

DETAIL D-4-1-B ROCK OUTLET PROTECTION II

STANDARD SYMBOL: ROPII

DISCHARGE TO CONFINED CHANNEL OR SECTION

CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

- RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/4 TO 1 1/2 INCH STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE STONE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL D-4-1-C ROCK OUTLET PROTECTION III

STANDARD SYMBOL: ROPIII

DISCHARGE TO AN UNCONFINED CHANNEL OR FLAT AREA

CLASS	THICKNESS (T)
I	19 IN
II	32 IN
III	46 IN

CONSTRUCTION SPECIFICATIONS

- RIPRAP AND STONE MUST CONFORM TO THE SPECIFIED CLASS.
- USE NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, AND PROTECT FROM PUNCTURING, CUTTING, OR TEARING. REPAIR ANY DAMAGE OTHER THAN AN OCCASIONAL SMALL HOLE BY PLACING ANOTHER PIECE OF GEOTEXTILE OVER THE DAMAGED PART OR BY COMPLETELY REPLACING THE GEOTEXTILE. PROVIDE A MINIMUM OF ONE FOOT OVERLAP FOR ALL REPAIRS AND FOR JOINING TWO PIECES OF GEOTEXTILE TOGETHER.
- PREPARE THE SUBGRADE FOR GEOTEXTILE OR STONE FILTER (3/4 TO 1 1/2 INCH MINIMUM STONE FOR 6 INCH MINIMUM DEPTH) AND RIPRAP TO THE REQUIRED LINES AND GRADES. COMPACT ANY FILL REQUIRED IN THE SUBGRADE TO A DENSITY OF APPROXIMATELY THAT OF THE SURROUNDING UNDISTURBED MATERIAL.
- EXTEND GEOTEXTILE AT LEAST 6 INCHES BEYOND EDGES OF RIPRAP AND EMBED AT LEAST 4 INCHES AT SIDES OF RIPRAP.
- CONSTRUCT RIPRAP OUTLET TO FULL COURSE THICKNESS IN ONE OPERATION AND IN SUCH A MANNER AS TO AVOID DISPLACEMENT OF UNDERLYING MATERIALS. PLACE STONE FOR RIPRAP OUTLET IN A MANNER THAT WILL ENSURE THAT IT IS REASONABLY HOMOGENEOUS WITH THE SMALLER STONES AND SPALLS FILLING THE VOIDS BETWEEN THE LARGER STONES. PLACE RIPRAP IN A MANNER TO PREVENT DAMAGE TO THE FILTER BLANKET OR GEOTEXTILE. HAND PLACE TO THE EXTENT NECESSARY.
- WHERE NO ENDWALL IS USED, CONSTRUCT THE UPSTREAM END OF THE APRON SO THAT THE WIDTH IS TWO TIMES THE DIAMETER OF THE OUTLET PIPE, AND EXTEND THE STONE UNDER THE OUTLET BY A MINIMUM OF 18 INCHES.
- CONSTRUCT APRON WITH 0% SLOPE ALONG ITS LENGTH AND WITHOUT OBSTRUCTIONS. PLACE STONE SO THAT IT BLENDS IN WITH EXISTING GROUND.
- MAINTAIN LINE, GRADE, AND CROSS SECTION. KEEP OUTLET FREE OF EROSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. AFTER HIGH FLOWS INSPECT FOR SCOUR AND RIPRAP DISLODGED RIPRAP. MAKE NECESSARY REPAIRS IMMEDIATELY.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-7 GABION INLET PROTECTION

STANDARD SYMBOL: GIP

MAXIMUM DRAINAGE AREA = 1 1/2 ACRE

CONSTRUCTION SPECIFICATIONS

- USE BASKETS MADE OF 11 GAUGE WIRE OR HEAVIER.
- WRAP 3 FEET x 3 FEET GABION BASKETS (LENGTH VARIABLE) WITH NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVERLAPPING AT THE TOP AND FASTEN THE GEOTEXTILE AT THE TOP OF THE BASKET WITH WIRE FASTENERS (HOG RINGS) AT A MAXIMUM OF 1 FOOT INTERVALS ALONG THE SEAM.
- AVOID TEARING OR DAMAGING GEOTEXTILE.
- ENTRENCH GABION BASKETS TO A DEPTH OF 6 INCHES.
- PLACE AND INTERLOCK GABION BASKETS WITH NO GAPS.
- FILL GABION BASKETS WITH CLEAN 4 TO 7 INCH STONE OR EQUIVALENT RECYCLED CONCRETE WITHOUT REBAR OR MESH.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-2 AT-GRADE INLET PROTECTION

STANDARD SYMBOL: AGIP

MAXIMUM DRAINAGE AREA = 1 ACRE

CONSTRUCTION SPECIFICATIONS

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

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

- USE NOMINAL 2 INCH x 4 INCH LUMBER.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
- NAIL THE 2X4 WEIR TO THE TOP OF A 9 INCH LONG VERTICAL SPACER TO BE LOCATED BETWEEN THE WEIR AND THE INLET FACE (MAXIMUM 4 FEET APART).
- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2x4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
- FORM THE 1/2 INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL E-9-6 COMBINATION INLET PROTECTION

STANDARD SYMBOL: COIP

MAXIMUM DRAINAGE AREA = 1/4 ACRE

CONSTRUCTION SPECIFICATIONS

- USE NOMINAL 2 INCH x 4 INCH LUMBER.
- USE NONWOVEN GEOTEXTILE AS SPECIFIED IN SECTION H-1 MATERIALS.
- LIFT GRATE, AND WRAP WITH NONWOVEN GEOTEXTILE TO COMPLETELY COVER ALL OPENINGS, THEN SET GRATE BACK IN PLACE.
- ATTACH A CONTINUOUS PIECE OF 1/2 INCH GALVANIZED HARDWARE CLOTH WITH A MINIMUM WIDTH OF 30 INCHES AND A MINIMUM LENGTH OF 4 FEET LONGER THAN THE THROAT OPENING, TO THE 2X4 WEIR, EXTENDING 2 FEET BEYOND THROAT ON EACH SIDE.
- PLACE A CONTINUOUS PIECE OF NONWOVEN GEOTEXTILE THE SAME DIMENSIONS AS THE HARDWARE CLOTH OVER THE HARDWARE CLOTH AND SECURELY ATTACH IT TO THE WEIR.
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- PLACE THE ASSEMBLY AGAINST THE INLET THROAT AND NAIL TO 2X4 ANCHORS (MINIMUM 2 FOOT LENGTHS OF 2x4 INCH TO THE TOP OF THE WEIR AT SPACER LOCATIONS). EXTEND 2X4 ANCHORS ACROSS THE INLET TOP AND HOLD IN PLACE BY SANDBAGS OR OTHER APPROVED ANCHORING METHOD.
- INSTALL END SPACERS A MINIMUM OF 1 FOOT BEYOND BOTH ENDS OF THE THROAT OPENING.
- FORM THE 1/2 INCH HARDWARE CLOTH AND THE GEOTEXTILE TO THE CONCRETE GUTTER AND AGAINST THE FACE OF THE CURB ON BOTH SIDES OF THE INLET. PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE OVER THE HARDWARE CLOTH AND GEOTEXTILE IN SUCH A MANNER TO PREVENT WATER FROM ENTERING THE INLET UNDER OR AROUND THE GEOTEXTILE.
- AT NON-SUMP LOCATIONS, INSTALL A TEMPORARY SANDBAG OR ASPHALT BERM TO PREVENT INLET BYPASS.
- STORM DRAIN INLET PROTECTION REQUIRES FREQUENT MAINTENANCE. REMOVE ACCUMULATED SEDIMENT AFTER EACH RAIN EVENT TO MAINTAIN FUNCTION AND AVOID PREMATURE CLOGGING. IF INLET PROTECTION DOES NOT COMPLETELY DRAIN WITHIN 24 HOURS AFTER A STORM EVENT, IT IS CLOGGED. WHEN THIS OCCURS, REMOVE ACCUMULATED SEDIMENT AND CLEAN, OR REPLACE GEOTEXTILE AND STONE.

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

DETAIL F-1 REMOVABLE PUMPING STATION

STANDARD SYMBOL: RPS

CONSTRUCTION SPECIFICATIONS

- USE CORRUGATED METAL OR PLASTIC PIPE WITH 1 INCH DIAMETER PERFORATIONS 6 INCHES ON CENTER.
- USE A MINIMUM 12 INCH DIAMETER INNER PIPE WITH AN OUTER PIPE A MINIMUM 6 INCHES LARGER IN DIAMETER. BOTTOM OF EACH PIPE MUST BE CAPPED WITH WATERTIGHT SEAL.
- WRAP EACH PIPE WITH 1/2 INCH GALVANIZED HARDWARE CLOTH. ON INNER PIPE WRAP NONWOVEN GEOTEXTILE, AS SPECIFIED IN SECTION H-1 MATERIALS, OVER THE HARDWARE CLOTH.
- EXCAVATE 8 FEET X 8 FEET X 4 FEET DEEP PIT FOR PIPE PLACEMENT. PLACE CLEAN 3/4 TO 1 1/2 INCH STONE OR EQUIVALENT RECYCLED CONCRETE, 6 INCHES IN DEPTH PRIOR TO PIPE PLACEMENT.
- SET TOP OF INNER AND OUTER PIPES MINIMUM 12 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION (OR RISER CREST ELEVATION WHEN DEWATERING A BASIN).
- BACKFILL PIT AROUND THE OUTER PIPE WITH 3/4 TO 1 1/2 INCH CLEAN STONE OR EQUIVALENT RECYCLED CONCRETE AND EXTEND STONE A MINIMUM OF 6 INCHES ABOVE ANTICIPATED WATER SURFACE ELEVATION.
- DISCHARGE TO A STABLE AREA AT A NONEROSIVE RATE.
- A REMOVABLE PUMPING STATION REQUIRES FREQUENT MAINTENANCE. IF SYSTEM CLOGS, PULL OUT INNER PIPE AND REPLACE GEOTEXTILE. KEEP POINT OF DISCHARGE FREE OF EROSION.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

DETAIL F-4 FILTER BAG

STANDARD SYMBOL: FB

CONSTRUCTION SPECIFICATIONS

- TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
- PLACE FILTER BAG ON SUITABLE BASE (E.G. MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
- CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
- REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
- USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4633
FLOW RATE	70 GAL/MIN/FT ²	ASTM D-4491
PERMITTIVITY (SEC ⁻¹)	1.2 SEC ⁻¹	ASTM D-4491
UV RESISTANCE	70% RESISTANCE @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

- REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL

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

GP# G02018957 DWG. NO.: ESN-005

AECOM

4 NORTH PARK DRIVE
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HUNT VALLEY, MARYLAND 21030
PHONE: 410-785-7220
FAX: 410-785-6818

PROFESSIONAL CERTIFICATION

I CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND.

