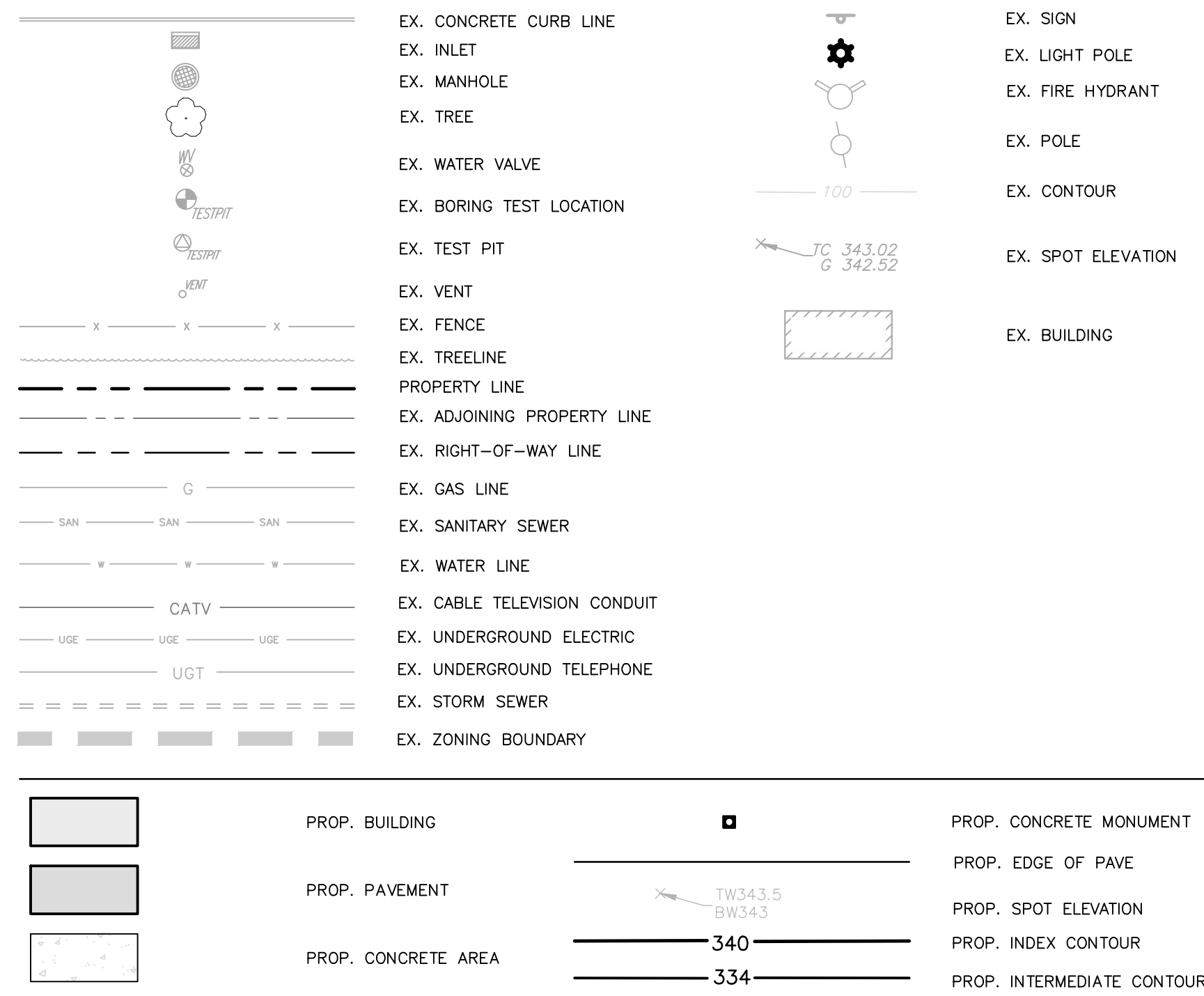




LEGEND

(ORIENTATION & SIZE MAY VARY)



ZONING DATA

Table with 3 columns: ZONING DISTRICT CLASSIFICATION (CL - LIMITED COMMERCIAL DISTRICT), PROPOSED USE (RESIDENTIAL - MULTI-FAMILY - OVER 2.5 STORY - 120 RESIDENTIAL UNITS PROPOSED AND 1,900 SQ. FT. (APPROXIMATE) COMMERCIAL AREA), and ZONING REQUIREMENTS TABLE (MINIMUM LOT AREA, MAXIMUM UNIT DENSITY ALLOWED, etc.).

NOTE A - THE FRONT YARD SETBACK AS SHOWN REQUIRES A VARIANCE FROM SECTION 1318.13.G OF THE ZONING ORDINANCE.
\* NOTE 1 - FOR EVERY FOOT OVER 35 FT THE SIDE AND REAR YARD SHALL BE INCREASED BY 1/2 FOOT.
\*\* 67,824.64/1200 = 56 UNITS ALLOWED/60 UNITS PROPOSED - ZONING VARIANCE REQUIRED TO PERMIT 60 UNITS.
\*\*\* 91,398.61/1200 = 76 UNITS ALLOWED/60 UNITS PROPOSED
TOTAL TRACT AREA WOULD PERMIT 132 UNITS, 120 TOTAL UNITS PROPOSED. ZONING RELIEF IS REQUIRED FOR LOT 1 DUE TO INTERNAL LOT LINE BEING ADDED FOR FINANCING PURPOSES RELATED TO PHFA TAX CREDIT FUNDING.

SITE STATISTICS

- 1. APPLICANT/EQUITABLE OWNER: GATEWAY ON FOURTH PHASE 1 LLC, 1301 N. 31ST ST, PHILADELPHIA, PA 19121.
2. OWNER OF RECORD/EXISTING PROPERTY IDENTIFICATION: P7SWIA-7-1-0204-AKA PARCEL A, APN: P7SWIA-7-1-0204, OWNER: LEHIGH VALLEY INDUSTRIAL PARK INC.
3. TRACT AREA SUMMARY: CONSOLIDATED GROSS TRACT AREA (PARCEL A & B) = 3.7853 AC, 164,888.00 SF.
4. UTILITY CONNECTIONS: SEWER SERVICE: EXISTING - PUBLIC PROVIDED BY CITY OF BETHLEHEM. WATER SERVICE: EXISTING - PUBLIC PROVIDED BY CITY OF BETHLEHEM.
5. ALL PROPERTIES ARE IN WARD 17 CITY BLOCK 13.

GENERAL NOTES

- 1. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS, SPECIFICATIONS, AND REFERENCED DOCUMENTS ASSOCIATED WITH THE PROJECT WORK SCOPE PRIOR TO THE INITIATION OF CONSTRUCTION.
2. ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVEGROUND INSPECTION OF THE SITE.
3. PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE TO ENSURE THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED.
4. ALL PROPOSED IMPROVEMENTS SHALL COMPLY WITH "THE AMERICAN DISABILITIES ACT", "ACCESSIBILITY GUIDELINES FOR BUILDINGS AND FACILITIES", AND "THE PENNSYLVANIA UNIVERSAL ACCESSIBILITY ACT".
5. THIS PLAN SHALL NOT BE USED FOR BUILDING STAKEOUT PURPOSES.
6. THE BUILDING FOOTPRINTS DEPICTED HEREON HAVE BEEN TRANSPORTED FROM ARCHITECTURAL PLANS.
7. CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH PENNDOT "PUBLICATION 408", LATEST EDITION, MUNICIPAL STANDARDS AND SPECIFICATIONS, AND UTILITY AUTHORITY/CO. STANDARDS AND SPECIFICATIONS, WHICHEVER ARE MORE RESTRICTIVE.
8. SIGNED/SEALED STRUCTURAL DESIGN CALCULATIONS AND CONSTRUCTION DETAILS OF PROPOSED RETAINING WALL(S) SHALL BE SUBMITTED BY THE CONTRACTOR TO THE PROJECT ENGINEER AND MUNICIPALITY FOR APPROVAL PRIOR TO CONSTRUCTION.
9. CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS AND COMPLETE ALL WORK INDICATED ON THIS PLAN.
10. THE CONTRACTOR SHALL BE FAMILIAR WITH AND RESPONSIBLE FOR ANY/ALL CERTIFICATIONS, INSPECTIONS, ETC.
11. THE GEOTECHNICAL REPORT AND RECOMMENDATIONS SET FORTH THEREIN ARE A PART OF THE REQUIRED CONSTRUCTION DOCUMENTS AND IN CASE OF CONFLICT SHALL TAKE PRECEDENCE UNLESS SPECIFICALLY NOTED OTHERWISE ON THE PLANS.
12. THE PROPERTY SURVEY AS CERTIFIED SHALL BE CONSIDERED A PART OF THESE PLANS.
13. THESE PLANS ARE BASED ON INFORMATION PROVIDED TO OUR OFFICE AT THE TIME OF PLAN PREPARATION.
14. ALL DIMENSIONS SHOWN ON THE PLANS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
15. ADA RAMP AS SHOWN WITH RAMP TYPE.
16. THE CONTRACTOR SHALL REFER TO THE ARCHITECTURAL/MEPP PLANS FOR EXACT LOCATIONS AND HEIGHTS OF EXISTING/NEW UTILITIES.
17. DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE.
18. THE CONTRACTOR IS RESPONSIBLE FOR ALL SHORING REQUIRED DURING EXCAVATION AND SHALL BE PERFORMED IN ACCORDANCE WITH CURRENT OSHA STANDARDS.
19. THE CONTRACTOR IS TO EXERCISE CARE WHEN PERFORMING WORK ACTIVITIES ADJACENT TO PAVEMENT, STRUCTURES AND FACILITIES THAT ARE TO REMAIN.
20. THE CONTRACTOR SHALL BE RESPONSIBLE FOR AND SHALL REPLACE ALL SIGNAL, INTERSECTION, TRAFFIC SIGNALS, AND ANY UNDERGROUND ACCESSORY EQUIPMENT DAMAGED DURING CONSTRUCTION.
21. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE DONE TO EXISTING ITEMS DURING CONSTRUCTION.
22. CONCRETE SHALL HAVE THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS AS INDICATED IN SPECIFICATIONS AND REFERENCE DOCUMENTS.
23. THE ENGINEER IS NOT RESPONSIBLE FOR CONSTRUCTION METHODS/MEANS FOR COMPLETION OF THE WORK.
24. NEITHER THE PROFESSIONAL ACTIVITIES OF T&M ASSOCIATES NOR THE PRESENCE OF T&M ASSOCIATES OR ITS EMPLOYEES AND SUB-CONSULTANTS AT A CONSTRUCTION/PROJECT SITE, SHALL RELIEVE THE CONTRACTOR OF ITS OBLIGATIONS.
25. T&M ASSOCIATES SHALL REVIEW AND COMMENT OR TAKE OTHER APPROPRIATE ACTION ON THE CONTRACTOR SUBMITTALS.
26. THIS SHEET IS PART OF A LAND DEVELOPMENT PLAN SET ON RECORD AT THE MUNICIPALITY OF JURISDICTION.
27. ALL CURB RADI SHALL BE MIN. 5' UNLESS OTHERWISE NOTED OR DIMENSIONED.

- 28. AN AS-BUILT PLAN SHALL BE PREPARED FOR THE PROJECT INDICATING ACTUAL LOCATIONS, DIMENSIONS, AND ELEVATIONS OF ALL COMPLETED IMPROVEMENTS.
29. THE OWNER/EQUITABLE OWNER OF THE PROPERTIES WILL BE RESPONSIBLE FOR THE ONGOING INSPECTIONS, OPERATION, REPAIR, AND MAINTENANCE OF THE STORMWATER MANAGEMENT BMP'S AND CONVEYANCE SYSTEMS AFTER COMPLETION OF CONSTRUCTION.
30. A BLANKET STORMWATER MANAGEMENT EASEMENT PROPOSED TO BE GRANTED TO THE CITY TO ALLOW LEGAL ACCESS AND MAINTENANCE VEHICLE ACCESS FOR MAINTENANCE OF ALL STORMWATER MANAGEMENT FACILITIES SHOULD THE NEED ARISE.
31. ALL PROPOSED PEDESTRIAN FACILITIES WITHIN THE SITE AND WITHIN THE PUBLIC RIGHT-OF-WAY (INCLUDING CURB RAMPS AND PEDESTRIAN ACCESS ROUTES) SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE U.S. ACCESS BOARD, PUBLIC RIGHT-OF-WAY ACCESSIBILITY GUIDELINES (PROWAG) OF THE ACCESSIBILITY GUIDELINES OF BUILDINGS AND FACILITIES (ADAAG), PENNDOT DESIGN MANUAL PART 2, CHAPTER 6, AND PENNDOT STANDARDS FOR ROADWAY CONSTRUCTION.
32. ALL REQUIRED PERMITS MUST BE OBTAINED FROM THE CITY ENGINEERING OFFICE PRIOR TO THE BEGINNING OF ANY WORK IN THE RIGHT-OF-WAY.
33. A KNOX BOX FOR CITY OF BETHLEHEM FIRE DEPARTMENT ACCESS MUST BE INSTALLED. EXACT LOCATION TO BE DETERMINED.

CITY OF BETHLEHEM STANDARD NOTES:

NPDES NOTE: BY SUBMISSION OF THESE PLANS THE ENGINEER ON RECORD CERTIFIES THAT THESE PLANS ARE IN COMPLETE CONFORMANCE WITH THE CITY OF BETHLEHEM STORM WATER MANAGEMENT ORDINANCE.
REVISIONS NOTE: IN ORDER TO MAINTAIN CONTINUITY BETWEEN PLAN REVISIONS, ANY CHANGES TO A PREVIOUS PLAN SUBMISSION SHALL BE FLAGGED WITH A TRIANGLE.
AS-BUILT NOTE: ACCURATE AS-BUILT PLANS SHALL BE KEPT UP TO DATE DURING THE CONSTRUCTION PROCESS.
ENGINEERING PERMITS NOTE: PRIOR TO ANY WORK WITHIN THE RIGHT-OF-WAY, PERMITS MUST BE OBTAINED FROM CITY ENGINEERING OFFICE.
RETAINING WALL NOTE: DETAIL OF RETAINING WALL IS REQUIRED.
STORM WATER NOTES: THE MAINTENANCE OF STORM WATER FACILITIES SHALL BE THE OWNER'S RESPONSIBILITY.
MISCELLANEOUS INFORMATION / DESIGN STANDARDS: ROAD CONSTRUCTION OR OVERLAY: SUPER PAVE IS REQUIRED AND MUST MEET PENN DOT SPECIFICATIONS PUB.408.
LVPIC REVIEWS: NOTE THAT THE LVPIC REVIEWS ALL SITE PLANS THAT IT IS REQUIRED TO SIGN PRIOR TO BEING RECORDED IN THE COURTHOUSE OF NORTHAMPTON COUNTY.
EROSION & SEDIMENTATION CONTROL PLAN: A PLAN IS REQUIRED FOR EARTH DISTURBANCE ACTIVITY OF 5,000 SQUARE FEET OR MORE.
TAPPING FEE: IN ACCORDANCE WITH ORDINANCE NO. 4342, AT THE TIME OF A REQUEST FOR A BUILDING PERMIT OR AT THE EXECUTION OF THE DEVELOPER'S AGREEMENT, A SANITARY SEWER TAPPING FEE MUST BE PAID.
REQUIREMENTS FOR AS-BUILT DRAWINGS: ALL FINAL DRAWINGS SHALL SHOW NORTH AMERICAN DATUM (NAD) 1983 STATE PLANE COORDINATES IN FEET SOUTH, FIRS ZONE 3702) AND THE DIGITAL FILE SHALL BE IN STATE PLANE FEET COORDINATES AS APPLICABLE.

GRADING NOTES

- 1. VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK.
2. THE MINIMUM SLOPE IN GRASSED AREAS SHALL NOT BE LESS THAN 2% AND THE MINIMUM IN PAVED AREAS SHALL NOT BE LESS THAN 1%.
3. RUNOFF FROM IMPERVIOUS AREAS SHALL NOT BE DIRECTED INTO THE SANITARY SEWER OR ONTO ADJACENT PROPERTIES.
4. WALLS IN EXCESS OF 30" IN HEIGHT REQUIRE A SAFETY FENCE A MINIMUM OF 42" IN HEIGHT.
5. PAVEMENT SHALL BE SAW CUT IN STRAIGHT LINES TO THE FULL DEPTH OF THE EXISTING PAVEMENT.
6. IN CASE OF DISCREPANCIES BETWEEN PLANS, THE SITE / RECORD PLAN WILL SUPERSEDE IN ALL CASES.
7. THE CONTRACTOR SHALL BE REQUIRED TO SECURE ALL NECESSARY PERMITS (INCLUDING DEP, ETC) FOR ALL OFF-SITE HAUL AND/OR BORROW SITES.
8. EXISTING INLETS AND STORM SEWER INDICATED AS FILLED W/DEBRIS SHALL BE CLEANED AND FLUSHED.
9. DEPTH OF EXISTING UTILITIES IN PORTIONS OF THE SITE ARE UNKNOWN.
10. ALL DESIGNERS AND CONTRACTORS UTILIZING THIS PLAN AND THE INFORMATION CONTAINED THEREON ARE CAUTIONED TO COMPLY WITH THE REQUIREMENTS OF PENNSYLVANIA ACT 287.
11. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE APPLICABLE FEDERAL, STATE AND LOCAL CODES.
12. CONTRACTORS SHALL HAVE ALL REQUIRED SUBMITTAL APPROVALS PRIOR TO BEGINNING WORK OR ORDERING MATERIALS.
13. CONTRACTORS SHALL VERIFY ALL DIMENSIONS, INVERTS, ELEVATIONS, AND EXISTING CONDITIONS PRIOR TO PROCEEDING WITH THE WORK.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR SAFETY, PROCEDURES, MEANS AND METHODS, SEQUENCING, AND COORDINATION.
15. ALL WORK SHALL BE PERFORMED BY QUALIFIED, EXPERIENCED PERSONNEL.
16. CONTRACTOR SHALL NOTIFY THE OWNER OF PREEXISTING CONDITIONS OF DETERIORATION IN AREAS OF WORK THAT ARE UNCOVERED OR EXPOSED DURING THE WORK.
17. FIELD CHANGES REQUIRE PRIOR DESIGN ENGINEERING REVIEW AND WRITTEN CONFIRMATION.
18. CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR TO ANY SIDEWALKS, LAWN, TREES, PAVING, AND OTHER IMPROVEMENTS DISTURBED OR DAMAGED BY DEMOLITION ACTIVITIES PROPOSED HEREIN.
19. CONTRACTOR SHALL PROVIDE PROPER TEMPORARY BRACING AND SHORING OF ALL CONSTRUCTION TO REMAIN OR DEMOLITION WORK IN PROGRESS.
20. CONTRACTOR SHALL PROVIDE LAYOUT, LINE AND GRADE UNLESS OTHERWISE NOTED.
21. CONTRACTOR SHALL NOTIFY THE OWNER OF ANY DISCREPANCIES IN THE DRAWINGS, SPECIFICATIONS, CODES OR STANDARDS FOR CORRECTIVE ACTION PRIOR TO START OF WORK.
22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTENANCE AND PROTECTION OF VEHICULAR AND PEDESTRIAN TRAFFIC.
23. CONTRACTOR SHALL PROVIDE PROTECTION FOR EXISTING UTILITIES UNLESS OTHERWISE NOTED.
24. CONTRACTOR SHALL PROVIDE TEMPORARY Dewatering OF EXCAVATIONS THROUGHOUT THE DURATION OF CONTRACT AT NO ADDITIONAL COST.
25. EXISTING UTILITIES SHOWN ARE BASED ON AVAILABLE DATA.
26. REMOVAL OF EXISTING UTILITIES SHALL BE COORDINATED WITH THE APPROPRIATE UTILITY COMPANIES.
27. REFER TO THE SITE / RECORD PLAN FOR ADDITIONAL NOTES.
28. ALL SIDEWALKS, CROSSWALK, TRAILS, ENTRANCES, AND RAMPS TO BE BUILT IN ACCORDANCE WITH ADA STANDARDS.
29. REFER TO ADA CURB RAMP CONSTRUCTION DETAILS AND ADA ACCESSIBILITY PLAN FOR ADDITIONAL INFORMATION SPECIFIC TO CURB RAMP AND ACCESSIBLE ROUGH GRADING.

PLACEMENT OF FILL NOTES:

- 1. BACKFILLING, TO THE SUBGRADE ELEVATION, SHALL BE DONE IN LAYERS OF SIX (6) TO EIGHT (8) INCHES AND EACH LAYER SHALL BE THOROUGHLY TAMPED BY AN APPROVED MECHANICAL TAMPER TO A MINIMUM DENSITY OF 95% AT OPTIMUM MOISTURE.
2. THE FILL MATERIAL SHALL CONTAIN THE PROPER MOISTURE CONTENT TO OBTAIN THE REQUIRED COMPACTION.
3. SUITABLE BACKFILL MATERIAL IS MATERIAL CONTAINING NO DEBRIS, ORGANIC MATTER, FROZEN MATERIAL OR LARGE ROCKS OR STONES WITH A DIAMETER OF GREATER THAN ONE-HALF THE THICKNESS OF THE COMPACTED LAYERS BEING PLACED.

STORM SEWER NOTES

- 1. ROOF LEADERS SHALL BE CONNECTED DIRECTLY TO THE PROPOSED STORMWATER MANAGEMENT SYSTEM OR DIRECTED VIA SURFACE GRADES TO INLETS/STORMWATER MANAGEMENT SYSTEMS.
2. ALL STORM CONVEYANCE PIPE SHALL BE SMOOTH LINED DOUBLE WALLED HIGH DENSITY POLYETHYLENE PIPE (HDPE), UNLESS OTHERWISE SPECIFIED.
3. ALL DETENTION AND RETENTION BASIN EMBANKMENTS SHALL BE PLACED IN 8 INCH MAXIMUM LIFTS TO A MINIMUM 95% DRY DENSITY.
4. IF A CONFLICT ARISES DURING THE INSTALLATION OF ANY PART OF THE STORM SEWER SYSTEM THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY IN WRITING.
5. LANDSCAPING, FENCES AND STRUCTURES SHALL BE PLACED A MINIMUM OF 5 FEET AWAY FROM STORM SEWERS OUTSIDE OF THE RIGHT OF WAY OF STREETS.
6. REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.

VARIANCES APPROVED

- THE FOLLOWING VARIANCES WERE APPROVED BY THE ZONING HEARING BOARD ON DECEMBER 18TH 2024
1. VARIANCE UNDER SECTION 1305.01 (footnote) TO WAIVE THE REQUIREMENT OF COMMERCIAL USE ON THE E. 4TH STREET FRONTAGE.
2. VARIANCE UNDER SECTION 1306.01(a)(4) TO ENABLE A LOT LINE CHANGE AND DEVELOPMENT OF MULTI-FAMILY DWELLING UNITS ON THE NEW RECONFIGURED NEW LOTS.
3. VARIANCE UNDER SECTION 1318.13(a) TO REDUCE THE REQUIRED FRONT YARD SETBACK FROM 10 FEET TO 0 FEET.
4. VARIANCE UNDER SECTION 1325.06 POWER AND DUTIES VARIANCE.

PUBLIC UTILITIES NOTES

- 1. ALL PUBLIC UTILITIES REQUIRED TO SERVICE THIS LAND DEVELOPMENT SHALL BE PLACED UNDERGROUND EXCEPT FOR THOSE EXCEPTIONS NECESSARY TO PERMIT THE OVERALL INSTALLATION OF THE UTILITIES OR - EXCEPT FOR TEMPORARY CONSTRUCTION SERVICE.
2. UTILITY CONNECTIONS: SEWER SERVICE: EXISTING - PUBLIC. WATER SERVICE: EXISTING - PUBLIC. ELECTRIC SERVICE: TO BE PROVIDED BY PPL. IF PROPOSED GAS SERVICE: TO BE PROVIDED BY AND IN COORDINATION WITH UGI.



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON DEVELOPED FROM UTILITY COMPANY RECORDS AND/OR ABOVE-GROUND INSPECTION OF THE SITE. COMPLETENESS OR ACCURACY OF TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDERGROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED. PURSUANT TO REQUIREMENTS OF PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 50 OF 2017, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. ONE CALL SERIAL NO. 2024-4325 HAS BEEN PLACED FOR SURVEY AND/OR DESIGN PURPOSES ONLY.

PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION

Professional Engineer information for KRIS J. REISS, P.E., License No. 056285E. Includes project title 'GATEWAY ON FOURTH PHASE 1 LLC', 'GATEWAY ON 4TH', and 'LEGEND AND GENERAL NOTES'. Also includes contact information for Tandem Associates Co., Inc. and a 'LEGEND' table with 'DRAWING' and 'SHEET' columns.

PROJECT INFORMATION: FILE PATH: C:\Projects\PENNY DOT\060 (Phara)... LAST SAVED DATE AND TIME: 23 Feb 2026, 9:46AM... LAST SAVE BY: bkhierbaugh

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**PA1CALL NOTES:**

- THIS IS AN ABOVE GROUND SURVEY. LOCATIONS OF EXISTING UTILITIES SHOWN HEREON HAVE BEEN DEVELOPED FROM ABOVE GROUND INSPECTION OF THE SITE, UTILITY COMPANY RECORDS.
- COMPLETENESS OR ACCURACY OF THE TYPE, SIZE, DEPTH OR HORIZONTAL LOCATION OF UNDER GROUND FACILITIES OR STRUCTURES CANNOT BE GUARANTEED BY ASH ASSOCIATES, INC. ACCORDINGLY, UTILITY INFORMATION SHOWN SHOULD NOT BE RELIED UPON FOR CONSTRUCTION PURPOSES.
- PURSUANT TO REQUIREMENTS OF THE PENNSYLVANIA LEGISLATIVE ACT NUMBER 287 OF 1974 AS AMENDED BY ACT 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDER GROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK.
- PA1CALL SERIAL NUMBER 20241204325, WAS PLACED FOR DESIGN PURPOSES ONLY.

UTILITY COMPANY	RESPONSE:
1. QX-BETHELEM CITY	FIELD MARKED ON 4/30/24.
2. ION-FIRSTLIGHT FIBER	CLEAR. NO FACILITIES PRESENT
3. LKC-LUMEN FORMERLY LEVEL 3	CLEAR. NO FACILITIES PRESENT. BASED ON UTILITY MAP PROVIDED
4. PID-PPL ELECTRIC UTILITIES CORPORATION	PLANS RECEIVED, PLOTTED AS SHOWN
5. SET-SERVICE ELECTRIC CABLE TV INC	CLEAR. NO FACILITIES PRESENT
6. YI-VERIZON PENNSYLVANIA LLC	CLEAR. NO FACILITIES PRESENT
7. PPL-ZAYO BANDWIDTH	CLEAR. NO FACILITIES PRESENT
8. UJ-UJI UTIL LEHIGH HAZLETON	DESIGN CONFLICT. PLANS RECEIVED, PLOTTED AS SHOWN

**PROPERTY INFORMATION:**

P75W1A-7-1-0204 AKA PARCEL A  
 APN: P75W1A-7-1-0204  
 OWNER: LEHIGH VALLEY INDUSTRIAL PARK INC  
 LOCATION: 1400 EAST FOURTH STREET  
 BETHELEM, PA 18018  
 CITY OF BETHELEM, NORTHAMPTON COUNTY  
 DOCUMENT: 2020-1-263398  
 GROSS AREA: 23,040.00 SQ FT

P75W1A-7-2-0204 AKA PARCEL B  
 APN: P75W1A-7-2-0204  
 OWNER: LEHIGH VALLEY INDUSTRIAL PARK INC  
 LOCATION: 1414 EAST FOURTH STREET  
 BETHELEM, PA 18018  
 CITY OF BETHELEM, NORTHAMPTON COUNTY  
 DOCUMENT: 19961-1313  
 GROSS AREA: 141,848.00 SQ FT

TEST PIT ID	TEST DEPTH (FEET)	INFILTRATION RATE (INCHES/HOUR)
TP-1	3.5	0.0
TP-3	3.5	19.8
TP-4	3.0	12.4
TP-5	3.5	0.0
TP-6	3.5	19.8
TP-7	3.0	1.2

**GENERAL NOTES:**

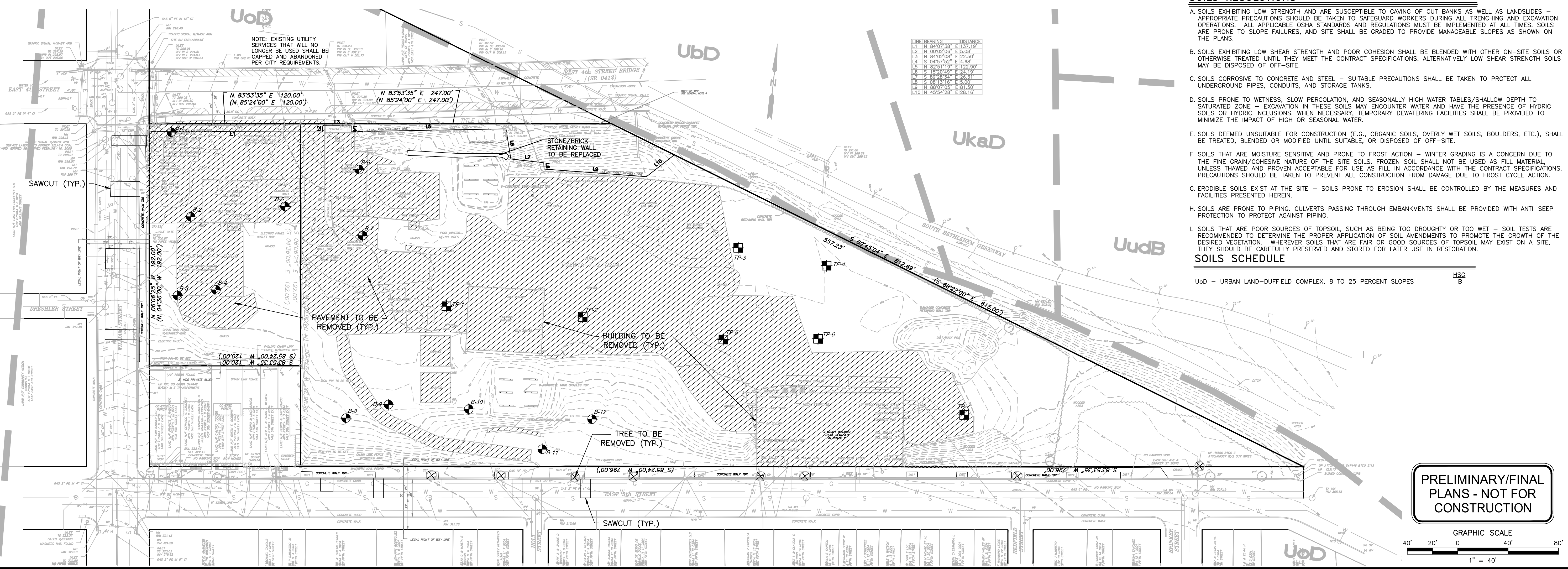
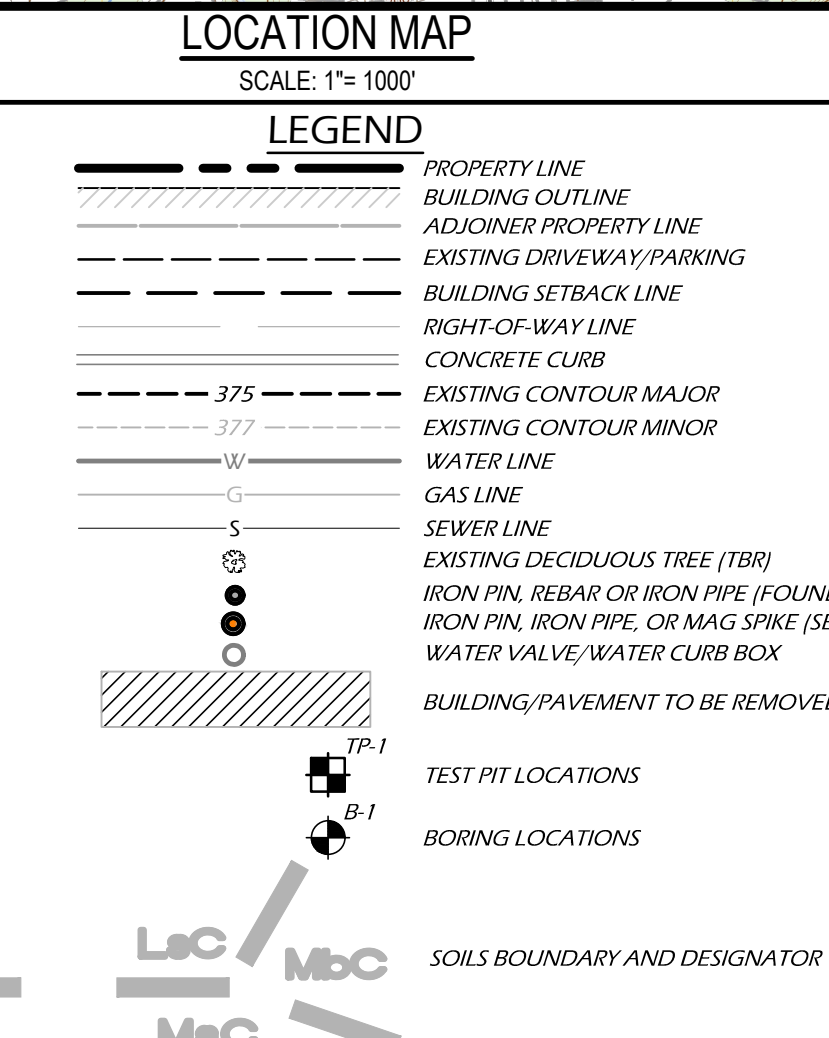
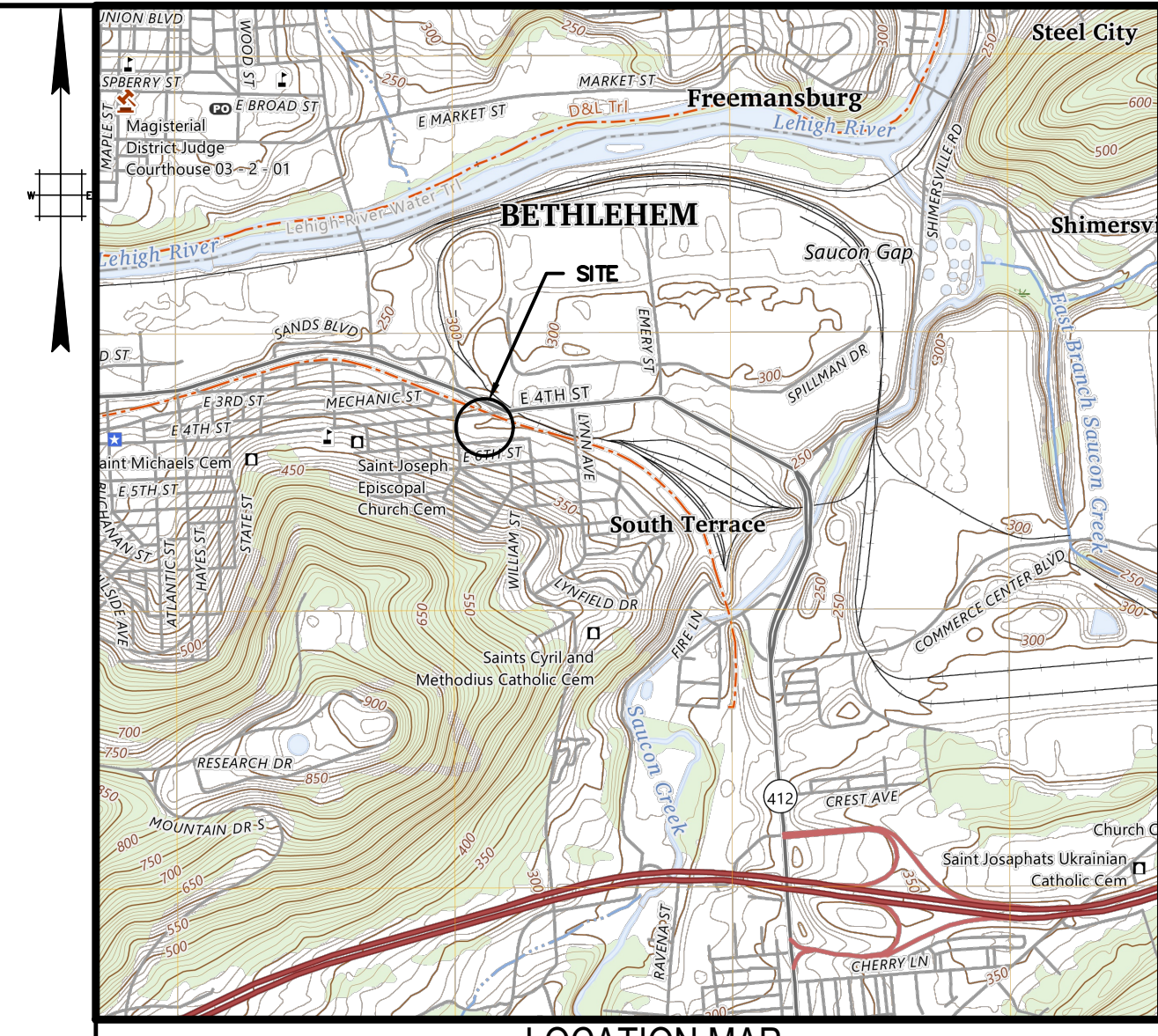
- TOPOGRAPHIC FEATURES SHOWN FROM ACTUAL FIELD SURVEY BY ASH ASSOCIATES COMPLETED MAY 12, 2024 AND IS LIMITED TO SHOWING FEATURES OF INTEREST ONLY.
- VERTICAL DATUM IS NAVD 1988 AND ESTABLISHED BY GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK. SITE BENCHMARK IS A MAGNETIC NAIL FOUND AS SHOWN. SITE BENCHMARK ELEVATION=299.66'
- HORIZONTAL DATUM IS NAD 83, STATE PLANE COORDINATES OF PENNSYLVANIA AND ESTABLISHED GPS OBSERVATIONS REFERENCED TO THE NGS CORS NETWORK. BOTH DEED BEARINGS AND NAD 83 PENNSYLVANIA STATE PLANE BEARINGS ARE SHOWN. PARENTHESIS ( ) INDICATES DEED BEARINGS.
- RIGHT-OF-WAY WIDTHS SHOWN FROM CALCULATED FIELD SURVEYED BOUNDARY CORNER EVIDENCE AND DEEDS OF RECORD. PENNDOT PLANS NOT REVIEWED. REQUEST FOR PLANS HAS BEEN MADE WITH DISTRICT 5.
- THIS PLAN WAS MADE AS PER INSTRUCTIONS OF APPLICANT AND WITH THE BENEFIT OF A TITLE REPORT PREPARED BY FIRST AMERICAN TITLE DATED MAY 23, 2024, FILE NUMBER PAF24-2534 MM.
- THIS PLAN DOES NOT SHOW ENVIRONMENTAL HAZARDS, OR ARCHEOLOGICAL SITES.
- BUILDING DIMENSIONS ARE EXTERIOR AND MAY INCLUDE COVERED ENTRANCES AND ORNAMENTAL FACADES.
- ENTIRE SITE IS LOCATED IN FLOOD ZONE "X" AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN. PER FEMA FLOOD INSURANCE RATE MAP (FIRM) OF NORTHAMPTON COUNTY, PANEL 326 OF 355, MAP # 42095C0326E, REVISED JULY 16, 2014.

**SCHEDULE B-2 EXCEPTIONS:**

- ANY DEFECT, LIEN, ENCUMBRANCE, ADVERSE CLAIM, OR OTHER MATTER THAT APPEARS FOR THE FIRST TIME IN THE PUBLIC RECORDS OR IS CREATED, ATTACHES, OR IS DISCLOSED BETWEEN THE COMMITMENT DATE AND THE DATE ON WHICH ALL OF THE SCHEDULE B, PART I-REQUIREMENTS ARE MET. (NOT A SURVEY ISSUE)
- RIGHTS OR CLAIMS BY PARTIES IN POSSESSION OR UNDER THE TERMS OF ANY UNRECORDED LEASE OR AGREEMENT(S) OF SALE. (NOT A SURVEY ISSUE)
- ANY VARIATION IN LOCATION OF LINES OR DIMENSIONS OR OTHER MATTERS WHICH AN ACCURATE SURVEY WOULD DISCLOSE. (SURVEY PERFORMED HEREIN)
- EASEMENTS, OR CLAIMS OF EASEMENTS, NOT SHOWN BY THE PUBLIC RECORDS. (NOT A SURVEY ISSUE)
- ANY LIEN, OR RIGHT TO A LIEN, FOR SERVICES, LABOR OR MATERIAL HERETOFORE FURNISHED, IMPOSED BY LAW AND NOT SHOWN BY THE PUBLIC RECORDS. (NOT A SURVEY ISSUE)
- POSSIBLE ADDITIONAL TAX INCREASE BASED ON ADDITIONAL ASSESSMENTS. (NOT A SURVEY ISSUE)
- RIGHTS OF OTHERS, IF ANY, TO THAT PORTION OF SUBJECT PREMISES LYING WITHIN THE RIGHT-OF-WAY OF THE PUBLIC ROADS. (AFFECTS PREMISES "A" AND "B") (SURVEY PERFORMED HEREIN, RIGHT-OF-WAY SHOWN)
- RESTRICTION THAT CONVEYANCE IS MADE AND ACCEPTED UPON THE EXPRESS COVENANT AND AGREEMENT THAT NEITHER THE PREMISES NOR ANY PART THEREOF, SHALL AT ANY TIME WITHIN A PERIOD OF FIVE YEARS BE USED FOR THE RETAIL SALE, STORAGE, OR DISPENSING OF GASOLINE. THIS COVENANT AND AGREEMENT IS IMPOSED FOR THE BENEFIT OF THE PARTY OF THE FIRST PART AND IS TO RUN WITH THE LAND AND A SIMILAR RESTRICTIVE COVENANT SHALL BE INSERTED IN ANY DEED OR LEASE OR OTHER INSTRUMENT CONVEYING OR DEMISING THE PREMISES AS CITED IN NORTHAMPTON COUNTY RECORD BOOK 512 PAGE 446. (AFFECTS PREMISES "A") (AFFECTS ENTIRE PROPERTY OF PARCEL A, RESTRICTS PROPERTY USAGE FOR A PERIOD OF FIVE YEARS FROM DATE OF CONVEYANCE)
- NOTICE OF CONDEMNATION BY THE COMMONWEALTH OF PENNSYLVANIA, DEPARTMENT OF TRANSPORTATION RECORDED 6/4/1999 IN NORTHAMPTON COUNTY RECORD BOOK 1999-1 PAGE 82726. (AFFECTS PREMISES "B") (AFFECTS SUBJECT PROPERTY, REQUIRED RIGHT-OF-WAY FOR E 4TH STREET, PLOTTED AS SHOWN)

**GENERAL DEMOLITION NOTES**

- ALL DEMOLITION ACTIVITIES ARE TO BE PERFORMED IN ACCORDANCE WITH THESE PLANS AND SPECIFICATIONS AS WELL AS ALL FEDERAL, STATE AND LOCAL REGULATIONS. ANY DISCREPANCIES OR DEVIATIONS IDENTIFIED BY THE CONTRACTOR SHALL BE REPORTED TO THE ENGINEER IN WRITING FOR RESOLUTION PRIOR TO INITIATION OF ACTIVITY.
- THE FIRM OR ENGINEER OF RECORD IS NOT RESPONSIBLE FOR JOB SITE SAFETY OR SUPERVISION. CONTRACTOR IS TO PROCEED WITH THE DEMOLITION IN A SYSTEMATIC AND SAFE MANNER, FOLLOWING ALL THE OSHA REQUIREMENTS AND OTHER FEDERAL, STATE, AND LOCAL REGULATIONS, TO ENSURE THE PUBLIC AND CONTRACTOR SAFETY.
- PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR/TO:
  - ENSURE COPIES OF ALL PERMITS AND APPROVALS ARE ON SITE FOR REVIEW.
  - THE REQUIRED SOIL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE PRIOR TO SITE DISTURBANCE.
  - ALL EXISTING UTILITIES AND SERVICES, INCLUDING BUT NOT LIMITED TO GAS, WATER, ELECTRIC, SANITARY AND STORM SEWER, TELEPHONE, CABLE, FIBER OPTIC CABLE, ETC. WITHIN THE LIMITS OF DISTURBANCE, SHALL BE VERTICALLY AND HORIZONTALLY LOCATED. THE CONTRACTOR SHALL USE AND COMPLY WITH THE REQUIREMENTS OF THE APPLICABLE UTILITY NOTIFICATION SYSTEM TO LOCATE ALL THE UNDERGROUND UTILITIES.
  - PROTECT AND MAINTAIN IN OPERATION, ALL ACTIVE SYSTEMS THAT ARE NOT BEING REMOVED DURING DEMOLITION ACTIVITIES.
  - FAMILIARIZE THEMSELVES WITH THE APPLICABLE UTILITY SERVICE PROVIDER REQUIREMENTS AND IS RESPONSIBLE FOR ALL COORDINATION REGARDING UTILITY DEMOLITION AND RELOCATION AS IDENTIFIED OR REQUIRED FOR PROJECT. THE CONTRACTOR SHALL PROVIDE THE OWNER WRITTEN NOTIFICATION THAT THE EXISTING UTILITIES AND SERVICES HAVE BEEN TERMINATED AND ABANDONED IN ACCORDANCE WITH JURISDICTION AND UTILITY COMPANY REQUIREMENTS.
  - COORDINATE WITH UTILITY COMPANIES AND MUNICIPALITY REGARDING WORKING "OFF-PEAK" HOURS OR ON WEEKENDS AS MAY BE REQUIRED TO MINIMIZE THE IMPACT OF THE AFFECTED PARTIES.
- ANY AND ALL CONTAMINANTS SHALL BE REMOVED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE, AND LOCAL REGULATIONS. DOCUMENTATION OF ANY AND ALL ENVIRONMENTAL WORK INCLUDING HAZARDOUS MATERIAL, SOILS, ASBESTOS, OR OTHER WORK REFERENCED OR IMPLIED HEREIN IS SOLELY THE RESPONSIBILITY OF THE OWNER'S ENVIRONMENTAL CONSULTANT.
- THE CONTRACTOR SHALL PROVIDE ALL THE "MEANS AND METHODS" NECESSARY TO PREVENT MOVEMENT, SETTLEMENT, OR COLLAPSE OF EXISTING STRUCTURES AND ANY OTHER IMPROVEMENTS TO REMAIN ON OR OFF SITE.
- IN ABSENCE OF WRITTEN SPECIFICATION, THE CONTRACTOR SHALL PERFORM EARTH MOVING ACTIVITIES, DEMOLITION AND REMOVAL OF ALL FOUNDATION WALLS, FOOTINGS, AND OTHER MATERIALS WITHIN THE LIMITS OF DISTURBANCE IN ACCORDANCE WITH DIRECTION BY OWNER'S GEOTECHNICAL ENGINEER.
- EXPLOSIVES SHALL NOT BE USED WITHOUT PRIOR WRITTEN CONSENT OF THE OWNER. ALL THE REQUIRED PERMITS AND EXPLOSIVE CONTROL MEASURES THAT ARE REQUIRED BY THE FEDERAL, STATE, AND LOCAL GOVERNMENTS SHALL BE IN PLACE PRIOR TO STARTING AN EXPLOSIVE PROGRAM. THE CONTRACTOR IS ALSO RESPONSIBLE FOR ALL INSPECTION AND SEISMIC VIBRATION TESTING THAT IS REQUIRED TO MONITOR THE EFFECTS ON ALL LOCAL STRUCTURES. APPROVAL FROM CITY OF BETHELEM IS REQUIRED FOR ANY BLASTING.
- CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL AND GENERALLY ACCEPTED SAFE PRACTICES IN CONFORMANCE WITH: THE "MANUAL ON UNIFORM TRAFFIC CONTROL," AS WELL AS FEDERAL, STATE, AND LOCAL REGULATIONS WHEN DEMOLITION RELATED ACTIVITIES IMPACT ROADWAYS OR ROADWAY RIGHT-OF-WAYS.
- CONDUCT DEMOLITION ACTIVITIES IN SUCH A MANNER TO ENSURE MINIMUM INTERFERENCE WITH ROADS, STREETS, SIDEWALKS, WALKWAYS, AND OTHER ADJACENT FACILITIES. STREET CLOSURE PERMITS MUST BE RECEIVED FROM THE APPROPRIATE GOVERNMENT AUTHORITY.
- DEMOLITION ACTIVITIES AND EQUIPMENT SHALL NOT USE AREAS OUTSIDE THE DEFINED PROPERTY LINES, WITHOUT WRITTEN PERMISSION OF THE OWNER, AND/OR APPROPRIATE GOVERNMENT AGENCY.
- USE DUST CONTROL MEASURES TO LIMIT THE AMOUNT OF AIRBORNE DUST AND DIRT RISING AND SCATTERING IN THE AIR TO WITHIN FEDERAL, STATE, AND/OR LOCAL STANDARDS. AFTER THE DEMOLITION IS COMPLETE, ADJACENT STRUCTURES AND IMPROVEMENTS SHALL BE CLEANED OF ALL DUST AND DEBRIS CAUSED BY THE DEMOLITION OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR RETURNING ALL ADJACENT AREAS TO THEIR "PRE-DEMOLITION" CONDITION.
- CONTRACTOR IS RESPONSIBLE TO SAFEGUARD SITE AS NECESSARY TO PERFORM THE DEMOLITION IN SUCH A MANNER AS TO PREVENT THE UNAUTHORIZED ENTRY OF PERSONS AT ANY TIME.
- THIS DEMOLITION PLAN IS INTENDED TO IDENTIFY THOSE EXISTING ITEMS/CONDITIONS WHICH ARE TO BE REMOVED. IT IS NOT INTENDED TO PROVIDE DIRECTION OTHER THAN THAT ALL METHODS AND MEANS ARE TO BE IN ACCORDANCE WITH STATE, FEDERAL, LOCAL AND JURISDICTIONAL REQUIREMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL OSHA AND OTHER SAFETY PRECAUTIONS NECESSARY TO PROVIDE A SAFE WORK SITE.
- THE DEMOLITION CONTRACTOR IS RESPONSIBLE FOR ALL REPAIRS OF DAMAGE TO ALL ITEMS THAT ARE TO REMAIN AS A RESULT OF HIS ACTIVITIES. ALL REPAIRS SHALL USE NEW MATERIAL. THE REPAIRS SHALL RESTORE THE ITEM TO THE PRE-DEMOLITION CONDITION.
- DEBRIS SHALL NOT BE BURIED ON THE SUBJECT SITE. ALL EXCAVATED MATERIAL AND DEBRIS (SOLID WASTE) SHALL BE DISPOSED OF IN ACCORDANCE WITH ALL MUNICIPAL, COUNTY, STATE, AND FEDERAL LAWS AND APPLICABLE CODES. CONTRACTOR SHALL PROPERLY REMOVE AND DISPOSE OF HAZARDOUS/UNUSABLE MATERIAL IN ACCORDANCE WITH ALL APPLICABLE CODES, ORDINANCES, AND LAWS.
- THE CONTRACTOR SHALL COORDINATE SERVICE SHUTOFF AND DISCONNECT/REMOVAL PROCEDURES WITH EACH RESPECTIVE UTILITY COMPANY FOR THE EXISTING UTILITIES SHOWN TO BE REMOVED.
- THE DEMOLITION PLAN IS NOT INTENDED TO SHOW EROSION CONTROL MEASURES. FOR SUCH GUIDELINES AND DETAILS, SEE THE EROSION AND SEDIMENT CONTROL PLAN AND DETAILS.
- ALL EXISTING FEATURES WITHIN THE LIMIT OF DISTURBANCE (AS DEFINED ON THE PLAN SET) ARE TO BE REMOVED (UNLESS OTHERWISE NOTED) AT NO ADDITIONAL COST TO THE OWNER WHETHER OR NOT EXPLICITLY DEPICTED ON THIS PLAN. FEATURES TO BE REMOVED INCLUDE BUT ARE NOT LIMITED TO ALL TREES, VEGETATION, STRUCTURES, ABANDONED UTILITIES, AND ABANDONED IRRIGATION PIPE AND SYSTEM COMPONENTS. CONTRACTOR SHALL ABANDON ANY WELLS PRESENT WITHIN THE LIMIT OF DISTURBANCE IN ACCORDANCE WITH APPLICABLE LAWS AND REGULATIONS.



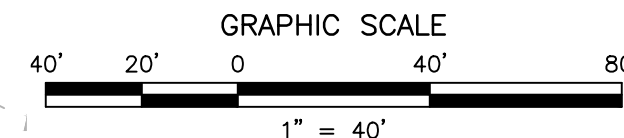
**SOILS RESOLUTIONS**

- SOILS EXHIBITING LOW STRENGTH AND ARE SUSCEPTIBLE TO CAVING OF CUT BANKS AS WELL AS LANDSLIDES - APPROPRIATE PRECAUTIONS SHOULD BE TAKEN TO SAFEGUARD WORKERS DURING ALL TRENCHING AND EXCAVATION OPERATIONS. ALL APPLICABLE OSHA STANDARDS AND REGULATIONS MUST BE IMPLEMENTED AT ALL TIMES. SOILS ARE PRONE TO SLOPE FAILURES, AND SITE SHALL BE GRADED TO PROVIDE MANAGEABLE SLOPES AS SHOWN ON THE PLANS.
- SOILS EXHIBITING LOW SHEAR STRENGTH AND POOR COHESION SHALL BE BLENDED WITH OTHER ON-SITE SOILS OR OTHERWISE TREATED UNTIL THEY MEET THE CONTRACT SPECIFICATIONS. ALTERNATIVELY LOW SHEAR STRENGTH SOILS MAY BE DISPOSED OF OFF-SITE.
- SOILS CORROSIVE TO CONCRETE AND STEEL - SUITABLE PRECAUTIONS SHALL BE TAKEN TO PROTECT ALL UNDERGROUND PIPES, CONDUITS, AND STORAGE TANKS.
- SOILS PRONE TO WETNESS, SLOW PERCOLATION, AND SEASONALLY HIGH WATER TABLES/SHALLOW DEPTH TO SATURATED ZONE - EXCAVATION IN THESE SOILS MAY ENCOUNTER WATER AND HAVE THE PRESENCE OF HYDRIC SOILS OR HYDRIC INCLUSIONS. WHEN NECESSARY, TEMPORARY DEWATERING FACILITIES SHALL BE PROVIDED TO MINIMIZE THE IMPACT OF HIGH OR SEASONAL WATER.
- SOILS DEEMED UNSUITABLE FOR CONSTRUCTION (E.G., ORGANIC SOILS, OVERLY WET SOILS, BOULDERS, ETC.), SHALL BE TREATED, BLENDED OR MODIFIED UNTIL SUITABLE, OR DISPOSED OF OFF-SITE.
- SOILS THAT ARE MOISTURE SENSITIVE AND PRONE TO FROST ACTION - WINTER GRADING IS A CONCERN DUE TO THE FINE GRAIN/COHESIVE NATURE OF THE SITE SOILS. FROZEN SOIL SHALL NOT BE USED AS FILL MATERIAL, UNLESS THAWED AND PROVEN ACCEPTABLE FOR USE AS FILL IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. PRECAUTIONS SHOULD BE TAKEN TO PREVENT ALL CONSTRUCTION FROM DAMAGE DUE TO FROST CYCLE ACTION.
- ERODIBLE SOILS EXIST AT THE SITE - SOILS PRONE TO EROSION SHALL BE CONTROLLED BY THE MEASURES AND FACILITIES PRESENTED HEREIN.
- SOILS ARE PRONE TO PIPING. CULVERTS PASSING THROUGH EMBANKMENTS SHALL BE PROVIDED WITH ANTI-SEEP PROTECTION TO PROTECT AGAINST PIPING.
- SOILS THAT ARE POOR SOURCES OF TOPSOIL, SUCH AS BEING TOO DROUGHTY OR TOO WET - SOIL TESTS ARE RECOMMENDED TO DETERMINE THE PROPER APPLICATION OF SOIL AMENDMENTS TO PROMOTE THE GROWTH OF THE DESIRED VEGETATION. WHEREVER SOILS THAT ARE FAIR OR GOOD SOURCES OF TOPSOIL MAY EXIST ON A SITE, THEY SHOULD BE CAREFULLY PRESERVED AND STORED FOR LATER USE IN RESTORATION.

