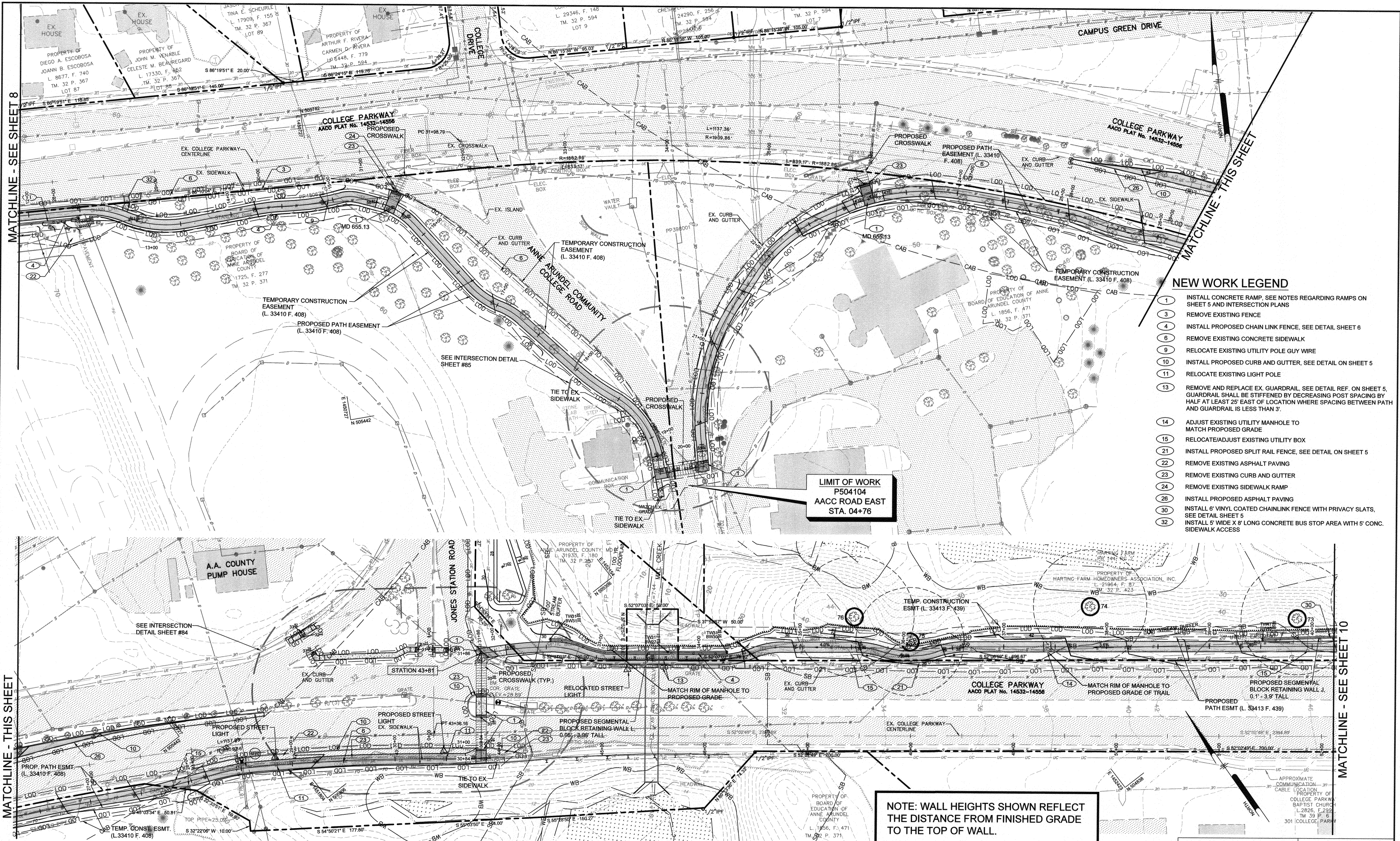


MATCHLINE - SEE SHEET 8

MATCHLINE - THIS SHEET

MATCHLINE - THIS SHEET

MATCHLINE - SEE SHEET 10



- NEW WORK LEGEND**
- 1 INSTALL CONCRETE RAMP. SEE NOTES REGARDING RAMPS ON SHEET 5 AND INTERSECTION PLANS
  - 3 REMOVE EXISTING FENCE
  - 4 INSTALL PROPOSED CHAIN LINK FENCE. SEE DETAIL SHEET 6
  - 6 REMOVE EXISTING CONCRETE SIDEWALK
  - 9 RELOCATE EXISTING UTILITY POLE WIRE
  - 10 INSTALL PROPOSED CURB AND GUTTER. SEE DETAIL ON SHEET 5
  - 11 RELOCATE EXISTING LIGHT POLE
  - 13 REMOVE AND REPLACE EX. GUARDRAIL. SEE DETAIL REF. ON SHEET 5. GUARDRAIL SHALL BE STIFFENED BY DECREASING POST SPACING BY HALF AT LEAST 25' EAST OF LOCATION WHERE SPACING BETWEEN PATH AND GUARDRAIL IS LESS THAN 3'.
  - 14 ADJUST EXISTING UTILITY MANHOLE TO MATCH PROPOSED GRADE
  - 15 RELOCATE/ADJUST EXISTING UTILITY BOX
  - 21 INSTALL PROPOSED SPLIT RAIL FENCE. SEE DETAIL ON SHEET 5
  - 22 REMOVE EXISTING ASPHALT PAVING
  - 23 REMOVE EXISTING CURB AND GUTTER
  - 24 REMOVE EXISTING SIDEWALK RAMP
  - 26 INSTALL PROPOSED ASPHALT PAVING
  - 30 INSTALL 6" VINYL COATED CHAINLINK FENCE WITH PRIVACY SLATS. SEE DETAIL SHEET 5
  - 32 INSTALL 5' WIDE X 8' LONG CONCRETE BUS STOP AREA WITH 5' CONC. SIDEWALK ACCESS

**LIMIT OF WORK**  
 P504104  
 AACC ROAD EAST  
 STA. 04+76

**NOTE: WALL HEIGHTS SHOWN REFLECT THE DISTANCE FROM FINISHED GRADE TO THE TOP OF WALL.**

**LEGEND**

PROPOSED 10' WIDE ASPHALT TRAIL	PROPOSED 2' CONTOUR	122
PROPOSED CONCRETE SIDEWALK	PROPOSED 10' CONTOUR	120
PROPOSED CROSSWALK	PROPOSED SPOT ELEVATION	21.5
PROPOSED RETAINING WALL	PROPOSED TREELINE	LOD
PROPOSED 4" BLACK VINYL CHAIN LINK FENCE	PROPOSED LIMIT OF DISTURBANCE	LOD
	PROPOSED STREET LIGHT	▲

0 40' 80'

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#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
 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  
 97076  
 APRIL 5, 2021  
 SITE AND GRADING PLAN  
**BROADNECK TRAIL - PHASE III**  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 38, AND 40  
 ARNOLD, MD ZONING CODE 21012, 38D DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

APPROVED DATE	APPROVED DATE	SCALE: 1" = 40'
<i>[Signature]</i> 5/6/21 CHIEF ENGINEER	<i>[Signature]</i> 4/15/21 PROJECT MANAGER	DRAWN BY: PAI
APPROVAL DATE	APPROVED DATE	CHECKED BY: PJS/JAR
<i>[Signature]</i> 4/15/21 ASSISTANT CHIEF ENGINEER	<i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES	SHEET 9 of 137
PROJECT #:		PROJECT # P504100
PROPOSAL #:		PROPOSAL #:

GP# G02017905 DWG NO: DD04B

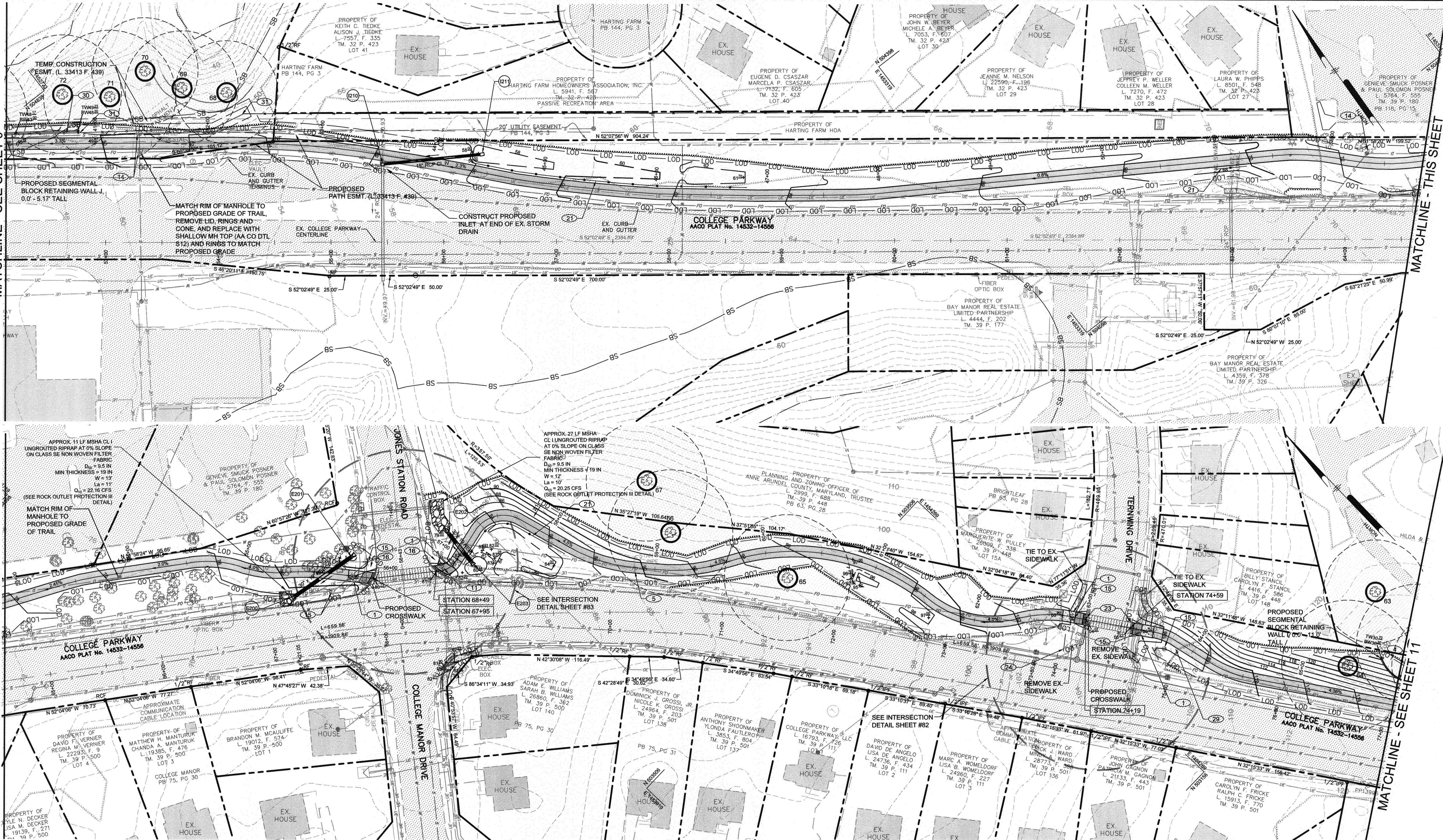


MATCHLINE - SEE SHEET 9

MATCHLINE - THIS SHEET

MATCHLINE - THIS SHEET

MATCHLINE - SEE SHEET 11



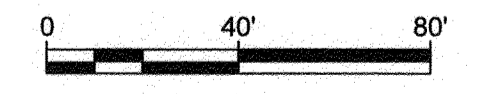
**LEGEND**

- PROPOSED 10' WIDE ASPHALT TRAIL
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CROSSWALK
- PROPOSED RETAINING WALL
- PROPOSED 4" BLACK VINYL CHAIN LINK FENCE
- PROPOSED 2" CONTOUR
- PROPOSED 10" CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED TREELINE
- PROPOSED LIMIT OF DISTURBANCE
- PROPOSED STREET LIGHT

**NEW WORK LEGEND**

- 1 INSTALL CONCRETE RAMP, SEE NOTES REGARDING RAMPS ON SHEET 5 AND INTERSECTION PLANS
- 11 RELOCATE EXISTING LIGHT POLE
- 14 ADJUST EXISTING UTILITY MANHOLE TO MATCH PROPOSED GRADE
- 15 ADJUST / RELOCATE EXISTING UTILITY BOX
- 16 INSTALL PROPOSED PEDESTRIAN SIGNAL, SEE SIGNAL PLANS THIS SET FOR LOCATION AND DETAILS
- 21 INSTALL PROPOSED SPLIT RAIL FENCE, SEE DETAIL SHEET 5
- 23 REMOVE EXISTING CURB AND GUTTER
- 24 REMOVE EXISTING SIDEWALK RAMP
- 29 RELOCATE EXISTING UNDERGROUND UTILITY
- 30 INSTALL 6" VINYL COATED CHAINLINK FENCE WITH PRIVACY SLATS, SEE DETAIL SHEET 6
- 31 INSTALL 6" VINYL PRIVACY FENCE, SEE DETAIL SHEET 5

**NOTE: WALL HEIGHTS SHOWN REFLECT THE DISTANCE FROM FINISHED GRADE TO THE TOP OF WALL.**



GP# G02017905 DWG NO: DD04C

PROFESSIONAL CERTIFICATION: I, JAMES A. RUEFF, 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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.987.8900 F 410.987.9282

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

97077 APRIL 5, 2021

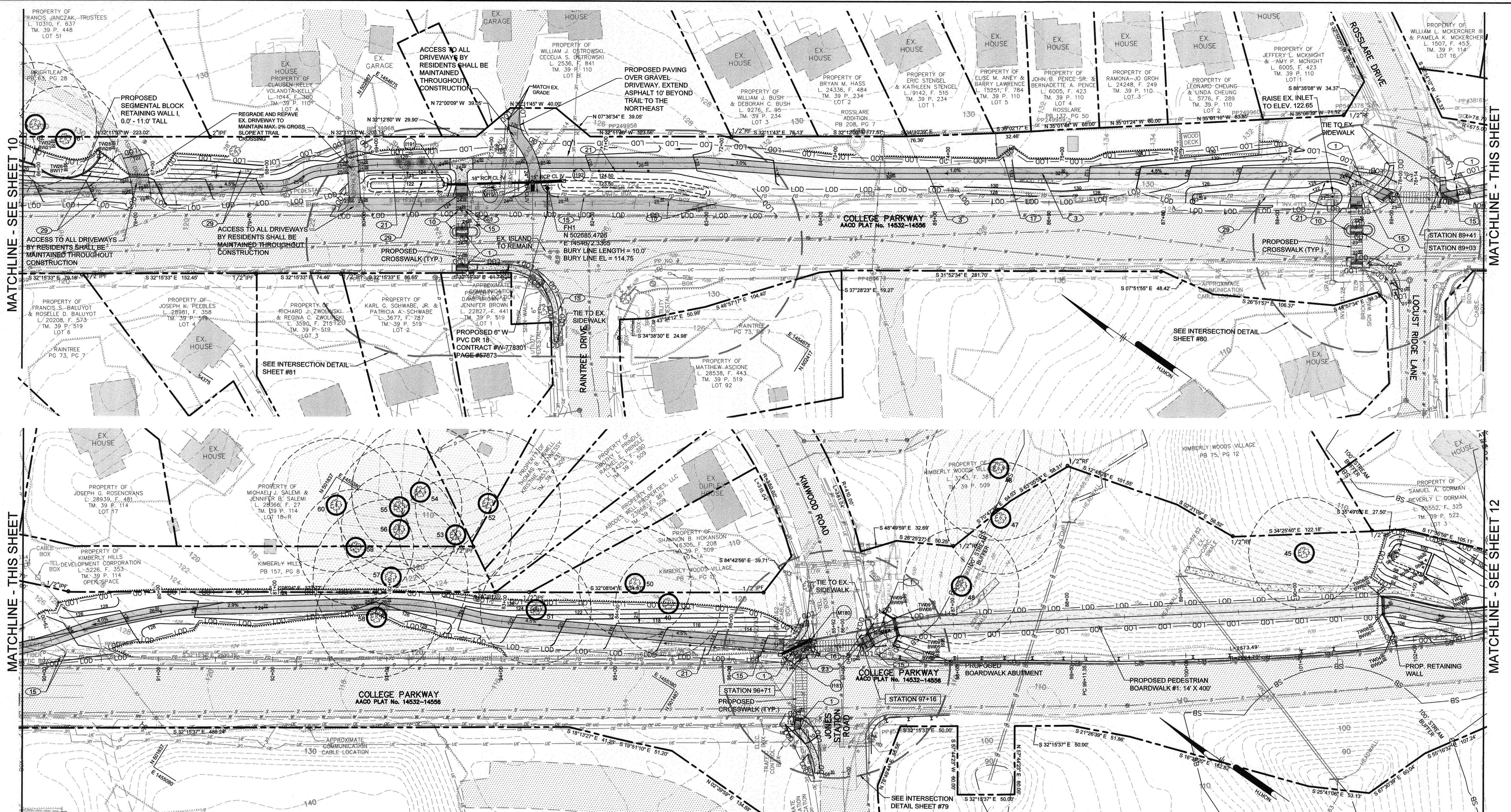
SITE AND GRADING PLAN

BROADNECK TRAIL - PHASE III  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 39, AND 40  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

APPROVED DATE	APPROVED DATE	SCALE: 1" = 40'
<i>[Signature]</i> 5/6/21	<i>[Signature]</i> 4/15/21	DRAWN BY: PAI
CHIEF ENGINEER	PROJECT MANAGER	CHECKED BY: PJS/JAR
APPROVAL DATE	APPROVED DATE	SHEET 10 OF 137
<i>[Signature]</i> 4/14/21	<i>[Signature]</i> 4/14/21	PROJECT #: P504100
ASSISTANT CHIEF ENGINEER	CHIEF, RIGHT OF WAY SERVICES	PROPOSAL #:

DATE PLOT:





MATCHLINE - SEE SHEET 10

MATCHLINE - THIS SHEET

MATCHLINE - THIS SHEET

MATCHLINE - SEE SHEET 12

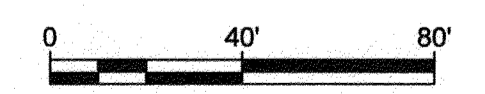
**LEGEND**

PROPOSED 10' WIDE ASPHALT TRAIL	
PROPOSED CONCRETE SIDEWALK	
PROPOSED CROSSWALK	
PROPOSED RETAINING WALL	
PROPOSED 4' BLACK VINYL CHAIN LINK FENCE	
PROPOSED 2' CONTOUR	122
PROPOSED 10' CONTOUR	120
PROPOSED SPOT ELEVATION	21.4
PROPOSED TREELINE	
PROPOSED LIMIT OF DISTURBANCE	LOD LOD

**NEW WORK LEGEND**

1	INSTALL CONCRETE RAMP. SEE NOTES REGARDING RAMP ON SHEET 5 AND INTERSECTION PLANS
3	REMOVE EXISTING FENCE
10	INSTALL PROPOSED CURB AND GUTTER. SEE DETAIL ON SHEET 5
15	ADJUST / RELOCATE EXISTING UTILITY BOX
16	INSTALL PROPOSED PEDESTRIAN SIGNAL. SEE SIGNAL PLANS THIS SET FOR LOCATION AND DETAILS
17	REMOVE EXISTING SHED
21	INSTALL PROPOSED SPLIT RAIL FENCE. SEE DETAIL SHEET 5
23	REMOVE EXISTING CURB AND GUTTER
28	PARTIAL REMOVAL OF CONCRETE SWALE
29	RELOCATE EXISTING UNDERGROUND UTILITY

**NOTE: WALL HEIGHTS SHOWN REFLECT THE DISTANCE FROM FINISHED GRADE TO THE TOP OF WALL.**



GP# G02017905 DWG NO: DDO4D

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**

PENNONI ASSOCIATES INC.  
8890 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.997.8900 F 410.997.8282

**ANNE ARUNDEL COUNTY**  
DEPARTMENT OF PUBLIC WORKS

**97078** APRIL 5, 2021

SITE AND GRADING PLAN

APPROVED DATE <i>[Signature]</i> 5/6/21 CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/19/21 PROJECT MANAGER	SCALE: 1" = 40'
APPROVAL DATE <i>[Signature]</i> 4/21/21 ASSISTANT CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES	DRAWN BY: PAI CHECKED BY: PJS/JAR SHEET 11 of 137 PROPOSAL #:

**BROADBECK TRAIL - PHASE III**  
CONSTRUCTION DOCUMENTS

ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

DPW No.:





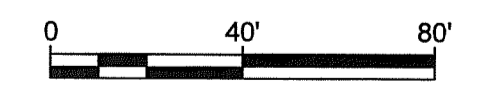
**LEGEND**

PROPOSED 10' WIDE ASPHALT TRAIL	
PROPOSED CONCRETE SIDEWALK	
PROPOSED CROSSWALK	
PROPOSED RETAINING WALL	
PROPOSED 4" BLACK VINYL CHAIN LINK FENCE	
PROPOSED 2" CONTOUR	122
PROPOSED 10" CONTOUR	120
PROPOSED SPOT ELEVATION	21
PROPOSED TREELINE	
PROPOSED LIMIT OF DISTURBANCE	LOD

**NEW WORK LEGEND**

1	INSTALL CONCRETE RAMP, SEE NOTES REGARDING RAMPS ON SHEET 5 AND INTERSECTION PLANS
4	INSTALL PROPOSED CHAIN LINK FENCE, SEE DETAIL ON SHEET 6
15	ADJUST/RELOCATE EXISTING UTILITY BOX
16	INSTALL PROPOSED PEDESTRIAN SIGNAL, SEE SIGNAL PLANS THIS SET FOR LOCATION AND DETAILS
21	INSTALL PROPOSED SPLIT RAIL FENCE, SEE DETAIL ON SHEET 5
28	PARTIAL REMOVAL OF CONCRETE SWALE

**NOTE: WALL HEIGHTS SHOWN REFLECT THE DISTANCE FROM FINISHED GRADE TO THE TOP OF WALL.**



DPW No.:

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE
1	ADD SPLIT RAIL FENCE STUN (TRAIL AND I 13)	<i>JAR</i>	4/15/21



**Pennoni**  
**PENNONI ASSOCIATES INC.**  
 8800 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

APPROVED DATE		APPROVED DATE		SCALE: 1" = 40'	
<i>[Signature]</i>	5/12/21	<i>[Signature]</i>	4/15/21	DRAWN BY: PAI	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: PJS/JAR	
APPROVAL DATE		APPROVED DATE		SHEET 12 OF 137	
<i>[Signature]</i>	4/21/21	<i>[Signature]</i>	4/15/21	PROJECT #: P504100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		PROPOSAL #:	

GP# G02017905 DWG NO: DDO4E

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

**97079**  
 APRIL 5, 2021

SITE AND GRADING PLAN

**BROADNECK TRAIL - PHASE III**  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 38, AND 40  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019



MATCHLINE - SEE SHEET 12

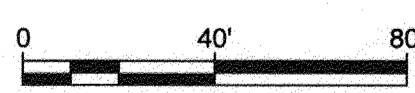
MATCHLINE - THIS SHEET

MATCHLINE - INSERT THIS SHEET

MATCHLINE - THIS SHEET

LIMIT OF WORK  
P504104  
COLLEGE PARKWAY  
STA. 149+62

NOTE: WALL HEIGHTS SHOWN REFLECT THE DISTANCE FROM FINISHED GRADE TO THE TOP OF WALL.



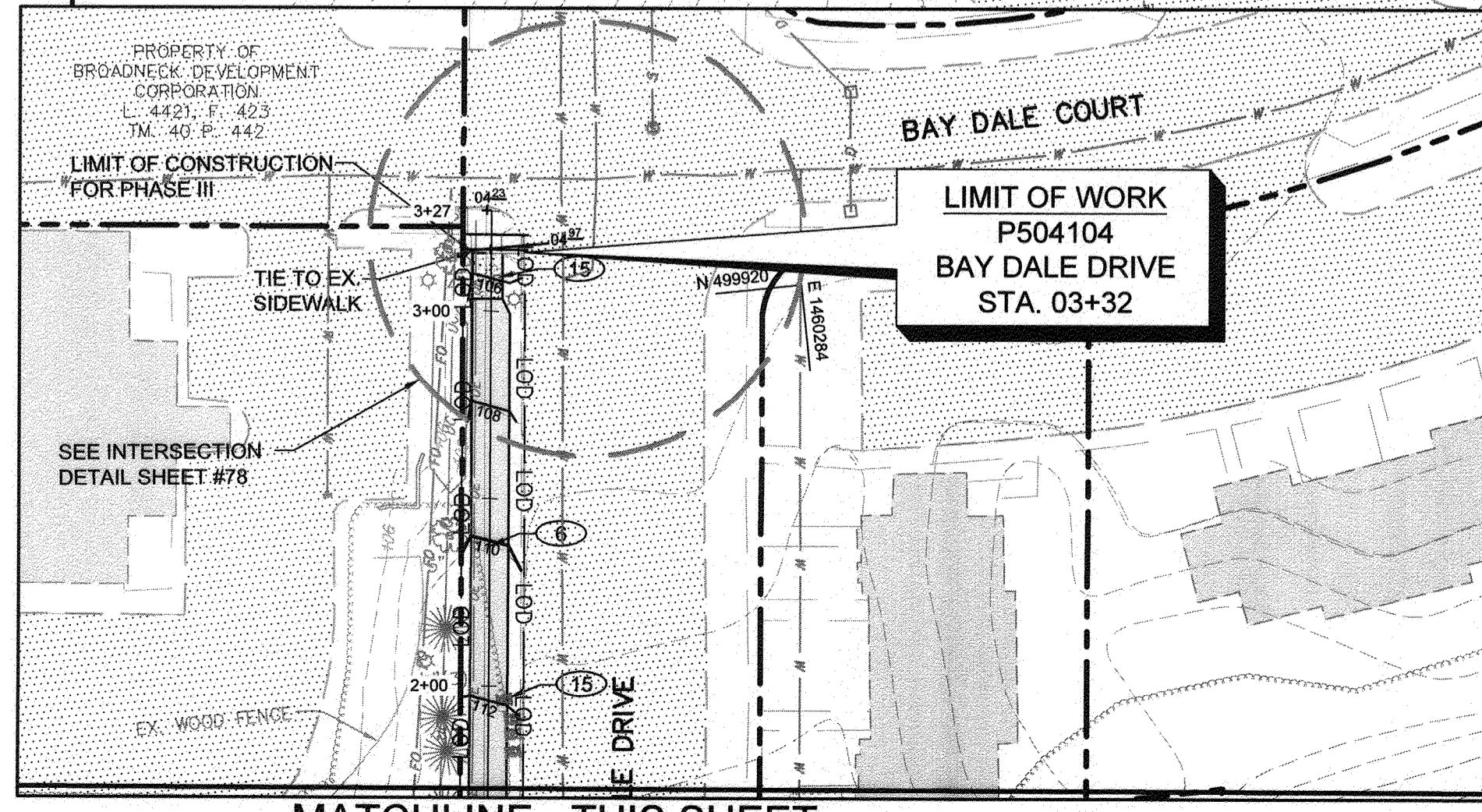
**LEGEND**

- PROPOSED 10' WIDE ASPHALT TRAIL
- PROPOSED CONCRETE SIDEWALK
- PROPOSED CROSSWALK
- PROPOSED RETAINING WALL
- PROPOSED 4" BLACK VINYL CHAIN LINK FENCE
- PROPOSED 2' CONTOUR
- PROPOSED 10' CONTOUR
- PROPOSED SPOT ELEVATION
- PROPOSED TREELINE
- PROPOSED LIMIT OF DISTURBANCE

**NEW WORK LEGEND**

- 1 INSTALL CONCRETE RAMP. SEE NOTES REGARDING RAMP ON SHEET 5 AND INTERSECTION PLANS
- 4 INSTALL PROPOSED CHAIN LINK FENCE. SEE DETAIL ON SHEET 6
- 6 REMOVE EXISTING SIDEWALK
- 15 RELOCATE/ADJUST EXISTING UTILITY BOX
- 19 RELOCATE EXISTING SIGNAL POLE 5' TO THE WEST, OUTSIDE OF TRAIL FOOTPRINT. SHIFT ALL WIRING TO NEW POLE LOCATION, IF SUFFICIENT SLACK DOES NOT EXIST TO REACH NEW POLE LOCATION OR TRAFFIC SIGNAL CABINET, PROVIDE NEW WIRING.

