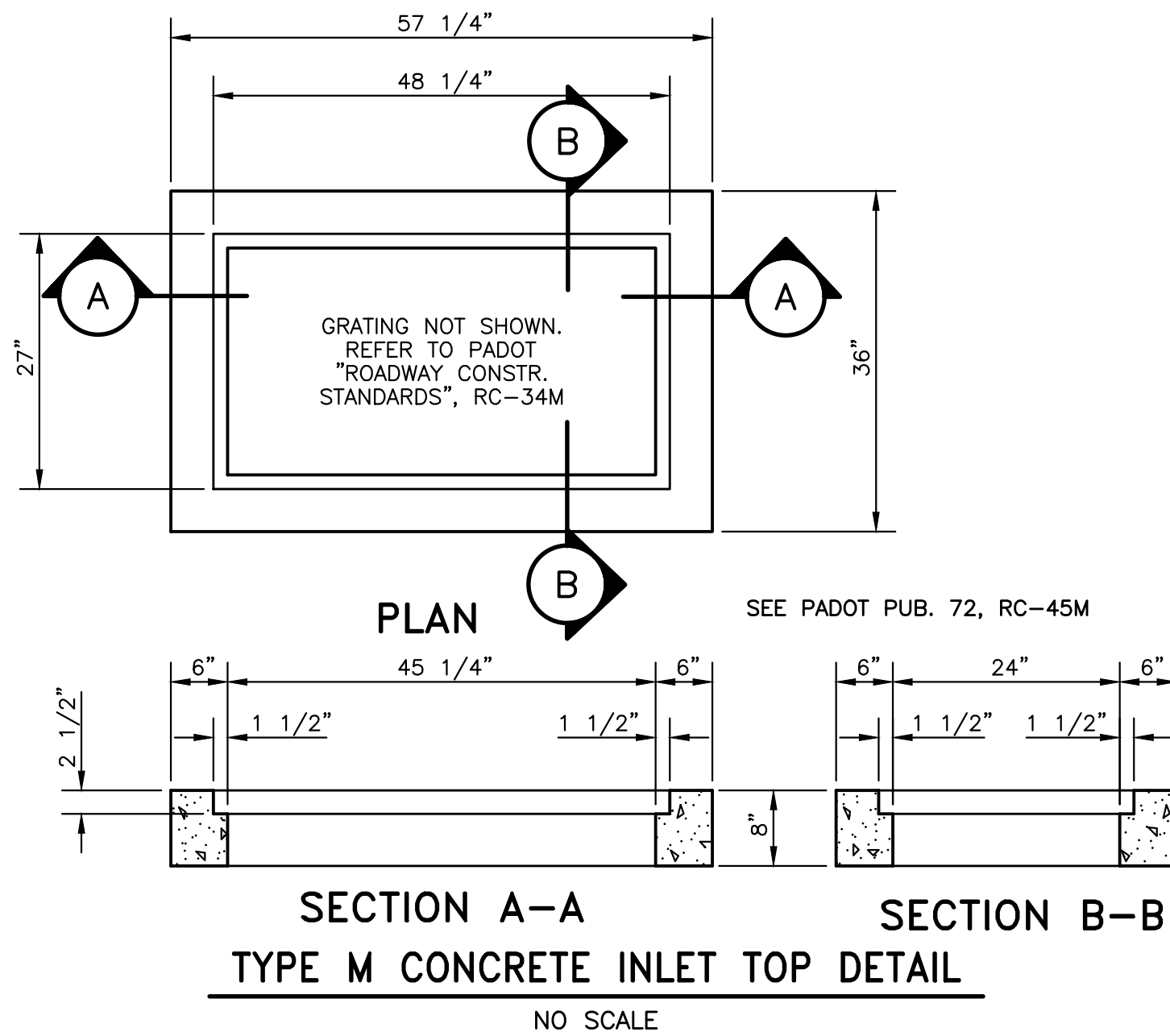
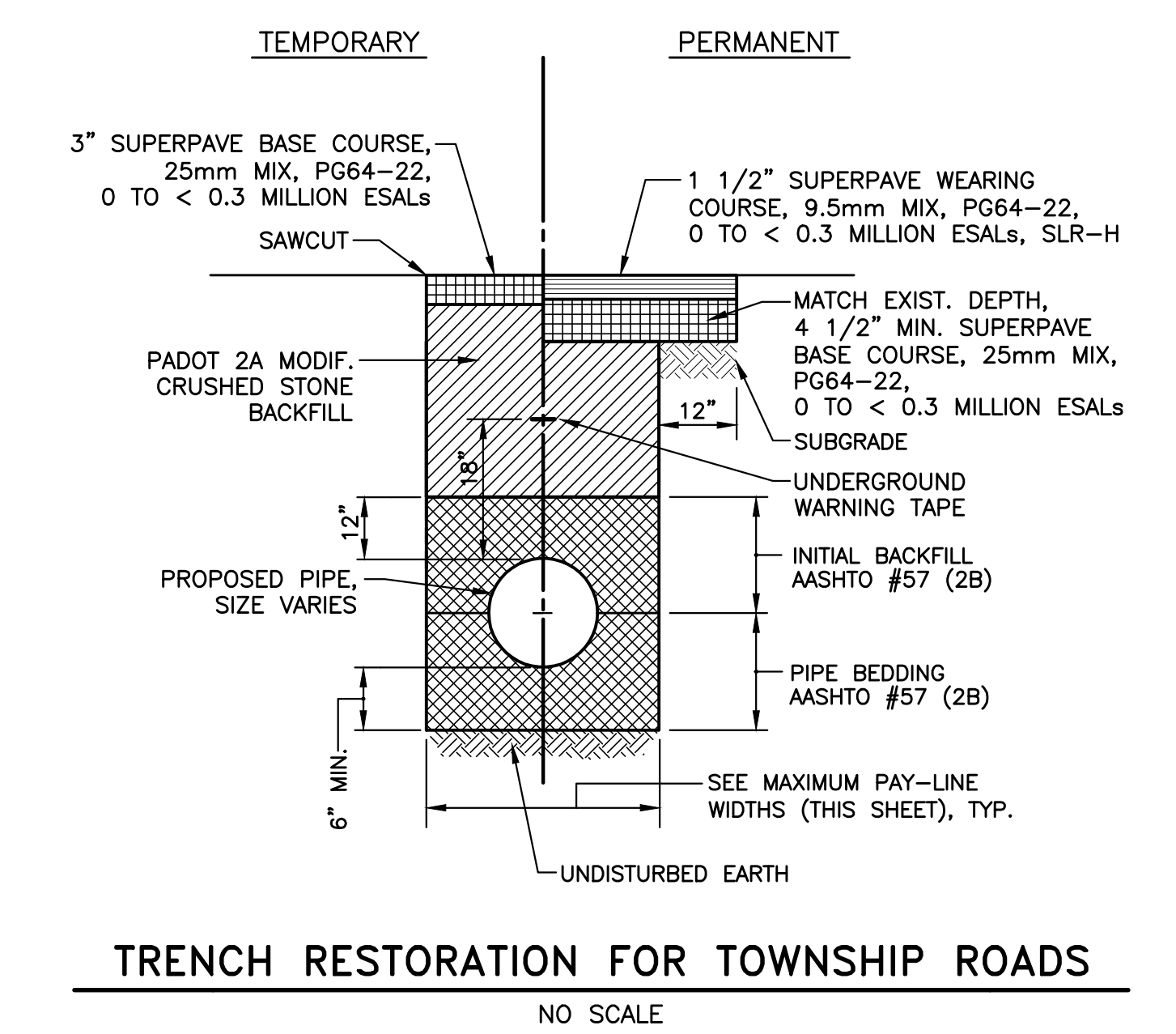
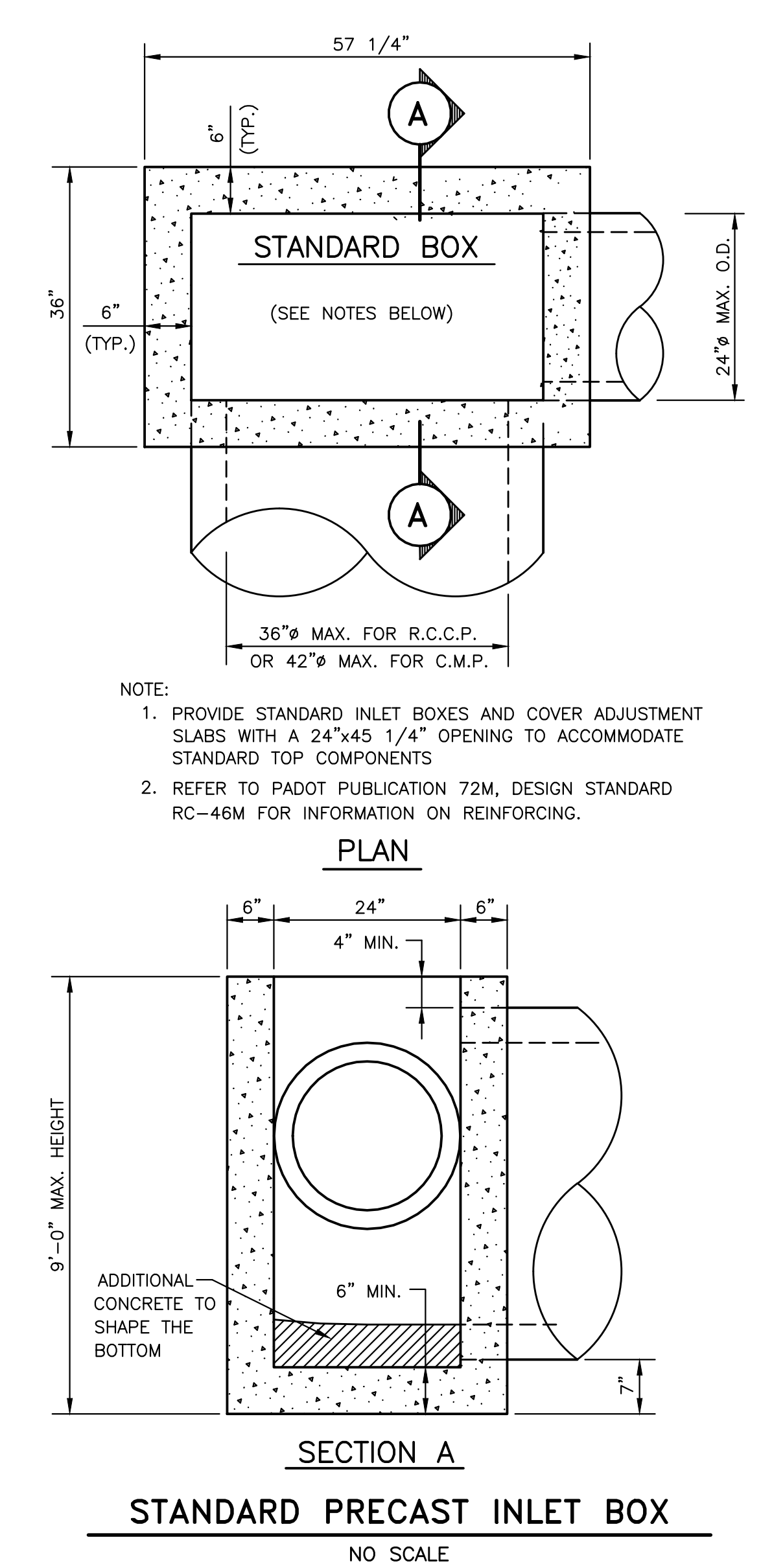
