

AT THE MEETING ON _____, 2025, THE BETHLEHEM CITY PLANNING COMMISSION, BETHLEHEM, PENNSYLVANIA, DULY ENACTED AND APPROVED THIS PLAN OF THE PROPERTY LOT 8, LVP VII, 1550 SPILLMAN DRIVE LOCATED IN NORTHAMPTON COUNTY AS SHOWN HEREIN.

CHAIRMAN _____

SECRETARY _____

REVIEWED BY THE LEHIGH VALLEY PLANNING COMMISSION FOR LEHIGH AND NORTHAMPTON COUNTIES.

LVP/C STAFF PERSON RESPONSIBLE FOR REVIEW _____ DATE _____

THIS PLAN WAS RECORDED IN THE OFFICE OF THE RECORDER OF DEEDS FOR NORTHAMPTON COUNTY, ON _____ IN PLAN BOOK _____ PAGE _____

Owner Signature:
LVP
COMMONWEALTH OF PENNSYLVANIA }
COUNTY OF NORTHAMPTON } SS:
I, _____ OF _____ LVP
NAME CORPORATION NAME

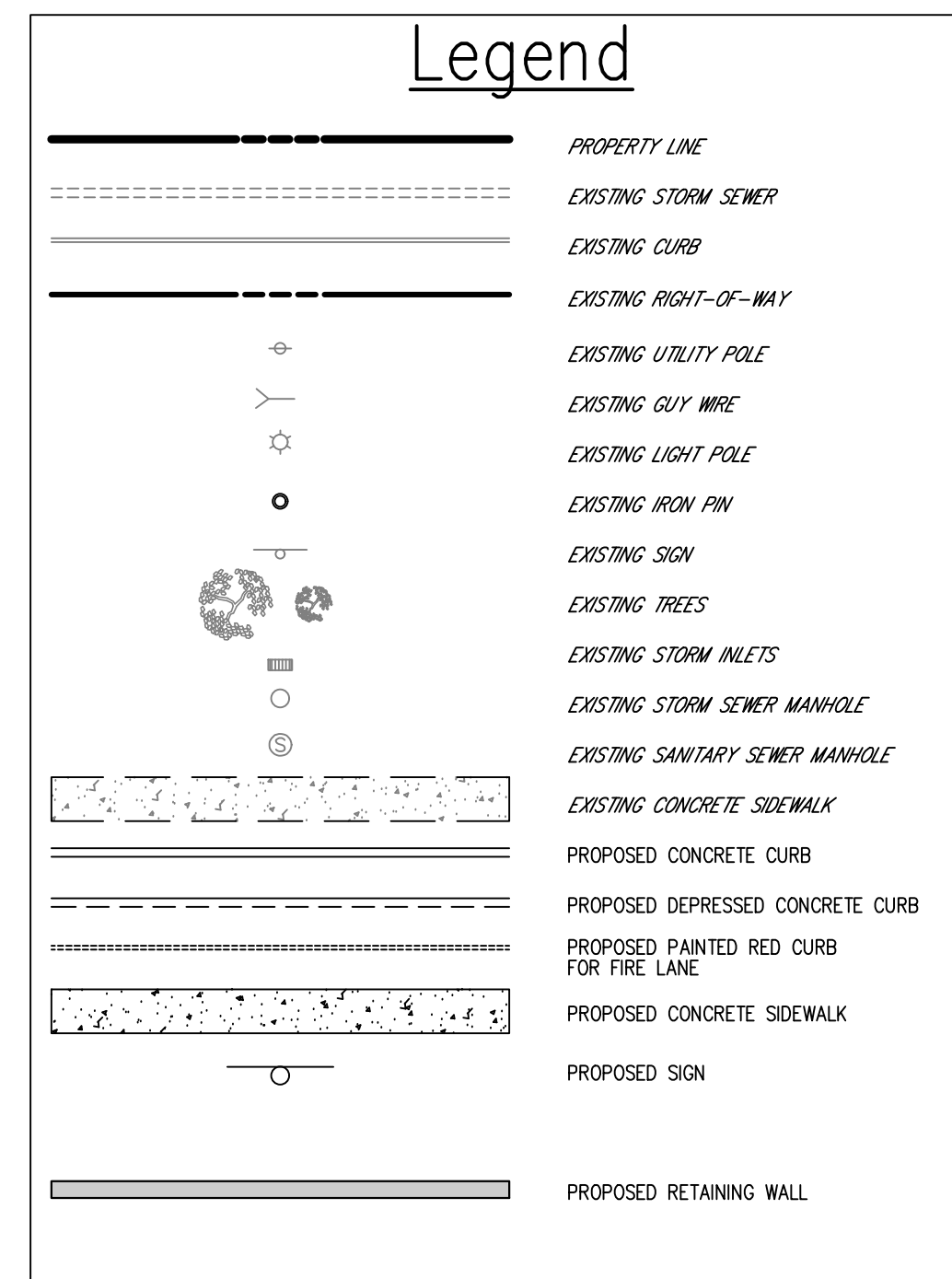
BEING DULY SWORN ACCORDING TO LAW, AND ACTING IN MY CAPACITY AS _____ DEPOSE AND SAY THAT THE ABOVE NAMED CORPORATION IS THE TRUE AND LAWFUL OWNER OF PROPERTY KNOWN AS _____ THAT THE ABOVE DESCRIBED PROPERTY IS IN THE PEACEFUL POSSESSION OF SAID CORPORATION AND THAT THERE ARE NO LIENS PENDING AFFECTING THE TITLE THEREOF.

LVP CORPORATION
CORPORATION OFFICIAL

SWORN AND SUBSCRIBED TO BEFORE ME THIS _____ DAY OF _____

NOTARY PUBLIC

MY COMMISSION EXPIRES ON _____



PRELIMINARY/FINAL LAND DEVELOPMENT
(RECORD PLAN 2 OF 2)

RECORD PLAN

LOT 8 - LVP VII - 1550 SPILLMAN DRIVE

CITY OF BETHLEHEM
NORTHAMPTON COUNTY
PENNSYLVANIA

HanoverEngineering
Bethlehem Office
252 Brodhead Road, Suite 100
Bethlehem, PA 18017-8944
P: 610.691.5644
F: 610.691.0968
hanovereng.com

Site Address
1550 SPILLMAN DRIVE
BETHLEHEM, PA 18015

Owner/ Applicant
LVP, INC
1720 SPILLMAN DRIVE
BETHLEHEM, PA 18015
PHONE: 610.866.4600

Benchmarks for this Plan

- CONCRETE MONUMENT - NORTH END OF CURB RETURN AT THE INTERSECTION OF SPILLMAN AND LYNN - TOP ELEVATION=320.30
- CONCRETE MONUMENT - SOUTH END OF CURB RETURN AT THE INTERSECTION OF SPILLMAN AND LYNN - TOP ELEVATION=321.19



"CALL BEFORE YOU DIG"

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL
PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776
THIS PROJECT'S DESIGNER INQUIRY NO.
20250941787

BETHLEHEM CITY DEPT. OF WATER/SEWER RESOURCES
MORAVIAN COLLEGE
PPL ELECTRIC SERVICE
ELECTRIC CABLE TV INC
UGI UTILITIES INC.
RCN TELECOM
VERIZON

PROJECT / SERIAL NUMBERS/ EXCAVATION-DEMOLITION / TYPE OF ONE CALL / DATE / ADDRESS / NEAREST INT. / TOWNSHIP / COUNTY
4415 20162023156 EXCAVATION ROUTINE 7/20/2016 SPILLMAN DRIVE LYNN AVE CITY OF BETHLEHEM NORTHAMPTON
PPL ELEC LEHIGH (PI) / BETHLEHEM C DWS (OX) / SVC ELEC CATV (SET) / RCN TELECOM (TCC) / UGI LEHIGH (UG) / VERIZON EASTERN (YI)

SIGN SCHEDULE					
SYMBOL	QUANTITY	DESCRIPTION	AREA	HEIGHT	
(A) SS	3	PENNDOT R1-1 "STOP"	30"x30"	9'	
(N) O	4	TYPE 3-HIGH INDUSTRY SHEETING	12"x18"	8.5'	
	4	PENNDOT R7-B "RESERVED PARKING"	12"x18"	8.5'	
	4	PENNDOT R7-BA "VAN ACCESSIBLE"	12"x18"	8.5'	

SIGNAGE NOTE:
ALL SITE AND BUILDING SIGNAGE WILL BE INSTALLED IN CONFORMITY WITH ARTICLE 1320 OF THE CITY OF BETHLEHEM ZONING ORDINANCE. DETAILED DRAWINGS WITH DESIGNED DIMENSIONS OF THE PROPOSED SIGNS WILL BE PROVIDED TO THE CITY FOR APPROVAL PRIOR TO OBTAINING ANY REQUIRED PERMITS FOR THEIR CONSTRUCTION.

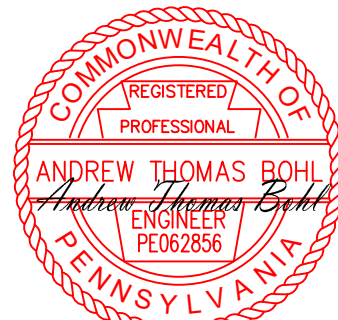
ADA RAMP DETAILS

NOTES:

- ALL ADA CURB RAMPS SHALL CONFORM TO PENNDOT PUBLICATION 72M RC-67M OF JUNE 1, 2010 OR THE LATEST REVISION.
- ALL PROPOSED PEDESTRIAN CURB RAMPS TO HAVE "RED" TRUNCATED DOME DETECTABLE WARNING AREAS THAT COMPLY WITH THE CURRENT PENNDOT DESIGN MANUAL AND ADA REQUIREMENTS.

I, ANDREW THOMAS BOHL, P.E., A PROFESSIONAL ENGINEER OF THE COMMONWEALTH OF PENNSYLVANIA, DO HEREBY CERTIFY THAT THIS PLAN CORRECTLY REPRESENTS THE PROPOSED DEVELOPMENT AS DESIGNED BY HANOVER ENGINEERING ASSOCIATES, INC.

ANDREW THOMAS BOHL, P.E. (PE-062856)
HANOVER ENGINEERING ASSOCIATES, INC.
252 BRODHEAD ROAD, SUITE 100
BETHLEHEM, PA 18017-8944
(610) 691-5644



1. SEE STORMWATER MANAGEMENT DESIGN REPORT FOR THE PRE AND POST WATERSHED LIMITS.
2. ALL PROPOSED UTILITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE PROPER CITY'S SPECIFICATIONS.
3. ALL PIPE LENGTHS ARE FROM CENTER OF THE MANHOLE OR INLET.
4. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT BUILDING UTILITY CONNECTION LOCATIONS. WHERE CONFLICTS EXIST WITH THESE PLANS, THE ENGINEER OF RECORD SHALL BE NOTIFIED PRIOR TO CONSTRUCTION TO RESOLVE. SERVICE SIZES TO BE DETERMINED BY THE ARCHITECT.
5. ANY UTILITY CROSSING WITH LESS THAN MINIMUM OF EIGHTEEN INCHES (18") VERTICAL CLEARANCE SHALL BE CONCRETE ENCASED.
6. STRUCTURAL DETAILS FOR ALL STORMWATER MANAGEMENT STRUCTURES INCLUDING INLETS, JUNCTION BOXES, HEADWALLS, DETENTION BASINS, BAFFLES, AND SPILLWAYS, SHALL BE DESIGNED BY A STRUCTURAL ENGINEERING REGISTERED IN THE STATE OF PENNSYLVANIA AND SUBMITTED TO THE CITY ENGINEER OF RECORD FOR A REVIEW AND APPROVAL PRIOR TO CONSTRUCTION. EXEMPTIONS TO THIS REQUIREMENT SHALL BE PERMITTED FOR ALL STANDARD STRUCTURES DESIGNED AND MANUFACTURED BY THE CITY ENGINEER OF RECORD. IN THOSE CASES, THE STANDARD STRUCTURAL DETAIL TO BE USED FOR THE STRUCTURE SHALL BE SUBMITTED TO THE ENGINEER FOR RECORD, FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
7. ALL SANITARY SEWER AND WATERLINES AND LATERALS SHALL HAVE A MINIMUM OF TEN FEET (10') SEPARATION FROM ANY OTHER UTILITY.
8. ANY EXISTING UTILITY POLES INTERFERING WITH CONSTRUCTION SHALL BE RELOCATED TO A LOCATION IN ACCORDANCE WITH UTILITY OWNERS, AND CITY'S REGULATIONS AND SPECIFICATIONS.
9. ALL ELECTRIC, TELEPHONE, CABLE TELEVISION AND NATURAL GAS DISTRIBUTION LINES SHALL BE PLACED UNDERGROUND.
10. THE SANITARY SEWER PIPE SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CITY'S RULES AND REGULATIONS.
11. ALL RIM LEADERS ARE TO BE PVC PIPE OR APPROVED EQUIV WITH A MINIMUM SLOPE OF 1.50% AS SHOWN ON THE PLAN.
12. THE SITE CONTRACTOR SHALL INSTALL THE FIRE AND DOMESTIC WATER SERVICE INTO THE MAIN BUILDING ROOM AND STOP AT THE FLANGE INSIDE THE BUILDING. COORDINATE FINAL FLANGE LOCATION WITH PLUMBING AND FIRE PROTECTOR CONTRACTOR.
13. ALL PROPOSED STORM SEWER PIPE SHALL BE HDPE PIPE WITH O-RING GASKETS UNLESS NOTED OTHERWISE ON THE PLAN.
14. STRUCTURAL DETAILS FOR ALL STORM WATER STRUCTURES SHALL BE DESIGNED BY A STRUCTURAL ENGINEERING REGISTERED IN THE STATE OF PENNSYLVANIA AND SUBMITTED TO THE CITY OF BETHLEHEM FOR REVIEW AND APPROVAL, AT LEAST THIRTY (30) DAYS BEFORE CONSTRUCTION.
15. ABANDONMENT OF EXISTING UTILITIES AND ASSOCIATED STRUCTURES WITHIN STREET RIGHT-OF-WAY AND UNDER EASEMENTS OF THE CITY, SHALL BE COMPLETED IN ACCORDANCE WITH METHODS APPROVED BY THE CITY.
16. THE DEVELOPER SHALL ENSURE THAT CURRENT AS-BUILT RECORDS ARE MAINTAINED DURING CONSTRUCTION. UPON COMPLETION OF CONSTRUCTION, CERTIFIED (I.E., P.E. STAMPED) AS-BUILT RECORDS SHALL BE SUBMITTED TO THE CITY ENGINEER'S OFFICE. THESE AS-BUILT DRAWINGS SHALL BE FOUND ACCEPTABLE BY THE CITY ENGINEER PRIOR TO RELEASE OF ANY REMAINING SECURITY.
17. THE MAINTENANCE OF THE STORM WATER FACILITIES, SHALL BE THE OWNER'S RESPONSIBILITY. RECORD DRAWINGS AND FACILITIES ARE DEDICATED TO THE CITY, THE OWNER'S DEED, AND THE DEEDS TO ANY SUBSEQUENT OWNER, SHALL NOTE THAT THE OWNER SHALL ACCEPT THE MAINTENANCE RESPONSIBILITIES OF ANY FACILITIES NOT DEDICATED. THE CITY OF BETHLEHEM WILL BE PERMITTED INSPIRED BY THE CITY ENGINEER'S ENGINEERS. THESE AS-BUILT DRAWINGS SCHEDULE TO ENSURE THAT ANY NECESSARY CORRECTIVE WORK IS PERFORMED IN A TIMELY MANNER.
18. IN ORDER TO MAINTAIN CONTINUITY BETWEEN PLAN REVISIONS, ANY CHANGES TO A PREVIOUS PLAN SUBMISSION SHALL BE FLAGGED WITH A TRIANGLE. ANY CHANGES NOT FLAGGED MAY BE CONSIDERED NOT APPROVED. FLAGGED CHANGES SHALL BE REFERENCED TO THE APPROPRIATE REVISION OF THE PLAN.
19. FOR STORM SEWER MANHOLES/BOXES, THE ACTUAL RIM/ GRATE ELEVATION SHALL BE FINAL ADJUSTED PRIOR TO PAVING.
20. SLAG BACKFILL IS PROHIBITED IN WATER LINE TRENCH.
21. SEE PROFILE SHEET FOR THE STORM AND SANITARY PIPE SIZE, PIPE SLOPE, INVERTS, RIM ELEVATION AND GRATE ELEVATION.
22. THE CONTRACTOR SHALL SUPPLY THE REQUIRED SIZE AND QUANTITY OF CONDUITS TO MEET THE DEMANDS FOR POWER, DATA, CABLE AND COMMUNICATIONS.
23. THE EXISTING CONDUIT FOR THE EXISTING STREET LIGHTING MAY NEED TO BE LOWERED AT THE POINT OF DRIVEWAY CONSTRUCTION AT THE DISCRETION OF THE CITY ENGINEERING DEPARTMENT.
24. THE CONTRACTOR SHALL CUT AND CAP THE EXISTING ABANDONED WATER MAIN OR ANY OTHER UTILITIES THAT THE UTILITY CONTRACTORS WITH THE CONSTRUCTION OF THE BUILDING OR ANY OTHER SITE IMPROVEMENT FOR THIS PROJECT.
25. MATERIAL SHOP DRAWINGS SHALL BE REVIEWED/APPROVED BY LVP OR THEIR REPRESENTATIVE.
26. FINISH PAVEMENT AT THE LOADING DOCKS SHALL BE 48" BELOW FINISH FLOOR.
27. THE PROPOSED FIRE AND DOMESTIC WATER SERVICES SHALL BE ENCASED WITH A POLYETHYLENE ENCASEMENT IN ACCORDANCE WITH ANWA C105/A21-5-82, SECTION 5.4.
28. THE PROPOSED ELEVATIONS HAVE BEEN PROVIDED FOR THE PROPOSED RETAINING WALLS FOR THE PROJECT. THE CONTRACTOR SHALL PROVIDE ENGINEERED DRAWINGS TO THE CITY OF BETHLEHEM BUILDING DEPARTMENT FOR APPROVAL PRIOR TO CONSTRUCTION.
29. A FOUR FOOT (4') TALL FENCE SHALL BE INSTALLED WHERE THE RETAINING WALL EXCEEDS 30' IN

[illegible]

1. CONCRETE MONUMENT -NORTH END OF CURB RETURN AT THE NORTHEAST CORNER OF THE INTERSECTION OF SPILLMAN AND LYNN-TOP ELEVATION=320.31
2. CONCRETE MONUMENT -SOUTH END OF CURB RETURN AT THE NORTHEAST CORNER OF THE INTERSECTION OF SPILLMAN AND LYNN-TOP ELEVATION=321.19



BETHLEHEM CITY DEPT. OF
WATER/SEWER RESOURCES
MORAVIAN COLLEGE
PPL ELECTRIC
SERVICE ELECTRIC CABLE TV INC
UGI UTILITIES INC.
RCN TELECOM
VERIZON

PROJECT / SERIAL NUMBERS/	EXCAVATION-DEMOLITION	/ TYPE OF ONE CALL /	DATE	/ ADDRESS /	NEAREST INT. / TOWNSHIP /	COUNTY
4415	20162023156	EXCAVATION	ROUTINE	7/20/2016	SPILLMAN DRIVE LYNN AVEICITY OF BETHLEHEM	NORTHAMPTON
PPL ELEC LEHIGH (P) / BETHLEHEM C DWS (QX) / SVC ELEC CATV (SET) / RON TELECOM (TCC) / UGI LEHIGH (UJ) / VERIZON EASTERN (YI)						

NORTH CHART									
NAME	TYPE	TOP	INV. IN	INV. OUT	PIPE DIA.	LENGTH	MATERIAL	SLOPE	DOWNSTREAM STRUCTURE
EX. INL 10C	STD BOX, C TOP	TC=310.02	305.55 (INL 8-1)						
INL 8-1	STD BOX, C TOP	TC=310.55	305.94 (INL 8-2) 306.44 (INL 8-1A)	305.94	24"	28.15'	HDPE	1.39%	EX. INL 10C
INL 8-1A	STD BOX, C TOP	TC=313.10	308.50 (INL 8-1B)	308.30	18"	213.56'	HDPE	0.87%	INL 8-1
INL 8-1B	STD BOX, M TOP	TG=313.00		310.30	18"	192.37'	HDPE	0.94%	INL 8-1A
INL 8-2	STD BOX, M TOP	TG=311.85	307.50 (INL 8-3)	307.30	24"	85.79'	HDPE	1.58%	INL 8-1
INL 8-3	STD BOX, M TOP	TG=313.00	309.30 (INL 8-4) 309.65 (ROOF DR.)	308.80	24"	136.54'	HDPE	0.95%	INL 8-2
INL 8-4	STD BOX, C TOP	TC=316.01	311.70 (INL 8-5)	311.50	18"	245.82'	HDPE	0.89%	INL 8-3
INL 8-5	STD BOX, C TOP	TC=315.57	312.30 (INL 8-6)	312.10	18"	44.49'	HDPE	0.90%	INL 8-4
INL 8-6	STD BOX, C TOP	TC=316.60		313.30	18"	102.77'	HDPE	0.97%	INL 8-5

PLAN TITLE:	GRADING AND UTILITY PLAN
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**NORTHAMPTON COUNTY
PENNSYLVANIA**

HT **Hanover Engineering**
Bethlehem Office

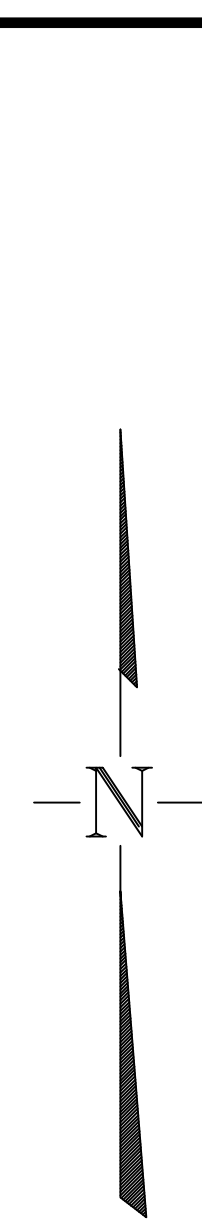
252 Brodhead Road, Suite 100
Bethlehem, PA 18017-8944
P: 610.691.5644
F: 610.691.6968
HanoverEng.com

LOT 8 - LVIP VII - 1550 SPILLMAN DRIVE

30'

[illegible]

C:\Projects\Private\5207-Lot 8\DWG\Current Plan Set\Land Development Plan\ 5207-LOT 8_PLANS-LD PLANS-OPT A1.dwg Oct 09,2025 - 9:01am



SEE SCHEDULE FOR MOUNTING HEIGHT (MH)

LUMINAIRE (SEE LIGHT FIXTURE DATA)

MOUNTING ARM

POLE

2'-6" MIN.

