

NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

PENNSYLVANIA
 CENTRE COUNTY
 FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801
 PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
 COVER SHEET

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22

PROJECT NUMBER
14003.04

DRAWING NUMBER
C001
SHEET NO. 1 OF 55

CONSTRUCTION PLANS FOR FERGUSON TOWNSHIP PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

FERGUSON TOWNSHIP, CENTRE COUNTY, PENNSYLVANIA

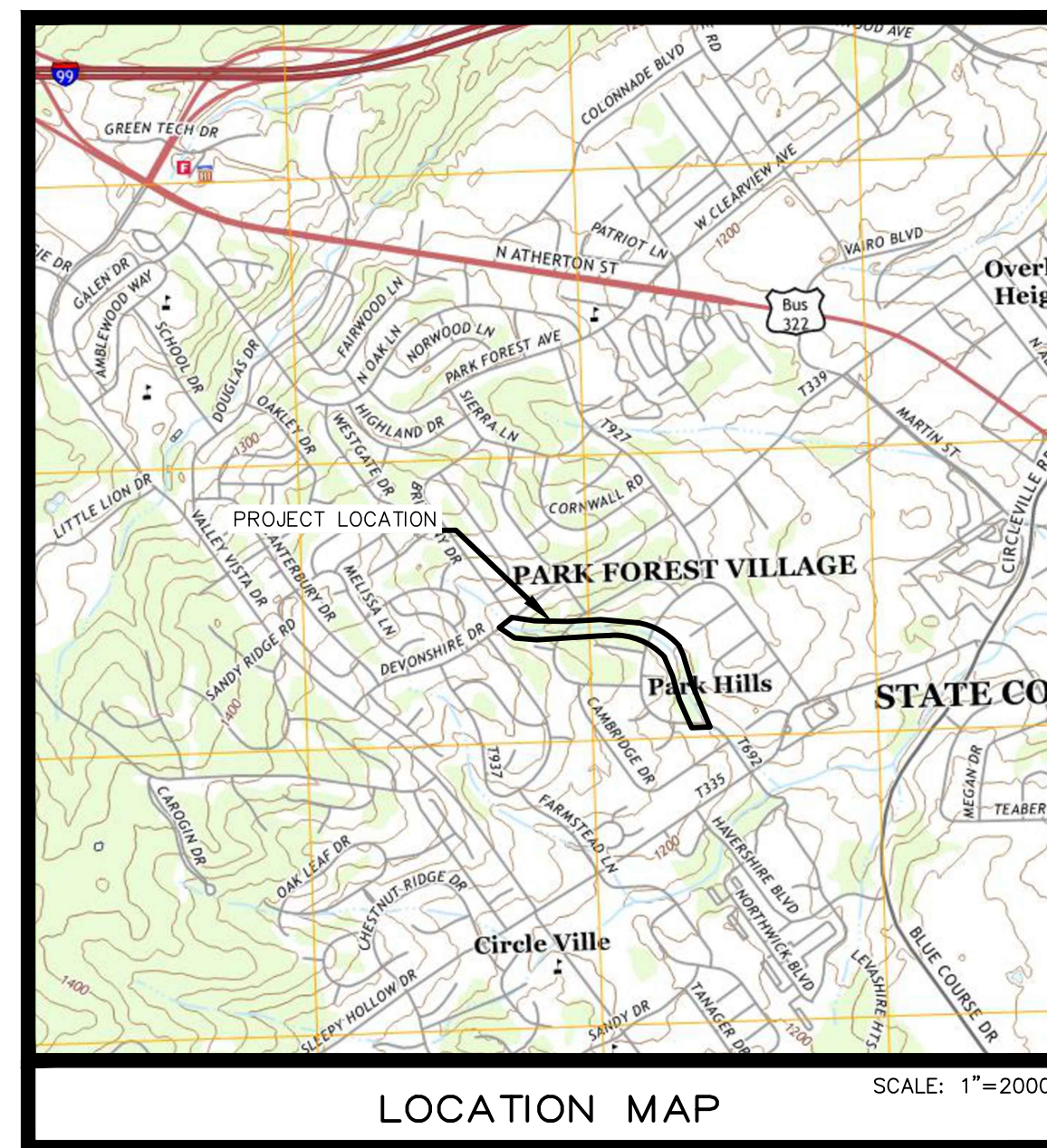
PROJECT NOTES:

- OWNER: FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
(814) 238-4651
- TOPOGRAPHY AND EXISTING CONDITIONS ARE SHOWN IN ACCORDANCE WITH FIELD SURVEYS PERFORMED BY PENNONI ASSOCIATES FROM DECEMBER 4, 2018 TO MARCH 22, 2019. SUBSEQUENTLY, ADDITIONAL SURVEY INFORMATION WAS OBTAINED BY FERGUSON TOWNSHIP UTILIZING PENNONI SURVEY CONTROL. PENNONI SURVEY DATA WAS OBTAINED UTILIZING CONVENTIONAL SURVEY EQUIPMENT/METHODS AND SUPPLEMENTED WITH STATIC, RTK, AND VRS GPS EQUIPMENT.
- HORIZONTAL CONTROL AND COORDINATE DATA ARE REFERENCED TO THE PENNSYLVANIA STATE PLANE COORDINATE SYSTEM, NORTH ZONE-3701, NAD83 (2011) AND WERE ESTABLISHED VIA GPS OBSERVATIONS UTILIZING HIGH PRECISION GNSS REFERENCE STATIONS (KEYNETGPS).
- VERTICAL CONTROL AND ELEVATION DATA ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) AND WERE ESTABLISHED VIA GPS OBSERVATIONS UTILIZING HIGH PRECISION GNSS REFERENCE STATIONS (KEYNETGPS).

TOTAL DISTURBED AREA = 162,274 SF (3.75 AC.)
 TOTAL DISTURBED AREA IN THE EXISTING FEMA FLOODPLAIN = 128,386 SF (2.95 AC.)
 TOTAL DISTURBED AREA OUTSIDE THE EXISTING FEMA FLOODPLAIN = 33,888 SF (0.78 AC.)

GENERAL NOTES:

- REFER TO THE TOWNSHIP TREE PROTECTION AND REMOVAL PLAN FOR TREE PROTECTION REQUIREMENTS AND TREE DEMOLITION.
- ALL CONCRETE (SIDEWALKS/DRIVEWAYS/CURB) SHALL BE REPLACED TO THE NEAREST JOINT. (EXTEND DEMO AND RECONSTRUCTION AS NECESSARY TO DO SO).
- THE CONTRACTOR SHALL REVIEW CURRENT SITE CONDITIONS AND BASE PRICING ON FIELD CONDITIONS AT THE TIME OF BID. (PRICING SHALL CONSIDER CHANNEL MIGRATION THAT HAS OCCURRED SINCE SURVEY).
- THE CONTRACTOR SHALL REFER TO THE "CRA NOTES"- CONSTRUCTION AND PERMITTING REQUIREMENTS FOR CHANNEL RESTORATION ACTIVITIES (SEE SHEET C002).
- THE CONTRACTOR SHALL REFER TO THE APPROVED SEQUENCE OF CONSTRUCTION AND EROSION AND SEDIMENT CONTROL PLAN FOR SEQUENCING AND E&S PERMITTING REQUIREMENTS.
- THE CONTRACTOR, AT THEIR SOLE COST, IS RESPONSIBLE FOR AND SHALL MAINTAIN ALL WORK UNTIL ACCEPTED BY THE TOWNSHIP.
- ALL EXCESS BUILDING MATERIALS AND WASTE SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL RESOURCES (DEPARTMENT) SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGED AT THIS SITE.
- ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN ACTIVE E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT. FULLY IMPLEMENTED- PRIOR TO BEING UTILIZED.
- THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL. PADEP FORM FP-001 - CERTIFICATION OF CLEAN FILL IS TO BE COMPLETED BY THE CONTRACTOR AND PROVIDED TO THE OWNER FOR ALL MATERIALS BROUGHT TO THE SITE INCLUDING ALL FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
- ADDITIONAL CURB/SIDEWALK/DRIVEWAY REPLACEMENT, AND STREET RESTORATION WILL BE REQUIRED IN ANY LOCATION WHERE CONSTRUCTION ACTIVITIES RESULT IN DAMAGE- AT NO ADDITIONAL COST TO THE OWNER.
- THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE - BASED ON RECORDS OF THE VARIOUS FACILITY OWNERS AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. THE UTILITY INFORMATION IS NOT TO BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR MUST NOTIFY THE PA ONE-CALL SYSTEM AT LEAST 3 DAYS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATION OF UTILITIES.
- THE CONTRACTOR SHALL DIG TEST PITS AT LOCATIONS OF POTENTIAL UTILITY CONFLICTS AND/OR AS NOTED ON THE PLAN SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT PLAN REVISIONS AS REQUIRED AND/OR AS NOTED ON THE PLANS.
- ALL EXISTING ON-SITE UTILITIES SHALL REMAIN FUNCTIONAL UNLESS DESIGNATED FOR REMOVAL OR ABANDONMENT.
- NO UTILITY SERVICE MAY BE DISCONNECTED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE.
- FOR NARRATIVE PURPOSES THE PROJECT IS DIVIDED INTO THREE SECTIONS. AN UPSTREAM SECTION FROM DEVONSHIRE DRIVE TO PRINCETON DRIVE, A MIDDLE SECTION FROM PRINCETON DRIVE TO PARK HILLS AVENUE, AND A LOWER SECTION FROM PARK HILLS AVENUE TO THE PARK HILLS PARK.



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APPLICANT/OWNER:
 FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801

**SITE DESIGN/E&S/JPA/FEMA
PERMITTING CONSULTANT:**
 NTM ENGINEERING, INC.
 341 SCIENCE PARK ROAD SUITE 203
 STATE COLLEGE, PA 16803

**CHANNEL DESIGN/LANDSCAPING
CONSULTANT:**
 BIOHABITATS
 2081 CLIPPER PARK ROAD
 BALTIMORE, MD 21211

UTILITY USER LIST	
UNIVERSITY AREA JOINT AUTHORITY CONTACT: MARK HARTER 1576 SPRING VALLEY ROAD STATE COLLEGE, PA 16801 PHONE: (814) 238-5361	WEST PENN POWER CONTACT: TONY WESS 800 CABIN HILL DRIVE GREENSBURG, PA 15601 PHONE: (814) 231-5355
COMCAST CABLE CONTACT: JEFF WALKER 1701 JFK BOULEVARD PHILADELPHIA, PA 19103 PHONE: (814) 599-0621	VERIZON CONTACT: BRUCE DEEMER 1095 AVENUE OF THE AMERICAS NEW YORK, NY 10036 PHONE: (814) 571-4184
STATE COLLEGE BOROUGH WATER AUTHORITY CONTACT: 1201 W BRANCH ROAD STATE COLLEGE, PA 16801 PHONE: (814) 238-6766	FERGUSON TOWNSHIP CONTACT: DAVE MODRICKER 3147 RESEARCH DRIVE STATE COLLEGE, PA 16801 PHONE: (814) 238-4651



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383

PERMANENT OPERATION AND MAINTENANCE

PROJECT MONITORING AND RESTORATION OF STRUCTURES DAMAGED AFTER HIGH WATER EVENTS

THE TOWNSHIP SHALL CONDUCT A VISUAL INSPECTION OF THE STREAM AND FLOODPLAIN AREA ANNUALLY IN JUNE (FOLLOWING THE SPRING RAINY SEASON), AND AFTER HIGH RAIN EVENTS (2 INCHES OF RAIN OR MORE IN 24 HOURS) TO MONITOR FOR EROSION OR OTHER DAMAGE. EACH INSPECTION SHOULD BE DOCUMENTED WITH AN INSPECTION REPORT THAT INCLUDES PHOTO DOCUMENTATION. IF A REPAIR ACTION IS NECESSARY IT SHOULD BE NOTED IN THE REPORT AND A FOLLOW-UP INSPECTION SHOULD BE PERFORMED TO DOCUMENT ANY REPAIRS OR REMEDIATION WORK. ALL INSPECTION REPORTS SHOULD BE MAINTAINED AS A PERMANENT RECORD IN ACCORDANCE WITH TOWNSHIP MS4 DOCUMENT RETENTION GUIDELINES.

RIPRAP LINED CHANNEL O&M NOTES

THE RIPRAP LINED CHANNEL SHALL BE MAINTAINED TO THE ORIGINAL DESIGN SPECIFICATIONS TO PREVENT EROSION.

INSPECTION ACTIVITIES TO BE PERFORMED WITHIN 48 HOURS AFTER EVERY SIGNIFICANT RAINFALL EVENT AS DEFINED ABOVE.

INSPECTION:

- 1. INSPECT FOR EROSION ALONG ENTIRE CHANNEL.
2. INSPECT FOR LOSS OF ROCK.

MAINTENANCE:

- 1. REPLACE ROCK TO MAINTAIN THE ORIGINAL DESIGN SPECIFICATIONS.
2. IF THE SPECIFIED ROCK SIZE IS NOT ADEQUATE TO PREVENT EROSION, SUPPLEMENT WITH ROCK OF A LARGER SIZE.

VEGETATED AREA O&M NOTES

VEGETATED AREAS SHALL BE MAINTAINED AND STABILIZED WITH PERMANENT VEGETATIVE COVER.

INSPECTION:

- 1. INSPECT THE AMOUNT OF PERMANENT VEGETATIVE COVER ON THE SOIL SURFACE.
2. BIWEEKLY (EVERY TWO WEEKS) INSPECTIONS ARE RECOMMENDED FOR AT LEAST THE FIRST GROWING SEASON, OR UNTIL THE VEGETATION IS PERMANENTLY ESTABLISHED. IN SUBSEQUENT YEARS INSPECTION ANNUALLY AND FOLLOWING SIGNIFICANT RAIN EVENTS AS DEFINED ABOVE.

MAINTENANCE:

- 1. IF PERMANENT VEGETATIVE COVER FALLS BELOW 70% OF THE SOIL SURFACE AREA, RE-SEED OR OVER-SEED IN ACCORDANCE WITH THE PERMANENT SEEDING SPECIFICATIONS.
2. APPLY LIME AND FERTILIZER IN ACCORDANCE WITH RECOMMENDATIONS BASED ON SOIL TESTING.
3. MOW LAWN AREAS ON A REGULAR BASIS OR AS NEEDED TO MAINTAIN A LOW CUT GRASS. MOWING SHOULD BE DONE ONLY WHEN THE SOIL IS DRY IN ORDER TO PREVENT TRACKING DAMAGE TO VEGETATION, SOIL COMPACTION, AND FLOW CONCENTRATIONS.

STORMWATER PIPES AND APPURTENANCES O&M NOTES

STORMWATER PIPES AND APPURTENANCES SHALL BE MAINTAINED TO ENSURE STRUCTURAL INTEGRITY, DESIGN FLOW CAPACITY AND THE UNIMPEDED CONVEYANCE OF STORMWATER. APPURTENANCES INCLUDE FLARED END SECTIONS.

INSPECTION:

- 1. INSPECT STORMWATER PIPES AND APPURTENANCES FOR DEBRIS AND/OR SEDIMENT.
2. INSPECT THE STRUCTURAL INTEGRITY OF STORMWATER PIPES AND APPURTENANCES.

MAINTENANCE:

- 1. REMOVE AND/OR FLUSH DEBRIS AND/OR SEDIMENT FROM STORMWATER PIPES AND APPURTENANCES.
2. REPAIR OR REPLACE DAMAGED STORMWATER PIPES AND APPURTENANCES.

RIPRAP OUTLET PROTECTION O&M NOTES

ROCK OUTLET PROTECTION SHALL BE MAINTAINED TO THE ORIGINAL DESIGN SPECIFICATIONS AND TO PREVENT EROSION.

INSPECTION:

- 1. INSPECT FOR EROSION AT OUTLETS.
2. INSPECT FOR LOSS OF ROCK.

MAINTENANCE:

- 1. REPLACE ROCK TO MAINTAIN THE ORIGINAL DESIGN SPECIFICATIONS.
2. IF THE SPECIFIED ROCK SIZE IS NOT ADEQUATE TO PREVENT EROSION, INSTALL ROCK OF A LARGER SIZE.

EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN

REFER TO THE EROSION AND SEDIMENTATION POLLUTION CONTROL PLAN TITLED "EROSION & SEDIMENTATION POLLUTION CONTROL PLAN ON SHEETS C401 THROUGH C507 OF THIS PLAN SET.

CRA NOTES: CONSTRUCTION AND PERMITTING REQUIREMENTS FOR CHANNEL RESTORATION ACTIVITIES (CRA) NOTES

- 1. THE CONTRACTOR SHALL COMPLETE RESTORATION ACTIVITIES CONSIDERING THE EPHEMERAL NATURE OF THE CHANNEL AND PROPENSITY FOR SIGNIFICANT STORMWATER FLOW INUNDATION RESULTING FROM SHORT, HIGH-INTENSITY RAINFALL EVENTS. THE CONTRACTOR SHALL WORK IN SUCH A MANNER AS TO MINIMIZE CHANNEL DISTURBANCE OUTSIDE AREAS WHERE MAJOR WORK AND GRADING IS OCCURRING. WHEN ANY CHANNEL DISTURBANCE OCCURS OUTSIDE OF THE IMMEDIATE WORK AREA (FOR EXAMPLE, AT ACCESS POINTS/HAUL ROADS AND/OR DURING TREE CLEARING) THE CONTRACTOR SHALL UTILIZE TEMPORARY EROSION CONTROL COIR MATTING (ROLANKA BIOD-MAT 70 OR APPROVED EQUAL), CLEAN RIPRAP, OR OTHER APPROPRIATE STABILIZATION MEASURES, IN ACCORDANCE WITH PLANS, PERMITS AND SPECIFICATIONS. THE CONTRACTOR SHALL ENSURE THE CHANNEL REMAINS UNIMPEDED BY CONSTRUCTION ACTIVITIES. ALL EQUIPMENT, CONSTRUCTION MATERIALS AND CONSTRUCTION RELATED ITEMS SHALL BE KEPT OUT OF THE CHANNEL, EXCEPT IN AREAS WHERE THE IMMEDIATE RESTORATION WORK IS OCCURRING OR WHERE CHANNEL CROSSINGS ARE PLANNED.
2. DURING RESTORATION AND CONSTRUCTION ACTIVITIES, THE CONTRACTOR SHALL ALWAYS MAINTAIN DRAINAGE PATTERNS AND STORM DRAIN CONNECTIVITY. NO WORK MAY OCCUR DURING AND/OR PRIOR TO IMMINENT RAIN EVENTS OR WHEN FLOWS ARE PRESENT IN THE STORM DRAINS/CHANNEL, UNLESS THE CONTRACTOR CHOOSES TO UTILIZE BYPASS PUMPING MEASURES AND/OR OTHER TEMPORARY RESTORATION MEASURES AS APPROVED BY THE CENTRE COUNTY CONSERVATION DISTRICT AND DEPARTMENT OF ENVIRONMENTAL PROTECTION (IN WRITING). THE CONTRACTOR SHALL INSTALL/IMPLEMENT NECESSARY E&S MEASURES IN AND AROUND THE DISTURBED WORK AREA PRIOR TO ANY RAIN EVENTS. THIS INCLUDES STABILIZING UNFINISHED CHANNEL SECTIONS WITH TEMPORARY EROSION CONTROL COIR MATTING (ROLANKA BIOD-MAT 70 OR APPROVED EQUAL) AT THE END OF EACH WORKDAY AND PRIOR TO RAIN EVENTS OR WHEN EPHEMERAL FLOWS ARE PRESENT IN THE CHANNEL. MAINTAIN ANY AND ALL E&S BMPs, INCLUDING PUMP AROUNDS (IF UTILIZED) WHEN FLOWS ARE PRESENT. THE CONTRACTOR SHALL UTILIZE TEMPORARY MEASURES, AS REQUIRED TO MAINTAIN FUNCTIONALITY OF STORM DRAIN SYSTEMS WHERE APPLICABLE. THE CONTRACTOR SHALL PRESERVE AND RECONNECT ALL EXISTING OUTFALLS AND STORM DRAINS AS NOTED AND/OR WHERE APPLICABLE. IF ANY PORTION OF ANY STORM DRAIN PIPES TO REMAIN ARE DAMAGED DURING DEMOLITION, THE CONTRACTOR WILL REMOVE/REPLACE ANY DAMAGED SECTIONS IN ACCORDANCE WITH PENNDOT SPECIFICATIONS. ALL SUCH DAMAGE AND REPAIR IS TO BE DOCUMENTED IN WRITING AND APPROVED BY THE TOWNSHIP ENGINEER PRIOR TO COVERING.
3. CHANNEL RESTORATION CONSTRUCTION ACTIVITIES SHALL BE COMPLETED ONE SECTION AT A TIME, COMMENCING UPSTREAM AND WORKING SEQUENTIALLY DOWNSTREAM. (EACH SECTION SHALL BE COMPLETED PRIOR TO BEGINNING RESTORATION ON THE NEXT DOWNSTREAM SECTION.) THE CONTRACTOR SHALL DISTURB ONLY AS MUCH AREA OF THE CHANNEL AS REQUIRED TO INSTALL ONE CASCADE AND POOL AT A TIME AND SHALL IMMEDIATELY, TEMPORARILY STABILIZE DISTURBED CHANNEL AREAS AT THE END OF EACH DAY AND/OR PRIOR TO ALL RAIN EVENTS. SEE NOTE 5 BELOW AND THE SEQUENCE OF CONSTRUCTION, FOR NUANCES TO THE RESTORATION SEQUENCING AND ALLOWANCES FOR MEANS AND METHODS.
4. THE CONTRACTOR SHALL FOLLOW ALL TREE PROTECTION AND REMOVAL REQUIREMENTS IN ACCORDANCE WITH THE TOWNSHIP TREE REMOVAL AND PROTECTION PLAN. TREE CLEARING AND WOODY DEBRIS CLEANUP MAY BE COMPLETED FOR THE ENTIRE PROJECT CORRIDOR AT ONE TIME AT THE BEGINNING OF THE PROJECT, PROVIDED THE FOLLOWING REQUIREMENTS ARE FOLLOWED:
- ALL ACCESS FOR TREE REMOVAL SHALL BE IN ACCORDANCE WITH THE TOWNSHIP TREE PROTECTION AND REMOVAL PLAN REQUIREMENTS AS WELL AS THE APPROVED E&S REQUIREMENTS.
- ALL TREE AND BRUSH CLEARING SHALL BE IN ACCORDANCE WITH THE APPROVED EROSION AND SEDIMENT CONTROL PLANS AND NOTES, INCLUDING ALL CRA NOTES.
- FOR THE PURPOSES OF CLEARING, TREES SHALL BE CUT FLUSH OR CUT SO THAT SUFFICIENT TRUNK REMAINS TO ALLOW RESTORATION EQUIPMENT TO REMOVE THE TREE AT A LATER TIME DURING SEQUENTIAL EXCAVATION AND INSTALLATION OF THE CASCADES. NO TREE STUMP REMOVAL OR STUMP GRINDING (DISTURBANCE) IN THE STREAM CHANNEL MAY OCCUR UNTIL BEGINNING STEP POOL CONVEYANCE INSTALLATION AND/OR CHANNEL GRADING IMPROVEMENTS REQUIRING TREE REMOVAL. (I.E. SOIL DISTURBANCES SHALL BE LIMITED TO THE SECTION OF CHANNEL WHERE GRADING RESTORATION IS OCCURRING). IF TREES ARE GROUND OUTSIDE OF THE STREAM CHANNEL, THE AREA SHALL BE IMMEDIATELY SEEDED AND STABILIZED WITH TEMPORARY MATTING.
- THE MULCH ACCESS/HAUL ROAD MUST BE INSTALLED SEQUENTIALLY AS TREES ARE REMOVED AND ADDITIONAL ACCESS IS AVAILABLE (GAINED). TEMPORARY ROCK STREAM CROSSINGS (AS SHOWN ON THE PLANS) SHALL BE INSTALLED AS THE MULCH ACCESS/HAUL ROAD REACHES THE ASSOCIATED CROSSING. ONCE INSTALLED, THE HAUL/ACCESS ROAD AND STREAM CROSSINGS SHALL BE MAINTAINED THROUGH THE DURATION OF THE PROJECT, UNTIL SUCH TIME AS THEY ARE REMOVED.
- ALL EQUIPMENT SHALL REMAIN OUT OF THE CHANNEL DURING TREE CLEARING UNLESS ADDITIONAL MEASURES SUCH AS WETLAND MATS, CRIBBING OR OTHER MEASURES CLEAN STONE ARE UTILIZED TO EXPAND ACCESS AND WRITTEN APPROVAL IS OBTAINED FROM THE CENTRE COUNTY CONSERVATION DISTRICT AND DEP.
- ANY UNINTENDED DISTURBANCES SHALL BE IMMEDIATELY STABILIZED IN ACCORDANCE WITH THE E&S PLANS AS SHOWN. TEMPORARILY STABILIZE ANY UNINTENDED DISTURBANCES IN THE EXISTING CHANNEL WITH CLEAN R-3 RIPRAP OR DOUBLE LAYERS OF COIR MATTING (ROLANKA BIOD-MAT 70 OR APPROVED EQUAL).

5. THE FOLLOWING ACTIVITIES SHALL BE COMPLETED AS NOTED. SEQUENCING FOR THESE CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO BE VARIABLE BASED ON THE MEANS AND METHODS OF THE CONTRACTOR:

- PRIOR TO FIRST USE OF A STAGING AREA, THE CONTRACTOR SHALL INSTALL ALL PROJECT STABILIZED ROCK CONSTRUCTION ENTRANCES, PERIMETER SEDIMENT CONTROLS, AND TREE PROTECTION REQUIRED FOR THAT STAGING AREA (AS SHOWN ON THE PLANS). AFTER FIRST USE OF THE STAGING AREA, THE ROCK CONSTRUCTION ENTRANCES, PERIMETER SEDIMENT CONTROLS, AND TREE PROTECTION MEASURES MUST BE MAINTAINED THROUGH PROJECT COMPLETION. THE CONTRACTOR MAY UTILIZE ALL STAGING AREAS FOR THE DURATION OF THE PROJECT AS LONG AS THE AREAS ARE KEPT STABLE AND E&S CONTROL MEASURES ARE IN PLACE AND FUNCTIONAL. ONCE THE CONTRACTOR IS FINISHED USING A STAGING AREA, THE AREA MUST BE SEDED/STABILIZED IN ACCORDANCE WITH TEMPORARY E&S VEGETATION OR THE FINAL LANDSCAPING PLAN REQUIREMENTS. ALL DISTURBED AREAS, LOCATED OUTSIDE THE FINAL MAINTENANCE ACCESS ROUTE AND STREAM CHANNEL, INCLUDING THE STAGING AND ACCESS AREAS SHALL UTILIZE COIR MATTING (ROLANKA BIOD70 OR APPROVED EQUAL) FOR TEMPORARY STABILIZATION WHILE VEGETATION DEVELOPS.
- AS NOTED IN THE SEQUENCE OF CONSTRUCTION, THE CONTRACTOR HAS SOME FLEXIBILITY FOR HOW FINAL STABILIZATION IS ACHIEVED IN ACCORDANCE WITH THE LANDSCAPE PLAN. TREES, SHRUBS, POTTED PLANTS, AND PLUGS MAY BE PLANTED AS A FINAL STAGE OF CONSTRUCTION, PROVIDED THAT APPROPRIATE E&S MEASURES (PERIMETER CONTROLS, ROCK CONSTRUCTION ENTRANCES AND STABILIZED CONSTRUCTION ACCESS ROAD) ARE MAINTAINED OR ADDITIONAL EROSION CONTROL MEASURES (E.G., EROSION CONTROL COIR MATTING), IS INSTALLED AS NECESSARY. THE CONTRACTOR SHALL PROVIDE A WORK PLAN EXPLAINING THE MEANS AND METHODS TO BE UTILIZED FOR FINAL STABILIZATION AND INSTALLATION OF LANDSCAPING WITH THE BID PACKAGE. ANY MODIFICATIONS OR IMPLEMENTATION OF ADDITIONAL E&S MEASURES, RESULTING FROM INADEQUATE PLANNING BY THE CONTRACTOR, SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE TOWNSHIP.
- FILL PLACEMENT, TO OBTAIN FINAL GRADES OVER THE NEW STORM DRAIN OUTFALL FROM OUT-1 TO MH-1, MAY CONTINUE DURING RESTORATION ACTIVITIES IN AND ALONG THE WATERWAY FROM PRINCETON DRIVE TO WEST PARK HILLS AVE. ACCESS FOR PLACEMENT OF MATERIALS SHALL BE FROM DEVONSHIRE DRIVE AND RCE 1 ONLY. MAINTAIN CFS #11 AND #12 UNTIL FINAL GRADES AND 70% UNIFORM PERMANENT STABILIZATION, IN ACCORDANCE WITH THE LANDSCAPE PLAN, IS ESTABLISHED.

6. COORDINATE WITH THE UAJA SEWER RELOCATION CONTRACTOR (UAJA CONTRACTOR) FOR WORK FROM DEVONSHIRE DRIVE TO PRINCETON DRIVE. THE UAJA CONTRACTOR WILL BE RELOCATING THE EXISTING SEWER IN THIS AREA FROM THE STREAM CHANNEL TO THE LEFT BANK (PACING DOWNSTREAM). THE CHANNEL RESTORATION CONTRACTOR (CONTRACTOR) IS REQUIRED TO COORDINATE WITH UAJA AND UAJA'S CONTRACTOR AS FOLLOWS:

- THE UAJA CONTRACTOR SHALL FOLLOW ALL (SEPARATE) PERMIT APPROVALS OBTAINED BY UAJA.
- THE CONTRACTOR SHALL INSTALL ALL SEDIMENT CONTROL AND TREE PROTECTION MEASURES (INCLUDING STABILIZED CONSTRUCTION ENTRANCES, COMPOST FILTER SOCKS, TEMPORARY PIPE 1 AND 2, STREAM DIVERSION, TREE PROTECTION MEASURES AND MULCH ACCESS/HAUL ROAD) FROM DEVONSHIRE TO PRINCETON, IN ACCORDANCE WITH THE APPROVED E&S PLANS, SEQUENCE OF CONSTRUCTION, AND TOWNSHIP TREE SAVE AND DEMO PLANS.
- THE CONTRACTOR SHALL COMPLETE ALL REQUIRED TREE CLEARING FOR THE ENTIRE STREAM SEGMENT IN ACCORDANCE WITH THE TREE REMOVAL AND SAVE PLAN PRIOR TO THE UAJA CONTRACTOR BEGINNING RELOCATION ACTIVITIES.
- PRIOR TO THE UAJA CONTRACTOR BEGINNING WORK, THE CONTRACTOR SHALL INSTALL THE STORM CONVEYANCE SYSTEM FROM OUT-1 TO MH-1 INCLUDING ASSOCIATED STORM DRAIN PIPES, STRUCTURES, AND INLET PROTECTION IN MH-1. UPON COMPLETING INSTALLATION OF THE STORM DRAIN FROM MH-1 TO INLET I-1 SUCH THAT STORMWATER FLOWS FROM THE EXISTING 42-INCH STORM DRAIN SYSTEM ARE DIRECTED THROUGH THE NEW 48-INCH SYSTEM, THE UAJA CONTRACTOR MAY BEGIN INSTALLATION OF THE RELOCATED SEWER SYSTEM AND LATERAL RECONNECTIONS.
- COORDINATE WITH THE UAJA CONTRACTOR FOR ACCESS, STAGING, SOIL STOCKPILING AND FILL PLACEMENT (AS NOTED IN THE SEQUENCE OF CONSTRUCTION). THE CONTRACTOR SHALL CONTINUE WORK ON THE REMAINDER OF THE STORM DRAIN SYSTEM (FROM DEVONSHIRE TO MH-1) WHILE THE SANITARY LINE IS RELOCATED AND LATERALS ARE RECONNECTED, OR PROVIDE TEMPORARY MEASURES TO ENSURE THAT THE STORM DRAIN SYSTEM REMAINS FUNCTIONAL WHILE THE UAJA CONTRACTOR IS COMPLETING WORK ON THE SEWER RELOCATION.
- ONCE THE UAJA CONTRACTOR FINISHES RELOCATING THE SANITARY SEWER, THE CONTRACTOR MAY PROCEED WITH RESTORATION ACTIVITIES BELOW OUTFALL OUT-1 IN ACCORDANCE WITH THE SEQUENCE OF CONSTRUCTION. THE CONTRACTOR SHALL PLAN TO REINSTALL THE STABILIZED CONSTRUCTION ACCESS ROUTE FOR WORK ALONG THE CORRIDOR.
- FOLLOWING CONSTRUCTION OF THE RELOCATED SEWER LINE, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF PORTIONS OF THE ABANDONED SEWER LINE ENCOUNTERED DURING EXCAVATION AND CHANNEL EXCAVATION ACTIVITIES.

7. PRIOR TO RESTORATION ACTIVITIES COMMENCING, THE CONTRACTOR SHALL PROVIDE VIDEO DOCUMENTATION AND A CONDITION ASSESSMENT OF THE EXISTING SEWER MAIN, BETWEEN PRINCETON DRIVE AND PARK HILLS AVE AND WEST PARK HILLS AVE AND PARK HILLS PARK. THE CONTRACTOR SHALL PROVIDE WRITTEN DOCUMENTATION OF ANY CONCERNS BASED ON THE ASSESSMENT. VIDEO FOOTAGE SHALL INCLUDE LATERAL LAUNCH VIDEO OF INDIVIDUAL SEWER LATERALS, A MINIMUM OF TWENTY-FIVE FEET UP EACH LATERAL LINE. THE VIDEO WILL SERVE TO ESTABLISH THE EXISTING CONDITION OF THE SEWER MAIN AND LATERALS, OVER WHICH WORK WILL COMMENCE. AFTER RESTORATION ACTIVITIES ARE COMPLETE, THE CONTRACTOR SHALL VIDEO DOCUMENT SEWER LINES FROM UPSTREAM MOST NEAR MANHOLE INSTALLED BY UAJA TO PARK HILLS PARK TO SHOW THAT NO DAMAGE FROM CONSTRUCTION HAS OCCURRED. VIDEO FOOTAGE SHALL INCLUDE LATERAL LAUNCH OF INDIVIDUAL SEWER LATERALS A MINIMUM OF TWENTY-FIVE FEET UP THE LATERAL LINE. COORDINATE WITH UAJA FOR ANY REQUIREMENTS IN ACCESSING THE SEWER MAINS. ALL VIDEO DOCUMENTATION TO BE PROVIDED ON A CD OR USB IN .MPG FILE FORMAT.

8. SANITARY SEWER LATERALS: SANITARY LATERAL LOCATIONS ARE SHOWN ON THE PLANS BASED ON FIELD LOCATED CLEANOUTS, WITH CONNECTION LOCATIONS TO THE SEWER MAIN BASED ON SEWER LATERAL STATIONING FROM LINE VIDEO, PROVIDED BY UAJA. A RANGE OF POSSIBLE CONNECTION LOCATIONS IS INDICATED ON THE PLANS. INVERT DATA HAS BEEN INTERPOLATED BASED ON FIELD SURVEYED SEWER MANHOLE INVERTS. LATERALS ARE SHOWN ON THE CHANNEL PROFILE SHEETS AS WELL AS THE EXISTING CONDITIONS/DEMO PLANS. ALL SANITARY LATERAL CROSSINGS NOTED ON THE CHANNEL PROFILES (SHEETS C601-605) SHALL BE TEST PITTED AT THE PROPOSED THALWEG (LOW POINT) OF THE CHANNEL. IT IS RECOMMENDED THAT A SONDE OR OTHER TECHNOLOGY BE USED DURING THE VIDEO ASSESSMENT TO LOCATE THE LATERALS HORIZONTALLY TO MINIMIZE DISTURBANCE TO THE CHANNEL. IT IS RECOMMENDED THAT SEWER LATERALS BE HORIZONTALLY LOCATED IN THE FIELD DURING THE PRE-CONSTRUCTION CONDITION ASSESSMENT PER PLAN NOTE 7. TEST PITS SHALL BE CONDUCTED IN A MANNER TO DISTURB AS LITTLE AREA AS NECESSARY AND USING MEANS AND METHODS THAT WILL NOT RESULT IN COMPROMISING THE UTILITY. MEANS AND METHODS FOR TEST PITTING SHALL BE SUBMITTED BY THE CONTRACT WITH THE BID PACKAGE. TEST PIT DETERMINED SEWER LATERAL ELEVATIONS SHALL BE PROVIDED TO THE TOWNSHIP FOR REVIEW AS MARK-UPS ON THE CHANNEL PROFILE SHEETS (IN PDF OR HARD COPY FORMAT) A MINIMUM OF FOUR WEEKS PRIOR TO BEGINNING EXCAVATION/GRADING FOR RESTORATION ACTIVITIES IN THE ASSOCIATED STREAM SECTION (DEVONSHIRE DRIVE TO PRINCETON DRIVE; PRINCETON DRIVE TO PARK HILLS AVENUE; PARK HILLS AVENUE TO PARK HILLS PARK). MATERIAL REMOVED FROM TEST PITTING SHALL BE STOCKPILED IN A PLAN APPROVED AREA OR HAULED TO AN APPROVED E&S STOCKPILE LOCATION. ANY DISTURBANCE TO THE CHANNEL BANK SHALL BE IMMEDIATELY STABILIZED WITH CLEAN R3 RIPRAP AND/OR CHOIR MATTING. ALL TEST PITTING SHALL BE COORDINATED WITH UAJA AND BE COMPLETED IN ACCORDANCE WITH ANY UAJA REQUIREMENTS.

9. WITHIN THE MIDDLE SECTION OF CHANNEL (BETWEEN PRINCETON DRIVE AND PARK HILLS AVE), THERE ARE NUMEROUS EXPOSED UNDERGROUND UTILITIES INCLUDING: ELECTRIC (MAIN LINE AND FEEDS), PHONE (MULTIPLE), AND CABLE (MULTIPLE). THESE UTILITY LINES ARE IN VARIOUS STATES OF EXPOSURE AND NOT ALL LINES ARE SHOWN ON THE PLANS. PRIOR TO THE START OF THIS CONTRACT, THE ELECTRIC, PHONE AND CABLE SERVICES ARE BEING RELOCATED TO REAR LOT LINES OR TOWNSHIP ROAD RIGHT-OF-WAYS. THE CONTRACTOR SHALL COORDINATE WITH THE TOWNSHIP ENGINEER AND LOCAL SERVICE PROVIDERS TO CONFIRM THE LOCATION OF ABANDONED AND ACTIVE UNDERGROUND UTILITY LINES. INACTIVE UTILITIES (ALL ABANDONED UNDERGROUND CABLE, PHONE, AND ELECTRIC UTILITIES WITHIN THE CHANNEL WORK AREA) ENCOUNTERED DURING CHANNEL RESTORATION, SHALL BE REMOVED AND PROPERLY DISPOSED OF. IN THE LOWER SECTION OF CHANNEL (BETWEEN WEST PARK HILLS AVE AND PARK HILLS PARK) THERE ARE UNDERGROUND UTILITIES INCLUDING ELECTRIC, MULTIPLE PHONE LINES, AND MULTIPLE CABLE LINES. EXCEPT FOR A PORTION OF A VERIZON PHONE LINE, WHICH IS TO REMAIN AND BE PARTIALLY RELOCATED (BY VERIZON) DURING CONSTRUCTION, THESE UTILITIES ARE BEING RELOCATED TO TOWNSHIP ROAD RIGHT-OF-WAYS, PRIOR TO CHANNEL RESTORATION COMMENCING. ABANDONED UTILITIES SHALL BE REMOVED AS ENCOUNTERED. CONTRACTOR SHALL COORDINATE WITH VERIZON REGARDING RELOCATION OF THE SMALL PORTION OF THE VERIZON PHONE LINE. REMOVAL OF ALL ABANDONED UTILITY LINES IN BOTH SECTIONS SHALL BE CONFIRMED WITH THE UTILITY PROVIDER BY THE CONTRACTOR.

10. THE ACCESS PATH IS SHOWN TO PROVIDE GENERAL GUIDANCE ON THE ALLOWABLE LIMITS OF ACCESS FOR THE RESTORATION ACTIVITY. THE CONTRACTOR MAY NOT GRADE WITHIN OR DISTURB THE ACCESS PATH EXCEPT AS SHOWN ON THE GRADING PLAN AND/OR FOLLOWING RECEIPT OF PRIOR APPROVAL BY THE TOWNSHIP ARBORIST. THE CONTRACTOR SHALL MAINTAIN THE ACCESS PATH FASTIDIOUSLY SUCH THAT THERE IS ALWAYS THE MINIMUM DEPTH OF MULCH REQUIRED PER THE TOWNSHIP TREE SAVE PLAN AND/OR AS DIRECTED BY THE TOWNSHIP ARBORIST, DEPENDING ON SITE CONDITIONS. MODIFICATIONS TO THE ACCESS PATH LOCATION SHOWN ON THE PLANS (WITHIN THE LIMIT OF DISTURBANCE) MAY BE MADE AS CONDITIONS NECESSITATE. HOWEVER, THE CONTRACTOR MUST UTILIZE APPROPRIATE TEMPORARY EROSION CONTROL MEASURES TO COVER ALL DISTURBED AREAS. PRIOR TO IMPLEMENTING ANY CHANGES, THE CONTRACTOR MUST OBTAIN PRIOR WRITTEN APPROVAL AND MAINTAIN ANY/ALL APPROPRIATE EROSION AND SEDIMENT CONTROL IN ACCORDANCE WITH THE STATE E&S MANUAL, AND AS DIRECTED BY THE CENTRE COUNTY CONSERVATION DISTRICT (CCCD) AND THE DEPARTMENT OF ENVIRONMENTAL PROTECTION (DEP) AT NO ADDITIONAL COST TO THE TOWNSHIP.

11. THE CONTRACTOR SHALL REMOVE AND PROPERLY DISPOSE OF ANY PREVIOUS SYNTHETIC CHANNEL STABILIZATION MEASURES OR INACTIVE UTILITIES ENCOUNTERED DURING CONSTRUCTION INCIDENTAL TO CONSTRUCTION. PREVIOUSLY INSTALLED STABILIZATION MEASURES ARE NOTED TO EXIST IN THE CHANNEL SEGMENTS BETWEEN PRINCETON DRIVE AND PARK HILLS AVENUE AND PARK HILLS AVENUE AND PARK HILLS PARK.

12. THE CONTRACTOR SHALL OBTAIN ALL APPROPRIATE TOWNSHIP ACCESS PERMITS AND APPROVALS FOR ACCESS TO AND/OR WORK IN THE TOWNSHIP RIGHT-OF-WAY. THE CONTRACTOR SHALL PROVIDE A PLAN WITH THE INTENDED TRAFFIC/PEDESTRIAN CONTROL MEASURES, IN ACCORDANCE WITH PENNDOT PUBLICATION 213, AS WELL AS ANY ADDITIONAL TOWNSHIP REQUIREMENTS. ON-STREET PARKING OF CONSTRUCTION VEHICLES MAY BE PERMITTED WITH TOWNSHIP APPROVAL. IF/WHEN STAGING AREAS ARE UTILIZED FOR CONTRACTOR VEHICLE PARKING, THE PARKING SURFACES AND ACCESS TO THE PARKING AREA MUST BE STABILIZED SUCH THAT MUD/SOIL/DEBRIS ARE NOT TRACKED INTO THE ROADWAY.

13. FOLLOWING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE THE TOWNSHIP WITH AN AS-BUILT SURVEY OF THE FINAL CONSTRUCTED CONDITIONS WITHIN THE LIMIT OF DISTURBANCE AND MEETING FEMA REQUIREMENTS. THIS SURVEY WILL BE USED IN SUPPORT OF THE TOWNSHIPS APPLICATION FOR A FEMA LETTER OF MAP REVISION (LOMR). THE AS-BUILT SURVEY OF THE FINAL CONSTRUCTED CONDITIONS SHALL BE PROVIDED IN BOTH PDF AND AUTOCAD FORMAT USING THE CONSTRUCTION PLAN DATUM. AN AS-BUILT SURFACE IS TO BE PROVIDED WITH THE AUTOCAD FILES. PDFS SHALL SHOW REDLINED DIFFERENCES BETWEEN THE APPROVED AND AS-BUILT CONDITIONS AND MUST BE SEALED AND CERTIFIED BY A LICENSED ENGINEER OR SURVEYOR. THE SURVEY SHALL INCLUDE CONTOURS AT A 1' INTERVAL.

IN ADDITION, FOR EACH CASCADE/POOL, THE CONTRACTOR SHALL PROVIDE AS-BUILT ELEVATIONS FOR US-L, US-T, US-R, DS-L, DS-T, DS-R AND DS-P AS IDENTIFIED IN THE PLAN DETAILS. AS-BUILT ELEVATIONS FOR THESE POINTS SHALL BE ACCURATE TO WITHIN +/-0.2' VERTICALLY AND +/- 1 FEET HORIZONTALLY IN COMPARISON TO DESIGN ELEVATIONS AS LONG AS THE TOLERANCE SHIFT IS IN THE SAME DIRECTION AT EACH POINT FOR A PARTICULAR CASCADE/POOL. FOR EXAMPLE, IF A CASCADE IS SHOWN TO HAVE A US-L 0.2' BELOW DESIGN AND A US-T 0.2' ABOVE DESIGN, THE CASCADE/POOL FLOW DEPTH AND CAPACITY WOULD BE SIGNIFICANTLY REDUCED AND WOULD NEED TO BE RECONSTRUCTED.

FOR BOULDER TOES AND BOULDER WALLS, THE CONTRACTOR SHALL PROVIDE AS-BUILT SURVEY OF THE FEATURE EXTENT AND INCLUDE EXPOSED TOP AND BOTTOM ELEVATIONS. IN ADDITION, CERTIFIED DOCUMENTATION OF THE BOTTOM OF FOOTER BOULDER ELEVATIONS SHALL BE PROVIDED AS PART OF THE AS-BUILT SURVEY PACKAGE.

14. QUANTITIES/DENSITIES FOR PLUGS, PLANTS, SHRUBS, AND TREES SHALL BE IN ACCORDANCE WITH THE LANDSCAPE PLANS. FINAL PLACEMENT OF SHRUBS AND TREES SHALL BE AS DIRECTED BY THE FERGUSON TOWNSHIP ARBORISTS. THE TOWNSHIP RESERVES THE RIGHT TO REVIEW AND ULTIMATELY APPROVE OR REJECT PLANT MATERIALS, PRIOR TO PLANTING.

LIST OF ABBREVIATIONS

Table with 2 columns: Abbreviation and Full Name. Includes entries like CFS (COMPOST FILTER SOCK), CRA (CHANNEL RESTORATION ACTIVITIES), DS (DIVERSION SOCK), E&S (EROSION AND SEDIMENT CONTROL), I (INLET), IP (INLET PROTECTION), LOD (LIMIT OF DISTURBANCE), ME (MATCH EXISTING), MH (MANHOLE), NPDES (NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM), PADEP (PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION), ROW (RIGHT OF WAY), SCBWA (STATE COLLEGE BOROUGH WATER AUTHORITY), SD (STORM DRAIN), TBR (TO BE REMOVED), TRUSS (THERMOPLASTIC COMPOSITE SANITARY SEWER PIPE), UAJA (UNIVERSITY AREA JOINT AUTHORITY), UGC (UNDER GROUND CABLE), UGE (UNDER GROUND ELECTRIC), UGT (UNDER GROUND TELEPHONE), XC (CHANNEL CROSSING).

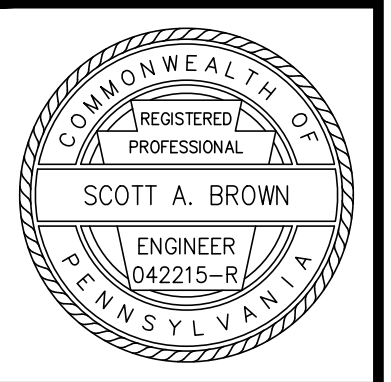
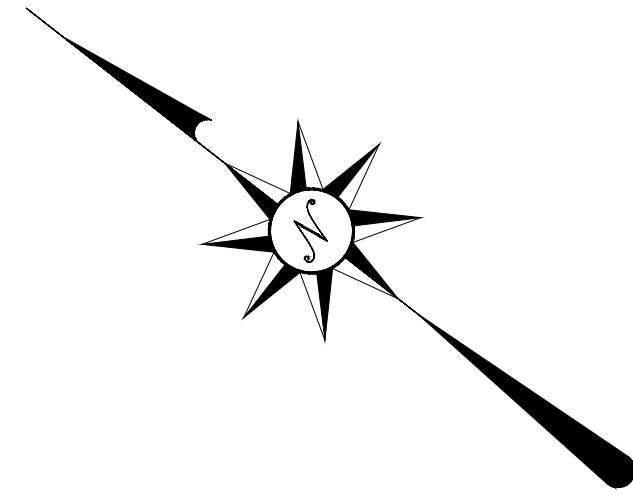


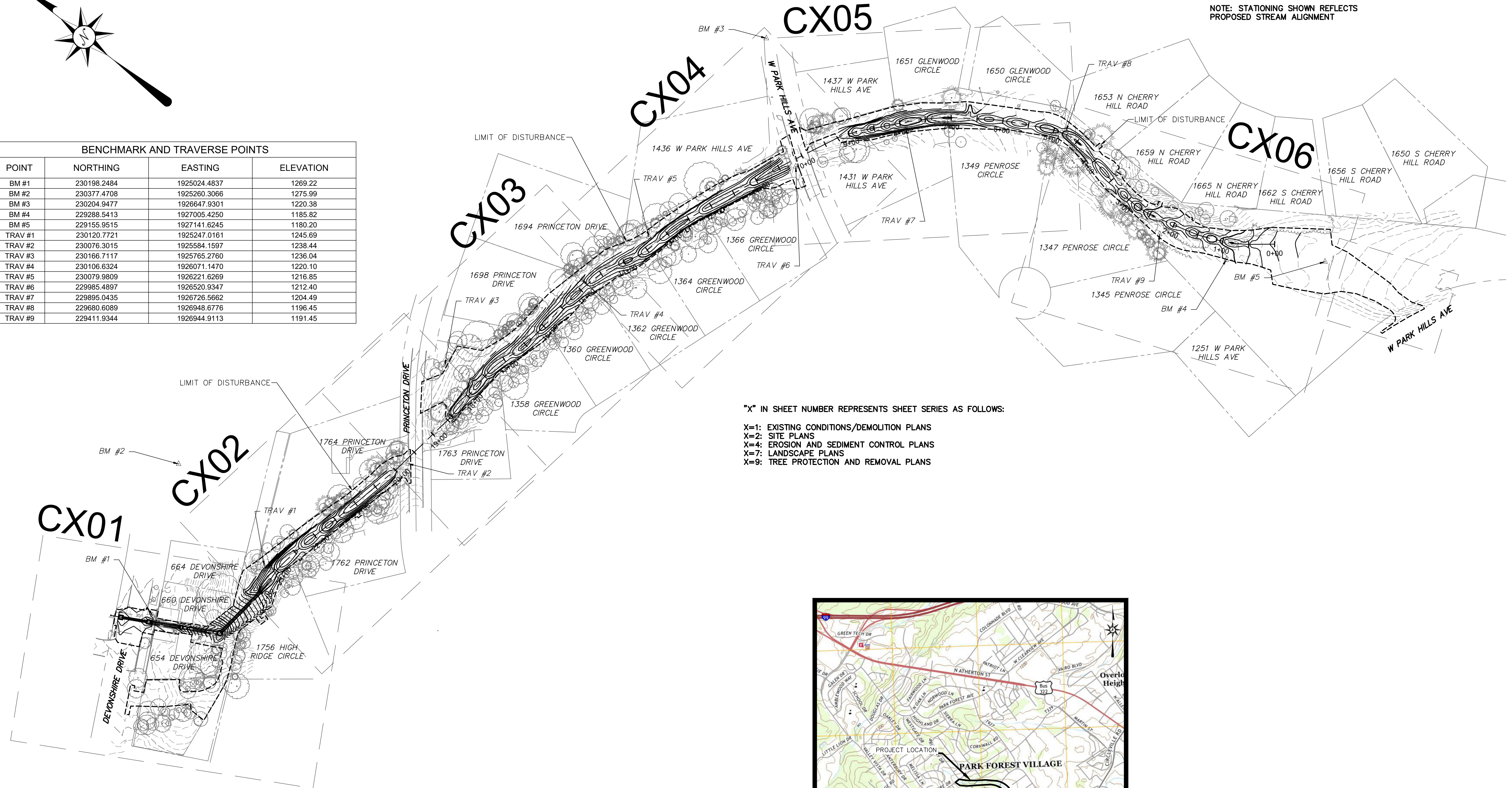
Table for REVISIONS with columns: NO., DESCRIPTION, BY, DATE. Includes entries for revision 1: REVISION FOR ADDENDUM 1, and revision 2: ISSUED FOR CONSTRUCTION.

GENERAL NOTES section containing project location: FERGUSON TOWNSHIP, 3147 RESEARCH DRIVE, STATE COLLEGE, PA 16801. Includes logos for CENTRE COUNTY and PENNSYLVANIA.

Table with project information: ENGINEER (SAB), DESIGNED BY (AJJ), DRAWN BY (JSN), DATE (7/6/22), PROJECT NUMBER (14003.04), DRAWING NUMBER (C002), SHEET NO. (2 of 55).

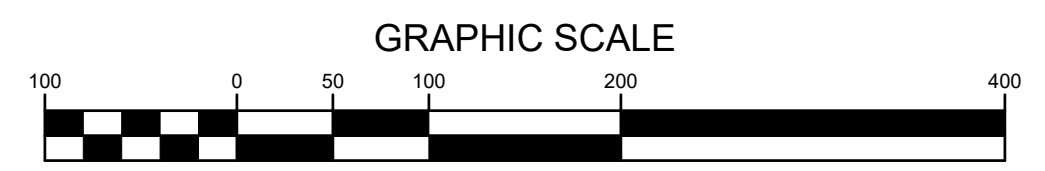
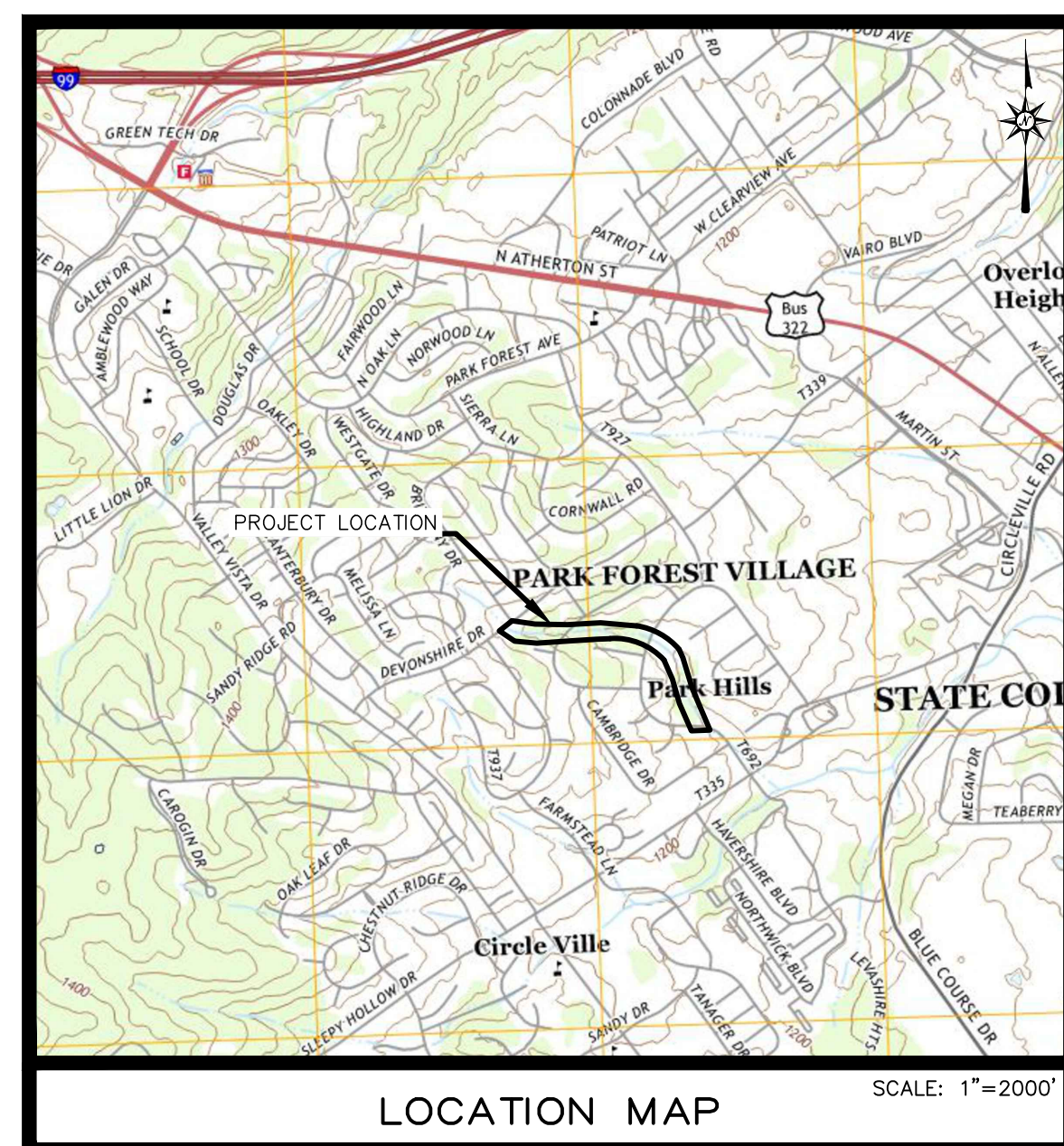


BENCHMARK AND TRAVERSE POINTS			
POINT	NORTHING	EASTING	ELEVATION
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BM #2	230377.4708	1925260.3066	1275.99
BM #3	230204.9477	1926647.9301	1220.38
BM #4	229288.5413	1927005.4250	1185.82
BM #5	229155.9515	1927141.6245	1180.20
TRAV #1	230120.7721	1925247.0161	1245.69
TRAV #2	230076.3015	1925584.1597	1238.44
TRAV #3	230166.7117	1925765.2760	1236.04
TRAV #4	230106.6324	1926071.1470	1220.10
TRAV #5	230079.9809	1926221.6269	1216.85
TRAV #6	229985.4897	1926520.9347	1212.40
TRAV #7	229895.0435	1926726.5662	1204.49
TRAV #8	229680.6089	1926948.6776	1196.45
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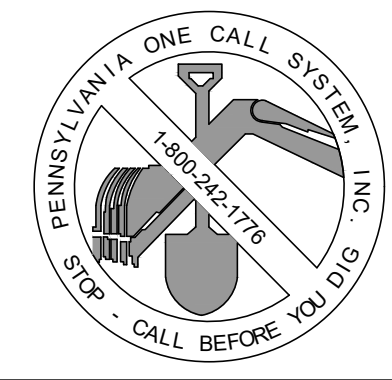


NOTE: STATIONING SHOWN REFLECTS PROPOSED STREAM ALIGNMENT

"X" IN SHEET NUMBER REPRESENTS SHEET SERIES AS FOLLOWS:
 X=1: EXISTING CONDITIONS/DEMOLITION PLANS
 X=2: SITE PLANS
 X=4: EROSION AND SEDIMENT CONTROL PLANS
 X=7: LANDSCAPE PLANS
 X=9: TREE PROTECTION AND REMOVAL PLANS

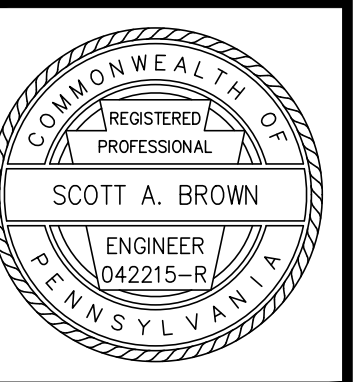
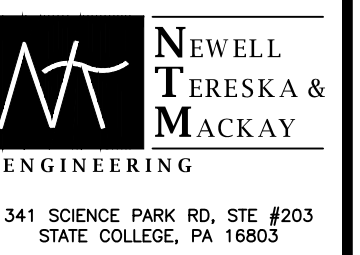


MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 200 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 2018332030, 2018332031, 2018332047, 2018332089, 20190362279, 20190362288, 20211094383

P:\14003\14003.04 Park Hills Drainageway\CAD\keymap.dwg Sep. 06, 2023 - 9:43am ENV:CTB Plot Scale 1=1 Plot By: Jnewman Tab: C003



NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISION FOR ADDENDUM 1	JSN	8/21/23

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801
 CENTRE COUNTY, PENNSYLVANIA
 PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
 KEY MAP
 1" = 100'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER	
C003	
SHEET NO. 3 OF 55	

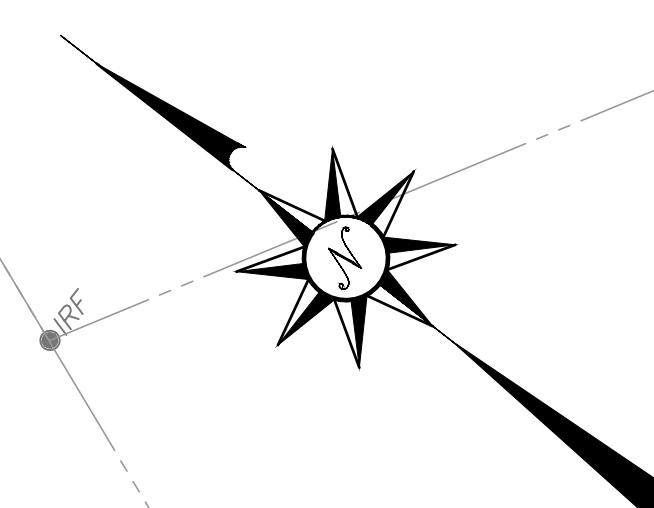
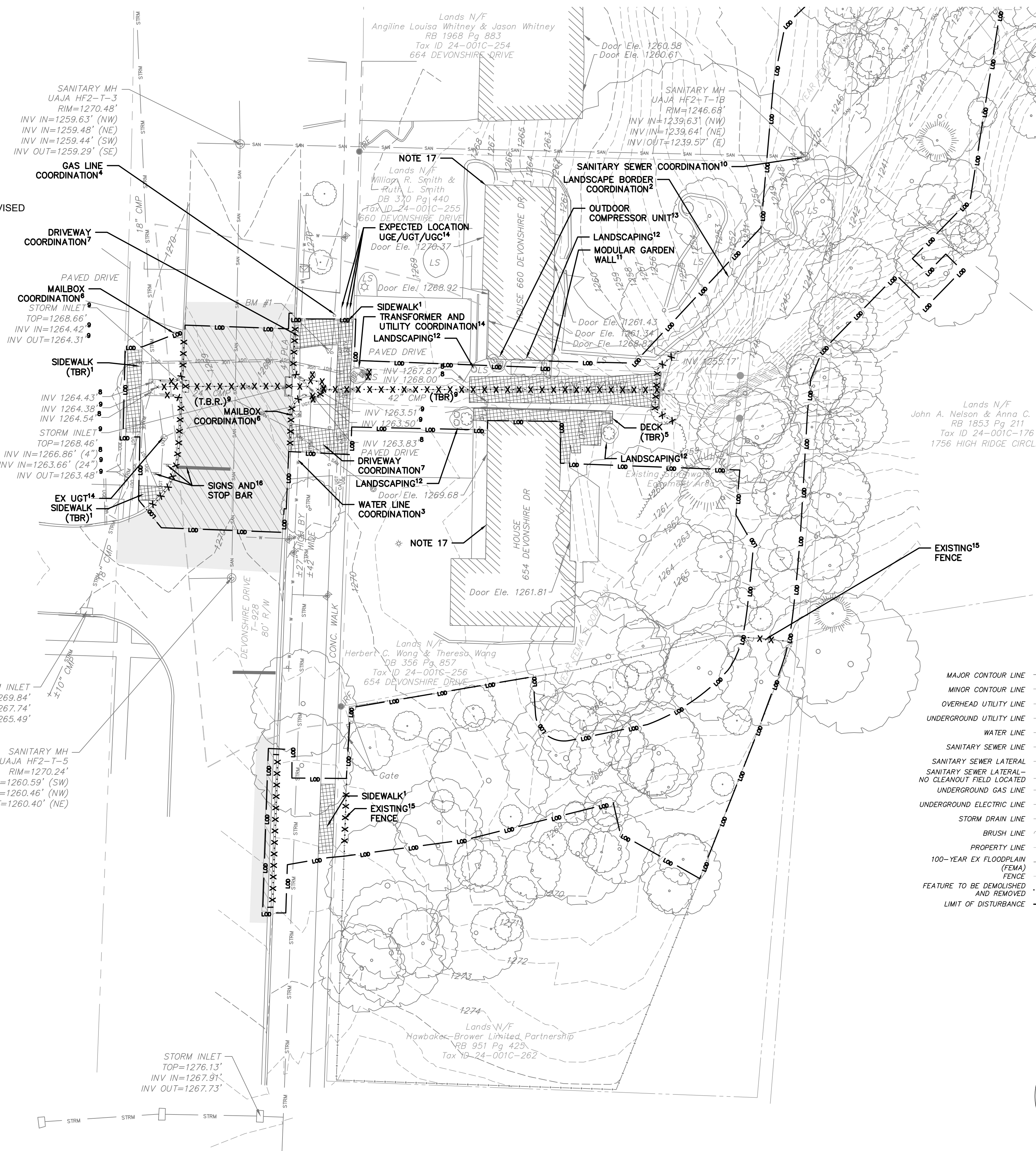
DEMOLITION NOTES:

- SIDEWALK DEMOLITION AND REMOVAL: DURING SIDEWALK CLOSURES THE CONTRACTOR SHALL PROVIDE PEDESTRIAN ACCESS/CONTROL IN ACCORDANCE WITH PENNDOT PUB 213, AS WELL AS ANY TOWNSHIP REQUIREMENTS. WHERE SIDEWALK REPLACEMENTS ABOUT DRIVEWAYS THE CONTRACTOR SHALL MINIMIZE REDUCED HOMEOWNER ACCESS TO THE EXTENT POSSIBLE. THE CONTRACTOR SHALL OBTAIN ROW ACCESS PERMITS FROM THE TOWNSHIP. COORDINATE REMOVAL AND RECONSTRUCTION OF THE SIDEWALKS WITH PROPERTY OWNERS IN WRITING A MINIMUM OF THREE DAYS PRIOR TO BEGINNING THE WORK. COORDINATE WITH THE TOWNSHIP AND PROPERTY OWNER FOR TEMPORARY OFFSITE PARKING FOR PROPERTY OWNER AS NECESSARY.
- LANDSCAPE BORDER COORDINATION: REMOVAL OF THE LANDSCAPE BORDER TO BE COORDINATED WITH THE OWNER IN WRITING. BORDER STONES MAY BE STOCKPILED ON THE OWNER'S PROPERTY (OUTSIDE OF THE WORK ZONE) AT THE OWNER'S WISH, OR REMOVED FROM THE SITE AT THE OWNER'S REQUEST.
- WATER MAIN COORDINATION: WATER LINE TO BE RELOCATED AS INCORPORATED WORK. COORDINATE WITH THE TOWNSHIP AND SCBWA FOR FINAL LOCATION AND ANY CONSTRUCTION CONSTRAINTS.
- GAS LINE COORDINATION: THE GAS LINES TO BE RELOCATED BY COLUMBIA GAS DURING CONSTRUCTION AS COORDINATED WORK. COORDINATE WITH THE TOWNSHIP AND COLUMBIA GAS FOR FINAL LOCATION AND ANY CONSTRUCTION CONSTRAINTS.
- DECK TO BE REMOVED BY CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH PROPERTY OWNER IN WRITING A MINIMUM OF TWO WEEKS PRIOR TO BEGINNING WORK. CONTRACTOR SHALL OBTAIN ALL LOCAL DEMO PERMITS AND CONSTRUCT ANY TEMPORARY SAFETY MEASURES REQUIRED. THE CONTRACTOR IS NOT RESPONSIBLE FOR DECK REPLACEMENT.
- MAILBOXES: MAILBOXES TO REMAIN IN SERVICE DURING CONSTRUCTION. COORDINATE WITH THE TOWNSHIP, USPS AND THE PROPERTY OWNER, AND TEMPORARILY RELOCATE IN ACCORDANCE WITH TOWNSHIP/USPS REQUIREMENTS, PRIOR TO THE BEGINNING CONSTRUCTION.
- DRIVEWAY/DEPRESSED CURB REPLACEMENT: INSTALL NEW DRIVEWAYS IN ACCORDANCE WITH TOWNSHIP SPECS AND TOWNSHIP PERMITS AND PLAN DETAILS. THE CONTRACTOR SHALL MINIMIZE THE TEMPORARY LOSS OF HOMEOWNER ACCESS TO THE EXTENT POSSIBLE. COORDINATE REMOVAL AND RECONSTRUCTION OF THE DRIVEWAYS WITH PROPERTY OWNERS IN WRITING A MINIMUM OF THREE DAYS PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ROW ACCESS PERMITS FROM THE TOWNSHIP. COORDINATE WITH THE TOWNSHIP AND PROPERTY OWNER FOR TEMPORARY OFFSITE PARKING AS NECESSARY.
- PRESERVATION OF EXISTING DRAINAGE CONNECTIONS: THE CONTRACTOR SHALL PRESERVE AND RECONNECT EXISTING OUTFALLS/DRAINS AS NOTED AND/OR WHERE APPLICABLE. IF ANY PORTION OF AN INCOMING PIPE (TO REMAIN) IS DAMAGED, THE CONTRACTOR WILL REMOVE/REPLACE ANY DAMAGED SECTIONS AT NO ADDITIONAL COST TO THE OWNER. A WORK TO BE IN ACCORDANCE WITH PENNDOT SPECIFICATIONS AS COORDINATED AND DOCUMENTED VIA WRITTEN TOWNSHIP APPROVAL PRIOR TO COVERING.
- INLETS/INVERT TBR: DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE PATTERNS AND CONNECTIVITY OF THE STORM DRAIN SYSTEM DURING ALL STORM EVENTS. THE CONTRACTOR SHALL UTILIZE TEMPORARY MEASURES AS REQUIRED TO MAINTAIN FUNCTIONALITY OF THE STORM DRAIN SYSTEM. REFER TO THE APPROVED EROSION AND SEDIMENTATION CONTROL AUTHORIZATION FOR SEQUENCING. THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING OUTSIDE APPROVALS FOR ANY MODIFICATIONS TO THE APPROVED PERMIT DOCUMENTS. IN ADDITION TO PROVIDING SHOP DRAWINGS, THE CONTRACTOR SHALL SUBMIT A WORK PLAN TO THE TOWNSHIP A MINIMUM OF FOUR WEEKS PRIOR TO CONSTRUCTION. THE WORK PLAN SHALL SPECIFY THE MEANS/METHODS TO BE USED TO ENSURE DRAINAGE WILL BE MAINTAINED.
- SANITARY SEWER COORDINATION: REFER TO THE APPROVED SPECIFICATIONS OF CONSTRUCTION FOR U/LA COORDINATION ON SEWER RELOCATION WORK. SEWER RELOCATION PLANS ARE PROVIDED AS PART OF THE BID PACKAGE FOR REFERENCE. REFER TO THE GENERAL NOTES FOR REQUIRED TEST FITTING ON SEWER LATERALS AND MAINS AS CALLED OUT IN THE PLANS.
- MODULAR GARDEN WALL: PRESERVE IF POSSIBLE OR TEMPORARILY REMOVED AND REPLACE IN KIND IF UNDERMINING OR DAMAGE OCCURS DURING CONSTRUCTION.
- LANDSCAPING: PRESERVE LANDSCAPING WITHIN THE LOD IF POSSIBLE. LANDSCAPING TO BE REPLACED IN KIND IF DAMAGE OCCURS DURING CONSTRUCTION.
- OUTDOOR COMPRESSOR UNIT: UNIT TO BE SHORED/PROTECTED AND REMAIN IN SERVICE DURING CONSTRUCTION.
- TRANSFORMER AND UTILITY COORDINATION: EXISTING TRANSFORMER AND SUPPORTING WIRING TO BE SHORED/PROTECTED AND REMAIN IN SERVICE DURING CONSTRUCTION. COORDINATE WITH APPROPRIATE UTILITY PROVIDER FOR ANY ADDITIONAL REQUIREMENTS.
- EXISTING THREE RAIL WHITE FENCE (ALONG ROW) AND CHAIN LINK FENCE (AROUND THE REMAINDER OF THE PROPERTY): PRESERVE THE RAILS AND CHAIN LINK FENCE DURING CONSTRUCTION. SAVE THE PIECES COMPRISING THE SECTIONS REMOVED FOR ACCESS TO BE REINSTALLED AFTER ACCESS AT THIS LOCATION IS NO LONGER NEEDED. REMOVE THE PORTIONS OF EXISTING FENCE TO THE NEAREST POST AS REQUIRED TO OBTAIN ACCESS. THE CONTRACTOR SHALL REPAIR ANY DAMAGE TO THE FENCE THAT OCCUR DURING CONSTRUCTION. THE CONTRACTOR MUST MATCH DAMAGED PORTIONS OF FENCE IN KIND AND STYLE. FOR DAMAGED SECTIONS OF FENCE CONTRACTOR TO PROVIDE FENCE REINSTALLATION SHOP DRAWINGS. IF THE CONTRACTOR CANNOT SALVAGE OR FIND AN IN-KIND MATCHING REPLACEMENT THE CONTRACTOR SHALL REPLACE THE ENTIRE RAIL FENCE WITH SIMILAR STYLE MATERIAL FENCE AS APPROVED BY THE LANDOWNER AT NO ADDITIONAL COST TO THE TOWNSHIP.
- CONTRACTOR TO TEMPORARILY REMOVE STOP BAR, STOP SIGN AND STREET SIGN AS REQUIRED FOR CONSTRUCTION AND REPLACE AS SOON AS CONSTRUCTION ALLOWS. PROVIDE TEMPORARY MEASURES IN ACCORDANCE WITH PENNDOT PUB 213 AND TOWNSHIP ROW ACCESS REQUIREMENTS.
- FOR CONSTRUCTION AROUND AND BETWEEN 654 AND 660 DEVONSHIRE DRIVE, THE CONTRACTOR IS RESPONSIBLE FOR UTILIZING MEANS AND METHODS OF CONSTRUCTION, WHICH WILL NOT RESULT IN DAMAGE TO THE HOMES OR OTHER SITE AMENITIES INCLUDING UTILITIES. UTILIZATION OF VIBRATION MONITORING TO DOCUMENT CONSTRUCTION ACTIVITIES, IS RECOMMENDED. SHOULD ANY DAMAGE TO THE RESIDENCES OCCUR, THE CONTRACTOR IS RESPONSIBLE FOR IMMEDIATELY MAKING NECESSARY REPAIRS AND/OR REPLACING AS NECESSARY. PRIOR TO BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL ATTEND A SITE MEETING WITH THE TOWNSHIP AND THE RESIDENTS OF 654 AND 660 DEVONSHIRE DRIVE. THE MEETING WILL BE USED TO REVIEW MEANS AND METHODS FOR PROJECT CONSTRUCTION AND TO OBTAIN PHOTO/OTHER DOCUMENTATION OF EXISTING CONDITIONS.