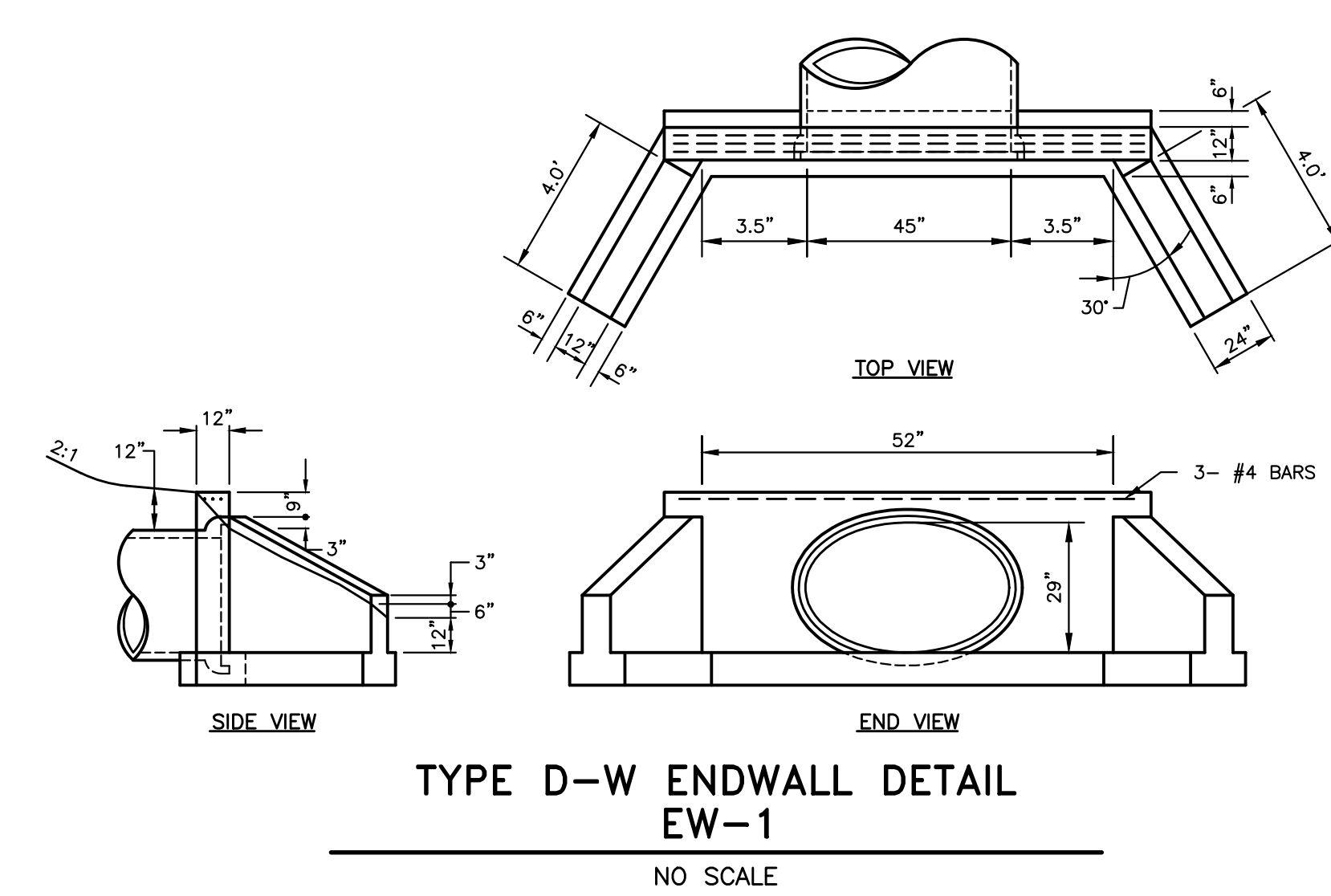
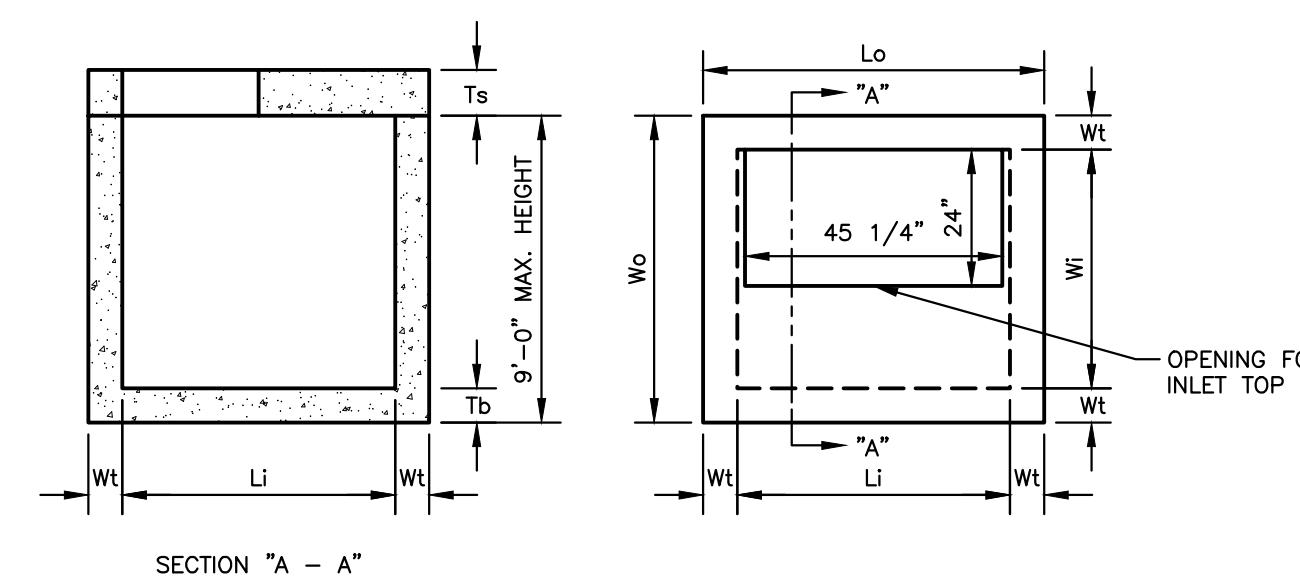
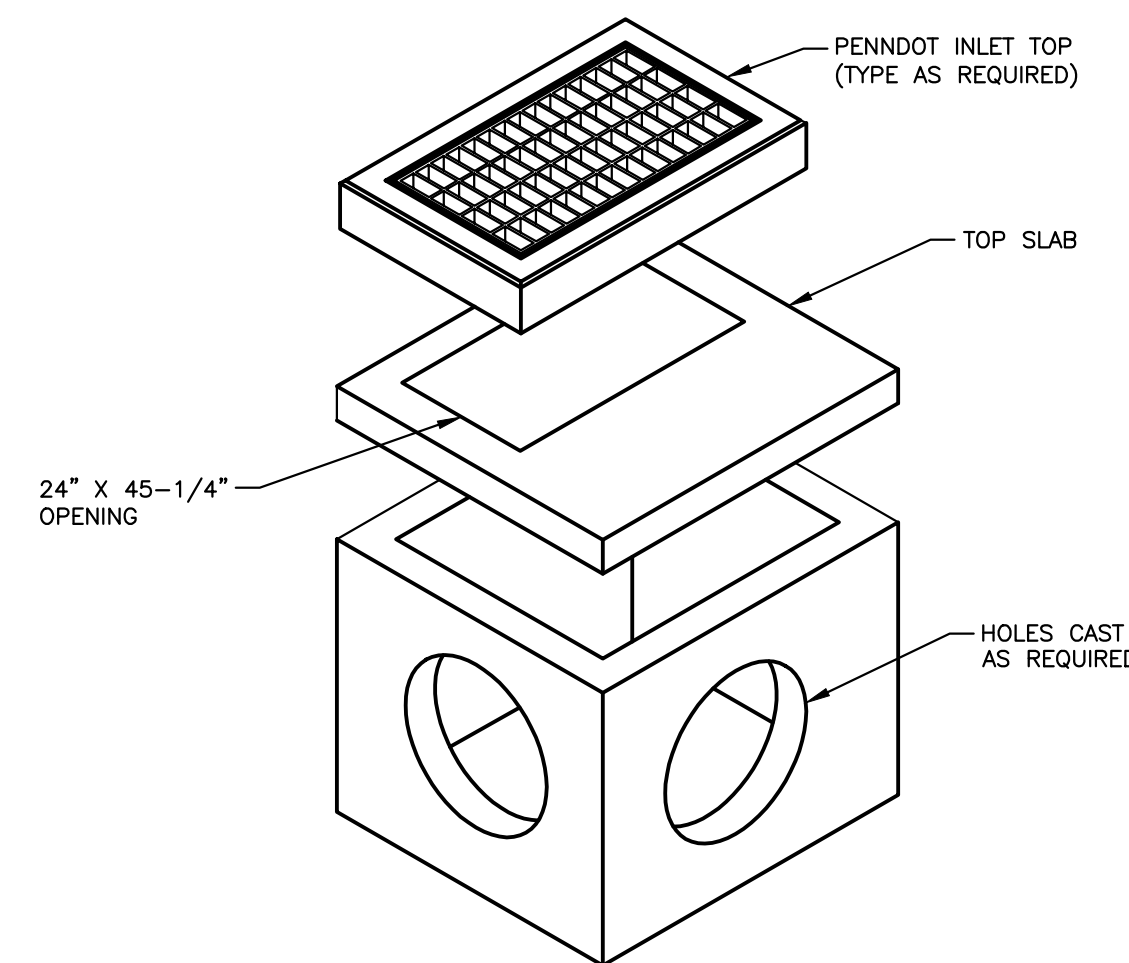


