

SUMMARY OF PROJECT COORDINATES

ROUTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
* STREAM B	10+00.00	POT	412775.9579	2192074.0785	
	11+17.51	PC	412658.6884	2192081.6257	S3°40'56"E
	11+92.03	PI	412584.3255	2192086.4115	
	12+60.17	PT	412524.9603	2192041.3724	S37°11'12"W
	12+97.78	PI	412494.9970	2192018.6399	
	13+39.53	PI	412465.9881	2191988.6140	S45°59'13"W
	14+06.27	PI	412420.3262	2191939.9487	S46°49'25"W
	15+01.27	PI	412357.8380	2191868.3860	S48°52'22"W
	15+60.30	PI	412320.6421	2191822.5474	S50°56'32"W
	17+79.45 BK= 100+00.00 AHD	PI	412176.5784	2191657.4097	S48°53'57"W
	100+48.44	PI	412135.1702	2191632.2783	S31°15'15"W
	101+43.00	PI	412074.3897	2191559.8387	S50°00'06"W
	103+68.14	PI	411932.7727	2191384.8141	S51°01'22"W
	104+18.15	POT	411901.8455	2191345.5112	S51°48'04"W

COORDINATE SUMMARY NOTES:

1. BASED ON THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM (NORTH ZONE) NORTH AMERICAN DATUM OF 1983 (NAD 83) (2011). AVERAGE SCALE FACTOR IS 0.999934209.
 2. FOUR (4) PLACE COORDINATES ARE FOR COMPUTATIONAL PURPOSES ONLY AND DO NOT IMPLY PRECISION BEYOND TWO (2) PLACES.
- * COORDINATES ESTABLISHED FROM COORDINATE GEOMETRY.

SUMMARY OF PROJECT COORDINATES

ROUTE	STATION	POINT	COORDINATES		BEARING
			NORTH	EAST	
* TEMP ACCESS ROAD CONSTR C	1+00.00	POT	411730.2778	2190880.8262	N54°31'21"E
	4+00.00	PI	411904.3929	2191125.1292	
	5+06.34	PC	411947.5452	2191222.3219	N66°03'34"E
	6+00.31	PI	411985.6754	2191308.2034	
	6+69.07	PT	412079.1829	2191298.9354	N5°39'37"W
	7+71.12	PC	412180.7331	2191288.8704	
	8+05.37	PI	412214.8197	2191285.4919	
	8+33.37	PT	412235.0582	2191313.1272	N53°46'59"E
	12+84.30	PI	412501.4923	2191676.9388	
	17+00.00	POT	412660.2266	2192061.1343	N67°33'05"E
* TEMP ACCESS SPUR CONSTR C	28+00.00	POT	411915.7296	2191382.5221	
	28+77.69	PC	411865.4012	2191323.3331	S49°37'32"W
	29+72.44	PI	411804.0230	2191251.1490	
	30+23.69	PT	411879.2666	2191193.5623	N37°25'41"W
	30+75.87	POT	411920.6980	2191161.8534	

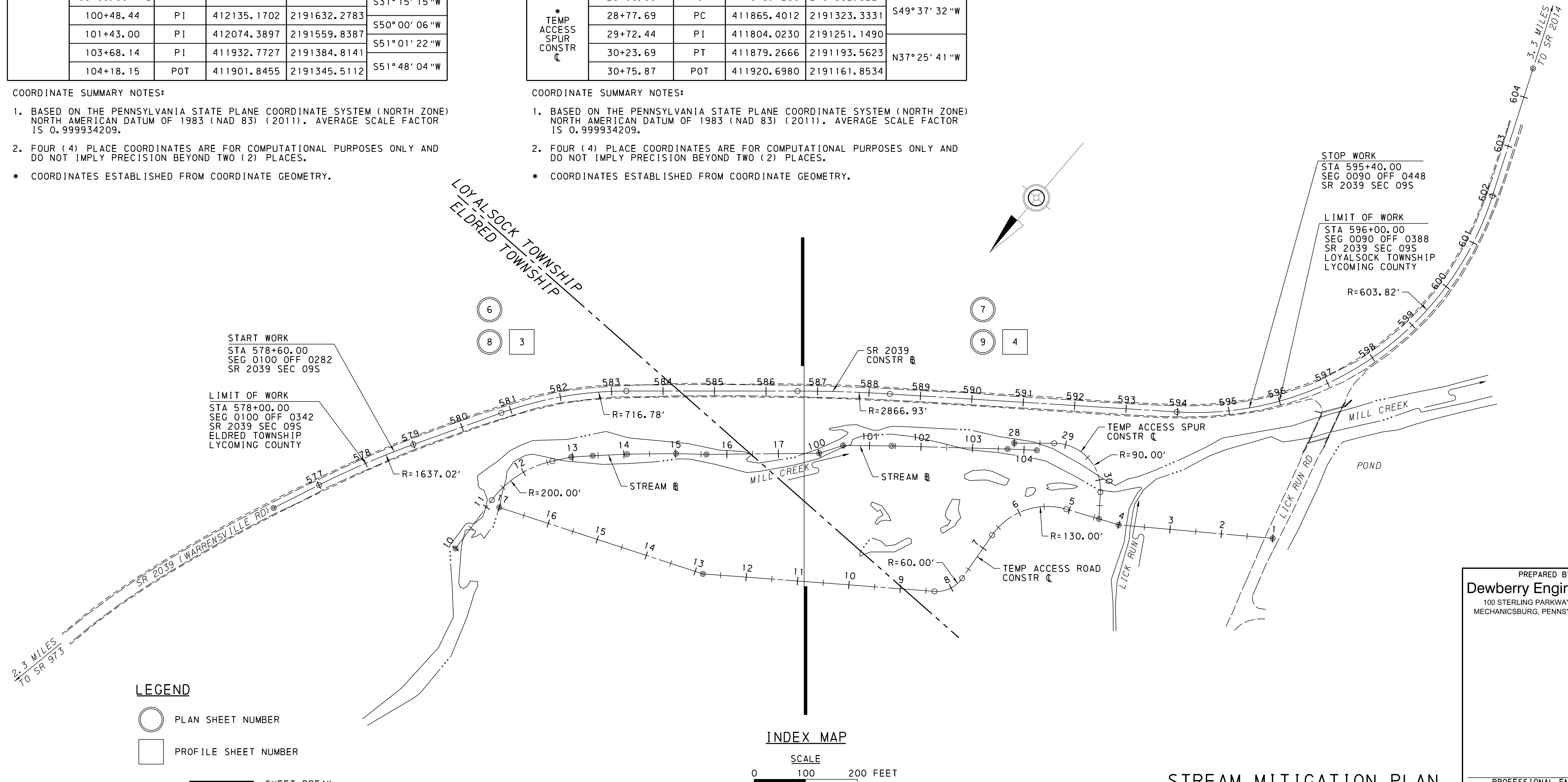
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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	1 OF 9
LOYALSOCK & ELDRED TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

SHEET INDEX

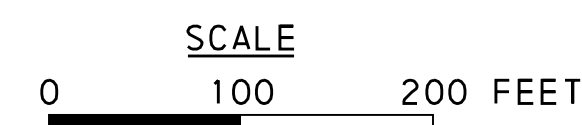
DESCRIPTION	SHEET
INDEX MAP & COORDINATES	1
PLANTING AND SEEDING SCHEDULES, GENERAL NOTES, & DETAILS	2
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LEGEND

- PLAN SHEET NUMBER
- PROFILE SHEET NUMBER

INDEX MAP



STREAM MITIGATION PLAN

PREPARED BY:
Dewberry Engineers Inc.
100 STERLING PARKWAY, SUITE 201
MECHANICSBURG, PENNSYLVANIA 17050

