

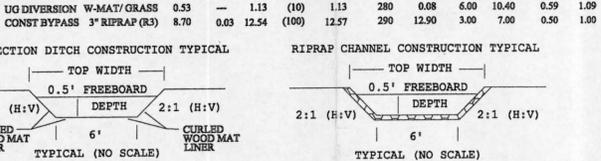
**WATERS OF THE COMMONWEALTH**  
OVERLAND FLOW FROM BMPs ASSOCIATED WITH THIS PART OF THE PROPERTY WILL BE ROUTED TO LITTLE LAUREL RUN (CL. 93 DES. CW7)

**LIMITS OF EARTH DISTURBANCE**  
THE LIMITS OF EARTH DISTURBANCE FOR THIS PART OF THE PROPERTY ARE COINCIDENT WITH THE NPDES BOUNDARY LINE AND INCLUDE THE STAGING AREA, DITCHES, TREATMENT PONDS AND SED TRAP. NOTE: THE SED TRAP WILL BE CONVERTED TO A REPLACEMENT WETLAND AFTER CONSTRUCTION.

**NPDES BOUNDARIES**  
THE NPDES BOUNDARY IS SHOWN ON THE MAP AND IS SPECIFIC TO THIS PART OF THE PROPOSED PROJECT AND IS LABELED AS: NPDES

**STRUCTURAL BMP's: COLLECTION DITCHES / RIPRAP CHANNELS**

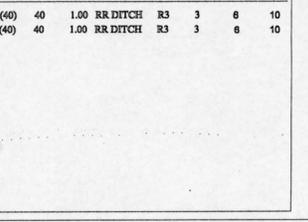
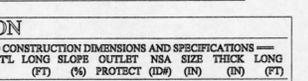
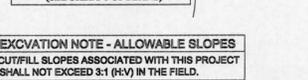
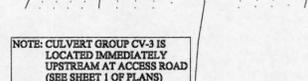
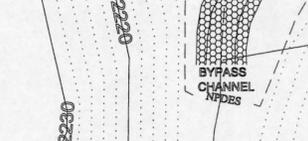
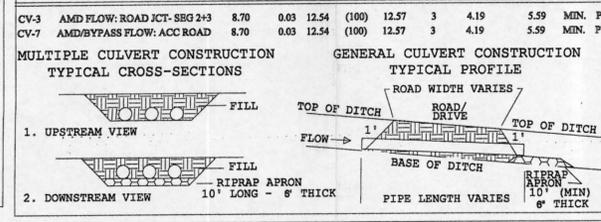
MAP KEY	CHANNEL FUNCTION	CHANNEL LINER TYPES TEMP / PERM	*WS* AREA (AC)	FLOW COMPONENTS BASE + (SCS) STORM (CFS)	CHANNEL DESIGN DATA FLOW LENGTH (FT)	DESIGN VELOCITY (FPS)	CONSTRUCTION DIMENSIONS WIDTHS (FT)	DEPTHS (FT)	W.F.F.		
DD-1	UG DIVERSION	W-MAT/GRASS	0.53	1.13 (10)	1.13	280	0.08	6.00	10.40	0.59	1.09
BYP-1	CONST BYPASS	3" RIPRAP (R3)	8.70	0.03 12.54 (100)	12.57	290	12.90	3.00	7.00	0.50	1.00



**EXCAVATION NOTE - ALLOWABLE SLOPES**  
CUT/FILL SLOPES ASSOCIATED WITH THIS PROJECT SHALL NOT EXCEED 3:1 (H:V) IN THE FIELD.

