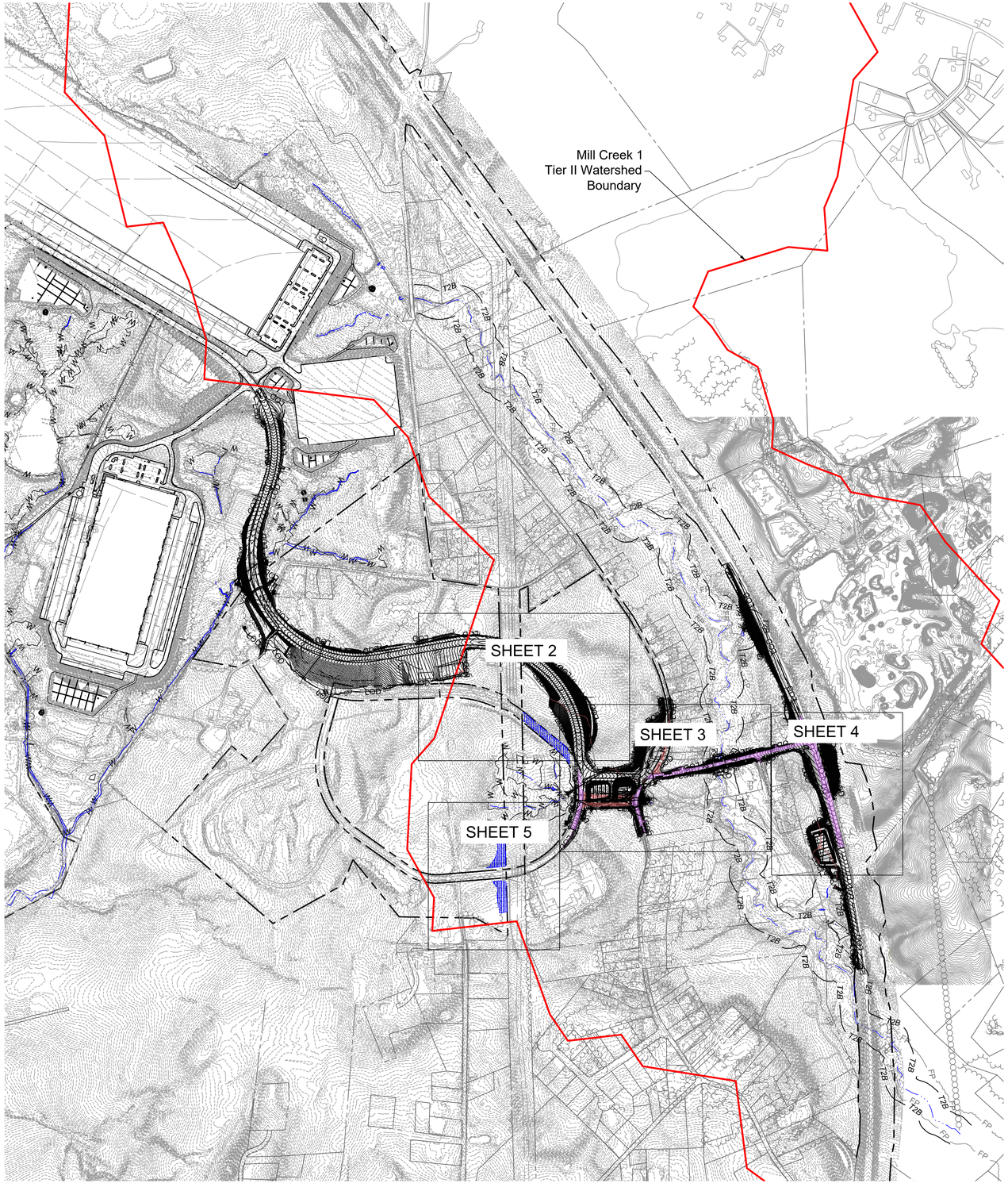


GRAPHIC SCALE

400 0 200 400 800 1600

( IN FEET )
1 inch = 400 ft.

INTRODUCTION

A. PROJECT SUMMARY

THE BAINBRIDGE DEVELOPMENT CORPORATION (BDC) IS PROPOSING TO EXTEND POWERS ROAD THROUGH A CURRENTLY VACANT PORTION OF LAND OWNED BY BDC, REDEVELOP THE EXISTING DIAMOND JIM ROAD FROM ITS INTERSECTION WITH PERRYLAWN DRIVE (MD ROUTE 275) WEST TO ITS INTERSECTION WITH CRAIGTOWN ROAD, AND EXTEND DIAMOND JIM ROAD TO THE PROPOSED POWERS ROAD EXTENSION IN CECIL COUNTY, MARYLAND. THE TOTAL LIMIT OF DISTURBANCE IS 33.5 ACRES FOR ROAD IMPROVEMENTS, STORMWATER MANAGEMENT, AND STORM DRAIN INSTALLATION; HOWEVER, ONLY 19.26 ACRES OF THE PROJECT ARE WITHIN THE MILL CREEK 1 TIER II WATERSHED. THE PROJECT IS IN A COMMERCIAL CORRIDOR THAT INCLUDES A VARIETY OF USES, INCLUDING RETAIL, INDUSTRIAL, AND INSTITUTIONAL USES.

ROAD ALIGNMENTS WERE DESIGNED TO MINIMIZE FOREST CLEARING. THIS SITE IS LOCATED WITHIN A STATE PRIORITY FUNDING AREA, A DESIGNATION THAT ENCOURAGES ECONOMIC INVESTMENT AND JOB CREATION WITHIN UNDERUTILIZED AREAS. ADDITIONALLY, THE FUTURE COMMERCIAL AND RESIDENTIAL DEVELOPMENT OF THIS SITE, WHICH WILL BE SUPPORTED BY THE IMPROVED ROADWAY INFRASTRUCTURE, WILL FURTHER THE ECONOMIC GOALS OF CECIL COUNTY.

B. PURPOSE OF MITIGATION

THE PURPOSE OF THIS MITIGATION IS TO OFFSET REDUCTION IN ON-SITE FOREST AND INCREASES IN ON-SITE IMPERVIOUS SURFACE THAT MAY IMPACT THE HIGH-QUALITY WATERS OF THE MILL CREEK 1 WATERSHED.

IMPACTS ASSOCIATED WITH THIS PROJECT INCLUDE:

1. TIER II STREAM BUFFER IMPACTS: 1.97 ACRES
2. FOREST COVER LOSS: 14.93 ACRES
3. NEW IMPERVIOUS SURFACE (NO ESD TREATMENT): 0.30 ACRES

C. DETERMINATION OF CREDITS

THIS PLAN OUTLINES THE PROPOSED MITIGATION EFFORTS IDENTIFIED TO OFFSET IMPACTS TO FOREST AND INCREASES IN IMPERVIOUS SURFACES WITHIN THE MILL CREEK 1 WATERSHED.

1. REFORESTATION: 1.28 ACRES
2. TREATMENT OF EXISTING IMPERVIOUS SURFACE: 1.98 ACRES
3. REMOVAL OF UNTREATED IMPERVIOUS SURFACE: 0.90 ACRES

PROJECT SUSTAINABILITY:

THIS PROJECT PROPOSES THE FOLLOWING PRACTICES TO ENSURE LONG-TERM SUSTAINABILITY OF THE PROPOSED REFORESTATION:

1. SELECTING HEARTY NATIVE SPECIES SUITED FOR THE LOCAL CLIMATE, WITH A FOCUS ON SPECIES WITH THE POTENTIAL TO SURVIVE IN A LARGE RANGE OF CLIMATIC CONDITIONS.
2. FOCUSING ON A DIVERSE ECOSYSTEM, INCLUDING CANOPY TREES, UNDERSTORY TREES, SHRUBS, AND HERBACEOUS PLANTS.
3. MONITOR THE REFORESTATION AREAS FOR TWO YEARS FOLLOWING THJE MAINTENANCE AND MONITORING PLAN TO CREATE IDEAL CONDITIONS FOR FOREST ESTABLISHMENT AND CONTROL NON-NATIVE AND INVASIVE SPECIES.

THESE PRACTICES WILL HELP ESTABLISH A NATIVE FOREST THAT IS RESILIENT TO MORE EXTREME TEMPERATURE FLUCTUATIONS AND VARIATIONS IN PRECIPITATION.

THIS AREA IS NOT SUBJECT TO SEA LEVEL RISE PREDICTIONS ACCORDING TO NOAA'S SEA LEVEL RISE VIEWER.

SOCIAL AND ECONOMIC JUSTICE:

THIS PROJECT FALLS WITHIN AN AREA IDENTIFIED IN THE ENVIRONMENTAL JUSTICE SCREENING TOOL AS OVERBURDENED. THE PROJECT AREA HAS A OVERALL ENVIRONMENTAL JUSTICE SCORE OF 60.50.

THE BAINBRIDGE LOGISTICS CENTER IS A TRANSFORMATIVE INDUSTRIAL DEVELOPMENT LOCATED ON THE HISTORIC BAINBRIDGE NAVAL TRAINING CENTER SITE IN PORT DEPOSIT, MARYLAND. DESIGNED AS A PREMIER LOGISTICS AND DISTRIBUTION HUB ALONG THE I-95 CORRIDOR, PHASE I OF THE PROJECT WILL REVITALIZE OVER 440 ACRES OF LONG-VACANT FORMER FEDERAL LAND INTO A DYNAMIC ENGINE FOR ECONOMIC GROWTH. FEATURING STATE-OF-THE-ART WAREHOUSE FACILITIES AND INFRASTRUCTURE TAILORED FOR MODERN LOGISTICS AND ADVANCED MANUFACTURING TENANTS, BAINBRIDGE LOGISTICS CENTER IS POISED TO GENERATE SIGNIFICANT CAPITAL INVESTMENT, ATTRACT HIGH-QUALITY EMPLOYERS, AND CREATE SUSTAINABLE JOBS IN CECIL COUNTY.

IN CONJUNCTION WITH THE DEVELOPMENT, THIS PROJECT PERTAINS TO A NEW ROAD CONSTRUCTION PROJECT THAT WILL PROVIDE A CRITICAL SECONDARY ACCESS ROUTE TO THE SITE. THIS NEW CONNECTOR KNOWN AS THE PHASE IA/II ROAD IMPROVEMENTS FROM DIAMOND JIM ROAD TO AN EXTENSION OF RECENTLY DEDICATED POWERS ROAD WILL SERVE AS AN ADDITIONAL MEANS OF INGRESS AND EGRESS, IMPROVING TRAFFIC CIRCULATION, ENHANCING EMERGENCY ACCESS, AND ENSURING OPERATIONAL FLEXIBILITY FOR FUTURE TENANTS. BEYOND THE SITE BOUNDARY, THE ROAD PROJECT INCLUDES LOCAL ROADWAY UPGRADES--SUCH AS IMPROVED INTERSECTIONS, WIDENED SHOULDERS, AND SIGNAL ENHANCEMENTS--THAT WILL BENEFIT NEARBY RESIDENTIAL AND COMMERCIAL CORRIDORS. TOGETHER, THE BAINBRIDGE LOGISTICS CENTER AND SUPPORTING TRANSPORTATION INVESTMENTS REPRESENT A COORDINATED PUBLIC-PRIVATE EFFORT TO UNLOCK THE REGION'S ECONOMIC POTENTIAL WHILE STRENGTHENING LOCAL INFRASTRUCTURE.