										MICHAEL J. BINGHAM, P.E. RELEASED BY: BCU DESIGN: KLL DRAWN: KLL DATE: SEPT 2022		SEAL  SEAL 9/26/22		CLIENT & PROJECT CALN TOWNSHIP 253 MUNICIPAL DRIVE, PO BOX 72149 THORNDALE, PA 19372  NORTH BAILEY ROAD DRAINAGE IMPROVEMENTS CALN TOWNSHIP, CHESTER COUNTY, PA		 108 West Airport Road Lititz, Pennsylvania 17543 Tel 717.569.7021		TITLE PROPOSED FEATURES  SCALE AS SHOWN  PROJECT NO. 11193.60  SHEET NO. 3 OF 7  REV. S-4589		DWG. NO. S-4589	
NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.												

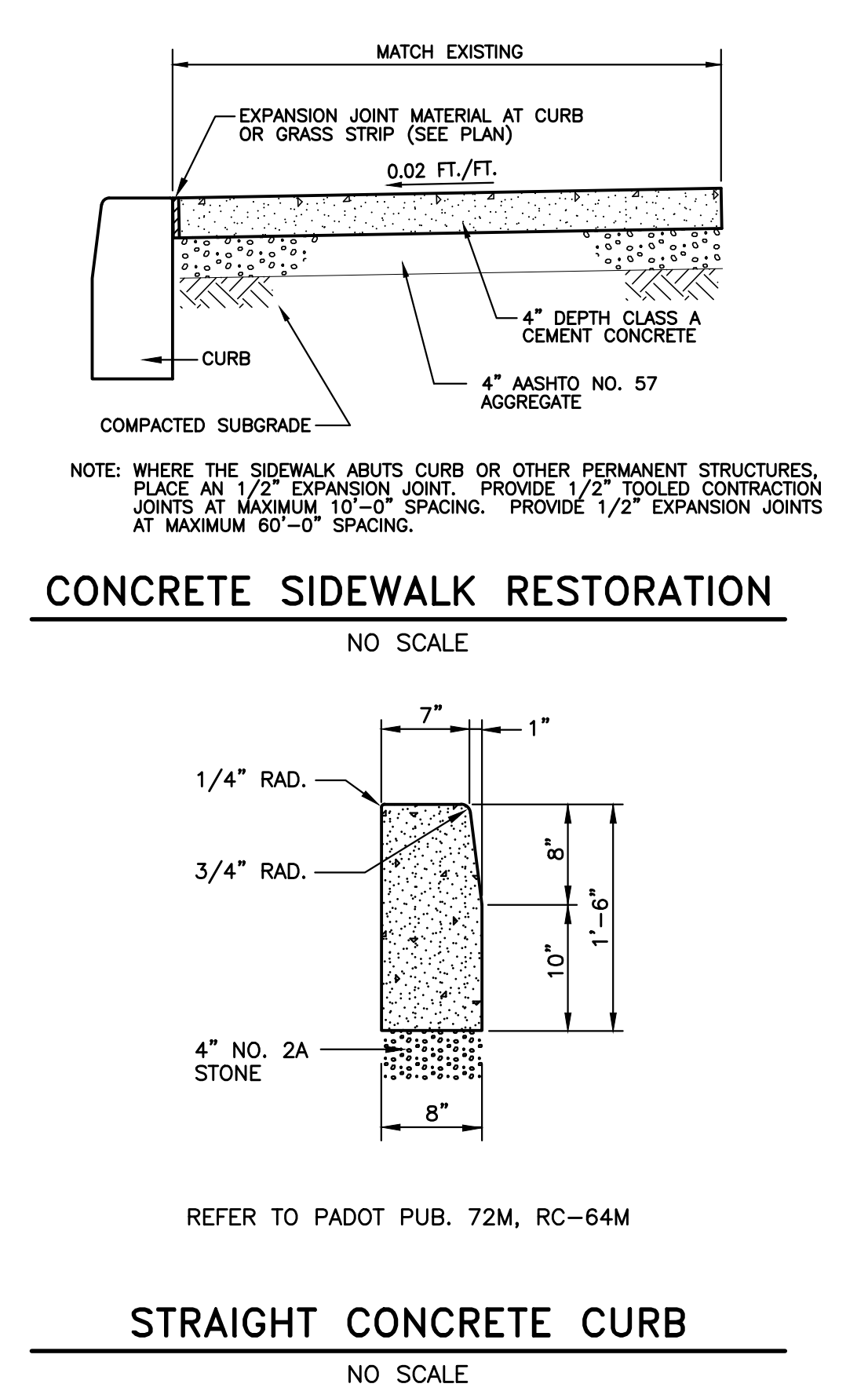
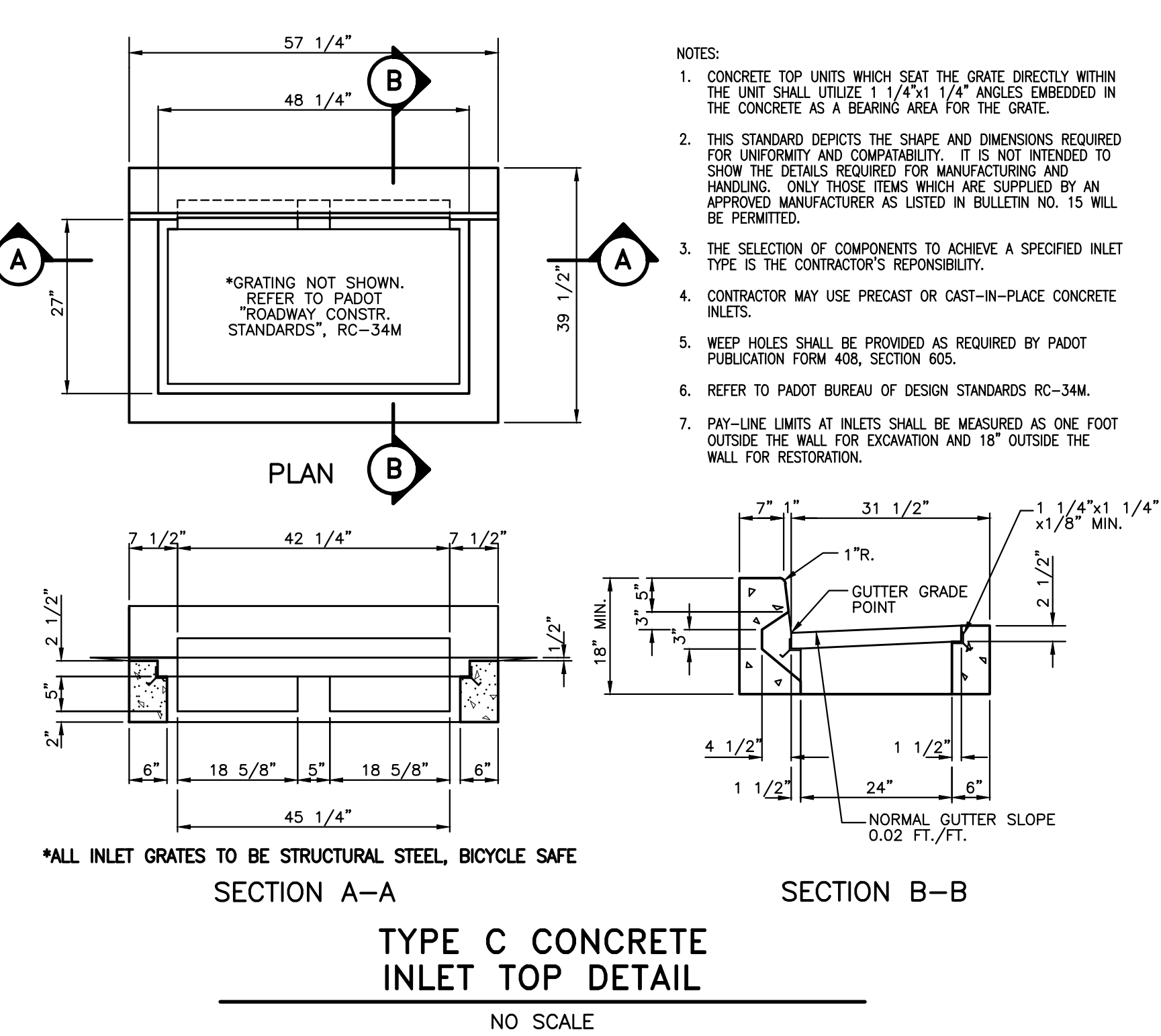


INLET BOX TYPES									
STRUCTURE NAME	INLET TOP	BOX TYPE	LENGTH INSIDE (Li)	LENGTH OUTSIDE (Lo)	WIDTH INSIDE (Wi)	WIDTH OUTSIDE (Wo)	WALL THICKNESS (Tw)	TOP SLAB THICKNESS (Ts)	BOTTOM SLAB THICKNESS (Tb)
I-1	TYPE M	TYPE 5	5'	6'	2'	3'	6"	10"	8"
I-3	TYPE M	TYPE 5	5'	6'	2'	3'	6"	10"	8"
I-4	TYPE C	TYPE 5	5'	6'	5'	6'	6"	10"	8"
I-5	TYPE C	TYPE 5	5'	6'	5'	6'	6"	10"	8"



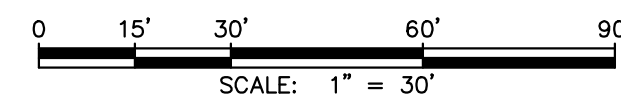
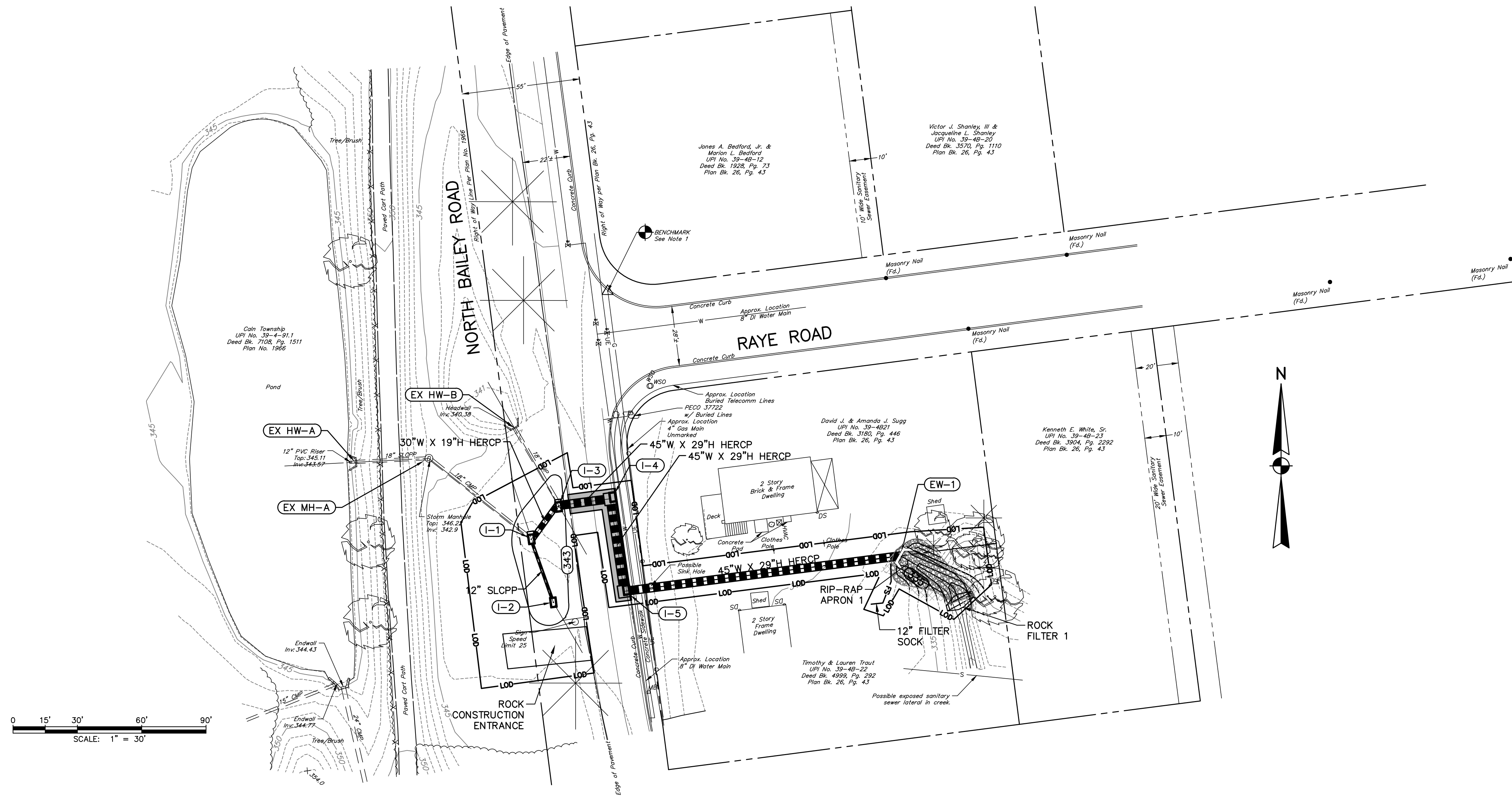
MAXIMUM PAY-LINE WIDTHS		
NOMINAL PIPE DIAMETER (INCHES)	AGGREGATE BACKFILL AND TEMPORARY PAVEMENT (TRENCH WIDTH INCHES)	FINAL PAVEMENT RESTORATION AND RESEEDING OVER TRENCH (WIDTH INCHES)
2 AND SMALLER	24	48
3 THRU 24	48	72
27 THRU 36	60	84
42 THRU 48	84	108
54 THRU 66	96	120

AT MANHOLES, VALVE PITS, AND OTHER STRUCTURES, THE PAY-LINE SHALL BE MEASURED AS ONE (1) FOOT OUTSIDE THE WALL FOR EXCAVATION AND EIGHTEEN (18) INCHES OUTSIDE THE WALL FOR RESTORATION.



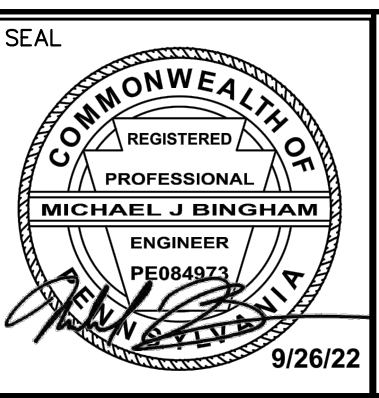
MICHAEL J. BINGHAM, P.E. RELEASED BY: BCU DRAWN: KLL DATE: SEPT 2022												CLIENT & PROJECT CALN TOWNSHIP 253 MUNICIPAL DRIVE, PO BOX 72149 THORNDALE, PA 19372  NORTH BAILEY ROAD DRAINAGE IMPROVEMENTS CALN TOWNSHIP, CHESTER COUNTY, PA				TITLE DETAILS		SCALE AS SHOWN		DWG. NO. S-4589	
NO REVISION DATE BY APP. NO REVISION DATE BY APP.										SURVEY DATE: FEB 2022 FIELD BOOK: WEBER		PROJECT NO.: 11193.60		SHEET NO.: 4 OF 7		REV.					