**SOILS SCHEDULE**

UoD - URBAN LAND-DUFFIELD COMPLEX, 8 TO 25 PERCENT SLOPES HSG B

**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**



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NO.	DATE	REVISIONS	BY	CHKD

KRIS J. REISS, P.E.  
 LICENSED PROFESSIONAL ENGINEER  
 COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 EXISTING CONDITIONS PLAN AND DEMOLITION PLAN  
 CITY OF BETHELEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

**T&M AND ASSOCIATES**  
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 74 WEST BROAD STREET, STE 300  
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 TEL 610-625-2999  
 FAX 610-625-2999  
 www.tandmassociates.com

DESIGNED BY	KJR	DRAWING	EXC
CHECKED BY	KJR	SHEET	03
DRAWN BY	BAK	OF	24
DATE	02-20-2026	SCALE	1"=40'
PROJ. NO.	PENR00169		



PIPE TABLE	NAME	SIZE	LENGTH	SLOPE
PIPE 1	15"	31.81'	0.50%	
PIPE 2	15"	46.17'	0.50%	
PIPE 3	15"	41.09'	0.50%	
PIPE 4	15"	42.59'	0.50%	
PIPE 5	15"	56.15'	0.50%	
PIPE 6	15"	63.56'	0.50%	
PIPE 7	15"	42.58'	0.50%	
PIPE 8	15"	73.33'	0.50%	
PIPE 9	18"	116.09'	0.50%	
PIPE 10	18"	93.09'	0.50%	
PIPE 11	18"	67.61'	0.50%	
PIPE 12	18"	35.11'	2.99%	
PIPE 13	15"	29.21'	0.50%	

PIPE TABLE	NAME	SIZE	LENGTH	SLOPE
PIPE 14	18"	116.25'	0.50%	
PIPE 15	18"	43.12'	0.50%	
PIPE 15 -1	18"	118.25'	0.61%	
PIPE 16	18"	75.98'	5.83%	
PIPE 17	18"	54.42'	4.63%	
PIPE 18	15"	84.62'	1.61%	
PIPE 19	18"	5.87'	2.03%	
PIPE 20	18"	80.47'	2.20%	
PIPE 21	18"	20.00'	2.20%	
PIPE 22	15"	49.35'	5.21%	
PIPE 23	15"	14.75'	0.50%	
PIPE 24	15"	24.09'	0.50%	
PIPE 25	15"	14.44'	5.00%	

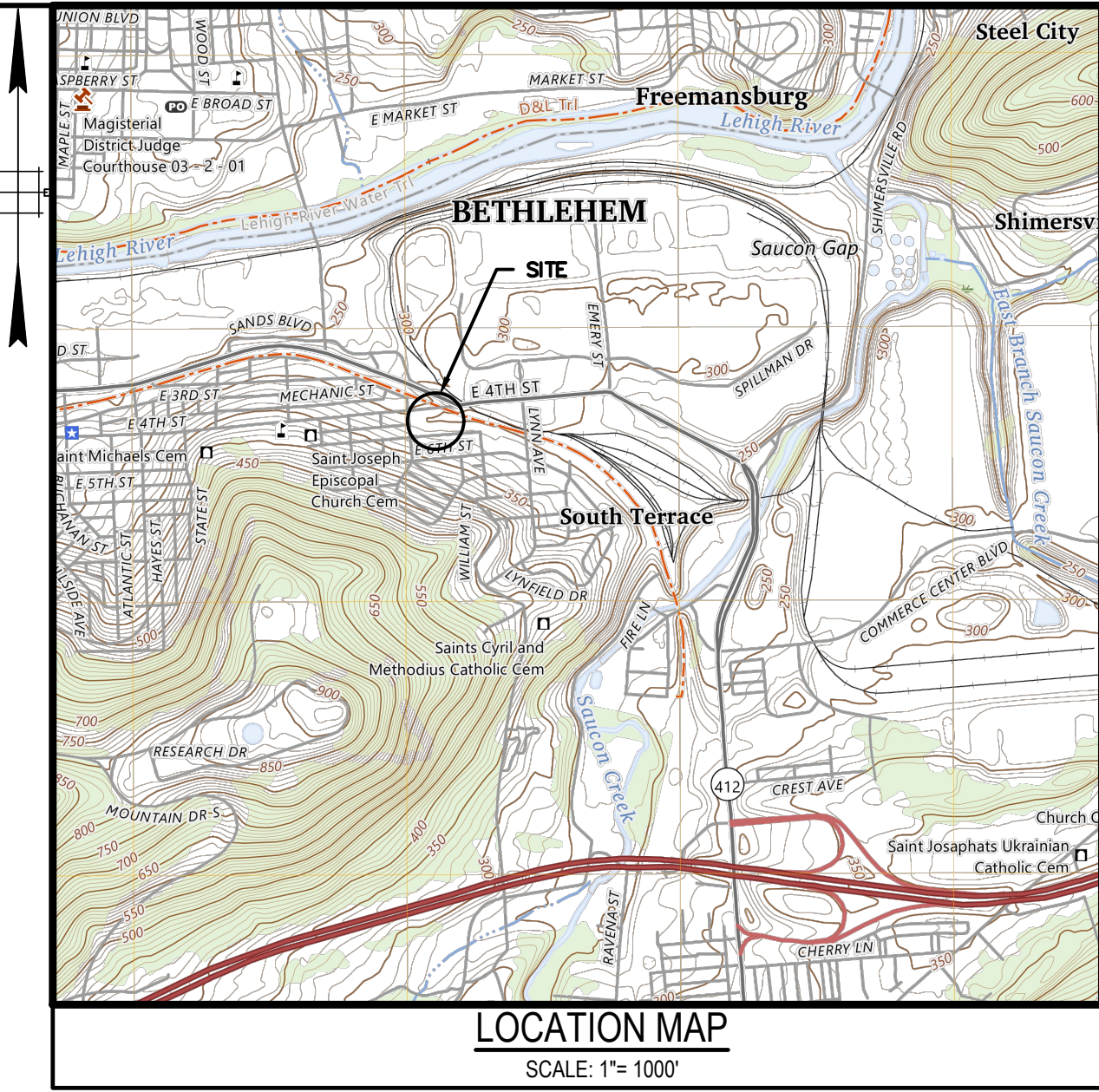
STRUCTURE TABLE	NAME	STRUCTURE DETAILS
EX. IN		RIM=295.92 PIPE 12 INV IN = 290.00
IN A-1		RIM=305.00 PIPE 14 INV OUT = 299.92
IN A-2		RIM=303.51 PIPE 14 INV IN = 299.34 PIPE 15 INV OUT = 299.24
IN A-7		RIM=301.90 PIPE 20 INV OUT = 297.60 PIPE 19 INV OUT = 298.67
IN B-1		RIM=301.50 PIPE 24 INV OUT = 296.12
IN B-2		RIM=301.50 PIPE 24 INV IN = 296.00 PIPE 23 INV OUT = 295.90
IN C-1		RIM=300.90 PIPE 8 INV IN = 297.52 PIPE 5 INV IN = 297.52 PIPE 9 INV OUT = 297.42
IN C-2		RIM=300.22 PIPE 9 INV IN = 296.84 PIPE 10 INV OUT = 296.74
IN C-3		RIM=299.00 PIPE 10 INV IN = 296.27 PIPE 11 INV OUT = 296.17

STRUCTURE TABLE	NAME	STRUCTURE DETAILS
IN D-1		RIM=300.00
MH A-3		RIM=301.00 PIPE 15 INV IN = 299.02 PIPE 18 INV IN = 299.34 PIPE 15 -1 INV OUT = 299.02
MH A-4		RIM=301.80 PIPE 15 -1 INV IN = 298.30 PIPE 16 INV OUT = 298.20
MH A-5		RIM=301.00 PIPE 16 INV IN = 293.77 PIPE 17 INV OUT = 293.67
MH A-6		RIM=300.81 PIPE 13 INV IN = 294.35 PIPE 17 INV IN = 291.15 PIPE 12 INV OUT = 291.05
MH A-8		RIM=300.16 PIPE 20 INV IN = 295.83 PIPE 21 INV IN = 295.83
MH B-3		RIM=299.75 PIPE 23 INV IN = 295.83
MH C-4		RIM=299.75 PIPE 11 INV IN = 295.83
MH E-1		RIM=298.39 PIPE 22 INV IN = 295.83

STRUCTURE TABLE	NAME	STRUCTURE DETAILS
OCS-C		PIPE 13 RIM=299.75 INV OUT = 294.50
YD-1		PIPE 1 RIM=302.24 INV OUT = 299.01
YD-2		PIPE 1 RIM=302.08 INV IN = 298.85 PIPE 2 INV OUT = 298.75
YD-3		PIPE 2 RIM=302.00 INV IN = 298.52 INV OUT = 298.42
YD-4		PIPE 6 RIM=301.75 INV OUT = 298.62
YD-5		PIPE 6 RIM=301.75 INV IN = 298.30 PIPE 7 INV OUT = 298.20
YD-6		PIPE 7 RIM=301.75 INV IN = 297.99 PIPE 8 INV OUT = 297.89
YD-7		PIPE 4 RIM=301.50 INV IN = 297.90 PIPE 5 INV OUT = 297.80
YD-8		PIPE 3 RIM=301.50 INV IN = 298.21 PIPE 4 INV OUT = 298.11

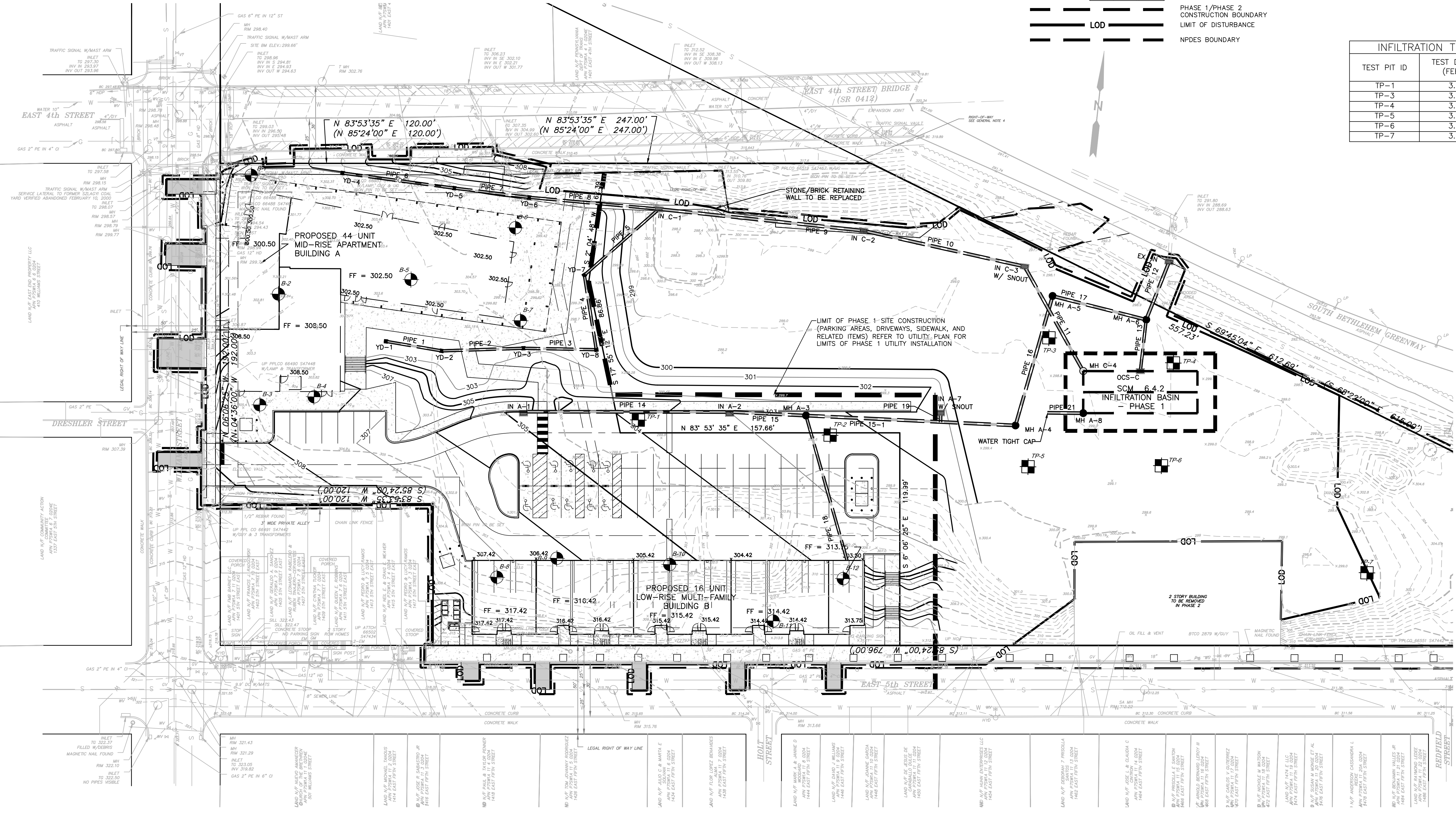
**LEGEND**

- PROPERTY LINE
- BUILDING OUTLINE
- ADJOINER PROPERTY LINE
- EXISTING DRIVEWAY/PARKING
- BUILDING SETBACK LINE
- RIGHT-OF-WAY LINE
- CONCRETE CURB
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- WATER LINE
- GAS LINE
- SEWER LINE
- EXISTING DECIDUOUS TREE (TBR)
- IRON PIN, REBAR OR IRON PIPE (FOUND)
- IRON PIN, IRON PIPE, OR MAG SPIKE (SET)
- WATER VALVE/WATER CURB BOX
- TEST PIT LOCATIONS
- BORING LOCATIONS
- NEW CONCRETE CURB LINE
- NEW BELGIAN BLOCK CURB LINE
- NEW FENCE LINE
- NEW TREELINE
- INDEX CONTOUR
- EVEN CONTOUR
- ODD CONTOUR
- NEW ASPHALT
- NEW BUILDING
- NEW BUILDING OVERHANG
- NEW CONCRETE AREA
- PHASE 1/PHASE 2 CONSTRUCTION BOUNDARY
- LIMIT OF DISTURBANCE
- NPDES BOUNDARY

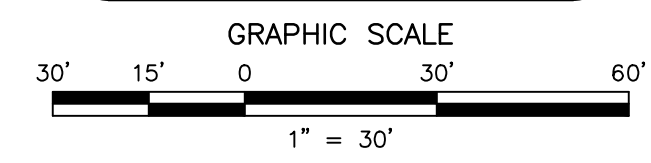


**INFILTRATION TESTING CHART**

TEST PIT ID	TEST DEPTH (FEET)	INFILTRATION RATE (INCHES/HOUR)
TP-1	3.5	0.0
TP-3	3.5	19.8
TP-4	3.0	12.4
TP-5	3.5	0.0
TP-6	3.5	19.8
TP-7	3.0	1.2



**PRELIMINARY/FINAL  
PLANS - NOT FOR  
CONSTRUCTION**



NO.	DATE	REVISIONS	BY	CHKD

**KRIS J. REISS, P.E.**  
LICENSED PROFESSIONAL ENGINEER

DATE: 02/20/2026  
COMMONWEALTH OF PENNSYLVANIA  
LICENSE NO. 056285E

GATEWAY ON FOURTH PHASE 1 LLC  
GATEWAY ON 4TH  
CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

**PHASE 1 GRADING AND DRAINAGE PLAN  
(PCSM PLAN)**

74 WEST BROAD STREET, STE 300  
BETHLEHEM, PA 18018  
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FAX 610-625-2969  
www.landmassassociates.com

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DESIGNED BY: KJR  
CHECKED BY: KUR  
DRAWN BY: BAK  
DATE: 02-20-2026  
SCALE: 1"=30'  
PROJ. NO.: PENR00169

DRAWING: PCSM  
SHEET: 05  
OF 24

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DATE: 20 Feb 2026, 11:26AM  
LAST SAVE BY: BKingbaugh





RECYCLING OR DISPOSAL METHODS

- 1. THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTE IN ACCORDANCE WITH ANY AND ALL APPLICABLE MUNICIPAL OR OTHER GOVERNMENT REGULATIONS...
2. EXCEPT FOR ITEMS OR MATERIALS INDICATED TO BE REUSED, SALVAGED, REINSTALLED, OR OTHERWISE INDICATED TO REMAIN ON THE PROPERTY...
3. DEBRIS SHALL NOT BE PERMITTED TO ACCUMULATE ON THE JOB-SITE...
4. RECYCLING OR DISPOSAL OF MATERIALS ASSOCIATED WITH OR FROM THIS PROJECT SITE SHALL BE UNDERTAKEN IN ACCORDANCE WITH PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION RULES AND REGULATIONS...
5. SEDIMENT REMOVED FROM CONTROL FACILITIES AS A PART OF REGULAR MAINTENANCE SHALL BE DISPOSED OF UPSLOPE OF CONTROL FACILITIES IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

CONSTRUCTION SEQUENCE

THE PERMITTEE AND/OR CONTRACTOR/CO-PERMITTEE SHALL NOTIFY THE COUNTY CONSERVATION DISTRICT, BY TELEPHONE OR CERTIFIED MAIL, AT LEAST SEVEN DAYS BEFORE CONSTRUCTION IS TO BEGIN... UNLESS SPECIFICALLY NOTED, EACH STEP OF THE CONSTRUCTION SEQUENCE MUST BE COMPLETED PRIOR TO STARTING WORK ON THE FOLLOWING STEP IN THE SEQUENCE.

PRIOR TO THE START OF OPERATIONS AT ANY SPOIL, BORROW OR OTHER WORK AREA NOT DETAILED ON THE ESPC PLAN, WHETHER WITHIN OR OUTSIDE OF THE INDICATED LIMIT OF EARTH DISTURBANCE, THE PERMITTEE OR CO-PERMITTEE SHALL DEVELOP AND HAVE APPROVED BY THE PROCESSING ENTITY, A SEPARATE ESPC PLAN FOR EACH SITE.

UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY OR ANY STAGE THEREOF, THE PROJECT SITE SHOULD BE IMMEDIATELY STABILIZED AS OUTLINED SPECIFIED ON THE SEED RATE TABLES ON THE DETAIL SHEET.

ALL MATERIALS REMOVED FROM THE SITE SHALL BE DISPOSED OF AT A SITE WITH AN APPROVED ESPC PLAN. 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.

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 BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.

AT LEAST 7 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER SHALL NOTIFY ALL CONTRACTORS, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS, THE E&S AND PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE FROM THE LOCAL CONSERVATION DISTRICT AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES.

PHASE 1

- 2. REFER TO ESPC STAGE 1 PLANS. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE ESPC PLANS. INSTALL ORANGE CONSTRUCTION/TREE PROTECTION FENCE AS SHOWN ON THE ESPC PLANS.
3. INSTALL COMPOST FILTER SOCK AROUND PROJECT PERIMETER AS SHOWN ON PLANS.
4. ESTABLISH STAGINO AREAS AND STOCKPILE AREA.
5. ONCE THE PERIMETER FILTER SOCKS ARE INSTALLED, CLEAR AND GRUB AND STRIP TOPSOIL AND STOCKPILE IN THE AREAS OF DEVELOPMENT FOR PHASE 1...
6. CUT AND FILL SITE TO THE LIMITS SHOWN ON THE PLAN...
7. INSTALL CONCRETE WASHOUT AREA. THE WASHOUT AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
8. WORKING DOWNSTREAM TO UPSTREAM AND IN CONJUNCTION WITH THE SITE GRADING, INSTALL STORMWATER PIPES AND INLETS FROM THE EXISTING INLET AT THE BETHLEHEM GREENWAY TRAIL TO THE NEW PARKING AREA AND BUILDING, INCLUDING STRUCTURES A-3, A-4, A-3, A-2, A-1 AND C-3, C-2, C-1, D-7, D-8, D-9, D-3, D-2, D-1 AND D-4 AND D-5 AND D-6.
9. BUILDING CONSTRUCTION OF BUILDING A AND BUILDING B MAY BEGIN. COMPLETE GRADING AND EARTHWORK. INSTALL STONE SUBBASE FOR PARKING AREA FOR PHASE 1.
10. CONSTRUCT INFILTRATION BASIN TO THE EXTENTS AS SHOWN IN PHASE 1, OUTLET STRUCTURE, AND CONNECTION TO EXISTING INLET.
11. IN CONJUNCTION WITH THE BUILDING CONSTRUCTION AND SITE WORK, INSTALL ALL WATER, SEWER, ELECTRIC, LIGHTING, AND OTHER UTILITIES...
12. COMPLETE ANY REMAINING CURB AND SIDEWALK.
13. PAVE SITE WITH PAVEMENT BASE COURSE, INSTALL LANDSCAPING AND STABILIZE ALL OTHER AREAS WITH TOP SOIL, SEED AND/OR MULCH AS APPROPRIATE.
14. PAVE ENTIRE SITE WITH PAVEMENT WEARING COURSE.
15. AFTER ALL AREAS ARE 70% STABILIZED WITH UNIFORM VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES OR GRAVEL AS APPROPRIATE...
16. ALL MATERIALS, WHETHER NATURAL OR SYNTHETIC, SHALL BE DISPOSED OF IN ACCORDANCE WITH THE PA DEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.

PHASE 2

- 1. REFER TO ESPC STAGE 2 PLANS. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE ESPC PLANS. INSTALL ORANGE CONSTRUCTION/TREE PROTECTION FENCE AS SHOWN ON THE ESPC PLANS.
2. INSTALL COMPOST FILTER SOCK AROUND PROJECT PERIMETER AS SHOWN ON PLANS.
3. ESTABLISH STAGINO AND STOCKPILE AREAS.
4. ONCE THE PERIMETER FILTER SOCKS ARE INSTALLED, CLEAR AND GRUB AND STRIP TOPSOIL AND STOCKPILE IN THE AREAS OF DEVELOPMENT FOR PHASE 2...
5. INSTALL CONCRETE WASHOUT AREA. THE WASHOUT AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
6. WORKING DOWNSTREAM TO UPSTREAM AND IN CONJUNCTION WITH THE SITE GRADING, INSTALL STORMWATER PIPES AND INLETS FOR PARKING AREAS AND IMMEDIATELY INSTALL INLET PROTECTION...
7. BUILDING CONSTRUCTION OF BUILDINGS C AND D MAY BEGIN. COMPLETE GRADING AND EARTHWORK. INSTALL STONE SUBBASE FOR PARKING AREA FOR PHASE 1.
8. EXPAND INFILTRATION BASIN TO THE EXTENTS AS SHOWN IN PHASE 2, CONNECT TO THE EXISTING INFILTRATION BASIN...
9. IN CONJUNCTION WITH THE BUILDING CONSTRUCTION AND SITE WORK, INSTALL ALL WATER, SEWER, ELECTRIC, LIGHTING, AND OTHER UTILITIES...
10. COMPLETE ANY REMAINING CURB AND SIDEWALK.
11. PAVE SITE WITH PAVEMENT BASE COURSE, INSTALL LANDSCAPING AND STABILIZE ALL OTHER AREAS WITH TOP SOIL, SEED AND/OR MULCH AS APPROPRIATE.
12. PAVE ENTIRE SITE WITH PAVEMENT WEARING COURSE.
13. AFTER ALL AREAS ARE 70% STABILIZED WITH UNIFORM VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES OR GRAVEL AS APPROPRIATE...
14. ALL MATERIALS, WHETHER NATURAL OR SYNTHETIC, SHALL BE DISPOSED OF IN ACCORDANCE WITH THE PA DEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ.

BMP CONSTRUCTION SEQUENCES

- SUBSURFACE INFILTRATION BED
1. PROTECT INFILTRATION SYSTEM AREAS FROM COMPACTION PRIOR TO INSTALLATION. STOCKPILES SHALL NOT BE PLACED OVER DETENTION BASINS.
2. INSTALL INFILTRATION SYSTEMS AS NOTED IN THE CONSTRUCTION SEQUENCE. AFTER INSTALLATION, PREVENT SEDIMENT LADEN WATER FROM ENTERING INLETS AND PIPES.
3. COMPACTION OF THE SOIL AT THE DETENTION SURFACE SHALL NOT OCCUR. THE FOLLOWING METHODS ARE EXAMPLES OF HOW COMPACTION COULD BE AVOIDED.
4. EXCAVATION AND GRADING OF THE PROPOSED INFILTRATION SYSTEMS INCLUDING THE BERM, SHALL BE COMPLETED FROM THE PERIMETER OF THE PROPOSED BMP WHERE POSSIBLE...
5. THE USE OF LOW GROUND PRESSURE (LGP) MACHINES IS ALLOWED AS LONG AS THE SPECIFICATIONS OF THE MACHINE TO BE USED ARE PROVIDED AT THE PRE-CONSTRUCTION MEETING...
6. WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS AREA SHALL BE REPAIRED WITH LIGHT EQUIPMENT...
7. INSTALL UPSTREAM AND DOWNSTREAM INLET AND OUTLET CONTROL STRUCTURES, CLEANOUTS, PERFORATED PIPING, AND ALL OTHER NECESSARY STORMWATER STRUCTURES.
8. GEOTEKILE AND BED AGGREGATE SHOULD BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION AND INSTALLATION OF STRUCTURES.

THE EXISTING SUBGRADE UNDER THE BED AREAS SHALL NOT BE COMPACTED OR SUBJECT TO EXCESSIVE CONSTRUCTION EQUIPMENT TRAFFIC PRIOR TO GEOTEKILE AND STONE BED PLACEMENT.

WHERE EROSION OF SUBGRADE HAS CAUSED ACCUMULATION OF FINE MATERIALS AND/OR SURFACE PONDING, THIS AREA SHALL BE REPAIRED WITH LIGHT EQUIPMENT AND THE UNDERLYING SOILS SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES WITH A YORK RAKE (OR EQUIVALENT) AND LIGHT TRACTOR.

INSTALL UPSTREAM AND DOWNSTREAM INLET AND OUTLET CONTROL STRUCTURES, CLEANOUTS, PERFORATED PIPING, AND ALL OTHER NECESSARY STORMWATER STRUCTURES.

GEOTEKILE AND BED AGGREGATE SHOULD BE PLACED IMMEDIATELY AFTER APPROVAL OF SUBGRADE PREPARATION AND INSTALLATION OF STRUCTURES. GEOTEKILE SHOULD BE PLACED IN ACCORDANCE WITH MANUFACTURERS STANDARDS AND RECOMMENDATIONS.

CLEAN-WASHED, UNIFORMLY GRADED AGGREGATE SHOULD BE PLACED IN THE BED IN MAXIMUM 8-INCH LIFTS. EACH LAYER SHOULD BE LIGHTLY COMPACTED, WITH CONSTRUCTION EQUIPMENT KEPT OFF THE BED BOTTOM AS MUCH AS POSSIBLE.

APPROVED SOIL MEDIA, IF APPLICABLE, SHOULD BE PLACED OVER THE INFILTRATION BED IN MAXIMUM 6-INCH LIFTS.

SEED AND STABILIZE WITH TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS), STONE, OR PAVEMENT, AS NOTED ON THE PLAN.

DO NOT REMOVE INLET PROTECTION OR OTHER EROSION AND SEDIMENT CONTROL MEASURES UNTIL SITE IS FULLY STABILIZED.

BRINGING BASIN ON-LINE ONCE CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED AND THE CONTRIBUTING DRAINAGE AREA IS STABILIZED.

APPROVED SOIL MEDIA, IF APPLICABLE, SHOULD BE PLACED OVER THE INFILTRATION BED IN MAXIMUM 6-INCH LIFTS.

SEED AND STABILIZE WITH TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS), STONE, OR PAVEMENT, AS NOTED ON THE PLAN.

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APPROVED SOIL MEDIA, IF APPLICABLE, SHOULD BE PLACED OVER THE INFILTRATION BED IN MAXIMUM 6-INCH LIFTS.

SEED AND STABILIZE WITH TOPSOIL. (VEGETATE IF APPROPRIATE WITH NATIVE PLANTINGS), STONE, OR PAVEMENT, AS NOTED ON THE PLAN.

POST CONSTRUCTION STORMWATER MANAGEMENT (PCSM) STANDARD NOTES:

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 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 P.A.C.S.A. § 4904 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 OF 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 ORDINARY COURSE OF A TITLE SEARCH OF THE USABLE SITE AREA. THE RECORD INSTRUMENT MUST IDENTIFY THE PCSM BMP, PROVIDE FOR NECESSARY ACCESS RELATED 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 SUCCESSOR GRANTEE(S), AND PROVIDE PROOF OF FILING WITH THE NOTICE OF TERMINATION UNDER § 102.7(B)(5) (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 LONG-TERM OPERATION AND MAINTENANCE OF THE PCSM BMP TO THAT PERSON 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.

RESPONSIBILITIES FOR FILL MATERIALS

- 1. THE OPERATOR MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT ANY NECESSARY FILL MATERIAL ASSOCIATED WITH THIS PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH PADEP'S POLICY MANAGEMENT OF FILL, DOCUMENT NUMBER 258-2182-773. A COPY OF THIS POLICY IS AVAILABLE ONLINE AT WWW.DEPWBS.STATE.PA.US.
2. CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSED, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE. THE USABLE SITE AREA AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM THE WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE AUTHORIZED (THE TERM "USED ASPHALT" DOES NOT INCLUDE MILLED ASPHALT OR ASPHALT THAT HAS BEEN PROCESSED FOR RE-USE).
3. CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN PADEP'S POLICY MANAGEMENT OF FILL.
4. ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE PADEP FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT WWW.DEPWBS.STATE.PA.US.
5. ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREEN, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.
6. ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES APPLICABLE PROTECTION SUBJECT TO A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPROX. A OF PADEP'S POLICY MANAGEMENT OF FILL.
7. FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS IN 25 PA CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.
8. ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SIPPING, EROSION OR EXCESS SATURATION.
9. REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.

CRITICAL STAGES OF CONSTRUCTION

THE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED DURING CRITICAL STAGES OF CONSTRUCTION BY THE ENGINEER OF RECORD AS FOLLOWS:

- 1. PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. DURING THE CONSTRUCTION OF THE SUBSURFACE INFILTRATION BASIN IN PHASE 1 AND DURING THE EXPANSION OF THE BASIN IN PHASE 2.
3. DURING THE MODIFICATION OF THE OUTLET CONTROL STRUCTURE.
4. DURING THE INSTALLATION OF STORMWATER CONTROL STRUCTURES.
5. DURING THE INSTALLATION OF LANDSCAPING AND SEEDING.
6. FOLLOWING THE COMPLETION OF ALL SITE IMPROVEMENTS.

BMP MAINTENANCE & INSPECTION

BMP 6.4.2 UNDERGROUND INFILTRATION BASIN: ALL BASIN STRUCTURES EXPECTED TO RECEIVE AND/OR TRAP DEBRIS AND SEDIMENT SHOULD BE INSPECTED FOR CLOGGING AND EXCESSIVE DEBRIS AND SEDIMENT ACCUMULATION AT LEAST FOUR TIMES PER YEAR, AS WELL AS AFTER EVERY STORM GREATER THAN 1 INCH.

STRUCTURES INCLUDING BACKFLOW PREVENTERS AND INLETS. SEDIMENT REMOVAL SHOULD BE CONDUCTED WHEN THE BASIN IS COMPLETELY DRY. SEDIMENT SHOULD BE DISPOSED OF PROPERLY.

STORMWATER MANAGEMENT OPERATION & MAINTENANCE PLAN:

- 1. THE OWNER SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL ONSITE STORMWATER FACILITIES AS FOLLOWS:
1.1. ALL STORMWATER FACILITIES SHALL BE VISUALLY INSPECTED FOLLOWING A RAINFALL EVENT OF 1/2" IN ANY 24 HOUR PERIOD.
1.2. ALL STORMWATER FACILITIES SHALL BE PHYSICALLY INSPECTED MONTHLY OR MORE FREQUENTLY DEPENDANT ON THE NEEDS OF THE SITE.
1.3. THE ENGINEER OF RECORD SHALL INSPECT THE SITE AFTER THE FIRST YEAR OF SERVICE, THEN EVERY OTHER YEAR IN THE EVENT OF FAILURES NOTICED DURING THE INITIAL INSPECTION.
1.4. ALL LAWN AREAS SHALL BE MAINTAINED WITH A MOWABLE TURF WITH A GRASS HEIGHT THAT DOES NOT EXCEED 6".
1.5. ALL INLETS SHALL HAVE ACCUMULATED SEDIMENT REMOVED MONTHLY OR MORE FREQUENTLY DEPENDANT ON SITE NEEDS.
1.6. STORMWATER FACILITIES SHALL BE INSPECTED YEARLY FOR GROWTH TYPE IN THE RAIN GARDEN, ALL WOODY AND EVASIVE SPECIES SHALL BE REMOVED AT THE END OF EACH GROWING SEASON. SEDIMENT SHALL BE REMOVED FROM THE RAIN GARDEN IF MORE THAN 3" OF THE 6" SUMP OF THE RAIN GARDEN IS FILLED WITH SEDIMENT. ONCE EVERY THREE YEARS THE RAIN GARDEN, AT THE BEGINNING OF THE GROWING SEASON, SHALL BE MOWED TO 3" STAND AND ALL LOOSE VEGETATION REMOVED.
2. THE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED DURING CONSTRUCTION BY THE ENGINEER OF RECORD IN ACCORDANCE WITH THE CRITICAL STAGES OF CONSTRUCTION.
3. THE ENGINEER OF RECORD SHALL PROVIDE A COMPLETE SET OF AS-BUILT PLANS INCLUDING THE FOLLOWING:
3.1. AS-BUILT SURVEY OF ALL PIPES, OUTLET CONTROL STRUCTURES, INLETS, STORMWATER MANHOLES, AND RAIN GARDENS.
3.2. ANY CHANGES FROM DESIGN TO AS-BUILT CONDITIONS MUST BE APPROVED BY THE ENGINEER AND THE CITY.
3.3. THE CONTRACTOR SHALL PROVIDE THE DESIGN ENGINEER AND THE CITY ENGINEER 3 WORKING DAYS PRIOR NOTICE PRIOR TO CONSTRUCTION.
4. THE ANTICIPATED START DATE FOR THIS PROJECT IS THE FALL OF 2026 AND IS ANTICIPATED TO BE COMPLETED BY THE END OF 2027.
5. A WRITTEN REPORT SHALL BE PREPARED AND KEPT, DOCUMENTING EACH INSPECTION AND ALL BMP REPAIR AND MAINTENANCE ACTIVITIES, INCLUDING DATES OF INSPECTION, DEFICIENCIES FOUND, AND DATES THEY WERE CORRECTED.
6. PCSM BMP WASTE INCLUDES THINGS SUCH AS, BUT ARE NOT LIMITED TO, LEAF DEBRIS, GRASS CLIPPINGS, EXCESS SOIL MATERIALS, GENERAL TRASH, ETC. THAT COULD ADVERSELY EFFECT OR IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING OF THE SITE, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN ACCUMULATED SEDIMENT REMOVED FROM PCSM BMPs FACILITIES AND OTHER SOILS DEEMED UNSUITABLE FOR USE AS FILL SHALL BE STABILIZED AND DISPOSED OF OFF SITE AT AN APPROVED FACILITY. OFF SITE DISPOSAL MUST COMPLY WITH ALL LOCAL, COUNTY, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

THERMAL IMPACTS

THE CONSTRUCTION OF THIS PROJECT INCLUDES THE CONSTRUCTION OF A NEW BUILDING AND PAVED AREAS. THE SITE WILL USE COMPOST FILTER SOCKS TO PROMOTE SHEET FLOW OF STORMWATER DURING CONSTRUCTION WHICH WILL DISPERSE WARM WATER TO THE GROUND SURFACE, LIMITING POINT SOURCES OF THERMAL POLLUTION. POST-CONSTRUCTION THERMAL IMPACTS WILL BE SIGNIFICANTLY MINIMIZED BY THE INSTALLATION OF THE PROPOSED SUBSURFACE INFILTRATION BASINS WHICH ALLOW COOLING AND INFILTRATION OF RUNOFF. LANDSCAPING, INCLUDING MANY TREES, WILL BE DISTRIBUTED THROUGHOUT THE SITE, TO SHADE AREAS, INCLUDING PARKING AREAS AND DRIVEWAYS.

BMP SPECIFICATIONS

REVEGETATE AND REFOREST DISTURBED AREAS, UTILIZING NATIVE SPECIES

- 1. REVEGETATE AREAS AS SHOWN ON THE PLANS AND FOR THE RAIN GARDENS, AS NOTED ON THE DETAILS.
2. PLANT TREES AT THE SPECIES AND QUANTITIES INDICATED PER THE LANDSCAPE PLAN AND IN ACCORDANCE WITH THE SPECIFICATIONS, TIME PERIOD AND OTHER REQUIREMENTS AS SHOWN ON THE PLAN.

BMP 6.4.2 UNDERGROUND INFILTRATION BASIN:

- 1. SITE PREPARATION
A. THE AREA IMMEDIATELY ADJACENT TO THE BASIN MUST BE STABILIZED IN ACCORDANCE WITH THE PADEP'S EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL (2012 OR LATEST EDITION) PRIOR TO BASIN CONSTRUCTION.
2. INSTALLATION
A. INSTALL UNDERGROUND PIPE SYSTEM PER MANUFACTURER'S SPECIFICATIONS. INSTALL SURROUNDING INLET AND OUTLET CONTROL STRUCTURES.
3. OPERATION AND MAINTENANCE
A. AN OPERATION AND MAINTENANCE PLAN IN ACCORDANCE WITH LOCAL OR STATE REGULATIONS WILL BE PREPARED. AT A MINIMUM AN INSPECTION SCHEDULE SHOULD BE INCLUDED AS PART OF THE OPERATION AND MAINTENANCE PLAN AND PERFORMED AT LEAST ANNUALLY.

LONG TERM OPERATION AND MAINTENANCE SCHEDULE

- SUBSURFACE SYSTEM
1. INSPECT BED OUTFALLS/INSPECTION PORTS FOR STORM WATER FLOW DURING RAIN FALL EVENTS MONTHLY. IF OUTFLOW IS NOTED CONTACT ENGINEER.
2. INSPECT INLETS MONTHLY FOR STANDING WATER AND ACCUMULATED SEDIMENT. ACCUMULATED SEDIMENT, ACCUMULATED SEDIMENT CAN BE FLUSHED OUT OCCASIONALLY WITH WATER OR REMOVED BY VACUUM TRUCKS, AS NEEDED. DISCHARGES FROM BED DURING FLUSHING EVENTS SHALL BE TREATED WITH A DEWATERING FILTER BACK PER ESPC DETAILS.
3. INSPECT FOR ACCUMULATION OF SEDIMENT, DAMAGE TO OUTLET CONTROL STRUCTURES, AND DAMAGE TO INLETS, AND VEGETATED AREA STABILITY. REMOVE ACCUMULATED SEDIMENT AND DEBRIS FROM THE OUTLET STRUCTURE AND INLETS AND CLEANOUTS.
4. PCSM BMP WASTE INCLUDES THINGS SUCH AS, BUT ARE NOT LIMITED TO, LEAF DEBRIS, GRASS CLIPPINGS, EXCESS SOIL MATERIALS, GENERAL TRASH, ETC. THAT COULD ADVERSELY EFFECT OR IMPACT WATER QUALITY. MEASURES SHOULD BE PLANNED AND IMPLEMENTED FOR HOUSEKEEPING OF THE SITE, MATERIALS MANAGEMENT, AND LITTER CONTROL. WHEREVER POSSIBLE, RECYCLING OF EXCESS MATERIALS IS PREFERRED, RATHER THAN DISPOSAL OF EXCESS MATERIALS.
5. ACCUMULATED SEDIMENT REMOVED FROM PCSM BMPs FACILITIES AND OTHER SOILS DEEMED UNSUITABLE FOR USE AS FILL SHALL BE STABILIZED AND DISPOSED OF OFF SITE AT AN APPROVED FACILITY. OFF SITE DISPOSAL MUST COMPLY WITH ALL LOCAL, COUNTY, STATE AND FEDERAL RULES, REGULATIONS AND LAWS.

OPERATION & MAINTENANCE

GATEWAY ON FOURTH PHASE 1 LLC, AS OWNER OF THE SITE, ITS SUCCESSORS OR ASSIGNS SHALL BE RESPONSIBLE FOR THE PROPER MAINTENANCE OF ALL POST CONSTRUCTION STORMWATER MANAGEMENT FACILITIES AND RELATED ITEMS INCLUDED WITHIN THIS PLAN AND NARRATIVE. ALL STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES SHALL REMAIN IN PLACE AND SHALL BE MAINTAINED IN THE APPROVED DESIGN CONDITIONS. FACILITIES SHALL BE INSPECTED QUARTERLY AFTER ALL MAJOR STORM EVENTS. ADDITIONALLY, A DETAILED INSPECTION BY A QUALIFIED INSPECTOR SHALL OCCUR AT LEAST ONCE ANNUALLY. INSPECTIONS SHALL BE COMPLETED BY THE FIRST YEAR AFTER THE SITE HAS BEEN STABILIZED AS RECOMMENDED. IF RESTORATION ACTIVITIES ARE REQUIRED, A SCHEDULE INDICATING THE DATE WHEN THE RESTORATION ACTIVITIES WILL BE STARTED AND COMPLETED SHALL BE COMPLETED. INSPECTIONS SHALL, AT A MINIMUM, INCLUDE:

- INSPECTING FOR DAMAGE TO THE FACILITY.
• NOTE SIGNS OF WEAR AND ADDRESS APPROPRIATELY.
• MONITOR SEDIMENT ACCUMULATIONS IN ALL STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES.
• ENSURE INLET AND OUTLET DEVICES ARE FREE OF DEBRIS AND OPERATIONAL.

GENERAL MAINTENANCE PROCEDURES

OBSTRUCTIONS AND DEBRIS

ALL STORMWATER MANAGEMENT FACILITIES SHALL BE CLEARED OF ALL DEBRIS AND LITTER ON A REGULAR BASIS AND AFTER ALL MAJOR STORM EVENTS. ADDITIONALLY, FLOATING DEBRIS SHALL BE REMOVED, AND THE FACILITY SHALL BE INSPECTED FOR VISIBLE POLLUTION OR SHORELINE PROBLEMS. ERODED CHANNELS OR AREAS OF EXCESSIVE EROSION NEAR THE FACILITY SHALL BE BACKFILLED AND STABILIZED IMMEDIATELY.

SEDIMENT ACCUMULATION

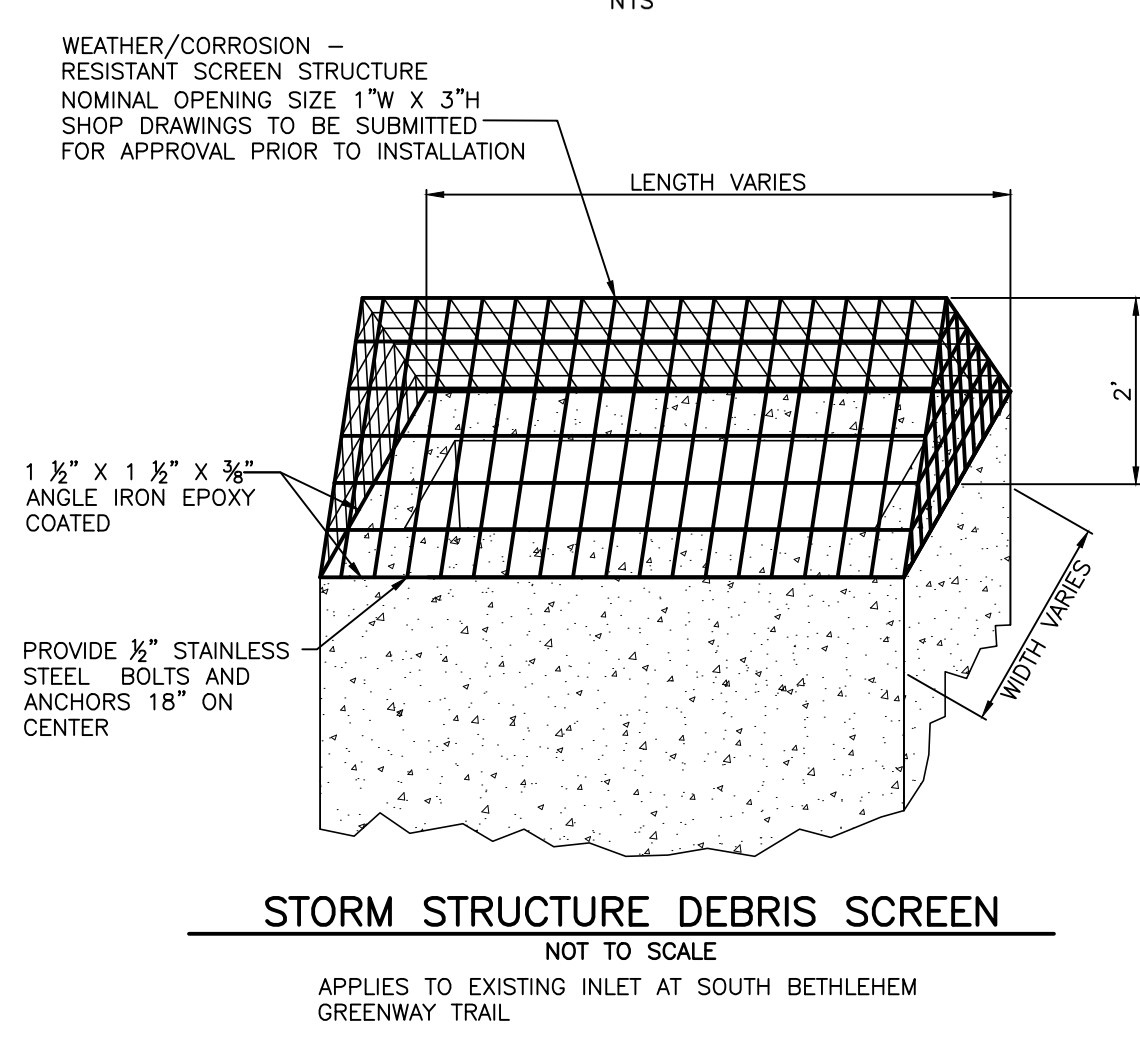
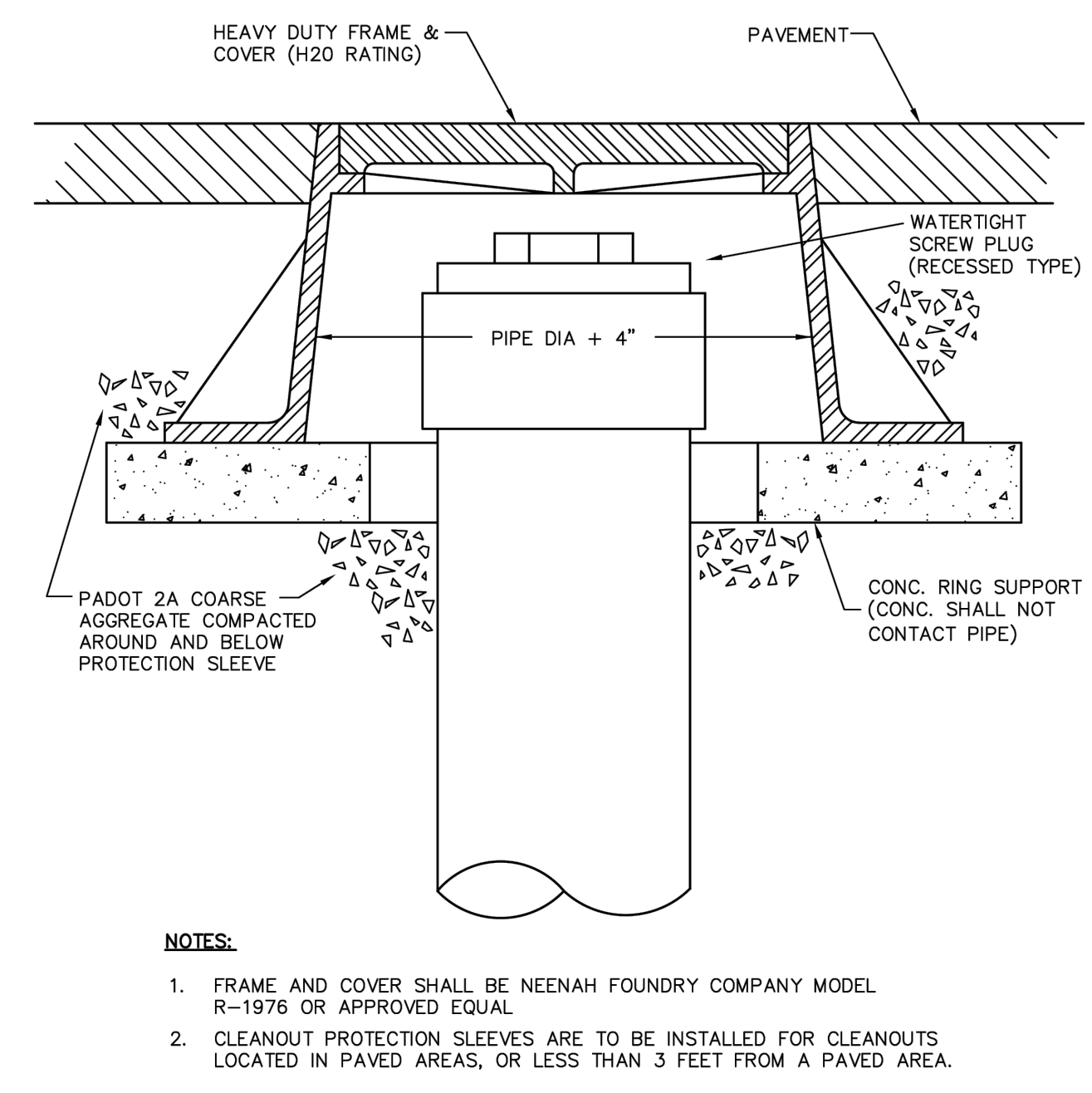
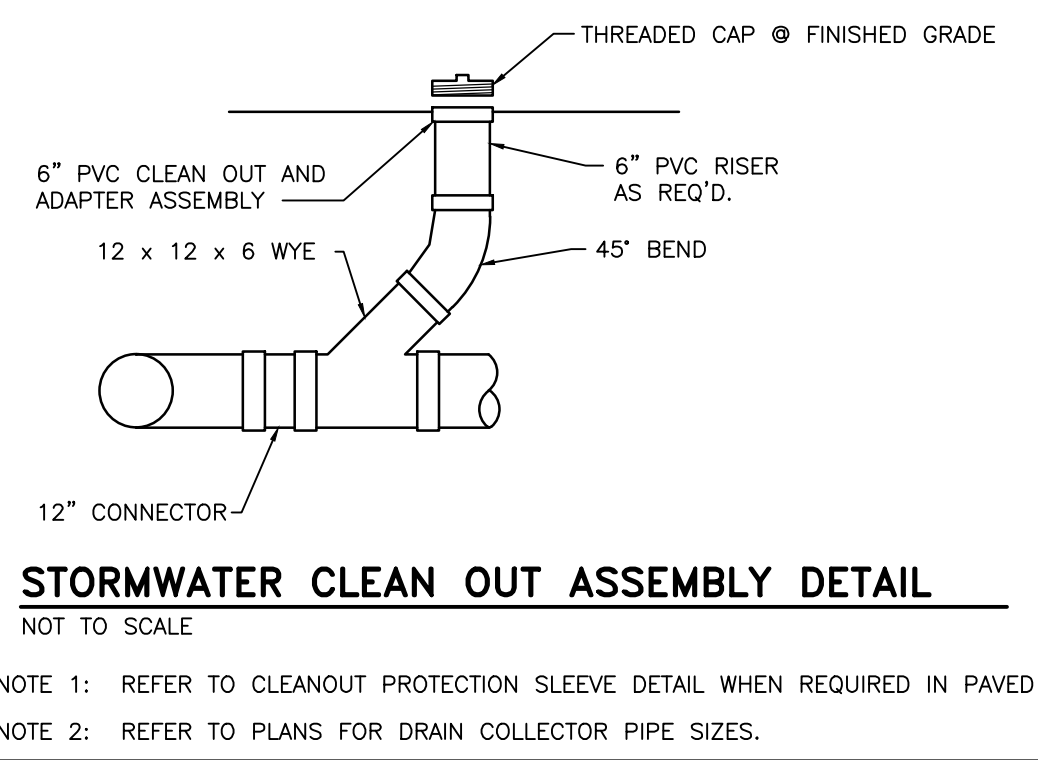
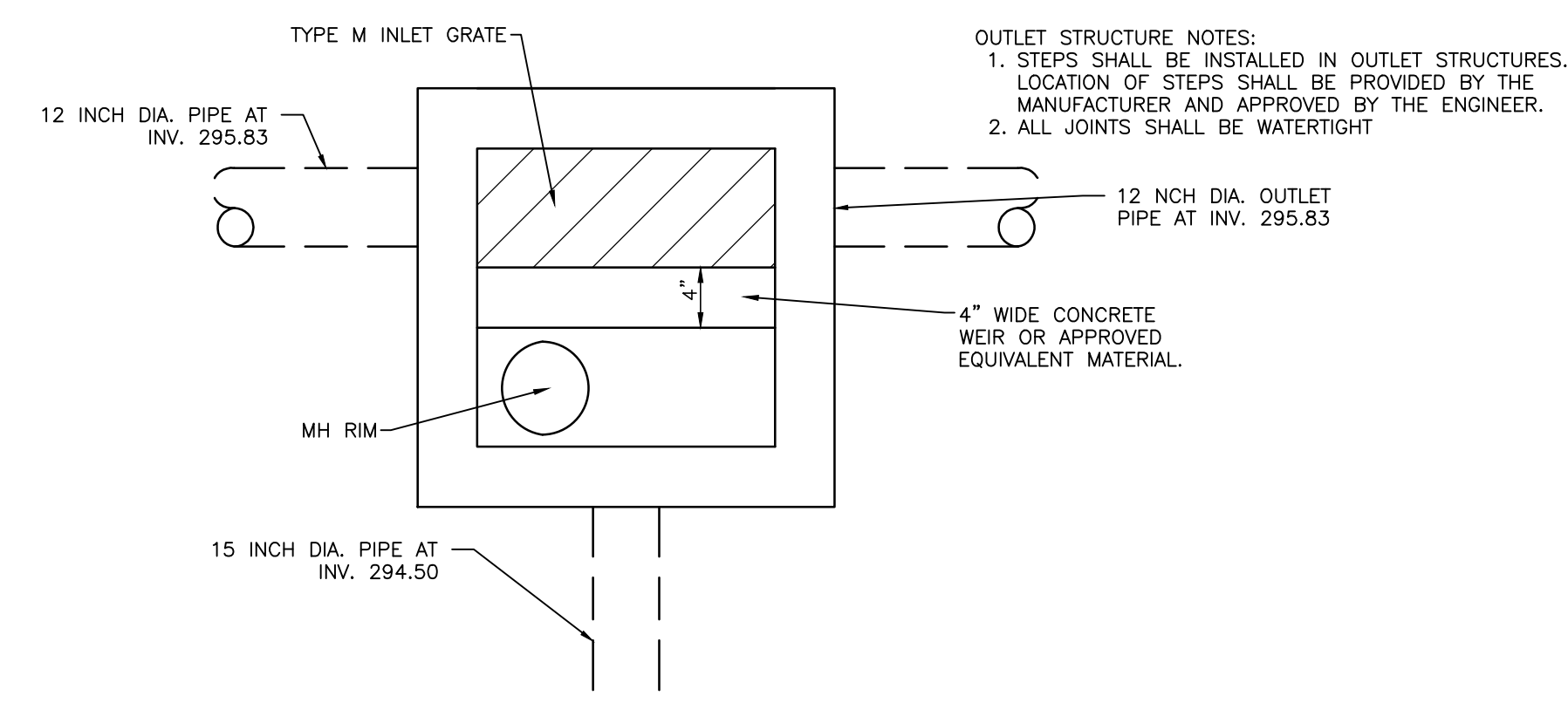
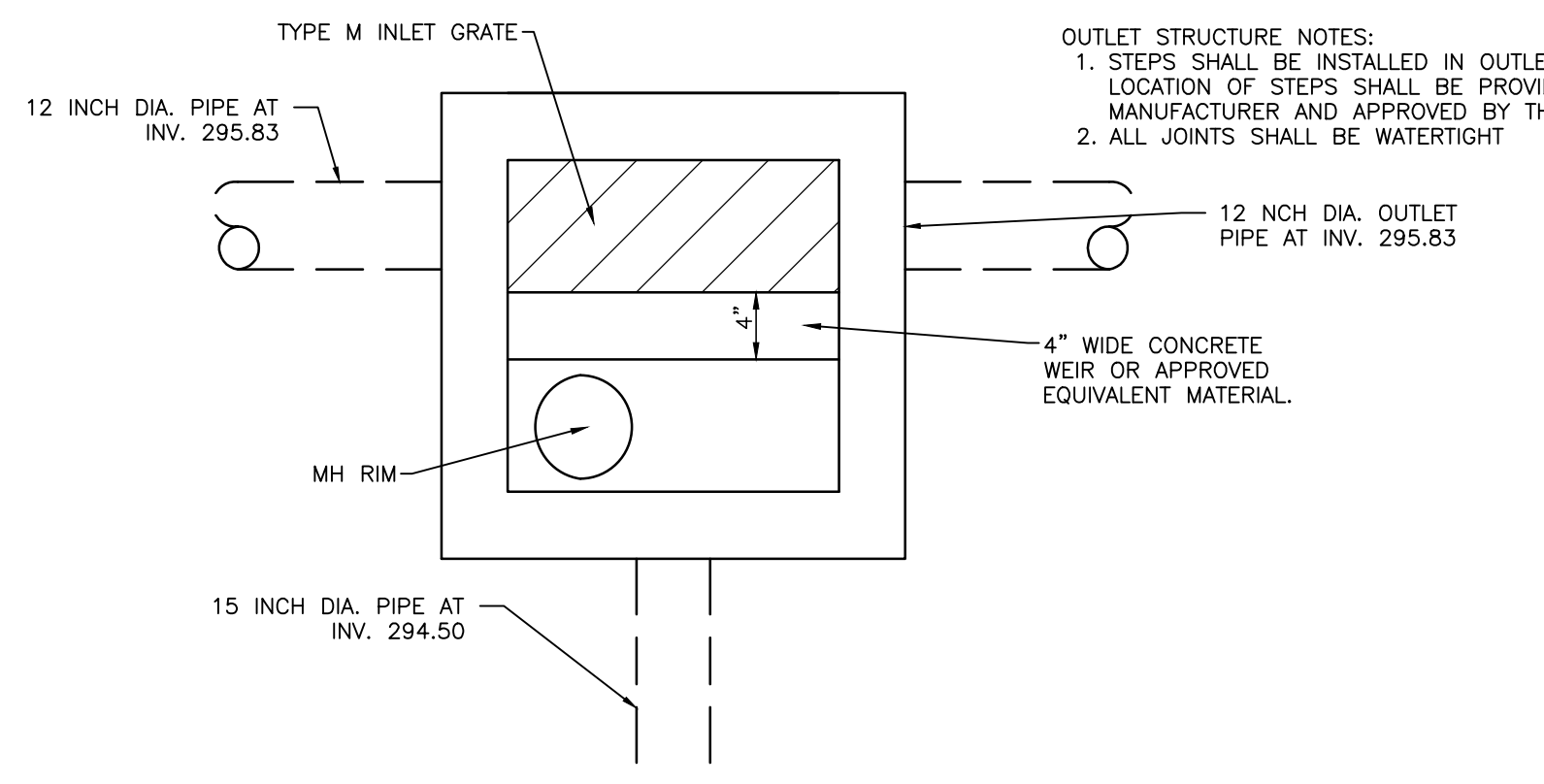
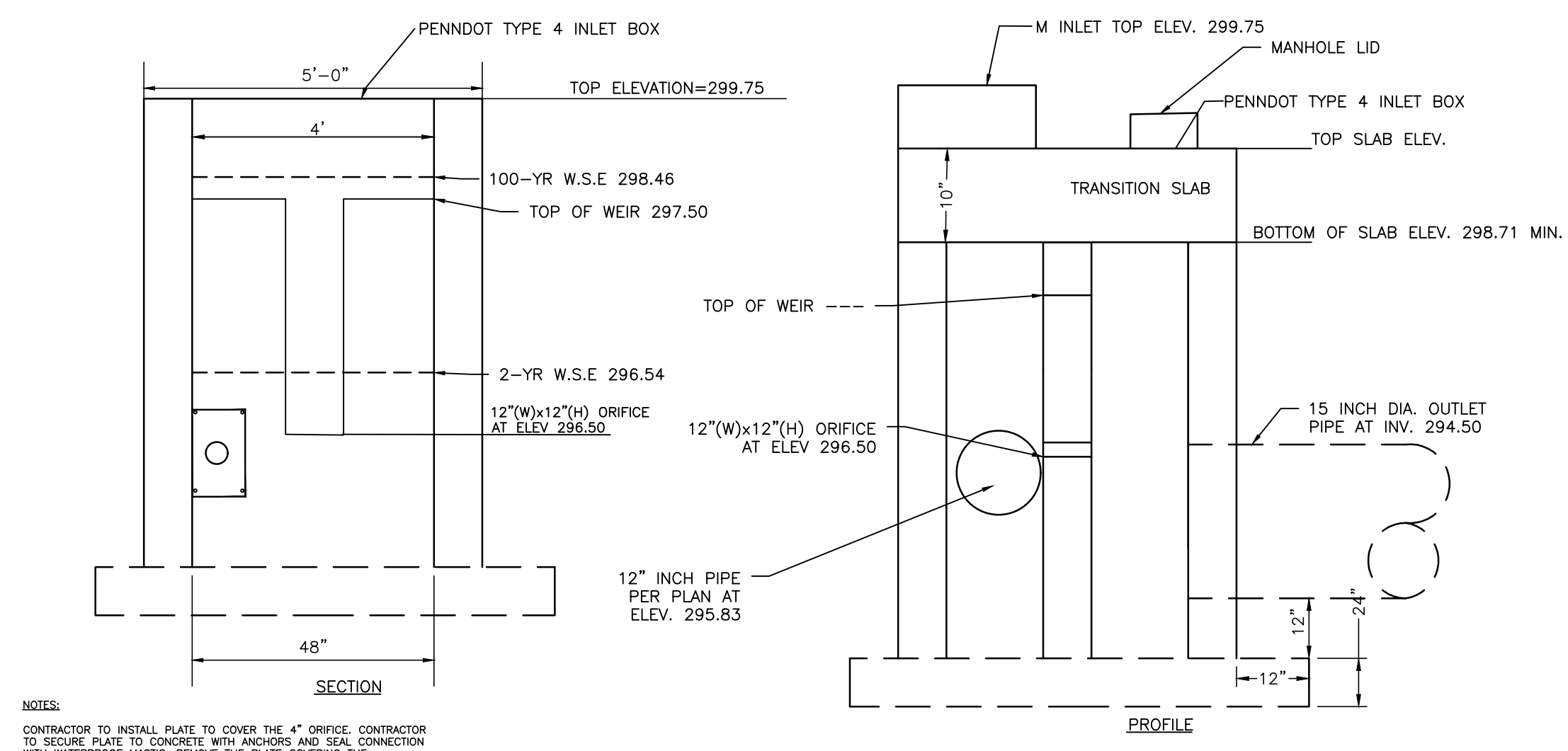
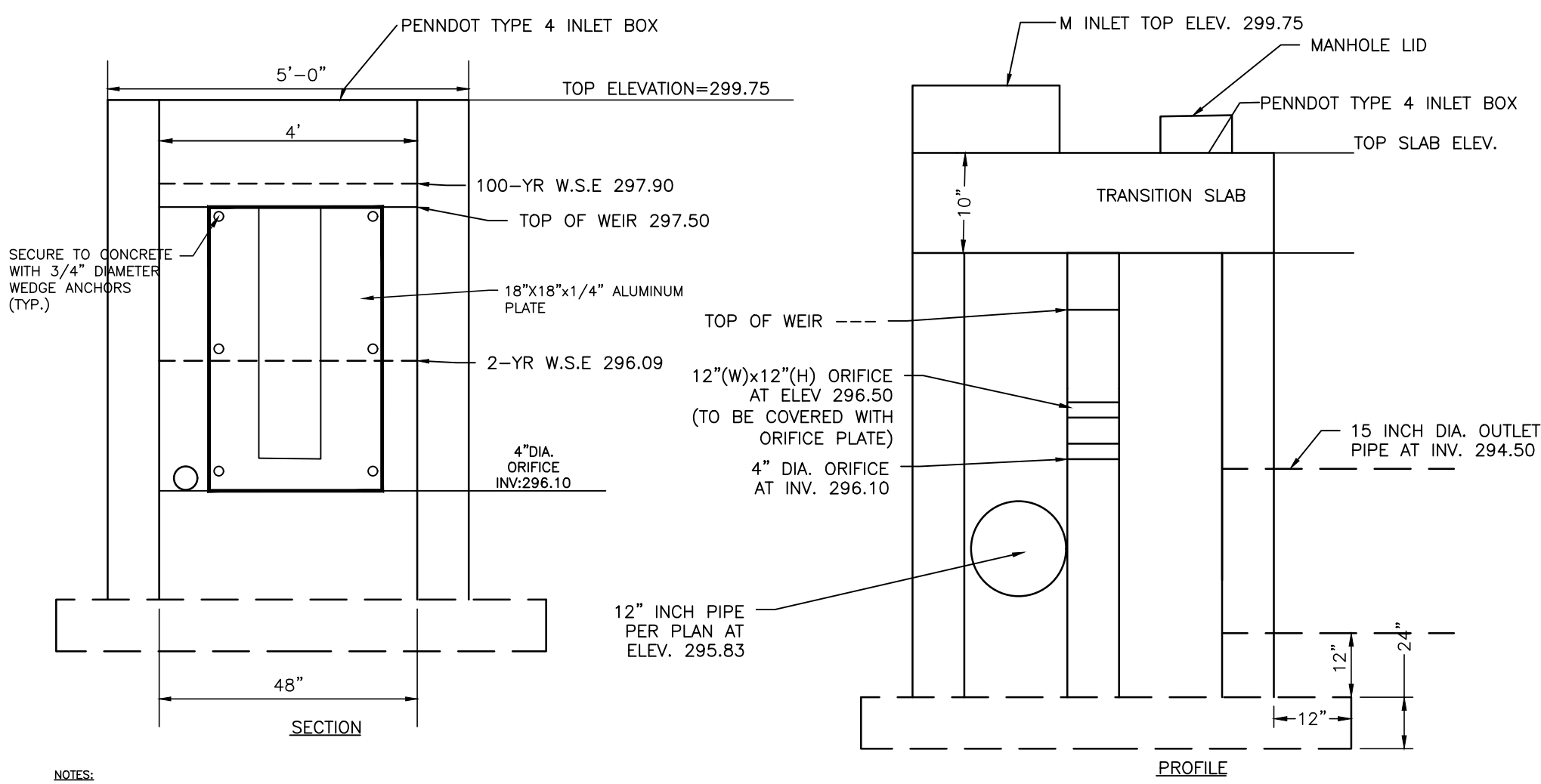
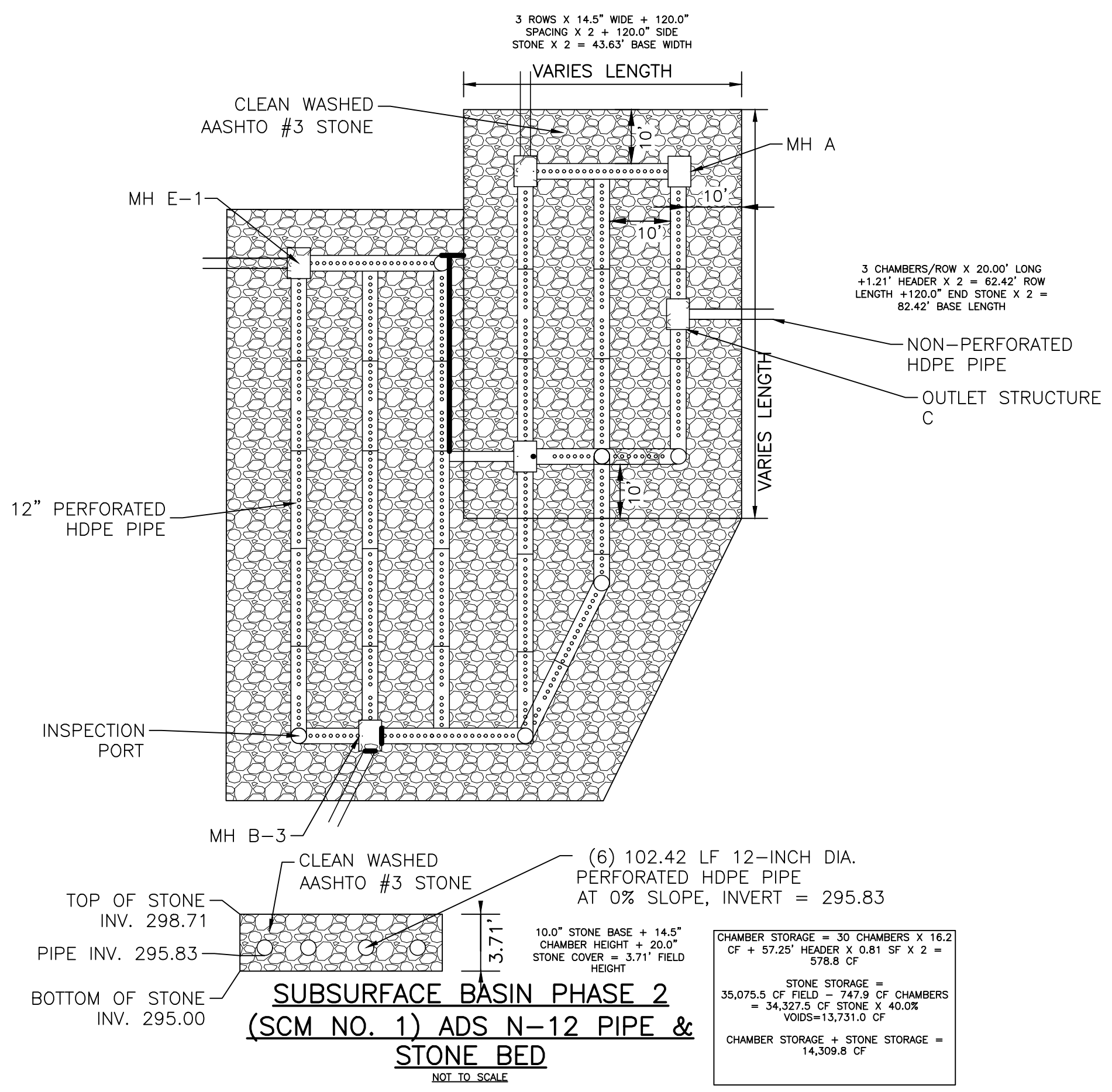
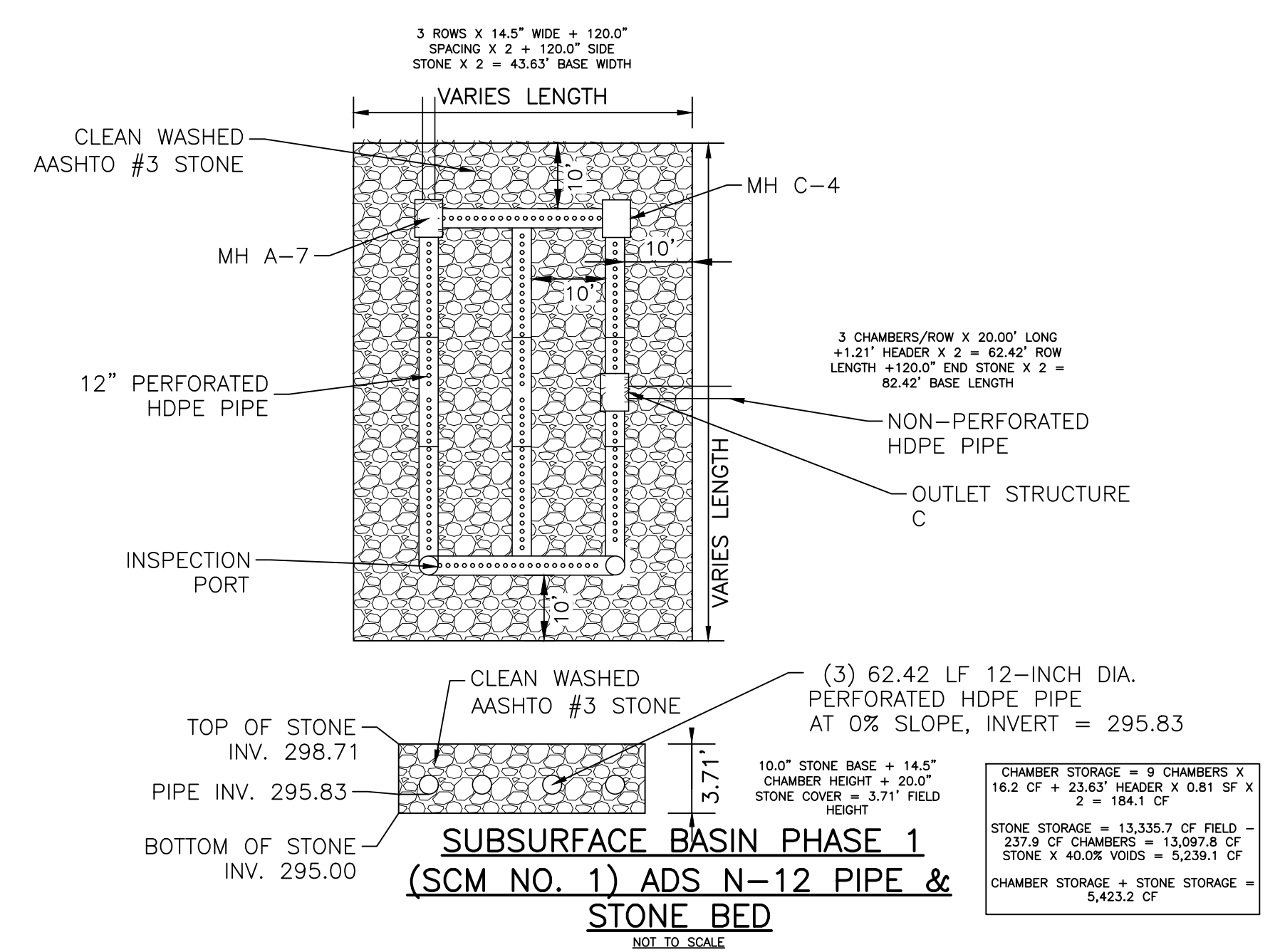
MONITOR SEDIMENT ACCUMULATIONS IN ALL STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES. REMOVE SEDIMENT IF STORAGE VOLUMES HAVE BEEN REDUCED SIGNIFICANTLY. ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE STORMWATER MANAGEMENT AND WATER QUALITY FACILITIES ON A REGULAR BASIS AND EVERY 2 TO 3 YEARS MINIMUM. SEDIMENT EITHER BE REMOVED FROM THE SITE OR DISPOSED OF ON-SITE AT AN APPROVED DISPOSAL AREA. MAINTENANCE OF CATCH BASINS AND INLETS IS BEST DONE AT LEAST ANNUALLY WITH A VACUUM TRUCK. ALL COLLECTED WASTE MUST BE HANDLED AND DISPOSED OF ACCORDING TO LOCAL ENVIRONMENTAL REQUIREMENTS. PRIOR TO ON-SITE DISPOSAL OF SEDIMENT, THE OWNER SHALL ACQUIRE THE APPROPRIATE EARTH DISTURBANCE PERMITS FROM THE MUNICIPALITY AND/OR THE CONSERVATION DISTRICT. SEDIMENT REMOVED FROM THE BMPs MAY BE DISPOSED OF IN LANDSCAPED AREAS OR IN DRAINAGE SWALES OR DRAINAGE PLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.