GENERAL NOTES:

1. REFORESTATION WITHIN THE LIMIT OF DISTURBANCE IS CONSTRAINED BY MARYLAND STATE HIGHWAY ADMINISTRATION REQUIREMENTS FOR ROADSIDE CONDITIONS. ALL AVAILABLE AREAS WITHIN THE LIMIT OF DISTURBANCE ARE PROPOSED FOR REFORESTATION.
2. AN AS-BUILT DESIGN PLAN SHALL BE SUBMITTED TO MDE WITHIN 60 DAYS OF COMPLETION OF THE MITIGATION PROJECT. THE PLAN SHALL DEPICT THE FINAL AREAS RECEIVING MITIGATION CREDIT AND THEIR AREA IN ACRES.
3. REFORESTATION AREAS ARE TO BE PROTECTED IN PERPETUITY BY PROTECTIVE EASEMENTS. THE EASEMENT SHALL GRANT MDE ACCESS TO THE SITE IN PERPETUITY FOR THE PURPOSES OF INSPECTING THE REFORESTATION AREAS.

BEST MANAGEMENT PRACTICE NOTES:

1. TO THE MAXIMUM EXTENT PRACTICABLE, ACTIVITIES SHOULD TAKE PLACE DURING TIMES WHEN SEDIMENT TRANSPORT ARE LIKELY TO BE LOWER AS PREDICTED BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) OR 3 CLEAR DAY WEATHER FORECAST.
2. CONDUCT INSPECTIONS DAILY. LOG BOOKS MAY BE REVIEWED.
3. IF LIMIT OF DISTURBANCE ALLOWS, LOCATE STOCKPILES MORE THAN 100' FROM STREAM RESOURCES.
4. PERMANENT MULCH APPLICATION DEPTH SHALL NOT EXCEED 6". TEMPORARY MULCH SPREADING AND MATTING TO MINIMIZE COMPACTION IS ALLOWABLE.
5. UTILIZE SUPER SILT FENCE (AS SHOWN) NEAR STREAMS.
6. SEDIMENT CONTROL BASINS CONTAIN BAFFLES (AS SHOWN) TO INCREASE DETENTION TIME.
7. TIER II SIGNAGE (SEE DETAIL) AND FLAGGING MUST BE PLACED ALONG EDGE OF TIER II BUFFER.
8. VEHICLES OPERATING WITHIN THE STREAM BUFFER MUST CARRY OIL/GAS/GREASE CLEAN UP KITS FOR SPILL ACCIDENTS.

VICINITY MAP
SCALE: 1"=2,000'
COPYRIGHT ADC THE MAP PEOPLE
PERMITTED USE NUMBER 207111184

AERIAL MAP
SCALE: 1"=2,000'

LEGEND

| | |
|---|---|
| LOD — LOD | LIMIT OF DISTURBANCE |
| | EXISTING TREELINE |
| W — W | EXISTING WETLAND |
| | EXISTING STREAM |
| WB — WB | 25' WETLAND BUFFER |
| | TIER II REFORESTATION (1.28 ACRES) |
| | EXISTING IMPERVIOUS TO BE TREATED (1.98 ACRES) |
| | EXISTING IMPERVIOUS TO BE REMOVED (0.98 ACRES) |

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a DAFET company
1131 Benfield Boulevard • Suite L
Millersville, Maryland 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlands.com

# TIER II MITIGATION PLAN

Prepared For: Bohler Engineering

# BAINBRIDGE-POWERS ROAD ESXTENSION

Cecil County, Maryland

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REVISIONS

| No. | Date | Description | Rev. By | App. By |
|---|---|---|---|---|
| | | | | |

SCALE: As Noted C.I.: 2'

DATE: date

Horizontal Datum: NAD 83

Vertical Datum: NAVD 88

Boundary and Topo Source:
Bohler
Cecil County GIS

| Design | Draft | Approved |
|---|---|---|
| HK | HK | MJK |



WSSI Project Number:
WSSI Project Number

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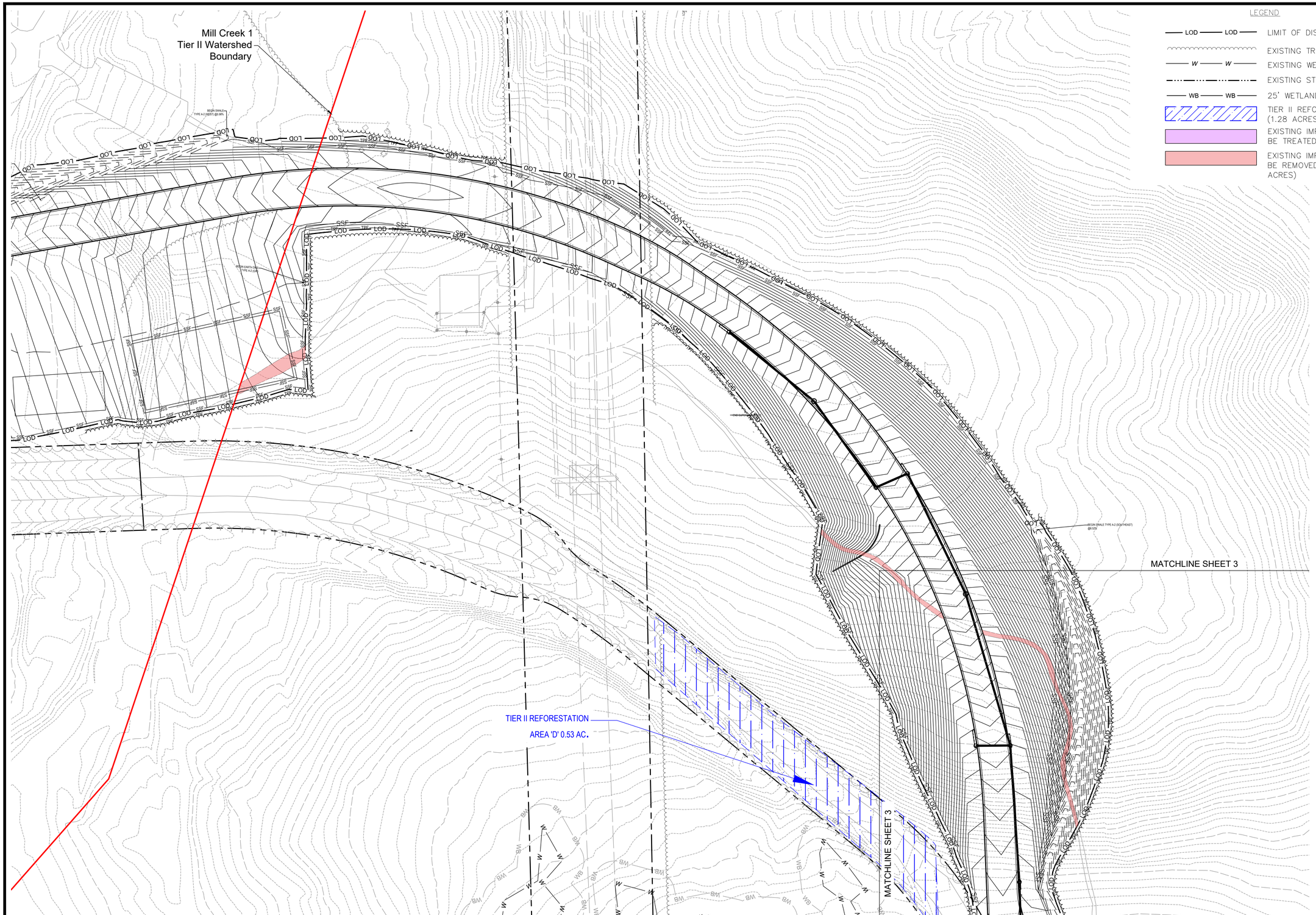


LEGEND

- LIMIT OF DISTURBANCE
- EXISTING TREELINE
- EXISTING WETLAND
- EXISTING STREAM
- 25' WETLAND BUFFER
- TIER II REFORESTATION (1.28 ACRES)
- EXISTING IMPERVIOUS TO BE TREATED (1.98 ACRES)
- EXISTING IMPERVIOUS TO BE REMOVED (0.98 ACRES)

GRAPHIC SCALE

50 0 25 50 100 200

( IN FEET )
1 inch = 50 ft.