2 1/2"x5" HANDHOLE WITH COVER

1/2"Ø CONDUIT STUB-UP

3" PROJECTION

GROUT

1" CHAMFER

THE CONCRETE BASE SHALL HAVE A MINIMUM 6" REVEAL / EXPOSURE

6'-6"

3/4" x 30" LONG GALVANIZED ANCHOR BOLTS

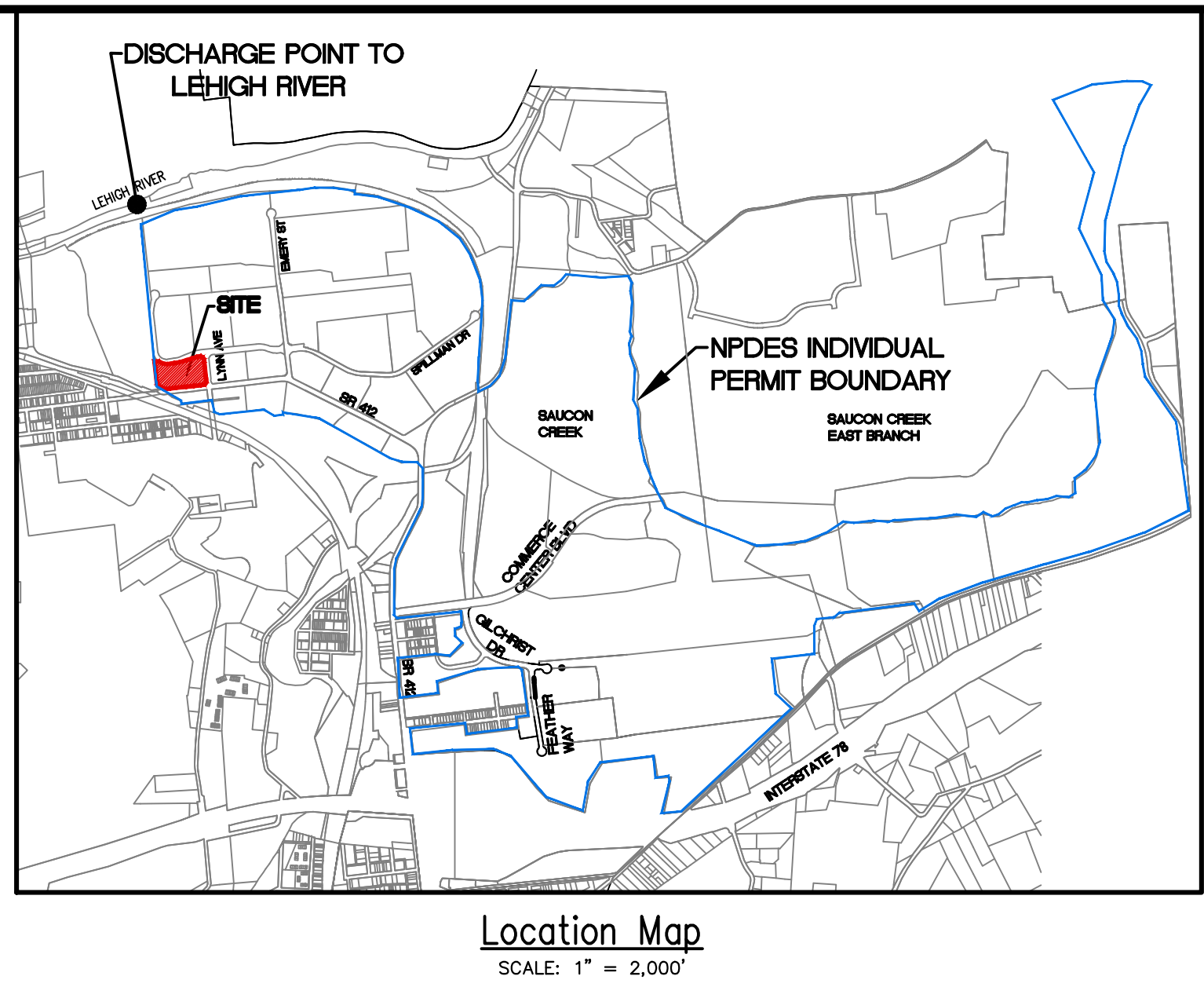
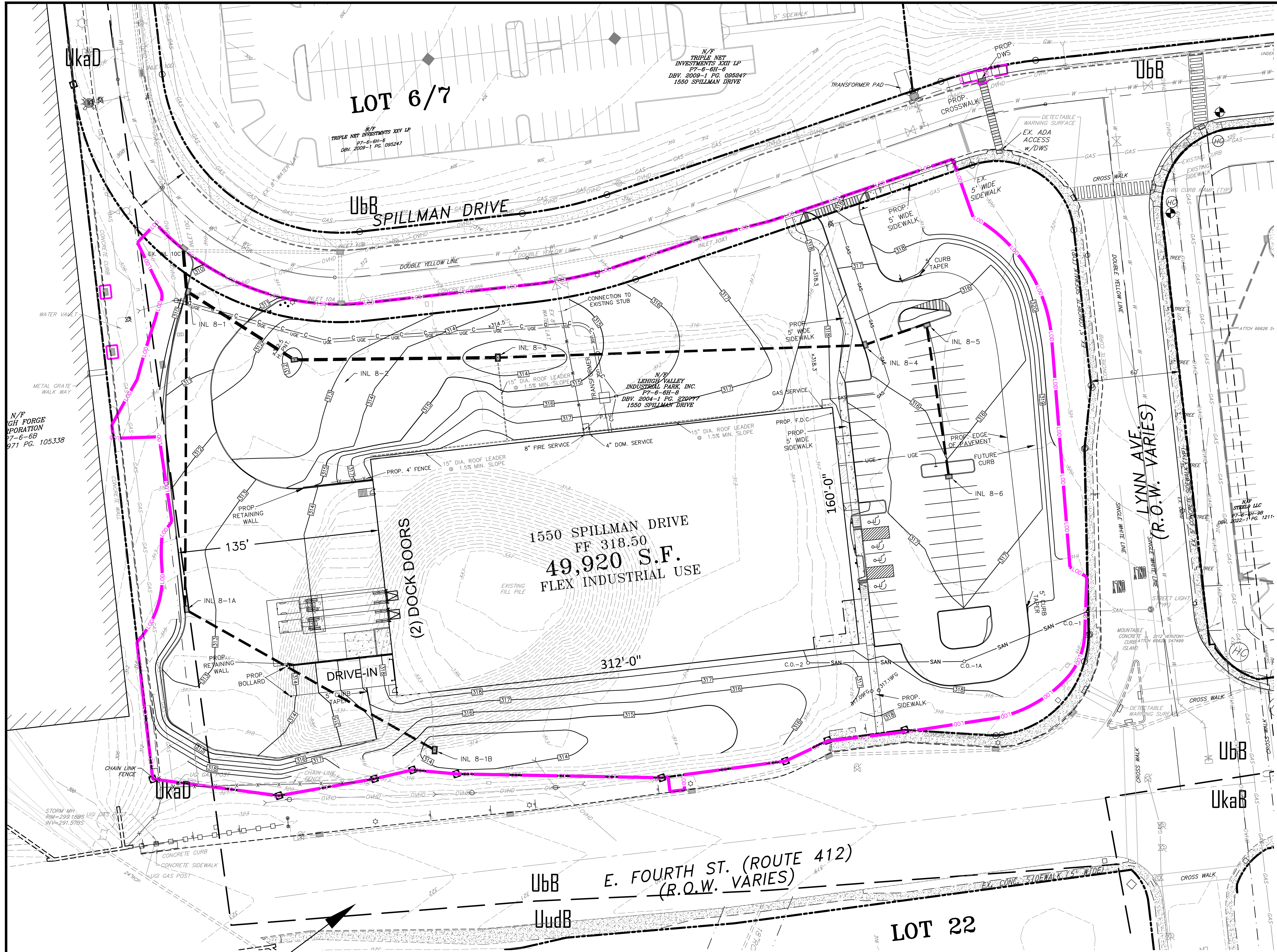
TYPICAL POLE FOUNDATION 4,000 PSI CONCRETE

(5) #2 TIES @ 12" O.C.

(4) #4 VERTICAL ONE AT EACH CORNER

1'-4" SQUARE OR 1'-6" DIAMETER

Typical Area Light Detail
(NOT TO SCALE)



PCSM Standard Notes:

GENERAL
THE MAINTENANCE OF THE STORMWATER FACILITIES ARE THE RESPONSIBILITY OF THE PROPERTY OWNER. THE OWNER'S DEED AND THE DEEDS TO ANY SUBSEQUENT OWNER, SHALL NOTE THAT THE OWNER SHALL ACCEPT THE MAINTENANCE RESPONSIBILITIES OF ANY FACILITIES NOT DEDICATED. THE MUNICIPALITY SHALL BE PERMITTED TO INSPECT THE STORMWATER FACILITIES ON, AT LEAST, AN ANNUAL SCHEDULE TO ENSURE THAT ANY NECESSARY CORRECTIVE WORK IS PERFORMED IN A TIMELY MANNER.

ANY REVISIONS TO THE PCSM PLAN WILL REQUIRE CONSERVATION DISTRICT APPROVAL.

PERMIT TERMINATION

UPON PERMANENT STABILIZATION OF THE EARTH DISTURBANCE ACTIVITY UNDER §102.22(a)(2) (RELATING TO PERMANENT STABILIZATION), AND INSTALLATION OF BMPs IN ACCORDANCE WITH AN APPROVED PLAN PREPARED AND IMPLEMENTED IN ACCORDANCE WITH §102.4 AND §102.8 RELATING TO EROSION AND SEDIMENT CONTROL REQUIREMENTS, AND PCSM REQUIREMENTS, THE PERMITTEE OR CO-PERMITTEE SHALL SUBMIT A NOTICE OF TERMINATION TO THE DEPARTMENT OR CONSERVATION DISTRICT.

THE NOTICE OF TERMINATION MUST INCLUDE:
(1) THE FACILITY NAME, ADDRESS AND LOCATION;
(2) THE OPERATOR NAME AND ADDRESS;
(3) THE PERMIT NUMBER;
(4) THE REASON FOR PERMIT TERMINATION;
(5) IDENTIFICATION OF THE PERSONS WHO HAVE AGREED TO AND WILL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs IN ACCORDANCE WITH §102.8(m) AND PROOF OF COMPLIANCE WITH §102.8(m)(2).

PCSM REQUIREMENTS

PCSM REPORTING AND RECORDKEEPING: THE PCSM PLAN, INSPECTION REPORTS AND MONITORING RECORDS SHALL BE AVAILABLE FOR REVIEW AND INSPECTION BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

LICENSED PROFESSIONAL OVERSIGHT OF CRITICAL STAGES: A LICENSED PROFESSIONAL OR A DESIGNER SHALL BE PRESENT ON-SITE AND BE RESPONSIBLE DURING CRITICAL STAGES OF IMPLEMENTATION OF THE APPROVED PCSM PLAN. THE CRITICAL STAGES MAY INCLUDE THE INSTALLATION OF UNDERGROUND TREATMENT OR STORAGE BMPs, STRUCTURALLY ENGINEERED BMPs, OR OTHER BMPs AS DEEMED APPROPRIATE BY THE DEPARTMENT OR THE CONSERVATION DISTRICT.

FINAL CERTIFICATION: THE PERMITTEE SHALL INCLUDE WITH THE NOTICE OF TERMINATION "RECORD DRAWINGS" WITH A FINAL CERTIFICATION STATEMENT FROM A LICENSED PROFESSIONAL, WHICH READS AS FOLLOWS: "I, (NAME) DO HEREBY CERTIFY PURSUANT TO THE PENALTIES OF 18 Pa.C.S.A. §404(a) TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THAT THE ACCOMPANYING RECORD DRAWINGS ACCURATELY REFLECT THE AS-BUILT CONDITIONS, ARE TRUE AND CORRECT, AND ARE IN CONFORMANCE WITH CHAPTER 102 OF THE RULES AND REGULATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION AND THAT THE PROJECT SITE WAS CONSTRUCTED IN ACCORDANCE WITH THE APPROVED PCSM PLAN, ALL APPROVED PLAN CHANGES AND ACCEPTED CONSTRUCTION PRACTICES."

(1) THE PERMITTEE SHALL RETAIN A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN.

(2) THE PERMITTEE SHALL PROVIDE A COPY OF THE RECORD DRAWINGS AS A PART OF THE APPROVED PCSM PLAN TO THE PERSON IDENTIFIED IN THIS SECTION AS BEING RESPONSIBLE FOR THE LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs.

PCSM LONG TERM OPERATIONS AND MAINTENANCE REQUIREMENTS

UNTIL THE PERMITTEE OR CO-PERMITTEE HAS RECEIVED WRITTEN APPROVAL OF A NOTICE OF TERMINATION, THE PERMITTEE OR CO-PERMITTEE WILL REMAIN RESPONSIBLE FOR COMPLIANCE WITH THE PERMIT TERMS AND CONDITIONS INCLUDING LONG-TERM OPERATION AND MAINTENANCE FOR ALL PCSM BMPs ON THE PROJECT SITE AND IS RESPONSIBLE FOR VIOLATIONS OCCURRING ON THE PROJECT SITE. THE DEPARTMENT OR CONSERVATION DISTRICT WILL CONDUCT A FINAL INSPECTION AND APPROVE OR DENY THE NOTICE OF TERMINATION WITHIN 30 DAYS.

THE PERMITTEE OR CO-PERMITTEE SHALL BE RESPONSIBLE FOR LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs UNLESS A DIFFERENT PERSON IS IDENTIFIED IN THE NOTICE OF TERMINATION AND HAS AGREED TO LONG-TERM OPERATION AND MAINTENANCE OF PCSM BMPs.

FOR ANY PROPERTY CONTAINING A PCSM BMP, THE PERMITTEE OR CO-PERMITTEE SHALL RECORD AN INSTRUMENT WITH THE RECORDER OF DEEDS WHICH WILL ASSURE DISCLOSURE OF THE PCSM BMP AND THE RELATED OBLIGATIONS IN THE PRIMARY COPIES OF A TITLE SEARCH OF THE SUBJECT PROPERTY. THE RECORDED INSTRUMENT MUST BE FILED WITH THE PCSM BMP. PROVIDE FOR NECESSARY ACCESS RIGHTS TO LONG-TERM OPERATION AND MAINTENANCE FOR PCSM BMPs AND PROVIDE NOTICE THAT THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES, AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER §102.70(3) RELATING TO PERMIT TERMINATION.

THE PERSON RESPONSIBLE FOR PERFORMING LONG-TERM OPERATION AND MAINTENANCE MAY ENTER INTO AN AGREEMENT WITH ANOTHER PERSON INCLUDING A CONSERVATION DISTRICT, NONPROFIT ORGANIZATION, MUNICIPALITY, AUTHORITY, PRIVATE CORPORATION OR OTHER PERSON, TO TRANSFER THE RESPONSIBILITY FOR PCSM BMPs OR TO PERFORM LONG-TERM OPERATION AND MAINTENANCE AND PROVIDE NOTICE THEREOF TO THE DEPARTMENT.

A PERMITTEE OR CO-PERMITTEE THAT FAILS TO TRANSFER LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP OR OTHERWISE FAILS TO COMPLY WITH THIS REQUIREMENT SHALL REMAIN JOINTLY AND SEVERALLY RESPONSIBLE WITH THE LANDOWNER FOR LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMPs LOCATED ON THE PROPERTY.

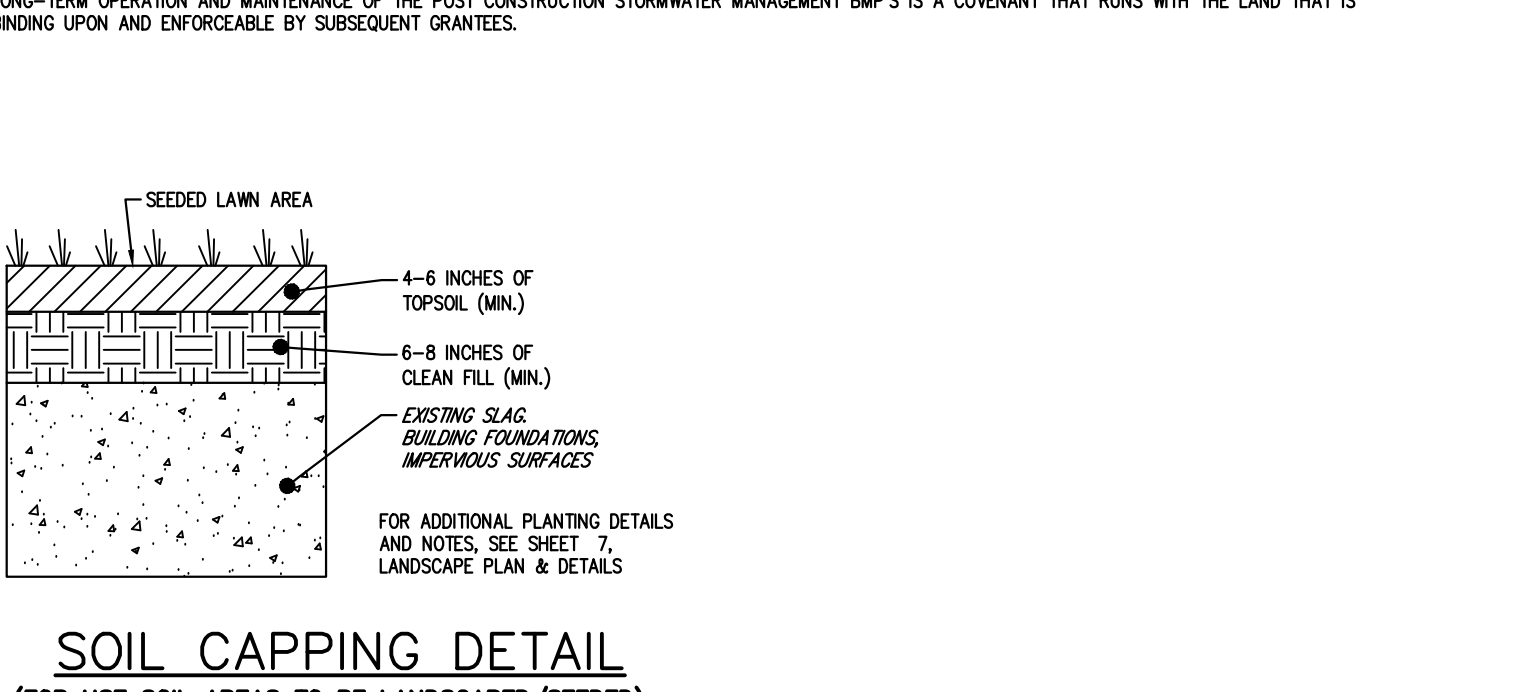
Critical Stages

A LICENSED PROFESSIONAL OR DESIGNER SHALL BE PRESENT FOR THE FOLLOWING CRITICAL STAGES OF CONSTRUCTION FOR THE CLEAN FILL/TOPSOIL CAP:

1. VERIFICATION OF INSTALLATION
A. VERIFICATION OF PLACEMENT OF CLEAN FILL/TOPSOIL CAP.

Long-Term BMP Operations and Maintenance

THE OPERATIONS AND MAINTENANCE OF THE POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S IS THE RESPONSIBILITY OF THE OWNER. THE RESPONSIBILITY FOR LONG-TERM OPERATION AND MAINTENANCE OF THE POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S IS A COVENANT THAT RUNS WITH THE LAND THAT IS BINDING UPON AND ENFORCEABLE BY SUBSEQUENT GRANTEES.



NOT TO SCALE

(FOR USE SOIL AREAS TO BE LANDSCAPED/SEEDED)

LVIP NPDES PERMIT BOUNDARY (SEE LOCATION MAP FOR ENTIRE NPDES BOUNDARY)

Legend	
PROPERTY LINE	LIMIT OF DISTURBANCE 4.80 ACRES
EXISTING STORM SEWER	PROPOSED CONCRETE CURB
EXISTING CURB	PROPOSED DEPRESSED CONCRETE CURB
EXISTING SANITARY SEWER	PROPOSED CONCRETE SIDEWALK
EXISTING OVERHEAD ELECTRIC LINE	PROPOSED ADA HANDICAP RAMP
EXISTING GAS MAIN	PROPOSED MAJOR CONTOURS
EXISTING WATER LINE	PROPOSED MINOR CONTOURS
EXISTING RIGHT-OF-WAY	PROPOSED STORM INLET
EXISTING MAJOR CONTOURS	PROPOSED SANITARY MANHOLE
EXISTING MINOR CONTOURS	PROPOSED UNDERGROUND ELECTRIC
EXISTING STORM INLET	PROPOSED GAS LATERAL
EXISTING SANITARY MANHOLE	PROPOSED SANITARY LATERAL
EXISTING WATER VALVE	PROPOSED WATER LATERAL
EXISTING FIRE HYDRANT	PROPOSED STORM SEWER
EXISTING UTILITY POLE	PROPOSED STORM SEWER MANHOLE
EXISTING GUY WIRE	PROPOSED RETAINING WALL
EXISTING LIGHT POLE	
EXISTING IRON PIN	
EXISTING SIGN	
EXISTING TREES	
EXISTING CONCRETE SIDEWALK	

Soil Type	
U6B	Udorthents, limestone, 0 to 8 percent slopes
UkaB	Urban Land, 0 to 8 percent slopes
UkaD	Urban Land, 8 to 25 percent slopes
UudB	Urban Land-Udorthents, limestone complex, 0 to 8 percent slopes

SOIL LIMITATIONS	
LIMITATIONS	RESOLUTIONS
CUTBANKS CAVE	LAYBACK SLOPES
CORROSIVE TO CONCRETE/STEEL	CATHODIC PROTECTION AND/OR CORROSION RESISTANT
DEPTH TO SATURATED ZONE (SEASONAL HIGH WATER TABLE)	KNOW DEPTH TO SATURATION ZONE AND AVOID
HYDRIC / HYDRIC INCLUSIONS	AVOID
LOW STRENGTH / LANDSLIDE PRONE	LAYBACK SLOPES - DESIGN FOR CONDITION
SLOW PERCOLATIONS	DRAINAGE DITCH
PIPING	TEMPORARILY LOWER GROUND WATER TABLE OR PROVIDE FILTERS
FROST ACTION	LOWER FOOTINGS BELOW FROST DEPTHS, PROVIDE POSITIVE SUBGRADE
SHRINK - SWELL	AVOID USE OF HIGHLY PLASTIC CLAYS IN BUILDING AREA
POTENTIAL SINKHOLE	PLUG OR MITIGATE KNOWN SINKHOLES, PROVIDE POSITIVE SURFACE
DROUGHTY	APPLY COMPOST IF MOISTURE RETENTION IS REQUIRED
EASILY ERODABLE	TAKE EXTRA CARE IN IMPLEMENTATION OF ESPC PLAN
FLOODING	USE PUMPED WATER FILTER BAG OR AVOID
POOR SOURCE OF TOPSOIL	IMPORT TOPSOIL
PONDING	USE PUMPED WATER FILTER BAG OR AVOID

Benchmarks for this Plan

1. CONCRETE MONUMENT - NORTH END OF CURB RETURN AT THE NORTHEAST CORNER OF THE INTERSECTION OF SPILLMAN AND LYNN-TOP ELEVATION=320.30
2. CONCRETE MONUMENT - SOUTH END OF CURB RETURN AT THE NORTHEAST CORNER OF THE INTERSECTION OF SPILLMAN AND LYNN-TOP ELEVATION=321.19

Know what's at stake?

Call 811

BEFORE YOU DIG

"CALL BEFORE YOU DIG"

PENNSYLVANIA LAW REQUIRES 3 WORKING DAYS NOTICE FOR CONSTRUCTION PHASE AND 10 WORKING DAYS IN DESIGN STAGE - STOP CALL

PENNSYLVANIA ONE CALL SYSTEM, INC.
1-800-242-1776

THIS PROJECT'S DESIGNER INQUIRY NO.
20250941787

BETHLEHEM CITY DEPT. OF WATER/SEWER RESOURCES
MORRIS COLLEGE
PPL ELECTRIC SERVICE
ELECTRIC CABLE TV INC.
VERIZON

PROJECT / SERIAL NUMBERS / EXCAVATION-DEMOLITION / TYPE OF ONE CALL / DATE / ADDRESS / NEAREST INT. / TOWNSHIP / COUNTY
4415 20162023156 EXCAVATION ROUTINE 7/20/2016 SPILLMAN DRIVE LYNN AVE/CITY OF BETHLEHEM NORTHAMPTON

PPL ELEC LEHIGH (PI) / BETHLEHEM C DWS (OX) / SVC ELEC CATV (SET) / R/N TELECOM (TCC) / UGI LEHIGH (UJ) / VERIZON EASTERN (V)

Stormwater Management BMP's

SOL AMENDMENT & RESTORATION (BMP 6.7.3)

Receiving Waters

LEHIGH RIVER (WW, W)

Applicant

LVP, INC.
1720 SPILLMAN DRIVE, SUITE 150
BETHLEHEM, PA 18015
PHONE 610.866.4600

Owner/Co-Permittee

LVP, INC.
1720 SPILLMAN DRIVE
BETHLEHEM, PA 18015
PHONE 610.866.4600

Plan Preparer

ANDREW BOHL, PE
HANOVER ENGINEERING ASSOCIATES, INC.
252 BROOKDALE ROAD, SUITE 100
BETHLEHEM, PA 18017-8644
PHONE (610) 691-5644
FAX (610) 691-6968