INFILTRATION FACILITIES



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NO.	DATE	REVISIONS	BY	CHKD

CRIS J. REISS, P.E.  
 LICENSED PROFESSIONAL ENGINEER

02/20/2026  
 DATE

COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E

GATEWAY ON FOURTH PHASE 1 LLC

GATEWAY ON 4TH

CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

POST CONSTRUCTION STORMWATER MANAGEMENT DETAILS

**TAM ASSOCIATES**

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74 WEST BROAD STREET, STE 300  
 BETHLEHEM, PA 18018  
 TEL 610-625-2999  
 FAX 610-625-2969  
 www.tamassociates.com

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DESIGNED BY	KJR	DRAWING	PCSM
CHECKED BY	KJR	SHEET	10
DRAWN BY	BAK	OF	24
DATE	02-20-2026	SCALE	AS NOTED
PROJ. NO.	PENR00169		

LEGEND	
	PROPERTY LINE
	BUILDING OUTLINE
	ADJOINER PROPERTY LINE
	EXISTING DRIVEWAY/PARKING
	BUILDING SETBACK LINE
	RIGHT-OF-WAY LINE
	CONCRETE CURB
	EXISTING CONTOUR MAJOR
	EXISTING CONTOUR MINOR
	WATER LINE
	GAS LINE
	SEWER LINE
	EXISTING DECIDUOUS TREE (TBR)
	IRON PIN, REBAR OR IRON PIPE (FOUND)
	IRON PIN, IRON PIPE, OR MAG SPIKE (SET)
	WATER VALVE/WATER CURB BOX
	SOILS BOUNDARY AND DESIGNATOR

LEGEND	
	NEW CONCRETE CURB LINE
	NEW BELGIAN BLOCK CURB LINE
	NEW FENCE LINE
	NEW TREELINE
	INDEX CONTOUR
	EVEN CONTOUR
	ODD CONTOUR
	NEW ASPHALT
	NEW BUILDING
	NEW BUILDING OVERHANG
	NEW CONCRETE AREA
	LIMIT OF DISTURBANCE
	NPDES BOUNDARY
	COMPOST FILTER SOCK
	STEEP SLOPE MATTING

### SOILS RESOLUTIONS

A. SOILS EXHIBITING LOW STRENGTH AND ARE SUSCEPTIBLE TO CAVING OF CUT BANKS AS WELL AS LANDSLIDES - APPROPRIATE PRECAUTIONS SHOULD BE TAKEN TO SAFEGUARD WORKERS DURING ALL TRENCHING AND EXCAVATION OPERATIONS. ALL APPLICABLE OSHA STANDARDS AND REGULATIONS MUST BE IMPLEMENTED AT ALL TIMES. SOILS ARE PRONE TO SLOPE FAILURES, AND SITE SHALL BE GRADED TO PROVIDE MANAGEABLE SLOPES AS SHOWN ON THE PLANS.

B. SOILS EXHIBITING LOW SHEAR STRENGTH AND POOR COHESION SHALL BE BLENDED WITH OTHER ON-SITE SOILS OR OTHERWISE TREATED UNTIL THEY MEET THE CONTRACT SPECIFICATIONS. ALTERNATIVELY LOW SHEAR STRENGTH SOILS MAY BE DISPOSED OF OFF-SITE.

C. SOILS CORROSIVE TO CONCRETE AND STEEL - SUITABLE PRECAUTIONS SHALL BE TAKEN TO PROTECT ALL UNDERGROUND PIPES, CONDUITS, AND STORAGE TANKS.

D. SOILS PRONE TO WETNESS, SLOW PERCOLATION, AND SEASONALLY HIGH WATER TABLES/SALLOW DEPTH TO SATURATED ZONE - EXCAVATION IN THESE SOILS MAY ENCOUNTER WATER AND HAVE THE PRESENCE OF HYDRIC SOILS OR HYDRIC INCLUSIONS. WHEN NECESSARY, TEMPORARY Dewatering FACILITIES SHALL BE PROVIDED TO MINIMIZE THE IMPACT OF HIGH OR SEASONAL WATER.

E. SOILS DEEMED UNSUITABLE FOR CONSTRUCTION (E.G., ORGANIC SOILS, OVERLY WET SOILS, BOULDERS, ETC.), SHALL BE TREATED, BLENDED OR MODIFIED UNTIL SUITABLE, OR DISPOSED OF OFF-SITE.

F. SOILS THAT ARE MOISTURE SENSITIVE AND PRONE TO FROST ACTION - WINTER GRADING IS A CONCERN DUE TO THE FINE GRAIN/COHESIVE NATURE OF THE SITE SOILS. FROZEN SOIL SHALL NOT BE USED AS FILL MATERIAL, UNLESS THAWED AND PROVEN ACCEPTABLE FOR USE AS FILL IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. PRECAUTIONS SHOULD BE TAKEN TO PREVENT ALL CONSTRUCTION FROM DAMAGE DUE TO FROST CYCLE ACTION.

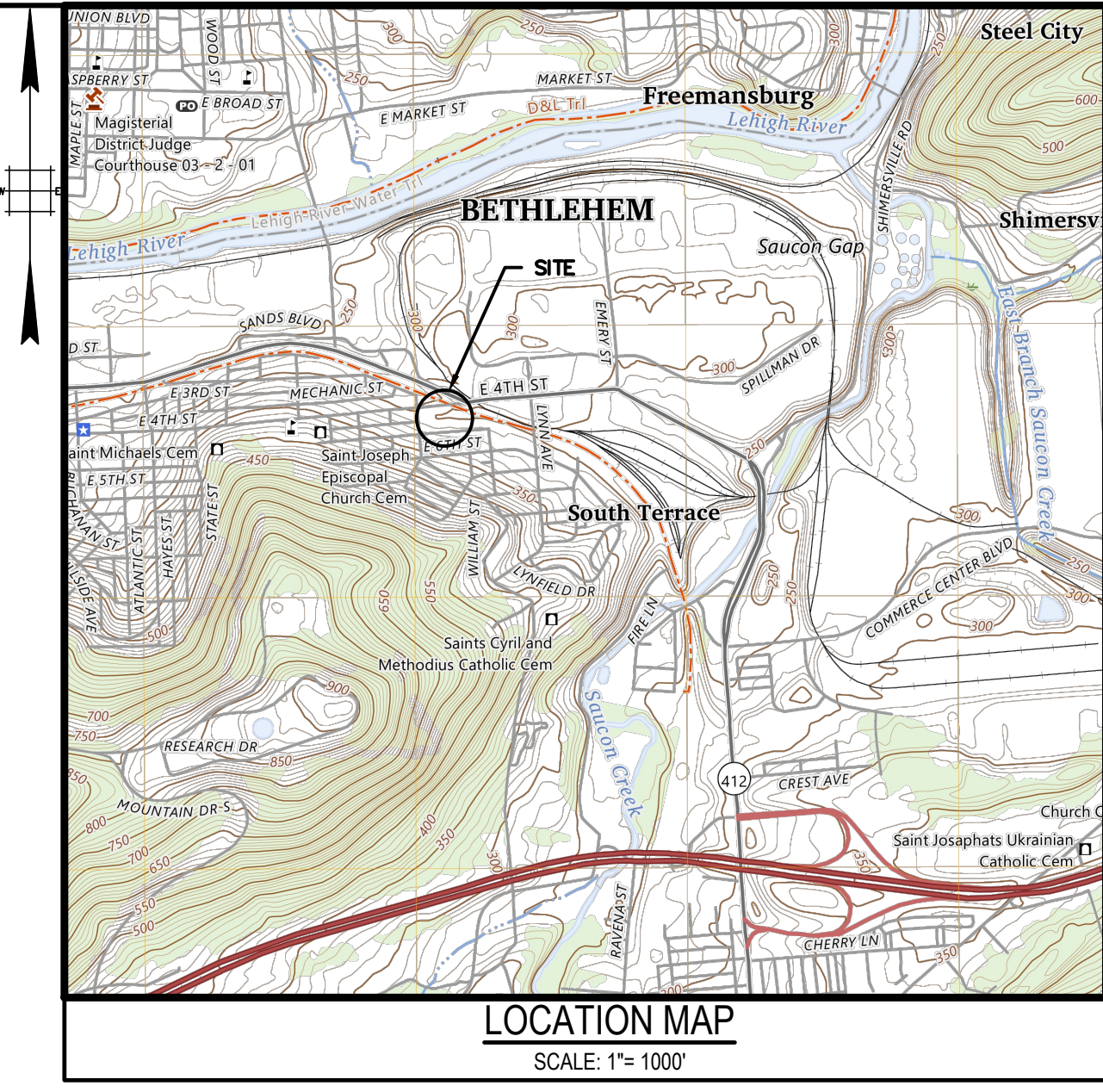
G. ERODIBLE SOILS EXIST AT THE SITE - SOILS PRONE TO EROSION SHALL BE CONTROLLED BY THE MEASURES AND FACILITIES PRESENTED HEREIN.

H. SOILS ARE PRONE TO PIPING, CULVERTS PASSING THROUGH EMBANKMENTS SHALL BE PROVIDED WITH ANTI-SEEP PROTECTION TO PROTECT AGAINST PIPING.

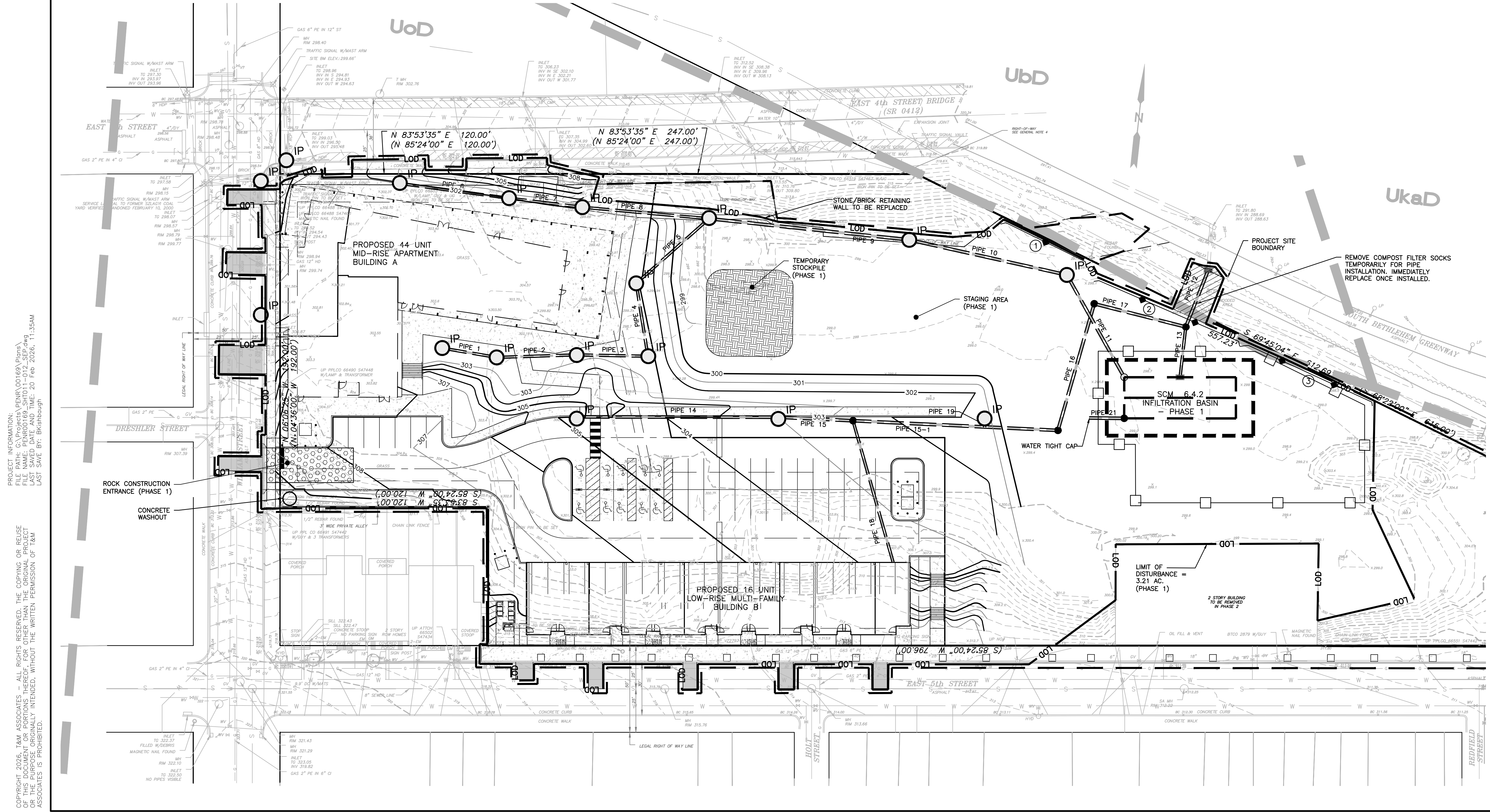
I. SOILS THAT ARE POOR SOURCES OF TOPSOIL, SUCH AS BEING TOO DROUGHTY OR TOO WET - SOIL TESTS ARE RECOMMENDED TO DETERMINE THE PROPER APPLICATION OF SOIL AMENDMENTS TO PROMOTE THE GROWTH OF THE DESIRED VEGETATION. WHEREVER SOILS THAT ARE FAIR OR GOOD SOURCES OF TOPSOIL MAY EXIST ON A SITE, THEY SHOULD BE CAREFULLY PRESERVED AND STORED FOR LATER USE IN RESTORATION.

### SOILS SCHEDULE

UoD - URBAN LAND-DUFFIELD COMPLEX, 8 TO 25 PERCENT SLOPES



NO.	DATE	REVISIONS	BY	CHKD



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KRIS J. REISS, P.E.  
 LICENSED PROFESSIONAL ENGINEER

02/20/2026  
 DATE

COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

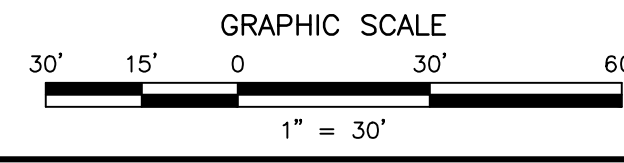
PHASE 1 EROSION AND SEDIMENT CONTROL PLAN

YOUR GOALS. OUR MISSION.

74 WEST BROAD STREET, STE 300  
 BETHLEHEM, PA 18018  
 TEL 610-625-2999  
 FAX 610-625-2969  
 www.tandmassociates.com

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CHECKED BY	KJR	DRAWN BY	BAK
DATE	02-20-2026	SCALE	1"=30'
PROJ. NO.	PENR00169	SHEET	11
		OF	24

PRELIMINARY/FINAL  
 PLANS - NOT FOR  
 CONSTRUCTION





**GENERAL EROSION & SEDIMENT CONTROL PROCEDURES**

- ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE CONDUCTED WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLAN. A COPY OF THE APPROVED DRAWINGS (PROJECT, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION. CHANGES, THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
- AT LEAST SEVEN (7) DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, INCLUDING CLEARING AND GRUBBING, THE OWNER AND/OR OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, APPROPRIATE MUNICIPAL OFFICIALS INCLUDING CITY ENGINEER, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, THE PCSM PLAN PREPARER, THE LICENSED PROFESSIONAL RESPONSIBLE FOR OVERSIGHT OF CRITICAL STAGES OF IMPLEMENTATION OF THE PCSM PLAN, AND A REPRESENTATIVE OF THE NORTHAMPTON COUNTY CONSERVATION DISTRICT TO AN ON-SITE PRECONSTRUCTION MEETING.
- AT LEAST THREE (3) DAYS PRIOR TO THE START OF ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY STABILIZED, THE CONTRACTOR SHALL NOTIFY THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
- 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 THE DEPARTMENT PRIOR TO IMPLEMENTATION.
- AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTABLE MATERIAL.
- 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 OCCUR IN ANY STAGE OF IMPLEMENTATION OF THE PROJECT UNTIL THE E&S BMPs SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
- AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE. BOUNDARIES SHOWN ON THE PLAN MAPS MUST BE MAINTAINED TO MINIMIZE DISTURBANCE.
- TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN IN THE AMOUNTS NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS TO BE STABILIZED. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
- IMMEDIATELY UPON DISCOVERING UNDESIRABLE CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR FORESETMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST 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.
- ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR AND RECYCLED OR DISPOSED 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. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.
- 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.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CERTIFIED CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL. A FIELD TEST OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN. FLOW UNDISTURBED SURFACE AREAS. ALL PUMPING OF SEDIMENT LADEN WATER SHALL BE THROUGH A SEDIMENT CONTROL BMP. SUCH AS A PUMPED WATER FILTER BAG DISCHARGING OVER NON-DISTURBED AREAS.
- VEHICLES AND EQUIPMENT MAY NEITHER ENTER DIRECTLY NOR EXIT DIRECTLY FROM THE CONSTRUCTION SITE ONTO ANY PUBLIC ROAD. VEHICLES AND EQUIPMENT MAY ENTER AND EXIT THE CONSTRUCTION SITE ONLY VIA A STABILIZED ROCK CONSTRUCTION ENTRANCE.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPs SHALL BE MAINTAINED PROPERLY. MAINTENANCE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS, THE CONTRACTOR WILL MAINTAIN AND MAKE AVAILABLE TO NORTHAMPTON COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THESE INSPECTIONS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPs FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPs, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
- 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 AVAILABLE TO REGULATORY AGENCIES, LOCAL AGENCIES, AND THE PUBLIC.
- SEDIMENT TRACKED ONTO ANY ROADWAY OR SIDEWALK SHALL BE RETURNED TO THE CONSTRUCTION SITE BY THE END OF EACH WORK DAY AND AS NEEDED THROUGHOUT THE WORKDAY OR AS DIRECTED BY EACH WORKING CITY OR MUNICIPALITY AND DISPOSED AS A MAINTENANCE RESPONSIBILITY. SEDIMENT TRACKED ONTO SIDEWALKS, DRIVEWAYS, SHOULEDS, OR SWEEP INTO ANY ROADSIDE DITCH, STORM SEWER, OR SURFACE WATER.
- ALL SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN A MANNER DESCRIBED ON PLAN DRAWINGS. SEDIMENT REMOVED FROM BMPs SHALL BE DISPOSED OF IN LANDSCAPED AREAS OUTSIDE OF STEEP SLOPES, WETLANDS, FLOODPLAINS OR DRAINAGE SWALES AND IMMEDIATELY STABILIZED, OR PLACED IN TOPSOIL STOCKPILES.
- UPON FINAL GRADING, 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 FOUR (4) INCHES OF TOPSOIL PLACED PRIOR TO SEEDING AND MULCHING. FILL OUTSLOPES SHALL HAVE A MINIMUM OF 4 INCHES OF TOPSOIL.
- ALL FILLS SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, 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.
- ALL EARTHEN FILLS SHALL BE PLACED IN COMPACTED LAYERS NOT TO EXCEED 9 INCHES IN THICKNESS.
- FILL MATERIALS SHALL BE FREE OF FROZEN PARTICLES, BRUSH, ROOTS, SOD, OR OTHER FOREIGN OR OBJECTABLE MATERIALS THAT WOULD INTERFERE WITH OR PREVENT CONSTRUCTION OF SATISFACTORY FILL. MATERIALS OF SOFT, MUCKY, OR HIGHLY COMPRESSIBLE MATERIALS SHALL NOT BE INCORPORATED INTO FILLS.
- FILL SHALL NOT BE PLACED ON SATURATED OR FROZEN SURFACES.
- SEEPS OR SPRINGS UNCOVERED DURING CONSTRUCTION SHALL BE HANDLED IN ACCORDANCE WITH THE STANDARD SPECIFICATION FOR SUBSURFACE DRAIN OR OTHER APPROVED METHOD.
- ALL GRADED AREAS SHALL BE PERMANENTLY STABILIZED IMMEDIATELY UPON REACHING FINISHED GRADE. SLOPES IN COMPETENT BEDROCK AND ROCK FILLS NEED NOT BE SEEDED. SEEDING AREAS WITH SOFT OR UNCONSOLIDATED BEDROCK OR OTHER MATERIALS SHOWN ON THE PLAN DRAWINGS, SHALL BE BLANKETED ACCORDING TO THE STANDARDS OF THIS PLAN.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE IN ANY AREA OR SUBAREA OF THE PROJECT, THE CONTRACTOR SHALL RESTORE THE DISTURBED AREAS TO ORIGINAL OR BETTER. STABILIZE THOSE AREAS DISTURBED BY THE ACTIVITIES, DURING NON-GERMINATING PERIODS, MULCH OR OTHER PROTECTIVE BLANKETING SHALL BE APPLIED AT THE RECOMMENDED RATES AND METHODS. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE RE-DISTURBED WITHIN 1 YEAR SHALL BE SEEDED AND MULCHED WITH A QUICK-GROWING TEMPORARY SEEDING MIXTURE AND MULCH. DISTURBED AREAS WHICH ARE AT FINISHED GRADE OR WILL NOT BE RE-DISTURBED WITHIN 1 YEAR SHALL BE STABILIZED IN ACCORDANCE WITH THE PERMANENT STABILIZATION SPECIFICATIONS.
- EROSION AND SEDIMENT CONTROLS (BMPs) MUST BE CONSTRUCTED, STABILIZED, AND MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION, MAINTENANCE AND REPAIR OF THESE CONTROLS. EROSION AND SEDIMENT BMPs 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.
- 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. TEMPORARY CONTROLS MAY BE REMOVED ONLY UPON APPROVAL OF THE NORTHAMPTON COUNTY CONSERVATION DISTRICT.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENTATION CONTROLS MUST BE REMOVED OR CONVERTED TO PERMANENT POST CONSTRUCTION STORMWATER MANAGEMENT BMPs. AREAS DISTURBED DURING REMOVAL OR CONVERSION OF THE CONTROLS SHALL BE STABILIZED IMMEDIATELY, IN ORDER TO ENSURE RAPID REVEGETATION OF DISTURBED AREAS, SUCH REMOVALS/CONVERSIONS ARE TO BE COMPLETED ONLY DURING GERMINATING SEASONS.
- FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT IMMEDIATE LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE IMMEDIATE CORRECTIVE ACTIONS TO RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING IMPOSED 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 OR UP TO \$100,000 IN ADMINISTRATIVE OR SUMMARY CRIMINAL PENALTIES, AND UP TO \$25,000 IN MISDEMEANOR CRIMINAL PENALTIES FOR EACH VIOLATION.
- IN THE EVENT OF SINKHOLE DISCOVERY OR OCCURRENCE, A PROFESSIONAL GEOLOGIST OR ENGINEER SHALL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE NORTHAMPTON COUNTY CONSERVATION DISTRICT SHALL BE IMMEDIATELY MADE AWARE OF THE SINKHOLE DISCOVERY.
- THE CONTRACTOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.

**CONSTRUCTION SEQUENCE**

- 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 III, WATER RESOURCES, CHAPTER 102, EROSION CONTROL.
- STRAW MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROWN.
- THE OPERATOR / PERMITTEE SHALL BE RESPONSIBLE FOR THE PROPER INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS (BMPs) AND RELATED ITEMS INCLUDED WITHIN THIS PLAN AND NARRATIVE.
- EROSION AND SEDIMENT BMP CONTROLS MUST BE CONSISTENT WITH STANDARDS AND SPECIFICATIONS OF THE DEPARTMENT OF ENVIRONMENTAL PROTECTION EROSION AND SEDIMENT POLLUTION CONTROL PROGRAM MANUAL DATED MARCH 2012.
- ALL EROSION AND SEDIMENTATION CONTROL FACILITIES SHALL BE MAINTAINED IN THE APPROVED DESIGN CONDITION THROUGHOUT THE CONSTRUCTION PERIOD OR UNTIL THE DESIGN AREA IS STABILIZED.
- SHOULD ANY MEASURES CONTAINED WITHIN THIS PLAN PROVE INCAPABLE OF ADEQUATELY REMOVING SEDIMENT FROM ON-SITE FLOWS PRIOR TO DISCHARGE OR OF STABILIZING THE SURFACES INVOLVED, ADDITIONAL MEASURES MUST BE IMMEDIATELY IMPLEMENTED BY THE OPERATOR TO ELIMINATE ALL SUCH PROBLEMS.
- BEFORE INITIATING 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 CONTRACTOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE NORTHAMPTON COUNTY CONSERVATION DISTRICT.
- THE CONTRACTOR SHALL NOTIFY THE NORTHAMPTON COUNTY CONSERVATION DISTRICT PRIOR TO ANY CESSATION IN EARTHMOVING ACTIVITIES OF MORE THAN TWENTY (20) DAYS.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE APPLICABLE COUNTY CONSERVATION DISTRICT, AND IS PROPERLY IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- MULCH WITH MULCH CONTROL NETTING OR EROSION CONTROL BLANKETS MUST BE INSTALLED ON ALL SLOPES 3:1 AND STEEPER.
- HAY OR STRAW MULCH MUST BE APPLIED TO ALL SEEDED AREAS AT 3.0 TONS PER ACRE (SEE TABLE 11.6 ON THIS SHEET).
- CLEAN FILL AND TOPSOIL STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
- SEDIMENT MUST BE REMOVED FROM STORM WATER INLET PROTECTION AFTER EACH RUNOFF EVENT.
- 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 AS DESCRIBED IN THIS E&S PLAN.
- ALL VEGETATED AREAS IN UNDISTURBED SECTIONS WILL REMAIN FOR EROSION PROTECTION. CONTRACTORS AND EQUIPMENT WILL BE RESTRAINED FROM ENTERING INTO ALL AREAS NOT BEING GRADED. DISTURBED AREAS WILL REMAIN EXPOSED FOR THE SHORTEST TIME POSSIBLE.
- DUST WILL BE KEPT WITHIN TOLERABLE LIMITS BY EITHER THE USE OF SPRAYED WATER.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST SLIDING AND SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS ACROSS THE ENTIRE DISTURBED AREA.
- UPON COMPLETION OR TEMPORARY CESSATION OF THE EARTH DISTURBANCE ACTIVITY THAT WILL EXCEED 30 DAYS, OR ANY STAGE THEREOF, WITH THE EXCEPTED REMEDIATION AREAS WITH PENDING TEST SAMPLE RESULTS, THE PROJECT SITE SHALL BE IMMEDIATELY STABILIZED WITH THE APPROPRIATE TEMPORARY OR PERMANENT STABILIZATION. (PLEASE NOTE THAT HYPERSOIL IS NOT CONSIDERED STABILIZATION UNTIL IT GERMINATES). HAY OR STRAW MULCH MUST BE APPLIED AT 3.0 TONS PER ACRE.

**MONITORING, INSPECTION, AND REPORTING REQUIREMENTS**

**VISUAL INSPECTIONS**

- THE PERMITTEE AND CO-PERMITTEE(S) MUST ENSURE THAT VISUAL SITE INSPECTIONS ARE CONDUCTED WEEKLY, AND WITHIN 24 HOURS AFTER EACH MEASURABLE RAINFALL EVENT THROUGHOUT THE DURATION OF CONSTRUCTION AND UNTIL THE RECEIPT AND ACKNOWLEDGMENT OF THE NOTICE OF TERMINATION (NOT) BY THE DEPARTMENT OR AUTHORIZED CONSERVATION DISTRICT. THE VISUAL SITE INSPECTIONS AND REPORTS SHALL BE COMPLETED IN A FORMAT PROVIDED BY THE DEPARTMENT, AND CONDUCTED BY QUALIFIED PERSONNEL, TRAINED AND EXPERIENCED IN EROSION AND SEDIMENT CONTROL, TO ASCERTAIN THAT E&S BMPs AND PCSM BMPs ARE PROPERLY CONSTRUCTED AND MAINTAINED TO EFFECTUALLY MINIMIZE EROSION AND SEDIMENT POLLUTION. A WRITTEN REPORT OF EACH INSPECTION SHALL BE LOGGED ON DEP FORM 3150-FM-BWNE0083 DATED 2/2012 AND KEPT ON SITE AT ALL TIMES.

**NONCOMPLIANCE REPORTING**

- WHERE E&S, PCSM OR PPC BMPs ARE FOUND TO BE INOPERATIVE OR INEFFECTIVE DURING AN INSPECTION, OR ANY OTHER TIME, THE PERMITTEE AND CO-PERMITTEE(S) SHALL, WITHIN 24 HOURS, CONTACT THE DEPARTMENT OF ENVIRONMENTAL PROTECTION BY PHONE OR PERSONAL CONTACT, FOLLOWED BY THE SUBMISSION OF A WRITTEN REPORT WITHIN 5 DAYS OF THE INITIAL CONTACT. NONCOMPLIANCE REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:
- ANY CONDITION ON THE PROJECT SITE WHICH MAY ENDANGER PUBLIC HEALTH, SAFETY, OR THE ENVIRONMENT, OR INVOLVE INCIDENTS WHICH CAUSE OR THREATEN POLLUTION;
  - PERIOD OF NONCOMPLIANCE, INCLUDING THE EXACT DATES AND TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE;
  - STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENT OF THE NONCOMPLIANCE; AND
  - THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

**REDUCTION, LOSS, OR FAILURE OF THE BMPs**

- UPON REDUCTION, LOSS, OR FAILURE OF THE BMPs, THE PERMITTEE AND CO-PERMITTEE(S) SHALL TAKE IMMEDIATE ACTION TO RESTORE THE BMPs OR PROVIDE AN ALTERNATE METHOD OF TREATMENT. SUCH RESTORED BMPs OR ALTERNATE TREATMENT SHALL BE AT LEAST AS EFFECTIVE AS THE ORIGINAL BMPs.

**MAINTENANCE OF EROSION CONTROL FACILITIES**

- THE OPERATOR SHALL BE RESPONSIBLE FOR THE PROPER CONSTRUCTION, STABILIZATION AND MAINTENANCE OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS INCLUDED WITHIN THE PLAN HERewith. THE CONTRACTOR SHALL SCHEDULE AND CONDUCT HIS OPERATIONS TO MINIMIZE EROSION AND SEDIMENTATION AND TO PREVENT SILTING AND MIDDING OF STREAMS, RIVERS AND DRAINAGE SYSTEMS.
- EROSION AND SEDIMENTATION POLLUTION CONTROL SPECIALISTS' CONTACTS: NORTHAMPTON COUNTY CONSERVATION DISTRICT: (610) 925-4920 PADEP SOUTHEAST REGIONAL OFFICE (484) 250-5900
- ALL EROSION AND SEDIMENTATION POLLUTION CONTROL MEASURES MUST REMAIN IN PLACE UNTIL THE SITE IS STABILIZED, REGARDLESS IF CONSTRUCTION IS TAKING PLACE OR NOT.
- UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENTATION CONTROLS (BMPs) MUST BE PROPERLY MAINTAINED. MAINTENANCE MUST INCLUDE INSPECTIONS OF ALL EROSION AND SEDIMENTATION CONTROLS AND RELATED ITEMS ON A WEEKLY BASIS. A WRITTEN REPORT OF EACH INSPECTION SHALL BE LOGGED ON DEP FORM 3150-FM-BWNE0083 DATED 2/2012 AND KEPT ON SITE AT ALL TIMES AND/OR ANTICIPATED TIME WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE;
- STEPS BEING TAKEN TO REDUCE, ELIMINATE, AND PREVENT RECURRENT OF THE NONCOMPLIANCE; AND
- THE DATE OR SCHEDULE OF DATES, AND IDENTIFYING REMEDIES FOR CORRECTING NONCOMPLIANCE CONDITIONS.

**PHASE 2**

- REFER TO E&S PLAN 2 PLANS. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE E&S PLANS. INSTALL ORANGE CONSTRUCTION/TREE PROTECTION FENCE AS SHOWN ON THE E&S PLANS.
- INSTALL COMPOST FILTER SOCK AROUND PROJECT PERIMETER AS SHOWN ON PLANS.
- ESTABLISH STAGING AND STOCKPILE AREAS.
- ONCE THE PERIMETER FILTER SOCKS ARE INSTALLED, CLEAR AND GRUB AND STRIP TOPSOIL AND STOCKPILE IN THE AREAS OF DEVELOPMENT FOR PHASE 2. CUT AND FILL SITE TO THE LIMITS SHOWN ON THE PLAN. ALL FILL SHALL BE COMPACTED AS REQUIRED TO REDUCE EROSION, SLIPPAGE, SETTLEMENT, SUBSIDENCE OR OTHER RELATED PROBLEMS AND IN ACCORDANCE WITH THE GEOTECHNICAL ENGINEER'S RECOMMENDATIONS. ANY PERMETER BMPs INCLUDING CONSTRUCTION FENCE OR COMPOST FILTER SOCKS SHALL BE IMMEDIATELY REPAIRED IF IMPACTED BY DEMOLITION ACTIVITIES OR OTHER CONSTRUCTION ACTIVITIES.
- INSTALL CONCRETE WASHOUT AREA. THE WASHOUT AREA SHALL REMAIN IN PLACE UNTIL ALL CONCRETE FOR THE PROJECT IS PLACED.
- WORKING DOWNSTREAM TO UPSTREAM AND IN CONJUNCTION WITH THE SITE GRADING, INSTALL STORMWATER PIPES AND INLETS FOR PHASE 2 INCLUDING STRUCTURES B-1 AND IMMEDIATELY INSTALL INLET PROTECTION. INSTALL PIPE 20 FROM EXISTING INLET A-6 TO THE EXISTING STUB COMING OUT OF THE EXISTING INFILTRATION SYSTEM.
- BUILDING CONSTRUCTION OF BUILDINGS C AND D MAY BEGIN. COMPLETE GRADING AND EARTHWORK. INSTALL STONE SUBBASE FOR PARKING AREA FOR PHASE 1.
- EXPAND INFILTRATION BASIN TO THE EXTENTS AS SHOWN IN PHASE 2, CONNECT TO THE EXISTING INFILTRATION BASIN, MODIFY THE EXISTING OUTLET CONTROL STRUCTURE WHICH INCLUDES REMOVAL OF THE ORIFICE PLATE OVER THE 12"x12" WEIR ON THE OUTLET STRUCTURE AND PUT A PLATE OVER THE 4" ORIFICE. REMOVE THE TEE CONNECTION FROM INLET A-6 TO PIPE 15-1.
- IN CONJUNCTION WITH THE BUILDING CONSTRUCTION AND SITE WORK, INSTALL ALL WATER, SEWER, ELECTRIC, LIGHTING, AND OTHER UTILITIES, AND CURBING AND SIDEWALK (THAT IS NOT IMPACTED BY ANY CONSTRUCTION ACTIVITIES). ANY PERMETER BMPs INCLUDING CONSTRUCTION FENCE OR COMPOST FILTER SOCKS SHALL BE IMMEDIATELY REPAIRED IF IMPACTED BY UTILITY INSTALLATION.
- COMPLETE ANY REMAINING CURB AND SIDEWALK.
- PAVE SITE WITH PAVEMENT BASE COURSE, INSTALL LANDSCAPING AND STABILIZE ALL OTHER AREAS WITH TOP SOIL SEED AND/OR MULCH AS APPROPRIATE.
- PAVE ENTIRE SITE WITH PAVEMENT WEARING COURSE.
- AFTER ALL AREAS ARE 70% STABILIZED WITH UNIFORM VEGETATIVE COVER OF EROSION RESISTANT PERENNIAL SPECIES OR GRAVEL AS APPROPRIATE HAS BEEN ACHIEVED, EROSION CONTROL MEASURES, INLET PROTECTION, ROCK FILTERS, SEDIMENT CONTROL FENCE, ETC. CAN BE REMOVED. ALL DISTURBANCE ASSOCIATED WITH BMP REMOVAL SHALL BE IMMEDIATELY STABILIZED WITH FINAL TOP SOIL, SEED AND MULCH.
- ALL MATERIALS, WHETHER NATURAL OR SYNTHETIC, SHALL BE DISPOSED OF IN ACCORDANCE WITH THE PA DEP'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. AND ANY OTHER APPROPRIATE LOCAL, STATE, OR FEDERAL LAW, REGULATION OR LAW. ALL SOIL REMOVED FROM THIS SITE MUST BE DISPOSED OF AT A SITE WITH AN APPROVED E&S PLAN. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP OR DISCHARGE ANY BUILDING MATERIALS OR WASTES.
- NO SEDIMENT, STONES OR DEBRIS SHALL BE TRACKED ON TO SURROUNDING ROADS. ANY SEDIMENT THAT IS TRACKED ONTO THE SURROUNDING ROADS MUST BE CLEANED OFF BEFORE THE END OF THE DAY UTILIZING MECHANICAL METHODS OR VIA HAND HOOPERING TO THE SATISFACTION OF THE NORTHAMPTON COUNTY CONSERVATION DISTRICT AND TOWNSHIP ENGINEER.
- ANY FILTER FABRIC FENCE, WHICH HAS BEEN UNDERMINED OR TOPPED, MUST BE REPLACED IMMEDIATELY WITH ROCK FILTER OUTLET.
- ANY SOIL BORROW OR SPOIL STES, ON OR OFFSITE SHALL HAVE AN APPROVED AND IMPLEMENTED EROSION CONTROL PLAN BY THE NORTHAMPTON COUNTY CONSERVATION DISTRICT. TRANSPORTATION OF ANY EXCESS MATERIALS SHALL BE SUCH THAT SPILLAGE, TRACKING OFF SITE AND OTHER DISTURBANCES ARE KEPT TO A MINIMUM.
- THE CONTRACTOR SHALL PERIODICALLY AND ESPECIALLY AFTER HEAVY RAINFALL, INSPECT ALL CONTROL FACILITIES FOR PROPER FUNCTION. FACILITIES SHALL BE REPAIRED IF DAMAGED OR MALFUNCTIONING. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONSTRUCTION, MAINTENANCE AND REPAIR OF THESE CONTROLS. EROSION AND SEDIMENTATION CONTROLS SHALL CONTINUE UNTIL THE ENTIRE AREA TRIBUTARY TO THE FACILITY IS STABILIZED.
- THE NORTHAMPTON COUNTY CONSERVATION DISTRICT MUST BE CONTACTED PRIOR TO REMOVAL OF ANY EROSION AND SEDIMENTATION CONTROL DEVICE SUCH AS FILTER FABRIC FENCES, ROCK FILTERS, SEDIMENT CONTROL FENCE, ETC. TEMPORARY EROSION AND SEDIMENTATION CONTROLS MAY BE REMOVED ONLY AFTER A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER HAS BEEN ACHIEVED AND ALL DISTURBED EROSION AND SEDIMENTATION HAS BEEN ACHIEVED ABOVE THE UPSLOPE AREAS.

**THERMAL IMPACTS**

THE CONSTRUCTION OF THIS PROJECT INCLUDES THE CONSTRUCTION OF A NEW BUILDING AND PAVED AREAS. THE SITE WILL USE COMPOST FILTER SOCKS TO PROMOTE SHEET FLOW OF STORMWATER DURING CONSTRUCTION, WHICH WILL DISPERSE WARM WATER TO THE GROUND SURFACE, LIMITING POINT SOURCES OF THERMAL POLLUTION. POST-CONSTRUCTION THERMAL IMPACTS WILL BE SIGNIFICANTLY MINIMIZED BY THE INSTALLATION OF THE PROPOSED SUBSURFACE INFILTRATION BASINS WHICH ALLOW COOLING AND INFILTRATION OF RUNOFF. LANDSCAPING, INCLUDING MANY TREES, WILL BE DISTRIBUTED THROUGHOUT THE SITE, TO SHADE AREAS, INCLUDING PARKING AREAS AND DRIVEWAYS.

**TOPSOIL APPLICATION**

- GRADED AREAS SHOULD BE SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES TO PERMIT BONDING OF THE TOPSOIL TO THE SUBGRADE AND TO PROVIDE A ROUGHENED SURFACE TO PREVENT SLIDING DOWN SLOPE.
- TOPSOIL SHOULD BE UNIFORMLY DISTRIBUTED ACROSS THE DISTURBED AREA TO A DEPTH OF 4 TO 8 INCHES MINIMUM - 2 INCHES ON FILL OUTSLOPES. SPREADING SHOULD BE DONE IN SUCH A MANNER THAT SODDING OR SEEDING CAN PROCEED WITH A MINIMUM OF ADDITIONAL PREPARATION OR TILLAGE. IRREGULARITIES IN THE SURFACE RESULTING FROM TOPSOIL PLACEMENT SHOULD BE CORRECTED IN ORDER TO PREVENT FORMATION OF DEPRESSIONS UNLESS SUCH DEPRESSIONS ARE PART OF THE PCSM PLAN.
- TOPSOIL SHOULD NOT BE PLACED WHILE THE TOPSOIL OR SUBSOIL IS IN A FROZEN OR MUDDY CONDITION, WHEN THE SUBSOIL IS EXCESSIVELY WET OR IN A CONDITION THAT MAY OTHERWISE BE DETRIMENTAL TO PROPER GRADING AND SEEDING. PREPARATION, COMPACTED SOILS SHOULD BE SCARIFIED 6 TO 12 INCHES ALONG CONTACT WHEREVER POSSIBLE PRIOR TO SEEDING.

**INSPECTION & MAINTENANCE PROGRAM**

PROPER IMPLEMENTATION OF THIS PLAN REQUIRES MAINTENANCE OF THE PROPOSED ESC MEASURES, AS FOLLOWS, UNLESS MORE STRINGENT REQUIREMENTS ARE DISCUSSED ON THE LAND DEVELOPMENT PLANS. REFER TO E&S NARRATIVE.

TABLE 11.1 Cubic Yards of Topsoil Required (for Application to Various Depths)*		Soil Amendment Application Rate Equivalents			
Depth (in)	Per 1,000 Square Feet	Soil Amendment	Permanent Seeding Application Rate		Per 1,000 sq. yd.
			Per Acre	Per 1,000 sq. ft.	
1.00	3.10	Agricultural lime	6 tons	240 lb.	2,480 lb.
2.00	6.20				
3.00	9.30	10-10-20 fertilizer	1,000 lb.	25 lb.	210 lb.
4.00	12.40				
5.00	15.50	temporary Seeding Application Rate			
6.00	18.60	Agricultural lime	1 ton	40 lb.	410 lb.
7.00	21.70				
8.00	24.80	10-10-20 fertilizer	500 lb.	12.5 lb.	100 lb.

**RESPONSIBILITIES FOR FILL MATERIALS**

- THE OPERATOR MUST USE ENVIRONMENTAL DUE DILIGENCE TO ENSURE THAT ANY NECESSARY FILL MATERIAL ASSOCIATED WITH THIS PROJECT QUALIFIES AS CLEAN FILL. ALL FILL MATERIAL MUST BE USED IN ACCORDANCE WITH PADEP'S POLICY "MANAGEMENT OF FILL" (DOCUMENT NUMBER 258-2182-773). A COPY OF THIS POLICY IS AVAILABLE ONLINE AT WWW.DEFWEB.STATE.PA.US.
- CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSED, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREGGED MATERIAL, USED ASPHALT AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM THE WASTE AND IS RECOGNIZABLE AS SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS OTHERWISE QUESTIONED BY TRANSACTION SCREEN, ANALYTICAL TESTING, AND IMPACTED BY DEMOLITION ACTIVITIES.
- CLEAN FILL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE: FILL MATERIALS AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE STILL QUALIFIES AS CLEAN FILL PROVIDED THE TESTING REVEALS THAT THE FILL MATERIAL CONTAINS CONCENTRATIONS OF REGULATED SUBSTANCES THAT ARE BELOW THE RESIDENTIAL LIMITS IN TABLES FP-1A AND FP-1B FOUND IN PADEP'S POLICY "MANAGEMENT OF FILL".
- ANY PERSON PLACING CLEAN FILL THAT HAS BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE MUST USE PADEP FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL, AND PROVIDE THE TESTING RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN FILL. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING THE FILL. A COPY OF FORM FP-001 CAN BE FOUND AT WWW.DEFWEB.STATE.PA.US.
- ENVIRONMENTAL DUE DILIGENCE: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATA BASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREEN, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS.
- ANALYTICAL TESTING IS NOT A REQUIRED PART OF DUE DILIGENCE UNLESS VISUAL INSPECTION AND/OR REVIEW OF THE PAST LAND USE OF THE PROPERTY INDICATES THAT THE FILL MAY HAVE BEEN SUBJECTED TO A SPILL OR RELEASE OF A REGULATED SUBSTANCE. IF THE FILL MAY HAVE BEEN AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE, IT MUST BE TESTED TO DETERMINE IF IT QUALIFIES AS CLEAN FILL. TESTING SHOULD BE PERFORMED IN ACCORDANCE WITH APPENDIX A OF PADEP'S POLICY "MANAGEMENT OF FILL".
- FILL MATERIAL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH THE MUNICIPAL OR RESIDUAL WASTE REGULATIONS IN 25 PA CODE CHAPTERS 267 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE.
- ALL FILLS SHALL BE COMPACTED SUFFICIENTLY FOR THEIR INTENDED PURPOSE AND AS REQUIRED TO REDUCE SLIPPAGE, EROSION OR EXCESS SATURATION.
- REFER TO SITE / RECORD PLAN FOR ADDITIONAL NOTES.

**PERMANENT STABILIZATION SEED MIXTURES**

Mixture Number	Species	Seeding Rate 1 Pure Live Seed
1	Spring oats (spring), or	64
2	Annual ryegrass (spring or fall), or	10
	Winter wheat (fall), or	90
	Winter rye (fall)	56
	Tall fescue, or	60
3	Fine fescue, or	35
	Kentucky bluegrass	25
	Redtop, or	3
	Perennial ryegrass	15

- PLS IS THE PRODUCT OF THE PERCENTAGE OF PURE SEED TIMES PERCENTAGE GERMINATION DIVIDED BY 100. For example, to secure the actual planting rate for switchgrass, divide 12 pounds PLS shown on the seed tag. Thus, if the PLS content of a given seed lot is 35%, divide 12 PLS by 0.35 to obtain 34.3 pounds of seed required to plant one acre. All mixtures in this table are shown in terms of PLS.
- If high-quality seed is used, for most sites seed spring oats at a rate of 2 bushels per acre, winter wheat at 11.5 bushels per acre, and winter rye at 1 bushel per acre. If germination is below 90%, increase these suggested seeding rates by 0.5 bushel per acre.
- This mixture is suitable for frequent mowing. Do not cut shorter than 4 inches.

Mulch Type	Mulch Application Rates			Notes
	Per Acre	Per 1,000 sq. ft.	Per 1,000 sq. yd.	
Straw	3 tons	140 lb.	1,240 lb.	Either wheat or oat straw, free of weeds, not chopped or finely broken
Hay	3 tons	140 lb.	1,240 lb.	Timothy, mixed clover and timothy or other native forage grasses
Wood Chips	4 - 6 tons	185 - 275 lb.	1,650 - 1,500 lb.	May prevent germination of grasses and legumes
Hydromulch	1 ton	47 lb.	415.00	See limitations above

**TEMPORARY SEEDINGS FOR CRITICAL AREAS AND AREAS NOT SUBJECT TO ONGOING CONSTRUCTION**

SPECIES OF MIXTURES	APPLICATION RATES IN LBS./1000 sq. ft.	LBS. PER ACRE
2. SPRING OATS (SPRING)	2.5	109
3. WINTER RYE (FALL)	3.5	152

**CRITICAL STAGES OF CONSTRUCTION**

- THE STORMWATER MANAGEMENT SYSTEM SHALL BE INSPECTED DURING CRITICAL STAGES OF CONSTRUCTION BY THE ENGINEER OF RECORD AS FOLLOWS:
- PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  - DURING THE CONSTRUCTION OF THE PRELIMINARY INFILTRATION BASIN IN PHASE 1 AND DURING THE EXPANSION OF THE BASIN IN PHASE 2.
  - DURING THE MODIFICATION OF THE OUTLET CONTROL STRUCTURE.
  - DURING THE INSTALLATION OF STORMWATER CONDUITS.
  - DURING THE INSTALLATION OF LANDSCAPING AND SEEDING.
  - FOLLOWING THE COMPLETION OF ALL SITE IMPROVEMENTS.

**COMPOST FILTER SOCK**

ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES HALF THE ABOVEGROUND HEIGHT OF THE SOCK AND DISPOSED OF PROPERLY. 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. BIODEGRADABLE FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR.

**TEMPORARY STABILIZATION**

ANY DISTURBED AREA ON WHICH ACTIVITY HAS CEASED AND WHICH WILL REMAIN EXPOSED SHALL BE STABILIZED IMMEDIATELY. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE RECOMMENDED RATES.