NOTES:
TREES TO BE DEMOED ARE NOT SHOWN AS DEMOED ON THIS PLAN. SEE TREE PROTECTION AND REMOVAL PLAN (C900 THROUGH C907) FOR TREES TO BE REMOVED.
CHANNEL EROSION HAS CONTINUED TO OCCUR DURING THE DESIGN AND PERMITTING PROCESS FOR THIS PROJECT. EXISTING CONDITIONS DEPICTED ON THIS PLAN REPRESENT THE CONDITIONS AT THE TIME OF FIELD SURVEY (2019) AND DO NOT CAPTURE EROSION SINCE THE DATE OF SURVEY. CONTRACTOR TO ACCOUNT FOR CHANGING CONDITIONS WITHIN BID.

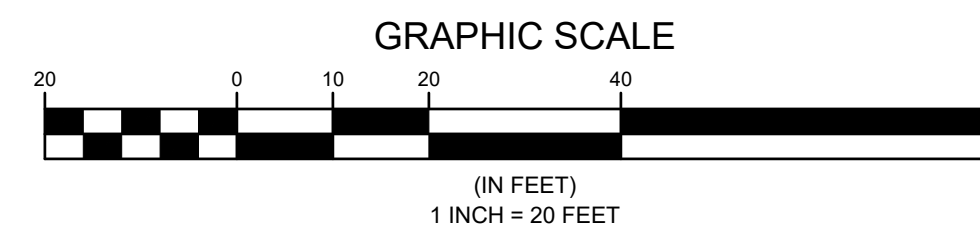
NOTE ADDED

NOTES REVISED

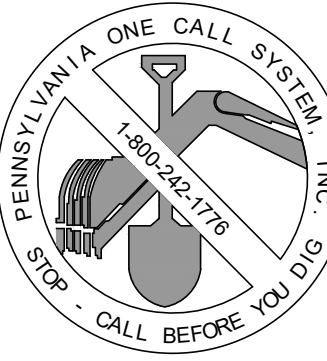


LEGEND

MAJOR CONTOUR LINE	---	190	STREETLIGHT	*
MINOR CONTOUR LINE	---	189	WATER VALVE	⊗
OVERHEAD UTILITY LINE	---	O/U	MAILBOX	⊠
UNDERGROUND UTILITY LINE	---	U/G	PROPERTY CORNER	⊙
WATER LINE	---	W	SANITARY MANHOLE	⊕
SANITARY SEWER LINE	---	SAN	INLET	⊖
SANITARY SEWER LATERAL	---	SL	PEDESTALS	⊕⊕⊕
SANITARY SEWER LATERAL - NO CLEANOUT FIELD LOCATED	---	NCL	TRANSFORMERS	⊕
UNDERGROUND GAS LINE	---	G	SIGNS	⊕
UNDERGROUND ELECTRIC LINE	---	U/E	EXISTING TREES	⊙
STORM DRAIN LINE	---	STRM	FEATURE TO BE DEMOLISHED AND REMOVED	⊗
BRUSH LINE	---	B	MILL AND OVERLAY	▨
PROPERTY LINE	---	P	FULL DEPTH RECONSTRUCTION	▨
100-YEAR EX FLOODPLAIN (FEMA)	---	F		
FENCE	---	F		
FEATURE TO BE DEMOLISHED AND REMOVED	---	X-X-X-X-X-X-X-X		
LIMIT OF DISTURBANCE	---	LOD		



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS: 20180332030, 20180332031, 20180332047, 20180332089, 20190362279, 20190362288, 20211094383

NEWELL TERESKA & MACKAY ENGINEERING
341 SCIENCE PARK RD, STE #203 STATE COLLEGE, PA 16803

Pennoni

Biohabitats

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. BROWN
042215-R

NO.	DESCRIPTION	BY	DATE	REVISIONS
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23	
2	REVISION FOR ADDENDUM 1	JSN	9/5/23	

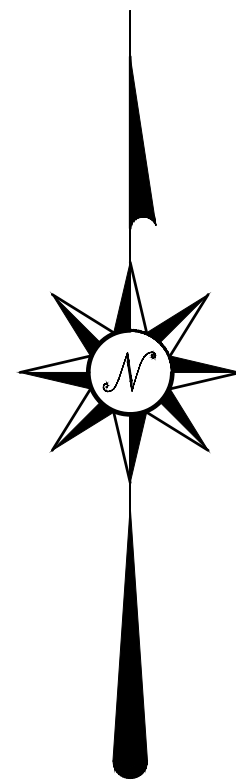
FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING CONDITIONS/DEMOLITION PLAN

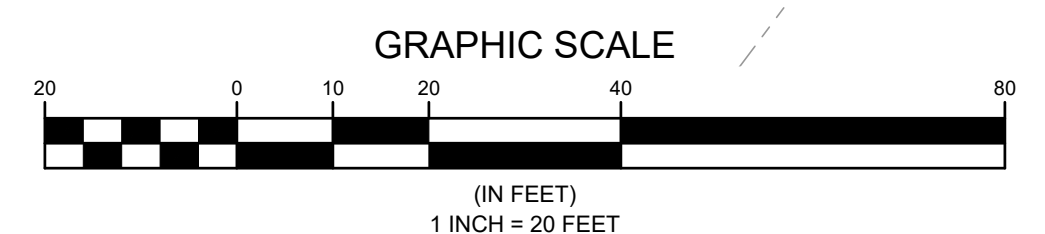
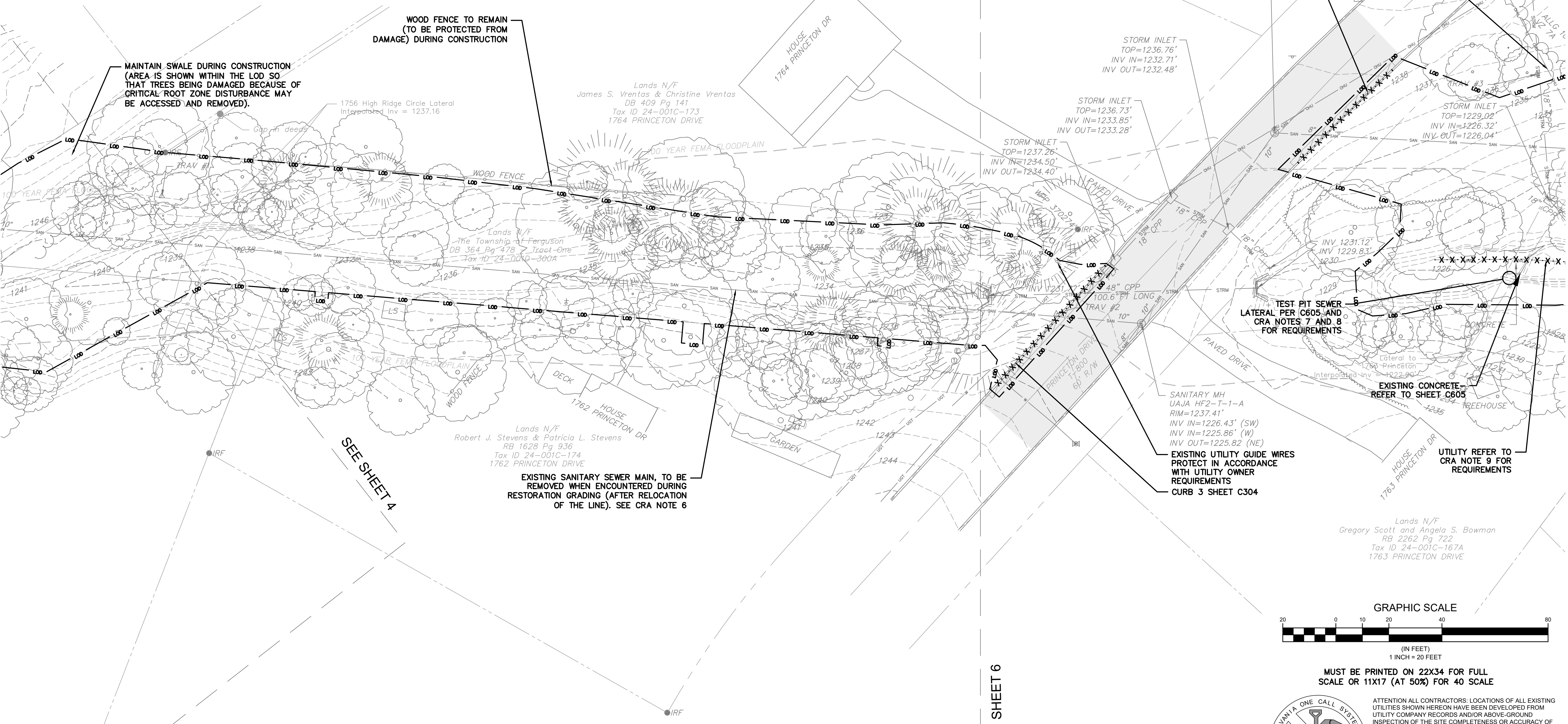
1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C101	
SHEET NO. 4 OF 55	



LEGEND

MAJOR CONTOUR LINE	-----190	STREETLIGHT	⊛
MINOR CONTOUR LINE	-----189	WATER VALVE	⊞
OVERHEAD UTILITY LINE	OHU OHU	MAILBOX	⊞
UNDERGROUND UTILITY LINE	UGU UGU	PROPERTY CORNER	●
WATER LINE	W W	SANITARY MANHOLE	⊞
SANITARY SEWER LINE	SAN SAN	INLET	⊞
SANITARY SEWER LATERAL	SL SL	PEDESTALS	⊞
SANITARY SEWER LATERAL—NO CLEANOUT FIELD LOCATED	SL NCL SL	TRANSFORMERS	⊞
UNDERGROUND GAS LINE	G G	SIGNS	⊞
UNDERGROUND ELECTRIC LINE	UGE UGE	EXISTING TREES	⊞
STORM DRAIN LINE	STRM STRM	FEATURE TO BE DEMOLISHED AND REMOVED	⊞
BRUSH LINE	-----	MILL AND OVERLAY	⊞
PROPERTY LINE	-----	FULL DEPTH RECONSTRUCTION	⊞
100-YEAR EX FLOODPLAIN (FEMA)	-----		
FENCE	-----		
FEATURE TO BE DEMOLISHED AND REMOVED	·X·X·X·X·X·X·X·X·		
LIMIT OF DISTURBANCE	LOD		



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383

NOTES:
SEE TREE PROTECTION AND REMOVAL PLAN FOR TREE WORK (C900 THROUGH C907)

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COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. BROWN
042215-R

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

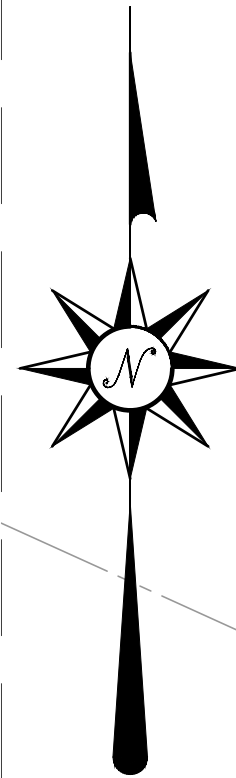
EXISTING CONDITIONS/DEMOLITION PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C102
SHEET NO. 5 OF 55

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-base.dwg Sep. 06, 2023 - 9:43am ENV/CTB Plot Scale 1= Plot By: Jnewman Tab: C102



CONTRACTOR SHALL REVIEW LOCATION AND HEIGHT OF EXISTING OVERHEAD UTILITY AND COORDINATE WITH THE UTILITY OWNER FOR IMPLEMENTATION OF ANY REQUIREMENTS DURING CONSTRUCTION (AT NO ADDITIONAL COST TO THE TOWNSHIP)

CURB 3 SHEET C304

SANITARY MH
UAJA M-S-97
RIM=1237.17'
INV IN=1224.74' (SW)
INV IN=1224.55' (NE)
INV OUT=1224.55' (E)

STORM INLET
TOP=1239.63'
INV IN=1236.00'
INV OUT=1235.77'

STORM INLET
TOP=1236.76'
INV IN=1233.71'
INV OUT=1232.48'

STORM INLET
TOP=1236.73'
INV IN=1233.85'
INV OUT=1233.28'

STORM INLET
TOP=1237.26'
INV IN=1234.50'
INV OUT=1234.40'

STORM INLET
TOP=1229.02'
INV IN=1226.32'
INV OUT=1226.04'

TEST PIT SEWER LATERAL PER C605 AND CRA NOTES 7 AND 8 FOR REQUIREMENTS

SANITARY MH
UAJA HF2-T-1-A
RIM=1237.41'
INV IN=1226.43' (SW)
INV IN=1225.86' (W)
INV OUT=1225.82' (NE)

EXISTING UTILITY GUIDE WIRES PROTECT IN ACCORDANCE WITH UTILITY OWNER REQUIREMENTS
CURB 3 SHEET C304

EXISTING CONCRETE REFER TO SHEET C605

UTILITY REFER TO CRA NOTE 9 FOR REQUIREMENTS

Lands N/F
Gregory Scott and Angela S. Bowman
RB 2262 Pg 722
Tax ID 24-001C-167A
1763 PRINCETON DRIVE

TEST PIT SEWER LATERAL PER C604 AND REFER TO CRA NOTES 7 AND 8 FOR ADDITIONAL REQUIREMENTS

EXISTING CONCRETE REFER TO SHEET C604

UTILITY REFER TO CRA NOTE 9 FOR REQUIREMENTS

FENCE

Lands N/F
John J. Coyle & Barbara K. Coyle
DB 291 Pg 860
Tax ID 24-001C-142
1698 PRINCETON DRIVE

TEST PIT SEWER LATERAL PER SHEET C604 AND REFER TO CRA NOTES 7 AND 8 FOR ADDITIONAL REQUIREMENTS

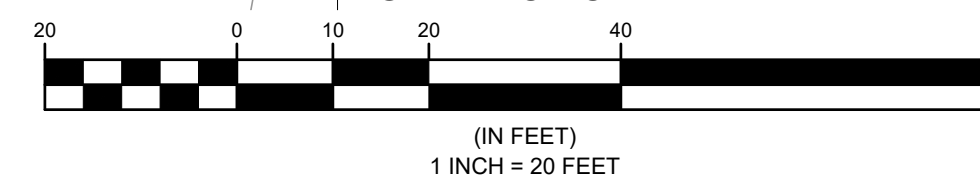
UTILITIES REFER TO CRA NOTE 9 FOR REQUIREMENTS

TEST PIT SEWER PER SHEET C604 AND REFER TO CRA NOTE 7 FOR ADDITIONAL REQUIREMENTS

Lands N/F
Eric K. Zenner & Jerilyn E. Peck
RB 1968 Pg 275
Tax ID 24-001C-150
1362 GREENWOOD CIRCLE

SEE SHEET 7

GRAPHIC SCALE



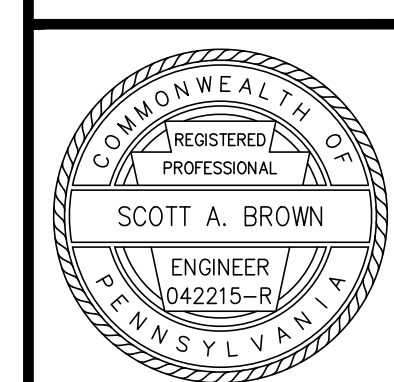
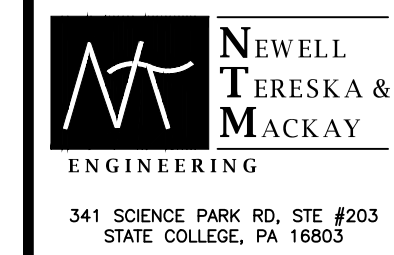
MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383

(IN FEET)
1 INCH = 20 FEET

MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

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STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING CONDITIONS/DEMOLITION PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

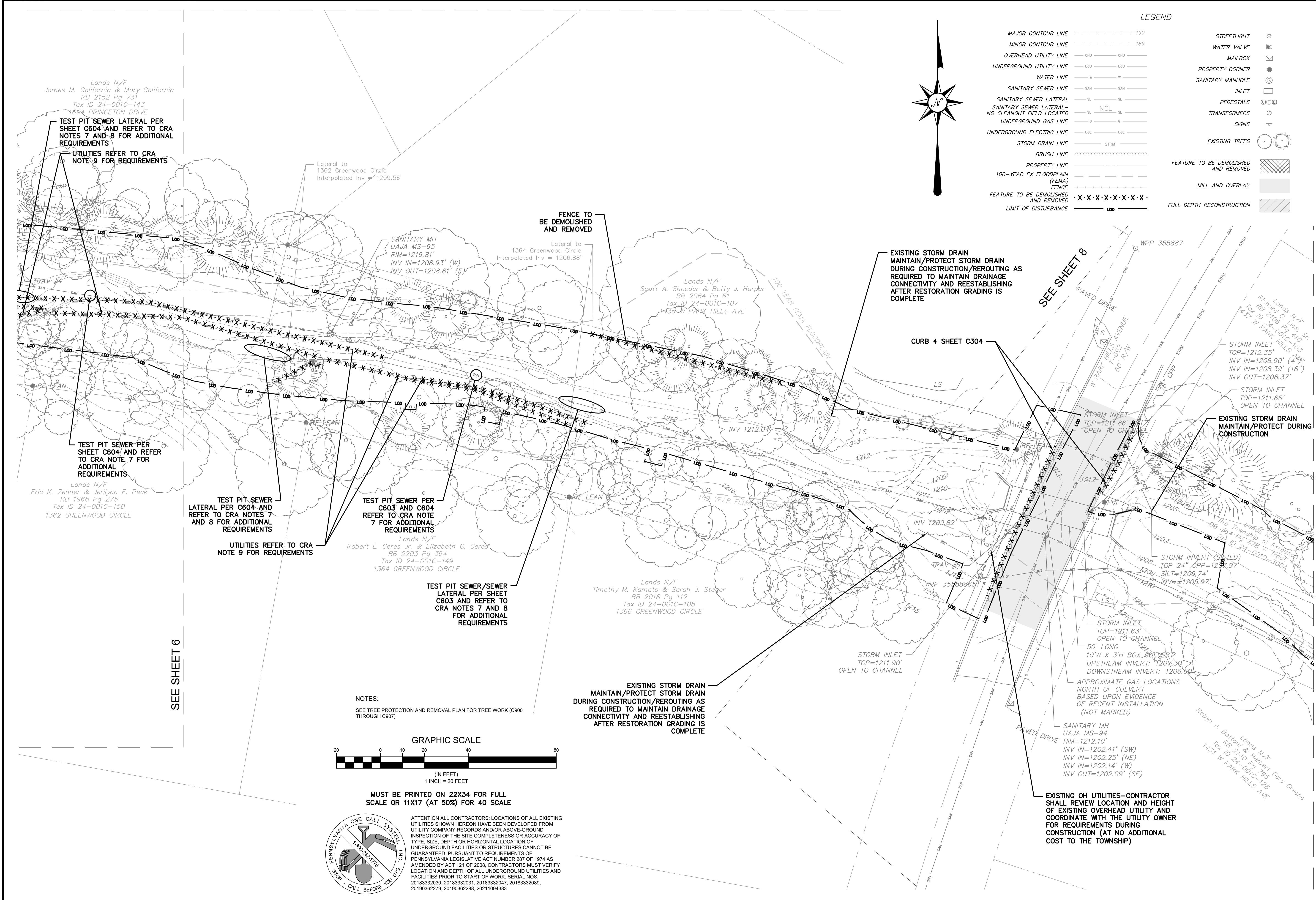
DRAWING NUMBER
C103
SHEET NO. 6 OF 55

P:\14003\14003.04_Park_Hills_Drainageway\CAD\Y-base.dwg Sep. 06, 2023 - 9:43am ENW:CTB Plot Scale 1=1 Plot By: Jnewman Tab:C103

NOTES:
SEE TREE PROTECTION AND REMOVAL PLAN FOR TREE WORK (C900 THROUGH C907)

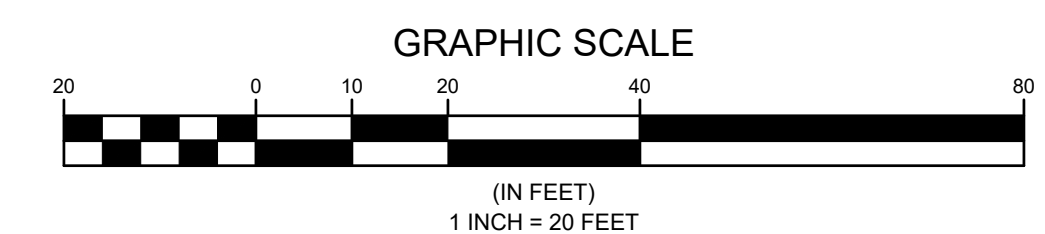
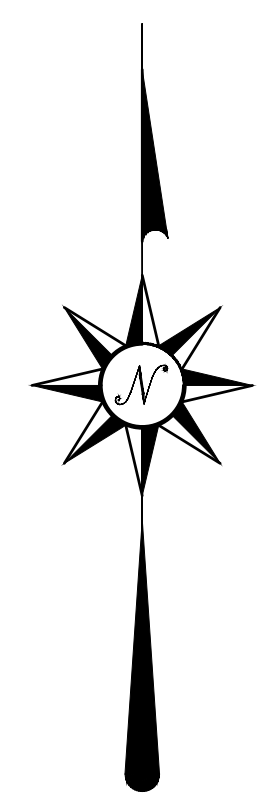
SEE SHEET 5

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-base.dwg Sep. 06, 2023 - 9:43am EN\CTB Plot Scale 1=1 Plot By: jnewman Tab: C104

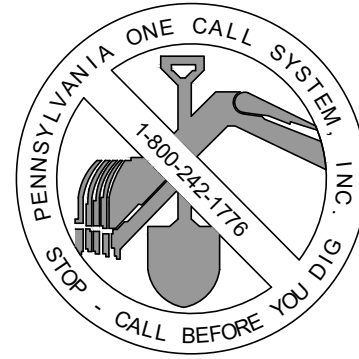


LEGEND

MAJOR CONTOUR LINE	---	-190	STREETLIGHT	*
MINOR CONTOUR LINE	---	-189	WATER VALVE	⊠
OVERHEAD UTILITY LINE	OHU	OHU	MAILBOX	⊞
UNDERGROUND UTILITY LINE	UUG	UUG	PROPERTY CORNER	●
WATER LINE	W	W	SANITARY MANHOLE	⊙
SANITARY SEWER LINE	SAN	SAN	INLET	⊞
SANITARY SEWER LATERAL	SL	SL	PEDESTALS	⊞⊞
SANITARY SEWER LATERAL—NO CLEANOUT FIELD LOCATED	SL	NCL SL	TRANSFORMERS	⊞
UNDERGROUND GAS LINE	G	G	SIGNS	+
UNDERGROUND ELECTRIC LINE	UGE	UGE	EXISTING TREES	⊙
STORM DRAIN LINE	STRM	STRM	FEATURE TO BE DEMOLISHED AND REMOVED	⊞
BRUSH LINE	---	---	MILL AND OVERLAY	▨
PROPERTY LINE	---	---	FULL DEPTH RECONSTRUCTION	▨
100-YEAR EX FLOODPLAIN (FEMA) FENCE	---	---		
FEATURE TO BE DEMOLISHED AND REMOVED	-X-X-X-X-X-X-X-X-			
LIMIT OF DISTURBANCE	---	---		



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER SCOTT A. BROWN 042215-R

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISIONS		

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING CONDITIONS/DEMOLITION PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C104	
SHEET NO. 7 OF 55	

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/2/23

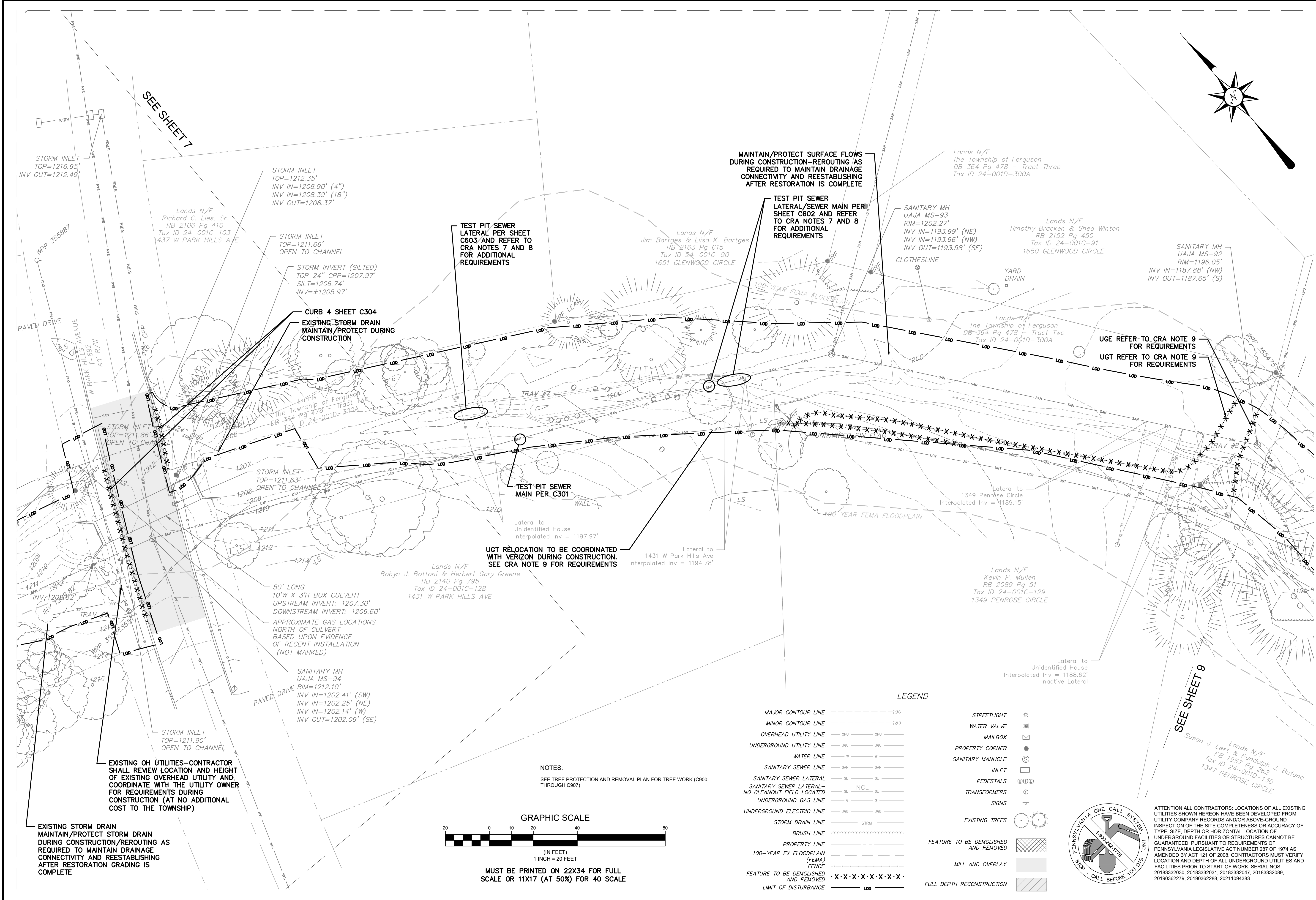
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3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA
CENTRE COUNTY
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EXISTING CONDITIONS/DEMOLITION PLAN

ENGINEER: SAB
DESIGNED BY: AJJ
DRAWN BY: JSN
DATE: 7/6/22

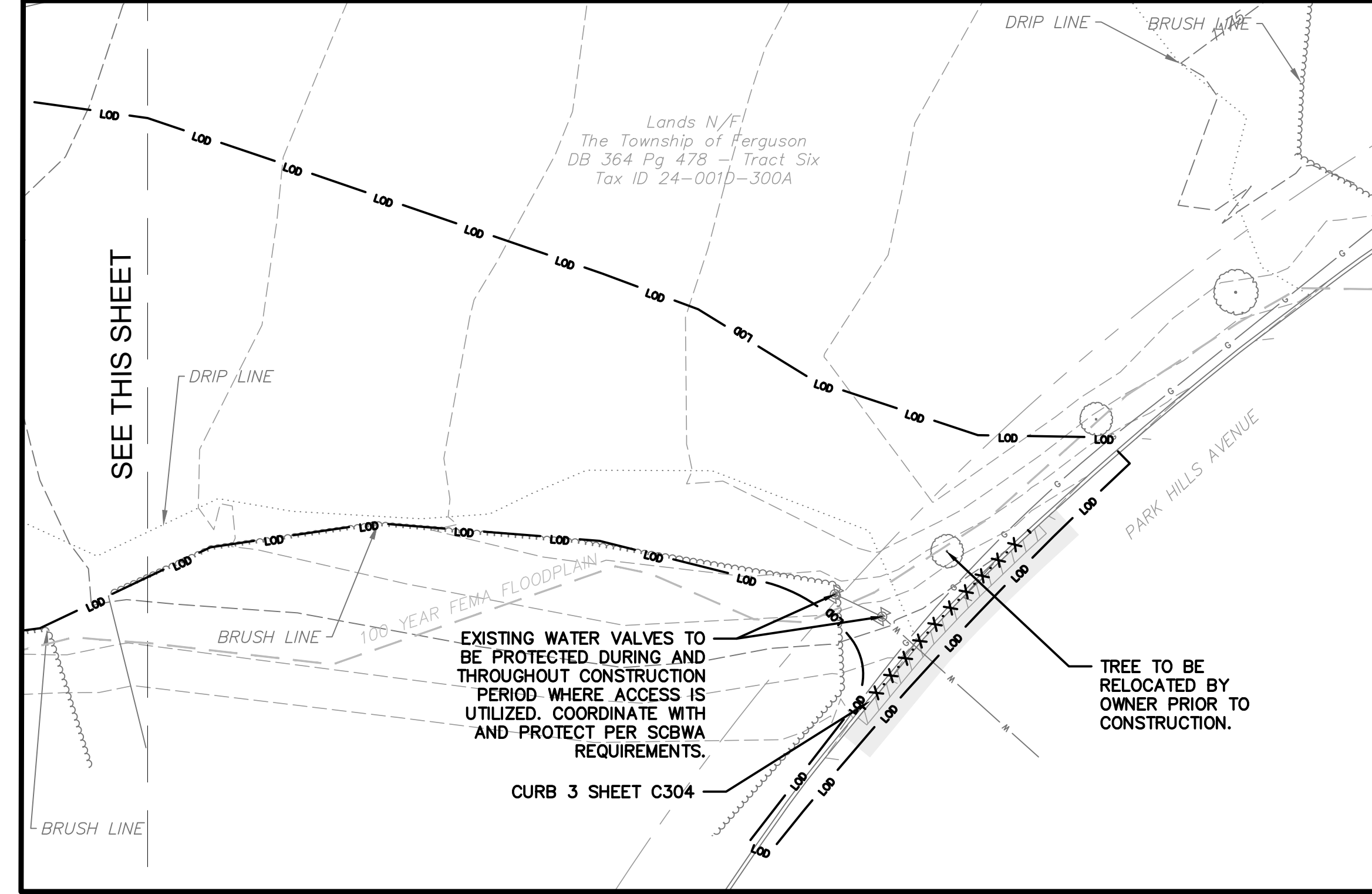
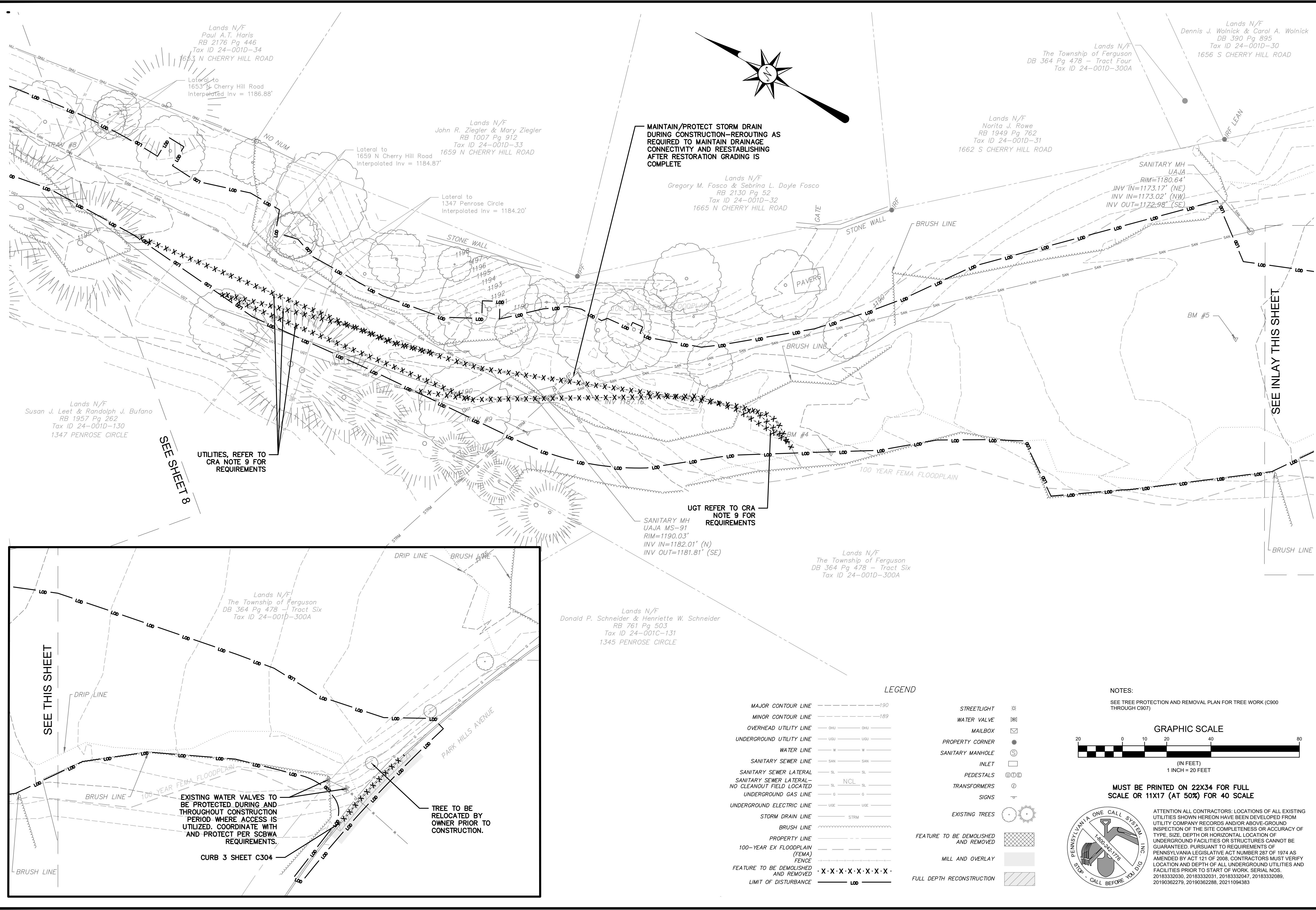
PROJECT NUMBER
14003.04

DRAWING NUMBER
C105
SHEET NO. 8 OF 55



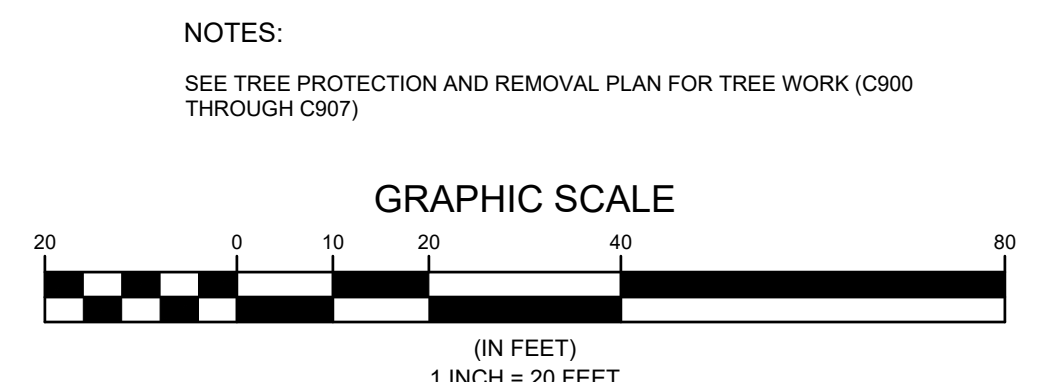
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P:\14003\14003.04 Park Hills Drainageway\CAD\Y-base.dwg Sep. 06, 2023 - 9:44am ENW:CTB Plot Scale 1"=1 Plot By: Jreneman Tab:C106



LEGEND

MAJOR CONTOUR LINE	-----190	STREETLIGHT	*
MINOR CONTOUR LINE	-----189	WATER VALVE	⊠
OVERHEAD UTILITY LINE	---OHU---OHU---	MAILBOX	⊞
UNDERGROUND UTILITY LINE	---UGU---UGU---	PROPERTY CORNER	●
WATER LINE	---W---W---	SANITARY MANHOLE	⊙
SANITARY SEWER LINE	---SAN---SAN---	INLET	□
SANITARY SEWER LATERAL	---SL---SL---	PEDESTALS	⊞⊞⊞
SANITARY SEWER LATERAL—NO CLEANOUT FIELD LOCATED	---NCL---NCL---	TRANSFORMERS	⊕
UNDERGROUND GAS LINE	---G---G---	SIGNS	⊞
UNDERGROUND ELECTRIC LINE	---UGE---UGE---	EXISTING TREES	⊙
STORM DRAIN LINE	---STRM---	FEATURE TO BE DEMOLISHED AND REMOVED	⊞
BRUSH LINE	-----	MILL AND OVERLAY	⊞
PROPERTY LINE	-----	FULL DEPTH RECONSTRUCTION	⊞
100-YEAR EX FLOODPLAIN (FEMA)	-----		
FENCE	-----		
FEATURE TO BE DEMOLISHED AND REMOVED	-X-X-X-X-X-X-X-		
LIMIT OF DISTURBANCE	---LOD---		



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE

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COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER SCOTT A. BROWN 042215-R

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

REVISIONS

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING CONDITIONS/DEMOLITION PLAN

ENGINEER: SAB DESIGNED BY: AJJ
DRAWN BY: JSN DATE: 7/6/22

PROJECT NUMBER: 14003.04

DRAWING NUMBER: C106

SHEET NO. 9 OF 55

1. REFER TO THE STORM DRAIN SYSTEM PROFILE ON SHEET C606 FOR ADDITIONAL INFORMATION AND REQUIREMENTS FOR EXISTING UTILITIES. REFER TO EXISTING CONDITIONS AND DEMO PLANS FOR ADDITIONAL REQUIREMENTS DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING DRAINAGE PATTERNS AND CONNECTIVITY OF THE STORM DRAIN SYSTEM DURING ALL STORM EVENTS. THE CONTRACTOR SHALL UTILIZE TEMPORARY MEASURES AS REQUIRED TO MAINTAIN FUNCTIONALITY OF THE STORM DRAIN SYSTEM. REFER TO THE EROSION AND SEDIMENTATION CONTROL AUTHORIZATION FOR APPROVED SEQUENCING. (THE CONTRACTOR WILL BE RESPONSIBLE FOR OBTAINING OUTSIDE APPROVALS FOR ANY MODIFICATIONS TO THE APPROVED PERMIT DOCUMENTS.) IN ADDITION TO PROVIDING SHOP DRAWINGS, THE CONTRACTOR SHALL SUBMIT A WORK PLAN TO THE TOWNSHIP, A MINIMUM OF FOUR WEEKS PRIOR TO CONSTRUCTION, WHICH SPECIFIES THE MEANS/METHODS DEFINING HOW DRAINAGE WILL BE MAINTAINED.

2. REFER TO EXISTING CONDITION DEMO PLAN C101 FOR ADDITIONAL INFORMATION. NOTE: ITEMS DEMOED ARE NOT SHOWN ON THE PLAN (FOR CLARITY)

3. MONOLITHIC SIDEWALK WITH WALL (<24" HEIGHT) AND SIDE-MOUNTED OSHA TWO-RAIL GALVANIZED ALUMINUM GUARDRAIL WITH KICKPLATE. CONTRACTOR TO PROVIDE SEALED SHOP DRAWINGS FOR APPROVAL. REFER TO DETAILED GRADING PLAN C207 FOR EXPOSED WALL HEIGHT AND EXTENTS.

4. DEPRESSED CURB-SEE CURB 1 SHEET C304, INCLUDING FOR SPECIAL PROVISIONS ABUTTING THE CONCRETE APRON.

5. CONCRETE APRON. REFER TO SHEET C207 FOR DETAILED GRADING AND LOCATION OF JOINTS. REFER TO PROFILE SHEET C606 AND CURB 1 DETAIL SHEET C304 AND FOR ADDITIONAL INFORMATION ON CONNECTION TO DEPRESSED CURB.

6. EXPECTED LIMITS OF TRENCH BOX TRENCH-CONSIDERING THE TIGHT WORK ZONE, THE CONTRACTOR SHALL UTILIZE A TRENCH BOX FOR CONSTRUCTION-LIMITING THE TRENCH SIZE PER PENNDOT PUB 72 RC-30M (PIPE EXCAVATION WITH A TRENCH BOX)

7. PROVIDE 6" DEEP 2"-4" DIAMETER CLEAN-WASHED RIVER STONE WITH 1/2" FILTER STONE (ALSO CLEAN-WASHED RIVER STONE) ON DOUBLE LAYER OF NON-WOVEN GEOTEXTILE

8. REPLACE SIGNAGE/STOP BAR IN-PLACE/IN-KIND IN ACCORDANCE WITH PENNDOT 408 REQUIREMENTS

9. DIRECT EXISTING STORM DRAINS TO INLET I-1

10. CONNECT 4" DRAIN TO INLET I-2

11. MAILBOXES TO REMAIN IN SERVICE DURING CONSTRUCTION. COORDINATE WITH THE TOWNSHIP, USPS AND THE PROPERTY OWNER AND TEMPORARILY RELOCATE IN ACCORDANCE WITH TOWNSHIP/USPS REQUIREMENTS, PRIOR TO THE BEGINNING CONSTRUCTION. UTILIZE MAILBOX DETAIL TO REINSTALL MAILBOX AFTER DRAINAGE CONSTRUCTION IS COMPLETE

12. INSTALL DRIVEWAYS IN ACCORDANCE WITH TOWNSHIP RESTORATION DETAIL (SHEET C304). THE CONTRACTOR SHALL MINIMIZE THE TEMPORARY LOSS OF HOMEOWNER ACCESS TO THE EXTENT POSSIBLE. COORDINATE REMOVAL AND RECONSTRUCTION OF THE DRIVEWAYS WITH PROPERTY OWNERS, A MINIMUM OF THREE DAYS PRIOR TO CONSTRUCTION. PROVIDE A WRITTEN PLAN AND SCHEDULE FOR ANTICIPATED REMOVAL AND REPLACEMENT TO THE TOWNSHIP FOR APPROVAL, PRIOR TO BEGINNING WORK. COORDINATE WITH THE TOWNSHIP AND PROPERTY OWNER FOR TEMPORARY OFF-SITE PARKING, AS NECESSARY. REPLACE DRIVEWAY TO THE NEAREST CONTROL JOINT, SAW-CUTTING ALONG JOINT FOR CLEAN REMOVAL OF CONCRETE TO BE DEMOED AND SUCH THAT CONCRETE TO REMAIN IS NOT DAMAGED.

13. REPLACE CURB PER TOWNSHIP DETAIL CURB 2 SHEET C304 IF CURB REPLACEMENT OCCURS WITHIN 4' OF A CONSTRUCTION JOINT, REPLACE TO THE NEAREST JOINT.

14. SIDEWALK REPLACEMENT PER TOWNSHIP SIDEWALK DETAIL SHEET C304.

15. REINSTALL THREE-RAIL PVC FENCE AND CHAIN LINK FENCE IN KIND.

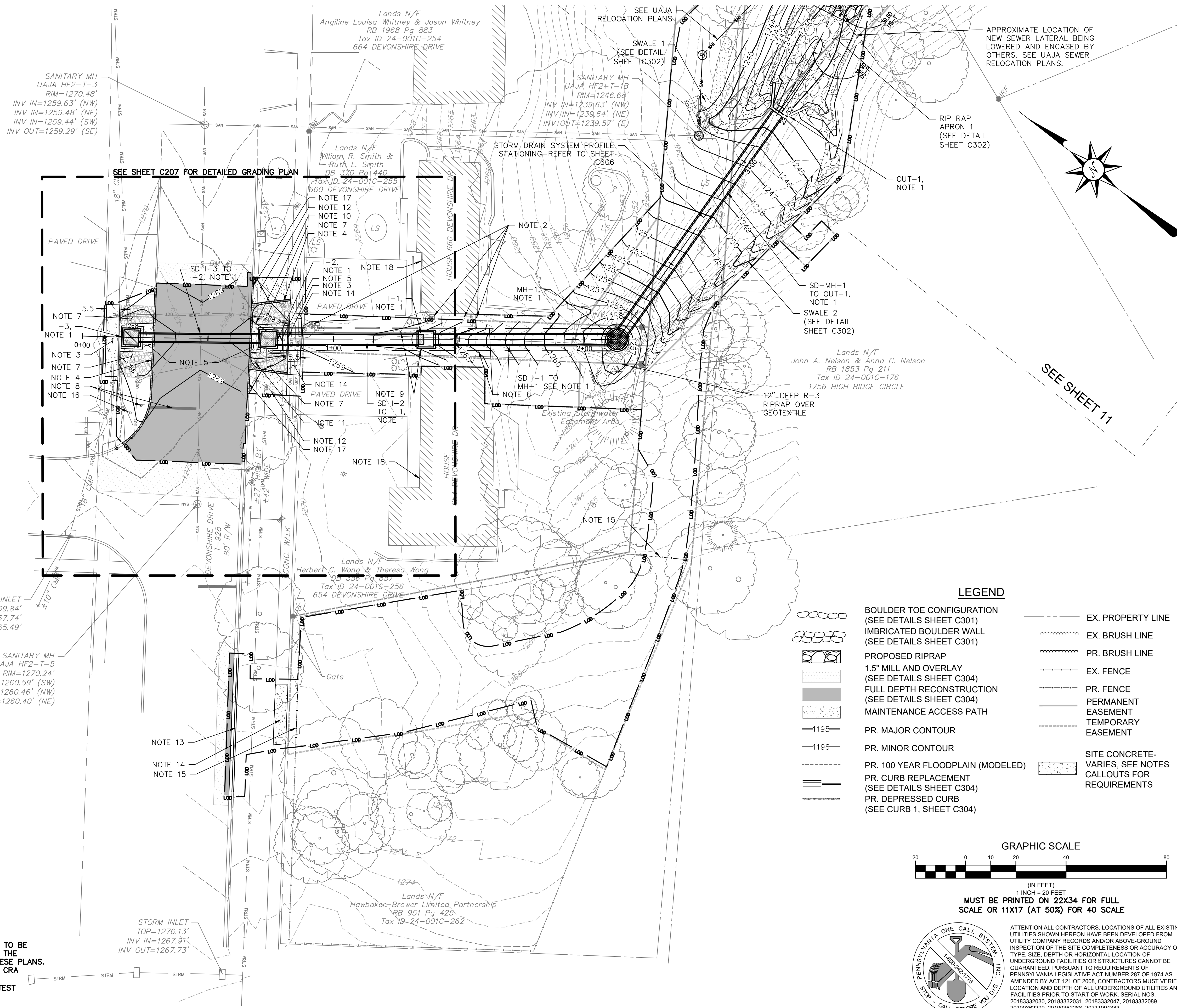
16. REINSTALL STREET SIGN IN ACCORDANCE WITH TOWNSHIP REQUIREMENTS

17. SEE CURB 5-SHEET C304

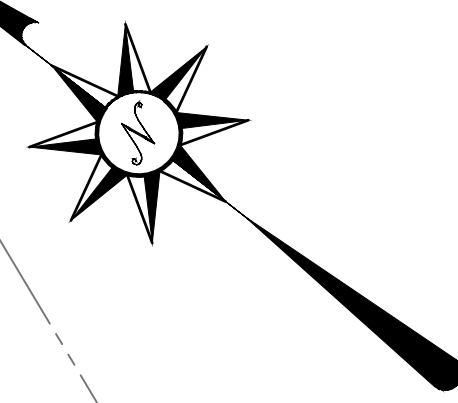
18. THE CONTRACTOR IS REQUIRED TO PROVIDE FOUNDATION VIBRATION MONITORING FOR 654 DEVONSHIRE DRIVE AND 660 DEVONSHIRE DRIVE INCLUDING PRE-CONSTRUCTION PHOTOS, SUBMIT MEANS AND METHODS TO TOWNSHIP FOUR WEEKS PRIOR TO CONSTRUCTION.

GENERAL NOTES:

- A. EXISTING SITE ELEMENTS AND APPURTENANCES WHICH ARE CALLED OUT TO BE DEMOED PER SHEETS C101-106 AS WELL AS TREES TO BE REMOVED PER THE TOWNSHIP TREE PROTECTION AND REMOVAL PLAN, ARE NOT SHOWN ON THESE PLANS.
- B. ALL CONSTRUCTION ACTIVITIES TO BE COMPLETED IN ACCORDANCE WITH CRA NOTES AND THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- C. REFER TO THE EXISTING CONDITION/DEMO PLANS FOR SEWER LATERAL TEST PITTING REQUIREMENTS AND PROFILE SHEETS C601-C605 FOR ADDITIONAL INFORMATION.

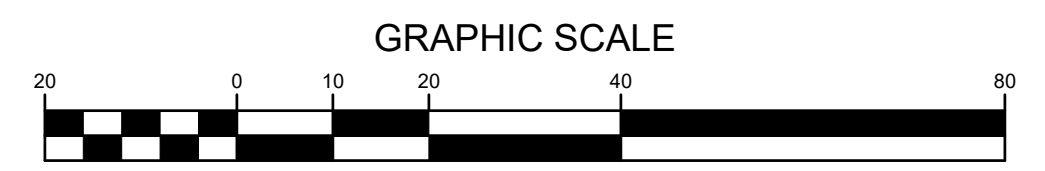


APPROXIMATE LOCATION OF NEW SEWER LATERAL BEING LOWERED AND ENCASED BY OTHERS. SEE UAJA SEWER RELOCATION PLANS.



LEGEND

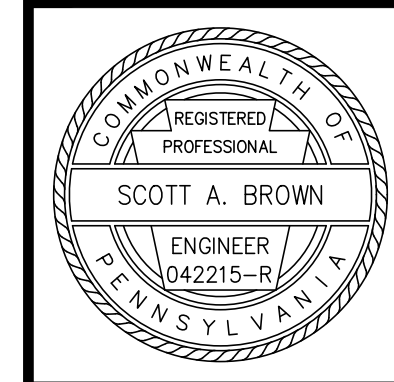
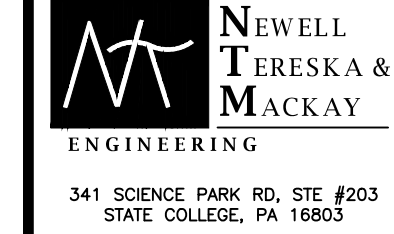
- BOULDER TOE CONFIGURATION (SEE DETAILS SHEET C301)
- IMBRICATED BOULDER WALL (SEE DETAILS SHEET C301)
- PROPOSED RIPRAP
-
- FULL DEPTH RECONSTRUCTION (SEE DETAILS SHEET C304)
- MAINTENANCE ACCESS PATH
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. 100 YEAR FLOODPLAIN (MODELED)
- PR. CURB REPLACEMENT (SEE DETAILS SHEET C304)
- PR. DEPRESSED CURB (SEE CURB 1, SHEET C304)
- EX. PROPERTY LINE
- EX. BRUSH LINE
- PR. BRUSH LINE
- EX. FENCE
- PR. FENCE
- PERMANENT EASEMENT
- TEMPORARY EASEMENT
- SITE CONCRETE-VARIATIONS, SEE NOTES CALLOUTS FOR REQUIREMENTS



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 2018332030, 2018332031, 2018332047, 2018332089, 20190362279, 20190362288, 20211094383



NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

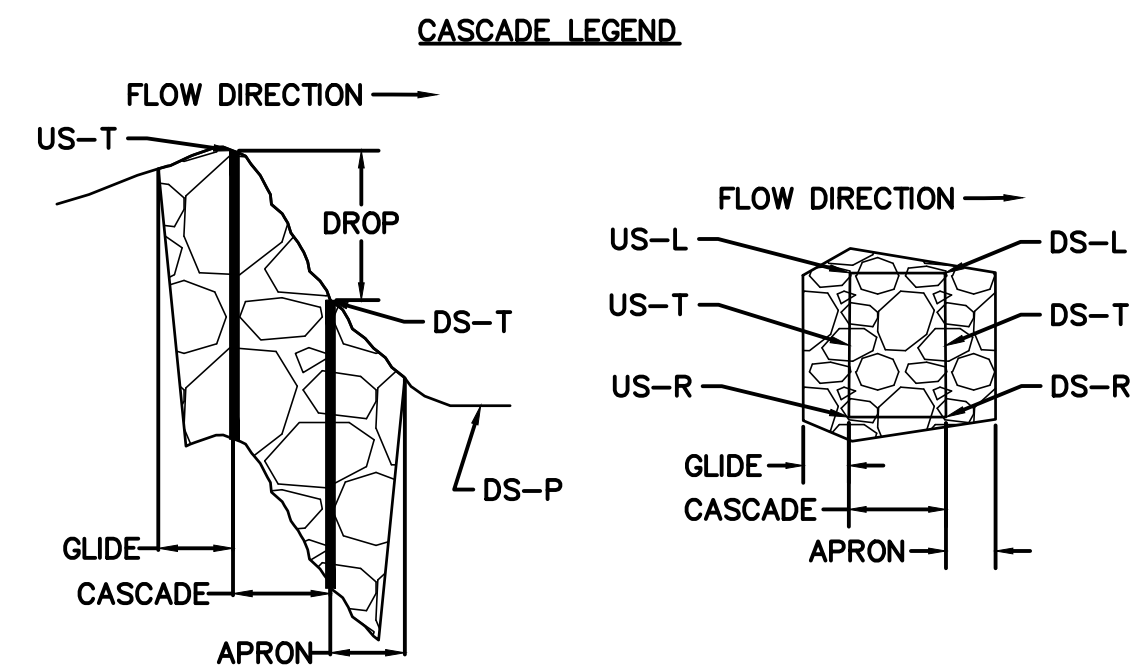
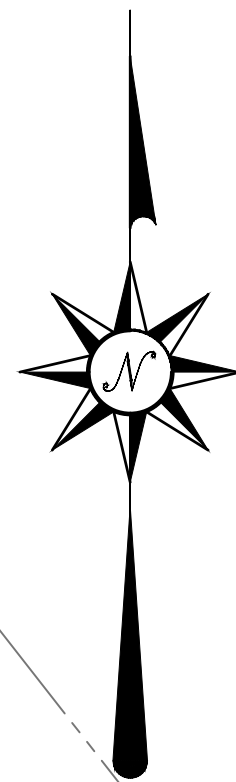
SITE PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C201

SHEET NO. 10 OF 55



- NOTES:**
1. THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES.
 2. WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.

MAINTAIN SWALE DURING CONSTRUCTION (AREA IS SHOWN WITHIN THE LOD SO THAT TREES IMPACTED BY CRITICAL ROOT ZONE DISTURBANCE CAN BE ACCESSED AND REMOVED).