PROFESSIONAL ENGINEER
DATE _____ 20__

PLANTING SCHEDULE

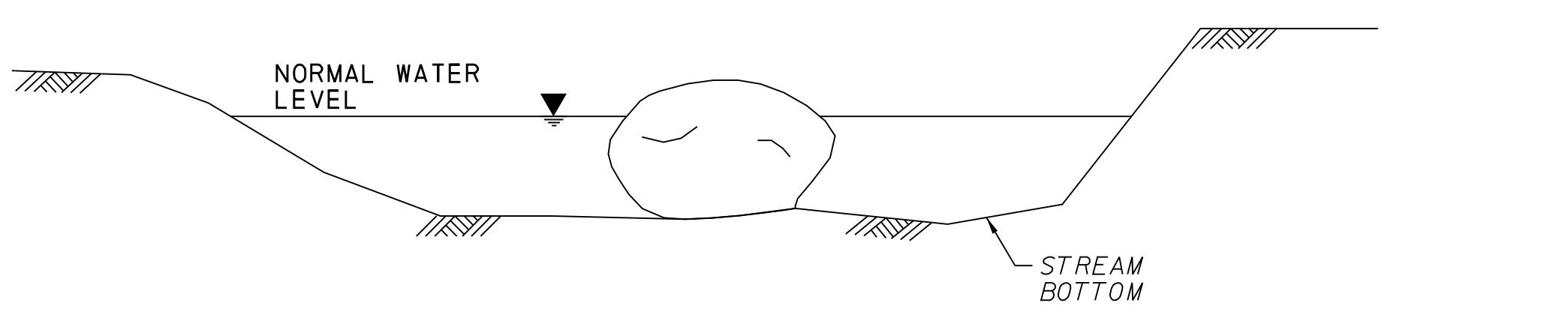
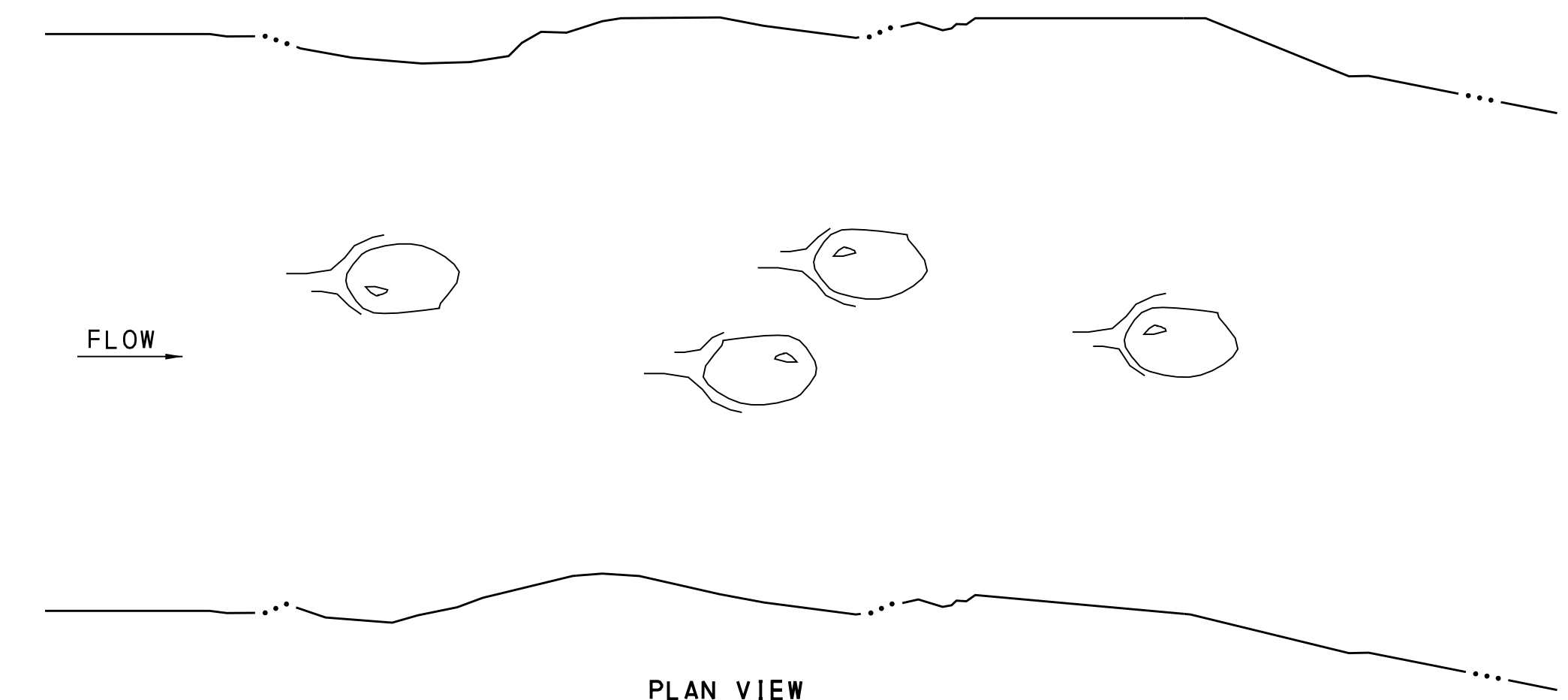
PRESCRIBED SPECIES	MINIMUM SIZE	SPACING	PLANT TYPE	AREA A (0.226 AC)	AREA B (0.350 AC)	AREA C (0.264 AC)	AREA D (0.160 AC)	TOTAL
RED OSIER DOGWOOD (CORNUS SERICEA, FACW)	3'-4' HT, 0.5"-1.5" DIA	3' O.C.	LIVE STAKE	X				1,095
BLACK WILLOW (SALIX NIGRA, OBL)	3'-4' HT, 0.5"-1.5" DIA	3' O.C.	LIVE STAKE	X				
ARROWWOOD (VIBURNUM DENTATUM, FAC)	2' HT	6' O.C.	B&B OR CONTAINER		X			300
SPICEBUSH (LINDERA BENZOIN, FACW)	2' HT	6' O.C.	B&B OR CONTAINER		X			
ELDERBERRY (SAMBUCUS CANADENSIS, FACW)	2' HT	6' O.C.	B&B OR CONTAINER		X			
GRAY DOGWOOD (CORNUS RACEMOSA, FAC)	2' HT	6' O.C.	B&B OR CONTAINER		X			
WITCHHAZEL (HAMAMELIS VIRGINIANA, FACU)	2' HT	6' O.C.	B&B OR CONTAINER			X		120
EASTERN REDBUD (CERCIS CANADENSIS, FACU)	2' HT	6' O.C.	B&B OR CONTAINER			X		
NORTHERN RED OAK (QUERCUS RUBRA, FACU)	1" CALIPER	15' O.C.	B&B OR CONTAINER			X		50
EASTERN HEMLOCK (TSUGA CANADENSIS, FACU)	3'-4' HT	15' O.C.	B&B OR CONTAINER			X		
WHITE OAK (QUERCUS ALBA, FACU)	1.5" CALIPER	15' O.C.	B&B				X	30
SYCAMORE (PLATANUS OCCIDENTALIS, FACW)	1.5" CALIPER	15' O.C.	B&B				X	
RED MAPLE (ACER RUBRUM, FAC)	1.5" CALIPER	15' O.C.	B&B				X	

FORMULA AND SPECIES	% BY WEIGHT	MINIMUM %		MAX % WEED SEED	SEEDING RATE LBS. PER 1000 SY
		PURITY	GERMINATION		
FORMULA W (SPECIAL MIX)					4.5 TOTAL
- FOX SEDGE, PA ECOTYPE (CAREX VULPINOIDEA)	20	99	90	0.10	0.90
- VIRGINIA WILD RYE, PA ECOTYPE (ELYMUS VIRGINICUS)	20	99	90	0.10	0.90
- BIG BLUESTEM, 'NIAGARA' (ANDROPOGON GERARDII)	10	99	90	0.10	0.45
- INDIANGRASS, 'PRAIRIE VIEW' IN ECOTYPE (SORGHASTRUM NUTANS)	10	99	90	0.10	0.45
- BLUNT BROOM SEDGE, PA ECOTYPE (CAREX SCOPARIA)	7	99	90	0.10	0.32
- BLUE Vervain (VERBENA HASTATA)	5	99	90	0.10	0.23
- SWITCHGRASS, 'SHELTER' (PANICUM VIRGATUM)	5	99	90	0.10	0.23
- FRINGED (NOODING) SEDGE, PA ECOTYPE (CAREX CRINITA)	4	99	90	0.10	0.18
- GRASS LEAVED GOLDENROD, PA ECOTYPE (EUTHAMIA GRAMINIFOLIA (SOLIDAGO))	3	99	90	0.10	0.14
- COMMON SNEEZEWEED (HELENIUM AUTUMNALE)	3	99	90	0.10	0.14
- PURPLE STEMMED ASTER, PA ECOTYPE (ASTER PUNICEUS (SYMPHYOTRICHUM PUNICEUM))	2	99	90	0.10	0.09
- AWL SEDGE, PA ECOTYPE (CAREX STIPATA)	2	99	90	0.10	0.09
- BONESET, PA ECOTYPE (EUPATORIUM PERFOLIATUM)	2	99	90	0.10	0.09
- OX EYE SUNFLOWER, PA ECOTYPE (HELIOPSIS HELIANTHOIDES)	2	99	90	0.10	0.09
- JOE PYE WEE, PA ECOTYPE (EUPATORIUM FISTULOSUM)	2	99	90	0.10	0.09
- SEEDBOX, PA ECOTYPE (LUDWIGIA ALTERNIFOLIA)	1	99	90	0.10	0.04
- SWAMP MILKWEED, PA ECOTYPE (ASCLEPIAS INCARNATA)	1	99	90	0.10	0.04
- WILD BERGAMOT (MONARDA FISTULOSA)	1	99	90	0.10	0.04