**PUMPED WATER FILTER BAGS**

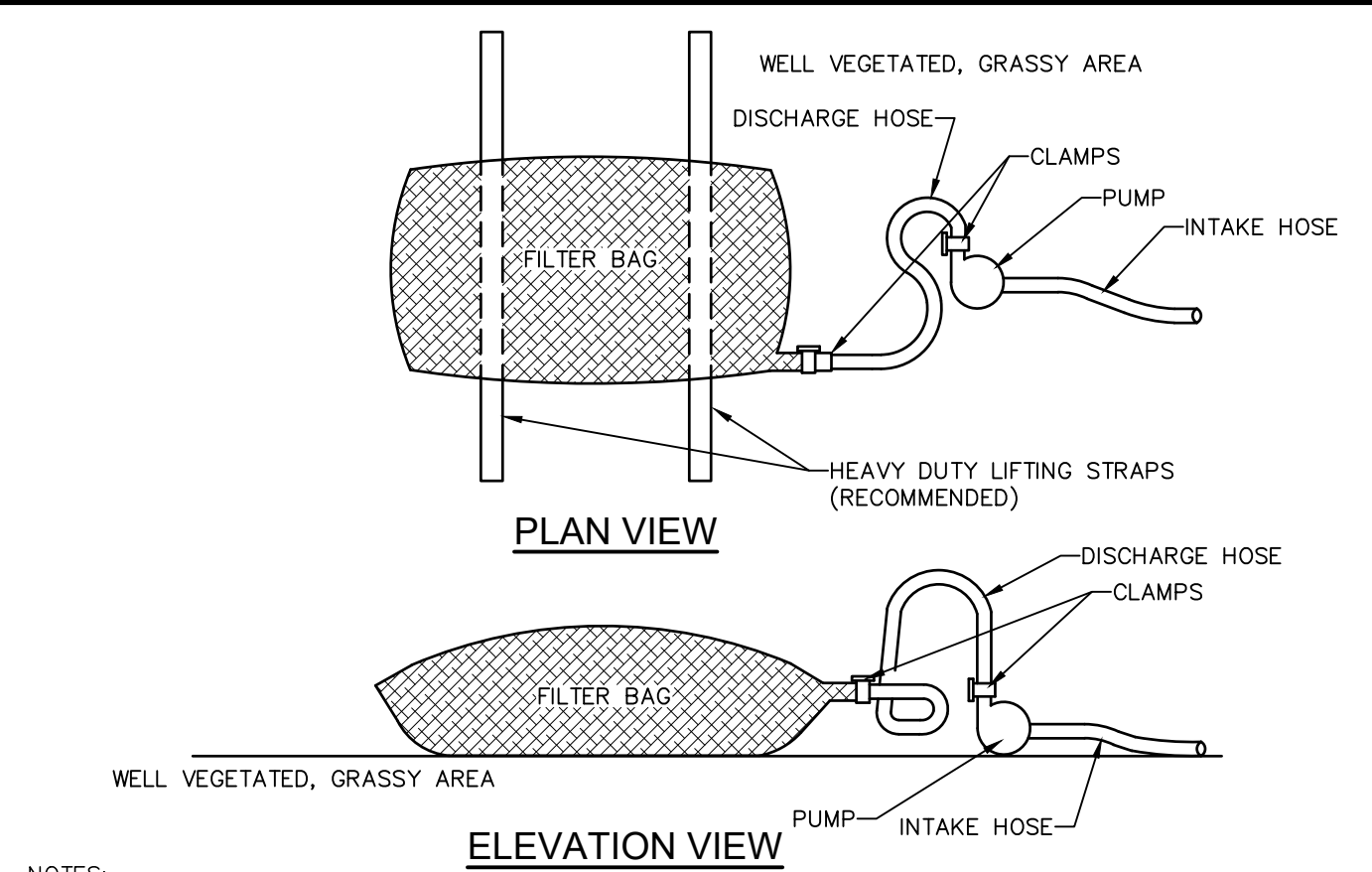
PUMPED WATER FILTER BAGS SHALL BE USED ON THE PROJECT SITE TO ASSIST WITH TRENCH DEWATERING DURING CONSTRUCTION. FILTER BAGS SHALL BE DIRECTED THROUGH A FILTER BAG PRIOR TO DISCHARGE TO AN EROSION RESISTANT AREA. THE FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME 1/2 FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED.

**INLET PROTECTION**

INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR SOME INSTALLATIONS; SEE PLAN DETAILS. ROLLED EARTHEN BERMS SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD. MAINTENANCE SHALL BE PERFORMED WITHIN 24 HOURS OF OBSERVATION. SIX-INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL CUT WHEN APPLICABLE. 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 TRAPEZOIDAL TENSILE STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICULATES NOT PASSING AND INLET FILTER BAGS SHALL BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. BAGS SHALL BE EMPTIED AND RINSED OR REPLACED WHEN HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BACKFLOW OF THE INLET. DAMAGED OR CLOGGED BAGS SHALL BE REPLACED IMMEDIATELY. A SUPPLY SHALL BE MAINTAINED ON SITE FOR REPLACEMENT OF BAGS. ALL NEEDED REPAIRS SHALL BE INITIATED IMMEDIATELY AFTER THE INSPECTION. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.

**STREET SWEEPING**

PAVEMENT ARE



**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-4833	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.

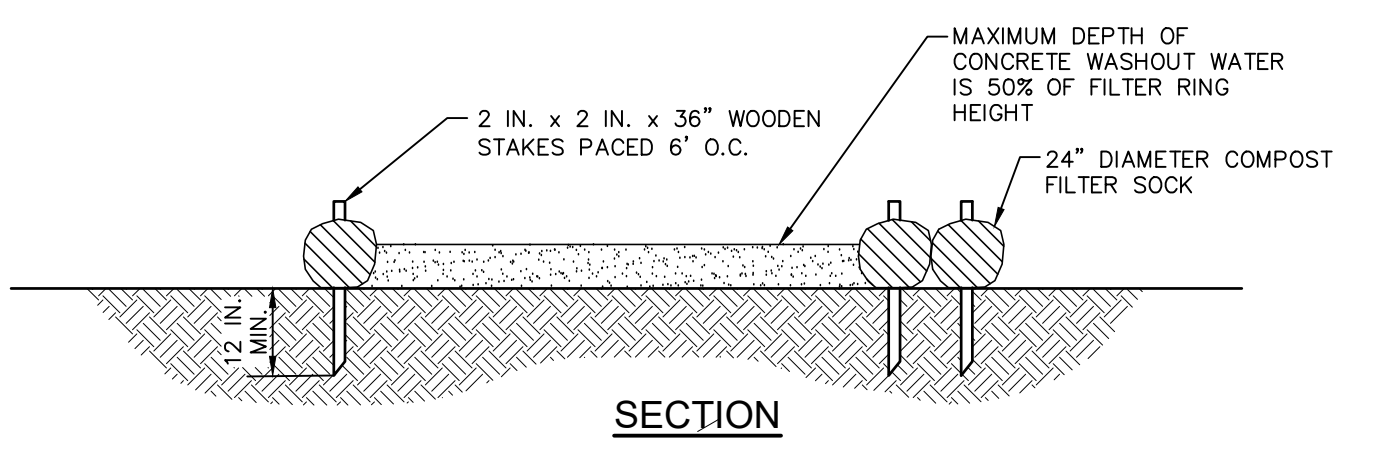
NO DOWNSLOPE SEDIMENT BARRIER IS REQUIRED FOR MOST INSTALLATIONS. COMPOST BERM OR COMPOST FILTER SOCK SHALL BE INSTALLED BELOW BAGS LOCATED IN HQ OR EV WATERSHEDS, WITHIN 50 FEET OF ANY RECEIVING SURFACE WATER OR WHERE GRASSY AREA IS NOT AVAILABLE.

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.

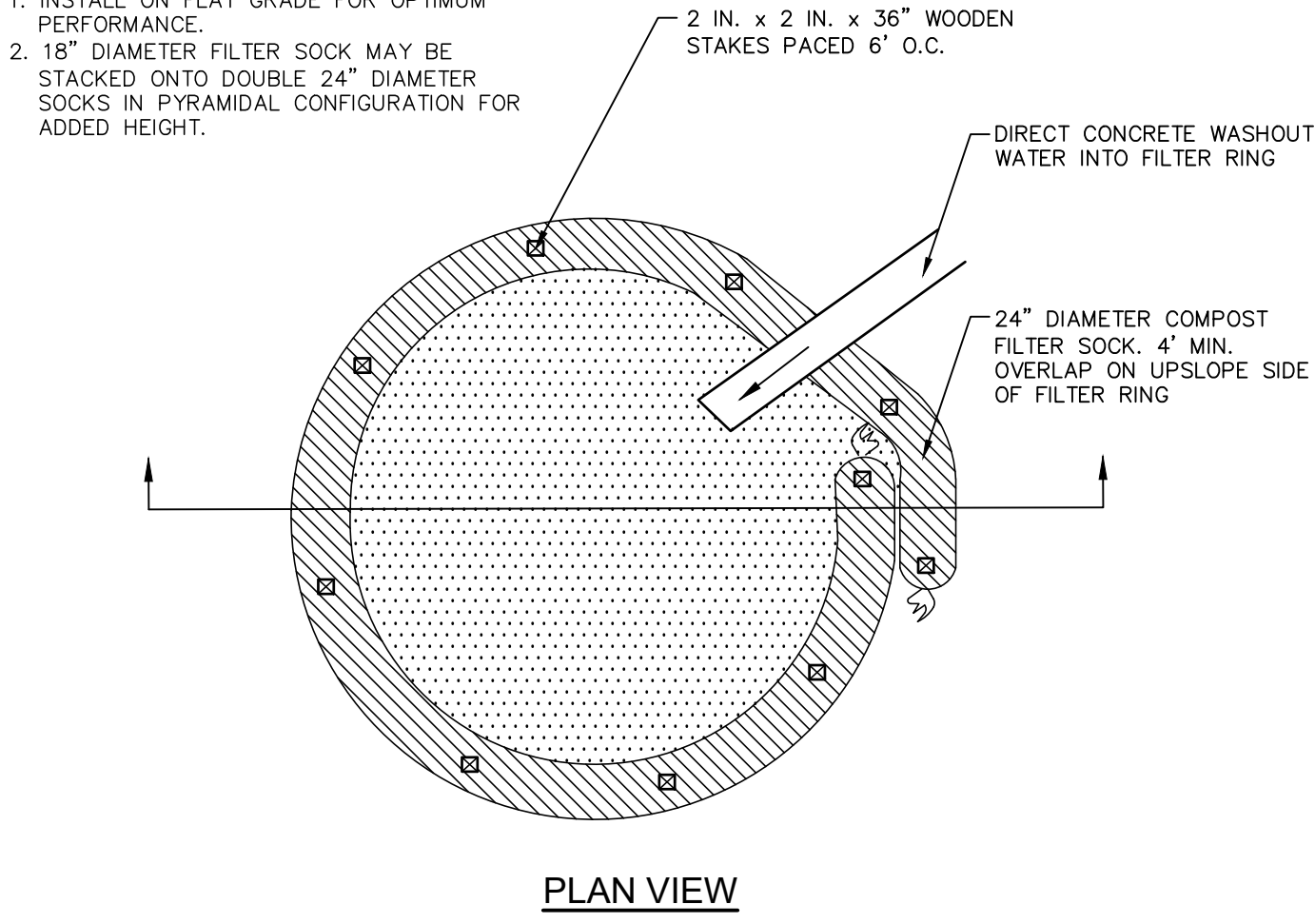
THE PUMPING RATE SHALL BE NO GREATER THAN 750 GPM OR 1/2 THE MAXIMUM SPECIFIED BY THE MANUFACTURER, WHICHEVER IS LESS. PUMP INTAKES SHALL BE FLOATING AND SCREEDED.

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

**STANDARD CONSTRUCTION DETAIL #3-16  
 PUMPED WATER FILTER BAG**  
 NOT TO SCALE



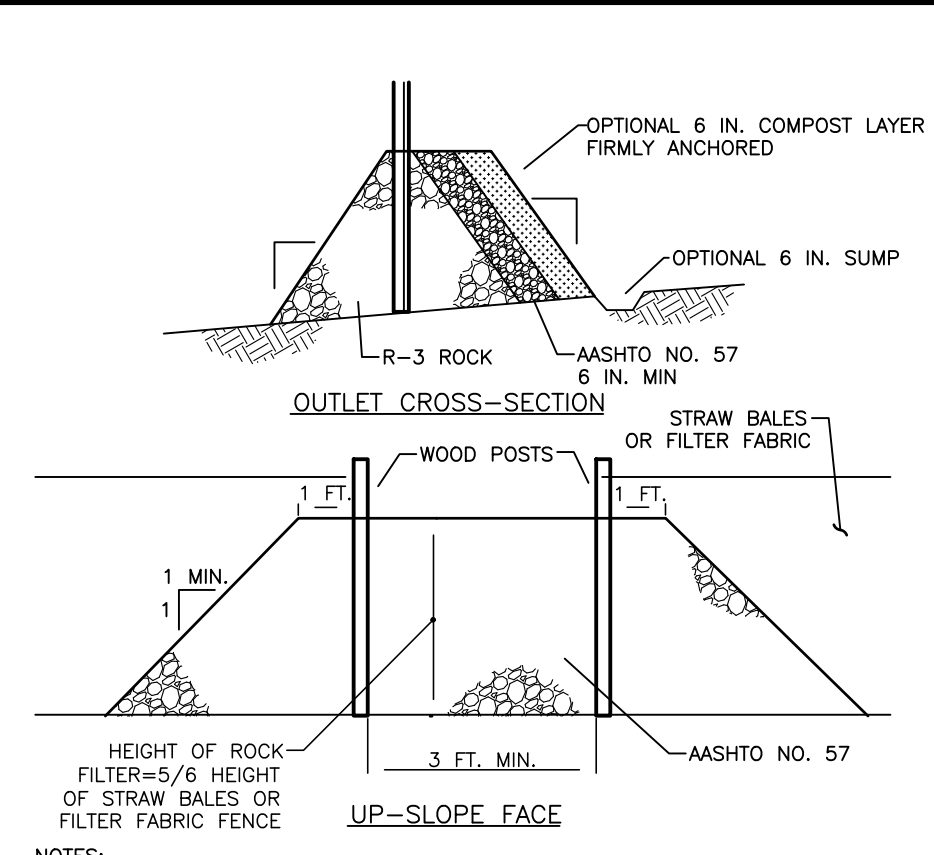
**NOTES:**  
 1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE.  
 2. 18" DIAMETER FILTER SOCK MAY BE STACKED ONTO DOUBLE 24" DIAMETER SOCKS IN PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT.



A SUITABLE IMPERVIOUS MEMBRANE SHALL BE PLACED AT THE LOCATION OF THE WASHOUT PRIOR TO INSTALLING THE SOCKS.

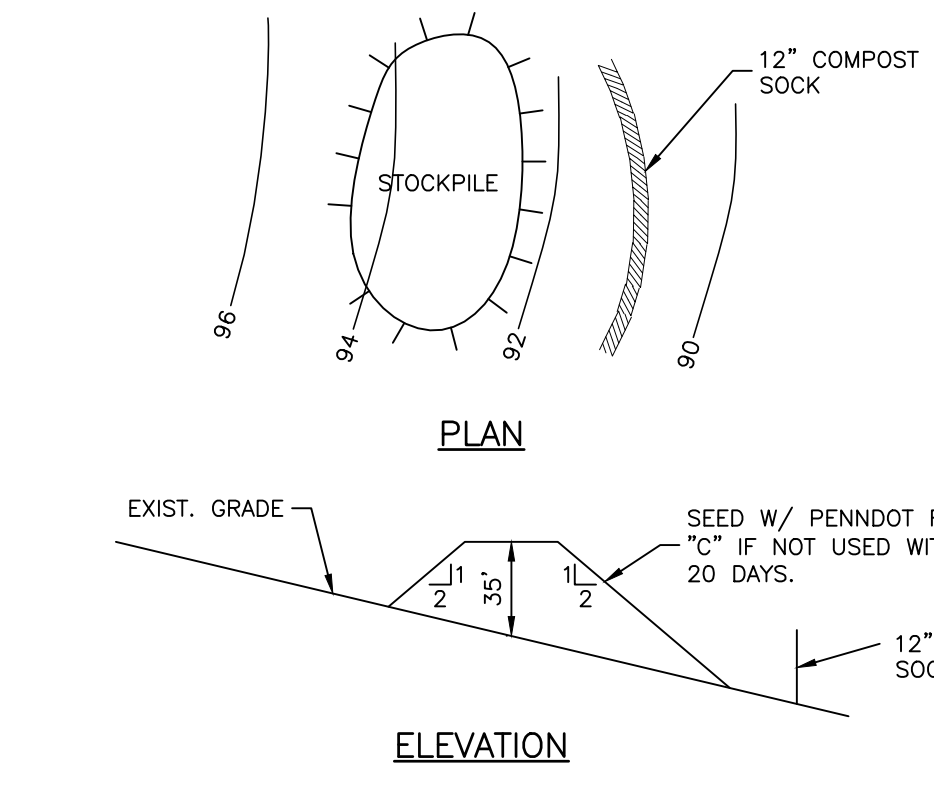
**MAINTENANCE**  
 ALL CONCRETE WASHOUT FACILITIES SHOULD BE INSPECTED DAILY. DAMAGED OR LEAKING WASHOUTS SHOULD BE DEACTIVATED AND REPAIRED OR REPLACED IMMEDIATELY.  
 ACCUMULATED MATERIAL SHOULD BE REMOVED WHEN THEY REACH 75% CAPACITY.  
 PLASTIC LINERS SHOULD BE REPLACED WITH EACH CLEANING OF THE WASHOUT FACILITY.

**TYPICAL COMPOST SOCK  
 CONCRETE WASHOUT INSTALLATION**  
 NOT TO SCALE



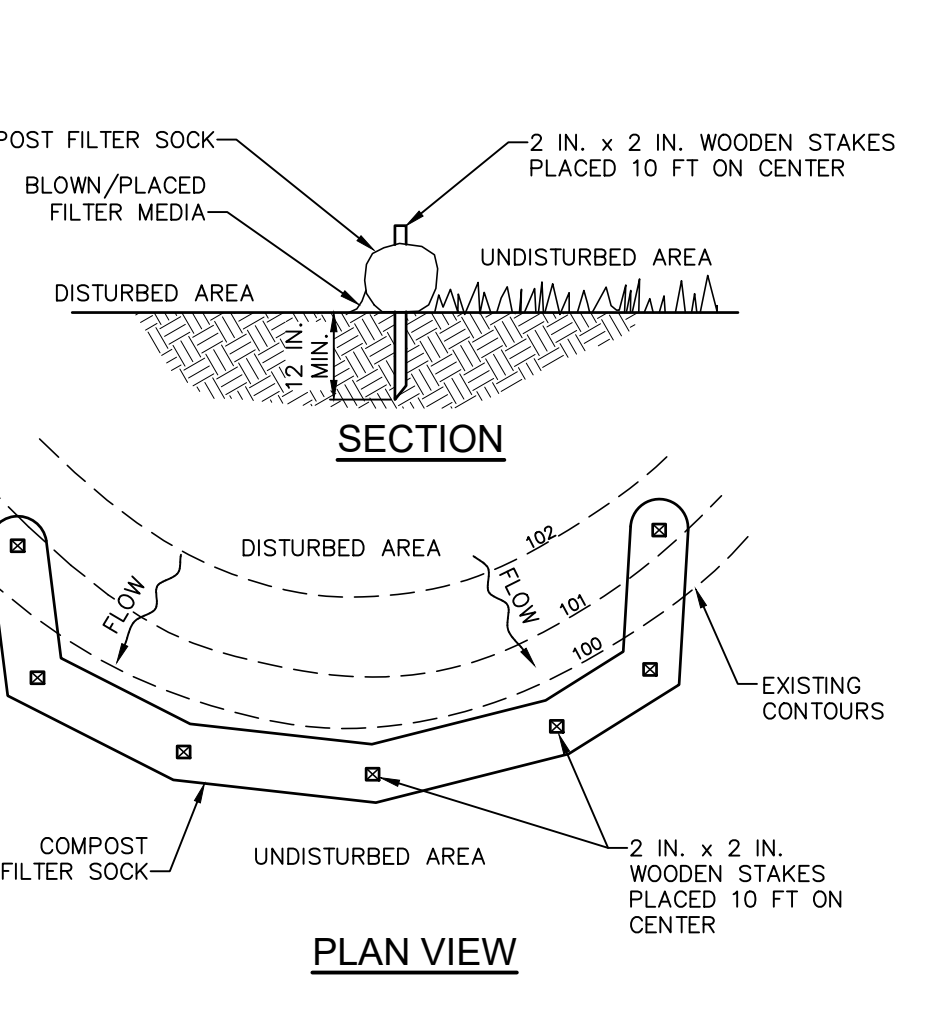
**NOTES:**  
 A ROCK FILTER OUTLET SHALL BE INSTALLED WHERE FAILURE OF A SILT FENCE OR STRAW BALE BARRIER HAS OCCURRED DUE TO CONCENTRATED FLOW. ANCHORED COMPOST LAYER SHALL BE USED ON UPSLOPE FACE IN HQ AND EV WATERSHEDS.  
 SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH 1/3 THE HEIGHT OF THE OUTLET.

**STANDARD CONSTRUCTION DETAIL #4-6  
 ROCK FILTER OUTLET**  
 NOT TO SCALE



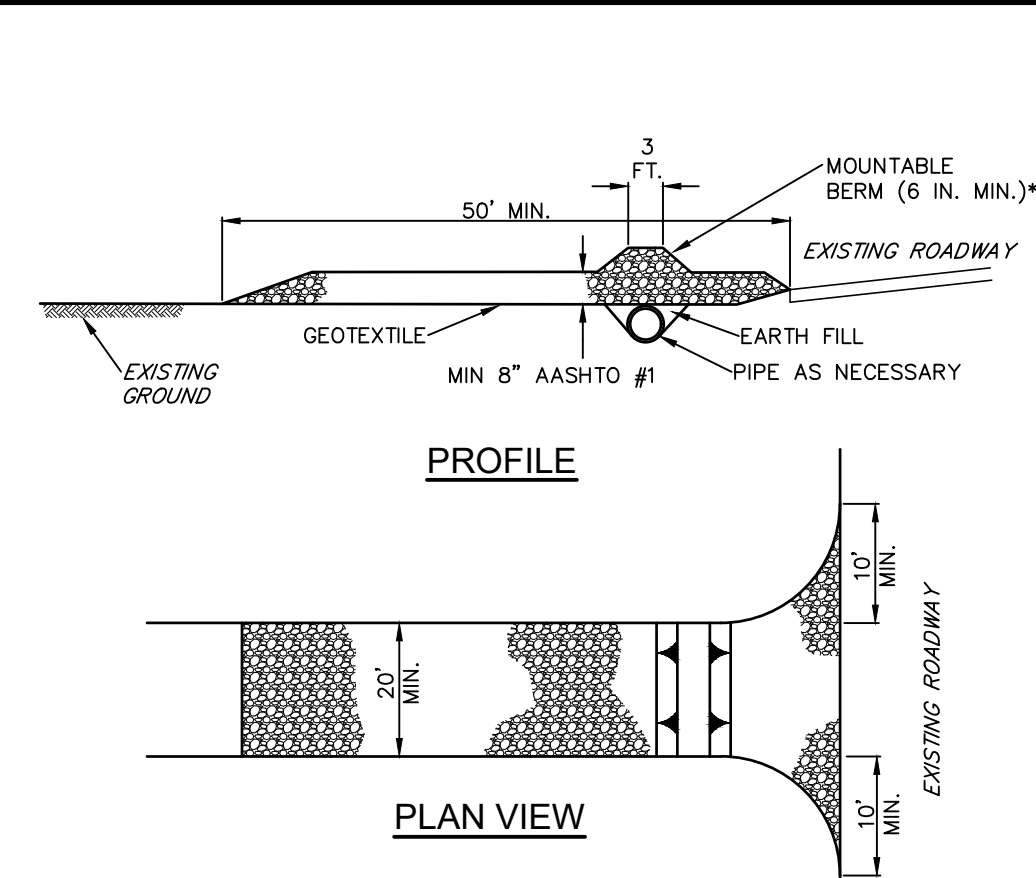
**STANDARD CONSTRUCTION DETAIL #3-1  
 ROCK CONSTRUCTION ENTRANCE**  
 NOT TO SCALE

**TOPSOIL STOCKPILE AND MAINTENANCE**  
 NOT TO SCALE



**NOTES:**  
 SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.  
 COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN BARRIER ALIGNMENT. MAXIMUM SLOPE LENGTH ABOVE ANY BARRIER SHALL NOT EXCEED THAT SPECIFIED FOR THE SIZE OF THE SOCK AND THE SLOPE OF ITS TRIBUTARY AREA.  
 TRAFFIC SHALL NOT BE PERMITTED TO CROSS COMPOST FILTER SOCKS.  
 ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER AND DISPOSED IN THE MANNER DESCRIBED ELSEWHERE IN THE PLAN.  
 COMPOST FILTER 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.  
 BIODEGRADABLE COMPOST FILTER SOCKS SHALL BE REPLACED AFTER 6 MONTHS; PHOTODEGRADABLE SOCKS AFTER 1 YEAR. POLYPROPYLENE SOCKS SHALL BE REPLACED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.  
 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.

**STANDARD CONSTRUCTION DETAIL #4-1  
 COMPOST FILTER SOCK**  
 NOT TO SCALE

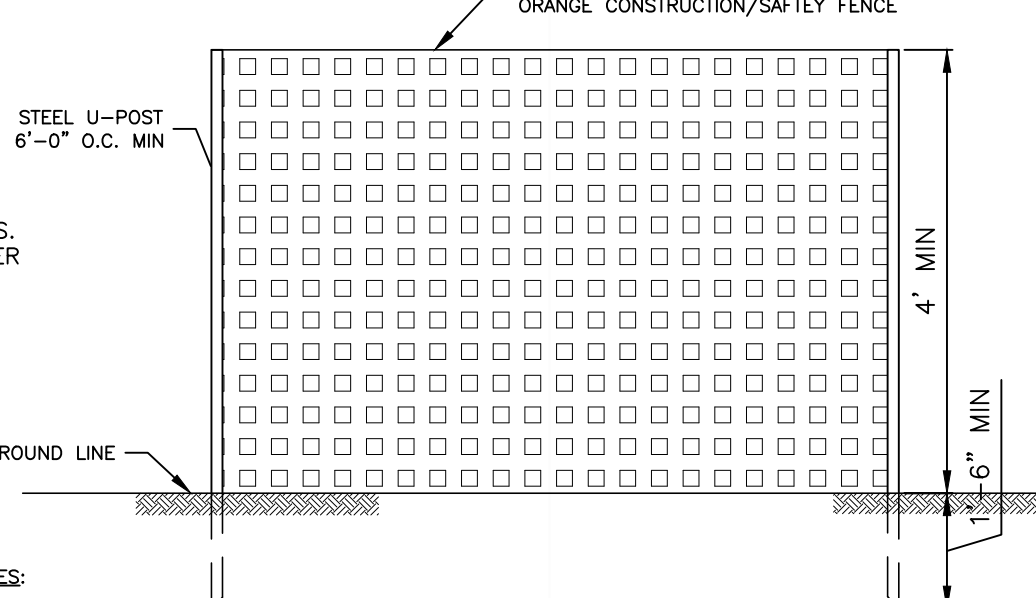


\* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

**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.

**STANDARD CONSTRUCTION DETAIL #3-1  
 ROCK CONSTRUCTION ENTRANCE**  
 NOT TO SCALE



**NOTES:**  
 1. CONTRACTOR SHALL INSTALL ORANGE CONSTRUCTION FENCE ALONG LIMIT OF DISTURBANCE BOUNDARY PRIOR TO THE START OF ANY EARTHMOVING.  
 2. CONTRACTOR SHALL INSTALL TREE PROTECTION FENCE OUTSIDE OF THE TREE DRIFTLINES.  
 3. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN FENCE THROUGHOUT ENTIRE DURATION OF THE PROJECT.

**ORANGE CONSTRUCTION FENCE  
 TREE PROTECTION FENCE**  
 NOT TO SCALE

**FILTER SOCK TABLE**

SOCK NO.	DIA. IN.	LOCATION	SLOPE PERCENT	SLOPE LENGTH ABOVE BARRIER (FT)
1	12"	FRONT (SOUTH) PARKING LOT	3.0%	150'
2	12"	SIDE (WEST) PARKING LOT	2.5%	150'
3	18"	BUILDING ADDITION	2.0%	100'
-	12"	TOPSOIL STOCKPILES	45%	20'

**TABLE 4.1  
 Compost Sock Fabric Minimum Specifications**

Material Type	9 mil HDPE	5 mil HDPE	6 mil HDPE	Multi-Filament Polypropylene (MFPP)	Heavy Duty Multi-Filament Polypropylene (HDMFPP)
Material Characteristics	Photo-degradable	Photo-degradable	Bio-degradable	Photo-degradable	Photo-degradable
Mesh Opening	12"	12"	12"	12"	12"
Tensile Strength	26 psi	26 psi	26 psi	26 psi	26 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

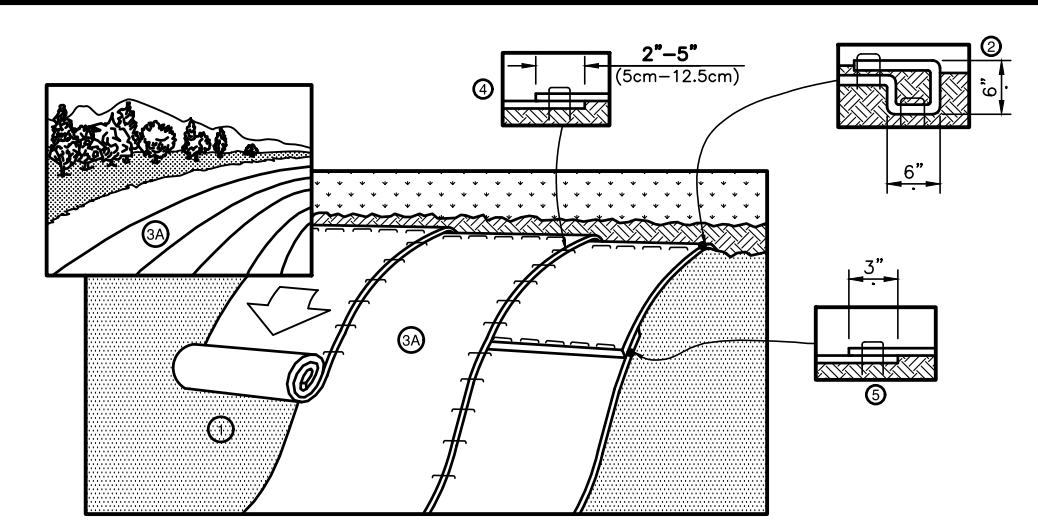
Two-ply systems

Inner Containment Netting	Outer Filtration Mesh
HDPE biaxial net	316" Max. aperture size
Continuously wound	
Fusion-welded junctures	
3/4" x 3/4" Max. aperture size	
Composite Polypropylene Fabric	
(Woven layer and non-woven fleece mechanically fused via needle punch)	

Soxk fabrics composed of burlap may be used on projects lasting 3 months or less.

**TABLE 4.2  
 Compost Standards**

Property	Standard
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



**STAPLE PATTERN 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" (15cm) DEEP X 6" (15cm) WIDE TRENCH WITH APPROXIMATELY 12" (30cm) OF BLANKET EXTENDING BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30cm) APART IN THE BOTTOM OF THE TRENCH. ANCHOR THE BACKLAP AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FILL REMAINING 12" (30cm) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30cm) APART ACROSS THE WIDTH OF THE BLANKET.  
 3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO THE SURFACE BY STAPLES/STAKES.  
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2"-5" (5cm-12.5cm) OVERLAP DEPENDING ON BLANKET TYPE TO ENSURE PROPER SEAM ALIGNMENT. PLACE THE EDGE OF THE OVERLAPPING BLANKET (BLANKET BEING INSTALLED ON TOP) DOWN WITH THE COLORED SEAM STITCH ON THE PREVIOUSLY INSTALLED BLANKET.  
 5. CONSECUTIVE BLANKETS STAPLED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 17" (43cm) OVERLAP. STAPLE THROUGH OVERLAPPED AREA APPROXIMATELY 12" (30cm) APART ACROSS ENTIRE BLANKET WIDTH.  
 NOTE: IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15cm) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.

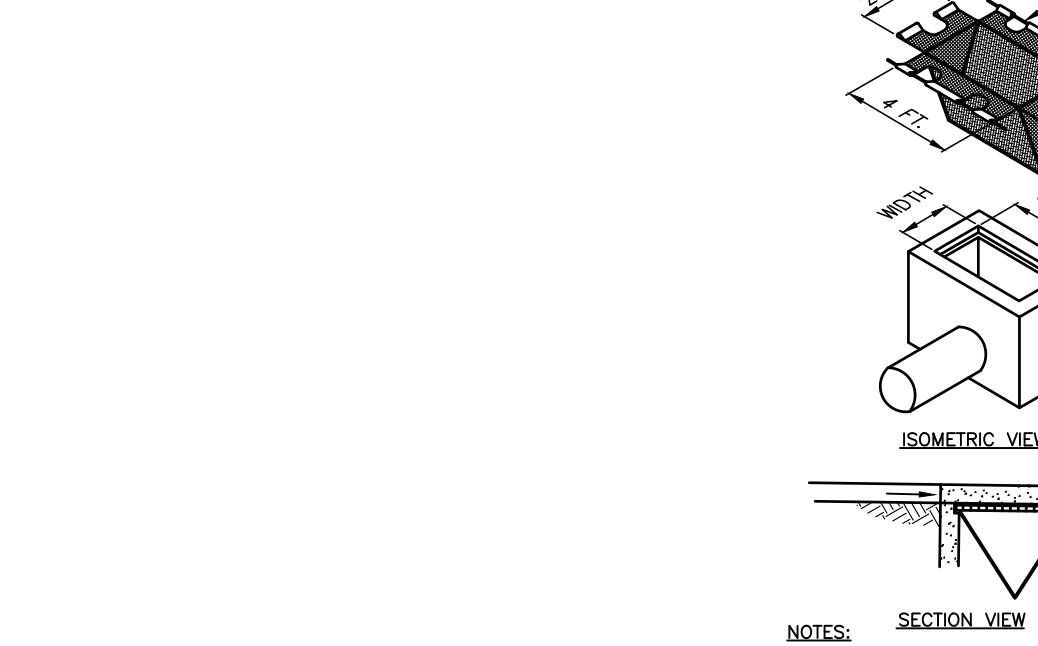
16489 HIGHWAY 41 NORTH, EVANSVILLE, INDIANA 47725  
 USA 1-800-772-2049 CANADA 1-800-448-2049  
 www.nogreen.com

**575 STEEP SLOPE MATTING INSTALLATION AND STAPLE PATTERN**  
 NOT TO SCALE

**KARST MITIGATION RECOMMENDATIONS:**

THE FOLLOWING CONSTRUCTION PRACTICES AND DESIGN RECOMMENDATIONS SHOULD BE IMPLEMENTED AT THE SITE DURING AND AFTER CONSTRUCTION TO REDUCE THE POSSIBILITY OF SINKHOLE-RELATED SUBSIDENCE AT THE SITE.  
 • LAND CLEARING SHOULD BE SCHEDULED DURING DRY, WARMER SEASONS.  
 • STORMWATER DETENTION FACILITIES SHOULD BE LINED USING A GEOSYNTHETIC OR COMPACTED CLAY LINER.  
 • SUBSURFACE INFILTRATION BASINS SHOULD BE LOCATED 25 FEET OR GREATER FROM PROPOSED OR EXISTING STRUCTURES WITH A LOADING RATIO NOT EXCEEDING 3:1.  
 • EXPOSED SOILS SHOULD BE SEALED AND SLOPED TO DIRECT SURFACE WATER TOWARD TEMPORARY OR PERMANENT STORMWATER BMPs LOCATED AWAY FROM THE ACTIVE WORK ZONE AND NEIGHBORING PROPERTIES.  
 • EXCAVATIONS SHOULD BE LEFT OPEN FOR AS SHORT OF A TIME AS PRACTICAL, WHERE PERMISSIBLE. EXCAVATIONS SHOULD BE BACKFILLED USING SOILS NO MORE PERMEABLE THAN THE ADJACENT SOILS.  
 • ROOF DRAINS SHOULD BE DIRECTED AWAY FROM CONSTRUCTION AREAS AND DIRECTED TO STORMWATER MANAGEMENT FACILITIES OR CONNECTED TO EXISTING STORMWATER MANAGEMENT UTILITIES.  
 • AVOID PONDING OF WATER OR CONCENTRATION OF SURFACE FLOW, WHICH COULD RESULT IN SURFACE EROSION AND/OR PROVIDE CHANNELS FOR RUNOFF TO ENTER THE SUBGRADE.  
 • AVOID ROCK BLASTING TO REMOVE ROCK DESIGNATED FOR REMOVAL.  
 • WHERE POSSIBLE, MINIMIZE THE DEPTH OF PROPOSED CUTS.  
 • INCLUDE WATER-TIGHT SEALS AT ALL CONNECTIONS OF WATER-BEARING SUBSURFACE UTILITIES.  
 • IF POSSIBLE, WATER BEARING UTILITIES SHOULD BE DESIGNED TO AVOID CROSSING BENEATH SLABS DUE TO LIMITED ACCESSIBILITY AND AMPLIFIED STRUCTURAL IMPACTS IN THE EVENT OF LEAKAGE AND ASSOCIATED SETTLEMENT.  
 • PAVEMENTS AND SIDEWALKS SHOULD BE INSPECTED REGULARLY, AND ANY OBSERVED JOINTS AND CRACKS SEALED TO PREVENT WATER INFILTRATION.  
 • PAVEMENTS SHOULD BE CURBED TO DIRECT SURFACE WATER TO STORMWATER MANAGEMENT STRUCTURES.  
 • UNDERGROUND PIPING SHOULD BE PROPERLY BACKFILLED WITH COMPACTED STRUCTURAL FILL, WHERE NON-UNIFORM ROCK CONDITIONS (E.G., PINNACLES, BOULDERS, ETC.) ARE ENCOUNTERED AT THE BEARING ELEVATION. THE ROCK SHOULD BE OVER EXCAVATED AT LEAST 1 FOOT AND REPLACED WITH COMPACTED STRUCTURAL FILL.  
 • IMPORTED STRUCTURAL FILL SHOULD CONTAIN A SIGNIFICANT QUANTITY OF FINE PARTICLES TO REDUCE WATER INFILTRATION RATES, ESPECIALLY WITHIN WATER BEARING UTILITY TRENCHES WITHIN OR NEAR STRUCTURAL AREAS.

**SINKHOLE MITIGATION DETAIL**  
 NOT TO SCALE



**NOTES:**  
 MAXIMUM DRAINAGE AREA = 1/2 ACRE.  
 INLET PROTECTION SHALL NOT BE REQUIRED FOR INLET TRIBUTARY TO SEDIMENT BASIN OR TRAP. BERMS SHALL BE REQUIRED FOR ALL INSTALLATIONS.  
 ROLLED EARTHEN BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERMS SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERMS SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT.  
 AT A MINIMUM, THE FABRIC SHALL HAVE A MINIMUM TENSILE STRENGTH OF 120 LBS. A MINIMUM BURST STRENGTH OF 200 PSI, AND A MINIMUM TRAPEZOIDAL TEAR STRENGTH OF 50 LBS. FILTER BAGS SHALL BE CAPABLE OF TRAPPING ALL PARTICLES NOT PASSING A NO. 40 SIEVE.  
 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. DISPOSE OF ACCUMULATED SEDIMENT AS WELL AS ALL USED BAGS ACCORDING TO THE PLAN NOTES.  
 DO NOT USE ON MAJOR PAVED ROADWAYS WHERE PONDING MAY CAUSE TRAFFIC HAZARDS.

**STANDARD CONSTRUCTION DETAIL #4-15  
 FILTER BAG INLET PROTECTION - TYPE C INLET**  
 NOT TO SCALE

**NORTH AMERICAN GREEN**

**STAPLE PATTERN NOTES:**  
 1. FOR BLANKETS WITH THE NORTH AMERICAN GREEN DOT SYSTEM PLACE STAPLES/STAKES THROUGH EACH OF THE PAINTED DOTS.  
 2. THE STAPLE PATTERN SHOWN ASSUMES THE NORTH AMERICAN GREEN #637 STANDARD ROLLS ON ALL SITE SLOPES (NON-STANDARD ROLL SIZES AND/OR OTHER USE CONFIGURATIONS WILL REQUIRE ALTERNATE STAPLE PATTERNS).

**STAPLE PATTERN C (FOR SLOPE APPLICATIONS)**

**KRIS J. REISS, P.E.**  
 LICENSED PROFESSIONAL ENGINEER

02/20/2026  
 DATE

COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E

**GATEWAY ON FOURTH PHASE 1 LLC**  
**GATEWAY ON 4TH**  
**EROSION AND SEDIMENTATION CONTROL DETAILS**

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**PRELIMINARY/FINAL  
 PLANS - NOT FOR  
 CONSTRUCTION**

DESIGNED BY: KJR  
 CHECKED BY: KJR  
 DRAWN BY: BAK  
 DATE: 02-20-2026  
 PROJ. NO.: PENR00169

DRAWING: ENS  
 SHEET: 14  
 OF: 24

PROJECT INFORMATION: PENR00169 (Rev. 02-20-26)  
 FILE NAME: PENR00169\_SHTD13-014\_LNS NOTES & DETAILS.dwg  
 FILE LAST SAVED DATE AND TIME: 19 Feb 2026, 8:15AM  
 LAST SAVE BY: bishough

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**PUBLIC UTILITIES NOTES**

- ALL PUBLIC UTILITIES REQUIRED TO SERVICE THIS LAND DEVELOPMENT SHALL BE PLACED UNDERGROUND EXCEPT FOR THOSE EXCEPTIONS NECESSARY TO PERMIT THE OVERALL INSTALLATION OF THE UTILITIES - OR - EXCEPT FOR TEMPORARY CONSTRUCTION SERVICE.
- UTILITY CONNECTIONS:
  - SEWER SERVICE:
    - EXISTING - CITY OF BETHLEHEM
    - PROPOSED - CITY OF BETHLEHEM
  - WATER SERVICE:
    - EXISTING - CITY OF BETHLEHEM
    - PROPOSED - CITY OF BETHLEHEM
  - ELECTRIC SERVICE:
    - TO BE PROVIDED BY PPL

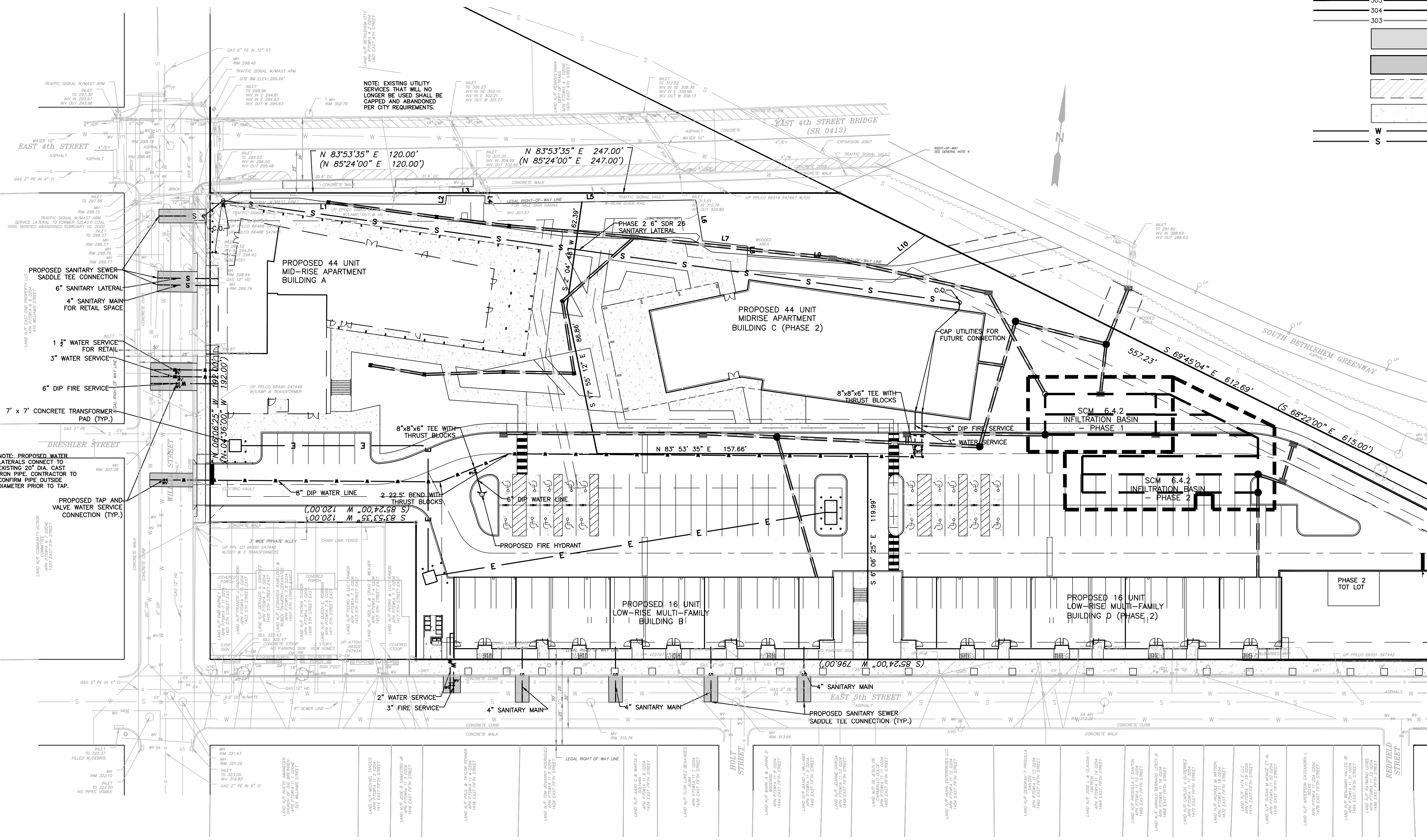
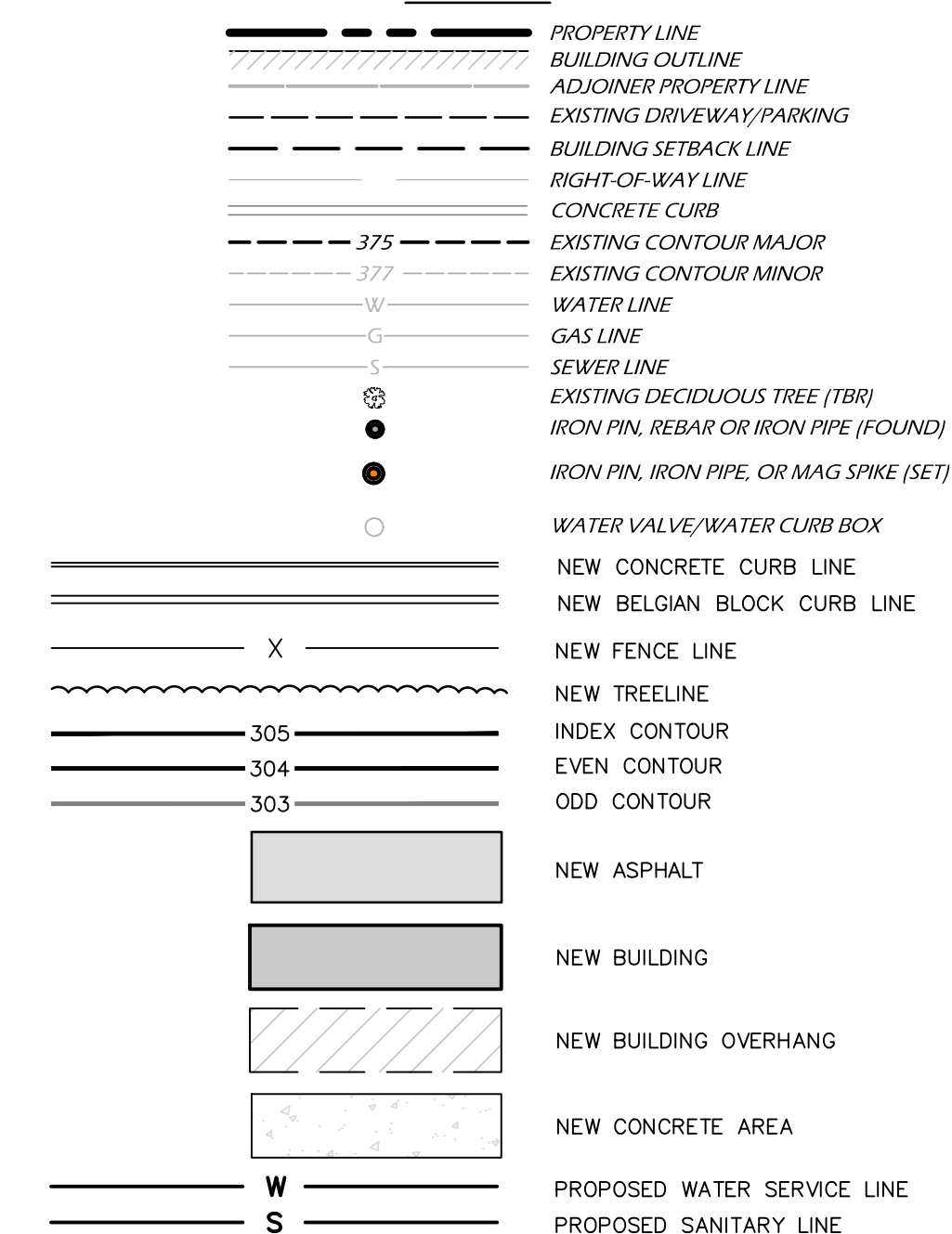
**SANITARY SEWER NOTES**

- SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF WATER AND SEWER RESOURCES ("SANITARY UTILITY OWNER") REQUIREMENTS, STANDARDS, AND SPECIFICATIONS AND IS SUBJECT TO INSPECTION BY THE SANITARY UTILITY OWNER AND ITS ENGINEER. THE SANITARY UTILITY OWNER WILL BE RESPONSIBLE FOR THE APPROVAL OF ALL MATERIALS IN CONNECTION WITH THE SANITARY SEWER.
- SHOP DRAWINGS FOR ALL SANITARY SEWER APPURTENANCES WILL BE REQUIRED TO BE SUBMITTED FOR REVIEW AND APPROVAL. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING:
  - A. A LIST OF THE PROPOSED SUPPLIERS FOR ALL MATERIALS TO BE USED IN CONNECTION WITH THE SEWER CONSTRUCTION.
  - B. SHOP DRAWINGS OF THE PRECAST MANHOLES, MANHOLE STEPS AND MANHOLE FRAMES AND COVERS TO BE USED.
  - C. CERTIFICATION FROM THE PIPE MANUFACTURER THAT THE PIPE MEETS OR EXCEEDS THE REQUIREMENT OF THE SANITARY UTILITY OWNER'S SPECIFICATIONS.
- ALL SANITARY SEWER LINES SHALL BE SDR-26 PVC AS NOTED AND ALL LATERALS SHALL BE SCHEDULE 40 PVC EXCEPT AS NOTED. ALL SANITARY LINES AND LATERALS SHALL BE BEDDED TO MEET MANUFACTURER'S SPECIFICATIONS AND/OR APPROVAL OF THE SANITARY UTILITY OWNER, WHICHEVER IS MORE RESTRICTIVE.
- CONTRACTOR TO ENSURE THAT ALL SANITARY MAINS AND LATERALS HAVE A MINIMUM OF 18-INCH VERTICAL CLEARANCE OR 10 FT HORIZONTAL CLEARANCE BETWEEN ANY OTHER UTILITY CROSSING. OTHERWISE CONTRACTOR SHALL ENCASE MAIN OR LATERAL IN CONCRETE WITH A MINIMUM OF 10 LF ON EACH SIDE OF THE CROSSING. CLEANOUTS ARE TO BE PLACED AT MAXIMUM INTERVALS OF 100-FT AND AT ALL BENDS.
- CONTRACTOR SHALL VERIFY ALL SIZES, MATERIALS, AND CONDITION OF EXISTING PIPES OR MANHOLES, TO BE REPLACED OR CONNECTED TO, PRIOR TO ORDERING MATERIALS.
- ALL EXISTING MANHOLES SHALL BE TESTED PER SANITARY UTILITY OWNER STANDARDS TO ASSURE NO LEAKS EXIST WITHIN THE STRUCTURES.

**WATER LINE NOTES**

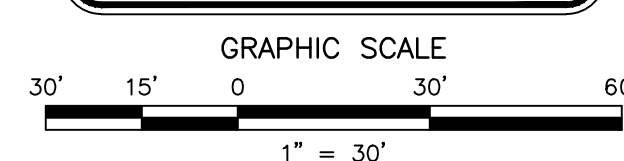
- CONTRACTOR SHALL VERIFY ALL SIZES OF EXISTING PIPES, TO BE REPLACED OR CONNECTED TO, PRIOR TO ORDERING MATERIALS.
- ALL WATER LINES MUST BE SURVEY STAKED PRIOR TO CONSTRUCTION, WITH STAKES PROVIDED AT INTERVALS OF 50 FEET, AS WELL AS AT ALL FITTING LOCATIONS AND UTILITY CROSSINGS. STAKES SHALL BE MARKED WITH WRITTEN ELEVATIONS FOR BOTTOM OF WATER PIPE (INCLUDES BOTTOM OF OTHER UTILITY PIPE ELEVATIONS AND PIPE SIZE AT ALL UTILITY CROSSINGS TO VERIFY CLEARANCE).
- ALL WATER MAINS MUST BE CONSTRUCTED WITH DOUBLE CEMENT LINED, THICKNESS CLASS 52 DUCTILE IRON PIPE WITH TYTON JOINTS AND WITH AN INTERNAL SEAL COAT AND EXTERNAL ASPHALT SEAL COAT IN ACCORDANCE WITH AWWA C104.
- ALL WATER LINE VALVES, FITTINGS, ETC. SHALL BE INSTALLED WITH MECHANICAL JOINTS AND MEGALUG RESISTANT GLANDS.
- ALL WATER LINE CONSTRUCTION TO BE COMPLETED IN ACCORDANCE WITH THE UTILITY OWNER'S LATEST STANDARDS AND SPECIFICATIONS.
- ALL POTABLE WATER PIPES SHALL HAVE A MINIMUM COVER OF FOUR (4) FEET. POTABLE WATER AND SANITARY SEWER LINE CROSSINGS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF EIGHTEEN (18) INCHES OR A MINIMUM HORIZONTAL SEPARATION OF TEN (10) FEET. IF THESE CLEARANCES CANNOT BE MET, THE WATER LINE MUST THEN BE ENCASED IN CONCRETE FOR 10 LF ON EACH SIDE OF THE CROSSING. IF THE POTABLE WATER PASSES BENEATH THE SANITARY, NO MATTER HOW MUCH CLEARANCE, THE POTABLE WATER MUST BE ENCASED IN CONCRETE FOR 10 LF ON EACH SIDE OF THE CROSSING.
- ALL WATER LINES ARE TO BE PRESSURE TESTED TO 1.5 TIMES THE WORKING PRESSURE OR 150 P.S.I., WHICHEVER IS GREATER, IN SECTIONS BETWEEN VALVES. THE TEST PRESSURE SHALL BE MAINTAINED FOR A PERIOD NOT LESS THAN 2 HOURS. SHOULD ANY PRESSURE TEST DISCLOSE AN INABILITY TO HOLD THE TEST PRESSURE, THE CONTRACTOR SHALL LOCATE AND CORRECT DEFECTS AND RETEST TO THE SATISFACTION OF THE UTILITY OWNER.
- THE INSTALLATION OR REPAIR OF ANY UNDERGROUND FACILITIES OR PIPING WHICH CONNECTS TO OR FURNISHES WATER FOR THE FIRE PROTECTION SPRINKLER SYSTEM SHALL BE PERFORMED ONLY BY A LICENSED UTILITY CONTRACTOR, FIRE PROTECTION SPRINKLER CONTRACTOR, OR LICENSED PLUMBER. A COPY OF THE LICENSE OR CERTIFICATE OF COMPETENCY SHALL BE PROVIDED TO THE INSPECTOR AT THE FINAL INSPECTION.
- REFER TO THE SITE/RECORD PLAN & GENERAL INFORMATION SHEET FOR ADDITIONAL NOTES.

