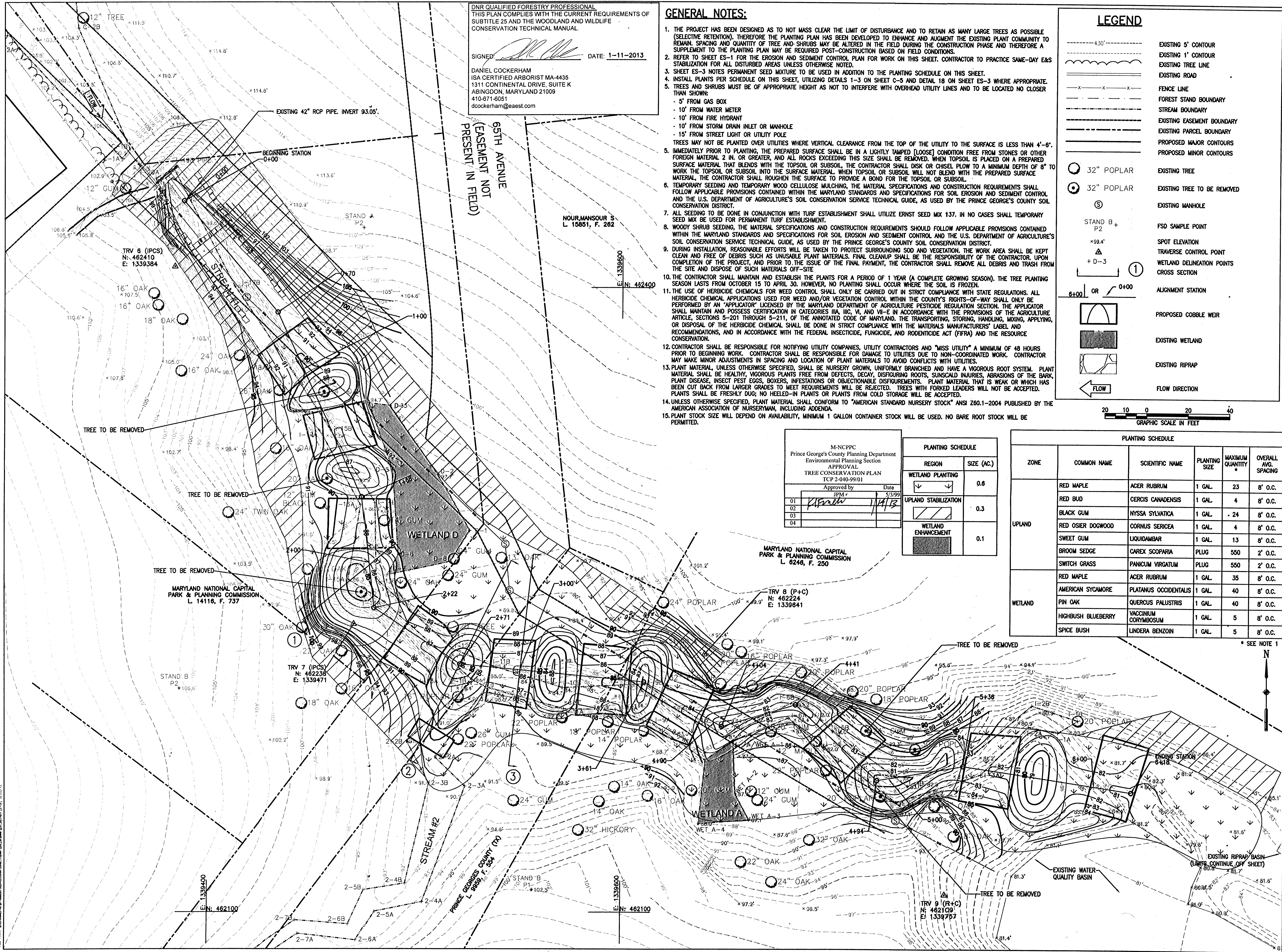




DNR QUALIFIED FORESTRY PROFESSIONAL
THIS PLAN COMPLIES WITH THE CURRENT REQUIREMENTS OF
SUBTITLE 25 AND THE WOODLAND AND WILDLIFE
CONSERVATION TECHNICAL MANUAL.

SIGNED: [Signature] DATE: 1-11-2013

DANIEL COCKERHAM
ISA CERTIFIED ARBORIST MA-4435
1311 CONTINENTAL DRIVE, SUITE K
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410-871-6051
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GENERAL NOTES:

1. THE PROJECT HAS BEEN DESIGNED AS TO NOT MASS CLEAR THE LIMIT OF DISTURBANCE AND TO RETAIN AS MANY LARGE TREES AS POSSIBLE (SELECTIVE RETENTION). THEREFORE THE PLANTING PLAN HAS BEEN DEVELOPED TO ENHANCE AND AUGMENT THE EXISTING PLANT COMMUNITY TO REMAIN. SPACING AND QUANTITY OF TREE AND SHRUBS MAY BE ALTERED IN THE FIELD DURING THE CONSTRUCTION PHASE AND THEREFORE A SUPPLEMENT TO THE PLANTING PLAN MAY BE REQUIRED POST-CONSTRUCTION BASED ON FIELD CONDITIONS.
2. REFER TO SHEET ES-1 FOR THE EROSION AND SEDIMENT CONTROL PLAN FOR WORK ON THIS SHEET. CONTRACTOR TO PRACTICE SAME-DAY EAS STABILIZATION FOR ALL DISTURBED AREAS UNLESS OTHERWISE NOTED.
3. SHEET ES-3 NOTES PERMANENT SEED MIXTURE TO BE USED IN ADDITION TO THE PLANTING SCHEDULE ON THIS SHEET.
4. INSTALL PLANTS PER SCHEDULE ON THIS SHEET, UTILIZING DETAILS 1-3 ON SHEET C-5 AND DETAIL 18 ON SHEET ES-3 WHERE APPROPRIATE.
5. TREES AND SHRUBS MUST BE OF APPROPRIATE HEIGHT AS NOT TO INTERFERE WITH OVERHEAD UTILITY LINES AND TO BE LOCATED NO CLOSER THAN SHOWN:
 - 5' FROM GAS BOX
 - 10' FROM WATER METER
 - 10' FROM FIRE HYDRANT
 - 10' FROM STORM DRAIN INLET OR MANHOLE
 - 15' FROM STREET LIGHT OR UTILITY POLETREES MAY NOT BE PLANTED OVER UTILITIES WHERE VERTICAL CLEARANCE FROM THE TOP OF THE UTILITY TO THE SURFACE IS LESS THAN 4'-6".
6. IMMEDIATELY PRIOR TO PLANTING, THE PREPARED SURFACE SHALL BE IN A LIGHTLY TAMPED [LOOSE] CONDITION FREE FROM STONES OR OTHER FOREIGN MATERIAL 2 IN. OR GREATER, AND ALL ROCKS EXCEEDING THIS SIZE SHALL BE REMOVED. WHEN TOPSOIL IS PLACED ON A PREPARED SURFACE MATERIAL THAT BLENDS WITH THE TOPSOIL OR SUBSOIL, THE CONTRACTOR SHALL DICK OR GUSSEL FLOW TO A MINIMUM DEPTH OF 8" TO WORK THE TOPSOIL OR SUBSOIL INTO THE SURFACE MATERIAL WHEN TOPSOIL OR SUBSOIL WILL NOT BLEND WITH THE PREPARED SURFACE MATERIAL. THE CONTRACTOR SHALL ROUGHEN THE SURFACE TO PROVIDE A BOND FOR THE TOPSOIL OR SUBSOIL.
7. TEMPORARY SEEDING AND TEMPORARY WOOD CELLULOSE MULCHING, THE MATERIAL SPECIFICATIONS AND CONSTRUCTION REQUIREMENTS SHALL FOLLOW APPLICABLE PROVISIONS CONTAINED WITHIN THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND THE U.S. DEPARTMENT OF AGRICULTURE'S SOIL CONSERVATION SERVICE TECHNICAL GUIDE, AS USED BY THE PRINCE GEORGE'S COUNTY SOIL CONSERVATION DISTRICT.
8. ALL SEEDING TO BE DONE IN CONJUNCTION WITH TURF ESTABLISHMENT SHALL UTILIZE ERNST SEED MIX 137. IN NO CASES SHALL TEMPORARY SEED MIX BE USED FOR PERMANENT TURF ESTABLISHMENT.
9. WOODY SHRUB SEEDING, THE MATERIAL SPECIFICATIONS AND CONSTRUCTION REQUIREMENTS SHOULD FOLLOW APPLICABLE PROVISIONS CONTAINED WITHIN THE MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL AND THE U.S. DEPARTMENT OF AGRICULTURE'S SOIL CONSERVATION SERVICE TECHNICAL GUIDE, AS USED BY THE PRINCE GEORGE'S COUNTY SOIL CONSERVATION DISTRICT.
10. DURING INSTALLATION, REASONABLE EFFORTS WILL BE TAKEN TO PROTECT SURROUNDING SOIL AND VEGETATION. THE WORK AREA SHALL BE KEPT CLEAN AND FREE OF DEBRIS SUCH AS UNUSABLE PLANT MATERIALS. FINAL CLEANUP SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. UPON COMPLETION OF THE PROJECT, AND PRIOR TO THE ISSUE OF THE FINAL PAYMENT, THE CONTRACTOR SHALL REMOVE ALL DEBRIS AND TRASH FROM THE SITE AND DISPOSE OF SUCH MATERIALS OFF-SITE.
11. THE CONTRACTOR SHALL MAINTAIN AND ESTABLISH THE PLANTS FOR A PERIOD OF 1 YEAR (A COMPLETE GROWING SEASON). THE TREE PLANTING SEASON LASTS FROM OCTOBER 15 TO APRIL 30. HOWEVER, NO PLANTING SHALL OCCUR WHERE THE SOIL IS FROZEN.
12. THE USE OF HERBICIDE CHEMICALS FOR WEED CONTROL SHALL ONLY BE CARRIED OUT IN STRICT COMPLIANCE WITH STATE REGULATIONS. ALL HERBICIDE CHEMICAL APPLICATIONS USED FOR WEED AND/OR VEGETATION CONTROL WITHIN THE COUNTY'S RIGHTS-OF-WAY SHALL ONLY BE PERFORMED BY AN "APPLICATOR" LICENSED BY THE MARYLAND DEPARTMENT OF AGRICULTURE PESTICIDE REGULATION SECTION. THE APPLICATOR SHALL MAINTAIN AND POSSESS CERTIFICATION IN CATEGORIES IIA, IIC, VI, AND VII-E IN ACCORDANCE WITH THE PROVISIONS OF THE AGRICULTURE ARTICLE, SECTIONS 5-201 THROUGH 5-211, OF THE ANNOTATED CODE OF MARYLAND. THE TRANSPORTING, STORING, HANDLING, MIXING, APPLYING, OR DISPOSAL OF THE HERBICIDE CHEMICAL SHALL BE DONE IN STRICT COMPLIANCE WITH THE MATERIALS MANUFACTURERS' LABEL AND RECOMMENDATIONS, AND IN ACCORDANCE WITH THE FEDERAL INSECTICIDE, FUNGICIDE, AND RODENTICIDE ACT (FIFRA) AND THE RESOURCE CONSERVATION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING UTILITY COMPANIES, UTILITY CONTRACTORS AND "MISS UTILITY" A MINIMUM OF 48 HOURS PRIOR TO BEGINNING WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGE TO UTILITIES DUE TO NON-COORDINATED WORK. CONTRACTOR MAY MAKE MINOR ADJUSTMENTS IN SPACING AND LOCATION OF PLANT MATERIALS TO AVOID CONFLICTS WITH UTILITIES.
14. PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE NURSERY GROWN, UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS PLANTS FREE FROM DEFECTS, DECAY, DISFIGURING ROOTS, SUBSIDIARY INJURIES, ABNORMALS OF THE BARK, PLANT DISEASE, INSECT PEST EGGS, BOXERS, INFESTATIONS OR OBJECTIONABLE DISFIGUREMENTS. PLANT MATERIAL THAT IS WEAK OR WHICH HAS BEEN CUT BACK FROM LARGER GRADES TO MEET REQUIREMENTS WILL BE REJECTED. TREES WITH FORKED LEADERS WILL NOT BE ACCEPTED. PLANTS SHALL BE FRESH-IN DUG; HEZLED-IN PLANTS OR PLANTS FROM COLD STORAGE WILL BE ACCEPTED.
15. UNLESS OTHERWISE SPECIFIED, PLANT MATERIAL SHALL CONFORM TO "AMERICAN STANDARD NURSERY STOCK" ANSI Z60.1-2004 PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INCLUDING ADDENDA.
16. PLANT STOCK SIZE WILL DEPEND ON AVAILABILITY, MINIMUM 1 GALLON CONTAINER STOCK WILL BE USED. NO BARE ROOT STOCK WILL BE PERMITTED.

