

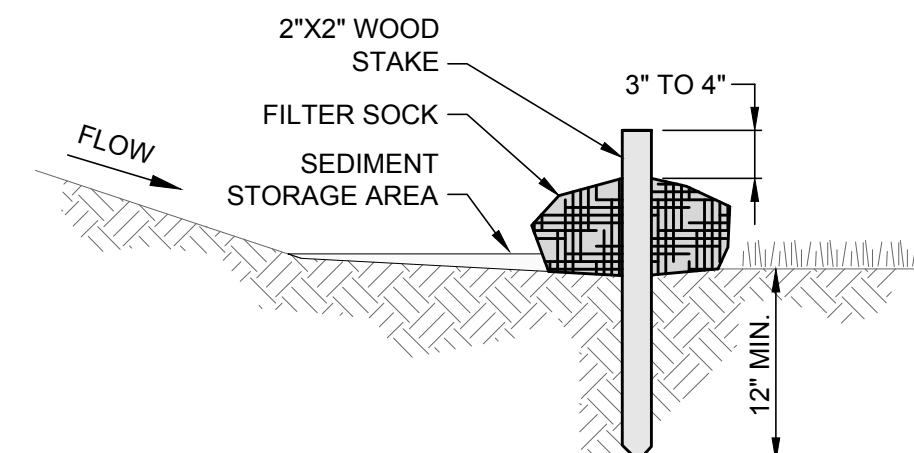
NOTES:

- SUBSOILING SHALL OCCUR WHEN SOIL MOISTURE IS LOW ENOUGH TO ALLOW THE SOIL TO CRACK OR FRACTURE. SUBSOILING IS NOT PERMITTED ON SLIP-PRONE AREAS.
- THE AREA SHALL BE GRADED AND TOPSOIL SPREAD WHERE NEEDED.
- THE SEEDBED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 2 TONS/AC. OR FERTILIZER AT 500 LB/AC. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
- APPLY SEED UNIFORMLY ON FIRM, MOIST SEED BED.
- SEEDING SHOULD BE APPLIED FROM MARCH 1 TO MAY 31 OR AUGUST 1 TO SEPTEMBER 30. IF SEEDING OCCURS OUTSIDE OF THESE DATES, ADDITIONAL MULCH AND IRRIGATION MAY BE REQUIRED TO ENSURE A MINIMUM OF 80% GERMINATION. TILLAGE FOR SEEDBED PREPARATION SHALL OCCUR WHEN THE SOIL IS DRY ENOUGH TO CRUMBLE AND NOT FORM RIBBONS WHEN COMPRESSED BY HAND.
- SEEDING SHOULD NOT BE APPLIED FROM OCTOBER 1 TO NOVEMBER 20 BECAUSE SEEDS MAY GERMINATE, BUT WILL NOT SURVIVE THE WINTER. USE THE FOLLOWING METHODS FOR DORMANT SEEDING:
 - FROM OCTOBER 1 TO NOVEMBER 20, INCREASE THE SEEDING RATE BY 50%, PREPARE THE SEED BED, ADD LIME AND FERTILIZER, MULCH AND ANCHOR.
 - FROM NOVEMBER 20 TO MARCH 15, ONLY IF SOIL CONDITIONS PERMIT, INCREASE THE SEEDING RATE BY 50%, PREPARE THE SEED BED, ADD LIME AND FERTILIZER, APPLY THE SEED MIXTURE, MULCH AND ANCHOR.
- APPLY MULCH MATERIAL IMMEDIATELY AFTER SEEDING.
- PERMANENT SEEDING SHALL INCLUDE IRRIGATION TO ESTABLISH VEGETATION DURING DRY OR HOT WEATHER OR ON ADVERSE SITE CONDITIONS AS NEEDED. AVOID EXCESSIVE IRRIGATION AND MONITOR TO PREVENT EROSION AND DAMAGE FROM RUNOFF.
- PERMANENT SEEDING SHALL NOT BE CONSIDERED ESTABLISHED FOR AT LEAST 1 FULL YEAR FROM THE TIME OF PLANTING. DURING THIS PERIOD, INSPECT FOR SOIL EROSION OR PLANT LOSS AND REPAIR BARE OR SPARSE AREAS, FILL GULLIES, RE-FERTILIZE, RE-SEED OR RE-MULCH AS NEEDED.
- ADEQUATE PERMANENT VEGETATION SHALL BE GROUND COVER DENSE ENOUGH TO COVER 80% OF THE SOIL SURFACE BASED ON VISUAL INSPECTION, AND MATURE ENOUGH TO SURVIVE WINTER WEATHER CONDITIONS.