**LEGEND**



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 DATE: 19 Feb 2026, 5:03PM  
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**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**



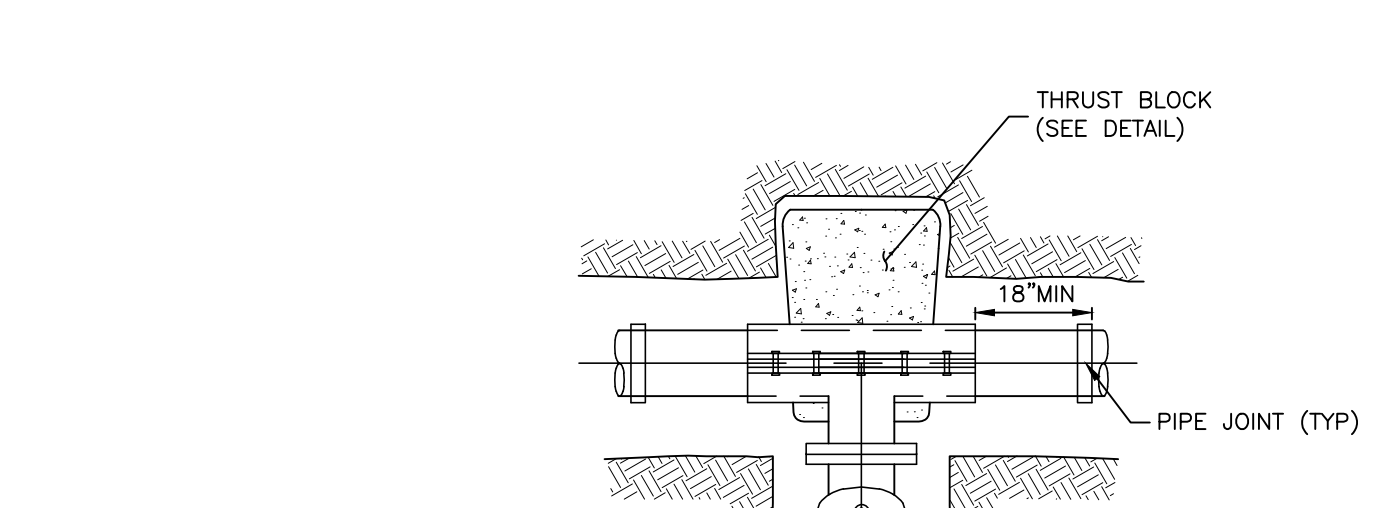
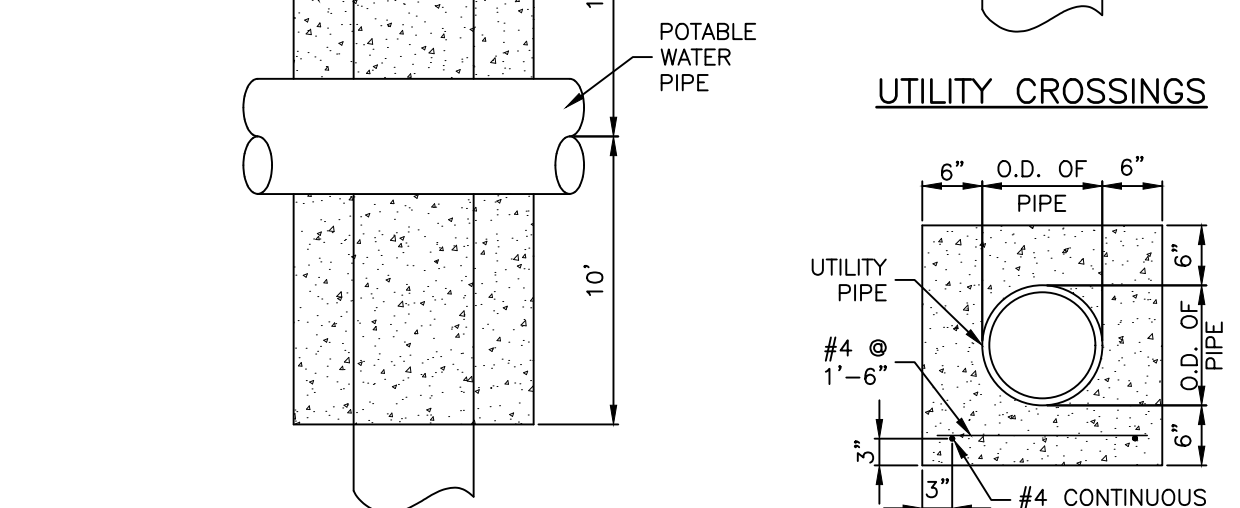
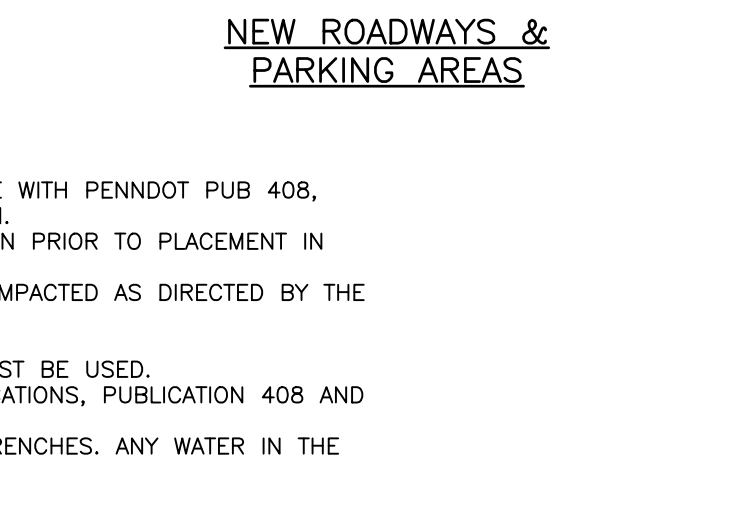
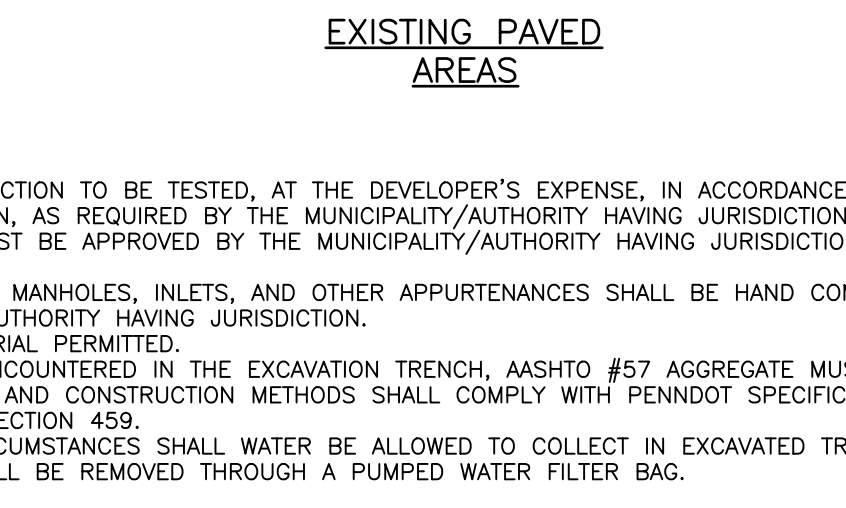
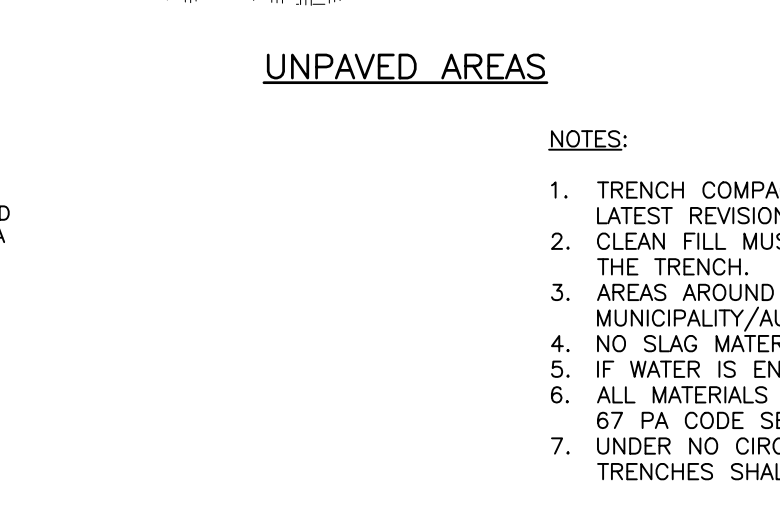
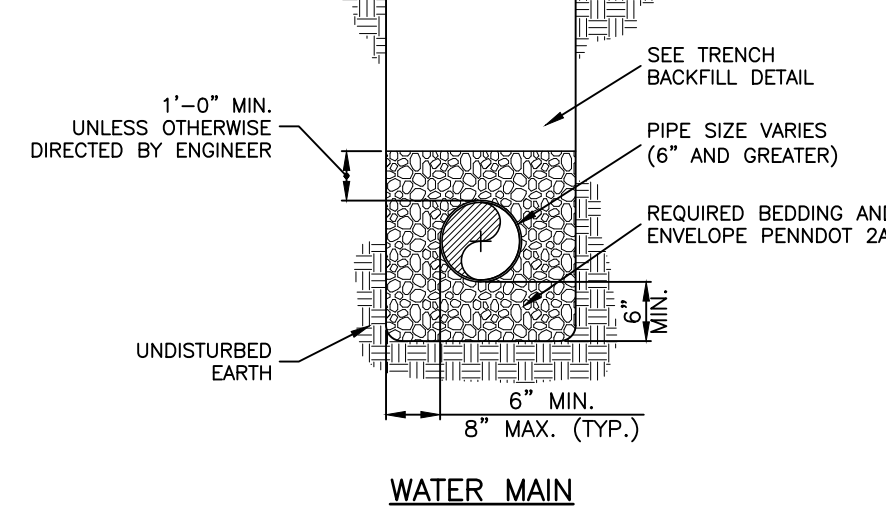
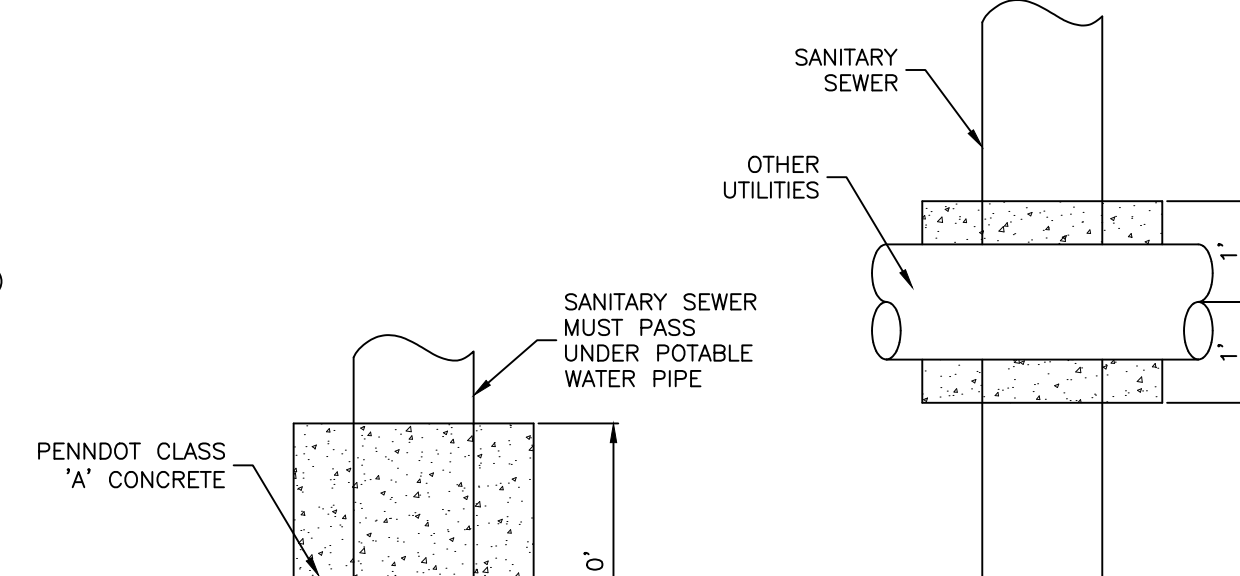
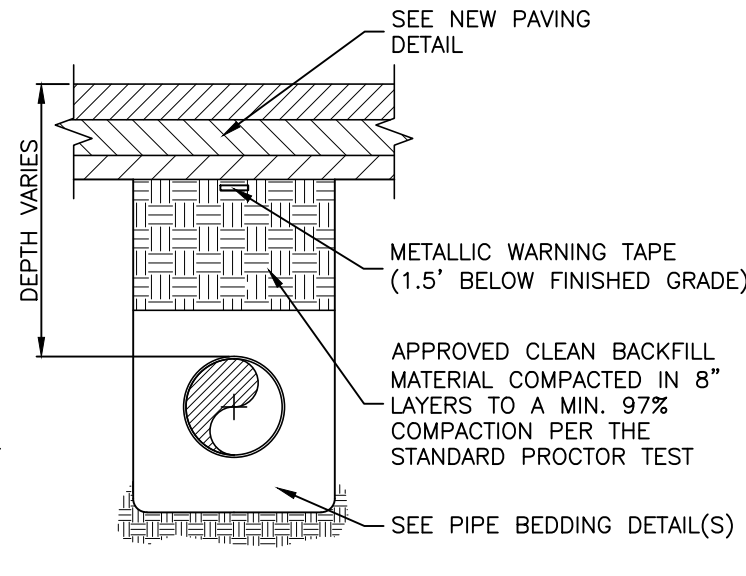
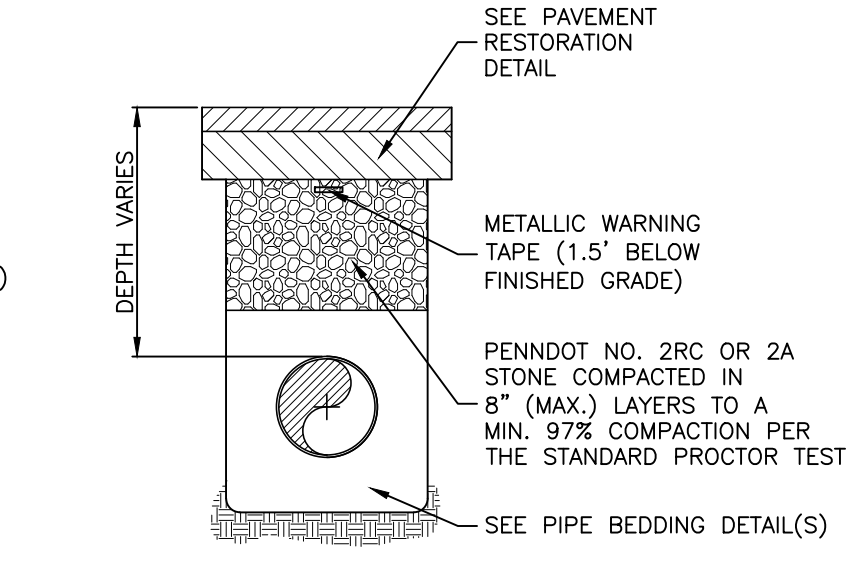
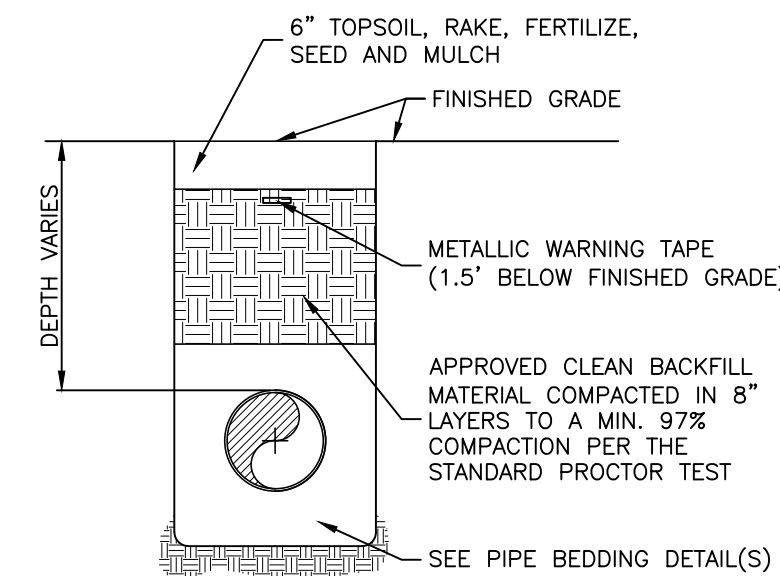
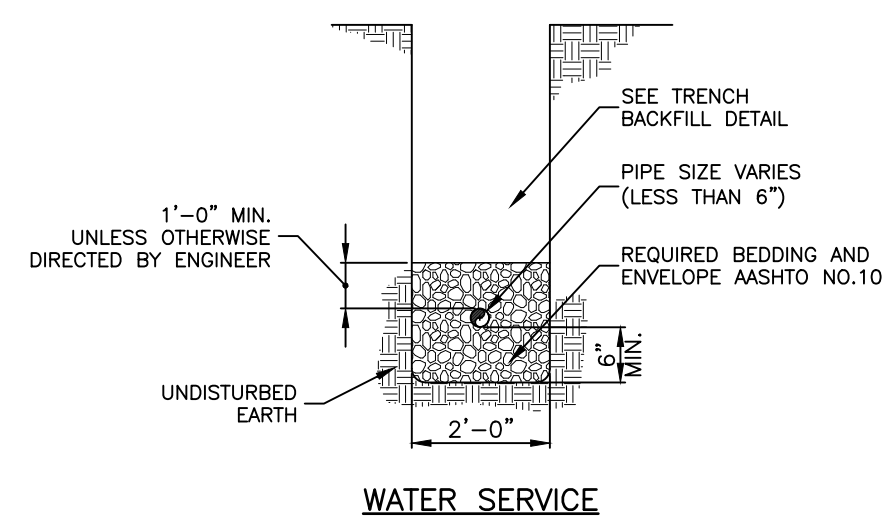
NO.	DATE	REVISIONS	BY	CHKD

KRIS J. REISS, P.E.  
 LICENSED PROFESSIONAL ENGINEER  
 COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E  
 02/20/2026  
 DATE

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA  
 UTILITY PLAN



OFFICES LOCATED IN:  
 DELAWARE, INDIANA, KENTUCKY,  
 MASSACHUSETTS, MICHIGAN, NEW JERSEY,  
 OHIO AND PENNSYLVANIA  
 DESIGNED BY: KJR  
 CHECKED BY: KUR  
 DRAWN BY: BAK  
 DATE: 02-20-2026  
 SCALE: 1"=30'  
 PROJ. NO.: PENR001689  
 DRAWING: UTL  
 SHEET: 15  
 OF 24



**PIPE BEDDING (WATER MAIN AND SERVICE)**

**BACKFILL (TRENCH)**

BEARING SURFACE REQUIRED - SQ.FT. HORIZONTAL THRUST BLOCKING & VERTICAL THRUST DOWNWARD 125 P.S.I. WORKING PRESSURE

PIPE SIZE	6" & 8"				10" & 12"				16" 18" 20"				24"			
	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.
SAND 0.75 TON/SQ.FT.	3.4	6.0	11.0	6.4	6.7	12.8	23.4	14.2	14.8	28.8	52.9	34.4	26.1	48.3	89.7	64.0
SOFT CLAY 1 TON/SQ.FT.	2.6	4.6	8.2	4.8	5.0	9.6	17.5	10.7	11.2	21.7	39.7	28.2	19.6	36.3	67.3	48.0
SAND AND GRAVEL 2 TON/SQ.FT.	1.3	2.3	4.1	2.4	2.5	4.8	8.8	5.3	5.6	10.8	20.0	14.1	9.8	13.1	33.6	24.0
CLAY 4 TON/SQ.FT.	1.0	1.2	2.1	1.3	1.3	2.4	4.4	2.7	2.8	5.4	10.0	7.2	4.9	9.1	16.8	12.0
SOFT ROCK 5 TON/SQ.FT.	1.0	1.0	1.6	1.0	1.0	1.9	3.5	2.2	1.6	4.4	8.0	5.7	3.9	7.3	13.5	9.6
ROCK 15 TON/SQ.FT.	-	-	1.0	0.4	-	1.0	1.2	0.8	1.0	1.4	2.6	1.9	1.3	2.4	4.5	3.2

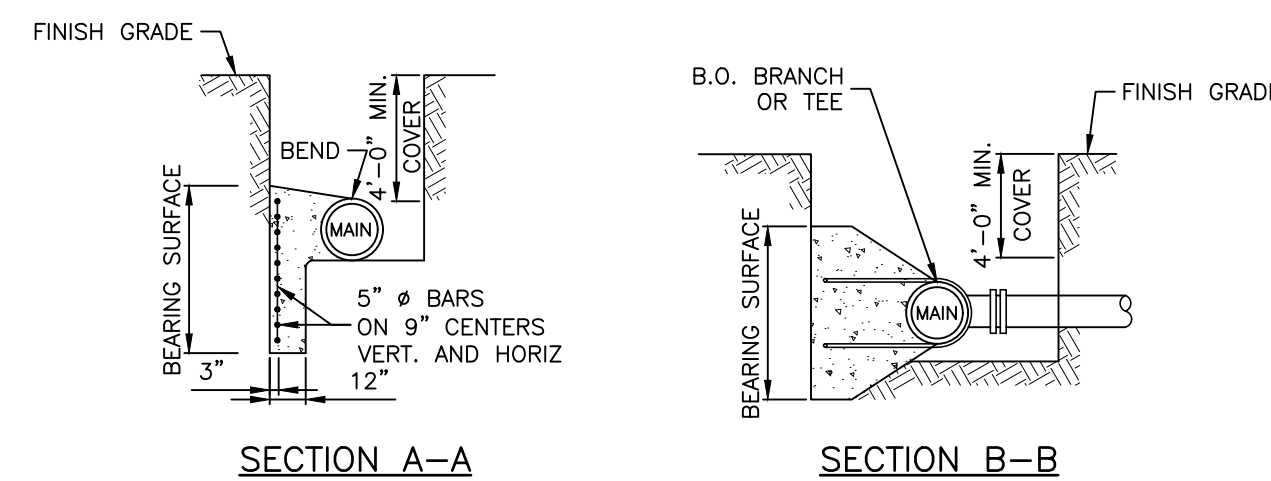
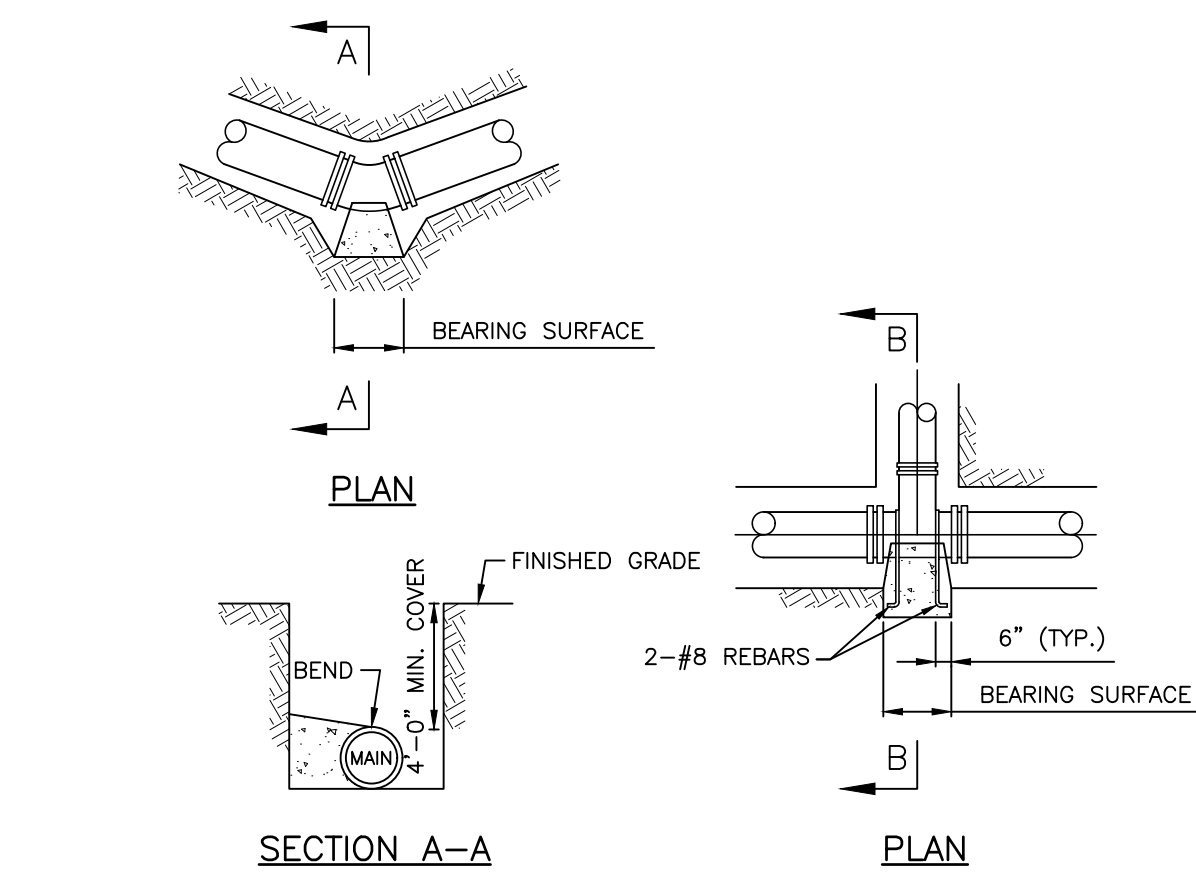
PIPE SIZE	30"				36"				42"				48"			
	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.	22.5'	45'	90'	D.E.
SAND 0.75 TON/SQ.FT.	40.3	76.5	139.0	99.1	55.5	107.5	197.5	140.0	74.3	144.7	266.5	188.7	83.2	182.3	336.2	238.0
SOFT CLAY 1 TON/SQ.FT.	30.2	57.4	104.3	74.3	41.6	80.6	148.0	105.0	55.7	108.5	200.0	141.6	70.0	136.7	252.2	178.0
SAND AND GRAVEL 2 TON/SQ.FT.	15.1	28.7	52.1	37.2	20.8	40.3	74.0	52.5	27.9	54.3	100.0	70.8	35.0	68.3	126.1	89.2
CLAY 4 TON/SQ.FT.	7.6	14.6	26	18.6	10.4	20.2	37.0	26.3	14.0	27.0	50.0	35.3	17.5	34.2	63.0	44.6
SOFT ROCK 5 TON/SQ.FT.	6.0	11.5	20.9	14.9	8.3	16.1	29.6	21.0	11.2	21.7	40.0	28.3	14.0	27.3	50.4	35.7
ROCK 15 TON/SQ.FT.	2.0	3.8	7.0	5.0	1.4	2.8	5.4	7.0	3.7	7.2	13.3	9.4	4.7	9.1	16.8	12.0

NOTES:

1. D.E. DENOTES DEAD END.

**WATER-THRUST BLOCKING TABLE**

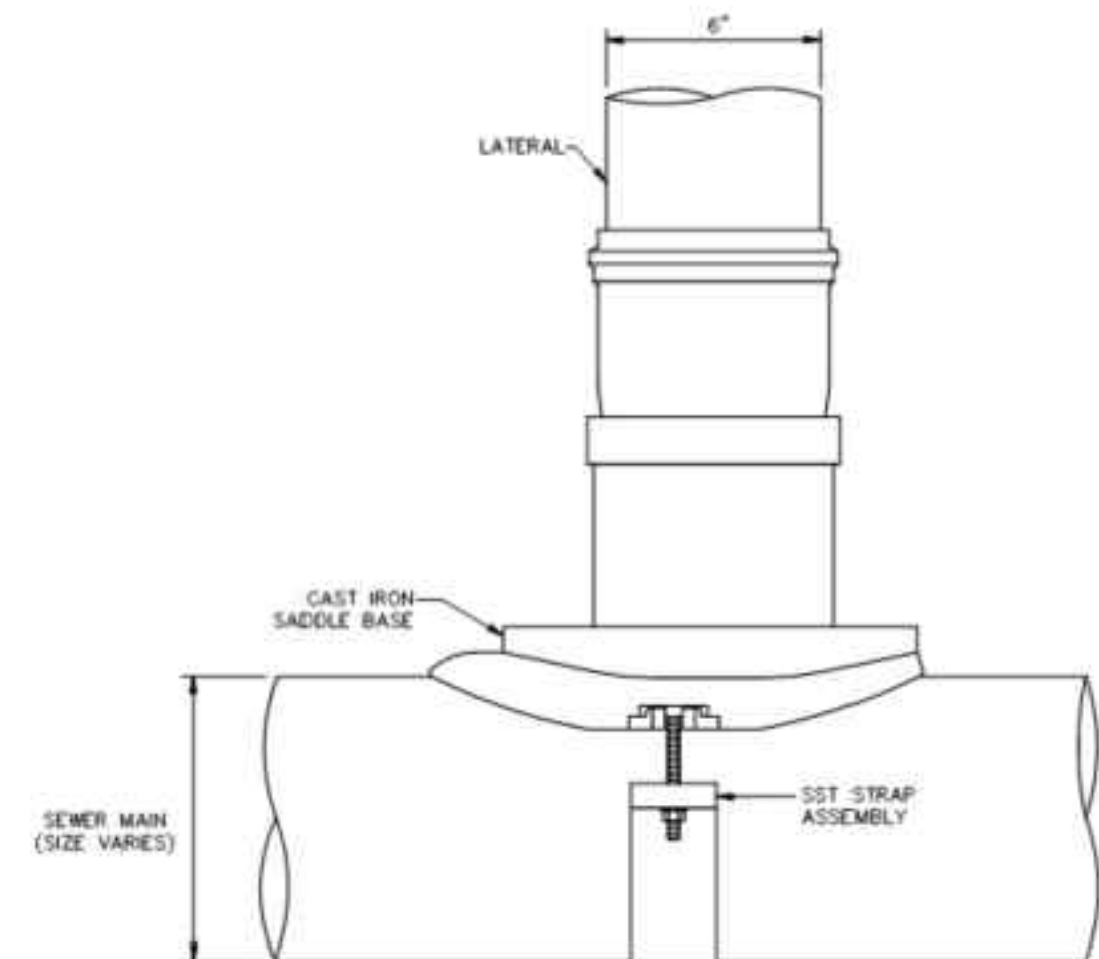
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- NOTES:
1. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI.
  2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS (ASTM GRADE 60).
  3. ALL FITTINGS AND JOINTS SHALL BE COVERED WITH POLYETHYLENE FILM BEFORE PLACING OF CONCRETE.
  4. PAINT ALL EXPOSED STEEL WITH TWO COATS OF BITUMASTIC PAINT OR EPOXY COATING.
  5. FOR THE REQUIRED BEARING SURFACE SEE STANDARD THRUST BLOCKING DETAIL.
  6. BEARING SURFACE MUST BE UNDISTURBED EARTH.

**WATER-HORIZONTAL THRUST BLOCKING**

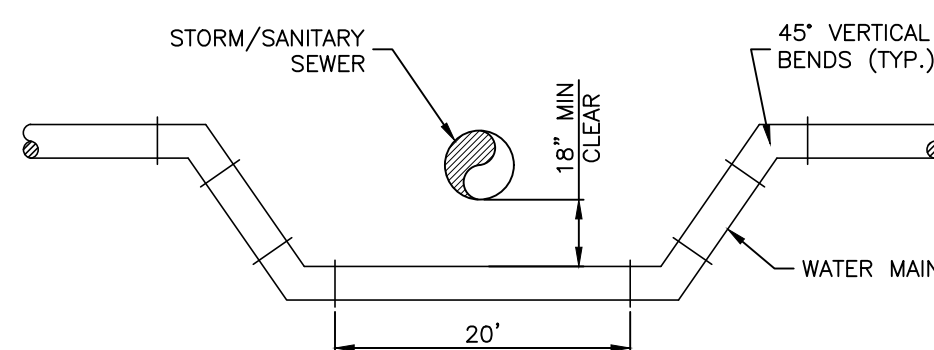
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- NOTES:
1. SEWER PIPE SADDLE, MANUFACTURED BY ROMAC INDUSTRIES, INC. (MODEL CB) OR APPROVED EQUAL.
  2. PLACE SADDLE SO THAT LATERAL CONNECTS TO TOP OF MAIN AT A 45° VERTICAL ANGLE.

**SEWER SADDLE**

NTS



NOTES:

1. ALL PIPE AND FITTINGS SHALL BE RESTRAINED PER AUTHORITY SPECIFICATIONS AND BY DIRECTION OF THE ENGINEER.
2. THE USE OF CONCRETE THRUST BLOCK SHALL BE PER THE DIRECTION OF THE AUTHORITY AND ENGINEER.

**STORM SEWER - SANITARY SEWER WATER CROSSING**

NOT TO SCALE

**THRUST BLOCKING TABLE-VERTICAL-UPWARD**

NOT TO SCALE

CONCRETE BLOCKING DIMENSIONS, VERTICAL THRUST UPWARD 150 P.S.I. WORKING PRESSURE

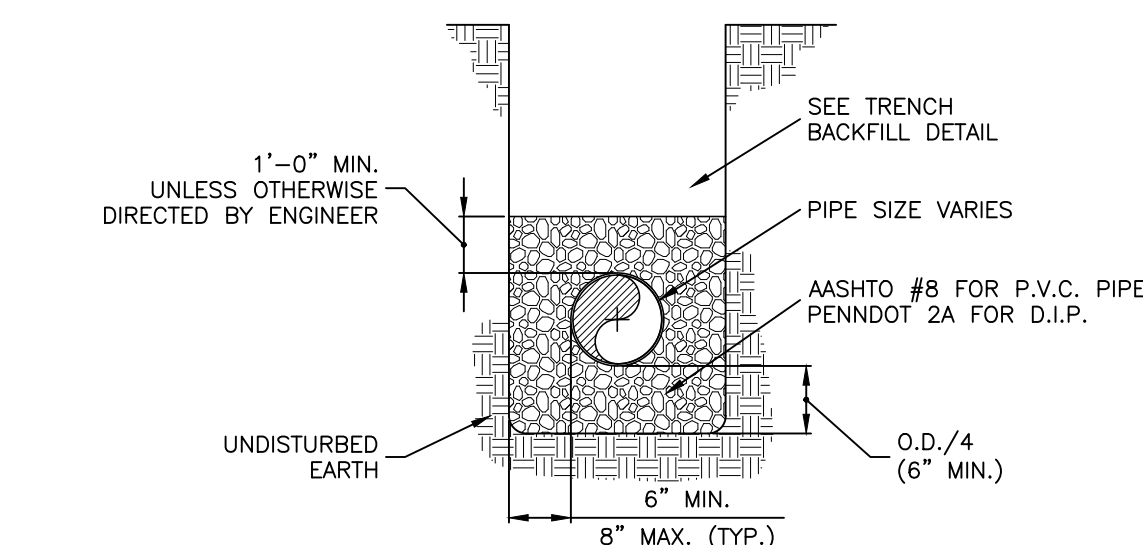
PIPE SIZES	LENGTH			WIDTH			DEPTH		
	11 1/2"	22 1/2"	45"	11 1/2"	22 1/2"	45"	11 1/2"	22 1/2"	45"
6" & 8"	3'	4'	6'	3'	3'	3'	2'	3'	4'
10" & 12"	3.5'	4'	7'	4'	4'	4'	2.5'	3'	4'
14" & 16"	4'	6'	9'	4.5'	4.5'	4.5'	3.5'	4'	5'
18" & 20"	5'	6.5'	11.5'	5'	5'	5'	4'	5'	5.5'
24"	5'	9'	12.5'	5'	5'	6'	4.5'	5'	6'
30"	5.5'	9'	13.5'	5.5'	6'	7'	5.5'	6'	7'
36"	6.5'	11'	14'	5.5'	6.5'	7'	6'	6.5'	7'
42"	9'	13.5'	15'	6'	7'	7'	6'	7'	7'
48"	10'	14'	16'	6'	7'	7'	6'	7'	7'

NOTES:

1. ALL CONC. SHALL HAVE MIN. COMPRESSIVE STRENGTH OF 3000 PSI AT THE END OF 28 DAYS.
2. ALL REINFORCING STEEL SHALL BE DEFORMED BARS. (ASTM GRADE 60)
3. ALL FITTINGS AND JOINTS SHALL BE COVERED WITH POLYETHYLENE FILM BEFORE PLACING CONC.
4. PAINT ALL EXPOSED STEEL WITH TWO COATS OF VALDURA PAINT OR APPROVED EQUAL.
5. REINFORCING BARS SHALL BE U-SHAPE AROUND THE PIPE.

**THRUST BLOCKING TABLE-VERTICAL-UPWARD**

NOT TO SCALE

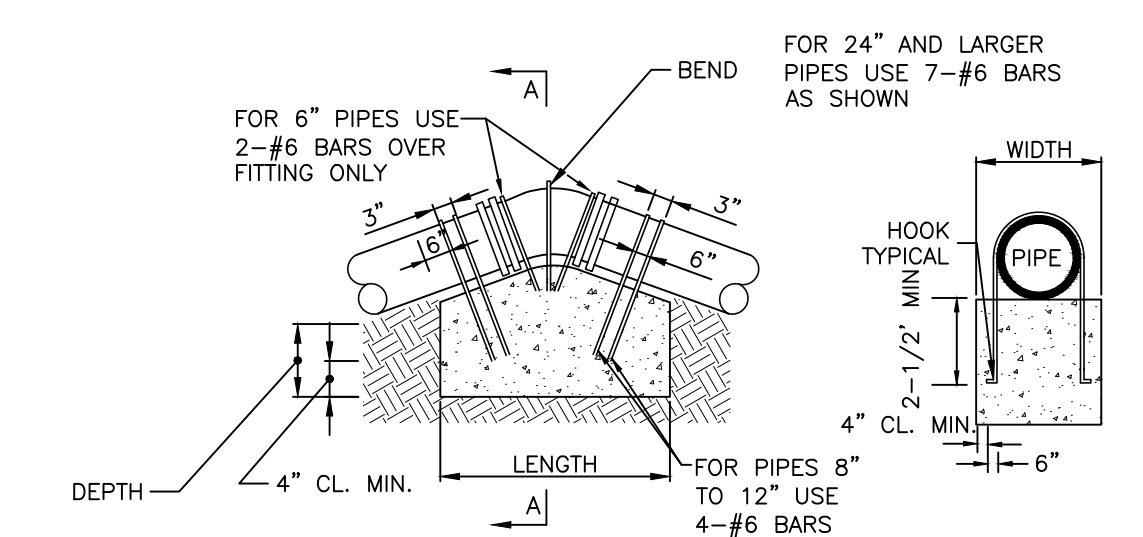


**PIPE BEDDING (SANITARY MAIN AND LATERAL)**

NOT TO SCALE

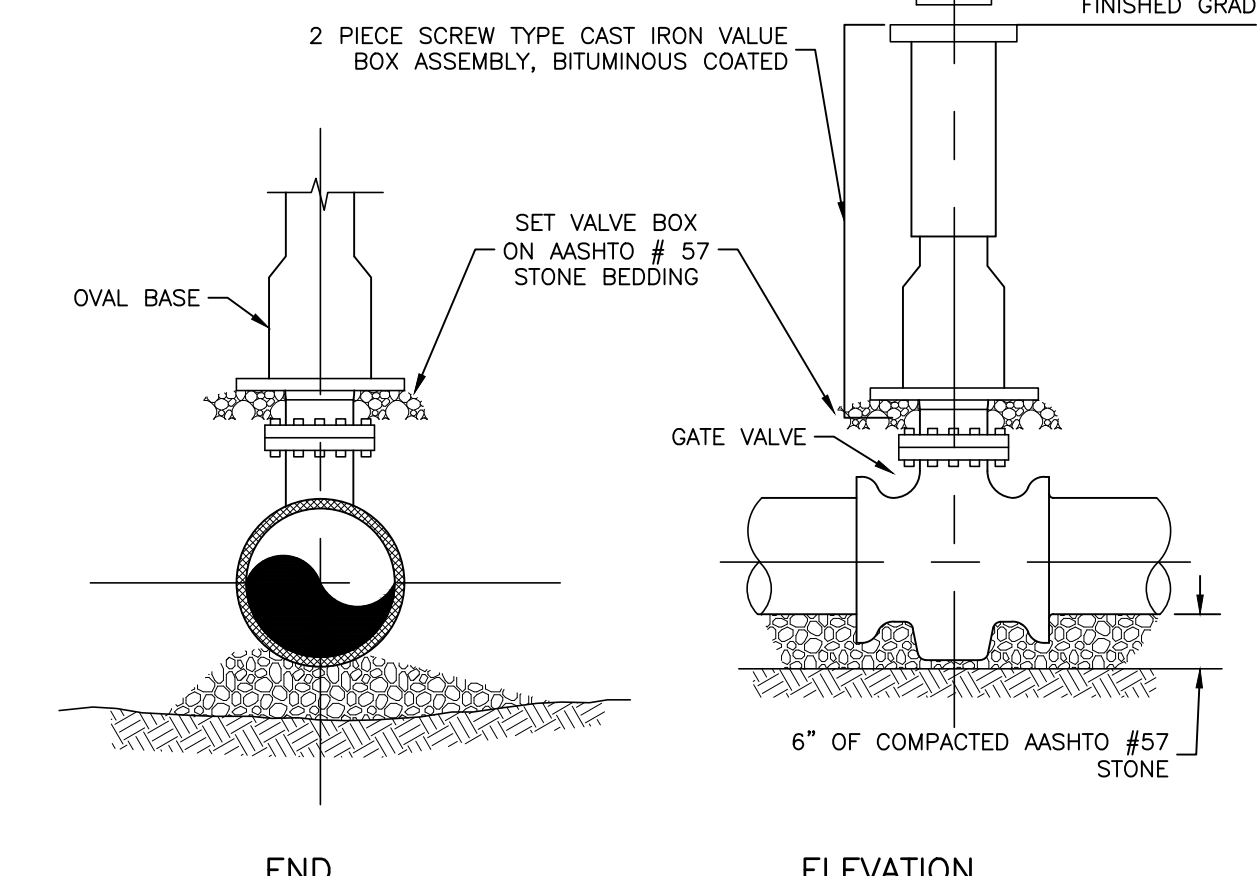
**UTILITY CROSSING (CONCRETE ENCASEMENT)**

NOT TO SCALE



**TYPICAL SECTION - VERTICAL THRUST UPWARD**

SECTION A-A



NOTES:

1. VALVE SHALL NOT COME INTO CONTACT WITH VALVE.

**STANDARD GATE VALVE AND VALVE BOX**

NOT TO SCALE

**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**

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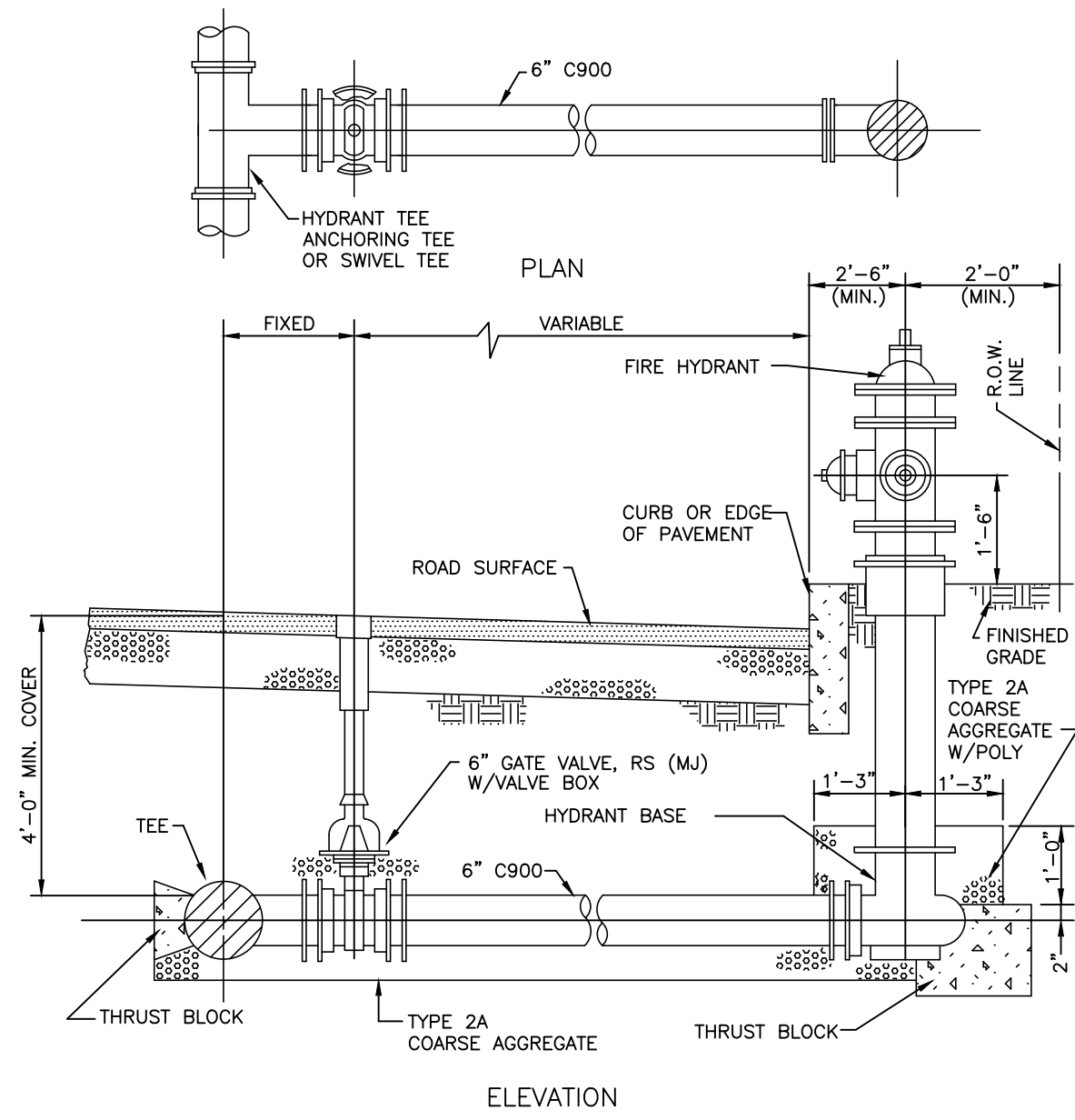
NO.	DATE	BY	CHKD

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA  
 KRIS J. REISS, P.E.  
 LICENSED PROFESSIONAL ENGINEER  
 COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E  
 02/20/2026  
 DATE

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA  
 UTILITY DETAILS

**T&M**  
 YOUR GOALS. OUR MISSION.  
 74 WEST BROAD STREET, STE 300  
 BETHLEHEM, PA 18018  
 TEL 610-625-2999  
 FAX 610-625-2969  
 www.tandmassociates.com  
 OFFICES LOCATED IN:  
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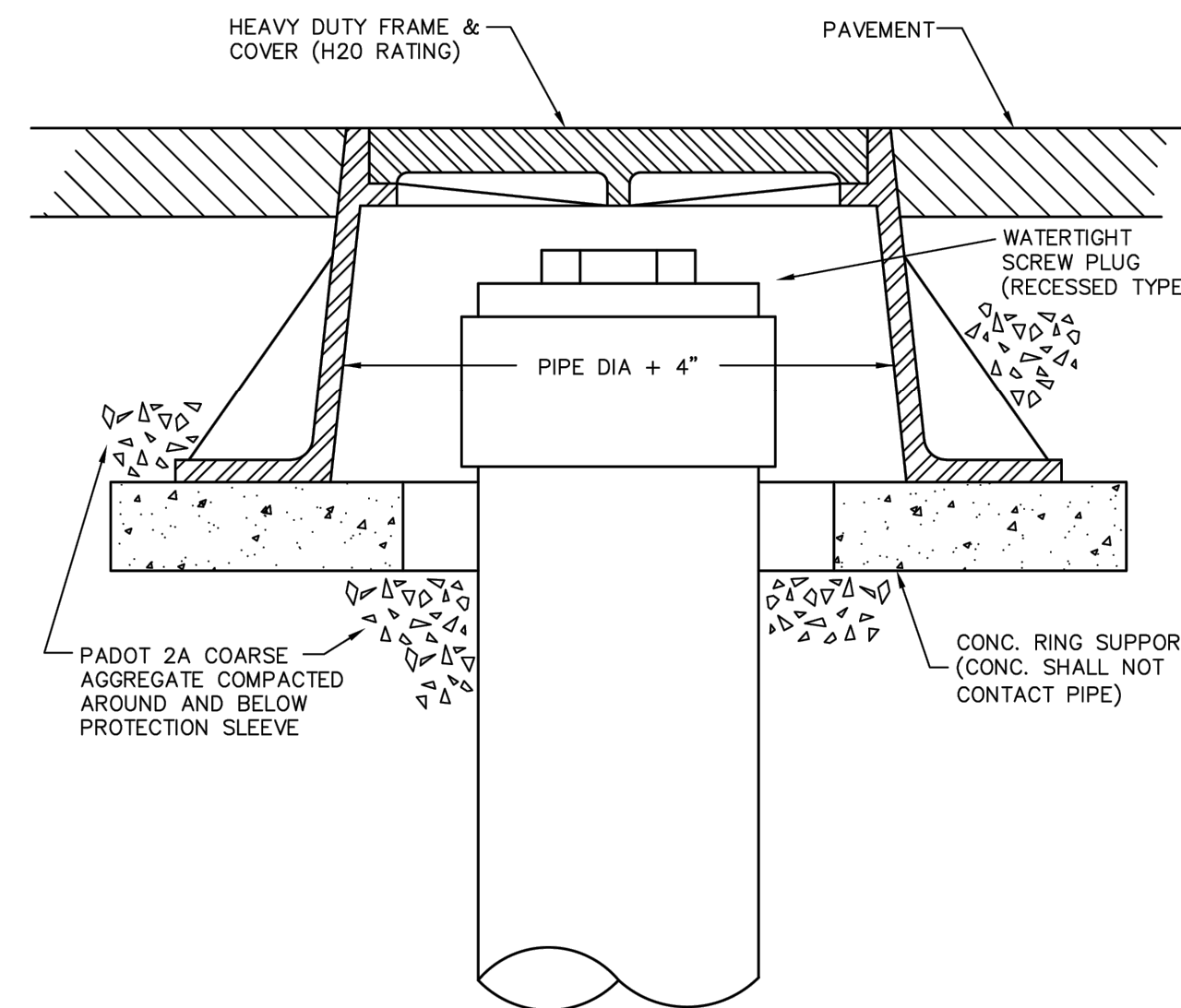
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CHECKED BY	KJR	SHEET	16
DRAWN BY	BAK	OF	24
DATE	02-20-2026		
SCALE	AS NOTED		
PROJ. NO.	PENR00169		



- NOTES:**
1. MAXIMUM HEAD LOSS 5 LBS. BETWEEN MAIN AND HYDRANT OUTLET FOR 750 GPM FLOW.
  2. HYDRANT TO BE PLACED WITH STEAMER CONNECTION FACING STREET @ 1'-6" BEHIND FACE OF CURB OR E.O.P. (TYP.)
  3. MEGA-LUG REQUIRED AT VALVE (ON HYDRANT SIDE ONLY IF HYDRANT TEE IS UTILIZED) AND AT HYDRANT.
  4. MINIMUM OF 4" OF COVER OVER ALL PIPES.
  5. HYDRANT TO HAVE 5 1/4" SEAT OPENING.
  6. DRAIN HOLE IN HYDRANT MUST NOT BE OBSTRUCTED WITH CONCRETE.
  7. FIRE DEPARTMENT APPROVAL IS REQUIRED PRIOR TO INSTALLATION.

**FIRE HYDRANT DETAIL**

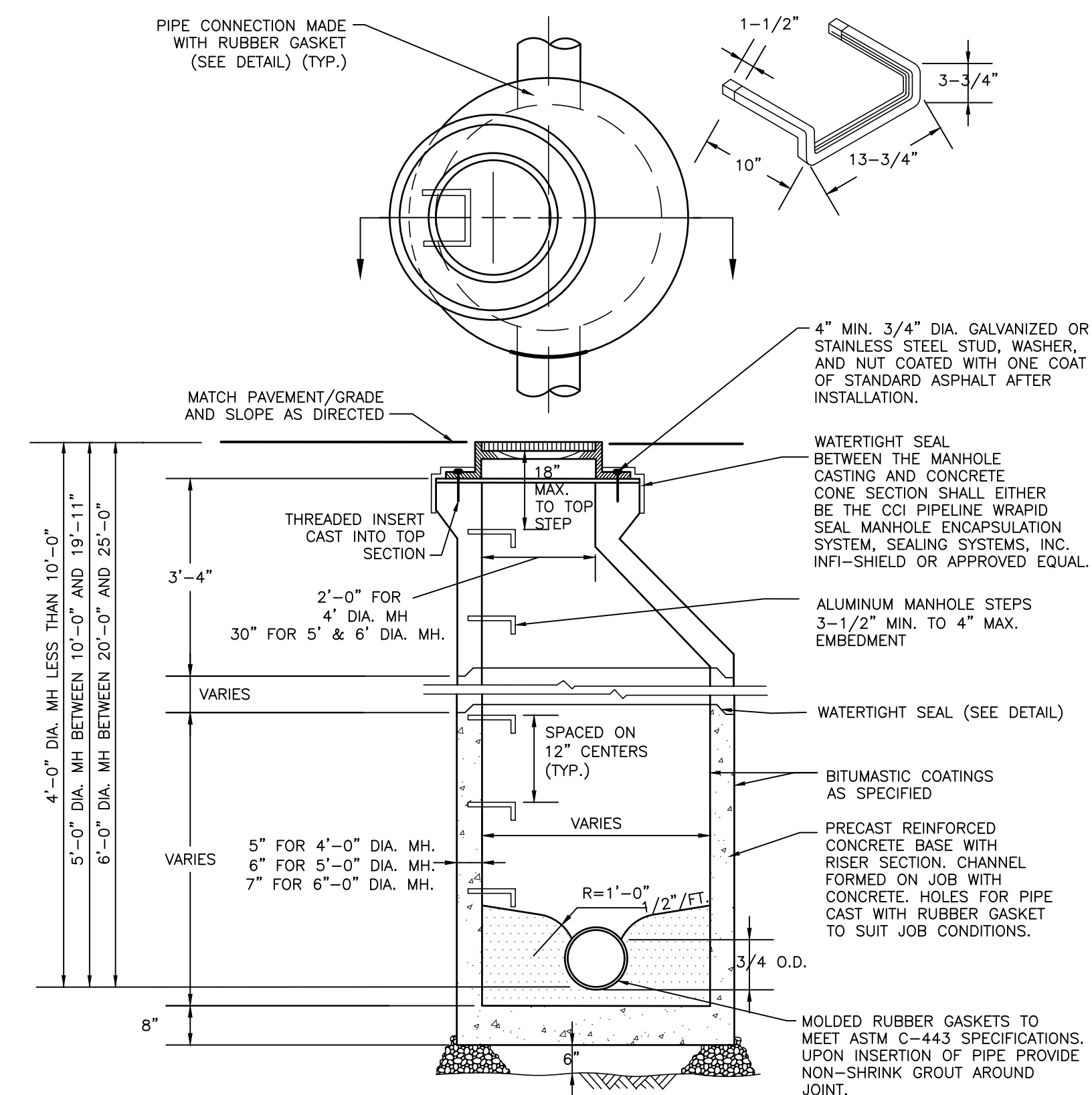
NOT TO SCALE



- NOTES:**
1. FRAME AND COVER SHALL BE NEENAH FOUNDRY COMPANY MODEL R-1976 OR APPROVED EQUAL.
  2. CLEANOUT PROTECTION SLEEVES ARE TO BE INSTALLED FOR CLEANOUTS LOCATED IN PAVED AREAS, OR LESS THAN 3 FEET FROM A PAVED AREA.

**CLEANOUT PROTECTION SLEEVE**

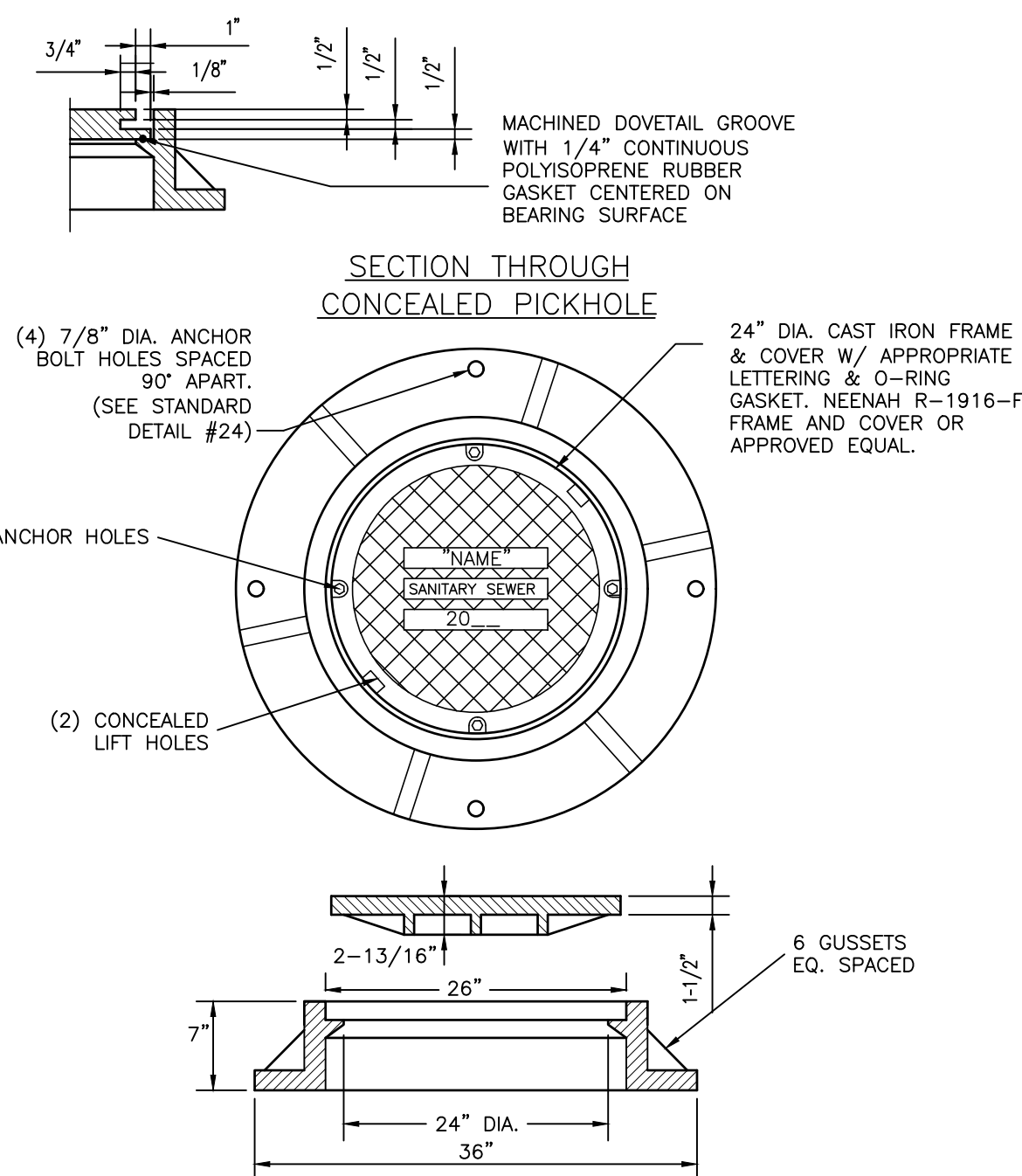
NTS



- NOTES:**
1. BOLTING OF MANHOLE FRAME AND COVER NOT REQUIRED FOR MANHOLES.
  2. ALL STONE GRADATIONS ARE AASHTO CLASSIFICATION.
  3. PIPES SHALL PROTRUDE 2" INSIDE MANHOLE WALL.
  4. FOR NEW PIPE CONNECTIONS THAT ARE TO BE MADE IN THE FIELD, USE FERRO OR EQUAL CONCRETE MANHOLE ADAPTER, PRIOR TO PLACING GROUT AROUND PIPE CONNECTION.
  5. WHERE CASTINGS ARE EXPOSED TO SURFACE RUNOFF, O-RING GASKETS WILL BE REQUIRED.
  6. O-RING & MOLDED RUBBER GASKETS PERTAIN STRICTLY TO SANITARY SEWERS.
  7. FOR SEWER PIPE GREATER THAN 30" DIA., CONFORM TO ASTM SPEC. C-478 (CURRENT VERSION).
  8. A HEAT SHRINK ENCAPSULATION SYSTEM SHALL BE PLACED OVER THE EXTERNAL AREA OF THE BRICK COURSE. CCI WRAPID SEAL ONLY.

**PRECAST CONCRETE SANITARY MANHOLE WITH PRECAST CONCRETE BASE**

NOT TO SCALE



NOTE: MANHOLE CASTING SHALL HAVE STAINLESS STEEL INSERTS, TETHERLOCK MODEL RAINSTOPPER OR APPROVED EQUAL.