LEGEND

EXISTING 5' CONTOUR
EXISTING 1' CONTOUR
EXISTING TREE LINE
EXISTING ROAD
FENCE LINE
FOREST STAND BOUNDARY
STREAM BOUNDARY
EXISTING EASEMENT BOUNDARY
EXISTING PARCEL BOUNDARY
PROPOSED MAJOR CONTOURS
PROPOSED MINOR CONTOURS

32" POPLAR
32" POPLAR
STAND B + P2
SPOT ELEVATION
TRaverse CONTROL POINT
WETLAND DELINEATION POINTS
CROSS SECTION
ALIGNMENT STATION
PROPOSED COBBLE WEIR
EXISTING WETLAND
EXISTING RIPRAP
FLOW DIRECTION

GRAPHIC SCALE IN FEET
20 10 0 20 40

M-NCPPC Prince George's County Planning Department Environmental Planning Section APPROVAL TREE CONSERVATION PLAN TCP-2-0-09-001	
Approved by: [Signature]	Date: 5/2/09
01 [Signature]	02 [Signature]
03 [Signature]	04 [Signature]

PLANTING SCHEDULE	
REGION	SIZE (AC.)
WETLAND PLANTING	0.6
UPLAND STABILIZATION	0.3
WETLAND ENHANCEMENT	0.1

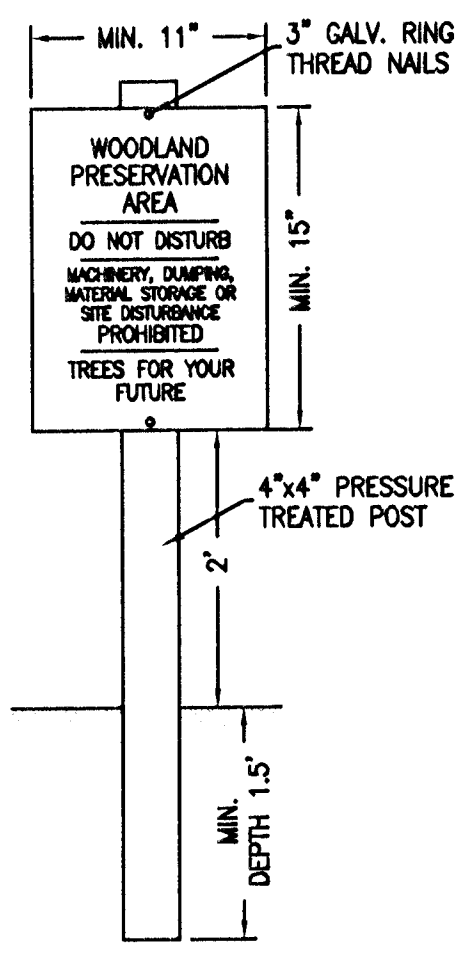
PLANTING SCHEDULE					
ZONE	COMMON NAME	SCIENTIFIC NAME	PLANTING SIZE	MAXIMUM QUANTITY	OVERALL AVG. SPACING
UPLAND	RED MAPLE	ACER RUBRUM	1 GAL.	23	8' O.C.
	RED BUD	CERIS CANADENSIS	1 GAL.	4	8' O.C.
	BLACK GUM	NYSSA SYLVATICA	1 GAL.	24	8' O.C.
	RED OSIER DOGWOOD	CORNUS SERICEA	1 GAL.	4	8' O.C.
	SWEET GUM	LIQUIDAMBAR	1 GAL.	13	8' O.C.
	BROOM SEDGE	CAREX SCOPARIA	PLUG	550	2' O.C.
WETLAND	SWITCH GRASS	PANICUM VIRGATUM	PLUG	550	2' O.C.
	RED MAPLE	ACER RUBRUM	1 GAL.	35	8' O.C.
	AMERICAN SYCAMORE	PLATANUS OCCIDENTALIS	1 GAL.	40	8' O.C.
	PIN OAK	QUERCUS PALUSTRIS	1 GAL.	40	8' O.C.
	HIGHBUSH BLUEBERRY	VACCINIUM CORYMBOSUM	1 GAL.	5	8' O.C.
	SPICE BUSH	LINDERA BENZOIN	1 GAL.	5	8' O.C.