SPECIAL SEEDING MIXTURES

FORMULA AND SPECIES	% BY WEIGHT	FORMULA AND SPECIES	% BY WEIGHT
SPECIAL CONSERVATION MIX A (APPLY AT 40 LB/ACRE)		SPECIAL CONSERVATION MIX D (APPLY AT 20 LB/ACRE)	
- SWITCHGRASS, 'SHAWNEE' (PANICUM VIRGATUM, 'SHAWNEE')	33.0	- DEERTONGUE, TIOPA (PANICUM CLANDESTINUM, TIOPA)	23.8
- CREEPING RED FESCUE (FESTUCA RUBRA)	25.0	- VIRGINIA WILD RYE, 'MADISON' (ELYMUS VIRGINICUS, 'MADISON')	20.0
- ANNUAL RYEGRASS (LOLIUM MULTIFLORUM)	18.0	- BIG BLUESTEM, 'NIAGARA' (ANDROPOGON GERARDII, 'NIAGARA')	15.5
- TIMOTHY, CLIMAX (PHLEUM PRATENSE, CLIMAX)	16.0	- FOX SEDGE, PA ECOTYPE (CAREX VULPINOIDEA, PA ECOTYPE)	12.0
- ALSIKE CLOVER (TRIFOLIUM HYBRIDUM)	5.0	- LURID SEDGE, PA ECOTYPE (CAREX LURIDA, PA ECOTYPE)	5.0
- REDTOP (AGROSTIS ALBA)	3.0	- BLUNT BROOM SEDGE, PA ECOTYPE (CAREX SCOPARIA, PA ECOTYPE)	5.0
SPECIAL CONSERVATION MIX C (APPLY AT 20 LB/ACRE)		- HOP SEDGE, PA ECOTYPE (CAREX LUPULINA, PA ECOTYPE)	4.5
- LITTLE BLUESTEM 'PRAIRIE VIEW' - IN ECOTYPE (SCHIZACHYRIUM SCOPARIUM, 'PRAIRIE VIEW' - IN ECOTYPE)	49.9	- BLUE Vervain, PA ECOTYPE (VERBENA HASTATA, PA ECOTYPE)	4.0
- VIRGINIA WILD RYE, 'MADISON' (ELYMUS VIRGINICUS, 'MADISON')	20.0	- OXEYE SUNFLOWER, PA ECOTYPE (HELIOPSIS HELIANTHOIDES, PA ECOTYPE)	2.0
- PURPLE CONEFLOWER (ECHINACEA PURPUREA)	8.0	- WOOD REEDGRASS, PA ECOTYPE (CINNA ARUNDINACEA, PA ECOTYPE)	1.5
- BOTTLEBRUSH GRASS, PA ECOTYPE (ELYMUS HYSTRIX, PA ECOTYPE)	6.5	- SWAMP MILKWEED, PA ECOTYPE (ASCLEPIAS INCARNATA, PA ECOTYPE)	1.0
- PARTRIDGE PEA, PA ECOTYPE (CHAMAECRISTA FASCICULATA, PA ECOTYPE)	3.5	- SOFT RUSH (JUNCUS EFFUSUS)	1.0
- BLACKEYED SUSAN (RUDBECKIA HIRTA)	3.0	- BONESET, PA ECOTYPE (EUPATORIUM PERFOLIATUM, PA ECOTYPE)	0.5
- OXEYE SUNFLOWER, PA ECOTYPE (HELIOPSIS HELIANTHOIDES, PA ECOTYPE)	2.0	- COMMON SNEEZEWEED, PA ECOTYPE (HELENIUM AUTUMNALE, PA ECOTYPE)	0.5
- NARROWLEAF MOUNTAINMINT (PYCNANTHEMUM TENUIFOLIUM)	1.0	- GOLDEN ALEXANDERS, PA ECOTYPE (ZIZIA AUREA, PA ECOTYPE)	0.5
- MARSH BLAZING STAR, PA ECOTYPE (LIATRIS SPICATA, PA ECOTYPE)	0.6	- NEW ENGLAND ASTER, PA ECOTYPE (ASTER NOVAE-ANGLIAE, PA ECOTYPE)	0.4
- OHIO SPIDERWORT, PA ECOTYPE (TRADESCANTIA OHIENSIS, PA ECOTYPE)	0.6	- PURPLESTEM ASTER, PA ECOTYPE (ASTER PUNICEUS, PA ECOTYPE)	0.4
- GOLDEN ALEXANDERS, PA ECOTYPE (ZIZIA AUREA, PA ECOTYPE)	0.6	- FLAT TOPPED WHITE ASTER, PA ECOTYPE (ASTER UMBELLATUS, PA ECOTYPE)	0.4
- BIGLEAF ASTER, PA ECOTYPE (ASTER MACROPHYLLUS, PA ECOTYPE)	0.5	- WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE (MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE)	0.4
- ZIGZAG ASTER, PA ECOTYPE (ASTER PRENANTHOIDES, PA ECOTYPE)	0.5	- DITCH STONECROP, PA ECOTYPE (PENTHORUM SEDOIDES, PA ECOTYPE)	0.4
- BLUE FALSE INDIGO, SOUTHERN WV ECOTYPE (BAPTISIA AUSTRALIS, SOUTHERN WV ECOTYPE)	0.5	- NARROWLEAF MOUNTAINMINT (PYCNANTHEMUM TENUIFOLIUM)	0.4
- WILD BERGAMOT, FORT INDIANTOWN GAP-PA ECOTYPE (MONARDA FISTULOSA, FORT INDIANTOWN GAP-PA ECOTYPE)	0.4	- WOOLGRASS, PA ECOTYPE (SCIRPUS CYPERINUS, PA ECOTYPE)	0.4
- BUTTERFLY MILKWEED (ASCLEPIAS TUBEROSA)	0.3	- GREAT BLUE LOBELIA, PA ECOTYPE (LOBELIA SIPHILITICA, PA ECOTYPE)	0.3
- SUNDROPS (OENOTHERA FRUTICOSA VAR. FRUTICOSA)	0.3	- WRINKLELEAF GOLDENROD, PA ECOTYPE (SOLIDAGO RUGOSA, PA ECOTYPE)	0.1
- TALL WHITE BEARDTONGUE (PENSTEMON DIGITALIS)	0.3		
- APPALACHIAN BEARDTONGUE, PA ECOTYPE (PENSTEMON LAEVIGATUS, PA ECOTYPE)	0.3		
- AUTUMN BENTGRASS, ALBANY PINE BUSH-NY ECOTYPE (AGROSTIS PERENNANS, ALBANY PINE BUSH-NY ECOTYPE)	0.2		
- THIMBLEWEED, PA ECOTYPE (ANEMONE VIRGINIANA, PA ECOTYPE)	0.2		
- WHITE GOLDENROD, PA ECOTYPE (SOLIDAGO BICOLOR, PA ECOTYPE)	0.2		
- GRAY GOLDENROD, PA ECOTYPE (SOLIDAGO NEMORALIS, PA ECOTYPE)	0.2		
- COMMON MILKWEED (ASCLEPIAS SYRIACA)	0.1		
- HAIRY BEARDTONGUE (PENSTEMON HIRSUTUS)	0.1		
- EARLY GOLDENROD, PA ECOTYPE (SOLIDAGO JUNCEA, PA ECOTYPE)	0.1		
- LICORICE SCENTED GOLDENROD, PA ECOTYPE (SOLIDAGO ODORA, PA ECOTYPE)	0.1		

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	2 OF 9
LOYALSOCK & ELDRED TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED



SECTION VIEW
RANDOM BOULDER
NOT TO SCALE

- RANDOM BOULDER NOTES:
1. PROVIDE 18" TO 24" SIZED BOULDERS. BOULDERS MAY BE SELECTED PIECES FROM ROCK MATERIAL STOCKPILE MEETING SECTION 850 REQUIREMENTS, GRADATIONS R-7 OR R-8.
 2. PLACE BOULDERS IN THE MIDDLE THIRD OF THE WETTED WIDTH OF THE STREAM TO PREVENT FLOW DEFLECTION INTO THE STREAM BANKS.
 3. PLACE 50 BOULDERS AT LOCATIONS AS DIRECTED BY THE ON-SITE STREAM RESTORATION DESIGNER WITHIN THE STREAM RESTORATION LIMITS, STA 10+00 TO STA 15+00 AND STA 100+00 TO STA 104+18.

SEEDING SCHEDULE

PRESCRIBED SEED MIX	SEEDING RATE	AREA A (0.226 AC)	AREA B (0.350 AC)	AREA C (0.264 AC)	AREA D (0.160 AC)	TOTAL
SPECIAL CONSERVATION MIX A	40 LB/ACRE	X				10 LB
FORMULA W (SPECIAL MIX)	20 LB/ACRE		X			7 LB
SPECIAL CONSERVATION MIX C	20 LB/ACRE			X		6 LB
SPECIAL CONSERVATION MIX D	20 LB/ACRE				X	4 LB

GENERAL NOTES

THE CONTRACTOR IS TO COMPLY WITH ALL SECTIONS OF PUBLICATION 408 AND SUPPLEMENTS THERETO.

ALL STREAM RESTORATION STRUCTURES ARE TO BE CONSTRUCTED UNDER THE DIRECT SUPERVISION OF THE QUALIFIED STREAM RESTORATION DESIGNER.

IN-STREAM STRUCTURES WILL BE CONSTRUCTED FOLLOWING REMOVAL OF THE STREAM DIVERSION. WORK WILL BE COMPLETED "IN THE WET".

FOR STREAM DIVERSION, SEE EROSION AND SEDIMENT POLLUTION CONTROL PLAN.

PROVIDE SHORT-TERM MAINTENANCE OF STREAM MITIGATION IN ACCORDANCE WITH PUB 408 SECTION 808 AND SPECIAL PROVISIONS.

DETAILS, OTHER THAN THOSE INDICATED, ARE ON THE FOLLOWING STANDARD DRAWINGS:

RC-91M - DEC. 17, 2019
RC-92M - JUN. 1, 2010

STREAM MITIGATION PLAN

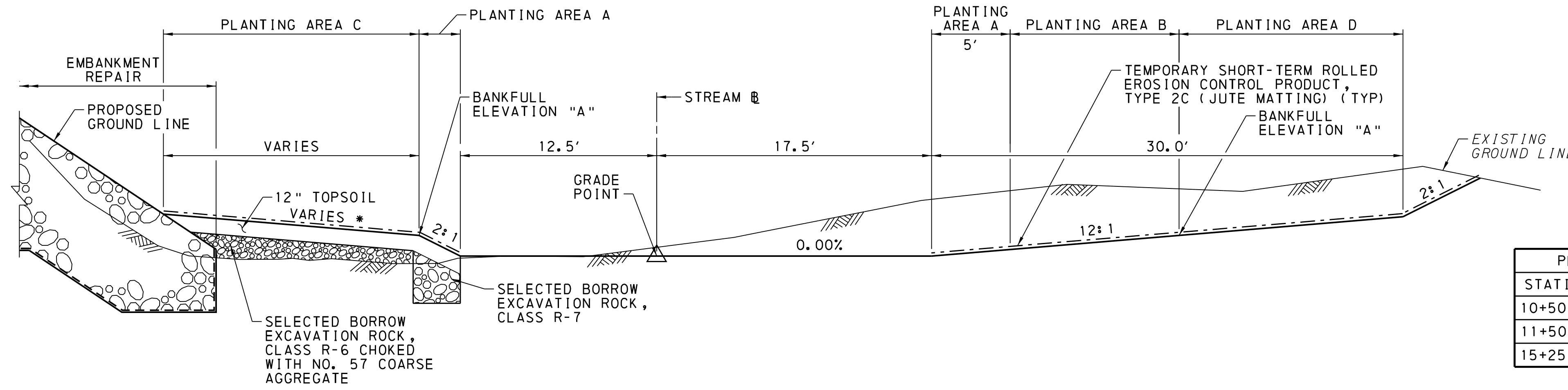
PREPARED BY:
DEWBERRY ENGINEERS INC.