**HEAVY DUTY CAST IRON MANHOLE FRAME AND SELF-SEALING COVER**

NOT TO SCALE

PROJECT INFORMATION:  
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 DATE: 02/20/2026 10:19 AM  
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NO.	DATE	REVISIONS	BY	CHKD

**KRIS J. REISS, P.E.**  
 LICENSED PROFESSIONAL ENGINEER

DATE: 02/20/2026  
 COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

**UTILITY DETAILS**

**YOUR GOALS. OUR MISSION.**

74 WEST BROAD STREET, STE 300  
 BETHLEHEM, PA 18018  
 TEL 610-625-2999  
 FAX 610-625-2969  
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DESIGNED BY	KJR	DRAWING	UTL
CHECKED BY	KJR	SHEET	17
DRAWN BY	BAK	PROJ. NO.	PENR00169
DATE	02-20-2026	OF	24
SCALE	AS NOTED		

**PRELIMINARY/FINAL  
 PLANS - NOT FOR  
 CONSTRUCTION**

PLANT SCHEDULE

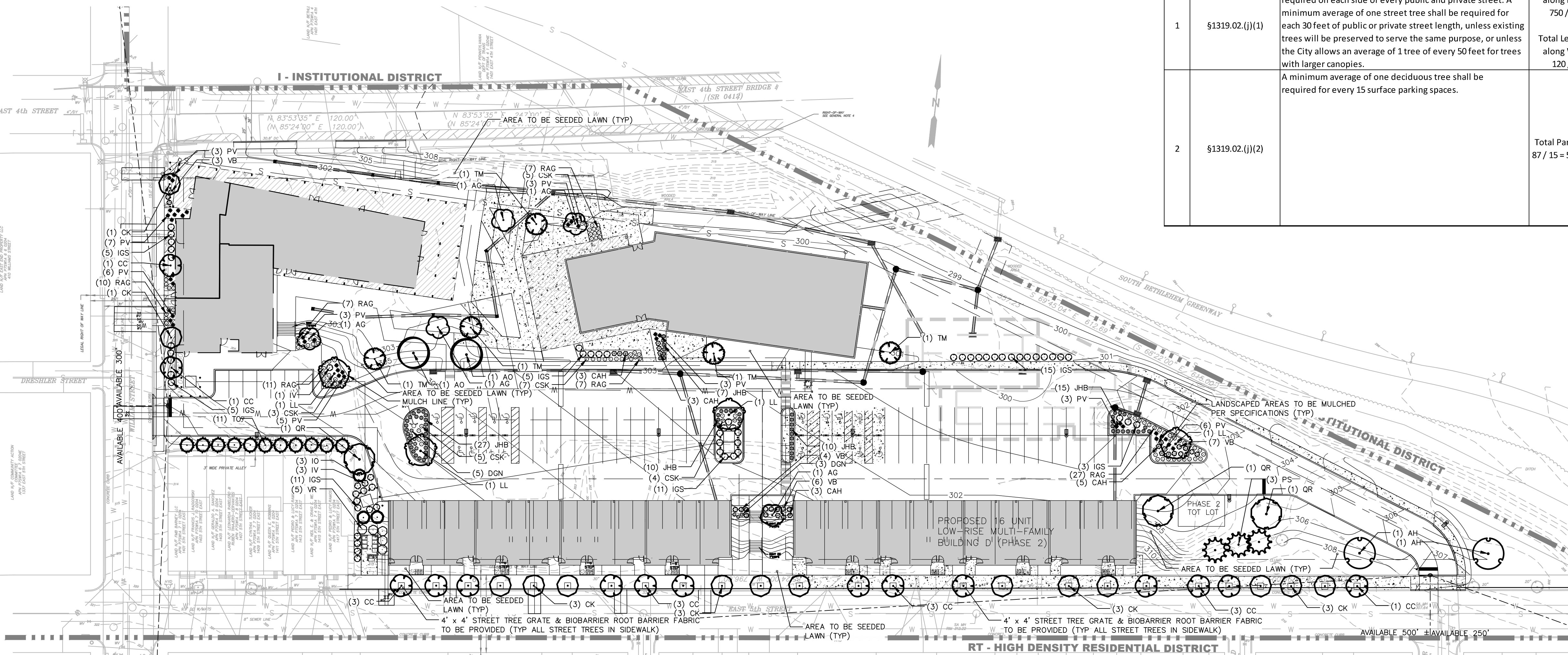
SYMBOL	CODE	QTY	BOTANICAL NAME	COMMON NAME	ROOT	CALIPER	HEIGHT	REMARKS
<b>DECIDUOUS TREES</b>								
	TM	5	ACER BUERGERANUM	TRIDENT MAPLE	B & B	2" - 2 1/2" CAL.		
	AG	5	AMELANCHIER X GRANDIFLORA 'AUTUMN BRILLIANCE'	AUTUMN BRILLIANCE SERVICEBERRY	B & B	2" - 2 1/2" CAL.		
	AH	2	CARPINUS CAROLINIANA	AMERICAN HORNBEAM	B & B	2" - 2 1/2" CAL.		
	QR	3	QUERCUS RUBRA	RED OAK	B & B	2" - 2 1/2" CAL.		
<b>EVERGREEN TREES</b>								
	IO	3	ILEX OPACA	AMERICAN HOLLY	B & B		6'-8'	
	PS	3	PINUS STROBUS	WHITE PINE	B & B		8'-10'	
	TO	11	THUJA OCCIDENTALIS 'TECHNY'	TECHNY ARBORVITAE	B & B		6'-8'	
<b>PARKING LOT TREES</b>								
	AO	2	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	B & B	2" - 2 1/2" CAL.	14' MIN.	
	LL	4	TILIA CORDATA 'GREENSPIRE'	LITTLELEAF LINDEN	B & B	2" - 2 1/2" CAL.	14' MIN.	
<b>STREET TREES</b>								
	CC	15	CERCIS CANADENSIS	EASTERN REDBUD	B & B	2" - 2 1/2" CAL.	14' MIN.	
	CK	14	CORNUS KOUSA	KOUSA DOGWOOD	B & B	2" - 2 1/2" CAL.	14' MIN.	
<b>SHRUBS</b>								
	CAH	14	CLETHRA ALNIFOLIA 'HUMMINGBIRD'	HUMMINGBIRD SUMMERSWEET (DWARF)	5 GAL		24"-30"	HEAVY SPECIMENS
	CSK	24	CORNUS SERICEA 'KELSEY'	KELSEY'S DWARF RED TWIG DOGWOOD	#3		18"-24"	
	DGN	8	DEUTZIA GRACILIS 'NIKKO'	NIKKO DEUTZIA	#3		18"-24"	
	IGS	55	ILEX GLABRA 'SHAMROCK'	INKBERRY	#7		24"-30"	HEAVY SPECIMENS
	IV	4	ITEA VIRGINICA 'HENRY'S GARNET'	HENRY'S GARNET SWEETSPIRE	#5		18"-24"	HEAVY SPECIMENS
	VR	5	VIBURNUM RHYTIDOPHYLLUM 'ALLEGHANY'	LEATHERLEAF VIBURNUM	#7		30"-36"	HEAVY SPECIMENS
<b>GROUND COVER SHRUBS</b>								
	JHB	69	JUNIPERUS HORIZONTALIS 'BLUE RUG'	BLUE RUG JUNIPER	2 GAL		12"-15"	
	RAG	69	RHUS AROMATICA 'GRO-LOW'	'GRO-LOW' FRAGRANT SUMAC	2 GAL		12"-18"	
	VB	20	VACCINIUM ANGUSTIFOLIUM 'BRUNSWICK'	LOWBUSH GROUND COVER BLUEBERRY	5 GAL		12"-18"	
<b>PERENNIALS/GRASSES</b>								
	PV	39	PANICUM VIRGATUM 'SHENANDOAH'	SHENANDOAH SWITCH GRASS	1 GAL			

CITY OF BETHLEHEM GENERAL LANDSCAPING NOTES

- NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBANCE IS ALLOWED IN THE TREE PROTECTION ZONE UNLESS INDICATED ON THE PLAN.
- BARRICADES MUST BE INSTALLED PRIOR TO ANY DESTRUCTION AND/OR CONSTRUCTION ACTIVITY.
- THE ROOT PROTECTION ZONE SHALL BE THE AREA ENCOMPASSED BY A CIRCLE WITH A RADIUS EXTENDING 1.25 FT. FROM THE TRUNK OF THE TREE FOR EVERY INCH DBH (DIAMETER AT BREAST HEIGHT) OF THE TREE.
- VIOLATIONS OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO PENALTY PER CITY ORDINANCE.
- ALL TREES ON PUBLIC PROPERTY ARE PROTECTED BY ORDINANCE: NO PRUNING, ROOT PRUNING OF ROOTS OVER ONE INCH IN DIAMETER, AND/OR TREE REMOVAL IS TO BE PERFORMED WITHOUT A PERMIT AND WORK MUST BE PERFORMED BY A CITY LICENSED TREE CONTRACTOR.
- ALL PLANT MATERIALS ARE TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
- STREET AND PARKING LOT TREES SHALL BE A MINIMUM OF 14" IN HEIGHT AND HAVE A SINGLE STRAIGHT TRUNK WITH THE FIRST LATERAL BRANCH AT 7' ABOVE THE ROOT BALL. TREES WITH AN UPRIGHT BRANCHING HABIT, SUCH AS ZELKOVA, MAY HAVE THE FIRST LATERAL BRANCH AT 6' ABOVE THE ROOT BALL.
- ALL LANDSCAPING SHALL CONFORM TO THE CURRENT EDITION OF THE ARBORICULTURAL SPECIFICATIONS AND STANDARDS OF PRACTICE OF THE CITY OF BETHLEHEM.
- A ROOT-CONTROL SYSTEM IS REQUIRED WHEN INSTALLING STREET TREES. THE ROOT BARRIER SHALL BE OF THE BIO-BARRIER TYPE AND A MINIMUM OF EIGHTEEN (18") INCHES WIDE. ANY SUBSTITUTION SHALL BE APPROVED BY THE CITY FORESTER. THE ROOT CONTROL SYSTEM IS TO BE INSTALLED PER THE MANUFACTURER'S RECOMMENDATIONS. TREE OPENINGS IN THE SIDEWALK SHALL HAVE THE BIO-BARRIER INSTALLED ALONG THE FACE OF THE TREE OPENING THAT IS PARALLEL TO THE STREET AND CLOSEST TO THE PROPERTY LINE, OVERLAPPING THE NEAREST TWO CORNERS BY APPROXIMATELY FOUR (4") INCHES. WHERE TREES ARE TO BE PLANTED IN A PARKWAY OR PLANTING STRIP BETWEEN THE CURB AND SIDEWALK, THE BARRIER SHALL BE INSTALLED ALONG THE SIDEWALK EDGE CLOSEST TO THE CURB AND CENTERED ON THE ROOT SOURCE. THE LENGTH OF THE BARRIER SHALL BE A MINIMUM EQUAL TO THE SPREAD OF THE TREE CANOPY AT MATURITY PLUS TEN (10') FEET.

No.	Section	Requirement	Proposed	Waiver	
1	\$1349.19.G.	An average minimum of one deciduous or evergreen tree shall be required to be planted and then maintained for every 4,000 square feet of impervious surface. This requirement shall be in addition to required street trees and buffer yard plantings required by the Zoning Ordinance.	Total Impervious Area = 119,790 sf 119,790 / 4,000 = 29.9 or 30 Evergreen/Deciduous Trees Required	Total Impervious Area Trees Provided = 30 Evergreen/Deciduous Trees	No
2	\$1349.19.H.1.	On principal commercial, industrial, institutional and multi-family apartment lots, a minimum of 10 percent of the lot area shall be landscaped in trees and shrubs, and with a vegetated ground cover. These plantings shall be in addition to any buffer yards which may be necessary. Parking lot trees required in Section 1319 of the Zoning Ordinance can be counted towards fulfilling this 10 percent requirement. This 10 percent requirement shall not apply in the CB district. Where an entity owns adjacent lots, the 10 percent requirement may be averaged across two or more lots, provided the resulting requirement is established on a City-approved plan.	Total Lot Area = 159,865 sf 159,865 x 0.10 = 15,986.5 Landscape Area (10%)	Total Landscape Area Provided = 40,075 sf (25%)	No

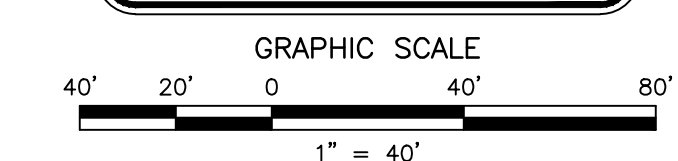
No.	Section	Requirement	Proposed	Waiver	
1	\$1319.02.(j)(1)	Street trees meeting requirements of the City shall be required on each side of every public and private street. A minimum average of one street tree shall be required for each 30 feet of public or private street length, unless existing trees will be preserved to serve the same purpose, or unless the City allows an average of 1 tree of every 50 feet for trees with larger canopies.	Total Length of Improvements along East 5th Street = 750 lf 750 / 30 = 25 Street Trees  Total Length of Improvements along William Street = 150 lf 120 / 30 = 4 Street Trees	Total Street Trees Provided Along East 5th Street = 25 Street Trees  Total Street Trees Provided Along William Street = 4 Street Trees	No
2	\$1319.02.(j)(2)	A minimum average of one deciduous tree shall be required for every 15 surface parking spaces.	Total Parking Spaces = 87 Spaces 87 / 15 = 5.8 or 6 Parking Lot Trees	Total Proposed Parking Lot Trees = 6 Parking Lot Trees	No



**LEGEND**

- PROPERTY LINE
- BUILDING OUTLINE
- ADJOINER PROPERTY LINE
- EXISTING DRIVEWAY/PARKING
- BUILDING SETBACK LINE
- RIGHT-OF-WAY LINE
- CONCRETE CURB
- EXISTING CONTOUR MAJOR
- EXISTING CONTOUR MINOR
- WATER LINE
- GAS LINE
- SEWER LINE
- EXISTING DECIDUOUS TREE (TBR)
- IRON PIN, REBAR OR IRON PIPE (FOUND)
- IRON PIN, IRON PIPE, OR MAG SPIKE (SET)
- WATER VALVE/WATER CURB BOX
- NEW CONCRETE CURB LINE
- NEW BELGIAN BLOCK CURB LINE
- NEW FENCE LINE
- NEW TREELINE
- INDEX CONTOUR
- EVEN CONTOUR
- ODD CONTOUR
- NEW ASPHALT
- NEW BUILDING
- NEW CONCRETE AREA

**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**



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 LAST SAVE BY: JCR20260219

NO.	DATE	BY	REVISIONS

GATEWAY ON FOURTH PHASE 1 LLC  
 GATEWAY ON 4TH  
 CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA  
**LANDSCAPING NOTES AND DETAILS**

KRIS J. REISS, P.E.  
 LICENSED PROFESSIONAL ENGINEER  
 COMMONWEALTH OF PENNSYLVANIA  
 LICENSE NO. 056285E  
 02/20/2026 DATE

DESIGNED BY: KJR  
 CHECKED BY: KJR  
 DRAWN BY: BAK  
 DATE: 02-20-2026  
 SCALE: 1"=40'  
 PROJ. NO.: PENR00169

DRAWING: SLS  
 SHEET: 18  
 OF: 24

YOUR GOALS. OUR MISSION.  
 74 WEST BROAD STREET, STE 300  
 BETHLEHEM, PA 18018  
 TEL 610-625-2999  
 FAX 610-625-2969  
 www.tandmassociates.com

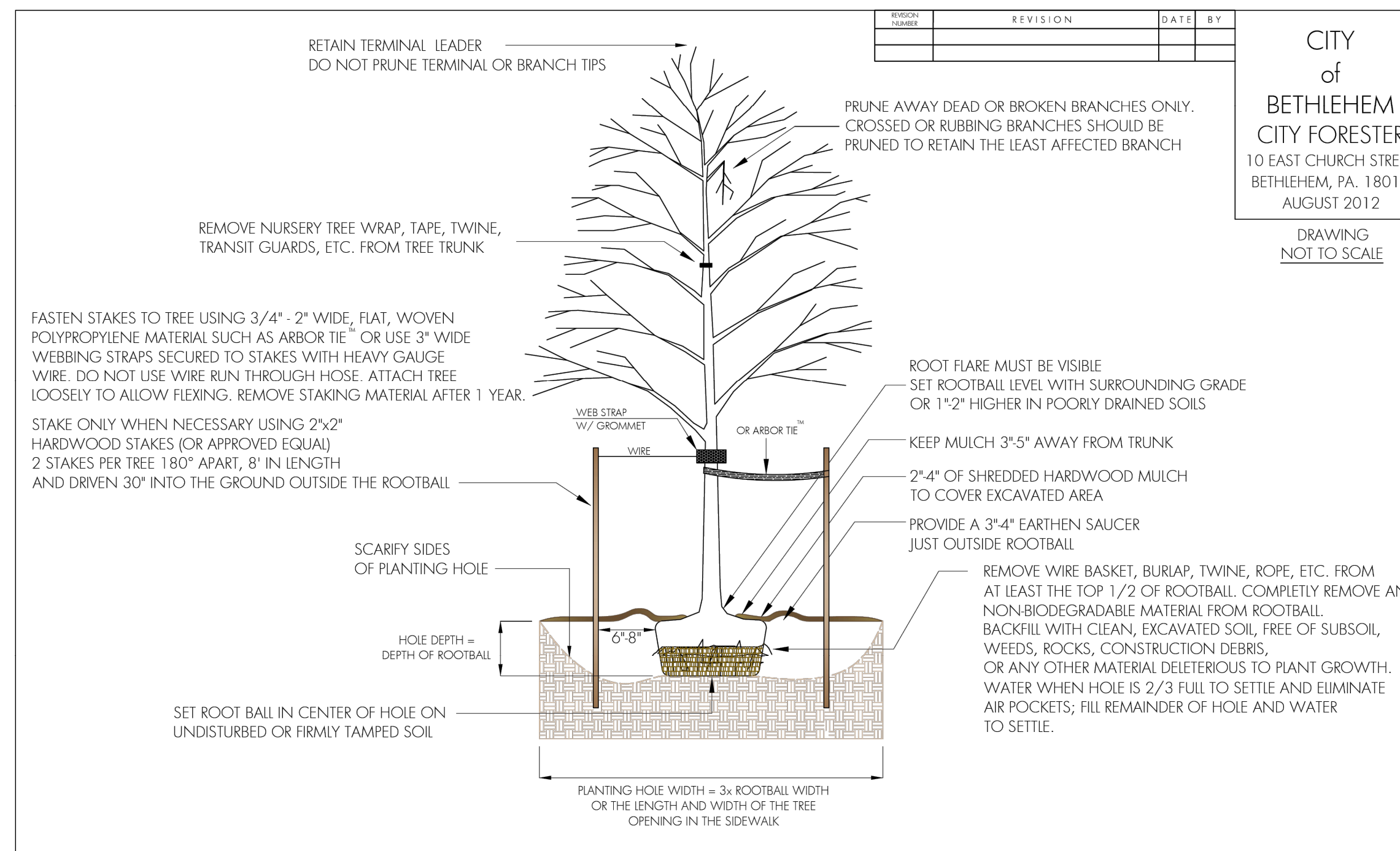
OFFICES LOCATED IN:  
 DELAWARE, INDIANA, KENTUCKY,  
 MASSACHUSETTS, MICHIGAN, NEW JERSEY,  
 OHIO AND PENNSYLVANIA

**LANDSCAPE PLANTING NOTES AND SPECIFICATIONS:**

- ALL PLANT MATERIAL SHALL BE PROVIDED AND INSTALLED IN STRICT CONFORMANCE WITH USDA STANDARDS FOR NURSERY STOCK AND THE "AMERICAN NURSERY AND LANDSCAPE ASSOCIATION" STANDARDS LATEST EDITIONS.
- THE CONTRACTOR SHALL VERIFY ALL UTILITIES WITHIN WORK AREA PRIOR TO COMMENCING WITH ANY EXCAVATIONS AND SHALL BE RESPONSIBLE FOR THEIR PROTECTION.
- THE CONTRACTOR SHALL FURNISH AND PLANT ALL PLANTS SHOWN ON THE DRAWINGS, AS SPECIFIED, AND IN QUANTITIES INDICATED ON THE PLANT LIST. IF A DISCREPANCY SHOULD ARISE BETWEEN THE AMOUNT OF PLANTS SHOWN ON THE PLAN VS. THE PLANT SCHEDULE, THE PLAN SHALL GOVERN.
- ALL PLANTS SHALL BE NURSERY GROWN.
- ALL PLANTS SHALL BE HARDY UNDER CLIMATIC CONDITIONS SIMILAR TO THOSE IN THE LOCALITY OF THE PROJECT.
- ALL PLANTS SHALL BE TYPICAL OF THEIR SPECIES OR VARIETY AND SHALL HAVE A NORMAL HABIT OR GROWTH. THEY SHALL BE SOUND, HEALTHY AND VIGOROUS WELL BRANCHED AND DENSELY FOLIATED WHEN IN LEAF THEY SHALL BE FREE OF DISEASE AND INSECT PESTS, EGGS OR LARVAE. THEY SHALL HAVE HEALTHY WELL-DEVELOPED ROOT SYSTEMS.
- SUBSTITUTIONS: WHEN PLANTS OF A SPECIFIED KIND OR SIZE ARE NOT AVAILABLE WITHIN A REASONABLE DISTANCE, SUBSTITUTIONS MAY BE MADE UPON REQUEST BY THE CONTRACTOR IF APPROVED BY THE LANDSCAPE ARCHITECT OR HIS/HER REPRESENTATIVE.
- ALL AREAS TO BE SHOWN AS LAWN SHALL BE SEEDED, AS SPECIFIED, AND WATERED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- TREE LOCATIONS MAY NEED TO BE ADJUSTED BASED ON LOCATIONS OF UTILITIES, FIELD CONDITIONS, OR FINAL GRADING. THE CONTRACTOR SHALL NOTIFY THE OWNER AND/OR THEIR REPRESENTATIVE IF ADJUSTMENTS ARE NECESSARY.
- ALL PLANTING BEDS TO RECEIVE 3" SHREDDED HARDWOOD MULCH.
- ROOT BALLS OF ALL PLANTS SHALL BE ADEQUATELY PROTECTED AT ALL TIMES FROM SUN AND DRYING WINDS OR FROST.
- PLANTS WITH BROKEN ROOT BALLS, TRUNK AND BARK DAMAGE OR EXCESSIVE DAMAGE TO THE CROWN SHALL BE REPLACED PRIOR TO PLANTING.
- ROPES AT TOP OF BALL SHALL BE CUT. REMOVE TOP 1/3 OF BURLAP. ALL NON-BIODEGRADABLE MATERIAL SHALL BE TOTALLY REMOVED. WIRE BASKETS SHALL BE CAREFULLY REMOVED ENTIRELY AT THE TIME OF PLANTING, PREFERABLY AFTER THE ROOT BALL HAS BEEN INSTALLED IN THE PLANTING PIT.
- PREPARATION OF PLANTING: CLEAN SOIL EXCAVATED FROM PLANTING PIT OF ROOTS, PLANTS, STONES LARGER THAN 2", CLAY LUMPS, AND OTHER EXTRANEUS MATERIALS HARMFUL OR TOXIC TO PLANT GROWTH.
- DO NOT ALLOW AIR POCKETS TO FORM WHEN BACKFILLING.
- NO PLANT SHALL BE PLACED IN THE GROUND BEFORE ROUGH GRADING HAS BEEN COMPLETED AND APPROVED BY THE PROJECT LANDSCAPE ARCHITECT OR HIS/HER EQUAL.
- INSTALL ALL PLANTS SO THAT THE TOP OF THE ROOTBALL IS SLIGHTLY ABOVE FINISHED GRADE. IN NO CASE SHALL THE PLAN BE INSTALLED WITH NO LESS THAN THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL ROOT CROWN. EXCESS SOIL MAY EXIST AROUND THE ROOT CROWN FROM NURSERY OPERATIONS. THIS EXCESS MATERIAL SHALL BE REMOVED PRIOR TO PLANTING TO DETERMINE THE PROPER BALL INSTALLATION DEPTH.
- ALL EXISTING TREES THAT ARE TO BE SAVED AS DETERMINED BY LANDSCAPE ARCHITECT SHALL BE PROTECTED UNTIL CONSTRUCTION HAS BEEN COMPLETED. AREA WITHIN DRIPLINE SHALL NOT BE TRAVELED ACROSS BY CONSTRUCTION TRAFFIC.
- TREES PLANTED ALONG STREETS SHALL HAVE A SINGLE STRAIGHT TRUNK THAT DOES NOT FORK BELOW 6'.
- ALL PLANTS SHALL BE BALLED AND WRAPPED OR CONTAINER GROWN AS SPECIFIED. NO CONTAINER GROWN STOCK WILL BE ACCEPTED IF IT IS ROOT BOUND. ALL NON-BIODEGRADABLE ROOT WRAPPING MATERIAL SHALL BE REMOVED AT TIME OF PLANTING.
- WITH CONTAINER GROWN STOCK, THE CONTAINER SHALL BE REMOVED AND THE CONTAINER BALL CUT THROUGH THE SURFACE IN TWO VERTICAL LOCATIONS MINIMUM.
- THE CONTRACTOR SHALL LAYOUT WITH IDENTIFIABLE STAKES INDIVIDUAL TREE AND SHRUB LOCATIONS AND AREAS FOR MULTIPLE PLANTING ALONG WITH THE ARRANGEMENTS AND OUTLINE OF PLANTING BEDS AS INDICATED ON DRAWING. THE LAYOUT OF PLANTING WILL THEN BE APPROVED BY LANDSCAPE ARCHITECT PRIOR TO ANY EXCAVATION OF PLANT PITS OR PLANT BEDS.
- AT PLANTING TIME, ALL PLANT MATERIAL SHALL TRIMMED TO REMOVE BROKEN AND/OR DEAD VEGETATIVE MATERIAL.
- ALL PLANTS SHALL BE INSTALLED AS PER THE PLANTING DETAILS AND THE CONTRACT SPECIFICATIONS, WHERE APPLICABLE.
- ALL PLANTS SHALL BE INSTALLED PLUMB UNLESS OTHERWISE SPECIFIED.
- ALL PLANTS SHALL BE THOROUGHLY WATERED TWICE DURING THE FIRST 24 HOUR PERIOD AFTER PLANTING. ALL PLANTS SHALL THEN BE WATERED WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.
- CONDITIONS DETRIMENTAL TO PLANTS: THE CONTRACTOR SHALL NOTIFY THE PROJECT REPRESENTATIVE IN WRITING OF ALL SOIL OR DRAINAGE CONDITIONS WHICH THE CONTRACTOR CONSIDERS DETRIMENTAL TO THE GROWTH OF PLANTS. HE SHALL STATE THE CONDITIONS AND SUBMIT A PROPOSAL FOR CORRECTING THE CONDITIONS INCLUDING ANY CHANGE IN COST FOR REVIEW AND ACCEPTANCE BY THE PROJECT REPRESENTATIVE.
- WARRANTY TREES AND SHRUBS FOR A MINIMUM PERIOD OF 18 MONTHS AFTER DATE OF WRITTEN FINAL ACCEPTANCE BY THE LANDSCAPE ARCHITECT AND/OR THE OWNERS AUTHORIZED REPRESENTATIVE AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO MONITOR THE PROJECT PLANTINGS DURING THE WARRANTY PERIOD AND NOTIFY THE OWNER IF PROBLEMS DEVELOP. PLANTS THAT DIE DURING THE WARRANTY PERIOD SHALL BE REMOVED IMMEDIATELY AND REPLACED.

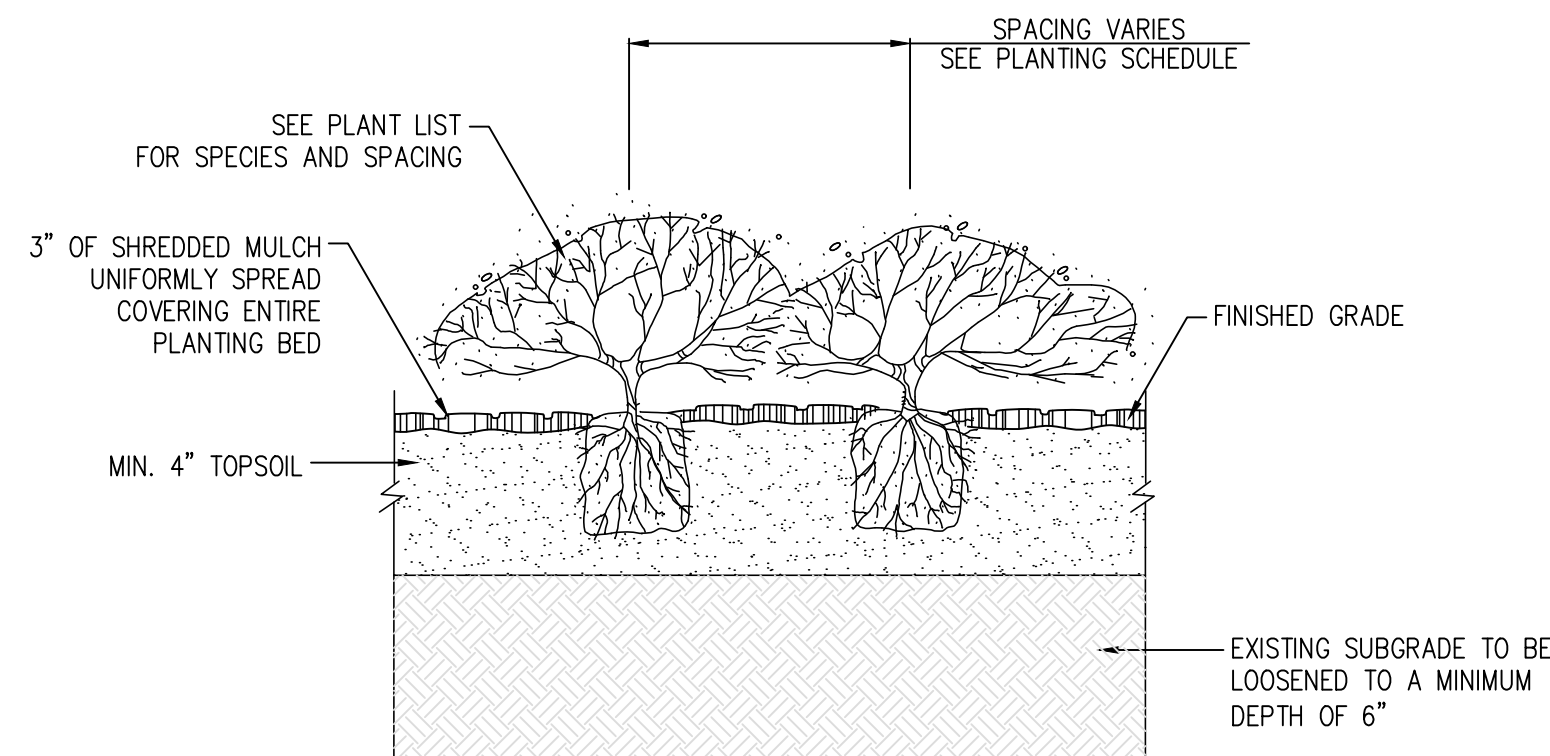
**TREE PROTECTION NOTES:**

- NO MORE THAN THREE (3) INCHES OF SOIL SHALL BE PLACED AROUND THE TRUNKS OF TREES WHICH ARE TO REMAIN. FOR THOSE TREES WHICH ARE TO REMAIN, WHERE MORE THAN THREE (3) INCHES OF SOIL ARE TO BE PLACED, TREE WELLS SHALL BE CONSTRUCTED TO PRESERVE TREES.
- TREES TO REMAIN SHALL BE PROTECTED BY WOODEN SLAT SNOW FENCING OR ORANGE SAFETY CONSTRUCTION FENCE, PLACED AROUND THE DRIP LINE OF SUCH TREES, AS SHOWN IN THE TREE PROTECTION DETAIL.
- NO BOARDS OR OTHER MATERIAL SHALL BE NAILED TO TREES DURING CONSTRUCTION, AND NO TREES TO REMAIN SHALL BE SPRAYED WITH PAINT.
- HEAVY EQUIPMENT OPERATORS SHALL AVOID DAMAGING EXISTING TREE TRUNKS AND ROOTS. FEEDER ROOTS OF TREES TO BE PRESERVED SHALL NOT BE CUT CLOSER THAN TWENTY-FIVE (25) FEET FROM TREE TRUNKS.
- TREE TRUNKS AND EXPOSED ROOTS DAMAGED DURING CONSTRUCTION SHALL BE PROTECTED FROM FURTHER DAMAGE BY BEING PRUNED FLUSH, AND IF TRUNKS ARE SCARRED THEY SHALL BE TRACED OUT FOR PROPER HEALING.
- TREE LIMBS DAMAGED DURING CONSTRUCTION SHALL BE SAWED FLUSH TO TREE TRUNKS AND TREATED WITH TREE PAINTS AS NECESSARY.
- THE OPERATION OF HEAVY EQUIPMENT OVER ROOT SYSTEMS OF SUCH TREES SHALL BE MINIMIZED IN ORDER TO PREVENT SOIL COMPACTION.
- DECIDUOUS TREES SHALL BE GIVEN A HEAVY APPLICATION OF FERTILIZER TO AID IN THEIR RECOVERY FROM POSSIBLE DAMAGE CAUSED BY CONSTRUCTION OPERATIONS.
- CONSTRUCTION DEBRIS SHALL NOT BE DISPOSED OF NEAR OR AROUND THE BASES OF SUCH TREES.



**TREE PLANTING DETAIL**

NOT TO SCALE

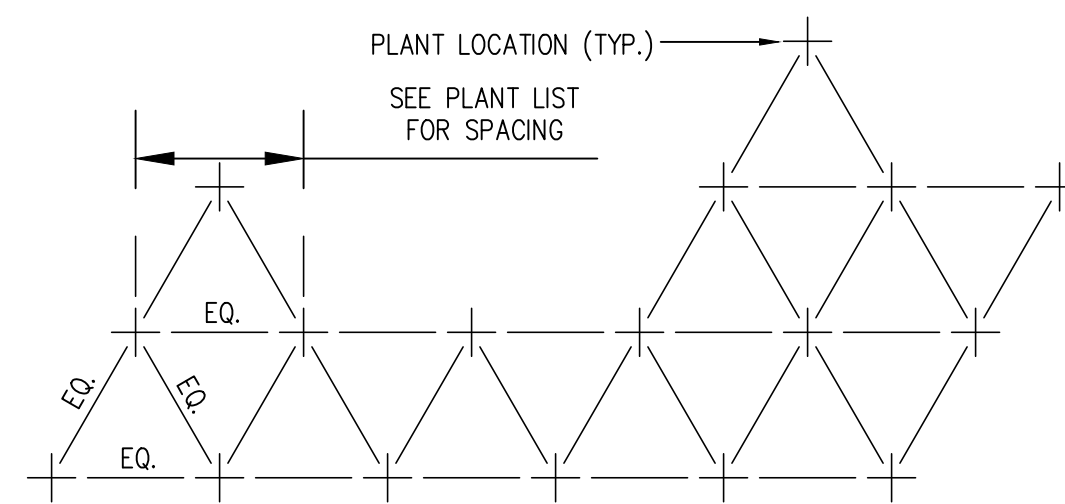


**NOTES:**

- GROUND COVER MATERIAL SHALL BEAR SAME RELATION TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE IN THE NURSERY.

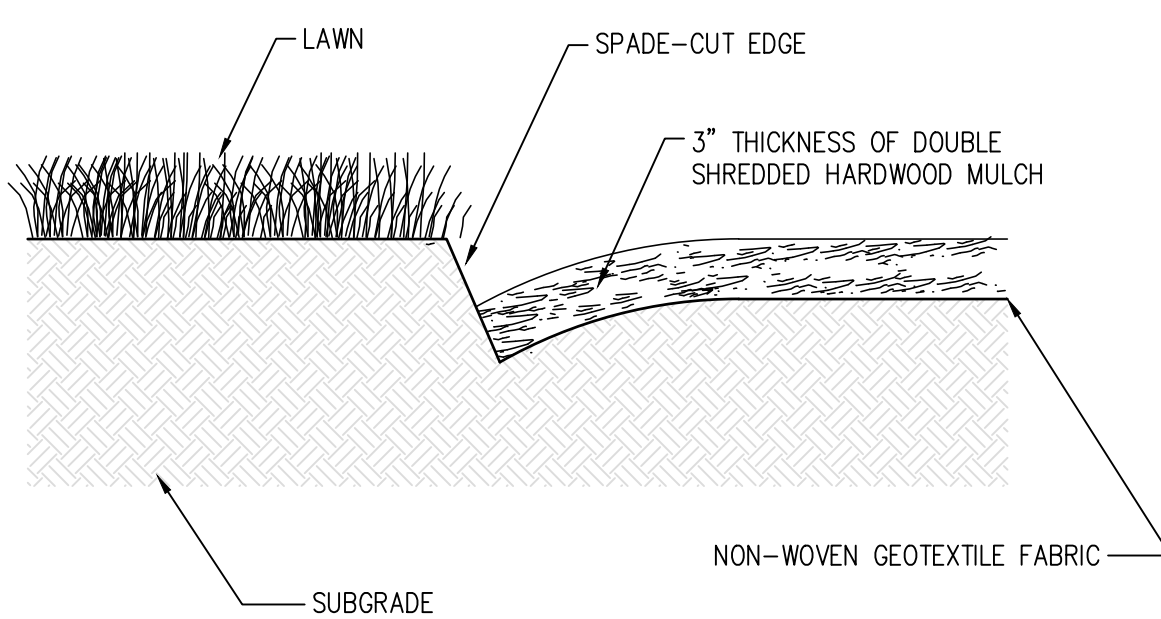
**PLUG AND PERENNIAL PLANTING**

NOT TO SCALE



**PLANT SPACING DIAGRAM**

NOT TO SCALE



**EDGING AT MULCH BED**

NOT TO SCALE

**PLANTING NOTES:**

SET PLANTS PLUMB AND FACE TO GIVE THE BEST APPEARANCE OR RELATIONSHIP TO ADJACENT AREAS.

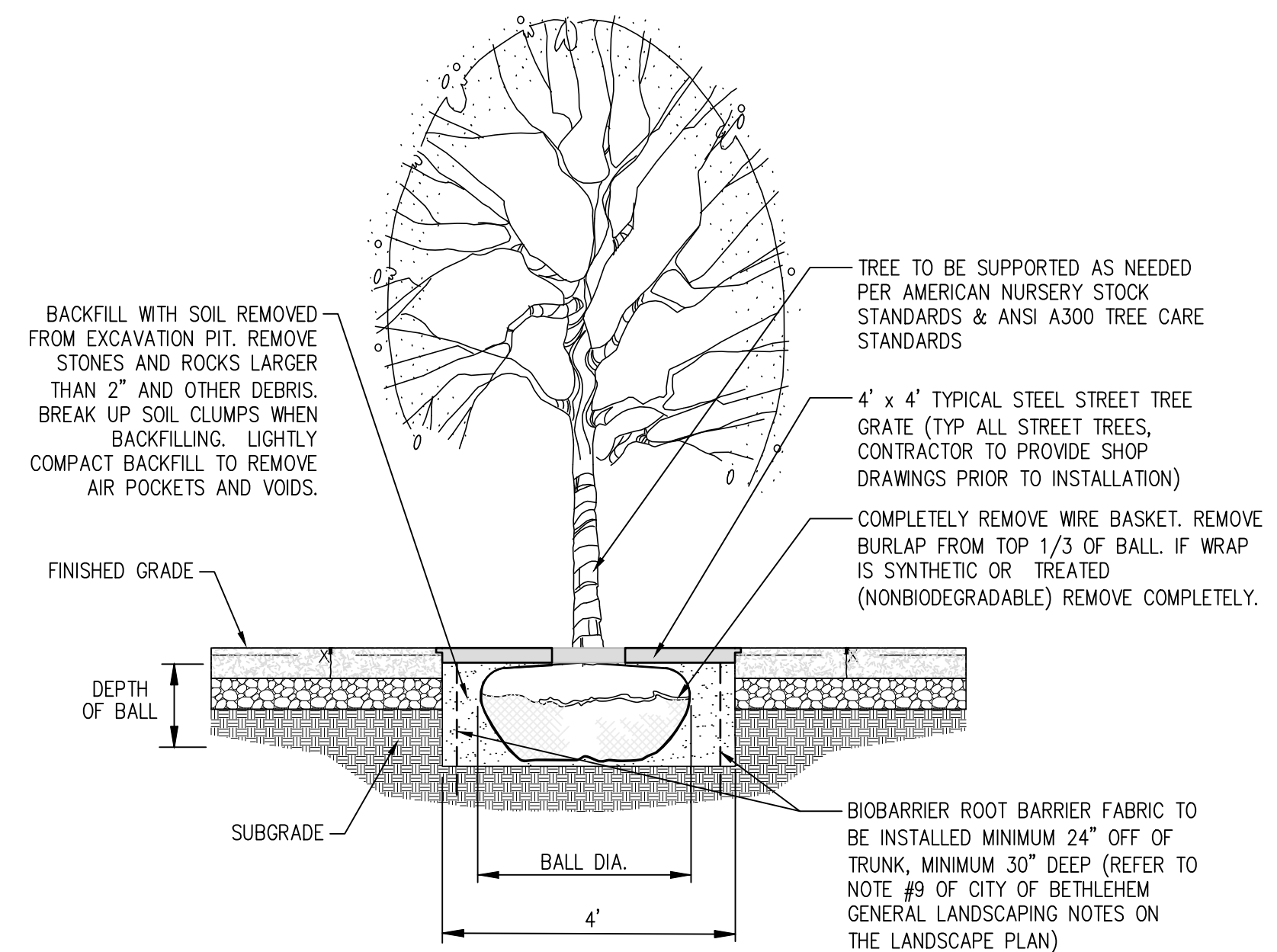
PRUNE ONLY TO REMOVE DEAD AND/OR BROKEN BRANCHES: ALWAYS PRUNE TO NODE OR CROTCH; DO NOT CUT LEADER.

SET TOP OF ROOT BALL SLIGHTLY ABOVE ADJACENT FINISHED GRADE.

REMOVE ALL FLAGGING, TWINE, STRING, TAGS, ETC., FROM BRANCHES AND LIMBS/TRUNKS FOLLOWING PLANTING.

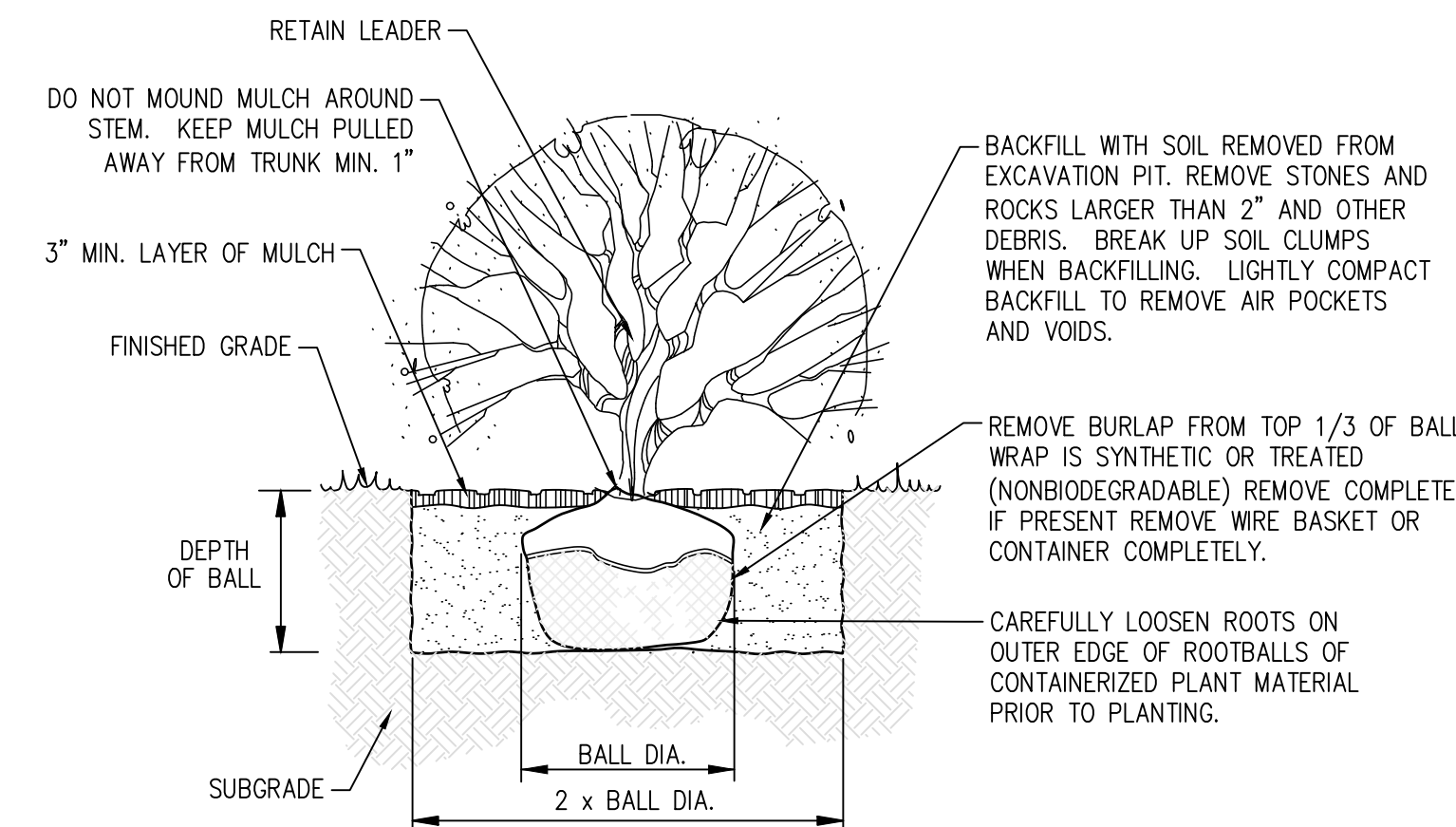
4' x 4' TYPICAL STEEL STREET TREE GRATE TO BE INSTALLED IN ALL STREET TREE LOCATIONS WITHIN SIDEWALK (CONTRACTOR TO PROVIDE SHOP DRAWINGS PRIOR TO INSTALLATION)

BIOBARRIER ROOT BARRIER FABRIC TO BE INSTALLED IN ALL STREET TREE LOCATIONS (REFER TO NOTE #9 OF CITY OF BETHLEHEM GENERAL LANDSCAPING NOTES ON THE LANDSCAPE PLAN)



**STREET TREE PLANTING DETAIL**

NOT TO SCALE



**SHRUB PLANTING**

NOT TO SCALE

**CITY OF BETHLEHEM GENERAL LANDSCAPING NOTES**

- NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, BURIAL PITS, TRENCHING OR OTHER LAND DISTURBANCE IS ALLOWED IN THE TREE PROTECTION ZONE UNLESS INDICATED ON THE PLAN.
- BARRICADES MUST BE INSTALLED PRIOR TO ANY DESTRUCTION AND/OR CONSTRUCTION ACTIVITY.
- THE ROOT PROTECTION ZONE SHALL BE THE AREA ENCOMPASSED BY A CIRCLE WITH A RADIUS EXTENDING 1.25 FT. FROM THE TRUNK OF THE TREE FOR EVERY INCH DBH (DIAMETER AT BREAST HEIGHT) OF THE TREE.
- VIOLATIONS OF TREE PROTECTION REQUIREMENTS ARE SUBJECT TO PENALTY PER CITY ORDINANCE
- ALL TREES ON PUBLIC PROPERTY ARE PROTECTED BY ORDINANCE: NO PRUNING, ROOT PRUNING OF ROOTS OVER ONE INCH IN DIAMETER, AND/OR TREE REMOVAL IS TO BE PERFORMED WITHOUT A PERMIT AND WORK MUST BE PERFORMED BY A CITY LICENSED TREE CONTRACTOR.
- ALL PLANT MATERIALS ARE TO CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, LATEST EDITION, AMERICAN NURSERY AND LANDSCAPE ASSOCIATION.
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**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**

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FILE NAME: PENR00169\_SHTD18-019\_015.dwg  
LAST SAVE BY: JGatzert@bmr

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NO.	DATE	REVISIONS	BY	CHKD

KRIS J. REISS, P.E.  
LICENSED PROFESSIONAL ENGINEER

02/20/2026  
DATE

COMMONWEALTH OF PENNSYLVANIA  
LICENSE NO. 056285E

GATEWAY ON FOURTH PHASE 1 LLC  
GATEWAY ON 4TH

CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

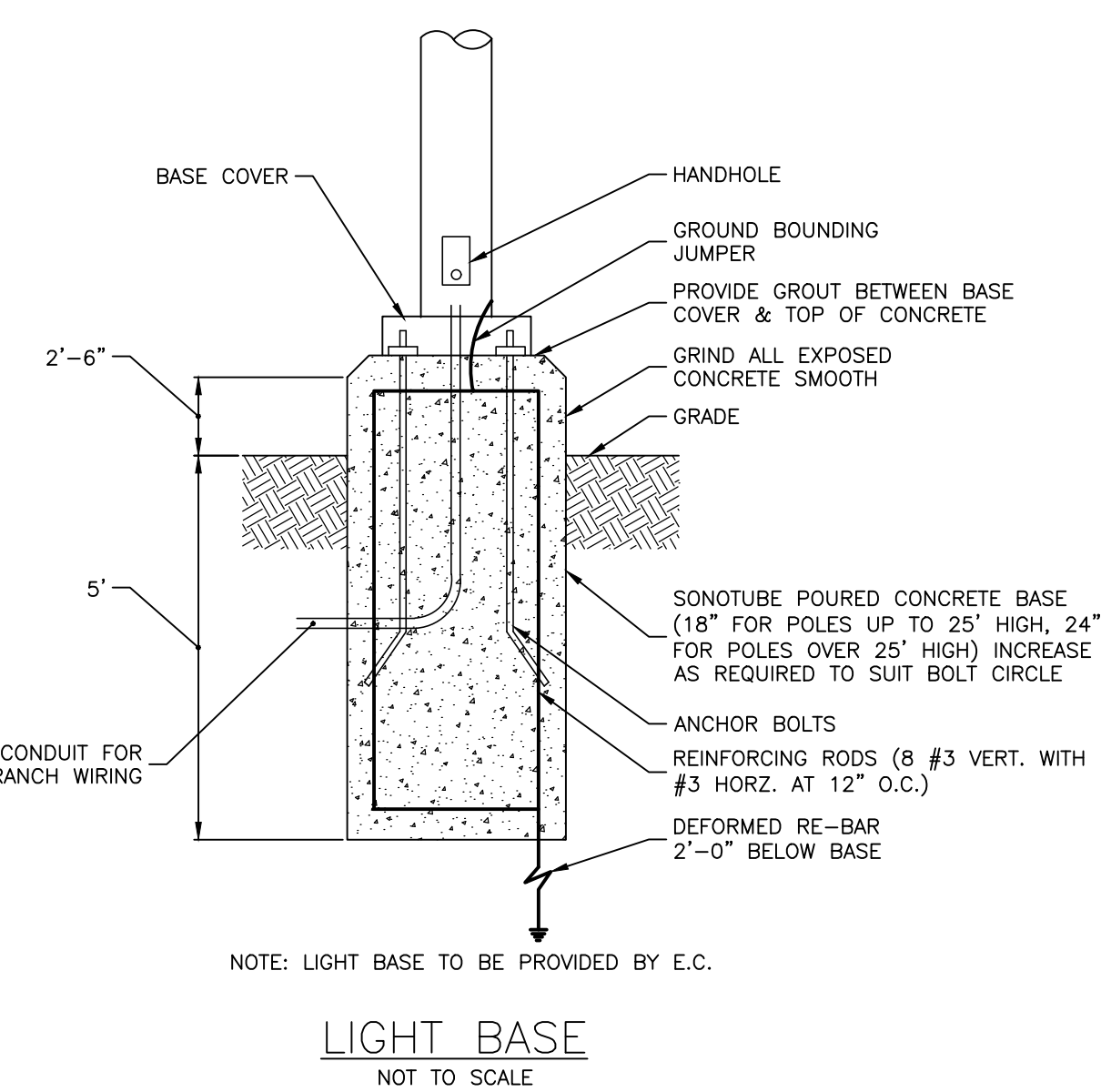
**LANDSCAPING NOTES AND DETAILS**

**T&M AND ASSOCIATES**  
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BETHLEHEM, PA 18018  
TEL 610-625-2999  
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OHIO AND PENNSYLVANIA

DESIGNED BY	KJR	DRAWING	
CHECKED BY	KJR	SHEET	<b>19</b>
DRAWN BY	BAK	OF	<b>24</b>
DATE	02-20-2026		
SCALE	AS NOTED		
PROJ. NO.	PENR00169		



NOTE: LIGHT BASE TO BE PROVIDED BY E.C.  
LIGHT BASE  
NOT TO SCALE

### D-Series Size 2 LED Area Luminaire

**Specifications**

EPA: 1.06 ft<sup>2</sup> (0.10 m<sup>2</sup>)  
Length: 40.50" (1033 mm)  
Width: 16.76" (425 mm)  
Height H1: 8.11" (206 mm)  
Height H2: 3.96" (100 mm)  
Weight: 46 lbs (20 kg)

**Introduction**

The modern styling of the D-Series features a highly refined aesthetic that blends seamlessly with its environment. The D-Series offers the benefits of the latest in LED technology into a high performance, high efficiency, long life luminaire.

The outstanding photometric performance results in a wide uniformity, greater color spacing and lower power density. D-Series outstanding photometry aids in reducing the number of poles required in area lighting applications with typical energy savings of up to 85% vs. 100W HID and expected service life of over 100,000 hours.

**Ordering Information**

EXAMPLE: DSX2 LED P2 40K 70CRI T3M MVOLT SNA PLTAIR2 HRN DDBX0

Series	LED	Color Temperature	Color Rendering Index	Dimensions	Height	Mounting
DSX2 LED	Forward optics	P1 P5	30K 5000K	70CRI	40"	PT
	Reverse optics	P1 P5	30K 5000K	70CRI	40"	PT
	Reverse optics	P1 P5	30K 5000K	70CRI	40"	PT

### LITHONIA LIGHTING

**ANCHOR BASE POLES**

**RSS ROUND STRAIGHT STEEL**

**ANCHOR BASE POLES**

**RSS**

**ROUND STRAIGHT STEEL**

**BAA BABA**

**ORDERING INFORMATION**

Lead times will vary depending on options selected. Consult with your sales representative.

Example: RSS 20-4-SB-DM32AS DDBX0

Series	Nominal Fixture Mounting Height	Nominal Shaft Base Diameter (inches)	Mounting	Options	Finish
RSS	8' 0"	36"	PT	Open mounting	Shipped installed
	10' 0"	48"	PT	Open top	Vibration damper*
	12' 0"	60"	PT	Open top	Hook for cable strain relief*
	14' 0"	72"	PT	Open top	Hook for cable strain relief*
	16' 0"	84"	PT	Open top	Hook for cable strain relief*
	18' 0"	96"	PT	Open top	Hook for cable strain relief*
	20' 0"	108"	PT	Open top	Hook for cable strain relief*
	22' 0"	120"	PT	Open top	Hook for cable strain relief*
	24' 0"	132"	PT	Open top	Hook for cable strain relief*
	26' 0"	144"	PT	Open top	Hook for cable strain relief*
	28' 0"	156"	PT	Open top	Hook for cable strain relief*
	30' 0"	168"	PT	Open top	Hook for cable strain relief*

**ANCHOR BASE POLES**

**RSS**

**ROUND STRAIGHT STEEL**

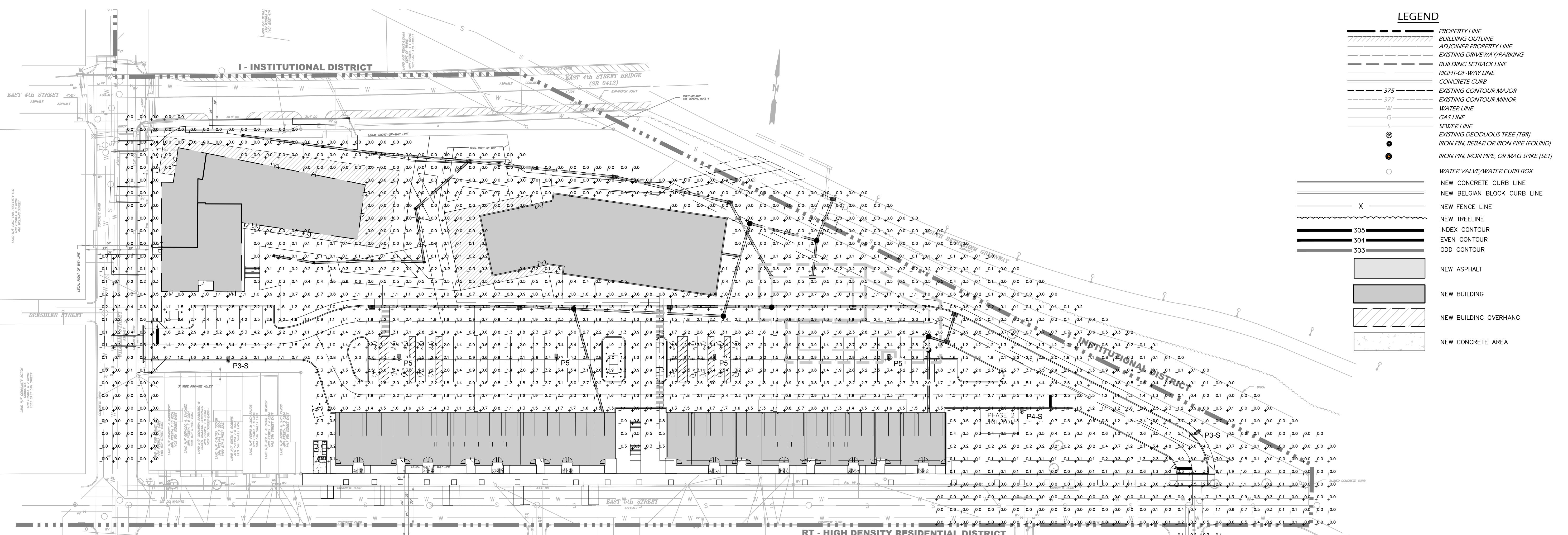
**BAA BABA**

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	28' 0"	156"	PT	Open top	Hook for cable strain relief*
	30' 0"	168"	PT	Open top	Hook for cable strain relief*



**POLE**

FIXTURE LABEL	DESCRIPTION	CATALOG NUMBER	FOUNDATION	DETAIL
P3-S	LITHONIA LIGHTING, RSS ROUND STRAIGHT STEEL POLE, 17'-6" LENGTH	RSS-17'-6"-4B-DM19AS-x-x	2'-6" (SEE DETAIL)	LIGHT BASE
P4-S	LITHONIA LIGHTING, RSS ROUND STRAIGHT STEEL POLE, 17'-6" LENGTH	RSS-17'-6"-4B-DM19AS-x-x	2'-6" (SEE DETAIL)	LIGHT BASE
P5	LITHONIA LIGHTING, RSS ROUND STRAIGHT STEEL POLE, 17'-6" LENGTH	RSS-17'-6"-4B-DM19AS-x-x	2'-6" (SEE DETAIL)	LIGHT BASE

**LUMINAIRE SCHEDULE**

LABEL	QUANTITY	MOUNTING	NOMINAL MOUNTING HEIGHT	DESCRIPTION
P3-S	2	SINGLE	20'-0" AFG (17'-6" POLE)	LITHONIA LIGHTING, D-SERIES SIZE 2 LED AREA LUMINAIRE, ZERO UP-LIGHT, TYPE 3, HOUSESIDE SHIELD
P4-S	1	SINGLE	20'-0" AFG (17'-6" POLE)	LITHONIA LIGHTING, D-SERIES SIZE 2 LED AREA LUMINAIRE, ZERO UP-LIGHT, TYPE 4, HOUSESIDE SHIELD
P5	4	SINGLE	20'-0" AFG (17'-6" POLE)	LITHONIA LIGHTING, D-SERIES SIZE 2 LED AREA LUMINAIRE, ZERO UP-LIGHT, TYPE 5

\*OWNER/CONTRACTOR TO SPECIFY COLOR/VOLTAGE

**CALCULATION SUMMARY**

CATALOG NUMBER	IES FILE	LAMP LUMENS	LLF	WATTS PER LUMINAIRE
DSX2 LED-P2-30K-70CRI-T3M-x-RPA-x-x-HS-x-x	DSX2 LED P2 30K 70CRI T3M HS.ies	23,915	0.9	179.2
DSX2 LED-P2-30K-70CRI-T4M-x-RPA-x-x-HS-x-x	DSX2 LED P2 30K 70CRI T4M HS.ies	24,272	0.9	179.2
DSX2 LED-P2-30K-70CRI-T5M-x-RPA-x-x-HS-x-x	DSX2 LED P2 30K 70CRI T5M.ies	24,972	0.9	179.2

**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**

GRAPHIC SCALE

1" = 40'

CHHO

REVISIONS

DATE

NO.

DATE

02/20/2026

COMMONWEALTH OF PENNSYLVANIA

LICENSE NO. 056285E

KRIS J. REISS, P.E.  
LICENSED PROFESSIONAL ENGINEER

GATEWAY ON FOURTH PHASE 1 LLC

GATEWAY ON 4TH

LIGHTING PLAN

CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

YOUR GOALS. OUR MISSION.