SEE UAJA RELOCATION PLANS

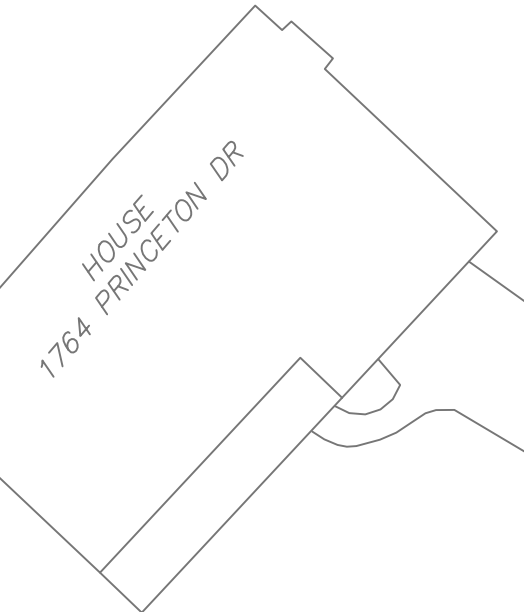
SEE NOTE D

1756 High Ridge Circle Lateral Interpolated Inv = 1237.16

WALL 1 SEE PROFILE SHEET C301

SEE NOTE D

Lands N/F
James S. Vrentas & Christine Vrentas
DB 409 Pg 141
Tax ID 24-001C-173
1764 PRINCETON DRIVE



STORM INLET
TOP=1236.73'
INV IN=1233.85'
INV OUT=1233.28'

STORM INLET
TOP=1237.26'
INV IN=1234.50'
INV OUT=1234.40'

CURB 3
SHEET C304
SANITARY MH
UAJA M-S-97
RIM=1237.17'
INV IN=1224.74' (SW)
INV IN=1224.55' (NE)
INV OUT=1224.55' (E)

STORM INLET
TOP=1239.63'
INV IN=1236.00'
INV OUT=1235.77'

DOUBLE BOULDER CASCADE-REFER TO PROFILE SHEET C605

TEST PIT SEWER LATERAL PER C605

SEE UAJA RELOCATION PLANS
SANITARY MH
UAJA HF2-T-1-A
RIM=1237.41'
INV IN=1226.43' (SW)
INV IN=1225.86' (W)
INV OUT=1225.82 (NE)

CURB 3
SHEET C304

CONCRETE ENCASUREMENT OVER SEWER LATERALS TO REMAIN SEE PROFILE SHEET C605 FOR ADDITIONAL INFORMATION

Lands N/F
Gregory Scott and Angela S. Bowman
RB 2262 Pg 722
Tax ID 24-001C-167A
1763 PRINCETON DRIVE

APPROXIMATE LOCATION OF NEW SEWER LATERAL BEING LOWERED AND ENCASED BY OTHERS. SEE UAJA SEWER RELOCATION PLAN

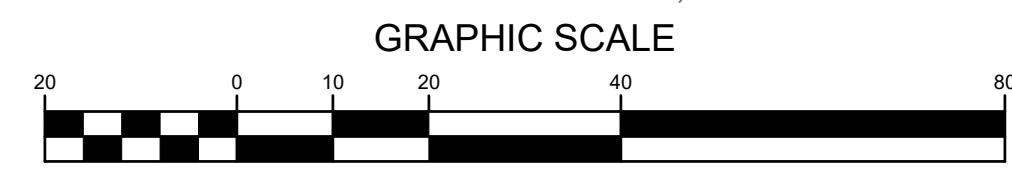
SEE SHEET 10

LEGEND

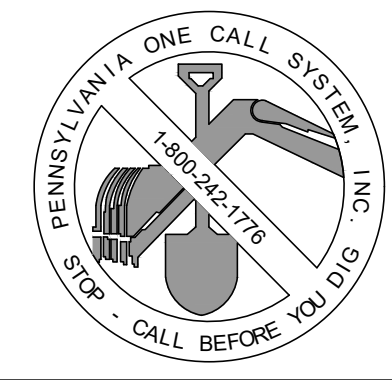
- | | | | |
|--|--|--|--------------------|
| | BOULDER TOE CONFIGURATION (SEE DETAILS SHEET C301) | | EX. PROPERTY LINE |
| | IMBRICATED BOULDER WALL (SEE DETAILS SHEET C301) | | EX. BRUSH LINE |
| | PROPOSED RIPRAP | | PR. BRUSH LINE |
| | 1.5" MILL AND OVERLAY (SEE DETAILS SHEET C304) | | EX. FENCE |
| | FULL DEPTH RECONSTRUCTION (SEE DETAILS SHEET C304) | | PR. FENCE |
| | MAINTENANCE ACCESS PATH | | PERMANENT EASEMENT |
| | PR. MAJOR CONTOUR | | TEMPORARY EASEMENT |
| | PR. MINOR CONTOUR | | |
| | PR. 100 YEAR FLOODPLAIN (MODELED) | | |
| | PR. CURB REPLACEMENT (SEE DETAILS SHEET C304) | | |

GENERAL NOTES:

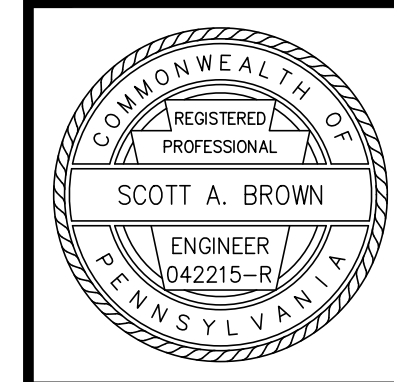
- EXISTING SITE ELEMENTS AND APPURTENANCES WHICH ARE CALLED OUT TO BE DEMOED PER SHEETS C101-106 AS WELL AS TREES TO BE REMOVED PER THE TOWNSHIP TREE SAVE AND REMOVAL PLAN, ARE NOT SHOWN ON THESE PLANS.
- ALL CONSTRUCTION ACTIVITIES TO BE COMPLETED IN ACCORDANCE WITH CRA NOTES AND THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- REFER TO THE EXISTING CONDITION/DEMO PLANS FOR SEWER LATERAL TEST PITTING REQUIREMENTS AND PROFILE SHEETS C601-C605 FOR ADDITIONAL INFORMATION.
- WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



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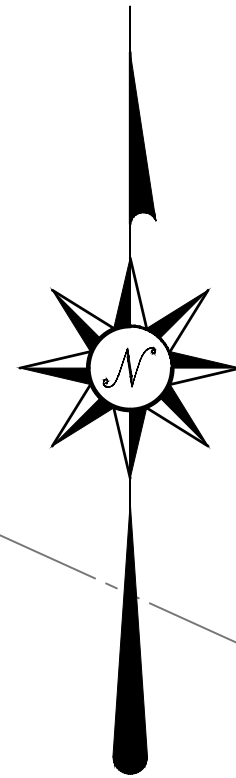


NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2		JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
SITE PLAN

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C202	
SHEET NO. 11 OF 55	

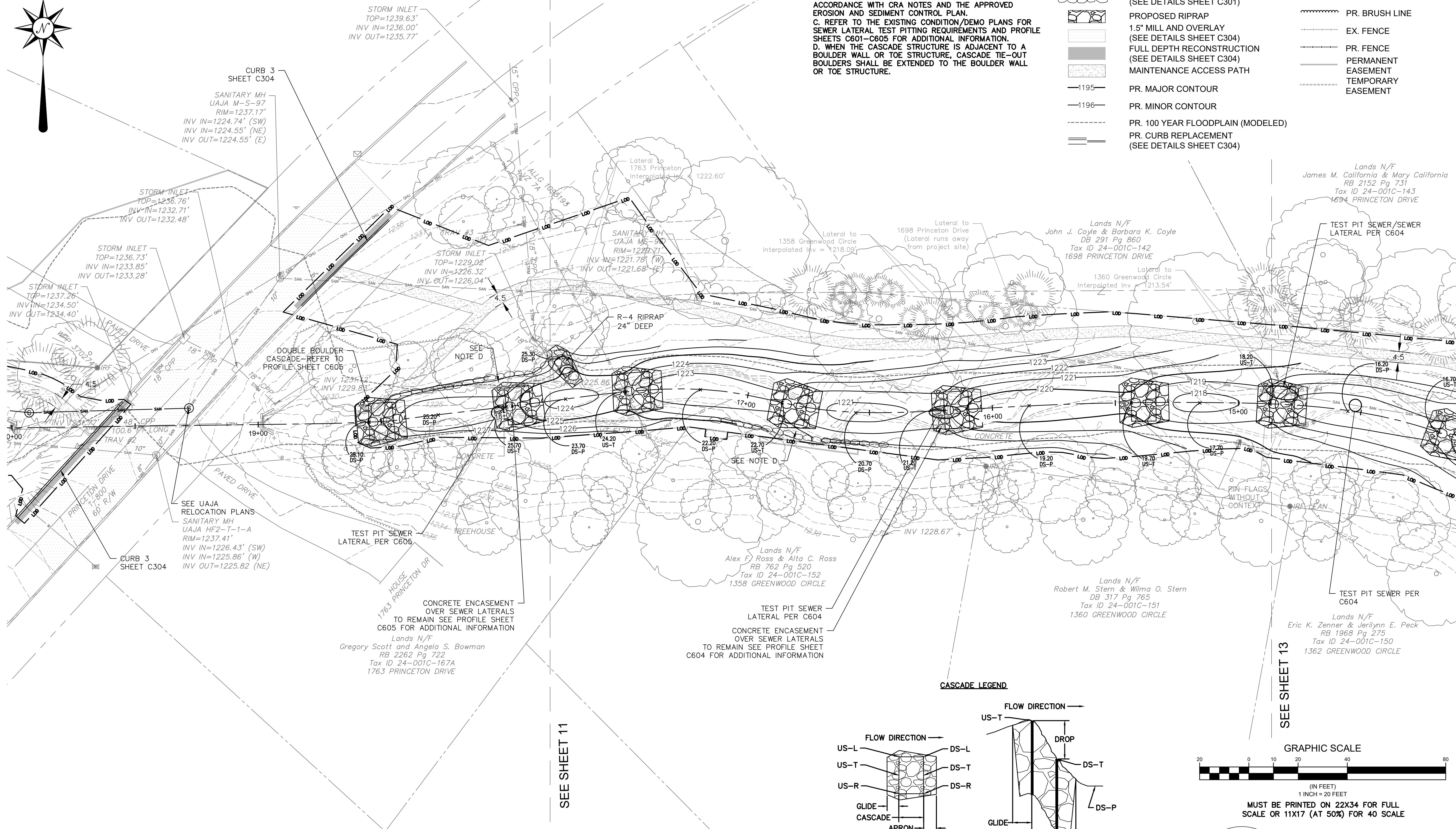


GENERAL NOTES:

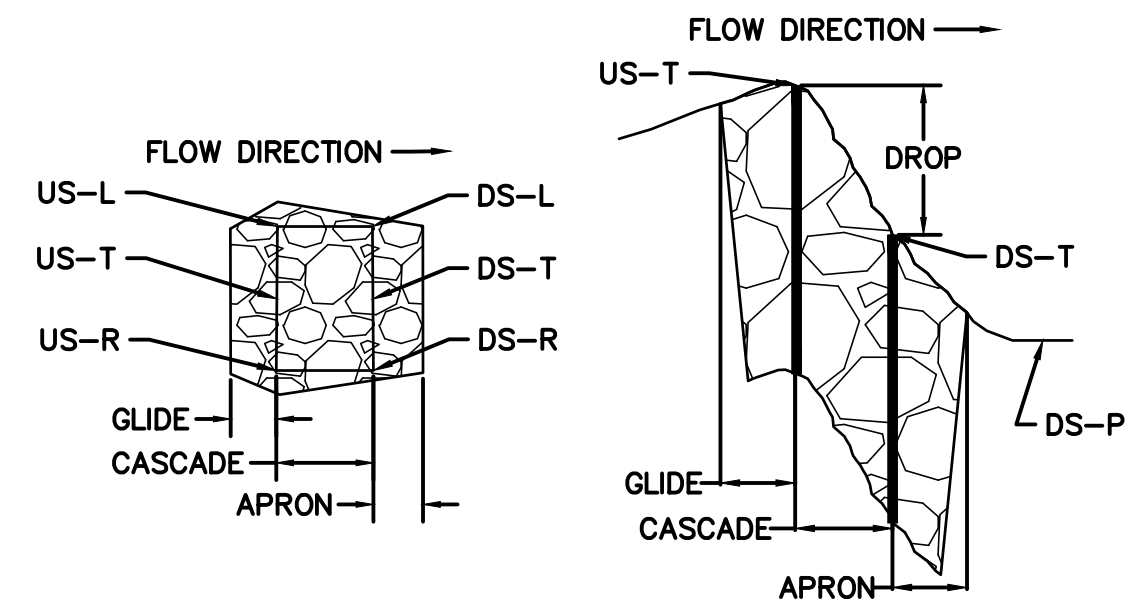
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- B. ALL CONSTRUCTION ACTIVITIES TO BE COMPLETED IN ACCORDANCE WITH CRA NOTES AND THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- C. REFER TO THE EXISTING CONDITION/DEMO PLANS FOR SEWER LATERAL TEST PITTING REQUIREMENTS AND PROFILE SHEETS C601-C605 FOR ADDITIONAL INFORMATION.
- D. WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.

LEGEND

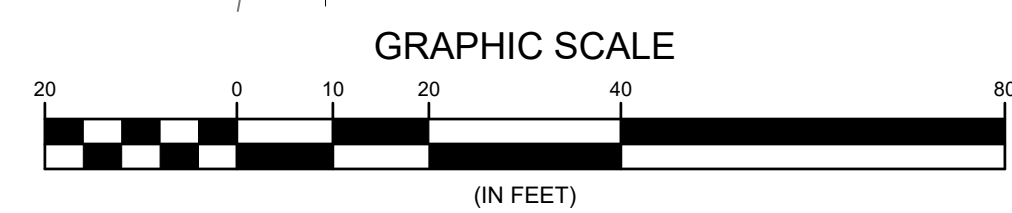
- BOULDER TOE CONFIGURATION (SEE DETAILS SHEET C301)
- IMBRICATED BOULDER WALL (SEE DETAILS SHEET C301)
- PROPOSED RIPRAP
- 1.5" MILL AND OVERLAY (SEE DETAILS SHEET C304)
- FULL DEPTH RECONSTRUCTION (SEE DETAILS SHEET C304)
- MAINTENANCE ACCESS PATH
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. 100 YEAR FLOODPLAIN (MODELED)
- PR. CURB REPLACEMENT (SEE DETAILS SHEET C304)
- EX. PROPERTY LINE
- EX. BRUSH LINE
- PR. BRUSH LINE
- EX. FENCE
- PR. FENCE
- PERMANENT EASEMENT
- TEMPORARY EASEMENT



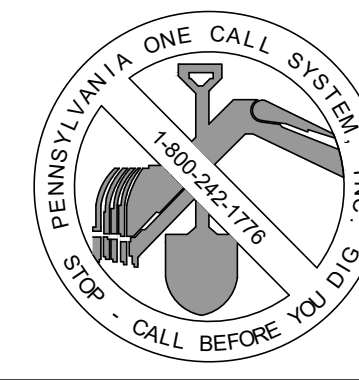
CASCADE LEGEND



- NOTES:
1. THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES.
 2. WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008. CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 2018332030, 2018332031, 2018332047, 2018332089, 20190362279, 20190362288, 20211094383

NEWELL TERESKA & MACKAY ENGINEERING
 341 SCIENCE PARK RD., STE #203
 STATE COLLEGE, PA 16803

Pennoni

Biohabitats

COMMONWEALTH OF PENNSYLVANIA REGISTERED PROFESSIONAL ENGINEER SCOTT A. BROWN 042215-R

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

SITE PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C203	
SHEET NO. 12 OF 55	

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-tilt.dwg Sep 06, 2023 - 9:44am ENV/CTB Plot Scale 1=1 Plot By: newman Tab: C203

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

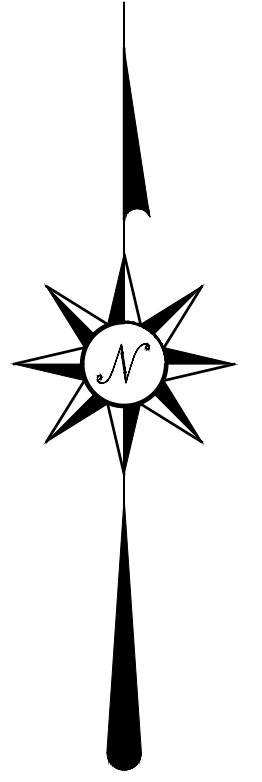
FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

SITE PLAN

1" = 20'

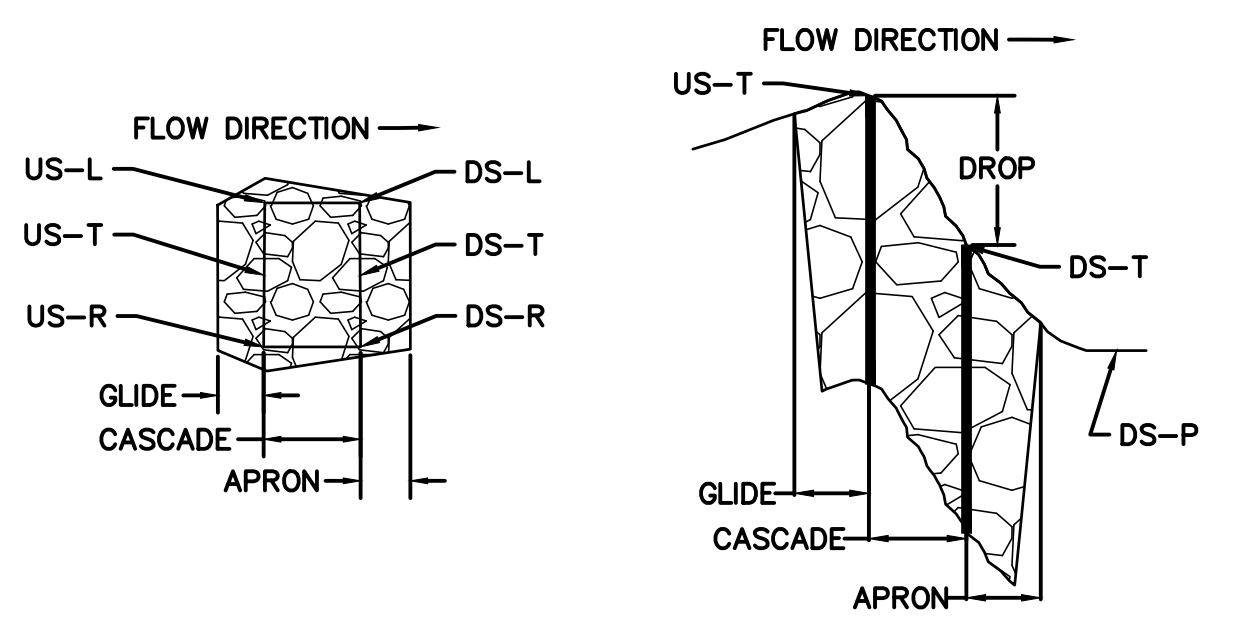
ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C204	
SHEET NO. 13 OF 55	



LEGEND

- BOULDER TOE CONFIGURATION (SEE DETAILS SHEET C301)
- IMBRICATED BOULDER WALL (SEE DETAILS SHEET C301)
- PROPOSED RIPRAP
- 1.5" MILL AND OVERLAY (SEE DETAILS SHEET C304)
- FULL DEPTH RECONSTRUCTION (SEE DETAILS SHEET C304)
- MAINTENANCE ACCESS PATH
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. 100 YEAR FLOODPLAIN (MODELED)
- PR. CURB REPLACEMENT (SEE DETAILS SHEET C304)
- EX. PROPERTY LINE
- EX. BRUSH LINE
- PR. BRUSH LINE
- EX. FENCE
- PR. FENCE
- EASEMENT
- TEMPORARY EASEMENT

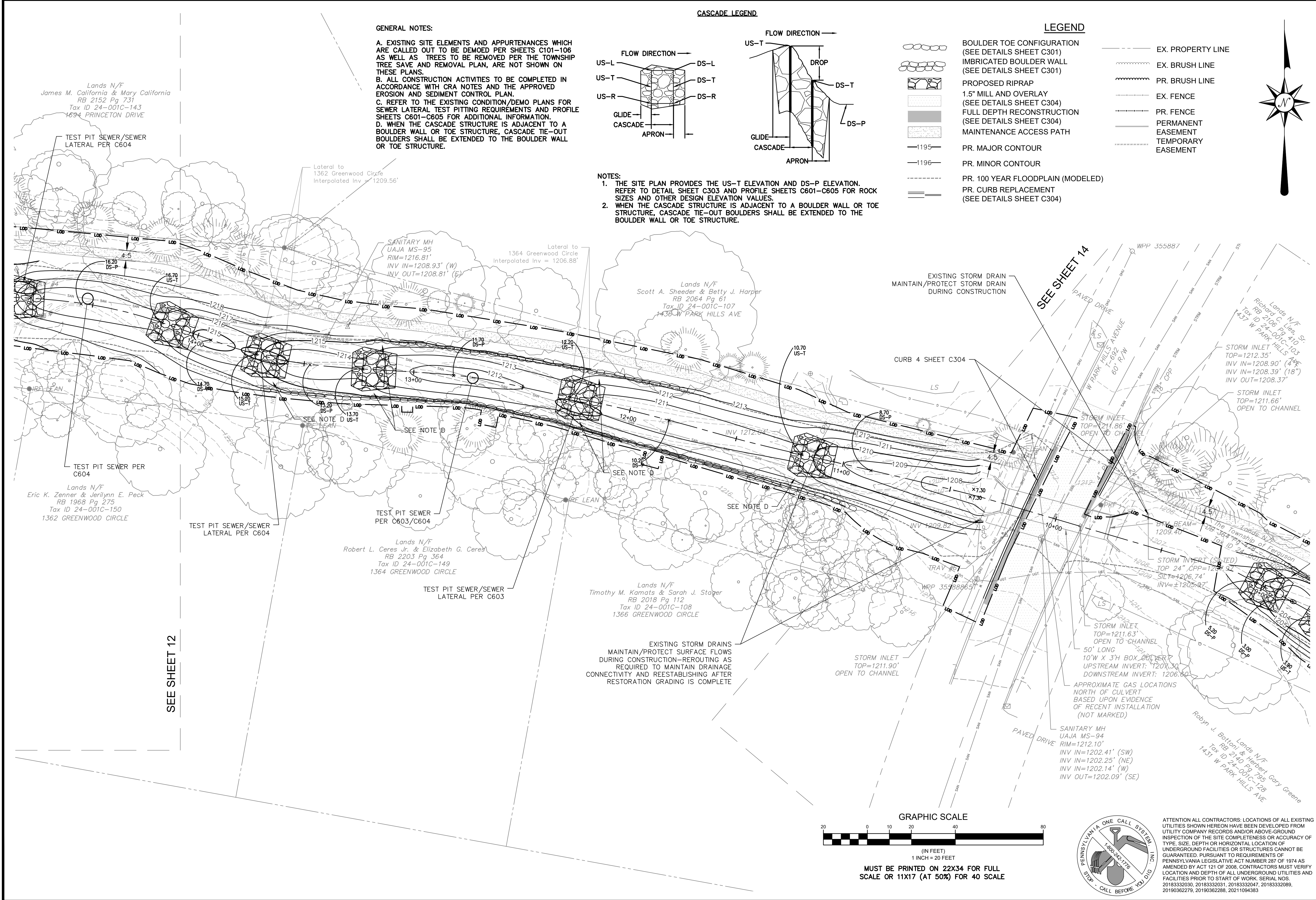
CASCADE LEGEND



- NOTES:**
1. THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES.
 2. WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.

GENERAL NOTES:

- A. EXISTING SITE ELEMENTS AND APPURTENANCES WHICH ARE CALLED OUT TO BE DEMO'D PER SHEETS C101-106 AS WELL AS TREES TO BE REMOVED PER THE TOWNSHIP TREE SAVE AND REMOVAL PLAN, ARE NOT SHOWN ON THESE PLANS.
- B. ALL CONSTRUCTION ACTIVITIES TO BE COMPLETED IN ACCORDANCE WITH CRA NOTES AND THE APPROVED EROSION AND SEDIMENT CONTROL PLAN.
- C. REFER TO THE EXISTING CONDITION/DEMO PLANS FOR SEWER LATERAL TEST PITTING REQUIREMENTS AND PROFILE SHEETS C601-C605 FOR ADDITIONAL INFORMATION.
- D. WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.



P:\14003\14003.04 Park Hills Drainageway\CAD\Y-tilt.dwg Sep 06, 2023 - 9:44am ENV\CTB Plot Scale 1=1 Plot By: hewman Tab: C204

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

SITE PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

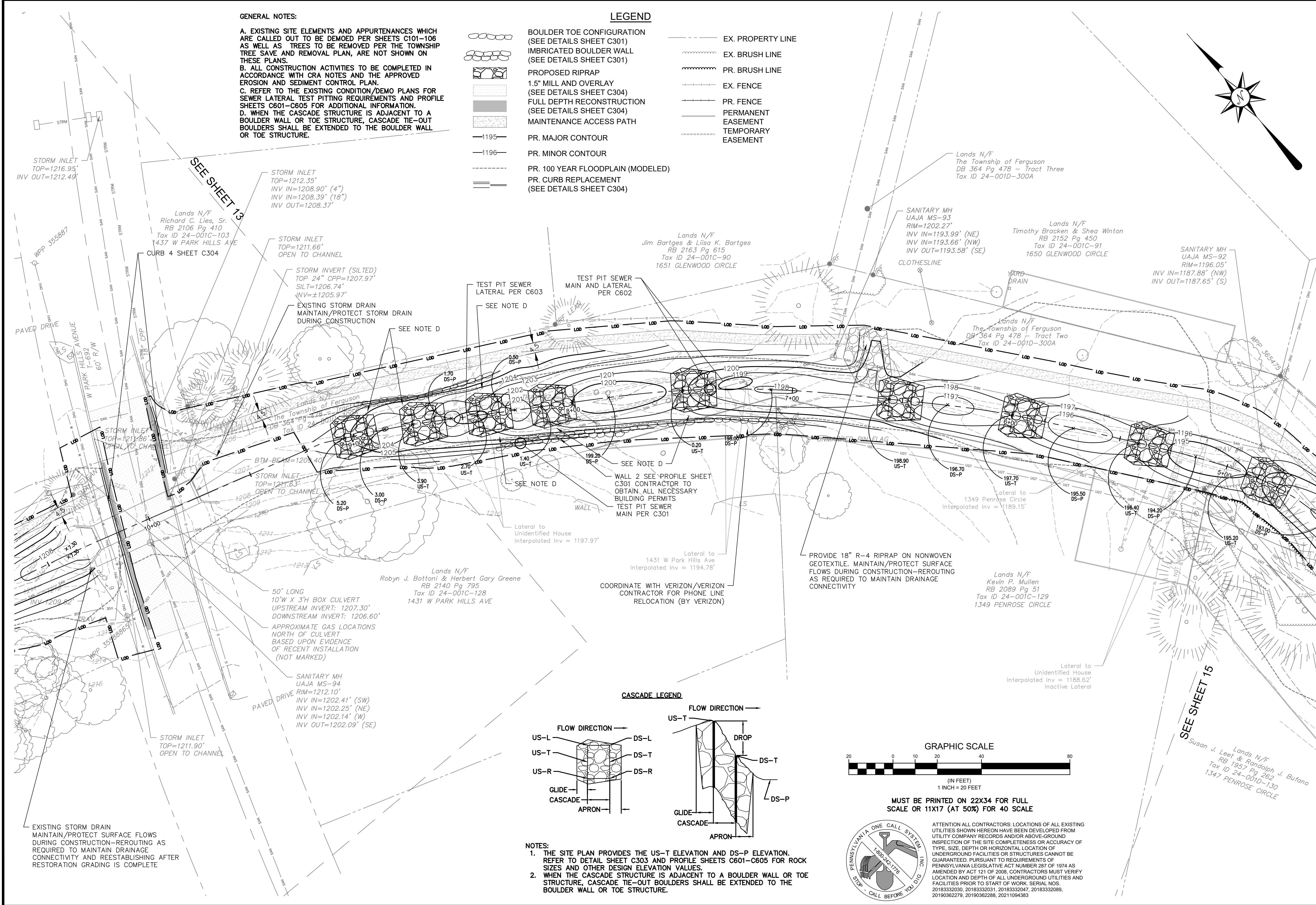
DRAWING NUMBER
C205
SHEET NO. 14 OF 55

GENERAL NOTES:

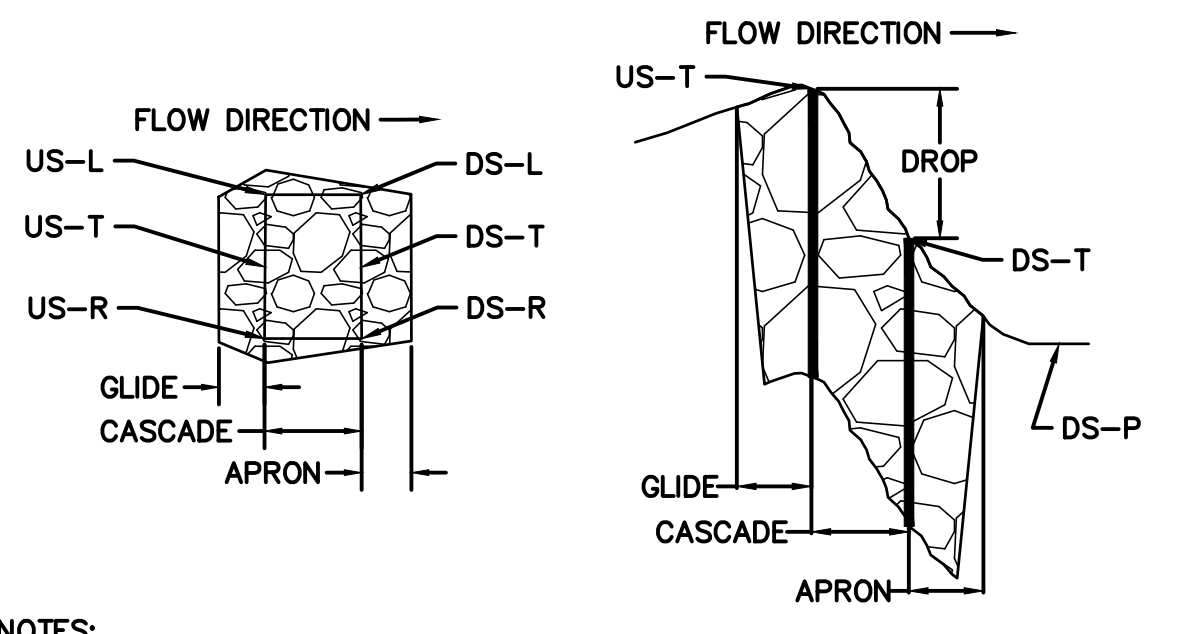
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- D. WHEN THE CASCADE STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADE TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.

LEGEND

- BOULDER TOE CONFIGURATION (SEE DETAILS SHEET C301)
- IMBRICATED BOULDER WALL (SEE DETAILS SHEET C301)
- PROPOSED RIPRAP
- 1.5" MILL AND OVERLAY (SEE DETAILS SHEET C304)
- FULL DEPTH RECONSTRUCTION (SEE DETAILS SHEET C304)
- MAINTENANCE ACCESS PATH
- PR. MAJOR CONTOUR
- PR. MINOR CONTOUR
- PR. 100 YEAR FLOODPLAIN (MODELED)
- PR. CURB REPLACEMENT (SEE DETAILS SHEET C304)
- EX. PROPERTY LINE
- EX. BRUSH LINE
- PR. BRUSH LINE
- EX. FENCE
- PR. FENCE
- PERMANENT EASEMENT
- TEMPORARY EASEMENT

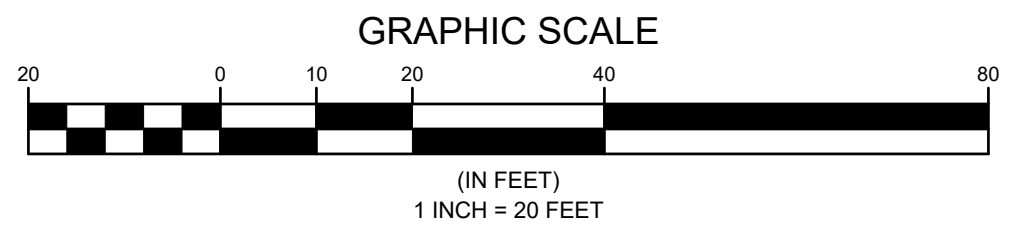


CASCADE LEGEND



NOTES:

- THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES.
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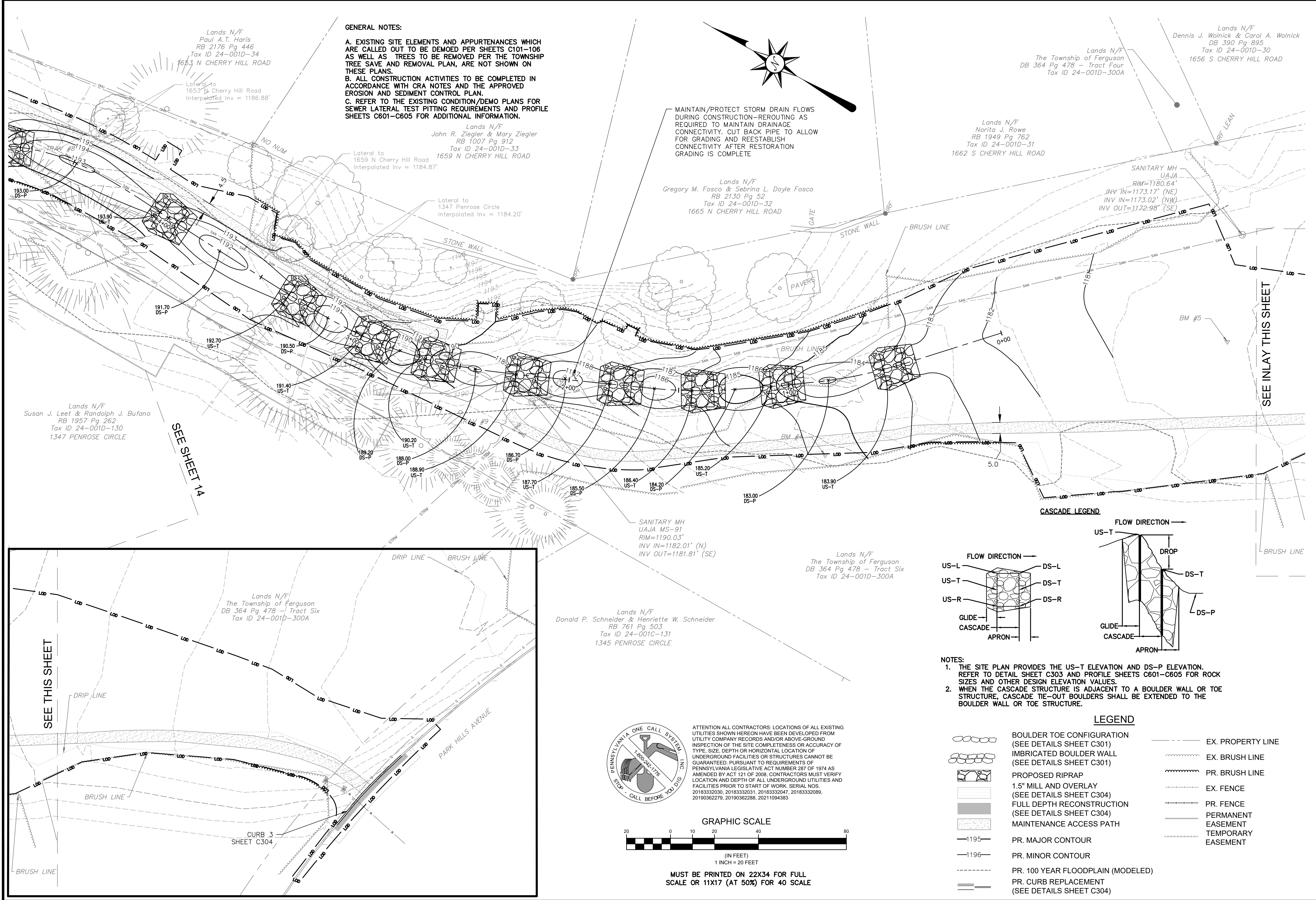
MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 2018332030, 2018332031, 2018332047, 2018332089, 20190362279, 20190362288, 20211094383

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-tilt.dwg Sep 06, 2023 - 9:44am ENV\CTB Plot Scale 1=1 Plot By: hewman Tab: C205

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-tilt.dwg Sep 06, 2023 - 9:44am ENV\CTB Plot Scale 1=1 Plot By: newman Tab: C206



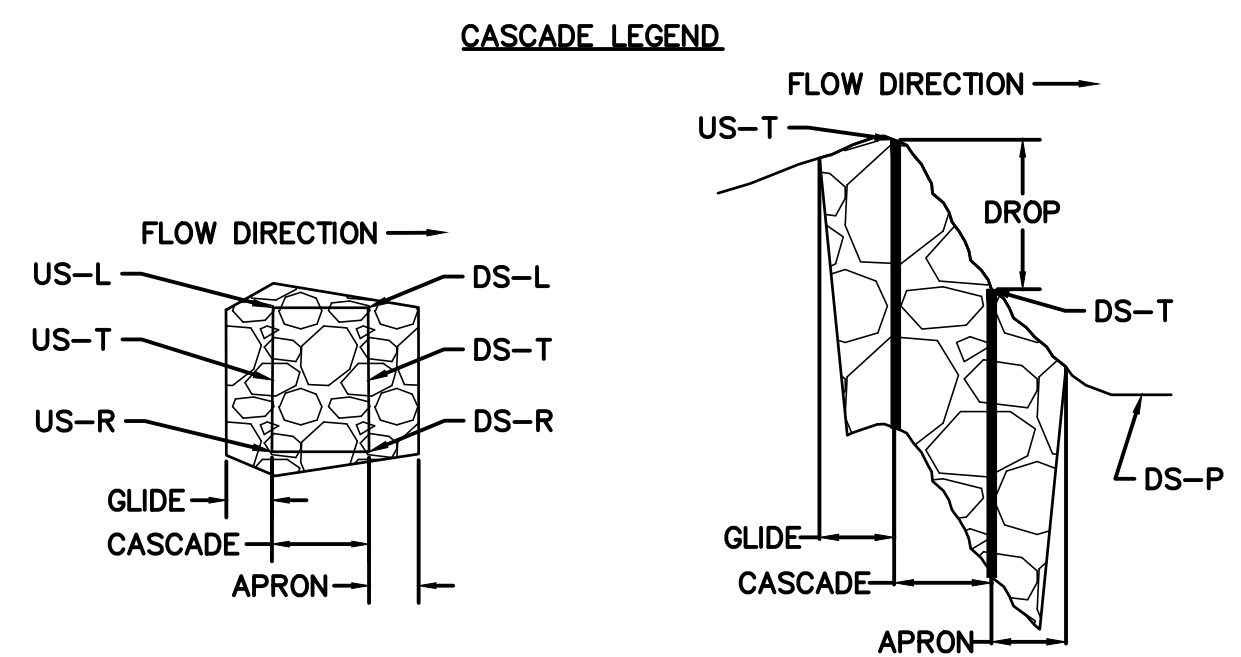
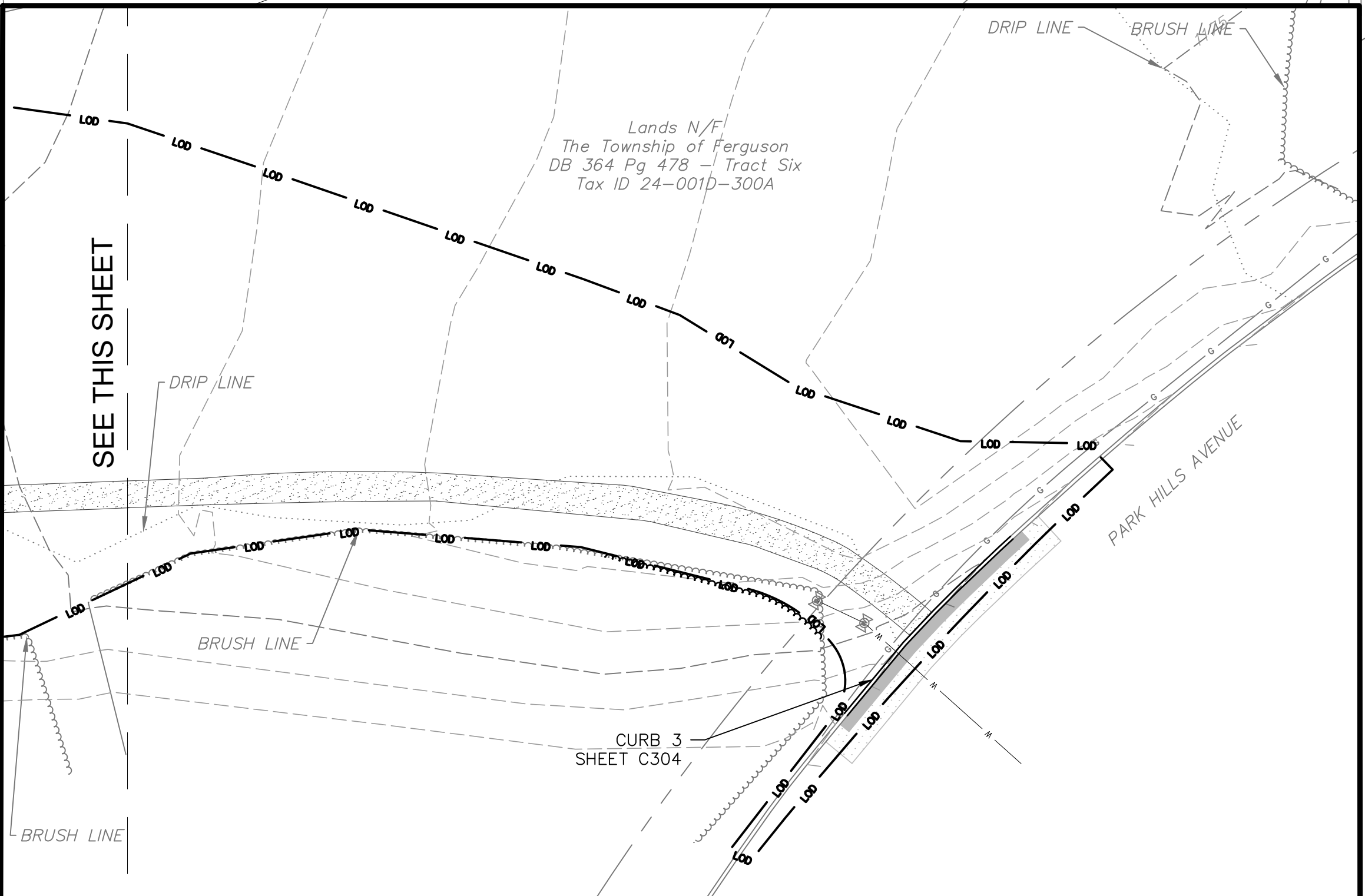
GENERAL NOTES:

- A. EXISTING SITE ELEMENTS AND APPURTENANCES WHICH ARE CALLED OUT TO BE DEMO PER SHEETS C101-106 AS WELL AS TREES TO BE REMOVED PER THE TOWNSHIP TREE SAVE AND REMOVAL PLAN, ARE NOT SHOWN ON THESE PLANS.
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- C. REFER TO THE EXISTING CONDITION/DEMO PLANS FOR SEWER LATERAL TEST PITTING REQUIREMENTS AND PROFILE SHEETS C601-C605 FOR ADDITIONAL INFORMATION.

MAINTAIN/PROTECT STORM DRAIN FLOWS DURING CONSTRUCTION-ROUTING AS REQUIRED TO MAINTAIN DRAINAGE CONNECTIVITY. CUT BACK PIPE TO ALLOW FOR GRADING AND REESTABLISH CONNECTIVITY AFTER RESTORATION GRADING IS COMPLETE

SEE SHEET 14

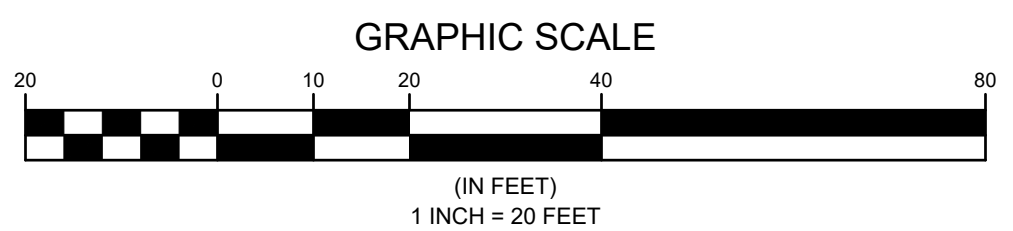
SEE INLAY THIS SHEET



- NOTES:**
1. THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES.
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MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE

LEGEND	
	BOULDER TOE CONFIGURATION (SEE DETAILS SHEET C301)
	IMBRICATED BOULDER WALL (SEE DETAILS SHEET C301)
	PROPOSED RIPRAP
	1.5" MILL AND OVERLAY (SEE DETAILS SHEET C304)
	FULL DEPTH RECONSTRUCTION (SEE DETAILS SHEET C304)
	MAINTENANCE ACCESS PATH
	PR. MAJOR CONTOUR
	PR. MINOR CONTOUR
	PR. 100 YEAR FLOODPLAIN (MODELED)
	PR. CURB REPLACEMENT (SEE DETAILS SHEET C304)
	EX. PROPERTY LINE
	EX. BRUSH LINE
	PR. BRUSH LINE
	EX. FENCE
	PR. FENCE
	PERMANENT EASEMENT
	TEMPORARY EASEMENT

NEWELL TERESKA & MACKAY ENGINEERING
 341 SCIENCE PARK RD, STE #203 STATE COLLEGE, PA 16803

Pennoni
Biohabitats

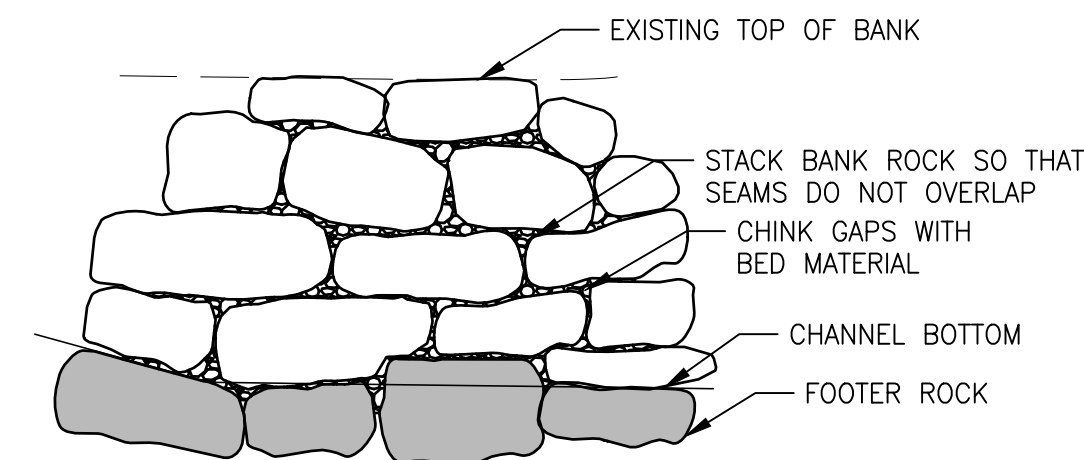
COMMONWEALTH OF PENNSYLVANIA
 REGISTERED PROFESSIONAL ENGINEER
 SCOTT A. BROWN
 042215-R

NO.	REVISIONS	DATE	BY
1	ISSUED FOR CONSTRUCTION	8/21/23	JSN
2	REVISION FOR ADDENDUM 1	9/5/23	JSN

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 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801

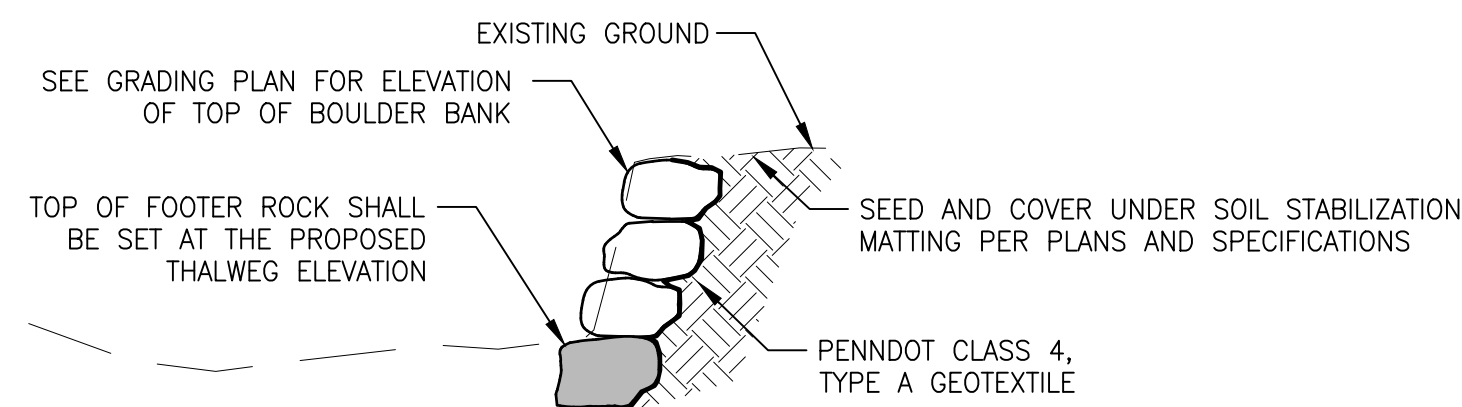
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

ENGINEER: SAB
 DESIGNED BY: AJJ
 DRAWN BY: JSN
 DATE: 7/6/22
 PROJECT NUMBER: 14003.04
 DRAWING NUMBER: C206
 SHEET NO. 15 OF 55



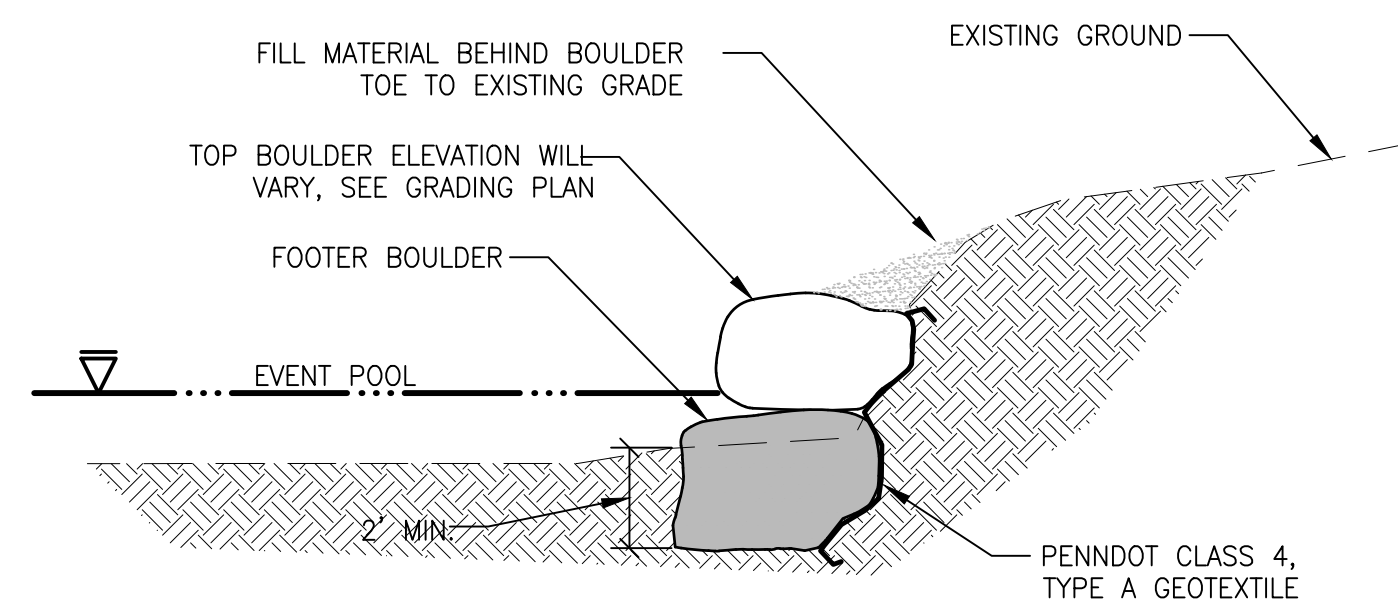
**IMBRICATED BOULDER WALL
CROSS SECTION -TYPICAL**

NOT TO SCALE



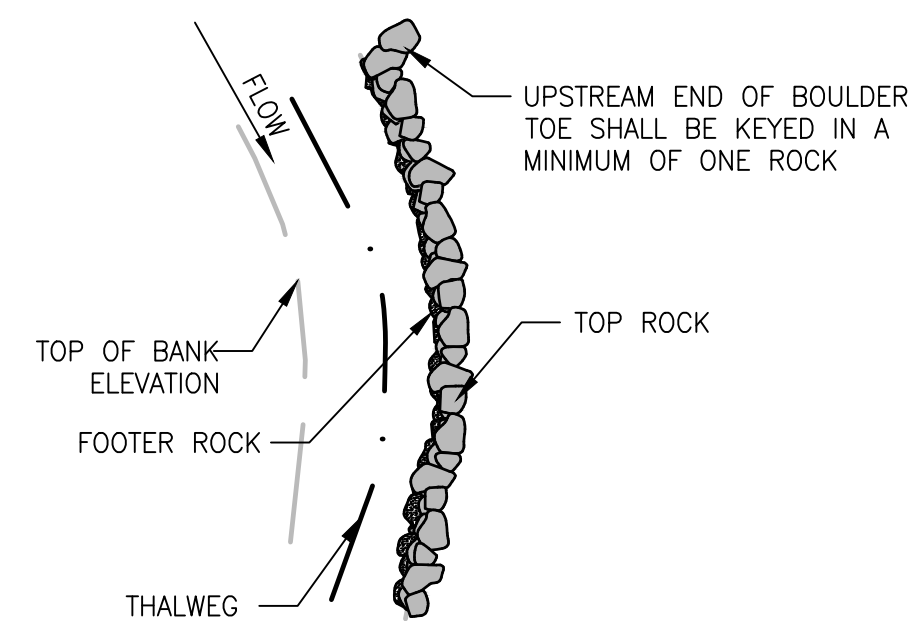
**IMBRICATED BOULDER WALL
PROFILE-TYPICAL**

NOT TO SCALE



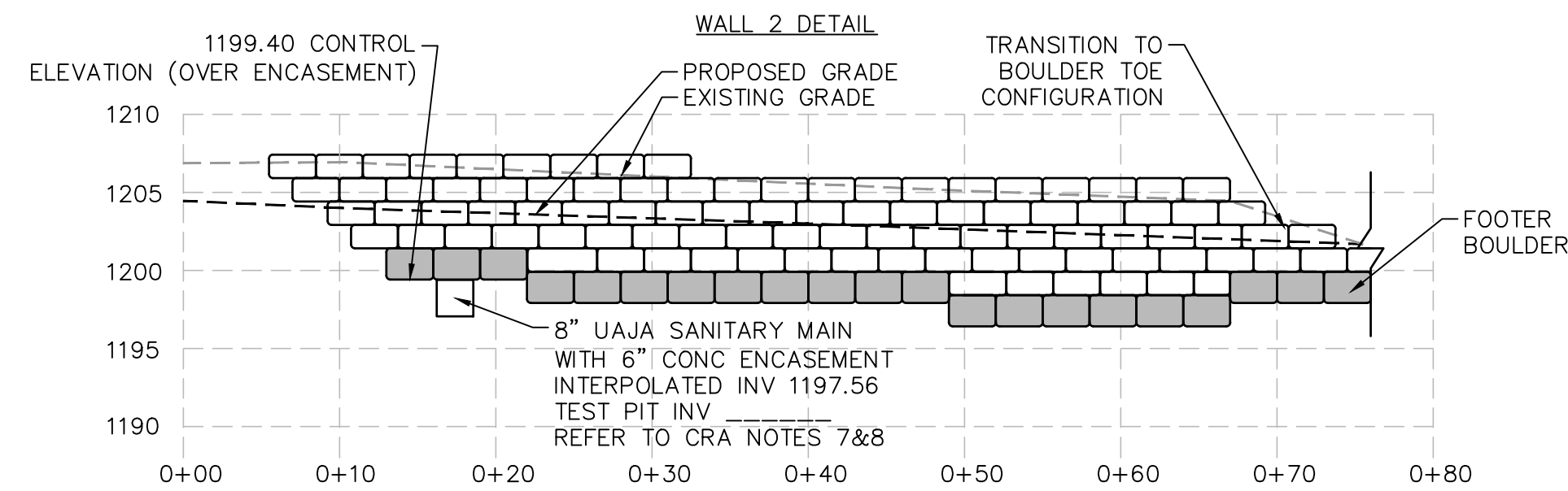
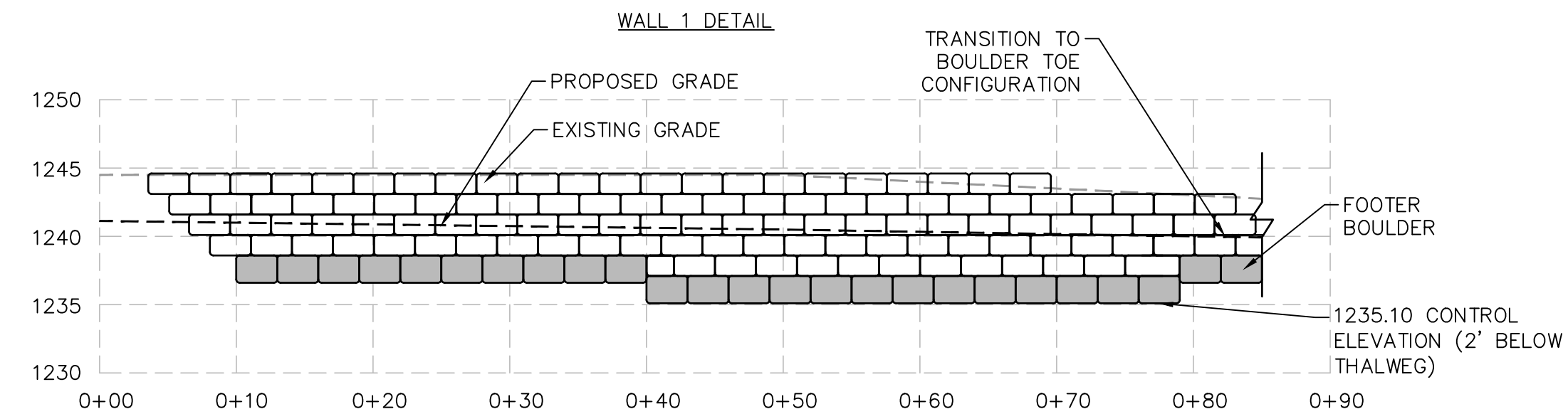
**BOULDER TOE
CROSS SECTION-TYPICAL**

NOT TO SCALE



**BOULDER TOE
PLAN-TYPICAL**

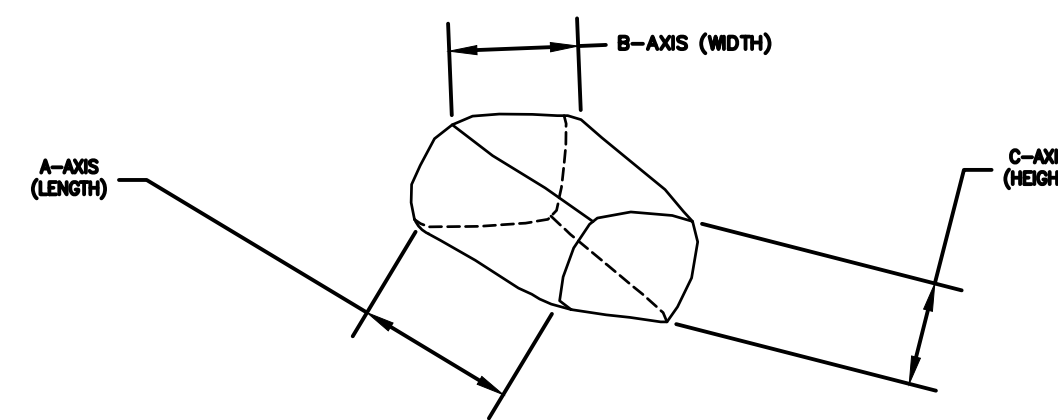
NOT TO SCALE



- NOTES:
1. BOULDER SIZES MAY VARY BASED UPON SPECIFICATIONS. FOOTER BOULDERS ARE SHOWN AS 3.0 FT LONG AND 2.0 FT HIGH. TOP BOULDERS ARE SHOWN AS 3.0 FT LONG AND 1.5 FT HIGH.
 2. CONTRACTOR SHALL OBTAIN ANY REQUIRED BUILDING PERMITS.

IMBRICATED BOULDER WALLS DETAIL

NOT TO SCALE



WALL BOULDER AXIS

NOT TO SCALE

BOULDER TOE AND IMBRICATED BOULDER WALL			
BOULDER DIMENSIONS (FT)			
BOULDER TYPE	A-AXIS	B-AXIS	C-AXIS
TOP	2.5-3.0	2.0-2.5	1.5-2.0
FOOTER	3.0-3.5	2.5-3.0	2.0-2.5

NO.	DESCRIPTION	BY	DATE
Δ	REVISION FOR ADDENDUM 1	JSN	9/5/23
	ISSUED FOR CONSTRUCTION	JSN	8/2/23

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3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PENNSYLVANIA
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
SITE CONSTRUCTION DETAILS

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER C301
SHEET NO. 17 OF 55

TABLE A (ENGLISH)
2 : 1 EMBANKMENT SLOPES

PIPE DIAMETER (IN.)	SKEW 4 = 90° TO 60° θ = 30°	L _{D-W} (FT.)	W (FT.)
36	5.8	0	4.6
42	6.3	0	5.8
48	6.9	0	6.9
54	7.5	0	8.0
60	8.1	0	9.2
72	9.2	0	11.5

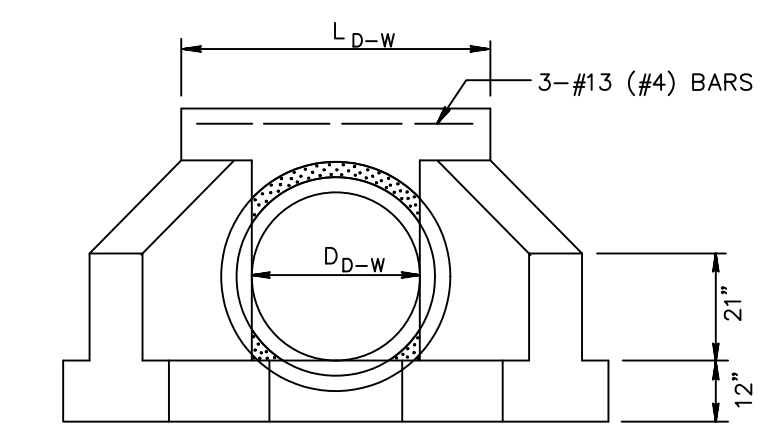
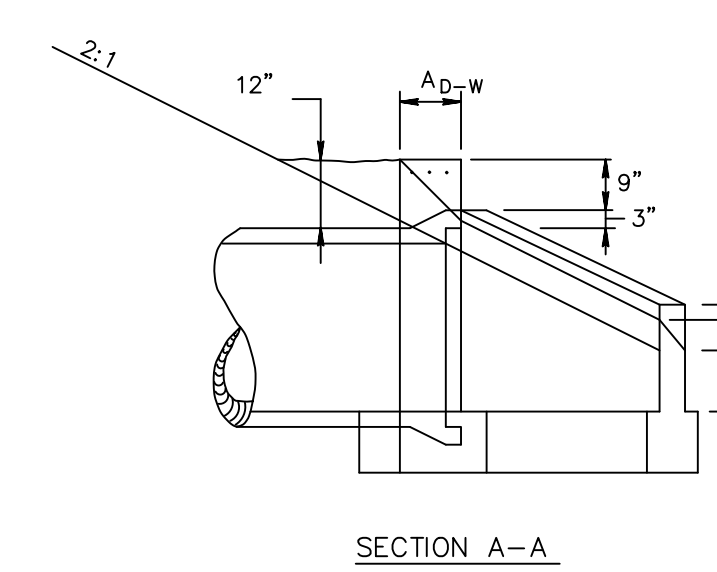
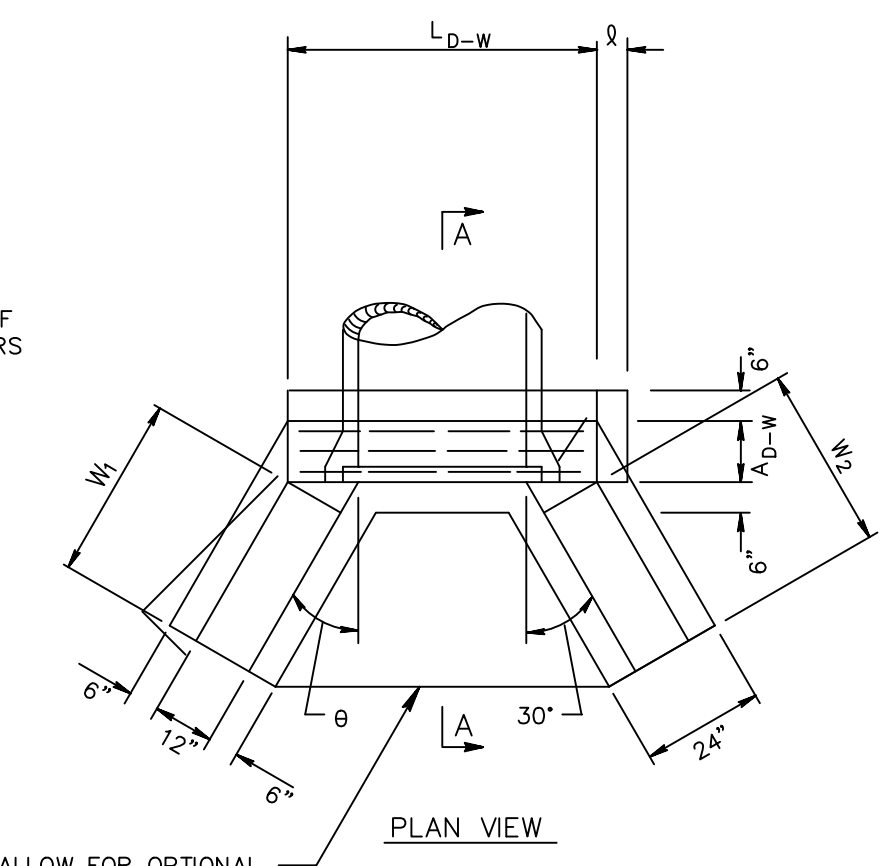
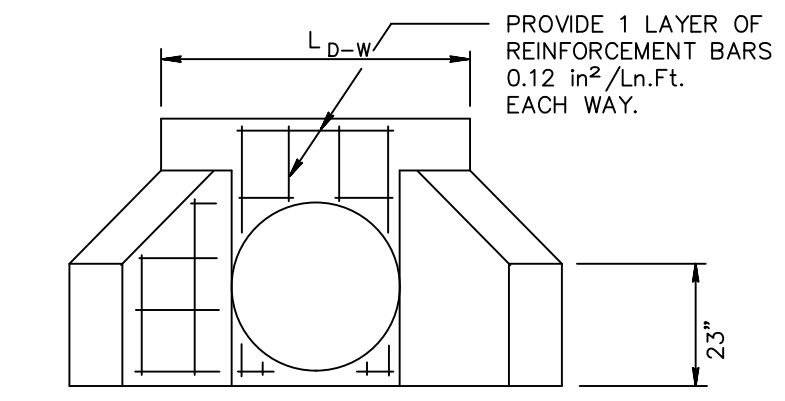
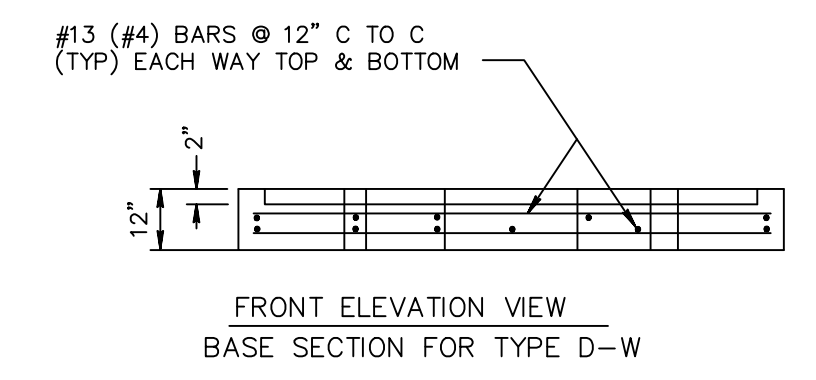
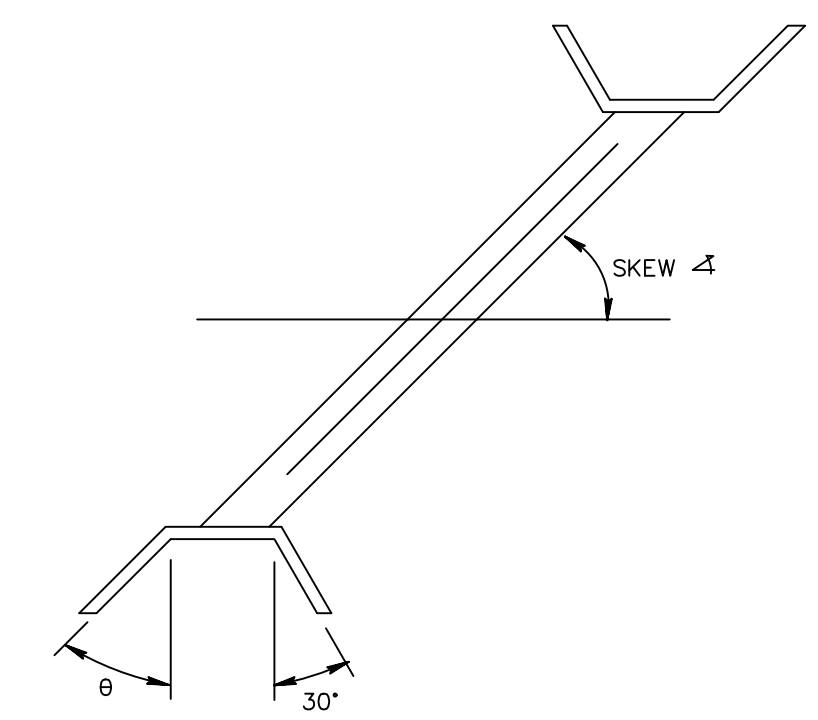
ENGLISH EQUATION

$$* SD = \frac{D_{D-W}}{\cos \theta} = \frac{D_{D-W}}{\sin \theta}$$

$$L_{D-W} = SD + 2.3'$$

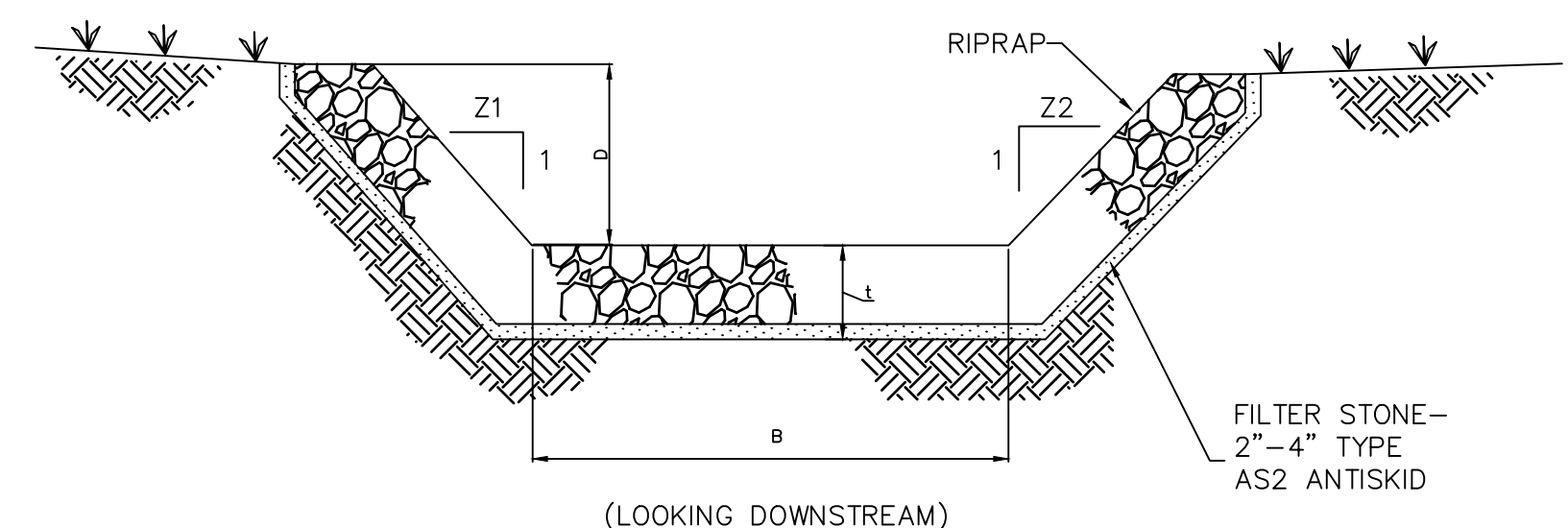
$$W = \frac{2D_{D-W} - 2.0'}{\cos \theta}$$

$$W = \frac{X}{\cos \theta} (D_{D-W} 0.5 - \frac{1.0}{X})$$
 (FOR VARIABLE SLOPE WHEN X EQUALS HORIZONTAL DIMENSION OF THE SLOPE DESIGNATION.)