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	3 OF 9
ELDRED TOWNSHIP				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

BANKFULL ELEVATIONS

STREAM STATION	BANKFULL ELEVATION A
10+00.00	612.8'
10+25.00	612.5'
10+50.00	612.0'
10+75.00	611.8'
11+00.00	611.5'
11+25.00	611.3'
11+50.00	611.2'
11+75.00	611.0'
12+00.00	610.9'
12+25.00	610.8'
12+50.00	610.7'
12+75.00	610.6'
13+00.00	610.5'
13+25.00	610.3'
13+50.00	610.1'
13+75.00	609.9'
14+00.00	609.7'
14+25.00	609.5'
14+50.00	609.4'
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15+00.00	609.2'
15+25.00	609.2'
15+50.00	608.9'

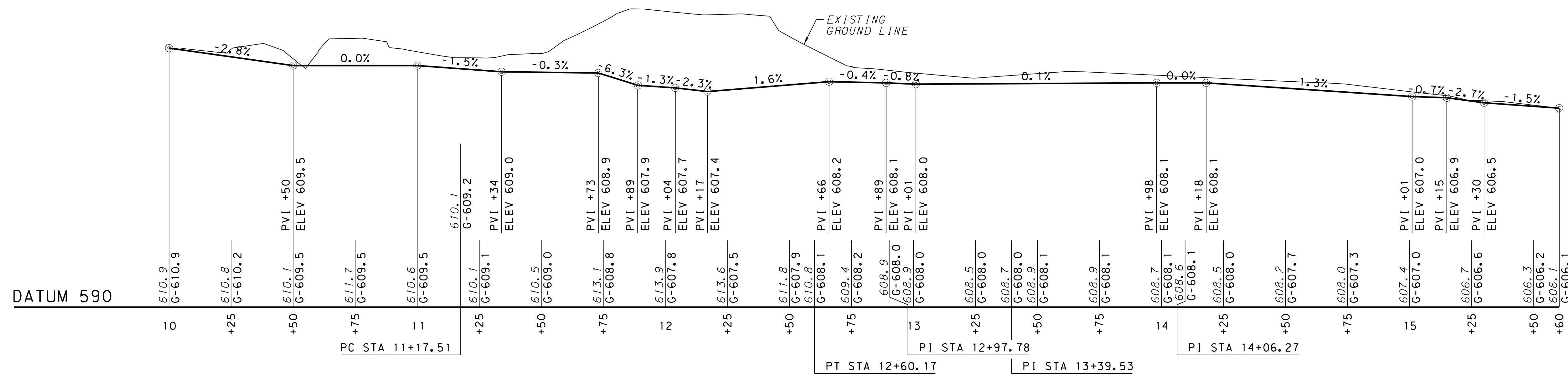


STATION RANGE	SLOPE
10+50 TO 11+50	VARIABLES
11+50 TO 15+25	12:1
15+25 TO 15+60	VARIABLES

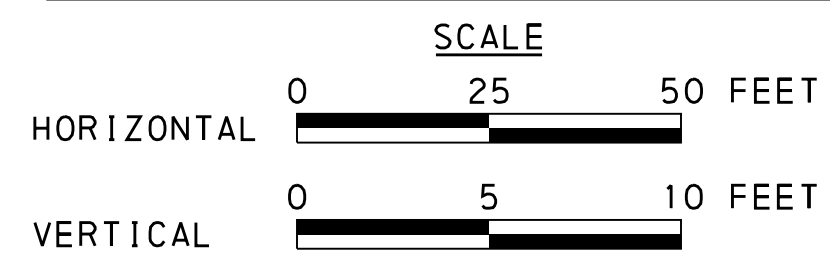
STREAM REALIGNMENT SECTION

STA 10+50 TO STA 15+60
NOT TO SCALE

* SEE PLANTING AREA C SLOPE TABLE



STREAM REALIGNMENT PROFILE



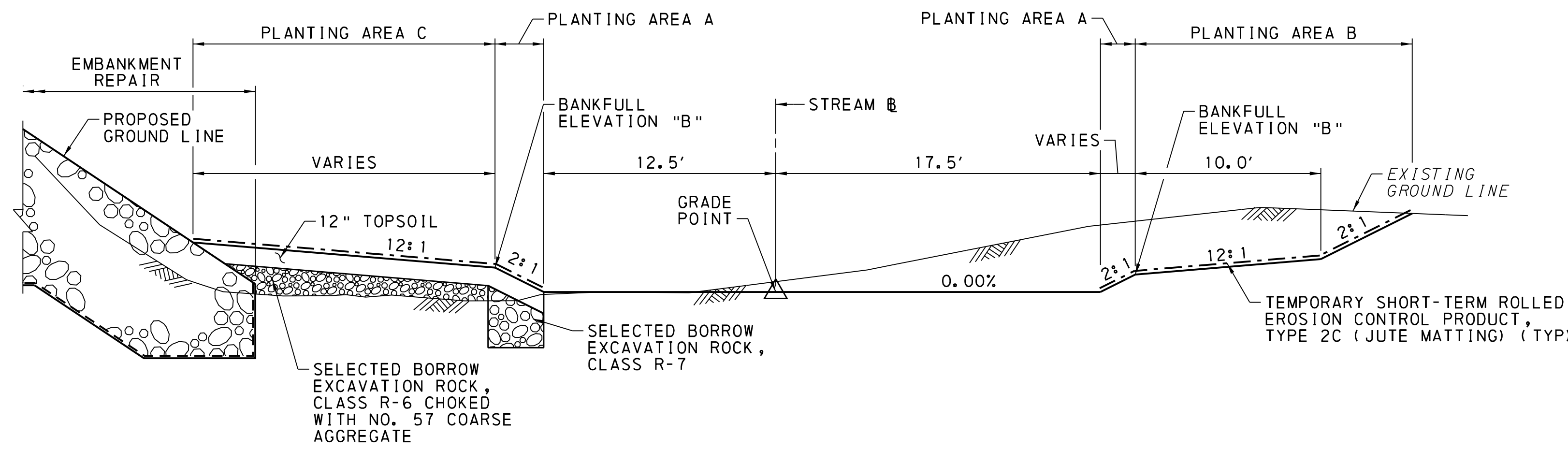
STREAM MITIGATION PLAN

PREPARED BY:
DEWBERRY ENGINEERS INC.

DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	4 OF 9
LOYALSOCK & ELDRED TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