74 WEST BROAD STREET, STE 300  
BETHLEHEM, PA 18018  
TEL 610-625-2999  
FAX 610-625-2969  
www.tandmassociates.com

OFFICES LOCATED IN:  
DELAWARE, INDIANA, KENTUCKY,  
MASSACHUSETTS, MICHIGAN, NEW JERSEY,  
OHIO AND PENNSYLVANIA

DESIGNED BY: KJR

CHECKED BY: KJR

DRAWN BY: BAK

DATE: 02-20-2026

SCALE: 1"=40'

PROJ. NO.: PENR00169

DRAWING: SLP

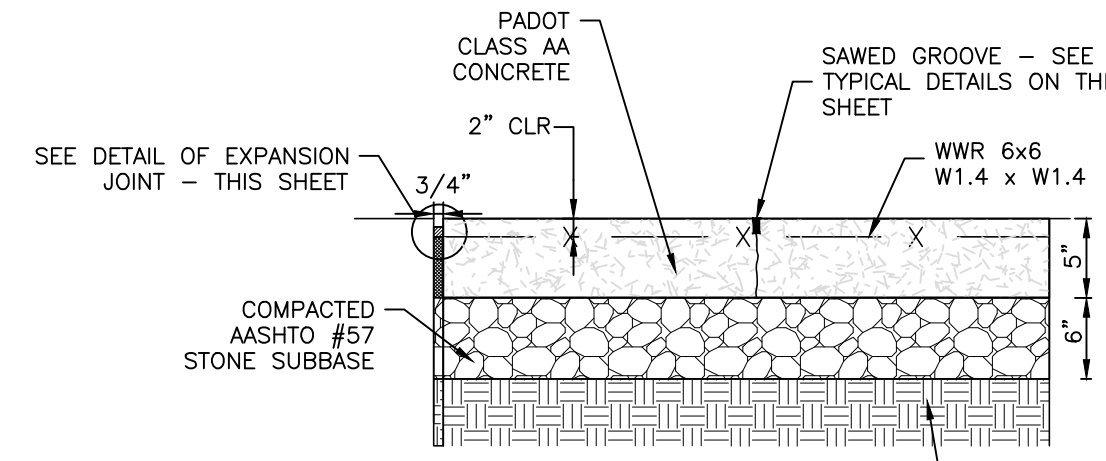
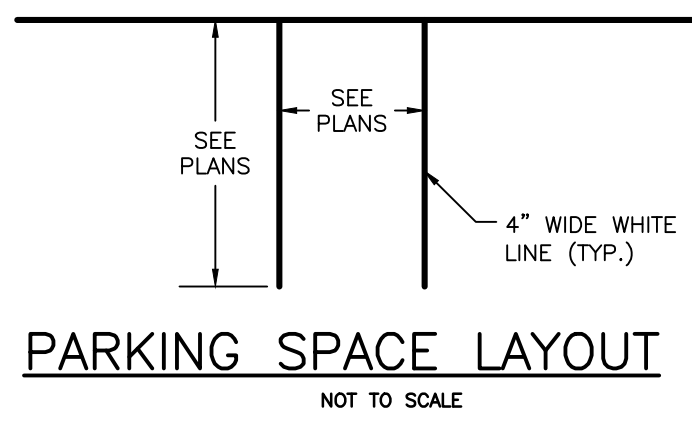
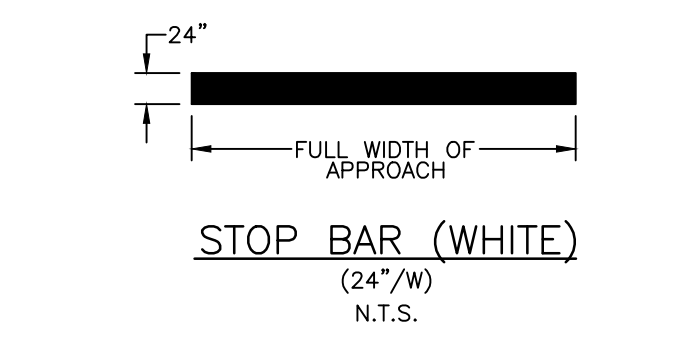
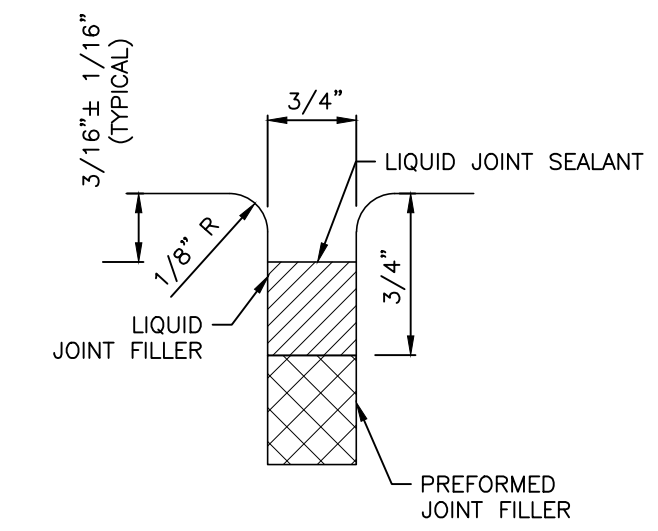
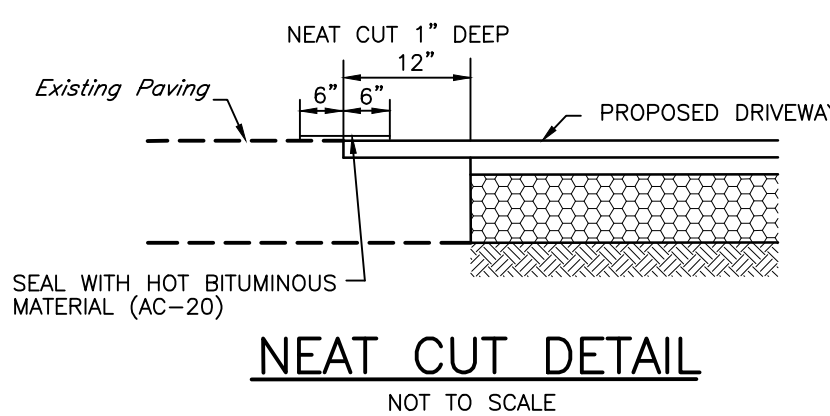
SHEET: 20

OF 24

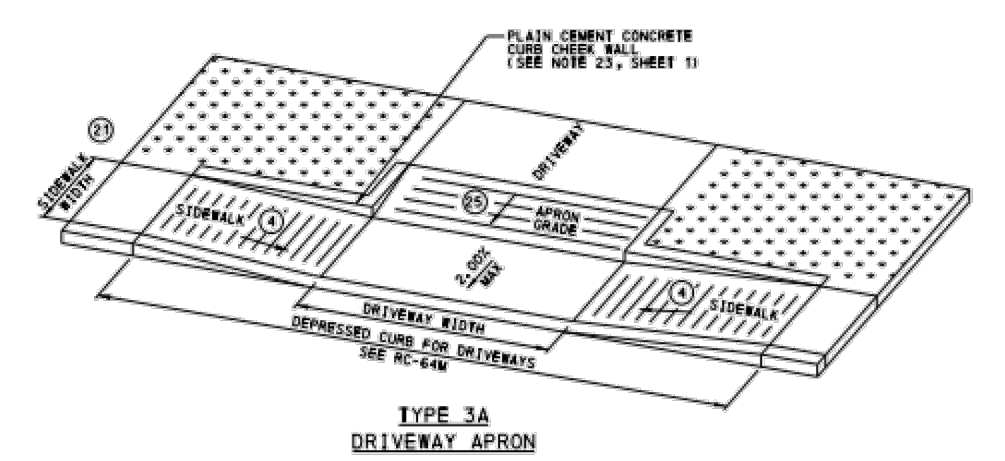
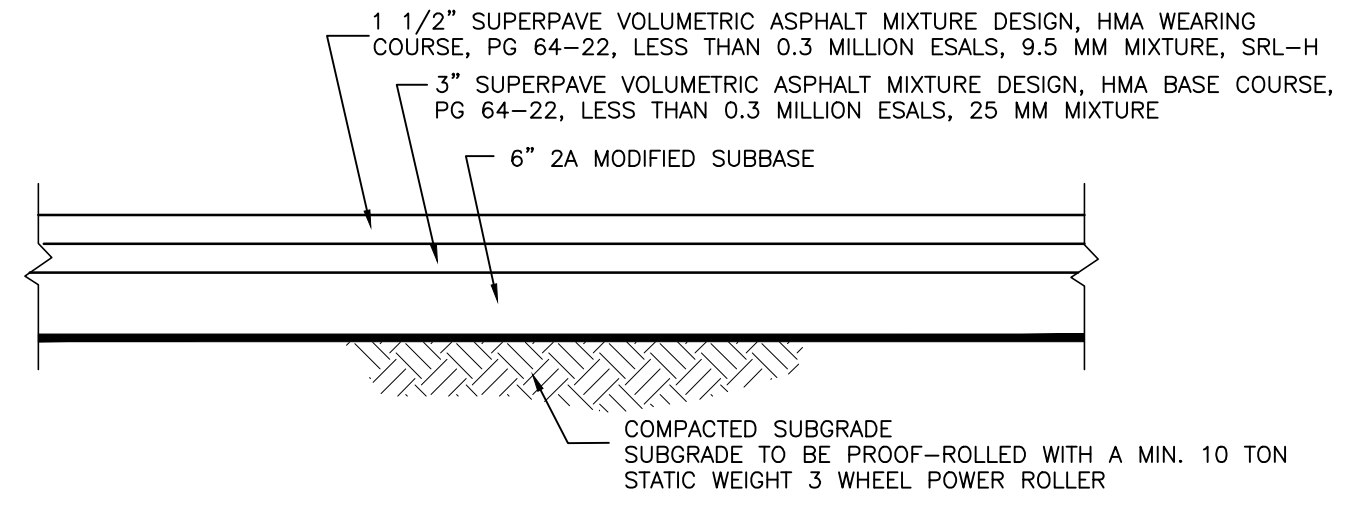
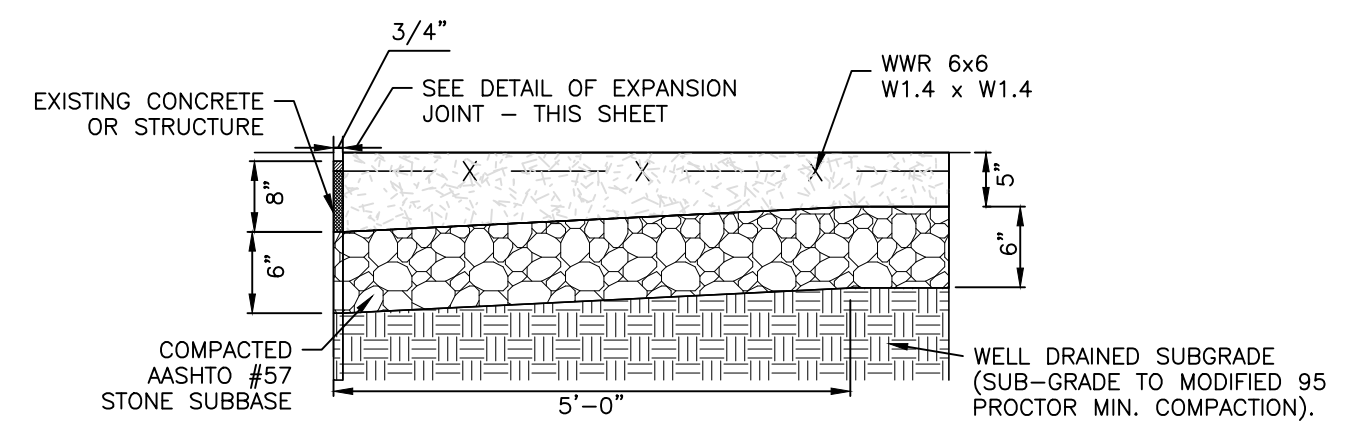
PROJECT INFORMATION: T&M ASSOCIATES - ALL RIGHTS RESERVED. THE COPYING OR REUSE OF THIS DOCUMENT OR PORTIONS THEREOF, FOR OTHER THAN THE ORIGINAL PROJECT FILE NAME: PENR00169\_SHPR020\_SLP.dwg DATE: 19 Feb 2026, 10:17AM LAST SAVE BY: bkrp@tandm.com

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**NOTE:**  
1. ALL CONCRETE JOINTS SHALL BE CRJ'S UNLESS NOTED  
(SUB-GRADE TO MODIFIED 95 PROCTOR MIN. COMPACTION).

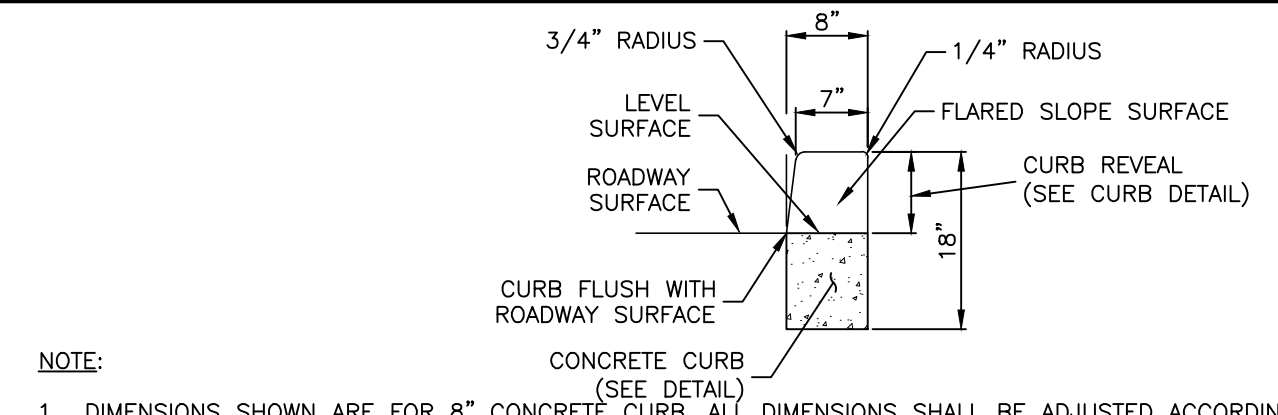


**COMMONWEALTH OF PENNSYLVANIA**  
**DEPARTMENT OF TRANSPORTATION**  
**BUREAU OF PROPERTY DELIVERY**  
**CURB RAMPS AND SIDEWALKS**

**DRIVEWAY APRONS**

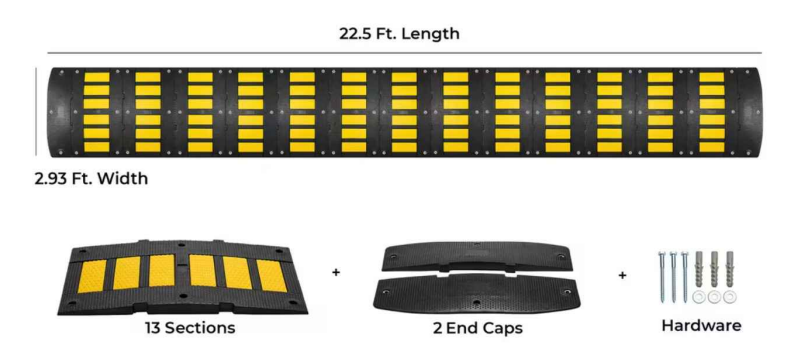
RECOMMENDED FEB. 19, 2021  
DATE OF REVISION: 02/20/2026  
SHEET 12 OF 14  
RC-67M

- ① SIDE FLARE 10.00% MAX SLOPE.
- ② 0.33% MAX RAMP SLOPE, SEE NOTE 8 SHEET 1.
- ③ 0.00% MAX CHANGE IN GRADE BETWEEN ROAD AND SIDEWALK.
- ④ MINIMUM SIDEWALK WIDTH 5'-0" (SEE NOTE 25, SHEET 1).
- ⑤ 0.00% MAX CHANGE IN GRADE BETWEEN DRIVEWAY SURFACE AND SIDEWALK.



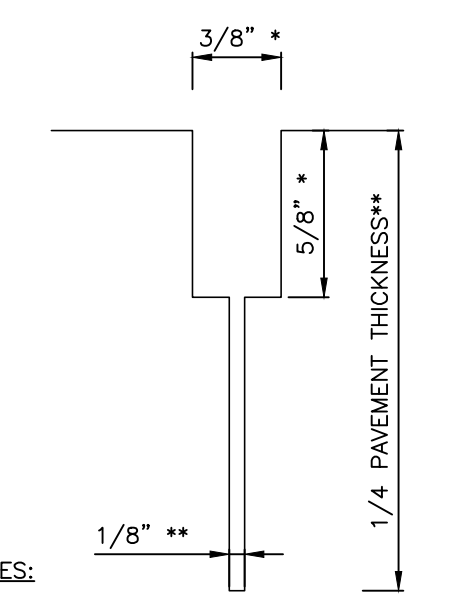
- NOTE:**
- DIMENSIONS SHOWN ARE FOR 8" CONCRETE CURB. ALL DIMENSIONS SHALL BE ADJUSTED ACCORDINGLY FOR VARYING SIZE/TYPE OF CURB.
  - DEPRESSED CURB FOR CURB RAMPS MUST BE FLUSH TO ADJACENT ROADWAY. EDGE OF ROAD ELEVATIONS AT THE FLOW LINE SHALL BE GRADED TO ENSURE POSITIVE DRAINAGE AND PREVENT PONDING.
- NOTES:**
- PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408. SECTIONS 350, 408, 630, 676, AND 694.
  - PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
  - IF PEDESTRIAN CROSSWALKS ARE NOT WIDE ENOUGH TO PROVIDE MINIMUM 4'-0" X 4'-0" WIDE WHEELCHAIR OVERRUN ZONE AT THE BOTTOM OF THE RAMP, POSITION CROSSWALKS AS INDICATED IN PENNDOT PUBLICATION 72M - RC-67M - DETAIL A, ON SHEET 7.
  - SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
  - PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF CURB RAMP INCLUDING FLARED SIDE RAMPS.
  - MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB ALTERATIONS WHERE THE CURB IS LESS THAN THE STANDARD 8" HEIGHT.
  - CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE.
  - IT MAY BE NECESSARY TO LIMIT THE RUN OF A PARALLEL OR PERPENDICULAR CURB RAMP IN ORDER TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB. RAMP LENGTH NOT TO EXCEED 15'-0", ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT POSSIBLE.
  - WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL ROUNDED SHAPE RATHER THAN AN ABRUPT ANGLE. ENSURE CONSTRUCTION IS WITHIN MAXIMUM SLOPE.
  - ALIGN DETECTABLE WARNING DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB.
  - PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF RAMP. DETECTABLE WARNING SURFACES SHALL COMPLY WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 72M - RC-67M AND ADA REQUIREMENTS.
  - FOR NEW CONSTRUCTION, DO NOT EXCEED 2.0% CROSS SLOPE ON THE CURB RAMP OR ACCESSIBLE ROUTE.
  - CONSTRUCT RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE. IT IS STRONGLY RECOMMENDED TO USE THE SLOPES LISTED ABOVE TO ALLOW FOR CONSTRUCTION TOLERANCES.

**CURB RAMP - GENERAL INFORMATION**  
NOT TO SCALE

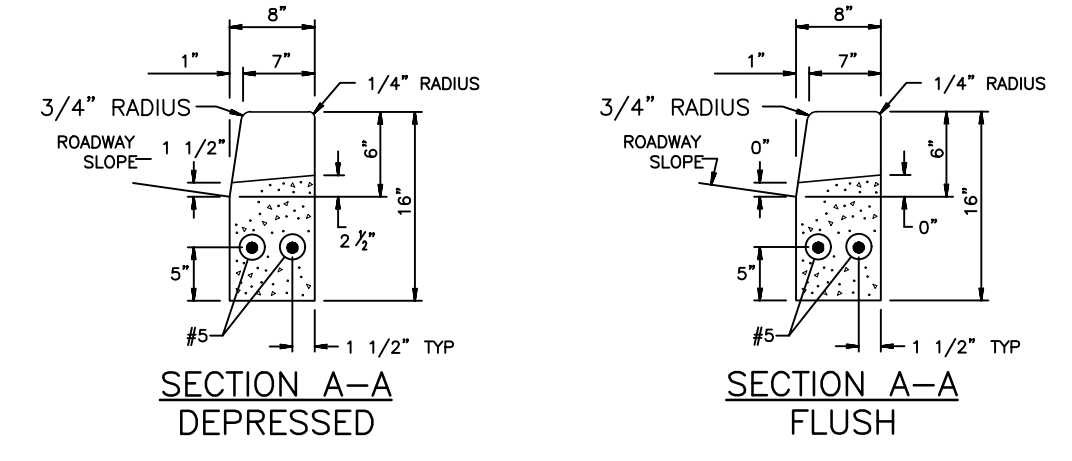
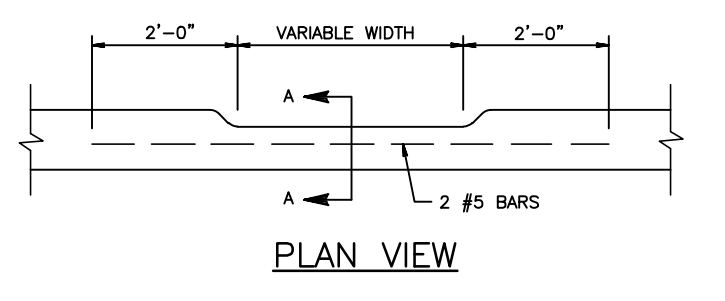


**NOTE:** PROVIDE 22.5 FOOT WIDE STANDARD SPEED HUMPS AS PROVIDED BY BARCO PRODUCTS, BATAVIA, ILLINOIS, OR APPROVED EQUAL.

**SPEED HUMP DETAIL**  
NOT TO SCALE



**NOTE:**  
1. \*\*FIRST SAWCUT  
2. \*\*SECOND SAWCUT



**NOTES:**

- PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 630 FOR PLAIN CEMENT CONCRETE CURB AND DEPRESSED CURB.
- SPACE CONTRACTION JOINTS IN UNIFORM LENGTHS OR SECTIONS.
- PLACE 1/2" THICK PREFORMED EXPANSION JOINT FILLER MATERIAL AT STRUCTURES AND AT THE END OF WORK DAY. CUT MATERIAL TO CONFORM TO AREA ADJACENT TO CURB OR TO CONFORM TO CROSS SECTIONAL AREA OF CURB.
- SEE RC-50M FOR PLAIN CEMENT CONCRETE CURB SLOPED TOP TREATMENT AT END OF STRUCTURES.
- ALL DIMENSIONS ARE IN U.S. CUSTOMARY UNITS.

**DEPRESSED AND FLUSH CURB**  
NOT TO SCALE

**CITY OF BETHLEHEM, PA**  
**BUREAU OF ENGINEERING**

**CONSTRUCTION STANDARD NO. 1**  
**for CONCRETE CURB,**  
**and SIDEWALK**

FEBRUARY 7, 2001  
REVISED 4, 2015

*Melissa G. Stas*  
CITY ENGINEER

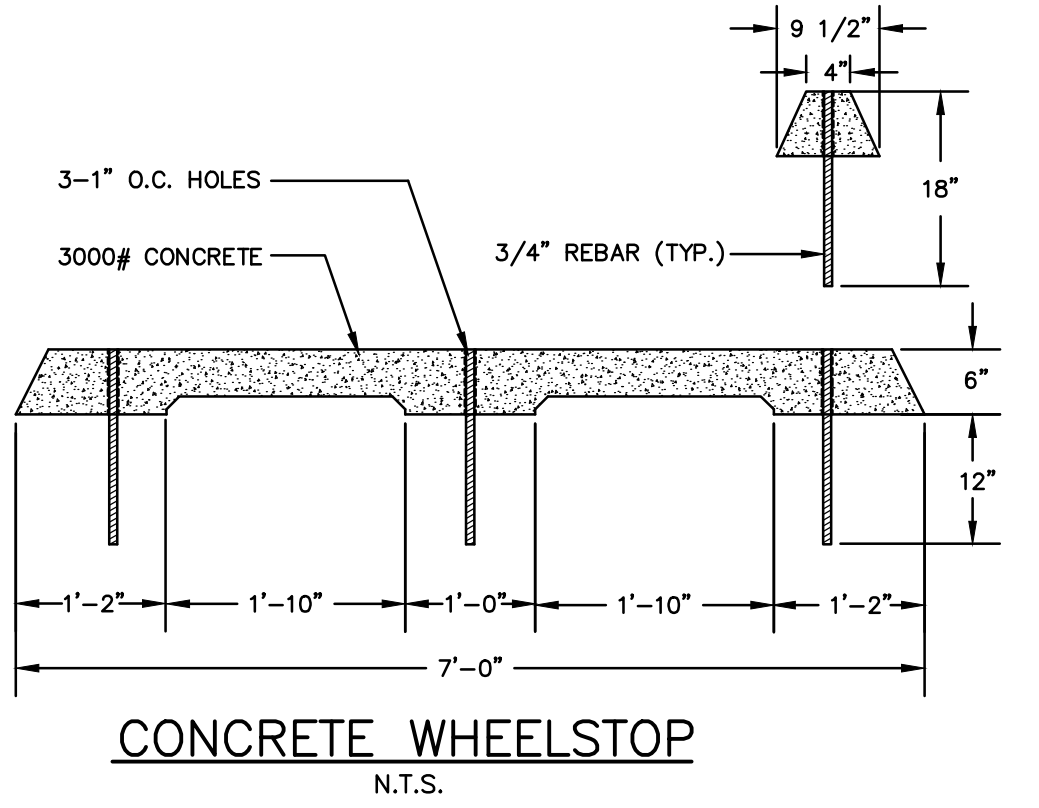
**GENERAL REQUIREMENTS:**  
One Course (Monolithic) Construction for all Curb, Gutter and Sidewalk.  
Concrete Mix. To be Class A Concrete 3300# 9 Bag Mix - 5.6 Gal. Water per bag throughout; use power batch mixer. No slag.  
Curb: 2" Depth with approved finish on top and exposed face.  
Gutter: 8" Depth - Slope of Gutter 1/2" rise per foot away from curb.  
Sidewalk: Thickness - Residential Areas - 5", Business and Industrial Areas - 6"  
Finish - Use a float and broom finish to produce skid resistant surface.  
On Grades of 5% 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. 1A.  
Handicapped Ramps: Required on all Ramps in accordance with current ADA requirements.  
Driveways: See City Standard Driveway Entrance and Apron Sketch.

**Excavation in Courtway:** When excavating in the courtway of a 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 clean cut by sawcutting 12" beyond the edge of any affected work areas, backfilling with PennDOT 2A Modified stone, and properly compacting this stone to the elevation of the top of the subbase (i.e. bottom of the base course of the macadam), but no higher than 3-inches below the finish grade - except as required to provide reasonable temporary access to 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"  
Codified Ordinances of the City of Bethlehem, Articles 903 and 909.

**NOTES:**  
\* Whenever a curb, gutter and/or sidewalk is located in a 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 met in all cases.



**CONCRETE WHEELSTOP**  
N.T.S.



**TYPICAL STAIR ON GRADE**  
SCALE: 3/4" = 1'-0" (03800\_M-MID)

(SEE ARCH. PLANS FOR DETAILS)

**PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION**

PROJECT INFORMATION: PENR00169\_VPlans  
FILE PATH: C:\Projects\PENR00169\_VPlans\FILE NAME: PENR00169\_SHT021-023\_DTL.dwg  
LAST SAVED DATE AND TIME: 20 Feb 2026, 10:17 AM  
USER: SAVEN, B. Shishenkov

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NO.	DATE	REVISIONS	BY	CHKD

**KRIS J. REISS, P.E.**  
LICENSED PROFESSIONAL ENGINEER

COMMONWEALTH OF PENNSYLVANIA  
LICENSE NO. 062685E

02/20/2026  
DATE

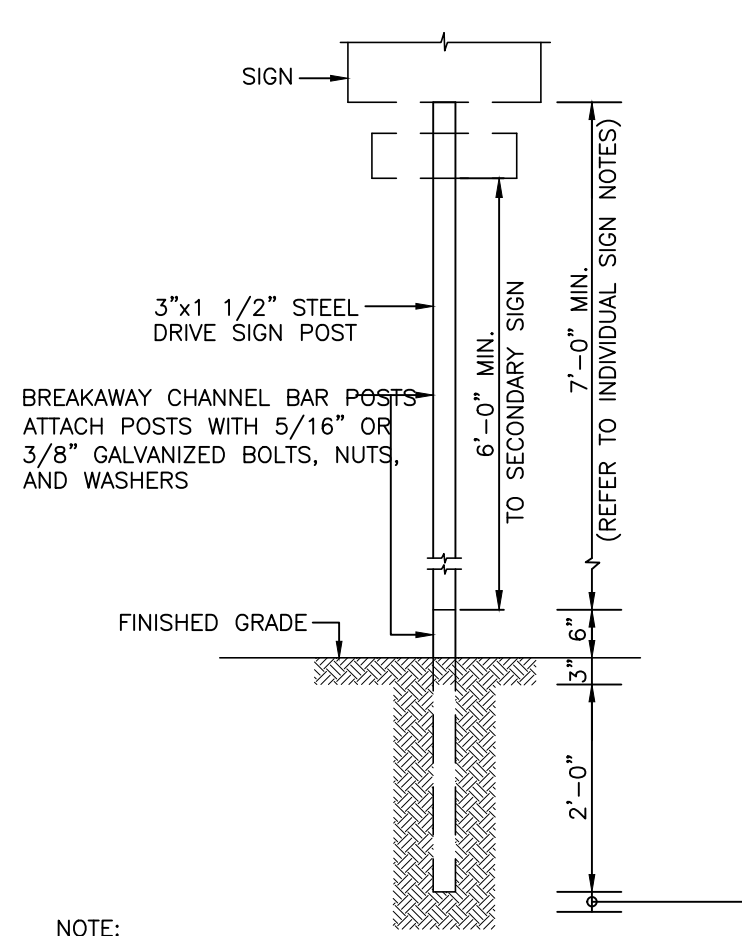
GATEWAY ON FOURTH PHASE 1 LLC  
GATEWAY ON 4TH  
CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA  
CONSTRUCTION DETAILS

**TAM AND ASSOCIATES**  
YOUR GOALS. OUR MISSION.

74 WEST BROAD STREET, STE 300  
BETHLEHEM, PA 18018  
TEL 610-626-2999  
FAX 610-626-2969  
www.tamandassociates.com

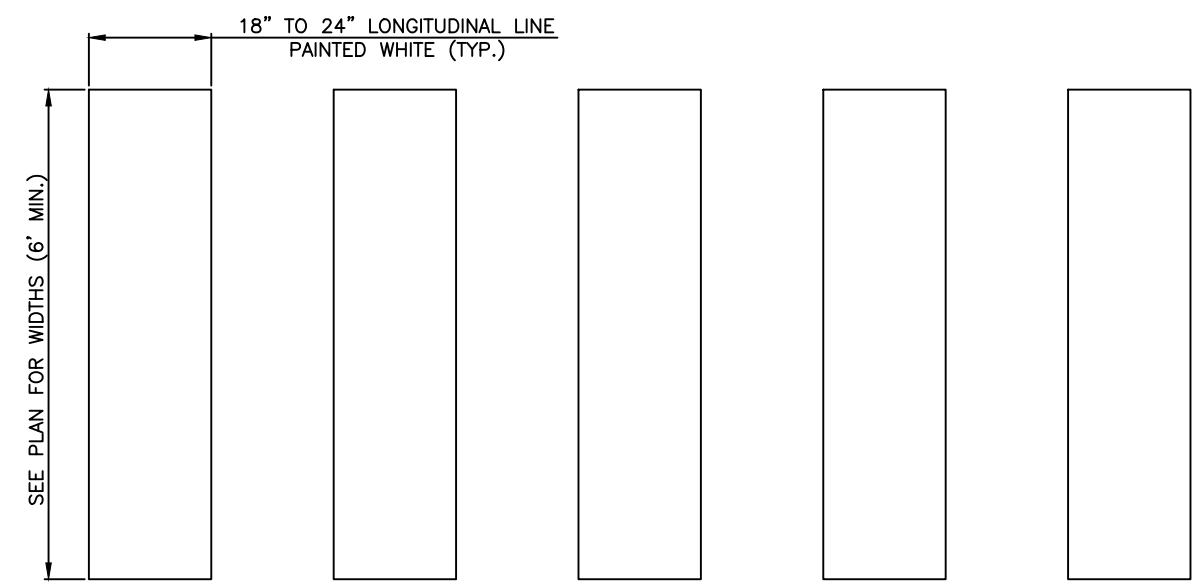
OFFICES LOCATED IN:  
DELAWARE, INDIANA, KENTUCKY,  
MASSACHUSETTS, MICHIGAN, NEW JERSEY,  
OHIO AND PENNSYLVANIA

DESIGNED BY	KJR	DRAWING	DTL
CHECKED BY	KJR	SHEET	21
DRAWN BY	BAK	PROJ. NO.	PENR00169
DATE	02-20-2026	OF	24
SCALE	AS NOTED		



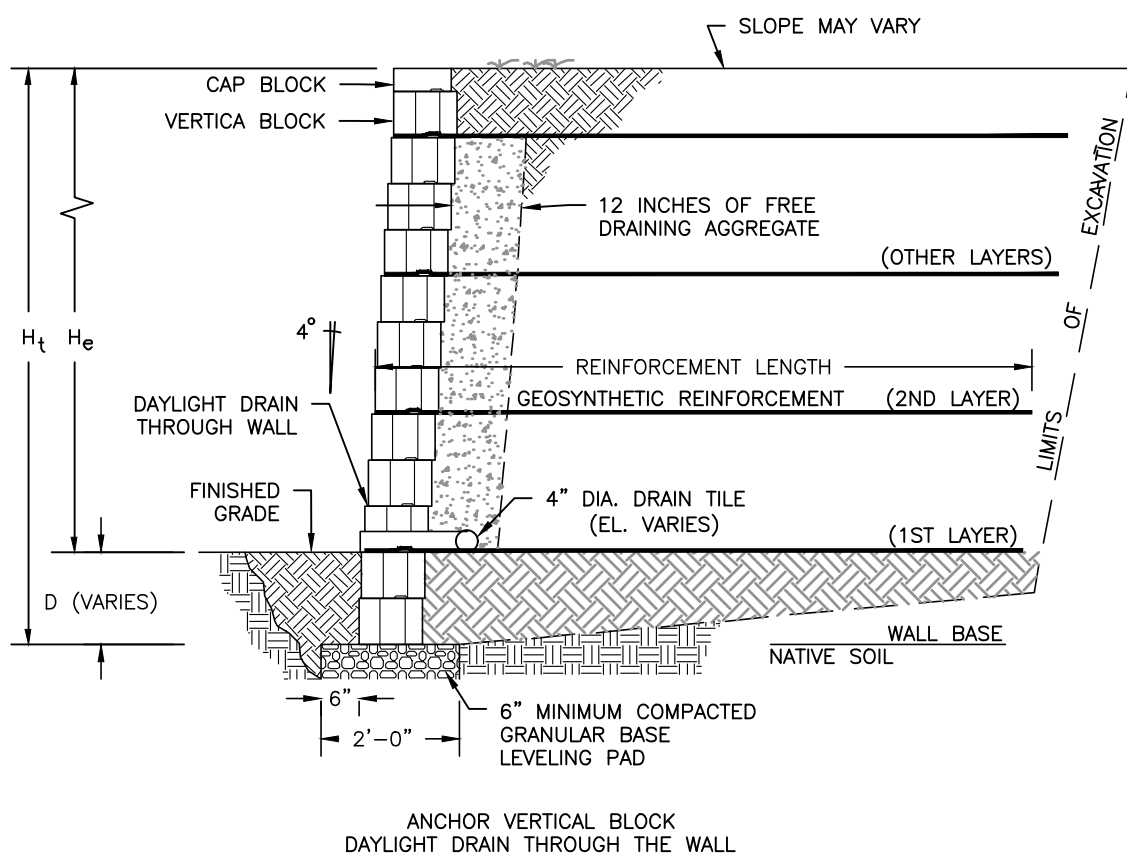
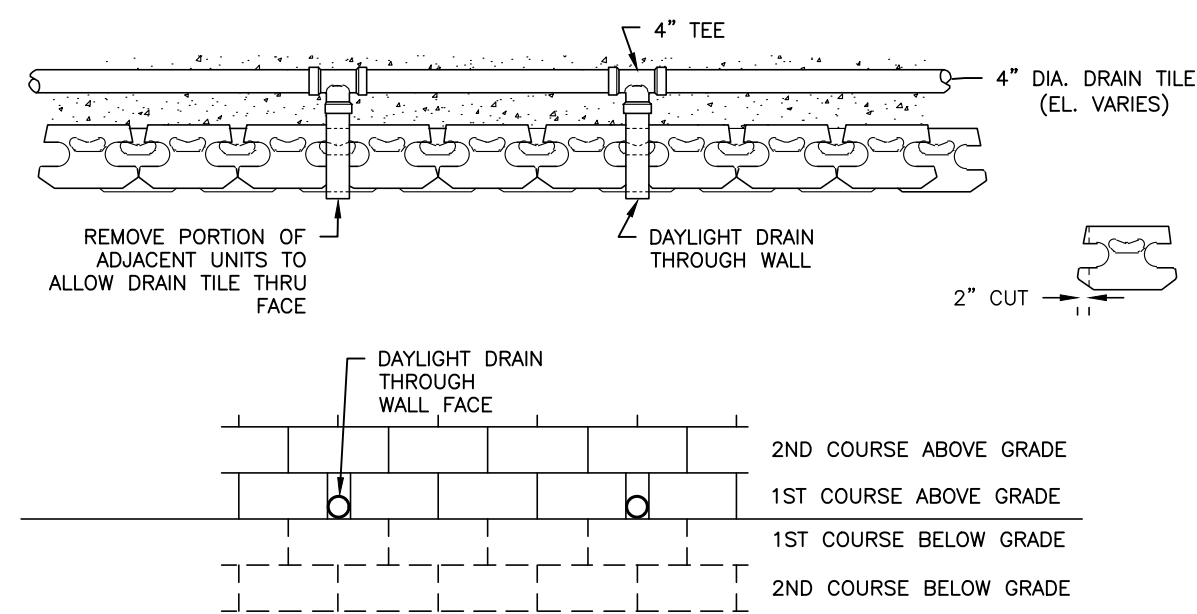
- NOTE:
- POSTS TO BE TYPE "B" BREAKAWAY CHANNEL BAR POSTS. (SEE PENNDOT TRAFFIC CONTROL SIGNING STANDARDS TO 7000 SERIES FOR INSTALLATION PROCEDURES.)
  - SIGN POST LOCATIONS TO BE SELECTED IN THE FIELD UNDER THE DIRECT SUPERVISION OF THE ENGINEER.

**SIGN POST DETAIL**  
NOT TO SCALE



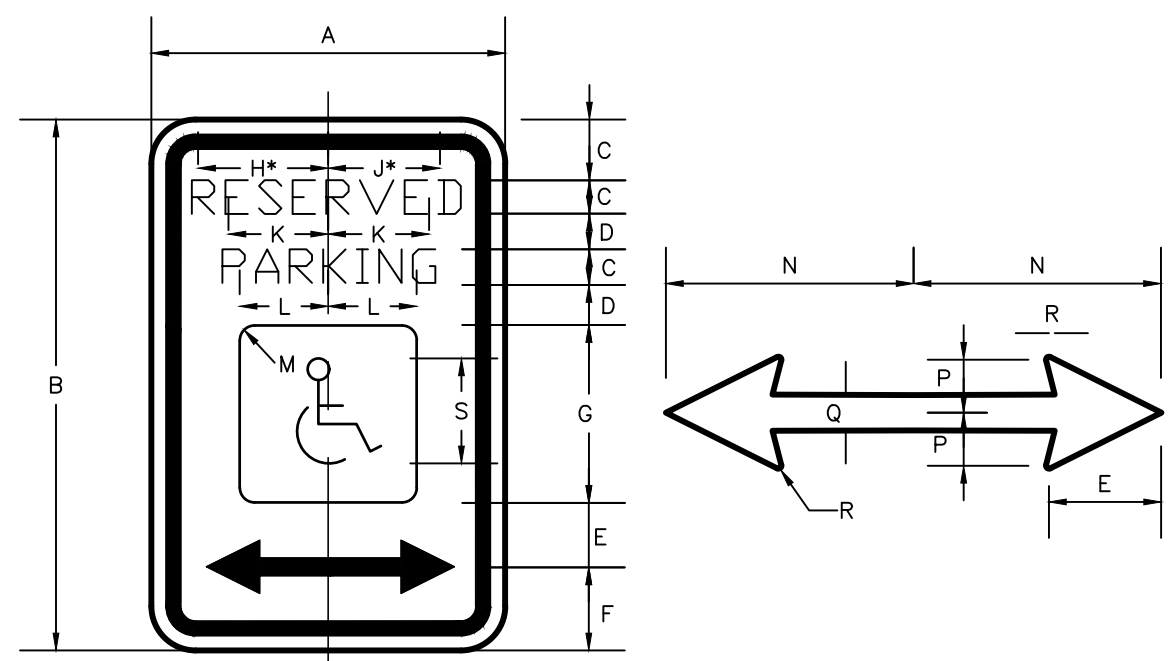
- NOTES:
- THIS TYPE OF MARKING SHOULD BE USED AT LOCATIONS WHERE SUBSTANTIAL NUMBERS OF PEDESTRIANS CROSS WITHOUT ANY OTHER TRAFFIC CONTROL DEVICES. AT LOCATIONS WHERE PHYSICAL CONDITIONS ARE SUCH THAT ADDED VISIBILITY OF THE CROSSWALK IS NECESSARY, OR AT PLACES WHERE PEDESTRIANS MIGHT NOT BE EXPECTED.
  - ALL CROSSWALKS SHALL COMPLY WITH THE FEDERAL HIGHWAY ADMINISTRATION'S "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD), AS AMENDED.
  - LONGITUDINAL LINES SHALL BE PERPENDICULAR TO TRAVELED WAY THE EXTEND ACROSS THE FULL WIDTH OF PAVEMENT OR TO THE EDGE OF THE INTERSECTING CROSSWALK TO DISCOURAGE DIAGONAL WALKING BETWEEN CROSSWALKS.
  - ALL CROSSWALK LONGITUDINAL LINES SHALL BE WHITE THERMOPLAST. ALL LINES AND NEUTRAL AREAS SHALL BE OF EQUAL WIDTHS.
  - WARNING SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH MUTCD, AS AMENDED.
  - THE SPACING OF THE LINES SHALL BE SELECTED TO AVOID THE WHEEL PATH.

**CROSSWALK STRIPING DETAIL**  
NOT TO SCALE



- NOTES:
- RETAINING WALL TO BE BY ANCHOR WALL SYSTEMS, OR APPROVED EQUAL.
  - THE FACIAL STYLE OF THE BLOCKS SHALL BE APPROVED BY THE OWNER.
  - THE DETAILS OF THE RETAINING WALL HAVE BEEN PROVIDED TO SHOW THE PROPOSED GENERAL CONSTRUCTION TO BE COMPLETED FOR THE WALL. SITE SPECIFIC SHOP DRAWINGS AND DESIGN CALCULATIONS SHALL BE SEALED BY A PROFESSIONAL ENGINEER AND SUBMITTED FOR REVIEW AND APPROVAL BY THE ENGINEER PRIOR TO INSTALLATION.

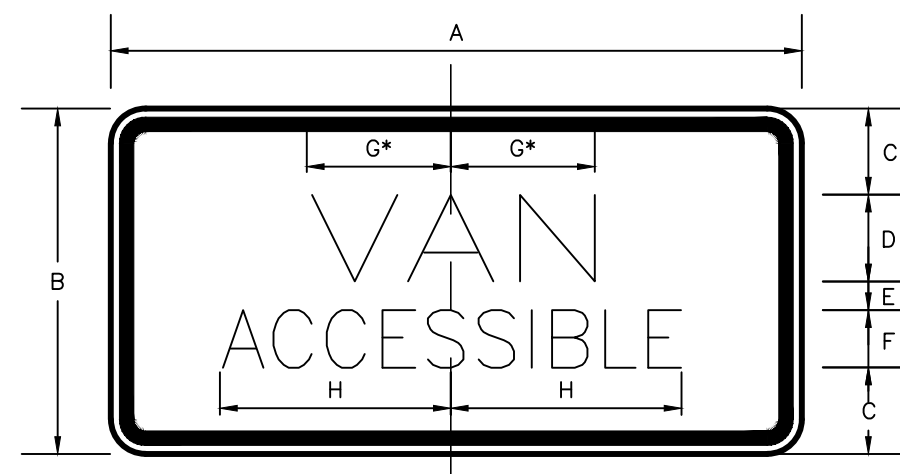
**RETAINING WALL DETAILS**  
NOT TO SCALE



COLOR: LEGEND AND BORDER BACKGROUND WHITE (NON-REFLECTORIZED) SYMBOL BACKGROUND BLUE (NON-REFLECTORIZED)

SIGN SIZE	DIMENSIONS											
	A	B	C	D	E	F	G	H	I	J	K	L
12x18	12	18	2	1	1/2	1/2	6	1/8	1/8	5	4	1/4

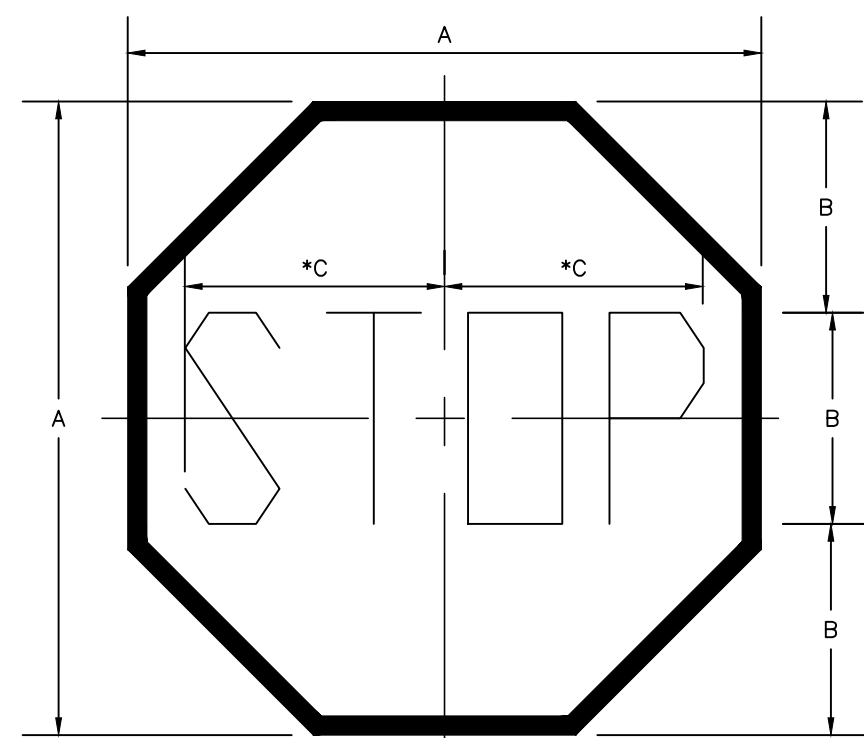
**RESERVED PARKING SIGN (R7-8)**  
NOT TO SCALE



COLOR: LEGEND BACKGROUND GREEN (REFLECTORIZED) WHITE (REFLECTORIZED) \* REDUCE LETTER SPACING 50%

SIGN SIZE	DIMENSIONS											
	A	B	C	D	E	F	G	H	I	J	K	L
12x6	12	6	1 1/2	1 1/2	1	2 1/2	1	2 1/2	4			

**VAN ACCESSIBLE SIGN (PADOT R7-8A)**  
NOT TO SCALE

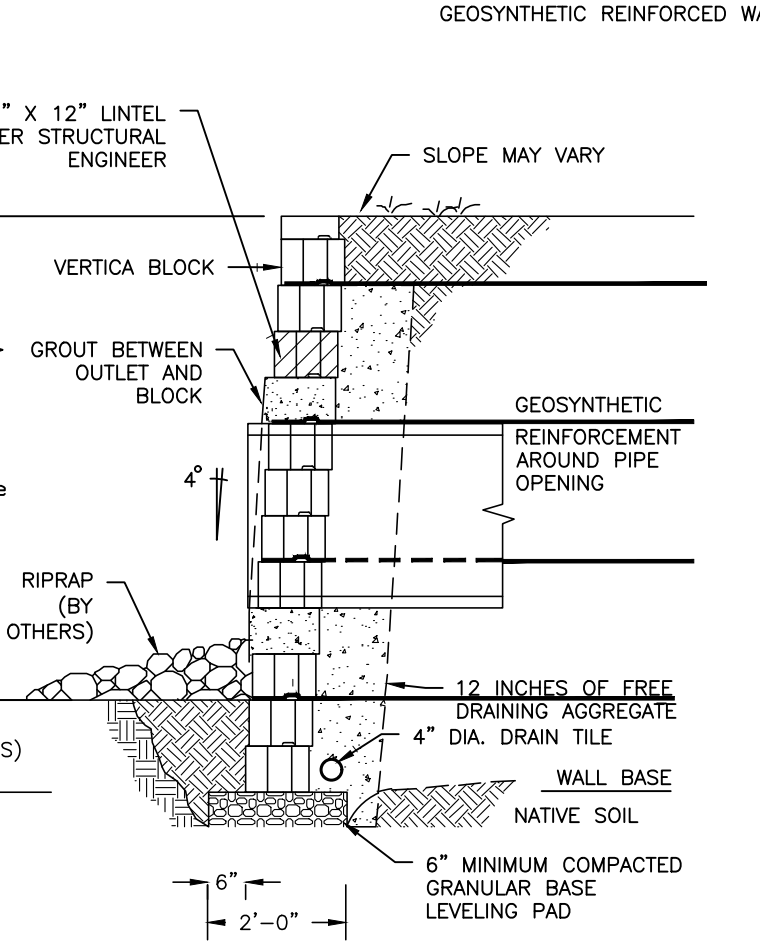
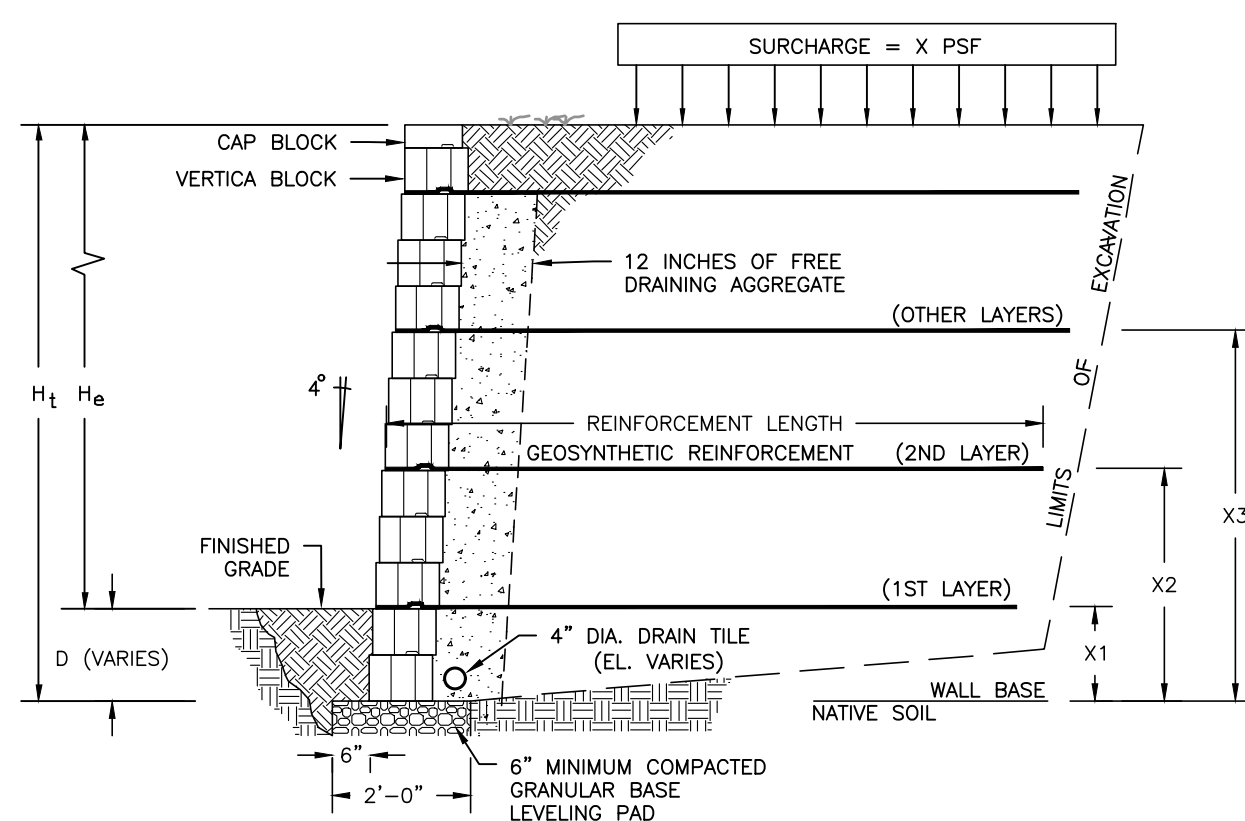


COLOR: LEGEND AND BORDER BACKGROUND WHITE (REFLECTORIZED) RED (REFLECTORIZED)

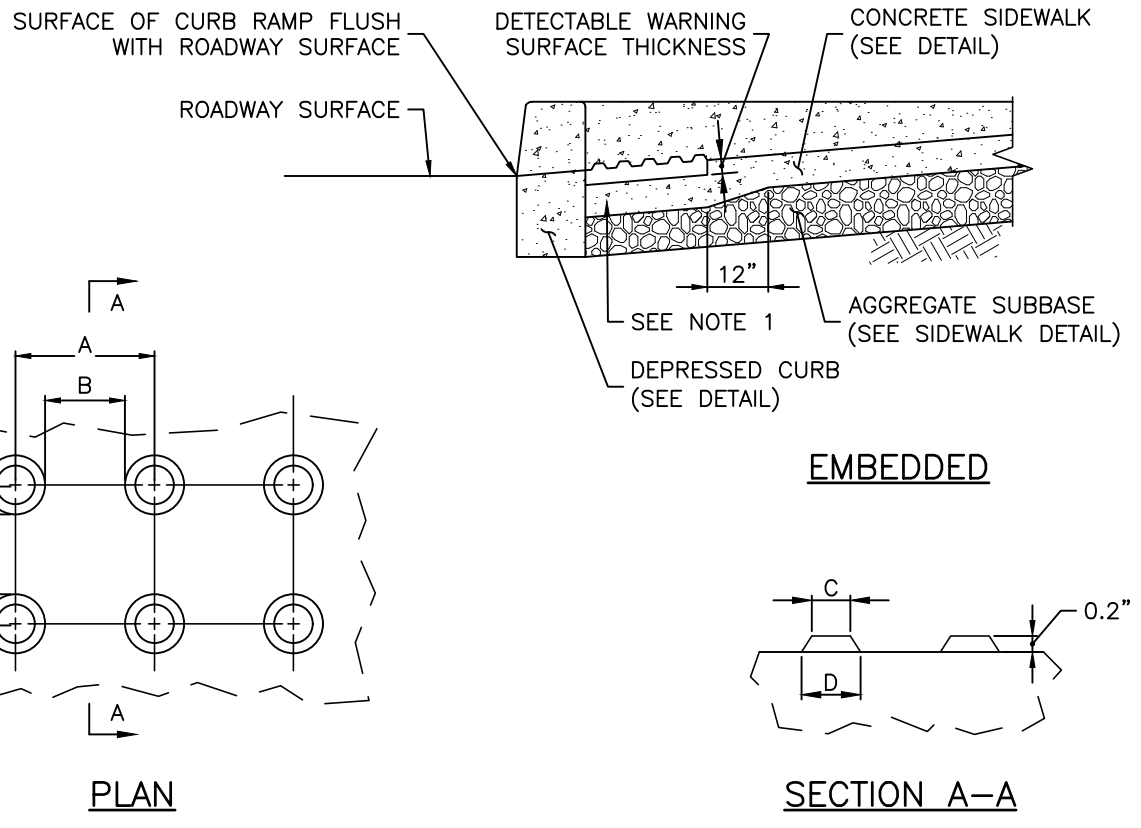
SIGN SIZE	DIMENSIONS			SERIES	BOR-DER	BLANK STD.
	A	B	C			
30x30	30	10	12	C	1/2	B1-30

- NOTES:
- MOUNTING HEIGHT TO BOTTOM OF SIGN SHALL BE 4'-0".
  - TO BE MOUNTED ON BREAKAWAY SIGN POST INSTALLED IN ACCORDANCE WITH PENNDOT PUB. 408, SECTION 931 AND SECTION 1103.0B.

**STOP SIGN (R1-1) DETAIL**  
NOT TO SCALE



**ANCHOR VERTICAL BLOCK PIPE OUTLET DETAIL**



TRUNCATED DOME DIMENSIONS

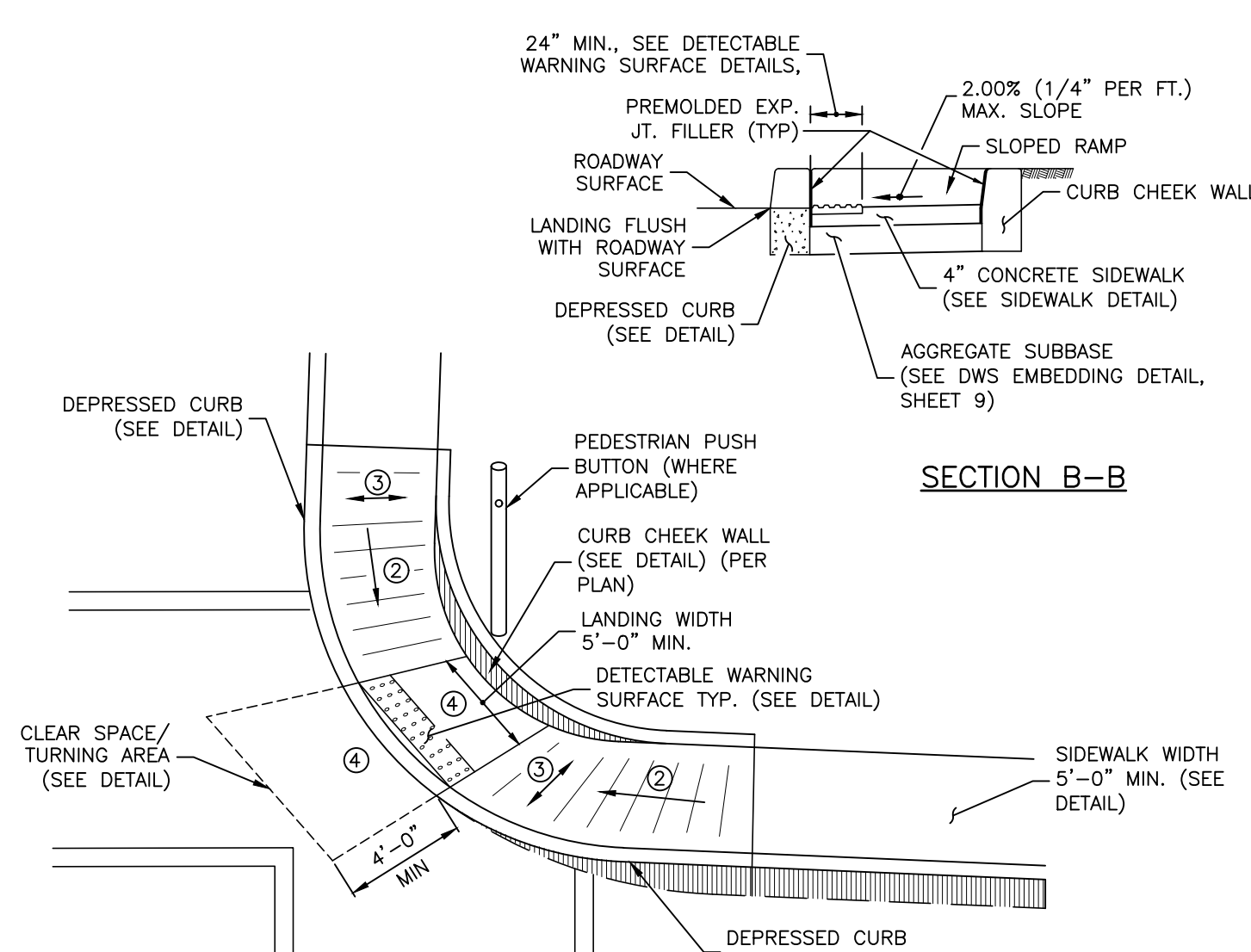
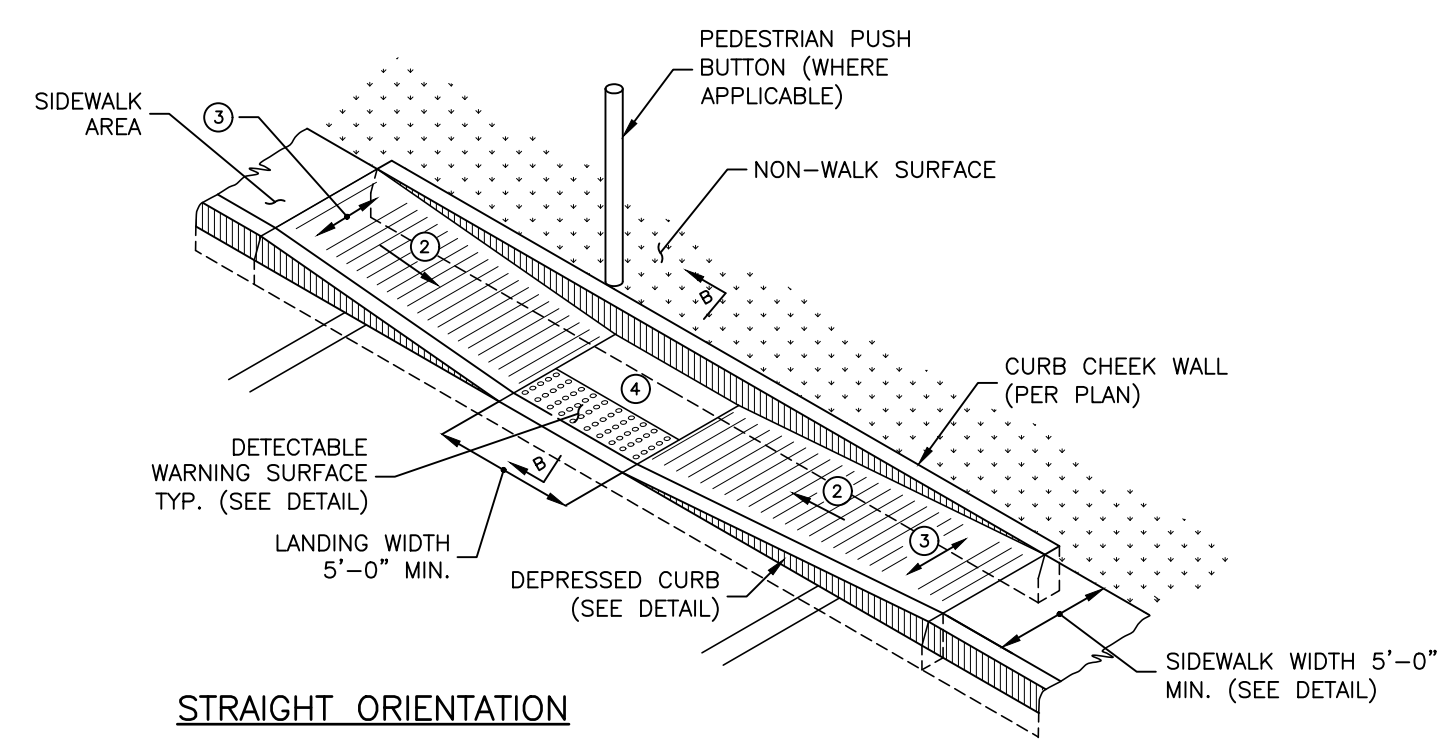
DIM	MIN. (INCH)	MAX. (INCH)
A	1.6	2.4
B	0.65	1.5
C	SEE NOTE 1	SEE NOTE 1
D	0.9	1.4

- NOTES:
- CONSTRUCT NOTCH AS SHOWN TO PROVIDE FULL THICKNESS SIDEWALK UNDER DETECTABLE WARNING.
  - THE "C" DIMENSION SHALL BE 50% TO 65% OF THE "D" DIMENSION.
  - DETECTABLE WARNING SURFACES SHALL COMPLY WITH ALL REQUIREMENTS OF THE AMERICANS WITH DISABILITIES ACT AND PENNDOT PUBLICATION 72M - RC67M.
  - DETECTABLE WARNINGS SHALL BE PROVIDED AT ALL LOCATIONS WHERE A PEDESTRIAN WALK CROSSES OR ADJOINS A VEHICULAR WAY AND THE WALKING SURFACES ARE NOT SEPARATED BY CURBS, RAILINGS, OR OTHER ELEMENTS.
  - DETECTABLE WARNINGS SHALL EXTEND THE FULL WIDTH OF THE WALKING PATH AND BE A MINIMUM OF TWO FEET (2') IN DEPTH.
  - DETECTABLE WARNINGS SHALL BE ARMOR-TILE (TM) TACTILE SYSTEM - CAST IN PLACE SYSTEM, OR APPROVED EQUAL (WWW.ARMOR-TILE.COM).
  - COLOR SHALL BE DARK GRAY (FEDERAL COLOR NO. 36118). COLORS SHALL BE SUBMITTED FOR OWNER'S APPROVAL PRIOR TO ORDERING MATERIAL.