TYPE D-W ENDWALL
NOT TO SCALE

* REFER TO PENNDOT RC-45M AND RC-46M.
STANDARD TYPE "M" INLET
NOT TO SCALE

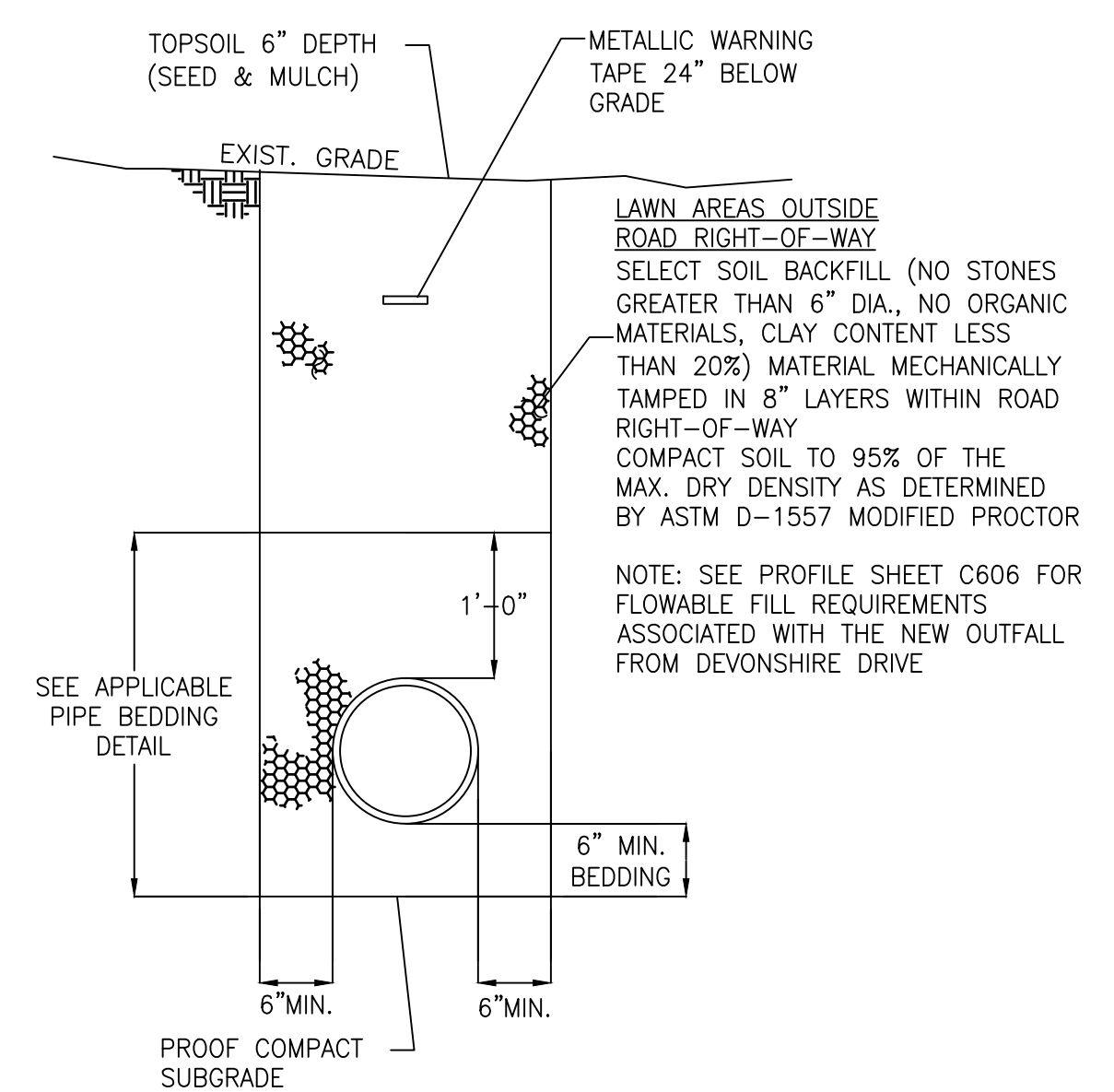


CHANNEL CROSS-SECTION

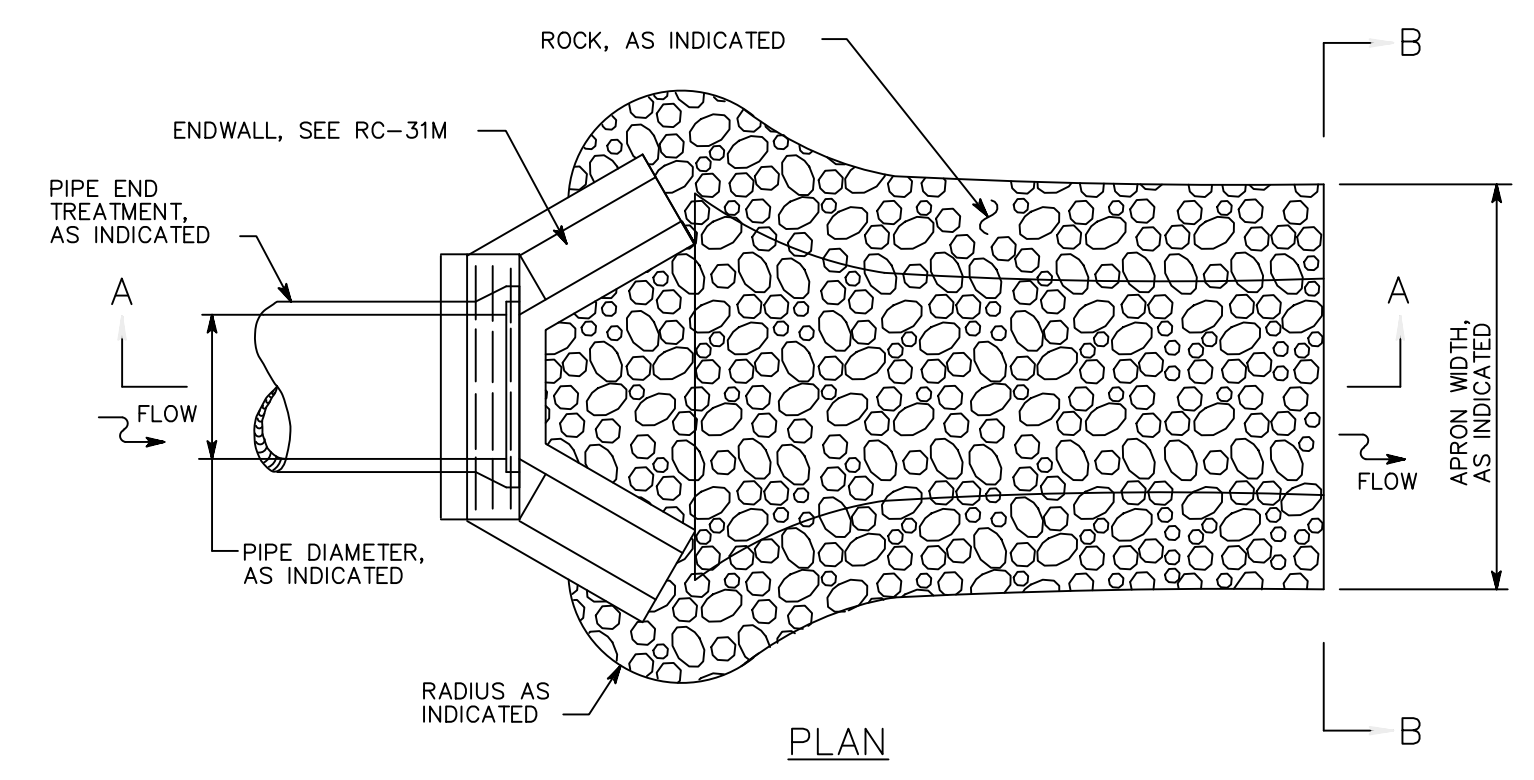
SWALE NO.	BOTTOM WIDTH B (FT)	DEPTH D (FT)	Z1 (FT)	Z2 (FT)	RIPRAP GRADATION (R-...)	RIPRAP DEPTH t (IN)
1	1	1	3	3	4	
2	1	1	3	3	4	

NOTES:
 FILTER STONE UNDERLAYMENT-TYPE AS2 ANTISKID SHALL BE USED.
 CHANNEL DIMENSIONS ARE FOR THE COMPLETED CHANNEL AFTER ROCK PLACEMENT. CHANNEL MUST BE OVER-EXCAVATED A SUFFICIENT AMOUNT TO ALLOW FOR THE VOLUME OF ROCK PLACED WITHIN THE CHANNEL WHILE PROVIDING THE SPECIFIED FINISHED DIMENSIONS.
 CHANNEL DIMENSIONS SHALL BE CONSTANTLY MAINTAINED. CHANNEL SHALL BE CLEANED WHENEVER TOTAL CHANNEL DEPTH IS REDUCED BY 25% AT ANY LOCATION. SEDIMENT DEPOSITS SHALL BE REMOVED WITHIN 24 HOURS OF DISCOVERY OR AS SOON AS SOIL CONDITIONS PERMIT ACCESS TO CHANNEL WITHOUT FURTHER DAMAGE.
 DAMAGED LINING SHALL BE REPAIRED OR REPLACED WITHIN 48 HOURS OF DISCOVERY.
 THE MINIMUM ROCK THICKNESS (t) SHALL BE 1.5 TIMES THE MAX ROCK SIZE.

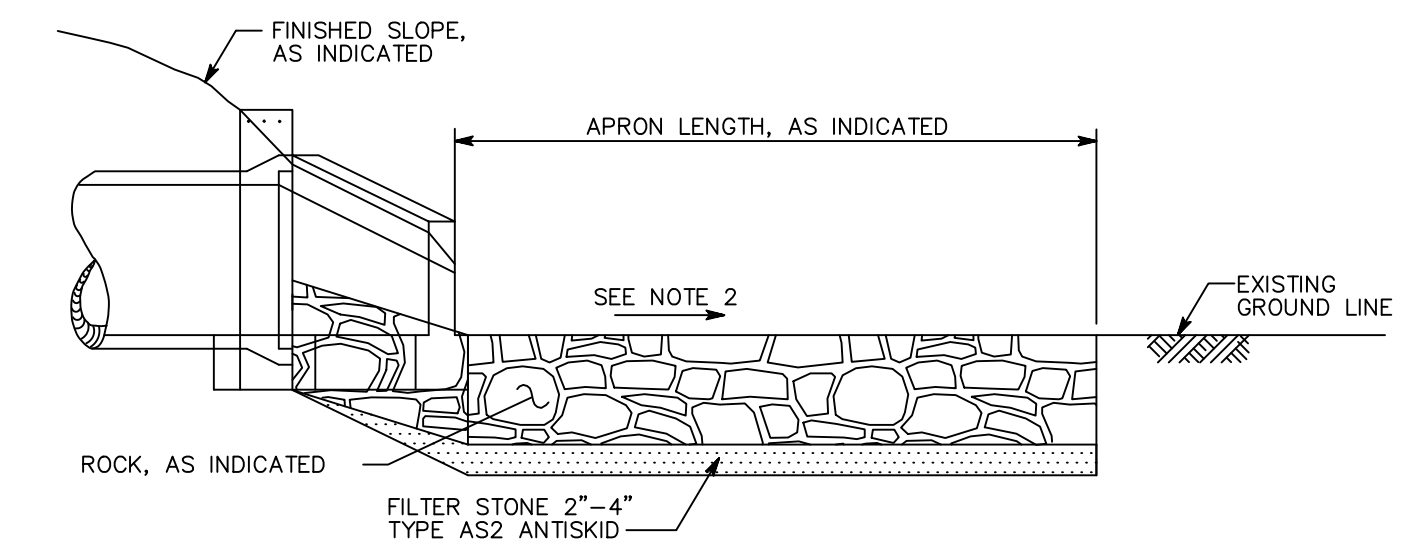
STANDARD CONSTRUCTION DETAIL #6-3
RIPRAP CHANNEL
NOT TO SCALE



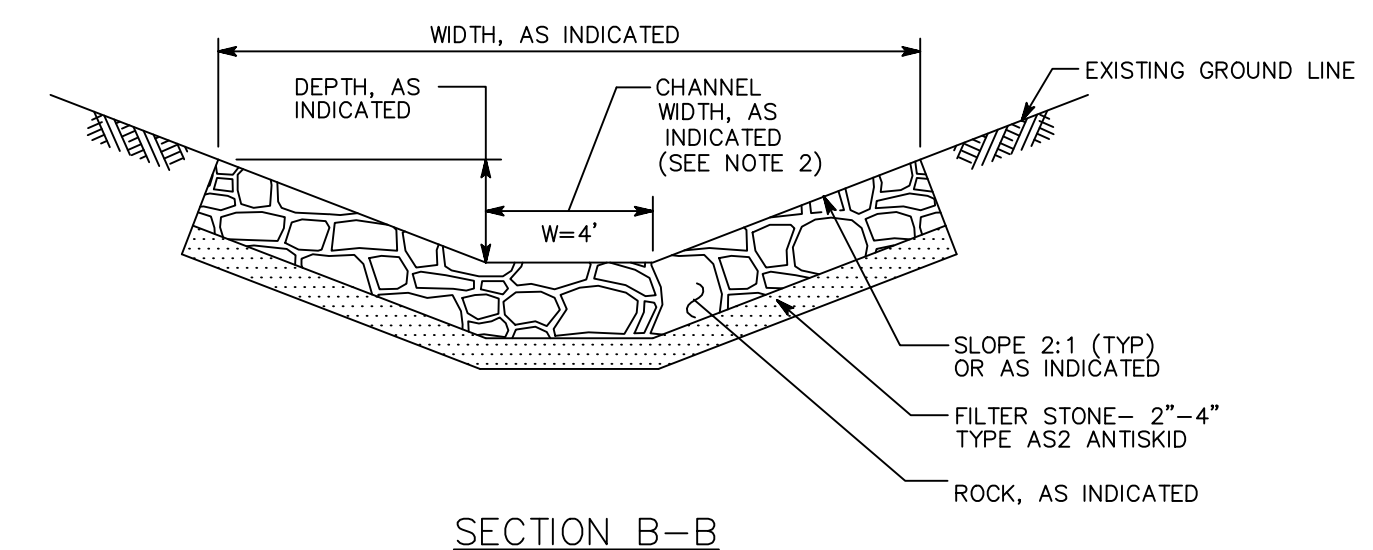
TRENCH RESTORATION FOR LAWN AREAS
NOT TO SCALE



PLAN



SECTION A-A



SECTION B-B

OUTLET NO.	PIPE DIA (IN)	RIPRAP		APRON	
		SIZE (R-...)	THICKNESS (IN)	LENGTH (FT)	APRON WIDTH (FT)
001	48	R-5	27	54	34

NOTES
 1. PROVIDE GEOTEXTILE MATERIAL ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.
 2. SLOPE SHOULD BE LEVEL OR AS CLOSE TO LEVEL AS REASONABLY POSSIBLE BASED ON SITE CONDITIONS.

ROCK APRON (DEFINED CHANNEL)
NOT TO SCALE

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-detailed-construction.dwg Sep 06, 2023 - 9:45am ENV:CTB Plot Scale 1=1 Plot By: jnewman Tab: C302

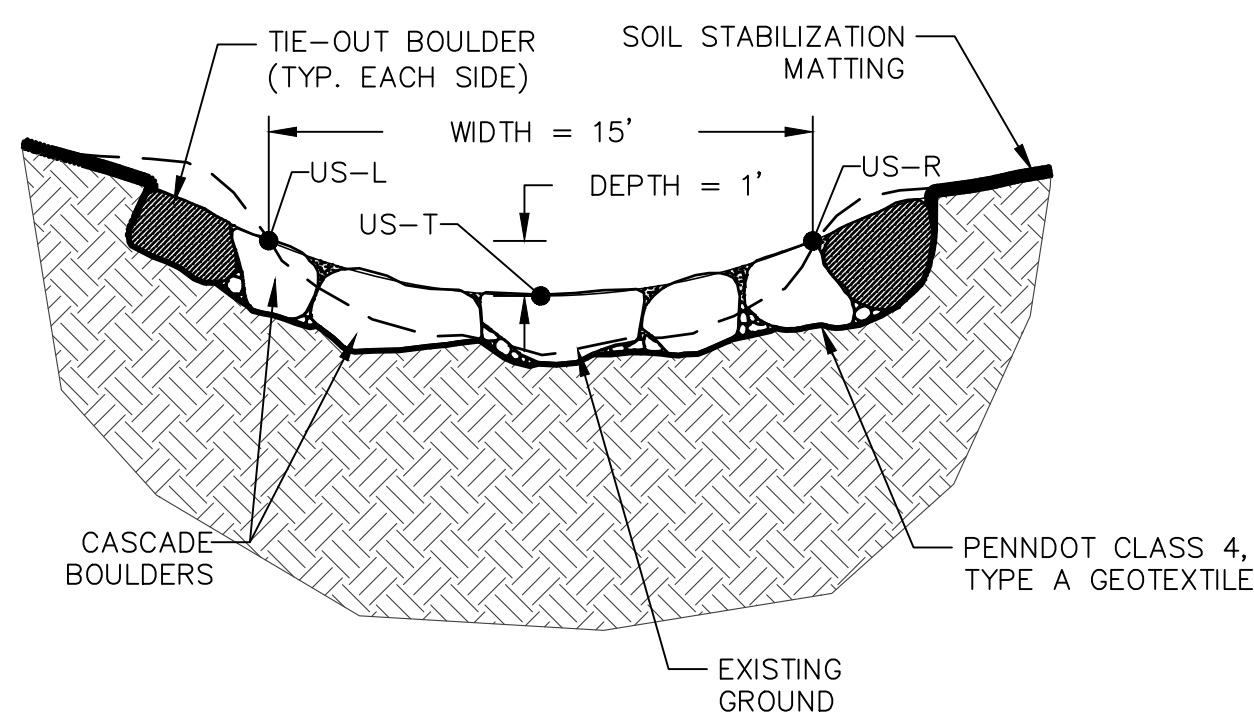
NO.	REVISIONS	DATE	BY
1	ISSUED FOR CONSTRUCTION	8/21/23	JSN
2	REVISION FOR ADDENDUM 1	9/5/23	JSN

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
SITE CONSTRUCTION DETAILS

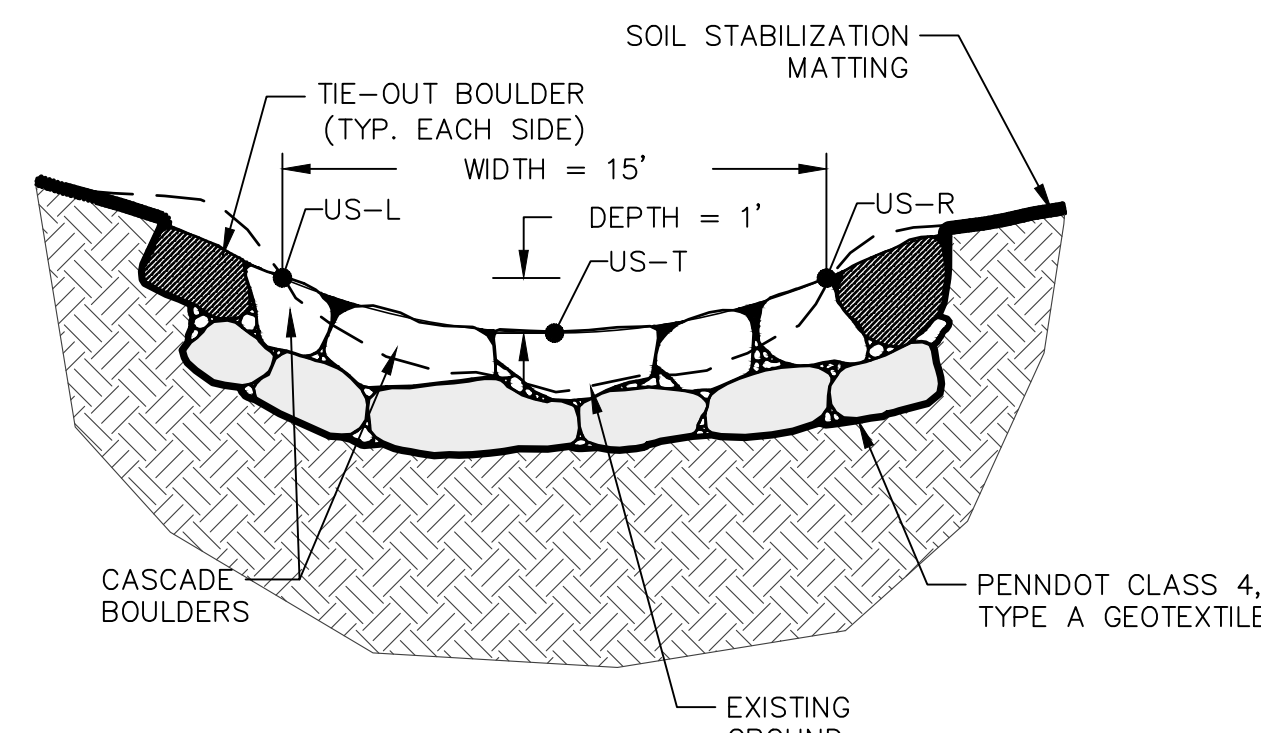
ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER
C302
SHEET NO. 18 OF 55

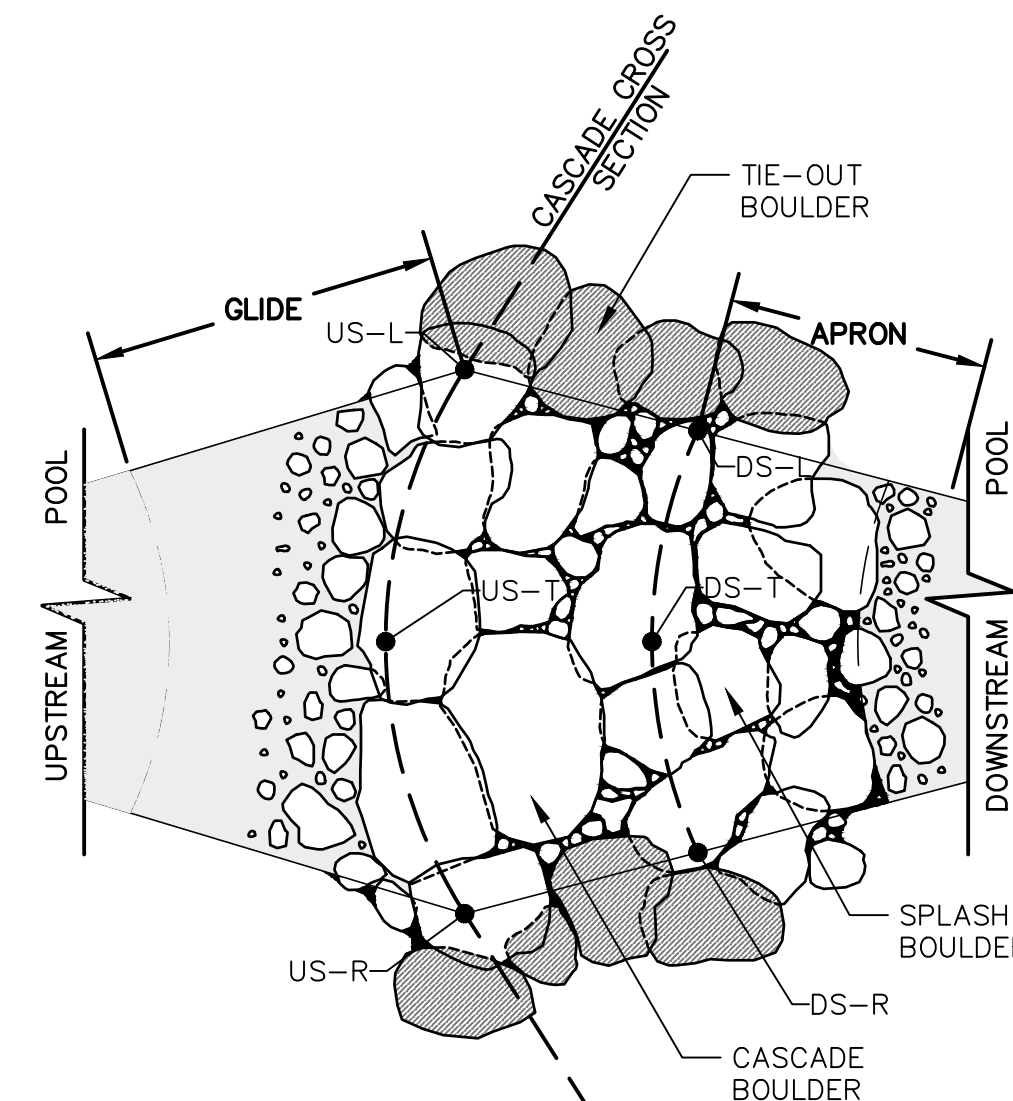
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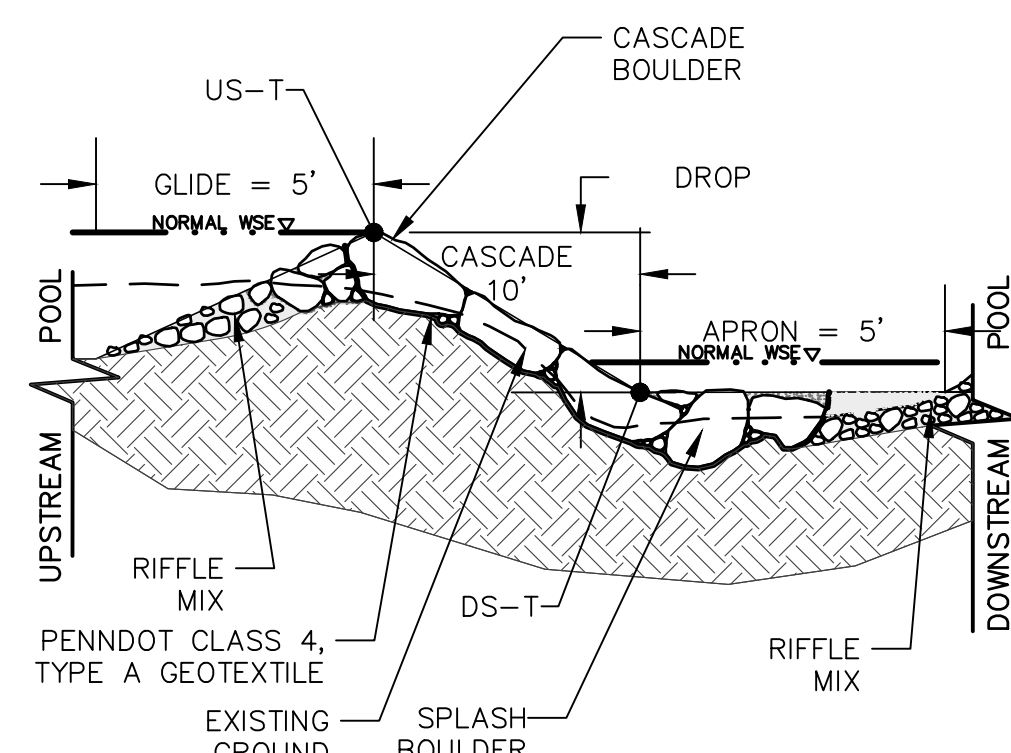
CASCADe CROSS SECTION-CUT
NOT TO SCALE



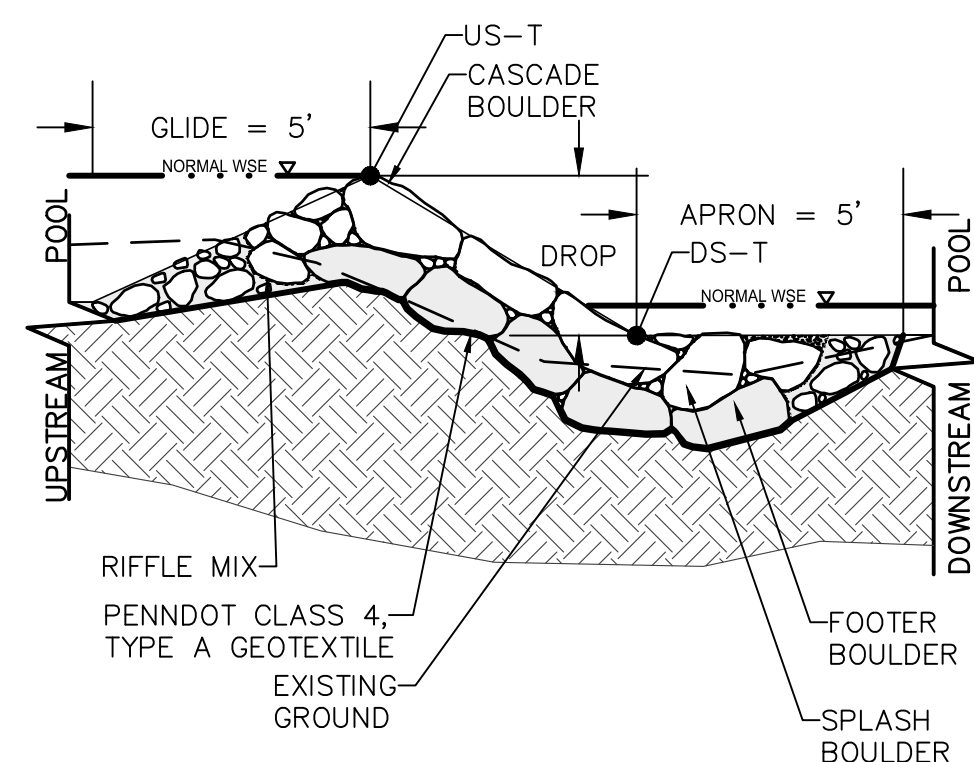
DOUBLE BOULDER CASCADe CROSS SECTION-CUT
NOT TO SCALE



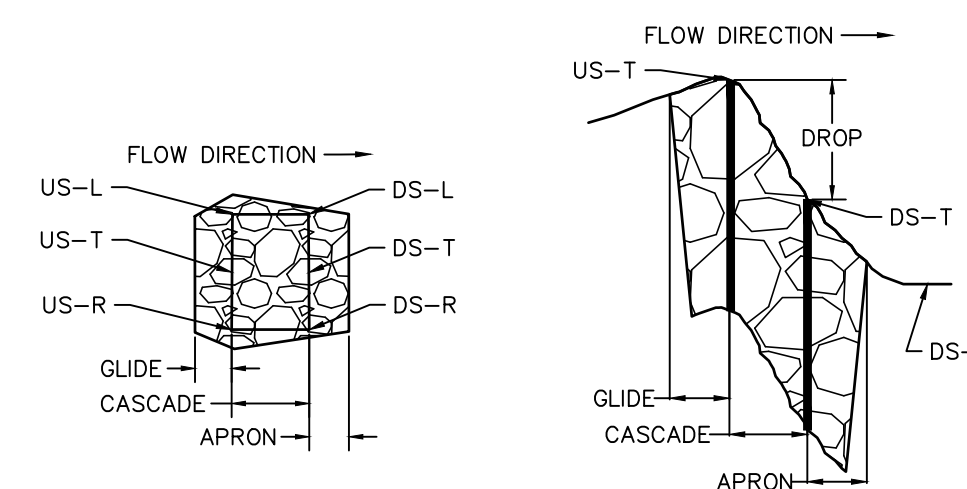
CASCADe PLAN VIEW
NOT TO SCALE



CASCADe PROFILE-CUT
NOT TO SCALE



DOUBLE BOULDER CASCADe PROFILE-CUT
NOT TO SCALE

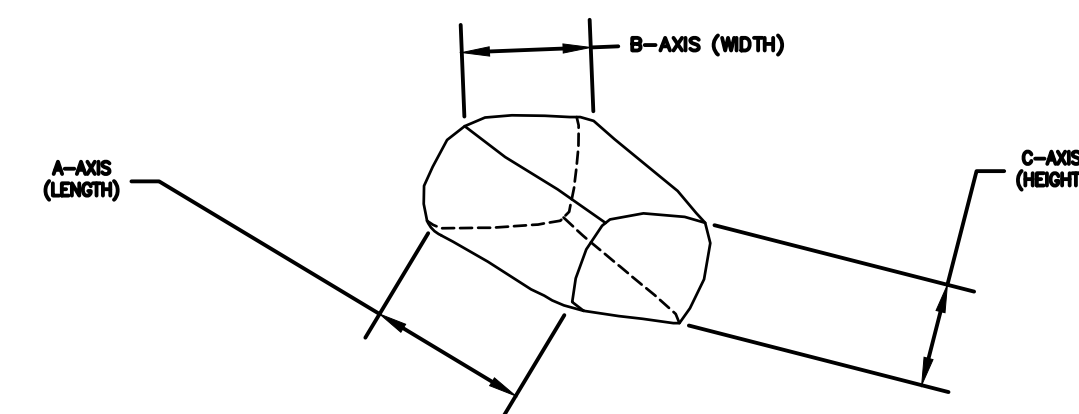


- NOTES:
1. THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES.
 2. WHEN THE CASCADe STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADe TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.

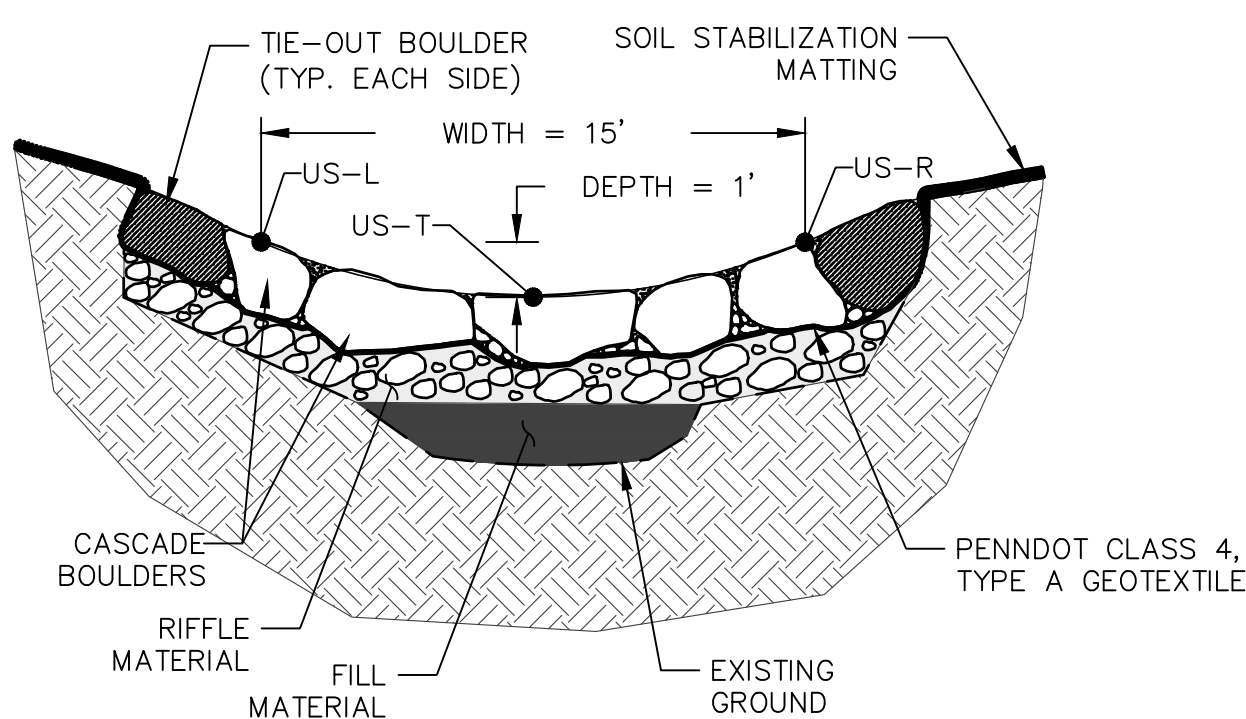
CASCADe LEGEND
NOT TO SCALE

CASCADe NOTES:

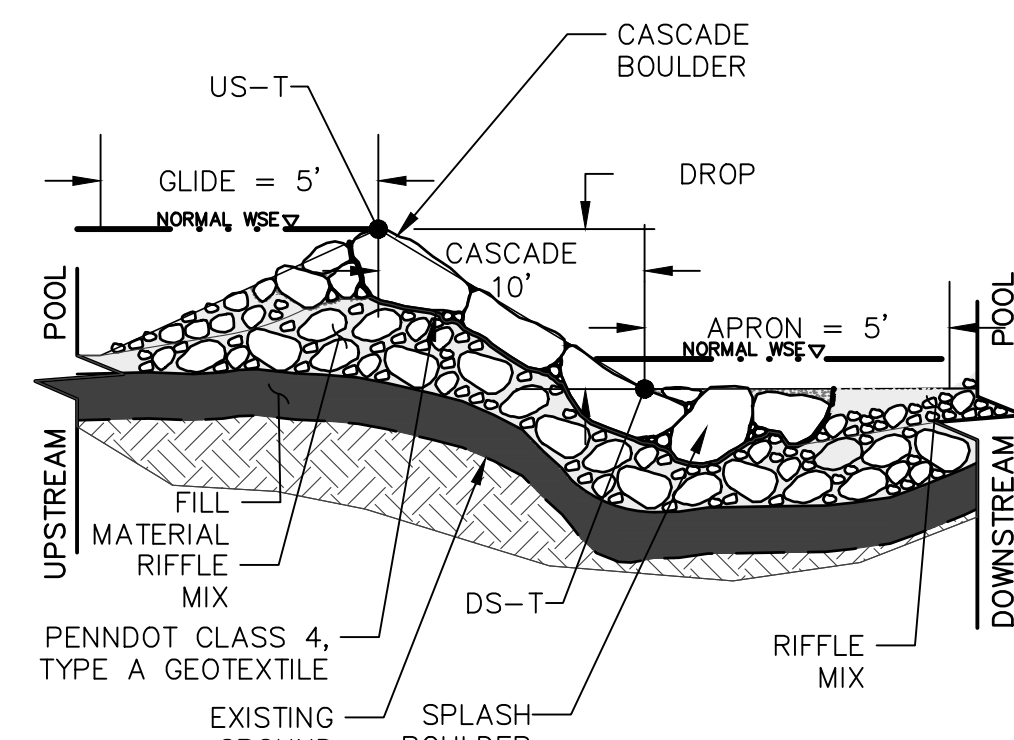
1. REFER TO PLANS AND PROFILE FOR ADDITIONAL ELEVATION AND LOCATION INFORMATION FOR CASCADe PLACEMENT.
2. THE CROSS SECTION SHALL BE CONSTRUCTED IN A PARABOLIC SHAPE.
3. FOR ALL MATERIAL SIZES, REFER TO SPECIFICATIONS AND TABLES PROVIDED ON THIS DETAIL.
4. NATURAL CHANNEL MATERIAL MAY BE HARVESTED ON-SITE PRIOR TO INSTALLATION OF CASCADe IF IT MEETS THE SPECIFICATIONS.
5. RIFFLE MIX SHALL BE A MINIMUM THICKNESS OF TWICE THE SPECIFIED D50 OF THE MATERIAL OR 2", WHICHEVER IS LARGER. TAPER UPSTREAM AND DOWNSTREAM LIMITS AS SHOWN.
6. THE NUMBER OF BOULDERS VARIES DEPENDING ON TYPICAL SECTION WIDTH AND BOULDER DIMENSIONS.
7. IN AREAS OF CUT, CHANNEL FILL MATERIAL UNDER RIFFLE MIX IS NOT NEEDED. IN AREAS OF FILL, EXISTING STREAM CHANNEL TO BE FILLED IN 8" LIFTS WITH CHANNEL FILL MATERIAL TO ELEVATION SPECIFIED ON PROFILE.
8. AS NEEDED, EXCAVATE THE DOWNSTREAM TIE OUT AREA FOR SPLASH BOULDERS AND INSTALL THE SPLASH AND CASCADe BOULDERS, LAYING A CONTINUOUS SHEET OF GEOTEXTILE UNDER ALL BOULDERS. TOP OF CASCADe BOULDERS SHALL BE INSTALLED IN A MANNER CONFORMING TO THE PARABOLIC CASCADe SHAPE, SHOWN IN THE DETAIL AND SHALL MEET FINISHED GRADE.
9. RIFFLE MIX OR SALVAGED NATURAL CHANNEL MATERIAL SHALL BE REGULARLY WORKED INTO THE FULL DEPTH OF CASCADe TO FILL VOIDS BETWEEN BOULDERS.
10. THE BOULDERS SHALL BE TILTED DOWNSTREAM AS SHOWN ON THE DETAIL AND NOT STACKED. STAGGER SEAMS OF BOULDERS BETWEEN EACH ROW. INSTALL RIFFLE MIX APRON TO BLEND INTO OWN STREAM POOL AS SHOWN ON DETAIL.
11. TIE-OUT BOULDER SHALL EXTEND PAST THE CORNER NODES DS-R & DS-L A MIN. OF ONE BOULDER LENGTH (B-AXIS) INTO EXISTING BANK. WHERE THIS CONFLICTS WITH EXISTING TREE ROOTS OR BEDROCK, TIE-OUT BOULDER MAY BE ELIMINATED OR ADJUSTED AT DIRECTION OF ENGINEER. WHEN THE CASCADe STRUCTURE IS ADJACENT TO A BOULDER WALL OR TOE STRUCTURE, CASCADe TIE-OUT BOULDERS SHALL BE EXTENDED TO THE BOULDER WALL OR TOE STRUCTURE.
12. PLACE RIFFLE MIX UPSTREAM OF THE BOULDER GRADE CONTROL TO THE FINISHED GRADES, COMPRESSING MATERIALS TO MAINTAIN PARABOLIC CROSS SECTION SHAPE.
13. SALVAGED NATURAL CHANNEL MATERIAL SHALL BE REPEATEDLY WORKED INTO FULL DEPTH OF THE RIFFLE MIX TO FILL VOIDS.
14. EXCAVATE UPSTREAM POOL AND INSTALL RIFFLE MIX GLIDE AS SHOWN ON DETAIL.
15. TRIM ALL GEOTEXTILE AT OR BELOW FINISHED GRADE.
16. ONCE CASCADe IS CONSTRUCTED, STABILIZE ALL DISTURBED TIE-IN LOCATIONS AS SPECIFIED.



CASCADe BOULDER AXIS
NOT TO SCALE



CASCADe CROSS SECTION-FILL
NOT TO SCALE



CASCADe PROFILE-FILL
NOT TO SCALE

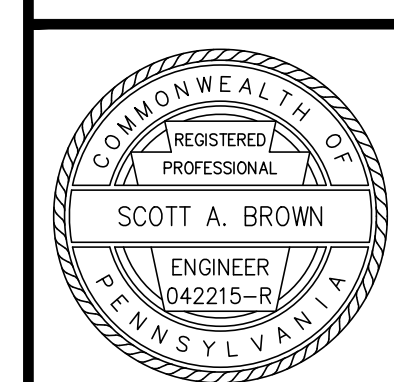
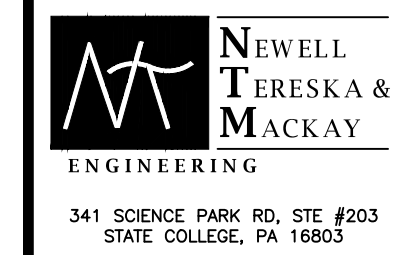
DEVONSHIRE TO W PARK HILLS AVE BOULDER DIMENSIONS (FT) - STA 23+52 TO STA 10+00			
BOULDER TYPE	A-AXIS	B-AXIS	C-AXIS
Cascade	3.0-4.0	2.5-3.5	2.0-2.5
Splash	2.5-3.5	2.0-3.0	1.5-2.0
Tie-out	2.5-3.5	2.0-3.0	1.5-2.0
Footer	3.0-4.0	2.5-3.5	2.0-2.5

W PARK HILLS AVE TO PARK HILLS PARK BOULDER DIMENSIONS (FT) - STA 10+00 TO STA 0+00			
BOULDER TYPE	A-AXIS	B-AXIS	C-AXIS
Cascade	2.5-3.5	2.0-3.0	1.5-2.0
Splash	2.0-3.0	1.5-2.5	1.0-1.5
Tie-out	2.0-3.0	1.5-2.5	1.0-1.5

RIFFLE MIX MATERIAL SIZING		
CUMULATIVE % FINER	COBBLE (75% of total mix)	GRAVEL (25% of total mix)
	SIZE (IN)	
10.0	6.0	0.25
50.0	12.0	1.0
100.0	24.0	3.0

RIFFLE MIX MATERIAL SIZING		
CUMULATIVE % FINER	COBBLE (75% of total mix)	GRAVEL (25% of total mix)
	SIZE (IN)	
10.0	4.0	0.25
50.0	9.0	1.0
100.0	18.0	3.0

- NOTES:
1. IMPORTED GRAVEL SHALL BE INCORPORATED INTO RIFFLE MIX AT AN APPROXIMATE RATIO OF 75% RIFFLE MIX TO 25% GRAVEL.
 2. DOUBLE BOULDER CASCADe AT STA 18+55. SEE DETAIL ON SHEET C605



NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

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PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

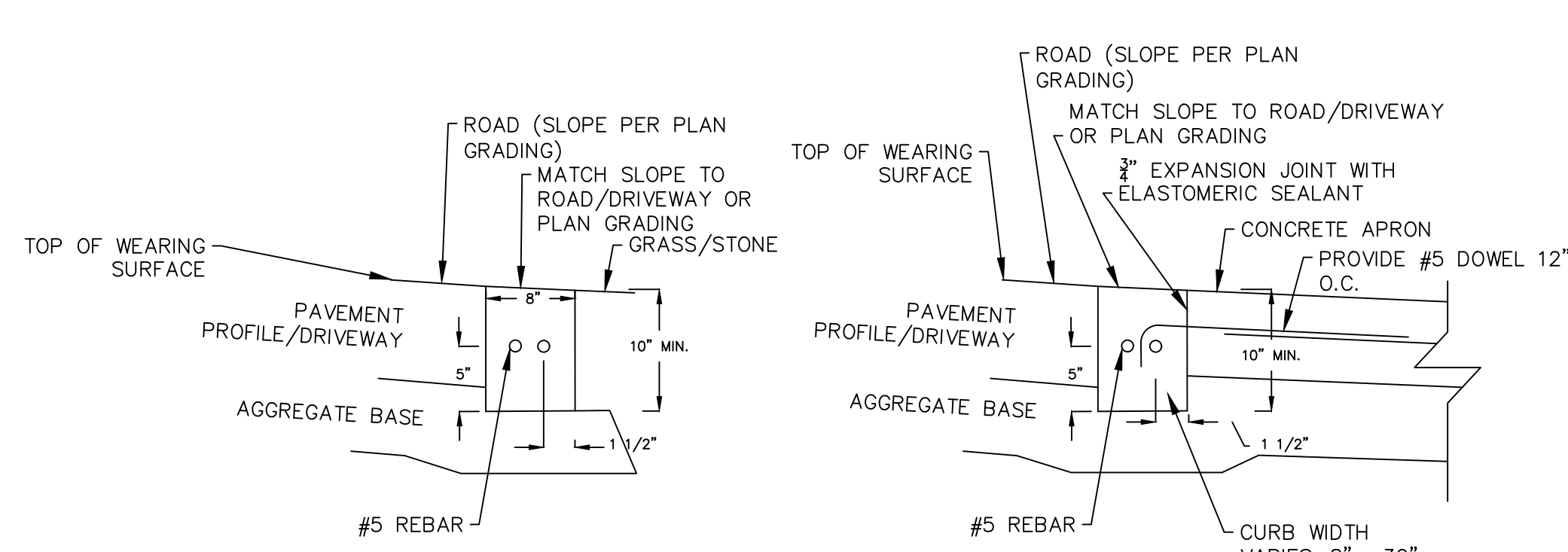
SITE CONSTRUCTION DETAILS

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER
C303

SHEET NO. **19** OF **55**

P:\14003\14003.04 Park Hills Drainage\CAD\Y-detailed-construction.dwg Sep 06, 2023 - 9:45am ENV/CTB Plot Scale 1=1 Plot By jnewman Tab: C304

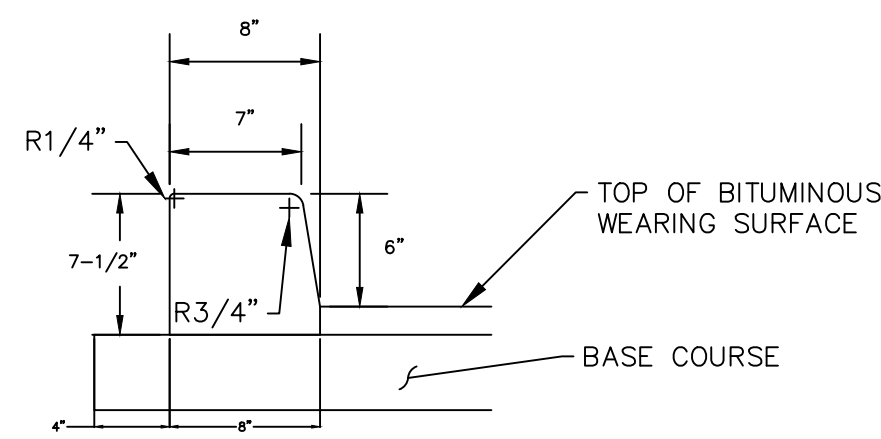


CURB 1-CONCRETE DEPRESSED CURB

NOT TO SCALE

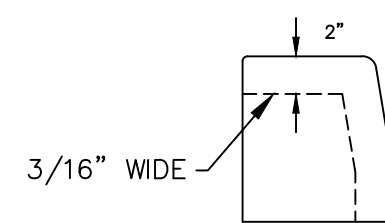
NOTES:

- CONTRACTION JOINTS SHALL BE PLACED EVERY 10' MAX, 4' MIN.
- 3/4" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE CUT OR CONFORM TO THE CROSS SECTIONAL AREA AND BE PLACED AT STRUCTURES AND AT THE END OF WORK DAY



CURB 3- VERTICAL FACE, BASE SUPPORTED CEMENT CONCRETE CURB SECTION DETAIL

NOT TO SCALE

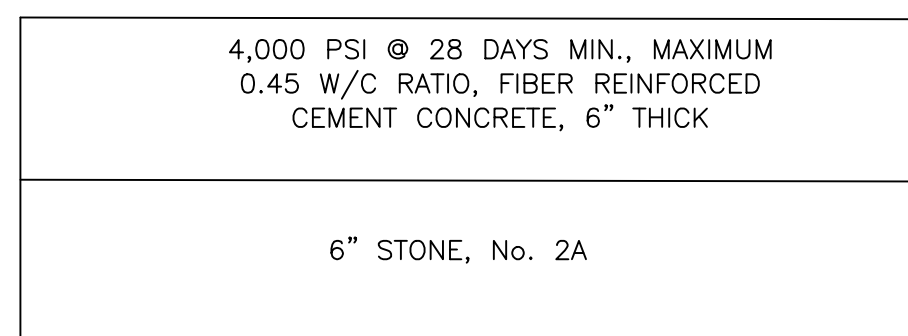


CURB 3- VERTICAL FACE, BASE SUPPORTED CEMENT CONCRETE CURB SAWED JOINT DETAIL

NOT TO SCALE

NOTES:

- CONTRACTION JOINTS SHALL BE PLACED EVERY 10' MAX, 4' MIN.
- 3/4" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE CUT OR CONFORM TO THE CROSS SECTIONAL AREA AND BE PLACED AT STRUCTURES AND AT THE END OF WORK DAY

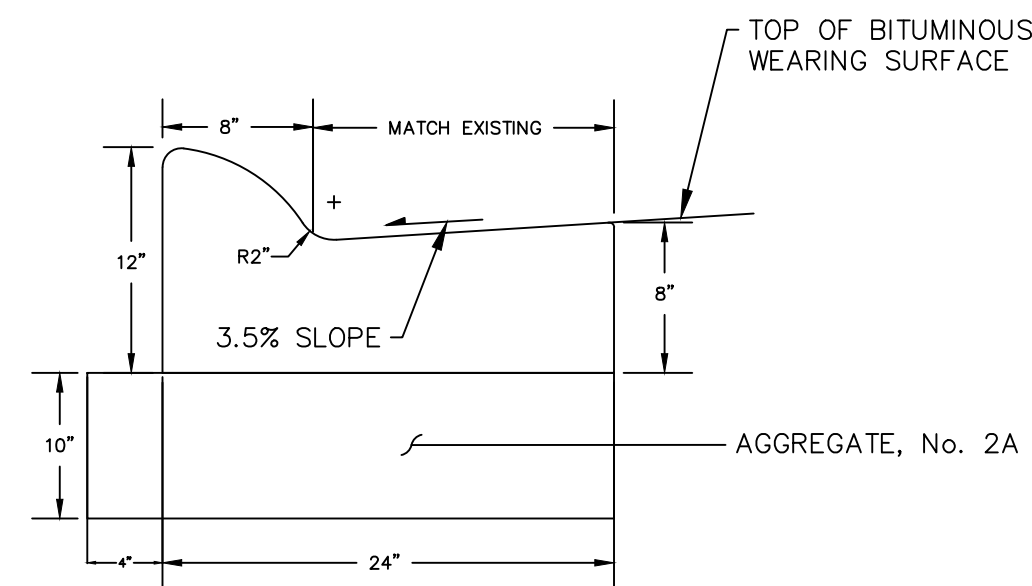


CONCRETE DRIVEWAY RESTORATION

NOT TO SCALE

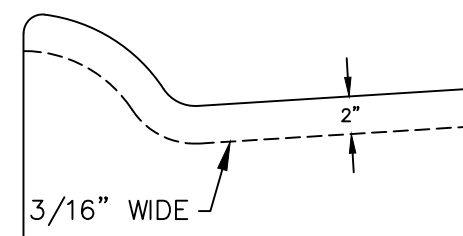
NOTE:

- LIMITS OF DRIVEWAY RESTORATION TO BE DETERMINED IN THE FIELD AT THE DIRECTION OF THE OWNER.



CURB 2- ROLLED FACE CEMENT CONCRETE CURB & GUTTER SECTION DETAIL

NOT TO SCALE

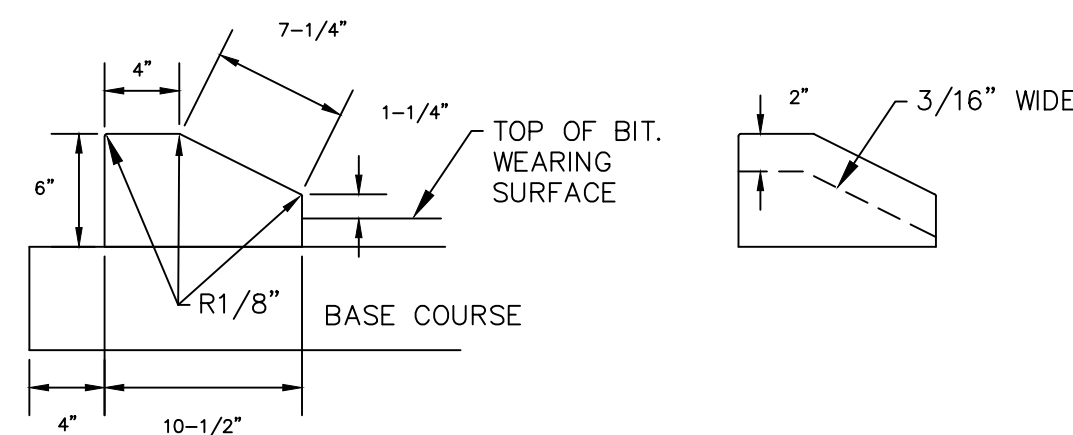


CURB 2- ROLLED FACE CEMENT CONCRETE CURB & GUTTER SAWED JOINT DETAIL

NOT TO SCALE

NOTES:

- CONTRACTION JOINTS SHALL BE PLACED EVERY 10' MAX, 4' MIN.
- 3/4" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE CUT OR CONFORM TO THE CROSS SECTIONAL AREA AND BE PLACED AT STRUCTURES AND AT THE END OF WORK DAY

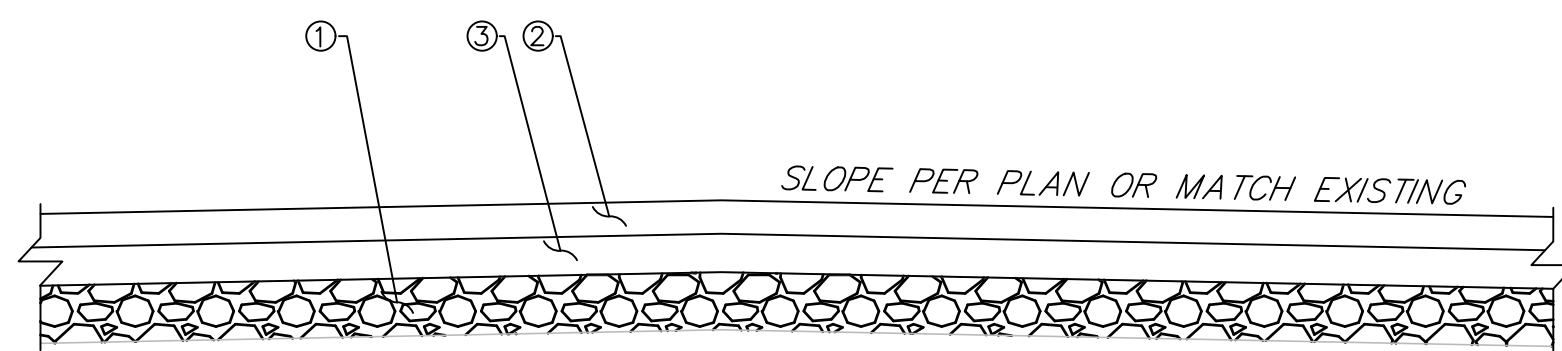


CURB 4- LOW PROFILE, BASE SUPPORTED CEMENT CONCRETE CURB SECTION DETAIL, SAWED JOINT DETAIL

NOT TO SCALE

NOTES:

- CONTRACTION JOINTS SHALL BE PLACED EVERY 10' MAX, 4' MIN.
- 3/4" PREMOLDED EXPANSION JOINT MATERIAL SHALL BE CUT OR CONFORM TO THE CROSS SECTIONAL AREA AND BE PLACED AT STRUCTURES AND AT THE END OF WORK DAY

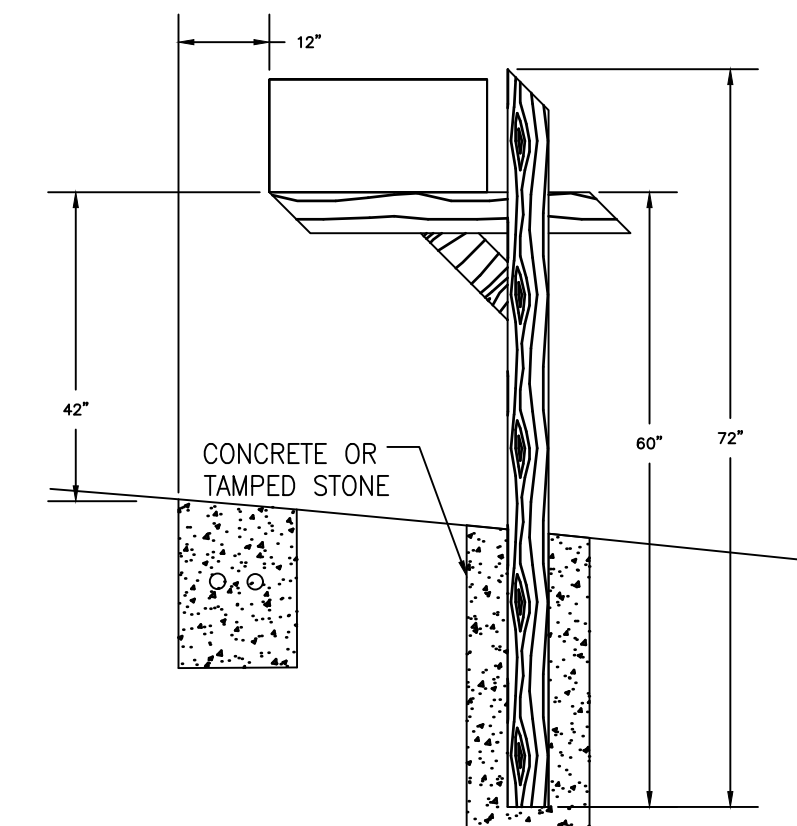


PAVEMENT RESTORATION DETAIL

NOT TO SCALE

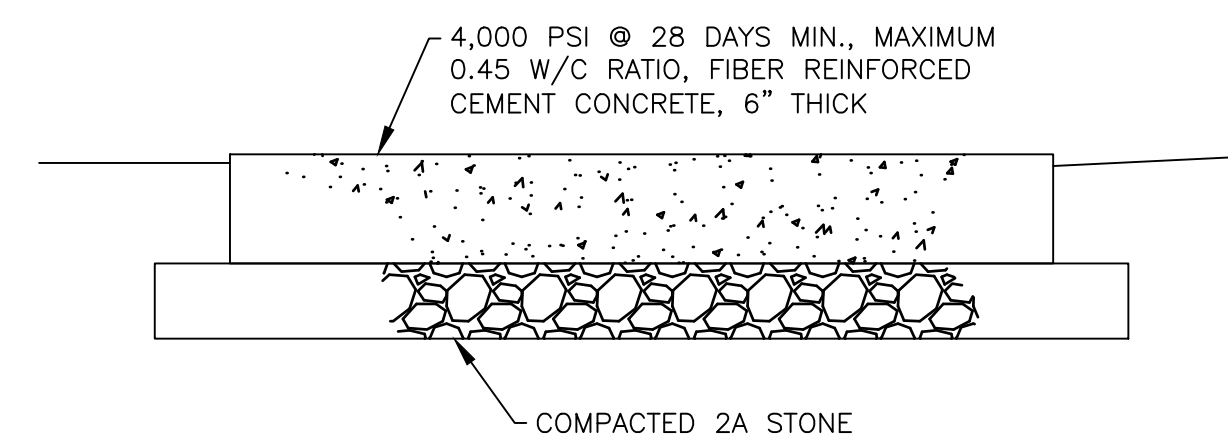
TYPICAL SECTION NOTES:

- 2A SUBBASE, 6" DEPTH
- WMA WEARING COURSE, PG64-22, <0.3M ESALS, 9.5 MM MIX, 1-1/2" DEPTH, SRL-L
- WMA BASE COURSE, <0.3M ESALS, 25MM, 5" DEPTH



MAILBOX DETAIL

NOT TO SCALE

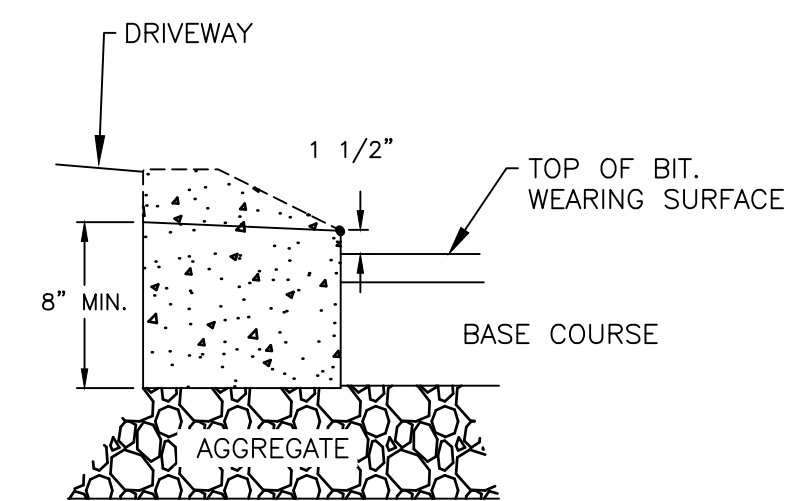


CEMENT CONCRETE SIDEWALK SECTION

NOT TO SCALE

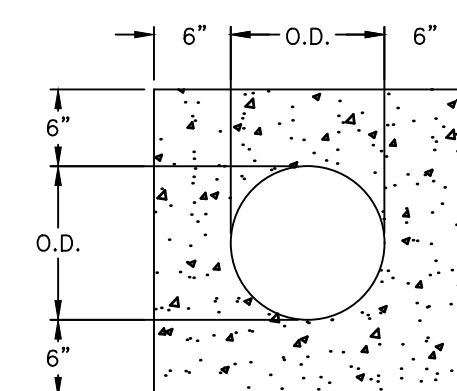
NOTES:

- CONTRACTION JOINTS SHALL BE PLACED EVERY 5'. FULL DEPTH EXPANSION JOINT MATERIAL SHALL BE CUT OR CONFORM TO THE CROSS SECTIONAL AREA AND BE PLACED AT STRUCTURES AND AT THE END OF EACH WORK DAY.
- EXPANSION JOINT MATERIAL SHALL NOT BE PLACED WHERE CONCRETE ABUTS ASPHALT.
- REPLACE SIDEWALK TO THE NEAREST JOINT, SAW-CUTTING ALONG THE JOINT FOR CLEAN REMOVAL AND SUCH THAT CONCRETE THAT IS TO REMAIN, IS NOT DAMAGED.