MD LICENSE NUMBER: 53587

EXPIRATION DATE: 12-09-2024

06/08/2023

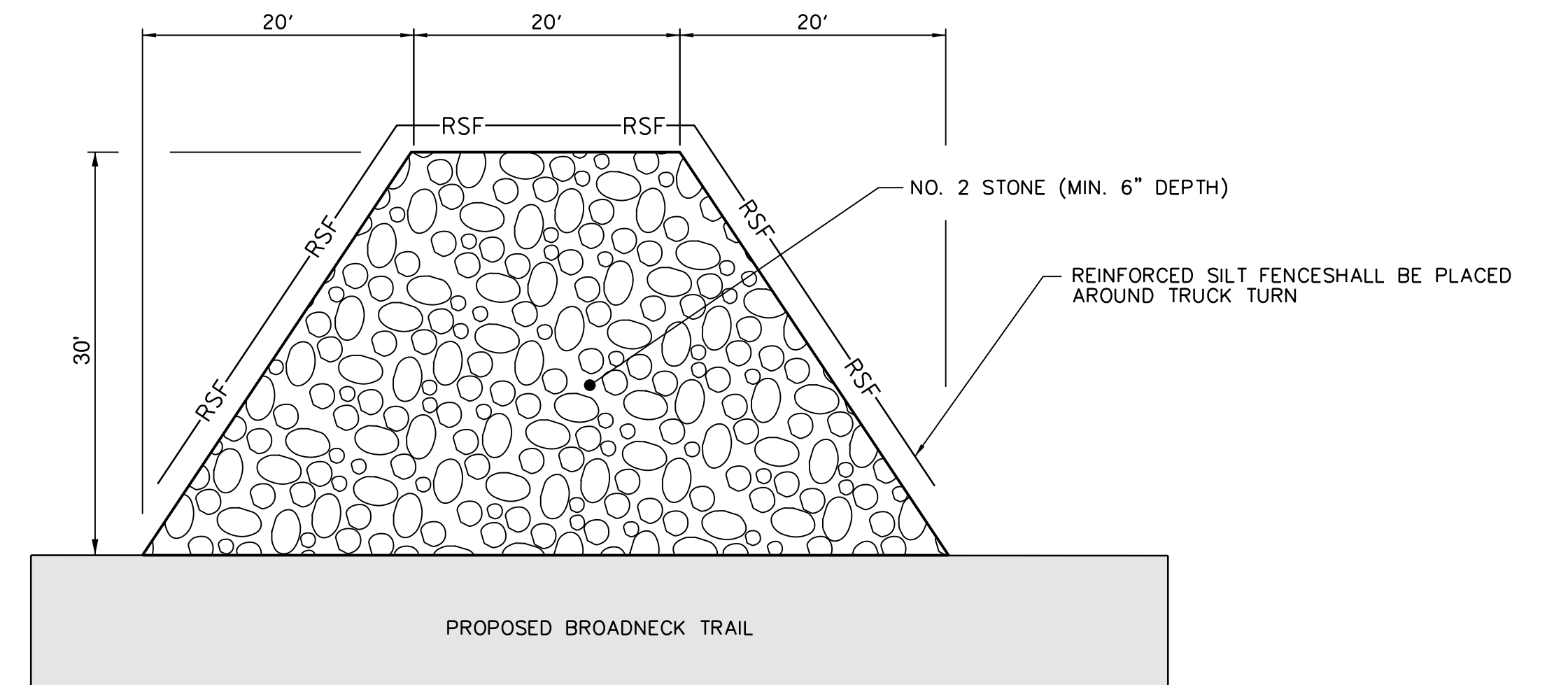
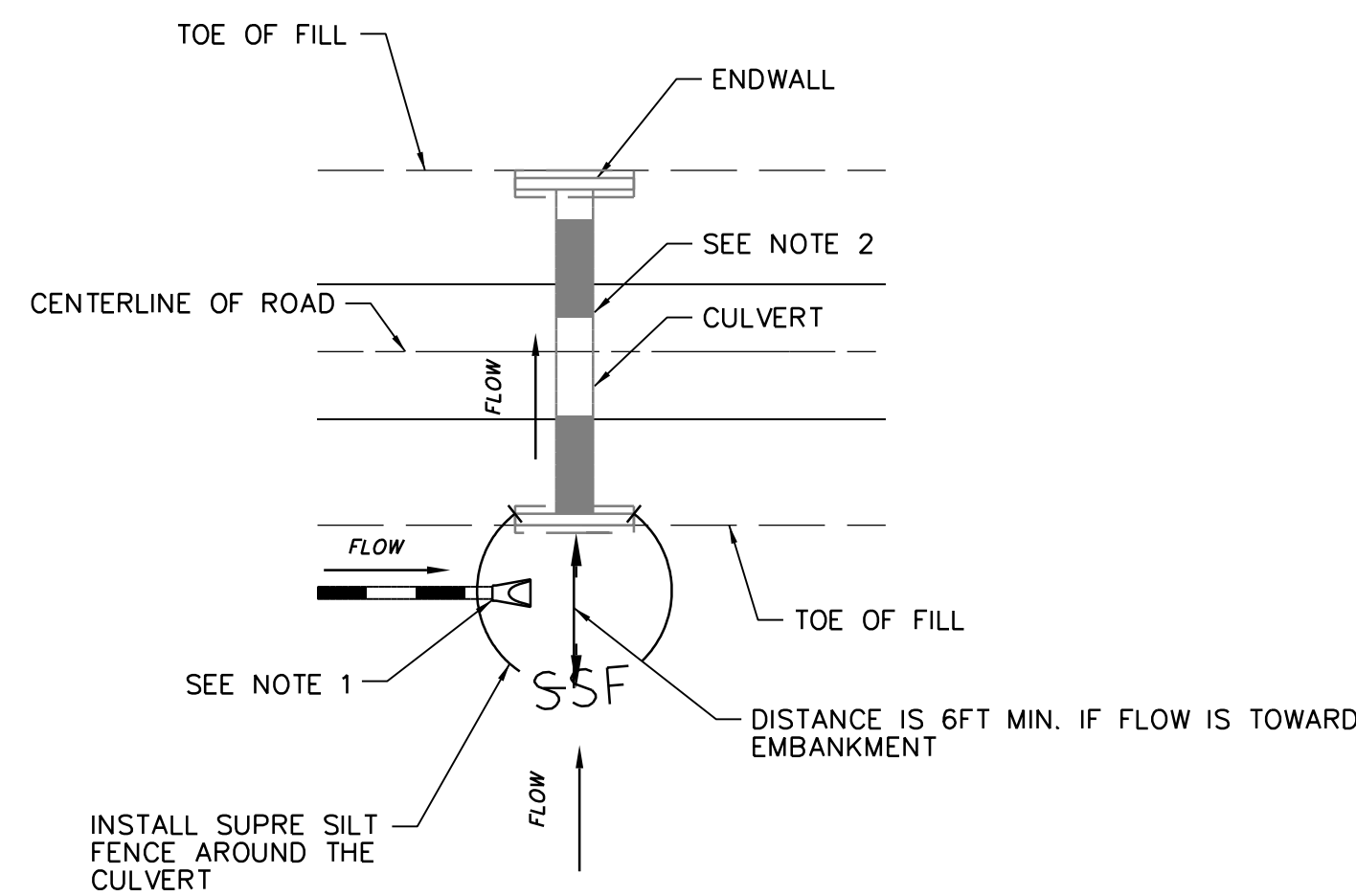
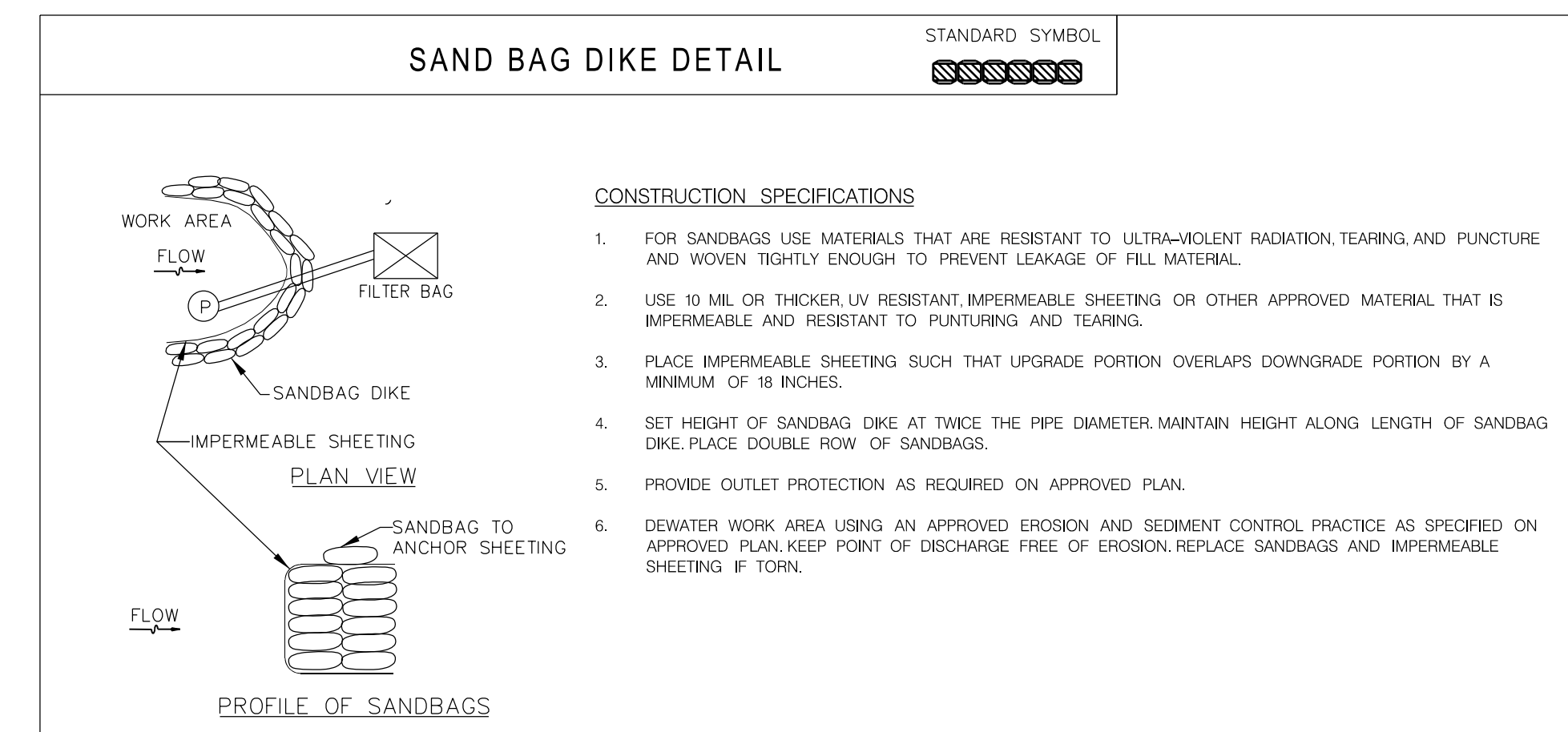
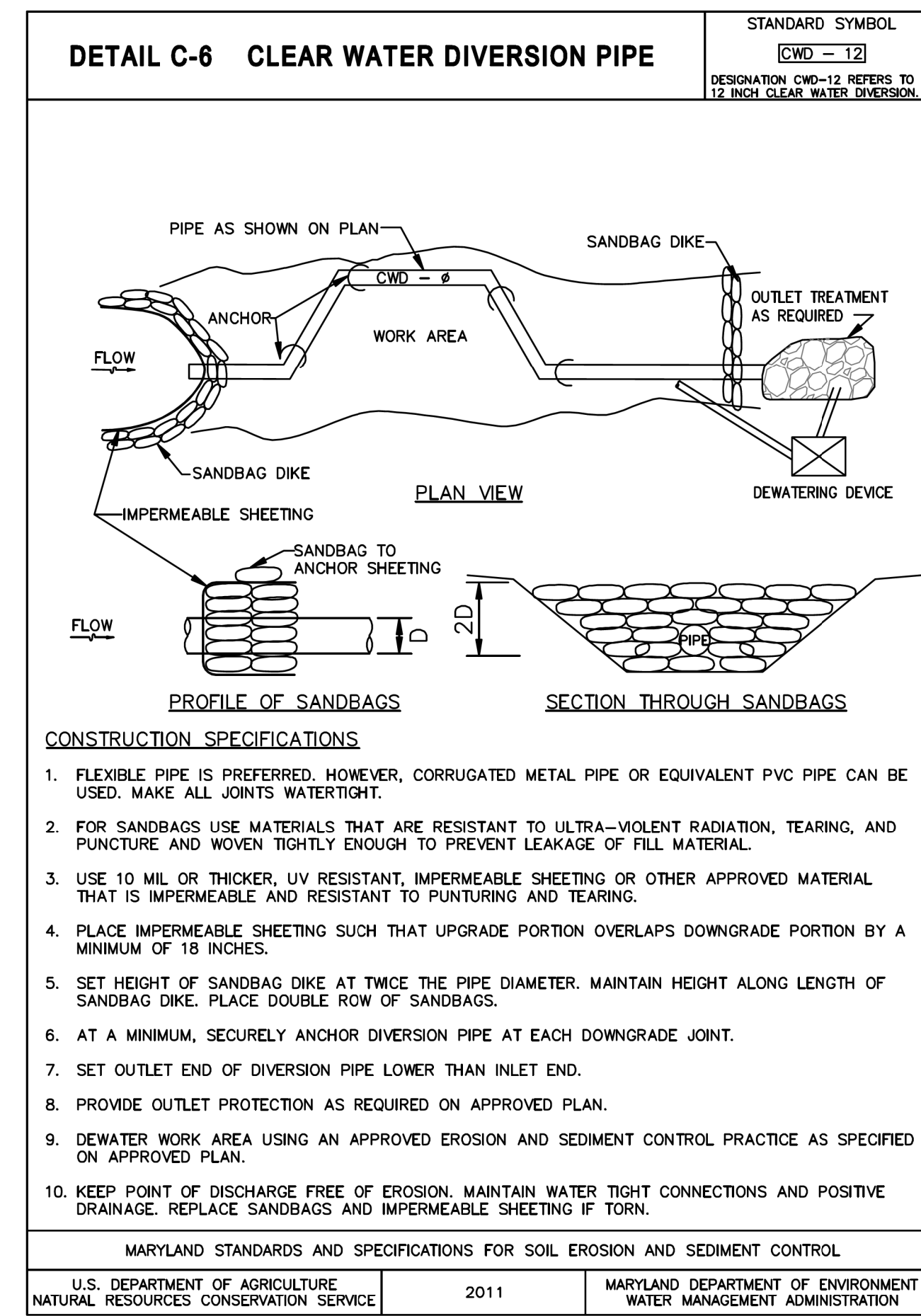
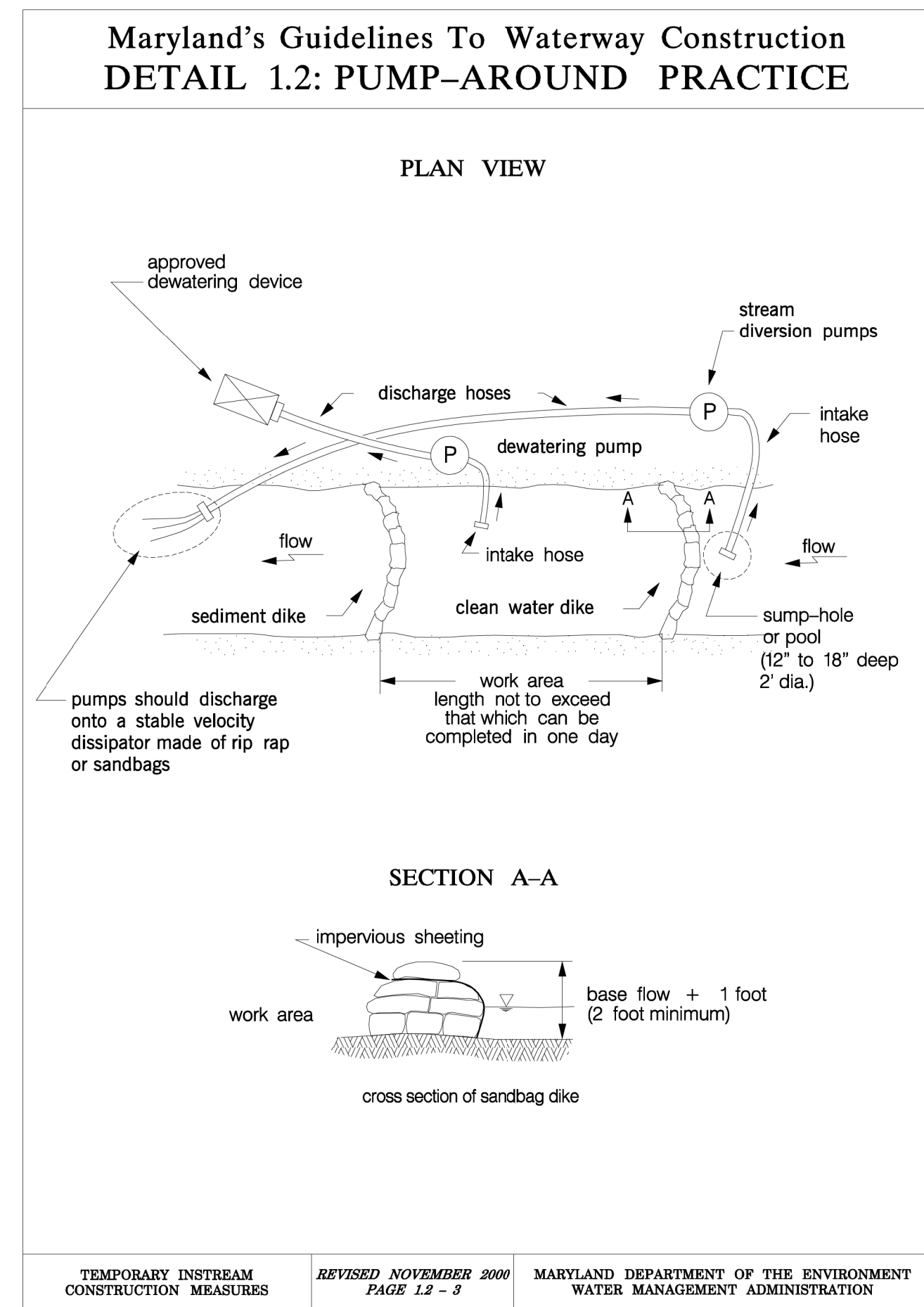
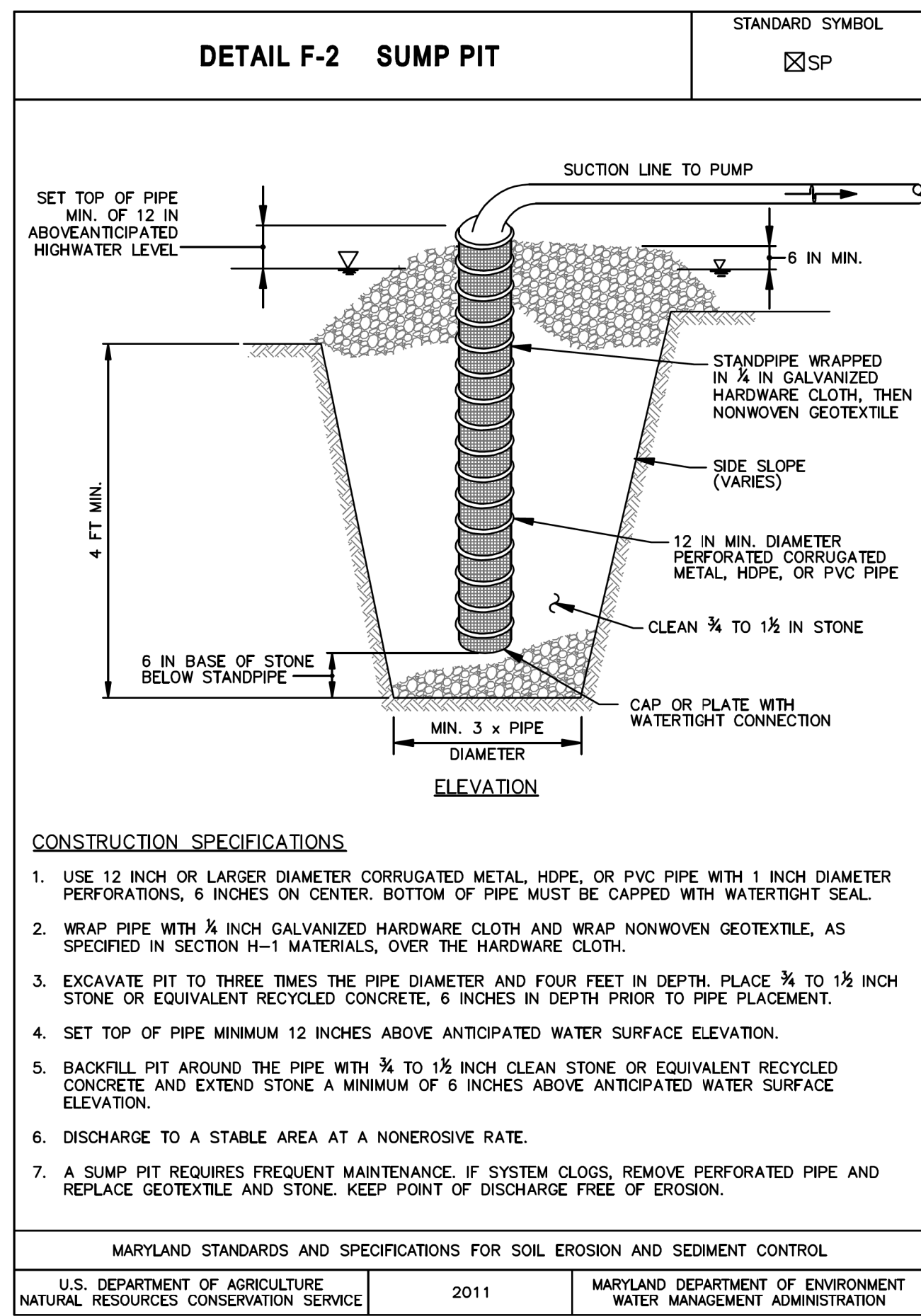
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

DATE	APPROVED	DATE	SCALE: AS NOTED
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	CHIEF ENGINEER		CHECKED BY: DMT
			SHEET NO. 95 OF 116
11/17/2023 11:56 EST		11/17/2023 18:30	PROJECT NO. P504100
	ASSISTANT CHIEF ENGINEER		CONTRACT NO. P504105

BROADNECK PENINSULA TRAIL
PHASE IB & V

EROSION AND SEDIMENT CONTROL NOTES & DETAILS



AECOM

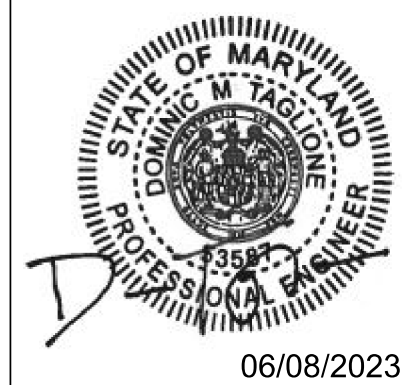
AECOM
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ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	11/20/2023 08:59 EST		11/17/2023 08:00 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	11/17/2023 11:56 EST		11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