- 21 INSTALL PROPOSED SPLIT RAIL FENCE. SEE DETAIL ON SHEET 5
- 24 REMOVE EXISTING SIDEWALK RAMP
- 28 PARTIAL REMOVAL OF EXISTING CONCRETE SWALE



MATCHLINE - THIS SHEET

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY DATE

**Pennoni**  
PENNONI ASSOCIATES INC.  
8890 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.987.8900 F 410.987.9282

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

APPROVED: *Blair* DATE: *5/15/21*  
PROJECT MANAGER

APPROVED: *David* DATE: *4/15/21*  
ASSISTANT CHIEF ENGINEER

APPROVED: *Wright* DATE: *4/15/21*  
CHIEF, RIGHT OF WAY SERVICES

SCALE: 1" = 40'  
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 13 of 137  
PROJECT #: P504100  
PROPOSAL #:

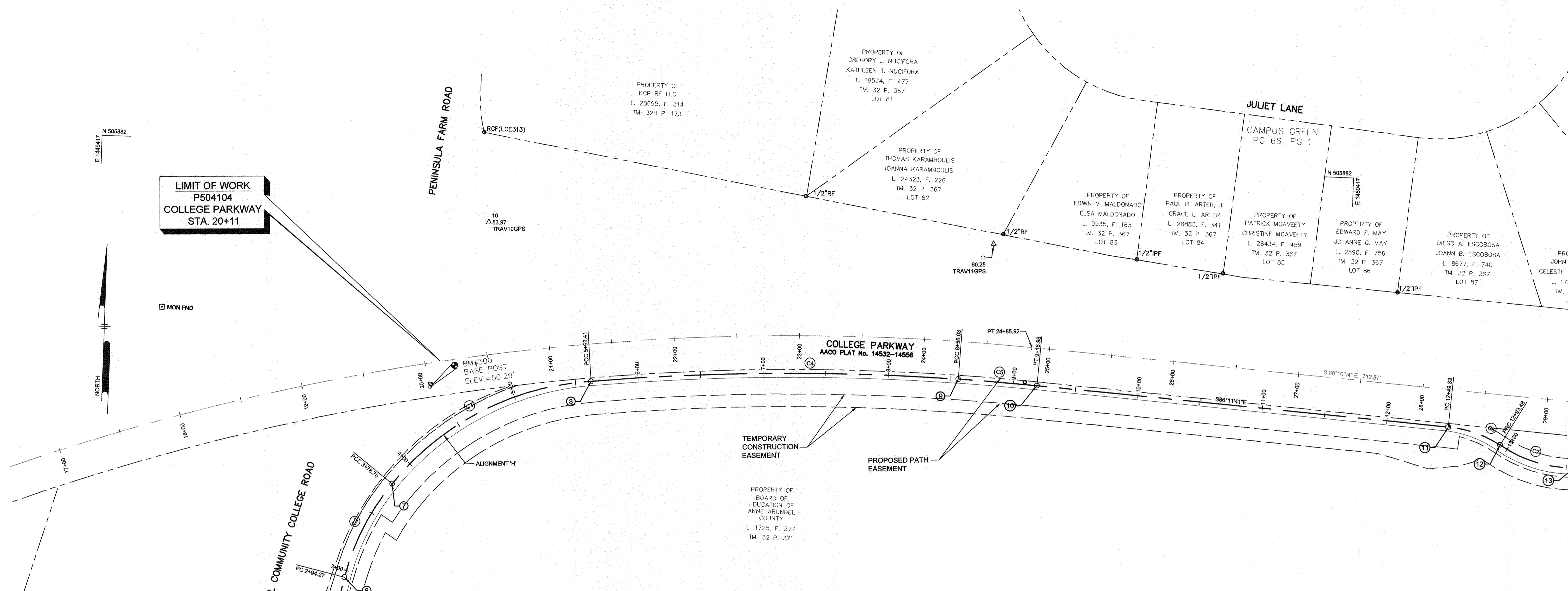
97080  
APRIL 5, 2021  
SITE AND GRADING PLAN  
BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 38, AND 40  
ARNOLD, MD. ZFP CODE 21012, 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

GP# G02017905 DWG NO: DD04F

DATE

DATE





LIMIT OF WORK  
P504104  
COLLEGE PARKWAY  
STA. 20+11

LIMIT OF WORK  
P504104  
AACC ROAD WEST  
STA. 04+22

CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT
C1	495.00'	54.17'	N 03°41'11" W	54.15'	11°34'30"	27.11'
C2	195.00'	84.43'	N 25°00'29" E	83.77'	29°22'57"	42.89'
C3	221.04'	183.71'	N 60°49'56" E	178.47'	25°59'17"	97.54'
C4	1893.30'	293.62'	N 87°42'15" E	293.32'	3°01'34"	147.10'
C5	2173.30'	62.90'	S 87°01'26" E	62.89'	2°38'11"	31.45'
C6	95.66'	44.15'	S 72°55'40" E	43.78'	59°53'34"	22.47'
C7	105.00'	62.55'	S 74°28'15" E	61.63'	54°34'03"	32.24'
C109	395.00'	90.69'	N 06°01'35" E	90.49'	14°30'19"	45.55'

Point #	Description	Northing	Easting
1	0+00	505288.8715	1449555.3697
2	PI 0+45.29	505290.5782	1449600.6263
3	PC 0+64.88	505310.0342	1449598.2988
4	PCC 1+19.06	505364.0684	1449594.8174
5	PT 2+09.75	505454.0607	1449604.3177
6	PC 2+94.27	505536.5435	1449622.7605
7	PCC 3+78.70	505612.4643	1449658.1758
8	PCC 5+62.41	505699.4450	1449814.0152
9	PCC 8+56.03	505711.1951	1450107.1040
10	PT 9+18.93	505707.9297	1450169.9138
11	PC 12+49.33	505686.0029	1450499.5862
12	PRC 12+93.48	505673.1565	1450541.4161
13	PT 13+56.03	505656.8556	1450600.7985

POINT #	NORTHING	EASTING	ELEVATION	DESCRIPTION
10	505823.38	1449728.13	53.97	TRAV10GPS
11	505919.73	1450131.45	60.25	TRAV11GPS
12	505781.12	1450599.64	60.51	TRAV12RNC
13	505747.40	1451051.92	55.86	TRAV13RNC
14	505660.08	1451461.23	48.20	TRAV14RNC
15	505302.54	1452022.65	32.23	TRAV15RNC
16	504872.18	1452574.93	43.88	TRAV16RNC
17	504692.22	1452828.20	53.59	TRAV17RNC
18	504438.39	1453099.69	60.80	TRAV18RNC
19	504038.27	1453578.75	70.24	TRAV19RNC
20	503848.84	1453878.55	81.18	TRAV20RNC
21	503253.76	1454299.01	106.72	TRAV21RNC
22	502804.73	1454578.99	122.52	TRAV22RNC
23	502357.68	1454880.92	126.25	TRAV23RNC
24	501974.52	1455107.19	122.42	TRAV24RNC
25	501563.81	1455287.04	117.03	TRAV25RNC
26	501245.48	1455564.69	108.14	TRAV26RNC
27	501002.23	1455727.31	107.63	TRAV27RNC
28	500703.36	1455985.00	110.17	TRAV28RNC
29	500350.87	1456172.55	112.95	TRAV29RNC
30	500249.22	1456479.90	118.21	TRAV30RNC
31	500062.27	1456854.35	122.09	TRAV31RNC
32	499944.98	1457346.93	124.59	TRAV32RNC
33	499818.21	1457752.83	129.10	TRAV33RNC
34	499707.45	1458186.19	125.54	TRAV34RNC
35	499715.19	1458715.55	115.69	TRAV35RNC
36	499618.22	1459008.29	112.93	TRAV36RNC
37	499552.64	1460148.57	118.78	TRAV37RNC

BM #	NORTHING	EASTING	ELEVATION	DESCRIPTION
300	505690.85	1449685.85	50.29	BASE CROSSWALK POST
301	505647.60	1450949.37	55.40	COR. TRAFFIC BOX
302	505298.23	1452009.64	28.89	COR. INLET
303	504118.19	1453587.26	74.46	TOP FH BOLT
304	503858.33	1453926.00	81.47	TOP FH BOLT
305	503304.89	1454347.30	108.24	TOP FH BOLT
306	502678.70	1454861.26	127.59	TOP FH BOLT
307	501864.43	1455104.26	123.68	TOP FH BOLT
308	501454.84	1455520.07	111.76	TOP FH BOLT
309	500886.30	1455829.13	112.31	TOP FH BOLT
310	499892.08	1457749.54	131.60	BOLT LP
311	499662.17	1460166.58	120.41	TOP FH BOLT

BENCHMARKS SET BY PENNONI ASSOCIATES, INC.

ALIGNMENT 'H' FROM ANNE ARUNDEL COMMUNITY COLLEGE TO JONES STATION ROAD

GP# G02017905 DWG NO: DD05A

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
PENNONI ASSOCIATES INC.  
8899 MacCaw Road, Suite 100  
Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

APPROVED: [Signature] DATE: 4/15/21  
CHIEF ENGINEER

APPROVED: [Signature] DATE: 4/15/21  
PROJECT MANAGER

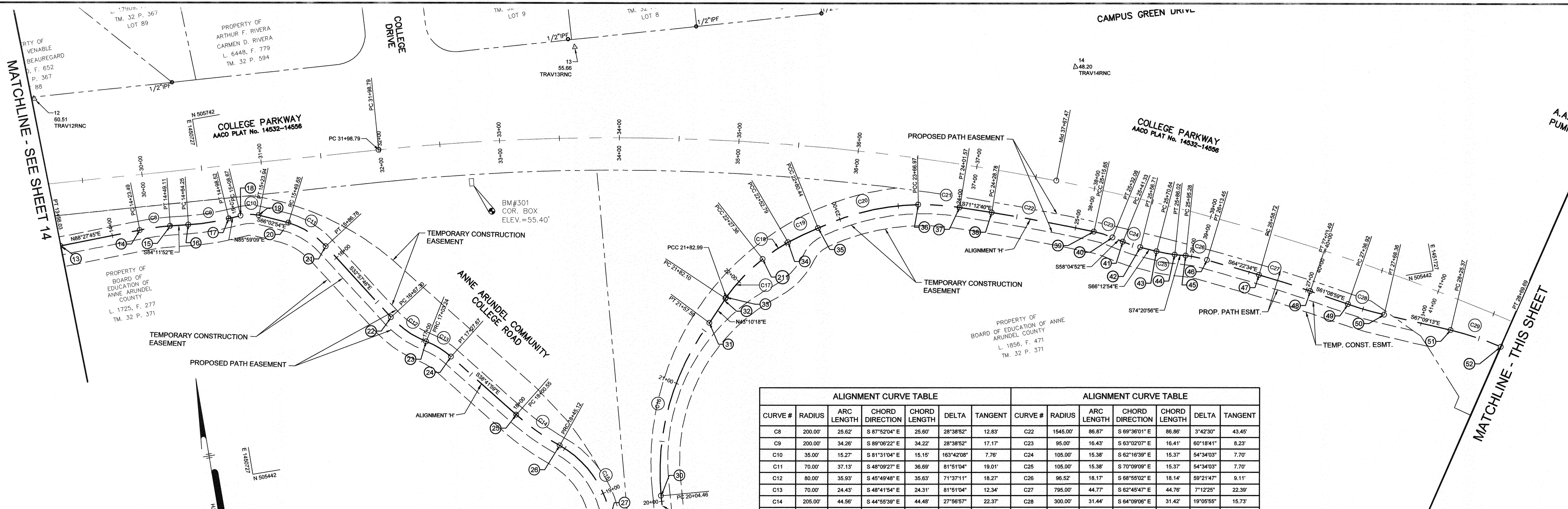
APPROVED: [Signature] DATE: 4/15/21  
ASSISTANT CHIEF ENGINEER

APPROVED: [Signature] DATE: 4/15/21  
CHIEF, RIGHT OF WAY SERVICES

SCALE: 1" = 40'  
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 14 OF 137  
PROJECT #: P504100  
PROPOSAL #:

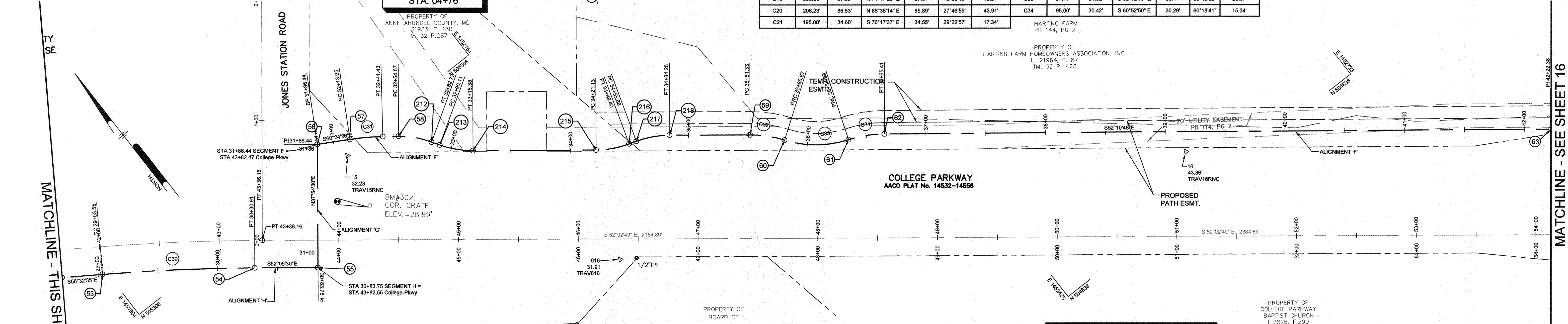
97081  
APRIL 5, 2021  
GEOMETRY PLAN  
BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 39, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019





ALIGNMENT CURVE TABLE						ALIGNMENT CURVE TABLE							
CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT	CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT
C8	200.00'	25.62'	S 87°52'04"E	25.60'	28°38'52"	12.83'	C22	1545.00'	86.87'	S 69°36'01"E	86.86'	3°42'30"	43.45'
C9	200.00'	34.26'	S 89°08'22"E	34.22'	28°38'52"	17.17'	C23	95.00'	16.43'	S 63°02'07"E	16.41'	60°18'41"	8.23'
C10	35.00'	15.27'	S 81°31'04"E	15.15'	163°42'08"	7.76'	C24	105.00'	15.38'	S 62°16'39"E	15.37'	54°34'03"	7.70'
C11	70.00'	37.13'	S 48°09'27"E	36.69'	81°51'04"	19.01'	C25	105.00'	15.38'	S 70°09'09"E	15.37'	54°34'03"	7.70'
C12	80.00'	35.93'	S 45°49'48"E	35.63'	71°37'11"	18.27'	C26	96.52'	18.17'	S 68°55'02"E	18.14'	59°21'47"	9.11'
C13	70.00'	24.43'	S 48°41'54"E	24.31'	81°51'04"	12.34'	C27	795.00'	44.77'	S 62°45'47"E	44.76'	7°12'25"	22.39'
C14	205.00'	44.56'	S 44°55'39"E	44.48'	27°56'57"	22.37'	C28	300.00'	31.44'	S 64°09'06"E	31.42'	19°05'55"	15.73'
C15	85.00'	75.30'	S 25°46'32"E	72.86'	67°24'24"	40.32'	C29	239.33'	44.32'	S 61°50'54"E	44.26'	23°56'24"	22.22'
C16	208.43'	153.13'	N 25°18'23"E	149.71'	27°29'20"	80.20'	C30	1639.33'	127.36'	S 54°19'03"E	127.33'	3°29'42"	63.71'
C17	161.92'	44.37'	N 53°21'10"E	44.23'	35°23'07"	22.33'	C31	219.85'	27.48'	S 56°49'36"E	27.46'	26°03'41"	13.76'
C18	259.19'	25.43'	N 66°18'54"E	25.42'	22°06'21"	12.73'	C32	95.00'	29.34'	S 43°12'03"E	29.22'	60°18'41"	14.79'
C19	308.65'	27.55'	N 74°47'28"E	27.64'	18°33'49"	13.84'	C33	87.17'	54.32'	S 52°12'15"E	53.44'	65°43'32"	28.07'
C20	206.23'	86.53'	N 86°38'14"E	85.89'	27°46'59"	43.91'	C34	95.00'	30.42'	S 60°52'50"E	30.29'	60°18'41"	15.34'
C21	185.00'	34.60'	S 76°17'37"E	34.55'	29°22'57"	17.34'							

**LIMIT OF WORK**  
P504104  
AACC ROAD EAST  
STA. 04+76



POINT TABLE				POINT TABLE				POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING	POINT #	DESCRIPTION	NORTHING	EASTING	POINT #	DESCRIPTION	NORTHING	EASTING
13	PT 13+56.03	506856.66	1430600.80	26	PRC 18+45.12	505422.20	1450993.66	39	PCC 25+15.65	505522.14	1451453.39
14	PC 14+23.49	505658.47	1430688.24	27	PT 19+20.42	505356.59	1451015.34	40	PT 25+32.08	505514.70	1451468.00
15	PT 14+48.11	505657.51	1430693.82	28	PT 19+36.17	505340.84	1451015.45	41	PC 25+41.33	505509.80	1451475.86
16	PC 14+64.25	505656.49	1430709.01	29	PT 19+78.98	505341.14	1451028.26	42	PT 25+56.71	505502.65	1451489.46
17	PT 14+98.52	505655.45	1430743.10	30	PC 20+04.46	505366.58	1451060.06	43	PC 25+70.64	505497.04	1451502.20
18	PC 15+08.67	505656.16	1430753.23	31	PT 21+57.59	505501.90	1451124.06	44	PT 25+86.02	505491.62	1451516.89
19	PT 15+23.94	505653.93	1430788.21	32	PC 21+82.10	505518.33	1451139.47	45	PC 25+96.28	505489.32	1451528.57
20	PC 15+49.85	505643.49	1430791.71	33	PRC 21+82.09	505520.41	1451141.45	46	PT 26+13.45	505482.80	1451542.50
21	PT 16+06.78	505619.01	1430819.04	34	PRC 22+52.79	505557.02	1451200.22	47	PC 26+58.72	505463.22	1451563.32
22	PC 16+67.30	505551.45	1430862.86	35	PCC 22+80.44	505564.28	1451226.89	48	PT 27+03.49	505442.73	1451623.12
23	PRC 17+03.24	505526.62	1430888.42	36	PCC 23+66.97	505589.36	1451312.63	49	PC 27+36.92	505426.60	1451652.40
24	PT 17+27.67	505510.58	1430906.69	37	PT 24+01.57	505561.18	1451346.20	50	PT 27+68.38	505412.90	1451680.69
25	PC 18+00.55	505453.69	1430922.25	38	PC 24+28.78	505552.41	1451371.96	51	PC 28+25.37	505390.78	1451733.22

POINT TABLE				POINT TABLE				POINT TABLE				POINT TABLE			
POINT #	DESCRIPTION	NORTHING	EASTING	POINT #	DESCRIPTION	NORTHING	EASTING	POINT #	DESCRIPTION	NORTHING	EASTING	POINT #	DESCRIPTION	NORTHING	EASTING
52	PT 28+68.69	505369.88	1451772.24	58	PT 30+83.75	505244.48	1451945.61	58	PT 31+84.57	505289.03	1452066.13	61	PRC 36+34.99	505054.43	1452329.86
53	PC 29+03.55	505351.22	1451800.49	57	PC 32+13.95	505311.82	1452032.62	60	PRC 36+80.67	505087.18	1452317.62	216	PT 34+49.40	505164.86	1452213.58
54	PT 30+30.91	505276.95	1451903.91	212	PT 32+82.73	505268.19	1452084.87	214	PT 33+18.38	505241.03	1452107.58	217	PC 34+55.88	505162.89	1452119.76
211	PRC 22+27.36	505546.81	1451176.94	213	PC 32+90.11	505261.93	1452088.76	215	PC 34+21.13	505177.86	1452188.69	218	PT 34+84.26	505149.73	1452244.73

PROFESSIONAL CERTIFICATION: I, JAMES A. RUEFF, PE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # 21774. EXPIRATION DATE 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
PENNONI ASSOCIATES INC.  
8890 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

ALIGNMENT 'F' FROM JONES STATION ROAD TO JONES STATION ROAD, ALIGNMENT 'G' CROSSING COLLEGE PARKWAY AT JONES STATION ROAD & ALIGNMENT 'H' FROM ANNE ARUNDEL COMMUNITY COLLEGE TO JONES STATION ROAD

GP# G02017905 DWG NO: DD05B

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

97082 APRIL 5, 2021

GEOMETRY PLAN

BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS

ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	5/6/21	<i>[Signature]</i>	4/15/21
CHIEF ENGINEER		PROJECT MANAGER	
APPROVAL	DATE	APPROVED	DATE
<i>[Signature]</i>	4/21/21	<i>[Signature]</i>	4/16/21
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	

SCALE: 1" = 40'

DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 15 OF 137  
PROJECT #: P504100  
PROPOSAL #:

DATE PLOTTED: 4/16/21

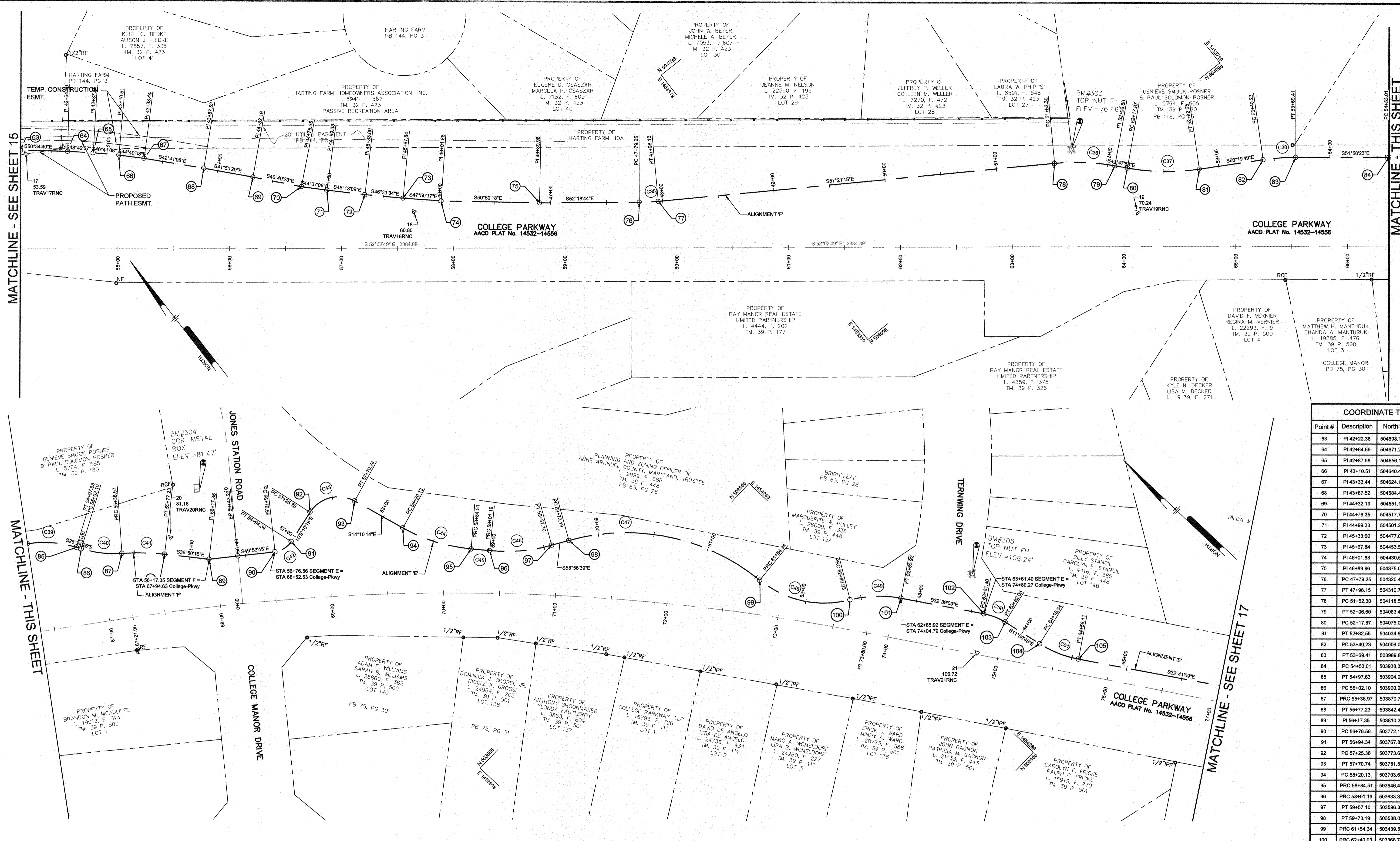


MATCHLINE - SEE SHEET 15

MATCHLINE - THIS SHEET

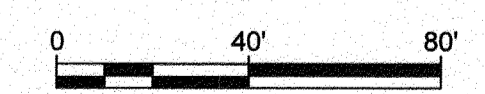
MATCHLINE - THIS SHEET

MATCHLINE - SEE SHEET 17



Point #	Description	Northing	Easting
63	PI 42+22.38	504698.1643	1452826.2924
64	PI 42+64.69	504671.2959	1452858.9767
65	PI 42+87.58	504656.1931	1452876.1688
66	PI 43+10.51	504640.4624	1452892.8535
67	PI 43+33.44	504624.1536	1452908.9748
68	PI 43+87.52	504584.4017	1452945.6381
69	PI 44+32.19	504551.1231	1452975.4360
70	PI 44+76.35	504517.7044	1453004.3058
71	PI 44+99.33	504501.2022	1453020.3078
72	PI 45+33.60	504477.0643	1453044.6311
73	PI 45+67.84	504453.5043	1453069.4808
74	PI 46+01.88	504430.6591	1453094.7092
75	PI 46+89.96	504375.0342	1453163.0052
76	PT 47+79.25	504320.4472	1453233.6639
77	PT 47+96.15	504310.7192	1453247.4712
78	PC 51+82.30	504118.5942	1453547.3602
79	PT 52+06.60	504083.4949	1453588.5679
80	PC 52+17.87	504075.0925	1453596.0804
81	PT 52+82.55	504034.6189	1453646.1769
82	PC 53+40.23	504006.0667	1453696.2957
83	PT 53+69.41	503989.8321	1453720.5024
84	PC 54+53.01	503938.3268	1453786.3621
85	PT 54+97.63	503904.0293	1453816.3245
86	PC 55+02.10	503900.0306	1453816.3100
87	PRC 55+38.97	503870.7401	1453838.3575
88	PT 55+77.23	503842.4291	1453864.0144
89	PI 56+17.35	503810.3191	1453888.0686
90	PC 56+76.56	503772.1800	1453933.3536
91	PT 56+94.34	503767.8336	1453949.9944
92	PC 57+25.36	503773.6622	1453980.4678
93	PT 57+70.74	503751.5405	1454015.1908
94	PC 58+20.13	503703.6538	1454027.2818
95	PRC 58+84.51	503646.4624	1454055.7541
96	PRC 58+01.19	503633.3455	1454066.0671
97	PT 59+57.10	503596.3461	1454107.5461
98	PT 59+73.19	503588.0461	1454121.3291
99	PRC 61+54.34	503439.5851	1454212.7739
100	PRC 62+40.03	503366.7576	1454255.3370
101	PT 62+85.92	503336.6683	1454287.6180
102	PC 63+61.40	503273.1130	1454328.3454
103	PT 63+82.03	503254.0866	1454335.9971
104	PC 64+18.54	503218.2620	1454343.0668
105	PT 64+56.11	503183.6194	1454357.0104

ALIGNMENT CURVE TABLE						ALIGNMENT CURVE TABLE							
CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	TANGENT	CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA		
C35	192.00'	16.90'	S 54°50'00" E	16.89'	29°50'30"	8.45'	C44	150.00'	64.38'	S 28°27'58" E	63.89'	38°11'50"	32.69'
C36	200.00'	54.30'	S 49°34'37" E	54.13'	28°38'52"	27.32'	C45	815.63'	16.69'	S 38°10'33" E	16.69'	7°01'29"	8.34'
C37	200.00'	64.68'	S 51°03'53" E	64.40'	28°38'52"	32.63'	C46	150.00'	55.91'	S 48°16'01" E	55.58'	38°11'50"	28.28'
C38	200.00'	29.17'	S 58°09'06" E	29.15'	28°38'52"	14.61'	C47	190.00'	181.15'	S 31°37'52" E	174.36'	30°09'20"	98.12'
C39	100.00'	44.62'	S 39°11'24" E	44.25'	57°17'45"	22.89'	C48	92.00'	85.70'	S 31°00'12" E	82.63'	62°16'41"	46.24'
C40	100.00'	36.87'	S 36°58'10" E	36.66'	57°17'45"	18.65'	C49	105.00'	45.88'	S 45°10'14" E	45.52'	54°34'03"	23.31'
C41	205.00'	38.26'	S 42°11'05" E	38.21'	27°56'57"	19.19'	C50	55.00'	20.63'	S 21°54'29" E	20.51'	104°10'27"	10.44'
C42	20.00'	17.78'	S 75°21'43" E	17.20'	286°28'44"	9.52'	C51	100.00'	37.56'	S 21°55'29" E	37.34'	57°17'45"	19.01'
C43	30.00'	45.37'	S 57°29'57" E	41.17'	190°59'09"	28.30'							



ALIGNMENT 'E' FROM JONES STATION ROAD TO ROSSLARE DRIVE & ALIGNMENT 'F' FROM JONES STATION ROAD TO JONES STATION ROAD

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
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 DATE: 5/12/21  
APPROVED DATE: 4/15/21

APPROVAL DATE: 4/21/21  
APPROVED DATE: 4/16/21

SCALE: 1" = 40'  
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 16 OF 137  
PROJECT #: P504100  
PROPOSAL #:

97083  
APRIL 5, 2021  
GEOMETRY PLAN  
BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 38, AND 40  
ARNOLD, MD ZONING CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

DPW No.:

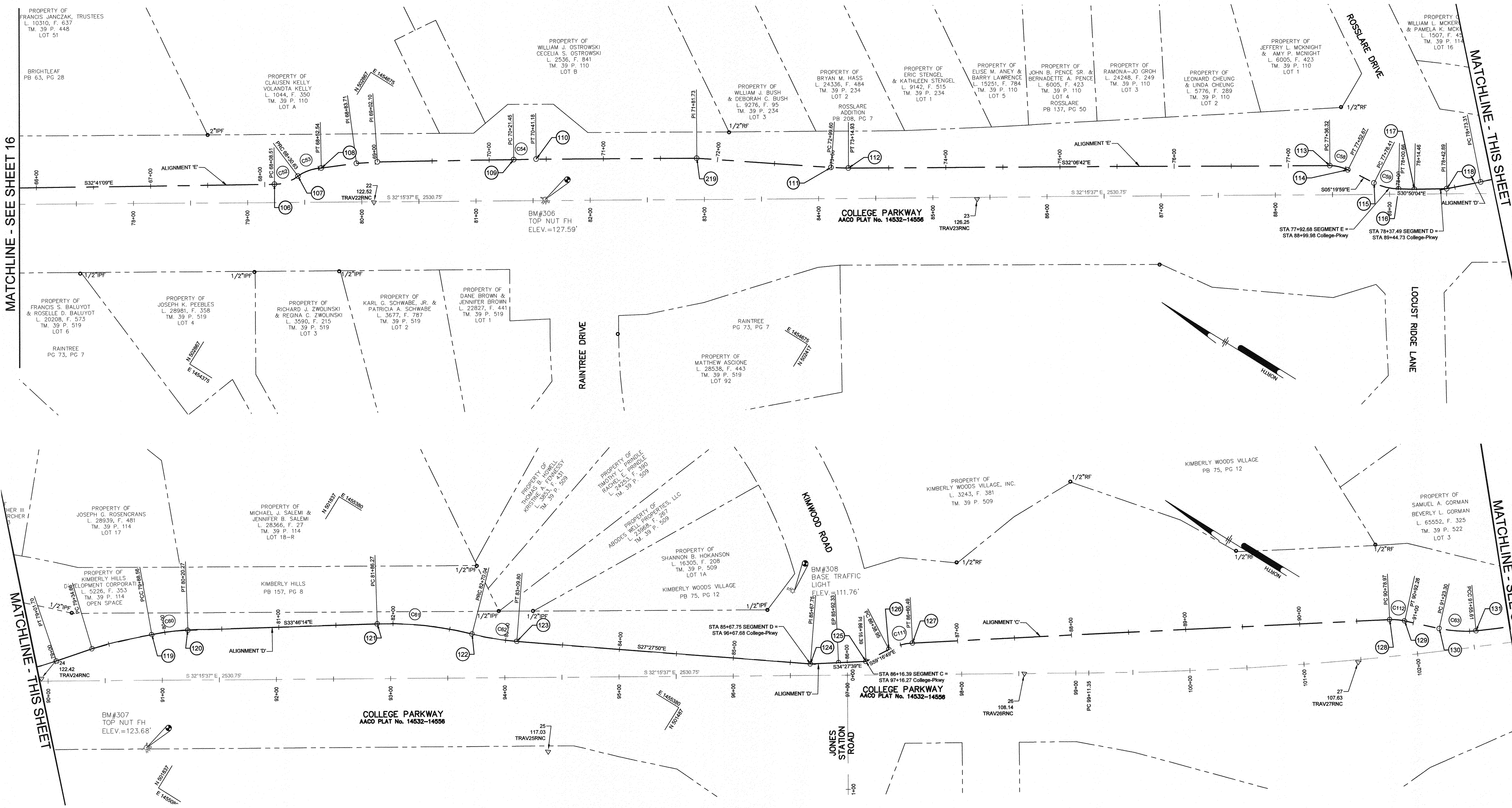
GP# G02017905 DWG NO: DD05C



MATCHLINE - SEE SHEET 16

MATCHLINE - THIS SHEET

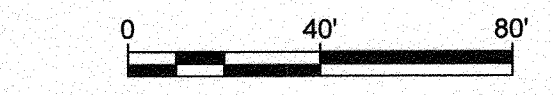
MATCHLINE - SEE SHEET 18



Point #	Description	Northing	Easting
106	PC 68+08.51	502887.0249	1454547.3181
107	PT 68+30.63	502873.2725	1454564.1761
108	PRC 68+52.54	502859.6982	1454580.9192
109	PC 70+21.45	502720.4640	1454676.2339
110	PT 70+41.18	502703.8734	1454686.9132
111	PC 72+99.60	502480.8343	1454817.0726
112	PT 73+14.93	502467.5615	1454824.7265
113	PC 77+36.32	502110.6415	1455048.7233
114	PT 77+52.67	502095.2895	1455053.9264
115	PC 77+78.41	502069.6647	1455056.3184
116	PT 78+00.66	502048.6839	1455063.1694
117	78+14.46	502036.8392	1455070.2400
118	PI 78+42.89	502012.8806	1455085.5449
119	PCC 79+88.56	501912.6270	1455190.9515