**STRUCTURAL BMP's: CULVERT GROUPS / OUTLET PROTECTION**

MAP KEY	FUNCTION OF CULVERT GROUP	*WS* AREA (AC)	FLOW COMPONENTS BASE + (SCS) STORM (CFS)	CULVERT GROUP DESIGN PARAMETERS FLOW LENGTH (FT)	DESIGN VELOCITY (FPS)	CONSTRUCTION DIMENSIONS AND SPECIFICATIONS
CV-3	AMD FLOW: ROAD JCT-SEG 2+3	8.70	0.03 12.54 (100)	12.57	3	4.19 5.59 MIN. FVC(40) 40
CV-7	AMD/BYPASS FLOW: ACC ROAD	8.70	0.03 12.54 (100)	12.57	3	4.19 5.59 MIN. FVC(40) 40

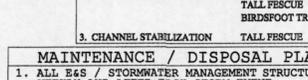
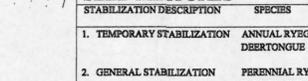


**SOIL AMENDMENTS / MULCH**

1. AGRICULTURAL LIMESTONE	3.0 TONS/ACRE
2. FERTILIZER (N-P-K)	120 - 200 - 200 LBS./ACRE
3. MULCH (STRAW)	3.0 TONS/ACRE

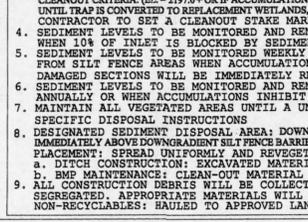
**SEED MIXTURES**

STABILIZATION DESCRIPTION	SPECIES	RATE LB/AC	PURITY (%)	GERM (%)	WEED (%)
1. TEMPORARY STABILIZATION	ANNUAL RYEGRASS	10.0	95	85	0.15
	DEERTONGUE	8.0	95	75	0.10
2. GENERAL STABILIZATION	PERENNIAL RYEGRASS	20.0	95	85	0.15
	TALL FESCUE	15.0	95	75	0.10
	BIRDSFOOT TREFOIL	15.0	98	80	0.15
3. CHANNEL STABILIZATION	TALL FESCUE	50.0	95	80	0.10



**MAINTENANCE / DISPOSAL PLAN**

- ALL E4S / STORMWATER MANAGEMENT STRUCTURES TO BE INSPECTED WEEKLY AND AFTER EACH STORM EVENT.
- E4S / STORMWATER MANAGEMENT STRUCTURES TO BE CLEANED/REPAIRED AS NEEDED.
- INSPECTION AND MAINTENANCE RESPONSIBILITIES:
  - DURING CONSTRUCTION: GENERAL CONTRACTOR
  - POST - CONSTRUCTION: CLEARFIELD CREEK WATERSHED ASSOCIATION
- SEDIMENT LEVELS TO BE MONITORED AND REMOVED FROM SEDIMENT TRAP ANNUALLY CLEANOUT CRITERIA: (BL = 3197.0' OR IF ACCUMULATION EXCEEDS 1.0'). MAINTENANCE TO CONTINUE UNTIL TRAP IS CONVERTED TO REPLACEMENT WETLANDS, THEN CLEANOUT TO PRESERVE VEGETATION. CONTRACTOR TO SET A CLEANOUT STAKE MARKED AT THE CLEANOUT ELEVATION.
- SEDIMENT LEVELS TO BE MONITORED AND REMOVED FROM CULVERTS ANNUALLY OR WHEN 10% OF INLET IS BLOCKED BY SEDIMENT (LEVEL VARIES).
- SEDIMENT LEVELS TO BE MONITORED WEEKLY AND REMOVED IMMEDIATELY FROM SILT FENCE AREAS WHEN ACCUMULATION EXCEEDS 6". DAMAGED SECTIONS WILL BE IMMEDIATELY REPAIRED.
- SEDIMENT LEVELS TO BE MONITORED AND REMOVED FROM COLLECTION DITCHES ANNUALLY OR WHEN ACCUMULATIONS INHIBIT VEGETATIVE GROWTH (GRASS LINER).
- MAINTAIN ALL VEGETATED AREAS UNTIL A UNIFORM 70% COVER IS ACHIEVED. SPECIFIC DISPOSAL INSTRUCTIONS:
  - DESIGNATED SEDIMENT DISPOSAL AREA: DOWNSLOPE BOUNDARY OF ADJ. STAGING AREA IMMEDIATELY ABOVE DOWNSLOPE SILT FENCE BARRIER
  - PLACEMENT: SPREAD UNIFORMLY AND REVEGETATE
  - DITCH CONSTRUCTION: EXCAVATED MATERIAL
  - SILT MAINTENANCE: CLEAN-OUT MATERIAL
  - ALL CONSTRUCTION DEBRIS WILL BE COLLECTED AND SEGREGATED. APPROPRIATE MATERIALS WILL BE RECYCLED NON-RECYCLABLES: HAULED TO APPROVED LANDFILL