Dwg. Name: 1119361-D01.DWG Plotted: 9/27/2022 10:02 AM



NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

MICHAEL J. BINGHAM, P.E.	
DESIGN	CHECKED
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KLL	
DATE	SURVEY DATE
SEPT 2022	FEB 2022
	FIELD BOOK
	WEBER



SEAL

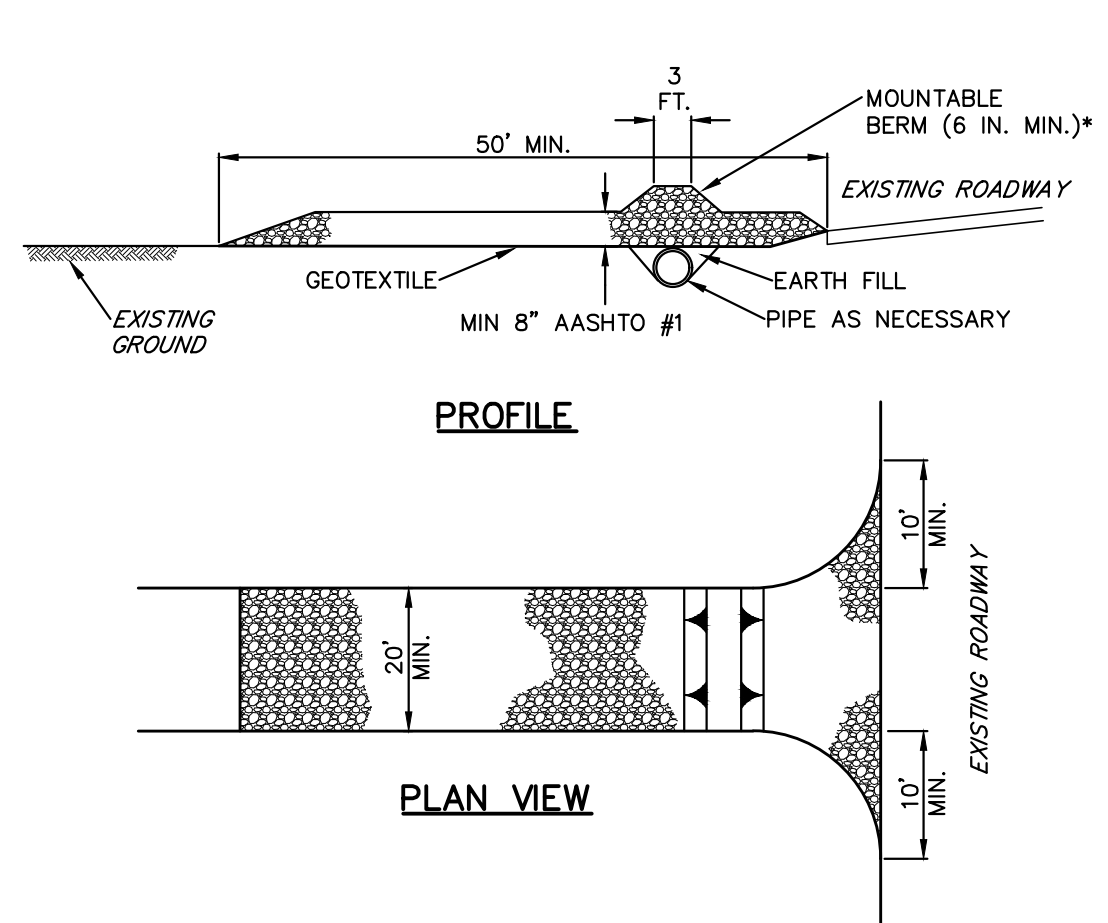
CLIENT & PROJECT

CALN TOWNSHIP  
253 MUNICIPAL DRIVE, PO BOX 72149  
THORNDALE, PA 19372

NORTH BAILEY ROAD DRAINAGE IMPROVEMENTS  
CALN TOWNSHIP, CHESTER COUNTY, PA



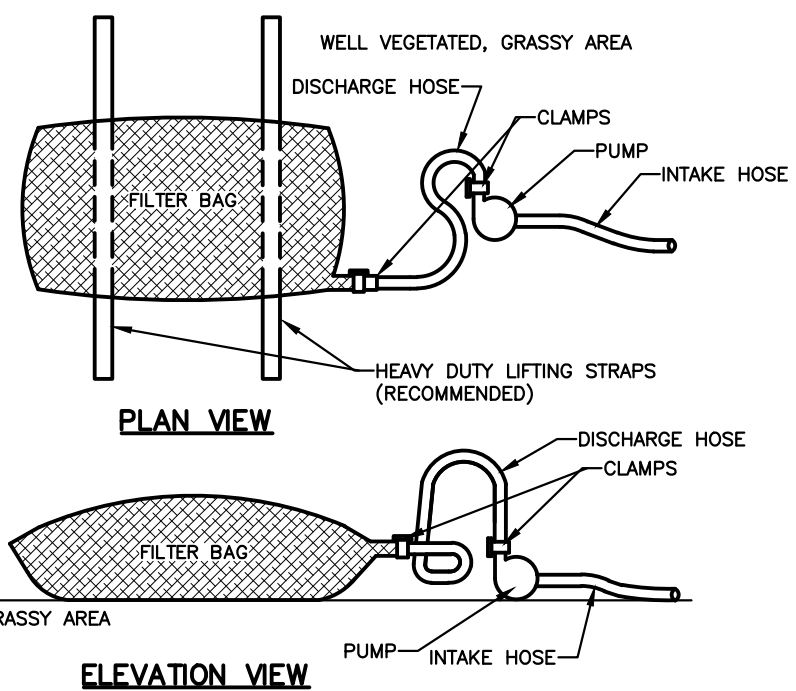
TITLE		EROSION AND SEDIMENTATION CONTROL PLAN	
SCALE	AS SHOWN	DWC. NO.	
PROJECT NO.	SHEET NO.	REV.	S-4589
11193.60	5 OF 7		



\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**NOTES:**  
 REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.  
 RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.  
 MOUNTABLE BERM SHALL BE INSTALLED WHEREVER OPTIONAL CULVERT PIPE IS USED AND PROPER PIPE COVER AS SPECIFIED BY MANUFACTURER IS NOT OTHERWISE PROVIDED. PIPE SHALL BE SIZED APPROPRIATELY FOR SIZE OF DITCH BEING CROSSED.  
 MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE. ALL SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. IF EXCESSIVE AMOUNTS OF SEDIMENT ARE BEING DEPOSITED ON ROADWAY, EXTEND LENGTH OF ROCK CONSTRUCTION ENTRANCE BY 50 FOOT INCREMENTS UNTIL CONDITION IS ALLEVIATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

**ROCK CONSTRUCTION ENTRANCE**  
NO SCALE



**NOTES:**  
 LOW VOLUME FILTER BAGS SHALL BE MADE FROM NON-WOVEN GEOTEXTILE MATERIAL SEWN WITH HIGH STRENGTH, DOUBLE STITCHED "J" TYPE SEAMS. THEY SHALL BE CAPABLE OF TRAPPING PARTICLES LARGER THAN 150 MICRONS. HIGH VOLUME FILTER BAGS SHALL BE MADE FROM WOVEN GEOTEXTILES THAT MEET THE FOLLOWING STANDARDS:

PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 LB/IN
GRAB TENSILE	ASTM D-4632	205 LB
PUNCTURE	ASTM D-4633	110 LB
MULLEN BURST	ASTM D-3786	350 PSI
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 SIEVE

A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES SHALL BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL OF SEDIMENT. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. BAGS SHALL BE PLACED ON STRAPS TO FACILITATE REMOVAL UNLESS BAGS COME WITH LIFTING STRAPS ALREADY ATTACHED.

BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS. WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAYMENT AND FLOW PATH SHALL BE PROVIDED. BAGS MAY BE PLACED ON FILTER STONE TO INCREASE DISCHARGE CAPACITY. BAGS SHALL NOT BE PLACED ON SLOPES GREATER THAN 5%. FOR SLOPES EXCEEDING 5%, CLEAN ROCK OR OTHER NON-ERODIBLE AND NON-POLLUTING MATERIAL MAY BE PLACED UNDER THE BAG TO REDUCE SLOPE STEEPNESS.

NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

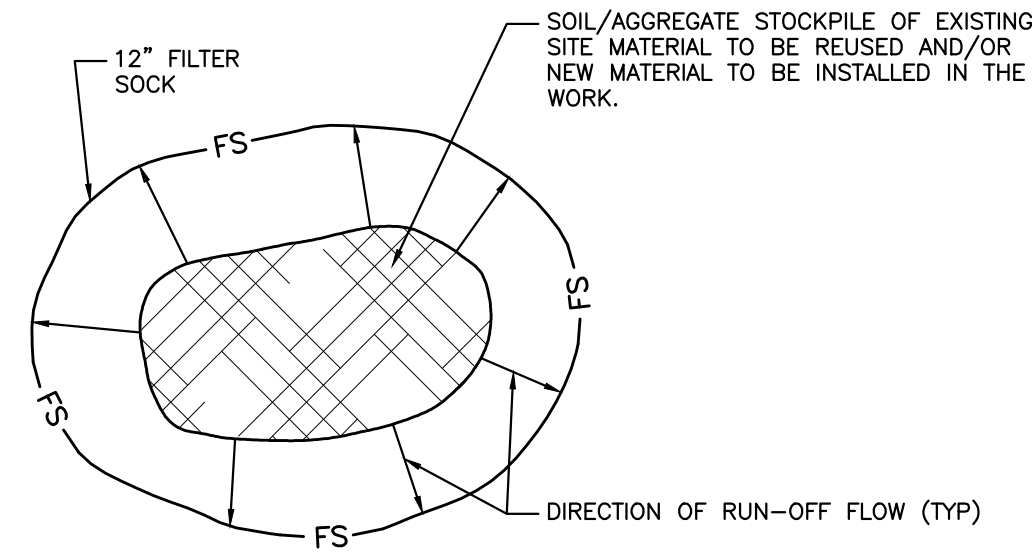
THE PUMP DISCHARGE HOSE SHALL BE INSERTED INTO THE BAGS IN THE MANNER SPECIFIED BY THE MANUFACTURER AND SECURELY CLAMPED. A PIECE OF PVC PIPE IS RECOMMENDED FOR THIS PURPOSE.

THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREENED.

FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

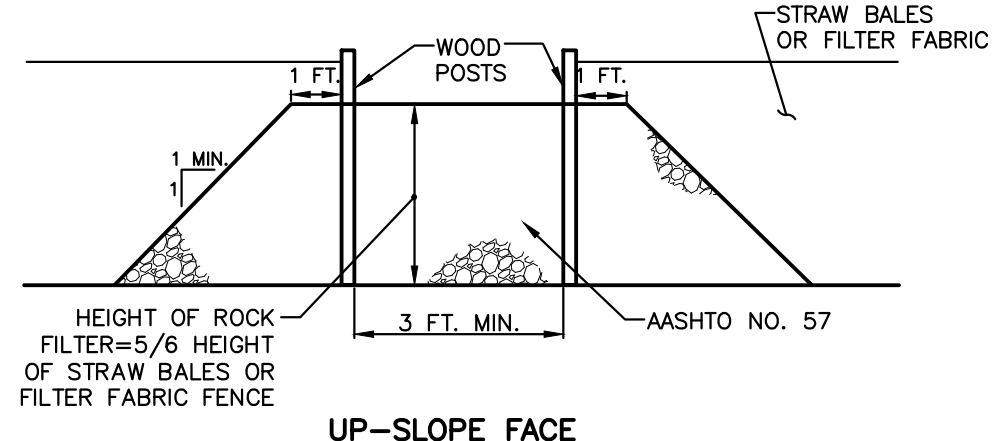
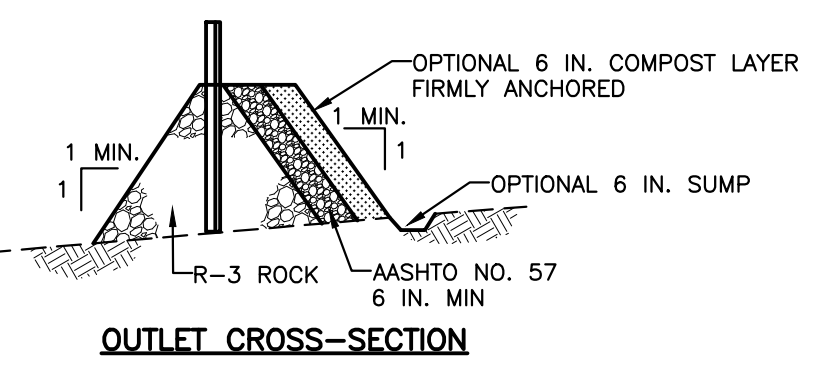
PUMPED WATER FILTER BAGS SHALL BE SURROUNDED BY A RING OF COMPOST FILTER SOCK.

**PUMPED WATER FILTER BAG DETAIL**  
NO SCALE



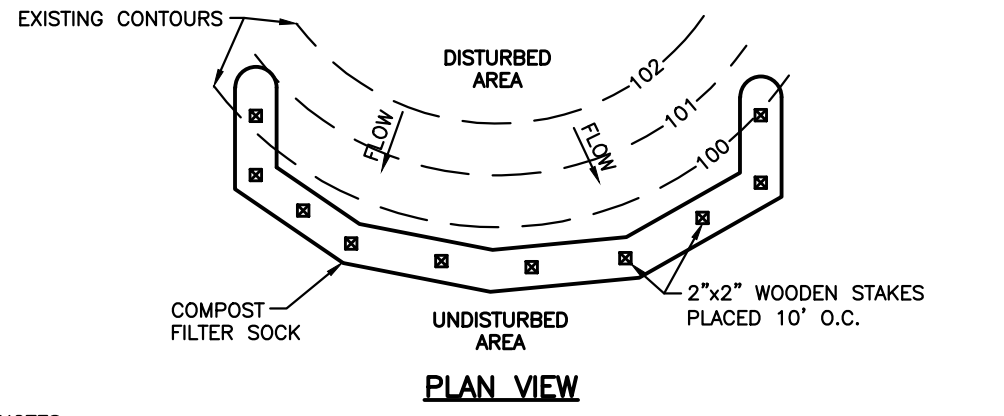
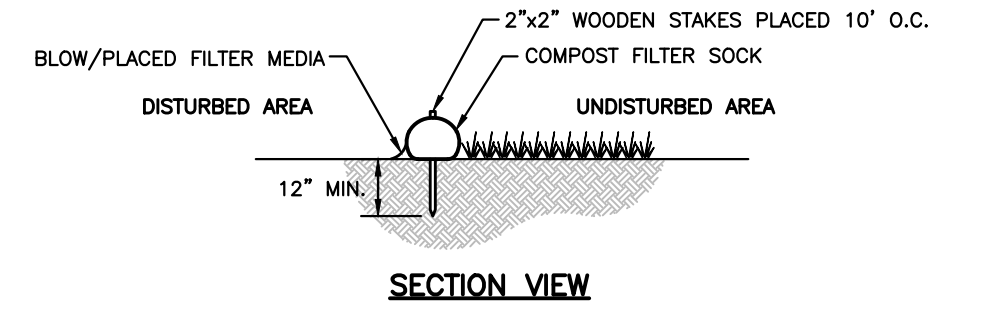
**NOTES:**  
 1. ALL EXISTING EXCAVATED MATERIAL THAT IS NOT TO BE REUSED IN THE WORK IS TO BE IMMEDIATELY REMOVED FROM THE SITE AND PROPERLY DISPOSED.  
 2. SOIL/AGGREGATE STOCKPILE SITES TO BE WHERE SHOWN ON THE DRAWINGS.  
 3. RESTORE STOCKPILE SITES TO PRE-EXISTING PROJECT CONDITION AND RESEED AS REQUIRED.