BEAVERDAM CREEK #20
REGENERATIVE STREAM RESTORATION
PRINCE GEORGE'S COUNTY, MARYLAND

PROPOSED PLANTING PLAN

EA
EA ENGINEERING,
SCIENCE, AND
TECHNOLOGY
Edgewood Center
1319 Woodbridge Station Way
Suite 200
Edgewood, MD 21040
410-538-8202

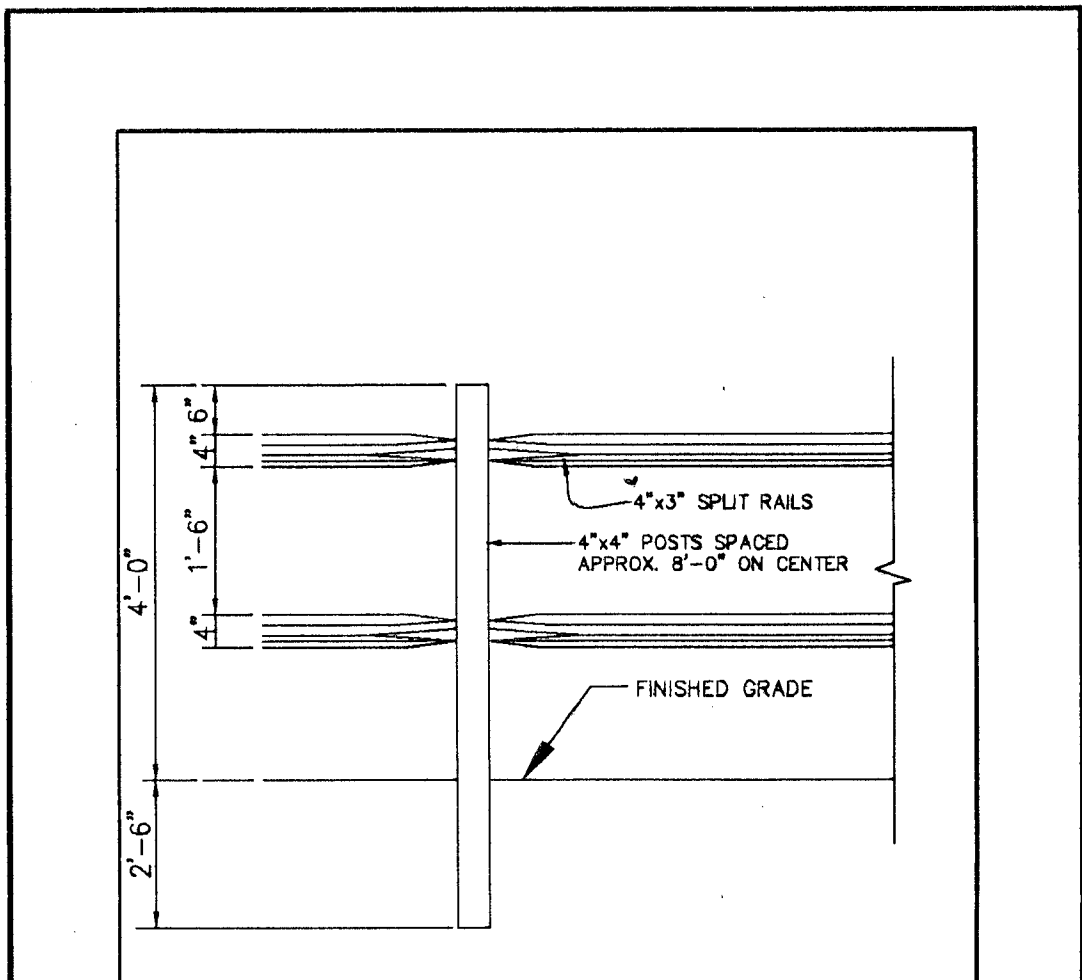
DATE	APRIL 2012
DESIGNED BY	JUM
DRAWN BY	JUM
CHECKED BY	DC
PROJECT MANAGER	SAA
PROJECT NUMBER	6165836
DRAWING NUMBER	TCP-3
SHEET NUMBER	3 OF 3



WOODLAND PRESERVATION AREA SIGN

WOODLAND PRESERVATION AREA SIGN NOTES:

1. ATTACHMENT OF SIGNS TO TREES IS PROHIBITED.
2. SIGNS SHOULD BE PROPERLY MAINTAINED.
3. AVOID INJURY TO ROOTS WHEN PLACING POSTS FOR THE SIGNS.
4. SIGNS SHOULD BE POSTED TO BE VISIBLE TO ALL CONSTRUCTION PERSONNEL FROM ALL DIRECTIONS.
5. SIGNS SHOULD BE INSTALLED AT SAME TIME AS TREE PROTECTION DEVICE.
6. LOCATE SIGNS APPROXIMATELY EVERY 50 FEET ALONG FENCING.
7. SIGNS SHOULD BE IN PLACE IMMEDIATELY FOLLOWING STAKE OUT OF L.O.P., AND REMAIN IN PLACE IN PERPETUITY.