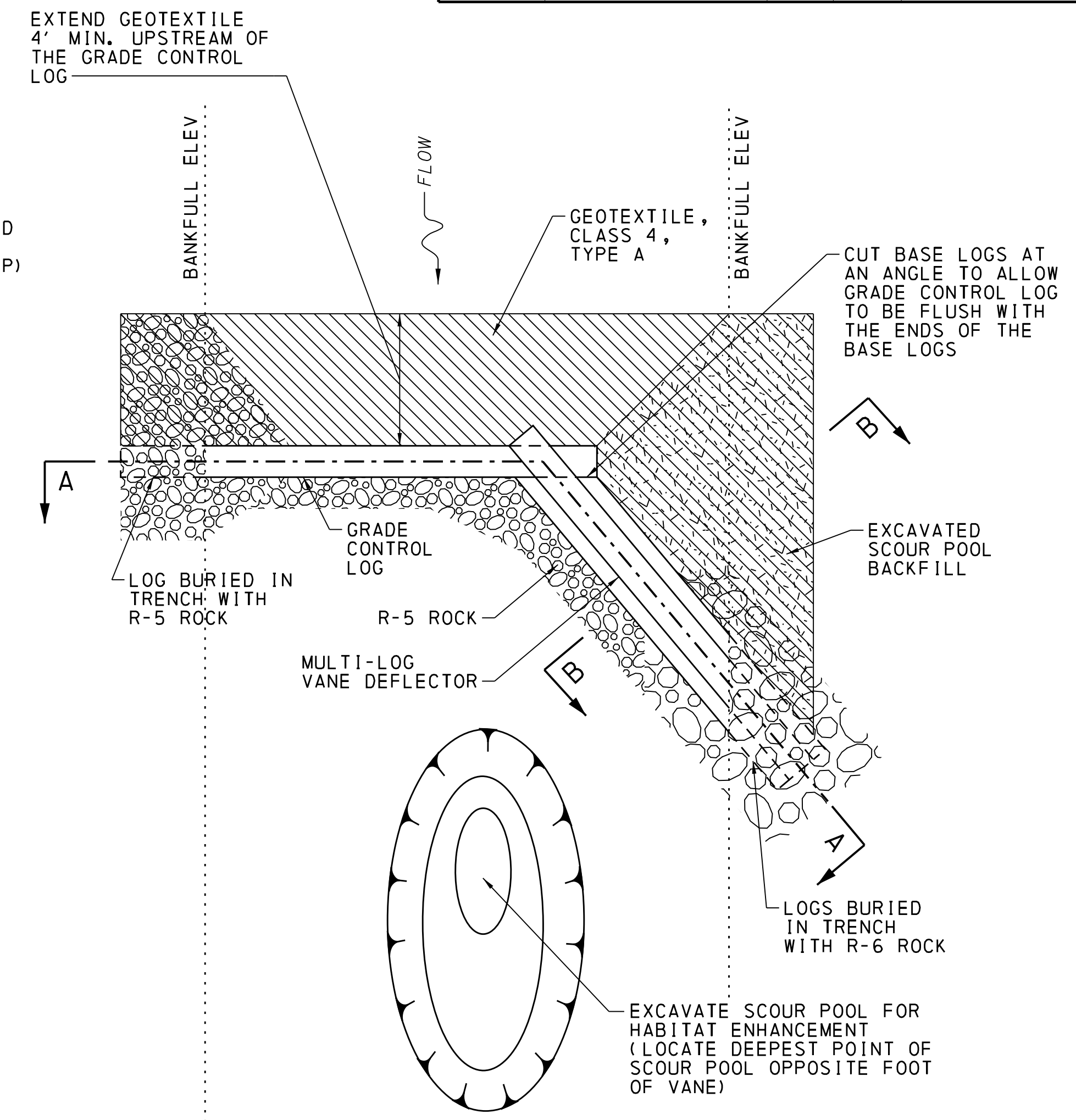
BANKFULL ELEVATIONS

STREAM STATION	BANKFULL ELEVATION B
100+00.0	606.8'
100+25.0	606.8'
100+50.0	606.7'
100+75.0	606.5'
101+00.0	606.3'
101+25.0	605.9'
101+50.0	606.0'
101+75.0	605.8'
102+00.0	605.6'
102+25.0	605.1'
102+50.0	604.8'
102+75.0	604.7'
103+00.0	604.5'
103+25.0	604.5'
103+50.0	604.1'
103+75.0	603.9'
104+00.0	603.4'



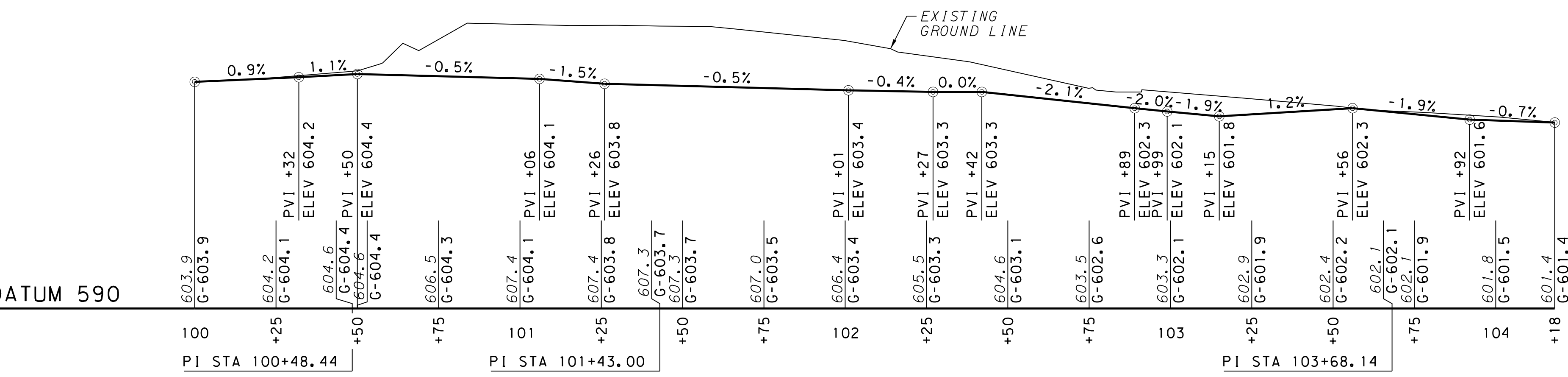
STREAM REALIGNMENT SECTION

STA 100+00 TO STA 104+18
NOT TO SCALE

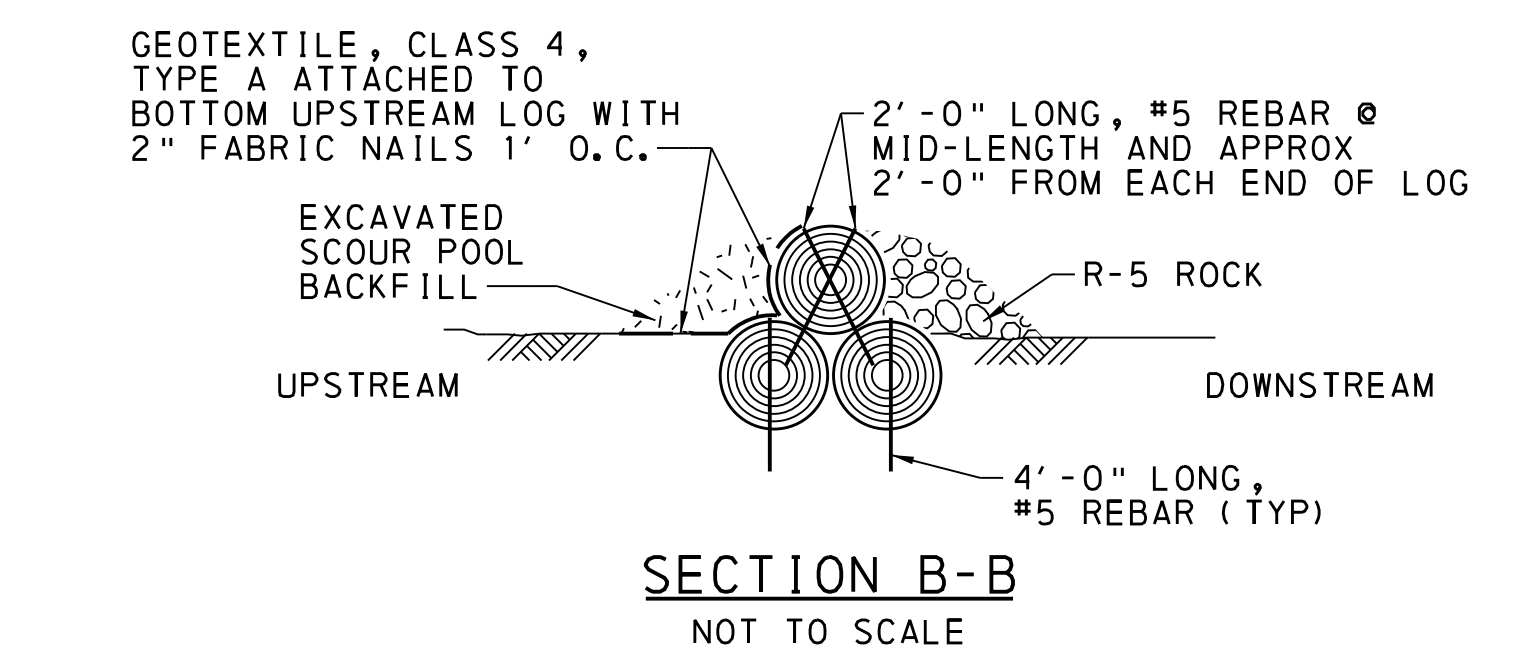
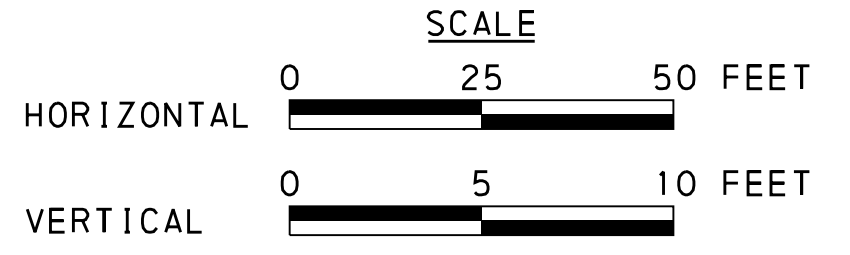