PERMANENT SEEDING FERTILIZATION AND MOWING CHART				
MIXTURE	FORMULA	LB/AC.	TIME	MOW
CREeping RED FESCUE DOMESTIC RYEGRASS KENTUCKY BLUEGRASS	10-10-10	500	FALL, YEARLY, OR AS NEEDED	≥3"
TALL FESCUE	10-10-10	500		≥4"
TURF-TYPE FESCUE	10-10-10	500		
CROWN VETCH FESCUE	0-20-20	400	SPRING, AND YEARLY AFTER ESTABLISHED	DO NOT MOW
FLAT PEA FESCUE	0-20-20	400		

PERMANENT SEEDING SPECIES SELECTION		
SEED MIX	SEED RATE LB/AC.	NOTES:
GENERAL USE		
CREeping RED FESCUE	20 - 40	FOR CLOSE MOWING AND WATERWAYS WITH ≤2.0 FT./SEC. VELOCITY
DOMESTIC RYEGRASS	10 - 20	
KENTUCKY BLUEGRASS	20 - 40	
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE	90	
STEEP BANKS OR CUT SLOPES		
TALL FESCUE	40 - 50	
CROWN VETCH TALL FESCUE	10 - 20 20 - 30	DO NOT SEED LATER THAN AUGUST
FLAT PEA TALL FESCUE	20 - 25 20 - 30	DO NOT SEED LATER THAN AUGUST
ROAD DITCHES AND SWALES		
TALL FESCUE	40 - 50	
TURF-TYPE FESCUE KENTUCKY BLUEGRASS	90 5	
LAWN		
KENTUCKY BLUEGRASS PERENNIAL RYEGRASS	100 - 120 100 - 120	
KENTUCKY BLUEGRASS CREeping RED FESCUE	100 - 120 100 - 120	FOR SHADED AREAS

PERMANENT SEEDING DETAIL
SCALE: NONE



NOTES:

- FILTER SOCKS SHALL BE 3 OR 5 MIL CONTINUOUS, TUBULAR, HDPE 3/8" KNITTED MESH NETTING MATERIAL, FILLED WITH COMPOST.
- COMPOST SHALL BE WEED, PATHOGEN AND INSECT FREE, FREE OF ANY REFUSE, CONTAMINANTS OR OTHER MATERIALS TOXIC TO PLANT GROWTH, BE DERIVED FROM A WELL-DECOMPOSED SOURCE OF ORGANIC MATTER, AND CONSIST OF PARTICLES RANGING FROM 3/8" TO 2".
- FILTER SOCKS SHALL BE PLACED ON A LEVEL LINE ACROSS SLOPES PARALLEL TO THE BASE OF THE SLOPE. ON SLOPES APPROACHING 2:1, ADDITIONAL SOCKS SHALL BE PROVIDED AT THE TOP AND MID-SLOPE.
- FILTER SOCKS SHALL BE PLACED AT LEAST 5' FROM THE TOE OF SLOPE FOR SEDIMENT DEPOSIT.
- BUILT UP SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED 1/3 THE FILTER SOCK HEIGHT.
- WHEN A FILTER SOCK IS NO LONGER REQUIRED, IT SHALL BE DISPERSED ON-SITE.
- THE MAXIMUM DRAINAGE AREA PER 100 FEET OF FILTER SOCK IS 1/2 ACRE AND IS DEPENDENT ON THE SLOPE FOLLOWING THE GUIDANCE CHART BELOW:

MAX. SLOPE LENGTH ABOVE FILTER SOCK					
SLOPE	RATIO (H:V)	8"	12"	18"	24"
0% - 2%	0 - 50:1	125'	250'	300'	350'
2% - 10%	50:1 - 10:1	100'	125'	200'	250'
10% - 20%	10:1 - 5:1	75'	100'	150'	200'
20% - 50%	5:1 - 2:1	N/A	50'	75'	100'
≥ 50%	≥ 2:1	N/A	25'	50'	75'