GP# G02018957 | DWG. NO.: ESN-06

SCALE: AS NOTED

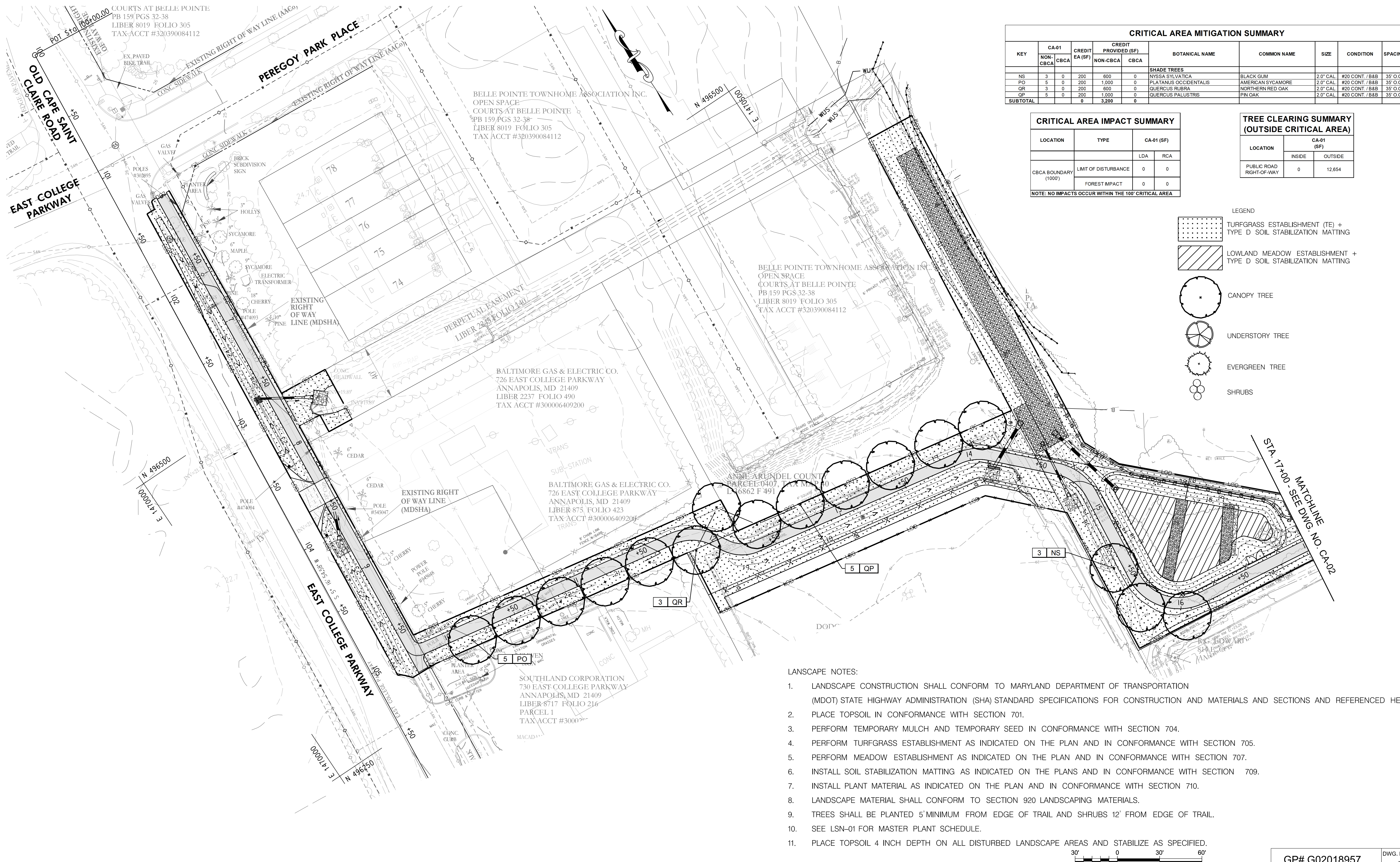
BROADNECK PENINSULA TRAIL PHASE IB & V

EROSION AND SEDIMENT CONTROL NOTES & DETAILS

SHEET NO. 96 OF 116

PROJECT NO. P504100

CONTRACT NO. P504105



CRITICAL AREA MITIGATION SUMMARY											
KEY	CA-01		CREDIT EA (SF)		CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA	NON-CBCA	CBCA	NON-CBCA	CBCA					
SHADE TREES											
NS	3	0	200	600	0	0	NYSSA SYLVATICA	BLACK GUM	2.0' CAL	#20 CONT / B&B	35' O.C.
PO	5	0	200	1,000	0	0	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0' CAL	#20 CONT / B&B	35' O.C.
QR	3	0	200	600	0	0	QUERCUS RUBRA	NORTHERN RED OAK	2.0' CAL	#20 CONT / B&B	35' O.C.
QP	5	0	200	1,000	0	0	QUERCUS PALUSTRIS	PN OAK	2.0' CAL	#20 CONT / B&B	35' O.C.
SUBTOTAL			0	3,200	0	0					

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-01 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA.

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-01 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	12,654

LEGEND

- TURFGRASS ESTABLISHMENT (TE) + TYPE D SOIL STABILIZATION MATTING
- LOWLAND MEADOW ESTABLISHMENT + TYPE D SOIL STABILIZATION MATTING
- CANOPY TREE
- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUBS

- LANDSCAPE NOTES:
- LANDSCAPE CONSTRUCTION SHALL CONFORM TO MARYLAND DEPARTMENT OF TRANSPORTATION (MDOT) STATE HIGHWAY ADMINISTRATION (SHA) STANDARD SPECIFICATIONS FOR CONSTRUCTION AND MATERIALS AND SECTIONS AND REFERENCED HEREIN.
 - PLACE TOPSOIL IN CONFORMANCE WITH SECTION 701.
 - PERFORM TEMPORARY MULCH AND TEMPORARY SEED IN CONFORMANCE WITH SECTION 704.
 - PERFORM TURFGRASS ESTABLISHMENT AS INDICATED ON THE PLAN AND IN CONFORMANCE WITH SECTION 705.
 - PERFORM MEADOW ESTABLISHMENT AS INDICATED ON THE PLAN AND IN CONFORMANCE WITH SECTION 707.
 - INSTALL SOIL STABILIZATION MATTING AS INDICATED ON THE PLANS AND IN CONFORMANCE WITH SECTION 709.
 - INSTALL PLANT MATERIAL AS INDICATED ON THE PLAN AND IN CONFORMANCE WITH SECTION 710.
 - LANDSCAPE MATERIAL SHALL CONFORM TO SECTION 920 LANDSCAPING MATERIALS.
 - TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.
 - SEE LSN-01 FOR MASTER PLANT SCHEDULE.
 - PLACE TOPSOIL 4 INCH DEPTH ON ALL DISTURBED LANDSCAPE AREAS AND STABILIZE AS SPECIFIED.



GP# G02018957 DWG. NO.: CA-01

AECOM

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DEPARTMENT OF PUBLIC WORKS

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ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		CONTRACT NO. P504105

VEGETATION MANAGEMENT PLAN

ZETTICA WILSON
 PARCEL 470, LOT 1,
 TAX MAP 40
 L 31786 F 138
 Plat Ref: 4924/ 281
 1502 STACEY LN
 TAX ACCT #
 0300090067628

DENNIS RYAN MYERS
 JULIANNE T. SULLIVAN
 PARCEL 470, LOT 2 TAX MAP 40
 L 26946 F 500
 Plat Ref: 4924/ 281
 1500 STACEY LN
 TAX ACCT #300090035947

FRANCESCO RISTAINO
 PARCEL 273, TAX MAP 40
 L 6470 F 614
 1505 STACEY LN
 TAX ACCT #300021360900

ANNE ARUNDEL COUNTY
 PARCEL 0162, TAX
 L 36642 F 355
 STACEY LN
 TAX ACCT #300090

ANNE ARUNDEL COUNTY
 PARCEL 0368, TAX MAP 40
 L 38350 F 437
 STACEY LN
 TAX ACCT #

ROSZELL PROPERTIES LLC
 PARCEL 368, TAX MAP 40
 L 14706 F 156
 818 E COLLEGE PKY
 TAX ACCT #300090020179

ARTHUR J. CERASANI, JR.
 & LIGITA CERASANI
 824 E. COLLEGE PARKWAY
 ANNAPOLIS, MD 21409
 LIBER 2481 FOLIO 313
 TAX ACCT #300017902850

REVELL DOWNS ASSOCIATION INC.
 LIBER 3546 FOLIO 504
 RECREATION AREA
 REVELL DOWNS SECTION 1
 PB 63 PG 39
 TAX ACCT #368490012397

NADEEM ASHRAF
 1658 FOLIO 134 PLEASURE INC
 ANNAPOLIS, MD 21409
 LIBER 20784 FOLIO 133
 LOT 16-B
 REVELL DOWNS SECT. 1
 PB 63 PG 39
 TAX ACCT #368490012433

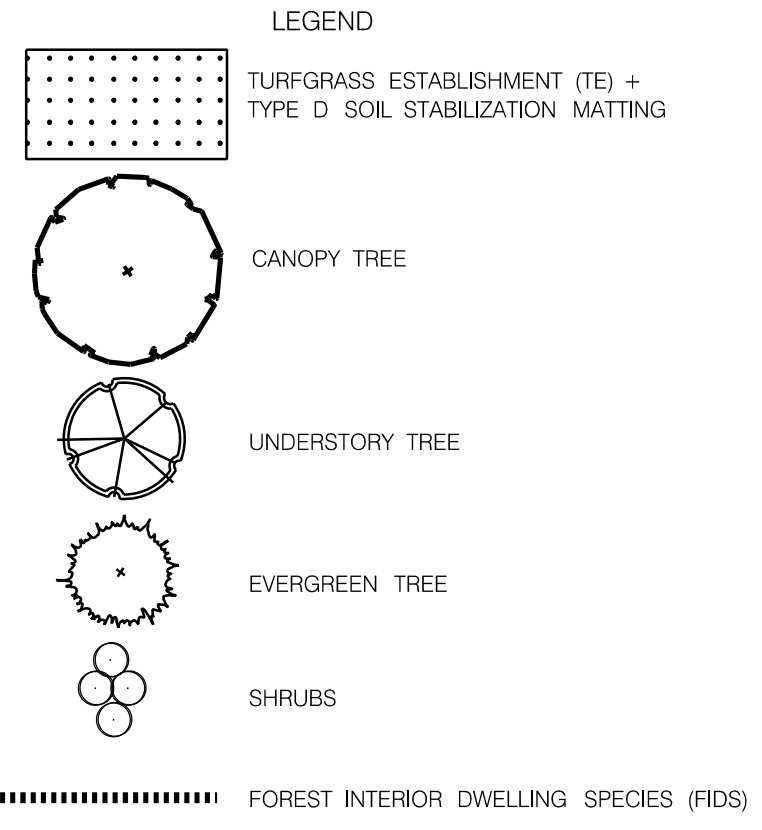
JOHN K. TULLY
 1660 FOLIO 134 PLEASURE
 ANNAPOLIS, MD 21409
 LIBER 27012 FOLIO 476
 LOT 15-B
 REVELL DOWNS SECT. 1
 PB 63 PG 39
 TAX ACCT #368490012432

PAUL A. TRUDEAU
 1661 FOLIO 134 PLEASURE
 ANNAPOLIS, MD 21409
 LIBER 3339 FOLIO 260
 LOT 15-B
 REVELL DOWNS SECT. 1
 PB 63 PG 39
 TAX ACCT #368490012431

CRITICAL AREA MITIGATION SUMMARY										
KEY	CA-02		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	1	0	200	200	0	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0" CAL.	#20 CONT. / B&B	35' O.C.
PO	5	0	200	1,000	0	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0" CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL				1,200	0					
UNDERSTORY TREES										
AC	7	0	75	525	0	AMELANCHIER CANADENSIS	SERVICEBERRY	6" HT.	#7 CONT.	20' O.C.
CCA	5	0	75	375	0	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL.	#7 CONT.	20' O.C.
CF	8	0	75	600	0	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL				1,500	0					
TOTAL				2,700	0					

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-02 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0
NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA			

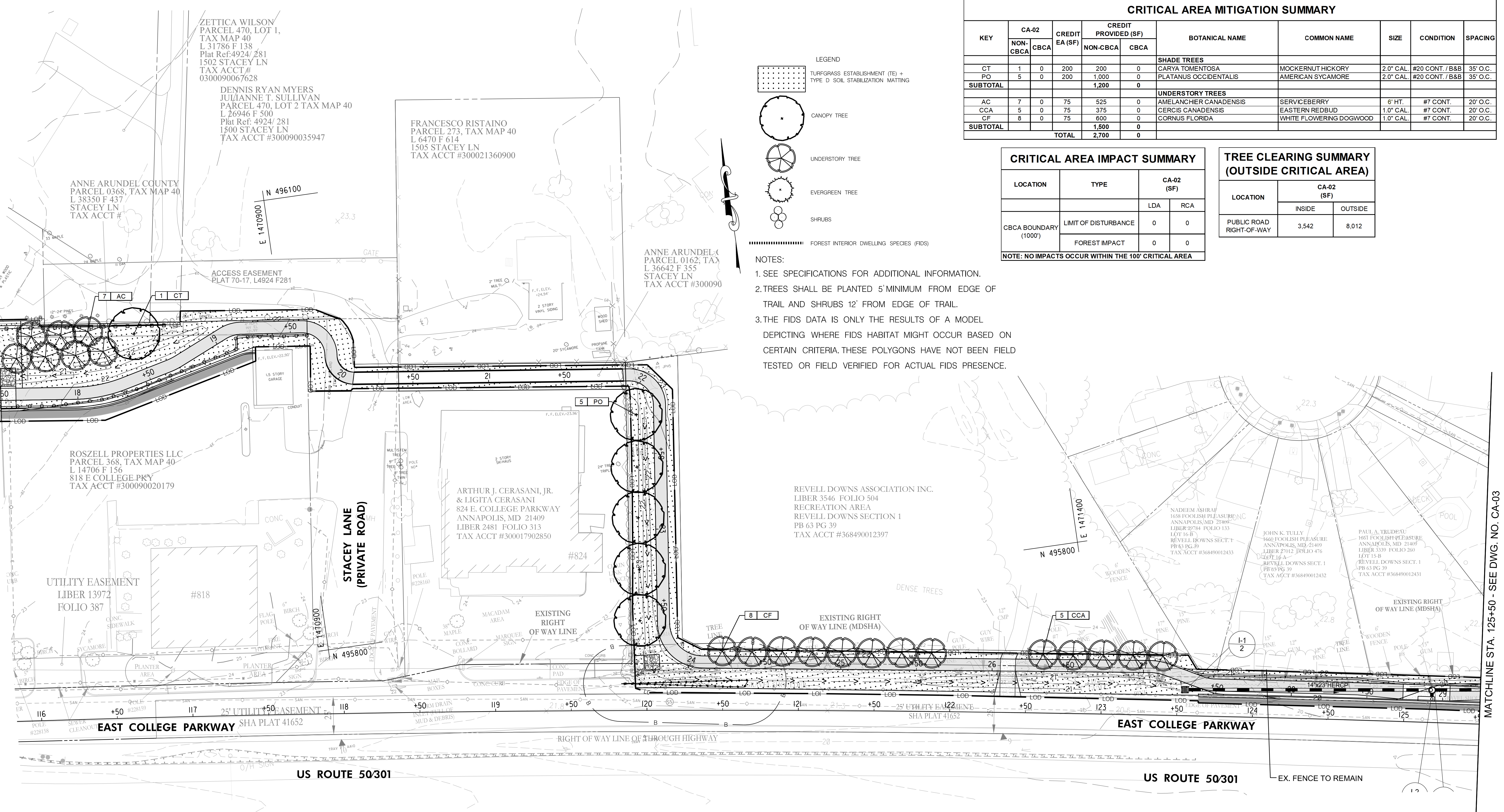
TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-02 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	3,542	8,012



- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.
 - THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.