CURB 5-LOW PROFILE, BASE SUPPORTED CEMENT CONCRETE DEPRESSED CURB

NOT TO SCALE



COMPLETE ENCASUREMENT OF SANITARY SEWER AND SEWER LATERALS

NOT TO SCALE

NEWELL TERESKA & MACKAY
ENGINEERING
341 SCIENCE PARK RD, STE #203
STATE COLLEGE, PA 16803

Pennoni

Biohabitats

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. BROWN
042215-R

NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA
CENTRE COUNTY
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

SITE CONSTRUCTION DETAILS

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER
C304

SHEET NO. 20 OF 55

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

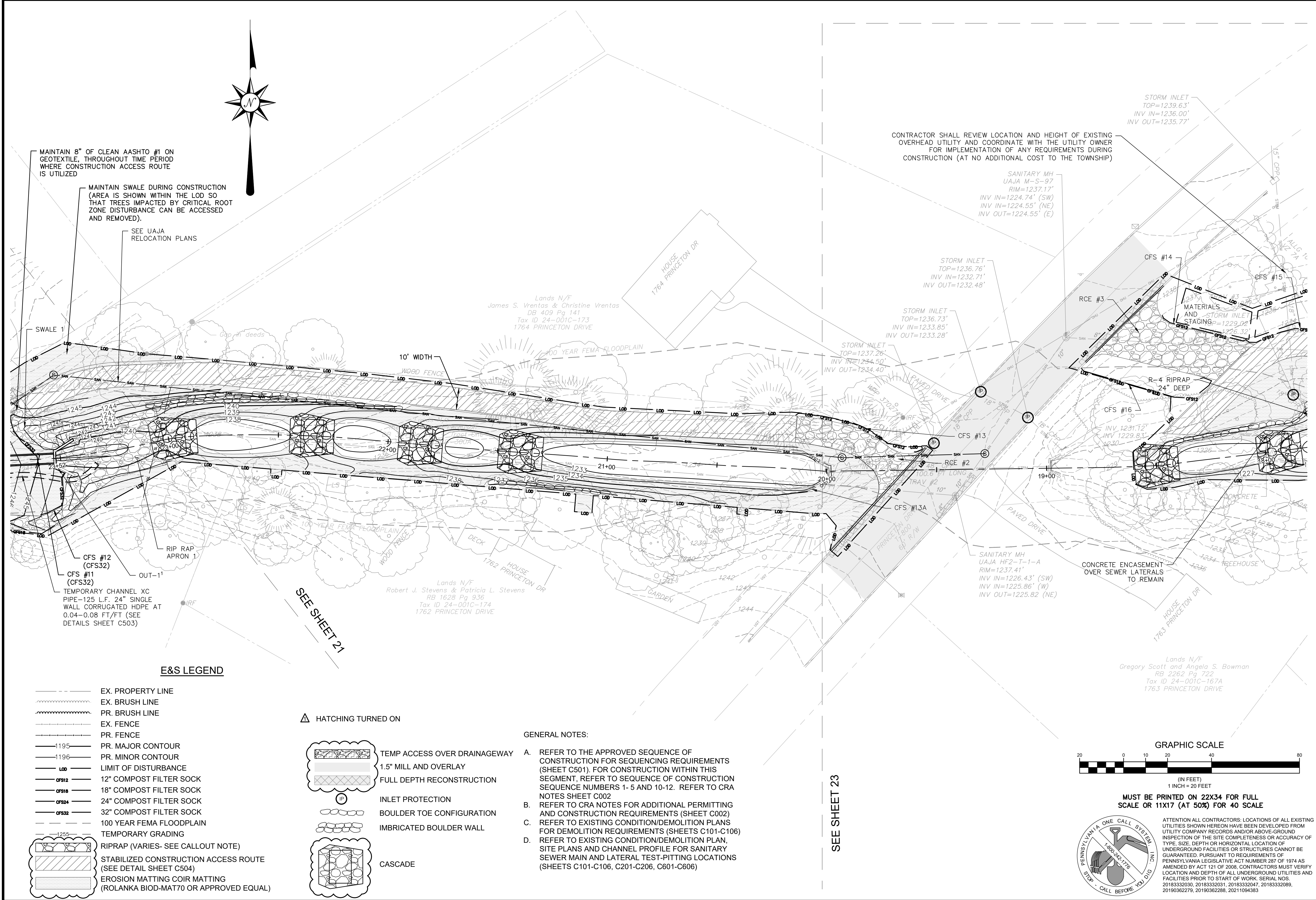
FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EROSION AND SEDIMENT CONTROL PLAN

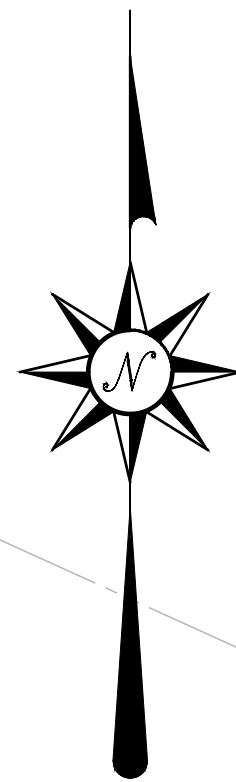
ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22

PROJECT NUMBER
14003.04

DRAWING NUMBER
C402
SHEET NO. 22 OF 55



P:\14003\14003.04 Park Hills Drainageway\CAD\Y-ans.dwg Sep 06, 2023 - 9:45am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C402



CONTRACTOR SHALL REVIEW LOCATION AND HEIGHT OF EXISTING OVERHEAD UTILITY AND COORDINATE WITH THE UTILITY OWNER FOR IMPLEMENTATION OF ANY REQUIREMENTS DURING CONSTRUCTION (AT NO ADDITIONAL COST TO THE TOWNSHIP)

STORM INLET
TOP=1239.63'
INV IN=1236.00'
INV OUT=1235.77'

SANITARY MH
UAJA M-5-97
RIM=1237.17'
INV IN=1224.74' (SW)
INV IN=1224.55' (NE)
INV OUT=1224.55' (E)

STORM INLET
TOP=1236.76'
INV IN=1233.85'
INV OUT=1232.48'

STORM INLET
TOP=1236.73'
INV IN=1233.85'
INV OUT=1233.28'

STORM INLET
TOP=1237.26'
INV IN=1234.50'
INV OUT=1234.40'

CFS #14
RCE #3

CFS #15
MATERIALS AND STAGING

CFS #16
R-4 RIPRAP
24" DEEP

SANITARY MH
UAJA HF2-T-1-A
RIM=1237.41'
INV IN=1226.43' (SW)
INV IN=1225.86' (W)
INV OUT=1225.82' (NE)

CONCRETE ENCASMENT
OVER SEWER LATERALS
TO REMAIN

Lands N/F
Gregory Scott and Angela S. Bowman
RB 2262 Pg 722
Tax ID 24-001C-167A
1763 PRINCETON DRIVE

Lands N/F
Alex F. Ross & Alta C. Ross
RB 762 Pg 520
Tax ID 24-001C-152
1358 GREENWOOD CIRCLE

Lands N/F
Robert M. Stern & Wilma O. Stern
DB 317 Pg 765
Tax ID 24-001C-151
1360 GREENWOOD CIRCLE

Lands N/F
Eric K. Zenner & Jerilyn E. Peck
RB 1968 Pg 275
Tax ID 24-001C-150
1362 GREENWOOD CIRCLE

E&S LEGEND

- EX. PROPERTY LINE
- EX. BRUSH LINE
- PR. BRUSH LINE
- EX. FENCE
- PR. FENCE
- 1195--- PR. MAJOR CONTOUR
- 1196--- PR. MINOR CONTOUR
- L00 --- LIMIT OF DISTURBANCE
- CFS12 --- 12" COMPOST FILTER SOCK
- CFS18 --- 18" COMPOST FILTER SOCK
- CFS24 --- 24" COMPOST FILTER SOCK
- CFS32 --- 32" COMPOST FILTER SOCK
- 1255--- 100 YEAR FEMA FLOODPLAIN
- 1255--- TEMPORARY GRADING
- RIPRAP --- RIPRAP (VARIES- SEE CALLOUT NOTE)
- STABILIZED CONSTRUCTION ACCESS ROUTE --- STABILIZED CONSTRUCTION ACCESS ROUTE (SEE DETAIL SHEET C504)
- EROSION MATTING COIR MATTING --- EROSION MATTING COIR MATTING (ROLANKA BIOD-MAT70 OR APPROVED EQUAL)
- TOPSOIL STOCKPILE --- TOPSOIL STOCKPILE

△ HATCHING TURNED ON

- TEMP ACCESS OVER DRAINAGEWAY
- 1.5" MILL AND OVERLAY
- FULL DEPTH RECONSTRUCTION
- INLET PROTECTION
- BOULDER TOE CONFIGURATION
- IMBRICATED BOULDER WALL
- CASCADE

SEE SHEET 22

GENERAL NOTES:

- A. REFER TO THE APPROVED SEQUENCE OF CONSTRUCTION FOR SEQUENCING REQUIREMENTS (SHEET C501). FOR CONSTRUCTION WITHIN THIS SEGMENT, REFER TO SEQUENCE OF CONSTRUCTION SEQUENCE NUMBERS 1- 2, 6-7 AND 10-12. REFER TO CRA NOTES SHEET C002
- B. REFER TO CRA NOTES FOR ADDITIONAL PERMITTING AND CONSTRUCTION REQUIREMENTS (SHEET C002)
- C. REFER TO EXISTING CONDITION/DEMOLITION PLANS FOR DEMOLITION REQUIREMENTS (SHEETS C101-C106)
- D. REFER TO EXISTING CONDITION/DEMOLITION PLAN, SITE PLANS AND CHANNEL PROFILE FOR SANITARY SEWER MAIN AND LATERAL TEST-PITTING LOCATIONS (SHEETS C101-C106, C201-C206, C601-C606)

GRAPHIC SCALE



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383

NEWELL TERESKA & MACKAY
ENGINEERING
341 SCIENCE PARK RD., STE #203
STATE COLLEGE, PA 16803

Pennoni

Biohabitats

COMMONWEALTH OF PENNSYLVANIA
REGISTERED PROFESSIONAL ENGINEER
SCOTT A. BROWN
042215-R

NO.	REVISIONS	DESCRIPTION	BY	DATE
1	Δ	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2			JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EROSION AND SEDIMENT CONTROL PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C403
SHEET NO. 23 OF 55

NO.	REVISIONS	DATE	BY
1	ISSUED FOR CONSTRUCTION	8/21/23	JSN
2	REVISION FOR ADDENDUM 1	9/5/23	JSN

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA
CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EROSION AND SEDIMENT CONTROL PLAN

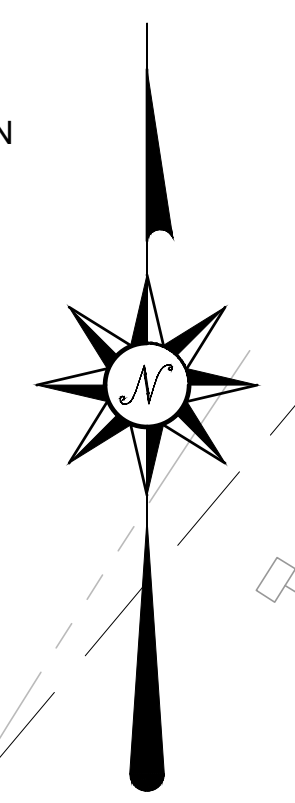
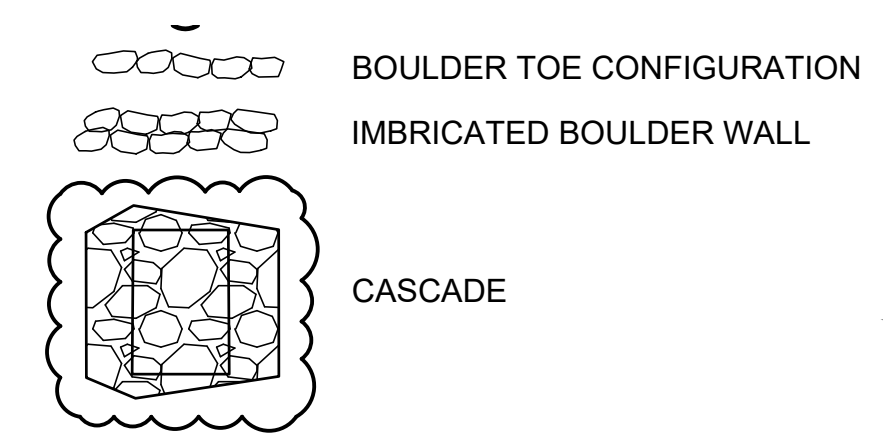
1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

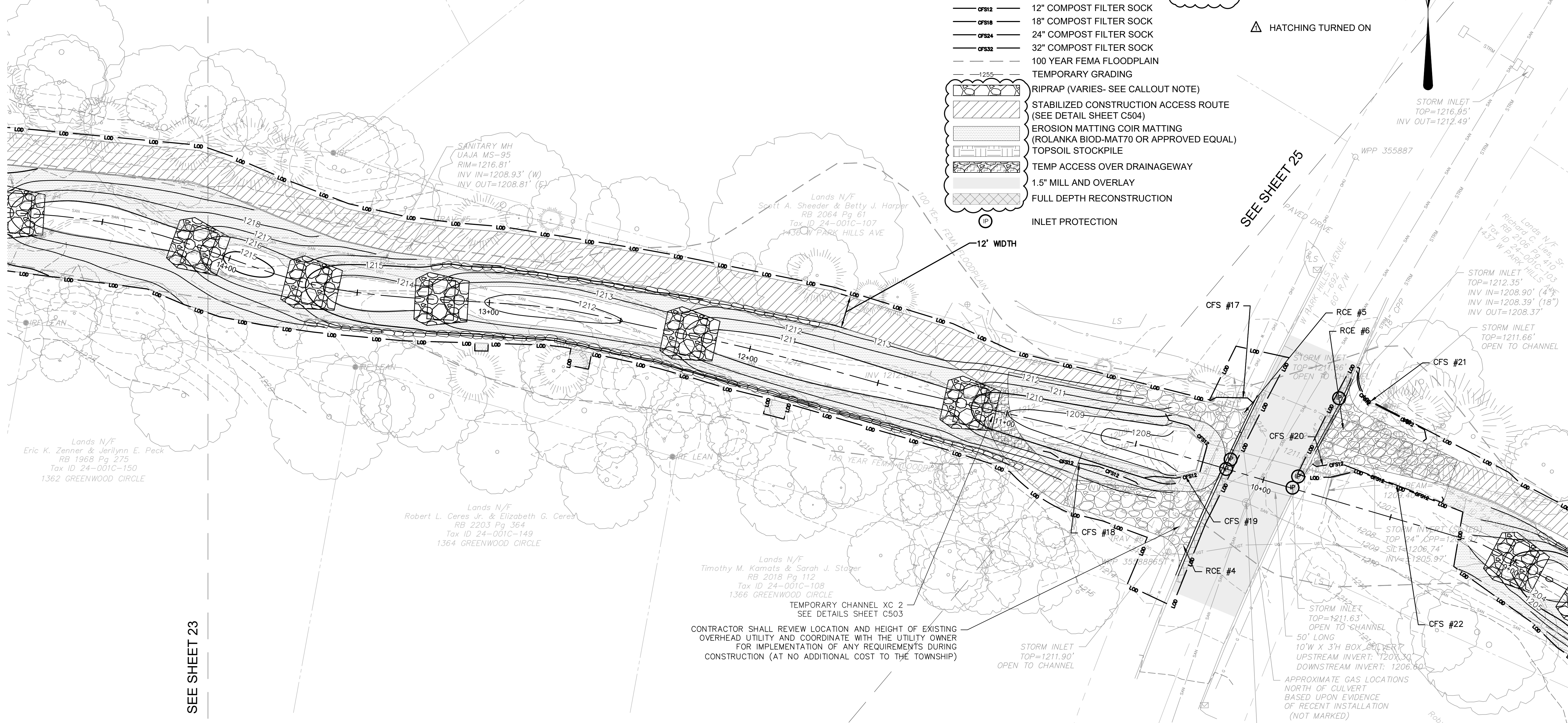
DRAWING NUMBER
C404
SHEET NO. 24 OF 55

E&S LEGEND

- EX. PROPERTY LINE
- EX. BRUSH LINE
- PR. BRUSH LINE
- EX. FENCE
- PR. FENCE
- 1195 PR. MAJOR CONTOUR
- 1196 PR. MINOR CONTOUR
- L00 LIMIT OF DISTURBANCE
- CFS12 12" COMPOST FILTER SOCK
- CFS18 18" COMPOST FILTER SOCK
- CFS24 24" COMPOST FILTER SOCK
- CFS32 32" COMPOST FILTER SOCK
- 1255 100 YEAR FEMA FLOODPLAIN
- 1255 TEMPORARY GRADING
- RIPRAP (VARIES- SEE CALLOUT NOTE)
- STABILIZED CONSTRUCTION ACCESS ROUTE (SEE DETAIL SHEET C504)
- EROSION MATTING COIR MATTING (ROLANKA BIOD-MAT70 OR APPROVED EQUAL)
- TOPSOIL STOCKPILE
- TEMP ACCESS OVER DRAINAGEWAY
- 1.5" MILL AND OVERLAY
- FULL DEPTH RECONSTRUCTION
- INLET PROTECTION



Lands N/F
James M. California & Mary California
RB 2152 Pg 731
Tax ID 24-001C-143
694 PRINCETON DRIVE



Lands N/F
Eric K. Zenner & Jerilyn E. Peck
RB 1968 Pg 275
Tax ID 24-001C-150
1362 GREENWOOD CIRCLE

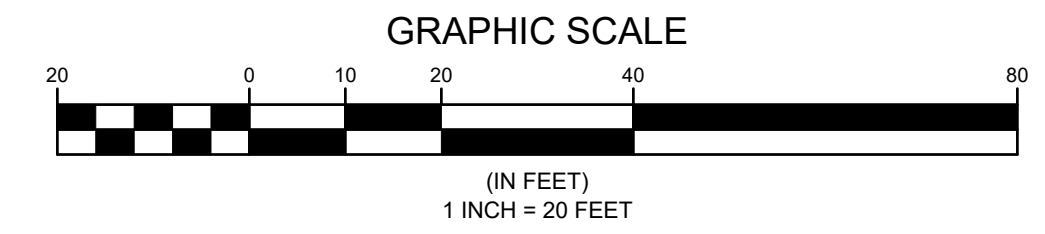
Lands N/F
Robert L. Ceres Jr. & Elizabeth G. Ceres
RB 2203 Pg 364
Tax ID 24-001C-149
1364 GREENWOOD CIRCLE

Lands N/F
Timothy M. Komats & Sarah J. Stager
RB 2018 Pg 112
Tax ID 24-001C-108
1366 GREENWOOD CIRCLE

TEMPORARY CHANNEL XC 2
SEE DETAILS SHEET C503
CONTRACTOR SHALL REVIEW LOCATION AND HEIGHT OF EXISTING OVERHEAD UTILITY AND COORDINATE WITH THE UTILITY OWNER FOR IMPLEMENTATION OF ANY REQUIREMENTS DURING CONSTRUCTION (AT NO ADDITIONAL COST TO THE TOWNSHIP)

SEE SHEET 23

SEE SHEET 25



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383

- GENERAL NOTES:**
- REFER TO THE APPROVED SEQUENCE OF CONSTRUCTION FOR SEQUENCING REQUIREMENTS (SHEET C501). FOR CONSTRUCTION WITHIN THIS SEGMENT, REFER TO SEQUENCE OF CONSTRUCTION SEQUENCE NUMBERS 1-2, 6-7 AND 10-12. REFER TO CRA NOTES SHEET C002
 - REFER TO CRA NOTES FOR ADDITIONAL PERMITTING AND CONSTRUCTION REQUIREMENTS (SHEET C002)
 - REFER TO EXISTING CONDITION/DEMOLITION PLANS FOR DEMOLITION REQUIREMENTS (SHEETS C101-C106)
 - REFER TO EXISTING CONDITION/DEMOLITION PLAN, SITE PLANS AND CHANNEL PROFILE FOR SANITARY SEWER MAIN AND LATERAL TEST-PITTING LOCATIONS (SHEETS C101-C106, C201-C206, C601-C606)

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS		

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA
CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EROSION AND SEDIMENT CONTROL PLAN

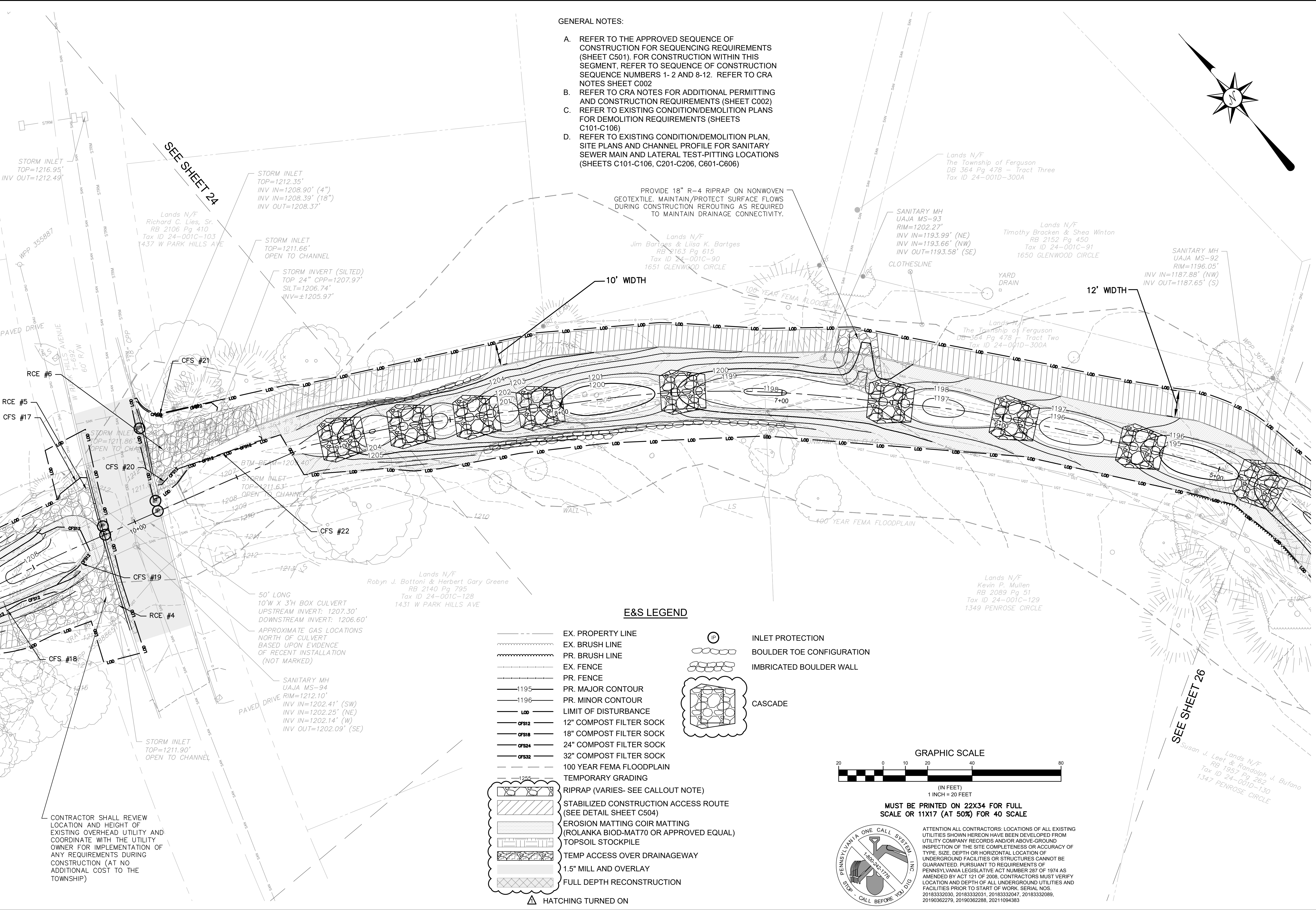
1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C405
SHEET NO. 25 OF 55

GENERAL NOTES:

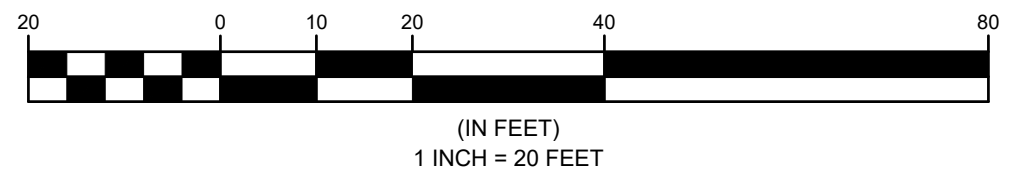
- REFER TO THE APPROVED SEQUENCE OF CONSTRUCTION FOR SEQUENCING REQUIREMENTS (SHEET C501). FOR CONSTRUCTION WITHIN THIS SEGMENT, REFER TO SEQUENCE OF CONSTRUCTION SEQUENCE NUMBERS 1- 2 AND 8-12. REFER TO CRA NOTES SHEET C002
- REFER TO CRA NOTES FOR ADDITIONAL PERMITTING AND CONSTRUCTION REQUIREMENTS (SHEET C002)
- REFER TO EXISTING CONDITION/DEMOLITION PLANS FOR DEMOLITION REQUIREMENTS (SHEETS C101-C106)
- REFER TO EXISTING CONDITION/DEMOLITION PLAN, SITE PLANS AND CHANNEL PROFILE FOR SANITARY SEWER MAIN AND LATERAL TEST-PITTING LOCATIONS (SHEETS C101-C106, C201-C206, C601-C606)



E&S LEGEND

- EX. PROPERTY LINE
 - EX. BRUSH LINE
 - PR. BRUSH LINE
 - EX. FENCE
 - PR. FENCE
 - PR. MAJOR CONTOUR
 - PR. MINOR CONTOUR
 - LIMIT OF DISTURBANCE
 - 12" COMPOST FILTER SOCK
 - 18" COMPOST FILTER SOCK
 - 24" COMPOST FILTER SOCK
 - 32" COMPOST FILTER SOCK
 - 100 YEAR FEMA FLOODPLAIN
 - TEMPORARY GRADING
 - RIPRAP (VARIES- SEE CALLOUT NOTE)
 - STABILIZED CONSTRUCTION ACCESS ROUTE (SEE DETAIL SHEET C504)
 - EROSION MATTING COIR MATTING (ROLANKA BIOD-MAT70 OR APPROVED EQUAL)
 - TOPSOIL STOCKPILE
 - TEMP ACCESS OVER DRAINAGEWAY
 - 1.5" MILL AND OVERLAY
 - FULL DEPTH RECONSTRUCTION
- INLET PROTECTION
- BOULDER TOE CONFIGURATION
- IMBRICATED BOULDER WALL
- CASCADE
- HATCHING TURNED ON

GRAPHIC SCALE



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-mas.dwg Sep 06, 2023 - 9:45am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C405

CONSTRUCTION SEQUENCE:

1. GENERAL REQUIREMENTS

- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE FOLLOWING SEQUENCE. ALL WORK SHALL BE COMPLETED IN COMPLIANCE WITH CHAPTER 102 REGULATIONS.
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND A REPRESENTATIVE FROM THE CENTRE COUNTY CONSERVATION DISTRICT/DEP TO A PRE-CONSTRUCTION MEETING.
- AT LEAST 3 BUSINESS DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM, INC. FOR BURIED UTILITY LOCATIONS. (NOTE: SEE ADDITIONAL UTILITY COORDINATION REQUIREMENTS IN THE PLANS.)
- BEFORE IMPLEMENTING ANY REVISIONS TO THE APPROVED EROSION AND SEDIMENT CONTROL PLAN OR REVISIONS TO OTHER PLANS WHICH MAY AFFECT THE EFFECTIVENESS OF THE APPROVED E&S CONTROL PLAN, THE OPERATOR MUST RECEIVE WRITTEN APPROVAL OF THE REVISIONS FROM THE CENTRE COUNTY CONSERVATION DISTRICT AND/OR PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION.
- THE CONTRACTOR SHALL ENSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE CONSERVATION DISTRICT AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL PROPOSED SOIL/ROCK SPOIL AND BORROW AREAS ON OR OFFSITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SEDIMENT IS NOT TRACKED ONTO PUBLIC STREETS OR PRIVATE DRIVEWAYS AND SHALL IMMEDIATELY CLEAN DEBRIS, SOILS, OR ANY OTHER FOREIGN MATERIALS FROM THE ROADWAYS AS NECESSARY.
- THE FOLLOWING SEQUENCE OF CONSTRUCTION SHALL BE FOLLOWED UNLESS AN ALTERNATIVE APPROACH HAS BEEN APPROVED BY THE CENTRE COUNTY CONSERVATION DISTRICT AND DEP. REFER TO THE CONSTRUCTION AND PERMITTING REQUIREMENTS FOR CHANNEL RESTORATION ACTIVITIES (CRA NOTES) ON SHEET C002 OF THE CONSTRUCTION PLANS FOR ADDITIONAL CONSTRUCTION AND PERMIT REQUIREMENTS. REFER TO EXISTING CONDITIONS/DEMO PLANS FOR DEMO COORDINATION AND REMOVAL REQUIREMENTS. REFER TO SITE PLANS AND DETAILS FOR ADDITIONAL RESTORATION DETAILS AND REQUIREMENTS.
- BEFORE CONSTRUCTION PROCEEDS, LIMIT OF DISTURBANCE MUST BE CLEARLY MARKED IN THE FIELD.

2. BEGIN WITH CHANNEL RESTORATION ACTIVITIES IN THE MOST UP-CHANNEL SECTION, FROM DEVONSHIRE DR. TO PRINCETON DR. (DEVONSHIRE DR. IMPROVEMENTS TO CHANNEL STA 19+00)

- INSTALL ROCK CONSTRUCTION ENTRANCES (RCES) 1 AND 2 IN THE LOCATIONS SHOWN ON THE PLAN. PER THE CRA NOTE 5 (SEE SHEET C002) THE CONTRACTOR MAY CHOOSE TO INSTALL ALL CONSTRUCTION ENTRANCES (RCE 1-RCE 7) AT THE BEGINNING OF THE PROJECT OR INSTALL THE ROCK CONSTRUCTION ENTRANCES AS WORK COMMENCES IN EACH SEGMENT OF CHANNEL. INSTALL INLET PROTECTION ON PRINCETON DRIVE. REMOVE THE PORTIONS OF THE PERIMETER FENCE IN THE LOCATIONS SPECIFIED IN ACCORDANCE WITH DEMOLITION PLAN REQUIREMENTS.
- DISTURBING ONLY AS MUCH LAND AS REQUIRED FOR INSTALLATION, INSTALL PERIMETER CONTROL COMPOST FILTER SOCKS 1-10, 13 AND 13A. (IF ADDITIONAL RCES ARE INSTALLED FOR THE LOWER SECTIONS AND STAGING AREAS, INSTALL THE PERIMETER CONTROLS AS FOLLOWS: FOR RCE 3 INSTALL CFS 14, 15 AND 16; FOR RCE 4 INSTALL CFS 18 AND 19; FOR RCE 5, INSTALL CFS 17 AND 19; FOR RCE 6 INSTALL CFS 21 AND 22; FOR RCE 7, INSTALL THE STACKED DIVERSION SOCK DS-2 AND CFS 23 AND 24. CONCURRENTLY, WITH ANY PERIMETER CONTROLS, INSTALL TREE PROTECTION IN LOCATIONS SHOWN ON THE TREE PROTECTION AND REMOVAL PLANS (C900-C907). INSTALL THE CONCRETE WASHOUT STATION AS SHOWN.
- PROCEEDING FROM RCE 1 INTO THE SITE, CLEAR THE TREES REQUIRED FOR THE STAGING AREA AND STABILIZED CONSTRUCTION ACCESS ROUTE IN ACCORDANCE WITH THE CRA NOTES AND TOWNSHIP TREE REMOVAL PLANS. AS TREES ARE REMOVED, INSTALL THE STABILIZED CONSTRUCTION ACCESS ROUTE AND STABILIZED STONE AREAS PER THE E&S PLAN. THE STABILIZED CONSTRUCTION ACCESS ROUTE MUST BE INSTALLED AND IN GOOD WORKING ORDER BEFORE EQUIPMENT CAN PROCEED WITH SITE ACCESS. ALL EQUIPMENT MUST UTILIZE AND REMAIN ON THE HAUL ROAD DURING CLEARING AND CONSTRUCTION ACTIVITIES (EXCEPT AS REQUIRED DURING LATER IN-CHANNEL GRADING OR INSTALLATION OF IN-CHANNEL RESTORATION ELEMENTS.)
- AS INSTALLATION OF THE HAUL ROAD ALLOWS, INSTALL TEMPORARY CHANNEL CROSSING 1 (XC-1). THE TEMPORARY PIPE SHALL BE A 24" SINGLE WALL HDPE PIPE (OR APPROVED EQUAL) WITH BENDS/DEFLECTIONS AS NECESSARY TO ACHIEVE A UNIFORM SLOPE AND SUFFICIENT WORK AREA FOR INSTALLATION OF THE NEW 48 STORM DRAIN SYSTEM. THE TEMPORARY HDPE PIPE (OR APPROVED EQUAL) SHALL BE A PRODUCT WHICH MEETS CROSSING FILL/LOADING REQUIREMENTS AND MUST BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS. PROVIDE ADEQUATE TEMPORARY PIPE SUPPORT IN THE FORM OF STAKES, SANDBAGS AND/OR CLEAN FILL, IN ACCORDANCE WITH CHAPTER 105 REQUIREMENTS, TO ROUTE AND MAINTAIN THE TEMPORARY PIPE AT A CONSISTENT SLOPE. INSTALL DIVERSION SOCK DS-1. (NOTE, DS-1 MAY ALSO BE INSTALLED IN PRECEDING SEQUENCING-DURING COMPOST FILTER SOCK INSTALLATIONS- IF ACCESSIBLE.)
- UPON GAINING ACCESS AND REMOVAL OF TREES WITHIN THE AREA REQUIRED FOR THE NEW STORM DRAIN OUTFALL INSTALLATION, AND WHILE ADDITIONAL TREE CLEARING IS PROCEEDING BELOW THE NEW OUTFALL,

THE CONTRACTOR MAY BEGIN INSTALLATION OF THE NEW STORM DRAIN SYSTEM. ALL ACTIVITIES SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IN THE DEMOLITION PLANS, SITE PLANS AND CRA NOTES.

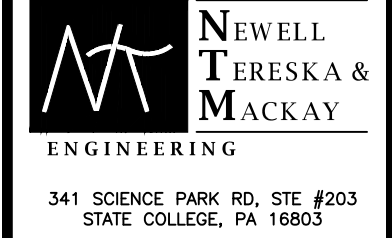
- BEGINNING WITH THE ENDWALL OUT-1 AND WORKING TOWARD MH-1, INSTALL ENDWALL OUT-1 AND RIPRAP APRON 1. UPON INSTALLATION OF OUT-1 AND THE FIRST TWO SECTIONS OF PIPE, INSTALL CFS 11 AND CFS 12. IT IS NOTED THAT FINAL GRADE ELEVATIONS OVER THE TOP OF THE PIPE, WILL NEED TO BE GENERATED FROM MATERIALS CUT FROM THE CHANNEL DURING RESTORATION ACTIVITIES, AS NOTED IN CRA NOTES. FOR THIS AND ALL THE FOLLOWING SEQUENCES, THE CONTRACTOR SHALL MAINTAIN A MINIMUM OF 2' OF FILL OVER THE NEW 48" RCP STORM DRAIN, IN ALL AREAS WHICH ARE TO BE ACCESSED BY EQUIPMENT, AND/OR SHALL PROTECT THE PIPE APPROPRIATELY USING PLATES OR OTHER MEASURES.
- CONTINUE INSTALLATION THE PIPE BETWEEN OUT-1 AND MH-1. AS WORK INSTALLING THE PIPE FROM OUT-1 TO MH-1 PROCEEDS TO AND PAST CHANNEL CROSSING 1, THE CONTRACTOR MAY DIRECT EPHEMERAL FLOWS TO THE NEW CULVERT SYSTEM, REMOVING THE TEMPORARY 24" PIPE. INSTALL MH-1. CONTINUE TO PROVIDE MEASURES WHICH DIRECT ALL STORM DRAIN FLOWS FROM THE EXISTING STORM DRAIN SYSTEM, THROUGH MH-1 AND UTILIZE BYPASS PUMPING IF NECESSARY. INSTALL MH-1, TRASH RACK AND STUB OUT THE NEW 48" PIPE SUCH THAT MH-1 MAY BE BACKFILLED, PERFORM FINAL GRADING AROUND THE MANHOLE IN A MANNER THAT ALLOWS FOR THE RIP RAP INLET APRON TO BE INSTALLED. STABILIZE THE SURROUNDING AREA AND INSTALL THE CURLEX SEDIMENT LOG (OR APPROVED EQUAL) AS SHOWN.
- UPON INSTALLATION OF MH-1 AND COMPLETION OF TREE CLEARING DOWN TO PRINCETON DRIVE, THE CONTRACTOR SHALL COORDINATE WITH THE UAJA CONTRACTOR TO BEGIN WORK ON THE SEWER INSTALLATION AS SPECIFIED IN THE CRA NOTES. INSTALL ENOUGH GRADE OVER THE PIPE (BELOW MH-1) TO SAFELY MAINTAIN THE HAUL ROAD OVER THE NEW OUTFALL. THE ACCESS SURFACE SHALL CONSIST OF 8" CLEAN AASHTO #1 ON GEOTEXTILE OR BE INSTALLED CONSISTENT WITH THE STABILIZED CONSTRUCTION ACCESS ROUTE DETAIL.
- CONCURRENT WITH THE UAJA CONTRACTORS WORK, THE CONTRACTOR SHALL CONTINUE WITH INSTALLATION OF THE NEW STORM DRAIN SYSTEM FROM MH-1 TO DEVONSHIRE DRIVE. REFER TO THE DEMOLITION, SITE, AND PROFILE PLANS AS WELL AS CRA NOTES FOR REQUIREMENTS ASSOCIATED WITH EXISTING UTILITIES, ROW ACCESS, TRAFFIC CONTROL REQUIREMENTS, DRAINAGE CONNECTIVITY, HOMEOWNER COORDINATION, AND DESIGN REQUIREMENTS. ANY MODIFICATION TO THE SEQUENCE SHALL BE APPROVED BY THE FERGUSON TOWNSHIP ENGINEER AND THE CENTRE COUNTY CONSERVATION DISTRICT IN WRITING.
- THE CONTRACTOR SHALL NOTE THE SENSITIVE NATURE OF THE WORK BETWEEN THE HOMES. REMOVING ONLY AS MUCH OF THE EXISTING STORM DRAIN AS CAN BE REPLACED IN A DAY, INSTALL THE STORM DRAIN BETWEEN MH-1 AND I-1. AS THE STORM DRAIN IS INSTALLED, IMMEDIATELY PROVIDE PERMANENT STABILIZATION OVER THE NEW PIPE, AND PROVIDE TEMPORARY MATTING-NAG SC-75 OR APPROVED EQUAL WITH MANUFACTURERS APPROVED STAPLE PATTERN. CONTINUE TO PROVIDE CONNECTIVITY BETWEEN THE NEW AND OLD STORM DRAIN SYSTEMS AS REQUIRED IN THE EVENT OF EPHEMERAL FLOWS. INSTALL I-1 AND IMMEDIATELY PROVIDE AN INLET FILTER BAG. DIRECT THE DOWNSPOUT AND DRIVEWAY CONVEYANCE PIPES TO THE INLET AS NOTED.
- REMOVING ONLY AS MUCH OF THE EXISTING STORM DRAIN AS CAN BE REPLACED IN A DAY, INSTALL THE STORM DRAIN AND FROM I-1 TO I-2. ESTABLISH TOWNSHIP APPROVED TRAFFIC CONTROL AS REQUIRED AND INSTALL I-2. UPON INSTALLATION OF I-2, IMMEDIATELY REESTABLISH EXISTING CONNECTIONS AND STUB OUT NEW CONNECTIONS. BACKFILL THE STRUCTURE, INSTALL THE EJ FRAME AND GRATE (INCLUDING THE ADDITIONAL PLATE WELDED TO THE FRAME) AND PLACE 12" CURLEX SEDIMENT LOG (OR APPROVED EQUAL) AROUND THE INLET PRIOR TO CONTINUING WITH ADDITIONAL WORK.
- ESTABLISH TOWNSHIP APPROVED TRAFFIC CONTROL, REMOVE PAVEMENT AS NECESSARY AND INSTALL SEWER ENCASEMENT. REMOVE EXISTING 24" PIPE AND INSTALL 36" STORM DRAIN CONNECTING I-2 AND I-3. INSTALL I-3. DURING INSTALLATION OF I-3, IMMEDIATELY REESTABLISH EXISTING CONNECTIONS, BACKFILL THE STRUCTURE, INSTALL THE EJ FRAME (INCLUDING THE ADDITIONAL PLATE WELDED TO THE FRAME) AND GRATE AND PLACE 12" CURLEX SEDIMENT LOG (OR APPROVED EQUAL) AROUND THE INLET PRIOR TO CONTINUING WITH ADDITIONAL WORK. TEMPORARILY PATCH THE ROADWAY PER TOWNSHIP REQUIREMENTS AND ACCESS APPROVALS.
- COORDINATING WITH THE OWNERS PER THE DEMO PLAN REQUIREMENTS AND TOWNSHIP FOR ACCESS AND MAINTENANCE OF TRAFFIC REQUIREMENTS, REMOVE ENOUGH CURB, AND PORTIONS OF THE EXISTING DRIVEWAYS AND ROAD AS REQUIRED TO

CONSTRUCT ALL DEPRESSED CURBS (INCLUDING SUBBASE FOR CURBS) AS WELL AS THE MONOLITHIC SIDEWALK WITH WALLS. MAINTAIN THE CURLEX SEDIMENT LOGS.

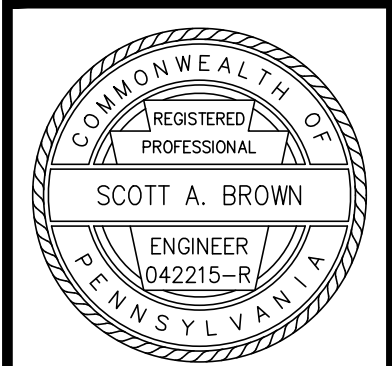
- COORDINATING WITH THE OWNERS PER THE DEMO PLAN REQUIREMENTS AND TOWNSHIP FOR ACCESS AND MAINTENANCE OF TRAFFIC REQUIREMENTS, SAW CUT AND REMOVE ADDITIONAL DRIVEWAY SECTIONS, SIDEWALK, AND FULL DEPTH ASPHALT REPLACEMENT AREAS, PERFORM GRADING AS REQUIRED FOR THE NEW STREET SUBBASE AND RIGHT-OF-WAY OPEN SPACE ELEVATIONS, AND INSTALL SUBBASE. UTILIZE A PUMPED WATER FILTER BAG TO DEWATER SUMPED AREAS IF REQUIRED, PLACING THE PUMPED WATER FILTER BAG WITHIN THE ROCK INLET APRON OF MH-1. INSTALL THE NEW CONCRETE DRIVEWAY APRONS AND INLET APRONS. MAINTAIN THE CURLEX FILTER LOGS AND INLET FILTER BAGS AT ALL INLETS AS REQUIRED. DURING INSTALLATION OF THE INLET APRONS, THE CURLEX SEDIMENT LOG SHALL BE REINSTALLED TO THE OUTSIDE OF THE CONCRETE APRON.
- IN ACCORDANCE WITH TOWNSHIP ACCESS AND TRAFFIC CONTROL REQUIREMENTS, INSTALL BASE PAVING, COMPLETE MILLING AS SHOWN AND IMMEDIATELY INSTALL SURFACE PAVING AND ANY REMAINING NEW SIDEWALKS. NOTE: THE CONTRACTOR MUST IMMEDIATELY PAVE THE SURFACE COURSE, SO THAT PONDING DOES NOT OCCUR AND INLETS FUNCTION CORRECTLY. CONCURRENTLY, COMPLETE FINAL GRADING AND INSTALL TOPSOIL AND PERMANENT STABILIZATION IN ALL GRASSED AREAS, UTILIZING THE TURF ESTABLISHMENT REQUIREMENTS PER THE LANDSCAPE PLAN AND PROVIDE NA GREEN S-75 MATTING IN ALL VEGETATED AREAS. INSTALL RIVER STONE. AFTER MATTING IS INSTALLED AND IMMEDIATELY PRIOR TO INSTALLATION OF THE RIVERSTONE, REMOVE THE CURLEX SEDIMENT LOGS FROM AROUND THE INLET APRONS.
- INSTALL THE CUSTOM ALUMINUM TRASH RACKS FOR I-2 AND I-3. IMMEDIATELY PROVIDE A CERTIFIED SEALED AS-BUILT DRAWING OF ALL COMPLETED WORK (INCLUDING BUT NOT LIMITED TO THE STORM DRAIN INLETS/INVERTS, INLET APRONS, DEPRESSED CURB, SIDEWALKS, ETC.)
- UPON COMPLETION OF THE UAJA SEWER RELOCATION (BY UAJA CONTRACTOR) AND INSTALLATION OF THE NEW OUTFALL/STORM DRAIN SYSTEM, THE CONTRACTOR MAY PROCEED WITH CHANNEL RESTORATION ACTIVITIES STARTING AT OUTFALL OUT-1 AND WORKING TOWARD PRINCETON AVE. INSTALL THE IMBRICATED WALLS, TOE WALLS, CASCADES, POOLS AND MATTING IN ACCORDANCE WITH THE CRA NOTES' REQUIREMENTS (WORKING ONE CASCADE/POOL AT A TIME AND STABILIZING AS WORK IS COMPLETED). IMMEDIATELY STABILIZE ANY AND ALL DISTURBED AREAS (OUTSIDE OF THE CASCADE/POOL) WITH COIR MATTING AND TEMPORARY OR PERMANENT VEGETATIVE MEASURES, PER THE E&S PLANS OR LANDSCAPING PLAN.
- THE CONTRACTOR SHALL PLAN/INCLUDE COSTS TO REPAIR/REINSTALL THE STABILIZED, CONSTRUCTION ACCESS ROUTE AFTER INSTALLATION OF THE NEW SEWER LINE BY THE UAJA CONTRACTOR. THE HAUL ROAD MUST BE IN A STABLE CONDITION FOR EQUIPMENT TO ACCESS THE RESTORATION AREAS.
- AS POOLS/CASCADES AND OTHER RESTORATION ELEMENTS ARE COMPLETED, THE CONTRACTOR MAY CHOOSE TO ESTABLISH TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION IN THE SURROUNDING AREAS. ALL DISTURBED AREAS, EXCEPT FOR THE CHANNEL POOLS MUST BE IMMEDIATELY STABILIZED WITH ROLANKA BIOD70 COIR MATTING (OR APPROVED EQUAL). IF OPTING FOR TEMPORARY STABILIZATION (WHERE PERMANENT VEGETATION WILL BE COMPLETED IN ACCORDANCE WITH CRA NOTE 5), THE STABILIZED CONSTRUCTION ACCESS ROUTE AND E&S MEASURES MUST BE MAINTAINED UNTIL SUCH TIME AS FINAL LANDSCAPING OCCURS AND PERMANENT VEGETATION IS INSTALLED. IF THE CHANNEL CONTRACTOR CHOOSES TO INSTALL PERMANENT SEEDING/LANDSCAPING MEASURES IMMEDIATELY AS CHANNEL RESTORATION ACTIVITIES PROCEED, IT IS RECOMMENDED THAT THE CONSTRUCTION ACCESS ROUTE BE REDUCED TO THE FINAL MULCH MAINTENANCE ACCESS WIDTH (PER THE SITE PLAN) AS THE RESTORATION CONTRACTOR WORKS OUT OF THE CHANNEL.
- AS RESTORATION ACTIVITIES FOR THE SECTION ALLOW, INSTALL SWALE 1. STABILIZE ALL DISTURBED AREAS WITH COIR MATTING AND TEMPORARY OR PERMANENT VEGETATIVE MEASURES. AFTER SWALE 1 IS INSTALLED, THE CONTRACTOR SHALL ONLY UTILIZE ACCESS FROM DEVONSHIRE (RCE 1) TO BRING FILL INTO THE SITE, FOR PLACEMENT OVER THE NEW OUTFALL. ACCESS ALONG THE AREA OF CHANNEL RESTORATION SHALL BE ACCESSED FROM PRINCETON DRIVE (RCE 2).
- WHEN ENOUGH FILL IS GENERATED TO BRING GRADE ELEVATIONS OVER THE OUTFALL (FROM MH-1 TO OUT-1) TO FINAL GRADE, THE CONTRACTOR SHALL SPREAD 4-6" OF TOPSOIL AND PROVIDE STABILIZATION IN ACCORDANCE WITH THE TEMPORARY OR PERMANENT VEGETATIVE MEASURES, PLACING EROSION CONTROL COIR MATTING (ROLANKA BIOD70 OR APPROVED EQUAL). CONCURRENTLY, INSTALL SWALE 2 AND UPON COMPLETION, REMOVE DS-1. (IF ENOUGH FILL IS NOT GENERATED DURING RESTORATION ACTIVITIES WITHIN THE FIRST CHANNEL SEGMENT, COMPLETE FINAL GRADING DURING CHANNEL RESTORATION ACTIVITIES IN THE NEXT SEGMENT-PRINCETON DRIVE TO WEST PARK HILLS PARK.)
- CONTINUE TO MAINTAIN CFS-11 AND CFS-12, UNTIL SUCH GRADES OVER THE NEW OUTFALL PIPE ARE BROUGHT UP TO FINAL ELEVATION (USING ONSITE MATERIALS GENERATED FROM THE CHANNEL) AND PERMANENT LANDSCAPING AND STABILIZATION MEASURES ARE INSTALLED. CONCURRENT WITH INSTALLATION OF PERMANENT LANDSCAPING/VEGETATIVE STABILIZATION MEASURES, REMOVE CFS 11 AND 12-MIXING THE COMPOST IN THE SURROUNDING TOPSOIL. IMMEDIATELY INSTALL EROSION CONTROL COIR MATTING (ROLANKA BIOD70 OR APPROVED EQUAL) IN ANY DISTURBED AREA AND INSTALL ANY REMAINING LANDSCAPE PLUGS, POTS AND TREES IN THE PLAN DENSITIES SPECIFIED AND AS DIRECTED BY THE FERGUSON TOWNSHIP ARBORIST.
- AS LANDSCAPING AND PERMANENT STABILIZATION IS INSTALLED ALONG THE CHANNEL SEGMENT, THE CONTRACTOR SHALL REDUCE/REMOVE THE STABILIZED CONSTRUCTION ACCESS ROUTE TO THE MAINTENANCE ACCESS DIMENSIONS PER THE SITE PLAN. ONCE EQUIPMENT ACCESS IS NO LONGER AND PERMANENT STABILIZATION AND LANDSCAPING HAS BEEN INSTALLED, REMOVE RCE 2 AND ASSOCIATED FILTER SOCK. INSTALL THE MULCH MAINTENANCE PATH IN PLACE OF THE RCE 2 AND STABILIZE ANY REMAINING DISTURBED AREA WITH PERMANENT SEEDING MEASURES IN ACCORDANCE WITH THE LANDSCAPE PLAN. AFTER THE STABILIZED, CONSTRUCTION ACCESS ROUTE HAS BEEN ESTABLISHED, ALL EQUIPMENT USED FOR ACCESS SHALL BE LIMITED IN SIZE, AS REQUIRED TO REMAIN ON THE MAINTENANCE PATH.
- CONTINUE TO MAINTAIN RCE 1 AND ALL ASSOCIATED E&S MEASURES AS REQUIRED FOR USE OF THE STAGING AREA. ONCE LARGE EQUIPMENT AND ACCESS TO STAGING AREAS IS NO LONGER REQUIRED AND DURING INSTALLATION OF PERMANENT VEGETATIVE STABILIZATION AND LANDSCAPING, REMOVE ANY REMAINING STABILIZED CONSTRUCTION ACCESS ROUTE AND APPLICABLE FILTER SOCKS-SPREADING THE COMPOST AND MIXING IT INTO THE TOP LAYER OF SOIL, AND RCE 1. REMOVE/REPLACE THE SPECIFIED SIDEWALK AND CURB ALONG DEVONSHIRE DRIVE. REMOVE THE CONCRETE WASH AND PERMANENTLY STABILIZE ALL REMAINING DISTURBED AREAS.
- CONTINUE WITH RESTORATION ACTIVITIES FOR THE SECTION OF CHANNEL BETWEEN PRINCETON DRIVE AND WEST PARK HILLS AVE. (CHANNEL STA 19+50 -10+00)
- IF NOT ALREADY COMPLETED, INSTALL RCE 3, 4 AND 5. FOR RCE 3 INSTALL CFS 14, 15 AND 16. FOR RCE 4 INSTALL CFS 18 AND 19. FOR RCE 5, INSTALL CFS 17 AND 19. CLEAR THE TREES REQUIRED FOR THE STAGING AREA AND HAUL ROAD INSTALLATION, IN ACCORDANCE WITH THE CRA NOTES AND TOWNSHIP TREE REMOVAL PLANS. AS TREES ARE REMOVED, INSTALL THE STABILIZED CONSTRUCTION ACCESS ROUTE AND STABILIZED STONE AREAS PER THE E&S PLAN. THE CONSTRUCTION ACCESS ROUTE MUST BE INSTALLED AND IN GOOD WORKING ORDER FOR EQUIPMENT TO PROCEED WITH SITE ACCESS.
- AS INSTALLATION OF THE STABILIZED CONSTRUCTION ACCESS ROUTE ALLOWS, INSTALL TEMPORARY CHANNEL CROSSING 2 PER THE PLAN DETAILS AND AS CALLED OUT ON THE PLAN (RIPRAP ONLY- NO PIPE).
- COMPLETE THE PRECONSTRUCTION REQUIREMENTS FOR SANITARY SEWER TEST PITS (AS ACCESS ALLOWS) AND PROVIDE THE INFORMATION TO THE TOWNSHIP (ON SHEETS C602-C605). COORDINATE ANY OVERHEAD UTILITY CLEARANCE REQUIREMENTS WITH THE UTILITY COMPANIES.
- WORKING FROM PRINCETON AVE TOWARD WEST PARK HILLS AVE., PERFORM GRADING FOR AND INSTALL THE CHANNEL RESTORATION ELEMENTS, INCLUDING THE IMBRICATED WALLS, TOES WALLS, CASCADES, POOLS. IMMEDIATELY STABILIZE ALL DISTURBED AREAS (OUTSIDE OF THE POOL) WITH COIR MATTING AND TEMPORARY OR PERMANENT VEGETATIVE MEASURES, PER THE E&S PLANS OR LANDSCAPING PLAN.
- PERFORM ALL WORK IN ACCORDANCE WITH ALL CRA NOTES' REQUIREMENTS (WORKING ONE CASCADE/POOL AT A TIME AND STABILIZING AS WORK IS COMPLETED).
- COMPLETE ABANDONED UTILITY REMOVALS PER THE CRA NOTES AND PLANS (AS AND WHEN APPLICABLE) AND IN COORDINATION WITH THE UTILITY PROVIDER AS UTILITIES ARE ENCOUNTERED.
- MAINTAIN/PROTECT STORM DRAINS (PER THE SITE AND DEMO PLANS) DURING CONSTRUCTION-REROUTING AS REQUIRED TO MAINTAIN DRAINAGE CONNECTIVITY AND REESTABLISHING AFTER RESTORATION GRADING IS COMPLETE.
- NOTE THE (ONLY) DOUBLE BOULDER CASCADE REQUIREMENT FOR THE CASCADE AT STA 18+55
- AS POOLS/CASCADES AND OTHER RESTORATION ELEMENTS ARE COMPLETED, THE CONTRACTOR MAY CHOOSE TO ESTABLISH TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION IN THE SURROUNDING AREAS. ALL DISTURBED AREAS, EXCEPT FOR THE CHANNEL POOLS MUST BE IMMEDIATELY STABILIZED WITH ROLANKA BIOD70 COIR MATTING (OR APPROVED EQUAL). IF OPTING FOR TEMPORARY STABILIZATION (WHERE PERMANENT VEGETATION WILL BE COMPLETED IN ACCORDANCE WITH CRA NOTE 5), THE STABILIZED CONSTRUCTION ACCESS ROUTE AND E&S MEASURES MUST BE MAINTAINED UNTIL SUCH TIME AS FINAL LANDSCAPING OCCURS AND PERMANENT VEGETATION IS INSTALLED. IF THE CHANNEL CONTRACTOR CHOOSES TO INSTALL PERMANENT SEEDING/LANDSCAPING MEASURES IMMEDIATELY-AS RESTORATION ACTIVITIES PROCEEDS, IT IS RECOMMENDED THAT THE CONSTRUCTION ACCESS ROUTE BE REDUCED TO THE FINAL MULCH MAINTENANCE ACCESS WIDTH (PER THE SITE PLAN), AS THE RESTORATION CONTRACTOR WORKS OUT OF THE CHANNEL.
- THE CONTRACTOR MAY CONTINUE TO UTILIZE CUTBACK MATERIAL FROM CHANNEL BANKS TO BRING GRADES OVER THE PIPE OUTFALL (FROM DEVONSHIRE- MH-1 TO OUT-1) UP TO FINAL CONDITION. (UTILIZE RCE 1 LOCATED ON DEVONSHIRE DRIVE FOR

ACCESS AND PLACEMENT OF FILL.) REFER TO SEQUENCE 5 FOR REQUIREMENTS AND SEQUENCING AS SITE GRADING OVER THE OUTFALL IS BROUGHT TO FINAL ELEVATIONS.