**MATERIAL STOCKPILE**  
NO SCALE



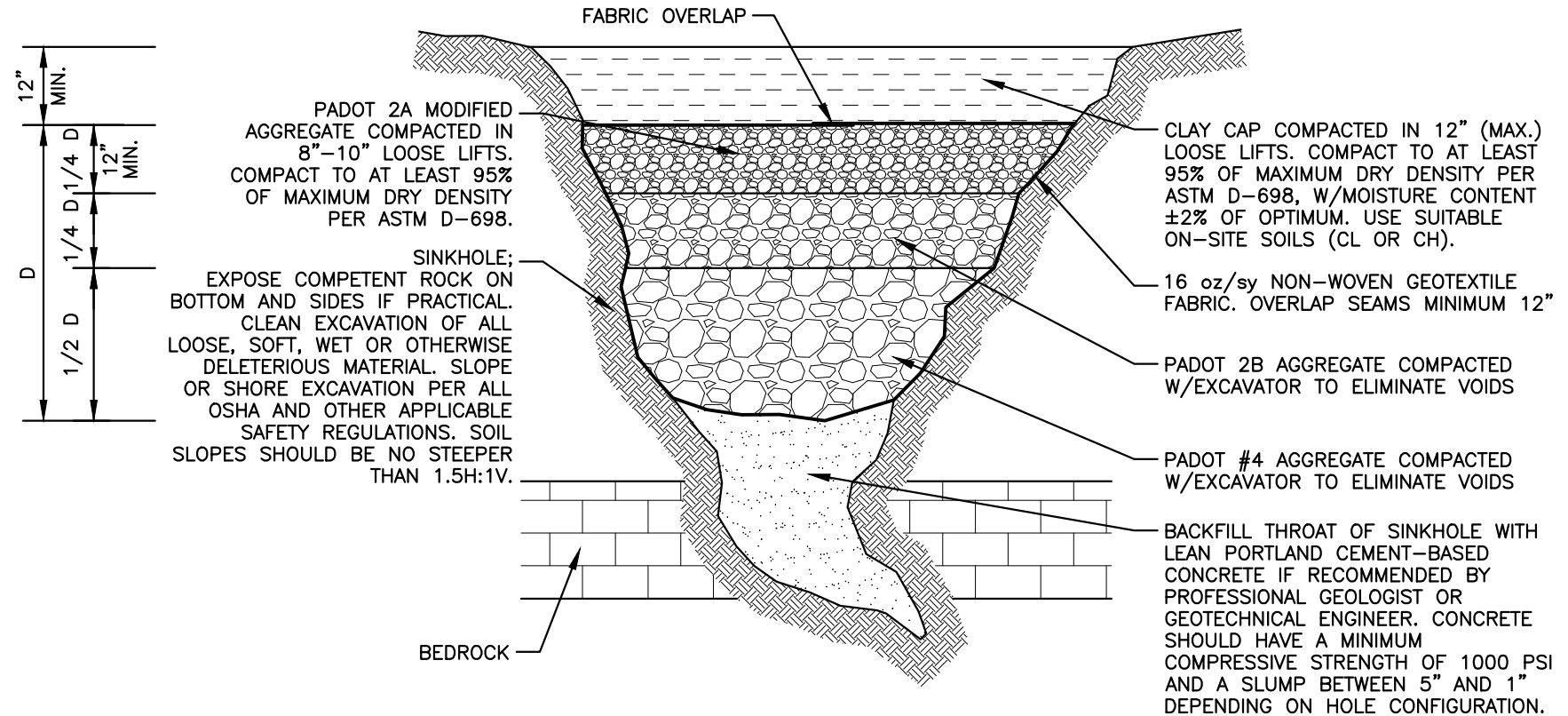
**NOTES:**  
 A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.  
 SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

**ROCK FILTER OUTLET DETAIL**  
NO SCALE

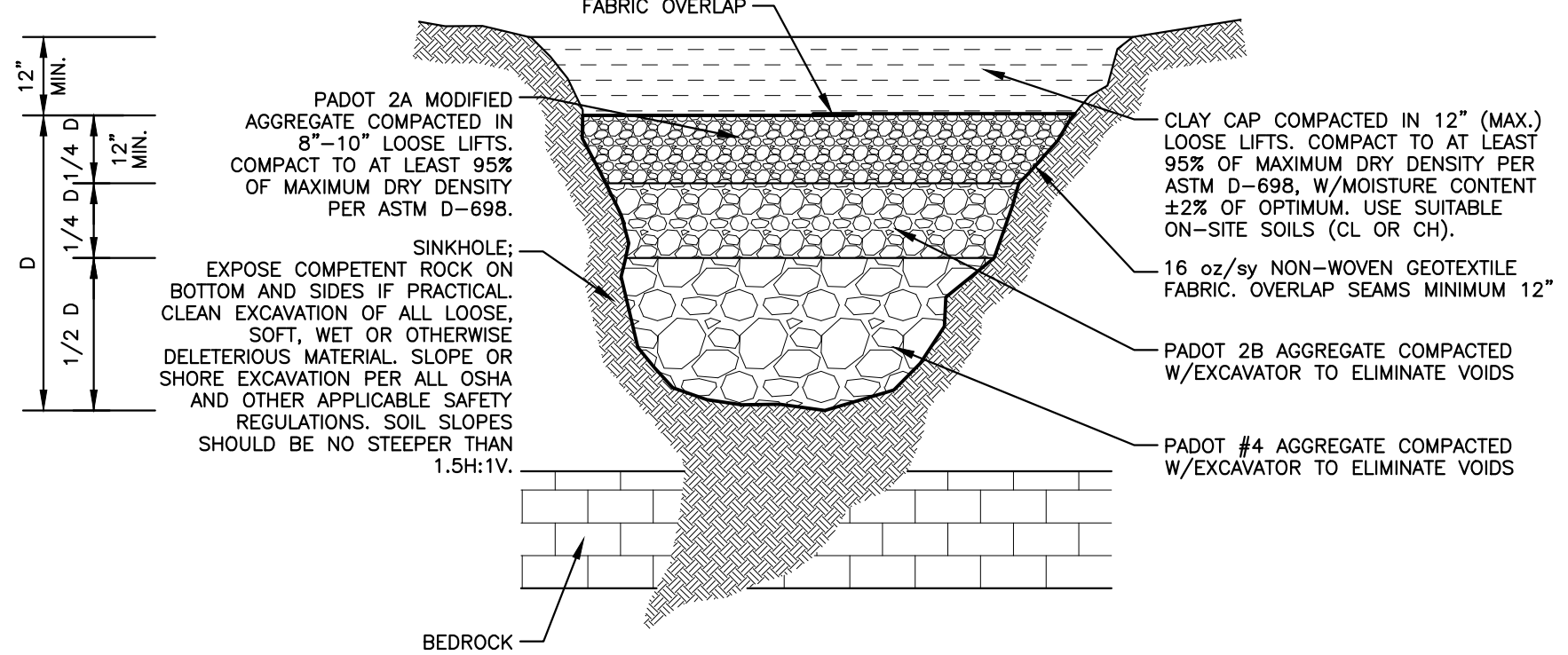


**NOTES:**  
 1. SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2.  
 2. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (FIGURE 4.1). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN ON FIGURE 4.2. STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.  
 3. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.  
 4. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.  
 5. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.  
 6. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.  
 7. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SOCK, STAKES SHALL BE REMOVED. THE SOCK MAY BE LEFT IN PLACE AND VEGETATED OR REMOVED. IN THE LATTER CASE, THE MESH SHALL BE CUT OPEN AND THE MULCH SPREAD AS A SOIL SUPPLEMENT.

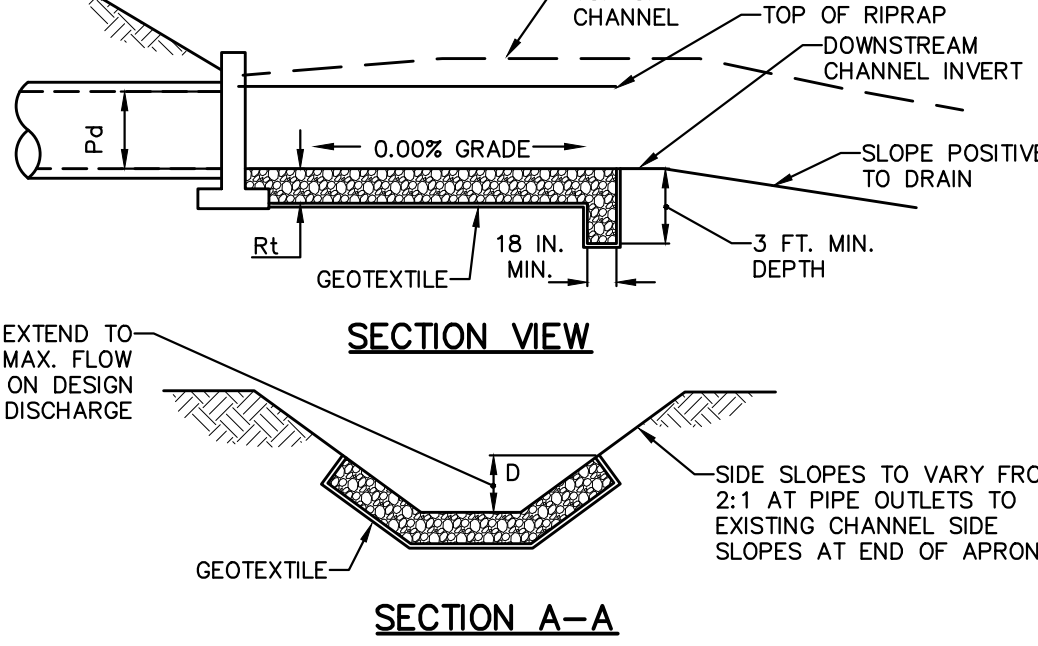
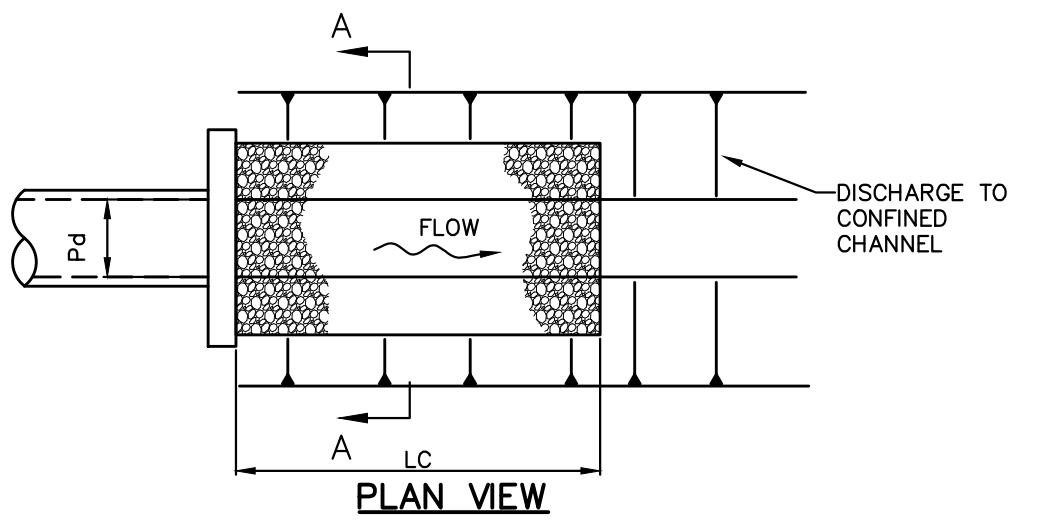
**COMPOST FILTER SOCK DETAIL**  
NO SCALE