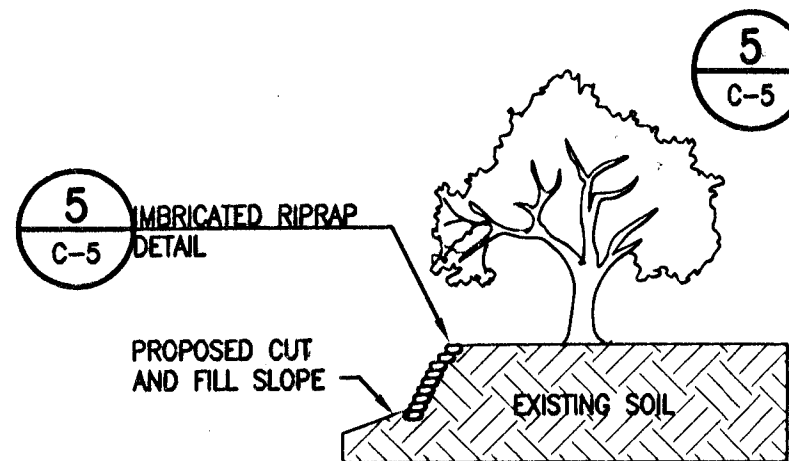


- NOTES:
1. POSTS SHALL STAND PLUMB.
 2. RAILS SHALL BE HUNG WITH UNIFORM HEIGHT AND SPACING.
 3. REFORESTATION SIGNS TO BE ATTACHED TO WOOD POSTS EVERY 50 FEET.
 4. TOP OF SIGN TO BE FLUSH WITH TOP OF WOOD POST.
 5. SIGNS TO BE ATTACHED USING 2 GALVANIZED WOOD SCREWS EACH WITH A GALVANIZED WASHER.

PERMANENT (SPLIT RAIL) TREE PROTECTION FENCE FOR REFORESTATION AREAS

August 2010

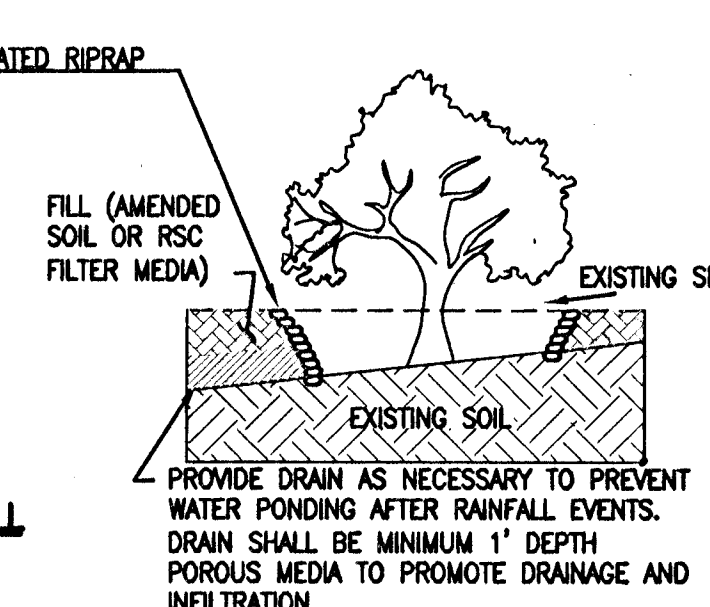
A-4, DEF-9



SECTION - PERMANENT PROTECTIVE WALL

NOTES:

- LOCATION, TYPE, DEPTHS AND CONSTRUCTION SPECIFICATIONS OF FILL, DRAINS AND WALLS VARY. SEE PLANS AND SPECIFICATIONS.



SECTION - OPEN TREE WELL WITH RAISED GRADE

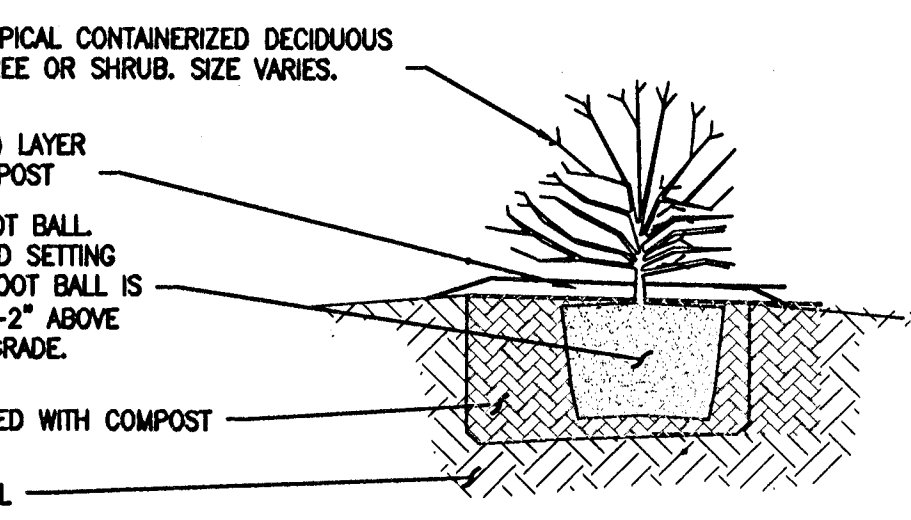
4 UPLAND TREE PRESERVATION DETAIL
C-5 NOT TO SCALE

4-YEAR MAINTENANCE PLAN FOR FORESTRY CONSERVATION:

1. DURING CONSTRUCTION OF PROJECT, ROOT PRUNE ANY SIGNIFICANT ROOTS EXPOSED DURING EXCAVATION ON TREES TO REMAIN.
2. A FOUR YEAR MONITORING PROGRAM FOR MNCPPC SHALL BE INSTITUTED, CONCURRENT WITH EXISTING MONITORING PROTOCOLS REQUIRED BY MARYLAND DEPARTMENT OF THE ENVIRONMENT AND THE U.S. ARMY CORPS. OF ENGINEERS AS PART OF THE JOINT 404 PERMIT PROCESS.
3. DURING PERIODS OF DROUGHT, WATER REFORESTATION TREES AND SHRUBS WEEKLY UNTIL NORMAL RAINFALL RETURNS. AFTER THE FIRST YEAR, WATERING ONLY DURING PERIODS OF SEVERE DROUGHT. WATERING SHOULD OCCUR SLOWLY AND DEEPLY. MULCH AROUND PLANTINGS TO RETAIN MOISTURE.
4. FERTILIZE TREES AFTER ONE YEAR OF PLANTING.
5. CONTROL COMPETING NON-NATIVE AND INVASIVE VEGETATION. REMOVE VINES AND OTHER VEGETATION CLIMBING ON PLANTINGS.
6. MAINTAIN TREE PROTECTION MEASURES AND ENSURE THEY ARE FUNCTIONING.
7. INSPECT PLANTINGS ANNUALLY AS PART OF AN INTEGRATED PEST MANAGEMENT PLAN. INSPECT FOR INFESTATIONS AND REMOVE DEAD OR DYING LIMBS TO PROMOTE TREE HEALTH. HERBICIDES AND PESTICIDE APPLICATION IS LIMITED TO THOSE PRODUCTS WITH WATERWAY APPLICATION APPROVAL FROM THE MARYLAND DEPARTMENT OF THE ENVIRONMENT.



VICINITY MAP
GRAPHIC SCALE IN FEET



- NOTES:
- SHRUB PIT CONFORMS WITH DEPTHS AND WIDTHS IN SPECIFICATIONS.
 - PRUNE SHRUBS ONLY AFTER INSTALLED AND AFTER THE PLANT HAS BEEN SUFFICIENTLY WATERED.
 - MULCH DIAMETER OF PLANTING HOLE, MINIMUM 2\"/>

3 CONTAINER STOCK PLANTING DETAIL
C-5 NOT TO SCALE

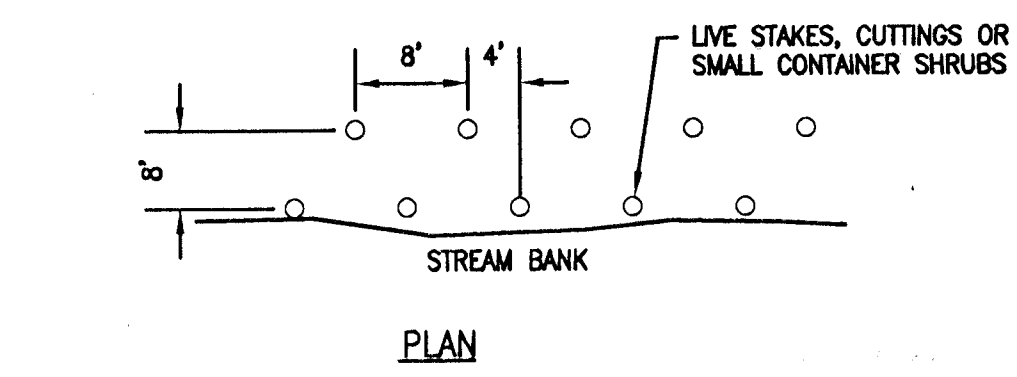
Tasks	Months
	Jan* Feb* Mar Apr May June July Aug Sep Oct Nov* Dec*
Transplant of 2" DBH or Greater	
Planting Seedlings, Whips	
Minimum Monitoring	
Fertilizer (if Needed)*	
Water**	
Pruning	

- Legend:
- Recommended, Optimal time
 - Recommended with Additional Care
 - Recommended
 - Dependent Upon Site Conditions
 - Dependent Upon Site Conditions: Weekly Watering is Strongly Recommended From May Through October Unless Weekly Rainfall Equals 1"

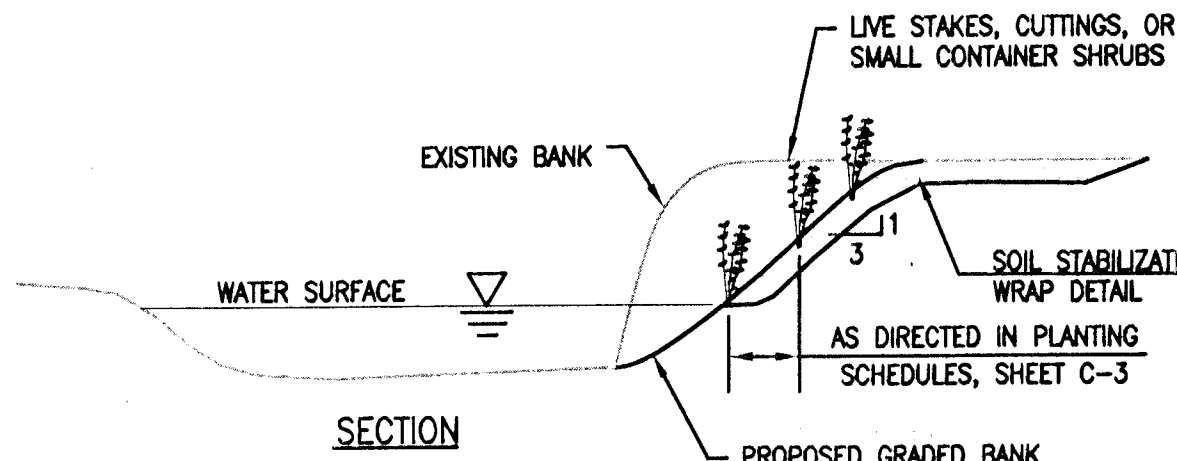
- Notes:
1. Activities during November through February depend on ground conditions.
 2. No fall planting of oaks and pines.
 3. The planting and care of trees is most successful when coordinated with the local conditions.
- This calendar summarizes some of the recommended time frames for basic reforestation and stress reduction activities.