**GENERAL CONSTRUCTION SEQUENCE**

NOTE: CONTRACTOR MUST COMPLETE EACH CONSTRUCTION ITEM BEFORE BEGINNING THE NEXT CONSTRUCTION ITEM.

- SITE PREPARATION
- INSTALL DOWNGRADEMENT EAS CONTROLS (FILTER FENCE, ST. STRAW BALES)
- INSTALL DOWNGRADIENT EAS SEGMENT 5 TO STAGING AREA
- INITIATE CLEARING/GRUBBING OF DIV. DITCH AND SED TRAP AREAS
- FINISH CLEARING & GRUBBING ONLY AFTER ITEMS 5 & 6 ARE CONSTRUCTED
- EXCAVATE AND STOCKPILE TOPSOIL FROM AREAS TO BE AFFECTED WATER MANAGEMENT DURING CONSTRUCTION
- CONSTRUCT UPGRADIENT DIVERSION DITCH DD-1
- CONSTRUCT SEDIMENT TRAP ST-1
- CONSTRUCT BYPASS DITCH BPD-1
- INSTALL CULVERT GROUP CV-7 IN BYPASS DITCH BPD-1
- TREATMENT SYSTEM CONSTRUCTION
- EXCAVATE TREATMENT SYSTEM IMPROVEMENTS
- CONSTRUCT TREATMENT SYSTEM DOWNGRADEMENT AND SIDE EMBANKMENTS
- CONSTRUCT INLET CHANNEL AND PRINCIPAL SPILLWAY CHANNELS
- CONSTRUCT & RIPRAP EMERGENCY SPILLWAY
- INSTALL TREATMENT SYSTEM LINERS
- INSTALL DEWATERING PIPES AND DRAIN PIPE IN VERTICAL FLOW POND
- PLACE AND SPREAD REAGENT (LIMESTONE) IN VERTICAL FLOW POND
- PLACE AND SPREAD REDUCING LAYER (COMPOST) IN VERTICAL FLOW POND
- REVGETATION AND REMOVAL OF TEMPORARY BMPs
- RESOL EMBANKMENT OUTSLOPES AND ADJACENT AFFECTED AREAS
- REVGETATE EMBANKMENT OUTSLOPES AND ADJACENT AFFECTED AREAS
- OPEN INFLOW CHANNEL BARRIER AND ROUTE DISCHARGE TO SYSTEM
- REMOVE TEMPORARY (DOWNGRADEMENT) BMPs AFTER VEGETATION IS STABLE
- CONVERT SEDIMENT TRAP TO REPLACEMENT WETLAND AND REVEGETATE



**PLAN REVISIONS:**

DATE	DESCRIPTION
DEC. 2005	ORIGINAL SUBMISSION

**SYSTEM DESIGN PLAN**

DATE: DEC. 2005  
SCALE: HOR: 1" = 20'  
VER: 20 DU

**BY:** CLARK C. CREE, PS  
CREE SURVEYORS  
2417 SKYLINE DRIVE  
FALLENTIMBER, PA 16639  
(814) 687-4257

**BY:** JOHN W. FOREMAN, PE  
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119 EAST 23RD AVE.  
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RESEARCH SVC., INC.  
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**SPONSOR:** CLEARFIELD CREEK WATERSHED ASSOCIATION  
216 BELDIN HOLLOW ROAD  
ASHVILLE, PA 16613

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