MATCHLINE STA. 17+00 - SEE DWG. NO. CA-01

MATCHLINE STA. 125+50 - SEE DWG. NO. CA-03



GP# G02018957

DWG. NO.: CA-02

AECOM

AECOM
 4 NORTH PARK DRIVE
 SUITE 300
 HUNT VALLEY, MARYLAND 21030
 PHONE: 410-785-7220
 FAX: 410-785-6818



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/20/2023 08:59 EST	<i>[Signature]</i>	11/17/2023 08:59 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/17/2023 11:56 EST	<i>[Signature]</i>	11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

SCALE: AS NOTED

DRAWN BY: TH

CHECKED BY: RK

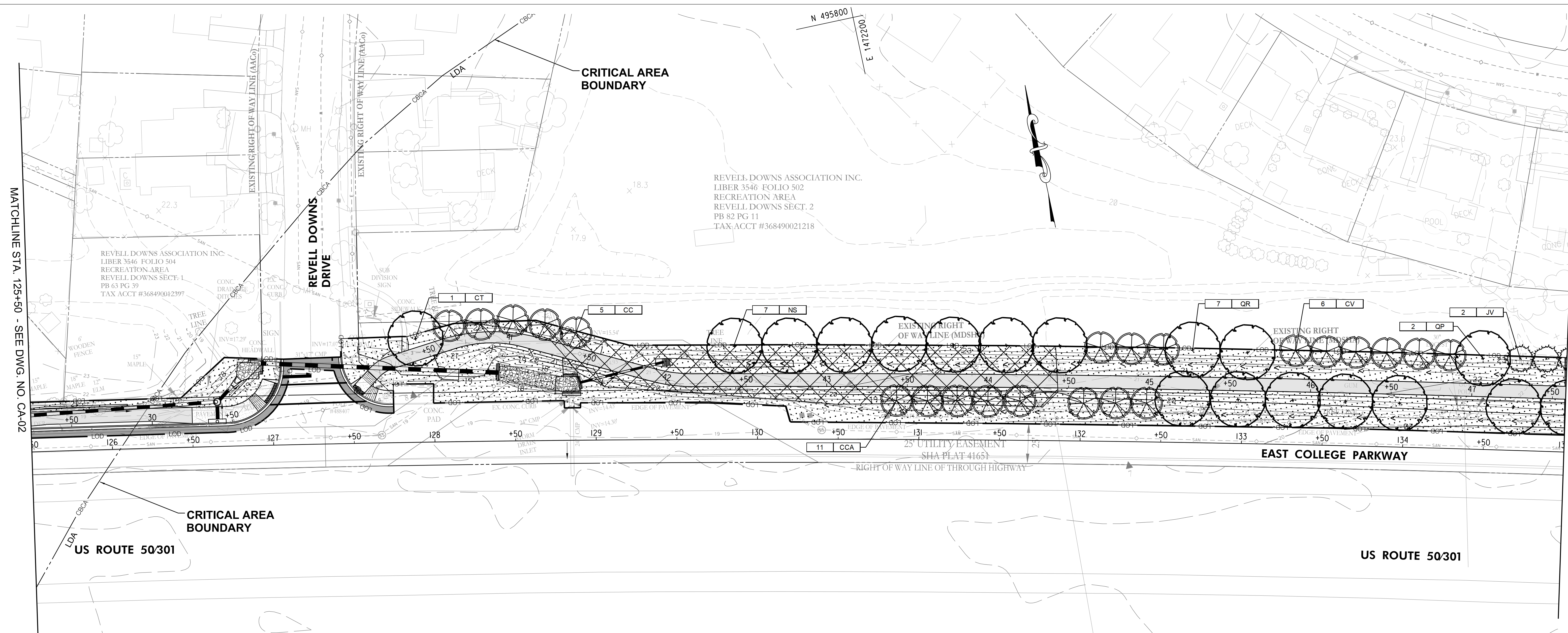
SHEET NO. 98 OF 116

PROJECT NO. P504100

CONTRACT NO. P504105

BROADNECK PENINSULA TRAIL PHASE IB & V

VEGETATION MANAGEMENT PLAN



MATCHLINE STA. 125+50 - SEE DWG. NO. CA-02

MATCHLINE STA. 135+00 - SEE DWG. NO. CA-04

REVELL DOWNS ASSOCIATION INC.
LIBER 3546 FOLIO 504
RECREATION AREA
REVELL DOWNS SECT. 2
PB 82 PG 11
TAX ACCT #368490021218

REVELL DOWNS ASSOCIATION INC.
LIBER 3546 FOLIO 504
RECREATION AREA
REVELL DOWNS SECT. 1
PB 63 PG 39
TAX ACCT #368490012397

CRITICAL AREA MITIGATION SUMMARY

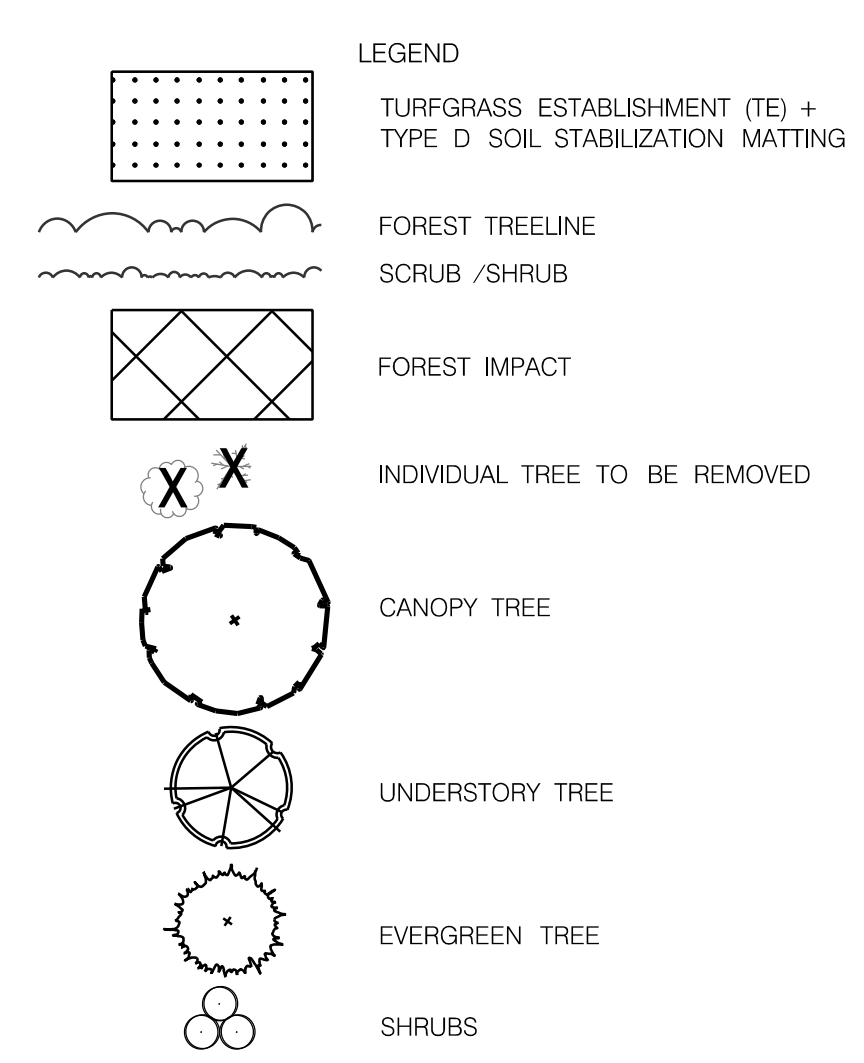
KEY	CA-03		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	0	1	200	0	200	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0" CAL	#20 CONT. / B&B	35' O.C.
NS	0	7	200	0	1,400	NYSSA SYLVATICA	BLACK GUM	2.0" CAL	#20 CONT. / B&B	35' O.C.
QR	0	7	200	0	1,400	QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL	#20 CONT. / B&B	35' O.C.
QP	0	2	200	0	400	QUERCUS PALUSTRIS	PIN OAK	2.0" CAL	#20 CONT. / B&B	35' O.C.
SUBTOTAL			0	0	3,400					
EVERGREEN TREES										
JV	0	2	75	0	150	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6' HT.	#10 CONT.	15' O.C.
SUBTOTAL			0	0	150					
UNDERSTORY TREES										
CC	0	5	75	0	375	CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0" CAL	#7 CONT.	20' O.C.
CCA	0	11	75	0	825	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL	#7 CONT.	20' O.C.
CV	0	6	75	0	450	CHIONANTHUS VIRGINICUS	FRNGE TREE	1.0" CAL	#7 CONT.	20' O.C.
SUBTOTAL			0	0	1,650					
			0	0	5,200					

CRITICAL AREA IMPACT SUMMARY

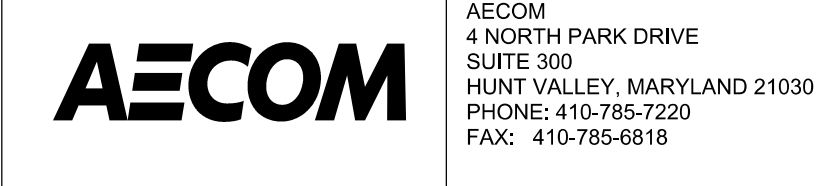
LOCATION	TYPE	CA-03 (SF)	LDA	RCA
CBCA BOUNDARY (100')	LIMIT OF DISTURBANCE	37,854	0	
	FOREST IMPACT	10,481	0	
NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA				

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)

LOCATION	CA-03 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	544	0



- NOTES:**
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.



REVISIONS			
NO.	DESCRIPTION	BY	DATE

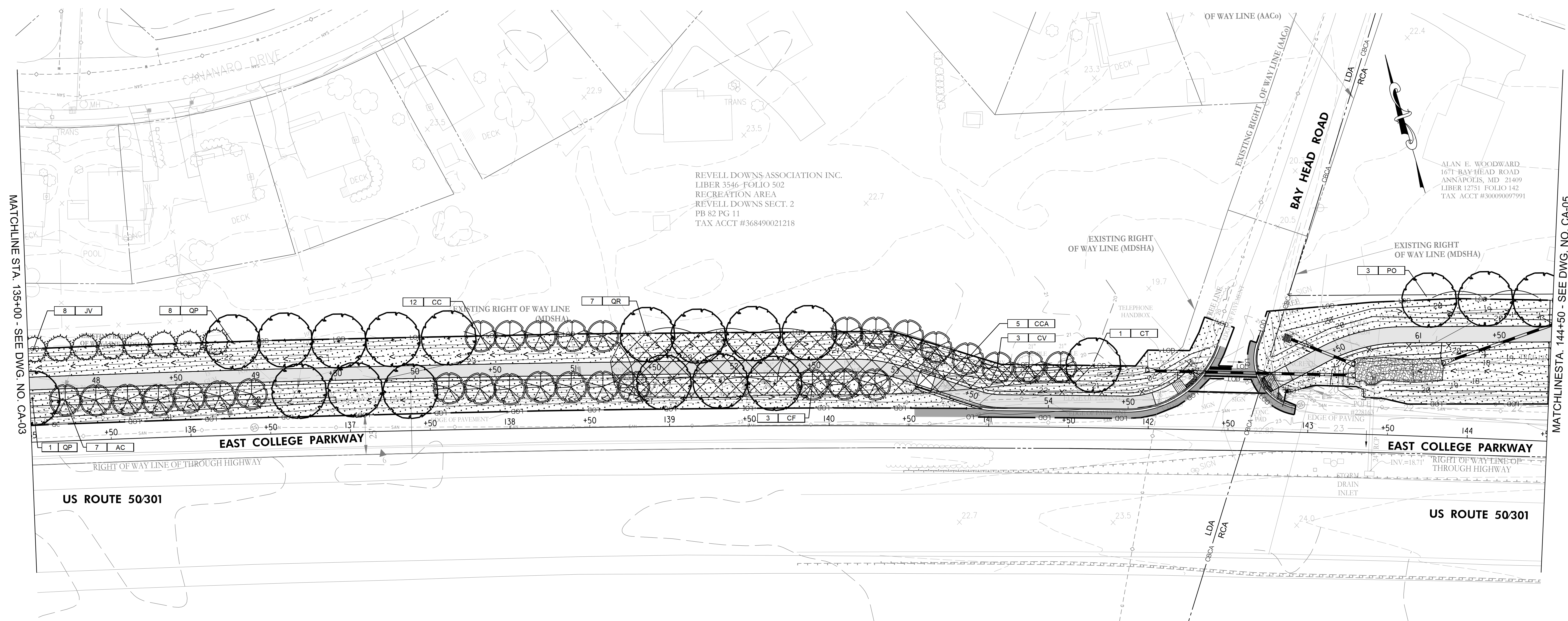
ANNE ARUNDEL COUNTY
DEPARTMENT OF PUBLIC WORKS

APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED
<i>[Signature]</i>	11/20/2023 08:59 EST	<i>[Signature]</i>	11/17/2023 08:00 EST	DRAWN BY: TH
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: RK
APPROVED	DATE	APPROVED	DATE	SHEET NO. 99 OF 116
<i>[Signature]</i>	11/17/2023 11:56 EST	<i>[Signature]</i>	11/17/2023 18:30 EST	PROJECT NO. P504100
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		CONTRACT NO. P504105

VEGETATION MANAGEMENT PLAN



GP# G02018957 DWG. NO.: CA-03



MATCHLINE STA. 135+00 - SEE DWG. NO. CA-03

MATCHLINE STA. 144+50 - SEE DWG. NO. CA-05

REVELL DOWNS ASSOCIATION INC.
LIBER 3546-FOLIO 502
RECREATION AREA
REVELL DOWNS SECT. 2
PB 82 PG 11
TAX ACCT #368490021218

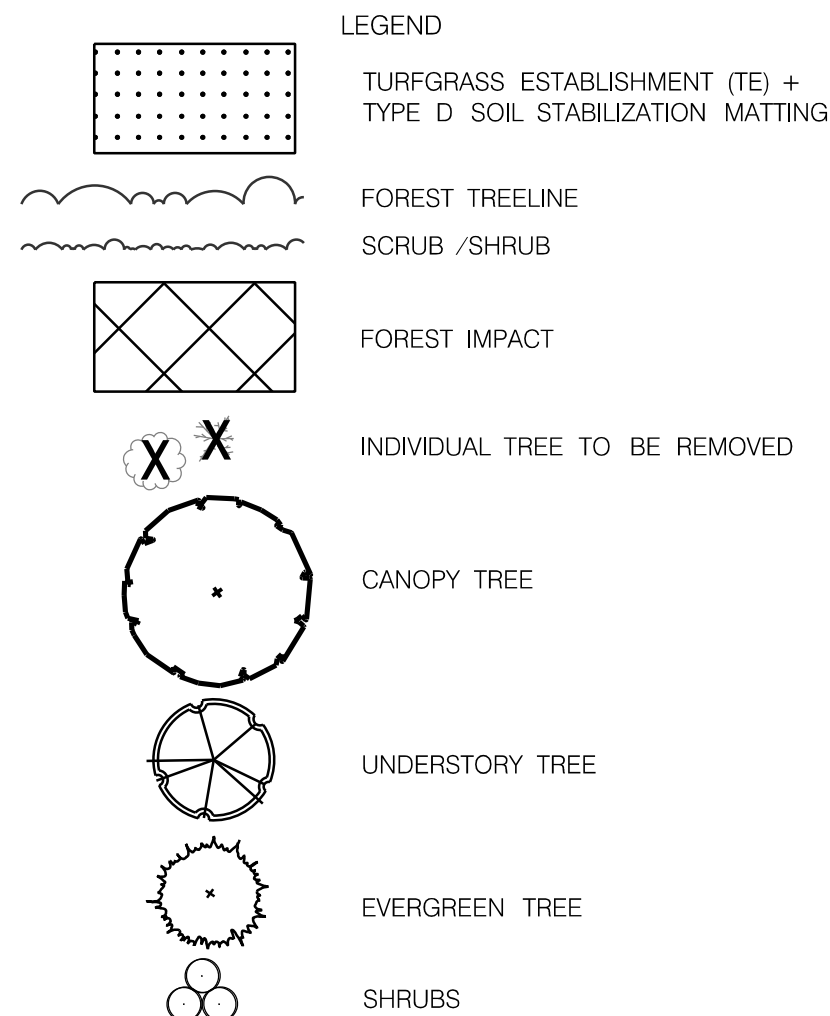
ALAN E. WOODWARD
1671 BAY HEAD ROAD
ANNAPOLIS, MD 21409
LIBER 12751 FOLIO 142
TAX ACCT #300090097991

CRITICAL AREA MITIGATION SUMMARY										
KEY	CA-04		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	0	1	200	0	200	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0' CAL.	#20 CONT. / B&B	35' O.C.
PO	0	3	200	0	600	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0' CAL.	#20 CONT. / B&B	35' O.C.
QR	0	7	200	0	1,400	QUERCUS RUBRA	NORTHERN RED OAK	2.0' CAL.	#20 CONT. / B&B	35' O.C.
QP	0	9	200	0	1,800	QUERCUS PALUSTRIS	PIN OAK	2.0' CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL				0	4,000					
EVERGREEN TREES										
JV	0	8	75	0	600	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	6' HT.	#10 CONT.	15' O.C.
SUBTOTAL				0	600					
UNDERSTORY TREES										
AC	0	7	75	0	525	AMELANCHIER CANADENSIS	SERVICEBERRY	6' HT.	#7 CONT.	20' O.C.
CC	0	12	75	0	900	CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0' CAL.	#7 CONT.	20' O.C.
CCA	0	5	75	0	375	CERCIS CANADENSIS	EASTERN REDBUD	1.0' CAL.	#7 CONT.	20' O.C.
CV	0	3	75	0	225	CHIONANTHUS VIRGINICUS	FRINGE TREE	1.0' CAL.	#7 CONT.	20' O.C.
CF	0	3	75	0	225	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0' CAL.	#7 CONT.	20' O.C.
SUBTOTAL				0	2,250					
SUBTOTAL				0	6,850					

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-04 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	34,062	10,682
	FOREST IMPACT	9,289	4,665

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-04 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0



NOTES:

- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/20/2023	<i>[Signature]</i>	11/17/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/17/2023	<i>[Signature]</i>	11/17/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	