PLAN VIEW - MULTI-LOG VANE WITH GRADE CONTROL

NOT TO SCALE

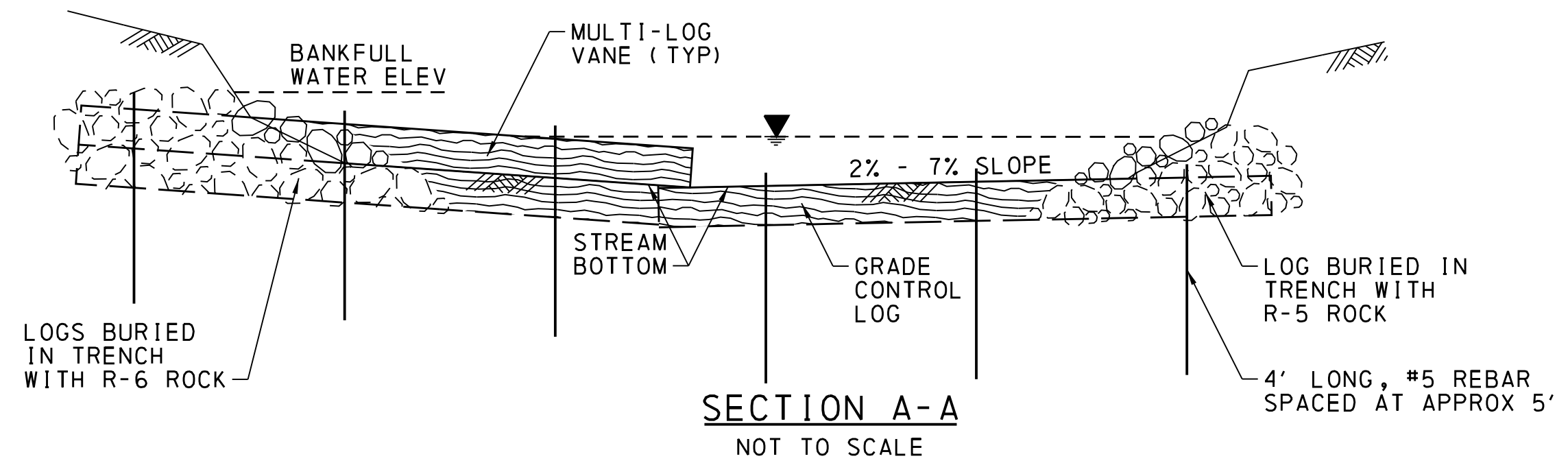


STREAM REALIGNMENT PROFILE



SECTION B-B

NOT TO SCALE



SECTION A-A

NOT TO SCALE

MULTI-LOG VANE WITH GRADE CONTROL NOTES

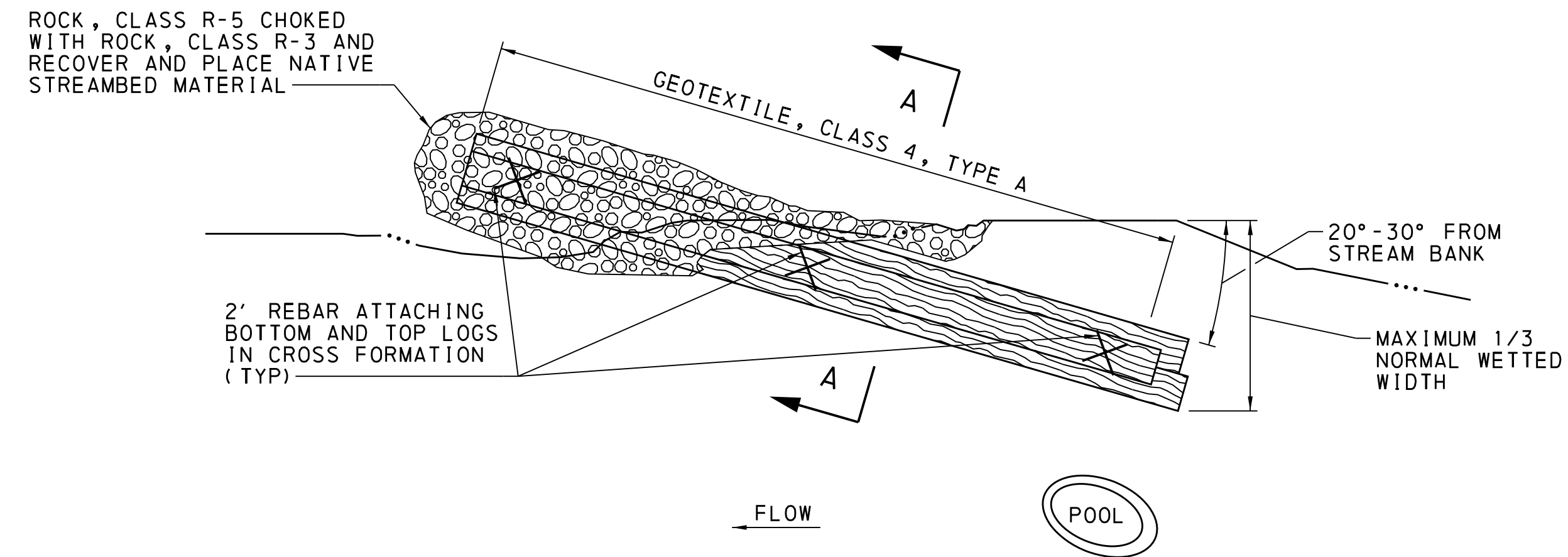
1. THE LOG VANES ARE TO BE LOCATED AND PLACED AT THE DIRECTION OF THE ON-SITE QUALIFIED STREAM RESTORATION DESIGNER.
2. CONSTRUCT LOG VANE USING 30' LONG LOGS, APPROXIMATELY 12"-18" DIAMETER AT BUTT END AND 8" MIN DIAMETER AT TIP. USE GREEN HEMLOCK OR LARCH LOGS.
3. BASE LOGS SHALL BE SUFFICIENTLY PINNED FLUSH TO CHANNEL BED WITH 4' REBAR AND TOP LOG SHALL BE SUFFICIENTLY PINNED TO BOTH BASE LOGS WITH 2' REBAR. SPACE REBAR PINNING AT APPROXIMATELY 5' SPACING. PRIOR TO REBAR INSTALLATION, PILOT HOLES SHALL BE DRILLED THROUGH LOGS.
4. GRADE CONTROL LOG TO BE SET INTO THE STREAM BOTTOM WITH THE BUTT END OF THE LOG 2"-4" HIGHER AND INTO THE STREAM BANK.
5. TOP LOG SHOULD SIT IN SADDLE FORMED BY THE TWO BASE LOGS.
6. BUTT ENDS OF LOGS SHALL BE BURIED A MINIMUM OF 5' IN AN EXCAVATED TRENCH AND BACKFILLED WITH R-5 ROCK. ROCK BACKFILL OUTSIDE OF THE NORMAL WATER SURFACE ELEVATION SHALL BE CAPPED WITH EMBANKMENT MATERIAL, ALL ROCK WITHIN THE NORMAL WATER SURFACE ELEVATION SHALL BE CAPPED WITH NATIVE STREAMBED MATERIAL.
7. SCOUR POOL SHOULD BE INITIATED DIRECTLY DOWNSTREAM OF MULTI-LOG VANE DEFLECTOR. BE SURE TO AVOID DAMAGE TO LOG VANE DURING THIS WORK.

PREPARED BY:
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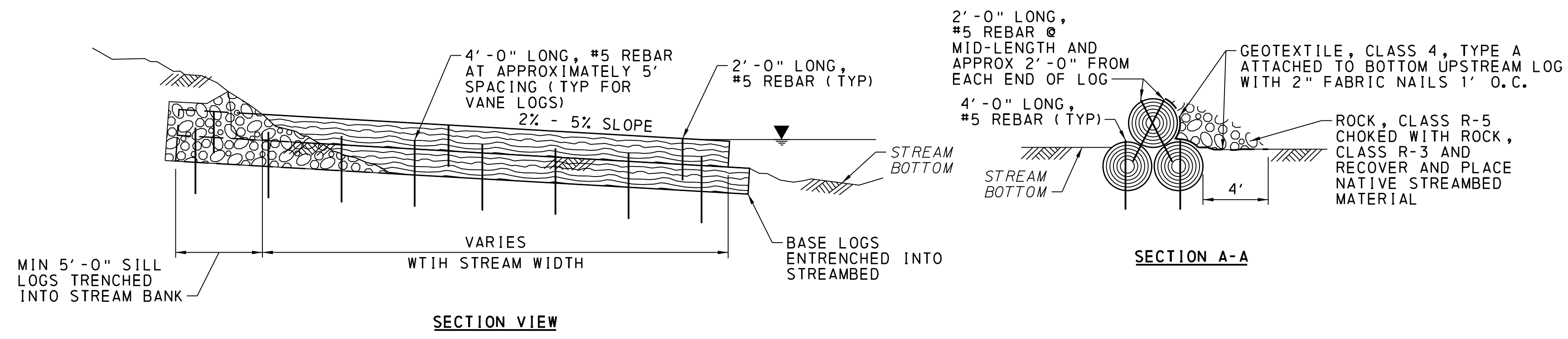
STREAM MITIGATION PLAN

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	5 OF 9
LOYALSOCK & ELDRED TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