STANDARD PLANTING AND MAINTENANCE CALENDAR

Source: Adapted from Forest Conservation Manual, 1981

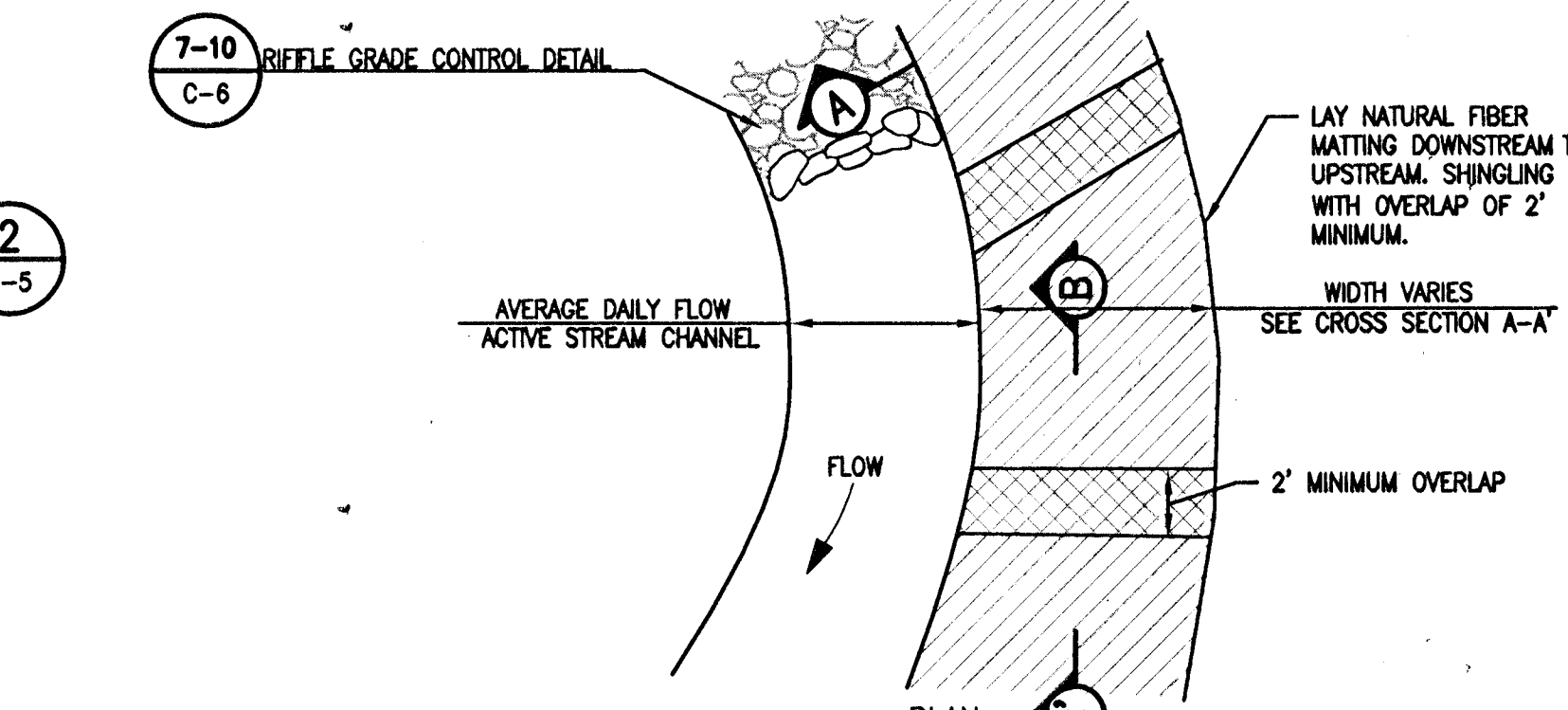


PLAN



SECTION

1 RIPARIAN PLANTING DETAIL FOR GRADED STREAM BANK
C-5 NOT TO SCALE

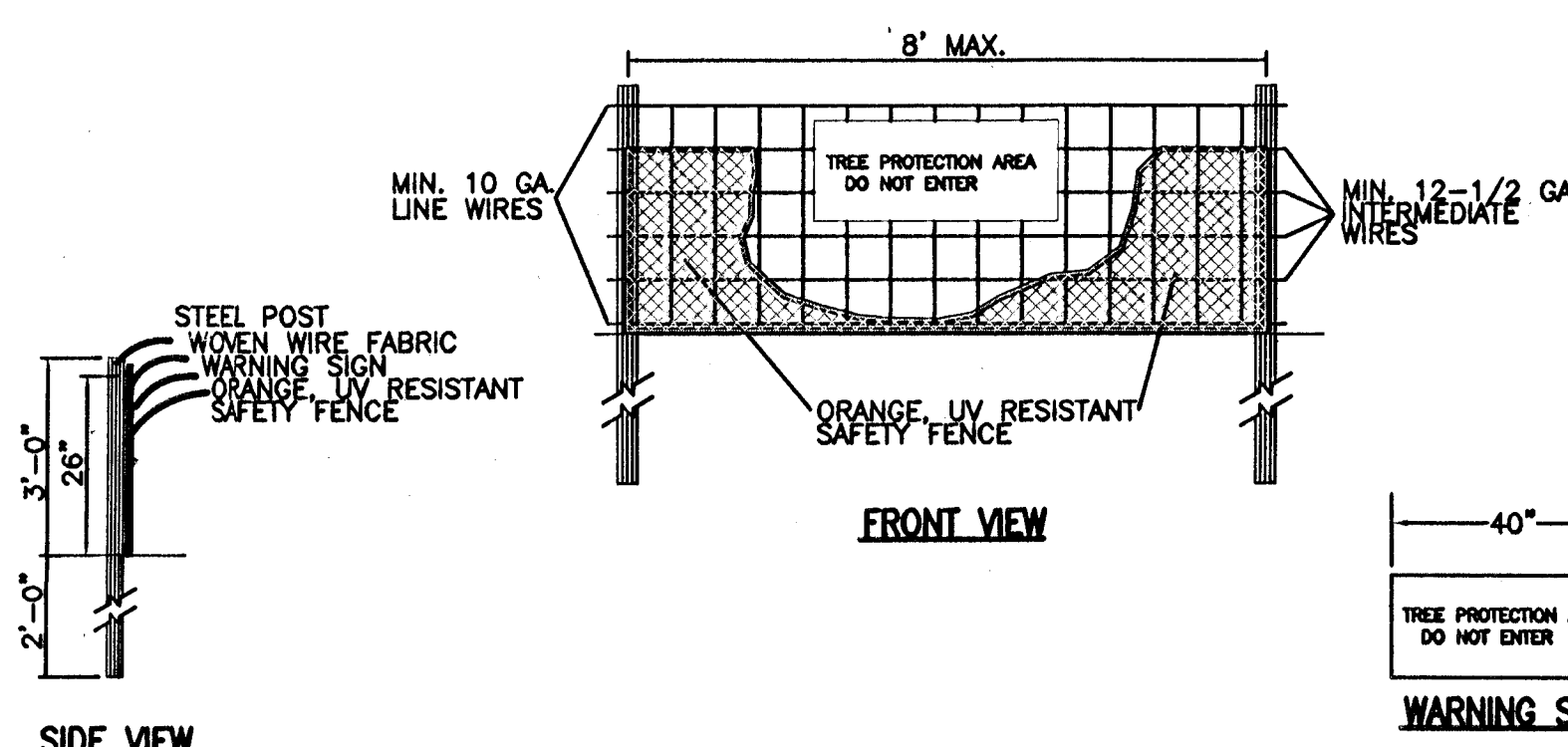


PLAN

2 SOIL STABILIZATION WRAP DETAIL
C-5 NOT TO SCALE

- NOTES:
- USED FOR RIFFLE GRADE CONTROL AND CONSTRUCTED RUN STRUCTURES, IN CONJUNCTION WITH DETAIL 1, RIPARIAN PLANTING DETAIL FOR GRADED BANK.

SPECIMEN TREE TABLE							
TREE #	DBH	STAND LOCATION	SPECIES	SCIENTIFIC NAME	CONDITION	CONDITION RATING	TO BE PRESERVED
ST-1	30"	A	TULIP POPLAR	LIRODENRDON TULIPIFERA	GOOD	84	YES
ST-2	32"	A	TULIP POPLAR	LIRODENRDON TULIPIFERA	GOOD	81	YES
ST-3	32"	B	WHITE OAK	QUERCUS ALBA	GOOD*	81	YES
ST-4	32"	B	BITTERNUT HICKORY	CARYA CORDIFORMIS	FAIR	75	YES
ST-5	30"	B	WHITE OAK	QUERCUS ALBA	GOOD	87	YES



- NOTES:
- WARNING SIGNS TO BE MADE OF DURABLE, WEATHERPROOF MATERIAL.
 - SIGNS SHALL BE PLACED AT 50' MAXIMUM INTERVALS.

5 TEMPORARY TREE PROTECTION DETAIL
C-5 NOT TO SCALE

DNR QUALIFIED FORESTRY PROFESSIONAL
THIS PLAN COMPLIES WITH THE CURRENT REQUIREMENTS OF SUBTITLE 25 AND THE WOODLAND AND WILDLIFE CONSERVATION TECHNICAL MANUAL.

SIGNED: [Signature] DATE: 1-11-2013

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410-671-6051