Property Identification

1550 SPILLMAN DRIVE
BETHLEHEM, PA 18015
TAX MAP P7 BLOCK 8 LOT 8B-8
DBY 2004-1, PG 27077

OWNER'S SIGNATURE _____ **DATE** _____

SWORN AND SUBSCRIBED BEFORE ME THIS _____ **DAY OF** _____, 20 _____

NOTARY PUBLIC

PRELIMINARY/FINAL LAND DEVELOPMENT

PLAN TITLE
POST CONSTRUCTION STORMWATER MANAGEMENT PLAN

PROJECT TITLE
LOT 8 - LVIP VI - 1550 SPILLMAN DRIVE

CITY OF BETHLEHEM
NORTHAMPTON COUNTY
PENNSYLVANIA

HanoverEngineering

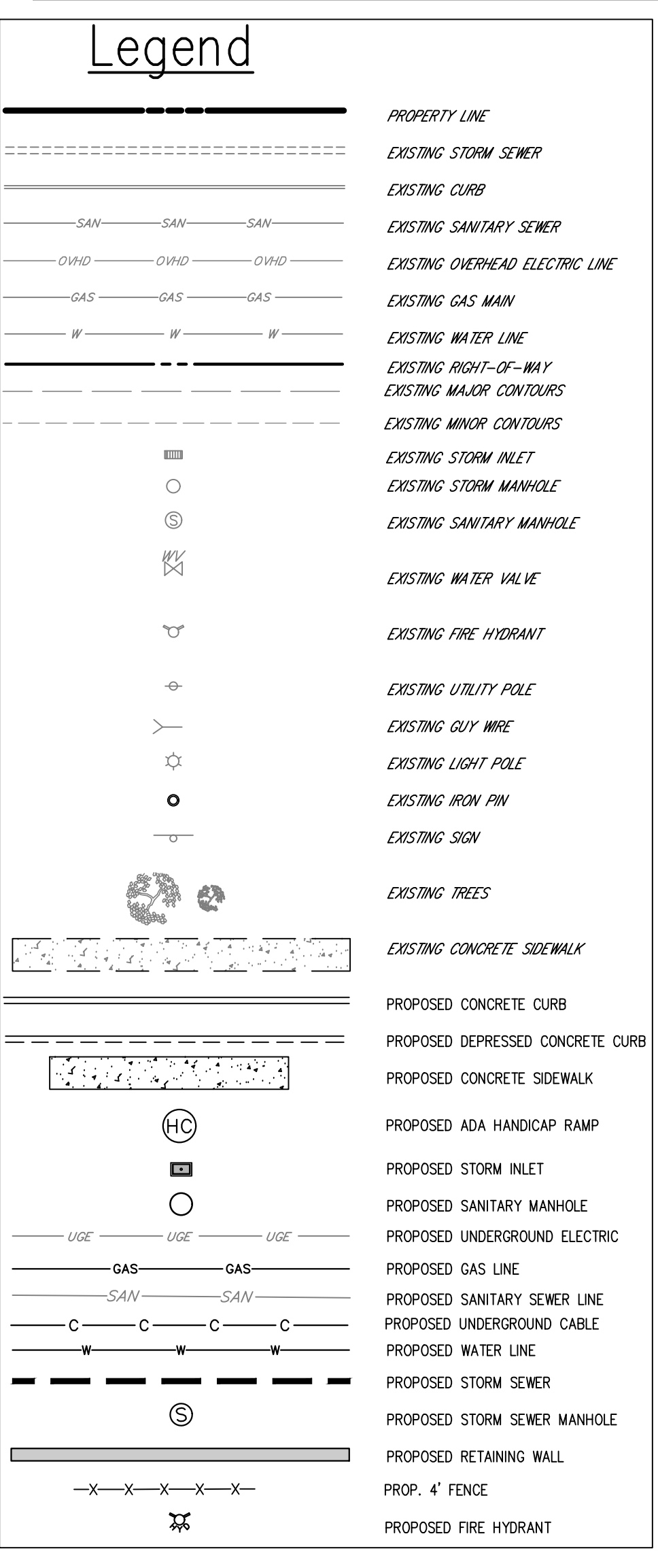
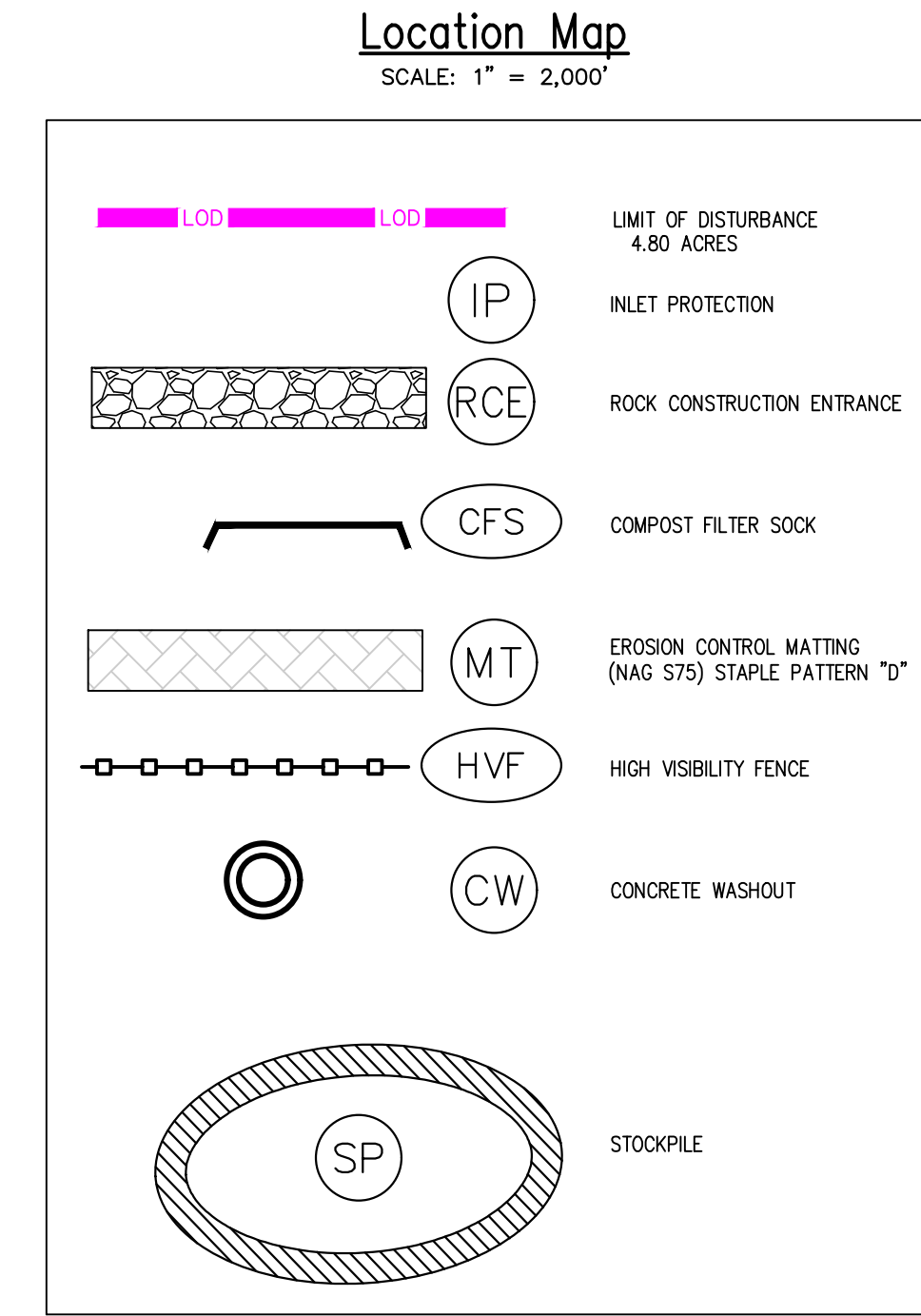
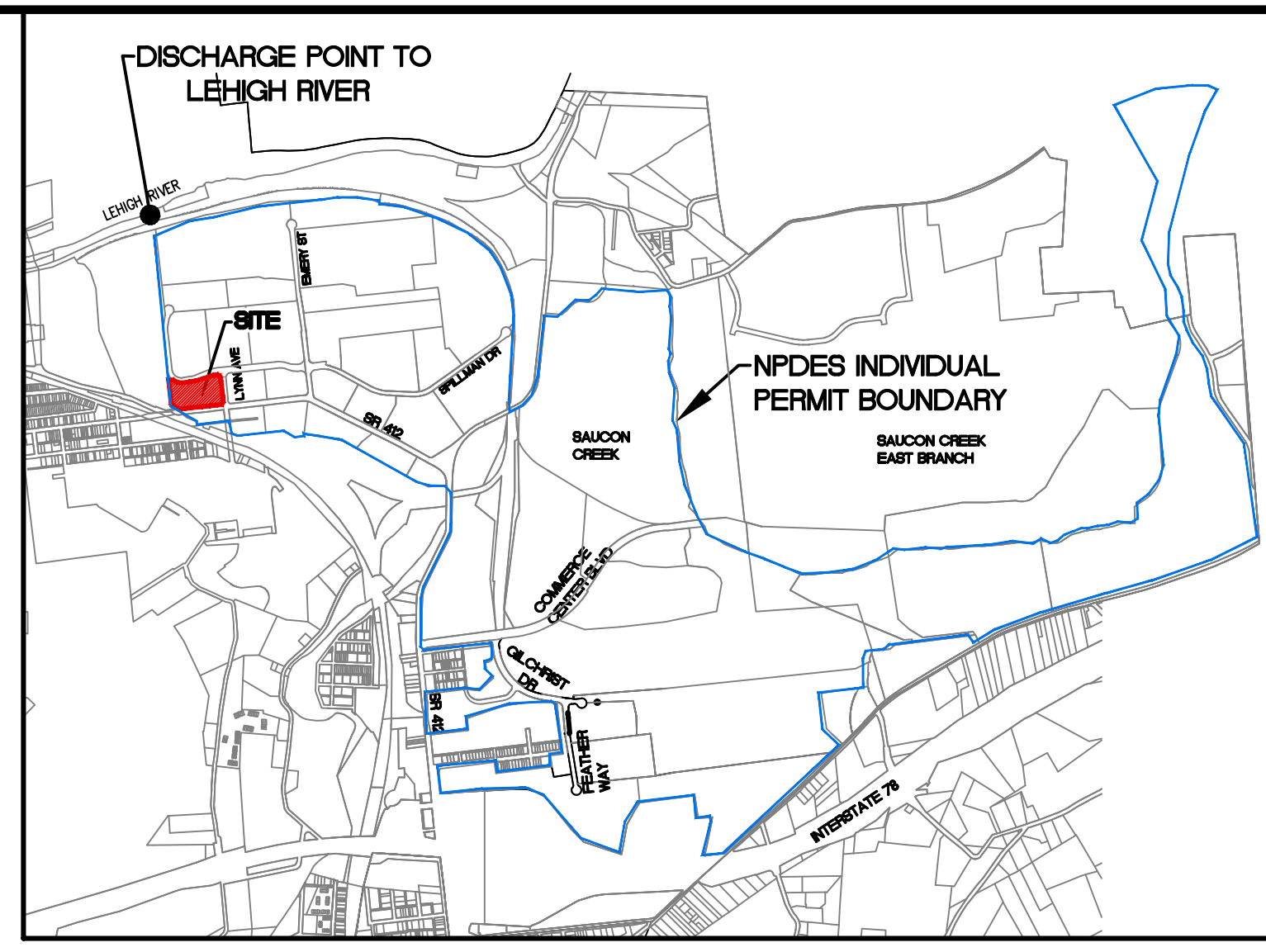
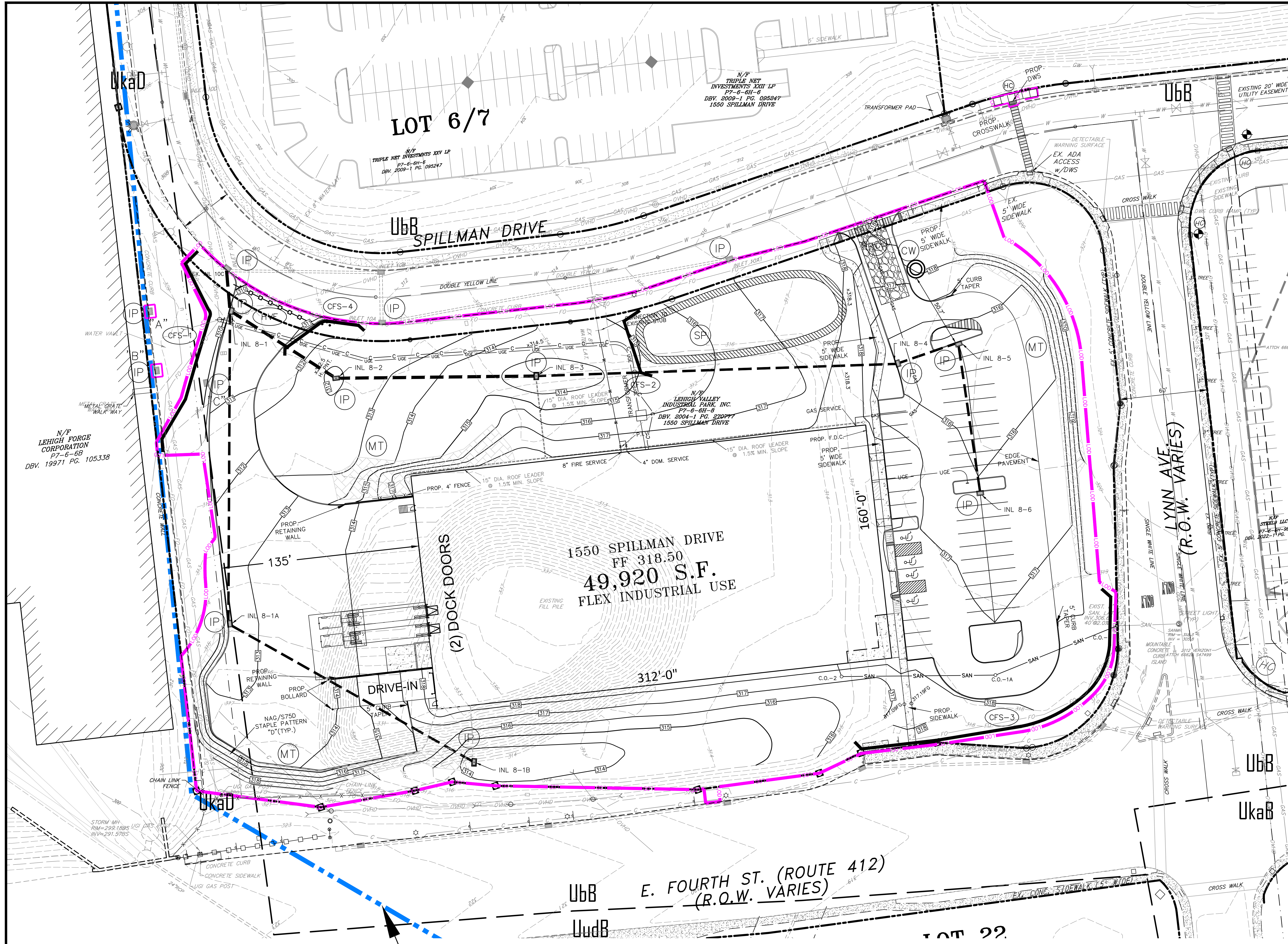
Bethlehem Office
252 Brookdale Road, Suite 100
Bethlehem, PA 18017-8644
P: 610.691.5644
F: 610.691.6968
hanovereng.com

REVISIONS

NO.	DATE	REVISIONS
1	10/09/25	SEE CITY AND INC'D COMMENTS

CHECKED BY
DATE
SCALE
PROJECT NO.
SHEET NO.

10/09/25
1"=30'
5207
9 OF 15



Compost Filter Sock Table	
CFS ID	SIZE
CS-1	24"
CS-2	12"
CS-3	12"
CS-4	24"

Inlet Protection Table	
STRUCTURE	DRAINAGE AREA (AC.)
INL 8-1A	0.67 *
INL 8-1B	0.58 *
INL 8-1	0.48
INL 8-2	0.16
INL 8-3	0.54 **
INL 8-4	0.14
INL 8-5	0.69 *
INL 8-6	0.57 **
EX INL 10C	0.14
EX INL 10A	0.16
EX INL 10A1	0.14
STORM INLET A	0.10
STORM INLET B	0.14
STORM INLET C	0.01

AVOIDANCE MEASURE NOTE

THE PROPOSED PROJECT IS LOCATED IN THE VICINITY OF FEDERALLY LISTED BAT SPECIES AND/OR THEIR CRITICAL HABITAT. AS SUCH, TO ENSURE THE "TAKE" (AS DEFINED IN THE ENDANGERED SPECIES ACT) DOES NOT EXCEED THE ALLOWED TAKE, THE APPLICANT AND THEIR CONTRACTOR(S) HAVE AGREED TO IMPLEMENT AN AVOIDANCE MEASURE WHICH PROHIBITS TREE REMOVAL FROM APRIL 1 THROUGH OCTOBER 31.

ALL BMP'S SHOULD BE INSPECTED AFTER EVERY RUNOFF EVENT AND ON A WEEKLY BASIS. ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY.

Benchmarks for this Plan

- CONCRETE MONUMENT - NORTH END OF CURB RETURN AT THE NORTHEAST CORNER OF THE INTERSECTION OF SPILLMAN AND LYNN-TOP ELEVATION=320.30
- CONCRETE MONUMENT - SOUTH END OF CURB RETURN AT THE NORTHEAST CORNER OF THE INTERSECTION OF SPILLMAN AND LYNN-TOP ELEVATION=321.19



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BETHLEHEM CITY DEPT. OF WATER/SEWER RESOURCES
MORAVIAN COLLEGE
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LVIP NPDES PERMIT BOUNDARY (SEE LOCATION MAP FOR ENTIRE NPDES BOUNDARY)

Existing Fill Pile

THE EXISTING FILL MATERIAL ON THE SITE SHALL BE USED DURING CONSTRUCTION AS NEEDED. THE EXISTING FILL PILE IS COMPOSED OF EXCAVATED MATERIAL FROM FROM PREVIOUS CONSTRUCTION THAT OCCURRED WITHIN THE LVIP VI NPDES BOUNDARY. ANY EXPORTED MATERIAL SHALL BE DEPOSITED/RELOCATED ON LANDS WITHIN THE LVIP VI SUBDIVISION ONLY.

Soil Limitations & Resolutions

LIMITATIONS
1. LAYBACK SLOPES
2. CORROSION TO STEEL
3. DROUGHTY
4. EASILY ERODABLE
5. LOW STRENGTH / LANDSLIDE PRONE
6. SLOW PERCOLATION
7. FROST ACTION
RESOLUTIONS
1. CATHODIC PROTECTION AND/OR CORROSION RESISTANT CONCRETE
2. APPLY COMPOST F MOISTURE RETENTION IS REQUIRED
3. TAKE EXTRA CARE IN IMPLEMENTATION OF EROSION CONTROL PLAN
4. LAYBACK SLOPES - DESIGN FOR CONDITION
5. DRAINAGE DITCH
6. LOWER FOOTINGS BELOW FROST DEPTHS. PROVIDE POSITIVE SUBGRADE
7. CURRENTLY, THE PROPERTY IS TEMPORARILY STABILIZED AS MEADOW. PRIOR TO THIS CONDITION, THE PROPERTY WAS A PARKING AREA FOR BETHLEHEM STEEL.
IF UNDERGROUND WATER IS ENCOUNTERED, A PUMPED WATER FILTER BAG (DETAIL ON SHEET 13 OF 15) SHALL BE UTILIZED.
IF SINKHOLES ARE ENCOUNTERED, A SINKHOLE REPAIR DETAIL HAS BEEN SUPPLIED ON THE PROJECT DRAWINGS.
WASHINGTON SOILS ARE FAIRLY WELL SUITED FOR WINTER GRADING.

Types Of Land Cover

1. CURRENTLY, THE PROPERTY IS TEMPORARILY STABILIZED AS MEADOW. PRIOR TO THIS CONDITION, THE PROPERTY WAS A PARKING AREA FOR BETHLEHEM STEEL.

RECEIVING WATERS:

LEHIGH RIVER (WWF, MT)

Limit Of Disturbance

4.80 ACRES

Soil Type

- Udorthents, limestone, 0 to 8 percent slopes
- Urban Land, 0 to 8 percent slopes
- Urban Land, 8 to 25 percent slopes
- Urban Land-Udorthents, limestone complex, 0 to 8 percent slopes

Plan Preparer

ANDREW BOHL, PE
HANOVER ENGINEERING ASSOCIATES, INC.
252 BROOKHOLD ROAD, SUITE 100
BETHLEHEM, PA 18015-2164
PHONE (610) 691-5644
FAX (610) 691-6966

Applicant / Owner

LVP, INC.
1720 SPILLMAN DRIVE, SUITE 150
BETHLEHEM, PA 18015-2164
PHONE (610) 666-4600

Owner/Co-Permittee

LVP, INC.
1720 SPILLMAN DRIVE, SUITE 150
BETHLEHEM, PA 18015-2164
PHONE (610) 666-4600

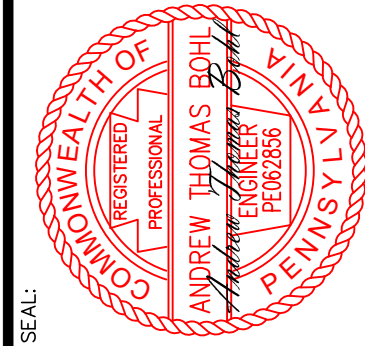
THIS PROPOSAL REQUIRES TO BE PERMITTED AND/OR APPROVED BY THE FOLLOWING GOVERNMENT ENTITIES:
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
(Permit previously obtained for the entire LVIP VI Subdivision-Permit NPDES#40480000)
NORTHAMPTON COUNTY CONSERVATION DISTRICT
LEHIGH VALLEY PLANNING COMMISSION

PRELIMINARY/FINAL LAND DEVELOPMENT

PLAN TITLE: EROSION & SEDIMENTATION CONTROL PLAN
PROJECT TITLE: LOT 8 - LVIP VI - 1550 SPILLMAN DRIVE

CITY OF BETHLEHEM
NORTHAMPTON COUNTY
PENNSYLVANIA

HanoverEngineering
Bethlehem Office
252 Brookhold Road, Suite 100
Bethlehem, PA 18017-8944
P: 610.691.5644
F: 610.691.6966
hanovereng.com



NO.	REVISIONS	DATE	BY	DATE	PROJECT NO.	SHEET NO.
1	SEE CITY AND INC'D COMMENTS	10/09/25		07/01/25	5207	11 OF 15

Standard Erosion And Sediment Control Plan Notes

1. ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED EAS PLAN, A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT ALL TIMES AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2. AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INWRITE ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE EAS PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR DESIGN OF CRITICATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
3. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED ON THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 1-800-242-1778 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
4. ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THIS SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
5. AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS AND OTHER OBJECTIONABLE MATERIAL.
6. CLEARING, GRUBBING, AND TOPSOIL REMOVAL 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 BMP'S SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS EAS PLAN.
7. 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.
8. TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
9. IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT, THE OPERATOR SHALL IMPLEMENT APPROPRIATE MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
10. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 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.
11. ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
12. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT ANY MATERIAL, REGARDLESS ON SITE IS CLEAN FILM FORM FFF-MUST BE INSTANTLY BY THE PROPERTY OWNER FOR ANY FILM MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILM DUE TO ANALYTICAL TESTING.
13. ALL PUMPING OF WATER FROM WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED VEGETATION BEGIN.
14. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND REINETTING MUST BE PERFORMED IMMEDIATELY, IF THE E&S BMP'S FAIL TO PERFORM AS EXPECTED, REPAIRS, OR MODIFICATIONS TO THOSE INSTALLED MUST BE REQUIRED.
15. A LOG SHOWING DATES THAT E&S BMP'S 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.
16. 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, SHOULED, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
17. ALL SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS.
18. 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 4 INCHES OF TOPSOIL IN PLACE PRIOR TO SEEDING AND MULCHING. FILLS AND AREAS SHALL HAVE A MINIMUM OF 2 INCHES OF TOPSOIL.
19. ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SURPGE, 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.
20. ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
21. FILL MATERIALS SHALL BE FREE OF FOREIGN PARTICLES, BRUSH, ROOTS, SOIL, OR OTHER FOREIGN OR OBJECTIONABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILLS.
22. FROZEN MATERIALS OR SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
23. FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
24. SEEDS OR SPRINGS ENCOUNTERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD AND SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
25. ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE, CUT SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE VEGETATED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
26. 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 WITH THE TEMPORARY STABILIZATION AND GRASSING SPECIFICATIONS. THOSE AREAS WHICH WILL NOT BE REACTIVATED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
27. 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.
28. E&S BMP'S SHALL REMAIN FUNCTIONAL AS SUCH UNTIL ALL AREAS TRIBUTARY TO THEM ARE PERMANENTLY STABILIZED OR UNTIL THEY ARE REPLACED BY ANOTHER BMP APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT.
29. 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/REMOVAL OF THE E&S BMP'S.
30. AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP'S MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMP'S. AREAS DISTURBED DURING REMOVAL OR CONVERSION SHALL BE STABILIZED IMMEDIATELY. IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVAL/CONVERSIONS ARE TO BE DONE ONLY DURING THE GERMINATING SEASON.
31. 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 TO SCHEDULE A FINAL INSPECTION.
32. FAILURE TO CORRECTLY INSTALL E&S BMP'S, FAILURE TO PREVENT SEDIMENT-LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE, OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTION TO RESOLVE FAILURE OF E&S BMP'S MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE DEPARTMENT AS DEFINED IN SECTION 602 OF THE PENNSYLVANIA CLEAN STREAMS LAW. PENALTIES PROVIDED 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.
33. CONCRETE WASH WATER SHALL BE HANDLED IN THE MANNER DESCRIBED ON THE PLAN DRAWINGS. IN NO CASE SHALL IT BE ALLOWED TO ENTER ANY SURFACE WATERS OR GROUNDWATER SYSTEMS.
34. 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 EXPOSED ON THE PLAN MAPS AND/OR DETAIL SHEETS.
35. FILL MATERIAL FOR EMBANKMENTS SHALL BE FREE OF ROCKS, ROOTS, OR OTHER WOODY MATERIAL, ORGANIC MATERIAL, LARGE STONES, AND OTHER OBJECTIONABLE MATERIALS.

Disposal Of Materials From The Control Facilities

SEDIMENT WHICH HAS BEEN TRAPPED BY SILT BARRIER FACILITIES MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED ON THE PROJECT SITE. ALL CONSTRUCTION DEBRIS OR OTHER UNSUITABLE MATERIALS SHALL BE REMOVED BY THE CONTRACTOR AND DISPOSED OF IN A LAWFUL MANNER.

WASHING OF FILTER STONE AND REDISTRIBUTION OF WET SEDIMENT SHALL BE ONLY PERMITTED UPHILL OF AN EFFECTIVE SEDIMENT FILTER FACILITY. SILT LADEN RUN-OFF SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO UNPROTECTED INLETS, BASINS, ADJACENT PROPERTIES, ROADWAYS, OR WETLANDS.

ALL SILT BARRIER FACILITIES MUST BE CHECKED FOR CAPACITY AND PROPER FUNCTION WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL ALL UPSTREAM AREAS HAVE A UNIFORM PERENNIAL VEGETATIVE COVER OF OVER SEVENTY (70) PERCENT.

RECYCLING AND/OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THE PROJECT SITE MUST BE ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

Recycling And Disposal Of Materials

IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO BE FAMILIAR WITH, AND TO INFORM HIS WORKERS OF ALL LOCAL, STATE, AND FEDERAL ENVIRONMENTAL REGULATIONS REGARDING THE CONDUCT OF WORK AND HANDLING OF MATERIALS ON THE PROJECT, AND TO PERFORM ALL ACTIVITIES IN ACCORDANCE WITH THOSE REGULATIONS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IMPLEMENTING EMERGENCY RESPONSE PLANS FOR ANY HAZARDOUS OR POLLUTING MATERIALS USED IN THE WORK.

ALL RUBBISH OR WASTE MATERIALS PRODUCED BY CONTRACTOR'S WORKERS SHALL BE PROTECTED FROM DISSEMINATION BY WIND, RAIN, OR ANIMALS, AND SHALL BE LEGALLY DISPOSED OF REGULARLY. ANY CONSTRUCTION DEBRIS OR OTHER UNSUITABLE MATERIALS TRAPPED BY SILT BARRIER FACILITIES SHALL BE SEPARATED FROM SOIL MATERIALS AND DISPOSED OF IN A LAWFUL MANNER.

SEDIMENT WHICH HAS BEEN TRAPPED BY SILT BARRIER FACILITIES MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED ON THE PROJECT SITE. SEDIMENT WHICH COLLECTS TO THE SPECIFIED CLEAN-OUT ELEVATION IN THE BOTTOM OF STORMWATER MANAGEMENT PONDS, OR THE SPECIFIED ELEVATIONS IN SEDIMENT TRAPS, MUST BE REMOVED AND STOCKPILED OR REDISTRIBUTED AND STABILIZED ON THE

WASHING OF FILTER STONE AND RE-DISTRIBUTION OF WET SEDIMENT FROM BASINS, TRAPS OR OTHER FACILITIES SHALL BE ONLY PERMITTED UPHILL OF AN EFFECTIVE SEDIMENT FILTER FACILITY. SILT LADEN RUNOFF SHALL NOT BE ALLOWED TO FLOW DIRECTLY TO UNPROTECTED CATCH BASINS, PONDS, ADJACENT PROPERTIES, ROADS, STREAMS OR WETLANDS.

IF THE CONTRACTOR EXPECTS TO RECYCLE OR DISPOSE OF ANY SOIL OR ROCK MATERIAL TO LOCATIONS OTHER THAN THE PROJECT AREA FOR WHICH THIS PLAN AND NARRATIVE HAVE BEEN PREPARED, THE CONTRACTOR SHALL ARRANGE FOR PREPARATION AND SUBMITAL TO THE APPROPRIATE COUNTY CONSERVATION DISTRICT OF EROSION AND SEDIMENT CONTROL PLANS FOR ALL SUCH OFF-PROJECT AREAS PRIOR TO COMMENCEMENT OF WORK.