Point #	Description	Northing	Easting
120	PT 80+20.27	501888.1040	1455211.0234
121	PC 81+88.27	501749.9796	1455303.0863
122	PRC 82+70.04	501674.7087	1455339.2075
123	PT 83+09.80	501638.0026	1455354.3769
124	PI 85+67.75	501409.1229	1455473.3415
125	PI 86+16.39	501369.0259	1455500.8591
126	PC 86+38.65	501357.4993	1455520.2570
127	PT 86+60.49	501342.9065	1455535.8727
128	PC 90+78.97	500998.4391	1455773.4915
129	PT 90+92.26	500986.6224	1455779.5069
130	PC 91+23.30	500957.3388	1455789.7958
131	PCC 91+55.61	500928.9732	1455804.9882
219	PI 71+81.73	502585.0028	1454781.9164

CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT
C52	35.00'	22.12'	S 50°47'39"E	21.76'	163°42'08"	11.44'
C53	35.00'	21.91'	S 50°58'01"E	21.85'	163°42'08"	11.33'
C54	4431.21'	19.73'	S 32°46'09"E	19.73'	1°17'35"	9.87'
C58	35.00'	16.36'	S 18°43'21"E	16.21'	163°42'08"	8.33'
C59	50.00'	22.25'	S 18°05'02"E	22.07'	114°35'30"	11.31'
C111	50.00'	21.54'	S 46°58'22"E	21.37'	114°35'30"	10.94'
C112	50.00'	13.30'	S 28°58'44"E	13.26'	114°35'30"	6.89'



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 11/10/2021

REVISIONS: [Table with columns for #, DESCRIPTION, APPROVED BY, DATE]

**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8830 McGay Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

ALIGNMENT 'C' FROM KIMWOOD ROAD TO SHORE ACRES ROAD, & ALIGNMENT 'D' FROM ROSSLARE DRIVE TO KIMWOOD ROAD

GP# G02017905 DWG NO: DD05D

97084 APRIL 5, 2021

GEOMETRY PLAN

BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS

TAX MAP 32, 39, AND 40  
 ARNOLD, MD ZONING CODE 21012.3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

APPROVED: [Signatures] DATE: 4/16/21  
 APPROVED: [Signatures] DATE: 4/16/21

SCALE: 1" = 40'  
 DRAWN BY: PAI  
 CHECKED BY: PUS/JAR  
 SHEET 17 OF 137  
 PROJECT #: P504100  
 PROPOSAL #:

DPW No.:

1:\PROJECTS\VAAC01701-Broadneck Phase III\DESIGN\PLANS\DWG-DD05D.dwg



Point #	Description	Northing	Easting
132	PT 92+14.70	500863.7526	1455842.9831
133	PC 94+05.26	500744.5841	1455973.1580
134	PT 94+15.61	500737.0994	1455980.3056
135	PC 95+32.78	500653.2045	1456062.0996
136	PT 95+64.78	500631.0204	1456085.1581
137	PC 96+35.70	500585.3543	1456135.7701
138	PT 96+43.72	500578.0729	1456147.0393
139	PC 96+58.59	500574.1052	1456156.0879
140	PT 96+65.13	500568.4292	1456165.4686
141	PC 98+60.01	500448.0411	1456315.8614
142	PT 98+63.43	500434.5390	1456334.9759
144	PC 99+58.19	500391.2290	1456395.9162
145	PT 99+95.52	500367.7688	1456424.8645
146	PC 100+02.82	500362.9302	1456430.1169
147	PT 100+40.40	500340.0297	1456460.1006
148	PC 102+72.49	500216.7302	1456656.7217
149	PCC 102+98.97	500203.6535	1456679.7368
150	PT 103+55.21	500182.7847	1456731.8717

Point #	Description	Northing	Easting
151	PT 105+77.68	500177.68	1456777.68
152	PC 106+39.91	500085.9491	1456896.5853
153	PT 107+00.35	500063.6889	1457050.3805
154	PC 108+41.63	500025.1431	1457183.1096
155	PT 109+06.27	500004.0999	1457243.1564
156	PC 109+14.31	500003.8647	1457251.1956
157	PCC 109+75.72	499995.7158	1457311.9507
158	PC 110+11.32	499981.4268	1457344.3475
159	PC 110+92.16	499966.6354	1457421.5993
160	PCC 111+22.71	499966.9798	1457451.9354
161	PC 111+79.57	499948.4178	1457505.4827

Point #	Description	Northing	Easting
162	PC 112+30.64	499935.4183	1457554.4536
163	PT 112+90.19	499929.3201	1457613.6552
164	PC 112+94.81	499928.5731	1457618.2199
165	PT 113+39.55	499902.2873	1457652.1421
166	PC 113+41.41	499900.5788	1457652.8939
167	PCC 113+50.27	499892.8272	1457657.1600
168	PT 113+59.54	499888.0371	1457664.8695
169	BP 113+96.67	499883.9374	1457701.7805
170	PT 114+38.81	499878.7441	1457743.5979
171	PC 114+63.86	499868.6475	1457766.3273
172	PT 114+86.62	499860.9863	1457785.1547
173	PC 115+62.65	499825.4319	1457857.1485
174	PC 116+18.72	499806.6062	1457905.1816

ALIGNMENT CURVE TABLE						ALIGNMENT CURVE TABLE							
CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT	CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT
C65	500.00'	10.35'	S 43°40'50" E	10.35'	11°27'33"	5.17'	C79	295.00'	61.41'	S 82°21'38" E	61.30'	19°25'20"	30.82'
C66	500.00'	32.00'	S 46°06'26" E	32.00'	11°27'33"	16.01'	C80	100.00'	35.60'	S 66°11'59" E	35.41'	57°17'45"	17.99'
C67	42.00'	13.47'	S 57°07'55" E	13.42'	136°25'07"	6.80'	C81	100.00'	80.84'	S 79°09'39" E	78.66'	57°17'45"	42.77'
C68	42.00'	11.00'	S 58°49'23" E	10.96'	136°25'07"	5.53'	C82	75.00'	30.55'	N 89°20'58" E	30.34'	76°23'40"	15.49'
C69	195.00'	23.42'	S 54°45'48" E	23.40'	29°22'57"	11.72'	C83	200.00'	56.86'	S 70°52'53" E	56.67'	28°38'51"	28.63'
C71	295.00'	37.33'	S 50°58'26" E	37.30'	19°25'20"	18.69'	C84	118.00'	51.06'	S 75°08'11" E	50.67'	48°33'21"	25.94'
C72	205.00'	37.78'	S 52°37'43" E	37.73'	27°56'57"	18.94'	C85	500.00'	99.55'	S 84°07'08" E	99.51'	11°27'33"	29.81'
C73	300.89'	26.48'	S 60°23'44" E	26.47'	19°02'31"	13.25'	C86	45.00'	44.73'	S 52°13'42" E	42.91'	127°19'26"	24.41'
C74	305.00'	56.24'	S 68°09'56" E	56.16'	18°47'08"	28.20'	C87	50.00'	8.86'	S 28°49'34" E	8.85'	114°35'30"	4.44'
C75	108.00'	62.15'	S 56°57'49" E	61.29'	53°03'06"	31.96'	C88	40.00'	56.07'	S 68°35'53" E	51.59'	143°14'22"	33.75'
C76	64.03'	60.44'	S 67°31'14" E	58.22'	89°29'12"	32.68'	C118	13.23'	9.26'	S 58°08'48" E	9.08'	433°03'51"	4.83'
C77	195.00'	141.28'	S 73°48'22" E	138.21'	29°22'57"	73.90'	C119	45.00'	22.75'	N 56°45'38" E	22.51'	127°19'26"	11.62'
C78	105.00'	64.64'	S 70°41'14" E	63.63'	54°34'03"	33.38'							

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
PENNONI ASSOCIATES INC.  
8890 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.987.8900 F 410.987.9282

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

97085  
APRIL 5, 2021  
GEOMETRY PLAN

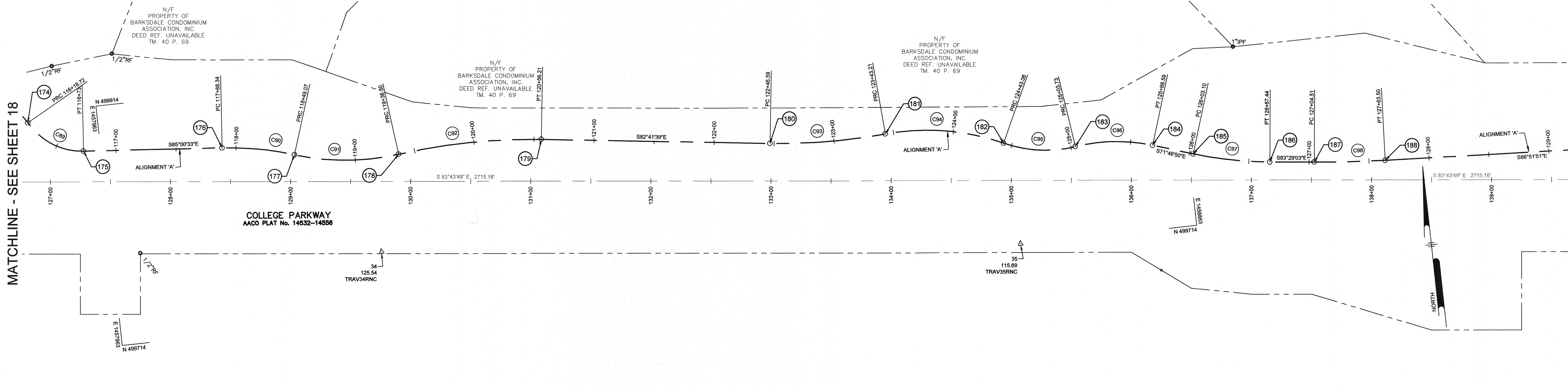
BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 39, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

APPROVED DATE	APPROVED DATE	SCALE: 1" = 40'
<i>[Signature]</i> 5/1/21	<i>[Signature]</i> 4/15/21	DRAWN BY: PAI
CHIEF ENGINEER	PROJECT MANAGER	CHECKED BY: PJS/JAR
APPROVAL DATE	APPROVED DATE	SHEET 18 OF 137
<i>[Signature]</i> 4/12/21	<i>[Signature]</i> 4/12/21	PROJECT #: P504100
ASSISTANT CHIEF ENGINEER	CHIEF, RIGHT OF WAY SERVICES	PROPOSAL #:



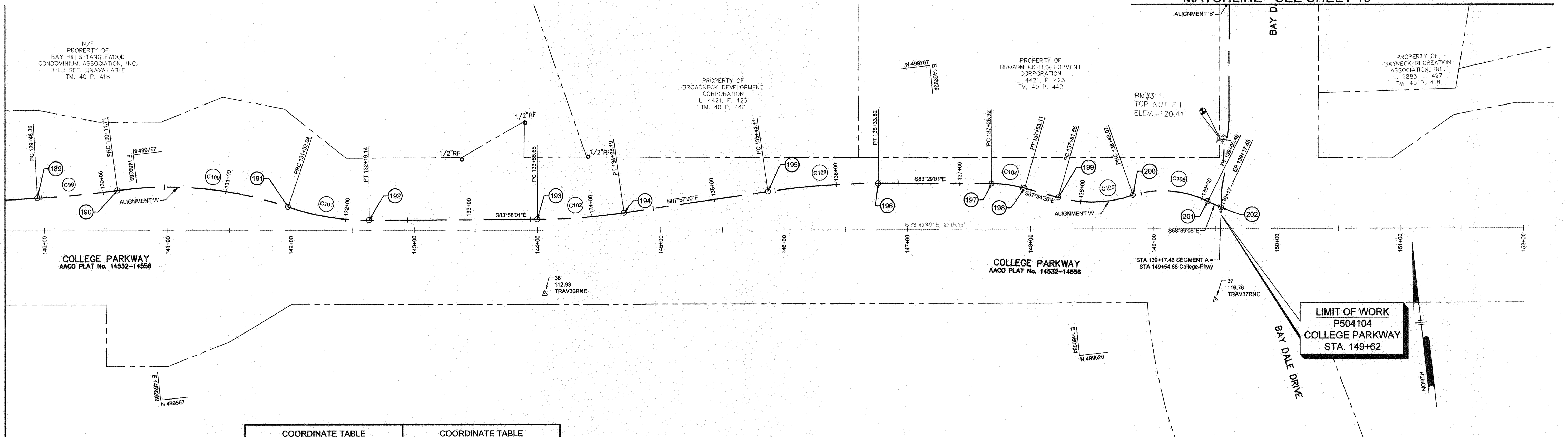
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MATCHLINE - THIS SHEET



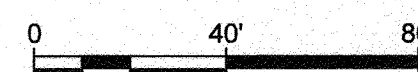
MATCHLINE - THIS SHEET

MATCHLINE - SEE SHEET 19



ALIGNMENT CURVE TABLE						
CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT
C89	55.00'	54.30'	S 56°43'31" E	52.12'	104°10'27"	29.59'
C90	255.00'	60.72'	S 78°11'13" E	60.58'	22°28'08"	30.51'
C91	200.00'	87.43'	S 83°53'19" E	86.74'	28°38'52"	44.42'
C92	500.00'	119.71'	S 89°33'11" E	119.42'	11°27'33"	60.14'
C93	492.00'	96.62'	S 88°19'12" E	96.46'	11°38'44"	48.46'
C94	193.00'	99.85'	S 79°07'27" E	98.74'	29°41'13"	51.07'
C95	105.00'	60.67'	S 80°51'23" E	59.83'	54°34'03"	31.21'
C96	145.00'	64.86'	S 84°35'43" E	64.32'	39°30'52"	32.98'
C97	315.00'	64.34'	S 77°37'56" E	64.23'	18°11'21"	32.28'
C98	1000.00'	58.99'	S 85°10'27" E	58.99'	5°43'46"	29.51'
C99	800.00'	65.35'	S 89°12'15" E	65.33'	7°09'43"	32.69'
C100	300.00'	140.33'	S 78°08'37" E	139.05'	19°05'55"	71.47'
C101	200.00'	67.10'	S 74°21'18" E	66.79'	28°38'52"	33.87'
C102	500.00'	70.54'	S 88°00'31" E	70.48'	11°27'33"	35.33'
C103	600.00'	89.71'	S 87°46'01" E	89.62'	9°32'57"	44.94'
C104	100.00'	27.19'	S 75°41'41" E	27.11'	57°17'45"	13.68'
C105	100.00'	61.51'	S 85°31'37" E	60.55'	57°17'45"	31.76'
C106	82.77'	62.42'	S 78°48'27" E	60.95'	69°13'32"	32.78'

COORDINATE TABLE				COORDINATE TABLE			
Point #	Description	Northing	Easting	Point #	Description	Northing	Easting
174	PRC 116+18.72	499906.6062	1457905.1816	194	PT 134+26.19	499676.1700	1459679.5661
175	PT 116+73.02	499878.0089	1457948.7585	195	PC 135+44.11	499680.3885	1459797.4121
176	PC 117+88.34	499867.9755	1458063.6493	196	PT 136+33.82	499676.8962	1459886.9682
177	PRC 118+49.07	499855.5737	1458122.9467	197	PC 137+25.92	499666.4444	1459978.4705
178	PRC 119+36.50	499846.3395	1458209.1890	198	PT 137+53.11	499659.7470	1460004.7352
179	PT 120+56.21	499845.4078	1458328.6089	199	PC 137+81.56	499649.0449	1460031.0985
180	PC 122+46.59	499821.1975	1458517.4479	200	PRC 138+43.07	499644.3230	1460091.4592
181	PRC 123+43.21	499818.3694	1458613.8678	201	PT 139+05.49	499632.4913	1460151.2540
182	PRC 124+43.06	499799.7387	1458710.8360	202	EP 139+17.46	499626.2686	1460161.4692
183	PC 125+03.73	499790.2309	1458769.9073				
184	PT 125+68.59	499784.1724	1458833.9429				
185	PC 126+03.10	499773.3847	1458866.7164				
186	PT 126+67.44	499759.6272	1458929.4579				
187	PC 127+04.51	499755.4206	1458996.2880				
188	PT 127+63.50	499750.4583	1459025.0645				
189	PC 128+46.36	499740.4558	1459027.6471				
190	PRC 130+11.71	499739.5485	1459272.9679				
191	PC 131+52.04	499710.9787	1459409.0558				
192	PT 132+19.14	499692.9672	1459473.3706				
193	PC 133+55.65	499678.6193	1459609.1283				



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

97086

APRIL 5, 2021

APPROVED DATE <i>[Signature]</i> 5/6/21 CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/15/21 PROJECT MANAGER	SCALE: 1" = 40'	GEOMETRY PLAN
APPROVAL DATE <i>[Signature]</i> 4/21/21 ASSISTANT CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES	DRAWN BY: PAI	
PROJECT # P504100		SHEET 19 OF 137	

BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS

TAX MAP 32, 39, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

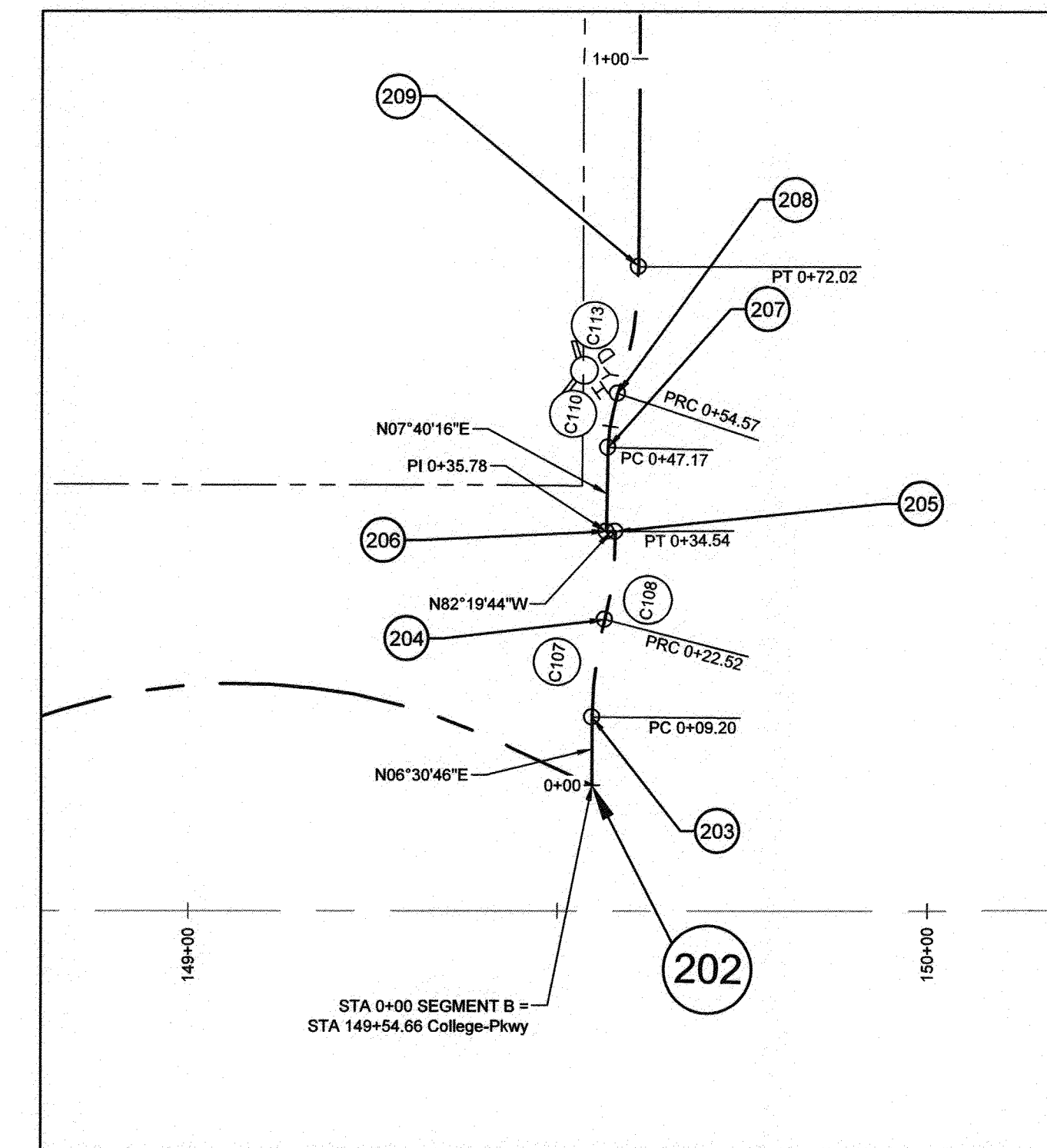
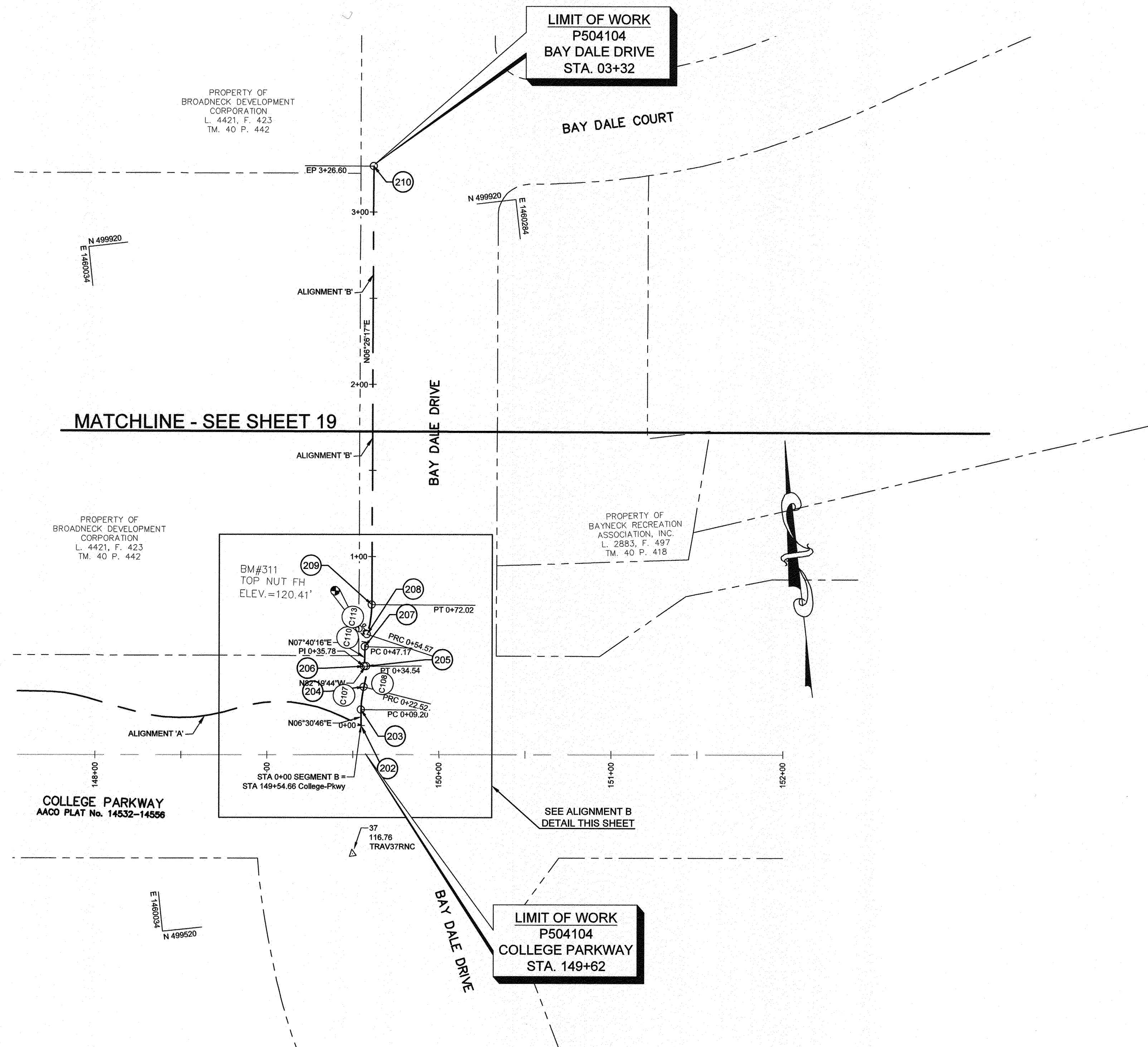
GP# G02017905 DWG NO: DD05F

ALIGNMENT 'A' FROM SHORE ACRES ROAD TO BAY DALE ROAD

LIMIT OF WORK  
P504104  
COLLEGE PARKWAY  
STA. 149+62

DPW INC.





DETAIL ALIGNMENT 'B'  
SCALE: 1" = 20'

ALIGNMENT CURVE TABLE						
CURVE #	RADIUS	ARC LENGTH	CHORD DIRECTION	CHORD LENGTH	DELTA	TANGENT
C107	54.00'	13.32'	N 13°34'41" E	13.28'	106°08'12"	6.69'
C108	46.23'	12.03'	N 13°10'20" E	11.99'	123°56'20"	6.05'
C110	25.00'	7.39'	N 16°08'37" E	7.37'	229°10'59"	3.72'
C113	55.00'	17.45'	N 15°31'38" E	17.38'	104°10'27"	8.80'

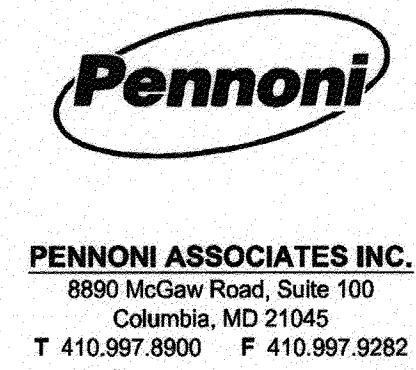
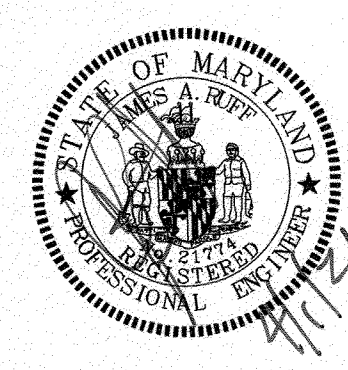
COORDINATE TABLE				
Point #	Description	Northing	Easting	
202	EP 139+17.46	499626.2686	1460161.4692	
203	PC 0+09.20	499635.4067	1460162.5124	
204	PRC 0+22.52	499648.3197	1460165.6311	
205	PT 0+34.54	499659.9981	1460168.3643	
206	PI 0+35.78	499660.1638	1460167.1339	
207	PC 0+47.17	499671.4510	1460168.8542	
208	PRC 0+54.57	499678.5272	1460170.7025	
209	PT 0+72.02	499695.2697	1460175.3541	
210	EP 3+26.30	499948.2477	1460203.9004	

ALIGNMENT 'B' FROM BAY DALE COURT TO COLLEGE PARKWAY

GP# G02017905 DWG NO: DD05G

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



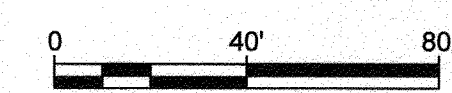
ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

APPROVED DATE: 4/15/21  
 APPROVED DATE: 4/15/21  
 APPROVED DATE: 4/16/21

CHEF ENGINEER: [Signature]  
 PROJECT MANAGER: [Signature]  
 ASSISTANT CHIEF ENGINEER: [Signature]  
 CHIEF, RIGHT OF WAY SERVICES: [Signature]

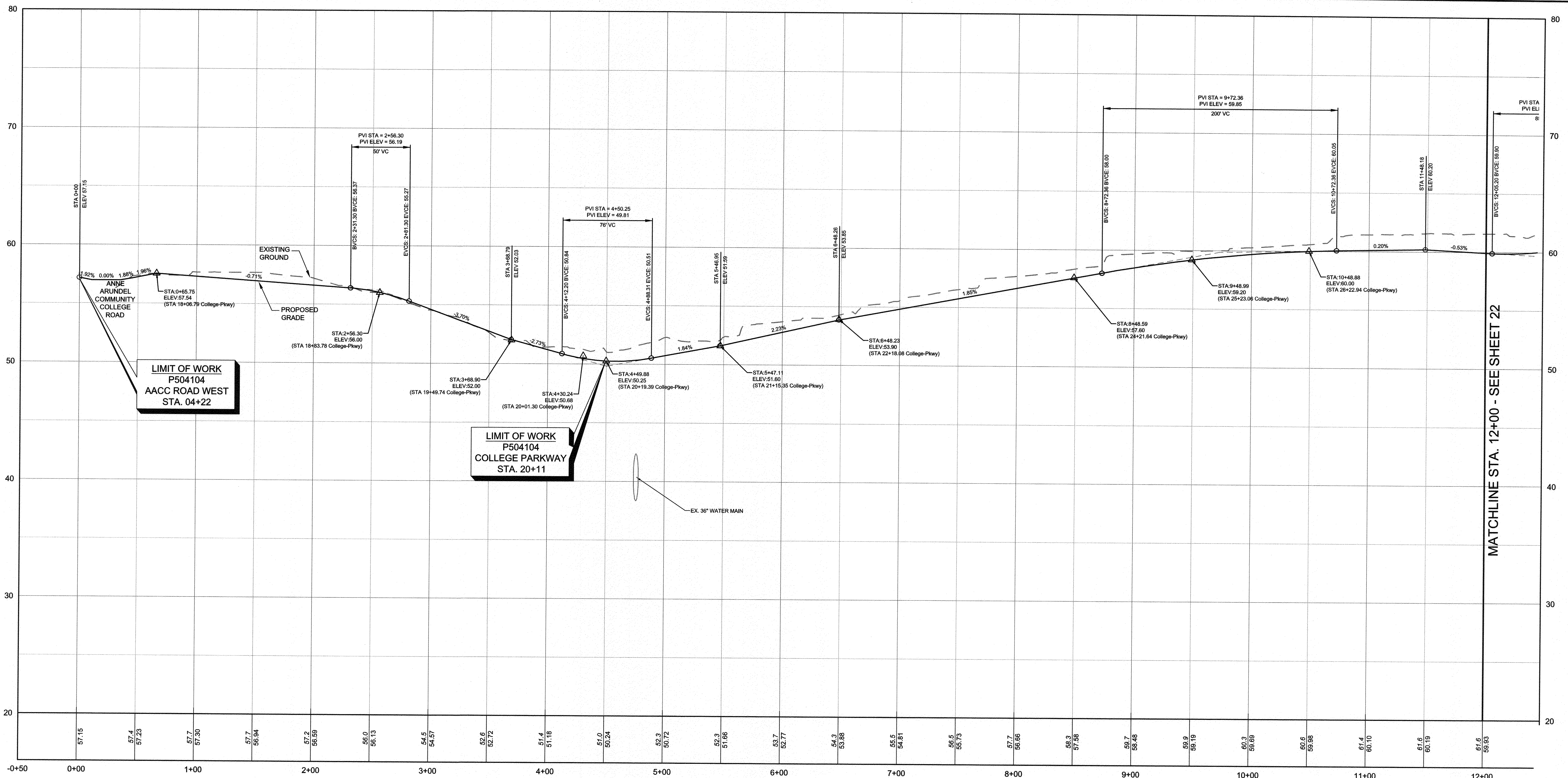
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 DRAWN BY: PAI  
 CHECKED BY: PJS/IAR  
 SHEET 20 of 137  
 PROJECT #: P504100  
 PROPOSAL #:

APRIL 5, 2021  
 GEOMETRY PLAN  
 BROADNECK TRAIL - PHASE III  
 CONSTRUCTION DOCUMENTS  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019



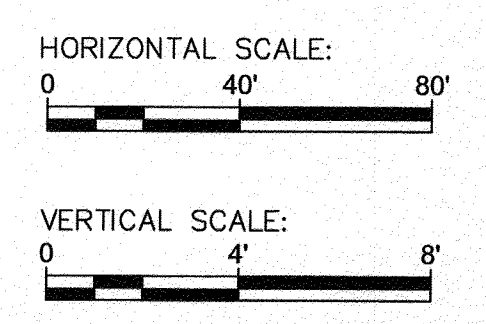
DPW INC.