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Woodland Conservation Worksheet for Prince George's County Government Projects

Property Description or Subdivision Name: Beaver Dam Creek #20

1 Zone:	R-18, R-80
2 Area of Linear Project:	6.95
3 Existing Woodland = WCT	3.50 or 0.503597
4 Woodland Cleared	1.10
5 Total area of woodland cleared (subject to 1:1 replacement)	1.10
6 Off-Site Mitigation Provided (afforestation)	0.00
7 Off-Site Mitigation Provided (preservation)	0.00
8 Woodland Conservation Requirement:	3.50
9 Woodland Conservation Provided:	
10 Woodland preserved	2.40
11 Afforestation	0.00
12 Reforestation	0.00
13 Prior Credit for Off-site Mitigation	0.00
14 Current Credit for Off-site Mitigation	0.00
15 Off-site Mitigation provided (afforestation)	0.00
16 Off-site Mitigation provided (preservation)	0.00
17 Area Mitigated by Woodland Conservation Fund	0.00 or \$3,136.32
18 Total Woodland Conservation Provided	2.40

DATE: APRIL 2012

DESIGNED BY: JUM

DRAWN BY: JUM

CHECKED BY: TK/DC

PROJECT MANAGER: SM

PROJECT NUMBER: 6165636

DRAWING NUMBER: TCP-2

SHEET NUMBER: 2 of 3



1319 Woodbridge Station Way
Suite 200
Edgewood, MD 21040
410-538-8202

BEAVERDAM CREEK #20
REGENERATIVE STREAM RESTORATION
PRINCE GEORGE'S COUNTY, MARYLAND

TREE CONSERVATION PLAN - DETAILS AND SUMMARY