GP# G02018957 DWG. NO.: CA-04

SCALE: AS NOTED

BROADNECK PENINSULA TRAIL PHASE IB & V

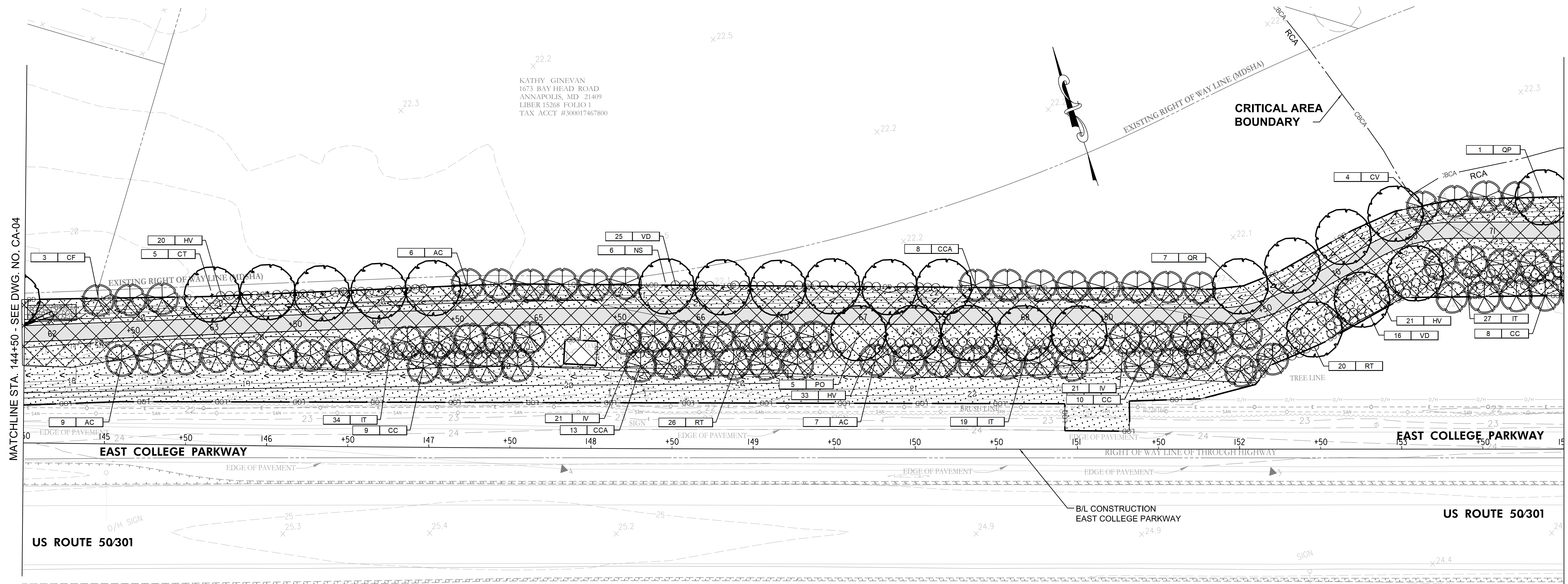
VEGETATION MANAGEMENT PLAN

SHEET NO. 100 OF 116

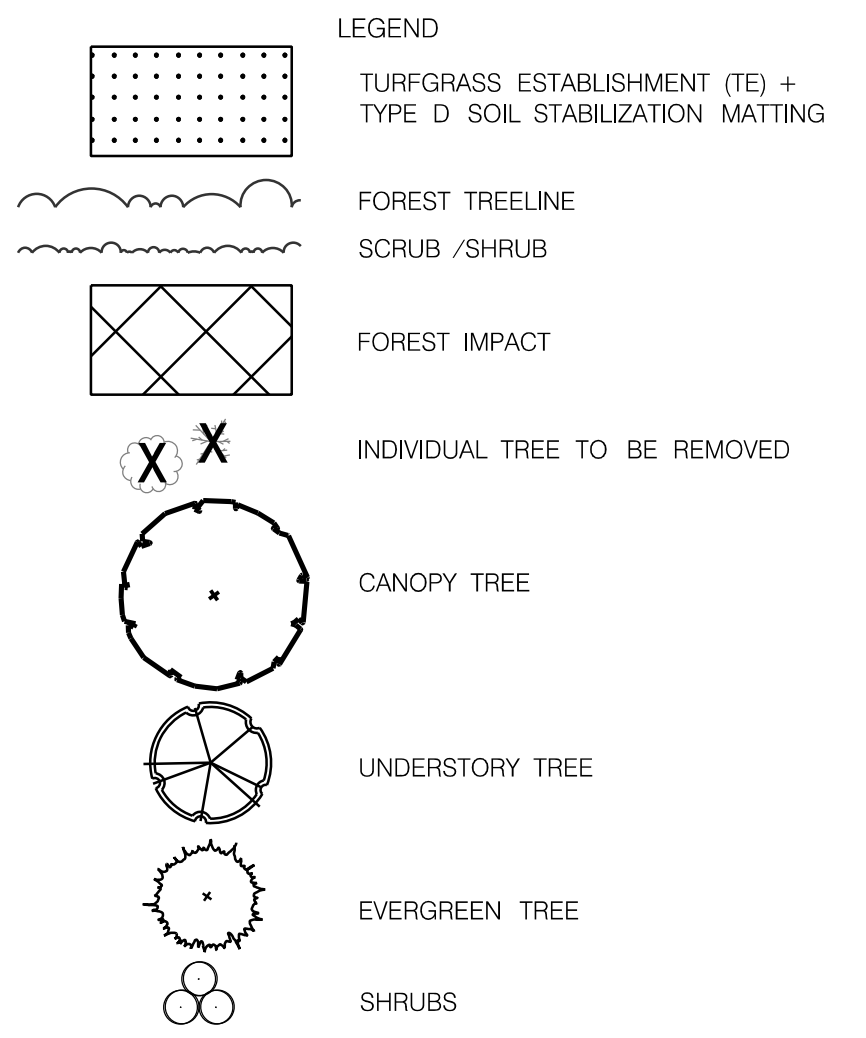
PROJECT NO. P504100

CONTRACT NO. P504105





CRITICAL AREA MITIGATION SUMMARY										
KEY	CA-05		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	0	5	200	0	1,000	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0" CAL.	#20 CONT. / B&B	35' O.C.
NS	0	6	200	0	1,200	NYSSA SYLVATICA	BLACK GUM	2.0" CAL.	#20 CONT. / B&B	35' O.C.
PO	0	5	200	0	1,000	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QR	0	7	200	0	1,400	QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QP	0	1	200	0	200	QUERCUS PALUSTRIS	PIN OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL				0	4,800					
UNDERSTORY TREES										
AC	0	22	75	0	1,650	AMELANCHIER CANADENSIS	SERVICEBERRY	6' HT.	#7 CONT.	20' O.C.
CC	0	27	75	0	2,025	CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0" CAL.	#7 CONT.	20' O.C.
CCA	0	21	75	0	1,575	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL.	#7 CONT.	20' O.C.
CV	0	4	75	0	300	CHIONANTHUS VIRGINICUS	FRINGE TREE	1.0" CAL.	#7 CONT.	20' O.C.
CF	0	3	75	0	225	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL				0	5,775					
SHRUBS										
HV	0	74	50	0	3,700	HAMAMELIS VIRGINIANA	WITCH HAZEL	48" HT.	#7 CONT.	5' O.C.
IT	0	80	50	0	4,000	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	48" HT.	#7 CONT.	5' O.C.
IV	0	42	50	0	2,100	ILEX VERTICILLATA	WINTERBERRY	48" HT.	#7 CONT.	5' O.C.
RT	0	46	50	0	2,300	RHUS TYPHINA	STAGHORN SUMAC	48" HT.	#7 CONT.	5' O.C.
VD	0	41	50	0	2,050	VIBURNUM DENTATUM	SOUTHERN ARROWWOOD	48" HT.	#7 CONT.	5' O.C.
SUBTOTAL				0	14,150					
				0	24,725					



CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-05 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	64,878
	FOREST IMPACT	0	49,011

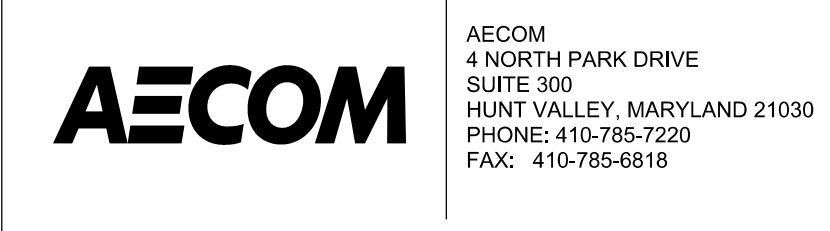
NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-05 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0



NOTES:

- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/20/2023 08:59 EST	<i>[Signature]</i>	11/17/2023 08:00 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/17/2023 11:56 EST	<i>[Signature]</i>	11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 101 OF 116	
PROJECT NO. P504100		VEGETATION MANAGEMENT PLAN	
CONTRACT NO. P504105			

GP# G02018957 DWG. NO.: CA-05

CRITICAL AREA MITIGATION SUMMARY

KEY	CA-06		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	0	7	200	0	1,400	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0" CAL.	#20 CONT. / B&B	35' O.C.
NS	0	5	200	0	1,000	NYSSA SYLVATICA	BLACK GUM	2.0" CAL.	#20 CONT. / B&B	35' O.C.
PO	6	2	200	1,200	400	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QR	5	2	200	1,000	400	QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QP	1	6	200	200	1,200	QUERCUS PALUSTRIS	PN OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL				2,400	4,400					
UNDERSTORY TREES										
AC	8	12	75	600	900	AMELANCHIER CANADENSIS	SERVICEBERRY	8" HT.	#7 CONT.	20' O.C.
CC	5	8	75	375	600	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	1.0" CAL.	#7 CONT.	20' O.C.
CCA	3	17	75	225	1,275	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL.	#7 CONT.	20' O.C.
CV	0	13	75	0	975	CHIONANTHUS VIRGINICUS	FRINGE TREE	1.0" CAL.	#7 CONT.	20' O.C.
CF	4	12	75	300	900	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL				1,500	4,650					
SHRUBS										
HV	0	56	50	0	2,800	HAMAMELIS VIRGINIANA	WITCH HAZEL	48" HT.	#7 CONT.	5' O.C.
IT	27	34	50	1,350	1,700	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	48" HT.	#7 CONT.	5' O.C.
IV	18	52	50	900	2,600	ILEX VERTICILLATA	WINTERBERRY	48" HT.	#7 CONT.	5' O.C.
RT	0	53	50	0	2,650	RHUS TYPHINA	STAGHORN SUMAC	48" HT.	#7 CONT.	5' O.C.
VD	0	56	50	0	2,800	VBURNUM DENTATUM	SOUTHERN ARROWWOOD	48" HT.	#7 CONT.	5' O.C.
SUBTOTAL				2,250	12,550					
				6,150	21,600					

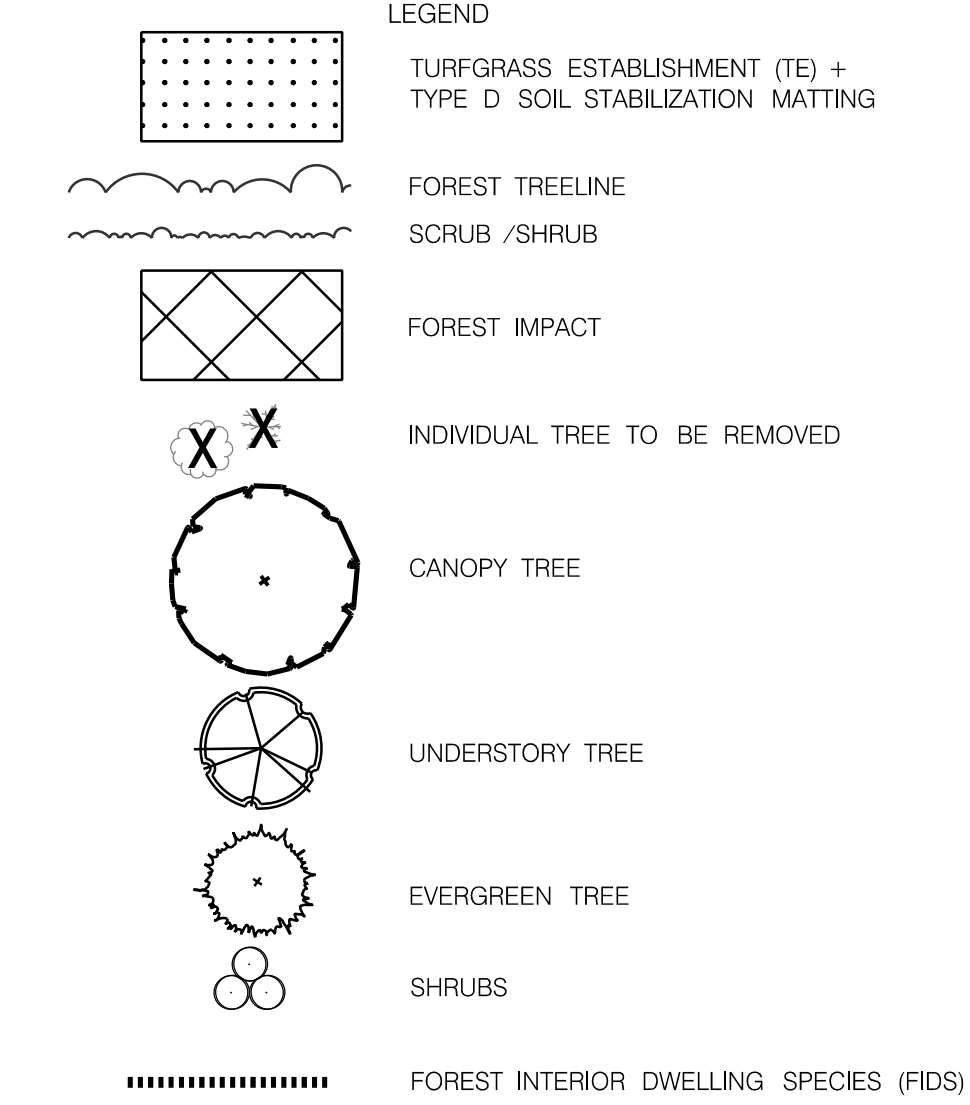
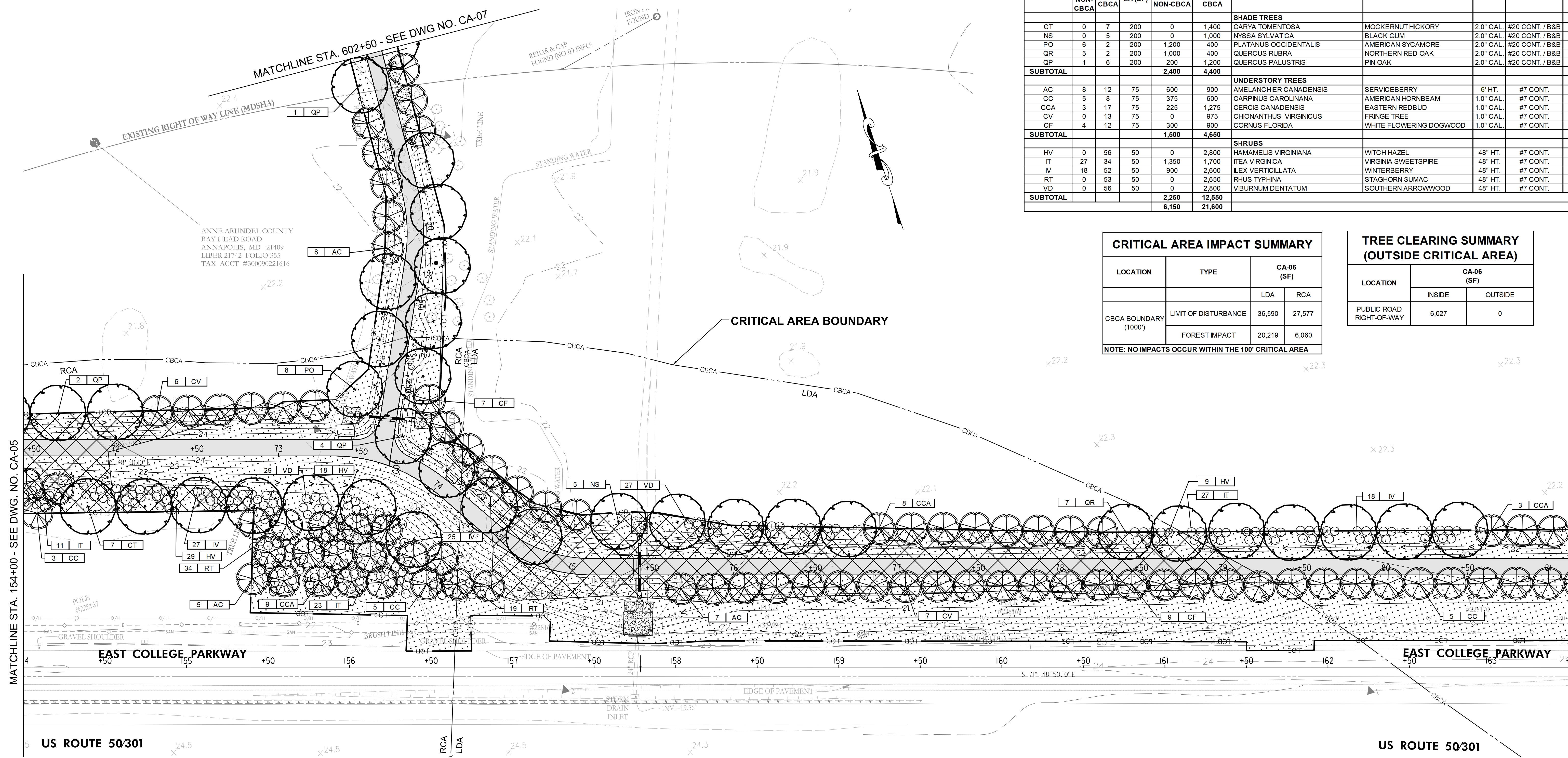
CRITICAL AREA IMPACT SUMMARY

LOCATION	TYPE	CA-06 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	36,590	27,577
	FOREST IMPACT	20,219	6,060

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)

LOCATION	CA-06 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	6,027	0



- ### NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.
 - THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.