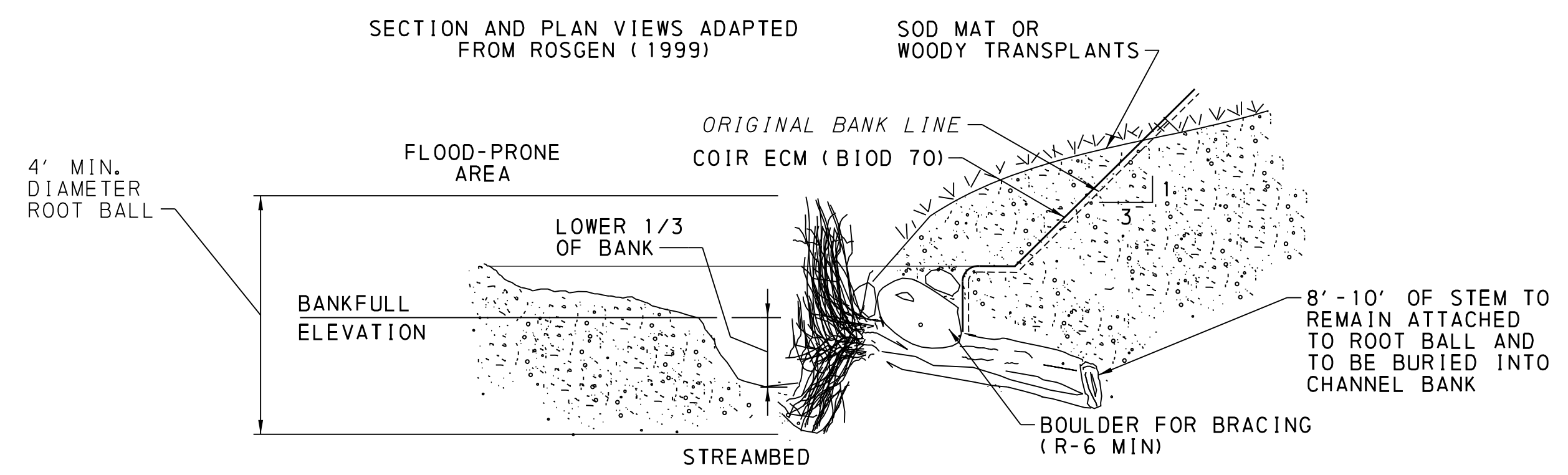


PLAN VIEW

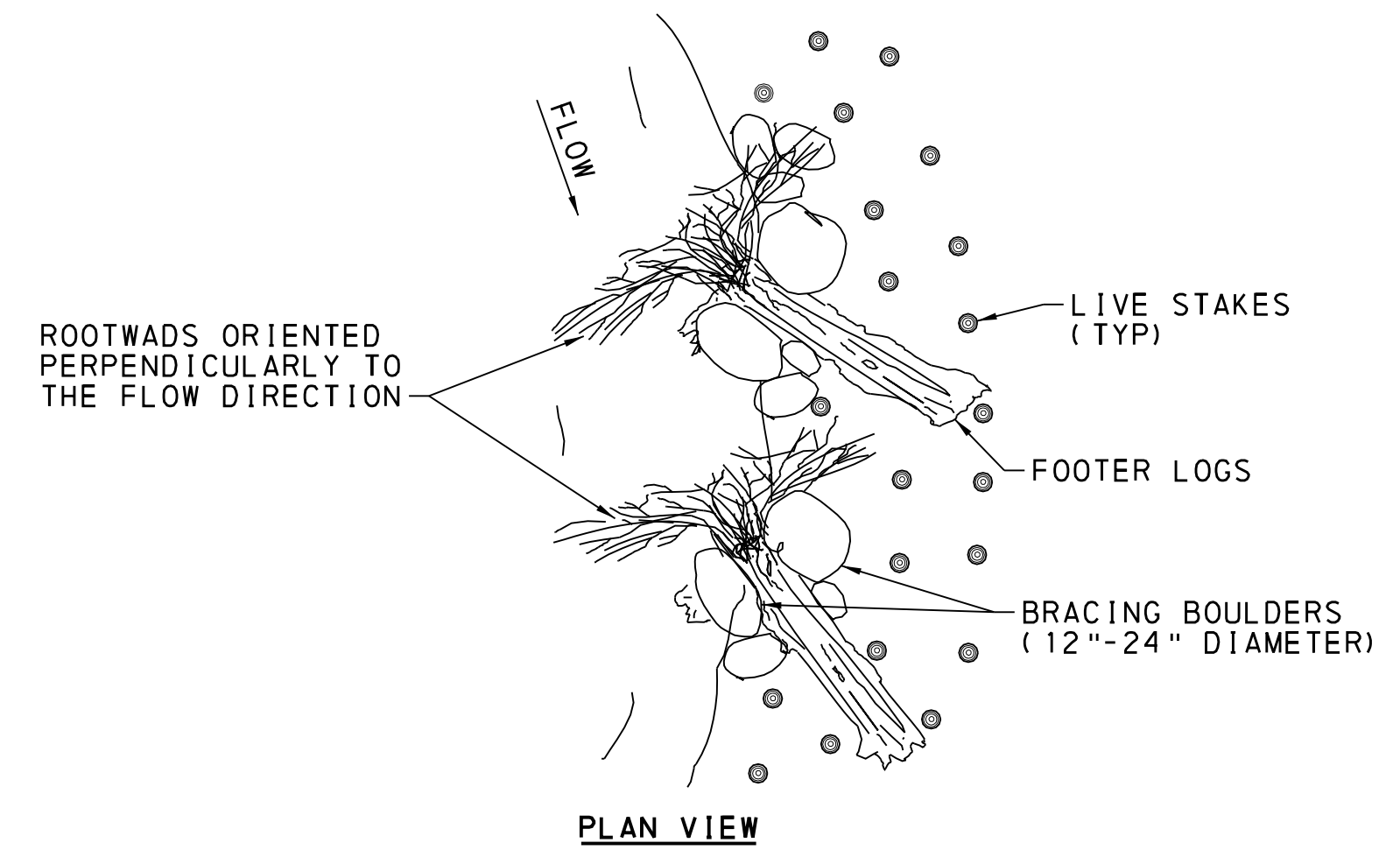


MULTI-LOG VANE DEFLECTOR
NOT TO SCALE

- LOG VANE DEFLECTOR NOTES:
1. THE LOG VANE DEFLECTOR IS TO BE LOCATED AND PLACED DURING CONSTRUCTION AT THE DIRECTION OF THE ON-SITE QUALIFIED STREAM RESTORATION DESIGNER.
 2. CONSTRUCT LOG VANE DEFLECTORS USING APPROXIMATELY 30' LONG LOGS, 12"-18" DIAMETER AT BUTT END, AND 8" MIN DIAMETER AT TIP. USE GREEN HEMLOCK OR LARCH LOGS.
 3. BASE LOGS SHALL BE SUFFICIENTLY PINNED TO CHANNEL BED WITH 4' REBAR AND TOP LOG SHALL BE SUFFICIENTLY PINNED TO BOTH BASE LOGS WITH 2' REBAR. SPACE REBAR PINNING AT APPROXIMATELY 5' SPACING. PRIOR TO REBAR INSTALLATION, PILOT HOLES SHALL BE DRILLED THROUGH LOGS.
 4. TOP LOG SHOULD SIT IN SADDLE FORMED BY THE TWO BASE LOGS.
 5. BUTT ENDS OF LOGS SHALL BE BURIED A MINIMUM OF 5' IN AN EXCAVATED TRENCH AND BACKFILLED WITH ROCK, CLASS R-5 CHOKED WITH ROCK, CLASS R-3. ROCK BACKFILL OUTSIDE OF THE NORMAL WATER SURFACE ELEVATION SHALL BE CAPPED WITH EMBANKMENT MATERIAL, ALL ROCK WITHIN THE NORMAL WATER SURFACE ELEVATION SHALL BE CAPPED WITH NATIVE STREAMBED MATERIAL.
 6. SCOUR POOL SHOULD BE INITIATED DIRECTLY DOWNSTREAM OF MULTI-LOG VANE DEFLECTOR. BE SURE TO AVOID DAMAGE TO LOG VANE DURING THIS WORK.



SECTION VIEW



PLAN VIEW

ROOTWAD/ROCK REVETMENT
NOT TO SCALE

- ROOTWAD/ROCK BANK REVETMENT NOTES:
(PLACE UNDER DIRECTION OF ON-SITE QUALIFIED STREAM RESTORATION DESIGNER)
1. CLEAR AND GRUB WITHIN LIMITS OF GRADING. DO NOT DISTURB EXISTING TREES AND SHRUBS WITHOUT APPROVAL.
 2. OBTAIN ROOTWADS FROM CLEARING AND GRUBBING ACTIVITIES. LEAVE 8' TO 10' OF THE TREE ATTACHED TO THE ROOT BALL.
 3. EXCAVATE A MINIMUM 2 FEET BELOW EXISTING GRADE FOR PLACEMENT OF THE ROOT WADS AND ROCK. STOCKPILE EXISTING TOPSOIL FROM THE EXCAVATION.
 4. SUBMERGE THE ROOTWADS TO A DEPTH OF TWO THIRDS BELOW THE WATER SURFACE AT THE BANKFULL STAGE (1.0'-1.25' ABOVE THE CHANNEL INVERT).
 5. PLACE ROOTWADS AT 3-4 FEET CENTERS, INTERSPERSE R-6 ROCK WITHIN VOIDS.
 6. PLACE A MINIMUM OF SIX INCHES OF EXCAVATED TOPSOIL NOT SHOWN. INSTALL SEEDING AND EROSION CONTROL MAT. WRAP EROSION CONTROL MAT INTO FINAL POSITION AND SECURE WITH STAPLES.