- AS GRADING OCCURS FOR THE LAST POOL AND CASCADE LOCATED IMMEDIATELY ABOVE (UP-CHANNEL OF) WEST PARK HILLS AVE, REMOVE CHANNEL CROSSING 2. ONCE THE CHANNEL CROSSING IS REMOVED, THE CONTRACTOR MAY NOT CROSS THE CHANNEL FROM RCE-4.
- AS MAJOR RESTORATION ACTIVITIES WITHIN THE SEGMENT ARE COMPLETE, INSTALL LANDSCAPING AND PERMANENT SEEDING ALONG THE CHANNEL SEGMENT, IN THE STAGING AREAS AND ANY OTHER DISTURBED AREAS. ALL DISTURBED AREAS SHALL CONTINUE TO BE MAINTAINED WITH ROLANKA BIOD 70 COIR MATTING. DURING LANDSCAPING, THE CONTRACTOR SHALL REDUCE/REMOVE THE STABILIZED CONSTRUCTION ACCESS ROUTE TO THE MAINTENANCE ACCESS DIMENSIONS PER THE SITE PLAN. ONCE EQUIPMENT ACCESS IS NO LONGER AND PERMANENT STABILIZATION AND LANDSCAPING HAS BEEN INSTALLED, REMOVE RCE 2 AND ASSOCIATED FILTER SOCK. INSTALL THE MULCH MAINTENANCE PATH IN PLACE OF THE RCE 2 AND STABILIZE ANY REMAINING DISTURBED AREA WITH PERMANENT SEEDING MEASURES IN ACCORDANCE WITH THE LANDSCAPE PLAN. AFTER THE STABILIZED, MULCH MAINTENANCE ACCESS HAS BEEN ESTABLISHED, ALL EQUIPMENT USED FOR ACCESS SHALL BE LIMITED IN SIZE, AS REQUIRED TO REMAIN ON THE MULCH MAINTENANCE PATH.
- ONCE EQUIPMENT AND ACCESS TO STAGING AREAS IS NO LONGER REQUIRED, REMOVE RCE 3, 4 AND 5, ALONG WITH RELEVANT COMPOST FILTER SOCKS-MIXING THE COMPOST INTO THE SOIL OR REMOVING IT FROM THE SITE. IMMEDIATELY INSTALL PERMANENT VEGETATIVE STABILIZATION AND LANDSCAPING, ALONG WITH ROLANKA BIOD70 COIR MATTING AND IN ANY DISTURBED AREAS. INSTALLING THE STABILIZED, MULCH MAINTENANCE ACCESS -AS SHOWN ON THE SITE PLAN. AFTER THE STABILIZED, MULCH MAINTENANCE ACCESS HAS BEEN ESTABLISHED, ALL EQUIPMENT USED FOR ACCESS SHALL BE LIMITED IN SIZE, AS REQUIRED TO REMAIN ON THE MAINTENANCE PATH.
- CONTINUE WITH RESTORATION ACTIVITIES FOR THE SECTION OF CHANNEL BETWEEN WEST PARK HILLS AVE TO PARK HILLS PARK. (CHANNEL STA 10+00 -00+00)
- IF NOT ALREADY COMPLETED, INSTALL RCE 6 AND 7. FOR RCE 6 INSTALL, CFS 20, 21 AND 22. FOR RCE 7, INSTALL THE STACKED DIVERSION SOCK DS-2 AND CFS 23 AND 24. CLEAR THE TREES/BRUSH REQUIRED FOR THE STAGING AREA AND HAUL ROAD INSTALLATION, IN ACCORDANCE WITH THE CRA NOTES AND TOWNSHIP TREE REMOVAL PLANS. AS TREES ARE REMOVED, INSTALL THE STABILIZED, CONSTRUCTION ACCESS ROUTE AND STABILIZED STONE AREAS PER THE E&S PLAN. THE STABILIZED CONSTRUCTION ACCESS ROUTE MUST BE INSTALLED AND IN GOOD WORKING ORDER FOR EQUIPMENT TO PROCEED WITH SITE ACCESS.
- AS INSTALLATION OF THE STABILIZED HAUL ROAD ALLOWS, INSTALL TEMPORARY CHANNEL CROSSING 3 PER THE PLAN DETAILS AND AS CALLED OUT ON THE PLAN (RIPRAP ONLY- NO PIPE).
- COMPLETE THE PRECONSTRUCTION REQUIREMENTS FOR SANITARY SEWER TEST PITS AS ACCESS ALLOWS AND PROVIDE THE INFORMATION TO THE TOWNSHIP (ON SHEETS C602-C605).
- NOTE THE UTILITY COORDINATION REQUIREMENTS FOR THE VERIZON LINE.
- WORKING FROM WEST PARK HILLS AVE TOWARD PARK HILLS AVE., PERFORM GRADING FOR AND INSTALL THE CHANNEL RESTORATION ELEMENTS, INCLUDING THE IMBRICATED WALLS, TOES WALLS, CASCADES, AND POOLS. IMMEDIATELY STABILIZE ALL DISTURBED AREAS (OUTSIDE OF THE POOL) WITH COIR MATTING AND TEMPORARY OR PERMANENT VEGETATIVE MEASURES, PER THE E&S PLANS OR LANDSCAPING PLAN.
- PERFORM ALL WORK IN ACCORDANCE WITH ALL CRA NOTES' REQUIREMENTS (WORKING ONE CASCADE/POOL AT A TIME AND STABILIZING AS WORK IS COMPLETED).
- NOTE THE ABANDONED UTILITY REMOVALS PER THE CRA NOTES AND PLANS.
- MAINTAIN/PROTECT STORM DRAINS (PER THE SITE AND DEMO PLANS) DURING CONSTRUCTION-REROUTING AS REQUIRED TO MAINTAIN DRAINAGE CONNECTIVITY AND REESTABLISHING AFTER RESTORATION GRADING IS COMPLETE.
- AS POOLS/CASCADES AND OTHER RESTORATION ELEMENTS ARE COMPLETED, THE CONTRACTOR MAY CHOOSE TO ESTABLISH TEMPORARY OR PERMANENT VEGETATIVE STABILIZATION IN THE SURROUNDING AREAS. ALL DISTURBED AREAS, EXCEPT FOR THE CHANNEL POOLS MUST BE IMMEDIATELY STABILIZED WITH ROLANKA BIOD70 COIR MATTING (OR APPROVED EQUAL). IF OPTING FOR TEMPORARY STABILIZATION (WHERE PERMANENT VEGETATION WILL BE COMPLETED IN ACCORDANCE WITH CRA NOTE 5), THE STABILIZED CONSTRUCTION ACCESS ROUTE AND E&S MEASURES MUST BE MAINTAINED UNTIL SUCH TIME AS FINAL LANDSCAPING OCCURS AND PERMANENT VEGETATION IS INSTALLED. IF THE CHANNEL CONTRACTOR CHOOSES TO INSTALL PERMANENT SEEDING/LANDSCAPING MEASURES IMMEDIATELY-AS RESTORATION ACTIVITIES PROCEEDS, IT IS RECOMMENDED THAT THE CONSTRUCTION ACCESS ROUTE BE REDUCED TO THE FINAL MULCH MAINTENANCE ACCESS WIDTH (PER THE SITE PLAN), AS THE RESTORATION CONTRACTOR WORKS OUT OF THE CHANNEL.
- AS MAJOR RESTORATION ACTIVITIES WITHIN THE SEGMENT ARE COMPLETE, INSTALL LANDSCAPING AND PERMANENT SEEDING ALONG THE CHANNEL SEGMENT, IN THE STAGING AREAS AND ANY OTHER DISTURBED AREAS. ALL DISTURBED AREAS SHALL CONTINUE TO BE MAINTAINED WITH ROLANKA BIOD 70 COIR MATTING. DURING LANDSCAPING, THE CONTRACTOR SHALL REDUCE/REMOVE THE STABILIZED CONSTRUCTION ACCESS ROUTE TO THE MAINTENANCE ACCESS DIMENSIONS PER THE SITE PLAN. ONCE LARGE EQUIPMENT ACCESS TO THIS SEGMENT IS NO LONGER REQUIRED AND PERMANENT STABILIZATION AND LANDSCAPING HAS BEEN INSTALLED, REMOVE RCE 2 AND ASSOCIATED FILTER SOCK, INSTALL THE MULCH MAINTENANCE PATH IN PLACE OF THE RCE 2 AND STABILIZE ANY REMAINING DISTURBED AREA WITH PERMANENT SEEDING MEASURES IN ACCORDANCE WITH THE LANDSCAPE PLAN. AFTER THE STABILIZED, MULCH MAINTENANCE ACCESS HAS BEEN ESTABLISHED, ALL EQUIPMENT USED FOR ACCESS SHALL BE LIMITED IN SIZE, AS REQUIRED TO REMAIN ON THE MULCH MAINTENANCE PATH.
- ANY EXCESS CUT MATERIALS SHALL BE HAULED OFFSITE TO A LOCATION WITH AN ACTIVE, APPROVED E&S PERMIT.
- AS GRADING OCCURS FOR THE LAST POOL AND CASCADE BEFORE WEST PARK HILLS AVE, REMOVE CHANNEL CROSSING 3. ONCE THE CHANNEL CROSSING IS REMOVED, THE CONTRACTOR MAY NOT CONTINUE TO CROSS THE CHANNEL, AND MUST ENTER FROM EITHER END OF THE RESTORATION SEGMENT (RCE 6 OR RCE 7).
- ONCE EQUIPMENT ACCESS AND ACCESS TO STAGING AREAS IS NO LONGER REQUIRED, REMOVE RCE 6 AND 7, ALONG WITH RELEVANT COMPOST FILTER SOCKS-MIXING THE COMPOST INTO THE SOIL OR REMOVING IT FROM THE SITE. IMMEDIATELY INSTALL PERMANENT VEGETATIVE STABILIZATION AND LANDSCAPING, ALONG WITH ROLANKA BIOD70 COIR MATTING AND IN ANY DISTURBED AREAS. INSTALLING THE STABILIZED, MULCH MAINTENANCE PATH -AS SHOWN ON THE SITE PLAN. AFTER THE STABILIZED, MULCH MAINTENANCE ACCESS HAS BEEN ESTABLISHED, ALL EQUIPMENT USED FOR ACCESS SHALL BE LIMITED IN SIZE, AS REQUIRED TO REMAIN ON THE MAINTENANCE PATH.
- COMPLETE ANY REMAINING PERMANENT STABILIZATION AND LANDSCAPING FOR ANY REMAINING AREAS OF THE PROJECT, PER THE LANDSCAPE PLANS AND PREVIOUS SEQUENCE DIRECTION.
- MINOR DISTURBANCES RESULTING FROM LANDSCAPE PLANTING SHALL BE IMMEDIATELY STABILIZED USING COIR MATTING.
- ONCE MULCH MAINTENANCE ACCESS HAS BEEN ESTABLISHED, ALL EQUIPMENT USED FOR ACCESS SHALL BE LIMITED IN SIZE, AS REQUIRED TO REMAIN ON THE MAINTENANCE PATH.
- COMPLETE FINAL SEEDING ON THE STABILIZED MULCH MAINTENANCE ACCESS. (THE ACCESS MAY BE MOWED IF ACCESS IS LATER REQUIRED.)
- COMPLETE ALL REMAINING PROJECT ACTIVITIES REQUIRED FOR PROJECT CLOSEOUT.
- SAW CUT ASPHALT ALONG AREAS OF CURB TO BE REPLACE AT 1' OFF THE PHASE OF CURB.
- INSTALL NEW CURB.
- PERFORM AND ADDITIONAL 1" OF CUTBACK OF ASPHALT AND COMPLETE BASE REPAIRS
- PERFORM FINAL MILL AND OVERLAY
- CONCURRENTLY IF NOT PREVIOUSLY COMPLETED, REMOVE ALL TREE PROTECTION FENCING AND REINSTALL THE SITE FENCES AS CALLED OUT IN THE SITE PLAN
- REMOVE ANY REMAINING EXCESS BUILDING MATERIALS AND/OR CONSTRUCTION DEBRIS.
- MINOR DISTURBANCES SHALL BE IMMEDIATELY STABILIZED USING COIR MATTING.
- PERFORM FINAL AS-BUILTS AND PROVIDE DOCUMENTATION TO THE TOWNSHIP IN ACCORDANCE WITH THE CRA NOTES.
- UPON ACHIEVING 70% UNIFORM VEGETATED STABILIZATION AND AFTER APPROVAL FROM THE CENTRE COUNTY CONSERVATION DISTRICT, REMOVE ANY/ALL REMAINING E&S MEASURES.
- REMOVE ALL INLET PROTECTION.
- PROVIDE PERMANENT STABILIZATION MEASURES IN ACCORDANCE WITH THE LANDSCAPE PLANS AND COIR MATTING ON ANY REMAINING AREAS OF DISTURBANCE, TO THE SATISFACTION OF THE TOWNSHIP AND OR THE CENTRE COUNTY CONSERVATION DISTRICT.



341 SCIENCE PARK RD, STE #203 STATE COLLEGE, PA 16803



NO.	DESCRIPTION	ISSUED FOR CONSTRUCTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	JSN	8/21/23
2	ISSUED FOR CONSTRUCTION	JSN	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EROSION AND SEDIMENT CONTROL
SEQUENCE OF CONSTRUCTION

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C501	
SHEET NO. 27 of 55	

EROSION AND SEDIMENTATION CONTROL PLAN NOTES:

- VEHICLES AND EQUIPMENT MAY ONLY ENTER AND EXIT THE CONSTRUCTION SITE VIA A STABILIZED ROCK CONSTRUCTION ENTRANCE.
- IN THE EVENT OF SINKHOLE DISCOVERY A PROFESSIONAL GEOLOGIST OR ENGINEER SHALL BE CONTACTED CONCERNING MITIGATION. ADDITIONALLY, THE COUNTY CONSERVATION DISTRICT WILL BE MADE AWARE OF THE SINKHOLE DISCOVERY IMMEDIATELY.
- STOCKPILE HEIGHTS MUST NOT EXCEED 35 FEET. STOCKPILE SLOPES MUST BE 2:1 OR FLATTER.
- THE OPERATOR SHALL ASSURE THAT THE APPROVED EROSION AND SEDIMENT CONTROL PLAN IS PROPERLY AND COMPLETELY IMPLEMENTED.
- FAILURE TO CORRECTLY INSTALL SEDIMENT CONTROL FACILITIES OR FAILURE TO PREVENT SEDIMENT LADEN RUNOFF FROM LEAVING THE CONSTRUCTION SITE OR FAILURE TO TAKE CORRECTIVE ACTIONS TO IMMEDIATELY RESOLVE FAILURES OF SEDIMENT CONTROL FACILITIES MAY RESULT IN ADMINISTRATIVE, CIVIL, AND/OR CRIMINAL PENALTIES BEING INSTITUTED BY THE PENNSYLVANIA DEPARTMENT OF ENVIRONMENTAL PROTECTION AS DEFINED IN SECTION 602 OF THE CLEAN STREAMS LAW OF PENNSYLVANIA.
- UNTIL THE SITE ACHIEVES FINAL STABILIZATION, THE OPERATOR SHALL ASSURE THAT THE BEST MANAGEMENT PRACTICES ARE IMPLEMENTED, OPERATED, AND MAINTAINED PROPERLY AND COMPLETELY. MAINTENANCE SHALL INCLUDE INSPECTIONS OF ALL BEST MANAGEMENT PRACTICE FACILITIES. THE OPERATOR WILL MAINTAIN AND MAKE AVAILABLE TO COUNTY CONSERVATION DISTRICT COMPLETE, WRITTEN INSPECTION LOGS OF ALL THOSE INSPECTIONS. ALL MAINTENANCE WORK, INCLUDING CLEANING, REPAIR, REPLACEMENT, REGRADING, AND RESTABILIZATION SHALL BE PERFORMED IMMEDIATELY.
- IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO ELIMINATE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION.
- 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 OPERATOR MUST RECEIVE APPROVAL OF THE REVISIONS FROM THE COUNTY CONSERVATION DISTRICT.
- THE OPERATOR SHALL ASSURE THAT AN EROSION AND SEDIMENT CONTROL PLAN HAS BEEN PREPARED, APPROVED BY THE COUNTY CONSERVATION DISTRICT, AND IS BEING IMPLEMENTED AND MAINTAINED FOR ALL SOIL AND/OR ROCK SPOIL AND BORROW AREAS, REGARDLESS OF THEIR LOCATIONS.
- 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.
- 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, CHAPTER 102, EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES.
- EROSION AND SEDIMENT BMPS MUST BE CONSTRUCTED, STABILIZED, AND FUNCTIONAL BEFORE SITE DISTURBANCE BEGINS WITHIN THE TRIBUTARY AREAS OF THOSE BMPS.
- AFTER FINAL SITE STABILIZATION HAS BEEN ACHIEVED, TEMPORARY EROSION AND SEDIMENT BMP CONTROLS MUST BE REMOVED. AREAS DISTURBED DURING REMOVAL OF THE BMPS MUST BE STABILIZED IMMEDIATELY.
- AT LEAST 7 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, THE OPERATOR SHALL INVITE ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES, THE LANDOWNER, ALL APPROPRIATE MUNICIPAL OFFICIALS, THE EROSION AND SEDIMENT CONTROL PLAN PREPARER, AND THE COUNTY CONSERVATION DISTRICT TO AN ON-SITE MEETING. ALSO, AT LEAST 3 DAYS BEFORE STARTING ANY EARTH DISTURBANCE ACTIVITIES, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE PENNSYLVANIA ONE CALL SYSTEM INCORPORATED AT 1-800-242-1776 FOR BURIED UTILITIES LOCATIONS.
- ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE APPROVED SEQUENCE.
- IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE TEMPORARY VEGETATIVE STABILIZATION SPECIFICATIONS. DISTURBED AREAS WHICH ARE AT FINISHED GRADE WHICH WILL NOT BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
- AN AREA SHALL BE CONSIDERED TO HAVE ACHIEVED FINAL STABILIZATION WHEN IT HAS A MINIMUM UNIFORM 70% PERENNIAL VEGETATIVE COVER OR OTHER PERMANENT NON-VEGETATIVE COVER WITH A DENSITY SUFFICIENT TO RESIST ACCELERATED SURFACE EROSION AND SUBSURFACE CHARACTERISTICS SUFFICIENT TO RESIST SLIDING AND OTHER MOVEMENTS.
- THE OPERATOR SHALL REMOVE FROM THE SITE, RECYCLE, OR DISPOSE OF ALL BUILDING MATERIALS AND WASTES IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1 ET SEQ., AND 287.1 ET SEQ. THE CONTRACTOR SHALL NOT ILLEGALLY BURY, DUMP, OR DISCHARGE ANY BUILDING MATERIAL OR WASTES AT THE SITE.
- RESPONSIBILITY FOR FILL MATERIAL:

IF THE PROJECT WILL NEED TO IMPORT OR EXPORT MATERIAL FROM THE SITE, THE RESPONSIBILITY FOR PERFORMING ENVIRONMENTAL DUE DILIGENCE AND DETERMINATION OF CLEAN FILL WILL REST WITH THE DESIGN BUILD CONTRACTOR.

CLEAN FILL IS DEFINED AS: UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL. THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER 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 THAT BE PROCESSED FOR RE-USE).

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 THE DEPARTMENT'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 FORM FP-001 TO CERTIFY THE ORIGIN OF THE FILL MATERIAL AND THE RESULTS OF THE ANALYTICAL TESTING TO QUALIFY THE MATERIAL AS CLEAN UP. FORM FP-001 MUST BE RETAINED BY THE OWNER OF THE PROPERTY RECEIVING FILL. A COPY OF FORM FP-001 CAN BE FOUND AT THE END OF THESE INSTRUCTIONS.

ENVIRONMENTAL DUE DILIGENCE: THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS: INVESTIGATIVE TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTIONS, ELECTRONIC DATABASE SEARCHES, REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL QUESTIONNAIRES, TRANSACTION SCREENS, 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 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 THE DEPARTMENT'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 DEPARTMENT'S MUNICIPAL OR RESIDUAL WASTE REGULATIONS BASED ON 25 PA. CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT WHICHEVER IS APPLICABLE. THESE REGULATIONS ARE AVAILABLE ON-LINE AT WWW.PACODE.COM.

EROSION AND SEDIMENTATION CONTROL MAINTENANCE NOTES:

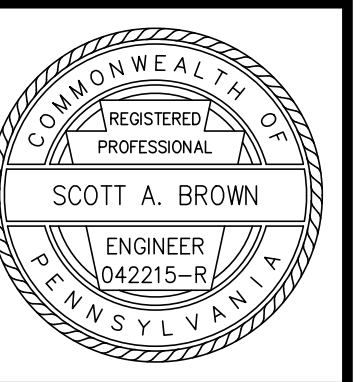
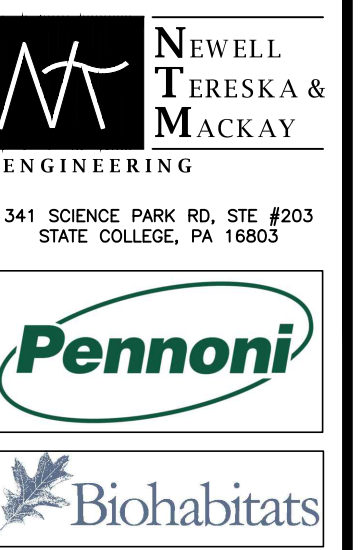
GENERAL

- DURING THE LIFE OF THE PROJECT, ALL EROSION AND SEDIMENTATION CONTROL DEVICES MUST BE PROPERLY MAINTAINED. MAINTENANCE SHALL INCLUDE THE INSPECTION OF EROSION CONTROL FACILITIES AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL SITE INSPECTIONS WILL BE DOCUMENTED IN AN INSPECTION LOG KEPT FOR THIS PURPOSE. THE COMPLIANCE ACTIONS AND THE DATE, TIME, AND NAME OF THE PERSON CONDUCTING THE INSPECTION. THE INSPECTION LOG WILL BE KEPT ON SITE AT ALL TIMES AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.

WHERE BMPS ARE FOUND TO FAIL TO ALLEVIATE EROSION OR SEDIMENT POLLUTION THE PERMITTEE OR CO-PERMITTEE SHALL CONTACT THE PERMIT ISSUING AGENCY IMMEDIATELY. THIS CONTACT SHALL BE FOLLOWED BY A WRITTEN REPORT WITHIN 5 DAYS. THE WRITTEN REPORT SHALL INCLUDE THE FOLLOWING INFORMATION:

A. THE LOCATION AND SEVERITY OF THE BMPS FAILURE AND ANY POLLUTION EVENTS.
B. ALL STEPS TAKEN TO, REDUCE, ELIMINATE AND PREVENT THE RECURRENCE OF THE NON-COMPLIANCE.
C. THE TIME FRAME TO CORRECT THE NONCOMPLIANCE, INCLUDING EXACT DATES WHEN THE ACTIVITY WILL RETURN TO COMPLIANCE.
 - SEEDED AREAS THAT HAVE WASHED AWAY SHALL BE FILL AND GRADED, AS NECESSARY, AND THEN RESEDED. A STRAW COVER SHALL BE APPLIED TO RETAIN THE SEED ALONG WITH AN ANCHORING METHOD DESCRIBED ON THE MULCH ANCHORING GUIDE, UNTIL IS HAS A CHANCE TO ROOT PROPERLY.
 - ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF EROSION AND SEDIMENTATION BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS OR MODIFICATIONS OF THOSE INSTALLED WILL BE NEEDED.
 - IMMEDIATELY AFTER EARTH DISTURBANCE ACTIVITIES CEASE, THE OPERATOR SHALL STABILIZE ANY AREAS DISTURBED BY THE ACTIVITIES. DURING NON-GERMINATING PERIODS, MULCH MUST BE APPLIED AT THE SPECIFIED RATES. DISTURBED AREAS WHICH ARE NOT AT FINISHED GRADE AND WHICH WILL BE REDISTURBED WITHIN 1 YEAR MUST BE STABILIZED IN ACCORDANCE WITH THE PERMANENT VEGETATIVE STABILIZATION SPECIFICATIONS.
 - 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, OR TRANSPORTED OFF-SITE TO AN APPROVED DISPOSAL SITE.
- ROCK CONSTRUCTION ENTRANCE
- SEDIMENT DEPOSITED ON PAVED ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE. NOTE: WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO DITCHES, SEWERS, CULVERTS OR OTHER DRAINAGEWAY IS NOT ACCEPTABLE.
 - ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK.
 - INSPECT AFTER EACH STORM EVENT AND ON A WEEKLY BASIS. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.
- COMPOST FILTER SOCK
- INSPECT AFTER EACH STORM EVENT ON A WEEKLY BASIS. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.
 - SEDIMENT MUST BE REMOVED WHEN ACCUMULATIONS REACH 1/2 THE ABOVE GROUND HEIGHT OF THE SOCK.
 - ANY SECTION OF SOCK WHICH HAS BEEN UNDERMINED OR OVERTOPPED MUST BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET PER CENTRE COUNTY CONSERVATION DISTRICT REQUIREMENTS.
- PUMPED WATER FILTER BAG
- PUMPED WATER FILTER BAG SHALL BE INSPECTED WEEKLY AND BEFORE EACH USE.
 - 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.
- ROCK FILTERS
- ROCK FILTERS SHOULD BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.
 - CLOGGED FILTER STONE SHOULD BE REPLACED.
 - NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.
- EROSION CONTROL BLANKET
- SLOPE SURFACE MUST BE FREE OF ROCKS, CLOUDS, STICKS, AND GRASS
 - BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE AREA.
 - DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 DAYS AFTER INSPECTION.
- TEMPORARY DRAINAGEWAY CROSSING
- RUNOFF FROM THE ROADWAY MUST BE DIVERTED OFF THE ROADWAY AND INTO A SEDIMENT REMOVAL BMP BEFORE IT REACHES THE ROCK APPROACH TO THE CROSSING.
 - TEMPORARY DRAINAGEWAY CROSSINGS SHALL BE INSPECTED ON A DAILY BASIS.
 - DAMAGED CROSSINGS MUST BE REPAIRED WITHIN 24 HOURS OF THE INSPECTION AND BEFORE ANY SUBSEQUENT USE.
 - SEDIMENT DEPOSITS ON THE CROSSING OR ITS APPROACHES MUST BE REMOVED WITHIN 24 HOURS OF THE INSPECTION.
 - AS SOON AS THE TEMPORARY CROSSING IS NO LONGER NEEDED, IT MUST BE REMOVED. ALL MATERIALS MUST BE DISPOSED OF PROPERLY AND DISTURBED AREAS STABILIZED.

TOTAL DISTURBED AREA = 162,274 SF (3.75 AC.)
 TOTAL DISTURBED AREA IN THE EXISTING FEMA FLOODPLAIN = 128,386 SF (2.95 AC.)
 TOTAL DISTURBED AREA OUTSIDE THE EXISTING FEMA FLOODPLAIN = 33,888 SF (0.78 AC.)



NO.	DESCRIPTION	ISSUED FOR CONSTRUCTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	JSN	8/27/23

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

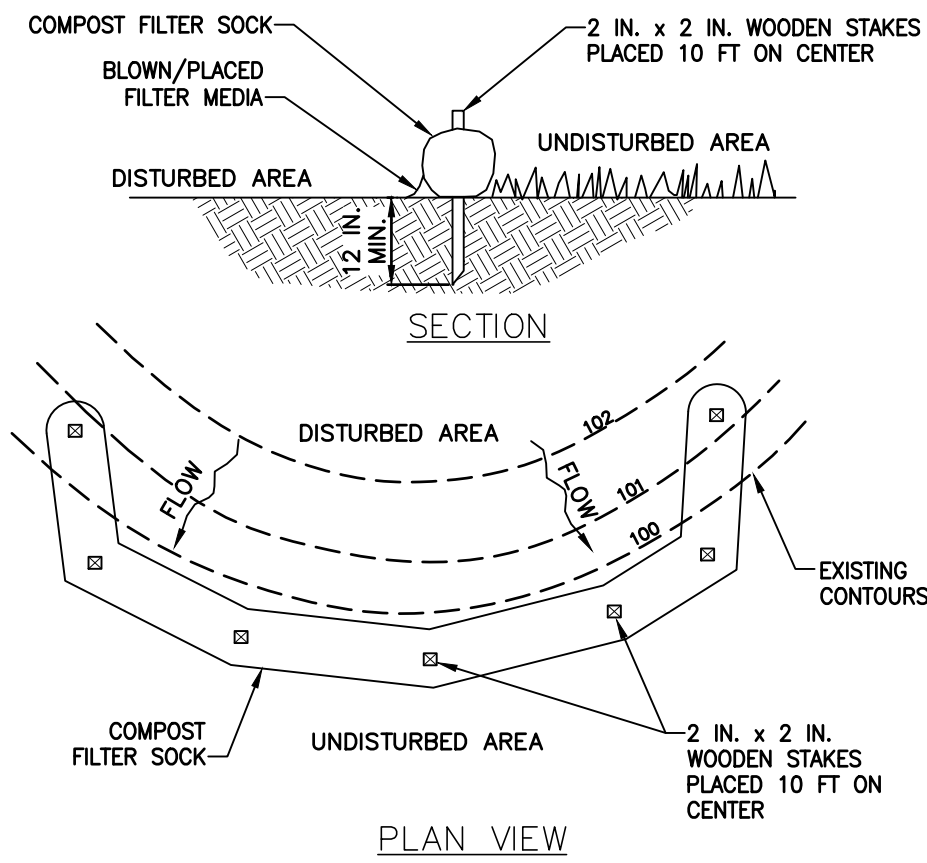
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EROSION AND SEDIMENT CONTROL NOTES

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER C502
SHEET NO. 28 OF 55

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISION FOR ADDENDUM 1	JSN	8/21/23



NOTES:

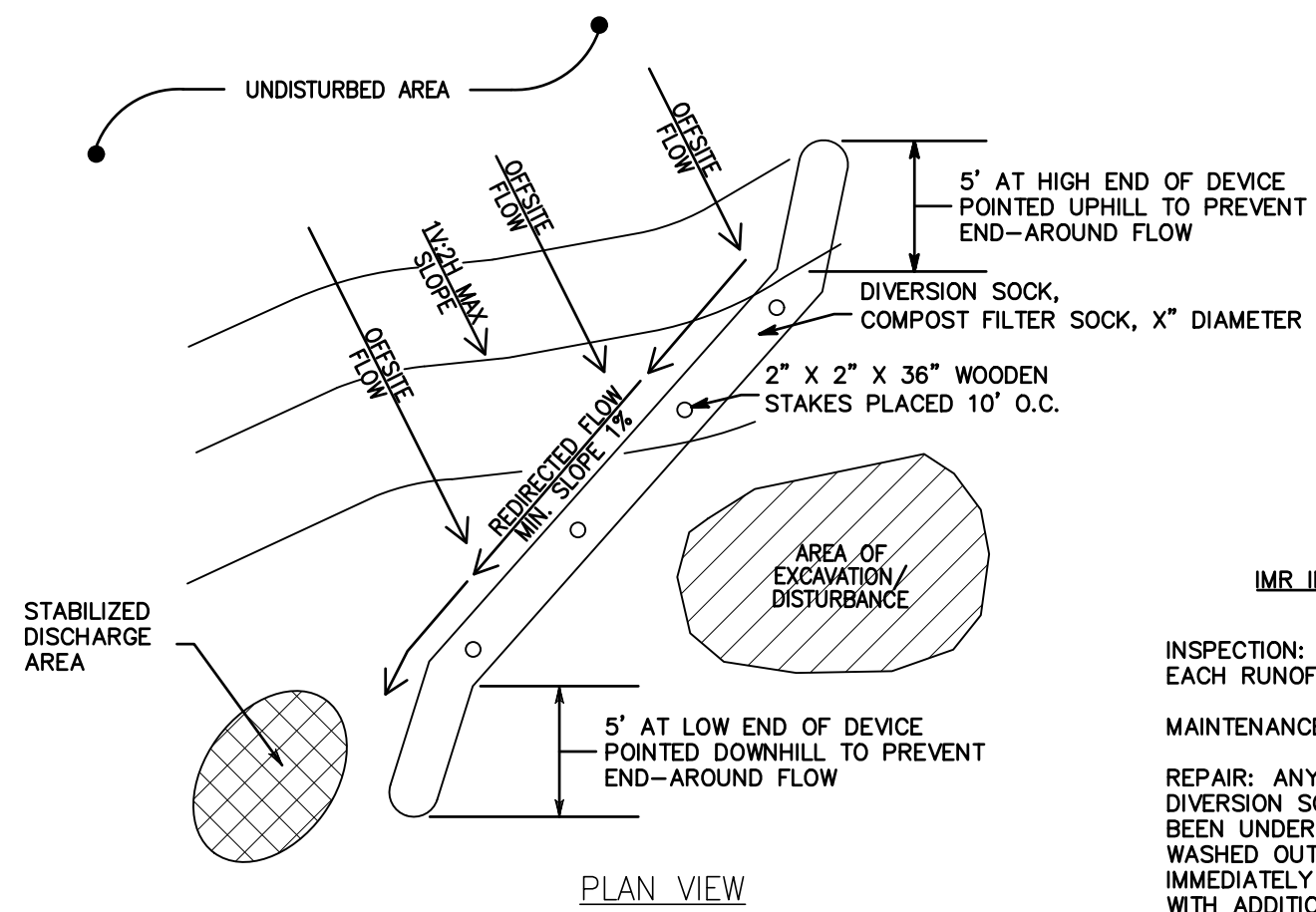
- SOCK FABRIC SHALL MEET STANDARDS OF TABLE 4.1 OF THE PA DEP EROSION CONTROL MANUAL. COMPOST SHALL MEET THE STANDARDS OF TABLE 4.2 OF THE PA DEP EROSION CONTROL MANUAL.
- COMPOST FILTER SOCK SHALL BE PLACED AT EXISTING LEVEL GRADE. BOTH ENDS OF THE BARRIER SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE 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 MANUFACTURERS 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 MANUFACTURERS 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.

COMPOST FILTER SOCK
NOT TO SCALE

TABLE 4.1
COMPOST SOCK FABRIC MINIMUM SPECIFICATIONS

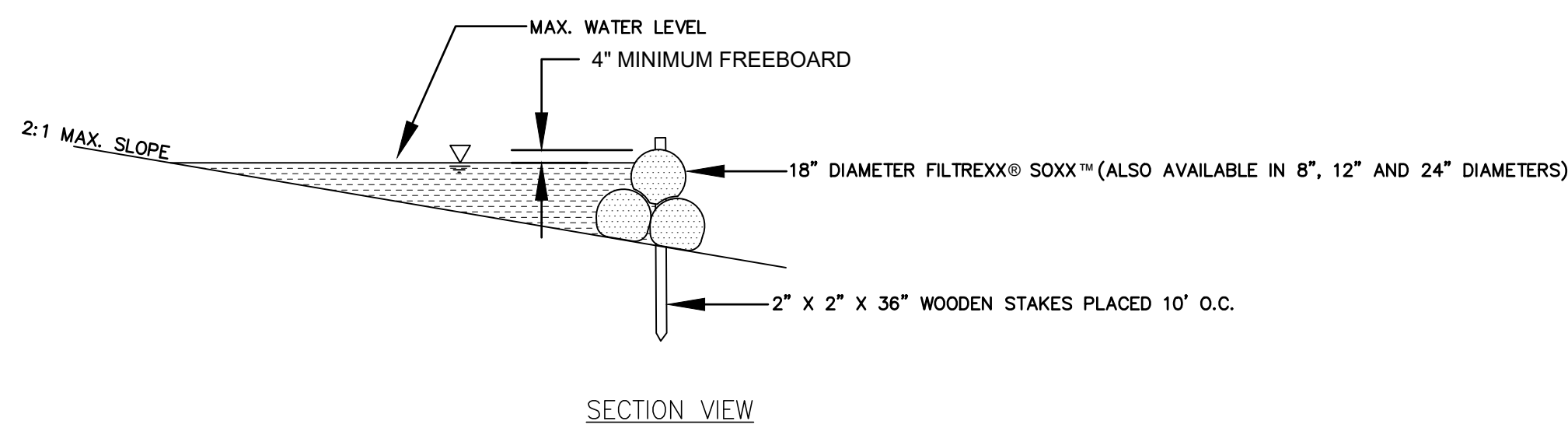
MATERIAL TYPE	3 MIL HDPE	5 MIL HDPE	5 MIL HDPE	MULTI-FILAMENT POLYPROPYLENE (MFPP)	HEAVY DUTY MULTI-FILAMENT POLYPROPYLENE (HDMFPP)
MATERIAL CHARACTERISTICS	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE	PHOTO-DEGRADABLE
MESH OPENING	3/8"	3/8"	3/8"	3/8"	1/8"
TENSILE STRENGTH		26 PSI	26 PSI	44 PSI	202 PSI
ULTRAVIOLET STABILITY % ORIGINAL STRENGTH (ASTM G-155)	23% AT 1000 HR.	23% AT 1000 HR.		100% AT 1000 HR.	100% AT 1000 HR.
MINIMUM FUNCTIONAL LONGEVITY	6 MONTHS	9 MONTHS	6 MONTHS	1 YEAR	2 YEARS
TWO-PLY SYSTEMS					
INNER CONTAINMENT NETTING	HDPE BIAXIAL NET				
	CONTINUOUSLY WOUND				
	FUSION-WELDED JUNCTURES				
OUTER FILTRATION MESH	3/4" X 3/4" MAX. APERTURE SIZE				
	COMPOSITE POLYPROPYLENE FABRIC (WOVEN LAYER AND NON-WOVEN FLEECE MECHANICALLY FUSED VIA NEEDLE PUNCH)				
3/16" MAX. APERTURE SIZE					
SOCK FABRICS COMPOSED OF BURLAP MAY BE USED ON PROJECTS LASTING 6 MONTHS OR LESS.					

FILTREX & JMD



IMR INFORMATION

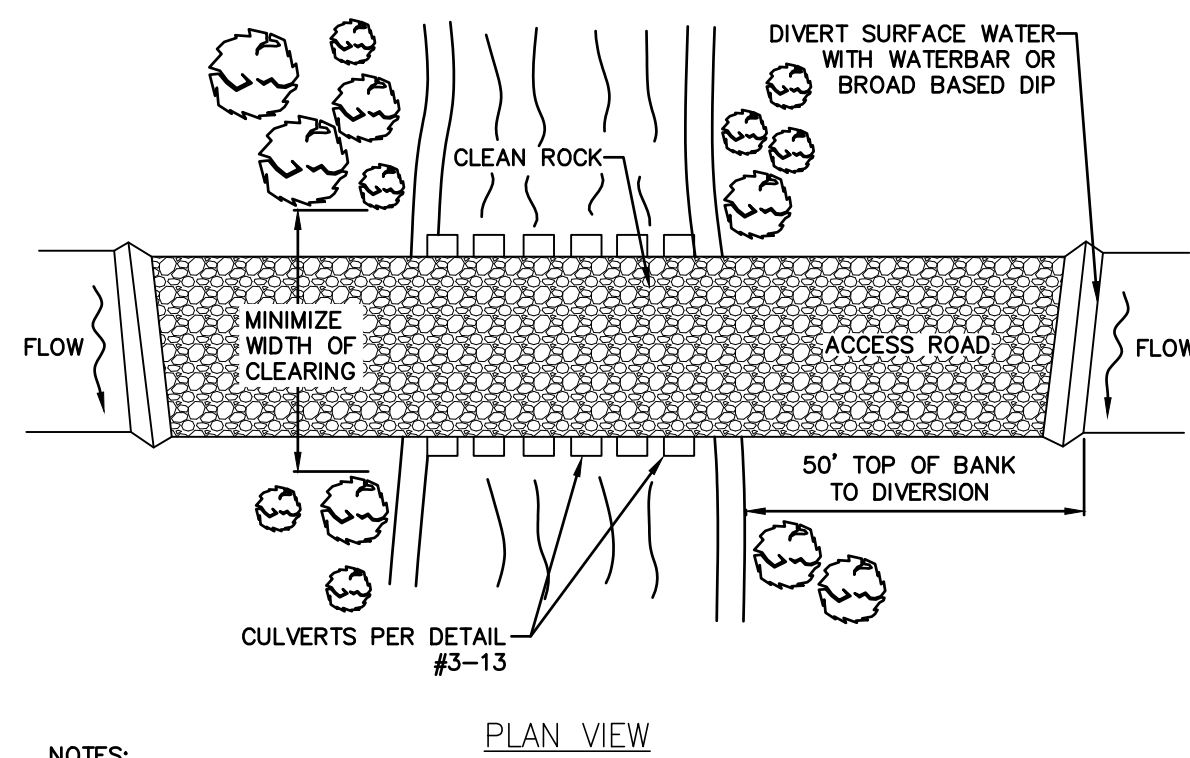
- INSPECTION: WEEKLY AND AFTER EACH RUNOFF EVENT
- MAINTENANCE: NONE
- REPAIR: ANY SECTION OF THE DIVERSION SOCK THAT HAS BEEN UNDERMINED OR WASHED OUT SHOULD BE IMMEDIATELY REPLACED WITH ADDITIONAL DIVERSION SOCK.



NOTES:

- 1. DIVERSION SOCK SIZE IS BASED ON CALCULATION
- 2. NEED ECMB/TRM DETAIL AS WELL

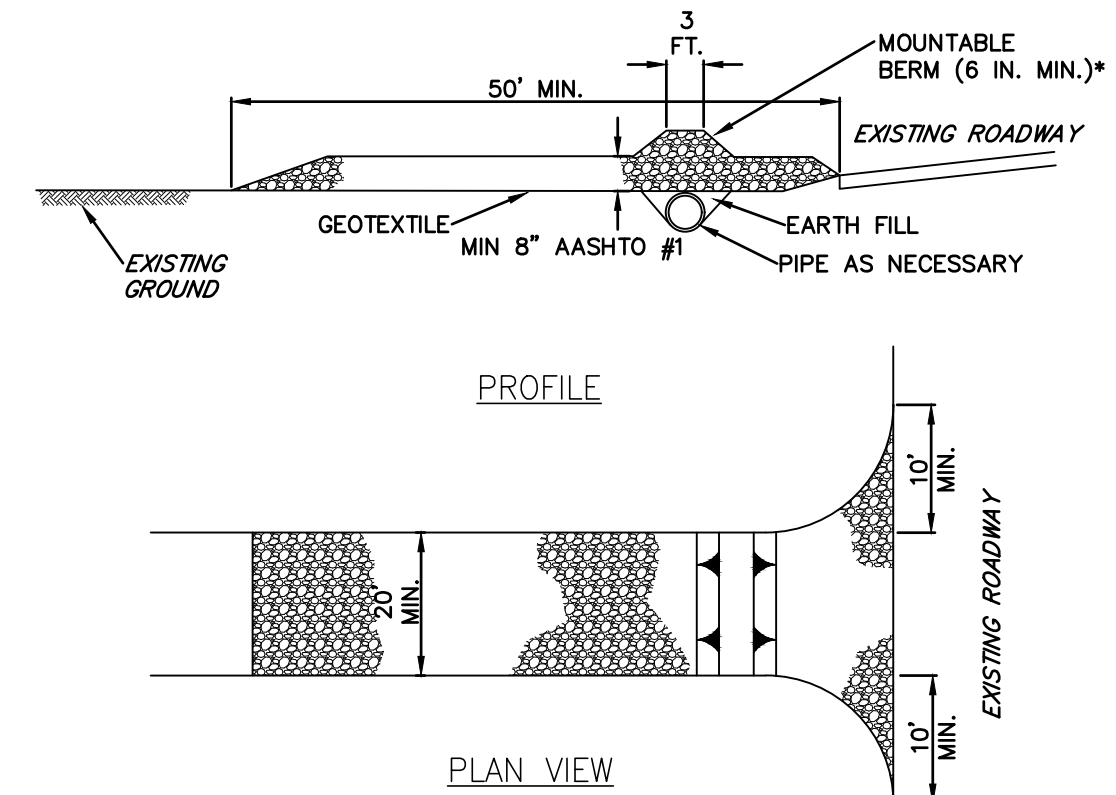
DIVERSION SOCK
NOT TO SCALE



NOTES:

- WATERBARS AND BROAD-BASED DIPS SHALL DISCHARGE TO SEDIMENT REMOVAL FACILITY.
- CLEAN ROCK SHALL CONFORM TO CHAPTER 105 PERMITTING REQUIREMENTS.
- FOLLOW PERMIT CONDITIONS REGARDING REMOVAL OF CROSSING.

STANDARD CONSTRUCTION DETAIL #3-12
TEMPORARY DRAINAGWAY CROSSING - PLAN VIEW
NOT TO SCALE



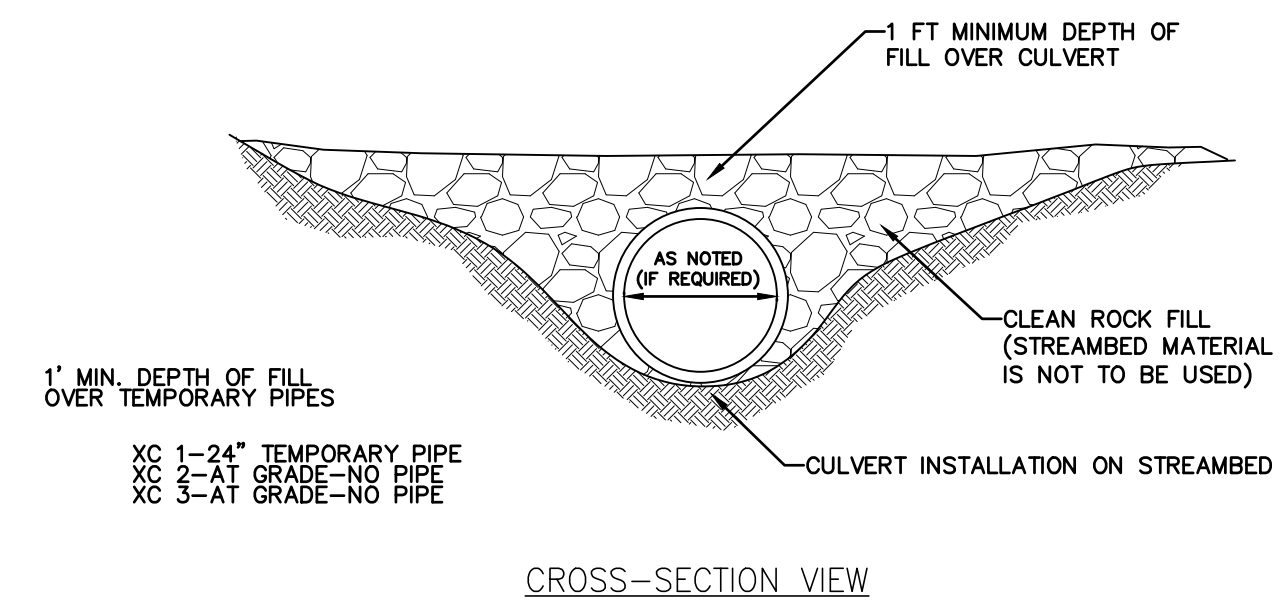
* MOUNTABLE BERM USED TO PROVIDE PROPER COVER FOR PIPE

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.

SEE DETAIL 3-12

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



NOTES:

- PROVIDE 50' STABILIZED ACCESS TO CROSSING ON BOTH SIDES OF STREAM CHANNEL (SEE STANDARD CONSTRUCTION DETAIL #3-12).
- PIPES SHALL EXTEND BEYOND THE TOE OF THE ROADWAY.
- RUNOFF FROM THE ROADWAY SHALL BE DIVERTED OFF THE ROADWAY AND INTO A SEDIMENT REMOVAL BMP BEFORE IT REACHES THE ROCK APPROACH TO THE CROSSING.
- MAINTENANCE**
- 1. TEMPORARY STREAM CROSSINGS SHALL BE INSPECTED ON A DAILY BASIS.
- 2. DAMAGED CROSSINGS SHALL BE REPAIRED WITHIN 24 HOURS OF THE INSPECTION AND BEFORE ANY SUBSEQUENT USE.
- 3. SEDIMENT DEPOSITS ON THE CROSSING OR ITS APPROACHES SHALL BE REMOVED WITHIN 24 HOURS OF THE INSPECTION.
- AS SOON AS THE TEMPORARY CROSSING IS NO LONGER NEEDED, IT SHALL BE REMOVED. ALL MATERIALS SHALL BE DISPOSED OF PROPERLY AND DISTURBED AREAS STABILIZED.

STANDARD CONSTRUCTION DETAIL #3-13
TEMPORARY DRAINAGWAY CROSSING
NOT TO SCALE

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PARK HILLS DRAINAGWAY IMPROVEMENTS PROJECT
EROSION AND SEDIMENT CONTROL DETAILS

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
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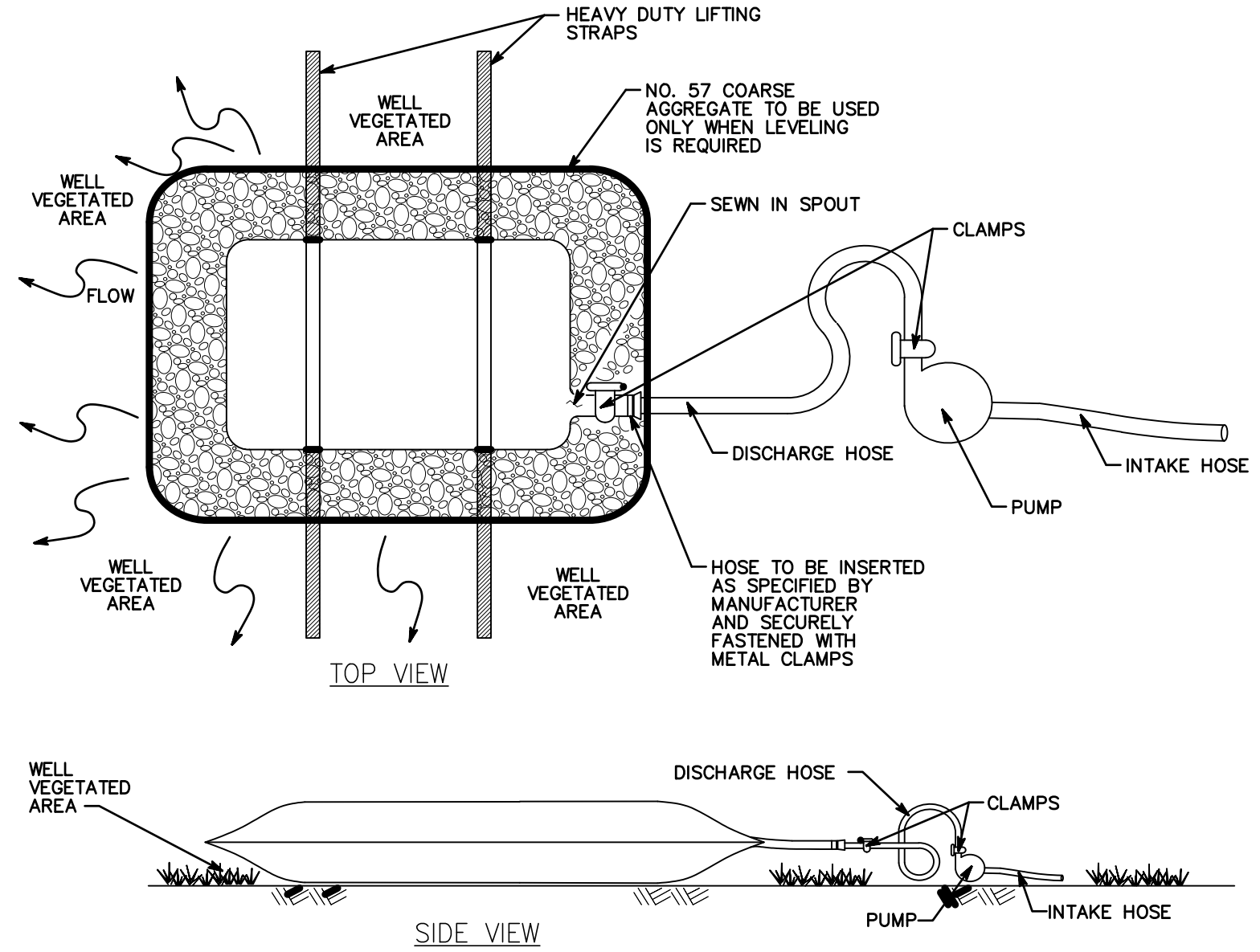
DRAWING NUMBER C503
SHEET NO. 29 OF 55

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY, PENNSYLVANIA
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EROSION AND SEDIMENT CONTROL DETAILS

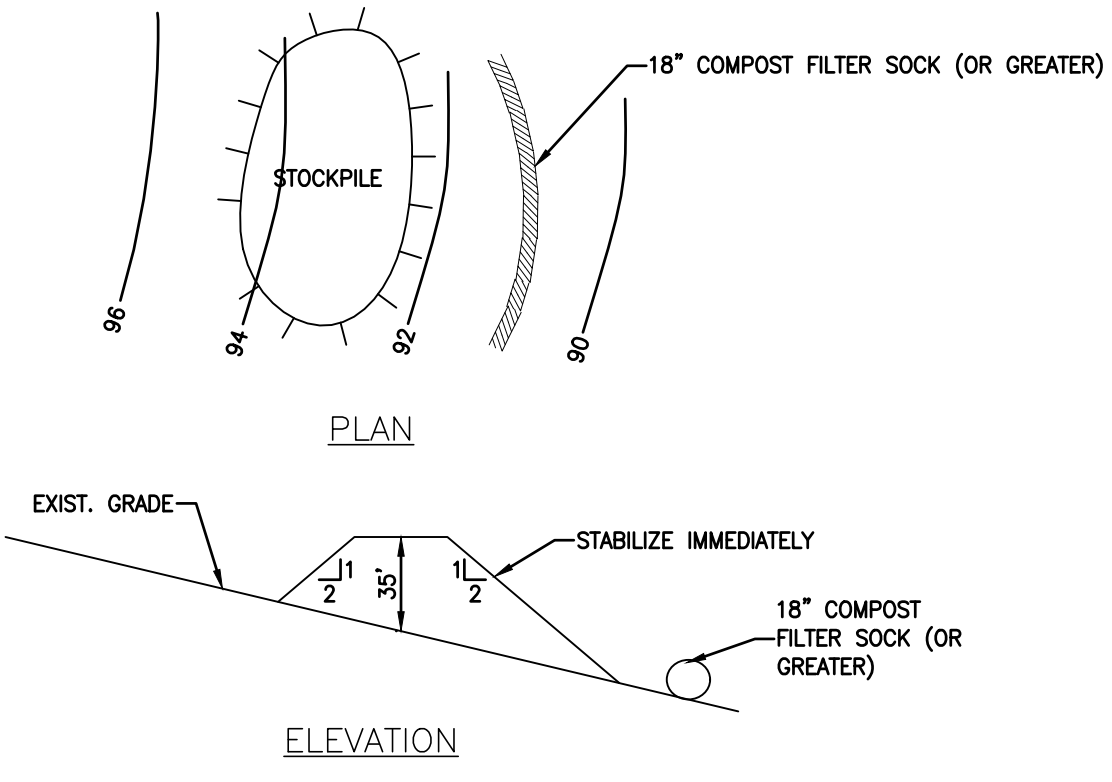
ENGINEER SAB	DESIGNED BY AJJ
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DRAWING NUMBER C504
SHEET NO. 30 OF 55



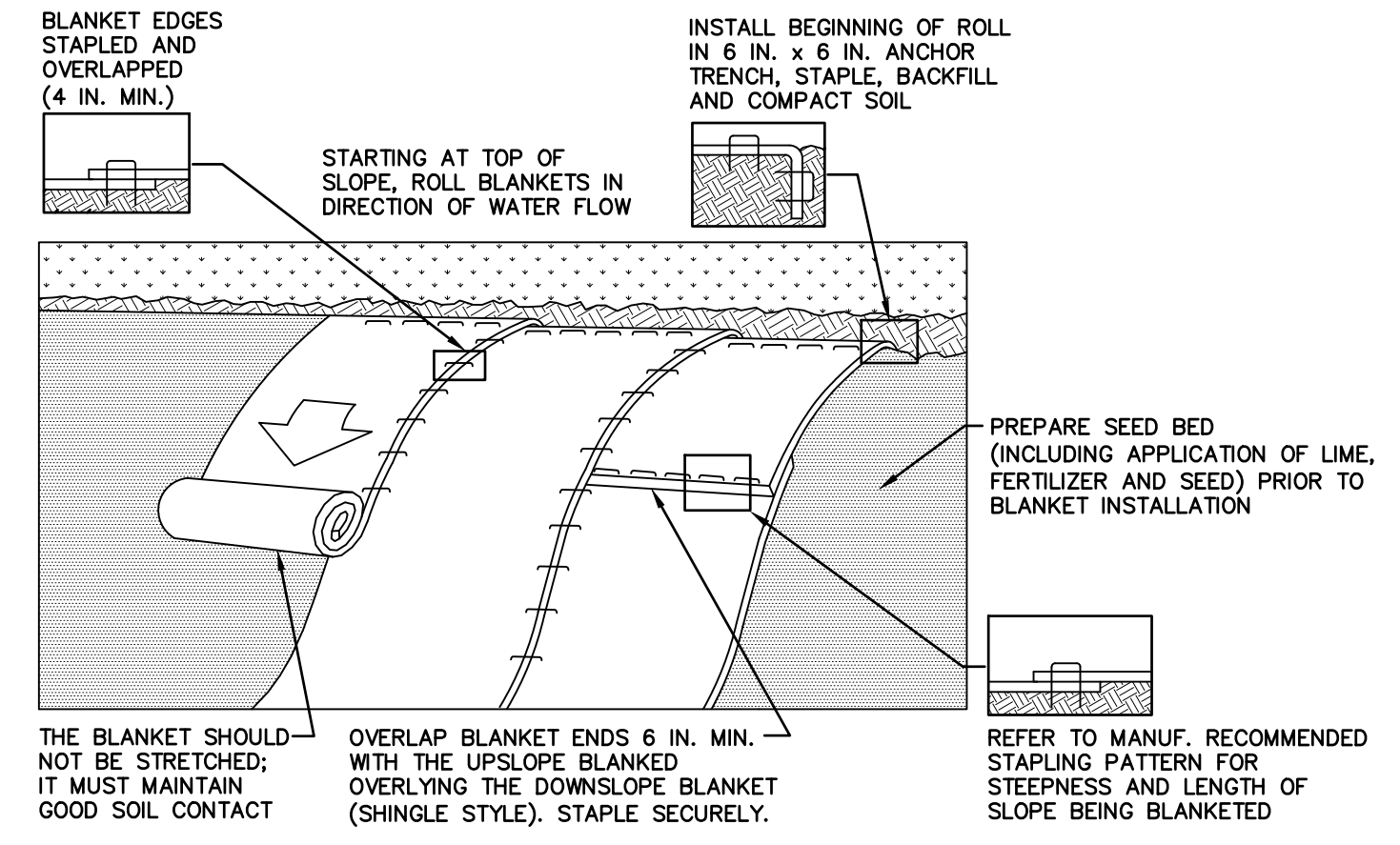
- NOTES:**
- MAXIMUM PUMPING RATE FOR THE PROPOSED PUMP WATER FILTER BAG IS 750 G.P.M. OR 1/2 THE MANUFACTURER'S MAXIMUM, WHICHEVER IS LESS.
 - LOCATE BAG IN LEVEL AREAS (LESS THAN 5% GRADE). WHEN LEVEL AREAS ARE NOT AVAILABLE, PLACE NO. 57 COARSE AGGREGATE TO LEVEL THE BAG.
 - LOCATE BAG IN A WELL VEGETATED AREA. DISCHARGE ONTO A STABLE, EROSION RESISTANT AREA. WHEN VEGETATED AREA IS NOT AVAILABLE, PROVIDE A GEOTEXTILE (CLASS 4, TYPE A) LINED FLOW PATH TO A STABLE EROSION RESISTANT RECEIVING WATER COURSE OR A WELL VEGETATED AREA.
 - LOCATE BAG IN AN AREA ACCESSIBLE BY EQUIPMENT FOR MAINTENANCE AND REMOVAL PURPOSES.
 - DO NOT INSERT MORE THAN ONE HOSE INTO A BAG.
 - REPLACE THE BAG WHEN 50% OF THE SEDIMENT CAPACITY HAS BEEN FILLED AND/OR WHEN THERE IS A FAILURE. THE ADDITIONAL BAGS WILL BE PAID AS EACH.
 - REMOVE AND PROPERLY DISPOSE OF THE PUMPED WATER FILTER BAGS. RESTORE THE AREA IN ACCORDANCE WITH THE SPECIFICATIONS IN PUBLICATION 408. DO NOT CUT FILTER BAG OR DISTRIBUTE AND SEED SEDIMENT.
 - DO NOT PERMIT DISCHARGE FROM THE BAG TO DRAIN BACK INTO WORK OR ACCESS AREAS OF THE PROJECT.
- IMR INFORMATION**
- INSPECTION: DAILY AND PRIOR TO START OF PUMPING
MAINTENANCE: UPON DETECTION OF ANY PROBLEM WITH A PWFV OR HOSE BETWEEN THE PUMP AND THE BAG, CEASE PUMPING IMMEDIATELY AND DO NOT RESUME UNTIL THE PROBLEM IS CORRECTED OR ANOTHER BAG OR HOSE IS PLACED INTO OPERATION.
REPAIR: REPLACE BAG WHEN IT IS 1/2 FULL OF SEDIMENT FOR VEGETATED AREAS. IF THE BAG IS PLACED ON #57 STONE (PER RC-75W DETAIL), REPLACE WHEN BAG IS FULL. IF LESS THAN 1/2 FULL, AND DESIGN FLOW RATE IS REDUCED DUE TO SEDIMENT ACCUMULATION OR BAG IS DAMAGED, REPLACE BAG.

PUMPED WATER FILTER BAG
NOT TO SCALE



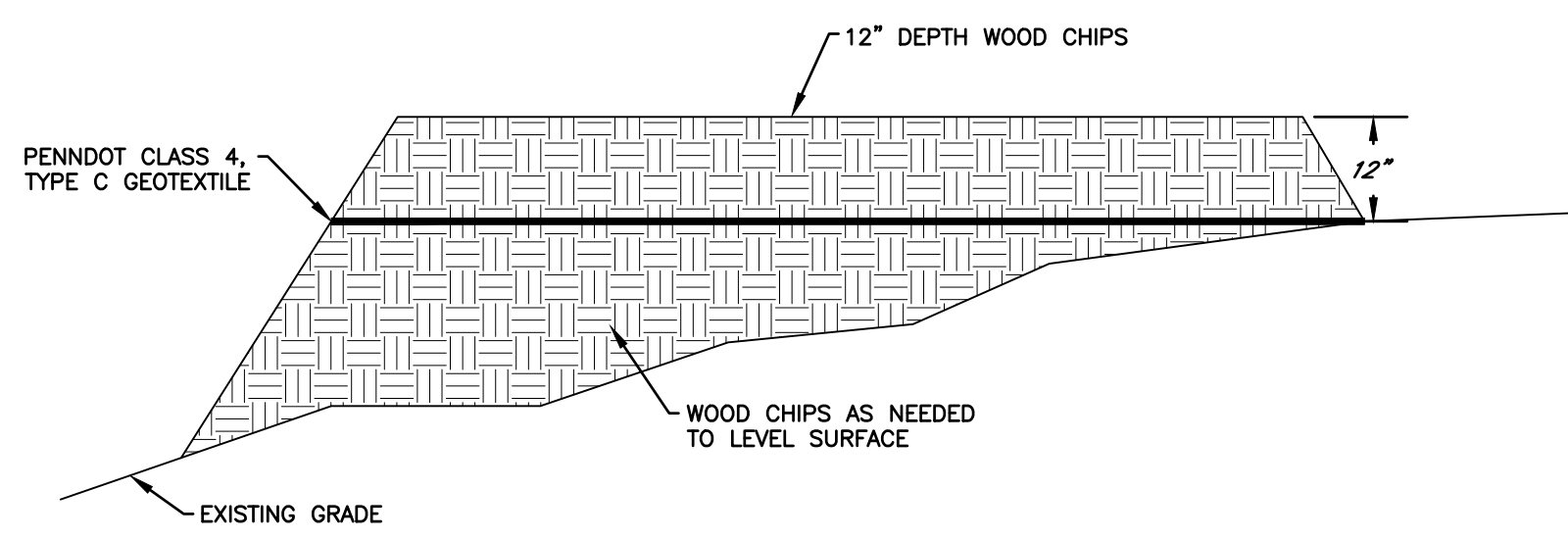
- NOTES:**
- INSTALL SILT FENCE DOWNSLOPE OF AREA OF STOCKPILE.
 - PLACE STOCKPILE IN AREAS SHOWN ON EROSION CONTROL PLAN WITHOUT BLOCKING NATURAL DRAINAGE PATTERNS.
 - FOLLOW DIMENSIONS SHOWN ABOVE. HEIGHT SHOULD NOT EXCEED 35 FT. SIDE SLOPES SHOULD NOT BE STEEPER THAN 2(H):1(V).
 - STABILIZE IMMEDIATELY PER THE "SEEDING SPECIFICATIONS."
 - LOCATION(S) AND SIZE(S) OF SOIL STOCKPILES ARE APPROXIMATE AND SHALL BE ADJUSTED PER FIELD AND CONSTRUCTION SEQUENCE CONDITIONS. CONTRACTOR SHALL VERIFY REQUIRED SIZE(S). REQUIREMENTS FROM THE STANDARDS DETAIL MUST BE FOLLOWED FOR STOCKPILES.

TOPSOIL STOCKPILE AND MAINTENANCE
NOT TO SCALE



- NOTES:**
- SEED AND SOIL AMENDMENTS SHALL BE APPLIED ACCORDING TO THE RATES IN THE PLAN DRAWINGS PRIOR TO INSTALLING THE BLANKET.
- PROVIDE ANCHOR TRENCH AT TOE OF SLOPE IN SIMILAR FASHION AS AT TOP OF SLOPE.
- SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS, AND GRASS.
- BLANKET SHALL HAVE GOOD CONTINUOUS CONTACT WITH UNDERLYING SOIL THROUGHOUT ENTIRE LENGTH. LAY BLANKET LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH SOIL. DO NOT STRETCH BLANKET.
- THE BLANKET SHALL BE STAPLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
- BLANKETED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL PERENNIAL VEGETATION IS ESTABLISHED TO A MINIMUM UNIFORM 70% COVERAGE THROUGHOUT THE BLANKETED AREA. DAMAGED OR DISPLACED BLANKETS SHALL BE RESTORED OR REPLACED WITHIN 4 CALENDAR DAYS.

STANDARD CONSTRUCTION DETAIL #11-1
EROSION CONTROL BLANKET INSTALLATION
NOT TO SCALE



- NOTES:**
- TIMBER MATS SHALL BE USED AS REQUIRED TO PREVENT COMPACTION OF THE UNDERLYING ROOTS.