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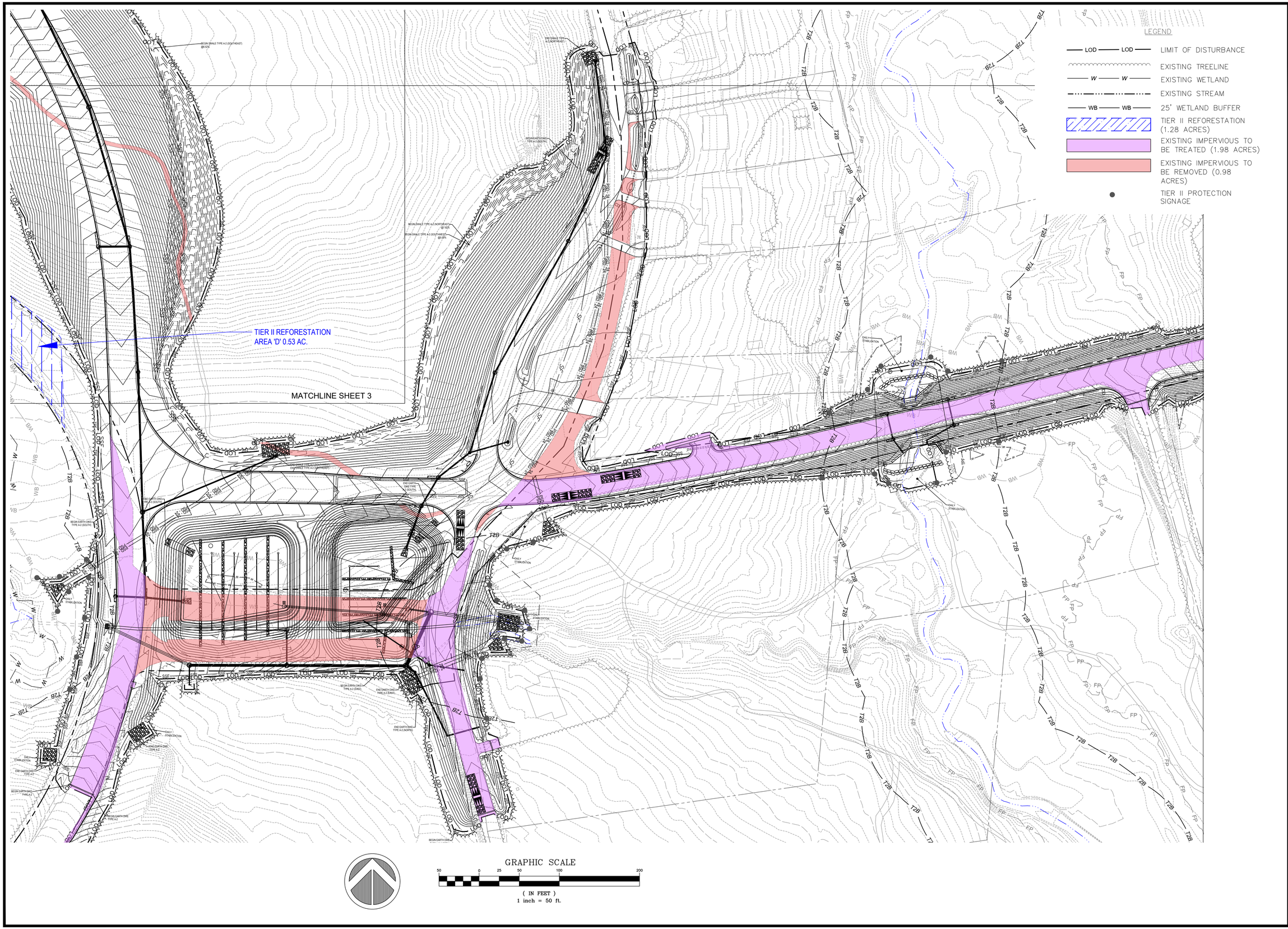


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## BAINBRIDGE-POWERS ROAD ESXTENSION

Cecil County, Maryland

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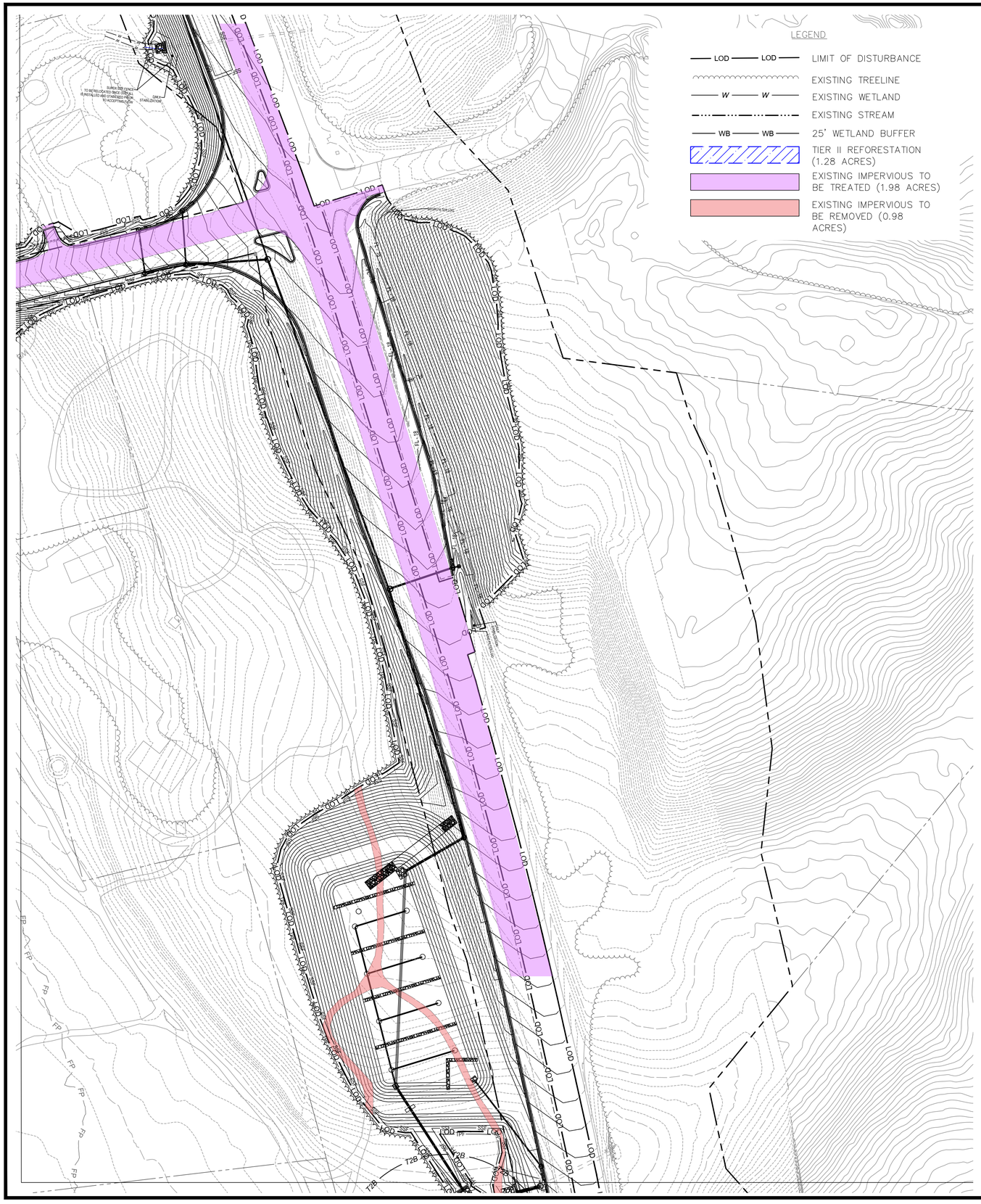


## PLANTING SPECIFICATIONS

1. PLAN DETAILS ARE INCORPORATED INTO THIS SPECIFICATION BY REFERENCE.
2. THE SUPPLIER OF ALL SEEDS AND/OR VEGETATION SHALL CERTIFY THAT THE ORIGIN OF THE SEEDS FROM WHICH THE PLANTS OR SEEDS WERE PRODUCED IS FROM HARDINESS ZONES 6 AND 7, FROM THE EASTERN OR CENTRAL PORTIONS OF THE U.S., PRIOR TO PLANTING.
3. ANY NURSERY SUPPLYING THE STOCK SHALL PROVIDE A CURRENT NURSERY INSPECTION CERTIFICATE FROM THE STATE DEPARTMENT OF AGRICULTURE, OR PROVIDE AT LEAST THIRTY DAYS ADVANCE NOTICE FOR OWNER TO INSPECT THE PLANT SOURCE AREAS AT OWNER'S DISCRETION. ANY SUCH INSPECTION IS NOT DEEMED APPROVAL OF THE PLANT MATERIALS.
4. PLANTING SHALL ONLY BE PERMITTED BETWEEN SEPTEMBER 30 THROUGH DECEMBER 31. NO PLANTING SHALL OCCUR WHEN THE SOIL IS FROZEN. SEEDING SHALL BE COMPLETED DURING MARCH THROUGH MAY OR SEPTEMBER THROUGH NOVEMBER. THESE TIME LIMITS MAY NOT BE MODIFIED UNLESS APPROVED BY OWNER, IN ADVANCE WITH THE RISK OF SURVIVAL BORNE SOLELY BY THE CONTRACTOR.
5. PLANTS SHALL BE INSTALLED UTILIZING A RANDOM OR CLUMPED DISTRIBUTION, PER THE PLANTING DISTRIBUTION PATTERN DETAIL.
6. PLANTING HOLES FOR CONTAINER GROWN PLANTS SHALL BE ONE FOOT (1') DEEP PLUS THE CONTAINER DEPTH IN WHICH THE PLANT HAS BEEN GROWN AND TWICE AS WIDE AS THE CONTAINER.
7. BACKFILL THE PLANTING HOLES WITH THE IN-SITU SOIL MATERIALS REMOVED FOR PLANTING AFTER REMOVING ALL STONES, ROOTS, AND OTHER DEBRIS GREATER THAN 1-1/2" IN DIAMETER. TABLET FERTILIZER WILL BE NECESSARY ONLY IF WARRANTED BASED ON ENGINEER REVIEW OF SOIL TESTING RESULTS. THE FERTILIZER REQUIREMENT WILL BE PROVIDED BY THE ENGINEER.
8. FOLLOWING THE BACKFILLING, WATER TO THE POINT OF SOIL SATURATION (IF NOT PLANTED IN THE "WET") AND TAMP TO COMPACT THE BACKFILL MIXTURE. ADD WETLAND SOIL TO BRING THE FINAL GRADE IN THE PLANTING HOLE TO THE SURROUNDING SOIL SURFACE. RAKE THE UNUSED WETLAND SOIL OUTSIDE THE PLANTING HOLES, TAKING CARE NOT TO MOUND THE SOIL OR TO SIGNIFICANTLY ALTER THE EXISTING GRADES AND THEN PLACE MULCH (MIN. 2" THICK) ATOP ENTIRE PLANTING HOLE (EXCEPT THAT NO MULCH IS REQUIRED FOR EMERGENT PLANTINGS). THE PLANTING HOLE AREAS MUST NOT BE DEPRESSED BELOW THE SURROUNDING SOIL SURFACE ELEVATIONS. SAID AREAS SHALL BE SLIGHTLY RAISED (2-3"), RELATIVE TO THE SOIL SURFACE.
9. THE SHRUBS THAT ARE SPECIFIED AS CONTAINER GROWN SPECIMENS SHALL BE BETWEEN 15" AND 18" IN HEIGHT FOR PLANTING AREA A, AND MIN. 3' HT. FOR PLANTING AREA B. ALL SHRUBS SHALL BE HEALTHY, VIGOROUS, WELL ROOTED AND ESTABLISHED IN THE PLANTING CONTAINER IN WHICH THEY ARE GROWING. A CONTAINER SHRUB SHALL BE IN THAT CONTAINER A SUFFICIENT TIME SUCH THAT FIBROUS ROOTS ARE FORMED SO THE SHAPE WILL REMAIN AND THE MEDIUM WILL HOLD TOGETHER WHEN REMOVED FROM THE CONTAINER (REFER TO AMERICAN STANDARD FOR NURSERY STOCK).
10. DO NOT REMOVE PLANTS FROM CONTAINERS UNTIL IMMEDIATELY BEFORE PLANTING. EXAMINE THE ROOTS TO SEE IF THEY ARE POT BOUND. CAREFULLY SEPARATE ANY POT BOUND OR CRAMPED ROOTS AND SPREAD THEM OUT WHEN PLACING THE PLANT SO THAT THE ROOTS CAN GROW WITHOUT FURTHER CONSTRUCTION OF THE ROOT BALL.
11. ALL PLANTED MATERIALS SHOULD BE BACKFILLED WITH MIXED WETLAND SOIL AND ORGANIC AMENDMENTS. ORGANIC AMENDMENTS SHALL BE ADDED AT A MINIMUM RATE OF 60 CUBIC YARDS PER ACRE.
12. AS RECOMMENDED BY THE CONTRACTOR AND APPROVED BY OWNER, THE CONTRACTOR SHALL WATER THE PLANTS AS NEEDED DURING THE CARE AND REPLACEMENT PERIOD OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS THE SHORTEST.
13. THE CONTRACTOR IS RESPONSIBLE FOR REPLACING NON- SURVIVING TREES AND SHRUBS DURING THE CARE AND REPLACEMENT PERIOD (12 MONTHS, UNLESS OTHERWISE SPECIFIED IN CONTRACT DOCUMENTS) OR UNTIL FINAL ACCEPTANCE, WHICHEVER IS THE SHORTEST, AS REQUIRED BY THE TERMS OF THE SURVIVAL WARRANTY SPECIFIED HEREIN AND/OR IN CONTRACT DOCUMENTS. THE SPECIFICATIONS FOR THE REPLACED PLANTS SHALL BE THOSE PROVIDED IN THE PLANT LIST.
14. REFER TO APPLICABLE SKETCHES WITHIN THIS PLAN SET FOR ADDITIONAL GUIDANCE ON PLANTING REQUIREMENTS.
15. INVASIVE AND NOXIOUS WEEDS SHALL BE REMOVED BY HAND WITH LOCALIZED APPLICATIONS OF GLYPHOSPHATE (AQUA NEAT) OR APPROVED EQUAL WHERE NECESSARY.