SEGMENT H - ANNE ARUNDEL COMMUNITY COLLEGE RD TO JONES STATION RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'

DWG NO:



PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , 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 # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>	
REVISIONS	APPROVED
# DESCRIPTION	BY DATE

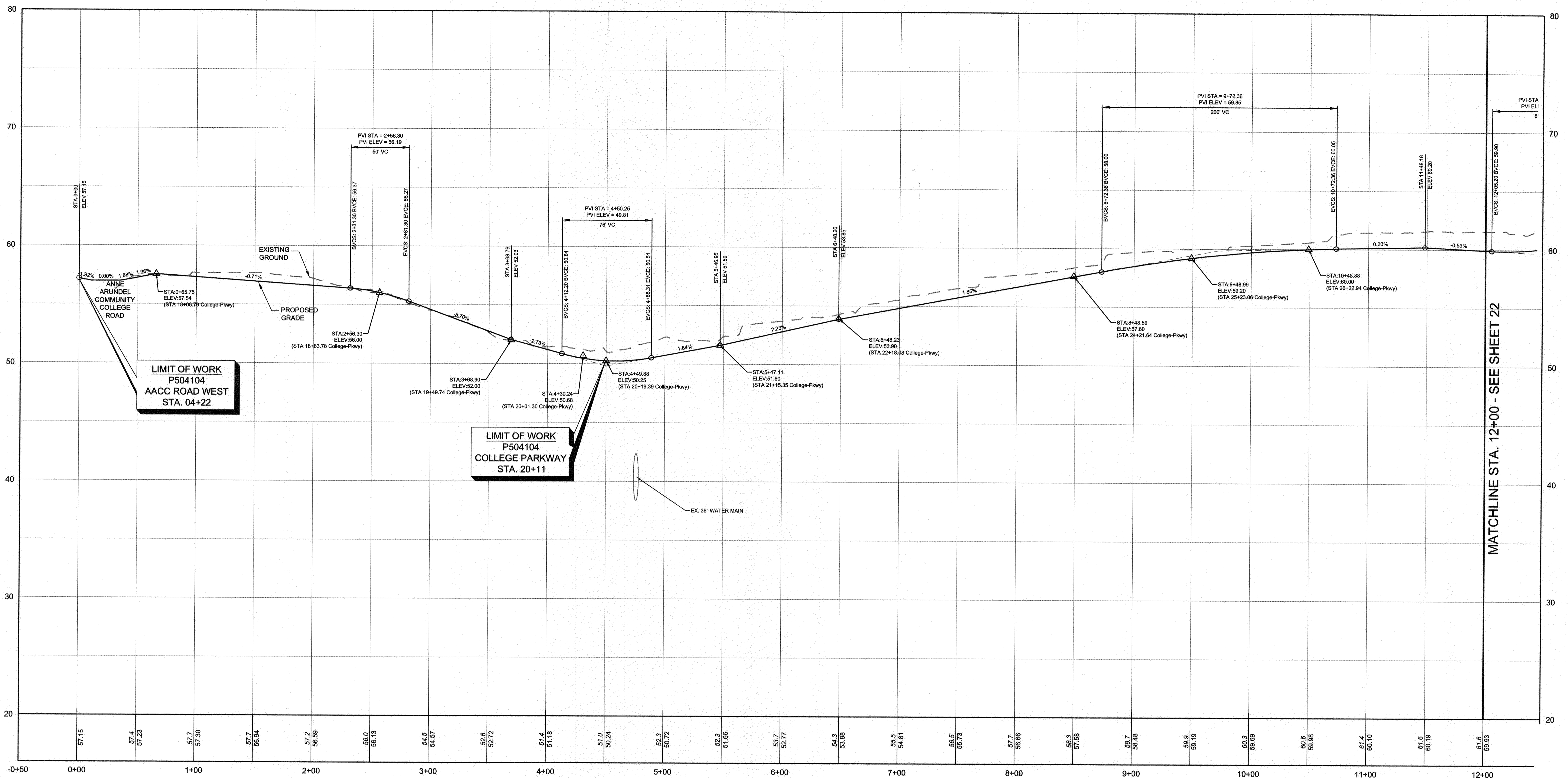


**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

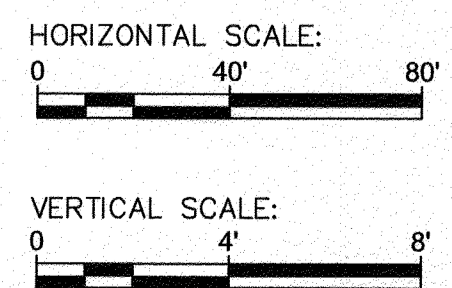
GP# G02017905		DWG NO: DD06A	
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED DATE <i>[Signature]</i> 5/15/21 CHIEF ENGINEER		APPROVED DATE <i>[Signature]</i> 4/15/21 PROJECT MANAGER	
APPROVAL DATE <i>[Signature]</i> 4/15/21 ASSISTANT CHIEF ENGINEER		APPROVED DATE <i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN		DRAWN BY: PAI	
CHECKED BY: PJS/JAR		SHEET 21 of 137	
PROJECT #: P504100		PROPOSAL #:	
BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS		TRAIL PROFILES	
		TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019	
97088		APRIL 5, 2021	

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SEGMENT H - ANNE ARUNDEL COMMUNITY COLLEGE RD TO JONES STATION RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , 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 # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>			
#	REVISIONS DESCRIPTION	APPROVED BY	DATE

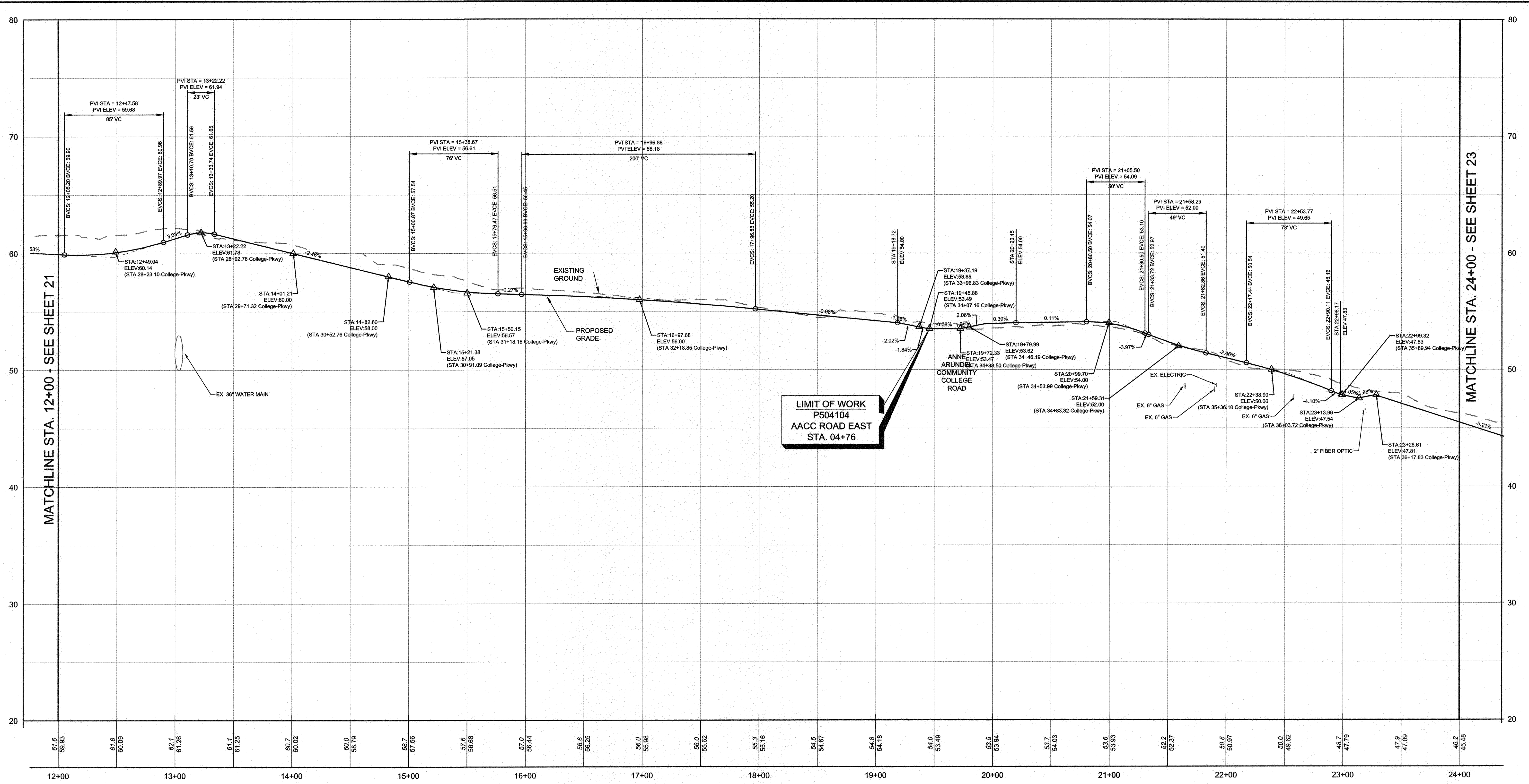


**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

GP# G02017905		DWG NO: DD06A	
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
97089		APRIL 5, 2021	
TRAIL PROFILES			
APPROVED	DATE	APPROVED	DATE
<i>Alexander</i>	4/15/21	<i>Richard</i>	4/15/21
CHIEF ENGINEER		PROJECT MANAGER	
APPROVAL	DATE	APPROVED	DATE
<i>David</i>	4/24/21	<i>SL</i>	4/14/21
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN		DRAWN BY: PAI	
CHECKED BY: PJS/JAR		SHEET 21 of 137	
PROJECT #: P504100		PROPOSAL #:	
BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS			
TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019			

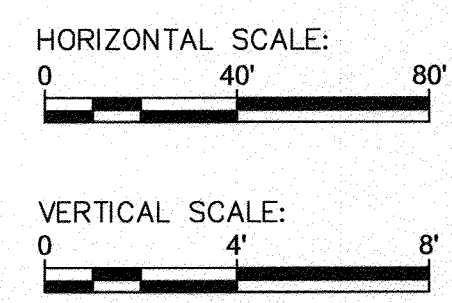
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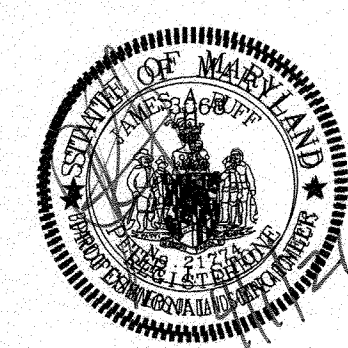


SEGMENT H - ANNE ARUNDEL COMMUNITY COLLEGE RD TO JONES STATION RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'

DWG No.:



PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , 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 # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>			
#	REVISIONS DESCRIPTION	APPROVED BY	DATE



**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8830 McCaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

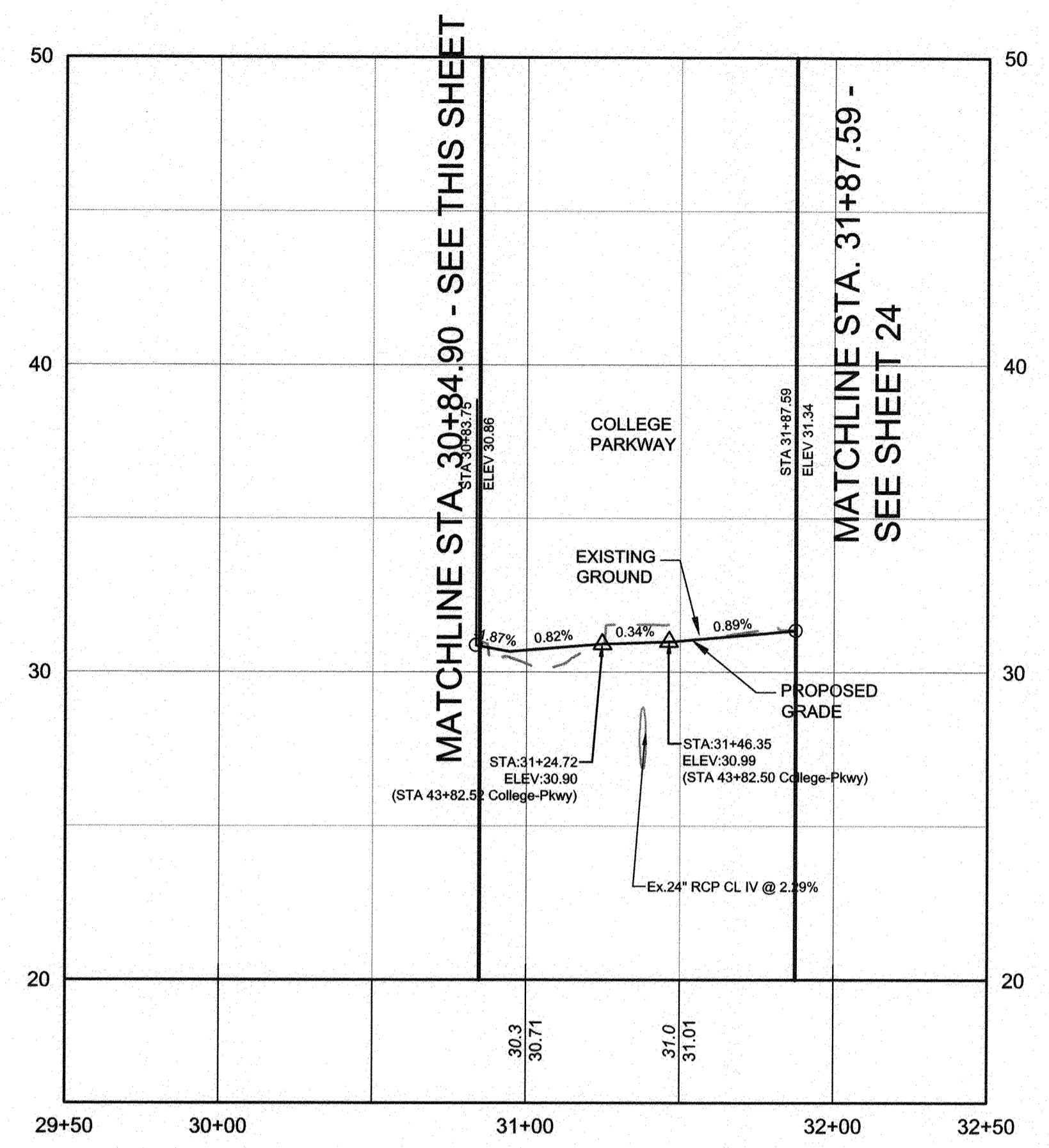
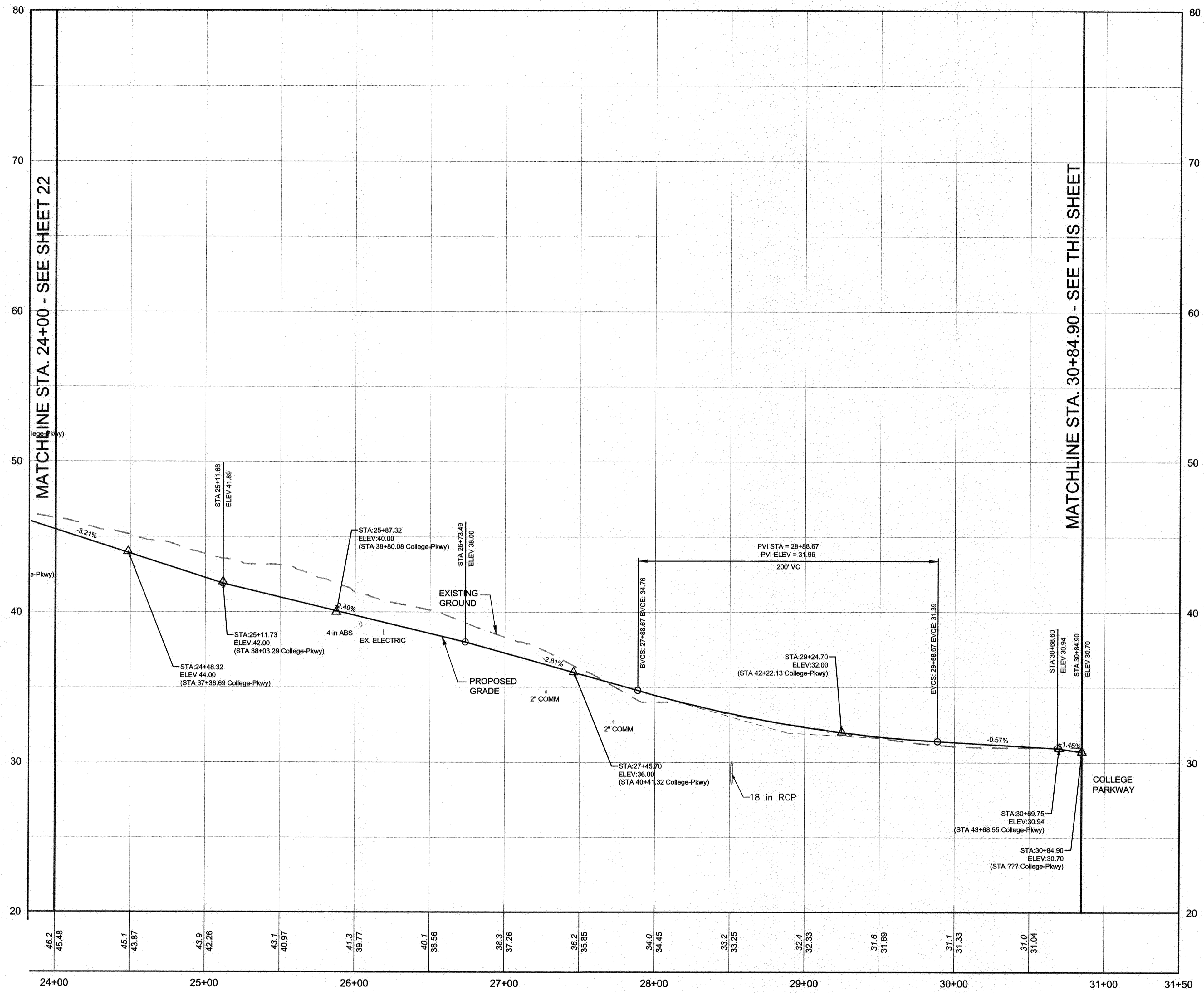
APPROVED DATE <u>5/6/21</u> <small>CHIEF ENGINEER</small>		APPROVED DATE <u>4/15/21</u> <small>PROJECT MANAGER</small>		SCALE: AS SHOWN DRAWN BY: PAI CHECKED BY: PJS/JAR SHEET 22 of 137 PROJECT #: P504100 PROPOSAL #:
APPROVAL DATE <u>4/21/21</u> <small>ASSISTANT CHIEF ENGINEER</small>		APPROVED DATE <u>4/16/21</u> <small>CHIEF, RIGHT OF WAY SERVICES</small>		

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS  
**97090**  
 APRIL 5, 2021  
 TRAIL PROFILES  
**BROADNECK TRAIL - PHASE III**  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 38, AND 40  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

GP# G02017905 DWG NO: DD06B

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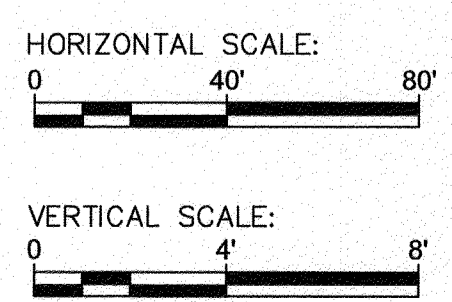




**SEGMENT H - ANNE ARUNDEL COMMUNITY COLLEGE RD TO JONES STATION RD**  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'

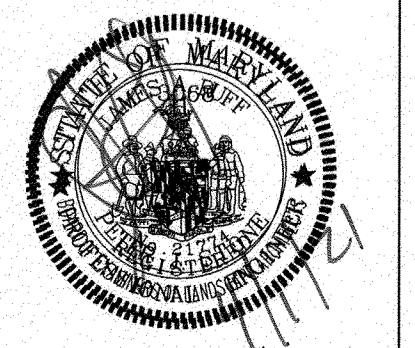
**SEGMENT G - CROSSING COLLEGE PKWY AT JONES STATION RD**  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'

DWP No.:



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 11/10/2021

REVISIONS	APPROVED
#	DESCRIPTION BY DATE

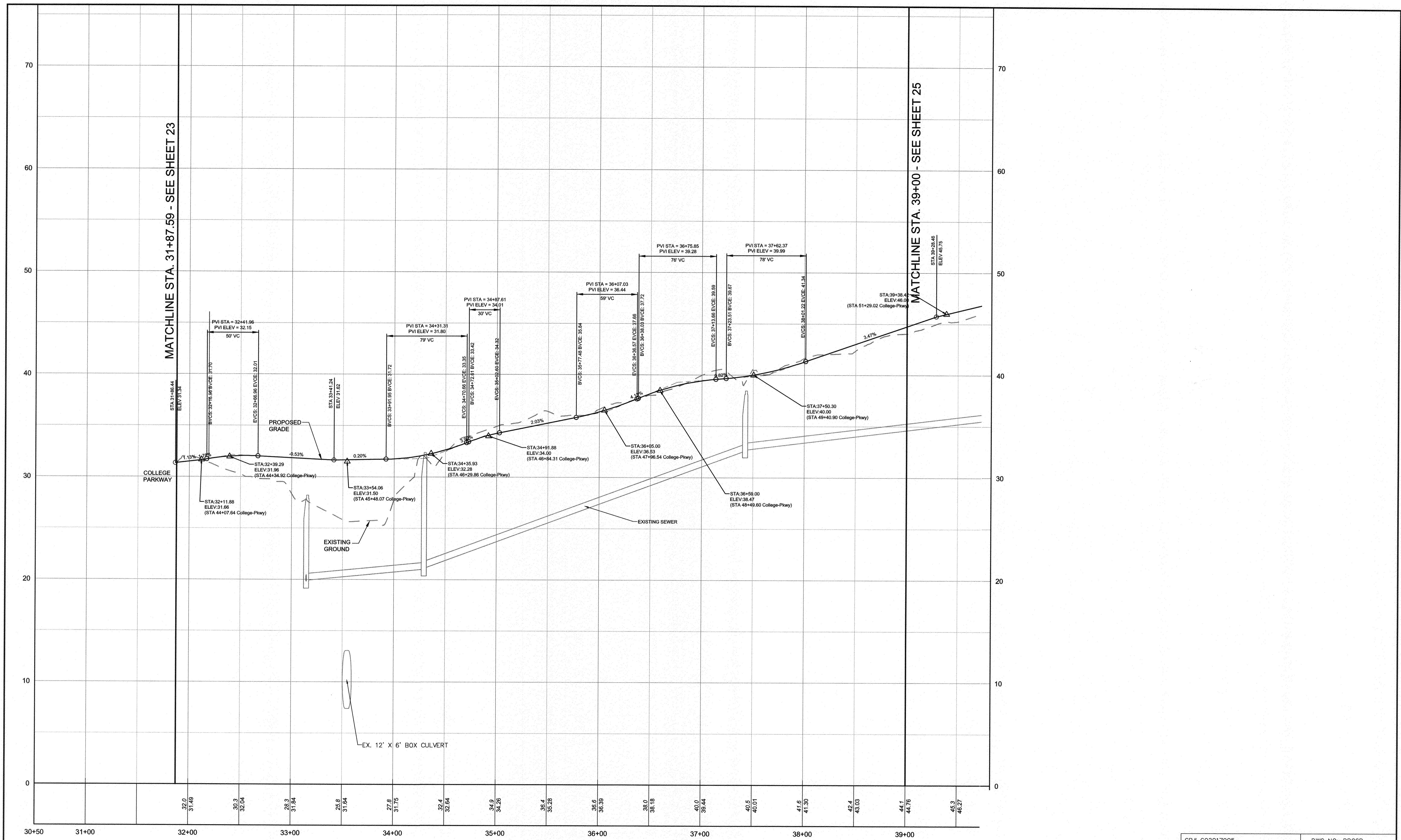


**Pennoni**

**PENNONI ASSOCIATES INC.**  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

GP# G02017905		DWG NO: DD06C	
<b>ANNE ARUNDEL COUNTY</b>			
<b>DEPARTMENT OF PUBLIC WORKS</b>			
<b>97091</b>			
APRIL 5, 2021			
TRAIL PROFILES			
APPROVED DATE		APPROVED DATE	
<i>[Signature]</i> 4/6/21		<i>[Signature]</i> 4/15/21	
CHIEF ENGINEER		PROJECT MANAGER	
APPROVAL DATE		APPROVED DATE	
<i>[Signature]</i> 4/6/21		<i>[Signature]</i> 4/16/21	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN		DRAWN BY: PAI	
CHECKED BY: PJS/JAR		SHEET 23 of 137	
PROJECT #: P504100		PROPOSAL #:	
<b>BROADNECK TRAIL - PHASE III</b> <b>CONSTRUCTION DOCUMENTS</b> ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019			

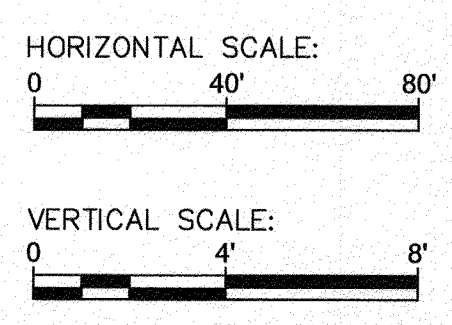




MATCHLINE STA. 31+87.59 - SEE SHEET 23

MATCHLINE STA. 39+00 - SEE SHEET 25

SEGMENT F - JONES STATION RD TO JONES STATION RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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 11/10/2021

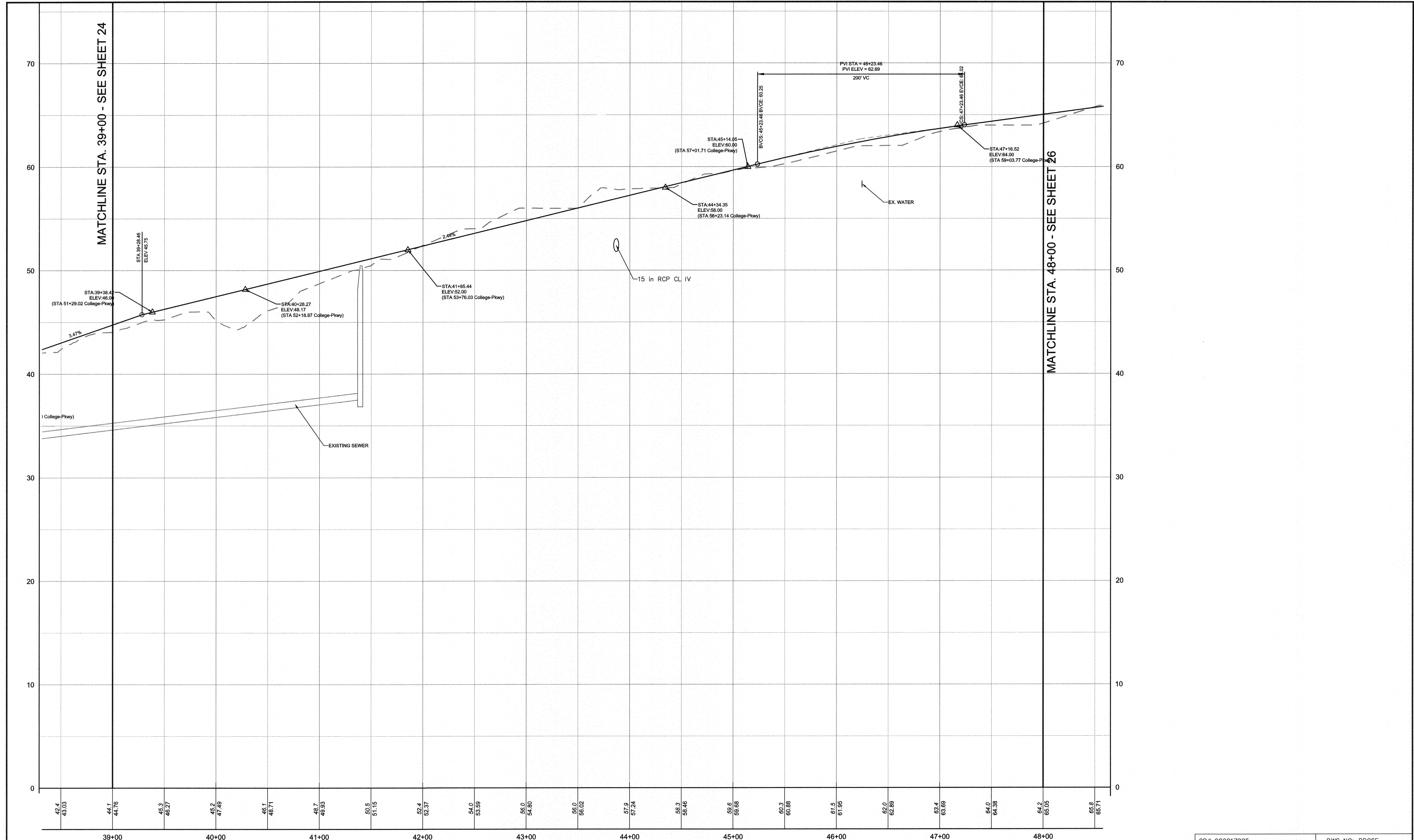
#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**PENNONI ASSOCIATES INC.**  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