**DETECTABLE WARNING SURFACE**  
NOT TO SCALE

- NOTES:
- PROVIDE MATERIALS AND CONSTRUCTION MEETING THE REQUIREMENTS OF PENNDOT PUBLICATION 408, SECTIONS 350, 409, 630, 676, AND 694.
  - PROVIDE EXPANSION JOINT MATERIAL 1/2" THICK WHERE CURB RAMP ADJOINS ANY RIGID PAVEMENT, SIDEWALK OR STRUCTURE WITH THE TOP OF JOINT FILLER FLUSH WITH ADJACENT CONCRETE SURFACE.
  - IF PEDESTRIAN CROSSWALKS ARE NOT WIDE ENOUGH TO PROVIDE MINIMUM 4'-0" X 4'-0" WIDE WHEELCHAIR OVERRUN ZONE AT THE BOTTOM OF THE RAMP, POSITION CROSSWALKS AS INDICATED IN PENNDOT PUBLICATION 72M - RC-67M - DETAIL A ON SHEET 7.
  - SEAL JOINTS WITH AN APPROVED SEALING MATERIAL.
  - PROVIDE SLIP RESISTANT TEXTURE ON CURB RAMP BY COARSE BROOMING TRANSVERSE TO THE SLOPE OF THE RAMP. EXTEND TEXTURE THE FULL WIDTH AND LENGTH OF CURB RAMP INCLUDING FLARED SIDE RAMPS.
  - MODIFY CONSTRUCTION DETAILS TO ADAPT DIMENSIONS TO EXISTING CURB ALTERATIONS WHERE THE CURB IS LESS THAN THE STANDARD 8" HEIGHT.
  - CURB RAMP AND SIDE FLARE LENGTHS ARE VARIABLE AND BASED ON CURB HEIGHT AND THE SIDEWALK SLOPE. IT MAY BE NECESSARY TO LIMIT THE RUN OF A PARALLEL OR PERPENDICULAR CURB RAMP IN ORDER TO AVOID CHASING GRADE INDEFINITELY WHEN TRAVERSING THE HEIGHT OF CURB. RAMP LENGTH NOT TO EXCEED 15'-0". ADJUST RAMP SLOPE AS NEEDED TO PROVIDE ACCESS TO THE MAXIMUM EXTENT POSSIBLE.
  - WHENEVER POSSIBLE, CONSTRUCT THE TRANSITION SLOPE FROM THE CURB RAMP AND FLARE SIDES TO ADJOINING SURFACES WITH A GRADUAL ROUNDED SHAPE RATHER THAN AN ABRUPT ANGLE. ENSURE CONSTRUCTION IS WITHIN MAXIMUM SLOPE.
  - ALIGN DETECTABLE WARNING DOMES ON A SQUARE GRID IN THE PREDOMINANT DIRECTION OF THE RAMP AND PERPENDICULAR TO CURB.
  - PROVIDE DETECTABLE WARNING SURFACES (DWS) 24" MINIMUM (IN THE DIRECTION OF PEDESTRIAN TRAVEL) ACROSS FULL WIDTH OF RAMP AT THE GRADE BREAK NEAR STREET EDGE. PROVIDE DWS THAT CONTRAST VISUALLY WITH ADJACENT WALKWAY SURFACES, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT FOR THE FULL WIDTH OF RAMP. DETECTABLE WARNING SURFACES SHALL COMPLY WITH THE REQUIREMENTS OF PENNDOT PUBLICATION 72M - RC-67M AND ADA REQUIREMENTS.
  - FOR NEW CONSTRUCTION, DO NOT EXCEED 2.0% CROSS SLOPE ON THE CURB RAMP OR ACCESSIBLE ROUTE. CONSTRUCT RAMP AND FLARE SLOPES WITH THE FLATTEST SLOPE POSSIBLE. THE SLOPES INDICATED IN THE DETAILS SHOW THE MAX SLOPE ALLOWABLE. IT IS STRONGLY RECOMMENDED TO USE THE SLOPES LISTED ABOVE TO ALLOW FOR CONSTRUCTION TOLERANCES.

**CURB RAMP - GENERAL INFORMATION**  
NOT TO SCALE



TRUNCATED DOME DIMENSIONS

DIM	MIN. (INCH)	MAX. (INCH)
A	1.6	2.4
B	0.65	1.5
C	SEE NOTE 1	SEE NOTE 1
D	0.9	1.4

- NOTES:
- SIDE FLARES 10.00% MAX. SLOPE.
  - 8.33% MAX. RAMP SLOPE.
  - SLOPE: ZERO ± 2.00%.
  - CURB RAMPS REQUIRE A 4'-0" MIN. LANDING WITH A MAX. SLOPE OF 2.00% IN ALL DIRECTIONS WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SEE DETAILS FOR LOCATIONS.
  - SEE "CURB RAMP - GENERAL INFORMATION" FOR ADDITIONAL NOTES AND DETAILS.

**CURB RAMP - TYPE 2**  
NOT TO SCALE

NO.	DATE	REVISIONS	BY	CHKD

KRIS J. REISS, P.E.  
LICENSED PROFESSIONAL ENGINEER

DATE: 02/20/2026  
COMMONWEALTH OF PENNSYLVANIA  
LICENSE NO. 062685E

GATEWAY ON FOURTH PHASE 1 LLC  
GATEWAY ON 4TH  
CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA

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74 WEST BROAD STREET, STE 300  
BETHLEHEM, PA 18018  
TEL 610-626-2999  
FAX 610-626-2969  
www.tandmassociates.com

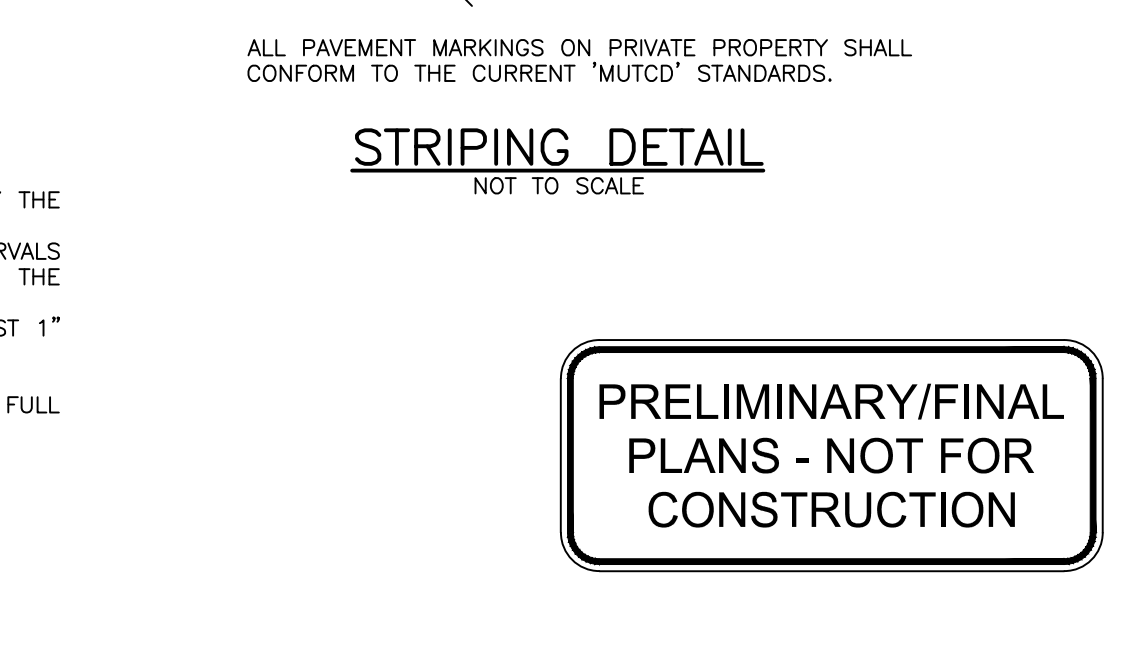
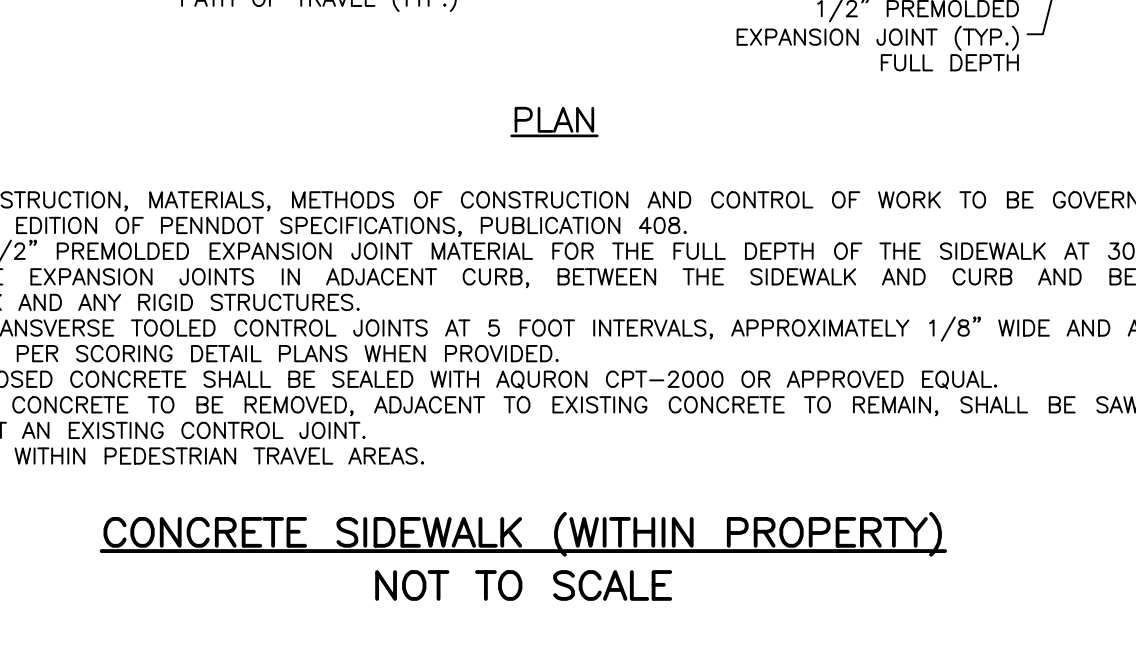
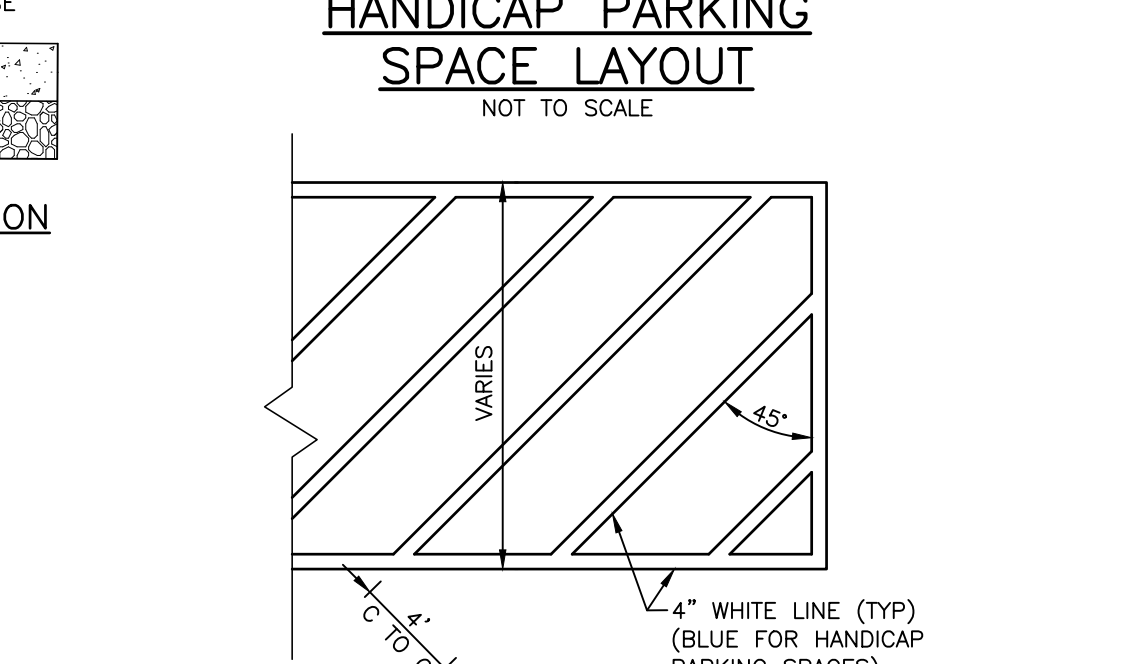
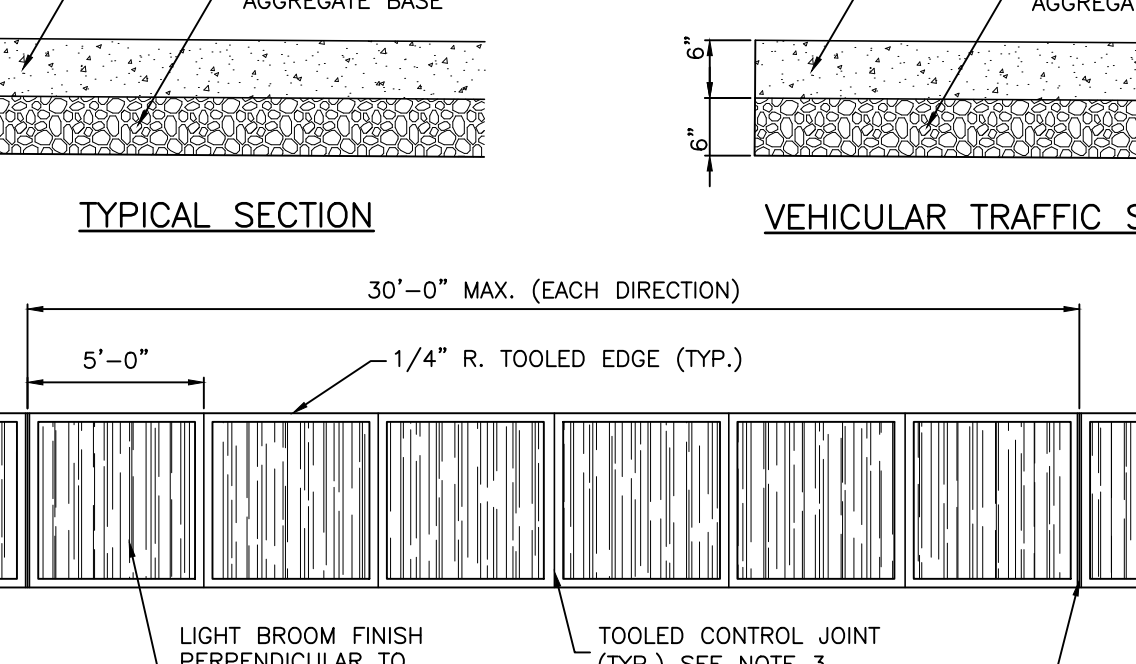
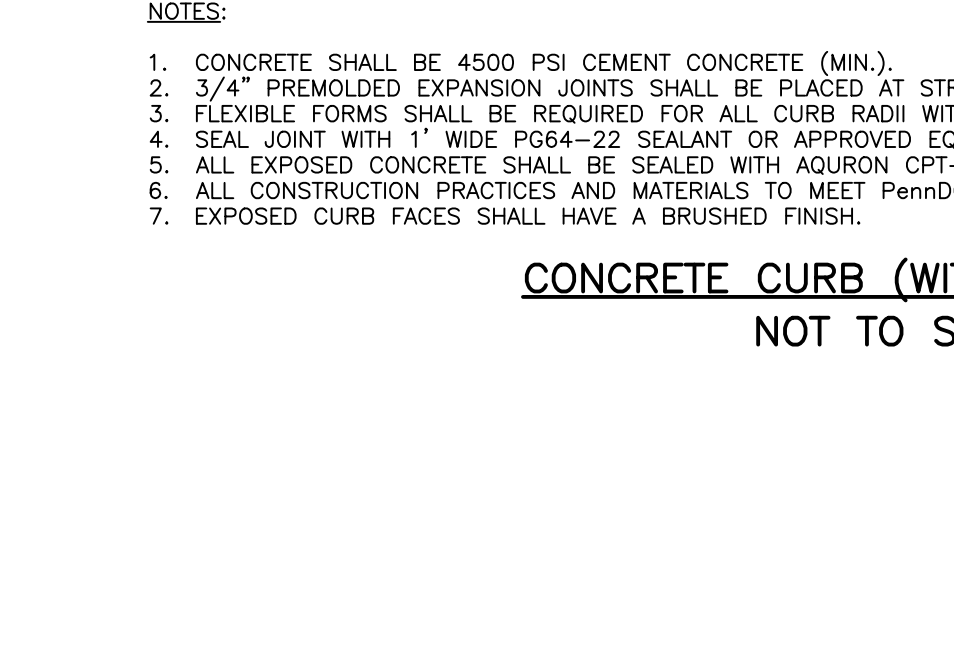
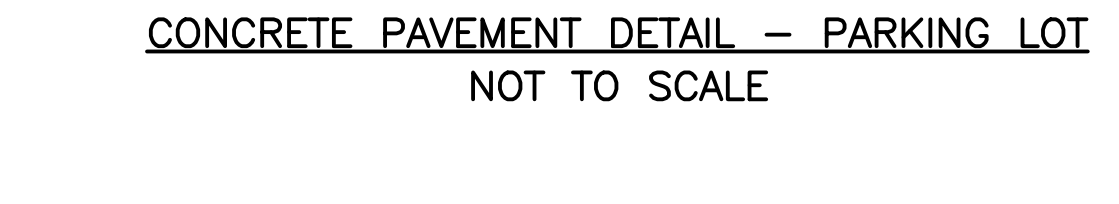
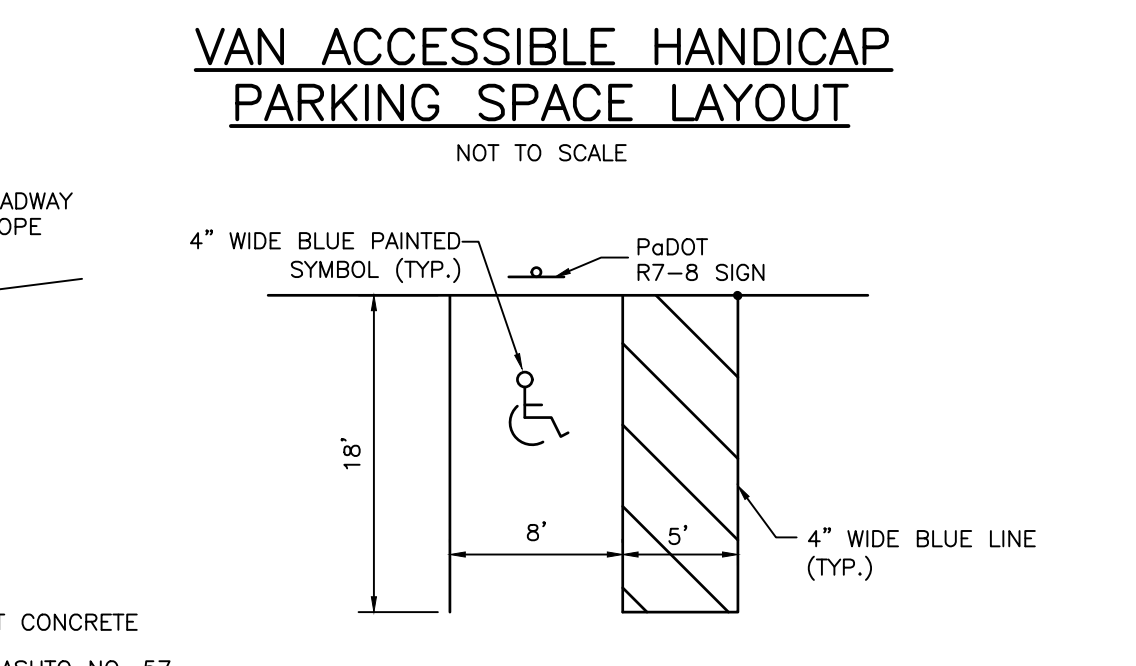
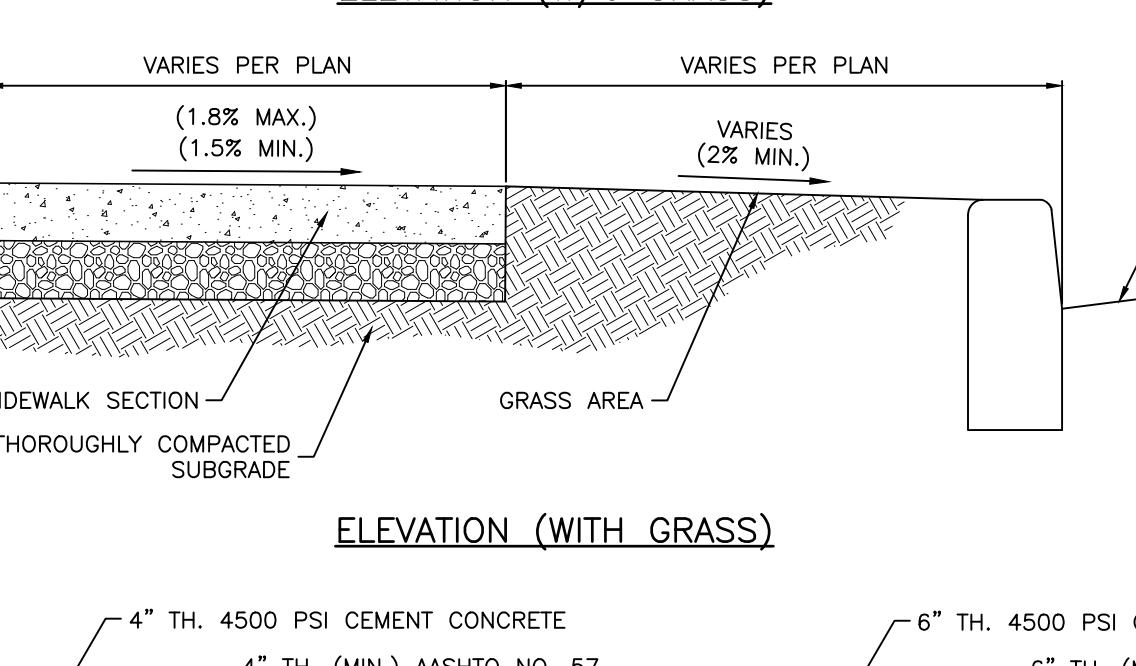
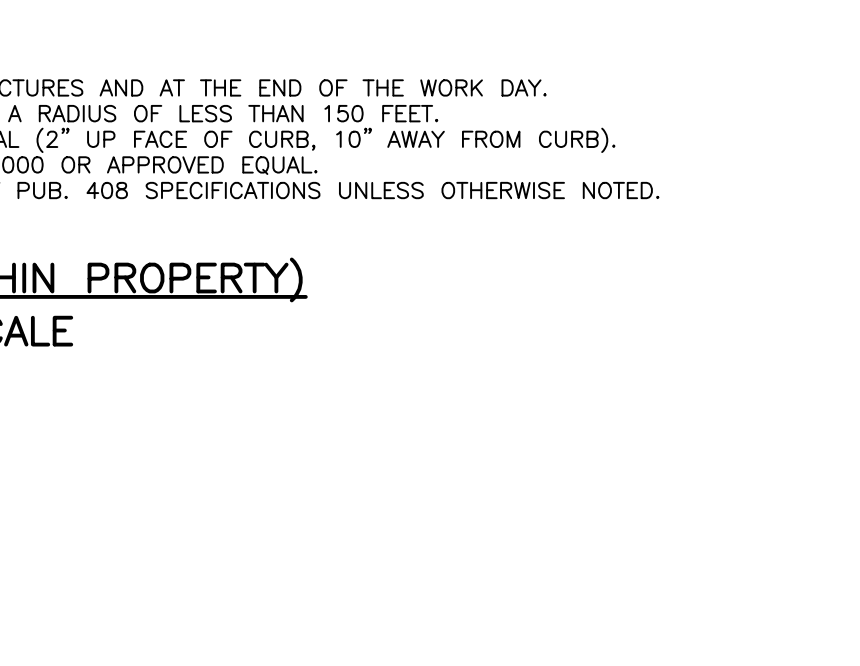
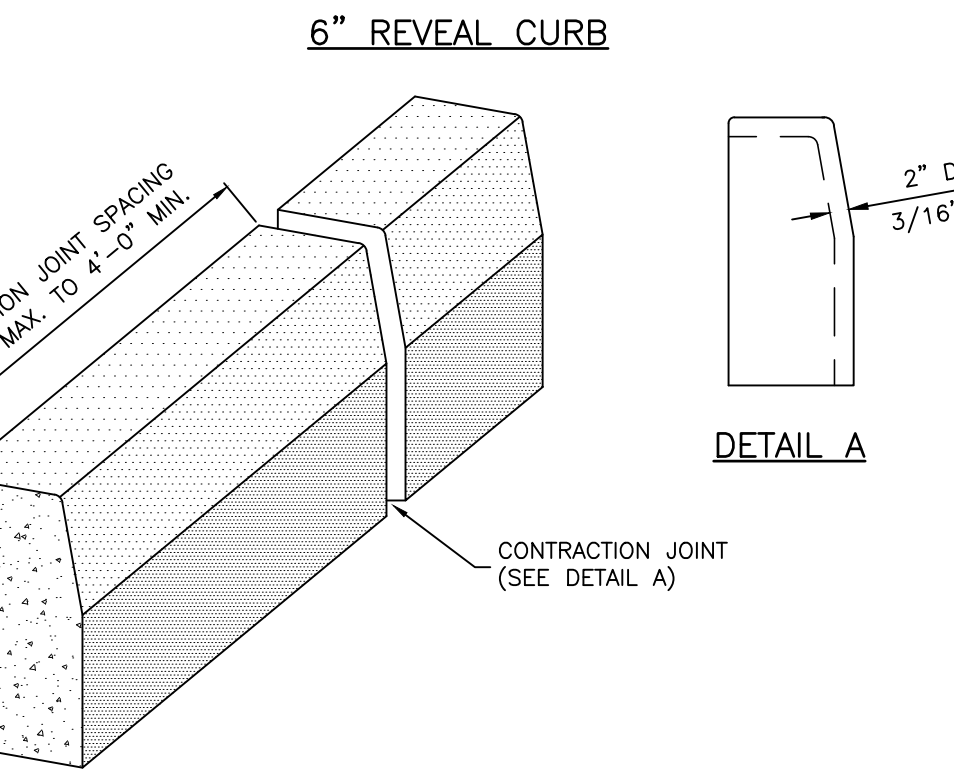
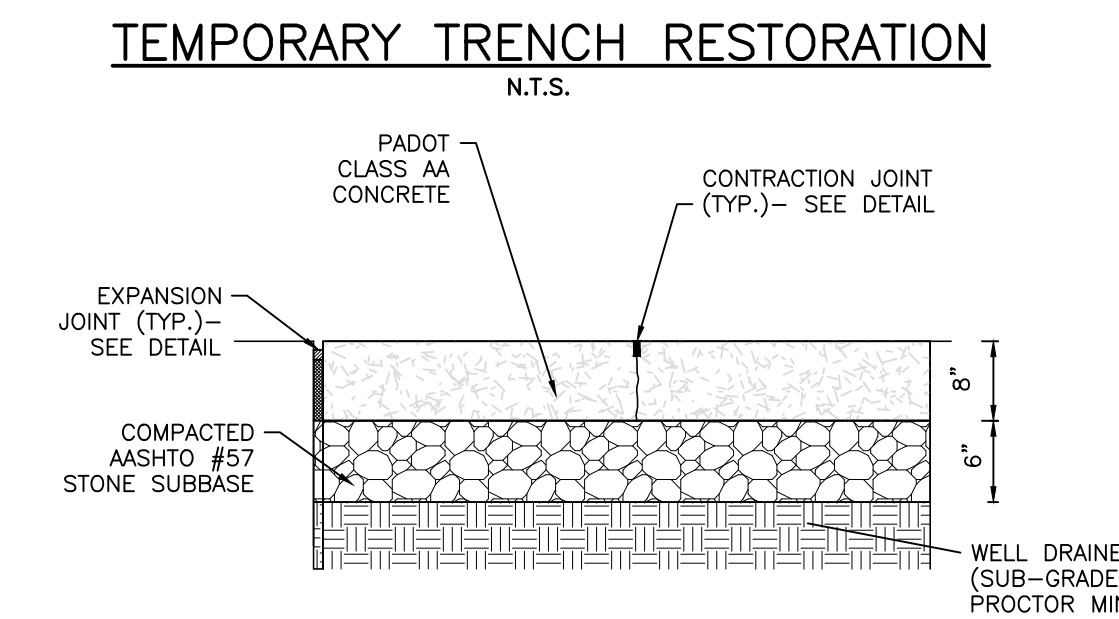
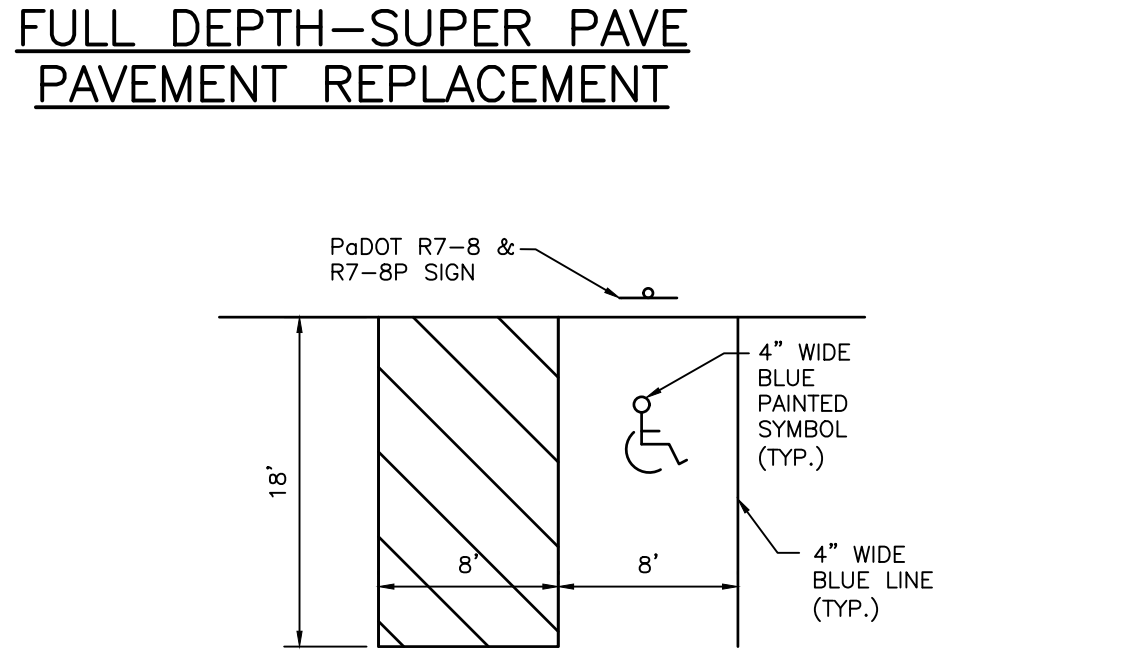
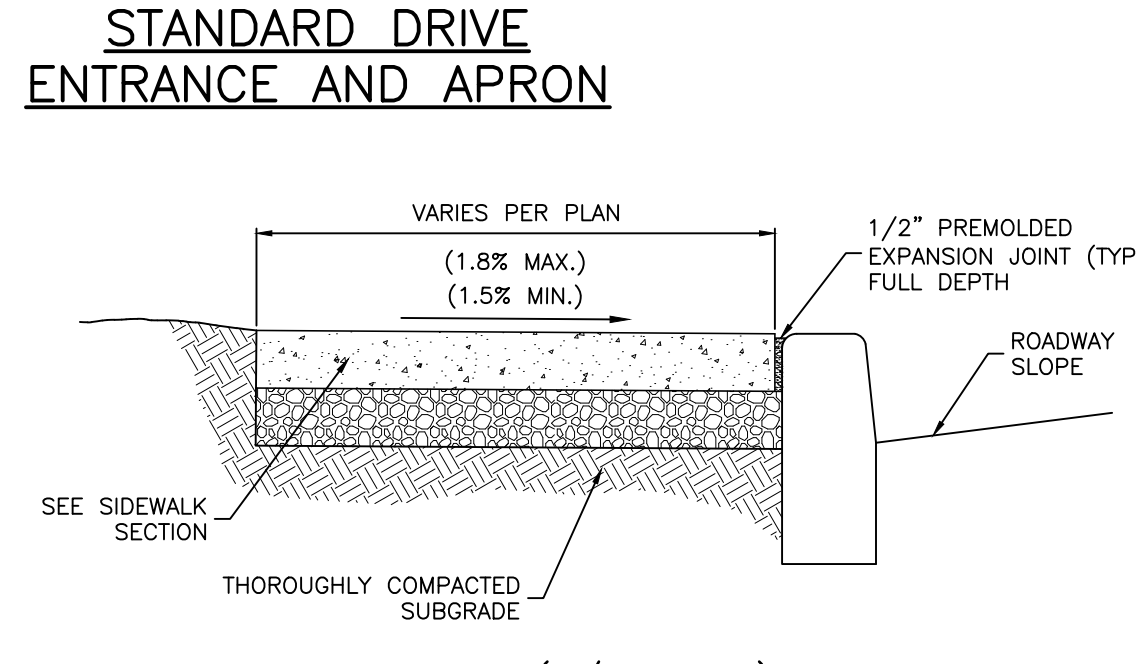
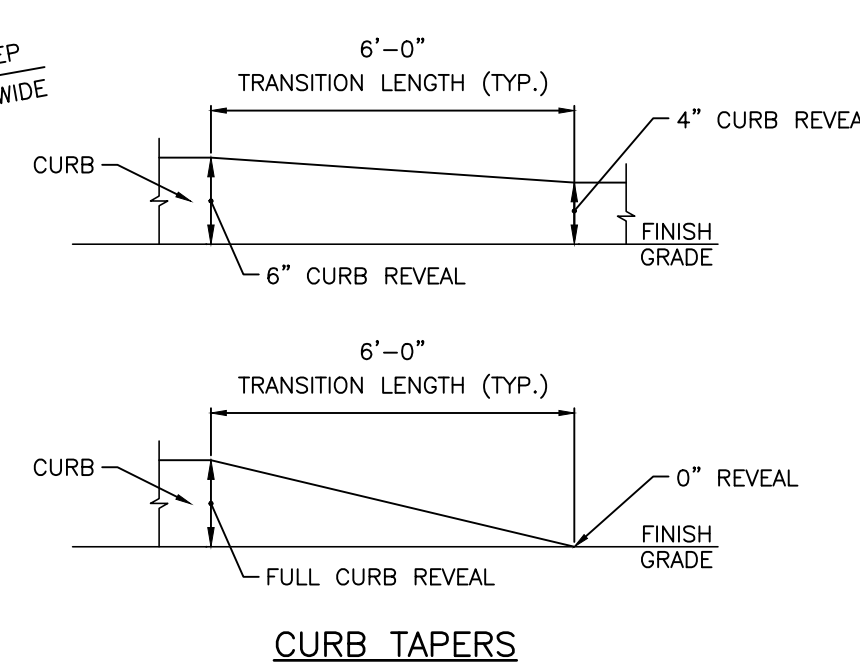
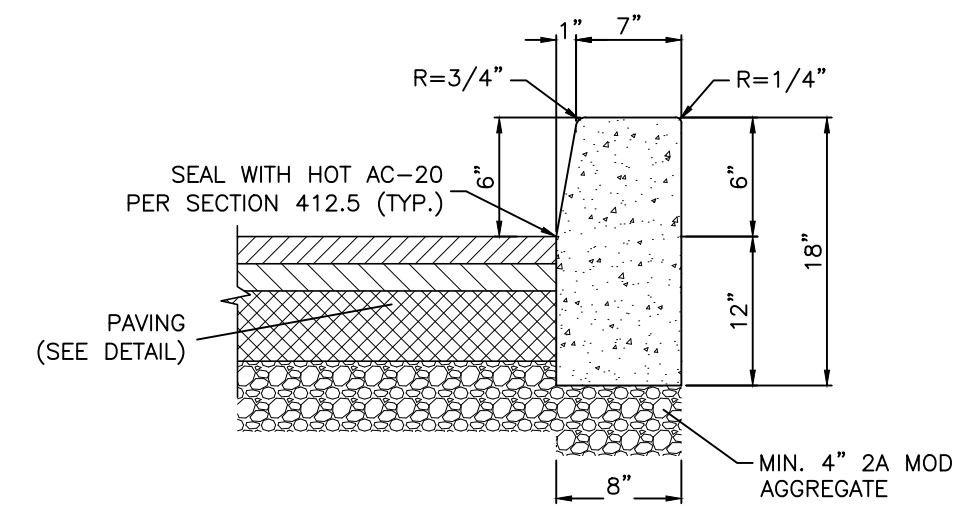
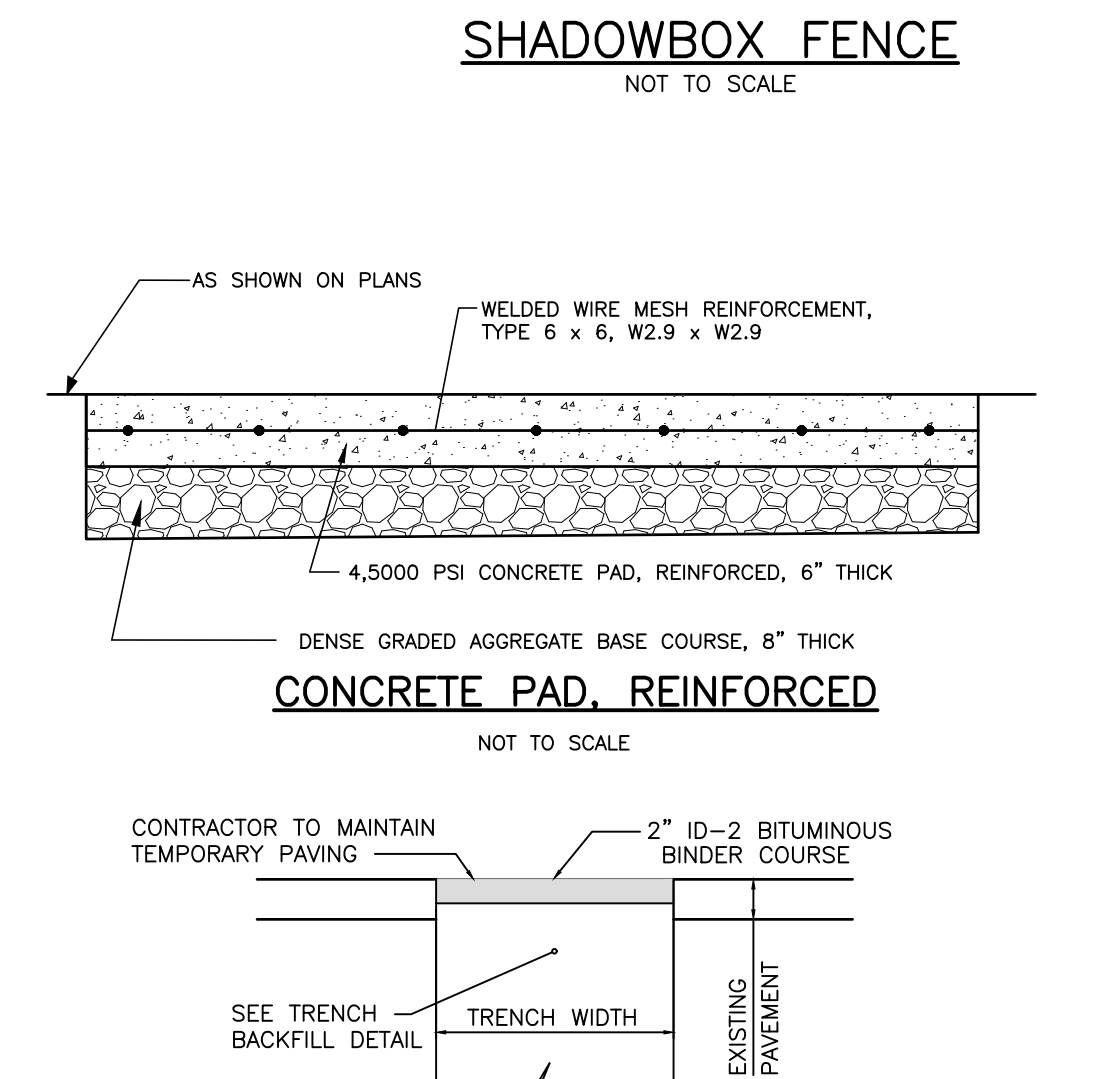
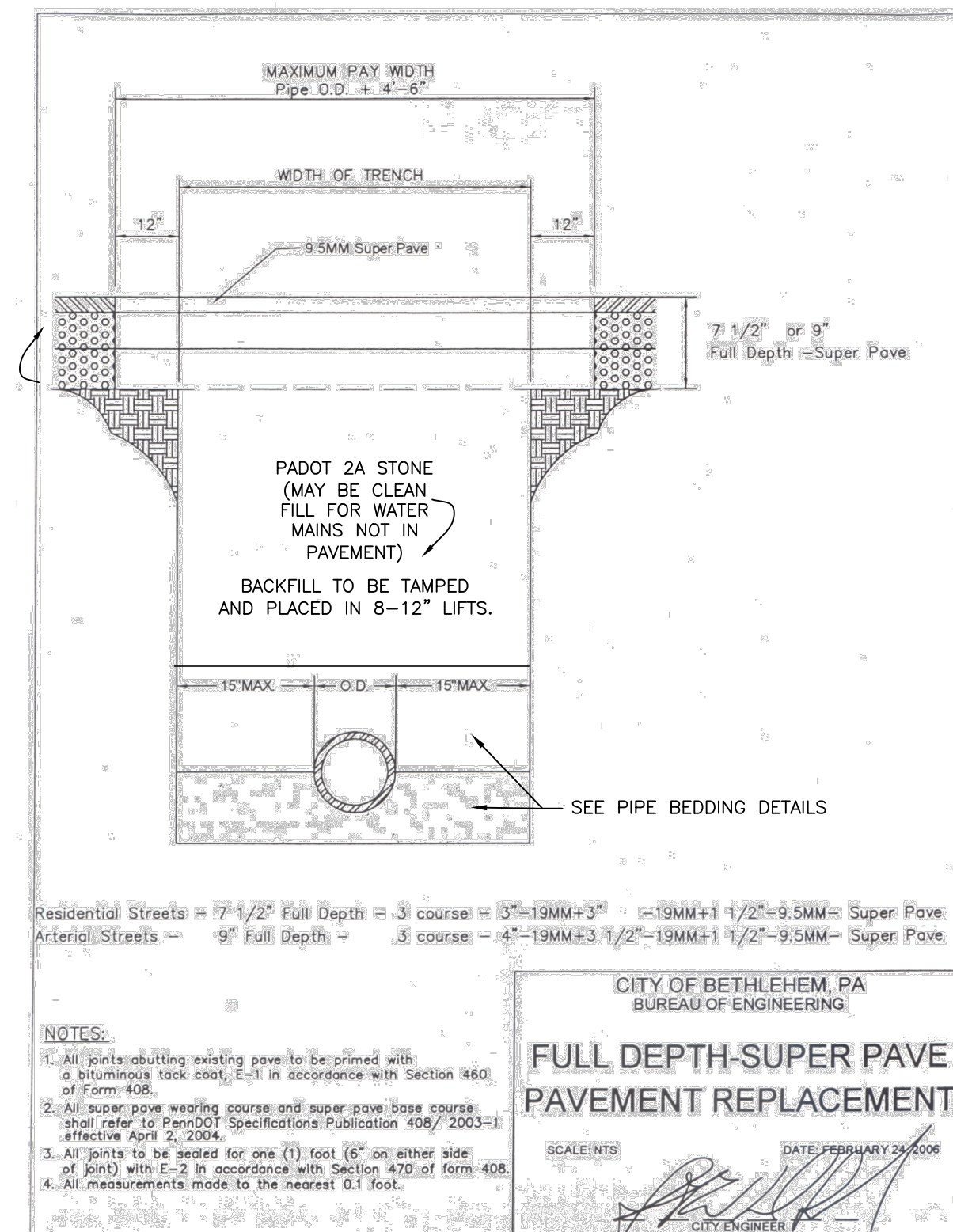
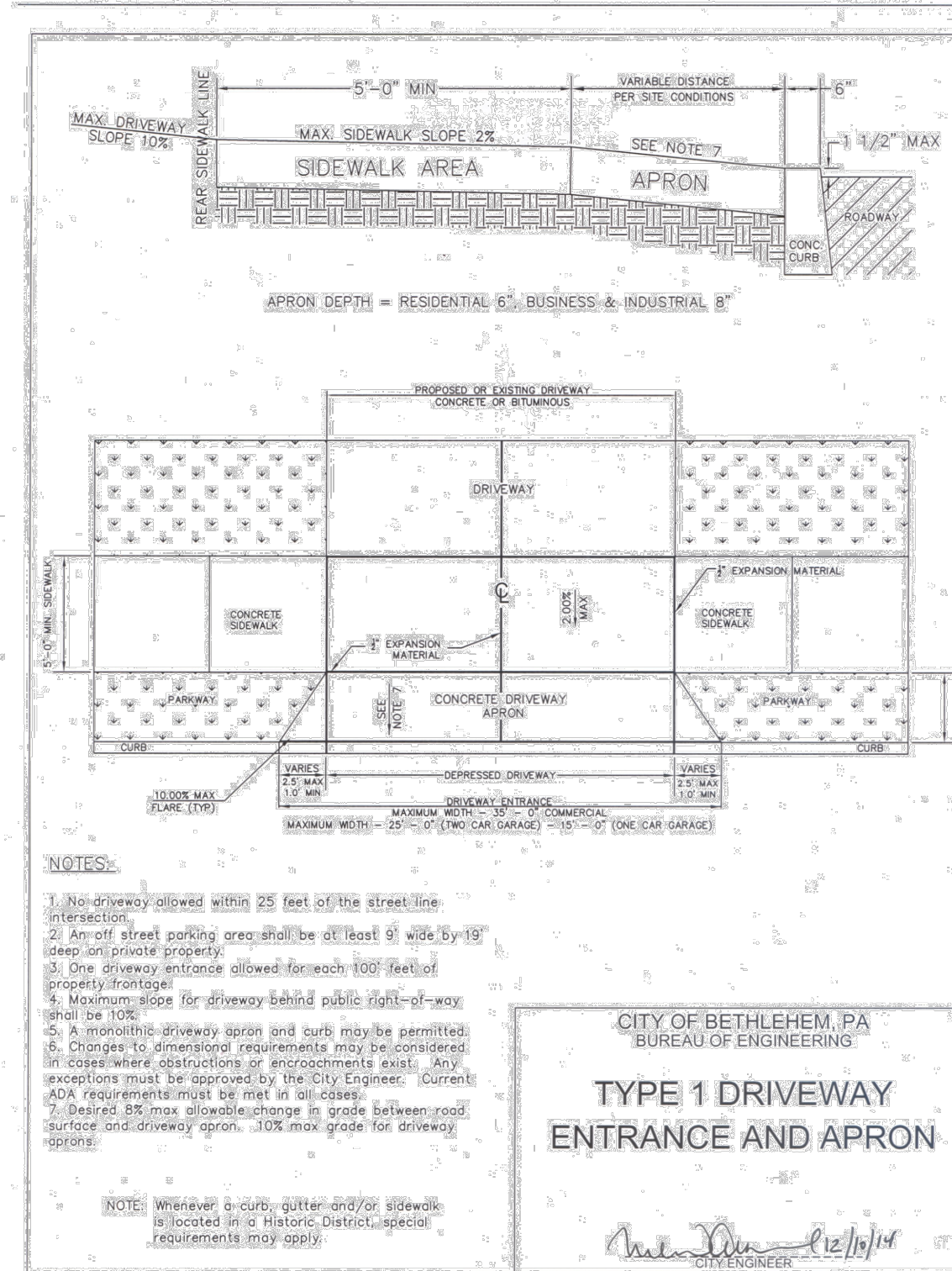
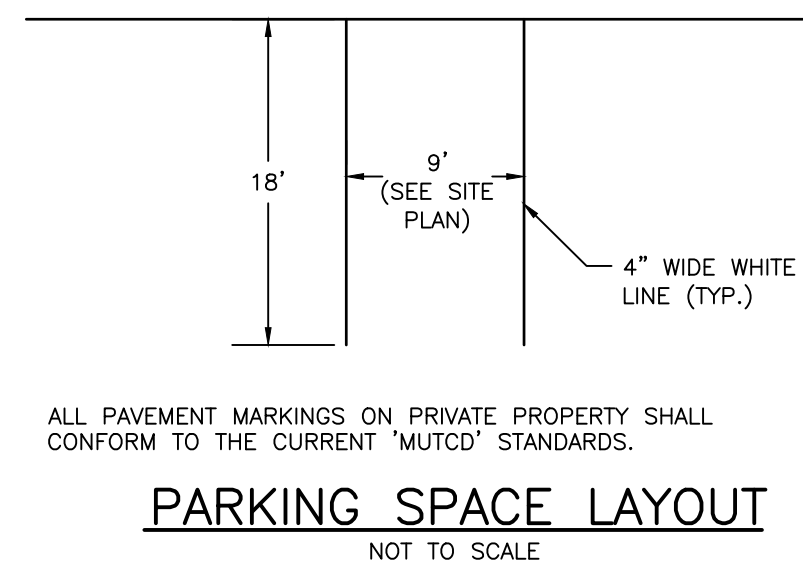
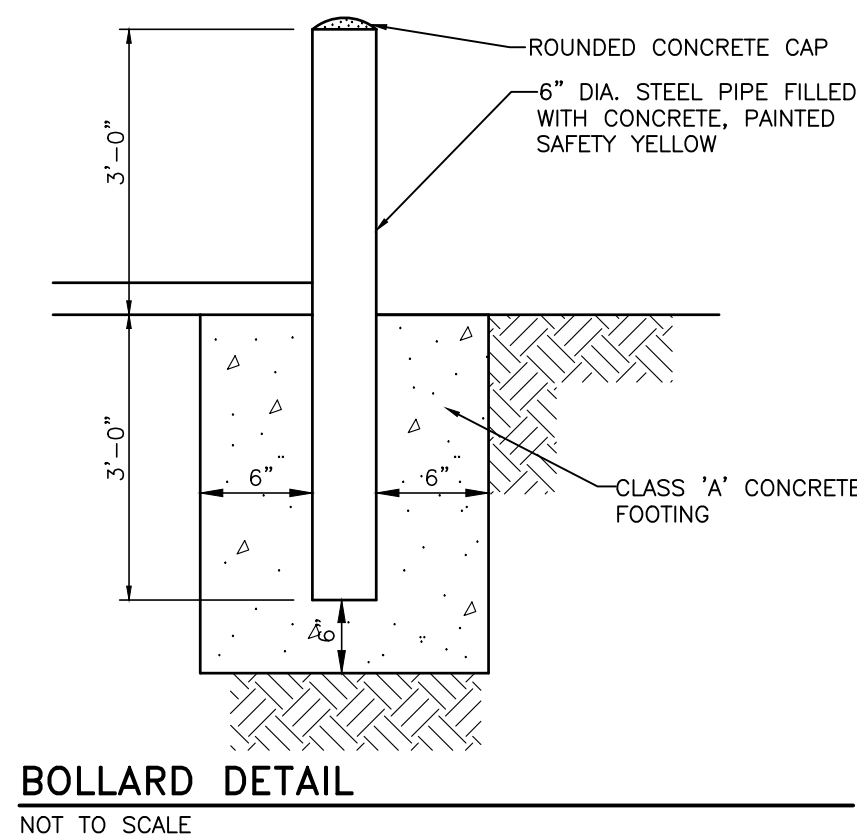
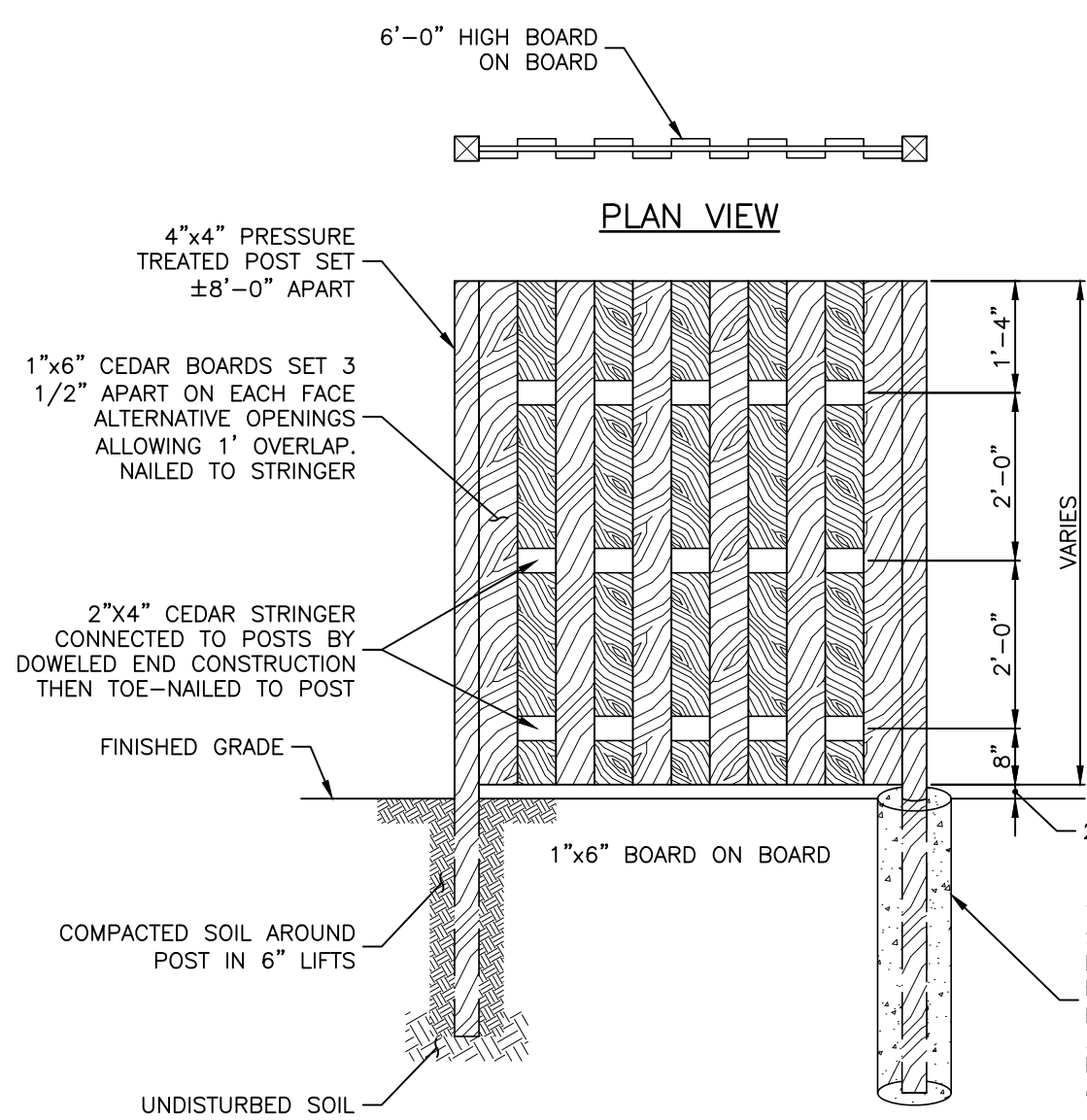
OFFICES LOCATED BY:  
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MASSACHUSETTS, MICHIGAN, NEW JERSEY,  
OHIO AND PENNSYLVANIA

DESIGNED BY	DRAWING
KJR	DTL
CHECKED BY	SHEET
KJR	22
DRAWN BY	OF
BAK	24
DATE	02-20-2026
SCALE	AS NOTED
PROJ. NO.	PENR00169

PRELIMINARY/FINAL  
PLANS - NOT FOR  
CONSTRUCTION

PROJECT INFORMATION: G:\Projects\PENR00169\Plans\...  
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- NOTES:
- ALL CONSTRUCTION, MATERIALS, METHODS OF CONSTRUCTION AND CONTROL OF WORK TO BE GOVERNED BY THE CURRENT EDITION OF PENNDOT SPECIFICATIONS, PUBLICATION 408.
  - PLACE 1/2" PREMOLDED EXPANSION JOINT MATERIAL FOR THE FULL DEPTH OF THE SIDEWALK AT 30' INTERVALS OPPOSITE EXPANSION JOINTS IN ADJACENT CURB, BETWEEN THE SIDEWALK AND CURB AND BETWEEN THE SIDEWALK AND ANY RIGID STRUCTURES.
  - FORM TRANSVERSE TOOLED CONTROL JOINTS AT 5 FOOT INTERVALS, APPROXIMATELY 1/8" WIDE AND AT LEAST 1" DEEP OR PER SCORING DETAIL PLANS WHEN PROVIDED.
  - ALL EXPOSED CONCRETE SHALL BE SEALED WITH AQUORON OPT-2000 OR APPROVED EQUAL.
  - EXISTING CONCRETE TO BE REMOVED, ADJACENT TO EXISTING CONCRETE TO REMAIN, SHALL BE SAW CUT FULL DEPTH AT AN EXISTING CONTROL JOINT.
  - FOR USE WITHIN PEDESTRIAN TRAVEL AREAS.

PRELIMINARY/FINAL PLANS - NOT FOR CONSTRUCTION

NO.	DATE	REVISIONS	BY	CHKD

CRIS J. REISS, P.E.  
LICENSED PROFESSIONAL ENGINEER  
COMMONWEALTH OF PENNSYLVANIA  
LICENSE NO. 056285E  
02/20/2026  
DATE

GATEWAY ON FOURTH PHASE 1 LLC  
GATEWAY ON 4TH  
CITY OF BETHLEHEM, NORTHAMPTON COUNTY, COMMONWEALTH OF PENNSYLVANIA  
CONSTRUCTION DETAILS

AND  
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74 WEST BROAD STREET, STE 300  
BETHLEHEM, PA 18018  
TEL 610-625-2999  
FAX 610-625-2969  
www.tandmassociates.com

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DESIGNED BY	KJR	DRAWING	DTL
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