**TYPICAL SINKHOLE REPAIR DETAIL**  
**BEDROCK THROAT ENCOUNTERED**  
NO SCALE



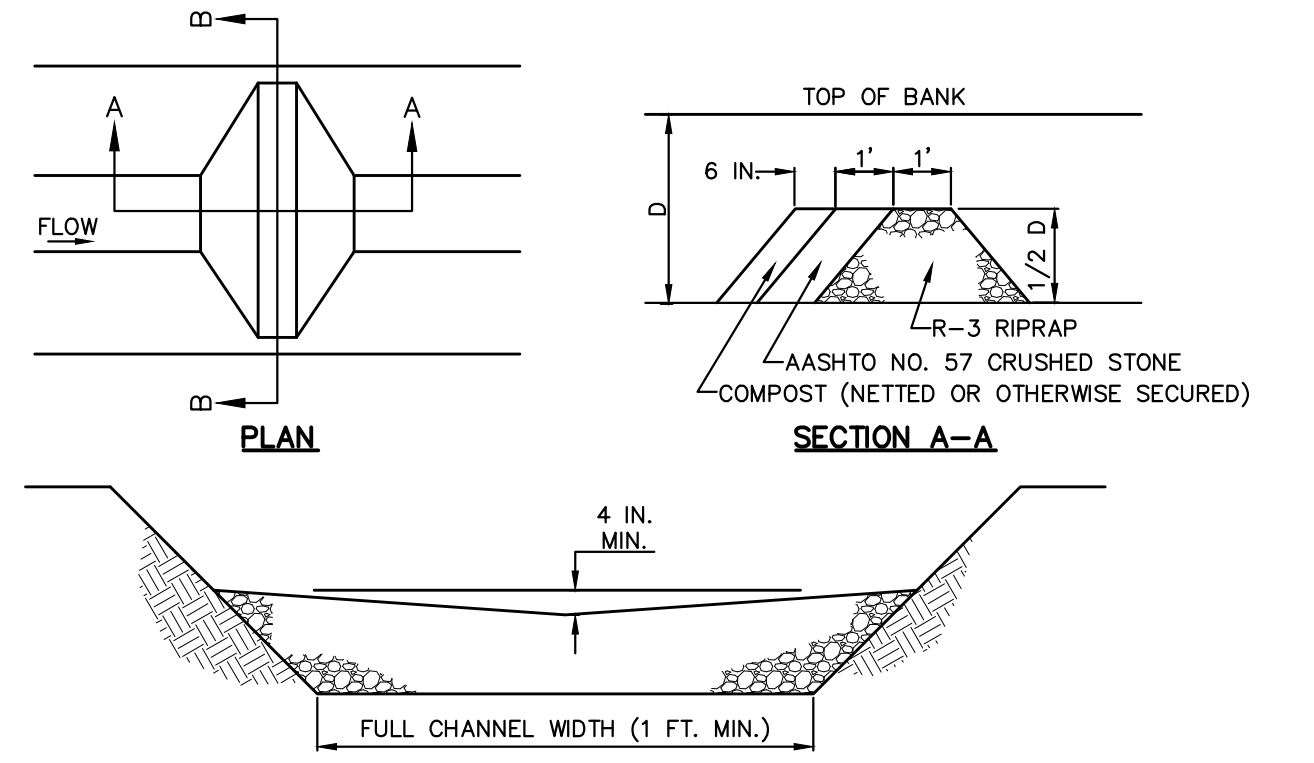
**TYPICAL SINKHOLE REPAIR DETAIL**  
**BEDROCK THROAT NOT ENCOUNTERED**  
NO SCALE



OUTLET NO.	PIPE DIA Pd (IN)	RIPRAP		APRON				SIDE SLOPES H:V
		SIZE R-...	THICK RT (IN)	LENGTH LC (FT)	INITIAL BOTTOM WIDTH (AT ENDWALL) (FT)	END WIDTH (FT)	END TOP WIDTH (AT ENDWALL) (FT)	
EW-1	45\"/>							

**NOTES:**  
 ALL APRONS SHALL BE CONSTRUCTED TO THE DIMENSIONS SHOWN. TERMINAL WIDTHS SHALL BE ADJUSTED AS NECESSARY TO MATCH RECEIVING CHANNELS.  
 ALL APRONS SHALL BE INSPECTED AT LEAST WEEKLY AND AFTER EACH RUNOFF EVENT. DISPLACED RIPRAP WITHIN THE APRON SHALL BE REPLACED IMMEDIATELY.

**RIPRAP APRON AT PIPE OUTLET TO AN EXISTING CHANNEL**  
NO SCALE

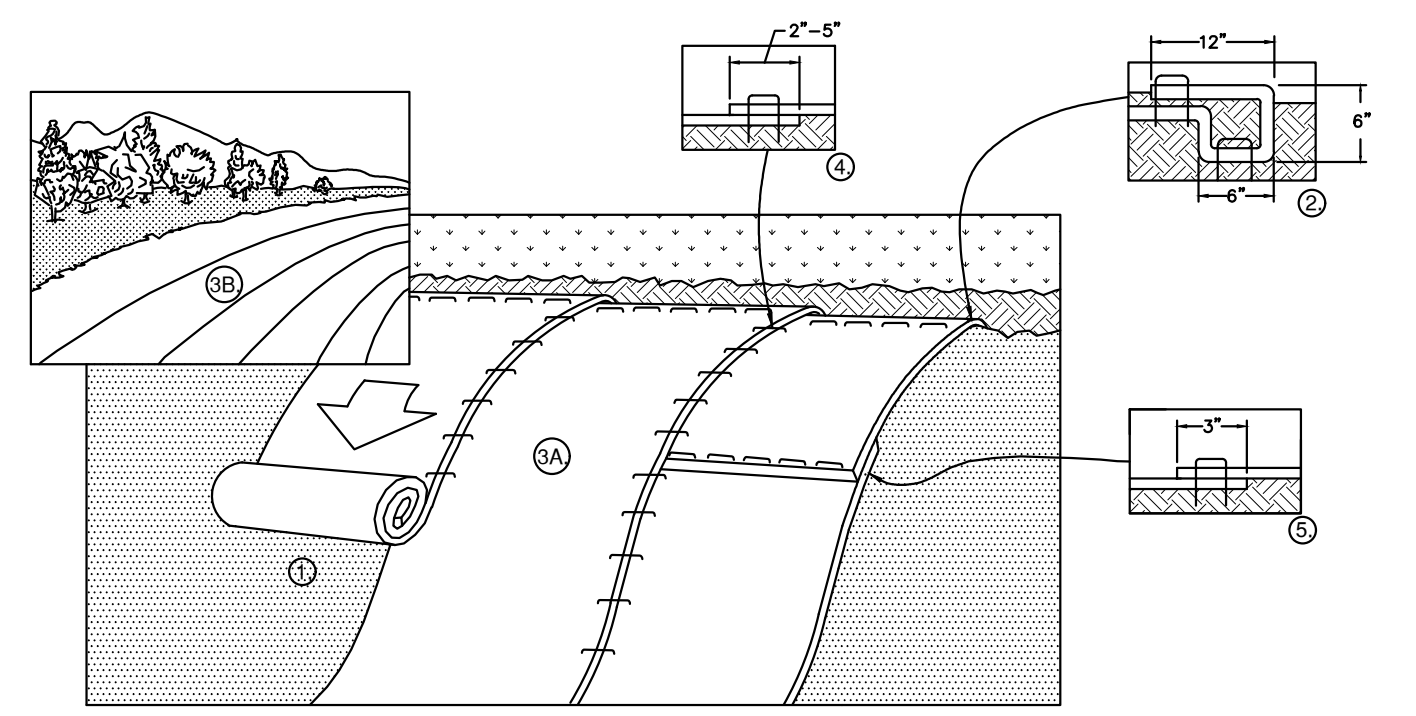


ROCK FILTER NO.	LOCATION	D (FT)	RIPRAP SIZE (R-...)
ALL	PER PLAN	3	4

FOR D ≥ 3 FT. - USE R-4  
 FOR D ≥ 2 FT. TO D < 3 FT. - USE R-3  
 NOT APPLICABLE FOR D < 2 FT.

**NOTE:**  
 SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE HEIGHT OF THE FILTERS.

**ROCK FILTER DETAIL**  
NO SCALE



**NOTES:**  
 1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-0-SEED DO NOT SEED PREPARED AREA. CELL-0-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.  
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6\"/>

**EMBANKMENT PROTECTION**  
NO SCALE

MICHAEL J. BINGHAM, P.E. RELEASED BY: DESIGN (BCU) CHECKED: DRAWN (KLL) CHECKED: DATE (SEPT 2022) SURVEY DATE (FEB 2022) FIELD BOOK (WEBER)										SEAL: COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER MICHAEL J. BINGHAM PE084823 9/26/22		CLIENT & PROJECT: CALN TOWNSHIP 253 MUNICIPAL DRIVE, PO BOX 72149 THORNDALE, PA 19372  NORTH BAILEY ROAD DRAINAGE IMPROVEMENTS CALN TOWNSHIP, CHESTER COUNTY, PA		TITLE: EROSION AND SEDIMENTATION CONTROL DETAILS SCALE: AS SHOWN DWG. NO.: S-4589					
NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.

**A. GENERAL STATEMENT OF THE PROJECT**

THE NORTH BAILEY ROAD PIPE DRAINAGE IMPROVEMENTS PROJECT INVOLVES THE REPLACEMENT OF APPROXIMATELY 250 LF OF EXISTING STORMWATER INLETS AND STORM SEWERS.

THE LIMIT OF DISTURBANCE ASSOCIATED WITH THE PROJECT IS 0.210 ACRES.

**B. FEATURES OF THE PROJECT**

1. THE LOCATIONS OF AFFECTED PROPERTY LINES, AND THE OTHER SIGNIFICANT PHYSICAL FEATURES HAVE BEEN SHOWN ON THE ATTACHED PLANS.
2. THE NORTH BAILEY ROAD PIPE DRAINAGE IMPROVEMENTS PROJECT WAS DESIGNED TO UPGRADE EXISTING STORM SEWERS IN ORDER TO REDUCE EROSION, AND REDUCE FLOODING IN AN EXISTING DRAINAGE AREA WHILE MINIMIZING THE EXTENT OF THE EARTH DISTURBANCE.
3. THE PROJECT SITE IMPROVEMENTS WILL BE PRIMARILY ACCESSED FROM PREVIOUSLY DISTURBED AREAS IN ORDER TO MINIMIZE SOIL COMPACTION.
4. THE PROJECT DOES NOT CREATE ANY ADDITIONAL IMPERVIOUS AREAS.
5. THE E & S PLAN WAS DESIGNED TO MINIMIZE THE EXTENT AND DURATION OF EARTH DISTURBANCE, MAXIMIZE THE PROTECTION OF EXISTING DRAINAGE FEATURES, AND MINIMIZE THE AMOUNT OF SOIL COMPACTION. THE CONTRACTOR SHALL PERFORM ALL ACTIVITIES WITH THE INTENT TO MINIMIZE SOIL COMPACTION.
6. THE PROPOSED IMPROVEMENTS WILL NOT CROSS ANY STREAMS AND THEREFORE WILL NOT REQUIRE CHAPTER 105 GENERAL PERMITS. GIVEN THAT THE LIMIT OF DISTURBANCE IS ASSOCIATED WITH THE PROJECT IS LESS THAN 1 ACRE, THE PROJECT DOES NOT REQUIRE AN NPDES PERMIT, PAG-02, FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES.

**C. NOTES FOR SEQUENCE OF CONSTRUCTION**

1. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE OF STAGING OF EARTHMOVING ACTIVITIES. EACH STAGE SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS BEFORE A SUBSEQUENT STAGE IS INITIATED. CLEARING AND GRUBBING SHALL BE LIMITED ONLY TO THOSE AREAS DESCRIBED IN EACH STAGE.
2. BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT.
3. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIALS OR WASTES AT THE SITE.
4. BEFORE DISPOSING OF SOIL OR RECEIVING BORROW FOR THE SITE, THE OPERATOR MUST ASSURE THAT EACH SPOIL OR BORROW AREA HAS EROSION AND SEDIMENT CONTROL PLAN APPROVED BY THE CHESTER COUNTY CONSERVATION DISTRICT, AND WHICH IS BEING IMPLEMENTED AND MAINTAINED ACCORDING TO CHAPTER 102 REGULATIONS.
5. ANTICIPATED START OF CONSTRUCTION - FALL 2022.
6. EACH STEP IN THE CONSTRUCTION SEQUENCE SHALL BE COMPLETED BEFORE INITIATION OF THE NEXT STEP.