Sequence of Construction

1. SCHEDULE A PRE-CONSTRUCTION CONFERENCE AND PROVIDE AT LEAST SEVEN (7) WORKING DAYS' NOTICE TO THE FOLLOWING AGENCIES PRIOR TO COMMENCEMENT OF SITE GRADING WORK"
- I. PROJECT ENGINEER: 610-691-5644
- II. NORTHAMPTON COUNTY CONSERVATION DISTRICT: 610-762-1030
- III. PA ONE CALL: 1-800-242-1776
2. THE CONTRACTOR SHALL CONTACT THE DESIGN ENGINEER AT LEAST FORTY-EIGHT HOURS (48 HOURS) IN ADVANCE OF EROSION CONTROL FACILITIES COMPONENT INSTALLATIONS.
3. THE CONTRACTOR SHALL REFER TO THE POST CONSTRUCTION STORMWATER MANAGEMENT PLANS FOR LOW IMPACT/NO COMPACTION TECHNIQUES FOR THE EXCAVATION AND PLACEMENT OF PROPOSED FILL MATERIALS.
4. PRIOR TO THE REMOVAL OF TOPSOIL, REFER TO PLAN SHEET 12 FOR THE LOCATION OF SOIL STOCKPILES. TEMPORARY AND PERMANENT SEEDING SHALL BE IN ACCORDANCE WITH REQUIREMENTS LISTED AND AS NOTED IN THE PROJECT NARRATIVE AND AS LISTED ON THE ESPC PLAN SHEET. COMPOST FILTER SOCKS SHALL BE INSTALLED DOWNSLOPE OF ALL TOPSOIL STOCKPILES.
- I. PRIOR TO ANY SEEDING AND LIME AND FERTILIZER APPLICATION, A SOIL TEST SHALL BE PERFORMED TO DETERMINE THE PH FACTOR. ADDITIONAL LIME AND FERTILIZER MAY BE REQUIRED.
5. DISTURBED AREAS SHALL NOT BE STRIPPED OF TOPSOIL FOR MORE THAN FOUR (4) DAYS WITHOUT TEMPORARY STABILIZATION.
6. REMOVE THE TREE OBSTRUCTING THE LOCATION OF THE PROPOSED ROCK CONSTRUCTION ENTRANCE AND INSTALL THE ROCK CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS. ALL CONSTRUCTION TRAFFIC FOR THE SITE IS TO ENTER AT THIS LOCATION. ALTERNATE ENTRANCES ARE PROHIBITED.
7. INSTALL CONCRETE WASHOUT SOUTHWEST OF THE ROCK CONSTRUCTION ENTRANCE.
8. INSTALL CFS 1 THROUGH CFS 3 AND IMMEDIATELY STABILIZE ANY DISTURBED AREAS.
9. CLEAR AND GRUB THE ENTIRETY OF THE SITE WITHIN THE LIMIT OF DISTURBANCE PRIOR TO ANY EARTH MOVING ACTIVITIES. REMOVE ALL WASTE MATERIALS AS OUTLINED ON SHEET 3.
10. INSTALL STORM SEWER RUN BETWEEN EXISTING INLET 10C AND PROPOSED INLET 8-B. INSTALL INLET PROTECTION; BACKFILL AND STABILIZE AREA OF EXCAVATION. INSTALL STORM SEWER RUN FROM INLET 8-1 TO INLET 8-B. INSTALL INLET PROTECTION AND BACKFILL AND STABILIZE AREA OF EXCAVATION. SOIL SUPPLEMENTS, SEED AND MULCH MUST BE APPLIED ACCORDING TO 25 PA. CODE 102.22.
- I. IF STORMWATER FILLS IN EXCAVATION PITS, UTILIZE FILTER BAG TO REMOVE AS SHOWN ON DETAIL SHEET 13.
- II. THE TOTAL LENGTH OF EXCAVATED TRENCH OPEN AT ANY ONE TIME SHALL NOT BE GREATER THAN THE TOTAL LENGTH OF UTILITY LINE THAT CAN BE PLACED IN THE TRENCH AND BACKFILLED IN ONE (1) WORKING DAY.
- III. NO MORE THAN 50 LINEAL FEET OF OPEN TRENCH SHALL EXIST WHEN UTILITY LINE INSTALLATION CEASES AT THE END OF THE WORKDAY.
11. INSTALL ROOF LEADER CONNECTIONS TO INLETS 8-B AND INLET 8-3 AND RUN TO BUILDING. INSTALL ROOF LEADER CONNECTIONS USING A PROPOSED TIE TO THE PROPOSED STORM SEWER AND RUN TO BUILDING LOCATION. BACKFILL AND IMMEDIATELY STABILIZE AREA OF EXCAVATION. CAP ROOF LEADER STUB FOR FUTURE CONNECTION.
12. INSTALL SANITARY SEWER AND PROPOSED CLEANOUT. IMMEDIATELY STABILIZE DISTURBED AREA.
13. INSTALL WATER SERVICE. IMMEDIATELY STABILIZE DISTURBED AREA.
14. GRADE IN BUILDING PAD AND START THE CONSTRUCTION OF THE BUILDING. IMMEDIATELY STABILIZE.
15. INSTALL GAS LATERAL. IMMEDIATELY STABILIZE DISTURBED AREA.
16. INSTALL UNDERGROUND ELECTRIC UTILITY LINES AND PROPOSED TRANSFORMER. IMMEDIATELY STABILIZE DISTURBED AREA.
17. INSTALL UNDERGROUND COMMUNICATION LINES. IMMEDIATELY STABILIZE THE AREA.
18. ROUGH GRADE THE ACCESS DRIVEWAYS AND THE PARKING AREA ON THE EAST OF THE PROJECT SITE. IMMEDIATELY STABILIZE ANY DISTURBED AREAS.
19. INSTALL ALL CONCRETE CURBING, SIDEWALKS, AND TRASH ENCLOSURE PAD. STABILIZE ANY AREAS THAT WERE DISTURBED DURING CONSTRUCTION OF THESE ITEMS.
20. PLACE SUBBASE STONE AGGREGATE FOR ALL AREAS TO BE PAVED.
21. FINISH PAVE ALL PARKING AND DRIVEWAYS. IMMEDIATELY STABILIZE ANY AREA DISTURBED.
22. INSTALL CAPPING MATERIAL AND PROPOSED LANDSCAPING. IMMEDIATELY STABILIZE ALL AREAS, THIS IS A CRITICAL STAGE, AND A LICENSED PROFESSIONAL MUST BE ALLOWED TO OVERSEE THE INSTALLATION.
23. EROSION CONTROLS CAN BE REMOVED AND PROPERLY DISPOSED OF/RECYCLED ONCE VEGETATIVE STABILIZATION IS ACHIEVED. VEGETATIVE STABILIZATION REQUIREMENTS WILL BE ACHIEVED WHEN A UNIFORM 70% PERENNIAL VEGETATIVE COVER IS PRESENT OVER ALL DISTURBED AREAS. E&S MEASURES SHALL NOT BE REMOVED FROM THE SITE UNTIL A UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ACHIEVED. IN ANY CASE WHERE THE REMOVAL OF E&S CONTROLS GENERATES AN ADDITIONAL DISTURBED AREA, THE AREA SHALL BE IMMEDIATELY REPAIRED AND PERMANENTLY STABILIZED.
24. NO SOIL IS TO BE HAULED OFF SITE WITHOUT SEPARATE EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN REVIEWED AND APPROVED BY THE DISTRICT PRIOR TO BEING ACTIVE. AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A UNIFORM MINIMUM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING OR OTHER MOVEMENTS.

Assurance of Design Performance

THE SPECIFICATIONS AND REQUIREMENTS OF THE PROJECT PLANS, NARRATIVE AND SPECIFICATION ARE THE MINIMUM ACCEPTABLE CONSTRUCTION CRITERIA FOR THIS PROJECT.

DURING SITE DEVELOPMENT CONSTRUCTION, ALL TEMPORARY EROSION AND SEDIMENTATION CONTROL FACILITIES MUST BE CHECKED BY THE SITE CONTRACTOR AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ANY DAMAGE TO THE FACILITIES MUST BE REPAIRED IMMEDIATELY. ANY LOST SOIL MATERIAL SHALL BE RECOVERED, IF POSSIBLE. WASHED OUT LAWN OR SLOPE AREAS MUST HAVE TOPSOIL REPLACED AND THEN MUST BE RE-SEEDD AND MULCHED.

IF, FOR ANY REASON, THE DESIGNED FACILITIES OR MEASURES DO NOT PROVIDE THE NECESSARY PROTECTION, THE CONTRACTOR SHALL ADJUST THE EROSION CONTROL MEASURES AND SEDIMENT CONTROL MEASURES TO ACHIEVE A COMPLETE NON-ERODED STABILIZED SITE CONDITION.

AFTER THE CITY'S FINAL ACCEPTANCE OF SITE WORK CONSTRUCTION AND STABILIZATION BY THE CONTRACTOR, THE GROUND SURFACE AND ALL DRAINAGE FACILITIES LOCATED ON PRIVATE PROPERTY MUST BE MAINTAINED BY THE OWNER OF THE PROPERTY.

Anticipated Project Specific Waste

SEDIMENT TRAPPED BY EROSION CONTROL BMP'S

PLANT WASTE CREATED DURING CLEARANCE OF SITE

ALL WASTE IS TO BE RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.

MULCH TYPE	MULCH APPLICATION RATES				NOTES
	PER ACRE	APPLICATION RATE (LBS)	PER 1,000 SQ. FT.	PER 1,000 SQ. YD.	
STRAW	3 TONS	140 LB.		1,240 LB.	ETHER WHEAT OR OAT STRAW FREE OF WEEDS, NOT CHOPPED OR FINELY BROKEN
HAY	3 TONS	140 LB.		1,240 LB.	TIMOTHY, WHEAT CLOVER AND TIMOTHY OR OTHER NATIVE FORAGE GRASSES
WOOD CHIPS	4-6 TONS	185-275 LB.		1,650-2,500 LB.	MAY PREVENT GERMINATION OF GRASSES AND LEGUMES
HYDRO MULCH	1 TON	47 LB.		415	SEE LIMITATIONS ABOVE

Temporary Stabilization & Permanent Stabilization

1. HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.
2. MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
3. STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- 102.49(b)(5)(v) "2. MAINTENANCE PROGRAM WHICH PROVIDES FOR INSPECTION OF BMPs ON A WEEKLY BASIS AND AFTER EACH MEASURABLE RAINFALL EVENT, INCLUDING THE REPAIR OF THE BMPs TO ENSURE EFFECTIVE AND EFFICIENT OPERATION."
4. UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMP'S MUST BE MAINTAINED PROPERLY. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENT CONTROL BMP'S AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, RE-GRADING, RE-SEEDING, RE-MULCHING, AND RE-NETTING MUST BE PERFORMED IMMEDIATELY, IF EROSION AND SEDIMENT CONTROL BMP'S FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMP'S, OR MODIFICATIONS TO THOSE INSTALLED WILL BE REQUIRED. *E&S-PCSM P168*
5. SEDIMENT REMOVED FROM BMP'S SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SNALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
6. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS SHOWN ON THE PLANS 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 MATERIAL OR WASTES AT THE SITE."
7. SOIL/ROCK DISPOSAL AREAS SHOULD BE ADDRESSED IN THE NARRATIVE AND ON THE DRAWINGS WITH APPROPRIATE BMP'S (E.G. THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE CONSERVATION DISTRICT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL PROPOSED SOIL/ROCK SPILL AND BORROW AREAS ON OR OFF SITE.)

REFER TO NARRATIVE FOR PENN DOT PUBL. 408 DATA

Temporary Seeding

- ALL DISTURBED EARTH SURFACES OR TOPSOIL STOCKPILES WHICH ARE TO REMAIN LONGER THAN FOUR (4) DAYS SHALL BE STABILIZED AND SEEDED WITH A CONTRACTOR'S MIX AS STATED BELOW:
- | DATE | TYPE OF MIXTURE | PER ACRE | PER 1,000 SF | PER 1,000 SQ. YD. |
|---|--|----------|--------------|-------------------|
| MARCH 1 TO JUNE 15 | ANNUAL RYEGRASS | 100% | 1.0 LB. | 40 LB. |
| JUNE 15 TO AUG. 15 | SUDANGRASS | 100% | 1.0 LB. | 40 LB. |
| AUG. 15 TO SEPT. 15 | ANNUAL RYEGRASS | 100% | 0.7 LB. | 30 LB. |
| MARCH 1 TO AUG. 15 | WINTER WHEAT | 100% | 4.1 LB. | 180 LB. |
| AUG. 15 TO OCT. 15 | HAY OR STRAW MULCH | | | 3.0 TONS |
| OCT. 15 TO MARCH 1 | LIME AND FERTILIZER AND MULCH SPECIFICATIONS | | | |
| TEMPORARY SEEDING | | | | |
| - APPLY ONE TON OF LIME PER ACRE AND | | | | |
| - FERTILIZER 50-50-50 PER ACRE | | | | |
| - MULCH, HAY OR STRAW - 3 TONS PER ACRE | | | | |
| STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN. | | | | |
- A. FORMULA "B" - PRIMARILY KENTUCKY BLUEGRASS & CREEPING RED OR CHEWINGS FESCUE, SPREAD AT A SEEDING RATE OF 21 LB. PER 1000 SQ. YDS. SPREAD FORMULA "B" FROM MARCH 15 TO JUNE 1 OR FROM AUGUST 1 TO OCTOBER 15.
- B. FORMULA "C" - CROWNVEITCH AND ANNUAL RYEGRASS (40% - 55%) SPREAD AT A RATE OF 9.0 LB. PER 1000 SQ. YDS. ON ALL SLOPES 3:1 HORIZONTAL TO 1 VERTICAL OR STEEPER. SPREAD FORMULA "C" RYEGRASS PORTION FROM MARCH 1 TO OCTOBER 15 AND CROWNVEITCH PORTION ANYTIME EXCEPT SEPTEMBER AND OCTOBER.
- C. FORMULA "W"-MIXTURE OF TALL FESCUE, BIRDSFOOT TREFOIL, AND REDTOP, SPREAD AT A SEEDING RATE OF 10.5 LB. PER 1000 SQ. YDS. ON THE DETENTION POND. SPREAD THIS FORMULA FROM APRIL 1 TO JUNE 15 OR FROM AUGUST 16 TO SEPTEMBER 15.
- D. ALTERNATE SEED MIXES, BASED ON SECTION IV OF THE "PENN STATE AGRONOMY GUIDE", MAY BE USED ONLY IF APPROVED IN WRITING IN ADVANCE OF PLACEMENT.

Note:

SURVEY APPLICATIONS MUST INCLUDE A STRAW MULCH BINDER. AT A RATE OF 3.0 TONS PER ACRE.

Permanent Seeding

- IMMEDIATELY UPON FINAL GRADING OF ANY PHASE OR SECTION, TOPSOIL SHALL BE BROUGHT BACK OVER THE DISTURBED AREAS. ANY AREAS NOT TO BE PAVED OR BUILT UPON, THIS TOPSOIL SHALL BE SPREAD TO A SMOOTH FINISH GRADE WITH A MINIMUM DEPTH OF SIX (6) INCHES. THE TOPSOIL SHALL THEN BE:
- A. RAKED FREE OF STONES;
- B. LIMED AND FERTILIZED AS NECESSARY;
- C. PLANTED WITH GRASS OR OTHER SPECIFIED SEED;
- D. MULCHED OR MATTED TO PROTECT THE SEED FROM DRYNESS AND EROSION (STRAW OR HAY AT 1,240 LB. PER 1,000 SQ. YD.).

IT IS RECOMMENDED THAT THE CONTRACTOR TAKE SOIL SAMPLES TO ENSURE THE PROPOSED SEED MIXTURE WILL PROVIDE ADEQUATE COVER.

- PERMANENT SEEDING SHALL BE UNDERTAKEN IN ACCORDANCE WITH PENNDOT, FORM 408 SPECIFICATIONS AS FOLLOWS:
- A. PENNDOT FORMULA "B" (PRIMARILY KENTUCKY BLUEGRASS AND CREEPING RED OR CHEWING FESCUE) SPREAD AT A RATE OF 21 POUNDS PER 1,000 SQUARE YARDS, OR OTHER SEED MIX APPROVED FOR THE AREA. SPREAD FORMULA "B" FROM MARCH 15 TO JUNE 1, OR FROM AUGUST 1 TO OCTOBER 15.
- B. ALTERNATE SEED MIXES, BASED ON SECTION IV OF THE "PENN STATE AGRONOMY GUIDE", MAY BE USED ONLY IF APPROVED IN WRITING IN ADVANCE OF PLACEMENT BY THE PROJECT ENGINEER AND THE LOCAL COUNTY CONSERVATION DISTRICT.

Lime And Fertilizer Specifications

MULCHED AGR. LIMESTONE, 2,480 LBS. PER 1,000 S.Y. ANALYSIS COMMERCIAL 10-20-20, 210 LBS. PER 1,000 S.Y. ANALYSIS FERTILIZER 38-0-0-0, 50 LBS. PER 1,000 S.Y. BOWFERTILIZER 31-0-0-0, 100 LBS. PER 1,000 S.Y.

MULCH OR APPLY HAY AT 1,240 LBS. PER 1,000 S.Y. TO SEEDD AREAS TO PROTECT THE SEED FROM DRYNESS AND EROSION.

Location Of Measures And Facilities

THE REQUIRED LOCATIONS OF THE PERMANENT CONTROL MEASURES WILL BE DETERMINED BY THE ENGINEER DURING/AFTER CONSTRUCTION AND WILL BE INSTALLED TO STABILIZE THE PROJECT AS PART OF THE CONTRACTOR'S RESPONSIBILITY.

Dimensioned Details Of The Facilities

ALL ITEMS TO BE USED IN THIS PROJECT SHALL BE CONSTRUCTED TO PREVAILING STANDARDS. DETAILS OF SPECIAL EROSION CONTROL FACILITIES, I.E. THE FILTER FABRIC, INLET PROTECTION, ETC., ARE NOTED ON THE PROJECT PLANS.

102.5(b)(8) MAINTENANCE OF CONTROL FACILITIES

TABLE 11.1 Cubic Yards of Topsoil Required for Application to Various Depths			
Depth (in)	Per 1,000 Square Feet	Per Acre	
1	3.1	134	
2	6.2	268	
3	9.3	403	
4	12.4	537	
5	15.5	672	
6	18.6	806	
7	21.7	940	
8	24.8	1,074	

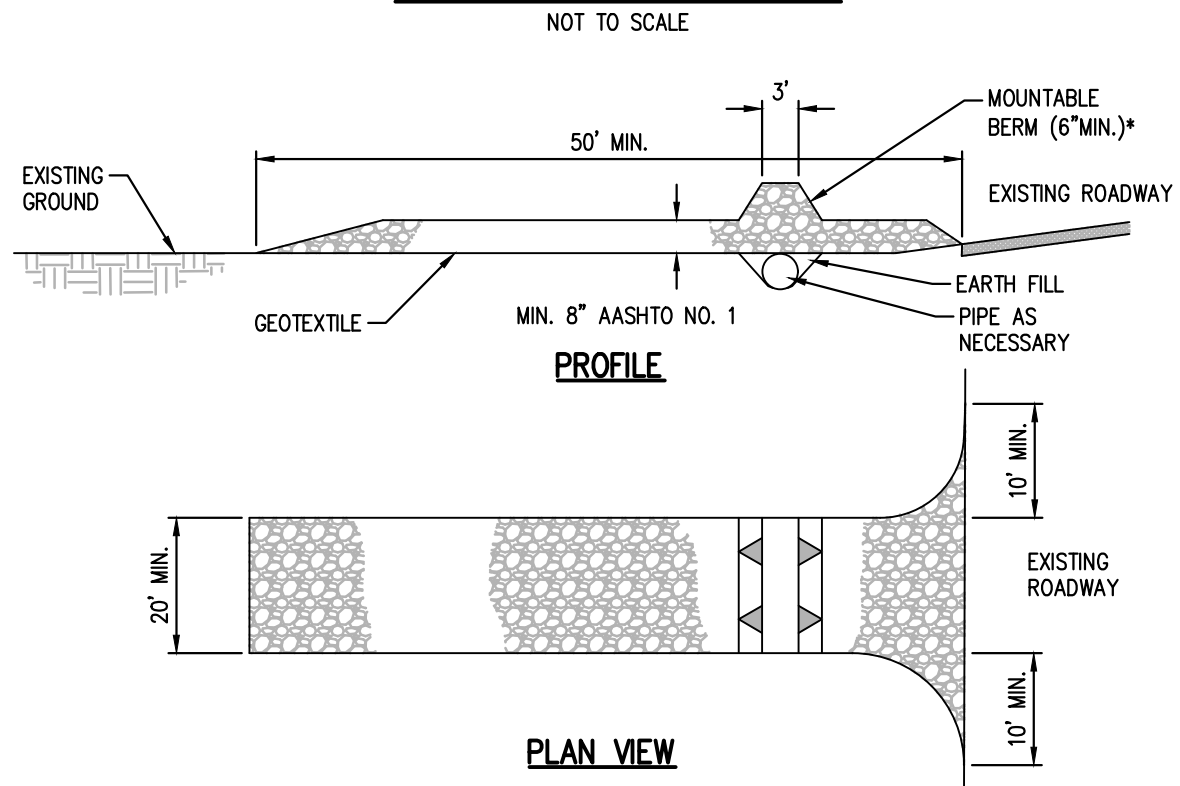
TABLE 11.2 Soil Amendment Application Rate Equivalents				
Soil Amendment	Permanent Seeding Application Rate			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Agricultural lime	6 tons	240 lb.	2,480 lb.	Or as per soil test, may not be required in agricultural fields
10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.	Or as per soil test, may not be required in agricultural fields
10-20-20	Temporary Seeding Application Rate			
Agricultural lime	1 ton	40 lb.	410 lb.	Typically not required for topsoil stockpiles
10-10-10 fertilizer	500 lb.	12.5 lb.	100 lb.	Typically not required for topsoil stockpiles

Adapted from Penn State, "Erosion Control and Conservation Plantings on Noncropland"

NOTE: A compost blanket which meets the standards of this chapter may be substituted for the soil amendments shown in Table 11.2.

TABLE 11.3 Plant Tolerances of Soil Limitation Factors									
Species	Growth habit	Wet Soil	Tolerates			Purity (%)	Minimum Seed Specifications ^a		
			Dry Soil	Low Fertility	Acid Soil (pH 5.5-5.9)		Hard Germ (%)	Total Germ (%)	Seeds/lb.
Warm-Season Grasses									
Deergrass	bunch	yes	yes	yes	yes	95	75	75	250
Weeping lovegrass	bunch	no	yes	yes	yes	97	75	75	1,500
Switchgrass	bunch	yes	yes	yes	yes	(60 PLS)	80	300	300
Big bluestem	bunch	no	yes	yes	yes	(60 PLS)	80	150	150
Cool-Season Grasses									
Timothy	bunch	yes	no	yes	no	95	80	80	227
Redtop	bunch	yes	yes	yes	yes	92	80	80	500
Fine fescue	sod	no	no	yes	no	95	80	80	400
Kentucky bluegrass	sod	no	no	yes	no	95	80	80	2,000
Annual ryegrass	bunch	yes	no	yes	no	95	85	85	227
Kentucky bluegrass	sod	no	no	yes	no	95	75	75	520
Reed canarygrass	sod	yes	yes	yes	no	95	75	75	520
Chlorgrass	bunch	yes	yes	yes	yes	95	80	80	400
Timothy	bunch	yes	no	yes	yes	95	80	80	1,300
Smooth bromegrass	sod	no	yes	yes	no	95	80	80	126
Legumes									
Crownvetch	bunch	yes	no	yes	yes	98	40	30	65
Birdfoot trefoil ^b	bunch	yes	no	yes	yes	98	20	20	20
Fescue	bunch	no	no	yes	yes	98	55	25	70
Medicago lupulina	bunch	no	no	yes	yes	98	60	20	80
Cereals									
Winter wheat	bunch	no	no	yes	yes	98	85	85	15
Barley	bunch	no	no	yes	yes	98	85	85	15
Spring oats	bunch	no	no	no	no	98	85	85	13
Winter rye	bunch	no	no	yes	yes	98	85	85	15
Japanese millet	bunch	yes	yes	yes	yes	98	80	80	155

Standard Construction Detail # 3-1 ROCK CONSTRUCTION ENTRANCE

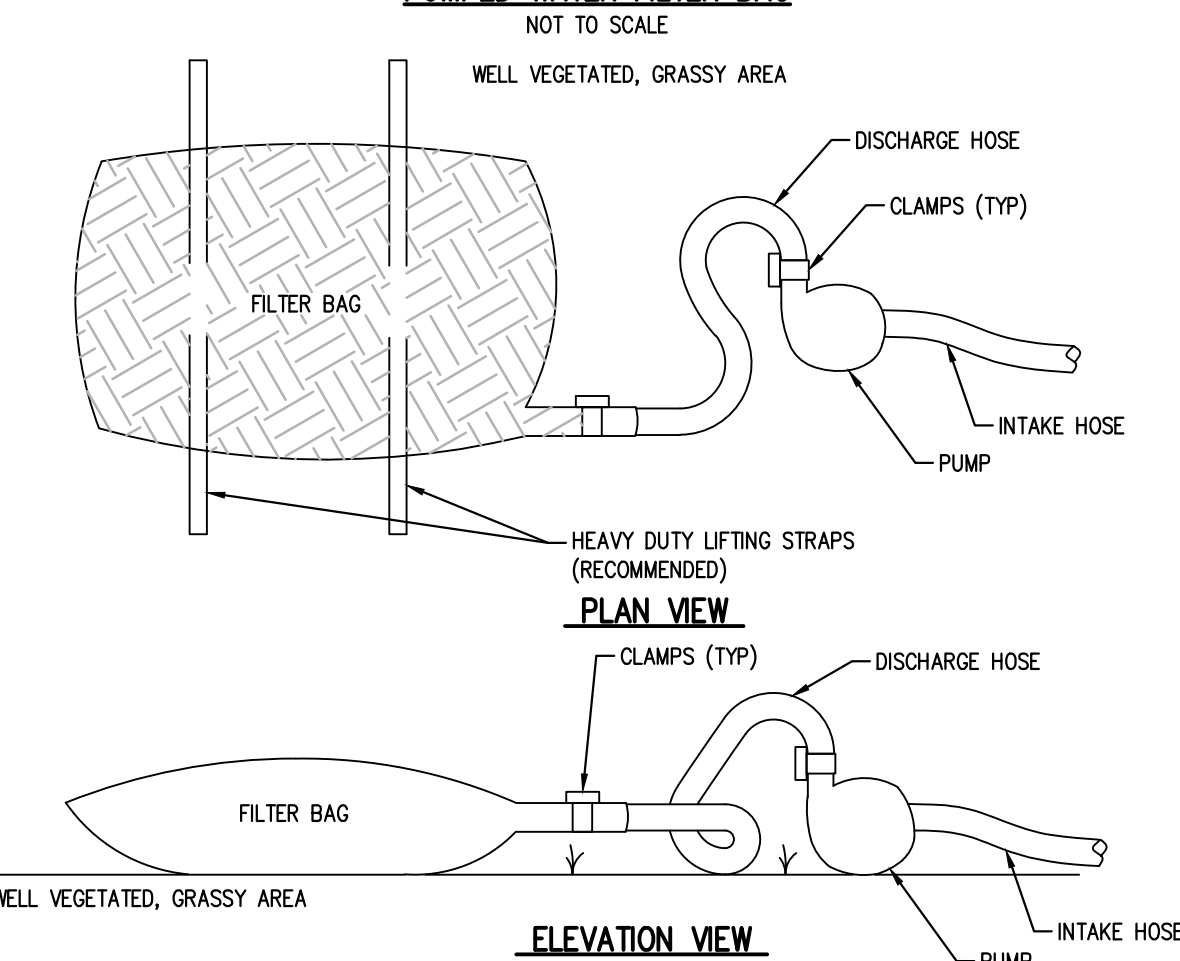


General Notes:

1. REMOVE TOPSOIL PRIOR TO INSTALLATION OF ROCK CONSTRUCTION ENTRANCE. EXTEND ROCK OVER FULL WIDTH OF ENTRANCE.
2. RUNOFF SHALL BE DIVERTED FROM ROADWAY TO A SUITABLE SEDIMENT REMOVAL BMP PRIOR TO ENTERING ROCK CONSTRUCTION ENTRANCE.
3. 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 ALLEVATED OR INSTALL WASH RACK. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.