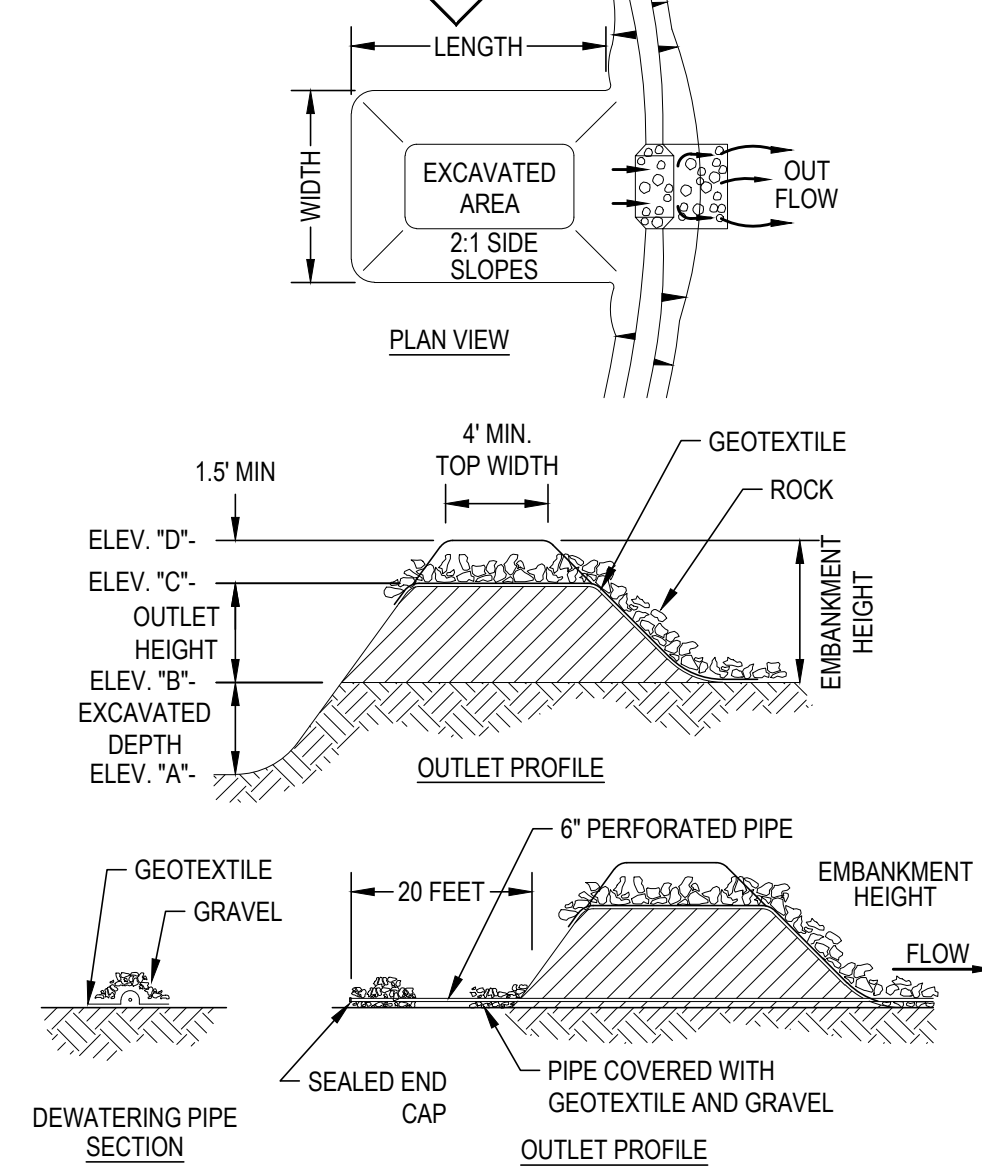
FILTER SOCK DETAIL
SCALE: NONE

NOTES:

- SOD SHALL BE HARVESTED, DELIVERED AND INSTALLED WITHIN A PERIOD OF 48 HOURS. SOD NOT TRANSPLANTED WITHIN THIS PERIOD SHALL BE INSPECTED AND APPROVED PRIOR TO INSTALLATION.
- SOD SHALL BE KEPT MOIST AND COVERED DURING HAULING AND PREPARATION FOR PLACEMENT.
- SOD SHALL BE MACHINE CUT AT A UNIFORM SOIL THICKNESS OF 3/4" ± 1/4", EXCLUDING TOP GROWTH AND THATCH.
- THE AREA SHALL BE GRADED AND TOPSOIL SPREAD WHERE NEEDED.
- THE SEEDBED SHALL BE PREPARED BY APPLYING AGRICULTURAL GROUND LIMESTONE OR FERTILIZER AS RECOMMENDED BY A SOIL TEST. IN LIEU OF A SOIL TEST, APPLY LIME AT 100 LB/1,000 S.F. OR FERTILIZER AT 12 LB/1,000 S.F. OF 10-10-10 OR 12-12-12 ANALYSIS. LIME AND FERTILIZER SHALL BE WORKED INTO THE SOIL TO A DEPTH OF 3".
- BEFORE LAYING SOD, THE SURFACE SHALL BE FINE GRADED AND CLEARED OF ALL DEBRIS, STONES AND CLODS LARGER THAN 3" DIAMETER. KNOCK DOWN HIGH SPOTS AND FILL IN LOW SPOTS SO THE SOIL IS LEVEL AND 1" BELOW THE GRADE OF ANY PAVED SURFACE, SUCH AS CURBS, WALKS AND PAVEMENT.
- DURING PERIODS OF EXCESSIVELY HIGH TEMPERATURES, THE SOIL SHALL BE LIGHTLY IRRIGATED IMMEDIATELY PRIOR TO LAYING SOD.
- DO NOT PLACE SOD ON FROZEN SOIL.
- THE FIRST ROW OF SOD SHALL BE LAID IN A STRAIGHT LINE WITH SUBSEQUENT ROWS PLACED PARALLEL TO AND TIGHTLY WEDGED AGAINST EACH OTHER. LATERAL JOINTS SHALL BE STAGGERED IN A BRICK-LIKE PATTERN. ENSURE SOD IS NOT STRETCHED OR OVERLAPPED, AND THAT ALL JOINTS ARE BUTTED TIGHT.
- ON SLOPING AREAS WHERE EROSION MAY BE A PROBLEM, SOD SHALL BE LAID WITH THE LONG EDGE PARALLEL TO THE CONTOUR, WITH STAGGERED JOINTS AND BE SECURED WITH PEGS OR STAPLES.
- AS SODDING IS COMPLETED IN ANY ONE SECTION, ROLL OR TAMP THE SOD TO ENSURE SOLID CONTACT OF ROOTS WITH THE SOIL. WATER IMMEDIATELY AFTER ROLLING OR TAMPING UNTIL THE SOD AND SURFACE BELOW ARE THOROUGHLY WET. THE OPERATIONS OF LAYING, TAMPING AND IRRIGATING FOR ANY PIECE OF SOD SHALL BE COMPLETED WITHIN 8 HOURS.
- IN THE ABSENCE OF ADEQUATE RAINFALL DURING THE FIRST WEEK, WATER DAILY OR AS NECESSARY TO MAINTAIN MOIST SOIL 4" TO 6" DEEP. AFTER THE FIRST WEEK, WATER SOD AS NECESSARY TO MAINTAIN ADEQUATE MOISTURE AND ENSURE ESTABLISHMENT.
- DO NOT MOW UNTIL SOD IS FIRMLY ROOTED.

SODDING DETAIL
SCALE: NONE

SEDIMENT TRAP



- SEDIMENT TRAPS TO BE CONSTRUCTED AND OPERATIONAL BEFORE UPSLOPE LAND DISTURBANCE BEGINS.
- CLEAR, GRUB, AND STRIP ALL VEGETATION AND ROOT MAT UNDER THE EMBANKMENT. CLEAR THE POOL AREA AS NEEDED TO FACILITATE SEDIMENT CLEANOUT.
- EMBANKMENT FILL MATERIAL IS TO BE FREE OF ROOTS OR OTHER WOODY VEGETATION AS WELL AS OVERSIZED STONES, ROCKS, ORGANIC MATERIAL OR OTHER OBJECTIONABLE MATERIAL. COMPACT THE EMBANKMENT BY TRAVERSING WITH EQUIPMENT WHILE IT IS BEING CONSTRUCTED. MAXIMUM EMBANKMENT HEIGHT IS 5' MEASURED FROM THE GROUND.
- CUT-AND-FILL SLOPES ARE TO BE 2:1 OR FLATTER.
- DIKES DIRECTING WATER TO THE TRAP TO BE HIGHER THAN THE HEIGHT OF THE EMBANKMENT.
- ESTABLISH TEMPORARY SEEDING ON ALL NON-SUBMERGED AREAS OF THE SEDIMENT TRAP.
- 67 C.Y. OF STORAGE VOLUME IS REQUIRED BELOW THE OUTLET CREST FOR EACH 1 AC. OF CONTRIBUTING DRAINAGE AREA. THIS STORAGE VOLUME IS ACHIEVED BY THE DIMENSIONS SHOWN ON THE PLANS.
- PLACE GEOTEXTILE OVER THE BOTTOM AND SLOPES OF THE OUTLET SPILLWAY. CONTINUE GEOTEXTILE DOWNSTREAM OF THE EMBANKMENT TO FORM AN APRON ON THE SURROUNDING GROUND. TO PREVENT RUNOFF FROM FLOWING UNDER THE GEOTEXTILE, THE SECTIONS NEAREST THE FRONT ARE TO OVERLAP EACH FOLLOWING SECTION BY AT LEAST 2'.
- PLACE 12" THICK ROCK ON THE GEOTEXTILE IN THE OUTLET SPILLWAY. USE ODOT TYPE "C" OR TYPE "D" ROCK.
- REMOVE SEDIMENT AND RESTORE THE SEDIMENT TRAP TO ITS ORIGINAL DIMENSIONS WHEN SEDIMENT HAS FILLED 40% OF THE TRAP'S ORIGINAL DEPTH. SPREAD REMOVED SEDIMENT IN A SUITABLE AREA AND STABILIZED SO IT WILL NOT ERODE.
- AFTER THE DRAINAGE AREA IS STABILIZED, PERMANENTLY STABILIZE THE STRUCTURE AND ACCUMULATED SEDIMENT.