GP# G02017905		DWG NO: DD06D	
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
97092		APRIL 5, 2021	
TRAIL PROFILES		DRAWN BY: PAI	
BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS		CHECKED BY: PJS/IAR	
TAX MAP 32, 38, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019		SHEET 24 of 137	
PROPOSAL #:		PROJECT #: P504100	
APPROVED <i>[Signature]</i> DATE: 5/16/21 CHIEF ENGINEER	APPROVED <i>[Signature]</i> DATE: 4/15/21 PROJECT MANAGER	APPROVED <i>[Signature]</i> DATE: 4/24/21 ASSISTANT CHIEF ENGINEER	APPROVED <i>[Signature]</i> DATE: 4/16/21 CHIEF, RIGHT OF WAY SERVICES

DPW No.:

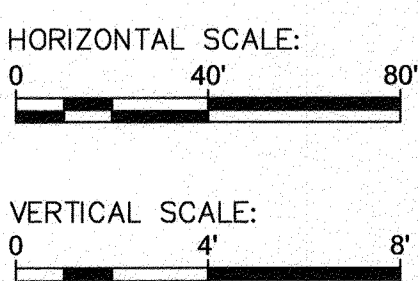




MATCHLINE STA. 39+00 - SEE SHEET 24

MATCHLINE STA. 48+00 - SEE SHEET 26

SEGMENT F - JONES STATION RD TO JONES STATION RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

97093

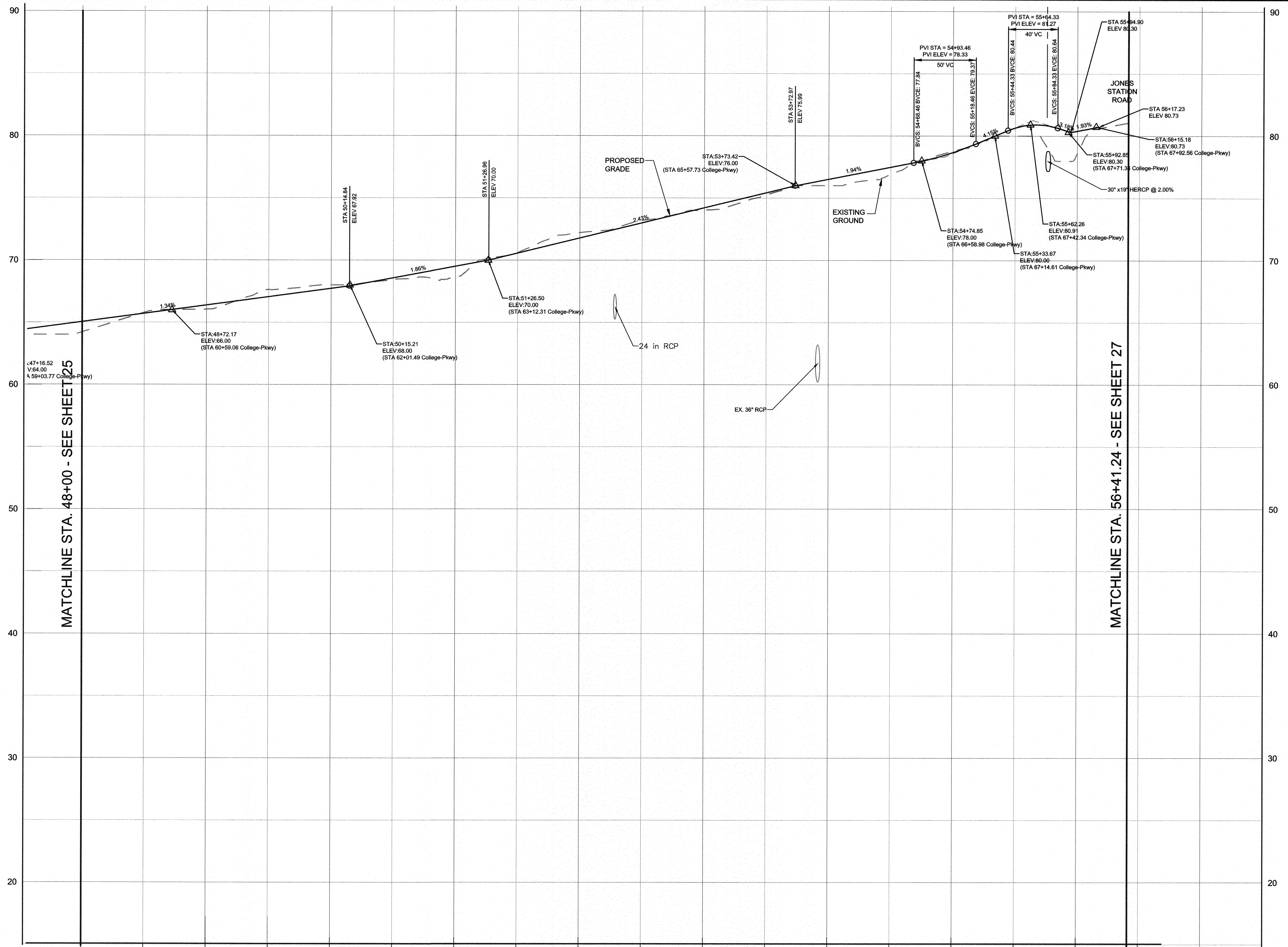
APRIL 5, 2021

APPROVED DATE <i>[Signature]</i> 5/16/21 CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/15/21 PROJECT MANAGER	SCALE: AS SHOWN	TRAIL PROFILES  <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS <small>TAX MAP 32, 39, AND 40          ARNOLD, MD ZIP CODE 21012 3RD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>
APPROVAL DATE <i>[Signature]</i> 4/16/21 ASSISTANT CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES	DRAWN BY: PAI	
		CHECKED BY: PJS/JAR	
		SHEET 25 of 137	

GP# G02017905 DWG NO: DD06E

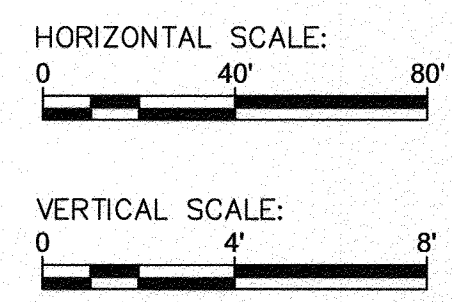
DRAWN BY:





64.2 65.05	65.8 65.71	66.0 66.38	67.6 67.05	68.0 67.72	68.4 68.57	68.6 68.50	70.6 70.56	72.2 71.76	73.2 73.00	74.0 74.21	76.2 75.43	76.0 76.51	77.0 77.48	78.8 78.67	80.0 80.65	78.6 80.40
48+00		49+00		50+00		51+00		52+00		53+00		54+00		55+00		56+00

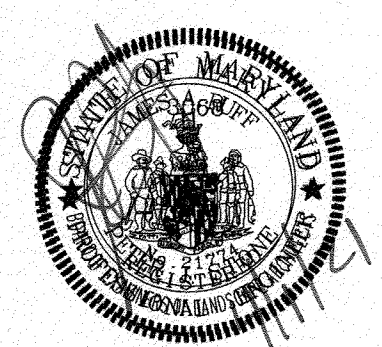
SEGMENT F - JONES STATION RD TO JONES STATION RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



PROFESSIONAL CERTIFICATION: I, JAMES A. RUFF, PE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # 21774. EXPIRATION DATE 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

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 PENIONI ASSOCIATES INC.  
 8890 McSw Road, Suite 100  
 Columbia, MD 21046  
 T 410.997.8900 F 410.997.9282



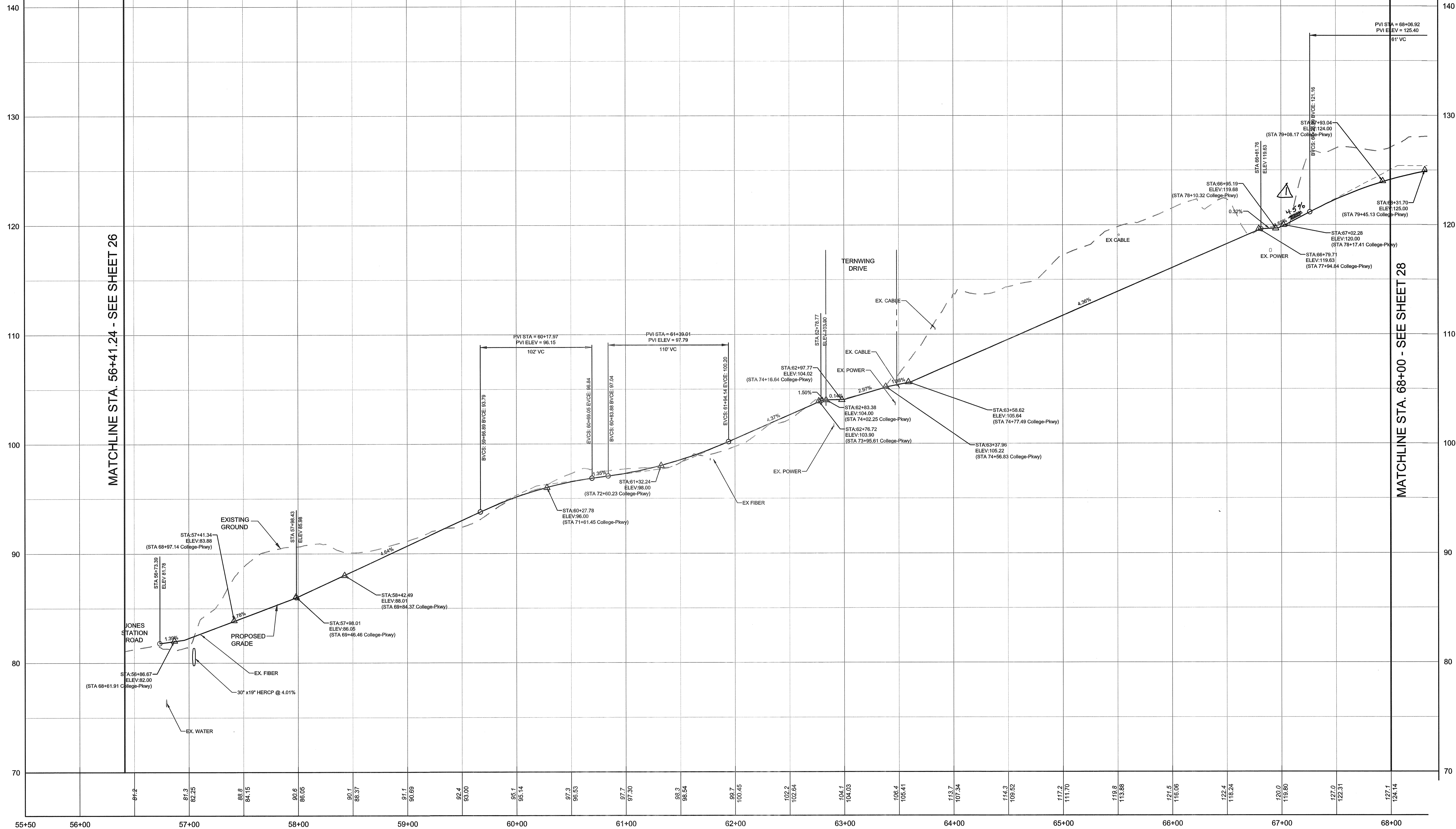
ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS  
 97094 APRIL 5, 2021

APPROVED DATE <i>[Signature]</i> 4/15/21 CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/15/21 PROJECT MANAGER	SCALE: AS SHOWN	TRAIL PROFILES
APPROVAL DATE <i>[Signature]</i> 4/15/21 ASSISTANT CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/15/21 CHIEF, RIGHT OF WAY SERVICES	CHECKED BY: PJS/JAR	BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS
SHEET 26 of 137		PROJECT #: P504100	TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019
PROPOSAL #:		GP# G02017905 DWG NO: DD06F	

DRAW NO.:

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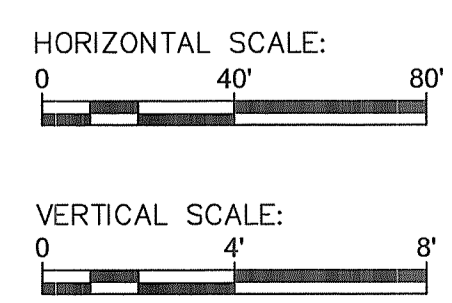




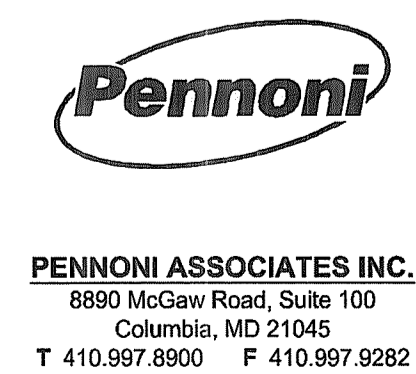
MATCHLINE STA. 56+41.24 - SEE SHEET 26

MATCHLINE STA. 68+00 - SEE SHEET 28

SEGMENT E - JONES STATION RD TO ROSSLARE DR  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



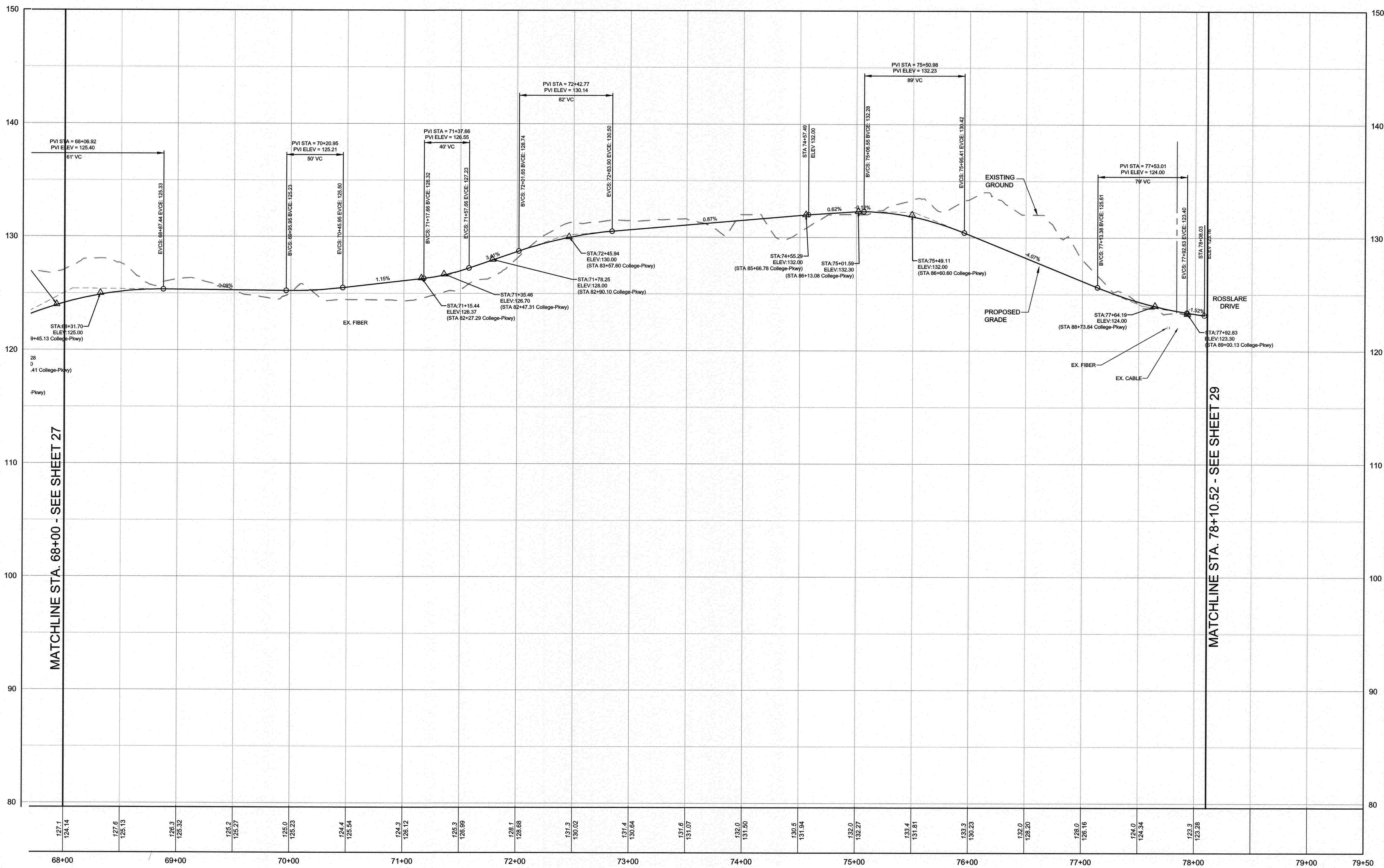
PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>	
REVISIONS	APPROVED BY DATE
1 ADJUST TRAIL SLOPE AT STA 67+00	[Signature] 11/12/21



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		GP# G02017905	DWG NO: DD06G
APPROVED DATE [Signature] 5/14/21 CHIEF ENGINEER	APPROVED DATE [Signature] 4/15/21 PROJECT MANAGER	SCALE: AS SHOWN	97095 APRIL 5, 2021
APPROVAL DATE [Signature] 4/14/21 ASSISTANT CHIEF ENGINEER	APPROVED DATE [Signature] 4/14/21 CHIEF, RIGHT OF WAY SERVICES	DRAWN BY: PAI	TRAIL PROFILES BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019
		CHECKED BY: PJS/IAR	
		SHEET 27 of 137	
		PROJECT #: P504100	
		PROPOSAL #:	

DRAWN BY:

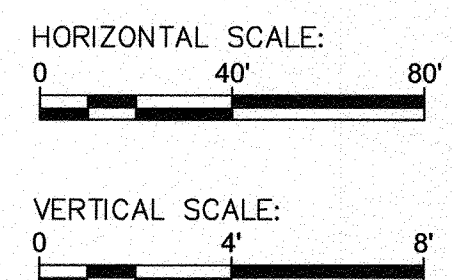




MATCHLINE STA. 68+00 - SEE SHEET 27

MATCHLINE STA. 78+10.52 - SEE SHEET 29

SEGMENT E - JONES STATION RD TO ROSSLARE DR  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8880 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

GP# G02017905 DWG NO: DD06H

APPROVED DATE: 5/16/21  
 CHIEF ENGINEER

APPROVED DATE: 4/15/21  
 PROJECT MANAGER

APPROVAL DATE: 4/21/21  
 ASSISTANT CHIEF ENGINEER

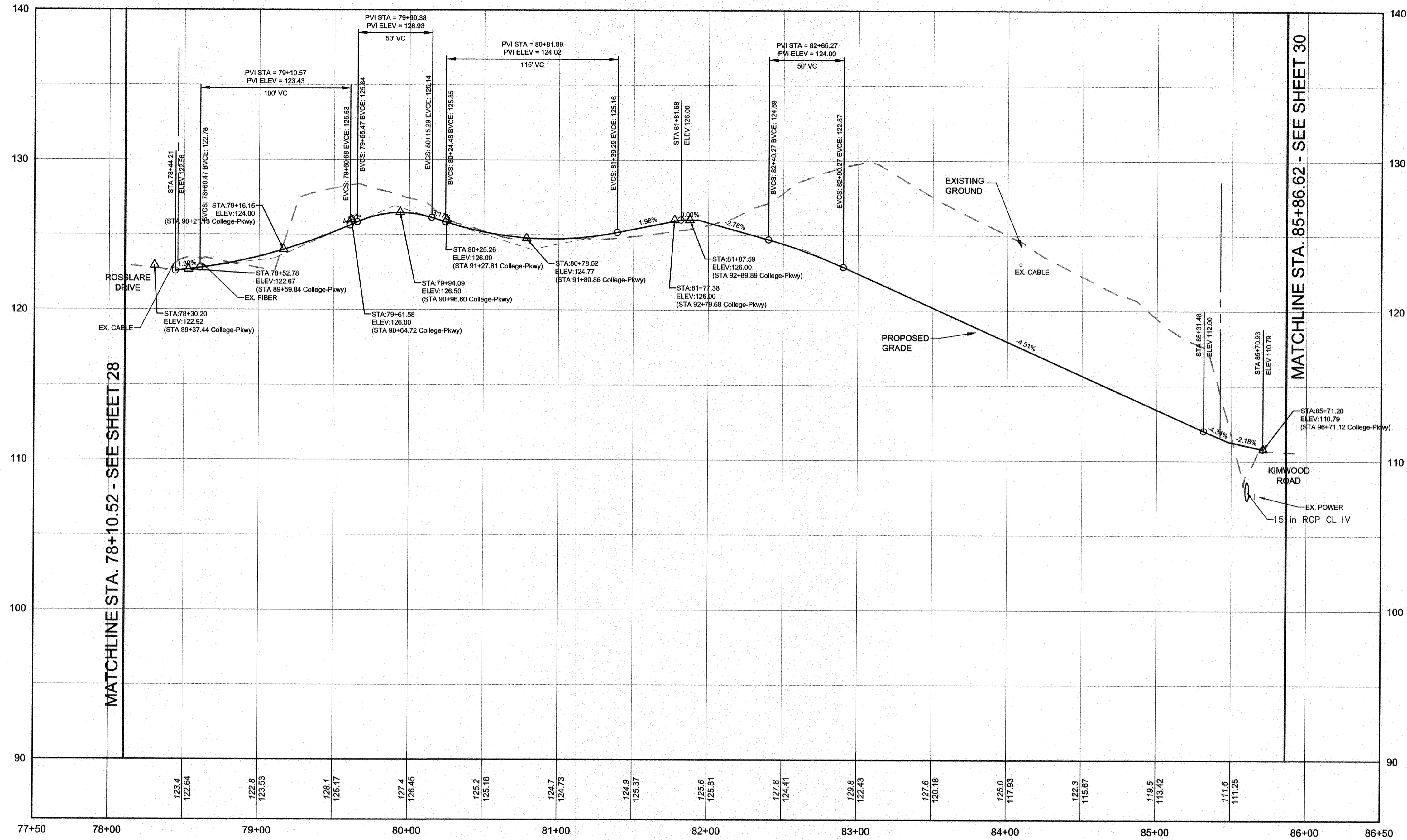
APPROVED DATE: 4/16/21  
 CHIEF, RIGHT OF WAY SERVICES

SCALE: AS SHOWN  
 DRAWN BY: PAI  
 CHECKED BY: PJS/JAR  
 SHEET 28 of 137  
 PROJECT #: P504100  
 PROPOSAL #:

97096 APRIL 5, 2021  
 TRAIL PROFILES  
 BROADNECK TRAIL - PHASE III  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 39, AND 40  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

GP# No.:



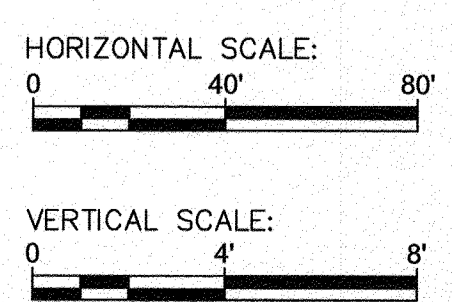


MATCHLINE STA. 78+10.52 - SEE SHEET 28

MATCHLINE STA. 85+86.62 - SEE SHEET 30

SEGMENT D - ROSSLARE DR TO KIMWOOD RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'

77+50	78+00	79+00	80+00	81+00	82+00	83+00	84+00	85+00	86+00	86+50						
		123.4 122.64	122.8 123.53	128.1 125.17	127.4 126.45	125.2 125.16	124.7 124.73	124.9 125.37	125.6 125.61	127.8 124.41	129.8 122.43	127.6 120.18	125.0 117.53	123.3 115.67	119.5 113.42	111.6 111.25



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#	REVISIONS DESCRIPTION	APPROVED BY	DATE

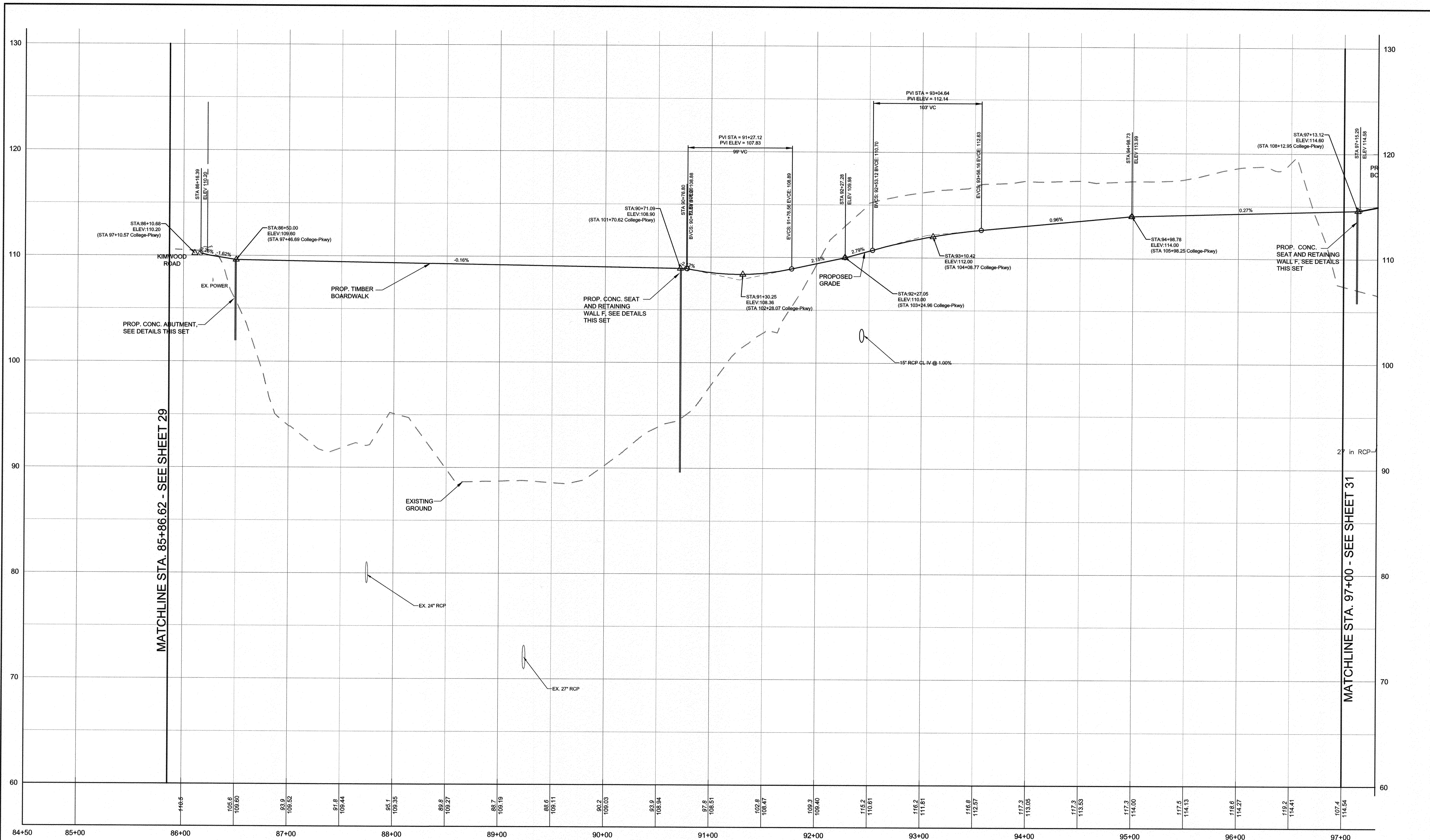
**Pennoni**

**PENNONI ASSOCIATES INC.**  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

GP# G02017905		DWG NO: DD061	
<b>ANNE ARUNDEL COUNTY</b>			
<b>DEPARTMENT OF PUBLIC WORKS</b>			
<b>97097</b>		APRIL 5, 2021	
TRAIL PROFILES			
APPROVED DATE		APPROVED DATE	
 5/16/21 CHIEF ENGINEER		 4/15/21 PROJECT MANAGER	
APPROVAL DATE		APPROVED DATE	
 4/16/21 ASSISTANT CHIEF ENGINEER		 4/16/21 CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN		DRAWN BY: PAI	
CHECKED BY: PJS/JAR		SHEET 29 of 137	
PROJECT #: P504100		PROPOSAL #:	
<b>BROADNECK TRAIL - PHASE III</b> <b>CONSTRUCTION DOCUMENTS</b> <small>TAX MAP 32, 38, AND 40          ARNOLD, MD. ZIP CODE 21012 SRD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>			

DPW No.:

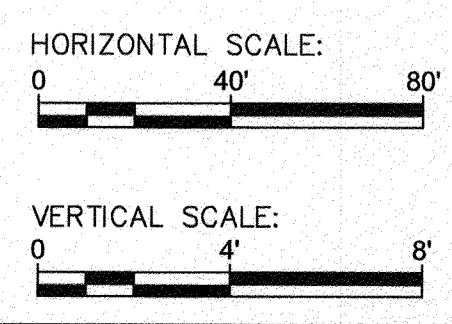




MATCHLINE STA. 85+86.62 - SEE SHEET 29


MATCHLINE STA. 97+00 - SEE SHEET 31

SEGMENT C - KIMWOOD RD TO SHORE ACRES RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



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 Columbia, MD 21045  
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GP# G02017905