Standard Construction Detail # 3-16 PUMPED WATER FILTER BAG

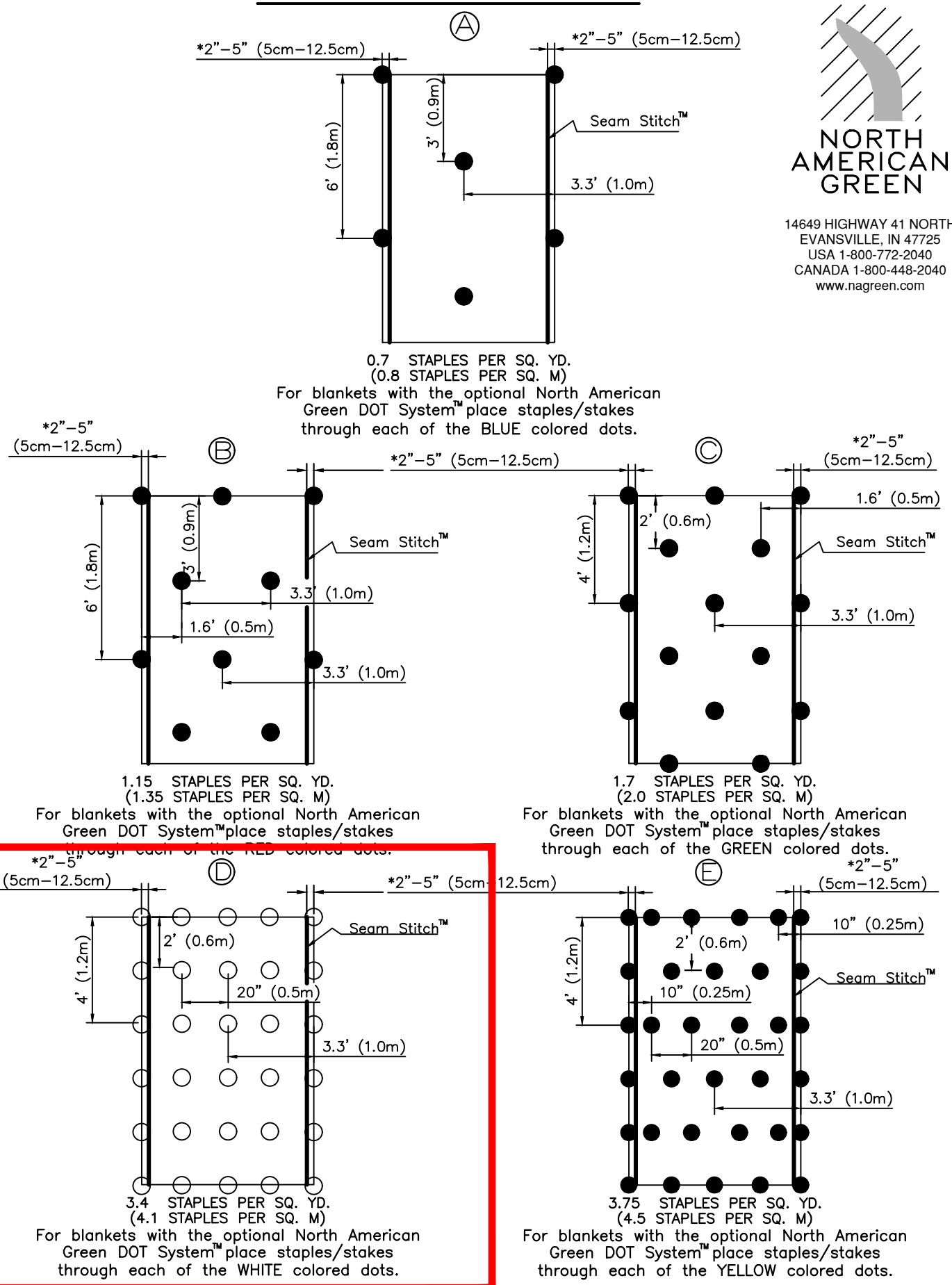


PROPERTY	TEST METHOD	MINIMUM STANDARD
AVG. WIDE WIDTH STRENGTH	ASTM D-4884	60 lb/in
GRAB TENSILE	ASTM D-4632	205 lb
PUNCTURE	ASTM D-4633	110 lb
MULLEN BURST	ASTM D-3786	350 psi
UV RESISTANCE	ASTM D-4355	70%
AOS % RETAINED	ASTM D-4751	80 Sieve

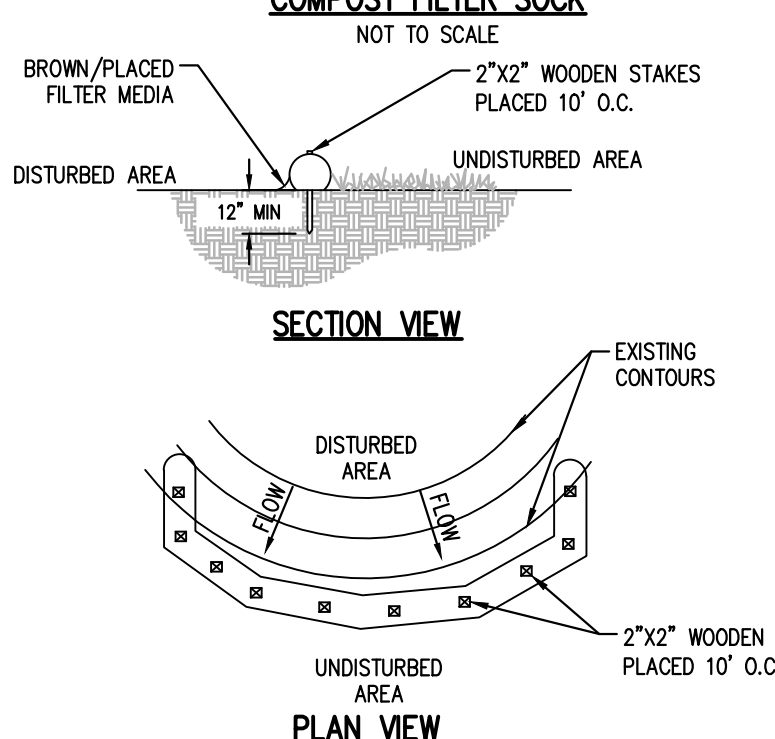
General Notes:

1. 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.
2. BAGS SHALL BE LOCATED IN WELL-VEGETATED (GRASSY) AREA, AND DISCHARGE ONTO STABLE, EROSION RESISTANT AREAS, WHERE THIS IS NOT POSSIBLE, A GEOTEXTILE UNDERLAMENT 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 SIX FOR SLOPES EXCEEDING SIX CLEAN ROCK OR OTHER NON-POSSIBLE AND NON-VEGETATING MATERIAL MAY BE PLACED UNDER TO REDUCE SLOPE STEEPNESS.
3. 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.
4. 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.
5. 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.
6. FILTER BAGS SHALL BE INSPECTED DAILY. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND NOT RESUME UNTIL THE PROBLEM IS CORRECTED.

Staple Pattern Guide



Standard Construction Detail # 4-1 COMPOST FILTER SOCK



SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (MAR. 2012). COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30% - 50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

General Notes:

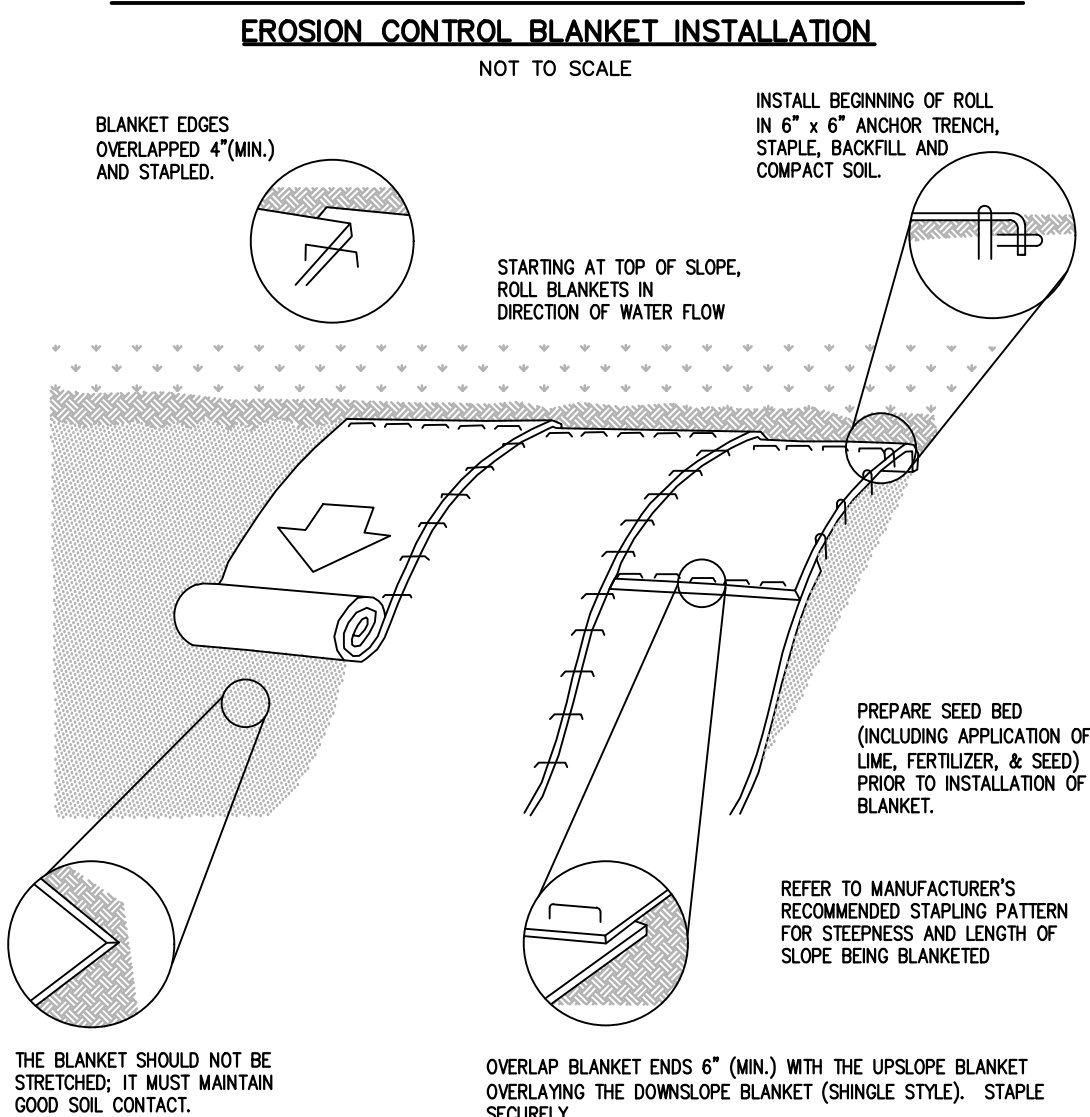
1. COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE SOCK SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN SOCK ALIGNMENT (SEE FIGURE 4.1 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL, MAR. 2012). MAXIMUM SLOPE LENGTH ABOVE ANY SOCK SHALL NOT EXCEED THAT SHOWN OF FIGURE 4.2 OF THE PA DEP EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (MAR. 2012). STAKES MAY BE INSTALLED IMMEDIATELY DOWNSLOPE OF THE SOCK IF SO SPECIFIED BY THE MANUFACTURER.
2. TRAFFIC SHALL NOT BE PERMITTED TO CROSS FILTER SOCKS.
3. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE T-4M.
4. SOCKS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. DAMAGED SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION.
5. BIODEGRADABLE FILTER SOCK SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
6. 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 SOCK FABRIC MINIMUM SPECIFICATIONS					
MATERIAL TYPE	3 mil HDPE	5 mil HDPE	5 mil HDPE	MULTI-FILAMENT POLYPROPYLENE (MPPF)	HEAVY DUTY POLYPROPYLENE (HMPFP)
MATERIAL CHARACTERISTICS	PHOTO DEGRADABLE	PHOTO DEGRADABLE	PHOTO DEGRADABLE	PHOTO DEGRADABLE	PHOTO DEGRADABLE
SOCK DIAMETERS	12" 18"	12" 18"	12" 18"	12" 18"	12" 18"
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH	26 psi	26 psi	26 psi	44 psi	202 psi
ULTRAVIOLET STABILITY & ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.	23% AT 1000 HR.	100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS

TWO-PLY SYSTEMS	
INNER CONTAINMENT NETTING	HDPE BIAXIAL NET CONTINUOUSLY WOUND
OUTER FILTRATION MESH	FUSION-WELD JUNCTURES
	3/4" x 3/4" MAX. APERTURE SIZE
	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER & NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)
	3/16" MAX. APERTURE SIZE

TABLE 4.2 COMPOST STANDARDS	
ORGANIC MATTER CONTENT	25% - 100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5 - 8.5
MOISTURE CONTENT	30% - 60%
PARTICLE SIZE	30% - 50% PASS THROUGH 3/8" SIEVE
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

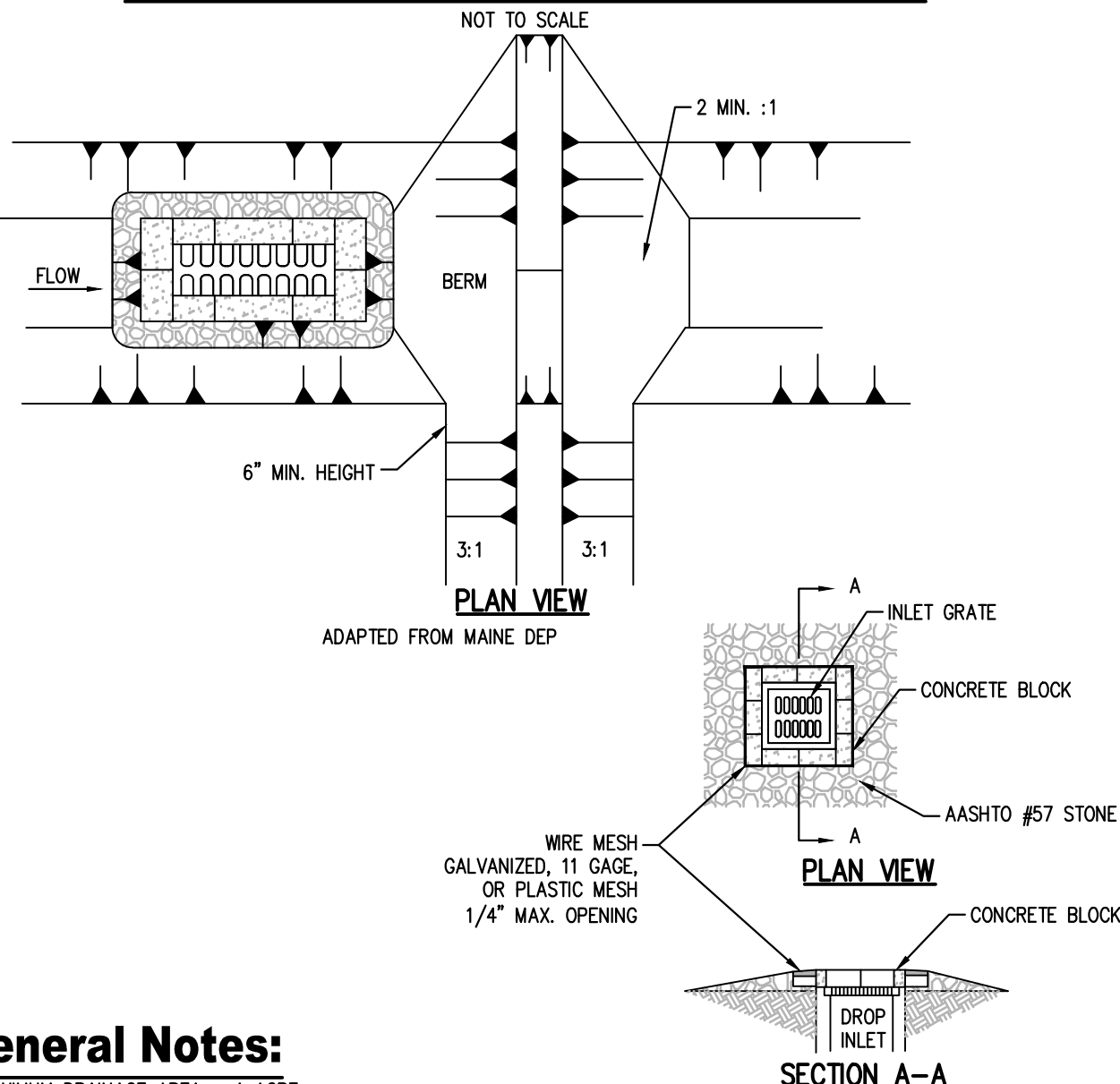
STANDARD CONSTRUCTION DETAIL # 11-1 EROSION CONTROL BLANKET INSTALLATION



General Notes:

1. SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
2. PROVIDE ANCHOR TRENCH AT TOP OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
3. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLOS, STICKS, AND GRASS.
4. BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
5. THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
6. BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

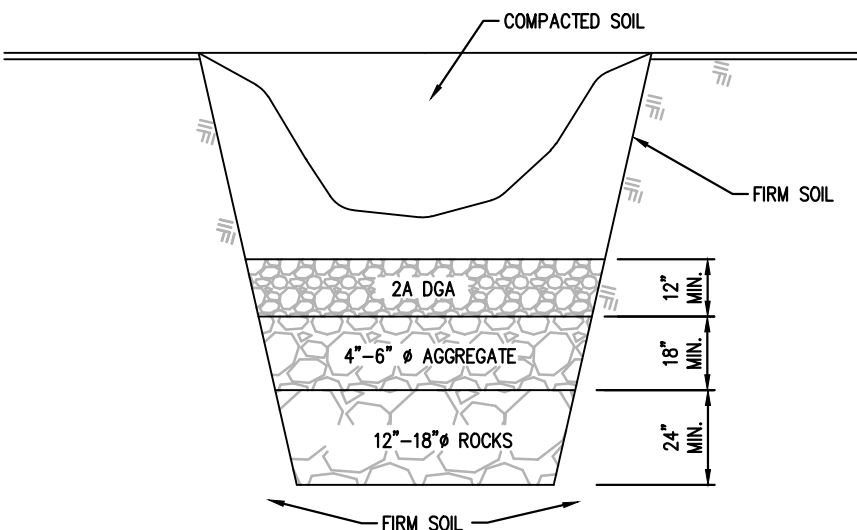
Standard Construction Detail # 4-18 STONE AND CONCRETE BLOCK INLET PROTECTION-TYPE M INLET



General Notes:

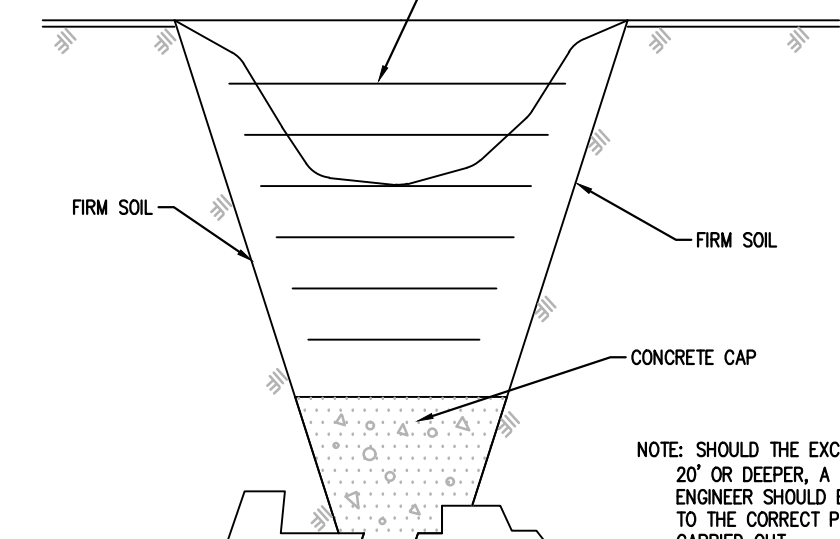
1. MAXIMUM DRAINAGE AREA = 1 ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT A LOW POINT.
3. ROLLED EARTHEN BERM IN ROADWAY SHALL BE PROVIDED AND MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.
4. TOP OF BLOCK SHALL BE AT LEAST 6 INCHES BELOW ADJACENT ROADS IF PONDED WATER WOULD POSE A SAFETY HAZARD TO TRAFFIC.
5. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE, DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
6. FOR SYSTEMS DISCHARGING TO AN HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5-8.0
MOISTURE CONTENT	35%-55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM



Sinkhole In Soil

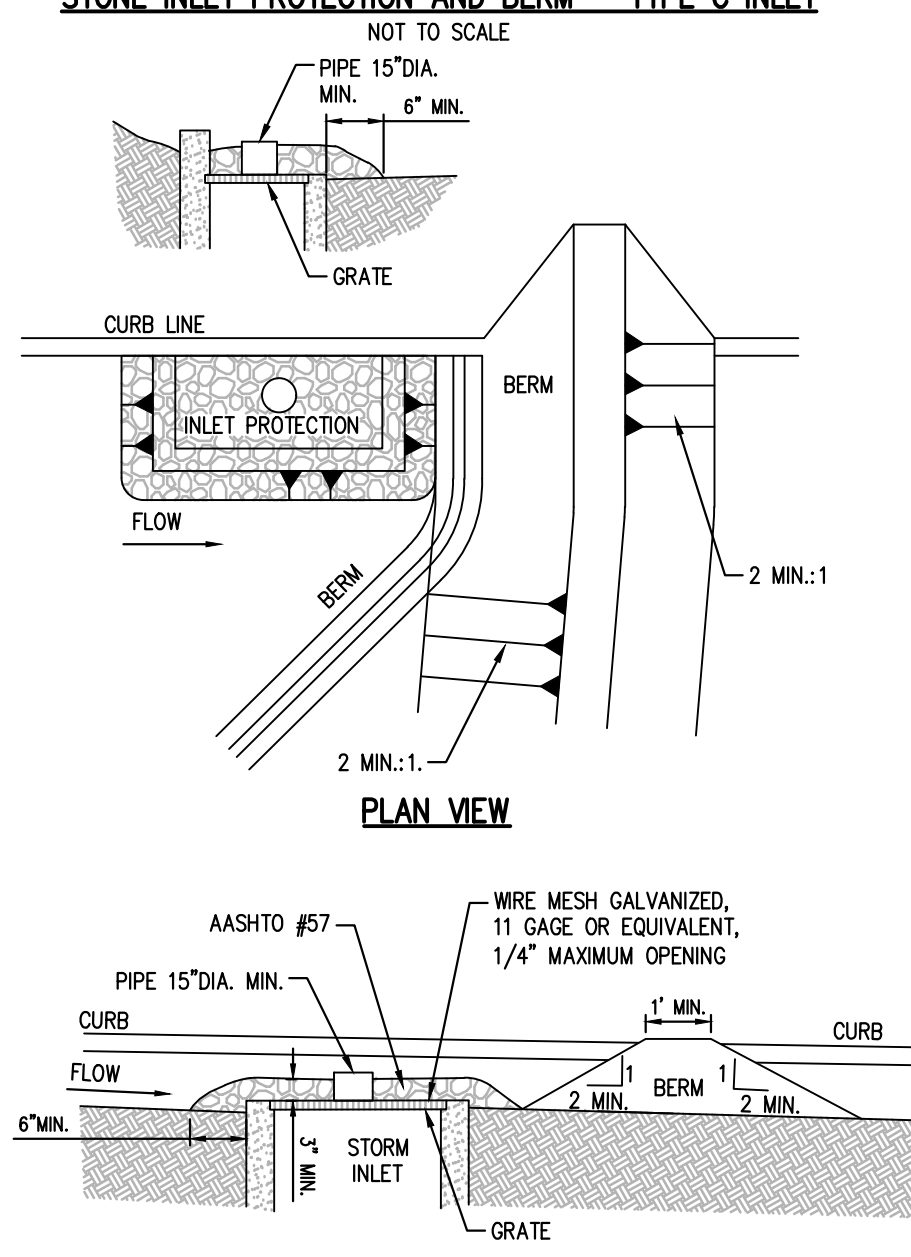
1. THE REPAIR TECHNIQUES AS DESCRIBED BELOW ARE SUITABLE ONLY IF THE SINKHOLE IS LOCATED IN AN OPEN AREA. IF THE SINKHOLE IS LOCATED UNDER OR NEAR A STRUCTURE OR A BUILDING, COMPACTION GROUTING MAY BE NECESSARY FOR REMEDIATION, AS DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA.
2. EXCAVATE DOWN TO ROCK TO SINKHOLE THROAT OR TO A DEPTH OF 15 FEET BELOW GRADE, WHICHEVER OCCURS FIRST.
3. IF ROCK IS ENCOUNTERED WITHIN 10 FEET, STOP EXCAVATION. THE LIMIT OF EXCAVATION SHALL BE DETERMINED BY THE GEOTECHNICAL ENGINEER. GENERALLY, A ZONE OF SOFT, IN-FILL MATERIAL WILL BE FOUND WHICH COVERS MOST OF THE BOTTOM OF THE EXCAVATION. COVER THIS AREA WITH A GRADED ROCK FILTER AS SHOWN ABOVE.
4. BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER TO AT LEAST 90% OF THE STANDARD PROCTOR.
5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.