## PLANTING SURVIVAL WARRANTY

1. FOR PLANTING AREA A, LANDSCAPE CONTRACTOR SHALL GUARANTEE A MINIMUM SURVIVAL RATE OF EACH VEGETATION SPECIES AFTER TWELVE MONTHS OF 85% FOR B&B AND CONTAINER GROWN STOCK.
2. FOR PLANTING AREA B, LANDSCAPE CONTRACTOR SHALL GUARANTEE A MINIMUM SURVIVAL RATE OF EACH VEGETATION SPECIES AFTER TWO (2) YEARS OF 100% FOR B&B AND CONTAINER GROWN STOCK.
3. IF SURVIVAL RATES ARE LESS THAN THE ABOVE WARRANTY RATES, THEN LANDSCAPE CONTRACTOR SHALL REPLACE THE QUANTITY OF DEAD PLANTS WITHIN THE NEXT PLANTING WINDOW (SEPTEMBER 30 THROUGH DECEMBER 31), EXCLUDING FROZEN GROUND PERIODS) FOLLOWING THE END OF THE APPLICABLE WARRANTY PERIOD.

## PRODUCT HANDLING, STORAGE, AND DELIVERY

1. HANDLE PLANTS AT ALL TIMES SO THAT ROOTS OR BALLS ARE ADEQUATELY PROTECTED FROM BREAKAGE OF BALLS, FROM SUN AND DRYING WINDS. PLANTS WITH DRIED OUT TOPS OR ROOTS SHALL BE REJECTED.
2. ALL PLANT MATERIALS SHALL BE STORED AND DELIVERED IN SUCH A FASHION AND FOR TIME INTERVALS CONSISTENT WITH SOUND SILVICULTURAL PRACTICES.
3. PLANT MATERIAL WILL BE TRANSPORTED FROM THE NURSERY TO THE PLANTING AREAS BY SUCH MEANS AS TO AVOID WIND DAMAGE, OVER-CROWDING, OR OTHER MECHANISMS BY WHICH PHYSICAL DAMAGE MAY RESULT TO THE PLANTS.
4. PLANT MATERIAL MAY BE RANDOMLY INSPECTED BY THE OWNER UPON ARRIVAL AT EACH PLANTING AREA AND DURING PLANTING ACTIVITIES. MATERIAL FOUND TO BE UNACCEPTABLE WILL BE REJECTED AND THE CONTRACTOR WILL BE REQUIRED TO SUPPLY REPLACEMENT MATERIAL WITHIN A REASONABLE TIME FRAME (I.E. 1-WEEK). UNACCEPTABLE MATERIAL IS TO BE DEFINED AS THE FOLLOWING:

(A) PLANTS WITH BENT TRUNKS OR MULTIPLE LEADERS, UNLESS CHARACTERISTICS FOR THE SPECIES;
(B) PLANTS WITH DISEASED TRUNKS, STEMS, OR LEAVES;
(C) PLANTS WITH PEST-INFESTED TRUNKS, STEMS, OR LEAVES;
(D) PLANTS OF INSUFFICIENT SIZE (LESS THAN A SPECIFIED HEIGHT);
(E) PLANTS OF THE WRONG SPECIES/SUB-SPECIES;
(F) PLANTS HAVING ROOT GIRDLING IN THE CONTAINER;

UNLESS OTHERWISE APPROVED BY THE OWNER. JUSTIFICATION FOR USE OF TENTATIVELY REJECTED MATERIAL MAY BE PRESENTED TO THE OWNER.

## MAINTENANCE AND MONITORING PLAN

1. WATER ONLY AS NECESSARY, BUT AT LEAST ONCE EVERY 10 DAYS WITHOUT RAINFALL FROM MAY THROUGH SEPTEMBER, DEPENDING ON SOIL MOISTURE LEVELS. MONITOR TO ENSURE THAT OVER-WATERING DOES NOT OCCUR.
2. IF NEEDED, USE LOW NITROGEN AND SLOW RELEASE FERTILIZERS AND APPLY IN THE LATE FALL OR EARLY SPRING.
3. IF NEEDED, REMOVE DEAD AND/OR DAMAGED TREES AND REPLACE WITH LIVE STOCK.
4. IF NEEDED, REMOVE INVASIVE SPECIES UTILIZING MANUAL REMOVAL OR SPOT HERBICIDE APPLICATION.
5. INSPECTIONS FOR SURVIVAL SHALL BE PERFORMED ANNUALLY AND PLANTS REPLACED AS NEEDED IN THE NEXT APPROPRIATE PLANTING SEASON. THE GOAL IS THAT AT THE END OF THE MAINTENANCE PERIOD, SURVIVAL STANDARDS CAN BE MET. IF THE COUNTY DETERMINES THAT SURVIVAL IS NOT ADEQUATE, THE MONITORING PERIOD MAY BE EXTENDED AND ADDITIONAL INSPECTIONS MAY BE REQUIRED AT THE DISCRETION OF MARYLAND DEPARTMENT OF THE ENVIRONMENT.
6. THE LANDOWNER MUST ALLOW REPRESENTATIVES OF MARYLAND DEPARTMENT OF THE ENVIRONMENT TO ENTER THE PROPERTY TO INSPECT THE PLANTINGS AT APPROPRIATE TIMES.
7. LANDOWNER IS RESPONSIBLE FOR SUBMITTING ANNUAL MONITORING REPORTS TO THE ANTIDEGRADATION DEPARTMENT AT THE MARYLAND DEPARTMENT OF THE ENVIRONMENT

## LONG TERM PROTECTION PLAN

1. AT THE END OF THE 2-YEAR MONITORING PERIOD, ALL OF THE PLANTS ARE REQUIRED TO SURVIVE PER COMAR 27.01.09.01-2J. ANY STOCK THAT DID NOT SURVIVE SHALL BE REPLACED TO MEET MINIMUM SUVIVABILITY STANDARDS.
2. AT THE END OF THE MONITORING PERIOD, THE REQUIRED SURVIVAL RATE FOR BARE ROOT SEEDLINGS AND WHIPS SHALL BE 50%, FOR ½" TO 1" CONTAINER GROWN TREES SHALL BE 75%, AND FOR >1" CONTAINER GROWN TREES SHALL BE 90%.
3. REFORESTATION SHALL BE PROTECTED IN PERPETUITY THROUGH PROTECTIVE EASEMENTS.

GRAPHIC SCALE

50 0 25 50 100 200

( IN FEET )
1 inch = 50 ft.

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TIER II MITIGATION PLAN

Prepared For: Bohler Engineering

BAINBRIDGE-POWERS ROAD ESXTENSION
Cecil County, Maryland

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REVISIONS

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SCALE: As Noted C.I.: 2'