DWG NO: DD06J

**ANNE ARUNDEL COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**

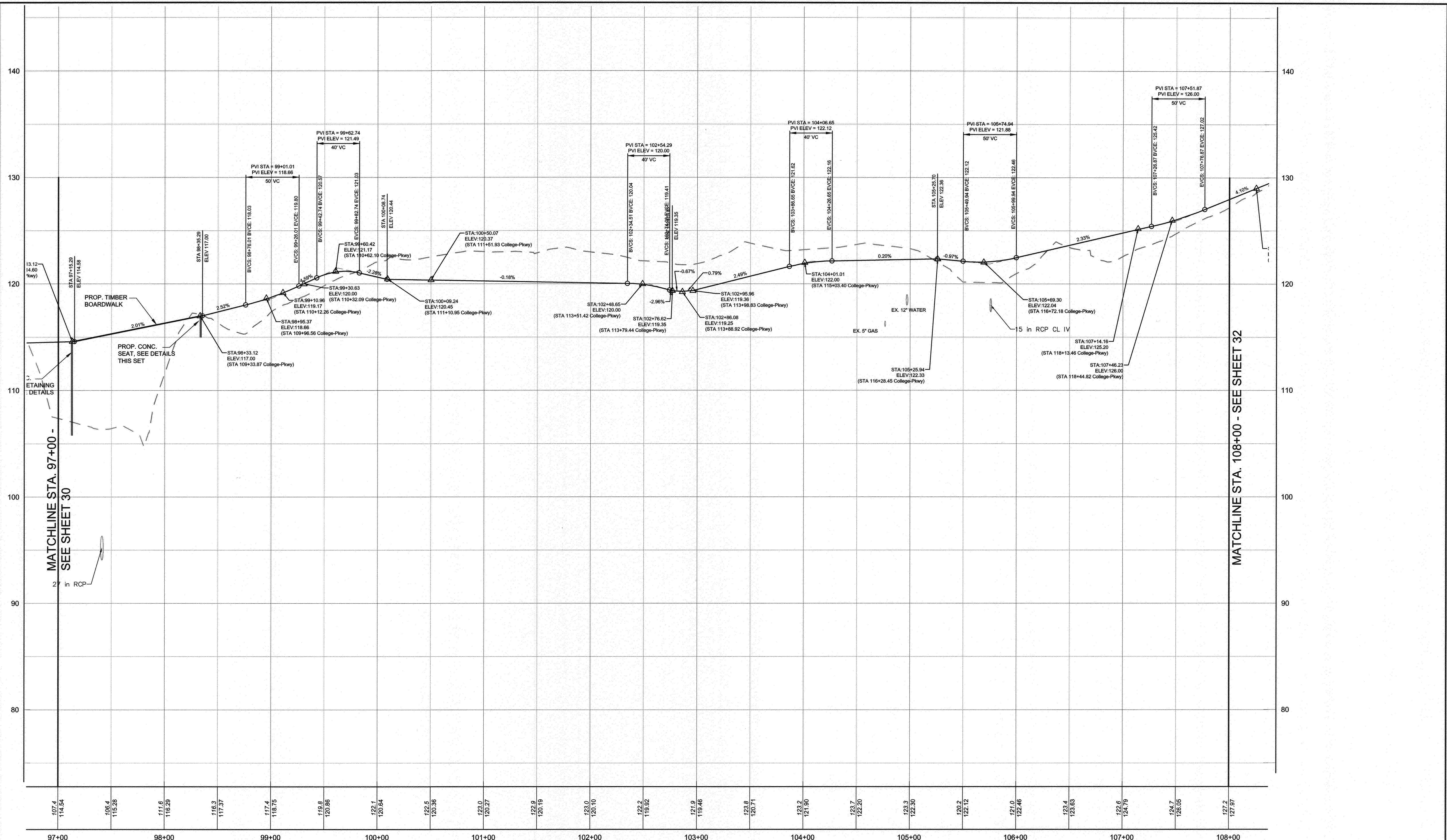
97098

APRIL 5, 2021

APPROVED DATE <i>[Signature]</i> 5/16/21 CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/15/21 PROJECT MANAGER	SCALE: AS SHOWN DRAWN BY: PAI CHECKED BY: PJS/JAR SHEET <u>30</u> of <u>137</u> PROJECT #: P504100 PROPOSAL #:	TRAIL PROFILES <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS <small>TAX MAP 32, 39, AND 40          ARNOLD, MD ZIP CODE 21012, 3RD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>
APPROVAL DATE <i>[Signature]</i> 4/14/21 ASSISTANT CHIEF ENGINEER	APPROVED DATE <i>[Signature]</i> 4/14/21 CHIEF, RIGHT OF WAY SERVICES		

DWG No.:

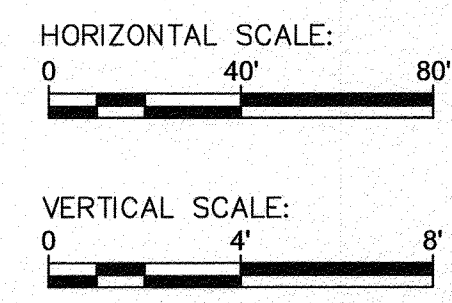




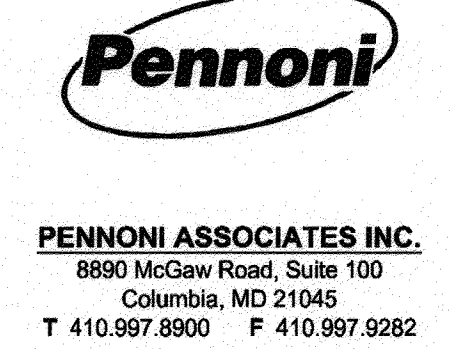
MATCHLINE STA. 97+00 - SEE SHEET 30

MATCHLINE STA. 108+00 - SEE SHEET 32

SEGMENT C - KIMWOOD RD TO SHORE ACRES RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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#	REVISIONS DESCRIPTION	APPROVED BY	DATE



APPROVED DATE		APPROVED DATE		SCALE: AS SHOWN	
<i>[Signature]</i> 4/15/21		<i>[Signature]</i> 4/15/21		DRAWN BY: PAI	
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: PJS/JAR	
APPROVAL DATE		APPROVED DATE		SHEET 31 of 137	
<i>[Signature]</i> 4/15/21		<i>[Signature]</i> 4/15/21		PROJECT #: P504100	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		PROPOSAL #:	

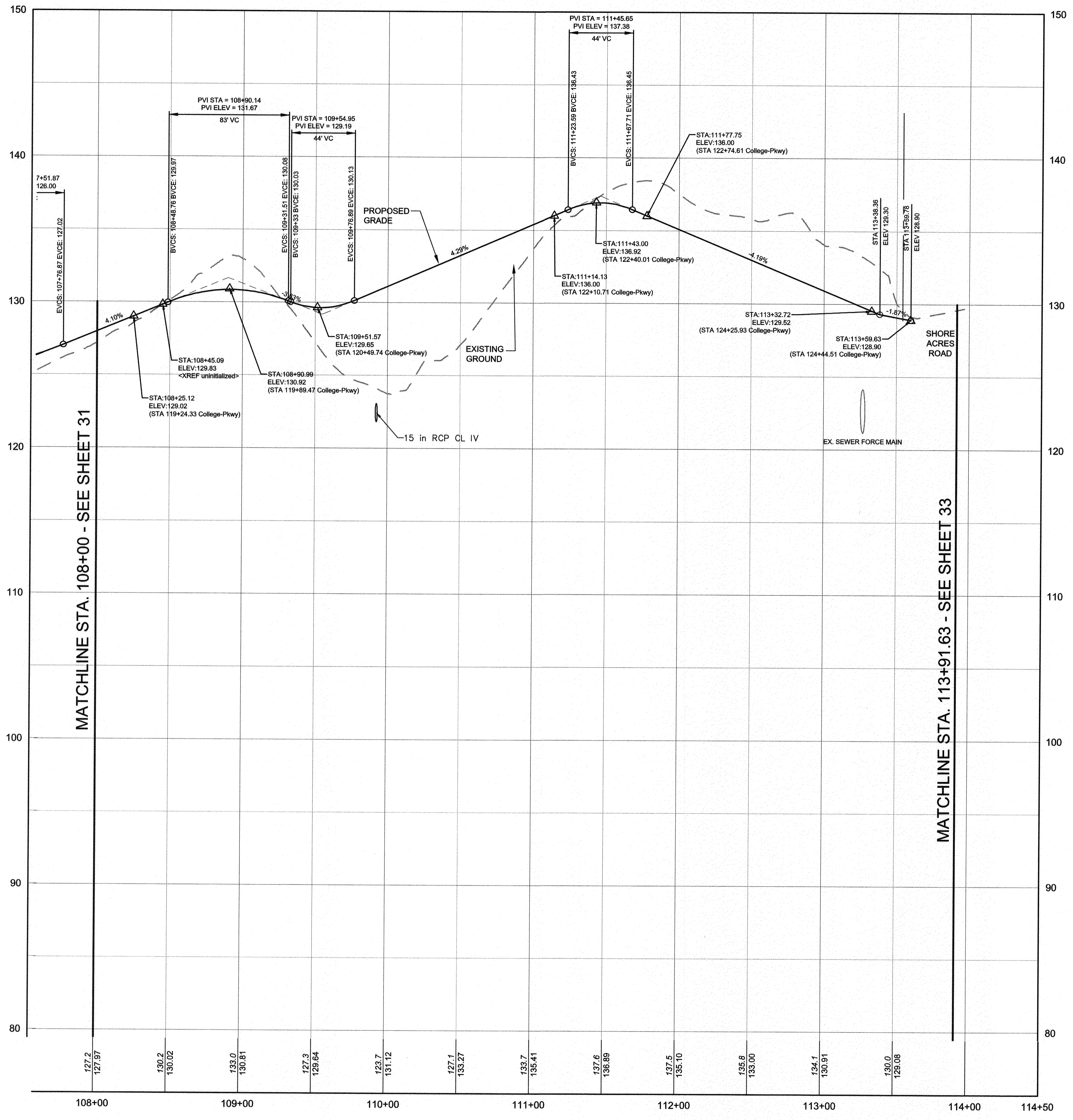
ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS  
 97099  
 APRIL 5, 2021  
 TRAIL PROFILES  
 BROADNECK TRAIL - PHASE III  
 CONSTRUCTION DOCUMENTS  
 TAX MAP 32, 39, AND 40  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

GP# G02017905 DWG NO: DD06K

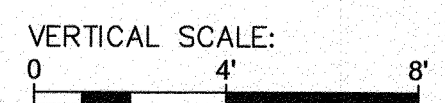
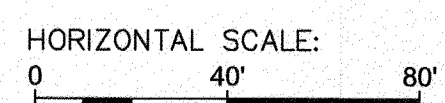
DRAWN BY:

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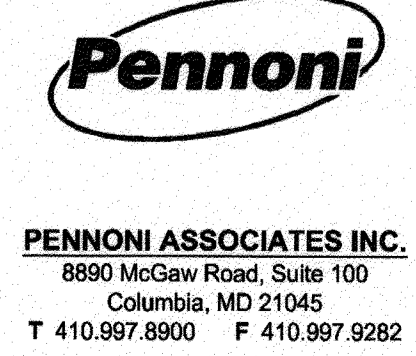
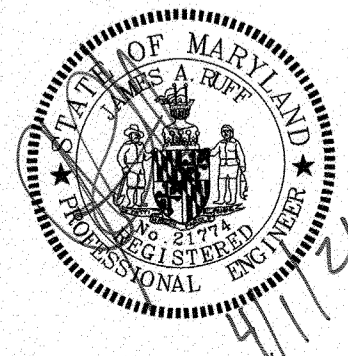


SEGMENT C - KIMWOOD RD TO SHORE ACRES RD  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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 11/10/2021

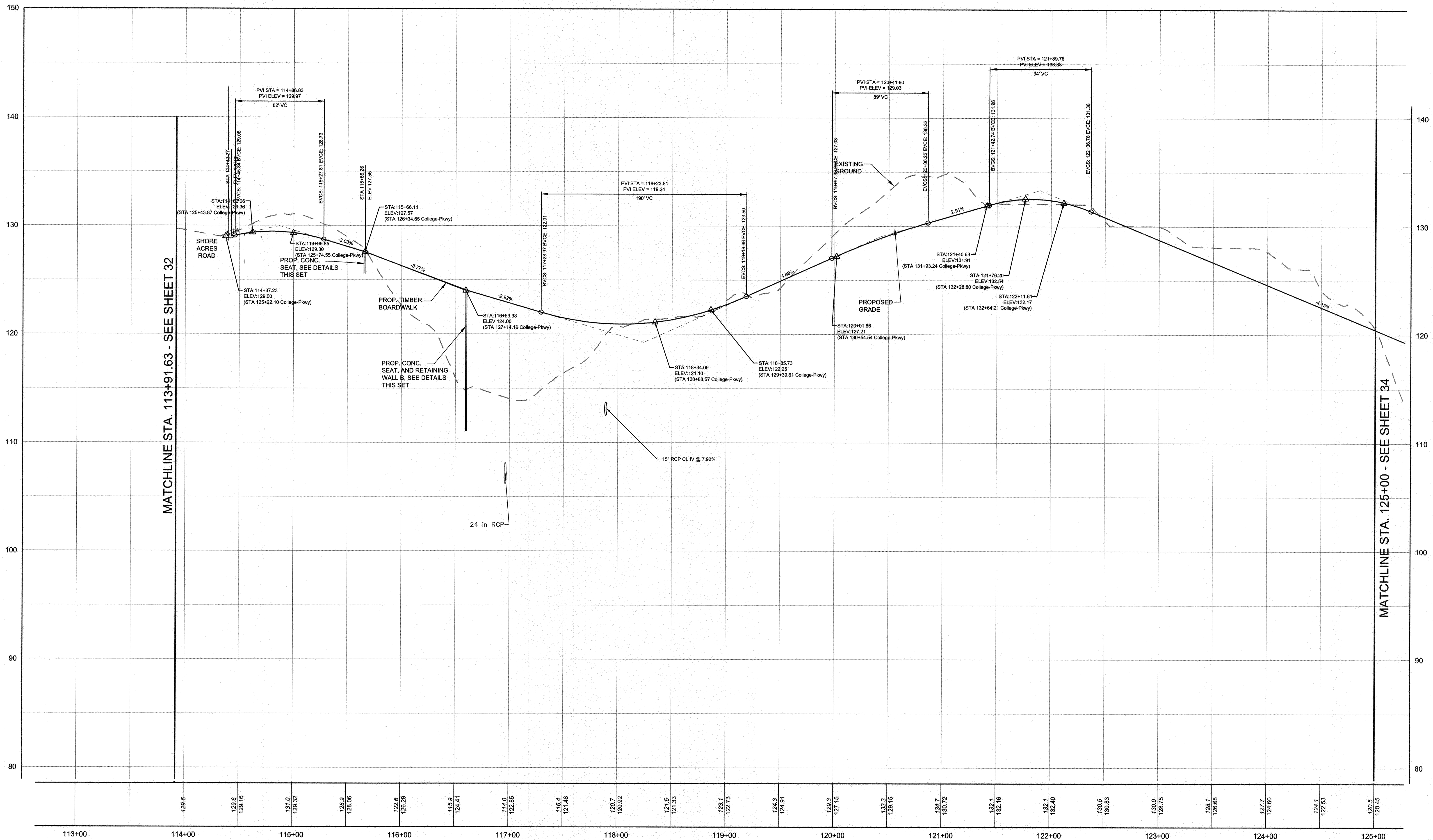
#	REVISIONS DESCRIPTION	APPROVED BY	DATE



GP# G02017905		DWG NO: DD06L	
ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED DATE		APPROVED DATE	
<i>[Signature]</i> CHIEF ENGINEER	5/14/21	<i>[Signature]</i> PROJECT MANAGER	4/15/21
APPROVAL DATE		APPROVED DATE	
<i>[Signature]</i> ASSISTANT CHIEF ENGINEER	4/24/21	<i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	4/16/21
SCALE: AS SHOWN		DRAWN BY: PAI	
CHECKED BY: PJS/JAR		SHEET 32 of 137	
PROJECT #: P504100		PROPOSAL #:	
<b>97100</b> TRAIL PROFILES <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS <small>TAX MAP 32, 39, AND 40          ARNOLD, MD ZIP CODE 21012, 3RD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>			

DWG No.:

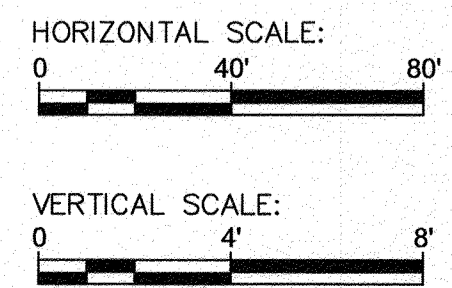




MATCHLINE STA. 113+91.63 - SEE SHEET 32

MATCHLINE STA. 125+00 - SEE SHEET 34

SEGMENT A - SHORE ACRES RD TO BAY DALE DR  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

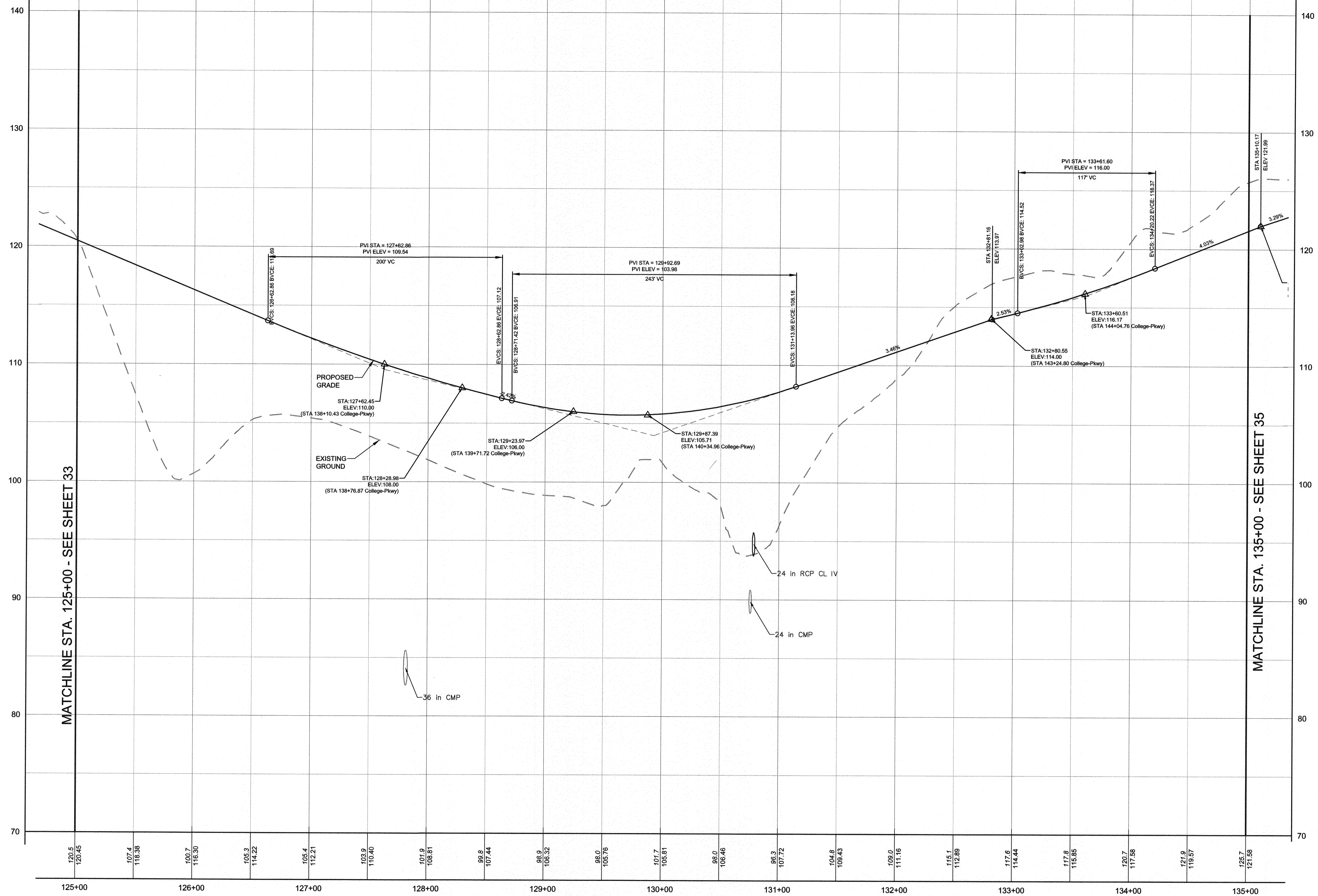
**Pennoni**

**PENNONI ASSOCIATES INC.**  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.987.8900 F 410.987.9282

GP # G02017905		DWG NO: DD06M	
<b>ANNE ARUNDEL COUNTY</b>			
<b>DEPARTMENT OF PUBLIC WORKS</b>			
<b>97101</b>			
APRIL 5, 2021			
TRAIL PROFILES			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	5/14/21	<i>[Signature]</i>	4/15/21
CHIEF ENGINEER		PROJECT MANAGER	
APPROVAL	DATE	APPROVED	DATE
<i>[Signature]</i>	4/14/21	<i>[Signature]</i>	4/14/21
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN		DRAWN BY: PAI	
CHECKED BY: PJS/JAR		SHEET <u>33</u> OF <u>137</u>	
PROJECT # P504100		PROPOSAL #:	
<b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2018			

DWG No:

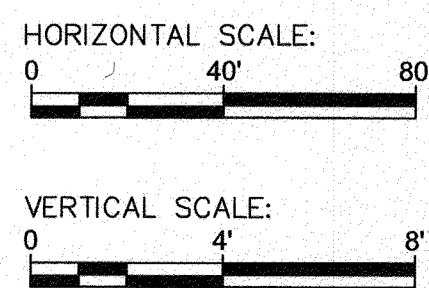




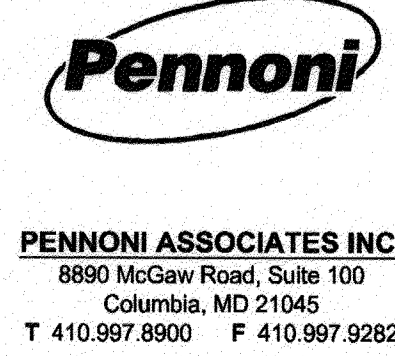
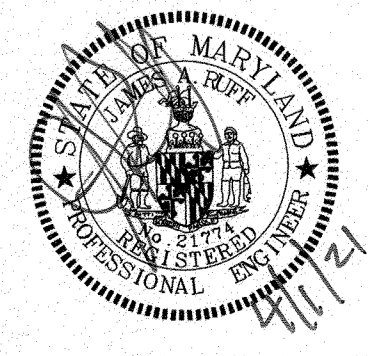
MATCHLINE STA. 125+00 - SEE SHEET 33

MATCHLINE STA. 135+00 - SEE SHEET 35

SEGMENT A - SHORE ACRES RD TO BAY DALE DR  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



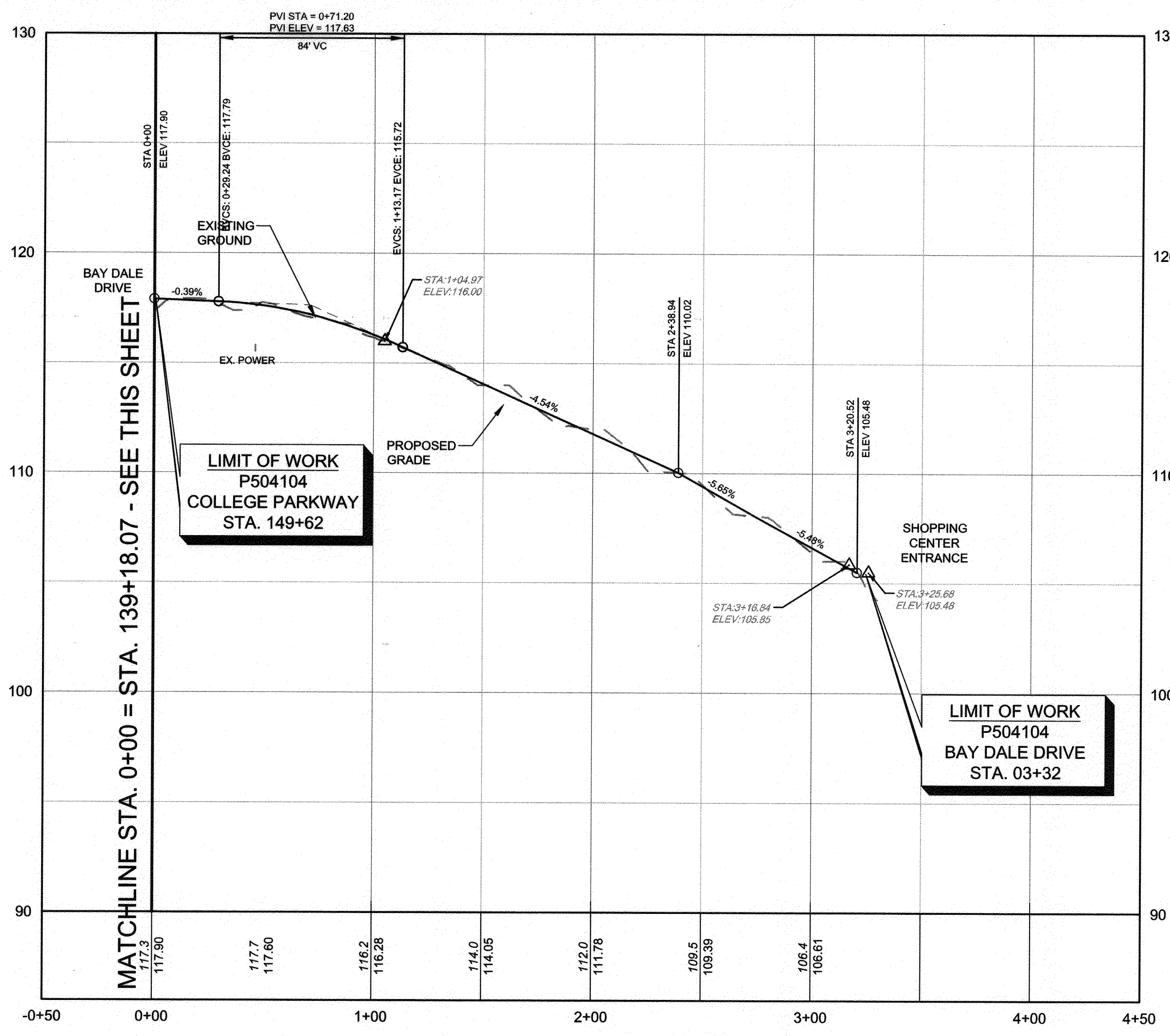
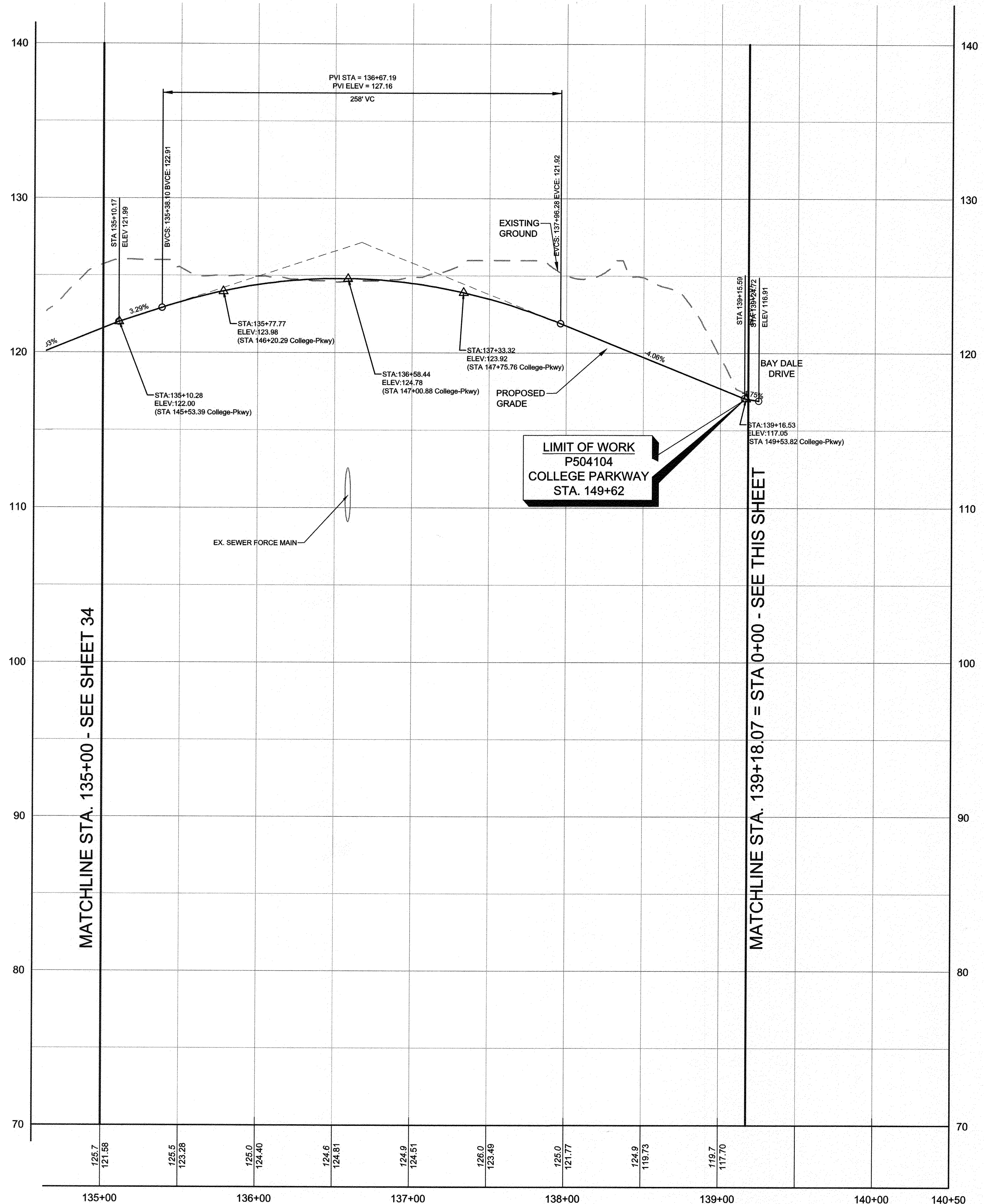
PROFESSIONAL CERTIFICATION: I, <u>JAMES A. RUFF, PE</u> , CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # <u>21774</u> EXPIRATION DATE <u>11/10/2021</u>			
#	REVISIONS DESCRIPTION	APPROVED BY	DATE



ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		GP# G02017905	DWG NO: DD06N
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	5/14/21	<i>[Signature]</i>	4/15/21
CHIEF ENGINEER		PROJECT MANAGER	
APPROVAL	DATE	APPROVED	DATE
<i>[Signature]</i>	4/21/21	<i>[Signature]</i>	4/14/21
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES	
SCALE: AS SHOWN	DRAWN BY: PAI		
	CHECKED BY: PJS/JAR		
	SHEET 34 of 137		
	PROJECT #: P504100		
	PROPOSAL #:		
<b>97102</b> TRAIL PROFILES <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS <small>TAX MAP 32, 39, AND 40          ARNOLD, MD. ZIP CODE 21012, 3RD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>			

DPW No.:





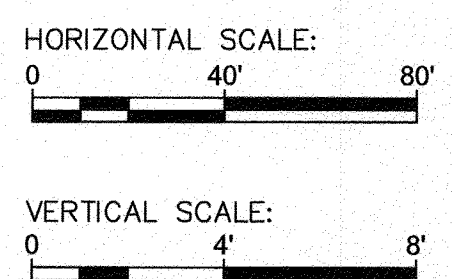
MATCHLINE STA. 135+00 - SEE SHEET 34

MATCHLINE STA. 139+18.07 = STA 0+00 - SEE THIS SHEET

**LIMIT OF WORK**  
 P504104  
 COLLEGE PARKWAY  
 STA. 149+62

**LIMIT OF WORK**  
 P504104  
 BAY DALE DRIVE  
 STA. 03+32

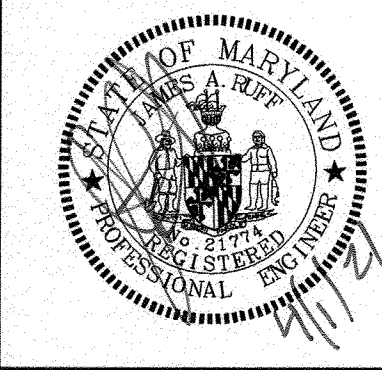
**SEGMENT A - SHORE ACRES RD TO BAY DALE DR**  
 HORIZONTAL SCALE: 1" = 40'  
 VERTICAL SCALE: 1" = 4'