Sinkhole In Rock

1. THE REPAIR TECHNIQUES AS DESCRIBED BELOW ARE SUITABLE ONLY IF THE SINKHOLE IS LOCATED IN AN OPEN AREA. IF THE SINKHOLE IS LOCATED UNDER OR NEAR A STRUCTURE OR A BUILDING, COMPACTION GROUTING MAY BE NECESSARY FOR REMEDIATION, AS DETERMINED BY A GEOTECHNICAL ENGINEER LICENSED IN THE COMMONWEALTH OF PENNSYLVANIA.
2. EXCAVATE DOWN TO BEDROCK OR TO THE SINKHOLE THROAT.
3. EXPOSE THE ROCK SURFACE BY WASHING THE AREA WITH A SMALL HOSE WATER SPRAY AND INSTALL WORKMAN CEMENT INTO VOIDS AND CRACKS UNTIL VOIDS ARE FILLED AND A CAP COVERS THE AREA. THE LIMIT OF EXCAVATION AND CONCRETE SHALL BE DETERMINED BY THE ENGINEER.
4. AFTER CONCRETE HAS SET OVERNIGHT, BACKFILL HOLE WITH RELATIVELY IMPERMEABLE CLAY SOIL. COMPACT SOIL IN 6" LIFTS WITH A POWER TAMPER OR RAMMER TO AT LEAST 90% OF THE STANDARD PROCTOR. TOP THREE(3) FEET SHALL BE BACKFILLED WITH 2RC CRUSHED AGGREGATE.
5. BACKFILL HOLE ABOVE EXISTING GRADE TO DIVERT SURFACE WATER.
6. WHEN SINKHOLE IS UNDER A PROPOSED UTILITY, CONCRETE IS TO BE SET 6" BELOW THE UTILITY TO ALLOW FOR A STONE BEDDING.

Standard Construction Detail # 4-19 STONE INLET PROTECTION AND BERM - TYPE C INLET

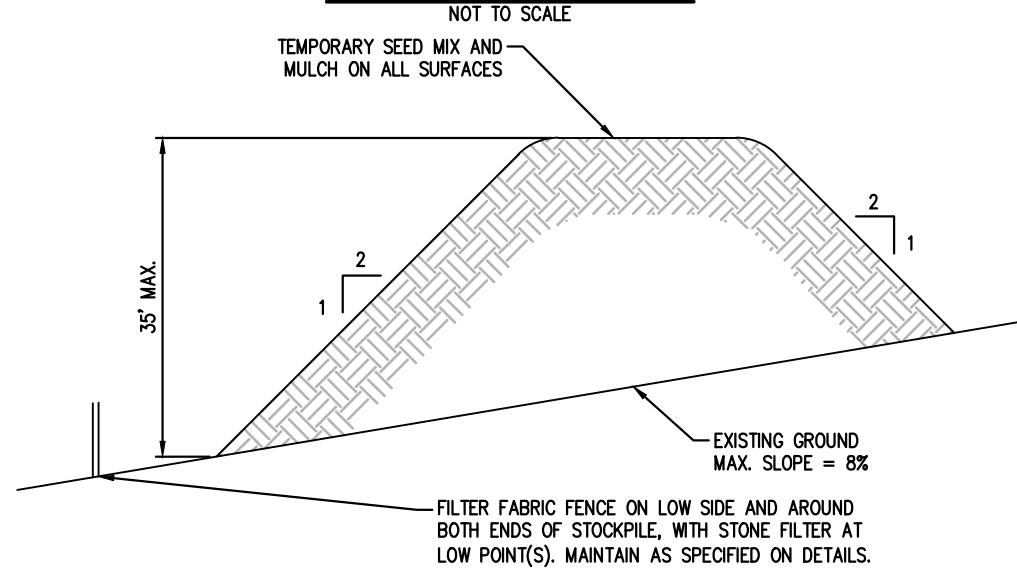


General Notes:

1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
2. ROLLED EARTHEN BERM SHALL BE MAINTAINED IMMEDIATELY DOWN GRADIENT OF THE PROTECTED INLET UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.
3. STONE INLET PROTECTION AND BERM FOR A TYPE C INLET CAN BE USED IN ONE ACRE MAXIMUM DRAINAGE AREA WITH 15" OVERFLOW PIPE AND 4" HEAD. A PERFORATED PLATE WELDED TO THE RISER MAY NOT BE SUBSTITUTED FOR THE WIRE MESH. A SLOTTED PLATE WELDED TO THE RISER MAY BE USED IN CONJUNCTION WITH THE WIRE MESH IF CALCULATIONS ARE PROVIDED TO SHOW SUFFICIENT CAPACITY OF THE INLET TO ACCEPT THE PEAK RUNOFF FOR A 2-YEAR STORM EVENT FROM THE TRIBUTARY DRAINAGE AREA.
4. SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED OR CLOGGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED IMMEDIATELY.
5. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.
6. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6" THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5-8.0
MOISTURE CONTENT	35%-55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

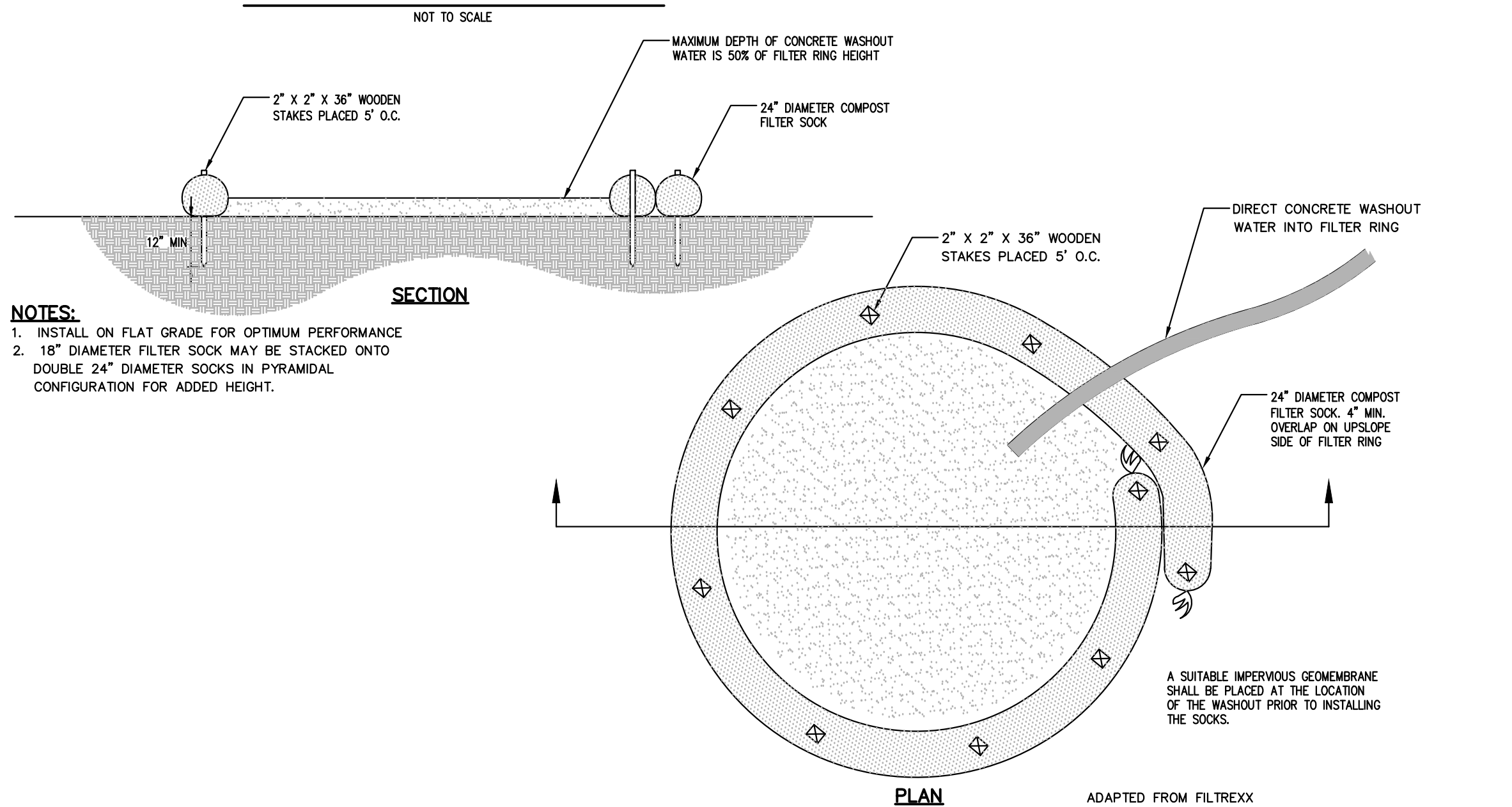
Topsoil Stockpile



General Notes:

1. STOCKPILE TOPSOIL OR EXCAVATED SOIL MATERIAL AT LOCATIONS SHOWN FOR EACH PHASE OF CONSTRUCTION.
2. HEIGHT AND SIDE SLOPES SHALL NOT EXCEED MAXIMUM VALUES SHOWN ON DETAIL.
3. INITIAL FILTER FENCE PRIOR TO STOCKPILING OF MATERIAL. REPLACE ANY FENCE REMOVED FOR VEHICULAR ACCESS AFTER EACH WORK DAY.
4. APPLY A TEMPORARY SEED MIX AND MULCH WHEN PILE WILL REMAIN FOR 30 DAYS OR MORE.

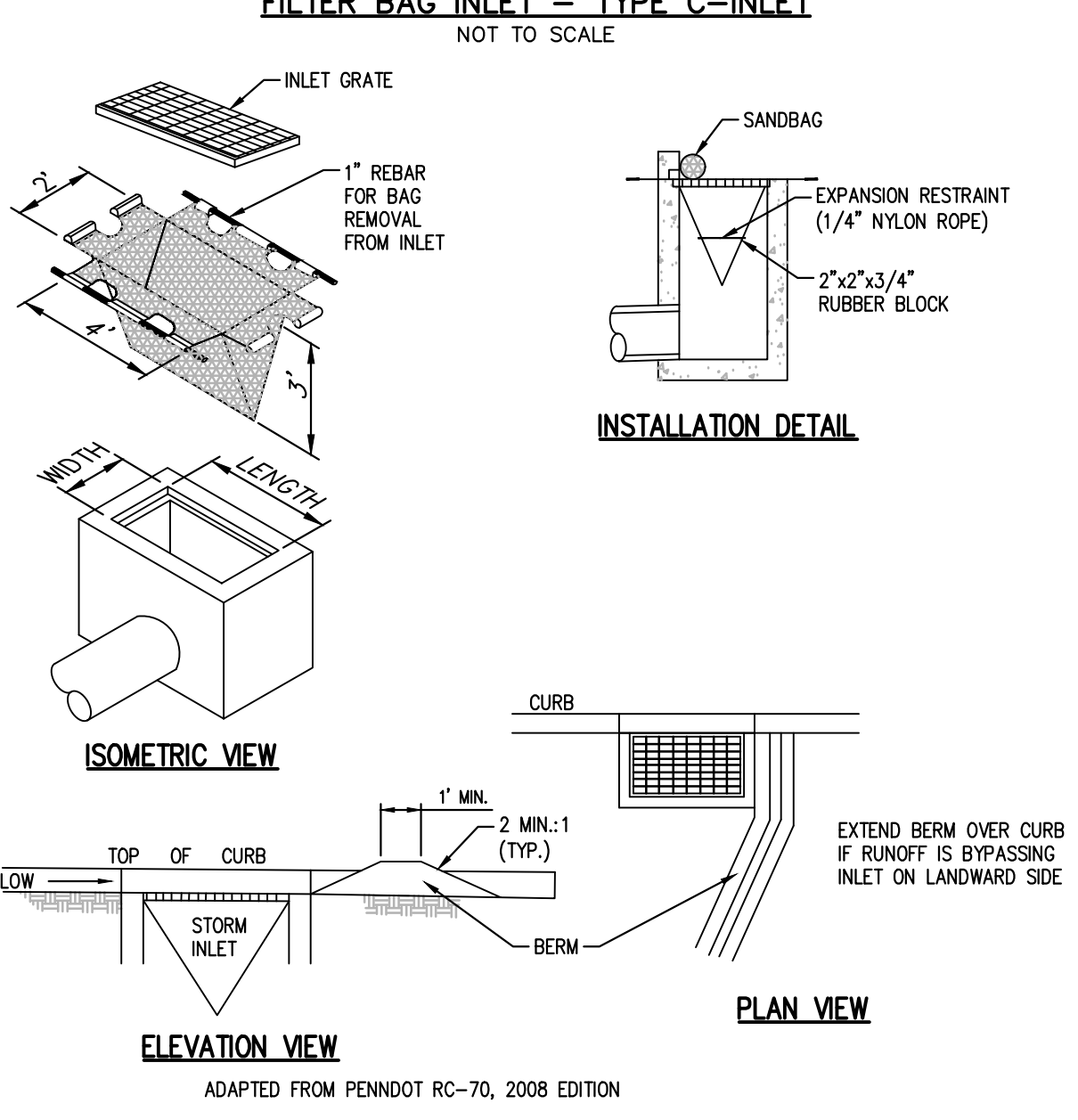
Typical Compost Sock Concrete Washout Detail



NOTES:

1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.

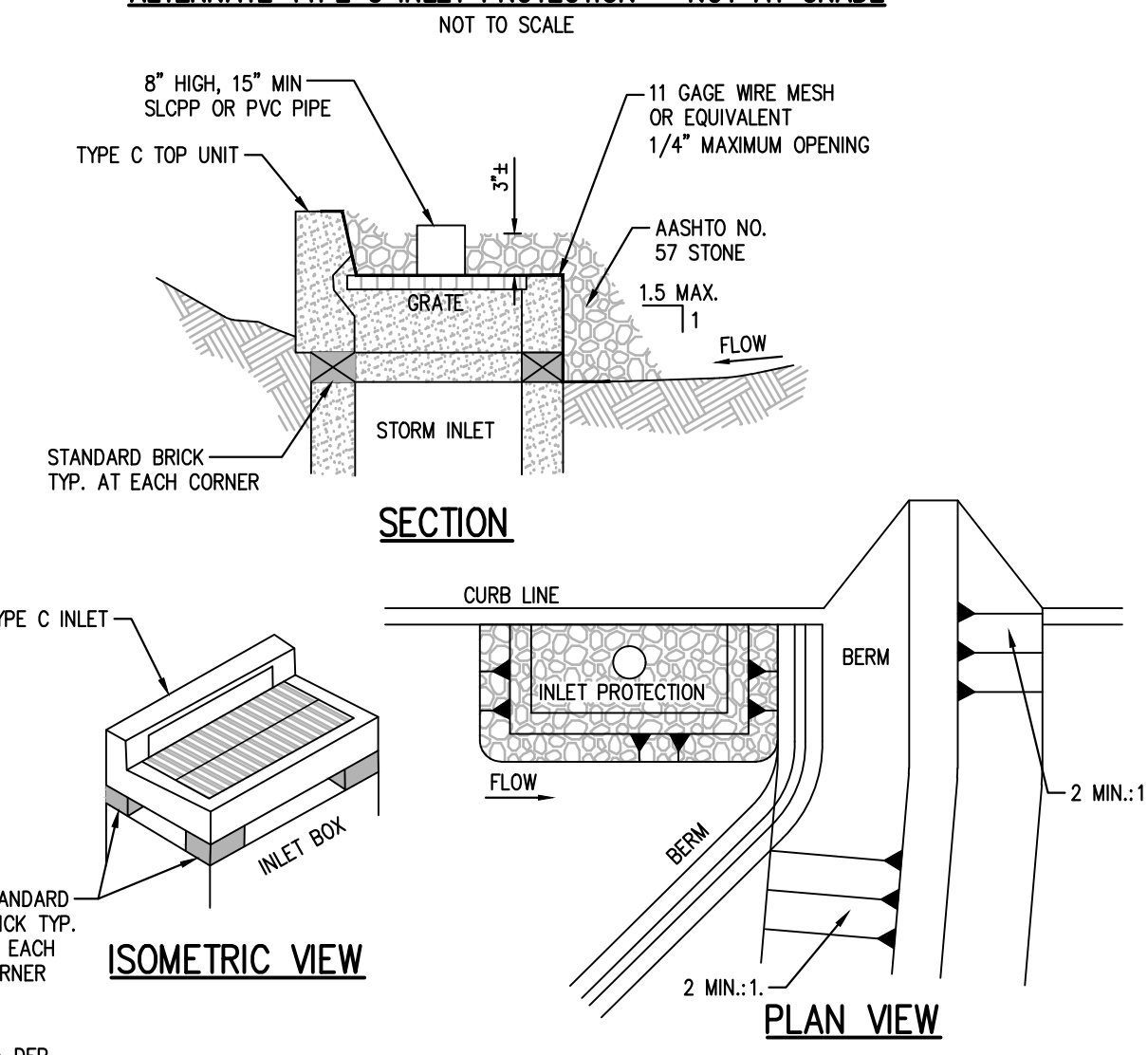
STANDARD CONSTRUCTION DETAIL # 4-15 FILTER BAG INLET - TYPE C-INLET



GENERAL NOTES:

1. MAXIMUM DRAINAGE AREA = 1/2 ACRE.
2. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.
3. ROLLED EARTHEN BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR TO REMAIN PERMANENTLY.
4. AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM GRAB TENSILE STRENGTH OF 120 LBS., A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM THEORETICAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.
5. INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPLOYED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. EXPOSED ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.
6. DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

Standard Construction Detail # 4-22 ALTERNATE TYPE C INLET PROTECTION - NOT AT GRADE



General Notes:

1. INLET PROTECTION SHALL NOT BE REQUIRED FOR INLETS TRIBUTARY TO SEDIMENT BASINS OR SEDIMENT TRAPS. ALTERNATE TYPE C INLET PROTECTION CAN BE USED ON ONE ACRE MAXIMUM DRAINAGE AREA WITH 15" OVERFLOW PIPE AND 4" HEAD.
2. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS NOT LOCATED AT LOW POINTS. EARTHEN BERMS SHALL BE STABILIZED WITH VEGETATION AND MAINTAINED UNTIL ROADWAY IS STONED OR TRIBUTARY AREA IS PERMANENTLY VEGETATED. ROAD SUBBASE BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED.
3. INLETS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE HEIGHT OF THE STONE. DAMAGED INSTALLATIONS SHALL BE REPAIRED OR REPLACED WITHIN 24 HOURS OF INSPECTION.
4. FOR SYSTEMS DISCHARGING TO HQ OR EV SURFACE WATER, A 6 INCH THICK COMPOST LAYER SHALL BE SECURELY ANCHORED ON OUTSIDE AND OVER TOP OF STONE. COMPOST SHALL MEET THE FOLLOWING STANDARDS:

ORGANIC MATTER CONTENT	80%-100% (DRY WEIGHT BASIS)
ORGANIC PORTION	FIBROUS AND ELONGATED
pH	5.5-8.0
MOISTURE CONTENT	35%-55%
PARTICLE SIZE	98% PASS THROUGH 1" SCREEN
SOLUBLE SALT CONCENTRATION	5.0 dS/m (mmhos/cm) MAXIMUM

PRELIMINARY/FINAL LAND DEVELOPMENT

EROSION & SEDIMENTATION CONTROL DETAILS
LOT 8 - LVP VI - 1550 SPILLMAN DRIVE

CITY OF BETHLEHEM
NORTHAMPTON COUNTY
PENNSYLVANIA

Bethlehem Office
252 Brodhead Road, Suite 100
Bethlehem, PA 18017-9814

252 Brodhead Road, Suite 100
Bethlehem, PA 18017-9814

252 Brodhead Road, Suite 100
Bethlehem, PA 18017-9814

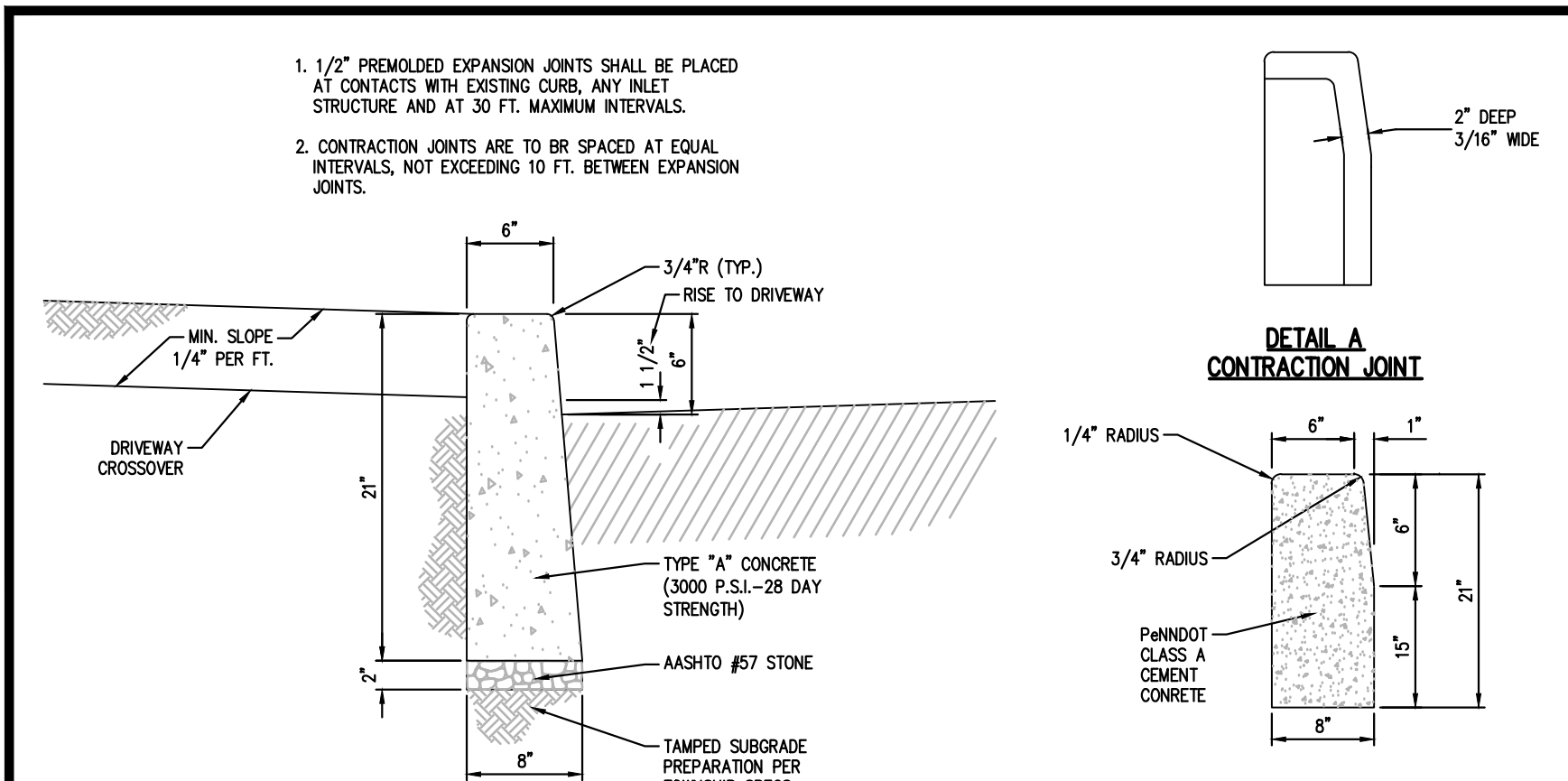
252 Brodhead Road, Suite 100
Bethlehem, PA 18017-9814

252 Brodhead Road, Suite 100
Bethlehem, PA 18017-9814

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Bethlehem, PA 18017-9814

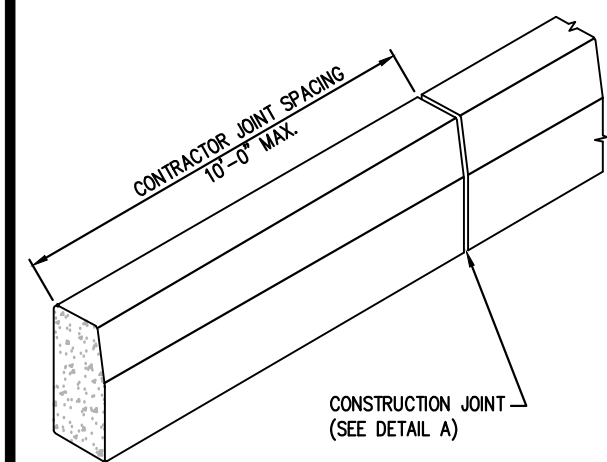


Upright Curb Detail

Typical Curb Taper Detail

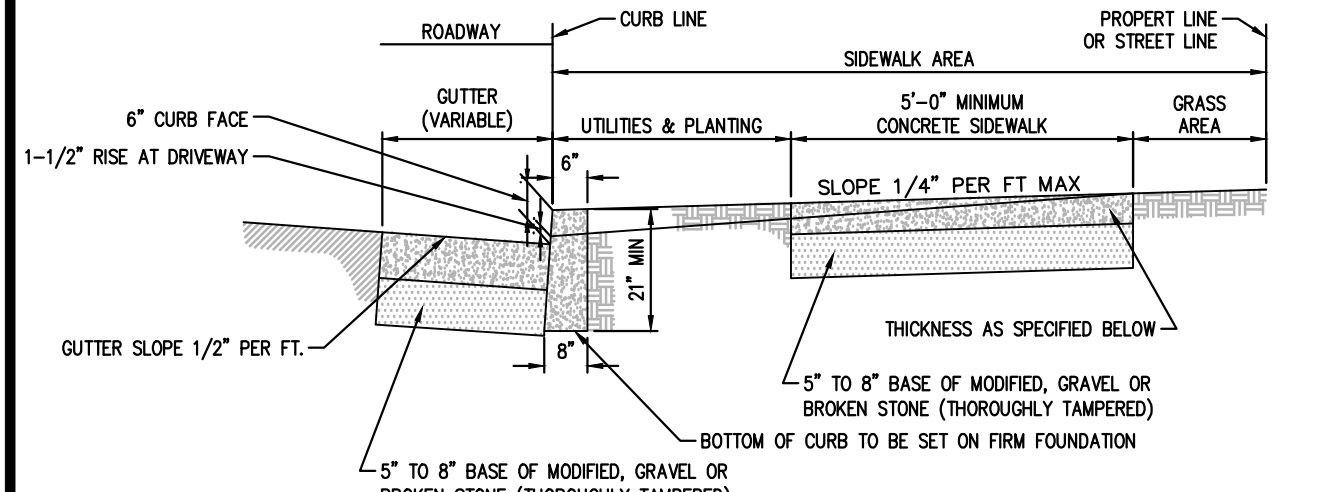
Notes:

- 1. MATERIALS AND CONSTRUCTION SHALL MEET THE REQUIREMENTS OF PUBLICATION 406, SECTION 630.
- 2. SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
- 3. PLACE 3/4" PREMOULDED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF THE WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.



Concrete Curb

Typical Curb Taper Detail



General Requirements:

ONE COURSE (MONOLITHIC) CONSTRUCTION FOR ALL CURB, GUTTER AND SIDEWALK CONCRETE MAX TO BE CLASS A CONCRETE 3300 PSI 6 BAG MIX - 5.6 GAL. WATER PER BAG THROUGHOUT; USE POWER BATCH MIXED, NO SLAG.

CURB: 21" MINIMUM DEPTH WITH APPROVED FINISH ON TOP AND EXPOSE FACE.