CONSTRUCTION ACCESS ROUTE DETAIL

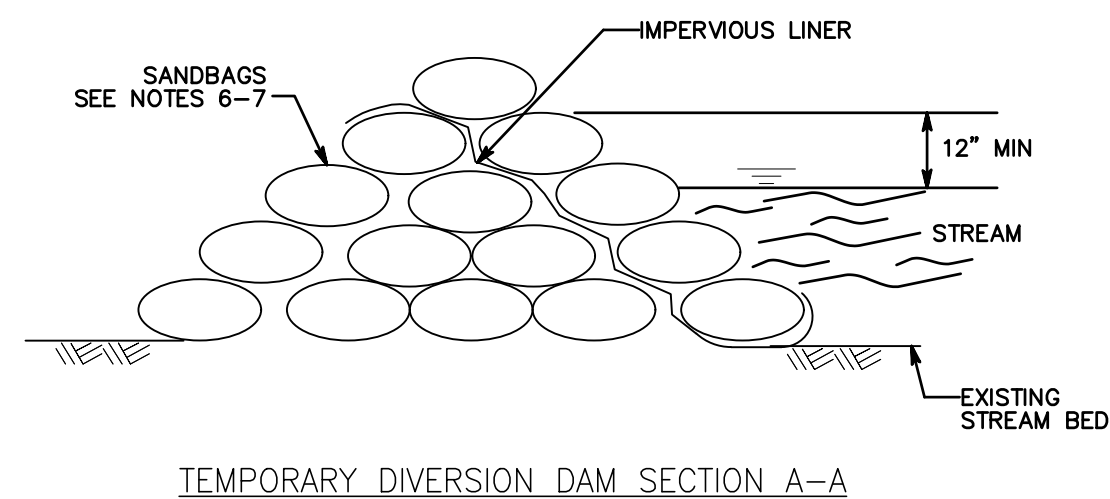
TYPE OF COVER AND SPECIES OR MIXTURES	PERCENT BY WEIGHT	SEEDING RATES IN LBS PER		RECOMMENDED SEEDING DATES	ADAPTATION TO SOIL-SITE CONDITIONS				
		1,000 SQ.FT	ACRE		SHALLOW WELL-DRAINED	MOD. DEEP WELL DRAINED	DEEP WELL DRAINED	MOD. WELL DRAINED	SOMEWHAT POORLY TO POORLY DRAINED
TEMPORARY COVER									
ANNUAL RYEGRASS	100%	1	20 TO 40	MAR. 1 TO JUNE 15	X	X	X	X	X
FIELD BROMEGRASS	100%	1	20 TO 40	-	X	X	X	X	
SPRING OATS	100%	2.5	96	MAR. 1 TO JUNE 15	X	X	X	X	X
SUNDANGRASS	100%	1	30 TO 40	MAY 15 TO AUG. 15	X	X	X	X	
WINTER RYE	100%	3.5	140	AUG. 15 TO OCT. 15	X	X	X	X	X
ANNUAL RYEGRASS	25%	2	85	MAR. 1 TO JUNE 15	X	X	X	X	X
SPRING OATS	75%								
THE FOLLOWING AREA SUPPLEMENTS REQUIRED WITH ALL TEMPORARY SEEDING									
AGRICULTURAL LIMESTONE	N/A	46	2,000	MAR. 1 TO JUNE 15	X	X	X	X	X
10-10-10 FERTILIZER	N/A	11.5	500	MAR. 1 TO JUNE 15	X	X	X	X	
TEMPORARY MULCHING	N/A	138	6,000	MAR. 1 TO JUNE 15	X	X	X	X	X

TEMPORARY SEEDING NOTES:

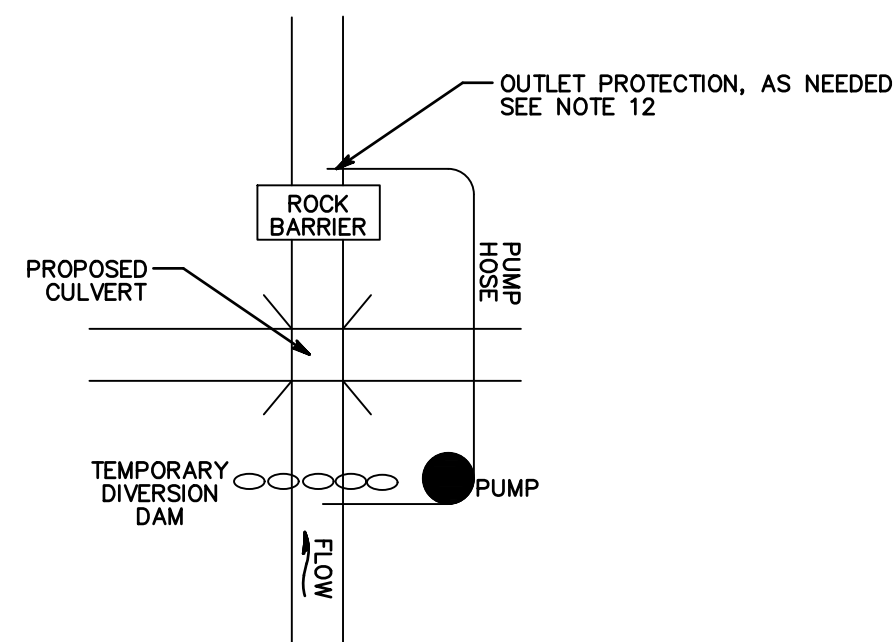
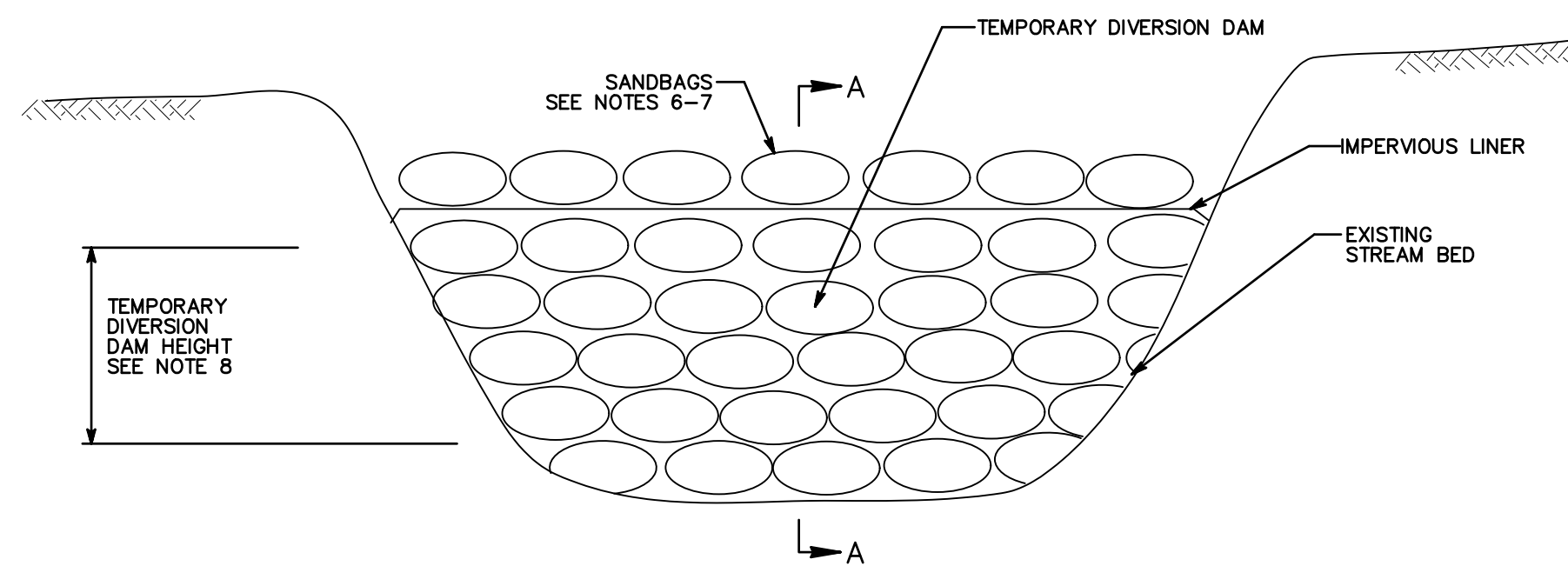
- IN ORDER TO ESTABLISH A QUICK GRASS COVER OVER DISTURBED AREAS, A TEMPORARY MULCH MIXTURE SHALL BE USED.
- STABILIZATION EFFORTS DURING THE NON-GERMINATING PERIOD AS SPECIFIED IN THE TABLE ABOVE SHOULD BE APPLIED AT A RATE OF 3 TONS PER ACRE.
- MULCH SHALL BE HAY OR STRAW REQUIRED AND INSTALLED AT A RATE OF 3 TONS PER ACRE. PREFERRED MATERIAL IS STRAW BUT HYDROMULCH MAY BE USED.
- STRAW OR MULCH SHALL BE APPLIED IN LONG STRANDS, NOT CHOPPED OR FINELY BROKEN.
- APPLY SOIL SUPPLEMENTS AS SPECIFIED.

TEMPORARY SEEDING FORMULAS
NOT TO SCALE

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TEMPORARY DIVERSION DAM SECTION A-A



TEMPORARY PUMP BYPASS SYSTEM

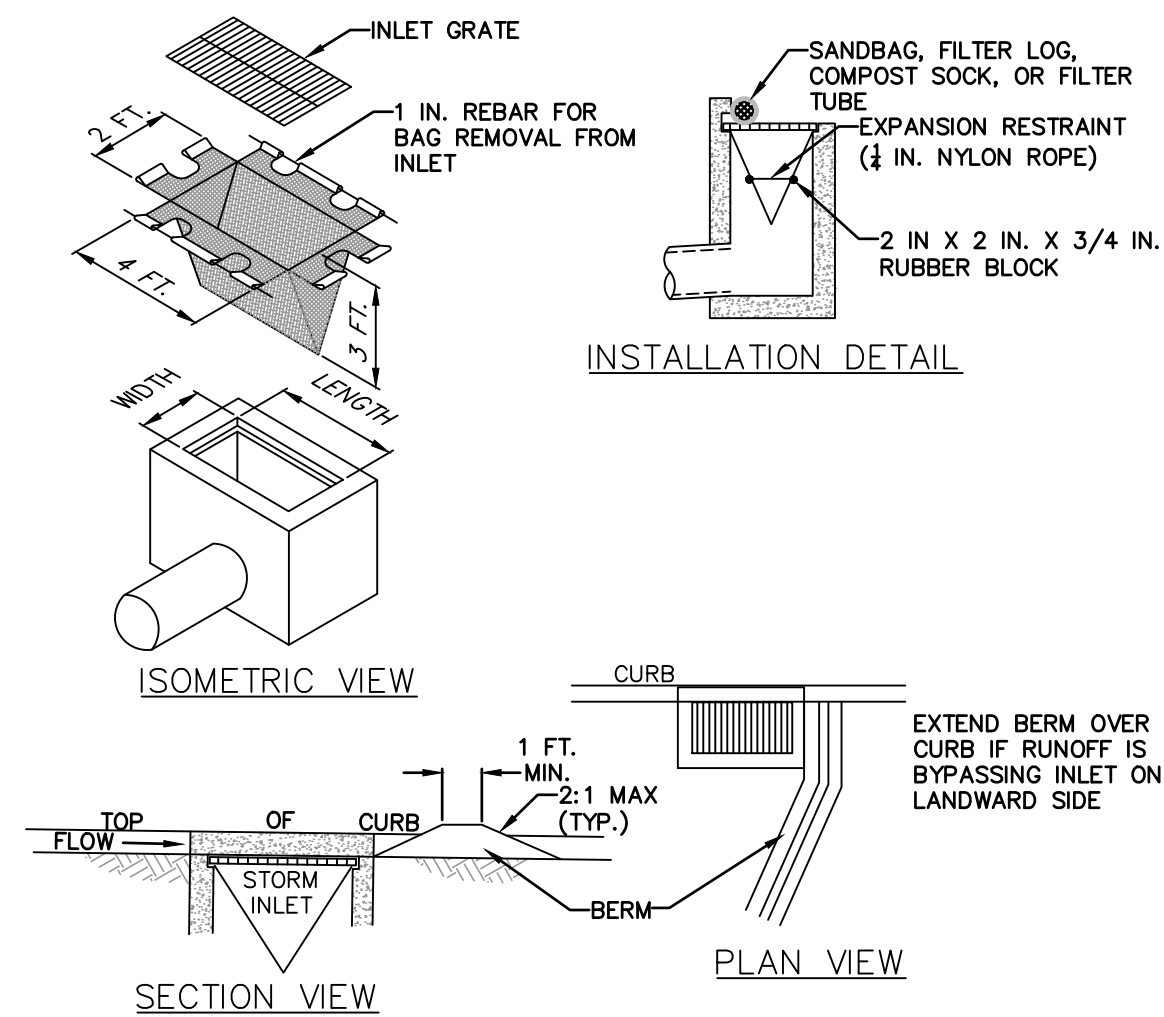
NOT TO SCALE

NOTES

1. THE TEMPORARY PUMP BYPASS SYSTEM CAN REMAIN IN THE STREAM FOR A MAXIMUM OF 2 CALENDAR WEEKS.
2. INSTALL THE BYPASS SYSTEM IN DRY WEATHER AND WHEN HEAVY RAIN IS NOT FORECASTED.
3. TEMPORARY PUMP BYPASS SYSTEM SHALL BE SIZED TO CONVEY THE NORMAL FLOW AT THE TIME OF CONSTRUCTION.
4. FOR PUMP BYPASS, LOCATE PUMP INTAKE A SUFFICIENT DISTANCE FROM STREAM BOTTOM TO PREVENT SEDIMENT FROM ENTERING THE SYSTEM.
5. BEFORE CONSTRUCTING TEMPORARY DIVERSION DAM, REMOVE ANY DEBRIS FROM THE AREA WHERE SANDBAGS WILL BE PLACED. PLACE SANDBAGS LENGTHWISE. FILL LOW SPOTS BEFORE PLACING SANDBAGS THE FULL LENGTH OF THE AREA TO BE RAISED.
6. PLACE THE OPEN END OF THE SANDBAG UNDER THE FILLED PORTION. PLACE SUCCEEDING SANDBAGS WITH THE BOTTOM OF THE BAG TIGHTLY AND PARTIALLY OVERLAPPING THE PREVIOUS BAG. OFFSET ADJACENT ROWS OR LAYERS BY ONE-HALF THE SANDBAG LENGTH TO AVOID CONTINUOUS JOINTS.
7. USE PYRAMID PLACEMENT TO INCREASE THE HEIGHT OF THE TEMPORARY DIVERSION DAM. TO ELIMINATE VOIDS AND FORM A TIGHT SEAL, COMPACT AND SHAPE EACH SANDBAG BY WALKING ON IT. CONTINUE THIS PROCESS AS EACH LAYER IS PLACED. THIS WILL FLATTEN THE TOPS OF THE SANDBAGS AND PREVENT SLIPPING BETWEEN SUCCEEDING LAYERS.
8. TOTAL HEIGHT OF THE TEMPORARY DIVERSION DAM VARIES DEPENDING ON HEADWATER REQUIRED TO PUMP NORMAL FLOW.
9. REPLACE FAILED OR DAMAGED COMPONENTS OF THE TEMPORARY PUMP BYPASS SYSTEM IMMEDIATELY.
10. WORK AREAS BEHIND THE TEMPORARY DIVERSION DAM SHOULD BE KEPT AS DRY AS POSSIBLE. ANY WATER THAT PENETRATES THE WORK AREA SHOULD BE DISCHARGED THROUGH A PUMPED WATER FILTER BAG.
11. PLACE THE TEMPORARY DIVERSION DAM IN THE LOCATION SHOWN ON THE DRAWINGS. THE LOCATION OF THE PUMP AND HOSE AROUND THE WORK AREA MAY BE FIELD ADJUSTED.
12. IF EROSION IS OBSERVED AT PUMP DISCHARGE, ADD ROCK CLASS, R-4 TO DISSIPATE FLOW.

IMR INFORMATION

INSPECTION: DAILY
 MAINTENANCE: REMOVE SEDIMENT AND DEBRIS ACCUMULATION AT THE INLET AND OUTLET. REPAIR ANY EROSION THAT OCCURS AT THE PUMP DISCHARGE POINT.
 REPAIR: REPAIR OR REPLACE ANY DAMAGED SEGMENTS OF THE PUMP HOSE IMMEDIATELY.

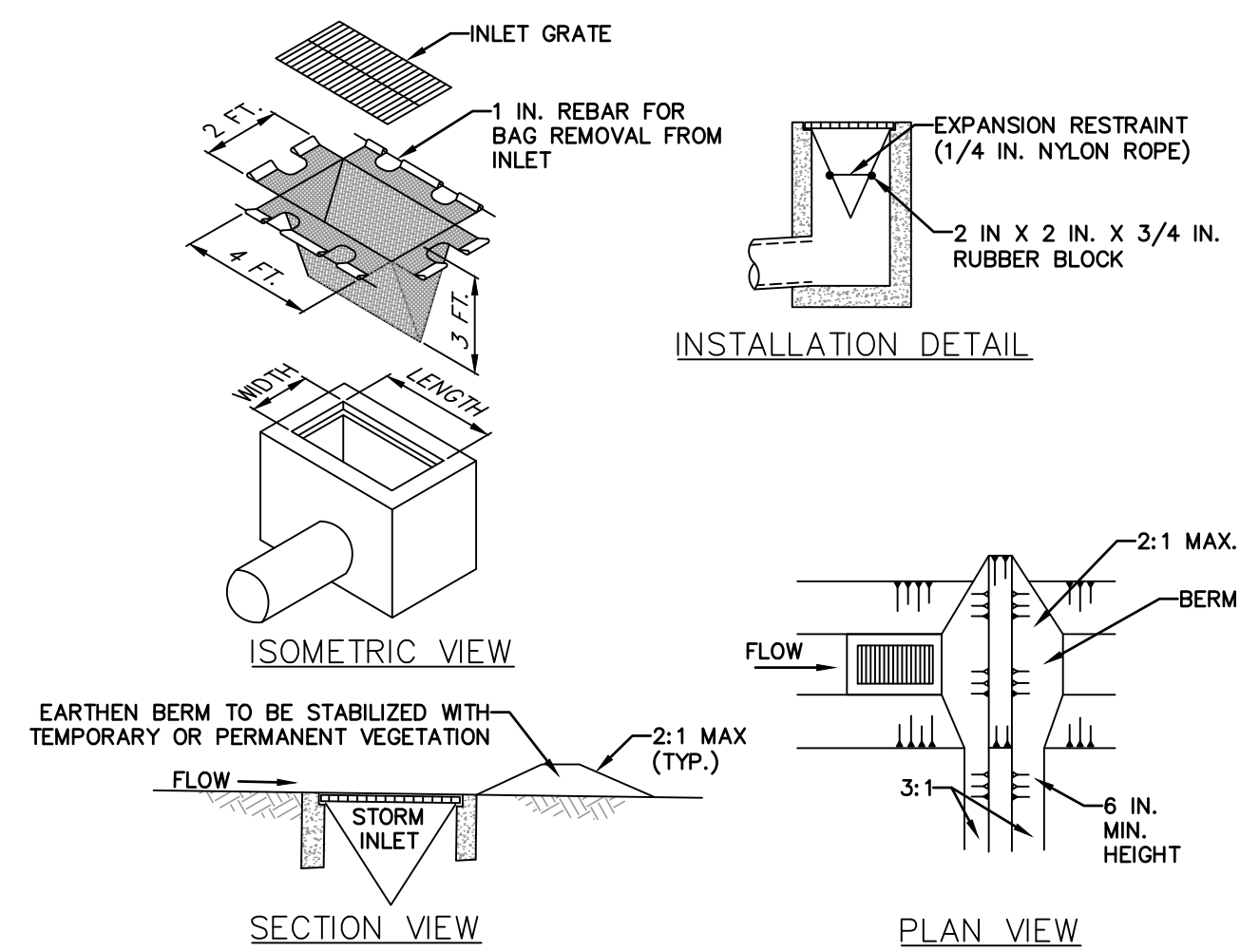


NOTES:

- 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 BERM SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. SIX INCH MINIMUM HEIGHT ASPHALT BERM SHALL BE MAINTAINED UNTIL ROADWAY SURFACE RECEIVES FINAL COAT. 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 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 EMPTIED 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



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 BERM IN ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS STONED. ROAD SUBBASE BERM ON ROADWAY SHALL BE MAINTAINED UNTIL ROADWAY IS PAVED. EARTHEN BERM IN CHANNEL SHALL BE MAINTAINED UNTIL PERMANENT STABILIZATION IS COMPLETED OR REMAIN PERMANENTLY.
- 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 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 EMPTIED 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 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 #4-16
 FILTER BAG INLET PROTECTION - TYPE M INLET

NOT TO SCALE

NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/27/23

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801

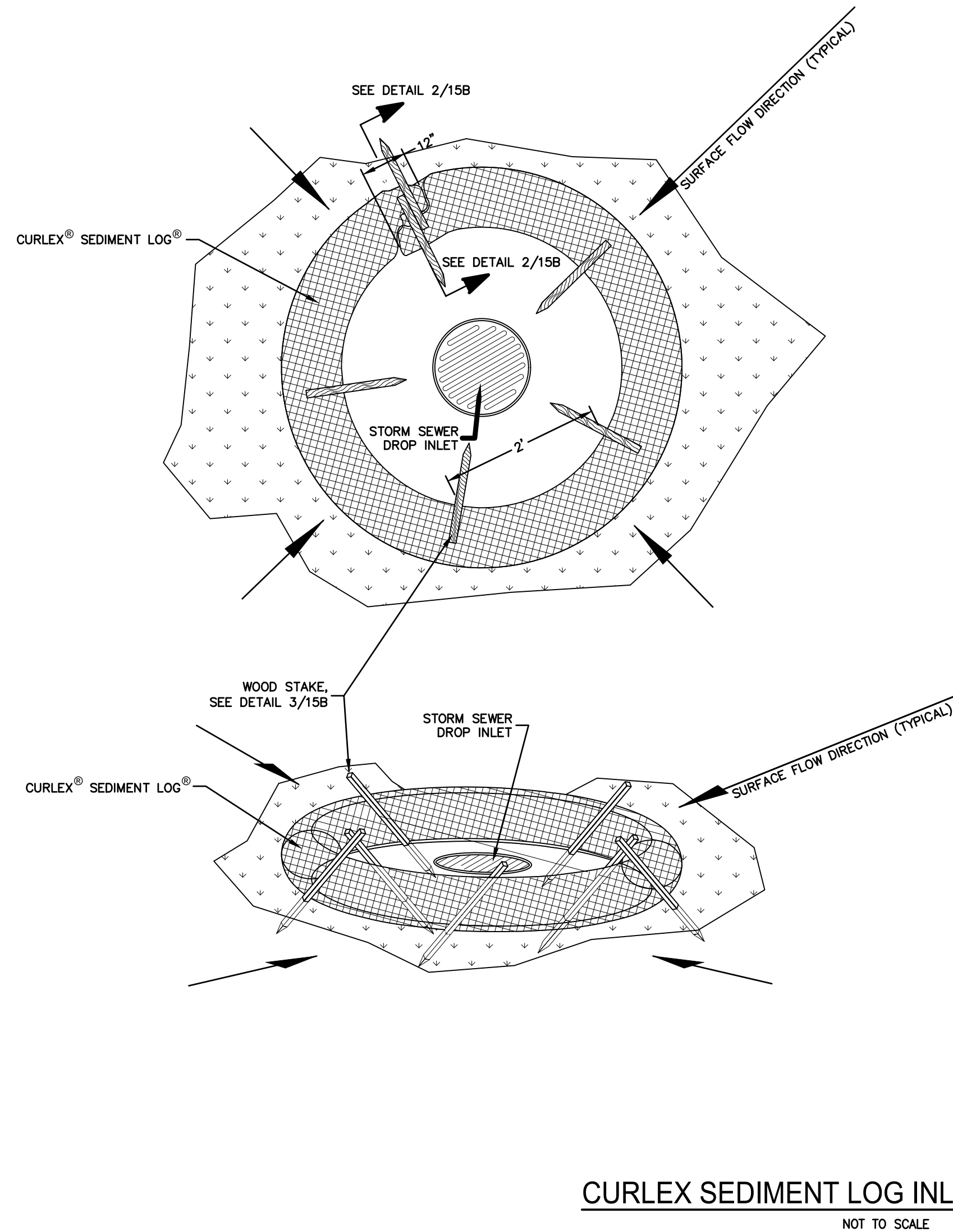
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EROSION AND SEDIMENT CONTROL DETAILS

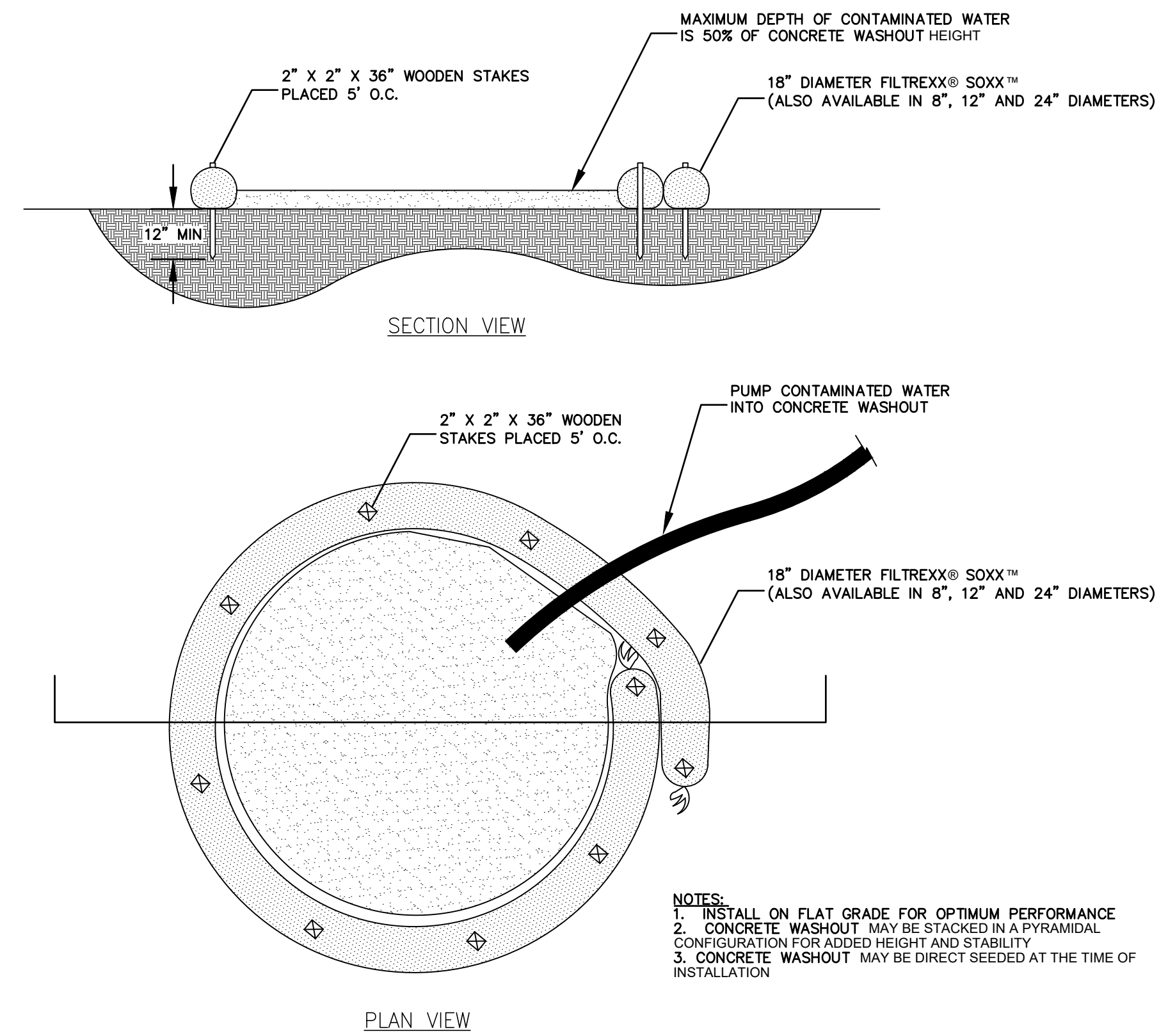
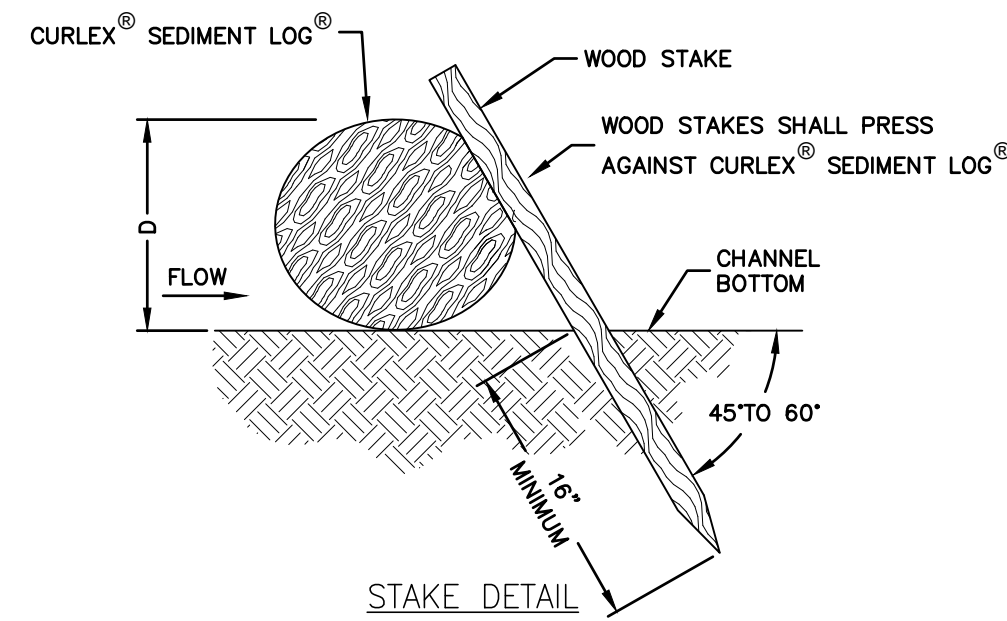
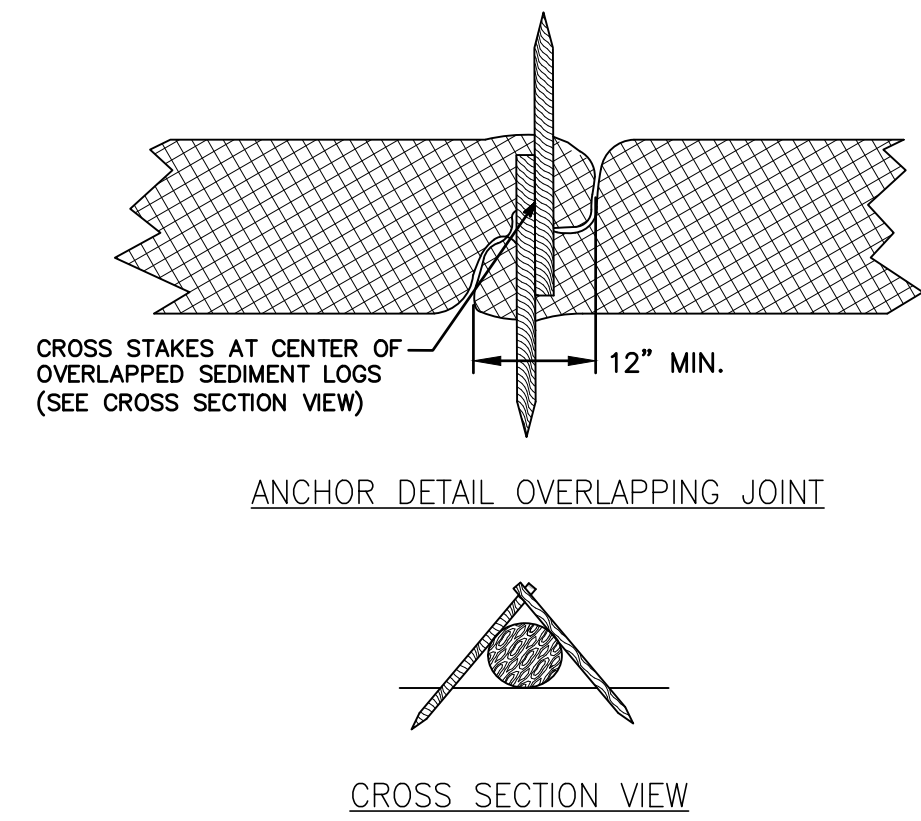
ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER C505
SHEET NO. 31 OF 55

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CURLEX SEDIMENT LOG INLET PROTECTION
NOT TO SCALE



FILTREXX® CONCRETE WASHOUT
NOT TO SCALE

- NOTES:
 1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
 2. CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY
 3. CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801
 CENTRE COUNTY, PENNSYLVANIA
 PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EROSION AND SEDIMENT CONTROL DETAILS

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C506
 SHEET NO. 32 OF 55

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	9/5/23
2	REVISIONS	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA
CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EROSION AND SEDIMENT CONTROL DETAILS

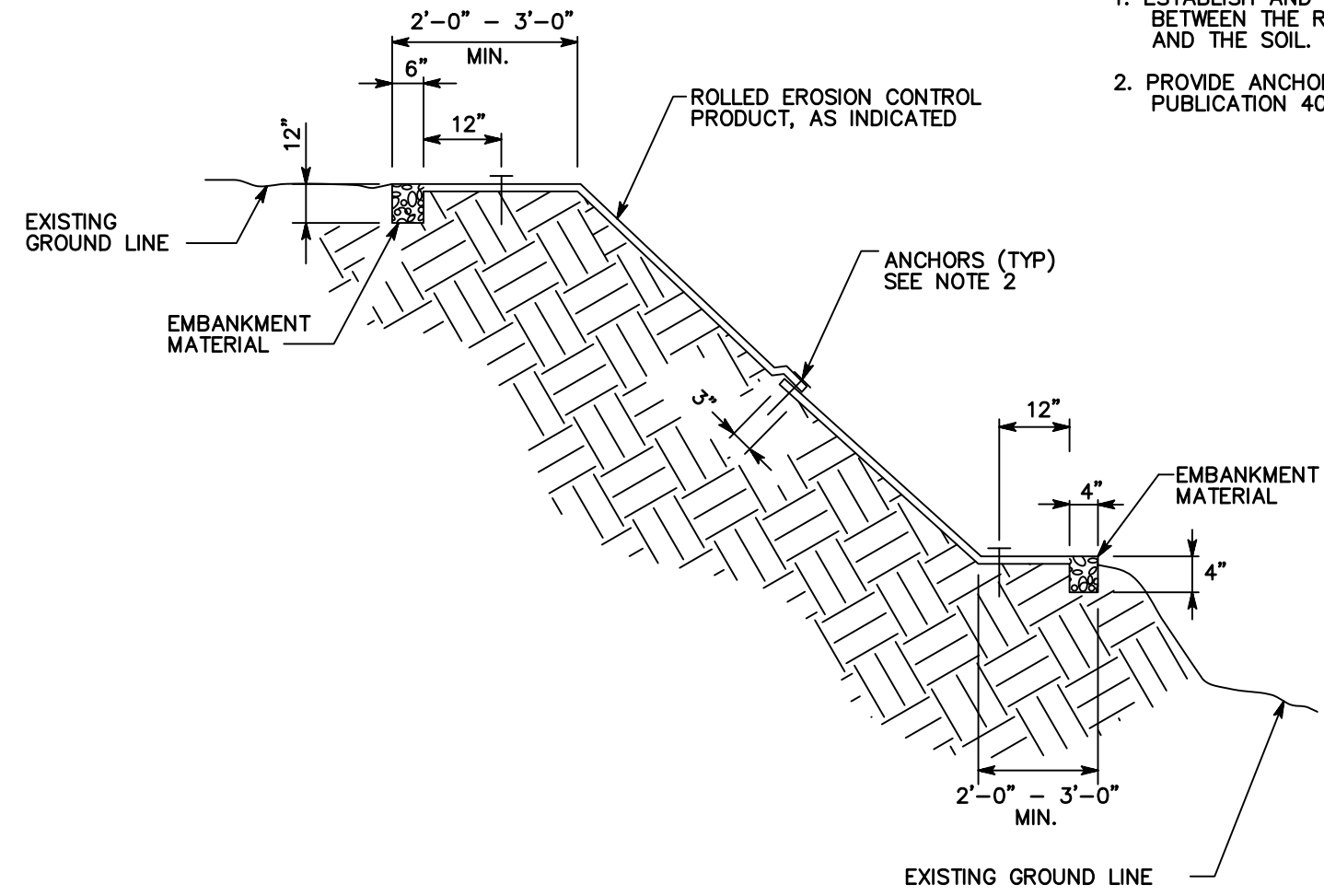
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DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

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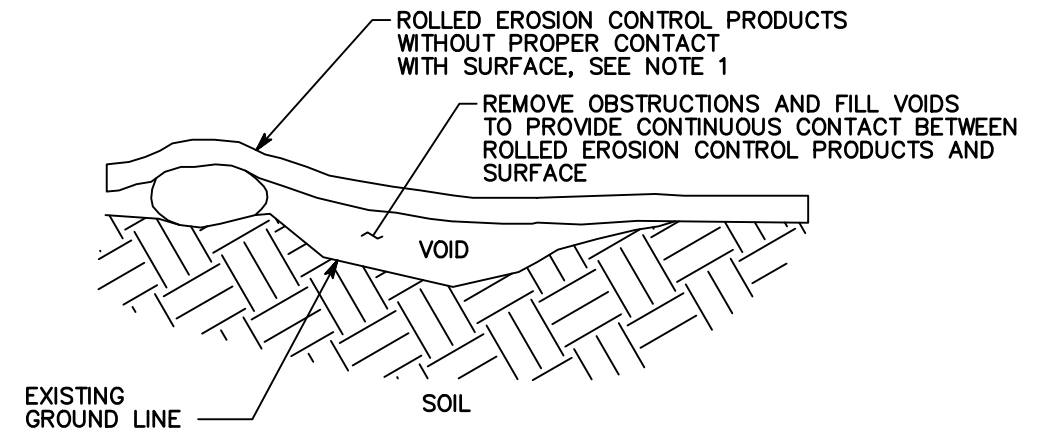
SHEET NO. 33 OF 55

NOTES

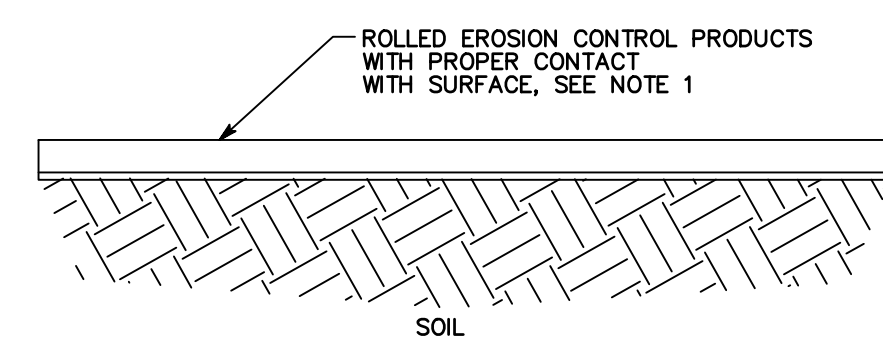
1. ESTABLISH AND MAINTAIN CONTINUOUS CONTACT BETWEEN THE ROLLED EROSION CONTROL PRODUCTS AND THE SOIL.
2. PROVIDE ANCHORING DEVICES IN ACCORDANCE WITH PUBLICATION 408, SECTION 806.2(g).



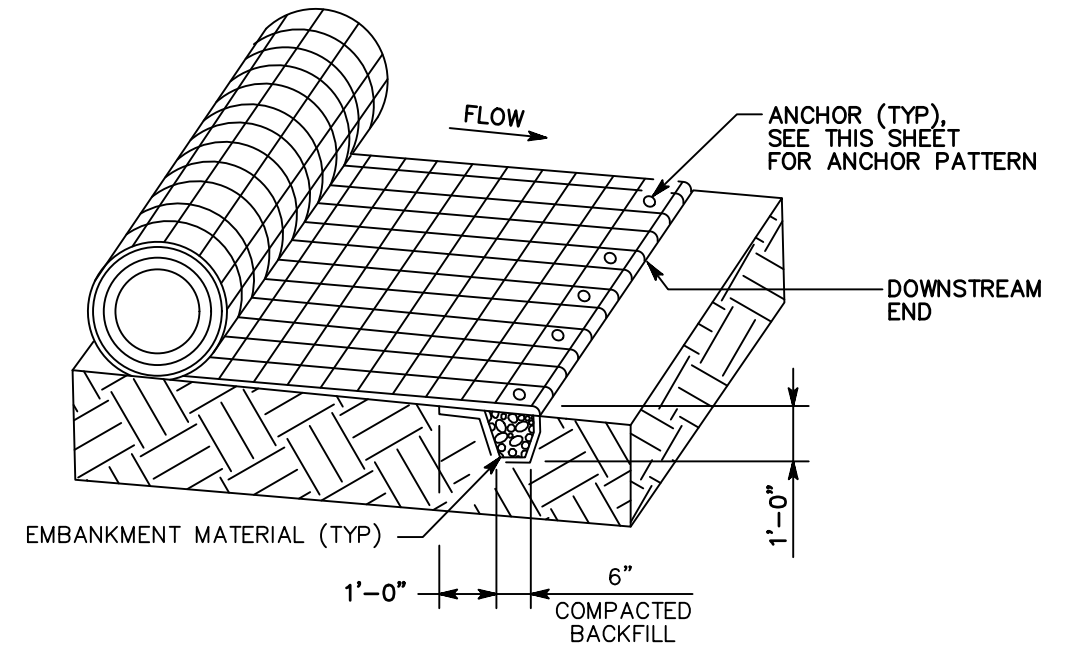
TYPICAL SLOPE CROSS-SECTION



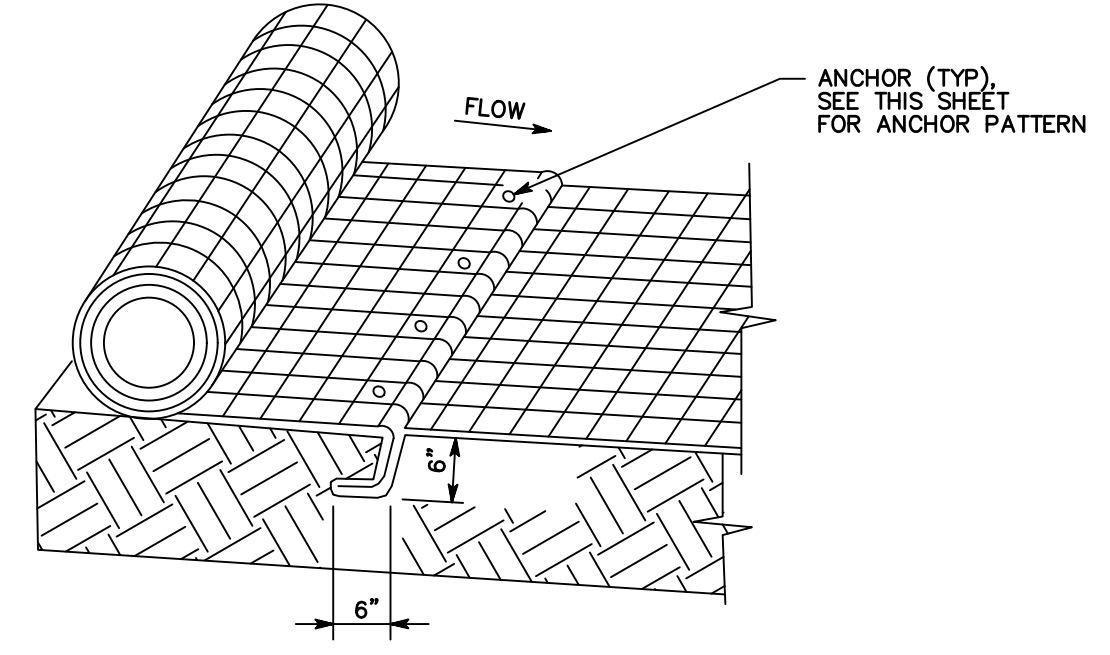
**FIGURE 1
LACK OF CONTINUOUS CONTACT**



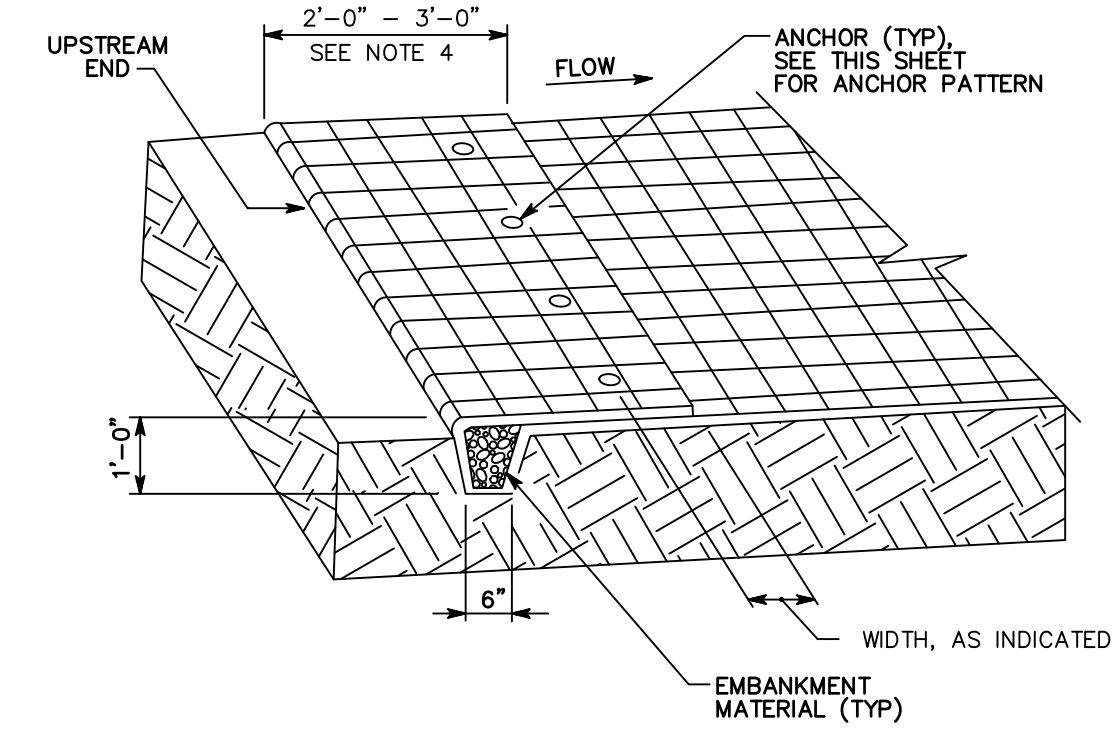
**FIGURE 2
CONTINUOUS CONTACT**



**INITIAL ANCHOR TRENCH
SEE NOTE 1**



**INTERMITTENT CHECK SLOT
SEE NOTE 2**



**TERMINAL ANCHOR TRENCH
SEE NOTE 3**

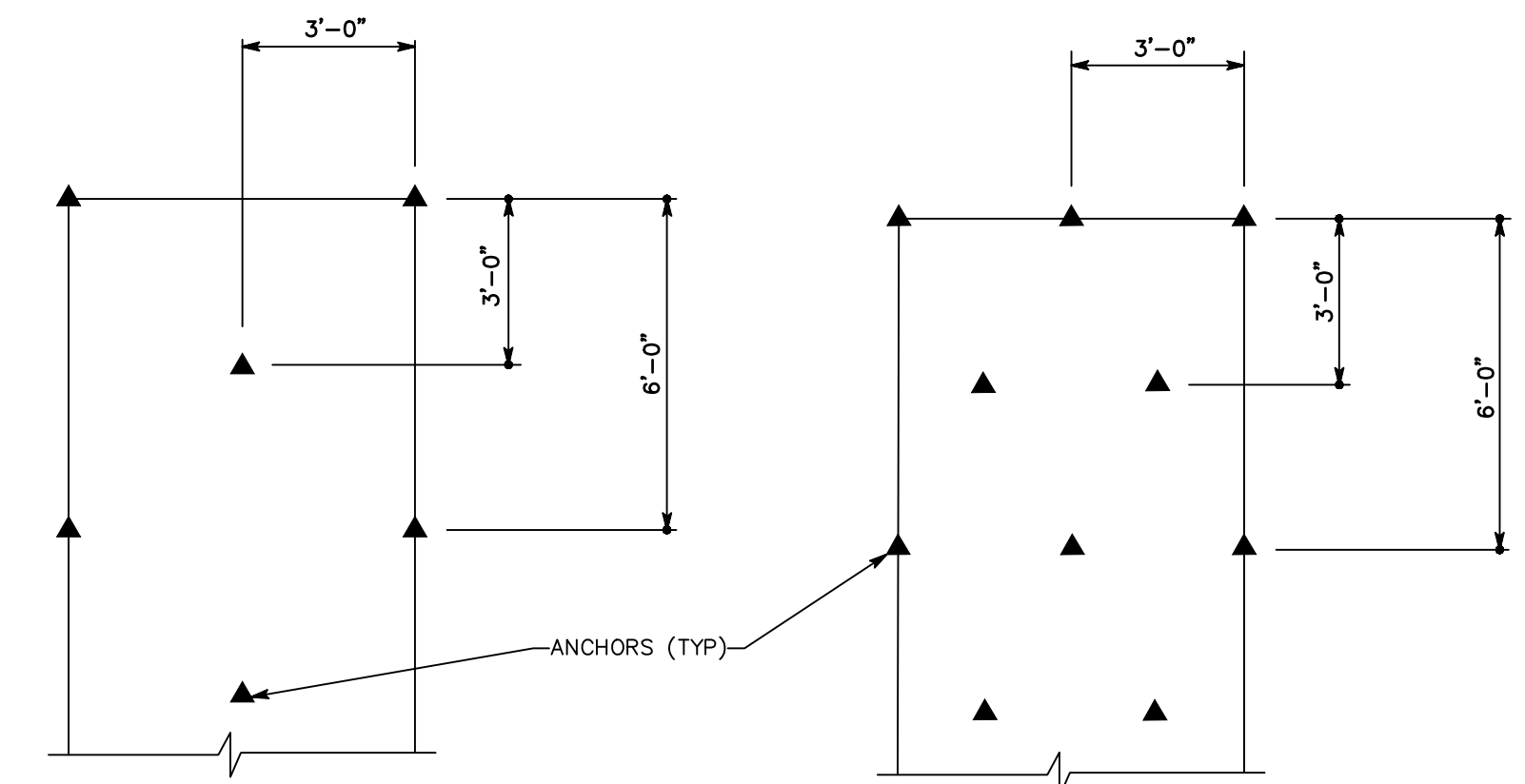
NOTES

1. EXCAVATE INITIAL ANCHOR TRENCH 1'-0" DEEP AND 6" WIDE ACROSS THE WIDTH OF THE CHANNEL TO PREVENT UNDERMINING OF THE ROLLED EROSION CONTROL PRODUCTS.
2. EXCAVATE INTERMITTENT CHECK SLOT 6" DEEP AND 6" WIDE ACROSS THE WIDTH OF THE CHANNEL AT 25'-0" TO 30'-0" ALONG THE LENGTH OF THE ROLLED EROSION CONTROL PRODUCTS TO PREVENT LOOSE SOIL FROM BEING TRANSPORTED DOWNSTREAM BENEATH THE ROLLED EROSION CONTROL PRODUCTS.
3. EXCAVATE TERMINAL ANCHOR TRENCH 1'-0" DEEP AND 6" WIDE ACROSS THE WIDTH OF THE CHANNEL TO ENSURE WATER FLOW TRANSITIONS SMOOTHLY ONTO THE ROLLED EROSION CONTROL PRODUCTS WITHOUT SEPARATION FROM THE SOIL.
4. EXTEND ROLLED EROSION CONTROL PRODUCTS 2'-0" - 3'-0" ABOVE THE CREST OF CHANNEL SIDE WHENEVER POSSIBLE.
5. PLACE 2 ANCHORS/SY.
6. PROVIDE ANCHORING DEVICES IN ACCORDANCE WITH SECTION 806.2(d) OF PUBLICATION 408.

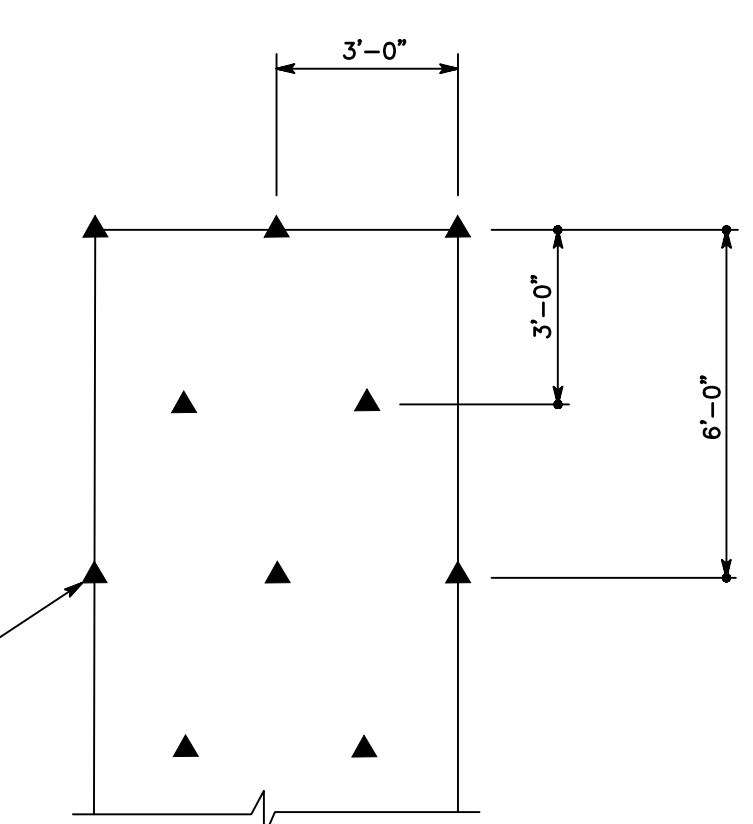
- GRADE THE SLOPE TO THE DESIRED LEVEL OF GRADIENT. THE SURFACE OF THE SOIL SHOULD BE SMOOTH AND FREE OF ROCKS, ROOTS AND OTHER OBSTRUCTIONS. BEFORE PLACING THE SELECTED BLANKET, EVENLY APPLY LIME, FERTILIZER, AND SUITABLE MIX OF SEEDS. BLANKET WILL HOLD THE SEEDS IN PLACE AND SUPPORT GERMINATION AND SEEDLING GROWTH.
- START INSTALLING THE BLANKET FROM THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6 IN. DEEP AND 6 IN. WIDE ANCHOR TRENCH. PLACE THE BLANKET, BACKFILL AND COMPACT (FIG. 1A).
- ROLL THE BLANKETS DOWN THE SLOPE (RECOMMENDED) OR ACROSS THE SLOPE IF NECESSARY. ANCHOR THE OPEN BLANKET EDGE USING ONE ROW OF SUITABLE ANCHORS (METAL STAPLES OR PINE PEGS) AT 1.5 - 2 FEET INTERVALS. THE MIDDLE OF THE BLANKETS SHOULD BE ANCHORED USING THE SUITABLE STAPLE SPACING ACCORDING TO THE STEEPNESS OF THE SLOPE (TABLE 1). ALWAYS PLACE ANCHORS IN A STAGGERED PATTERN. BE SURE TO LAY BLANKETS LOOSELY ON THE GROUND ALLOWING A GOOD CONTACT BETWEEN THE SOIL AND BLANKET.
- WHEN BLANKET SPLICING IS NECESSARY, OVERLAP BLANKETS AT LEAST 8 INCHES. THE UP SLOPE BLANKET SHOULD BE ON THE TOP. USE TWO ROWS OF STAPLES WITH A STAGGERED PATTERN TO ANCHOR BLANKET JOINTS (FIG. 1B). OVERLAP SIDES OF BLANKETS AT LEAST 6 IN. AND USE ANCHORS ALONG THE OVERLAP AT 12 IN SPACING (FIG. 1C).
- AT THE BOTTOM OF THE SLOPE, BLANKET EDGE SHOULD BE ANCHORED TO THE GROUND PROPERLY WITH A 6 IN. DEEP AND 6 IN. WIDE ANCHOR TRENCH AT THE TOE OF THE SLOPE.
- USE WOODEN PEGS TO ANCHOR. THE MINIMUM LENGTH SHOULD BE 12 INCHES. ANCHORS SHOULD BE LONG ENOUGH TO PROVIDE A STRONG BOND BETWEEN THE BLANKET AND THE GROUND. REQUIRED ANCHOR LENGTH MAY VARY DEPENDING ON THE SOIL CONDITION. SANDY SOILS MAY REQUIRE LONGER ANCHORS.
- SELECT A SUITABLE BLANKET FROM THE GIVEN BLANKET SELECTION GUIDE.
- THIS PROCEDURE SHOULD BE ALTERED TO SITE SPECIFIC CONDITIONS AT THE DISCRETION OF THE SITE ENGINEER / DESIGN ARCHITECT.

TABLE 1: RECOMMENDED STAPLE SPACING

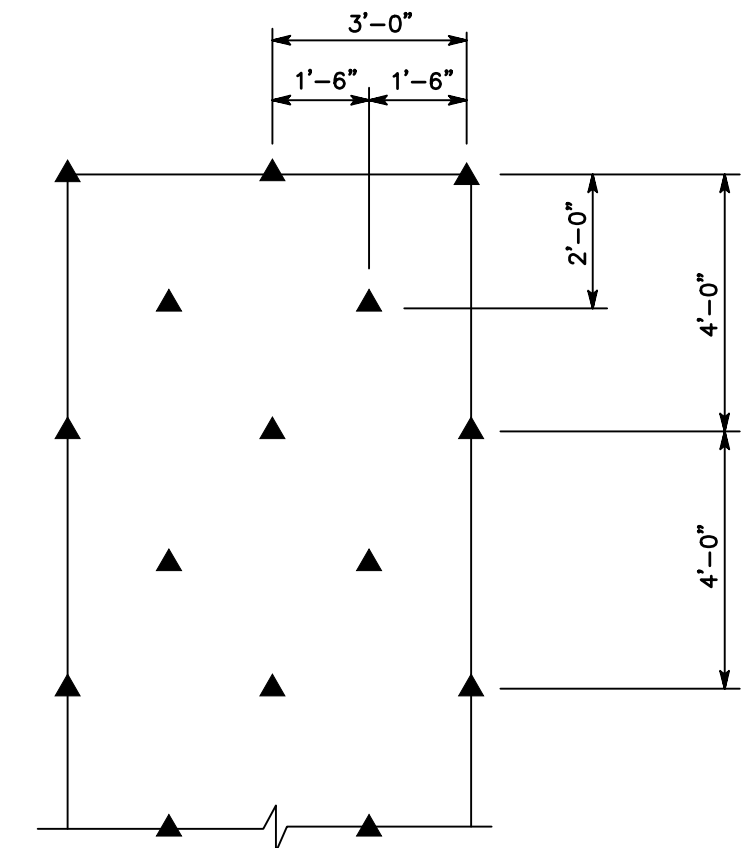
SLOPE	L	D
>1:1	3 FT	2 FT
2:1	4 FT	2 FT
3:1	6 FT	3 FT
4:1	8 FT	3 FT



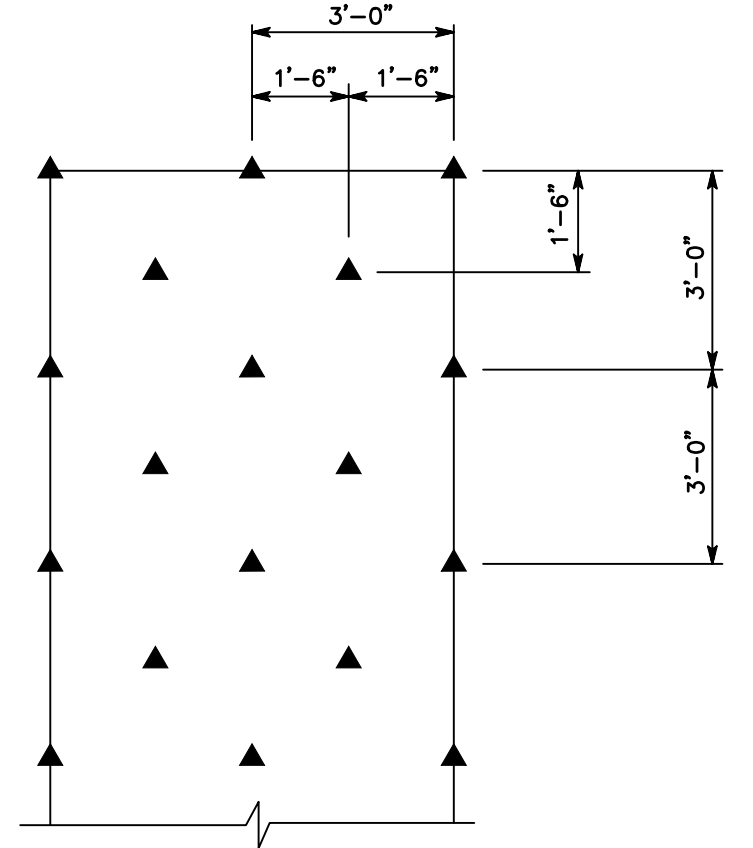
**ANCHOR PATTERN FOR SLOPES FLATTER THAN 3:1
1 ANCHOR/SY**



**ANCHOR PATTERN FOR SLOPES BETWEEN 3:1 AND 2:1 (INCLUDING 3:1)
1 1/2 ANCHORS/SY**



**ANCHOR PATTERN FOR SLOPES BETWEEN 2:1 AND 1:1 (INCLUDING 2:1)
2 ANCHORS/SY**



**ANCHOR PATTERN FOR SLOPES 1:1 OR STEEPER
2 1/2 ANCHORS/SY**

ANCHOR PATTERNS FOR SLOPES

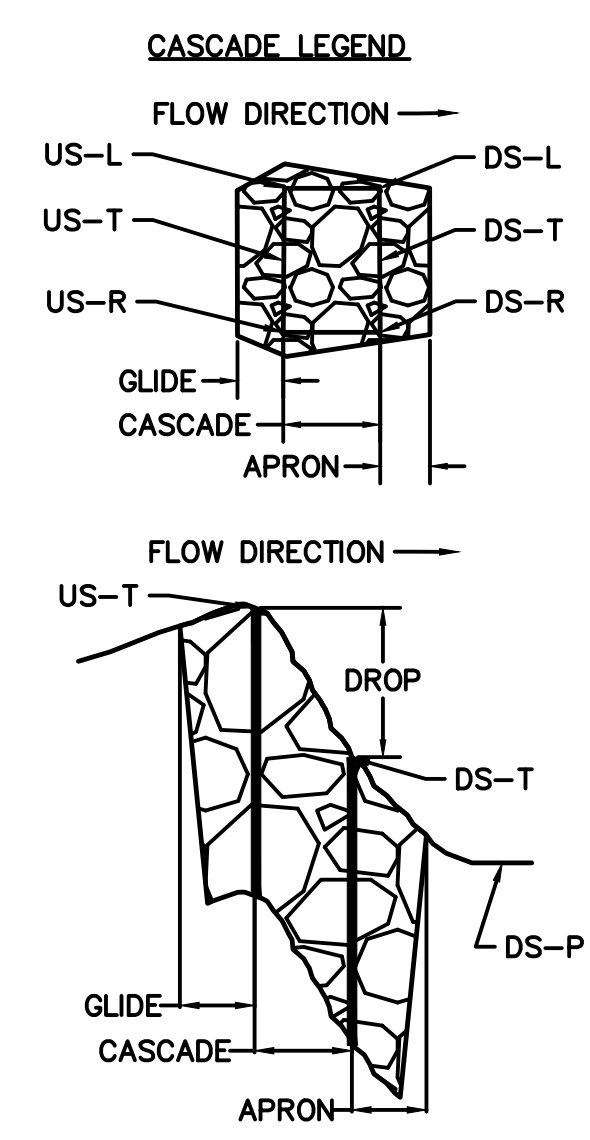
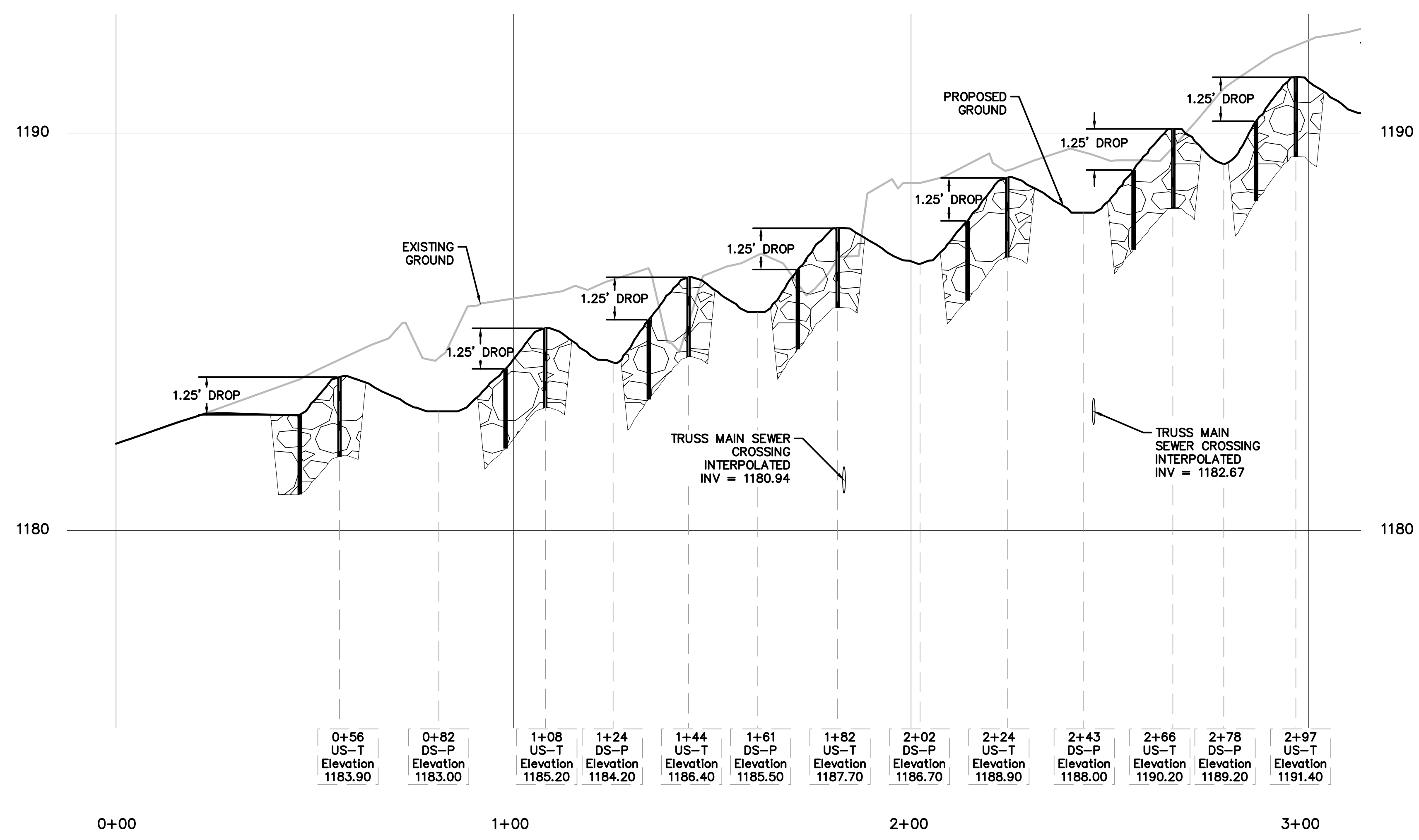
ROLLED EROSION CONTROL BLANKET INSTALLATION

NOT TO SCALE

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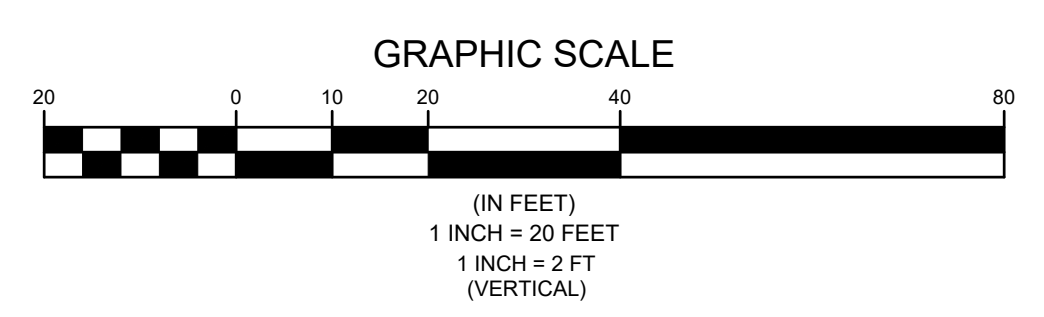
NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

PLAN SHEETS
C106
C206
C406
C606
C906



- GENERAL NOTES:**
- FROM STATION 0+ 50 TO 9+00 AND 10+50 TO 18+50 SEE CRA NOTES 9 AND 11 REGARDING EXISTING UNDERGROUND UTILITIES AND PREVIOUS CHANNEL LININGS WHICH ARE TO BE ABANDONED/REMOVED AND ARE NOT SHOWN ON THE PROFILE.
 - UTILIZE THE SINGLE BOULDER CASCADE DETAIL FOR ALL CASCADES EXCEPT AS CALLED OUT AT STA 18+55, UTILIZE CASCADE DETAIL FOR CUT OR FILL CONDITION, AS NECESSARY BASED ON FIELD CONDITIONS
 - THE EXISTING GROUND PROFILE REPRESENTS THE GRADE ALONG THE PROPOSED ALIGNMENT (NOT THE EXISTING STREAM THALWEG ELEVATION)

NOTE: THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 1"=40' HORIZONTAL, 1"=4' VERTICAL

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PENNSYLVANIA
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EXISTING AND PROPOSED CHANNEL PROFILE

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER
C601
SHEET NO. 34 OF 55

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/27/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING AND PROPOSED CHANNEL PROFILE

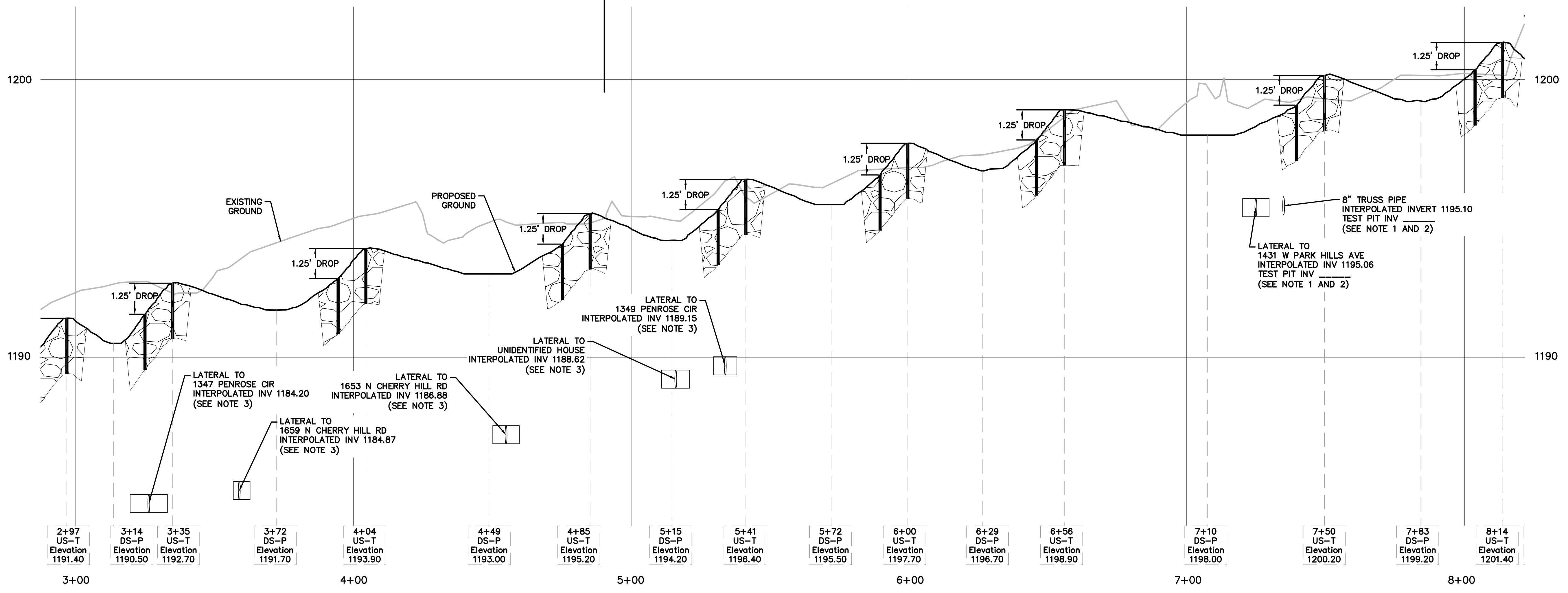
ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

DRAWING NUMBER
C602

SHEET NO. 35 OF 55

PLAN SHEETS
C106
C206
C406
C606
C906

PLAN SHEETS
C105
C205
C405
C605
C905



NOTE 1: CONTRACTOR TO CONSTRUCT CONCRETE ENCASEMENT A MINIMUM OF 6" ON EACH SIDE OF SEWER LINE PER SEWER/SEWER LATERAL ENCASEMENT DETAIL SHEET (C304) FOR A LENGTH AS REQUIRED TO CONSTRUCT CASCADE. COORDINATE WITH UAJA FOR INSPECTION AND ADDITIONAL REQUIREMENTS. ASSUME 30 LF OF ENCASEMENT TO BE INSTALLED.