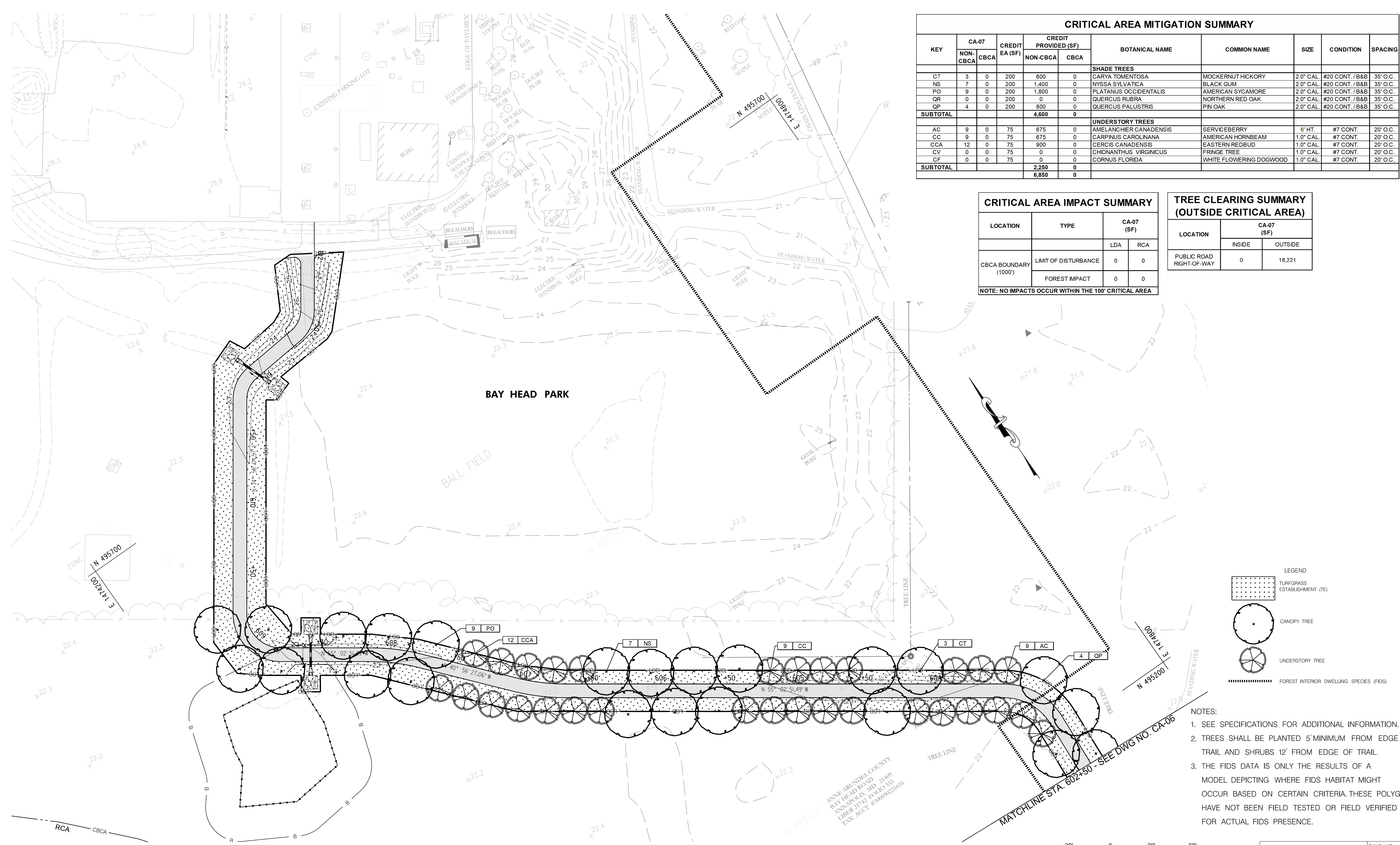
GP# G02018957 DWG. NO.: CA-06

AECOM
 AECOM
 4 NORTH PARK DRIVE
 SUITE 300
 HUNT VALLEY, MARYLAND 21030
 PHONE: 410-785-7220
 FAX: 410-785-6818



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	11/20/2023		11/17/2023
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	11/17/2023		11/17/2023
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 102 OF 116	
PROJECT NO. P504100		VEGETATION MANAGEMENT PLAN	
CONTRACT NO. P504105			



CRITICAL AREA MITIGATION SUMMARY

KEY	CA-07		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	3	0	200	600	0	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0" CAL.	#20 CONT. / B&B	35' O.C.
NS	7	0	200	1,400	0	NYSSA SYLVATICA	BLACK GUM	2.0" CAL.	#20 CONT. / B&B	35' O.C.
PO	9	0	200	1,800	0	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QR	0	0	200	0	0	QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QP	4	0	200	800	0	QUERCUS PALUSTRIS	PIN OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL				4,800	0					
UNDERSTORY TREES										
AC	9	0	75	675	0	AMELANCHIER CANADENSIS	SERVICEBERRY	6" HT.	#7 CONT.	20' O.C.
CC	9	0	75	675	0	CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0" CAL.	#7 CONT.	20' O.C.
CCA	12	0	75	900	0	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL.	#7 CONT.	20' O.C.
CV	0	0	75	0	0	CHONANTHUS VIRGINICUS	FRINGE TREE	1.0" CAL.	#7 CONT.	20' O.C.
CF	0	0	75	0	0	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL				2,250	0					
				6,850	0					

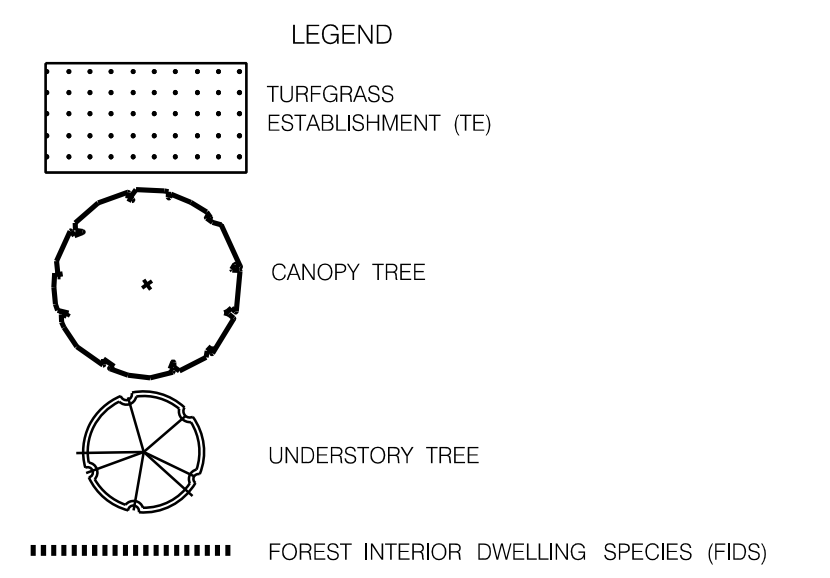
CRITICAL AREA IMPACT SUMMARY

LOCATION	TYPE	CA-07 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)

LOCATION	CA-07 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	18,221



- NOTES:
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.
 - THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.



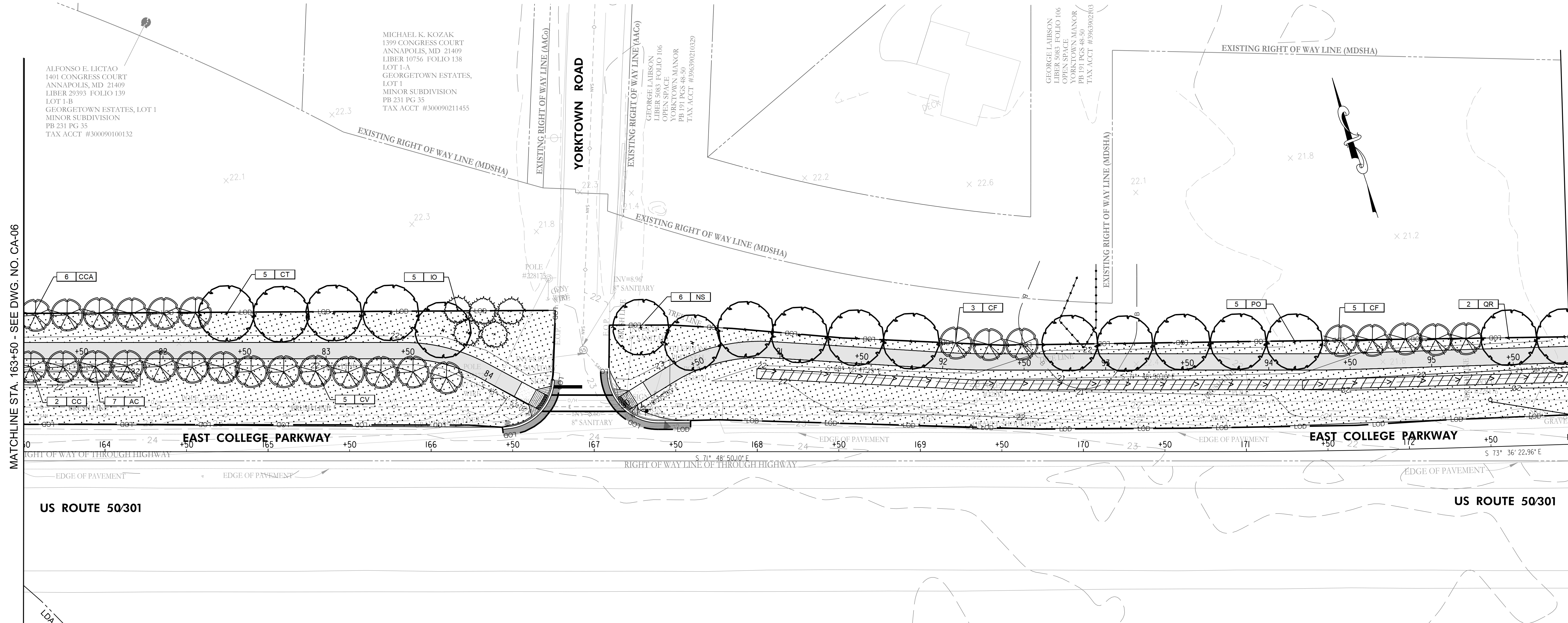
GP# G02018957 DWG. NO.: CA-07

AECOM
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FAX: 410-785-6818

STATE OF MARYLAND
ANN ARUNDEL COUNTY
LANDSCAPE ARCHITECT

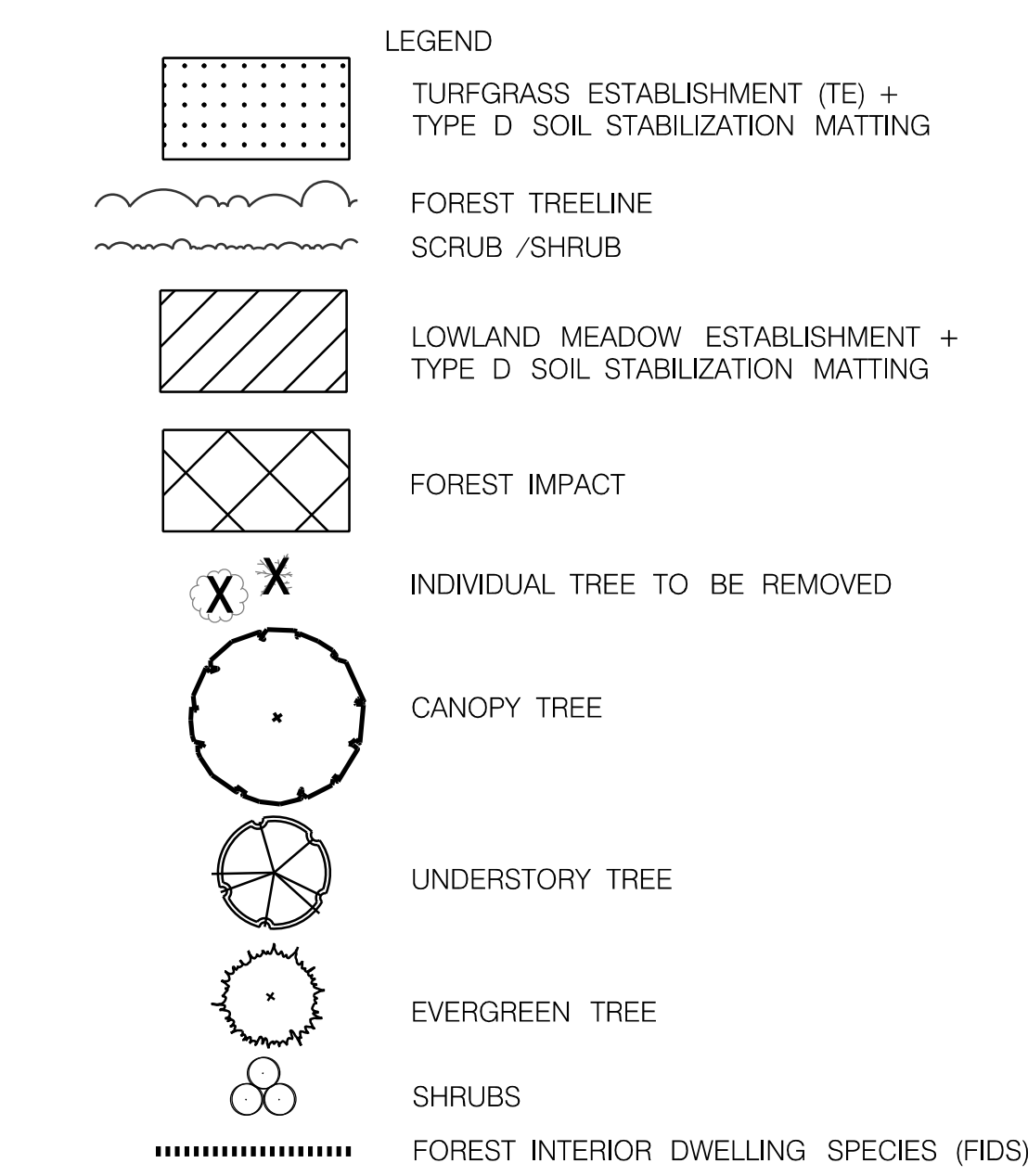
REVISIONS			
NO.	DESCRIPTION	BY	DATE

APPROVED				ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
DATE	DATE	DATE	DATE	SCALE: AS NOTED	DRAWN BY: TH		
11/20/2023	08:59 EST	11/17/2023	08:00 EST		CHECKED BY: RK	BROADNECK PENINSULA TRAIL PHASE IB & V	
11/17/2023	11:56 EST	11/17/2023	18:30 EST		SHEET NO. 103 OF 116	VEGETATION MANAGEMENT PLAN	
					PROJECT NO. P504100		
					CONTRACT NO. P504105		



MATCHLINE STA. 163+50 - SEE DWG. NO. CA-06

MATCHLINE STA. 173+00 - SEE DWG. NO. CA-09



NOTES:

- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
- TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.
- THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.

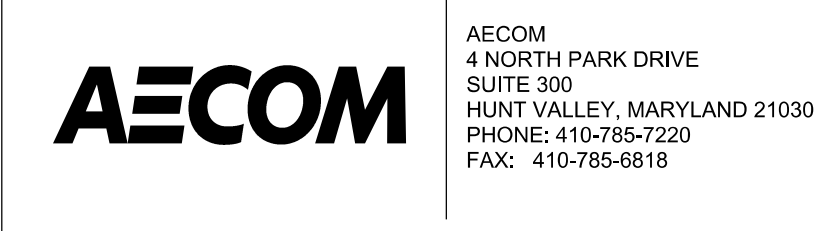
CRITICAL AREA MITIGATION SUMMARY										
KEY	CA-08		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
CT	5	0	200	1,000	0	CARYA TOMENTOSA	MOCKERNUT HICKORY	2.0" CAL.	#20 CONT. / B&B	35' O.C.
NS	6	0	200	1,200	0	NYSSA SYLVATICA	BLACK GUM	2.0" CAL.	#20 CONT. / B&B	35' O.C.
PO	5	0	200	1,000	0	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QR	2	0	200	400	0	QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QP	0	0	200	0	0	QUERCUS PALUSTRIS	PIN OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL			0	3,600	0					
EVERGREEN TREES										
IO	5	0	75	375	0	ILEX OPACA	AMERICAN HOLLY	6' HT.	#10 CONT.	15' O.C.
JV	0	0	75	0	0	JUNPERUS VIRGINIANA	EASTERN RED CEDAR	6' HT.	#10 CONT.	15' O.C.
SUBTOTAL			0	375	0					
UNDERSTORY TREES										
AC	7	0	75	525	0	AMELANCHIER CANADENSIS	SERVICEBERRY	6' HT.	#7 CONT.	20' O.C.
CC	2	0	75	150	0	CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0" CAL.	#7 CONT.	20' O.C.
CCA	6	0	75	450	0	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL.	#7 CONT.	20' O.C.
CV	5	0	75	375	0	CHIONANTHUS VIRGINICUS	FRINGE TREE	1.0" CAL.	#7 CONT.	20' O.C.
CF	8	0	75	600	0	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL			0	2,100	0					
				6,075	0					

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-08 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0
NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA			

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-08 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	15,539	0