GUTTER: 6" DEPTH - SLOPE OF GUTTER 1/2" RISE PER FOOT AWAY FROM CURB.

SIDEWALK: THICKNESS - RESIDENTIAL AREA - 5", BUSINESS AND INDUSTRIAL AREAS - 6" AT RESIDENTIAL DRIVEWAYS - 6", AT BUSINESS AND INDUSTRIAL DRIVEWAYS - 6" FINISH - USE WOOD FLOAT TO PRODUCE SMOOTH RESISTANCE SURFACE. CHANGES OF 2K OR MORE PRODUCE A ROUGHER FINISH.

SLOPE: WALK AND PARKWAY AREAS 1/4" PER FOOT (2%) TOWARD CURB.

EXPANSION AND CONTRACTION JOINTS: SEE CITY CONSTRUCTION STANDARD NO. 14.

HANDICAP RAMP: REQUIRED ON ALL RAMP IN ACCORDANCE WITH CURRENT ADA REQUIREMENTS.

DRIVEWAYS: SEE CITY STANDARD DRIVEWAY ENTRANCE AND APRON SKECH.

EXPANSION IN CARTRAY: WHEN EXCAVATING IN THE CARTRAY OF THE CITY STREET, A CLEAN, FULL DEPTH CUT-BY JACK HAMMERING OR SAWCUTTING-SHALL BE MADE IN THE STREET BETWEEN THE AFFECTED AND THE UNAFFECTED WORK AREAS. FURTHER, FINAL RESTORATION IN THE AFFECTED AREA OF THE STREET SHALL CONSIST OF CREATING A NEW GLEAM CUT BY SAWCUTTING 12" BEYOND THE EDGE OF ANY AFFECTED WORK AREAS, INSTALLING WITH PENNDOT 2A MOISTURE STONE, AND PROPERLY COMPACTING THIS STONE TO THE ELEVATION OF THE TOP OF THE SUBBASE (I.E. BOTTOM OF THE BASE COURSE OF WADICAM), BUT NO HIGHER THAN 3-INCHES BELOW THE FINISH GRADE-EXCEPT AS REQUIRED TO PROVIDE REASONABLE TEMPORARY ACCESS AT DRIVEWAYS.

Ordinance Requirements:

WARRANT OF SURVEY - PROCURED FROM THE CITY ENGINEER'S OFFICE, PROVIDES FOR ESTABLISHING LINE & GRADES STAKES TO BE PROTECTED BY APPLICANT AND USED WITHIN 30 DAYS.

EXCAVATION PERMIT - PROCURED FROM THE CITY ENGINEER'S OFFICE, FOR SIDEWALK AND DRIVEWAY CONSTRUCTION.

DETAIL REQUIREMENTS: FOR FURTHER DETAILS AND OTHER REQUIREMENTS SEE THE FOLLOWING DOCUMENTS ON FILE IN THE OFFICE OF THE CITY ENGINEER.

"STANDARD SPECIFICATIONS FOR THE CONSTRUCTION OF CONCRETE CURB, GUTTER AND SIDEWALK" CREDITED ORDINANCES OF THE CITY OF BETHLEHEM, ARTICLES 303 AND 304.

NOTE: WHENEVER A CURB, GUTTER AND/OR SIDEWALK IS LOCATED IN THE HISTORIC DISTRICT, SPECIAL REQUIREMENTS MAY APPLY.

* CHANGES TO DIMENSIONAL REQUIREMENTS MAY BE CONSIDERED IN CASES WHERE OBSTRUCTIONS OR ENCROACHMENTS EXIST. ANY EXCEPTIONS MUST BE APPROVED BY THE CITY ENGINEER. CURRENT ADA REQUIREMENTS MUST BE IN ALL CASES.

CITY OF BETHLEHEM, PA. BUREAU OF ENGINEERING Construction Standard No. 1

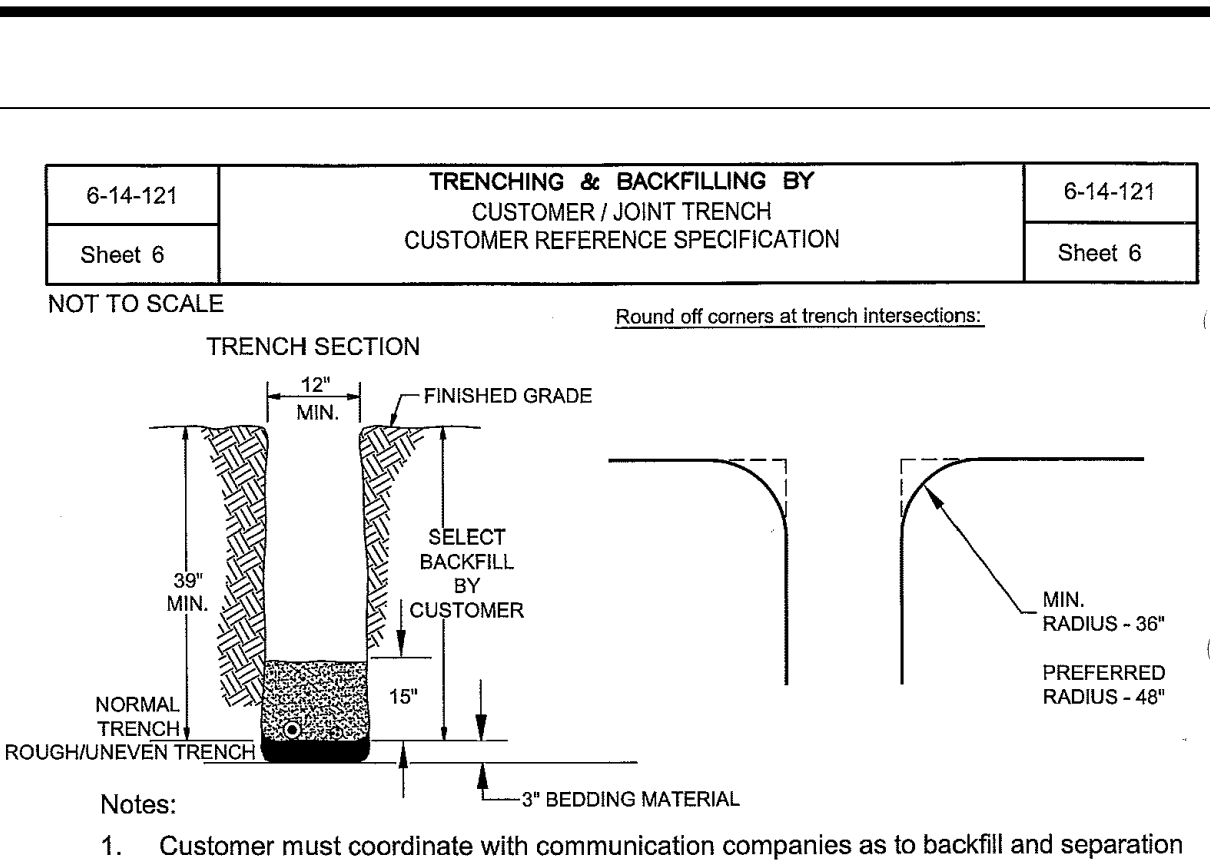
NOT TO SCALE

FOR CONCRETE CURB, GUTTER AND SIDEWALK

FEBRUARY 7, 2001

REVISED JUNE 4, 2013

(WITHIN CITY R.O.W.)

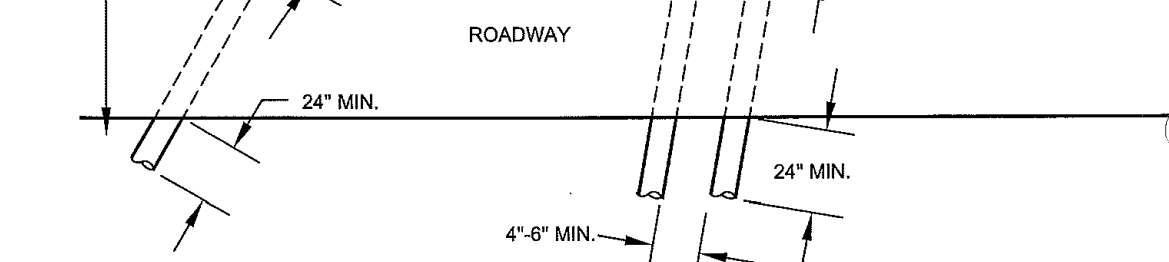


TRENCH SECTION

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.



ROAD CROSSINGS

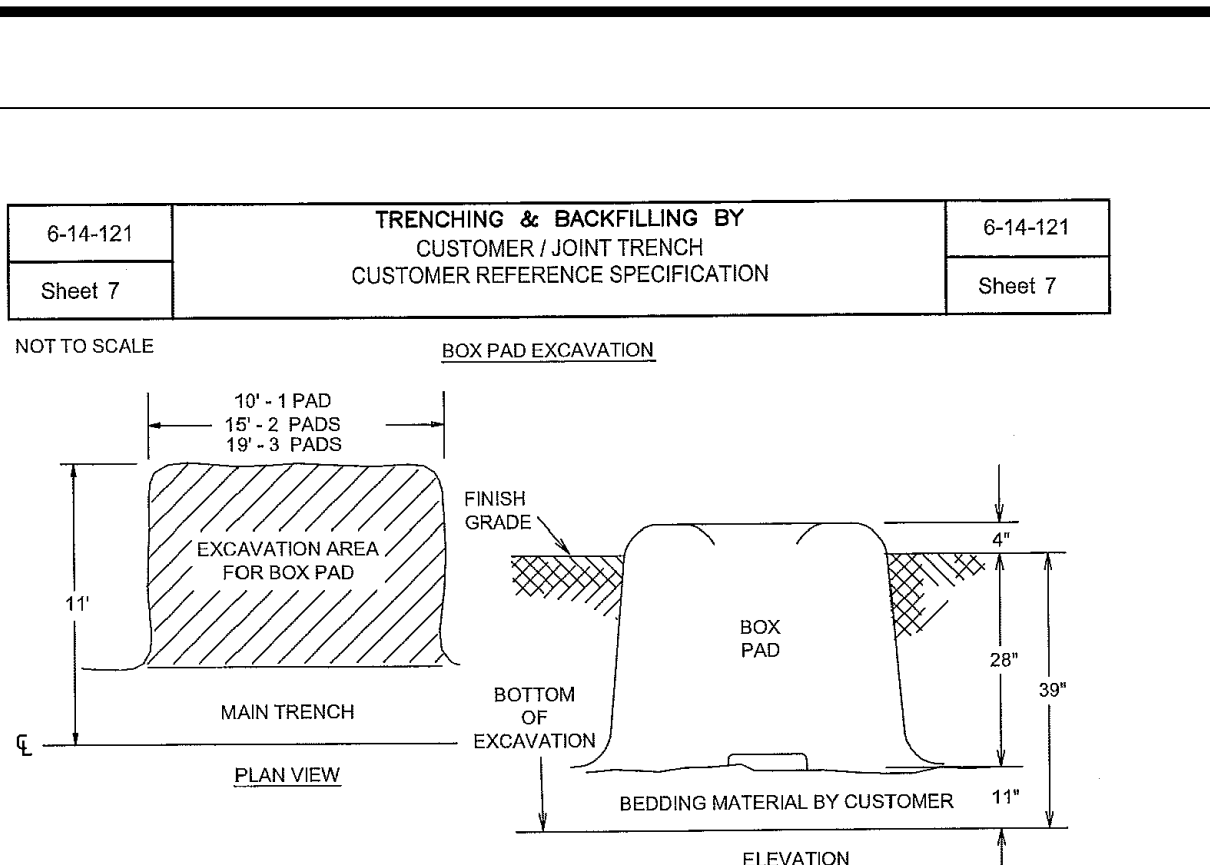
NOT TO SCALE

Notes:

- 1. PPL EUL provides 4 inch and/or 6 inch PVC conduit and end plugs. Customer installs, cleans, and seals conduit.
- 2. Install conduit(s) at the bottom of a 39 inch deep trench.

DISTRIBUTION CONSTRUCTION SPECIFICATIONS PPL ELECTRIC UTILITIES CORPORATION

PPL TRENCHING AND BACKFILLING (LATEST VERSION)

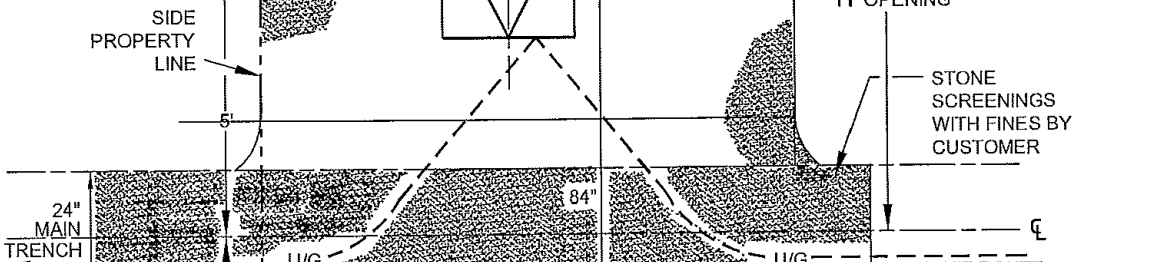


TRENCH SECTION

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.



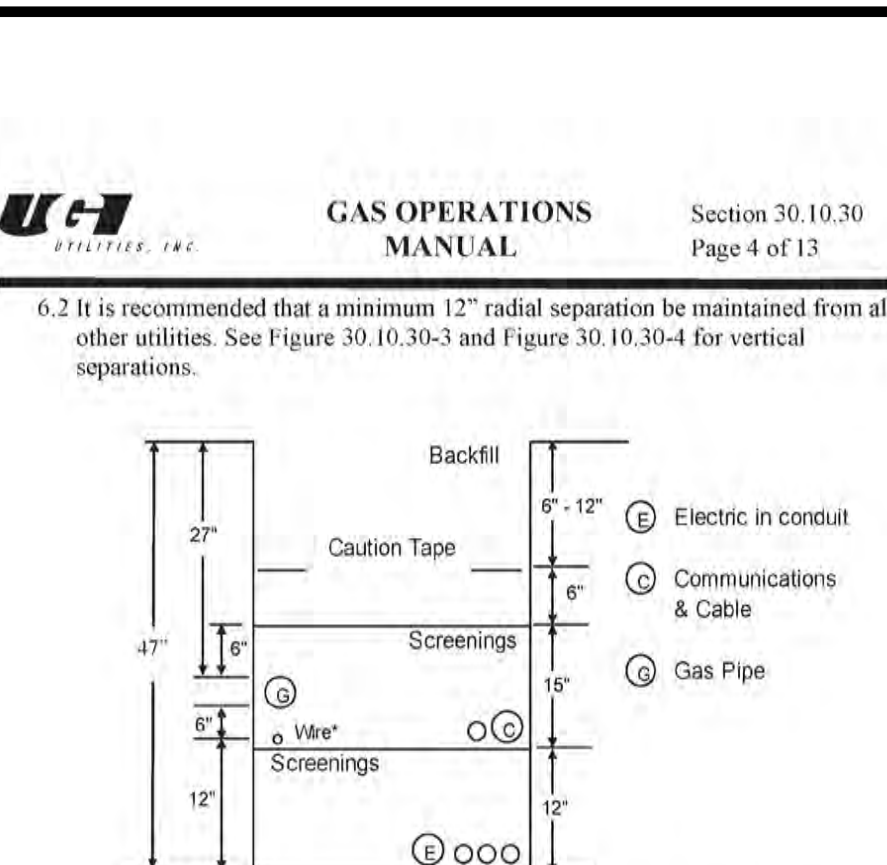
ROAD CROSSINGS

NOT TO SCALE

Notes:

- 1. PPL EUL provides 4 inch and/or 6 inch PVC conduit and end plugs. Customer installs, cleans, and seals conduit.
- 2. Install conduit(s) at the bottom of a 39 inch deep trench.

DISTRIBUTION CONSTRUCTION SPECIFICATIONS PPL ELECTRIC UTILITIES CORPORATION

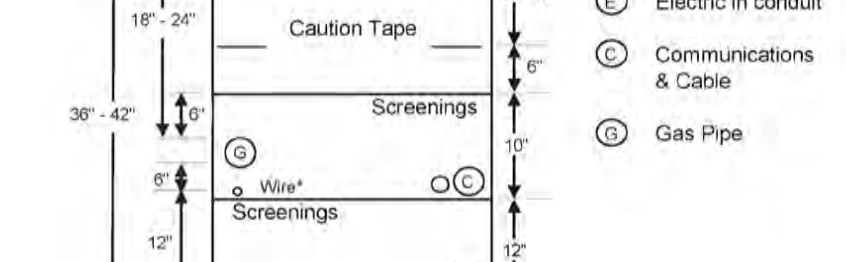


GAS OPERATIONS

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.



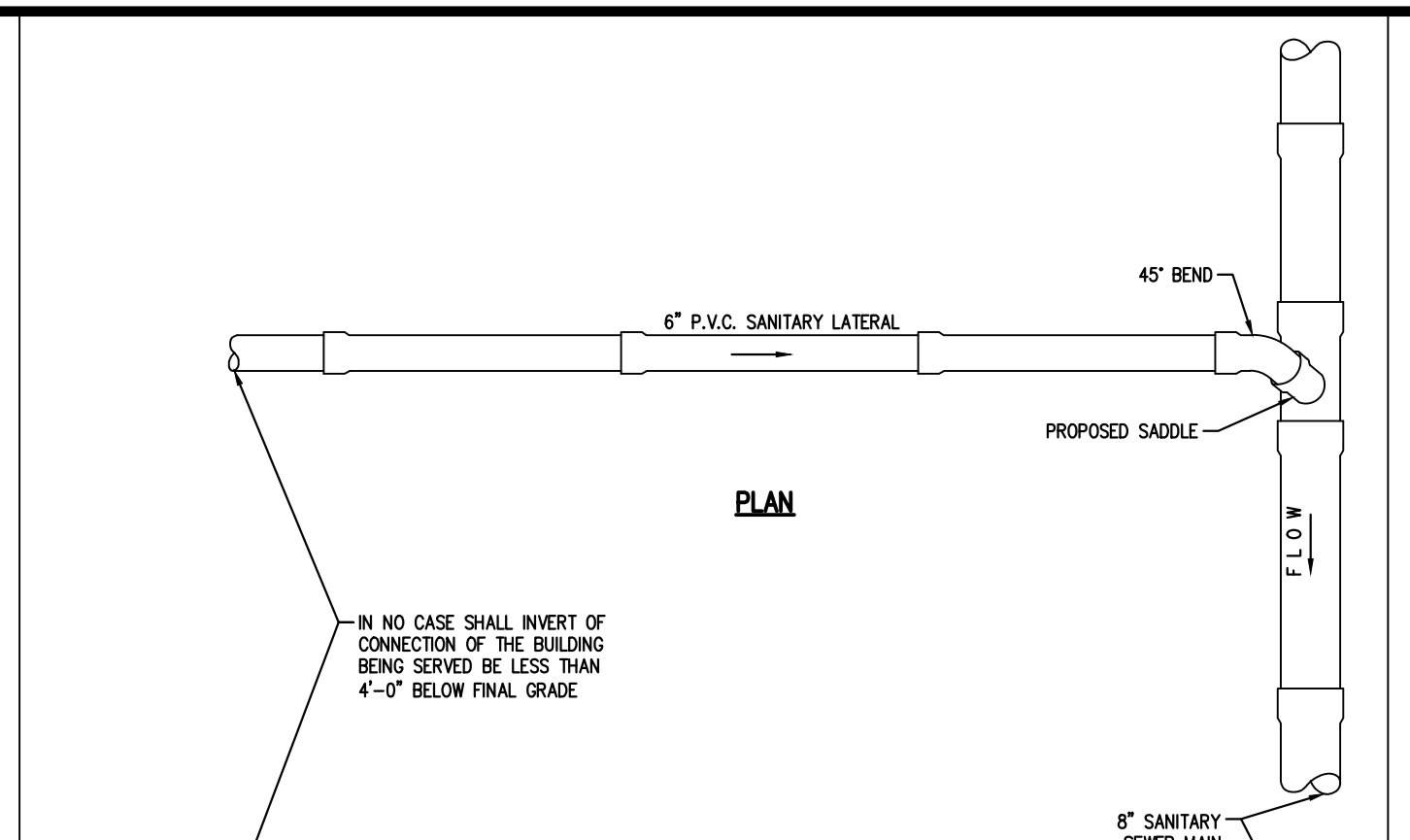
ROAD CROSSINGS

NOT TO SCALE

Notes:

- 1. PPL EUL provides 4 inch and/or 6 inch PVC conduit and end plugs. Customer installs, cleans, and seals conduit.
- 2. Install conduit(s) at the bottom of a 39 inch deep trench.

DISTRIBUTION CONSTRUCTION SPECIFICATIONS PPL ELECTRIC UTILITIES CORPORATION

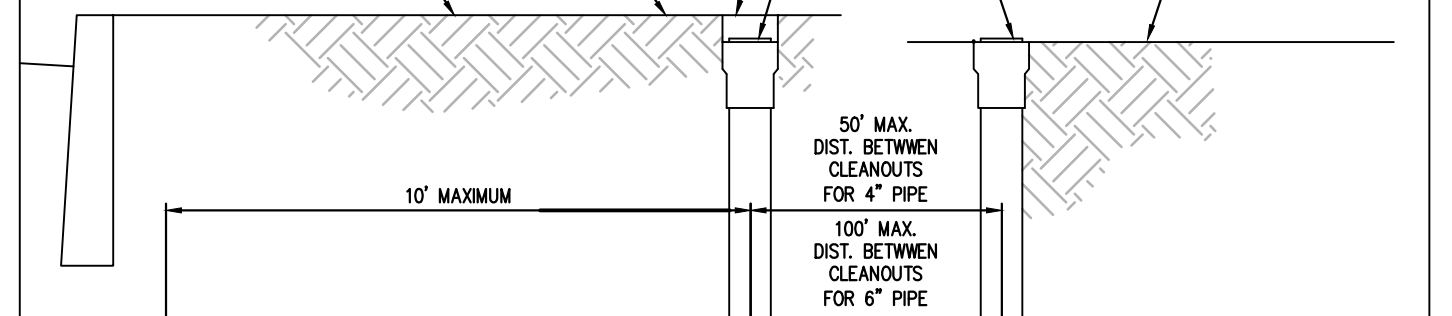


Typical Sanitary Sewer Lateral Connection

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.

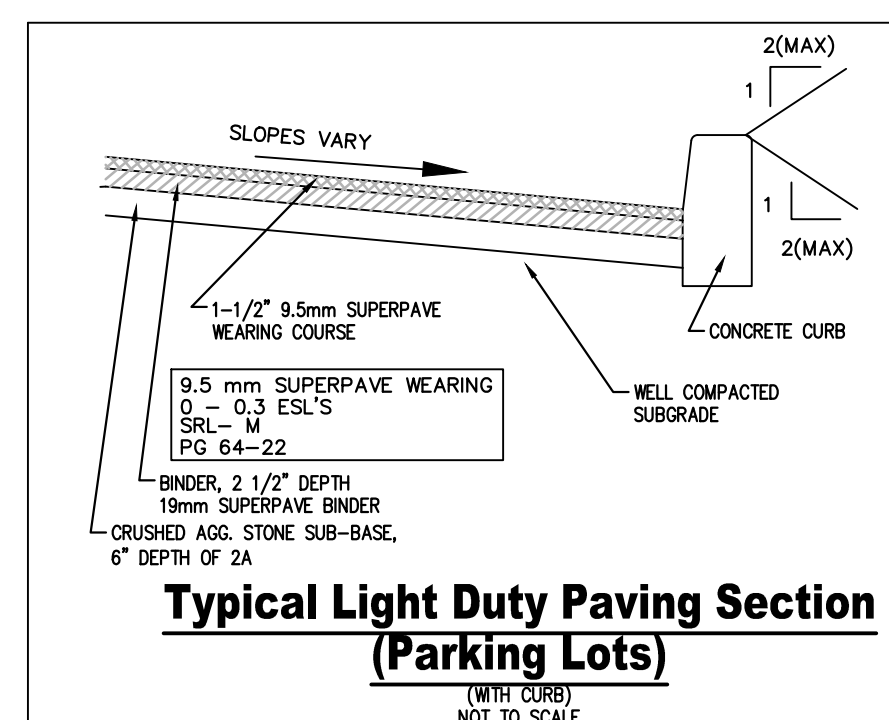


Service Lateral Detail

NOT TO SCALE

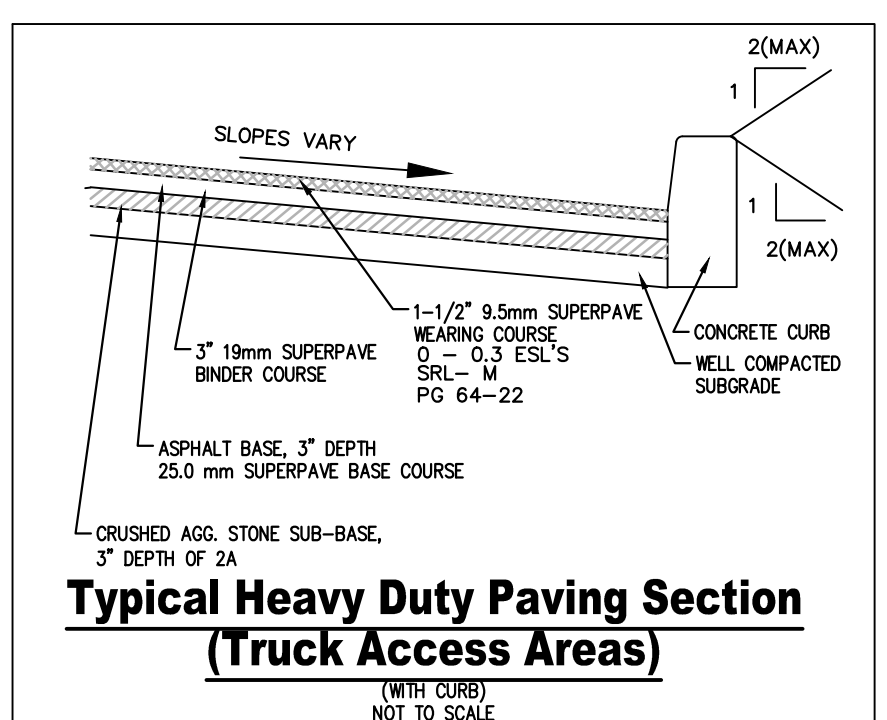
Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.