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| HK | HK | MJK |



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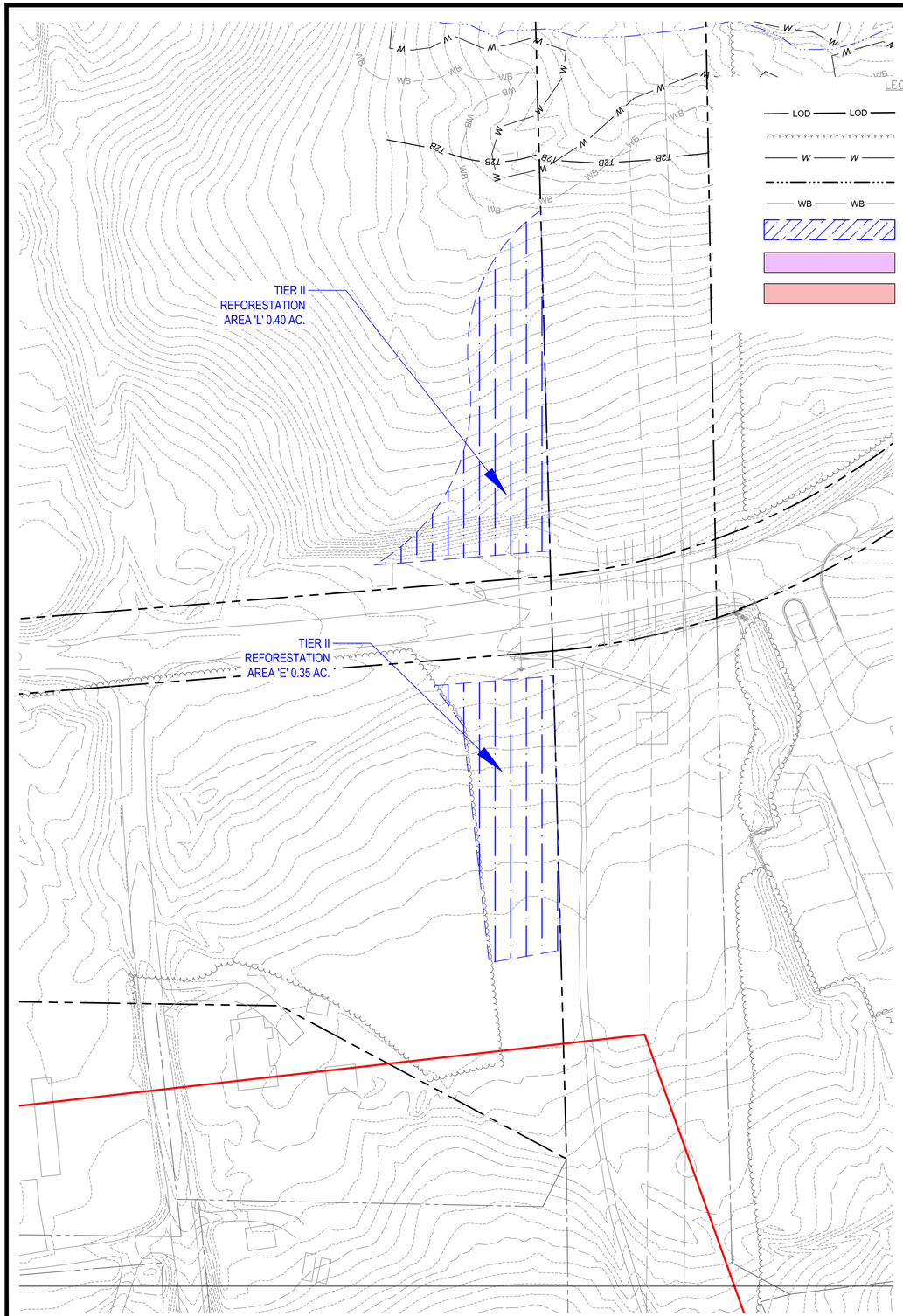
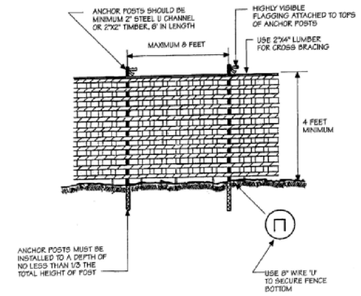



LEGEND

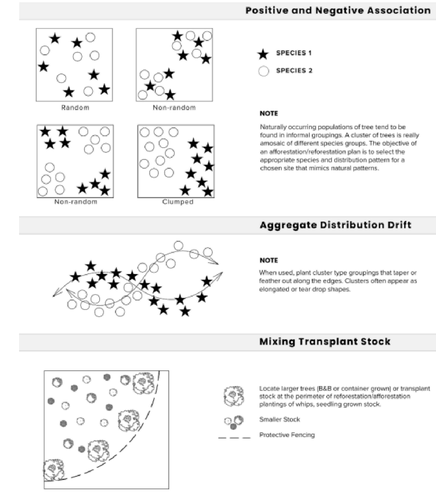
- LOD — LIMIT OF DISTURBANCE
- EXISTING TREELINE
- W — EXISTING WETLAND
- EXISTING STREAM
- WB — 25' WETLAND BUFFER
- TIER II REFORESTATION (1.28 ACRES)
- EXISTING IMPERVIOUS TO BE TREATED (1.98 ACRES)
- EXISTING IMPERVIOUS TO BE REMOVED (0.98 ACRES)




Notes:
1. Blaze orange or blue plastic mesh fence for forest protection device, only.
2. Boundaries of Retention Area will be established as part of the forest conservation plan review process.
3. Boundaries of Retention Area should be staked and flagged prior to installing device.
4. Avoid damage to critical root zone. Do not damage or sever large roots when installing posts.
5. Protection signs are required.
6. Device should be maintained throughout construction.

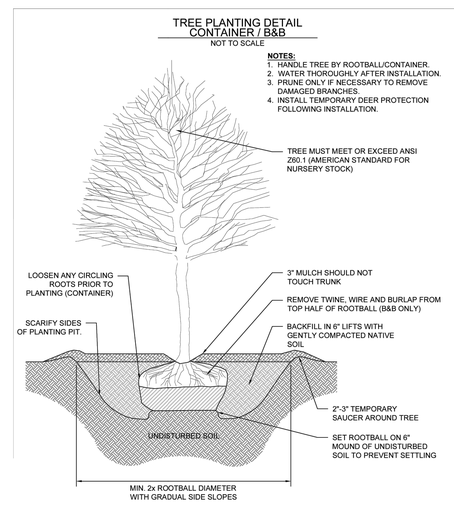
**D:5** **Plastic Mesh Tree Protection**
Source: Adapted from Prince George's County, Woodland Conservation Manual, 1991

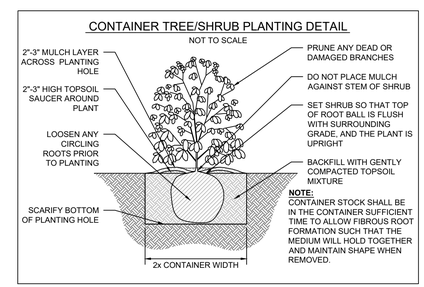
MARYLAND DEPARTMENT OF NATURAL RESOURCES




**A:19** **Planting Distribution Pattern**
Adapted from Forest Conseration Manual, 1991

MARYLAND DEPARTMENT OF NATURAL RESOURCES




TIER II WATERS:
HIGH QUALITY
WATERS
---
EROSION AND
SEDIMENT
CONTROL
MEASURES
STRICTLY
ENFORCED

TIER II SIGN DETAIL
(Not to Scale)

Notes:
1. Bottom of signs to be higher than top of tree protection fence.
2. Signs to be placed approximately 50 feet apart. Conditions on site affecting visibility may warrant placing signs closer or farther apart.
3. Attachment of signs to trees is prohibited.

Non-Native and Invasive Species Management

1. Existing Invasive species on site include Norway maple (*Acer platanoides)*, Princess tree *(Paulownia tomentosa)*, bush honeysuckle (*Lonicera japonica)*, multiflora rose (*Rosa multiflora)*, wineberry (*Rubus phoenicolasius)*, Oriental bittersweet *(Celastrus orbiculatus)*, garlic mustard *(Alliaria petiolata)*, and Japanese stiltgrass *(Microstegium vimineum)*.
2. Disturbance and increased edge effects can allow for the establishment of additional invasive species including, but not limited to Japanese honeysuckle (*Lonicera japonica)*, English ivy (*Hedera helix)*, Bradford pear (*Pyrus calleryana)*, porcelain-berry *(Ampelopsis glandulosa var. brevipedunculata)*, tree-of-heaven (*Ailantus altissima)*, autumn olive (*Eleanthus angustifolia)*, reed canary grass (*Phalaris arundinacea)*, and Japanese knotweed (*Reynoutria japonica)*.
3. After construction, the developer shall implement an invasive species management program using mechanical and chemical control methods to minimize invasive species and encourage the establishment of native plants and wildlife within the restoration easements. This program will continue through the post-construction monitoring and maintenance period. Target invasive species include those listed above. Chemical application is by hand spraying using aquatic glyphosate. In addition, hedges of multiflora rose and other woody invasive species are mechanically removed with either a mower or weed whacker, as site conditions allow. Hack and squirt methods are used to treat woody shrubs like autumn olive. The site will be treated annually with some additional spot applications to address hot spots. Treated areas shall be overseeded with an native grass and sedge mix to establish a cover of native species to outcompete the invasive species.

GRAPHIC SCALE
50 0 25 50 100 200
( IN FEET )
1 inch = 50 ft.


Wetland Studies and Solutions, Inc. a DAVEY company
1131 Benfield Boulevard • Suite L
Millersville, Maryland 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlands.com


TIER II MITIGATION PLAN

Prepared For: Bohler Engineering

BAINBRIDGE-POWERS ROAD ESXTENSION
Cecil County, Maryland

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REVISIONS

| No. | Date | Description | Rev. By | App. By |
|---|---|---|---|---|
| | | | | |

SCALE: As Noted C.I.: 2'
DATE: date

Horizontal Datum: NAD 83
Vertical Datum: NAVD 88
Boundary and Topo Source:
Bohler
Cecil County GIS

| Design | Draft | Approved |
|---|---|---|
| HK | HK | MJK |



WSSI Project Number:
WSSI Project Number

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# PLANTING AREA A: TIER II MITIGATION VEGETATION SCHEDULE (1.28 AC)

## PLANTING SCHEDULE

| CONTAINER PLANTING ZONE | | SPECIES GROUP[1,2] | SPECIES[2] | INDICATOR STATUS (AGCP) | INDICATOR STATUS (EMP) | WILDLIFE VALUE: FUNCTIONS | WILDLIFE VALUE: PRIMARY SPECIES | WILDLIFE VALUE: PLANT PART | WILDLIFE VALUE: SEASON | PLANT SPACING[3] | CONTAINER SIZE, RATE, AND QUANTITY: PLANTS PER ACRE | CONTAINER SIZE, RATE, AND QUANTITY: # OF PLANTS |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| TIER II AREA | TREE LAYER | 1 | ULMUS RUBRA (SLIPPERY ELM) | FAC | FAC | Food, cover | Finches, chickadees, squirrels, robins, goldfinches, other birds | Seeds, Tree | All | 15' O.C.[3] | 200 1" CAL. | 128 |
| | | | QUERCUS RUBRA (NORTHERN RED OAK) | FACU | FACU | Food, cover, reproductive areas | Woodpeckers, turkey, deer, fox, raccoons, squirrels, other small mammals | Nuts, Tree | All | | | |
| | | | QUERCUS PALUSTRIS (PIN OAK) | FACW | FACW | Food, cover, reproductive areas | Woodpeckers, turkey, deer, fox, raccoons, squirrels, other small mammals | Nuts, tree | All | | | |
| | | | QUERCUS PHELLOS (WILLOW OAK) | FACW | FAC | Food, cover, reproductive areas | Woodpeckers, turkey, deer, fox, raccoons, squirrels, other small mammals | Nuts, tree | All | | | |
| | | 2 | ACER NEGUNDO (BOX ELDER) | FAC | FAC | Food, cover | Finches, chickadees, squirrels, robins, goldfinches, other birds | Seeds, buds, flowers, plant | All | | | 128 |
| | | | BETULA NIGRA (RIVER BIRCH) | FACW | FACW | Food, cover | Song birds | Seeds, tree | All | | | |
| | | | CARPINUS CAROLINIANA (AMERICAN HORNBEAM) | FAC | FAC | Food, cover | Rufted grouse, bobwhite, pheasant, wild turkey, squirrel, rabbit, deer, beaver | Fruit | Summer, fall | | | |
| | | | NYSSA SYLVATICA (BLACK GUM) | FAC | FAC | Food, cover | Song birds, small mammals, mallard, wood duck, wild turkey | Fruit, tree | All | | | |
| | | | PLATANUS OCCIDENTALIS (AMERICAN SYCAMORE) | FACW | FACW | Food, cover, reproductive areas | Raccoons, opossum, wood duck, woodpeckers, goldfinches, chickadees | Hollow trunks, seeds | All | | | |
| | SHRUB LAYER | 3 | JUNIPERUS VIRGINIANA (EASTERN REDCEDAR) | FACU | FACU | Food, cover | Songbirds, small mammals | Fruit, plant | All | 12' O.C.[3] | 350 1 GAL. CONT. | |
| | | | AMELANCHIER CANADENSIS (CANADIAN SERVICEBERRY) | FAC | FAC | Food, cover | Song birds, small mammals | Fruit, plant | All | | | 85 |
| | | | CORNUS AMOMUM (SILKY DOGWOOD) | FACW | FACW | Food, cover | Catbird, thrasher, thrushes, woodpeckers | Flowers, seeds, and foliage | Summer, fall | | | |
| | | | ILEX VERTICILLATA (WINTERBERRY) | FACW | FACW | Food, cover, reproductive areas | Beaver, porcupine, deer, muskrat, ducks, fish | Seeds, plant | All | | | |
| | | | SAMBUCUS NIGRA spp. CANADENSIS (ELDERBERRY) | FACW | FAC | Food, cover, reproductive areas | Brown thrasher, catbird, woodpeckers, thrushers | Flowers, seeds, and foliage | Spring, fall, winter | | | |
| | | | VIBURNUM DENTATUM (SOUTHERN ARROWWOOD) | FAC | FAC | Food, cover, reproductive areas | Robins, bluebirds, other thrushes, thrashers, catbirds, vireos | Flowers, seeds, and foliage | Spring, summer, fall | | | |
| **TIER II QUANTITY SUBTOTALS** | | | | | | | | | | | | **341** |