THE CONTRACTOR IS ADVISED TO BECOME THOROUGHLY FAMILIAR WITH THE PROVISIONS OF THE APPENDIX 64, EROSION CONTROL RULES AND REGULATIONS, TITLE 25, PART 1, DEPARTMENT OF ENVIRONMENTAL PROTECTION, SUBPART C, PROTECTION OF NATURAL RESOURCES, ARTICLE II, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.

FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE CORRECTIVE ACTIONS TO IMMEDIATELY RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

**D. CONSTRUCTION SEQUENCE**

1. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES (INCLUDING CLEARING AND GRUBBING), THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S PLAN PREPARER, THE POST CONSTRUCTION STORMWATER MANAGEMENT PLAN PREPARER, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
2. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3. THE CONTRACTOR MUST MAINTAIN A SURPLUS OF FILTER SOCK, STRAW BALES & STAKES, ORANGE CONSTRUCTION SAFETY FENCING, AND ASHTO #1 AT THE STABILIZED ROCK CONSTRUCTION ENTRANCE / STAGING AREA / EQUIPMENT CLEANING AREA.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY DEP PRIOR TO IMPLEMENTATION.
5. THE LIMITS OF DISTURBANCE (LOD), STREAMS AND WETLANDS SHOULD BE MARKED PRIOR TO DISTURBANCE ACTIVITIES (I.E. SURVEY STAKES, POSTS & ROPE, CONSTRUCTION FENCE, ETC.)
6. UPON THE INSTALLATION OR STABILIZATION OF ALL PERIMETER SEDIMENT CONTROL BMPs AND AT LEAST 3 DAYS PRIOR TO PROCEEDING WITH THE BULK EARTH DISTURBANCE ACTIVITIES, THE PERMITEE OR CO-PERMITEE SHALL PROVIDE NOTIFICATION TO THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT.
7. INSTALL THE ROCK CONSTRUCTION ENTRANCE / STAGING AREA / EQUIPMENT CLEANING AREA AS PER THE PLAN DETAILS. DESIGNATE THE AFOREMENTIONED AREA AS SUCH WITH SIGNAGE. REPAIR AND PATCH ALL DISTURBED IMPERVIOUS AREAS IMMEDIATELY. SEED AND STABILIZE ALL DISTURBED ALL NON-IMPERVIOUS AREAS IMMEDIATELY TO ACHIEVE A MINIMUM, 70% UNIFORM, PERENNIAL VEGETATIVE COVER.
8. LOCATE AND DENOTE THE STOCKPILE AREA WITH SIGNAGE AND THE FILTER SOCK AS PER THE PLAN DETAILS. REPAIR AND PATCH ALL DISTURBED IMPERVIOUS AREAS IMMEDIATELY. SEED AND STABILIZE ALL DISTURBED NON-IMPERVIOUS AREAS IMMEDIATELY TO ACHIEVE A MINIMUM, 70% UNIFORM, PERENNIAL VEGETATIVE COVER.
9. INSTALL ALL FILTER SOCKS AND ROCK FILTERS AS PER THE PLOT PLAN. ALL IMPERVIOUS SURFACES IMPACTED BY THE PROJECT SHALL MAINTAIN FILTER SOCK ON THE DOWN-SLOPE SIDE THE LIMIT OF DISTURBANCE. ALL NON-IMPERVIOUS SURFACES IMPACTED BY THE PROJECT SHALL MAINTAIN FILTER SOCK ON THE DOWN-SLOPE SIDE THE LIMIT OF DISTURBANCE. REPAIR AND PATCH ALL DISTURBED IMPERVIOUS AREAS IMMEDIATELY. SEED AND STABILIZE ALL DISTURBED ALL NON-IMPERVIOUS AREAS IMMEDIATELY TO ACHIEVE A MINIMUM 70% UNIFORM, PERENNIAL VEGETATIVE COVER.
10. WITH ALL EROSION AND SEDIMENT CONTROLS IN PLACE AND FUNCTIONING AS INTENDED, THE CONTRACTOR SHOULD PREPARE FOR AND BEGIN DEMOLITION OF THE EXISTING CULVERT AND ASSOCIATED STORM SEWERS AS PER THE PLAN. SEED AND STABILIZE ALL DISTURBED NON-IMPERVIOUS AREAS IMMEDIATELY TO ACHIEVE A MINIMUM 70% UNIFORM, PERENNIAL VEGETATIVE COVER.
11. BEGIN INSTALLATION OF THE PROPOSED STORM SEWERS INCLUDING INLETS 1-1, 1-2, 1-3, 1-4, 1-5, ENDWALL EW-1, RIP-RAP APRON 1 AND ASSOCIATED STORM SEWERS AS PER THE PLAN VIEW AND PLAN DETAILS. REPAIR AND PATCH ALL DISTURBED IMPERVIOUS AREAS IMMEDIATELY. SEED AND STABILIZE ALL DISTURBED NON-IMPERVIOUS AREAS IMMEDIATELY TO ACHIEVE A MINIMUM 70% UNIFORM, PERENNIAL VEGETATIVE COVER.
12. ONCE STORM SEWER INSTALLATION ALLOWS, BACKFILL PIPE TRENCH AND INSTALL PAVEMENT SUBBASE, CONCRETE CURB, AND SIDEWALK RESTORATION AS PER THE PLAN AND DETAILS. AS CURB CONSTRUCTION ALLOWS INSTALL PAVEMENT BASE COURSE, AND WEARING COURSE AS PER THE PLAN AND DETAILS. SEED AND STABILIZE ALL DISTURBED ALL NON-IMPERVIOUS AREAS IMMEDIATELY TO ACHIEVE A MINIMUM 70% UNIFORM, PERENNIAL VEGETATIVE COVER.
13. NO MORE THAN 15,000 SQUARE FEET OF DISTURBED AREA SHALL REACH FINAL GRADE BEFORE INITIAL SEEDING AND MULCHING OPERATIONS.
14. PRIOR TO THE START OF EACH WORKDAY, THE CONTRACTOR MUST REVIEW THE PREVIOUS DAY(S) ACTIVITIES TO ENSURE THAT ALL AREAS REMAIN STABILIZED. IF THE CONTRACTOR ENCOUNTERS AN AREA THAT IS NOT STABILIZED, THE CONTRACTOR IS PROHIBITED FROM STARTING ADDITIONAL WORK UNTIL THAT AREA HAS BEEN RE-STABILIZED.
15. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY E&S BMPs MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE BMPs MUST BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS SHOULD BE DONE ONLY DURING THE GERMINATING SEASON. CHESTER COUNTY CONSERVATION DISTRICT SHOULD BE CONTACTED PRIOR TO CONVERSION OR REMOVAL OF PRIMARY E&S BMPs AND MAY REQUIRE A SITE INSPECTION.
16. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION OF ALL DISTURBED AREAS, THE OWNER AND/OR OPERATOR SHALL CONTACT THE LOCAL CONSERVATION DISTRICT FOR AN INSPECTION PRIOR TO REMOVAL/CONVERSION OF THE E&S BMPs.
17. WITHIN 30 DAYS AFTER THE COMPLETION OF EARTH DISTURBANCE ACTIVITIES AUTHORIZED BY THIS PERMIT, INCLUDING THE PERMANENT STABILIZATION OF THE SITE AND PROPER INSTALLATION OF PCSM BMPs IN ACCORDANCE WITH THE APPROVED PCSM PLAN, OR UPON SUBMISSION OF THE NOT IF SOONER, THE PERMITEE SHALL FILE WITH THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT A STATEMENT SIGNED BY A LICENSED PROFESSIONAL AND BY THE PERMITEE CERTIFYING THAT WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THIS PERMIT AND THE APPROVED E&S AND PCSM PLANS. COMPLETION CERTIFICATES ARE NEEDED TO ENSURE THAT ALL WORK IS PERFORMED IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF THE PERMIT AND THE APPROVED E&S PLAN.

**G. TEMPORARY CONTROL MEASURES**

1. COMPOST FILTER SOCK
  - a. ALL MATERIAL TO MEET COMPOST FILTER SOCK SPECIFICATIONS.
  - b. ALL COMPOST FILTER SOCK TO MEET APPLICATION REQUIREMENTS.
2. PUMPED WATER FILTER BAG
  - a. ALL MATERIAL TO MEET PUMPED WATER FILTER BAG SPECIFICATIONS.
  - b. THE PUMPED WATER FILTER BAG IS TO MEET APPLICATION REQUIREMENTS.
3. ROCK CONSTRUCTION ENTRANCE
  - a. ALL MATERIAL TO MEET ROCK CONSTRUCTION ENTRANCE SPECIFICATIONS.
  - b. THE ROCK CONSTRUCTION ENTRANCE IS TO MEET APPLICATION REQUIREMENTS.
4. ROCK FILTER OUTLET
  - a. ALL MATERIAL TO MEET ROCK FILTER OUTLET SPECIFICATIONS.
  - b. THE ROCK FILTER OUTLET IS TO MEET APPLICATION REQUIREMENTS

**H. PERMANENT CONTROL MEASURES**

1. PERMANENT GRASS OR LEGUME COVER
  - a. ALL DISTURBED AREAS, THAT ARE NOT TO BE PAVED OR STONED, SHALL BE COVERED WITH GRASS OR A LEGUME IN ORDER TO MINIMIZE EROSION. THE GRASS OR LEGUME SHALL AS NEARLY AS POSSIBLE MATCH THE GROUND COVER THAT EXISTED PRIOR TO CONSTRUCTION. SEED SHALL BE SELECTED BY THE OWNER OR THE OWNER'S REPRESENTATIVE.

**I. MAINTENANCE**

1. ALL SEDIMENT AND EROSION CONTROL FACILITIES SHALL BE CHECKED FOR DAMAGE WEEKLY AND AFTER EACH STORM. ALL PREVENTIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIRS, REPLACEMENT, REGARDING, RESEEDING, REMULCHING, AND RENETTING MUST BE PERFORMED IMMEDIATELY.
2. ANY PERMANENT SEEDED AREAS THAT BECOME ERODED SHALL HAVE THE TOPSOIL REPLACED, THE GRASS RESOWN, AND MULCH REAPPLIED OR, AT THE DIRECTION OF THE OWNER, SOD MAY BE INSTALLED.
3. A STOCKPILE OF ROCK MATERIAL (ASHTO #1 AND #57) WILL BE STORED ON SITE FOR THE PURPOSE OF MAINTAINING BMPs.
4. ALL SEDIMENT REMOVED FROM BMPs SHALL BE SPREAD OUT WITHIN NON-SENSITIVE AREAS WITHIN THE LIMIT OF DISTURBANCE AND PERMANENTLY STABILIZED.

**J. STANDARD E&S PLAN NOTES**

1. A COPY OF THE APPROVED DRAWINGS (STAMPED SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
2. BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE CHESTER COUNTY CONSERVATION DISTRICT.
3. CLEARING, GRUBBING AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE CONSTRUCTION SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS DOCUMENT.
4. AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
5. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BMPs TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF DEP.
6. SEDIMENT BASINS AND/OR TRAPS SHALL BE KEPT FREE OF ALL CONSTRUCTION WASTE, WASH WATER, AND OTHER DEBRIS HAVING POTENTIAL TO CLOG THE BASIN/TRAP OUTLET STRUCTURES AND/OR POLLUTE THE SURFACE WATERS.
7. ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATED AREAS. DISCHARGE POINTS SHOULD BE ESTABLISHED TO PROVIDE FOR MAXIMUM DISTANCE TO ACTIVE WATERWAYS.
8. UNTIL THE SITE IS STABILIZED, ALL E&S BMPs MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL E&S BMPs AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGARDING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
9. A LOG SHOWING DATES THAT E&S BMPs WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.
10. SEDIMENT TRACKED ONTO ANY PUBLIC ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND DISPOSED IN THE MANNER DESCRIBED IN THIS PLAN. IN NO CASE SHALL THE SEDIMENT BE WASHED, SHOVELED, OR SWEEPED INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
11. ALL EXCAVATION FOR UTILITY LINE INSTALLATION SHALL BE LIMITED TO THE AMOUNT THAT CAN BE EXCAVATED, INSTALLED, BACKFILLED AND STABILIZED WITHIN ONE WORKING DAY. ALL EXCAVATED MATERIAL SHALL BE DEPOSITED ON THE UPSLOPE SIDE OF THE TRENCH.
12. FAILURE TO CORRECTLY INSTALL E&S BMPs, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMPs MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. THE CLEAN STREAMS LAW PROVIDES FOR UP TO \$10,000 PER DAY IN CIVIL PENALTIES, UP TO \$10,000 IN SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.