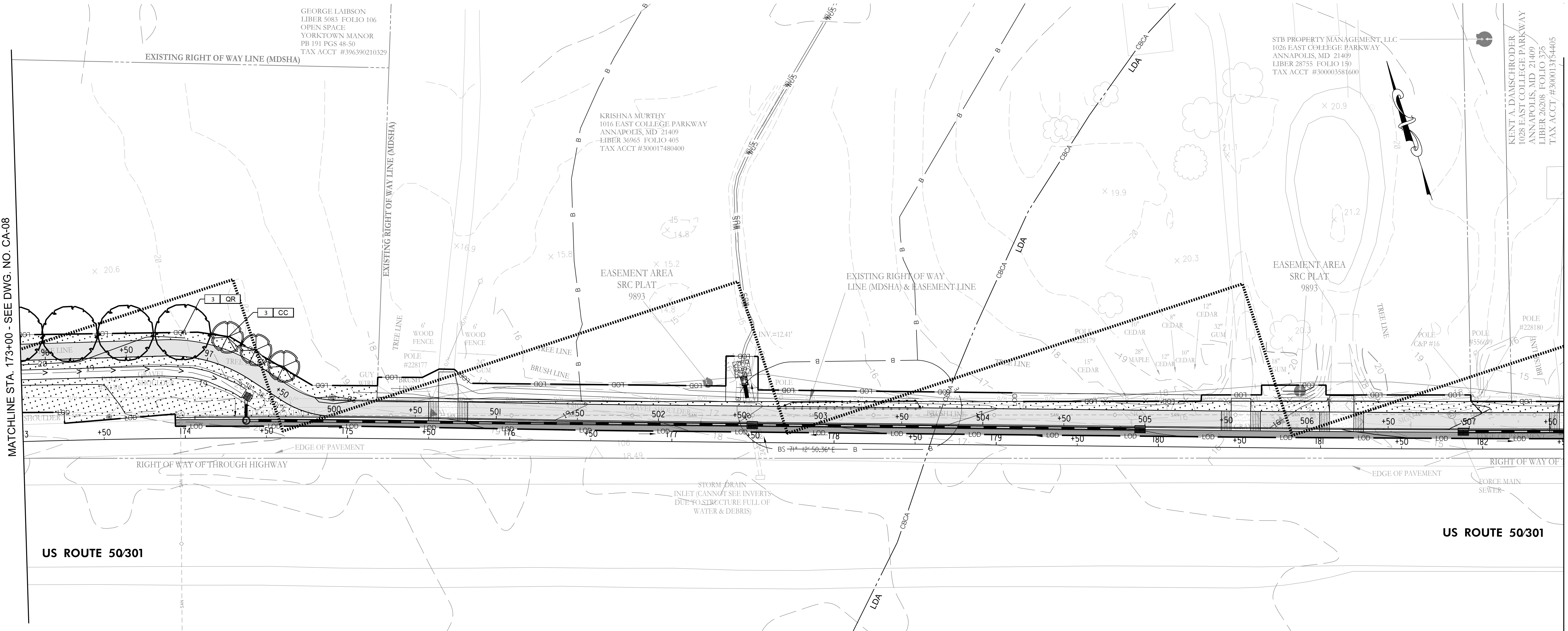


GP# G02018957 DWG. NO.: CA-08



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	11/20/2023 08:59 EST		11/17/2023 08:00 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	11/17/2023 11:56 EST		11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 104 OF 116	
PROJECT NO. P504100		VEGETATION MANAGEMENT PLAN	
CONTRACT NO. P504105			



MATCHLINE STA. 173+00 - SEE DWG. NO. CA-08

MATCHLINE STA. 182+50 - SEE DWG. NO. CA-10

LEGEND

- TURFGRASS ESTABLISHMENT (TE)
- FOREST TREELINE
- SCRUB /SHRUB
- FOREST IMPACT
- INDIVIDUAL TREE TO BE REMOVED
- CANOPY TREE
- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUBS
- FOREST INTERIOR DWELLING SPECIES (FIDS)

CRITICAL AREA MITIGATION SUMMARY										
KEY	CA-09		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
QR	3	0	200	600	0	SHADE TREES				
						QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
CC	3	0	75	225	0	UNDERSTORY TREES				
						CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0" CAL.	#7 CONT.	20' O.C.
				825	0					

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-09 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	8,528	0
	FOREST IMPACT	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-09 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	2,543	0

- NOTES:**
- SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.
 - TREES SHALL BE PLANTED 5' MINIMUM FROM EDGE OF TRAIL AND SHRUBS 12' FROM EDGE OF TRAIL.
 - THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.

AECOM

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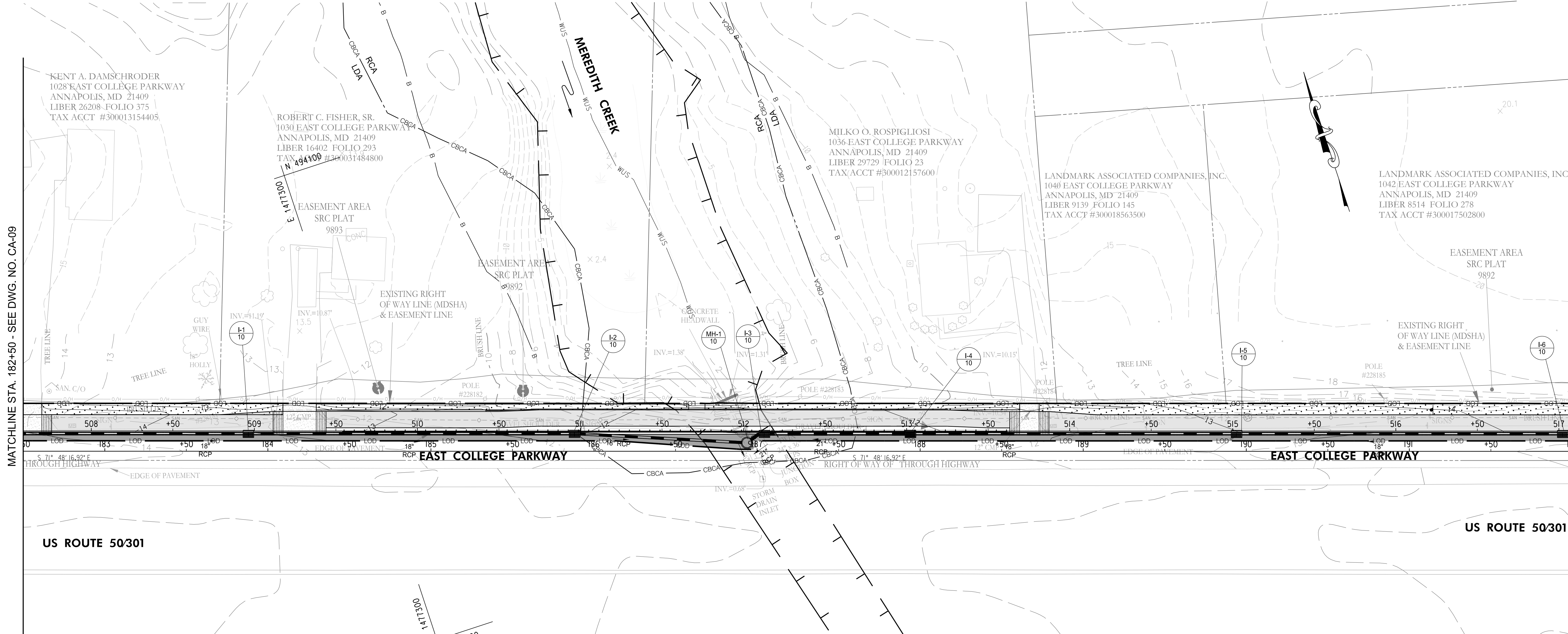
REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	11/20/2023 08:59 EST		11/17/2023 08:00 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	11/17/2023 11:56 EST		11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 105 OF 116	
PROJECT NO. P504100		CONTRACT NO. P504105	



GP# G02018957 DWG. NO.: CA-09

BROADNECK PENINSULA TRAIL PHASE IB & V
VEGETATION MANAGEMENT PLAN



MATCHLINE STA. 182+50 - SEE DWG. NO. CA-09

MATCHLINE STA. 192+00 - SEE DWG. NO. CA-11

US ROUTE 50301

US ROUTE 50301

- LEGEND**
- TURFGRASS ESTABLISHMENT (TE)
 - FOREST TREELINE
 - SCRUB / SHRUB
 - FOREST IMPACT
 - INDIVIDUAL TREE TO BE REMOVED
 - CANOPY TREE
 - UNDERSTORY TREE
 - EVERGREEN TREE
 - SHRUBS
 - FOREST INTERIOR DWELLING SPECIES (FIDS)

CRITICAL AREA MITIGATION SUMMARY - NO PLANTING THIS SHEET

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-10 (SF)	
		LDA	RCA
CBCA BOUNDARY (100')	LIMIT OF DISTURBANCE	21,906	0
	FOREST IMPACT	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-10 (SF)	
PUBLIC ROAD RIGHT-OF-WAY	0	0

NOTE: THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.



GP# G02018957

DWG. NO.: CA-10

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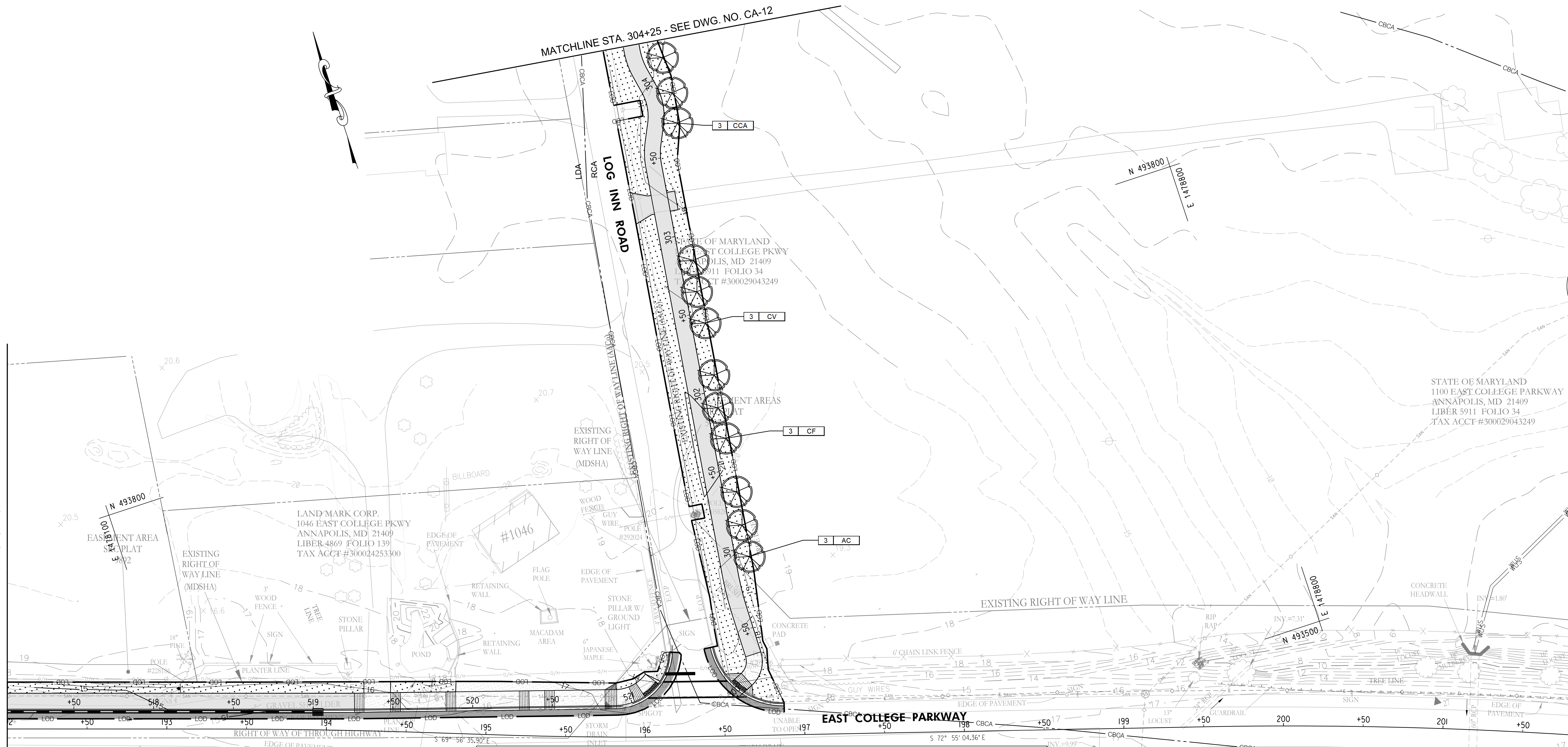


REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/20/2023 08:59 EST	<i>[Signature]</i>	11/17/2023 08:00 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
<i>[Signature]</i>	11/17/2023 11:56 EST	<i>[Signature]</i>	11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 108 OF 116	
PROJECT NO. P504100		VEGETATION MANAGEMENT PLAN	
CONTRACT NO. P504105			

MATCHLINE STA. 304+25 - SEE DWG. NO. CA-12

MATCHLINE STA. 192+50 - SEE DWG. NO. CA-10



CRITICAL AREA MITIGATION SUMMARY

KEY	CA-11		CREDIT EA (SF)	CREDIT PROVIDED (SF)		QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA						
AC	0	3	75	0	225	0	UNDERSTORY TREES				
CCA	0	3	75	0	225	0	AMELANCHER CANADENSIS	SERVICEBERRY	6' HT.	#7 CONT.	20' O.C.
CV	0	3	75	0	225	0	CERCIS CANADENSIS	EASTERN REDBUD	1.0" CAL.	#7 CONT.	20' O.C.
CF	0	3	75	0	225	0	CHONANTHUS VIRGINICUS	FRINGE TREE	1.0" CAL.	#7 CONT.	20' O.C.
	0	3	75	0	225	0	CORNUS FLORIDA	WHITE FLOWERING DOGWOOD	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL			0	0	900	0					

CRITICAL AREA IMPACT SUMMARY

LOCATION	TYPE	CA-11 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	9,438	13,756
	FOREST IMPACT	0	0

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)

LOCATION	CA-11 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

NOTES:
 1. TREE REMOVAL WITHIN SANDY POINT STATE PARK IS BY "EXTREME SELECTIVE REMOVAL" AS DETERMINED IN THE FIELD AND APPROVED BY DNR.
 2. THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.

US ROUTE 50301

LEGEND

- TURFGRASS ESTABLISHMENT (TE)
- FOREST TREELINE
- FOREST IMPACT
- INDIVIDUAL TREE TO BE REMOVED
- CANOPY TREE
- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUBS
- FOREST INTERIOR DWELLING SPECIES (FIDS)

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GP# G02018957 DWG. NO.: CA-11

REVISIONS				ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS			
NO.	DESCRIPTION	BY	DATE	APPROVED	DATE	APPROVED	DATE

APPROVED	DATE	APPROVED	DATE	SCALE: AS NOTED
	11/20/2023 08:59 EST		11/17/2023 08:00 EST	DRAWN BY: TH
CHIEF ENGINEER		PROJECT MANAGER		CHECKED BY: RK
APPROVED	DATE	APPROVED	DATE	SHEET NO. 107 OF 116
	11/17/2023 11:56 EST		11/17/2023 18:30 EST	PROJECT NO. P504100
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		CONTRACT NO. P504105

BROADNECK PENINSULA TRAIL PHASE IB & V
VEGETATION MANAGEMENT PLAN



LEGEND

- TURFGRASS ESTABLISHMENT (TE)
- FOREST TREELINE
- SCRUB /SHRUB
- FOREST IMPACT
- INDIVIDUAL TREE TO BE REMOVED
- CANOPY TREE
- UNDERSTORY TREE
- EVERGREEN TREE
- SHRUBS
- FOREST INTERIOR DWELLING SPECIES (FIDS)

CRITICAL AREA MITIGATION SUMMARY - NO PLANTING THIS SHEET

KEY	CA-12		CREDIT EA (SF)	CREDIT PROVIDED (SF)		QUANTITY	BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA						
AC	3	0	75	225	0	0	AMELANCHER CANADENSIS	SERVICEBERRY	6' HT.	#7 CONT.	20' O.C.
CC	3	0	75	225	0	0	CARPINUS CAROLINANA	AMERICAN HORNBEAM	1.0" CAL.	#7 CONT.	20' O.C.
SUBTOTAL				450	0	0					

CRITICAL AREA IMPACT SUMMARY

LOCATION	TYPE	CA-12 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	2,096
	FOREST IMPACT	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)

LOCATION	CA-12 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0

NOTES:
 1. TREE REMOVAL WITHIN SANDY POINT STATE PARK IS BY "EXTREME SELECTIVE REMOVAL" AS DETERMINED IN THE FIELD AND APPROVED BY DNR.
 2. THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.