**PLANTING NOTES:**

1) It is expected that all species listed in each zone are planted. Substitutions for selected plant species based upon availability shall be requested in writing to engineer, documenting the lack of availability. No single species shall exceed 20% of total planting requirement.
2) Plant stock shall be sourced from within 150 miles of the project site.
3) Plantings shall be evenly distributed with shrubs and understory trees interspersed between overstory trees.
4) All seedlings shall be protected with four (4)-foot high protective, biodegradable tree shelters.

**SEQUENCE OF CONSTRUCTION**

**NOTES:**

1. NO DISTURBANCE MAY OCCUR IN AN AREA UNTIL ALL RELEVANT PERIMETER CONTROLS (INCLUDING SEDIMENT BASINS, SUPER SILT FENCE, EARTH DIKES, AND PIPE SLOPE DRAINS) ARE IN PLACE AND STABILIZED.

**I - EXISTING CONDITIONS PHASE (MOT PLANS - PRE-CONSTRUCTION)**

1. STAKE/DELINEATE THE LIMITS OF DISTURBANCE IN THE FIELD. (1 WEEK)
2. NOTIFY CECIL COUNTY DEPARTMENT OF PUBLIC WORKS (410-996-5265) AND MARYLAND DEPARTMENT OF THE ENVIRONMENTAL (MDE) SEDIMENT CONTROL INSPECTOR (410-901-4020) AT LEAST 48 HOURS PRIOR TO BEGINNING GRADING WORK ON SITE. FIELD DELINEATION OF THE LIMITS OF DISTURBANCE SHALL BE INSPECTED AT THE PRECONSTRUCTION MEETING. THE OWNER SHALL BE THE PRIMARY CONTACT OF THE MDE SEDIMENT CONTROL INSPECTOR. WORK MAY NOT BEGIN UNTIL A PRECONSTRUCTION MEETING IS HELD OR WAIVED BY THE DEPARTMENT OF PUBLIC WORKS. (1 DAY)
3. INSTALL SAFETY FENCE AROUND SITE IF NECESSARY. (1 WEEK)
4. NOTIFY CECIL COUNTY DPW ENGINEERING AND CONSTRUCTION AND CALL MISS UTILITY PRIOR TO BEGINNING CONSTRUCTION. (1 WEEK)
5. CLEAR, GRUB AND REMOVE ANY NECESSARY EXISTING FEATURES INTERFERING WITH PROPOSED PERIMETER SEDIMENT AND EROSION CONTROL MEASURES AND DEVICES. INSTALL PROPOSED STABILIZED CONSTRUCTION ENTRANCES, SILT FENCE, SUPER SILT FENCE, FILTER LOGS, TEMPORARY ASPHALT BERMS, EARTH DIKES AND ASSOCIATED RIPRAP, TREE PROTECTION FENCE, PIPE SLOPE DRAINS, TEMPORARY GABION OUTLET STRUCTURES, AND GRADE IN TEMPORARY SWALES STABILIZING IMMEDIATELY WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING AS DIRECTED BY THE MDE INSPECTOR AND AS SHOWN ON THE APPROVED PLANS. DO NOT INSTALL ANY EARTH DIKE THAT DIRECTS FLOW TO A PROPOSED SEDIMENT BASIN AT THIS TIME. WHERE EARTH DIKES ARE BEING INSTALLED IN AREAS WITHOUT PERIMETER SEDIMENT CONTROL MEASURE IN PLACE, ALL DISTURBANCE FOR EARTH DIKE INSTALLATION MUST BE STABILIZED AT THE END OF EACH WORKING DAY. INSTALL INLET PROTECTION ON ALL EXISTING INLETS WITHIN THE DELINEATED LIMITS OF DISTURBANCE. SILT FENCE AND SUPER SILT FENCE SHALL BE INSPECTED & MAINTAINED EACH DAY AND AFTER EACH STORM EVENT. MAINTENANCE SHALL INCLUDE BUT NOT BE LIMITED TO REMOVAL OF ALL ACCUMULATED SEDIMENT. DAILY STABILIZATION IS REQUIRED FOR AREAS WHERE REMOVAL OF EXISTING FEATURES CREATE DISTURBANCE OUTSIDE THE PERIMETER SEDIMENT CONTROL. (4 WEEKS).
6. UPGRADE STORMDRAIN AND INSTALL STRUCTURES K-100, K-110, K-120 AND K-130. WORK SHALL BE COMPLETED DURING THE DRY SEASON. INSTALL STRUCTURES I-30, I-31, I-32, AND I-40, AND ASSOCIATED PIPES, IN ADDITION TO, THE PERMANENT LEVEL SPREAD AT THE FALL. INSTALL PIPE STUB UNDER PRESTON DRIVE AND PIPE STUB UNDER FUTURE DIAMOND JIM. (2 WEEKS)
7. INSTALL TEMPORARY ASPHALT PAVEMENT FOR RESIDENTIAL ACCESS DRIVE. ACCESS TO RESIDENTIAL PROPERTY TO BE MAINTAINED THROUGH CONSTRUCTION. (1 WEEK)
8. CLEAR AND GRUB AREAS FOR PROPOSED SEDIMENT BASINS ONLY. CLEARING AND GRUBBING FOR EACH FACILITY SHOULD ONLY BE DONE JUST BEFORE THAT SEDIMENT BASIN IS TO BE CONSTRUCTED. (2 WEEKS)
9. UPON COMPLETION OF CLEARING AND GRUBBING, BEGIN INSTALLATION OF PROPOSED SEDIMENT BASINS. STRIP AND STOCKPILE ANY AVAILABLE TOPSOIL FROM SEDIMENT BASIN AREAS FOR REUSE IN STABILIZING AREAS OF SEDIMENT BASINS ONCE INSTALLED. INSTALL PRINCIPAL SPILLWAYS, BAFFLES, REMOVABLE PUMPING STATIONS, AND GABION INFLOW PROTECTIONS. INSTALL OUTFALL PIPES FOR EACH PROPOSED BASIN. INSTALL EARTH DIKES THAT ARE DIRECTING FLOW TO A SEDIMENT BASIN. THESE EARTH DIKES SHALL NOT BE INSTALLED UNTIL THE RESPECTIVE SEDIMENT BASIN IS FULLY STABILIZED AND FUNCTIONAL. SITE GRADING SHALL BE LIMITED TO THAT WHICH IS REQUIRED FOR INSTALLING THE BASINS AND EARTH DIKES. REMOVABLE PUMPING STATION AND FILTER BAGS TO BE USED FOR MAINTENANCE AND CLEANOUT OF SEDIMENT BASINS AND TRAPS. (12 WEEKS)
10. UPON INSTALLATION AND STABILIZATION OF EACH SEDIMENT BASIN AND WITH THE APPROVAL OF THE MDE INSPECTOR, THE CONTRACTOR CAN PROCEED TO PHASE II. UPSTREAM DRAINAGE AREAS CANNOT BE DISTURBED UNTIL THE REQUIRED SEDIMENT BASIN IS FUNCTIONAL.
11. NOTIFY MDE UPON COMPLETION OF EACH SEDIMENT BASIN FOR INSPECTION. (1 DAY).
12. WITH THE APPROVAL OF THE MDE SEDIMENT CONTROL INSPECTOR, CLEAR AND GRUB THE AREAS FOR THE PROPOSED IMPROVEMENTS. REMOVE ANY EXISTING ASPHALT PAVING, CONCRETE PAVING, AND DEMOLISHING SITE FEATURES WITH THE LIMITS OF DISTURBANCE. (8 WEEKS)
13. PROCEED TO PROPOSED CONDITIONS. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN: THREE DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3:1 AND SEVEN DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

**SEQUENCE OF CONSTRUCTION (CONT.)**

**II - PROPOSED CONDITIONS PHASE**

NOTE: SECTIONS A, B, C, AND D MAY BE COMPLETED IN ANY ORDER OR CONCURRENTLY AS APPROVED BY THE MDE SEDIMENT CONTROL INSPECTOR