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REVISIONS	APPROVED
#	DESCRIPTION

**Pennoni**  
 PENNONI ASSOCIATES INC.  
 8890 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.987.8800 F 410.987.9282



ANNE ARUNDEL COUNTY  
 DEPARTMENT OF PUBLIC WORKS

GP# G02017905 DWG NO: DD0001B

APPROVED DATE: 4/15/21  
 CHECKED BY: PJS/JAR  
 SHEET 35 of 137  
 PROJECT #: P504100  
 PROPOSAL #:

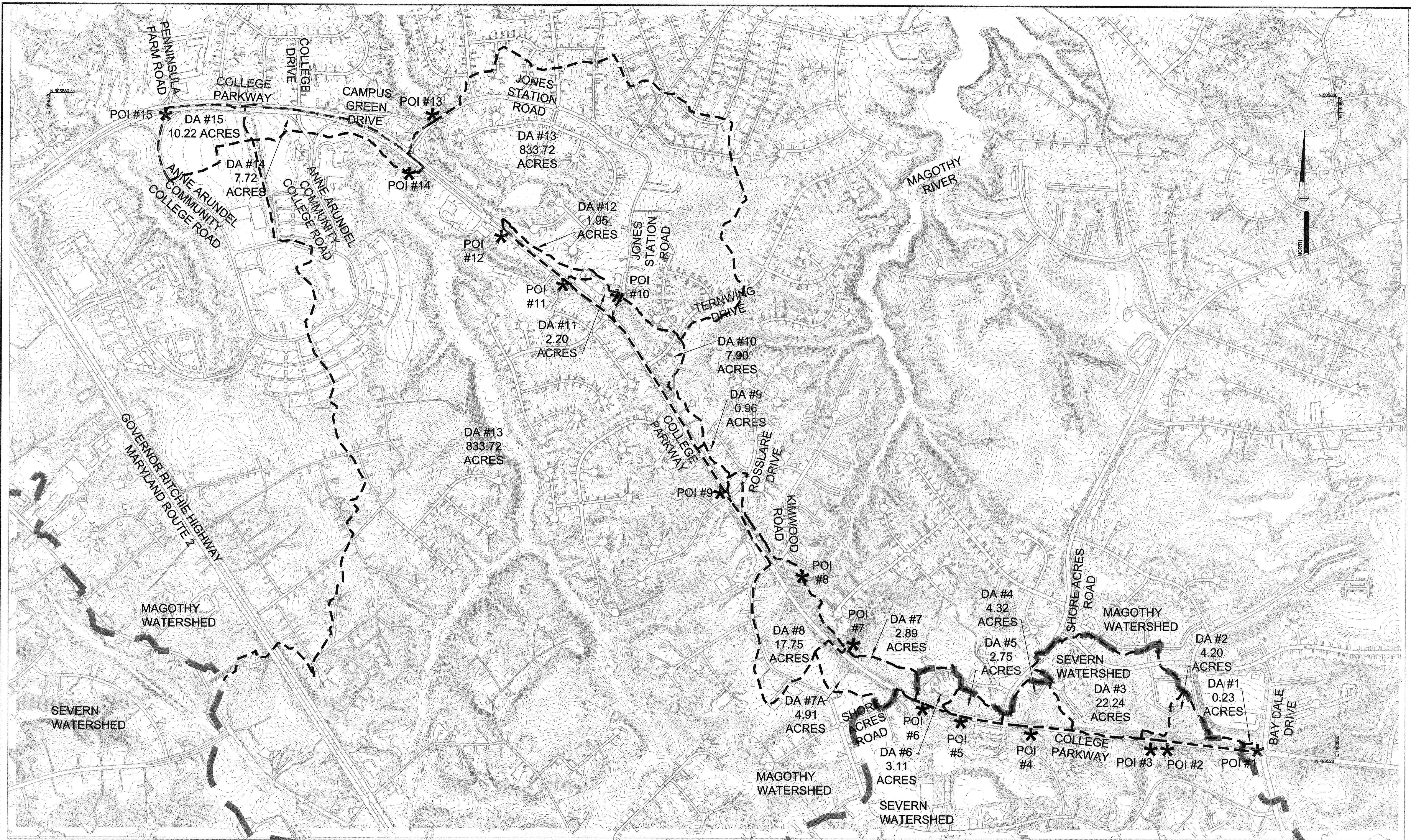
APPROVED DATE: 4/15/21  
 CHECKED BY: PJS/JAR  
 SHEET 35 of 137  
 PROJECT #: P504100  
 PROPOSAL #:

SCALE: AS SHOWN  
 DRAWN BY: PAI  
 CHECKED BY: PJS/JAR  
 SHEET 35 of 137  
 PROJECT #: P504100  
 PROPOSAL #:

TRAIL PROFILES  
**97103**  
 APRIL 5, 2021  
 BROADNECK TRAIL - PHASE III  
 CONSTRUCTION DOCUMENTS  
 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

DPW No.:





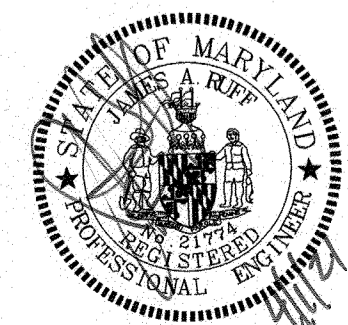
**LEGEND**

- DRAINAGE AREA
- SEVERN/MAGOTHY WATERSHED



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



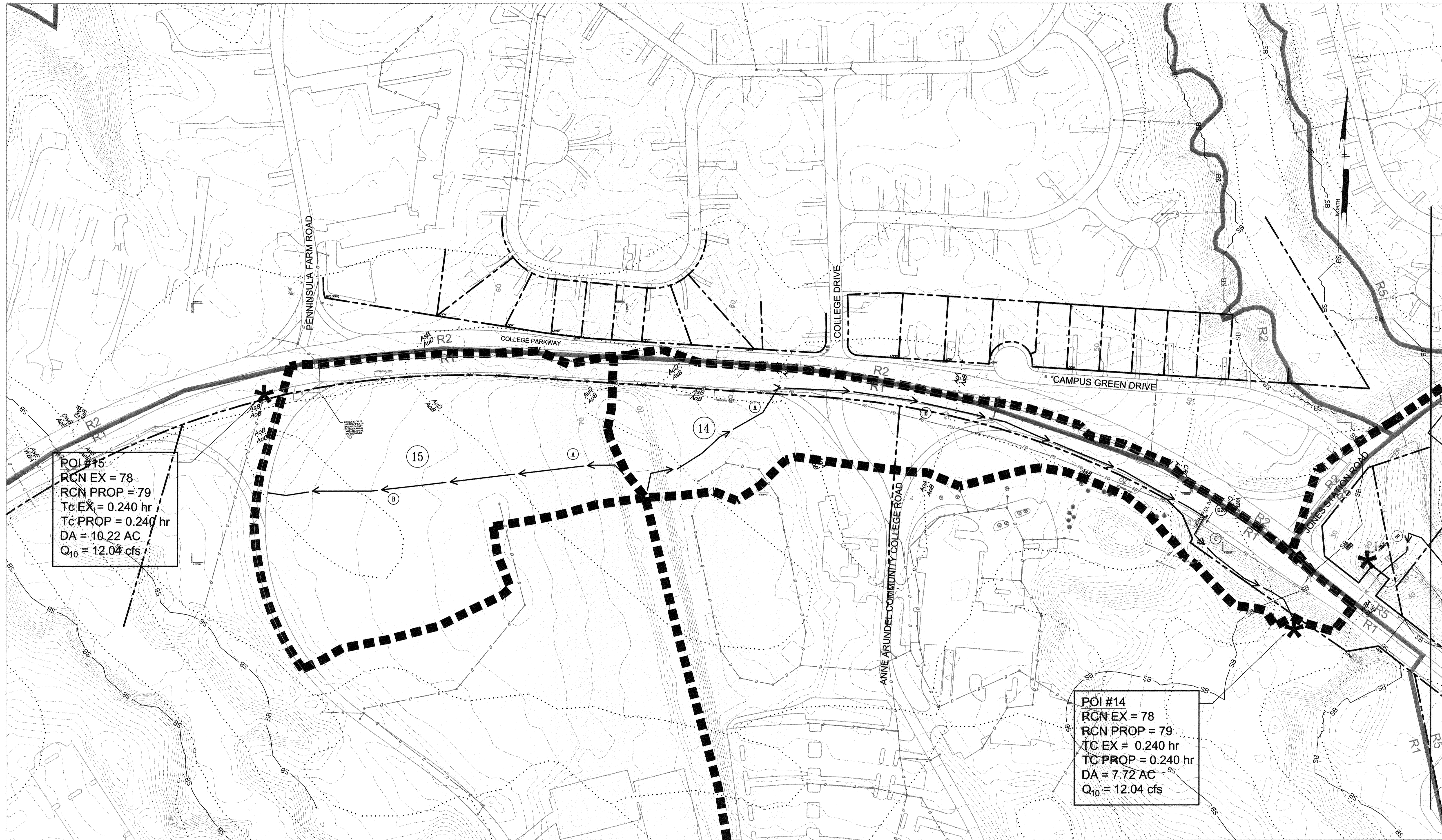
**PENNONI ASSOCIATES INC.**  
8880 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		<p><b>97104</b></p> <p>APRIL 5, 2021</p> <p>OVERALL EXISTING/DEVELOPED CONDITIONS DRAINAGE AREA MAP</p> <p><b>BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS</b></p> <p>TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019</p>		
APPROVED	DATE	APPROVED	DATE	SCALE: 1" = 400'
<i>[Signature]</i>	5/6/21	<i>[Signature]</i>	4/15/21	DRAWN BY: PAI
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: PJS/JAR
APPROVAL	DATE	APPROVED	DATE	SHEET 36 OF 137
<i>[Signature]</i>	4/14/21	<i>[Signature]</i>	4/16/21	PROJECT #: P504100
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		PROPOSAL #:

GP# G02017905 DWG NO: DD07A

DWG NO:





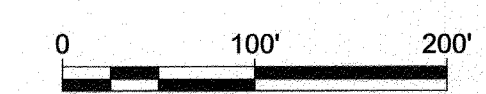
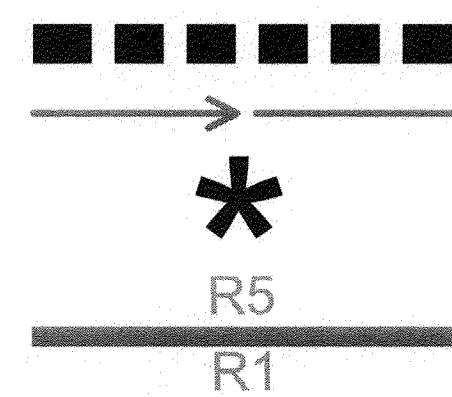
**POI #15**  
 RCN EX = 78  
 RCN PROP = 79  
 Tc EX = 0.240 hr  
 Tc PROP = 0.240 hr  
 DA = 10.22 AC  
 Q<sub>10</sub> = 12.04 cfs

**POI #14**  
 RCN EX = 78  
 RCN PROP = 79  
 Tc EX = 0.240 hr  
 Tc PROP = 0.240 hr  
 DA = 7.72 AC  
 Q<sub>10</sub> = 12.04 cfs

MATCHLINE - SEE SHEET 38

**LEGEND**

- DRAINAGE AREA
- TIME OF CONCENTRATION PATH
- POINT OF INVESTIGATION
- ZONING LINE



GP# G02017905 DWG NO: DD07B

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

**Pennoni**

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**ANNE ARUNDEL COUNTY**  
DEPARTMENT OF PUBLIC WORKS

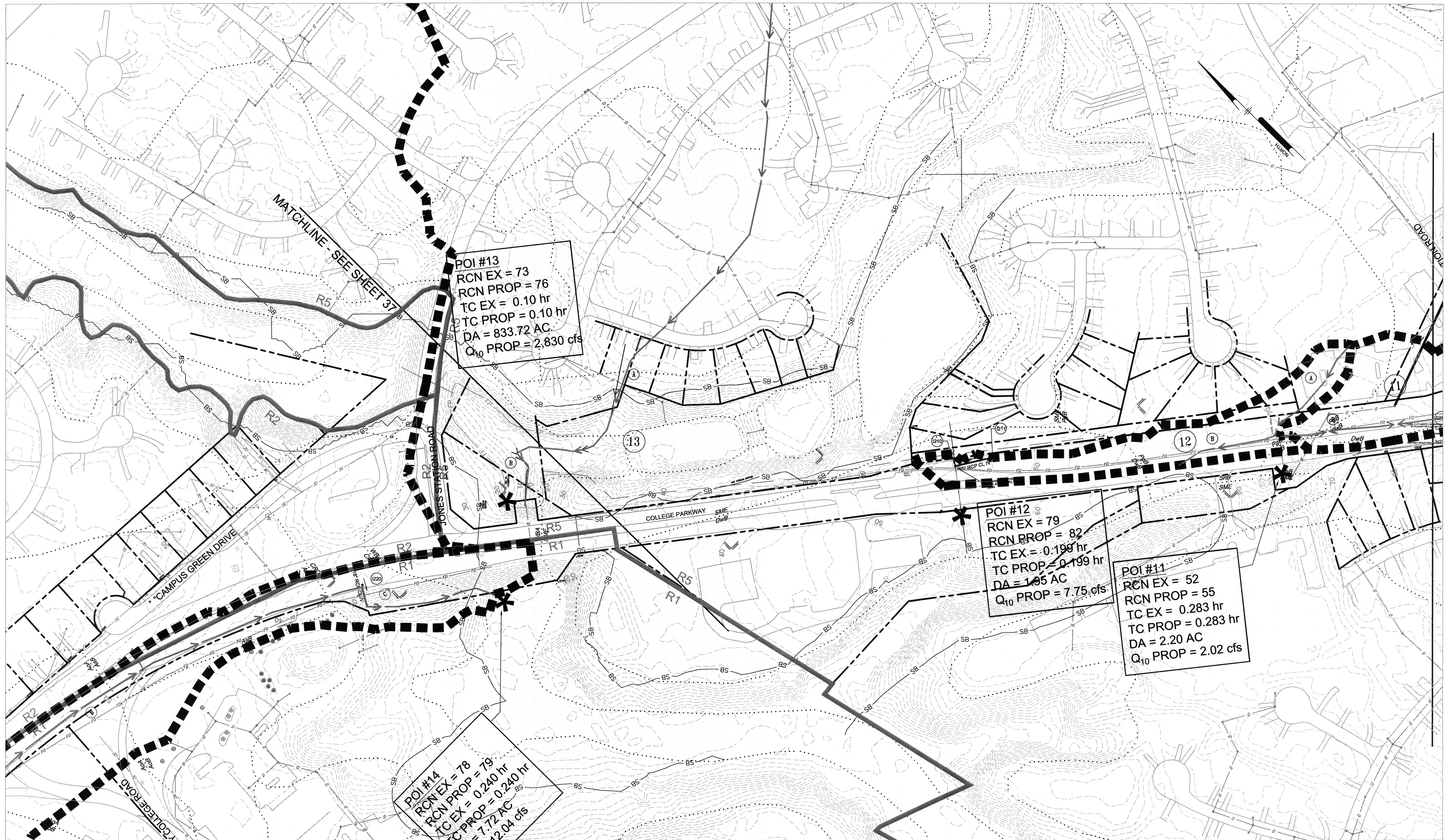
**97105** APRIL 5, 2021

APPROVED DATE CHIEF ENGINEER 5/1/21	APPROVED DATE PROJECT MANAGER 4/15/21	SCALE: 1" = 100' DRAWN BY: PAI CHECKED BY: PJS/JAR SHEET 37 of 137 PROJECT #: P504100 PROPOSAL #:	EXISTING/DEVELOPED CONDITIONS DRAINAGE AREA MAP <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS <small>TAX MAP 32, 39, AND 40          ARNOLD, MD ZIP CODE 21012 3RD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>
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DPIV No.:

S:\PROJECTS\ARCO\ARCO1701-Broadneck Peninsula Phase III\GIS\PAI\_PUB\GIS\PAI - CD - SCA\ARCO1701-0078.dwg





POI #13  
 RCN EX = 73  
 RCN PROP = 76  
 TC EX = 0.10 hr  
 TC PROP = 0.10 hr  
 DA = 833.72 AC  
 Q<sub>10</sub> PROP = 2,830 cfs

POI #12  
 RCN EX = 79  
 RCN PROP = 82  
 TC EX = 0.199 hr  
 TC PROP = 0.199 hr  
 DA = 105 AC  
 Q<sub>10</sub> PROP = 7.75 cfs

POI #11  
 RCN EX = 52  
 RCN PROP = 55  
 TC EX = 0.283 hr  
 TC PROP = 0.283 hr  
 DA = 2.20 AC  
 Q<sub>10</sub> PROP = 2.02 cfs

POI #14  
 RCN EX = 78  
 RCN PROP = 79  
 TC EX = 0.240 hr  
 TC PROP = 0.240 hr  
 DA = 7.72 AC  
 Q<sub>10</sub> PROP = 2.04 cfs

MATCHLINE - SEE SHEET 37

MATCHLINE - SEE SHEET 39

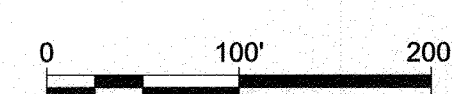
**LEGEND**

DRAINAGE AREA

TIME OF CONCENTRATION PATH

POINT OF INVESTIGATION

ZONING LINE  
 R5   
 R1

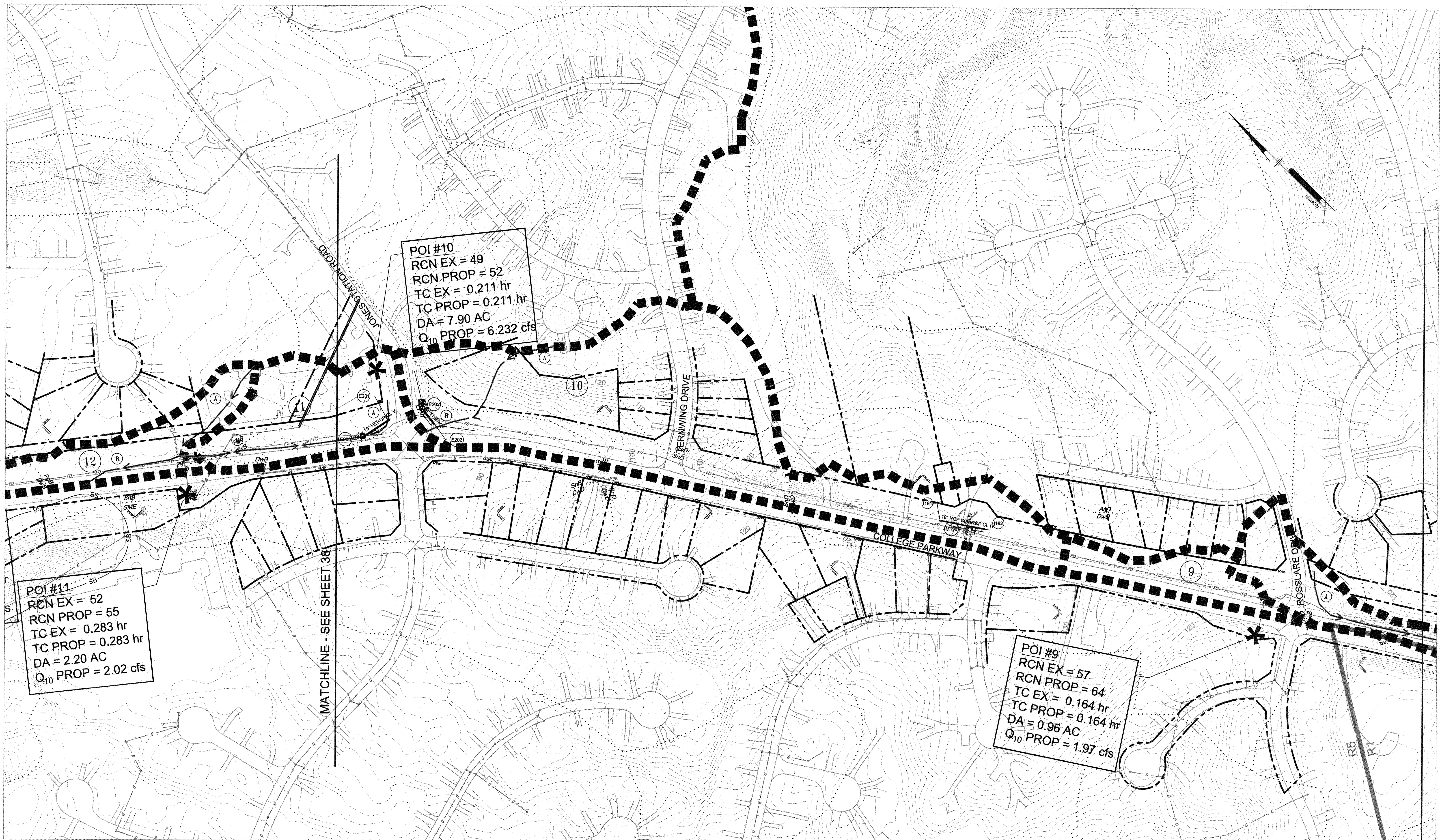


PROFESSIONAL CERTIFICATION: I, JAMES A. RUFF, PE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY OR APPROVED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # 21774. EXPIRATION DATE 11/10/2021.		ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		GP# G02017905 DWG NO: DD07C																																														
<table border="1"> <thead> <tr> <th>#</th> <th>REVISIONS DESCRIPTION</th> <th>APPROVED BY</th> <th>DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>		#	REVISIONS DESCRIPTION	APPROVED BY	DATE																			 <b>PENNONI ASSOCIATES INC.</b> 8830 McGaw Road, Suite 100 Columbia, MD 21045 T 410.997.8900 F 410.997.9282	<table border="1"> <thead> <tr> <th>APPROVED</th> <th>DATE</th> <th>APPROVED</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td></td> <td>5/16/21</td> <td></td> <td>4/15/21</td> </tr> <tr> <td>CHIEF ENGINEER</td> <td></td> <td>PROJECT MANAGER</td> <td></td> </tr> <tr> <th>APPROVAL</th> <th>DATE</th> <th>APPROVED</th> <th>DATE</th> </tr> <tr> <td></td> <td>4/16/21</td> <td></td> <td>4/16/21</td> </tr> <tr> <td>ASSISTANT CHIEF ENGINEER</td> <td></td> <td>CHIEF, RIGHT OF WAY SERVICES</td> <td></td> </tr> </tbody> </table>	APPROVED	DATE	APPROVED	DATE		5/16/21		4/15/21	CHIEF ENGINEER		PROJECT MANAGER		APPROVAL	DATE	APPROVED	DATE		4/16/21		4/16/21	ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		SCALE: 1" = 100' DRAWN BY: PAI CHECKED BY: PJS/JAR SHEET 38 of 137 PROJECT #: P504100 PROPOSAL #: <b>97106</b> APRIL 5, 2021 EXISTING/DEVELOPED CONDITIONS DRAINAGE AREA MAP <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS TAX MAP 32, 38, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019
#	REVISIONS DESCRIPTION	APPROVED BY	DATE																																															
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CHIEF ENGINEER		PROJECT MANAGER																																																
APPROVAL	DATE	APPROVED	DATE																																															
	4/16/21		4/16/21																																															
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES																																																

DRAWN BY: PAI

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MATCHLINE - SEE SHEET 40

POI #10  
 RCN EX = 49  
 RCN PROP = 52  
 TC EX = 0.211 hr  
 TC PROP = 0.211 hr  
 DA = 7.90 AC  
 Q<sub>10</sub> PROP = 6.232 cfs

POI #11  
 RCN EX = 52  
 RCN PROP = 55  
 TC EX = 0.283 hr  
 TC PROP = 0.283 hr  
 DA = 2.20 AC  
 Q<sub>10</sub> PROP = 2.02 cfs

POI #9  
 RCN EX = 57  
 RCN PROP = 64  
 TC EX = 0.164 hr  
 TC PROP = 0.164 hr  
 DA = 0.96 AC  
 Q<sub>10</sub> PROP = 1.97 cfs

MATCHLINE - SEE SHEET 38

**LEGEND**

- DRAINAGE AREA
- TIME OF CONCENTRATION PATH
- POINT OF INVESTIGATION ✱
- ZONING LINE

R5  
 R1

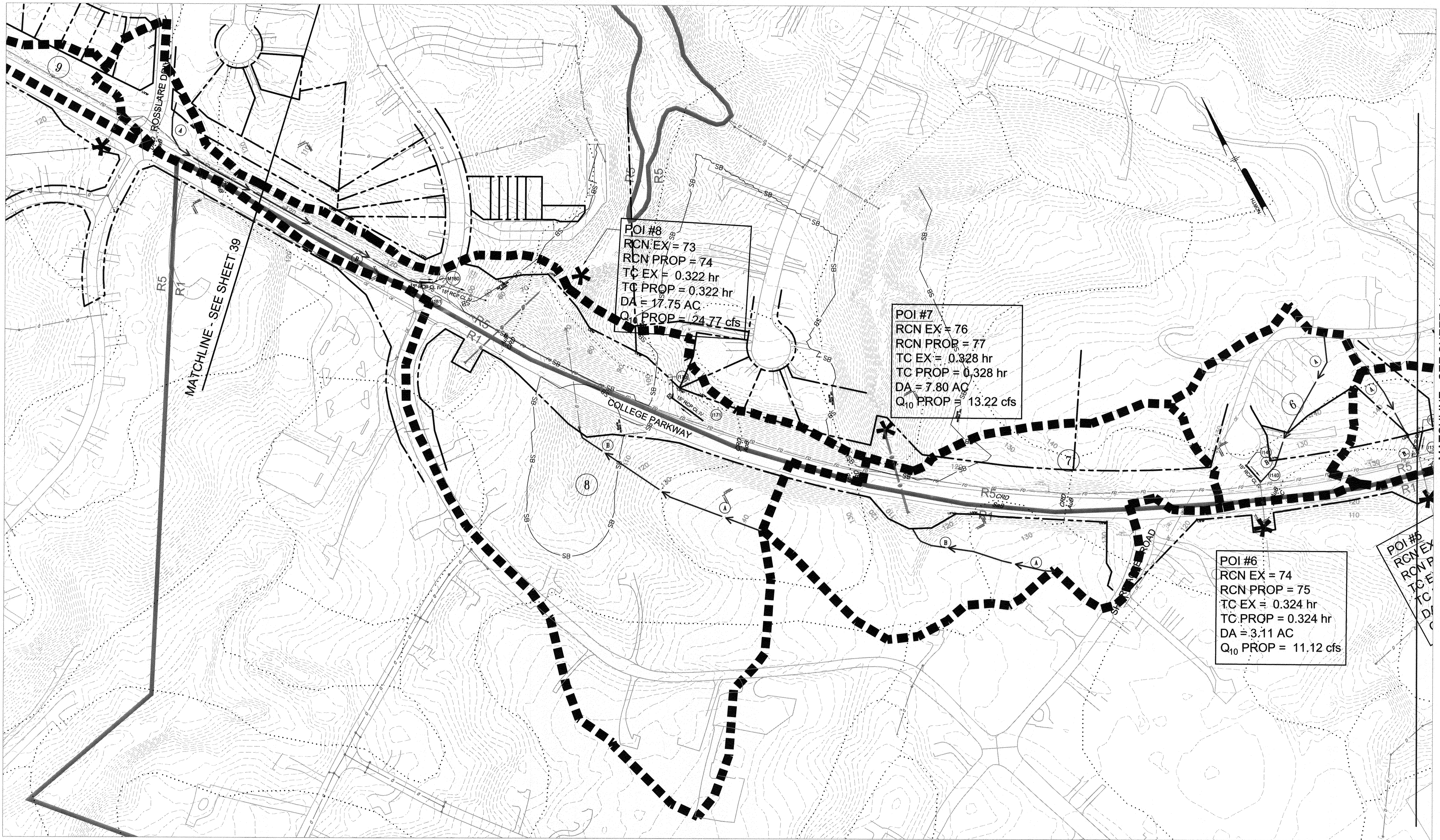


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ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS		<b>97107</b> APRIL 5, 2021	
REVISIONS:      APPROVED BY:      DATE:		SCALE: 1" = 100' DRAWN BY: PAJ CHECKED BY: PJS/JAR SHEET 39 of 137 PROJECT #: P504100 PROPOSAL #:	
#      DESCRIPTION      APPROVED BY      DATE		APPROVED      DATE      APPROVED      DATE	EXISTING/DEVELOPED CONDITIONS DRAINAGE AREA MAP <b>BROADNECK TRAIL - PHASE III CONSTRUCTION DOCUMENTS</b> TAX MAP 32, 39, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019
PENNONI ASSOCIATES INC. 8890 McGaw Road, Suite 100 Columbia, MD 21045 T 410.997.8900 F 410.997.9282		APPROVED: <i>[Signature]</i> 5/6/21 CHIEF ENGINEER APPROVAL: <i>[Signature]</i> 4/15/21 ASSISTANT CHIEF ENGINEER	APPROVED: <i>[Signature]</i> 4/15/21 PROJECT MANAGER APPROVED: <i>[Signature]</i> 4/16/21 CHIEF, RIGHT OF WAY SERVICES

COPY NO.:

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MATCHLINE - SEE SHEET 39

MATCHLINE - SEE SHEET 41

POI #8  
 RCN EX = 73  
 RCN PROP = 74  
 TC EX = 0.322 hr  
 TC PROP = 0.322 hr  
 DA = 17.75 AC  
 Q<sub>10</sub> PROP = 24.77 cfs

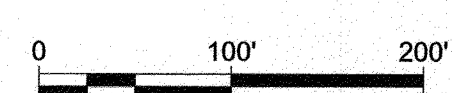
POI #7  
 RCN EX = 76  
 RCN PROP = 77  
 TC EX = 0.328 hr  
 TC PROP = 0.328 hr  
 DA = 7.80 AC  
 Q<sub>10</sub> PROP = 13.22 cfs

POI #6  
 RCN EX = 74  
 RCN PROP = 75  
 TC EX = 0.324 hr  
 TC PROP = 0.324 hr  
 DA = 3.11 AC  
 Q<sub>10</sub> PROP = 11.12 cfs

POI #5  
 RCN EX  
 RCN PROP  
 TC EX  
 TC PROP  
 DA  
 Q<sub>10</sub> PROP

**LEGEND**

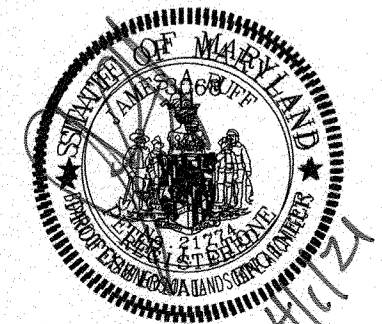
- DRAINAGE AREA
- TIME OF CONCENTRATION PATH
- POINT OF INVESTIGATION
- ZONING LINE