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NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY DEPARTMENT OF PUBLIC WORKS

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	11/17/2023 11:56 EST		11/17/2023 18:30 EST	PROJECT NO. P504100
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY		CONTRACT NO. P504105

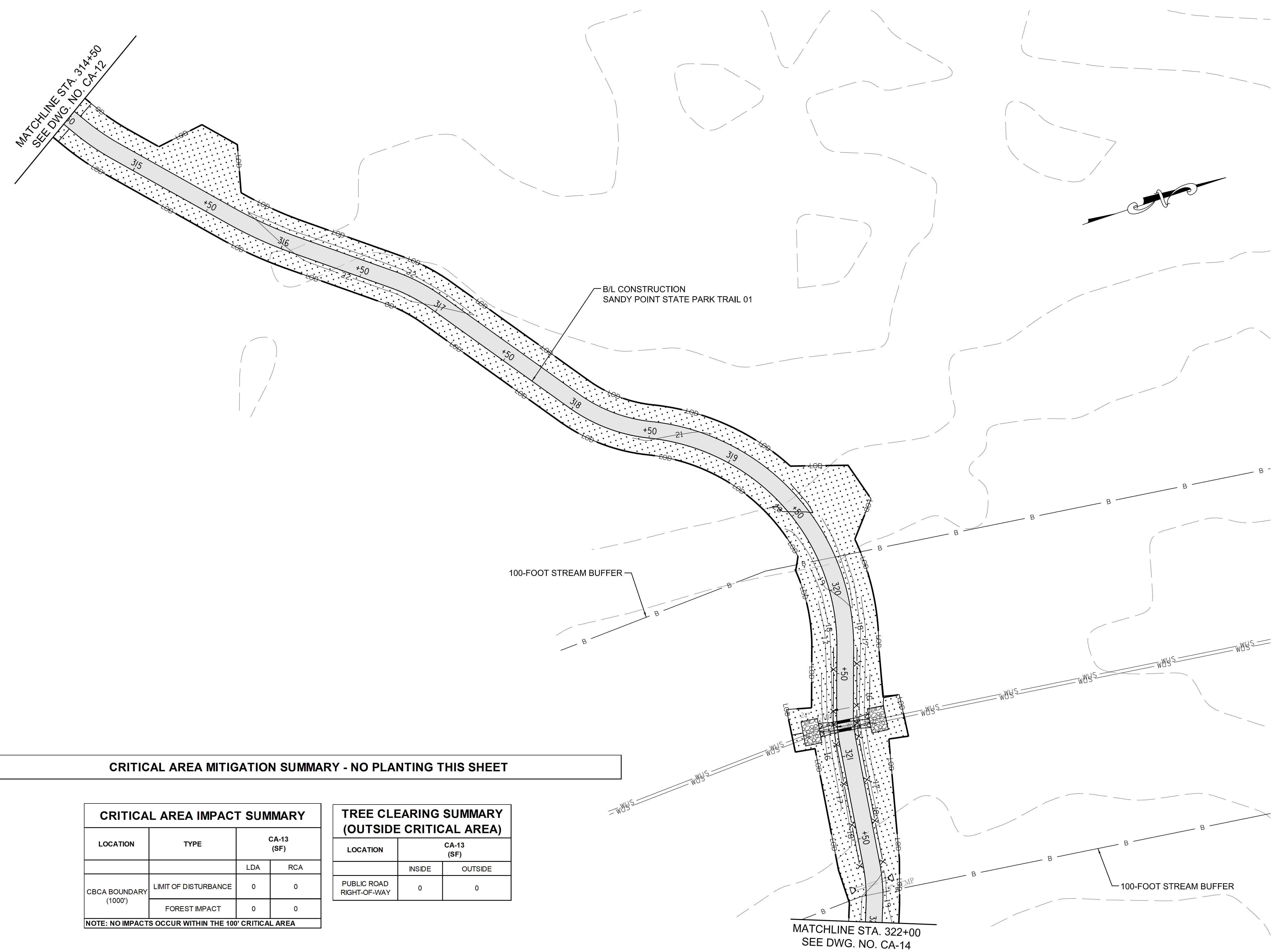
GP# G02018957 DWG. NO.: CA-12

BROADNECK PENINSULA TRAIL PHASE IB & V

VEGETATION MANAGEMENT PLAN



MATCHLINE STA. 314+50
 SEE DWG. NO. CA-13



CRITICAL AREA MITIGATION SUMMARY - NO PLANTING THIS SHEET

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-13 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-13 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA

LEGEND

TURFGRASS ESTABLISHMENT (TE)

TREE REMOVAL WITHIN SANDY POINT STATE PARK IS BY *EXTREME SELECTIVE REMOVAL* AS DETERMINED IN THE FIELD AND APPROVED BY DNR.

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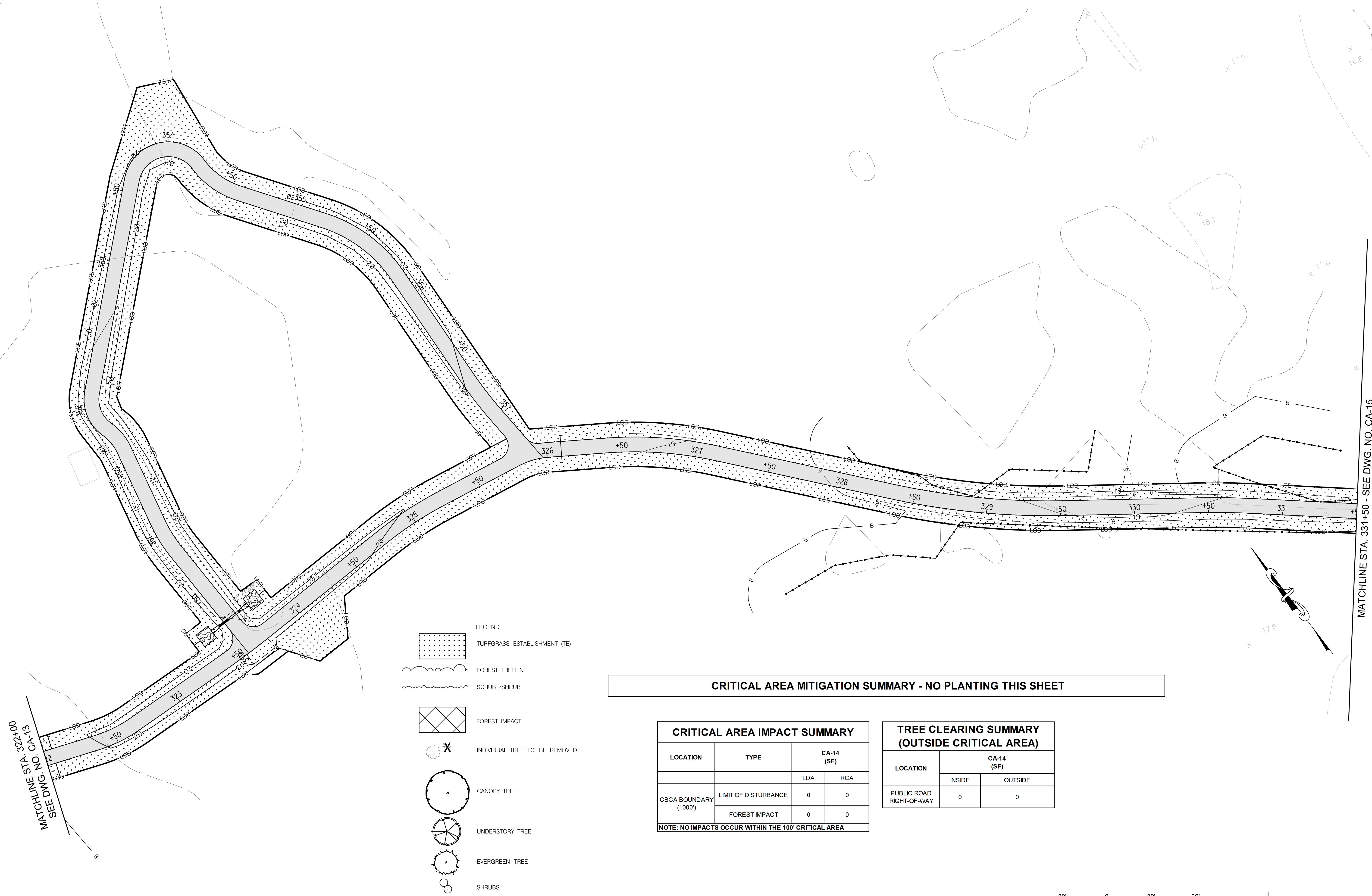


REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
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APPROVED	DATE	APPROVED	DATE
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ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 109 OF 116	
PROJECT NO. P504100		CONTRACT NO. P504105	
BROADNECK PENINSULA TRAIL PHASE IB & V			
VEGETATION MANAGEMENT PLAN			

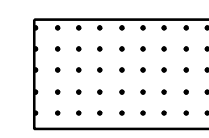


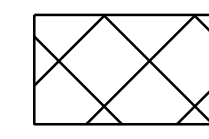

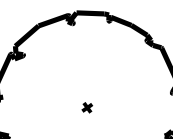
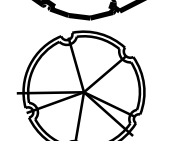
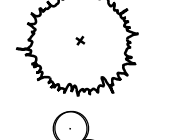
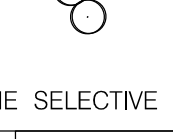
GP# G02018957 DWG. NO.: CA-13





MATCHLINE STA. 331+50 - SEE DWG. NO. CA-15

MATCHLINE STA. 322+00 - SEE DWG. NO. CA-13

- LEGEND**
-  TURFGRASS ESTABLISHMENT (TE)
 -  FOREST TREELINE
 -  SCRUB /SHRUB
 -  FOREST IMPACT
 -  INDIVIDUAL TREE TO BE REMOVED
 -  CANOPY TREE
 -  UNDERSTORY TREE
 -  EVERGREEN TREE
 -  SHRUBS

CRITICAL AREA MITIGATION SUMMARY - NO PLANTING THIS SHEET

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-14 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0

NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA





TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-14 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0

TREE REMOVAL WITHIN SANDY POINT STATE PARK IS BY *EXTREME SELECTIVE REMOVAL* AS DETERMINED IN THE FIELD AND APPROVED BY DNR.

AECOM
 4 NORTH PARK DRIVE
 SUITE 300
 HUNT VALLEY, MARYLAND 21030
 PHONE: 410-785-7220
 FAX: 410-785-6818



REVISIONS			
NO.	DESCRIPTION	BY	DATE

ANNE ARUNDEL COUNTY			
DEPARTMENT OF PUBLIC WORKS			
APPROVED	DATE	APPROVED	DATE
	11/20/2023 08:59 EST		11/17/2023 08:00 EST
CHIEF ENGINEER		PROJECT MANAGER	
APPROVED	DATE	APPROVED	DATE
	11/17/2023 11:56 EST		11/17/2023 18:30 EST
ASSISTANT CHIEF ENGINEER		CHIEF, RIGHT OF WAY	
SCALE: AS NOTED		DRAWN BY: TH	
CHECKED BY: RK		SHEET NO. 110 OF 116	
PROJECT NO. P504100		CONTRACT NO. P504105	

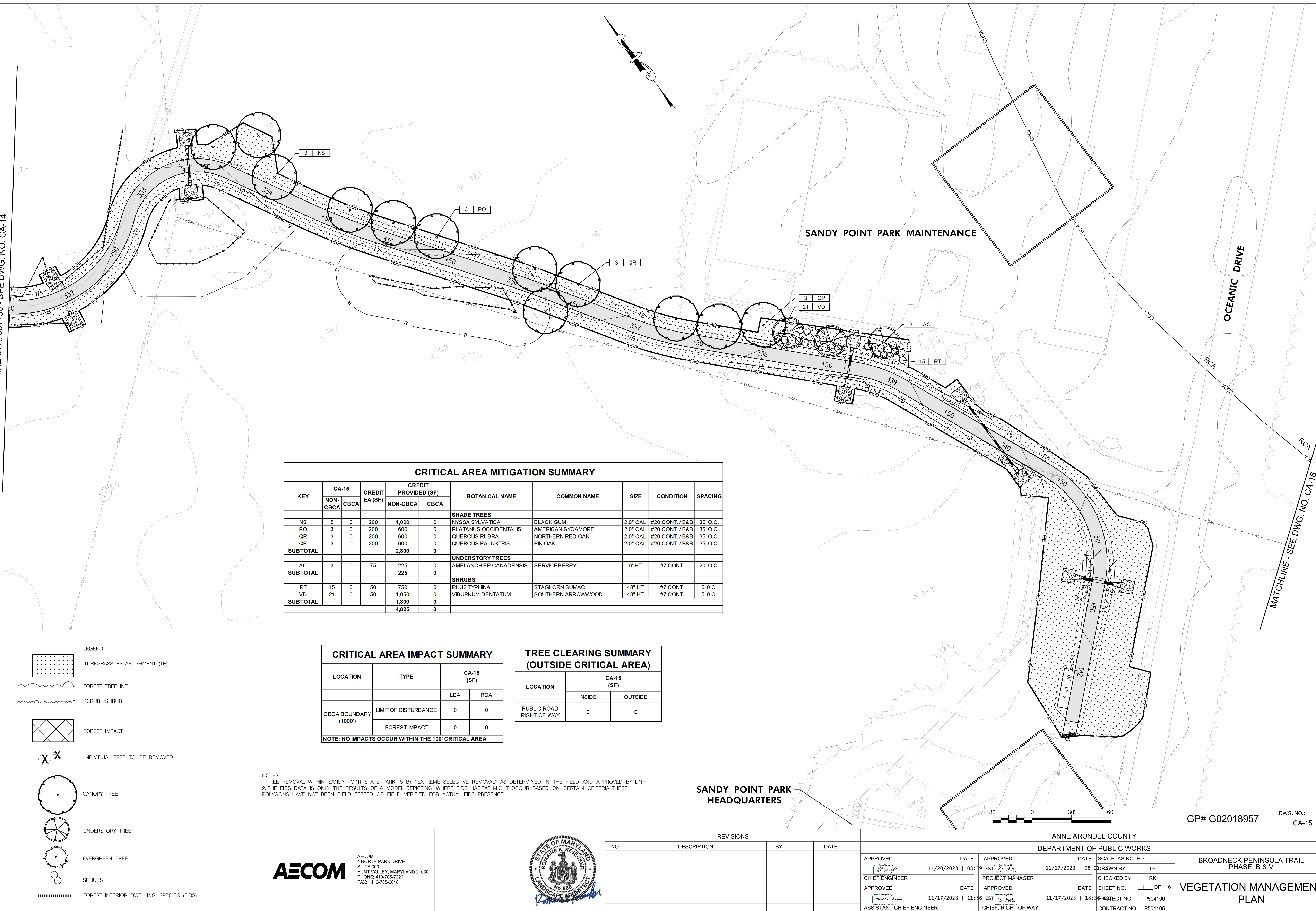
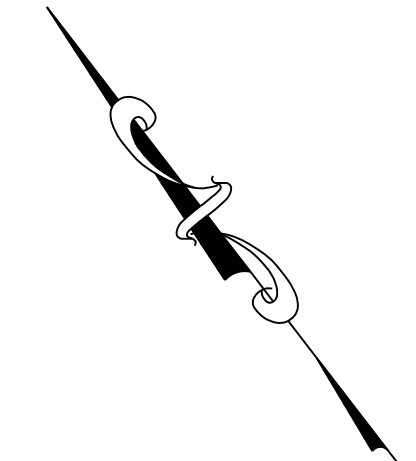
GP# G02018957 DWG. NO.: CA-14

VEGETATION MANAGEMENT PLAN

BROADNECK PENINSULA TRAIL
PHASE IB & V

MATCHLINE STA. 331+50 - SEE DWG. NO. CA-14

MATCHLINE - SEE DWG. NO. CA-16



CRITICAL AREA MITIGATION SUMMARY										
KEY	CA-15		CREDIT EA (SF)	CREDIT PROVIDED (SF)		BOTANICAL NAME	COMMON NAME	SIZE	CONDITION	SPACING
	NON-CBCA	CBCA		NON-CBCA	CBCA					
SHADE TREES										
NS	5	0	200	1,000	0	NYSSA SYLVATICA	BLACK GUM	2.0" CAL.	#20 CONT. / B&B	35' O.C.
PO	3	0	200	600	0	PLATANUS OCCIDENTALIS	AMERICAN SYCAMORE	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QR	3	0	200	600	0	QUERCUS RUBRA	NORTHERN RED OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
QP	3	0	200	600	0	QUERCUS PALUSTRIS	PN OAK	2.0" CAL.	#20 CONT. / B&B	35' O.C.
SUBTOTAL				2,800	0					
UNDERSTORY TREES										
AC	3	0	75	225	0	AMELANCHIER CANADENSIS	SERVICEBERRY	6" HT.	#7 CONT.	20' O.C.
SUBTOTAL				225	0					
SHRUBS										
RT	15	0	50	750	0	RHUS TYPHINA	STAGHORN SUMAC	48" HT.	#7 CONT.	5' O.C.
VD	21	0	50	1,050	0	VIBURNUM DENTATUM	SOUTHERN ARROWWOOD	48" HT.	#7 CONT.	5' O.C.
SUBTOTAL				1,800	0					
				4,825	0					

CRITICAL AREA IMPACT SUMMARY			
LOCATION	TYPE	CA-15 (SF)	
		LDA	RCA
CBCA BOUNDARY (1000')	LIMIT OF DISTURBANCE	0	0
	FOREST IMPACT	0	0
NOTE: NO IMPACTS OCCUR WITHIN THE 100' CRITICAL AREA			

TREE CLEARING SUMMARY (OUTSIDE CRITICAL AREA)		
LOCATION	CA-15 (SF)	
	INSIDE	OUTSIDE
PUBLIC ROAD RIGHT-OF-WAY	0	0

- LEGEND**
- TURFGRASS ESTABLISHMENT (TE)
 - FOREST TREELINE
 - SCRUB / SHRUB
 - FOREST IMPACT
 - INDIVIDUAL TREE TO BE REMOVED
 - CANOPY TREE
 - UNDERSTORY TREE
 - EVERGREEN TREE
 - SHRUBS
 - FOREST INTERIOR DWELLING SPECIES (FIDS)

NOTES:
 1. TREE REMOVAL WITHIN SANDY POINT STATE PARK IS BY "EXTREME SELECTIVE REMOVAL" AS DETERMINED IN THE FIELD AND APPROVED BY DNR.
 2. THE FIDS DATA IS ONLY THE RESULTS OF A MODEL DEPICTING WHERE FIDS HABITAT MIGHT OCCUR BASED ON CERTAIN CRITERIA. THESE POLYGONS HAVE NOT BEEN FIELD TESTED OR FIELD VERIFIED FOR ACTUAL FIDS PRESENCE.

SANDY POINT PARK HEADQUARTERS



AECOM
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PROJECT NO. P504100		CONTRACT NO. P504105	
VEGETATION MANAGEMENT PLAN			

GP# G02018957 DWG. NO.: CA-15

BROADNECK PENINSULA TRAIL PHASE IB & V