SECTION A: CRAIGTOWN ROAD & DIAMOND JIM ROAD

1. PHASE 1 (THE BELOW SUB-PHASES A & B MAY BE COMPLETED CONCURRENTLY AS APPROVED BY THE MDE SEDIMENT CONTROL INSPECTOR) (MOT PLANS):
   a. CRAIGTOWN ROAD - STATION 11+67 TO STATION 16+55, DIAMOND JIM ROAD - STATION 10+00 TO STATION 14+50 (24 WEEKS)
   i. INSTALL NECESSARY STABILIZED CONSTRCUTION ENTRANCES AND BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.
   ii. INSTALL STORM STRUCTURES F-50, F-60, F-70, F-80, N-10, N-20, N-30, N-40, A PORTION OF THE OUTFALL PIPE TO THE BASIN, AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.
   iii. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SLOPE DRAINS AND EARTH DIKE ALONG THE WESTERLY SIDE OF EXISTING CRAIGTOWN ROAD CAN BE REMOVED AT THIS TIME.
   iv. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.
   v. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.
   vi. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.
   vii. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.
   b. DIAMOND JIM ROAD - STATION 15+50 TO STATION 24+28 (36 WEEKS) NOTE: THE CONTRACTOR SHALL ALWAYS MAINTAIN ACCESS TO THE CHURCH AND PRIVATE RESIDENCES ALONG DIAMOND JIM ROAD BETWEEN STA 17+00 TO 24+28. TO RE-CONSTRUCT AND WIDEN DIAMOND JIM ROAD, THE CONTRACTOR SHALL COMPLETE THIS WORK IN PHASES AS NEEDED TO MAINTAIN ALL EXISTING ROADWAYS AND ACCESS POINTS DURING THE ALLOWABLE WORKING HOURS. CONTRACTOR SHALL MAINTAIN ACCESS TO THE CHURCH PARKING LOT VIA CRAIGTOWN ROAD UNLESS SPECIFICALLY COORDINATED WITH OWNER. REFER TO MAINTENANCE OF TRAFFIC PLANS.
   i. INSTALL NECESSARY STABLILIZED CONSTRUCTION ENTRANCES AND BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.
   ii. INSTALL STORM STRUCTURES E-10, E-20, E-30, D-10, D-20, D-30, AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.
   iii. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.
   iv. THE PROPOSED CULVERT MODIFICATIONS WITHIN DIAMOND JIM ROAD SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE APPROVED MDE PLANS AND PERMIT AND THE FOLLOWING SEQUENCE OF CONSTRUCTION:
1. NO IN-STREAM WORK SHALL TAKE PLACE BETWEEN OCTOBER 1 AND APRIL 30 OF ANY YEAR. NOTIFY THE MARYLAND DEPARTMENT OF THE ENVIRONMENT SEDIMENT CONTROL INSPECTOR AT LEAST 48 HOURS PRIOR TO THE START OF CONSTRUCTION. (1 DAY)
2. THE GENERAL CONTRACTOR SHALL NOT COMMENCE ANY LAND DISTURBING ACTIVITIES PRIOR TO OBTAINING A GRADING PERMIT. (1 DAY)
3. THE CONTRACTOR SHALL HOLD A PRE-CONSTRUCTION MEETING WITH THE CONSTRUCTION MANAGER AND THE MARYLAND DEPARTMENT OF THE ENVIRONMENT SEDIMENT CONTROL INSPECTOR PRIOR TO COMMENCING ANY LAND DISTURBING ACTIVITIES. (1 DAY)
4. ALL AREAS WHICH ARE TO BE DISTURBED SHALL BE CLEARLY MARKED IN THE FIELD PRIOR TO CONSTRUCTION. DISTURBED AREAS WITHIN THE SITE WHERE CONSTRUCTION ACTIVITY HAS CEASED SHALL BE PERMANENTLY OR TEMPORARILY STABILIZED WITHIN:
   a. THREE (3) CALENDAR DAYS ON SLOPES GREATER THAN 3:1, ALL WATERWAYS AND TO THE SURFACE OF ALL PERIMETER CONTROLS.
   b. SEVEN (7) CALENDAR DAYS ON ALL OTHER DISTURBED OR GRADED AREAS OF THE PROJECT.\
   c. INSTALL PERIMETER SUPER SILT FENCE AS SHOWN ON THE SEDIMENT CONTROL PLANS. (3 DAYS)
   d. INSTALL PUMP AROUND PRACTICE AS SHOWN ON THE SEDIMENT CONTROL PLANS. (2 DAYS)
   e. BEGIN STREAM RESTORATION. CONTRACTOR TO ROUGH GRADE STREAM CHANNEL. (1 WEEK)
5. BEGIN INSTALLATION OF RETAINING WALLS AND CONCRETE BOX CULVERT (REFER TO STRUCTURAL DESIGN PLANS). (1 WEEK)
6. FINALIZE STREAM RESTORATION. UTILIZE JUTE MATTING FOR SOIL STABILIZATION. SEE STREAM RESTORATION AREA PLANTING SCHEDULE AND PLANT DETAIL FOR PROPOSED CHANNEL. (1 WEEK)
7. AS SITE IS BROUGHT TO FINAL GRADE, PERMANENTLY STABILIZE ALL DISTURBED AREAS WITHIN THREE (3) CALENDAR DAYS. (4 WEEKS)
8. INSTALL PERMANENT LANDSCAPING AROUND THE STREAM AND CULVERT AREAS. NATIVE WOODY VEGETATION SHALL BE INSTALLED. (1 WEEK)
9. AFTER ALL CONSTRUCTION HAS BEEN COMPLETED AND UPON APPROVAL FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT SEDIMENT CONTROL INSPECTOR REMOVE SEDIMENT CONTROL MEASURES. (1 WEEK)
10. NOTIFY CECIL COUNTY DEPARTMENT OF PUBLIC WORKS, ENGINEERING & CONSTRUCTION DIVISION FOR THE FINAL INSPECTION OF THE COMPLETED PROJECT. (3 DAYS)
   v. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.
   vi. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.
   vii. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.
   viii. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.
   ix. INSPECTOR, THE CONTRACTOR MAY PROCEED TO PHASE 2.


Wetland Studies and Solutions, Inc.
a DAVEY company
1131 Benfield Boulevard • Suite L
Millersville, Maryland 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlands.com


TIER II MITIGATION PLAN

Prepared For: Bohler Engineering

BAINBRIDGE-POWERS ROAD ESXTENSION
Cecil County, Maryland

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REVISIONS

| No. | Date | Description | Rev. By | App. By |
|---|---|---|---|---|
| | | | | |

SCALE: As Noted C.I.: 2'

DATE: date

Horizontal Datum: NAD 83

Vertical Datum: NAVD 88

Boundary and Topo Source:
Bohler
Cecil County GIS

| Design | Draft | Approved |
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| HK | HK | MJK |



WSSI Project Number:
WSSI Project Number

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**SEQUENCE OF CONSTRUCTION (CONT.)**

2. PHASE II (MOT PLANS):

a. CRAIGTOWN ROAD (WEST SIDE) - STATION 10+00 TO STATION 12+00 AND STATION 16+55 TO STATION 19+95 (3 WEEKS) NOTE: THE CONTRACTOR SHALL USE A FLAGGING OPERATION TO RECONSTRUCT PAVEMENT SECTIONS PROPOSED FOR THIS PHASE AND TIE INTO THE NEW ROADWAY CONSTRUCTED IN PHASE 1. TRAFFIC TO BE ROUTED ON TO THE NEWLY CONSTRUCTED REALIGNED CRAIGTOWN ROAD TEMPORARILY DURING WORK HOURS. AT THE END OF THE WORKDAY, THE ROADWAY SHALL BE REOPENED SO THE EXISTING TRAVEL LANES ARE AVAILABLE DURING NON-WORKING HOURS. IN THE AREA OF MANOR ROAD, WORK WILL NEED TO BE PHASED TO MAINTAIN ACCESS. REFER TO MAINTENANCE OF TRAFFIC PLANS.

i. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

ii. INSTALL STORM STRUCTURES F-90, F-109, F-110 (IF SECTION C HAS NOT BEEN COMPLETED), F-111, F-120, F-130, G-20 AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. INSTALL TEMPORARY PIPE FROM F-90 TO EXISTING STRUCTURE AND BASIN OUTFALL. TEMPORARY OUTFALL TO BE EXTENDED FROM G-20 TO BASIN. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.

iii. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

iv. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

v. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

vi. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

vii. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

b. CRAIGTOWN ROAD (EAST SIDE) - STATION 10+00 TO STATION 12+00 AND STATION 16+30 TO STATION 19+95 (3 WEEKS) NOTE: THE CONTRACTOR SHALL USE A FLAGGING OPERATION TO RECONSTRUCT PAVEMENT SECTIONS PROPOSED FOR THIS PHASE AND TIE INTO THE NEW ROADWAY CONSTRUCTED IN PHASE 1. TRAFFIC TO BE ROUTED ON TO THE NEWLY CONSTRUCTED REALIGNED CRAIGTOWN ROAD TEMPORARILY DURING WORK HOURS. AT THE END OF THE WORKDAY, THE ROADWAY SHALL BE REOPENED SO THE EXISTING TRAVEL LANES ARE AVAILABLE DURING NON-WORKING HOURS.

i. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

ii. INSTALL PUMP AROUND PRACTICE AND FILTER BAG TO OUTFALL BASINS.

iii. INSTALL STORM STRUCTURES F-10, F-20, G-30, F-140, AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.

iv. ONCE OUTFALL F-10 IS CONSTRUCTED AND FUNCTIONING, INSTALL TEMPORARY PIPE FROM BASIN OUTFALL STRUCTURE TO STRUCTURE F-20 AND REMOVE PUMP AROUND, FILTER BAG AND TEMPORARY PIPE FROM STRUCTURE F-90. IF SECTION C HAS NOT BEEN COMPLETED, INSTALL STRUCTURE F-100. ONCE BASIN IS OUTFALLING TO STRUCTURE F-10, CONNECT F-100 TO THE PIPE INSTALLED DURING THE EXISTING CONDITIONS PHASE TO STRUCTURE F-110. ONCE CONNECTED, THE EXISTING STORMDRAIN SYSTEM FROM F-100 TO THE EXISTING OUTFALL CAN BE REMOVED OR ABANDONED IN PLACE SUBJECT TO THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS.

v. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

vi. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

vii. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

viii. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

ix. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

x. SHIFT TRAFFIC TO THE NEWLY CONSTRUCTED/REALIGNED CRAIGTOWN ROAD AND OPEN DIAMOND JIM ROAD FROM STATION 10+00 TO STATION 14+50.