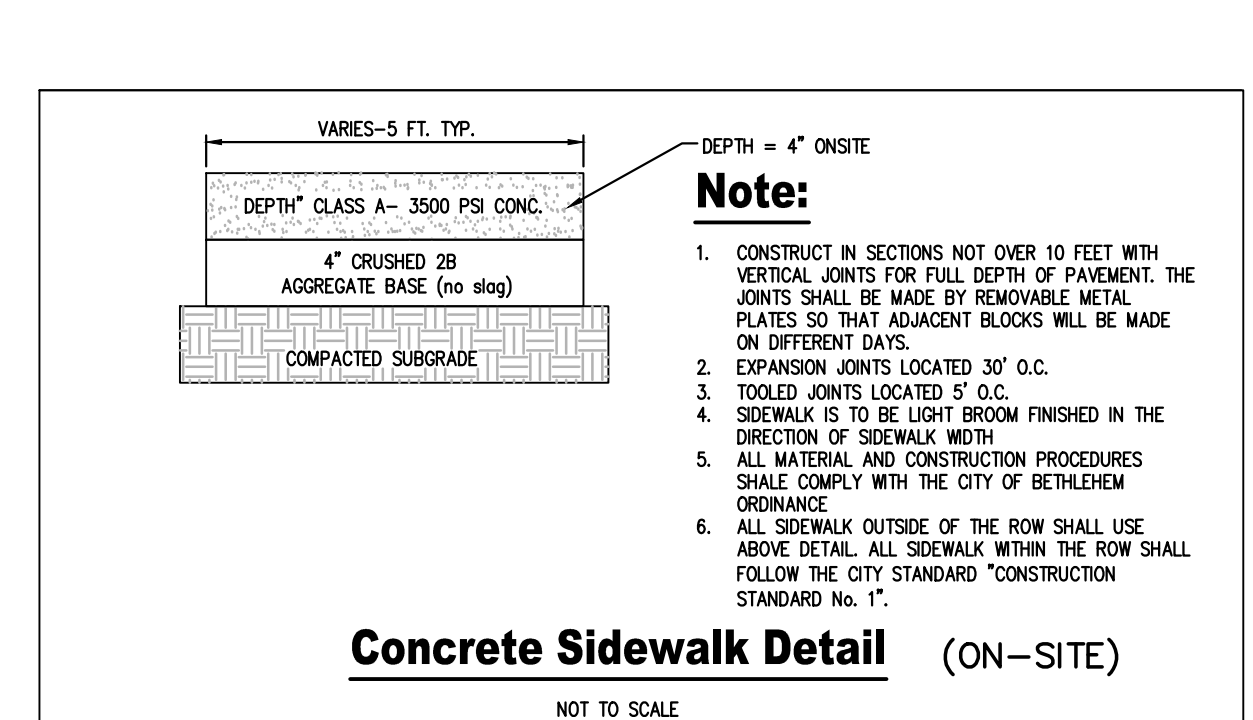
Typical Light Duty Paving Section (Parking Lots)

NOT TO SCALE



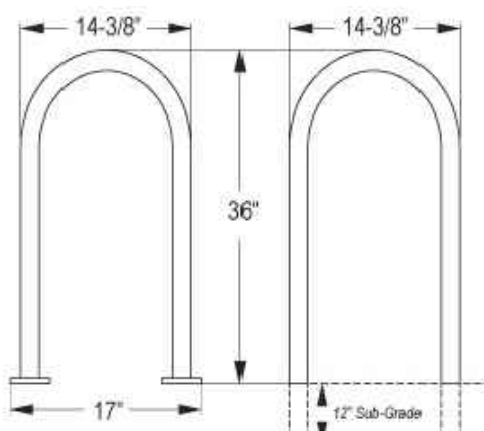
Typical Heavy Duty Paving Section (Truck Access Areas)

NOT TO SCALE



Concrete Sidewalk Detail (ON-SITE)

NOT TO SCALE



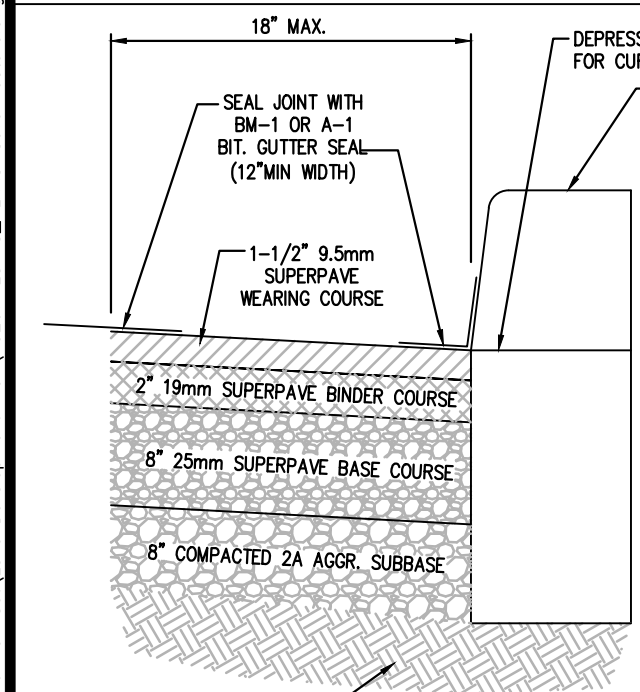
Inverted U Bicycle Rack

NOT TO SCALE



Inverted U Bicycle Rack

NOT TO SCALE

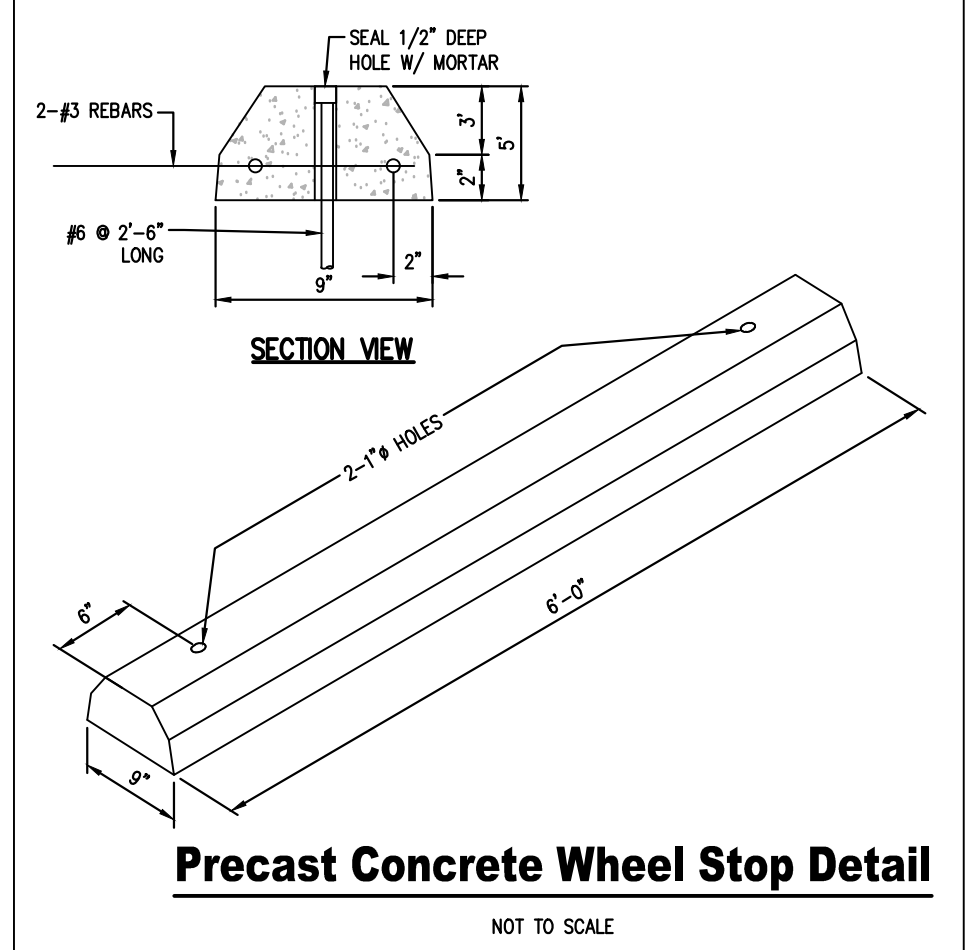


Pavement Restoration For Curb Diagram

NOT TO SCALE

Notes:

- 1. THE BASE COURSE AND SURFACE COURSE SHALL MATCH EXISTING DEPTHS OF PAVING OF SPILLWAY DRIVE.

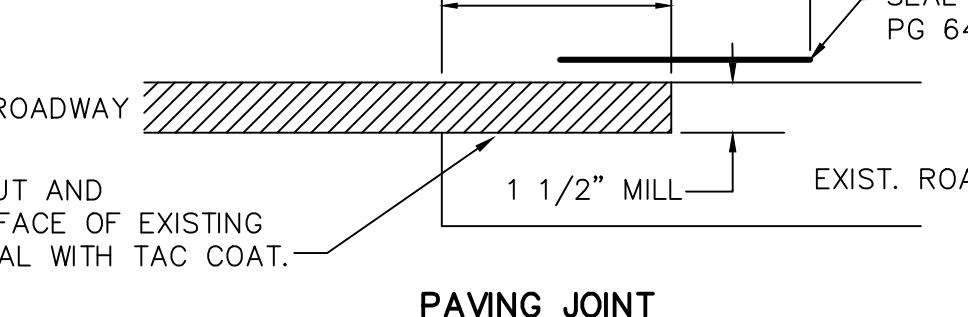


Precast Concrete Wheel Stop Detail

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.

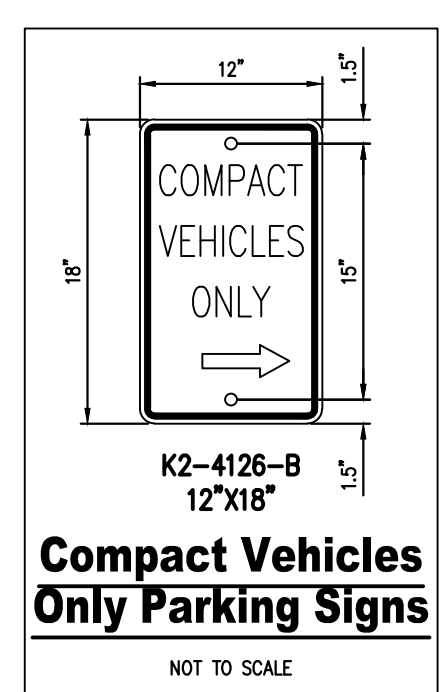


PAVING JOINT

NOT TO SCALE

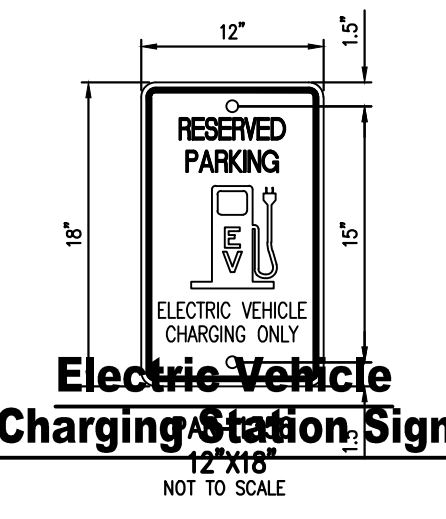
Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.



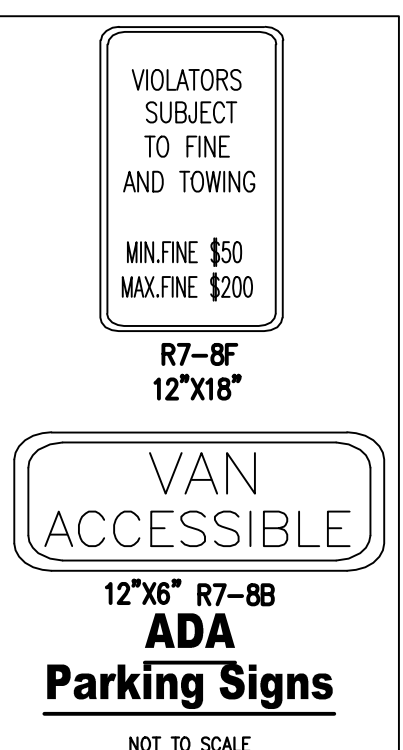
Compact Vehicles Only Parking Signs

NOT TO SCALE



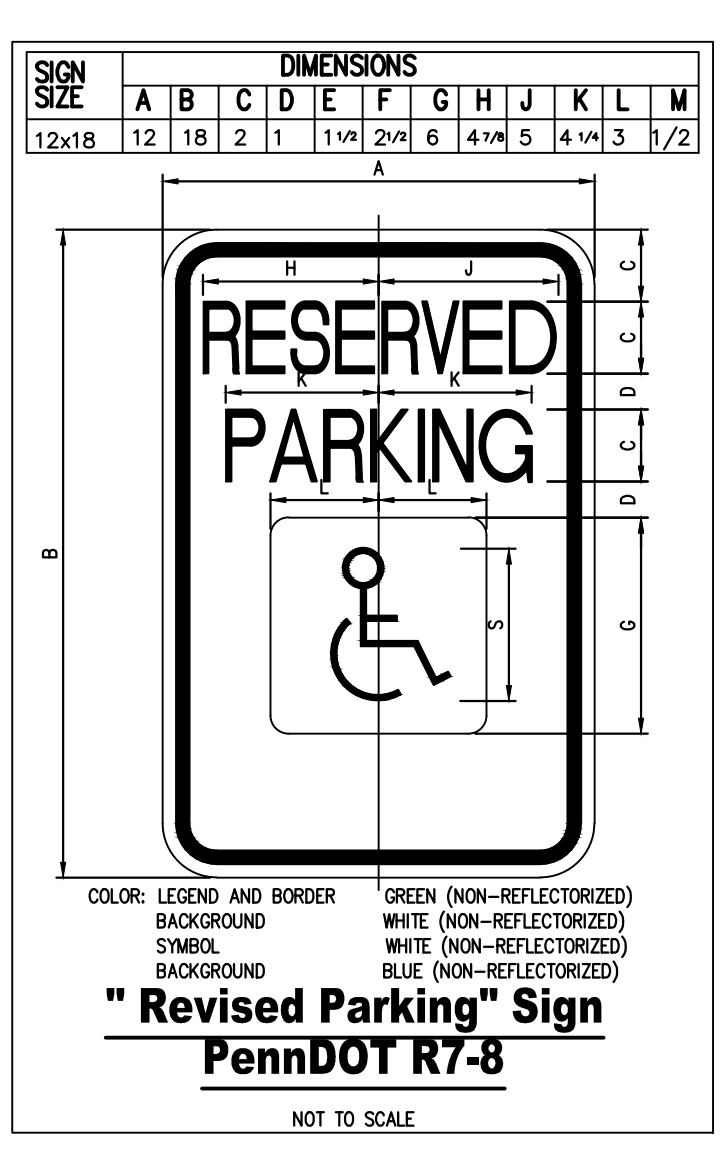
Electric Vehicle Charging Station Sign

NOT TO SCALE



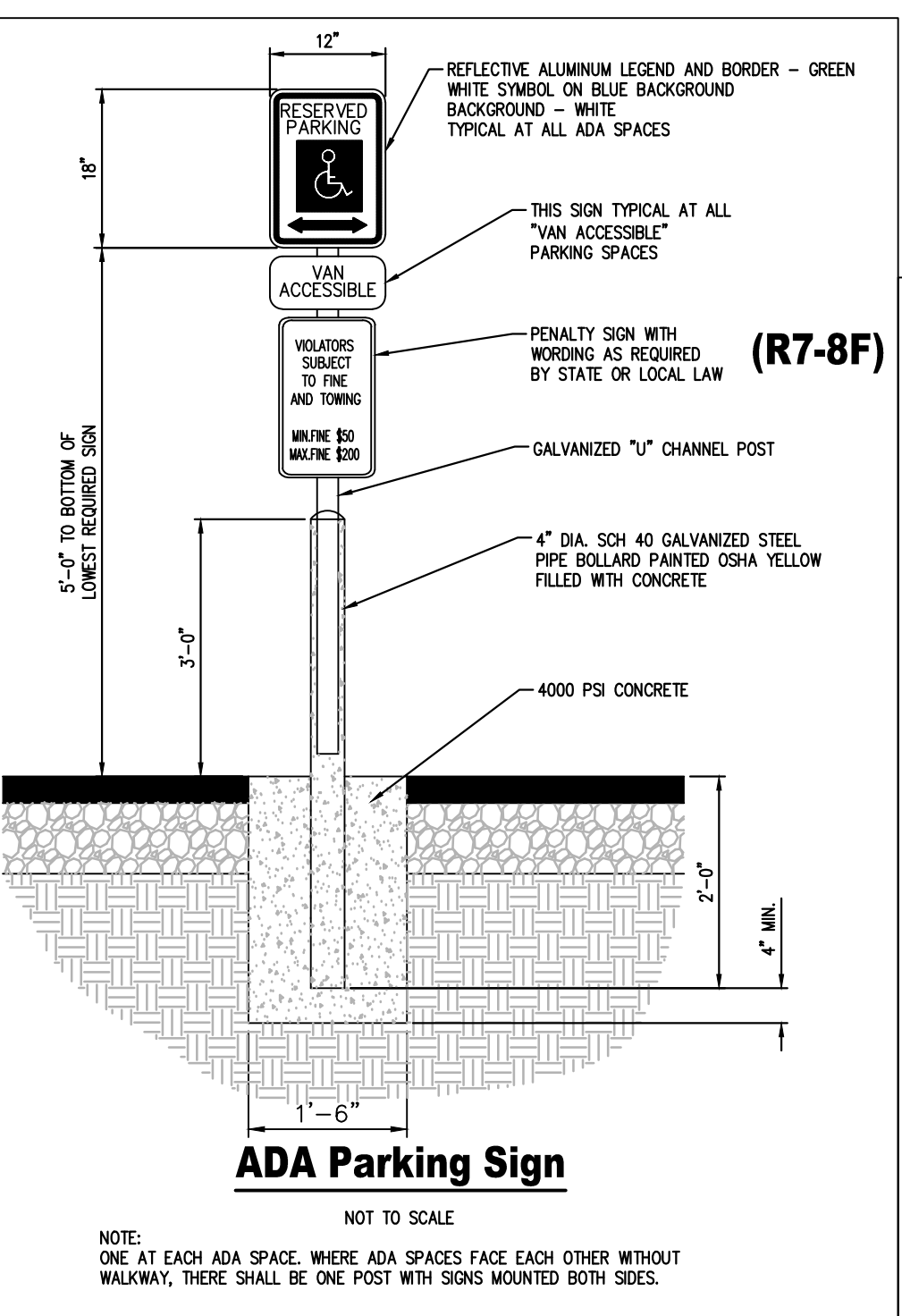
VAN ACCESSIBLE ADA Parking Signs

NOT TO SCALE



Reserved Parking PennDOT R7-8

NOT TO SCALE

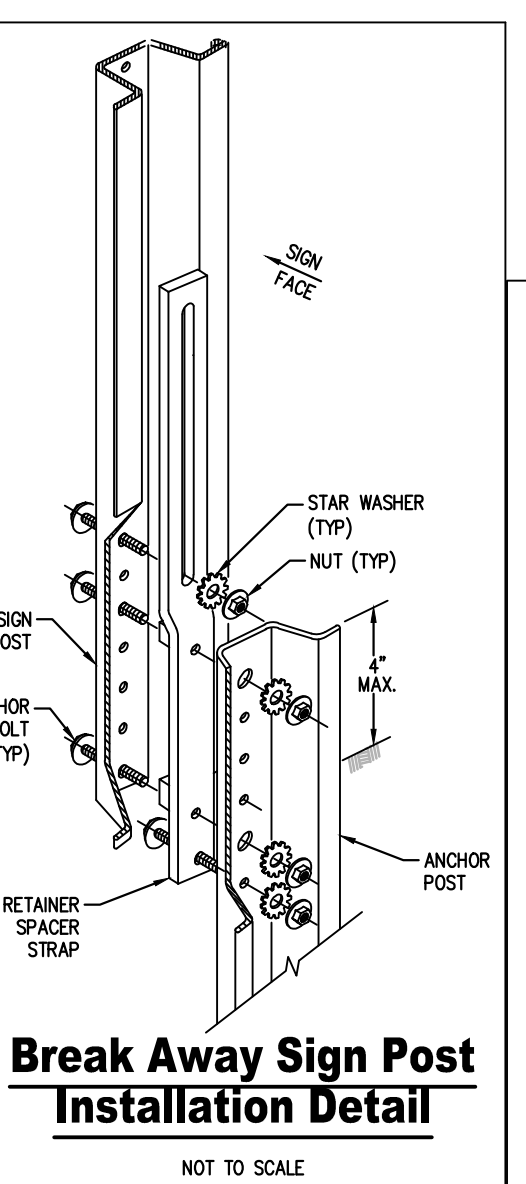


ADA Parking Sign

NOT TO SCALE

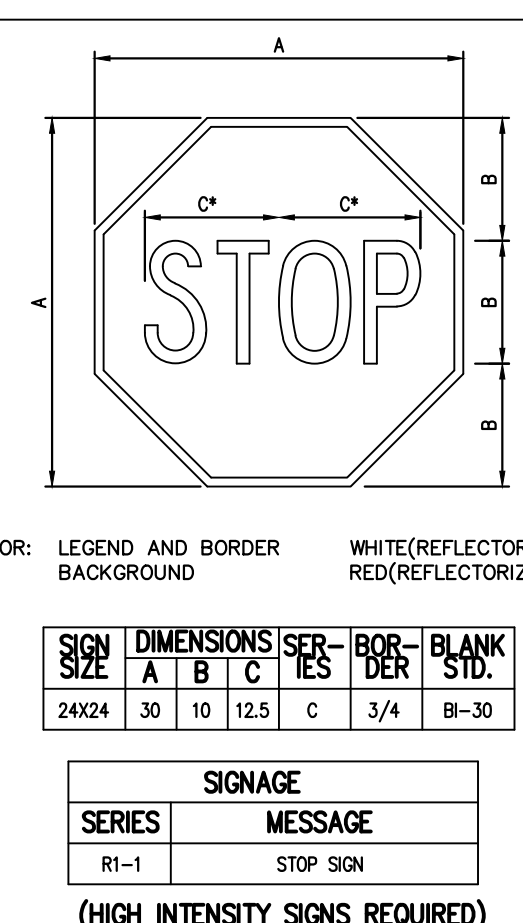
Notes:

- 1. ONE AT EACH ADA SPACE, WHERE ADA SPACES FACE EACH OTHER WITHOUT WALKWAY, THERE SHALL BE ONE POST WITH SIGNS MOUNTED BOTH SIDES.



Break Away Sign Post Installation Detail

NOT TO SCALE

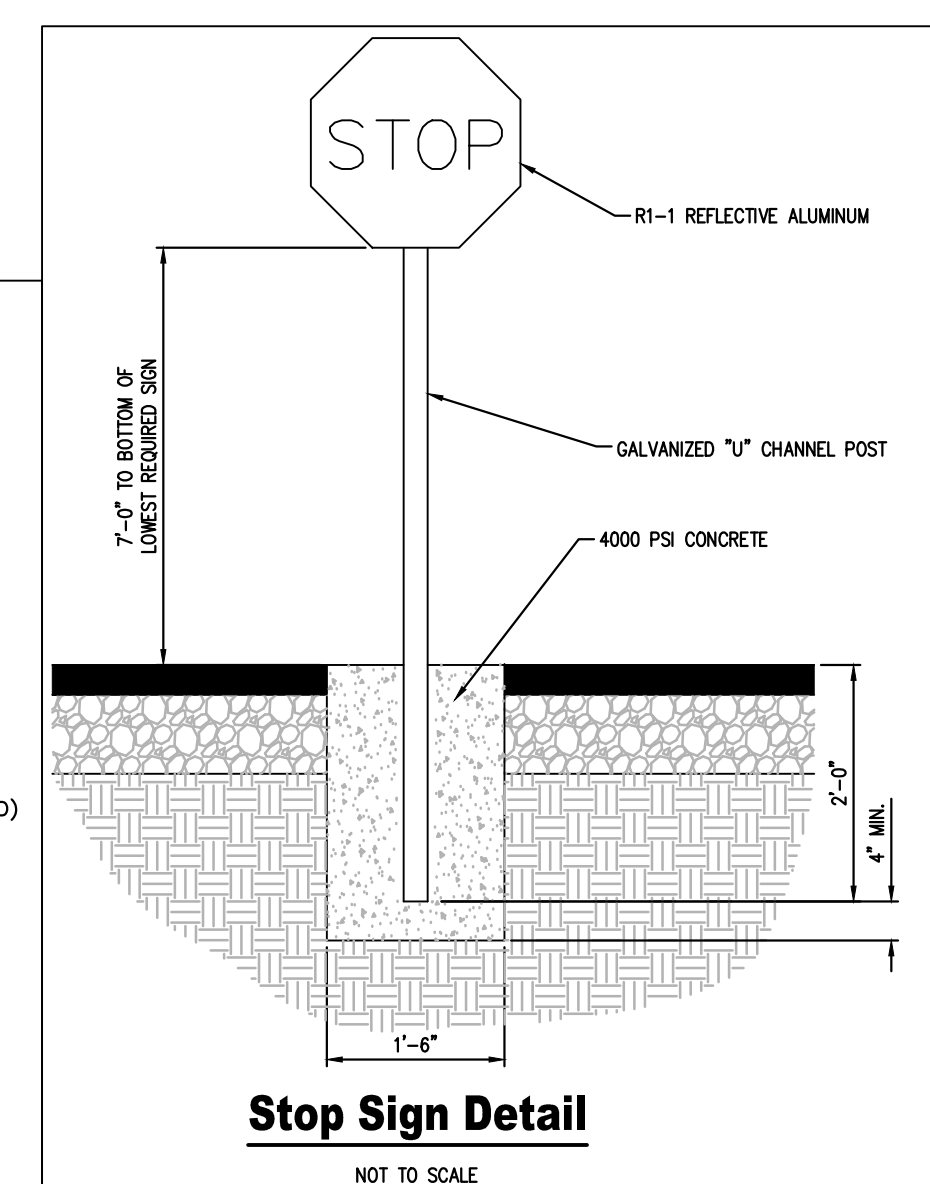


STOP SIGN

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.



Stop Sign Detail

NOT TO SCALE

Notes:

- 1. Customer must coordinate with communication companies as to backfill and separation required for their cables.
- 2. Trenches over 60 inches deep must have OSHA approved shoring.

PRELIMINARY/FINAL LAND DEVELOPMENT

CONSTRUCTION DETAILS

LOT 8 - LVP VI - 1550 SPILLMAN DRIVE

CITY OF BETHLEHEM NORTHAMPTON COUNTY PENNSYLVANIA

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