GP# G02017905 DWG NO: DD07E

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#	REVISIONS DESCRIPTION	APPROVED BY	DATE



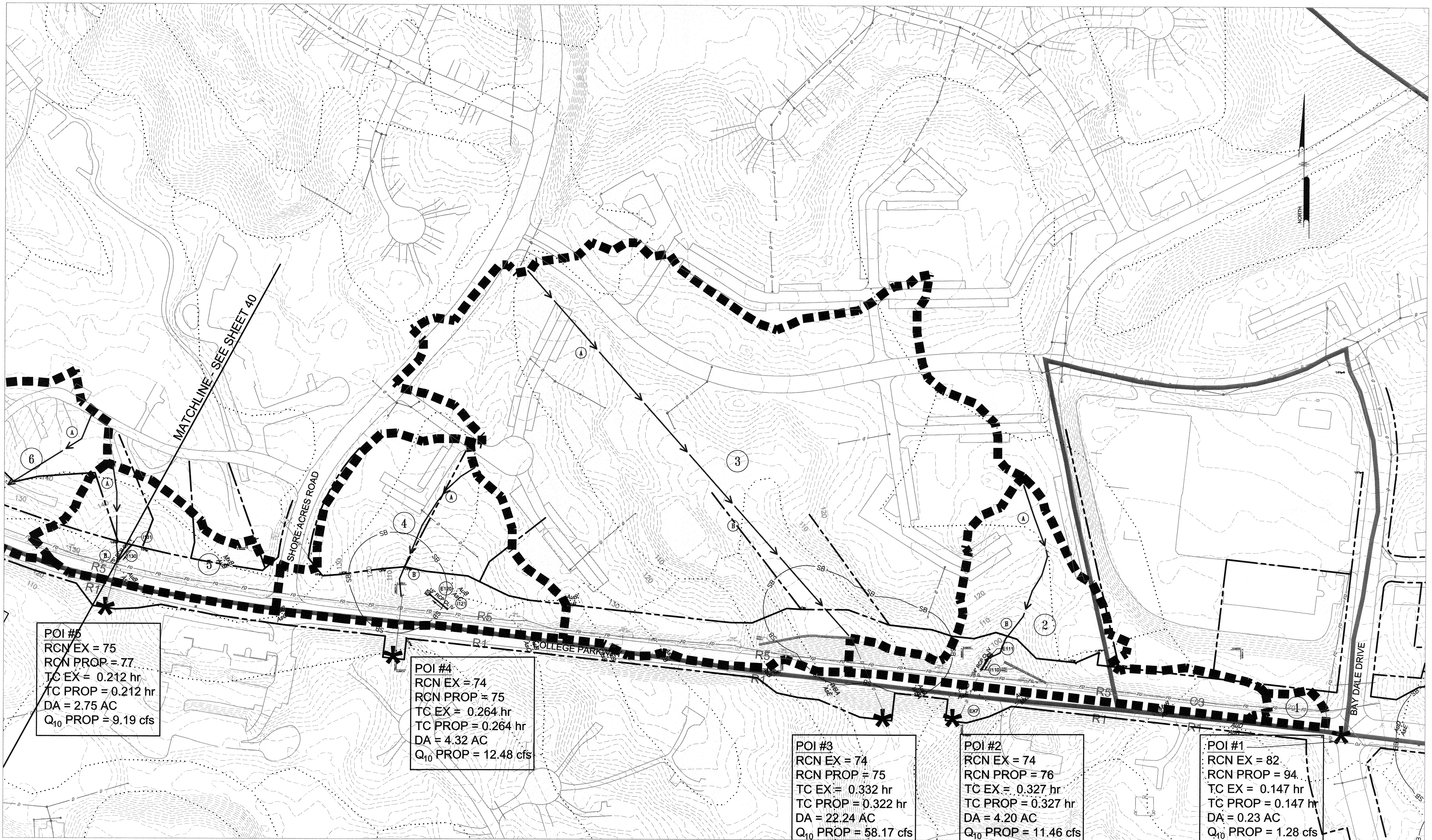
**Pennoni**  
**PENNONI ASSOCIATES INC.**  
 8880 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

**ANNE ARUNDEL COUNTY**  
**DEPARTMENT OF PUBLIC WORKS**

**97108** APRIL 5, 2021

APPROVED <i>[Signature]</i> CHIEF ENGINEER	DATE 5/6/21	APPROVED <i>[Signature]</i> PROJECT MANAGER	DATE 4/15/21	SCALE: 1" = 100'	EXISTING/DEVELOPED CONDITIONS DRAINAGE AREA MAP  <b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS <small>TAX MAP 32, 38, AND 40          ARNOLD, MD ZIP CODE 21012 3RD DISTRICT          ANNE ARUNDEL COUNTY, MD          NOVEMBER 2019</small>
APPROVAL <i>[Signature]</i> ASSISTANT CHIEF ENGINEER	DATE 4/24/21	APPROVED <i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	DATE 4/16/21	DRAWN BY: PAI	
				CHECKED BY: PJS/JAR	
				SHEET 40 of 137	
				PROJECT #: P504100	PROPOSAL #:





POI #5  
 RCN EX = 75  
 RCN PROP = 77  
 TC EX = 0.212 hr  
 TC PROP = 0.212 hr  
 DA = 2.75 AC  
 Q<sub>10</sub> PROP = 9.19 cfs

POI #4  
 RCN EX = 74  
 RCN PROP = 75  
 TC EX = 0.264 hr  
 TC PROP = 0.264 hr  
 DA = 4.32 AC  
 Q<sub>10</sub> PROP = 12.48 cfs

POI #3  
 RCN EX = 74  
 RCN PROP = 75  
 TC EX = 0.332 hr  
 TC PROP = 0.322 hr  
 DA = 22.24 AC  
 Q<sub>10</sub> PROP = 58.17 cfs

POI #2  
 RCN EX = 74  
 RCN PROP = 76  
 TC EX = 0.327 hr  
 TC PROP = 0.327 hr  
 DA = 4.20 AC  
 Q<sub>10</sub> PROP = 11.46 cfs

POI #1  
 RCN EX = 82  
 RCN PROP = 94  
 TC EX = 0.147 hr  
 TC PROP = 0.147 hr  
 DA = 0.23 AC  
 Q<sub>10</sub> PROP = 1.28 cfs

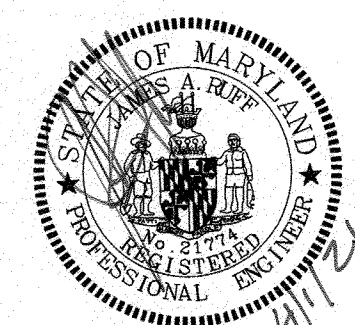
**LEGEND**

- DRAINAGE AREA
- TIME OF CONCENTRATION PATH
- POINT OF INVESTIGATION
- ZONING LINE



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 11/10/2021

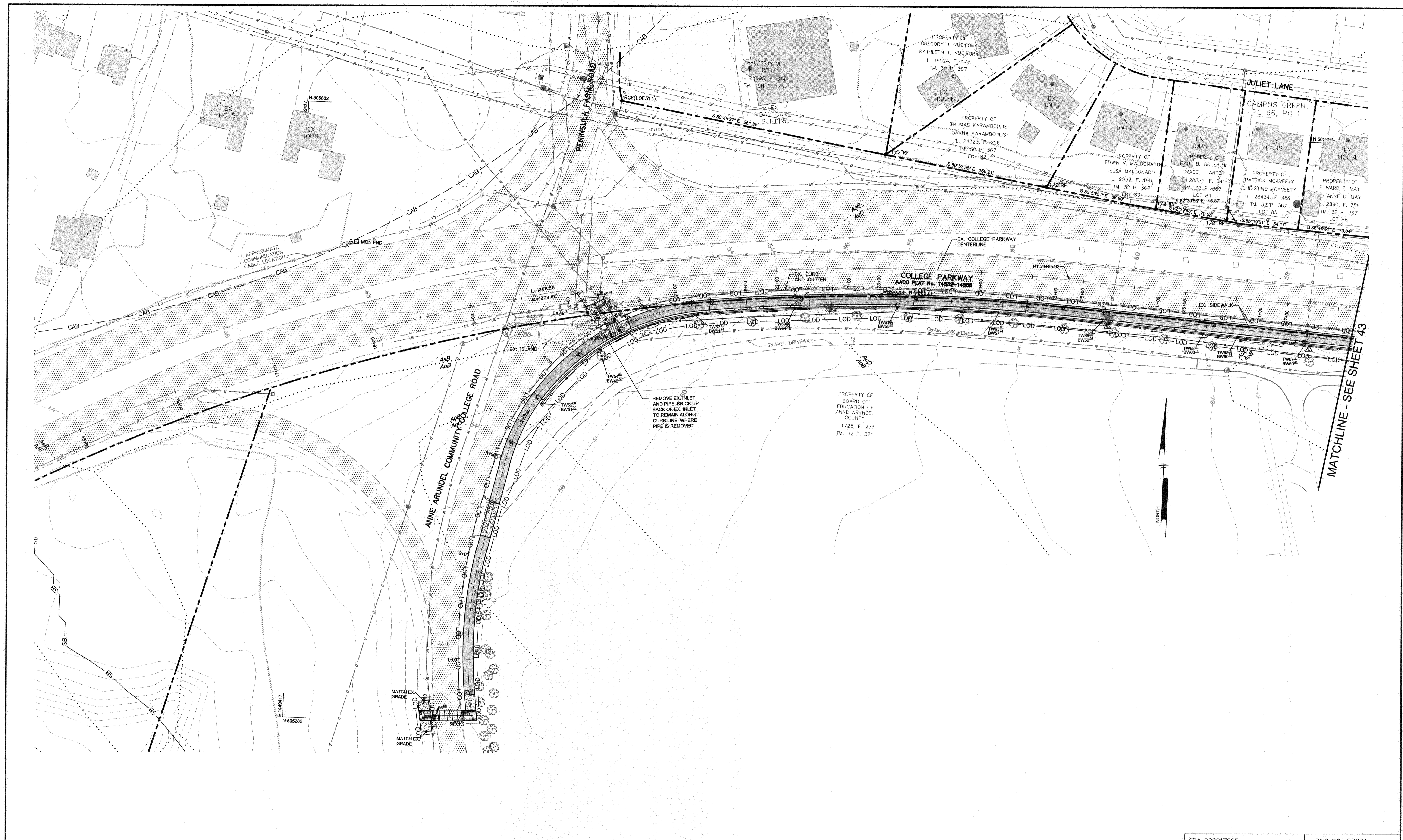
#	REVISIONS DESCRIPTION	APPROVED BY	DATE



**PENNONI ASSOCIATES INC.**  
 8880 McGaw Road, Suite 100  
 Columbia, MD 21045  
 T 410.997.8900 F 410.997.9282

<b>ANNE ARUNDEL COUNTY</b>				GP# G02017905	DWG NO: DD07F
<b>DEPARTMENT OF PUBLIC WORKS</b>				<b>97109</b>	APRIL 5, 2021
APPROVED  DATE <u>5/16/21</u>		APPROVED  DATE <u>4/15/21</u>		SCALE: 1" = 100'	
CHIEF ENGINEER		PROJECT MANAGER		DRAWN BY: PAI	
APPROVAL		APPROVED  DATE <u>4/16/21</u>		CHECKED BY: PJS/IAR	
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY SERVICES		SHEET <u>41</u> of <u>137</u>	
				PROJECT #: P504100	
				PROPOSAL #:	
				EXISTING/DEVELOPED CONDITIONS DRAINAGE AREA MAP	
				<b>BROADNECK TRAIL - PHASE III</b> CONSTRUCTION DOCUMENTS	
				TAX MAP 32, 33, AND 40 ARNOLD, MD ZIP CODE 21012 3RD DISTRICT ANNE ARUNDEL COUNTY, MD NOVEMBER 2019	





MATCHLINE - SEE SHEET 43

GP# G02017905 DWG NO: DD08A

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



**ANNE ARUNDEL COUNTY**  
DEPARTMENT OF PUBLIC WORKS

APPROVED <i>[Signature]</i> CHIEF ENGINEER	DATE 5/14/21	APPROVED <i>[Signature]</i> PROJECT MANAGER	DATE 4/15/21
APPROVAL <i>[Signature]</i> ASSISTANT CHIEF ENGINEER	DATE 4/14/21	APPROVED <i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	DATE 4/16/21

97110

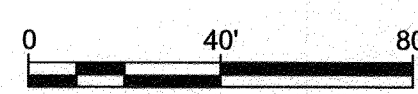
APRIL 5, 2021

SCALE: 1" = 40'

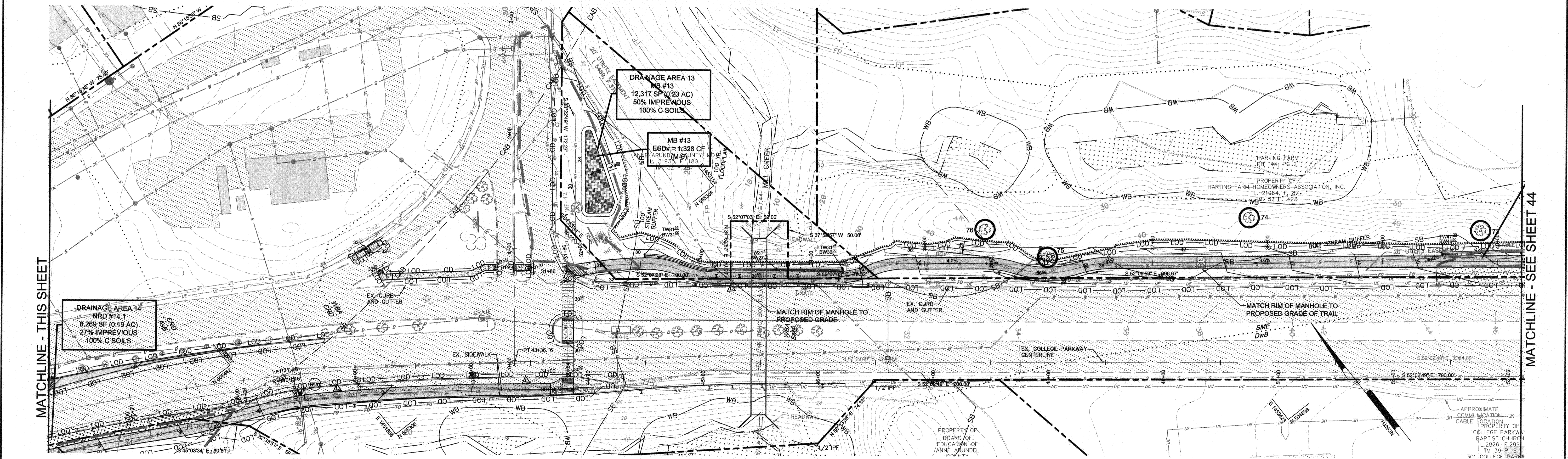
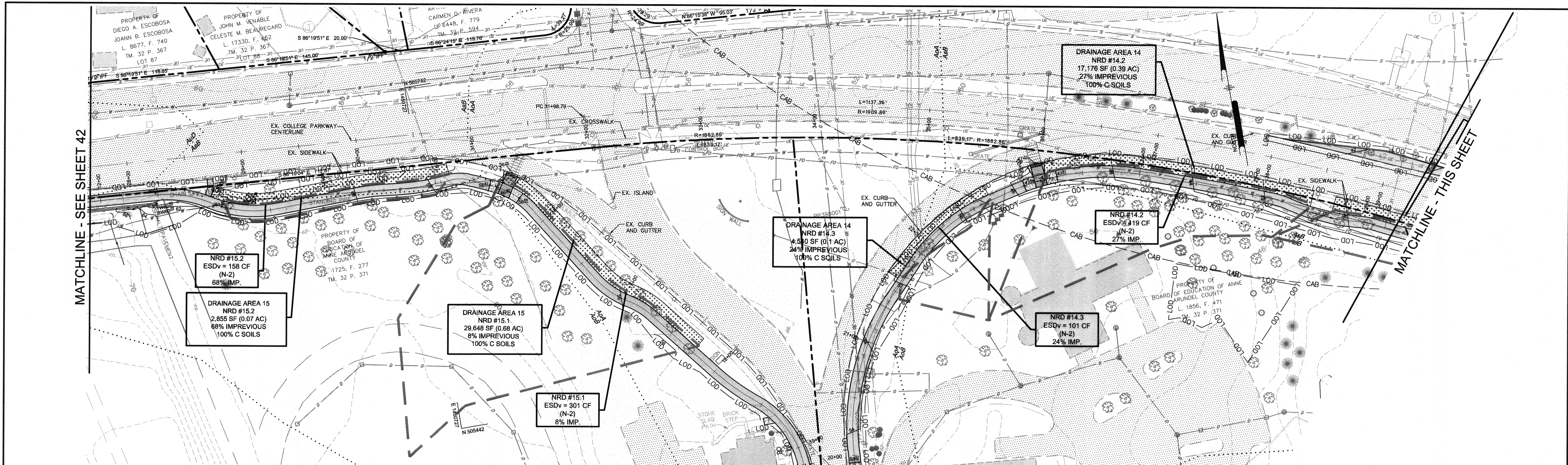
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 42 OF 137  
PROJECT # P504100  
PROPOSAL #

**BROADNECK TRAIL - PHASE III**  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 35, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

DWG NO.:







GP# G02017905 DWG NO: DD0BB

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS  
97111 APRIL 5, 2021

STORMWATER MANAGEMENT PLAN  
BROADNECK TRAIL - PHASE III  
CONSTRUCTION DOCUMENTS  
TAX MAP 32, 38, AND 40  
ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
ANNE ARUNDEL COUNTY, MD  
NOVEMBER 2019

PROFESSIONAL CERTIFICATION: I, JAMES A. RUFF, PE, CERTIFY THAT THESE DOCUMENTS WERE PREPARED BY ME AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND LICENSE # 21774 EXPIRATION DATE 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE

APPROVED: [Signature] DATE: 4/15/21  
PROJECT MANAGER

APPROVED: [Signature] DATE: 4/14/21  
CHIEF, RIGHT OF WAY SERVICES

APPROVED: [Signature] DATE: 4/21/21  
ASSISTANT CHIEF ENGINEER

SCALE: 1" = 40'  
DRAWN BY: PAI  
CHECKED BY: PJS/JAR  
SHEET 43 OF 137  
PROJECT #: P504100  
PROPOSAL #:

Pennoni  
PENNONI ASSOCIATES INC.  
8890 McGaw Road, Suite 100  
Columbia, MD 21045  
T 410.997.8900 F 410.997.9282

APPROXIMATE COMMUNICATION CABLE LOCATION

PROPERTY OF COLLEGE PARKWAY BAPTIST CHURCH L. 2826, F. 299 TM 39 P. 6 101 (01) TRF-PAR

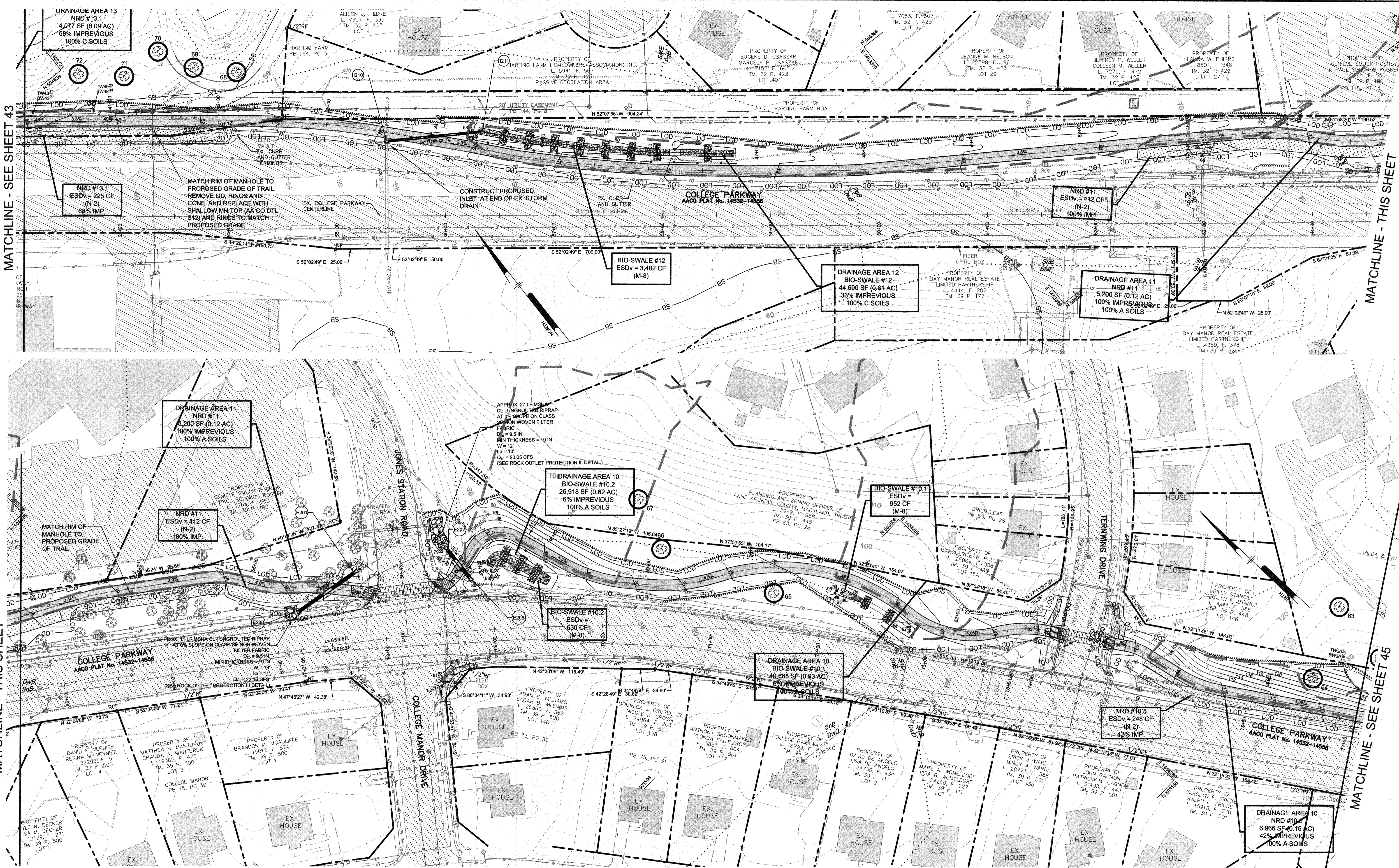


MATCHLINE - SEE SHEET 43

MATCHLINE - THIS SHEET

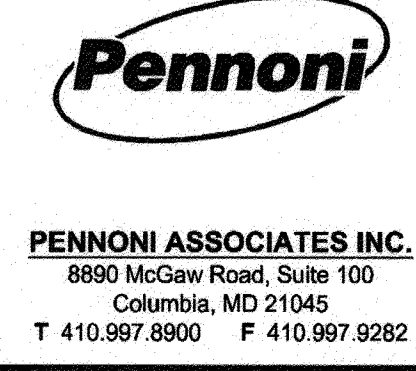
MATCHLINE - THIS SHEET

MATCHLINE - SEE SHEET 45



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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



APPROVED		DATE	
<i>[Signature]</i>	<i>[Signature]</i>	4/15/21	4/15/21
CHIEF ENGINEER	PROJECT MANAGER		
<i>[Signature]</i>	<i>[Signature]</i>	4/15/21	4/15/21
ASSISTANT CHIEF ENGINEER	CHIEF, RIGHT OF WAY SERVICES		

ANNE ARUNDEL COUNTY  
DEPARTMENT OF PUBLIC WORKS

97112 APRIL 5, 2021

SCALE: 1" = 40'

DRAWN BY: PAI

CHECKED BY: PJS/IAR

SHEET 44 OF 137

PROJECT #: P504100

PROPOSAL #:

STORMWATER MANAGEMENT PLAN

BROADNECK TRAIL - PHASE III

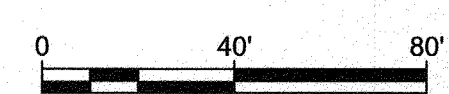
CONSTRUCTION DOCUMENTS

TAX MAP 32, 39, AND 40

ARNOLD, MD ZIP CODE 21012 3RD DISTRICT

ANNE ARUNDEL COUNTY, MD

NOVEMBER 2019



DWG NO:

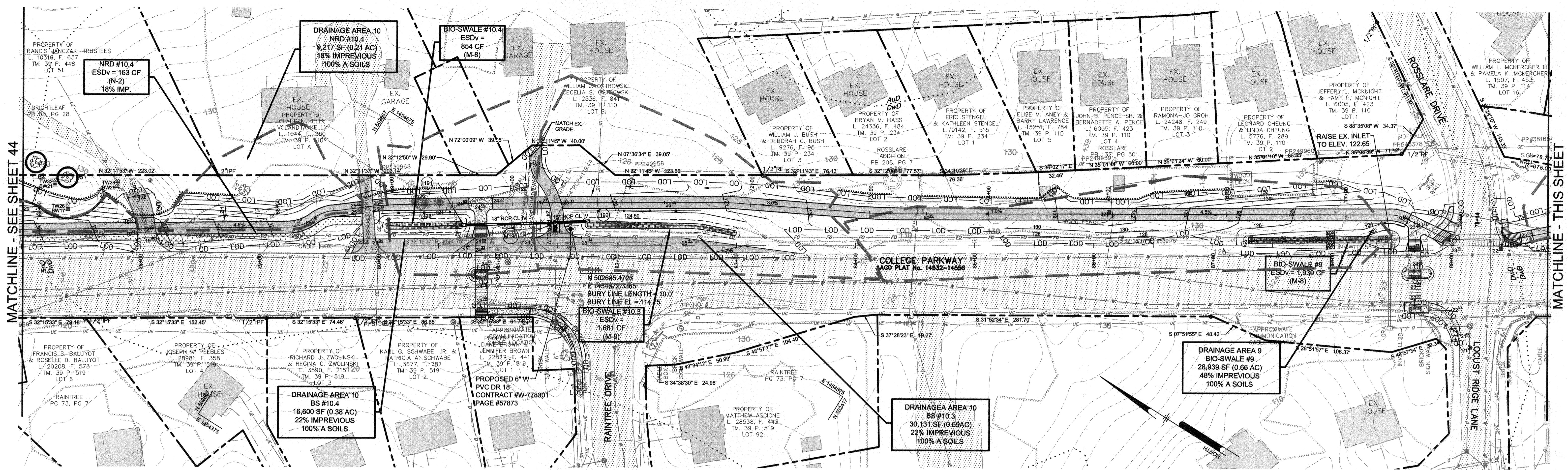
GP# G02017905 DWG NO: DD08C

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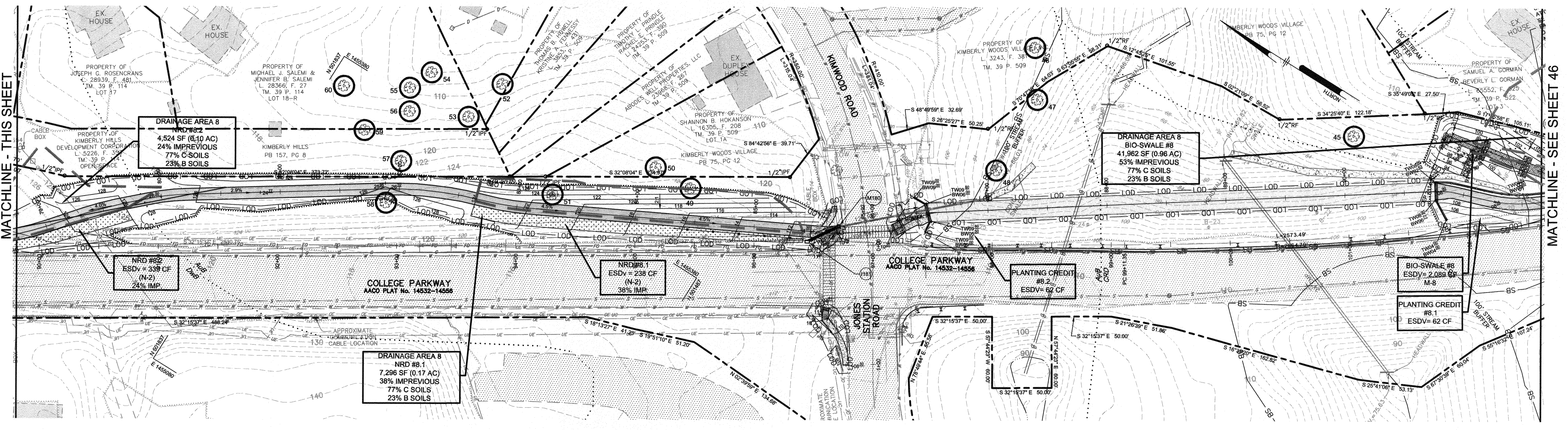
MATCHLINE - SEE SHEET 44

MATCHLINE - THIS SHEET



MATCHLINE - THIS SHEET

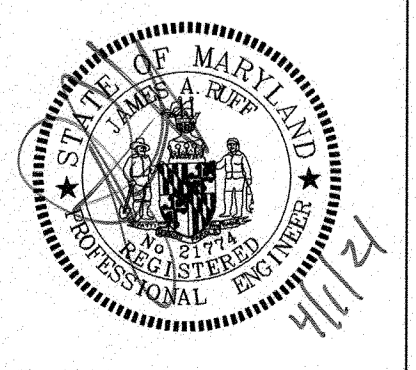
MATCHLINE - SEE SHEET 46



GP# G02017905 DWG NO: DD08D

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 11/10/2021

#	REVISIONS DESCRIPTION	APPROVED BY	DATE



**Pennoni**  
 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**

**97113**  
 APRIL 5, 2021

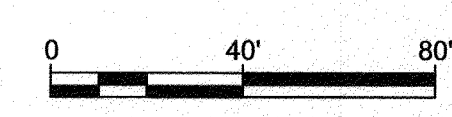
STORMWATER MANAGEMENT PLAN

**BROADNECK TRAIL - PHASE III**  
 CONSTRUCTION DOCUMENTS

ARNOLD, MD ZIP CODE 21012 3RD DISTRICT  
 ANNE ARUNDEL COUNTY, MD  
 NOVEMBER 2019

APPROVED <i>[Signature]</i> CHIEF ENGINEER	DATE 5/16/21	APPROVED <i>[Signature]</i> PROJECT MANAGER	DATE 4/15/21
APPROVAL <i>[Signature]</i> ASSISTANT CHIEF ENGINEER	DATE 4/14/21	APPROVED <i>[Signature]</i> CHIEF, RIGHT OF WAY SERVICES	DATE 4/16/21

SCALE: 1" = 40'  
 DRAWN BY: PAJ  
 CHECKED BY: PJS/JAR  
 SHEET 45 OF 137  
 PROJECT #: P504100  
 PROPOSAL #:



DWG NO:

T:\PROJECTS\AA\CO\1701-Broadneck Phase III\DESIGN\_PUBLISHING\CD SET\AA\CO\1701-0000.dwg