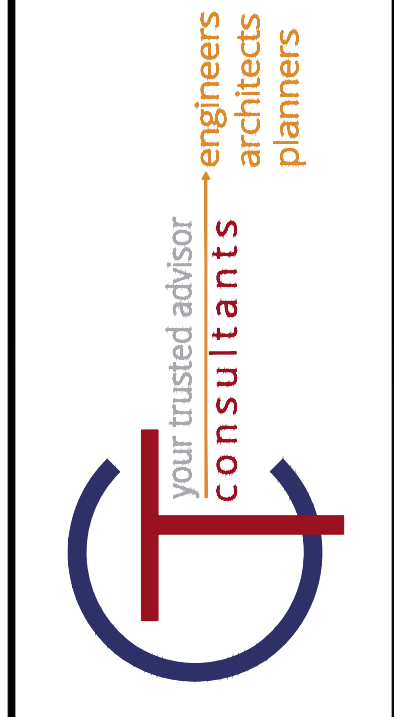
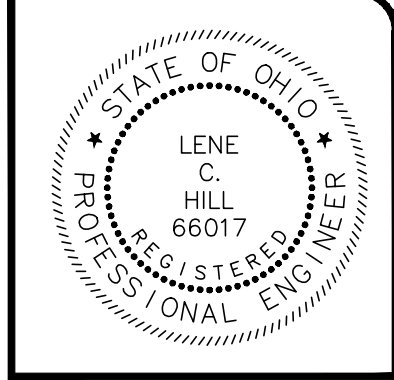
SODDING DETAIL
SCALE: NONE

SEDIMENT TRAP 1 CRITERIA

LENGTH	125 FT
WIDTH	40 FT
WEIR LENGTH	6 FT
TOP EMBANKMENT ELEV. "D"	770.5
TOP OF DEWATERING ZONE ELEV. "C"	769.0
TOP OF SEDIMENT STORAGE ELEV. "B"	768.7
BOTTOM OF SEDIMENT TRAP ELEV. "A"	768.3
DRAINAGE AREA	1.82 AC
SEDIMENT VOLUME REQ.	1820 CF
SEDIMENT VOLUME PROVIDED	2000 CF
DEWATERING VOLUME REQ.	3,292 CF
DEWATERING VOLUME PROVIDED	3500 CF

SEDIMENT TRAP 2 CRITERIA

LENGTH	80 FT
WIDTH	24 FT
WEIR LENGTH	4 FT
TOP EMBANKMENT ELEV. "D"	767.5
TOP OF DEWATERING ZONE ELEV. "C"	766.0
TOP OF SEDIMENT STORAGE ELEV. "B"	765.6
BOTTOM OF SEDIMENT TRAP ELEV. "A"	765.1
DRAINAGE AREA	0.8 AC
SEDIMENT VOLUME REQ.	800 CF
SEDIMENT VOLUME PROVIDED	960 CF
DEWATERING VOLUME REQ.	1,447 CF
DEWATERING VOLUME PROVIDED	1728 CF



ISSUED FOR:	ISSUE DATE:	SCALE:	DESIGNED BY:	DRAWN BY:	CHECKED BY:
CD	8/5/2019	AS SHOWN	LCH / GMS	GMS	LCH

LAKELAND TRANSFER CENTER
LAKELAND COMMUNITY COLLEGE
7601 CLOCKTOWER DR., KIRTLAND, OH 44094

STORM WATER POLLUTION PREVENTION PLAN

PROJECT NO.	18050002
DISCIPLINE	CIVIL
SHEET NAME	SWP_04
SHEET	OF
25	55