STREAM MITIGATION PLAN

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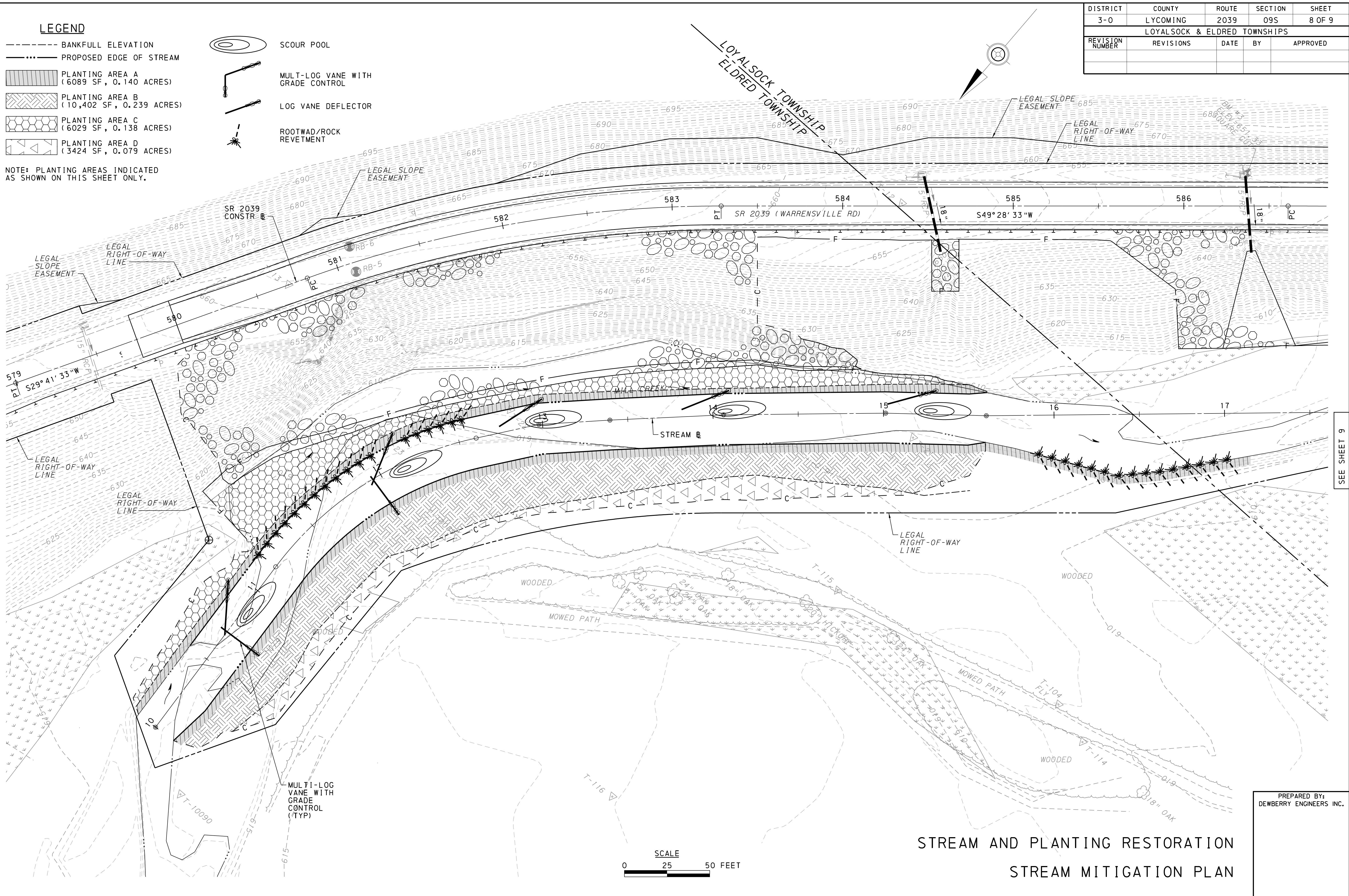
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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	8 OF 9
LOYALSOCK & ELDRED TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

LEGEND

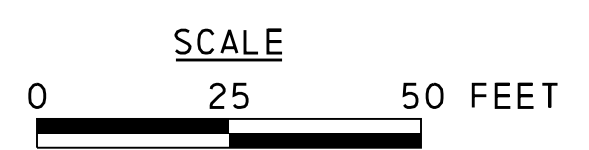
- BANKFULL ELEVATION
- PROPOSED EDGE OF STREAM
- [Hatched Box] PLANTING AREA A (6089 SF, 0.140 ACRES)
- [Cross-hatched Box] PLANTING AREA B (10,402 SF, 0.239 ACRES)
- [Hexagonal Box] PLANTING AREA C (6029 SF, 0.138 ACRES)
- [Triangular Box] PLANTING AREA D (3424 SF, 0.079 ACRES)
- [Concentric Circles] SCOUR POOL
- [V-shaped Structure] MULT-LOG VANE WITH GRADE CONTROL
- [Line with Tick] LOG VANE DEFLECTOR
- [Starburst] ROOTWAD/ROCK REVETMENT

NOTE: PLANTING AREAS INDICATED AS SHOWN ON THIS SHEET ONLY.



SEE SHEET 9

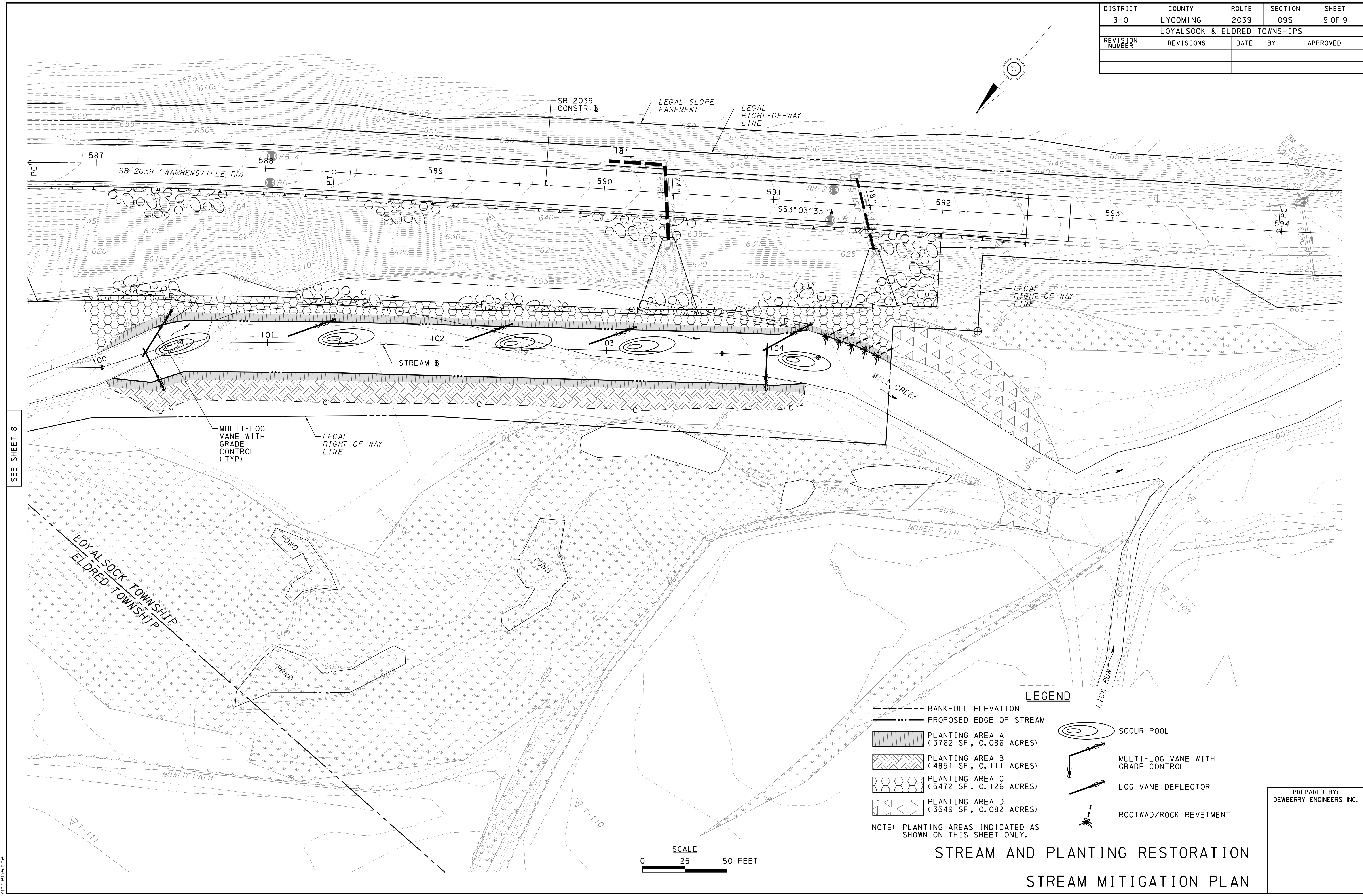
**STREAM AND PLANTING RESTORATION
STREAM MITIGATION PLAN**



PREPARED BY:
DEWBERRY ENGINEERS INC.

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DISTRICT	COUNTY	ROUTE	SECTION	SHEET
3-0	LYCOMING	2039	09S	9 OF 9
LOYALSOCK & ELDRED TOWNSHIPS				
REVISION NUMBER	REVISIONS	DATE	BY	APPROVED

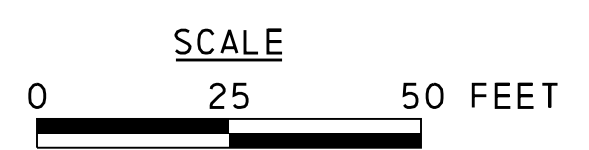


SEE SHEET 8

LEGEND

- BANKFULL ELEVATION
- PROPOSED EDGE OF STREAM
- [Hatched Box] PLANTING AREA A (3762 SF, 0.086 ACRES)
- [Cross-hatched Box] PLANTING AREA B (4851 SF, 0.111 ACRES)
- [Hexagonal Box] PLANTING AREA C (5472 SF, 0.126 ACRES)
- [Triangular Box] PLANTING AREA D (3549 SF, 0.082 ACRES)
- [Concentric Circles] SCOUR POOL
- [Z-shaped Line] MULTI-LOG VANE WITH GRADE CONTROL
- [Diagonal Line] LOG VANE DEFLECTOR
- [Starburst Line] ROOTWAD/ROCK REVETMENT

NOTE: PLANTING AREAS INDICATED AS SHOWN ON THIS SHEET ONLY.



**STREAM AND PLANTING RESTORATION
STREAM MITIGATION PLAN**

PREPARED BY:
DEWBERRY ENGINEERS INC.

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