**K. MATERIAL NOTES**

1. ALL BUILDING MATERIALS AND WASTES MUST BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE CHAPTER 260, §§260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THE SITE.
2. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR DEP FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
3. THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLURPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS. FILL INTENDED TO SUPPORT BUILDINGS, STRUCTURES AND CONDUITS, ETC. SHALL BE COMPACTED IN ACCORDANCE WITH LOCAL REQUIREMENTS OR CODES.
4. FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
5. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
6. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
7. RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE - CONSTRUCTION WASTES INCLUDE, BUT ARE NOT LIMITED TO, EXCESS FILL MATERIAL, CONCRETE, REMOVED E&S BMPs, ETC. THAT COULD ADVERSELY IMPACT WATER QUALITY. THE CONTRACTOR IS RESPONSIBLE FOR PLANNING AND IMPLEMENTING HOUSEKEEPING MEASURES, MATERIALS MANAGEMENT, AND LITTER CONTROLS. WHENEVER POSSIBLE, RECYCLING OF EXCESS MATERIAL IS REQUIRED, RATHER THAN DISPOSAL.

**L. PROTECTION OF INFILTRATION BMP'S**

1. COMPACTION OF THE BMP AREA SHALL BE AVOIDED AND MINIMIZED DURING CONSTRUCTION.
2. E&S BMP'S SHALL BE INSTALLED AND MAINTAINED DURING AND AFTER CONSTRUCTION OF THE INFILTRATION BMP'S TO PREVENT SEDIMENT FROM CLOGGING OR FILLING THE PCSM BMP OR STORAGE FACILITY.

3. TO THE MAXIMUM EXTENT PRACTICABLE, PCSM BMP'S SHOULD BE CONSTRUCTED AFTER PERMANENT STABILIZATION HAS BEEN ACHIEVED ON ALL CONTRIBUTING DRAINAGE AREAS.

**M. STABILIZATION NOTES**

1. STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2H:1V OR FLATTER.
2. AREAS WHICH ARE TO BE TOPSOILED SHALL BE SCARIFIED TO A MINIMUM DEPTH OF 3 TO 5 INCHES - 6 TO 12 INCHES ON COMPACTED SOILS. PRIOR TO PLACEMENT OF TOPSOIL, AREAS TO BE VEGETATED SHALL HAVE A MINIMUM 6 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILL 3:1 OR GREATER SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
3. UPON TEMPORARY CESSATION OF AN EARTH DISTURBANCE OR ANY STAGE OR PHASE OF AN ACTIVITY WHERE A CESSATION OF EARTH DISTURBANCE ACTIVITIES EXCEED 4 DAYS, THE SITE SHALL BE IMMEDIATELY SEEDED, MULCHED OR OTHERWISE PROTECTED FROM ACCELERATED EROSION AND SEDIMENTATION PENDING FUTURE EARTH DISTURBANCE ACTIVITIES.
4. STRAW MULCH MUST BE APPLIED AT RATES OF AT LEAST 3.0 TONS PER ACRE. STRAW MULCH SHOULD BE ANCHORED IMMEDIATELY AFTER APPLICATION TO PREVENT BEING WINDBLOWN.
5. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED.
6. EROSION CONTROL BLANKETING SHALL BE INSTALLED ON ALL SLOPES 3H:1V OR STEEPER, WITHIN 50 FEET OF A SURFACE WATER AND ON ALL OTHER DISTURBED AREAS SPECIFIED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
7. IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE OPERATOR SHALL STABILIZE ALL DISTURBED AREAS. DURING NON-GERMINATING MONTHS, MULCH OR PROTECTIVE BLANKETING SHALL BE APPLIED AS DESCRIBED IN THE PLAN AREAS NOT AT FINISHED GRADE, WHICH WILL BE REACTIVATED WITHIN 1 YEAR, MAY BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY STABILIZATION SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
8. PERMANENT STABILIZATION IS DEFINED AS A MINIMUM UNIFORM, PERENNIAL 70% VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED EROSION, CUT AND FILL SLOPES SHALL BE CAPABLE OF RESISTING FAILURE DUE TO SLUMPING, SLIDING, OR OTHER MOVEMENTS.

**N. RECOMMENDED MULCHING SPECIFICATIONS**

1. MULCHING SHALL BE PROVIDED AS REQUIRED IN AREAS DIFFICULT TO VEGETATE, AND DURING OFF-SEASON OPERATIONS. MULCHING METHODS AND MATERIALS SHALL CONFORM TO THE FOLLOWING:
  - a. MULCH MATERIALS SHALL BE UNROTTED SALT HAY, HAY OR SMALL GRAIN STRAW APPLIED AT THE RATE OF 3 TONS PER ACRE. MULCH BLOWER SHALL NOT GRIND OR CHOP THE MATERIAL. WOODCHIPS, FREE OF INSECTS AND DISEASE ARE PERMITTED AT A RATE OF 4-6 TONS PER ACRE.
  - b. MULCH SHALL BE SPREAD UNIFORMLY BY HAND OR MECHANICALLY SO THAT APPROXIMATELY 85% TO 95% OF THE SOIL SURFACE WILL BE COVERED.
  - c. MULCH ANCHORING SHALL BE ACCOMPLISHED IMMEDIATELY AFTER PLACEMENT TO MINIMIZE LOSS BY WIND OR WATER. THIS MAY BE DONE BY ONE OF THE FOLLOWING METHODS, DEPENDING UPON THE SIZE OF THE SLOPE.
    - 1) PEG AND TWINE - DRIVE 8" TO 10" PEGS TO WITHIN 2" TO 3" OF THE SOIL SURFACE EVERY 4' IN ALL DIRECTIONS. TAKES MAY BE DRIVEN BEFORE OR AFTER APPLYING MULCH. SECURE THE MULCH TO THE SOIL SURFACE BY STRETCHING TWINE BETWEEN PEGS IN A CRISS-CROSS OR SQUARE PATTERN, AND SECURE THE TWINE AROUND EACH PEG WITH TWO OR MORE ROUND TURNS.
    - 2) MULCH NETTING - STAPLE PAPER, LUTE, COTTON OR PLASTIC NETTINGS TO THE SOIL SURFACE. USE DEGRADABLE NETTING IN AREAS TO BE MOWED.
    - 3) MULCH MATERIALS AND BINDERS SHALL BE ROLLED IN PLACE BY TRACKED VEHICLE OR OTHER SUITABLE EQUIPMENT.
  - d. APPLICATIONS SHOULD BE HEAVIER AT EDGES WERE WIND CATCHES THE MULCH. IN VALLEYS AND AT CRESTS OF BANKS, REMAINDER OF AREA SHOULD BE UNIFORM IN APPEARANCE.
  - e. WOOD-FIBER OR PAPER-FIBER MULCH AT THE RATE OF 1,500 LBS PER ACRE, OR PER MANUFACTURER RECOMMENDATION, MAY BE APPLIED BY A HYDROSEDDER. USE IS LIMITED TO FLATTER SLOPES AND DURING OPTIMUM SEEDING PERIODS IN SPRING AND FALL.
  - f. OTHER:
    - 1) WHERE EXCESSIVE SOIL EROSION, TRACKING OR FLOWING OF SEDIMENT IS EVIDENT OR ANTICIPATED, A MINIMUM OF 4" OF CRUSHED STONE SHALL BE PLACED WITHIN THE AFFECTED AREA AND MAINTAINED UNTIL PERMANENT STABILIZATION IS PROVIDED. ADDITIONAL STONE SHALL BE PLACED AS REQUIRED UNTIL STABILIZATION IS ACHIEVED. CRUSHED STONE SHALL CONFORM TO ASSTO DESIGNATION M43. SIZE NO. 2 (2-1/2" TO 1-1/2").

**O. CHANNEL NOTES**

1. ALL CHANNELS SHALL BE KEPT FREE OF OBSTRUCTIONS INCLUDING BUT NOT LIMITED TO FILL, ROCKS, LEAVES, WOODY DEBRIS, ACCUMULATED SEDIMENT, EXCESS VEGETATION, AND CONSTRUCTION MATERIAL/WASTES.
2. UNDERGROUND UTILITIES CUTTING THROUGH ANY ACTIVE CHANNEL SHALL BE IMMEDIATELY BACKFILLED AND THE CHANNEL RESTORED TO ITS ORIGINAL CROSS-SECTION AND PROTECTIVE LINING. ANY BASE FLOW WITHIN THE CHANNEL SHALL BE CONVEYED PAST THE WORK AREA IN THE MANNER DESCRIBED IN THIS PLAN UNTIL SUCH RESTORATION IS COMPLETE. CHANNELS HAVING RIPRAP, RENO MATTRESS, OR GABION LININGS MUST BE SUFFICIENTLY OVER-EXCAVATED SO THAT THE DESIGN DIMENSIONS WILL BE PROVIDED AFTER PLACEMENT OF THE PROTECTIVE LINING.

**P. THERMAL IMPACTS**

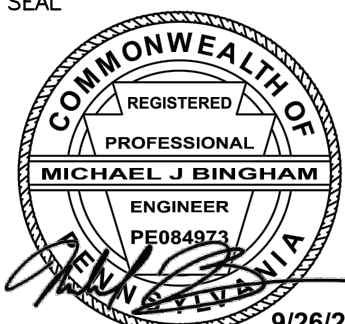

1. DURING CONSTRUCTION THERMAL IMPACTS WILL BE MINIMIZED THROUGH THE USE OF FILTER SOCKS AND VEGETATIVE STABILIZATION AS SOON AS FINAL GRADING HAS OCCURRED OR IF TEMPORARY CESSATION (4 DAYS OR MORE) HAS TAKEN PLACE ON DISTURBED SOIL.
2. THERMAL IMPACTS ON THE PROJECT PARCEL WILL BE ACCOMMODATED VIA SURFACE OVERLAND FLOW OVER VEGETATIVE SURFACES.
4. NO IMPERVIOUS SURFACES ARE PROPOSED FOR THIS PROJECT (ONLY REPLACEMENT), ENSURING THAT NO ADDITIONAL THERMAL IMPACTS ARE CREATED.

APPLICATION	SPECIES	APPLICATION RATE	LIMITING RATE +	% PURE LIVE SEED	FERTILIZER # 5-15-0 @ 1000 LBS./AC	SEEDING DATES
TEMPORARY	ANNUAL RYE	48 LBS./AC	2000 LBS./AC	98%		NOT AFTER OCT. 15
PERMANENT	PERENNIAL RYE	19 LBS./AC		98%		
	KENTUCKY BLUE GRASS	29 LBS./AC	4 TONS	98%	SEE NOTE 1 BELOW	BETWEEN JUNE 1 AND OCT 15
	CREeping RED FESCUE	53 LBS./AC		98%		

+ AGRICULTURAL-GRADE LIMESTONE \* COMMERCIAL GRADE FERTILIZER

1. FERTILIZER SHALL BE AS FOLLOWS
  - 10-20-20 ANALYSIS COMMERCIAL FERTILIZER @ 678 LBS./AC AND
  - 38-0-0 UREA FORM FERTILIZER @ 242 LBS./AC OR
  - 32-0-0 TO 38-0-0 SULFUR COATED UREA FERTILIZER @ 286-242LBS./AC OR
  - 31-0-0 IBDU FERTILIZER @ 295 LBS./AC
2. SPECIFICATION ITEMS OBTAINED USING PA007 PUBLICATION NO. 408 AND THE PENN STATE AGRONOMY GUIDE (1991, 1992).
3. ALL SEEDED AREAS SHALL BE MULCHED WITH HAY OR STRAW. SEE MULCH NOTES, SECTION H ABOVE.

**SEEDING SCHEDULE**

										MICHAEL J. BINGHAM, P.E. RELEASED BY		SEAL		SEAL		CLIENT & PROJECT CALN TOWNSHIP 253 MUNICIPAL DRIVE, PO BOX 72149 THORNDALE, PA 19372		TITLE EROSION AND SEDIMENTATION CONTROL NOTES							
										DESIGN BCU		CHECKED				NORTH BAILEY ROAD DRAINAGE IMPROVEMENTS CALN TOWNSHIP, CHESTER COUNTY, PA				SCALE AS SHOWN		DWG. NO.			
										DRAWN KLL		CHECKED								PROJECT NO. 11193.60		SHEET NO. 7 OF 7		REV.	
										DATE SEPT 2022		SURVEY DATE FEB 2022								FIELD BOOK WEBER		9/26/22		S-4589	
NO	REVISION	DATE	BY	APP.	NO	REVISION	DATE	BY	APP.																