3. PHASE III (MOT PLANS):

a. DIAMOND JIM - STATION 14+00 TO STATION 15+50 (4 WEEKS) NOTE: THE CONTRACTOR SHALL MAINTAIN THE ROADWAY CLOSURE AND LOCAL ACCESS UNTIL THE FINAL INTERSECTION IS CONSTRUCTED. CONSTRUCT TEMPORARY PAVEMENT TO ESTABLISH THE INTERSECTION WHILE WORKING ON THE NORTH TIE-IN. ONCE THIS IS CONSTRUCTED, FINALIZE THE SOUTH TIE-IN. REFER TO MAINTENANCE OF TRAFFIC PLANS.

i. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

ii. ONCE ROUGH GRADING IS COMPLETED PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

iii. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

iv. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

v. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

vi. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

**SECTION B: POWERS ROAD & PRESTON ROAD**

2. PHASE 1 (MOT PLANS):

a. POWERS ROAD - STATION 10+00 TO STATION 24+00 (20 WEEKS) NOTE: REFER TO THE MAINTENANCE OF TRAFFIC PLANS. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT RESIDENCES AT ALL TIMES UNLESS SPECIFICALLY COORDINATED WITH OWNER.

i. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

ii. INSTALL STORM STRUCTURES K-10, K-11, K-20, K-21, K-70, K-71, K-80, K-81, L-10, L-20, L-21, L-30, AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.

iii. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

iv. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

v. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

vi. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

vii. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

b. POWERS ROAD - STATION 24+00 TO STATION 43+00 (20 WEEKS) NOTE: REFER TO THE MAINTENANCE OF TRAFFIC PLANS. THE CONTRACTOR SHALL MAINTAIN ACCESS TO ALL ADJACENT RESIDENCES AT ALL TIMES UNLESS SPECIFICALLY COORDINATED WITH OWNER.

i. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

vii. INSTALL STORM STRUCTURES K-22, K-30, K-31, K-32, K-40, K-41, K-50, K-60, K-61, K-62, K-90, K-91 AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.

ii. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

iii. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

iv. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

v. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

vi. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

**SECTION C: PRESTON DRIVE**

1. PHASE 1 (MOT PLANS):

a. PRESTON DRIVE - STATION 57+50 TO STATION 59+50 (16 WEEKS) NOTE: THE CONTRACTOR SHALL USE A FLAGGING OPERATION TO RECONSTRUCT PAVEMENT SECTIONS PROPOSED FOR THIS PHASE. WORK IN THE AREA OF MANOR ROAD WILL NEED TO BE PHASED TO MAINTAIN ACCESS IN THIS AREA, ADDITIONALLY THE CONTRACTOR WILL NEED TO OMIT THE CONSTRUCTION OF THE FINAL CURB AND GUTTER ON THE EAST SIDE OF PRESTON DRIVE (STA. 57+50 TO 58+00) AND PROVIDE A TEMPORARY PAVEMENT TRANSITION TO EXISTING MANOR ROAD UNTIL PHASE 2. REFER TO MAINTENANCE OF TRAFFIC PLANS.

i. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

ii. IF SECTION A HAS NOT BEEN COMPLETED, INSTALL STORM STRUCTURES F-100, F-110, AND ASSOCIATED PIPE WITHIN THESE SECTIONS OF WORK, STOPPING JUST SHORT OF F-100. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. EXISTING PIPE FROM F-100 TO EXISTING OUTFALL TO REMAIN IN PLACE AND FUNCTIONING UNTIL NEW OUTFALL (F-10) IS CONSTRUCTED AND FUNCTIONING.

iii. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

iv. ONCE SUBGRADES ARE REACHED FOR THE PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

v. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

vi. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

vii. UPON APPROVAL FROM THE MDE SEDIMENT CONTROL INSPECTOR REMOVE ANY SEDIMENT CONTROL MEASURE NECESSARY TO THE ROADWAY TO BECOME ACTIVE AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS.

**SECTION D: SHA ROAD IMPROVEMENTS**

1. BEGIN SHA ROAD IMPROVEMENTS ALONG PERRYLAWN DRIVE PER THE APPROVED MDSHA ACCESS PERMIT PLANS. REFER TO SHA MAINTENANCE OF TRAFFIC PLANS. (24 WEEKS)

a. BEGIN ROUGH GRADING WITHIN THE LIMITS OF DISTURBANCE. GRADING ACTIVITIES SHALL CONFORM TO INCREMENTAL STABILIZATION GUIDELINES. CUTS SHALL BE LIMITED TO 15-FOOT INCREMENTS. FOLLOWING EACH 15-FEET OF EXCAVATION, THE EXCAVATION AREA SHALL BE STABILIZED WITH 6-INCHES OF TOPSOIL, SEED, STRAW MULCH, AND EROSION CONTROL MATTING. FILLS SHALL BE LIMITED TO 15-FOOT INCREMENTS.

b. INSTALL STORM STRUCTURES A-10, A-20, A-30, A-40, A-50, A-60, A-70, A-80, A-90, A-100, A-110, A-120, B-10, B-20, B-30, B-40, B-50, B-60, C-10, C-20, C-30, C-40, AND ASSOCIATED PIPES WITHIN THESE SECTIONS OF WORK, STARTING AT THE DOWNSTREAM END OUTFALL STRUCTURE AND WORKING UPSTREAM. INSTALL A TEMPORARY PIPE FROM A-20 TO B-10. CONTRACTOR SHALL PERFORM SUFFICIENT GRADING SURROUNDING INLETS TO ENSURE THAT THEY ARE CAPABLE OF FUNCTIONING AND CAPTURING ALL UPSLOPE FLOWS. IMMEDIATELY INSTALL INLET PROTECTION ON EVERY STORM DRAIN INLET UPON INSTALLATION. TO PREVENT BYPASS OF THE INLETS, PROVIDE DIVERSION MEASURES (EARTH BERM, STONE BERM, OR TEMPOARY ASPHALT BERM) TO DIRECT FLOWS TO INLET, IF REQUIRED.

c. ONCE ROUGH GRADING IS COMPLETED AND STORM DRAIN STRUCTURES ARE CONSTRUCTED AND PROPERLY FUNCTIONING, PROPOSED ROADWAY SHALL BE BROUGHT TO GRADE AS SOON AS POSSIBLE AND STABILIZED WITH STONE. AREAS WITH SLOPES 3:1 OR STEEPER SHALL BE STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

d. ONCE SUBGRADES ARE REACHED FOR PROPOSED ROAD, BEGIN CONSTRUCTION OF PROPOSED CONCRETE CURB AND GUTTER AND STONE BASE (WHERE APPLICABLE) WITHIN THE PROPOSED PAVED AREAS. INLET PROTECTION TO BE REPLACED AS NECESSARY WITH APPROPRIATE TYPE OF INLET PROTECTION AS CURB AND GUTTER ARE INSTALLED.

e. ANY REMAINING AREAS ALONG THE PROPOSED ROAD ARE TO BE COMPLETED AND IMMEDIATELY STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING. TEMPORARY SWALES TO BE INSPECTED AND REPAIRED AS NECESSARY AND STABILIZED WITH TOPSOIL, PERMANENT SEED AND SOIL STABILIZATION MATTING.

f. UPON COMPLETION OF STONE BASE WITHIN THE PROPOSED ROADWAY, BEGIN PAVING.

g. ONCE THE CONTRIBUTING DRAINAGE AREA TO THE PROPOSED SUBMERGED GRAVEL WETLAND HAS BEEN STABILIZED, INCLUDING ESTABLISHED VEGETATION, ALL STORM DRAINS AND INLETS AS SHOWN ON THE APPROVED PLANS ARE INSTALLED AND FUNCTIONING, AND WITH THE APPROVAL OF THE MDE SEDIMENT CONTROL INSPECTOR AND THE STORMWATER MANAGEMENT INSPECTOR, CONSTRUCT PERMANENT SUBMERGED GRAVEL WETLAND FACILITY PER THE DETAILED SEQUENCE OF CONSTRUCTION AS SHOWN ON THE APPROVED STORMWATER MANAGEMENT PLANS FOR EACH SUBMERGED GRAVEL WETLAND AND REMOVE THE TEMPORARY PIPE FROM A-20 TO B-10. (4 WEEKS)

h. REMOVE ANY REMAINING SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS. REMOVAL OF SEDIMENT CONTROL MEASURES MAY NOT OCCUR UNTIL PERMANENT STABILIZATION HAS BEEN ACHIEVED AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR. (2 WEEKS)

**III - SWM CONVERSION & CLOSEOUT (MOT PLANS - PHASE 3):**

1. ONCE THE CONTRIBUTING DRAINAGE AREAS TO THE SEDIMENT BASINS HAVE BEEN STABILIZED, INCLUDING ESTABLISHED VEGETATION, ALL STORM DRAINS AND INLETS AS SHOWN ON THE APPROVED PLANS ARE INSTALLED AND FUNCTIONING, AND WITH THE APPROVAL OF THE MDE SEDIMENT CONTROL INSPECTOR, CLEANOUT SEDIMENT BASINS AND TAKE SPOIL TO AN APPROVED SITE. UTILIZE EXISTING REMOVABLE PUMPING STATION WITHIN EACH BASIN AND CONNECT TO A FILTER BAG TO DEWATER BASINS. ONCE COMPLETELY DEWATERED, REMOVE GABION INFLOW PROTECTION, BAFFLES, TEMPORARY DRAW DOWN DEVICE, REMOVABLE PUMPING STATION AND ANY OTHER TEMPORARY SEDIMENT CONTROL DEVICES WITHIN THE BASIN. (4 WEEKS)
2. PERFORM A FINAL CLEANOUT OF THE BASIN AREA AND REMOVE ANY UNSUITABLE SOIL PRIOR TO CONVERSION. ALL SOFT AND UNSUITABLE MATERIAL MUST BE REMOVED FROM THE BASIN AREA. (1 WEEK)
3. WITH APPROVAL OF THE STORMWATER MANAGEMENT INSPECTOR, CONSTRUCT PERMANENT SUBMERGED GRAVEL WETLAND FACILITIES PER THE DETAILED SEQUENCE OF CONSTRUCTION AS SHOWN ON THE APPROVED STORMWATER MANAGEMENT PLANS FOR EACH SUBMERGED GRAVEL WETLAND. (4 WEEKS)
4. INSTALL LANDSCAPING PER APPROVED LANDSCAPE PLAN AND REFORESTATION PLANTING PLAN. (2 WEEKS)
5. REMOVE ANY REMAINING SEDIMENT CONTROL MEASURES AND STABILIZE THOSE AREAS DISTURBED BY THIS PROCESS. REMOVAL OF SEDIMENT CONTROL MEASURES MAY NOT OCCUR UNTIL PERMANENT STABILIZATION HAS BEEN ACHIEVED AND WITH PERMISSION OF THE SEDIMENT CONTROL INSPECTOR. (2 WEEKS)


Wetland Studies and Solutions, Inc.
a DAVEY company
1131 Benfield Boulevard • Suite L
Millersville, Maryland 21108
Phone: 410-672-5990 • Fax: 410-672-5993
www.wetlands.com


TIER II MITIGATION PLAN

Prepared For: Bohler Engineering

BAINBRIDGE-POWERS ROAD ESXTENSION

Cecil County, Maryland

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REVISIONS

| No. | Date | Description | Rev. By | App. By |
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SCALE: As Noted C.I.: 2'

DATE: date

Horizontal Datum: NAD 83

Vertical Datum: NAVD 88

Boundary and Topo Source:
Bohler
Cecil County GIS

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