NOTE 2: REFER TO CRA NOTES 7 AND 8

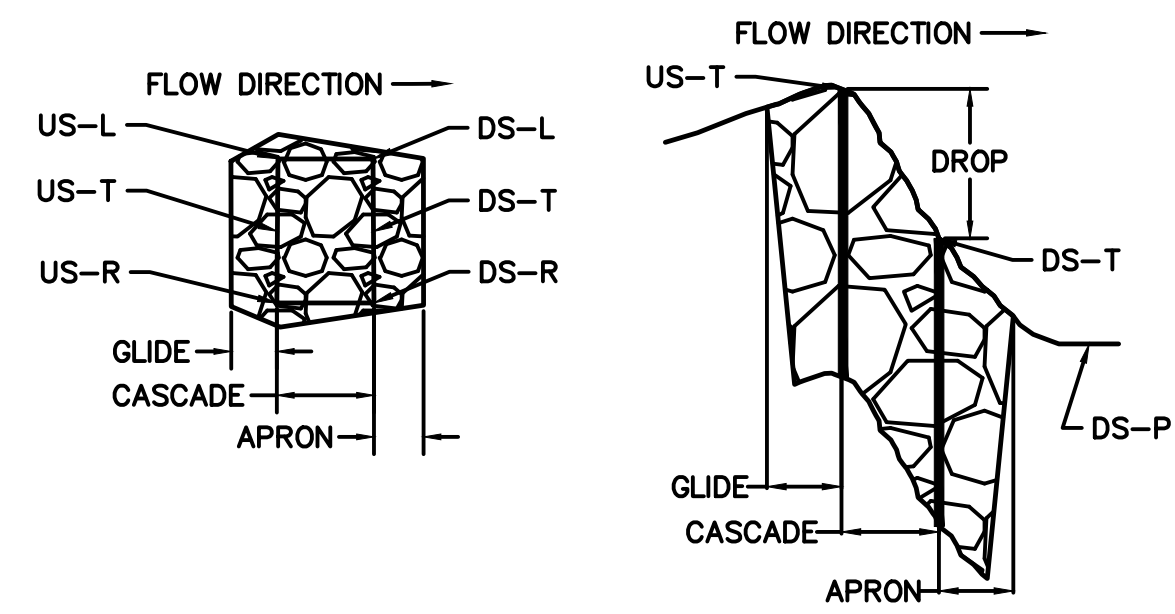
NOTE 3: REFER TO CRA NOTE 7 ONLY

GENERAL NOTES:

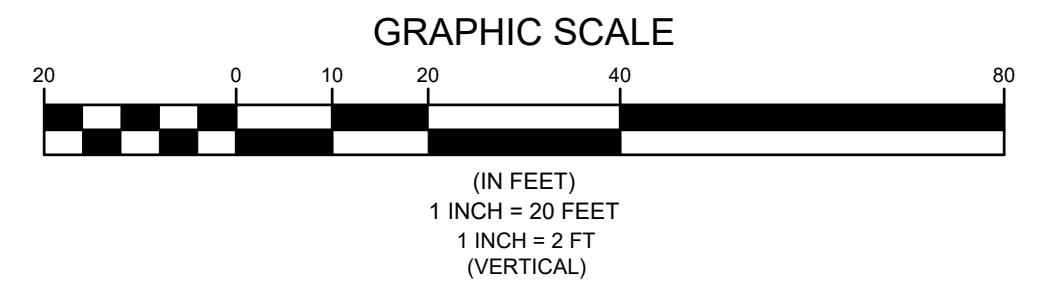
- FROM STATION 0+ 50 TO 9+00 AND 10+50 TO 18+50 SEE CRA NOTES 9 AND 11 REGARDING EXISTING UNDERGROUND UTILITIES AND PREVIOUS CHANNEL LININGS WHICH ARE TO BE ABANDONED/REMOVED AND ARE NOT SHOWN ON THE PROFILE.
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- THE EXISTING GROUND PROFILE REPRESENTS THE GRADE ALONG THE PROPOSED ALIGNMENT (NOT THE EXISTING STREAM THALWEG ELEVATION)

△ SHEET NUMBER UPDATED

CASCADE LEGEND

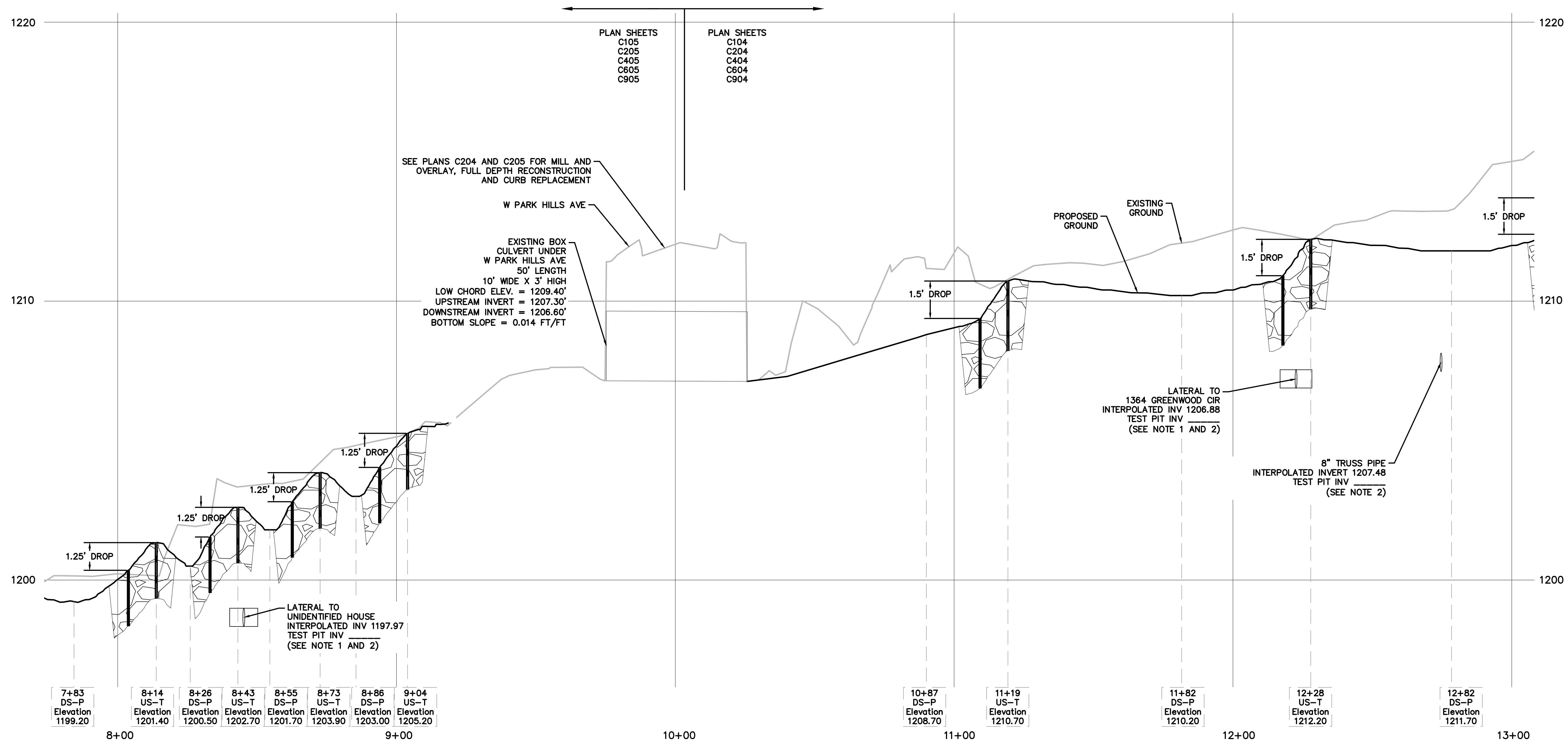


NOTE: THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 1"=40' HORIZONTAL, 1"=4' VERTICAL

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-stream-planaprofile.dwg Sep 06, 2023 - 9:46am ENV/CIB Plot Scale 1"=1' Plot By: jnewman Tab: C603



PLAN SHEETS
C105
C205
C405
C605
C905

PLAN SHEETS
C104
C204
C404
C604
C904

SEE PLANS C204 AND C205 FOR MILL AND OVERLAY, FULL DEPTH RECONSTRUCTION AND CURB REPLACEMENT

W PARK HILLS AVE

EXISTING BOX CULVERT UNDER W PARK HILLS AVE
50' LENGTH
10' WIDE X 3' HIGH
LOW CHORD ELEV. = 1209.40'
UPSTREAM INVERT = 1207.30'
DOWNSTREAM INVERT = 1206.60'
BOTTOM SLOPE = 0.014 FT/FT

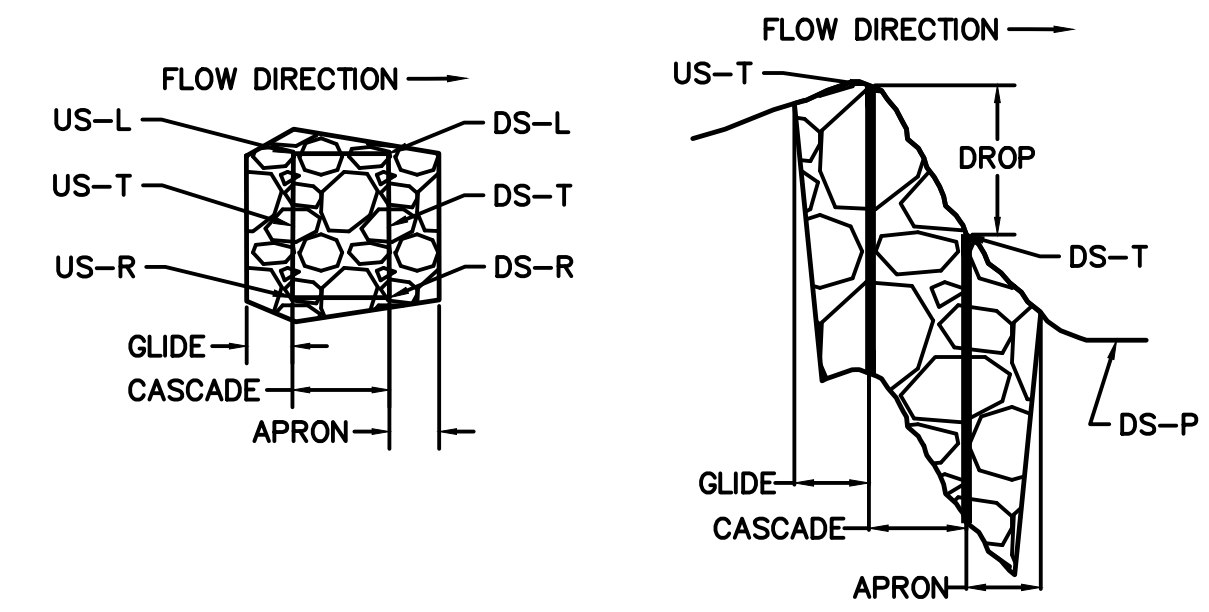
LATERAL TO 1364 GREENWOOD CIR
INTERPOLATED INV 1206.88
TEST PIT INV (SEE NOTE 1 AND 2)

8" TRUSS PIPE
INTERPOLATED INVERT 1207.48
TEST PIT INV (SEE NOTE 2)

LATERAL TO UNIDENTIFIED HOUSE
INTERPOLATED INV 1197.97
TEST PIT INV (SEE NOTE 1 AND 2)

7+83 DS-P Elevation 1199.20	8+14 US-T Elevation 1201.40	8+26 DS-P Elevation 1200.50	8+43 US-T Elevation 1202.70	8+55 DS-P Elevation 1201.70	8+73 US-T Elevation 1203.90	8+86 DS-P Elevation 1203.00	9+04 US-T Elevation 1205.20
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CASCADE LEGEND



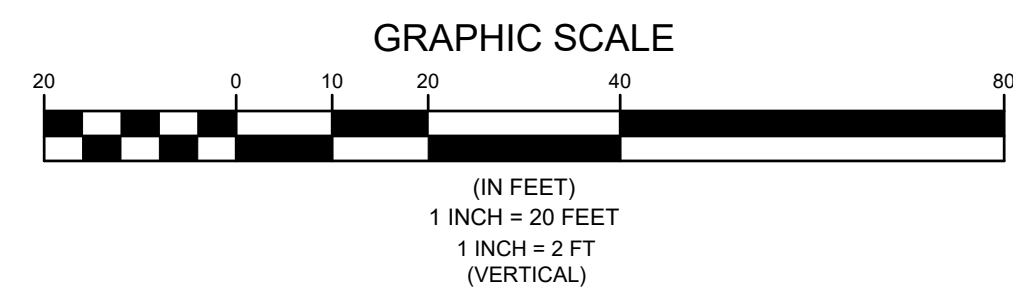
NOTE: THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES

NOTE 1: CONTRACTOR TO CONSTRUCT CONCRETE ENCASUREMENT A MINIMUM OF 6" ON EACH SIDE OF SEWER LINE PER SEWER/SEWER LATERAL ENCASUREMENT DETAIL SHEET (C304) FOR A LENGTH AS REQUIRED TO CONSTRUCT CASCADE. COORDINATE WITH UAJA FOR INSPECTION AND ADDITIONAL REQUIREMENTS. ASSUME 30 LF OF ENCASUREMENT TO BE INSTALLED.

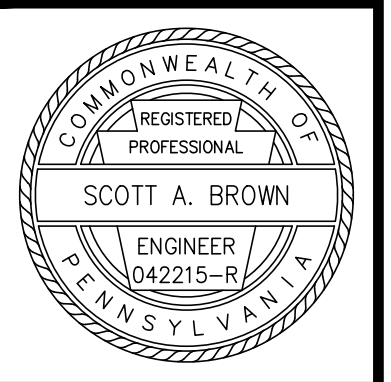
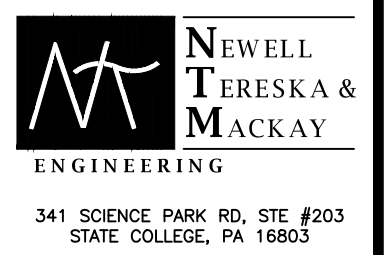
NOTE 2: REFER TO CRA NOTES 7 AND 8

GENERAL NOTES:

- A. FROM STATION 0+ 50 TO 9+00 AND 10+50 TO 18+50 SEE CRA NOTES 9 AND 11 REGARDING EXISTING UNDERGROUND UTILITIES AND PREVIOUS CHANNEL LININGS WHICH ARE TO BE ABANDONED/REMOVED AND ARE NOT SHOWN ON THE PROFILE.
- B. UTILIZE THE SINGLE BOULDER CASCADE DETAIL FOR ALL CASCADES EXCEPT AS CALLED OUT AT STA 18+55, UTILIZE CASCADE DETAIL FOR CUT OR FILL CONDITION, AS NECESSARY BASED ON FIELD CONDITIONS
- C. THE EXISTING GROUND PROFILE REPRESENTS THE GRADE ALONG THE PROPOSED ALIGNMENT (NOT THE EXISTING STREAM THALWEG ELEVATION)



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 1"=40' HORIZONTAL, 1"=4' VERTICAL



NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING AND PROPOSED CHANNEL PROFILE

1" = 20'

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

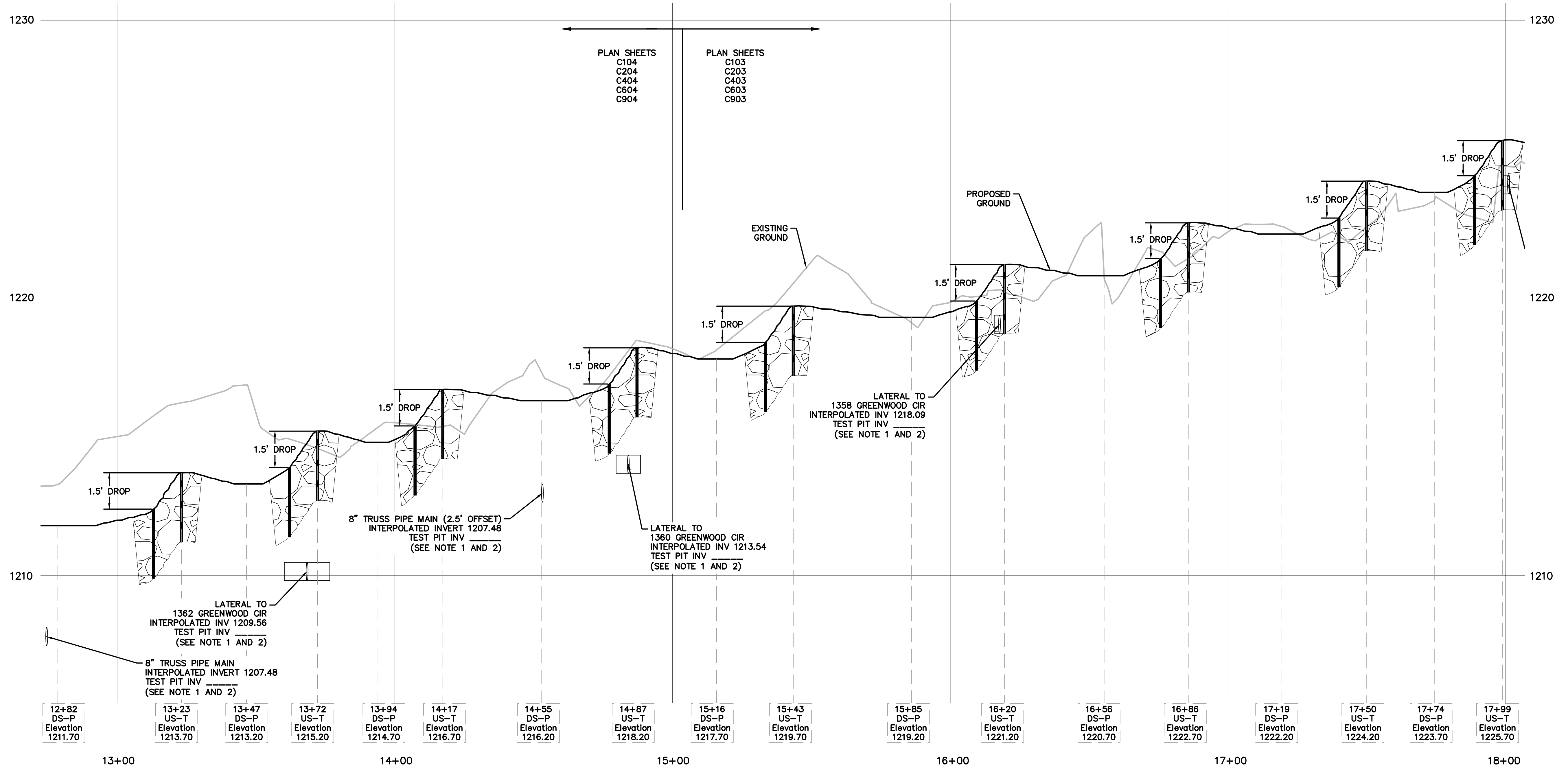
DRAWING NUMBER
C603
SHEET NO. 36 OF 55

NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

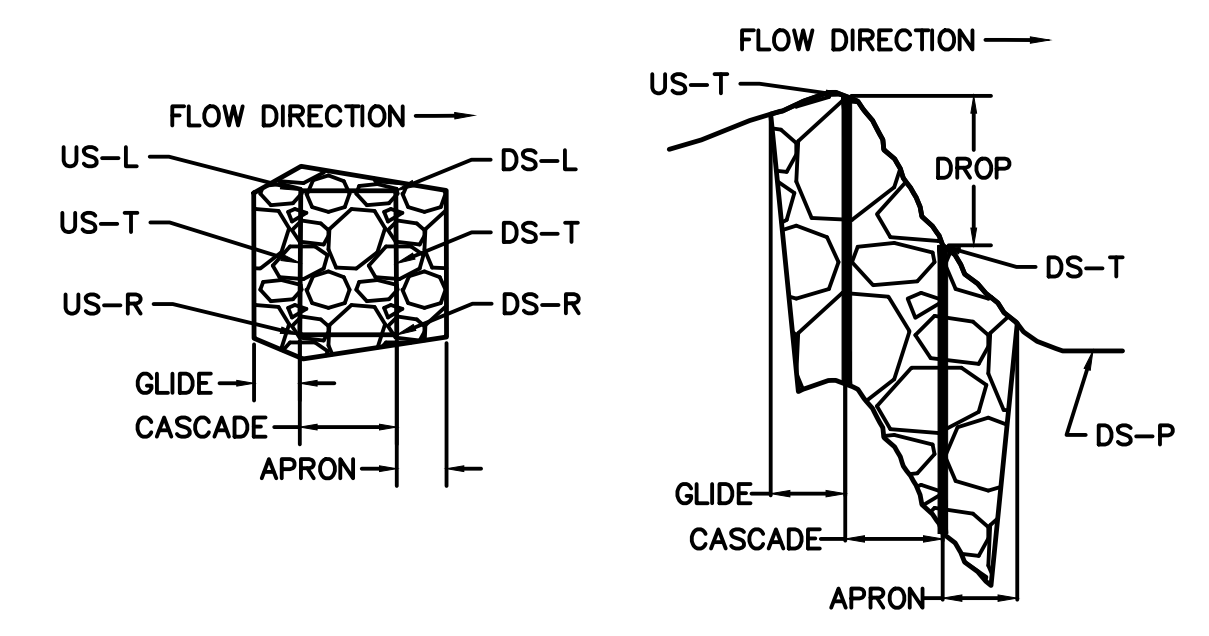
FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
EXISTING AND PROPOSED CHANNEL PROFILE

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22
PROJECT NUMBER 14003.04	

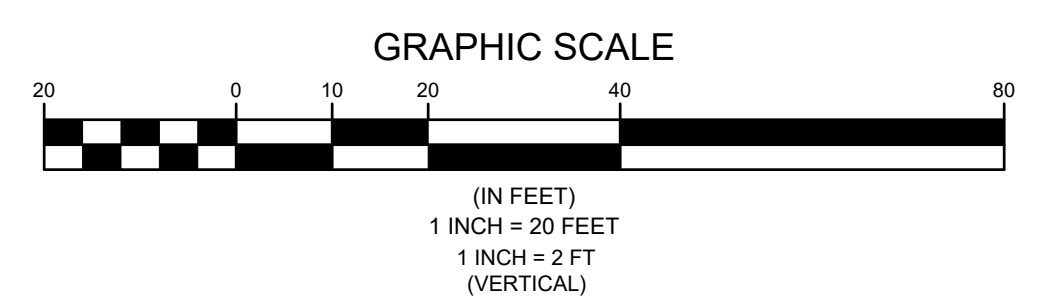
DRAWING NUMBER
C604
SHEET NO. 37 OF 55



CASCADE LEGEND



NOTE: THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES



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NOTE 1: CONTRACTOR TO CONSTRUCT CONCRETE ENCASUREMENT A MINIMUM OF 6" ON EACH SIDE OF SEWER LINE PER SEWER/SEWER LATERAL ENCASUREMENT DETAIL SHEET C304 FOR A LENGTH AS REQUIRED TO CONSTRUCT CASCADE. COORDINATE WITH UGA FOR INSPECTION AND ADDITIONAL REQUIREMENTS. ASSUME 30 LF OF ENCASUREMENT TO BE INSTALLED

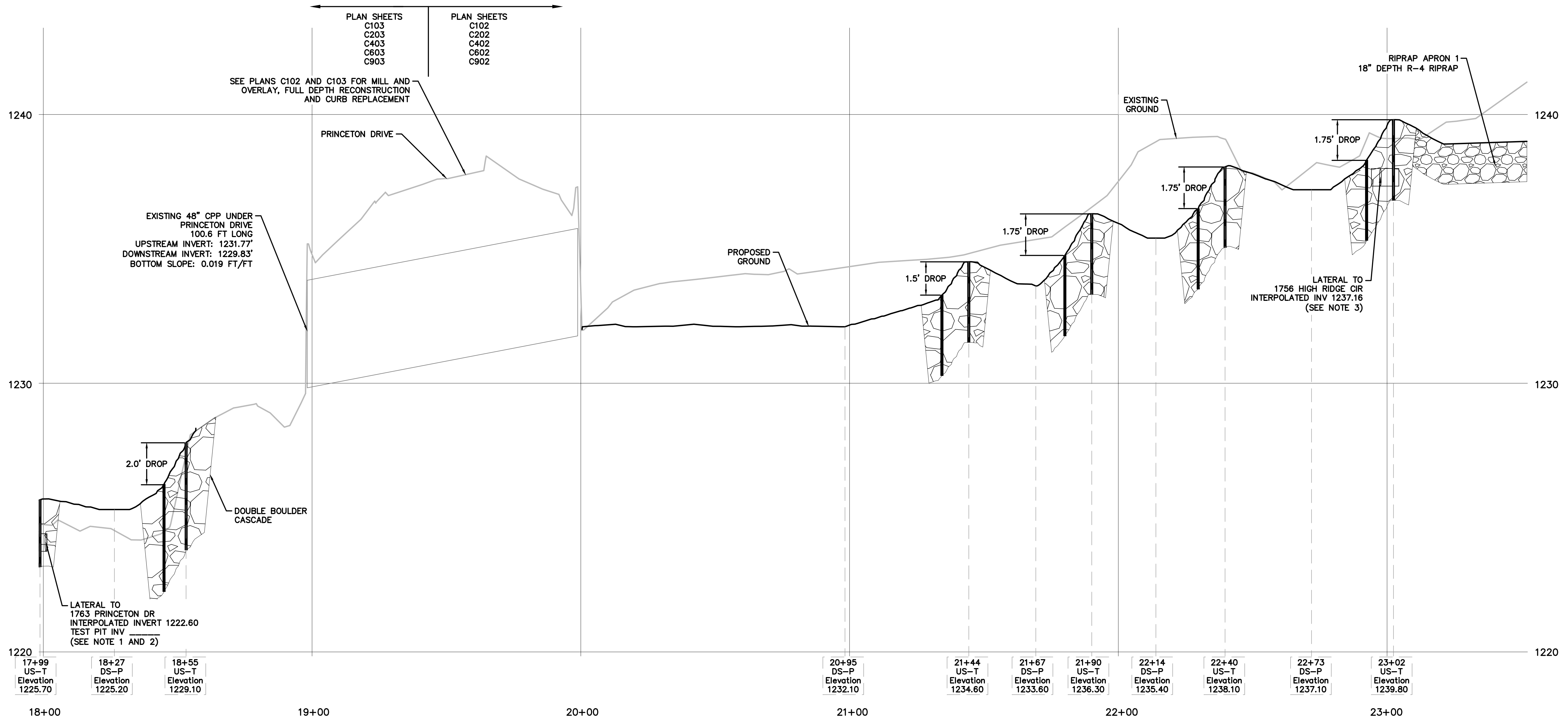
△ SHEET NUMBER UPDATED

NOTE 2: REFER TO CRA NOTES 7 AND 8

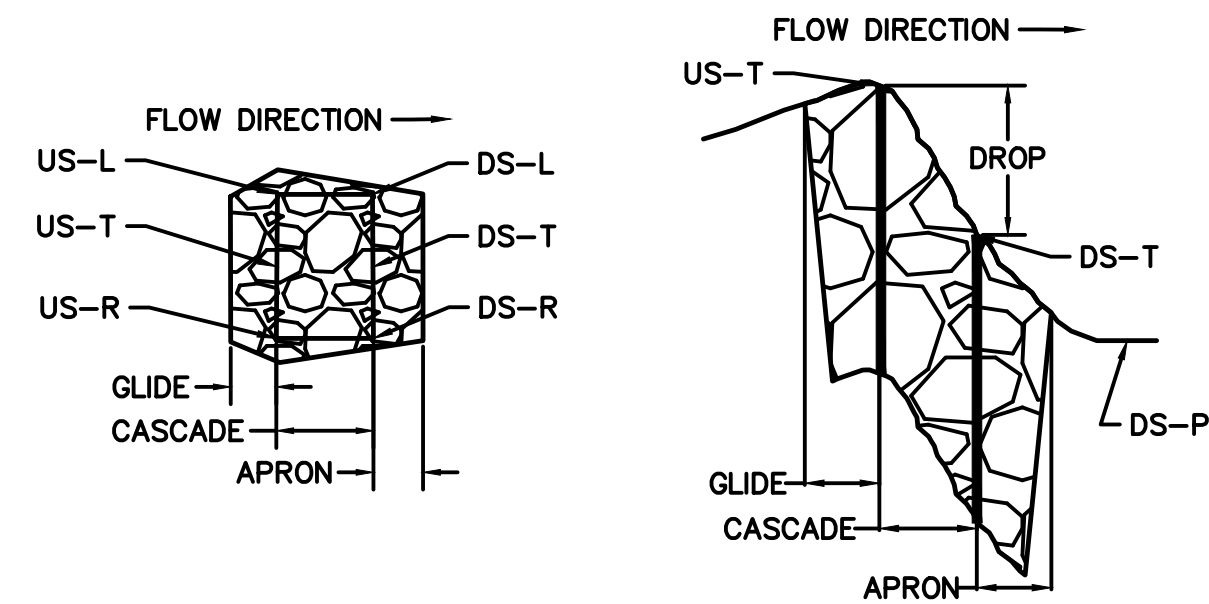
GENERAL NOTES:

- A. FROM STATION 0+ 50 TO 9+00 AND 10+50 TO 18+50 SEE CRA NOTES 9 AND 11 REGARDING EXISTING UNDERGROUND UTILITIES AND PREVIOUS CHANNEL LININGS WHICH ARE TO BE ABANDONED/REMOVED AND ARE NOT SHOWN ON THE PROFILE.
- B. UTILIZE THE SINGLE BOULDER CASCADE DETAIL FOR ALL CASCADES EXCEPT AS CALLED OUT AT STA 18+55, UTILIZE CASCADE DETAIL FOR CUT OR FILL CONDITION, AS NECESSARY BASED ON FIELD CONDITIONS
- C. THE EXISTING GROUND PROFILE REPRESENTS THE GRADE ALONG THE PROPOSED ALIGNMENT (NOT THE EXISTING STREAM THALWEG ELEVATION)

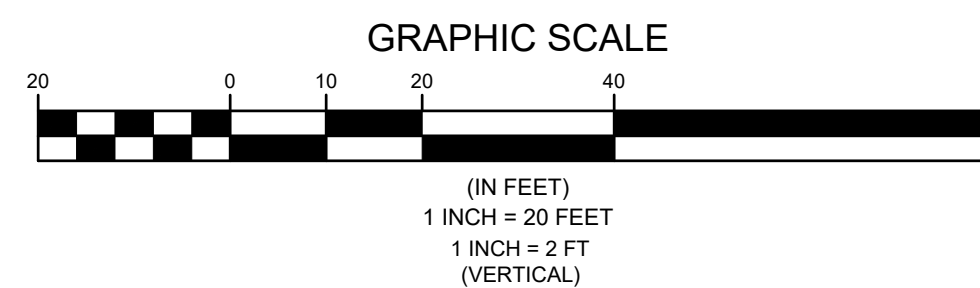
P:\14003\14003.04 Park Hills Drainageway\CAD\Y-stream-planaprofile.dwg Sep 06, 2023 - 9:47am ENV:CTB Plot Scale 1"=1' Plot By: jnewman Tab: C605



CASCADE LEGEND



NOTE: THE SITE PLAN PROVIDES THE US-T ELEVATION AND DS-P ELEVATION. REFER TO DETAIL SHEET C303 AND PROFILE SHEETS C601-C605 FOR ROCK SIZES AND OTHER DESIGN ELEVATION VALUES



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 1"=40' HORIZONTAL, 1"=4' VERTICAL

NOTE 1: CONTRACTOR TO CONSTRUCT CASCADE AROUND THE EXISTING CONCRETE ENCASEMENT. REMOVE UNDERMINED/EXCESS CONCRETE ENCASEMENT PER SEWER/SEWER LATERAL ENCASEMENT DETAIL SHEET C304 AND/OR ADD ADDITIONAL ENCASEMENT AS NECESSARY TO CONSTRUCT CASCADE. ASSUME 30 LF OF ENCASEMENT TO BE INSTALLED

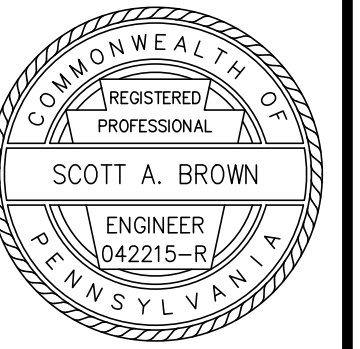
NOTE 2: REFER TO CRA NOTES 7 AND 8

NOTE 3: REFER TO CRA NOTE 6 FOR SEWER RELOCATION (AS PART OF THE UAJA RELOCATION PLANS, THIS LINE HAS TO BE LOWERED PRIOR TO CHANNEL RESTORATION)

GENERAL NOTES:

- A. FROM STATION 0+50 TO 9+00 AND 10+50 TO 18+50 SEE CRA NOTES 9 AND 11 REGARDING EXISTING UNDERGROUND UTILITIES AND PREVIOUS CHANNEL LININGS, WHICH ARE TO BE REMOVED WHEN ENCOUNTERED AND ARE NOT SHOWN ON THE PROFILE.
- B. UTILIZE THE SINGLE BOULDER CASCADE DETAIL FOR ALL CASCADES EXCEPT AS CALLED OUT AT STA 18+55, UTILIZE CASCADE DETAIL FOR CUT OR FILL CONDITION, AS NECESSARY BASED ON FIELD CONDITIONS
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△ SHEET NUMBER UPDATED



NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

EXISTING AND PROPOSED CHANNEL PROFILE

1" = 20'

ENGINEER SAB	DESIGNED BY AJJ
DRAWN BY JSN	DATE 7/6/22

PROJECT NUMBER
14003.04

DRAWING NUMBER
C605

SHEET NO. 38 OF 55

NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISIONS	JSN	9/5/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

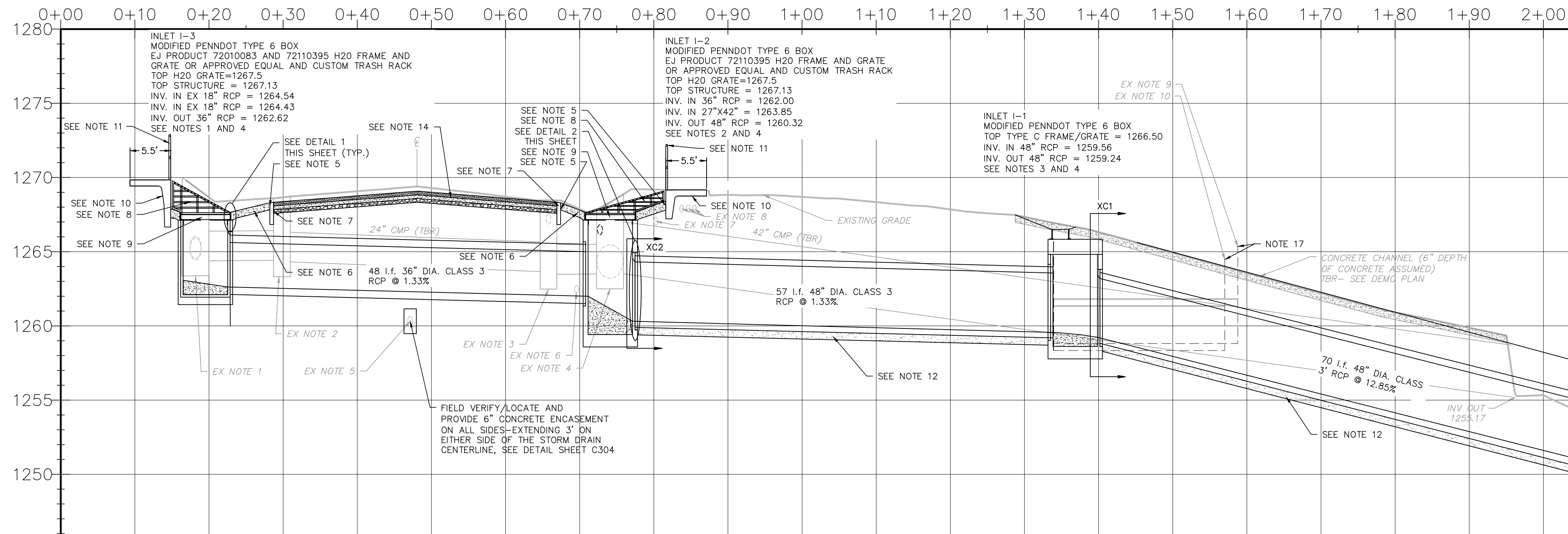
CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

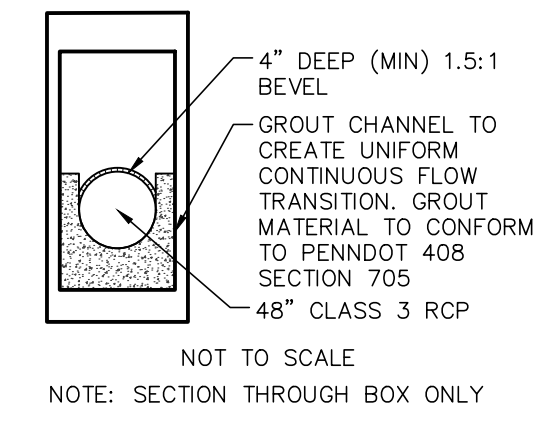
EXISTING AND PROPOSED CHANNEL PROFILE

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	
DRAWING NUMBER	
C606	
SHEET NO. 39 OF 55	

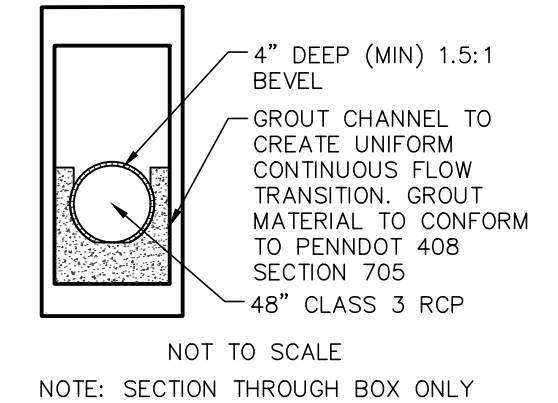


XC 1 DETAIL



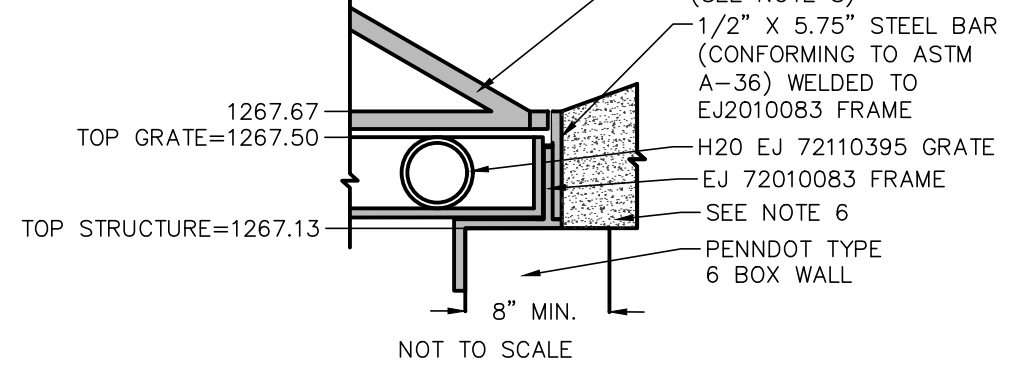
NOT TO SCALE
NOTE: SECTION THROUGH BOX ONLY

XC 2 DETAIL



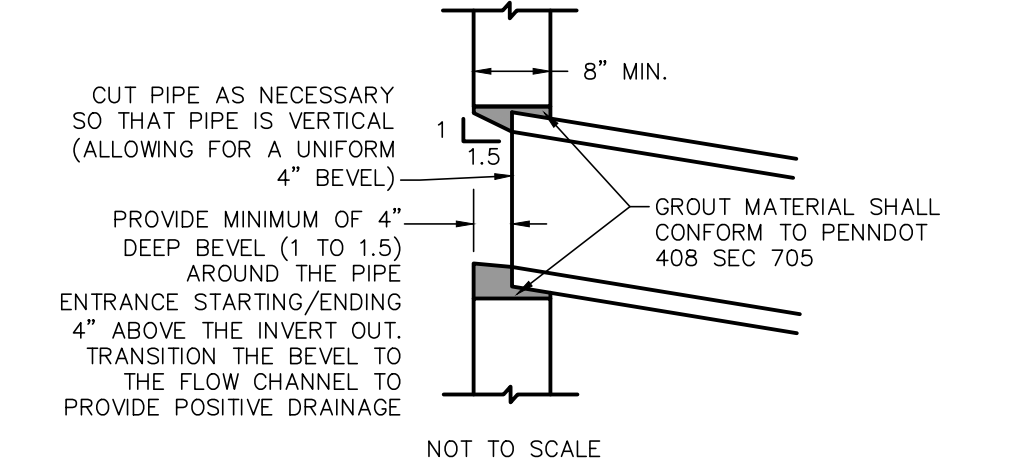
NOT TO SCALE
NOTE: SECTION THROUGH BOX ONLY

DETAIL 1



NOT TO SCALE

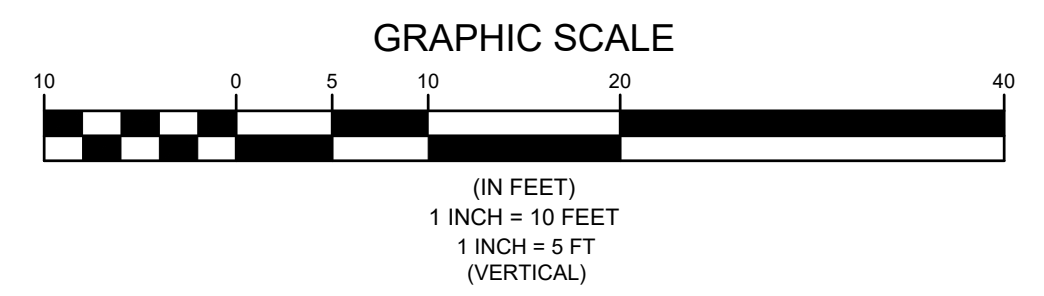
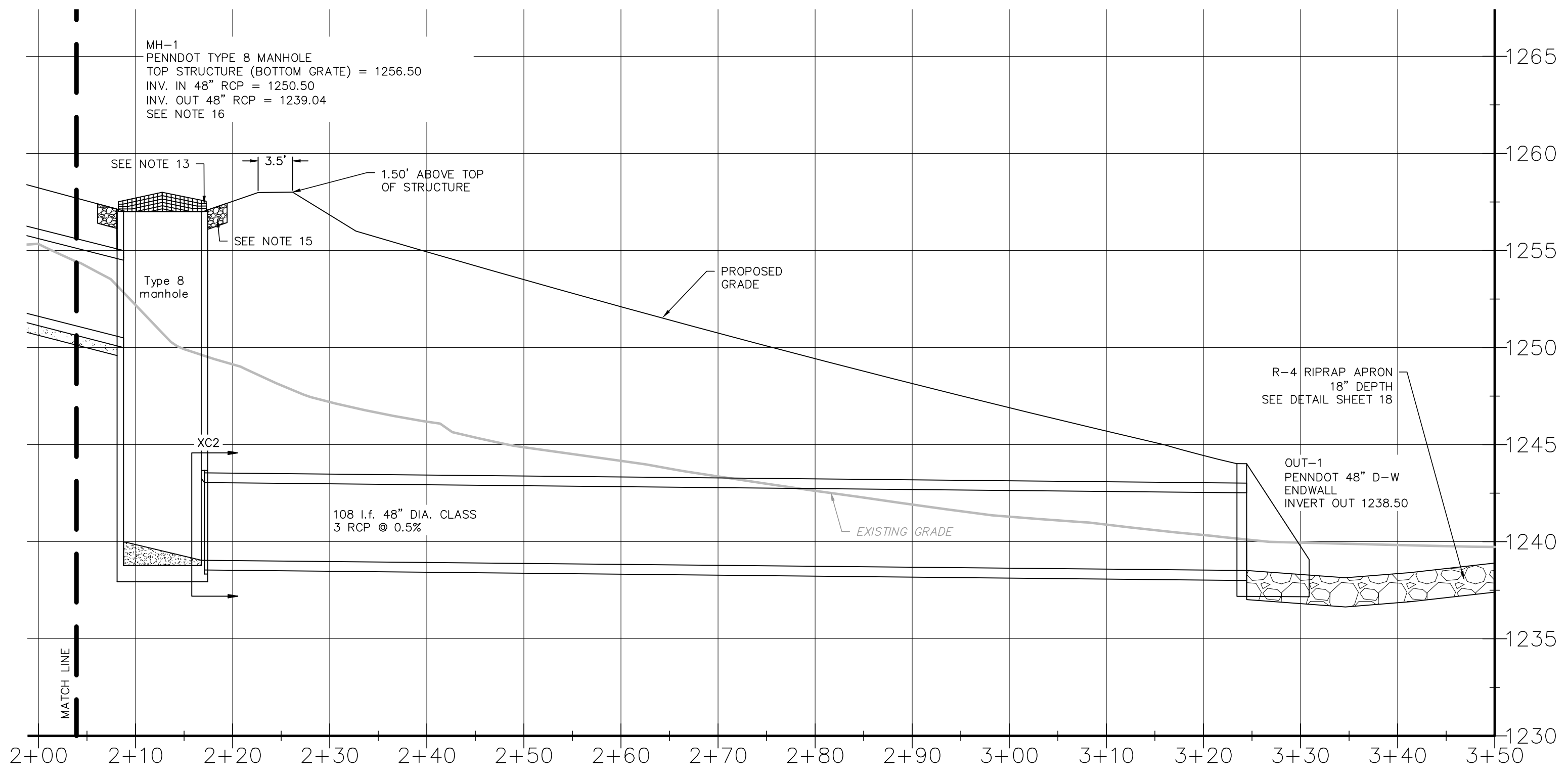
DETAIL 2



NOT TO SCALE

PROPOSED NOTES

1. PROVIDE A Poured TRANSITION CHANNEL IN THE BOTTOM OF BOX AS SHOWN. BEVEL THE 36" RCP OUT PER DETAIL 2 AND XC 2
2. PROVIDE A Poured TRANSITION CHANNEL AND BEVEL THE 48" RCP OUT PER DETAIL 2 AND XC 2
3. PROVIDE A Poured TRANSITION CHANNEL AND BEVEL THE 48" RCP OUT PER XC 1
4. ALL TYPE 6 BOXES TO BE PRECAST WITH MINIMUM 8" WALLS
5. PROVIDE SEALED 1/2" EXPANSION JOINT BETWEEN BACK OF DEPRESSED CURB AND CONCRETE APRON AND BETWEEN MONOLITHIC SIDEWALK/WALL AND APRON
6. CONCRETE APRON- PROVIDE 6" CONCRETE WITH W4 OR 4.5 WWM IN ACCORDANCE WITH PENNDOT DM-72 "SEC-A-A TYPICAL CROSS SECTION FOR SIDEWALKS THROUGH DRIVEWAYS"
7. DEPRESSED CURB (SEE TOWNSHIP DETAIL - TYP)
8. CUSTOM GALVANIZED ALUMINUM TRASH RACK: RACK TO SIT ON TOP OF EJ 72110395 GRATE AND EXTEND TO A HIGH POINT AT THE MONOLITHIC SIDEWALK WALL (AS SHOWN). CONTRACTOR SHALL PROVIDE SEALED SHOP DRAWINGS. PROVIDE A BALANCED LIFT MECHANISM FOR REMOVAL OF THE GRATE VIA A BACKHOE. THE CUSTOM GRATE MUST BE SELF SUPPORTING. ALL FRAME SUPPORT MEMBERS TO BE SQUARE OR RECTANGULAR MAXIMUM OF 1.5"x1.5" SOLID ALUMINUM. ALL HORIZONTAL CROSS MEMBERS TO BE MAX 1" DIAMETER (ROUND) SOLID ALUMINUM WITH SPACING FROM OUTSIDE OF BAR TO OUTSIDE OF BAR OF 3.5". SMALLER DIMENSIONS OF ALUMINUM MEMBERS ARE ACCEPTABLE PENDING RECEIPT OF SEALED SHOP DRAWING. NOTE: ADDITIONAL RECTANGULAR SUPPORT MEMBERS, SPACED AT A MINIMUM 2' INCREMENTS, MAY BE PROVIDED ON THE BOTTOM OF THE RACK. TRASH GRATE TO SIT ON TOP OF TRAFFIC LOADED GRATE AS SHOWN. THE TRASH RACK DOES NOT NEED TO BE ATTACHED IN ANY MANNER.
9. EAST JORDON IRON WORKS 80"x80" X 4" TYPE C FRAME AND GRATE PRODUCT NUMBER 72010083 AND 72110395
10. MONOLITHIC SIDEWALK WITH WALL (<24"). CONTRACTOR TO PROVIDE SEALED SHOP DRAWING WITH FINAL DESIGN
11. SIDE-MOUNTED OSHA TWO-RAIL GALVANIZED ALUMINUM GUARDRAIL WITH KICKPLATE. CONTRACTOR TO PROVIDE SEALED SHOP DRAWING
12. BED PIPE WITH FLOWABLE FILL UP TO PIPE SPRINGLINE
13. CUSTOM GALVANIZED ALUMINUM TRASH RACK FOR TYPE 8 MANHOLE. RACK SHALL HAVE MAXIMUM OF 3.5" X 3.5" OPENINGS. CONTRACTOR SHALL PROVIDE SEALED SHOP DRAWINGS. PROVIDE A BALANCED LIFT MECHANISM FOR REMOVAL OF THE GRATE VIA A BACKHOE. THE CUSTOM GRATE MUST BE SELF SUPPORTING.
14. FULL DEPTH ASPHALT. SEE PAVEMENT RESTORATION DETAIL SHEET C304.
15. 12" DEEP R-3 RIPRAP OVER GEOTEXTILE.
16. DO NOT INCLUDE STEPS IN TYPE 8 MANHOLE (PER FERGUSON TOWNSHIP REQUEST TO LIMIT POTENTIAL ACCESS).
17. THE CONTRACTOR IS REQUIRED TO PROVIDE FOUNDATION VIBRATION MONITORING FOR 654 DEVONSHIRE DRIVE AND 660 DEVONSHIRE DRIVE, INCLUDING PRE-CONSTRUCTION PHOTOS. SUBMIT MEANS AND METHODS TO TOWNSHIP FOUR WEEKS PRIOR TO CONSTRUCTION.



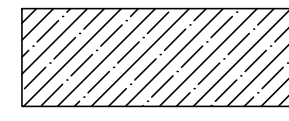
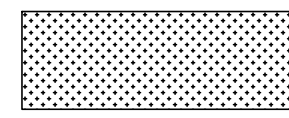
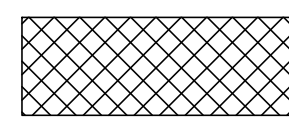
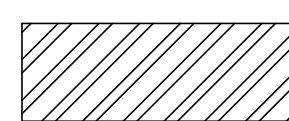

MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 1"=20' HORIZONTAL, 1"=10' VERTICAL

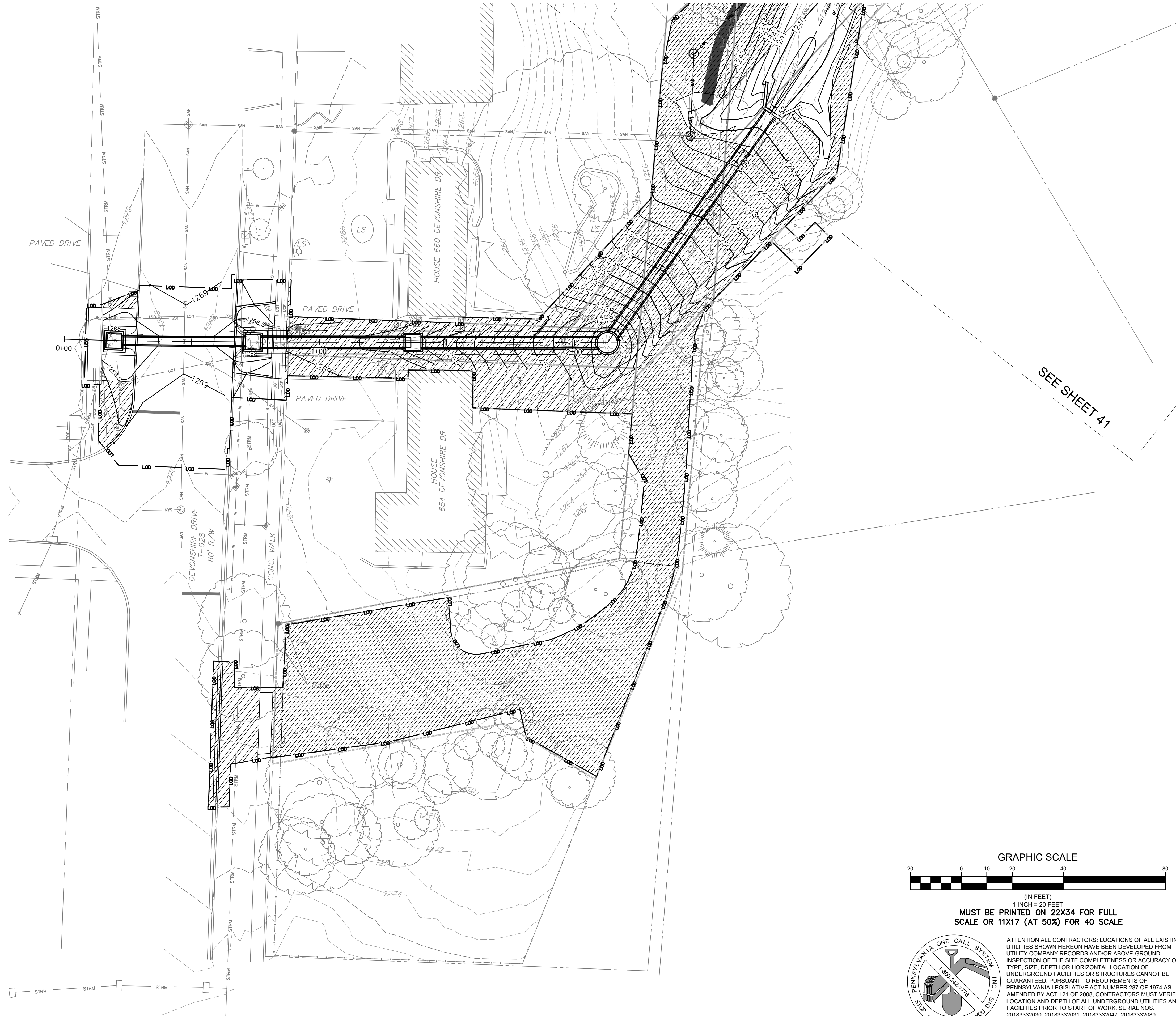
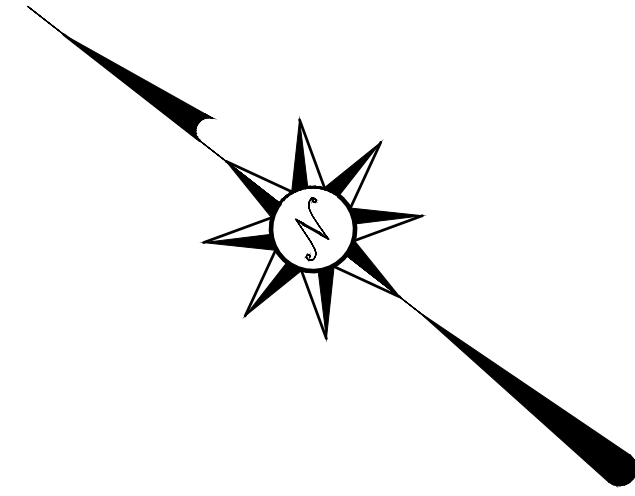
- EXISTING NOTES**
1. GRATE INLET (TBR)
INV IN (18" CMP)=1264.43
INV IN (18" CMP)=1264.54
INV OUT (24" CMP)=1264.38
 2. STORM INLET (TBR)
GRATE=1268.66
INV IN (24" CMP)=1264.42
INV OUT (24" CMP)=1264.31
 3. STORM INLET (TBR)
GRATE=1268.46
INV IN (4" PLA)=1266.86
INV IN (24" CMP)=1263.66
INV OUT (24" CMP)=1263.48
 4. GRATE INLET (TBR)
INV IN (24" CMP)=1263.50
INV IN (27"x42")=1263.83
INV OUT (42" CMP)=1263.51
 5. EXISTING UAJA SANITARY SEWER MAIN- INTERPOLATED INVERT = 1259.98
 6. EXISTING WATER MAIN SIZE/DEPTH UNKNOWN. LINE TO BE RELOCATED AS INCORPORATED WORK. COORDINATE WITH TOWNSHIP FOR EXACT FINAL LOCATION. SEE DEMO NOTES.
 7. EXISTING GAS LINE. LINE TO BE TESTIFIED AND MOVED AS NECESSARY OR SHORED DURING CONSTRUCTION. COORDINATE WITH THE TOWNSHIP FOR FINAL DETAILS. SEE DEMO PLAN NOTES FOR ADDITIONAL INFORMATION.
 8. EXISTING ELECTRIC, PHONE AND COMMUNICATION WIRES. UTILITIES NOT MARKED FOR DESIGN PA ONECALL. LOCATION SHOWN BASED ON TOWNSHIP KNOWLEDGE OF LOCATION AND LOCATION OF EXISTING PEDESTALS AND TRANSFORMERS. LINES SHALL BE TEMPORARILY SHORED OR RELOCATED (IF REQUIRED) DURING CONSTRUCTION. COORDINATE WITH THE TOWNSHIP FOR ADDITIONAL INFORMATION.
 9. 654 DEVONSHIRE DRIVE BASEMENT ELEVATION AND ANTICIPATED BOTTOM OF FOOTER PER COORDINATION WITH TOWNSHIP. THE CONTRACTOR SHALL NOT USE METHODS RESULTING IN VIBRATIONS (E.G. ROCK BREAKERS), WITHOUT WRITTEN APPROVAL OF THE TOWNSHIP. THE CONTRACTOR SHALL USE THE UTMOST CARE TO STAY WITHIN THE LOD - INCLUDING UTILIZING A TRENCH BOX AS NECESSARY.
 10. 660 DEVONSHIRE DRIVE BASEMENT ELEVATION AND ANTICIPATED BOTTOM OF FOOTER PER COORDINATION WITH TOWNSHIP. THE CONTRACTOR SHALL NOT USE METHODS RESULTING IN VIBRATIONS (E.G. ROCK BREAKERS), WITHOUT WRITTEN APPROVAL OF THE TOWNSHIP. THE CONTRACTOR SHALL USE THE UTMOST CARE TO STAY WITHIN THE LOD - INCLUDING UTILIZING A TRENCH BOX AS NECESSARY.

P:\14003\14003.04_Park_Hills_Drainageway\CAD\Y-stream-plan-profile.dwg Sep 06, 2023 - 9:47am ENVC/B Plot Scale 1=1 Plot By: jnewman Tab: C606

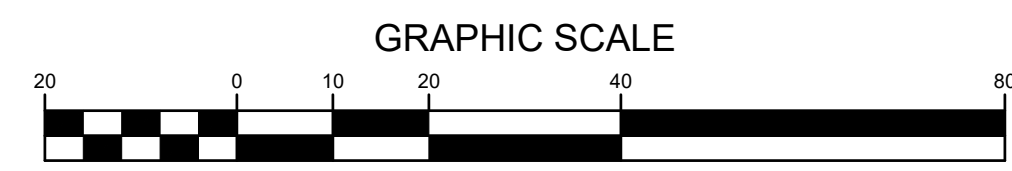
P:\14003\14003.04 Park Hills Drainage\CAD\Y-planting.dwg Sep 06, 2023 - 9:47am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C701

PLANTING LEGEND

-  ZONE 1 - TOP OF BANK PLANTING
-  ZONE 2 - STREAMBANK STABILIZATION
-  ZONE 3 - FLOODPLAIN MEADOW
-  ZONE 4 - TURF REESTABLISHMENT
-  MAINTENANCE ACCESS PATH



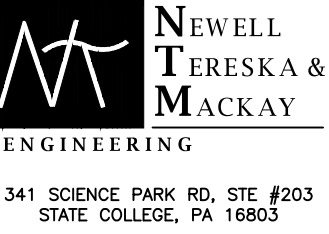
SEE SHEET 41



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



ATTENTION ALL CONTRACTORS: LOCATIONS OF ALL EXISTING UTILITIES SHOWN HEREON HAVE BEEN 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 121 OF 2008, CONTRACTORS MUST VERIFY LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES AND FACILITIES PRIOR TO START OF WORK. SERIAL NOS. 20183332030, 20183332031, 20183332047, 20183332089, 20190362279, 20190362288, 20211094383



NO.	DESCRIPTION	BY	DATE
Δ	REVISION FOR ADDENDUM 1	JSN	9/5/23
	ISSUED FOR CONSTRUCTION	JSN	8/27/23

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801

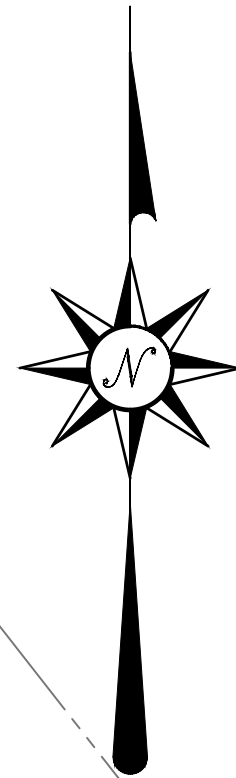
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

LANDSCAPE PLAN

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C701






SHEET NO. 40 OF 55

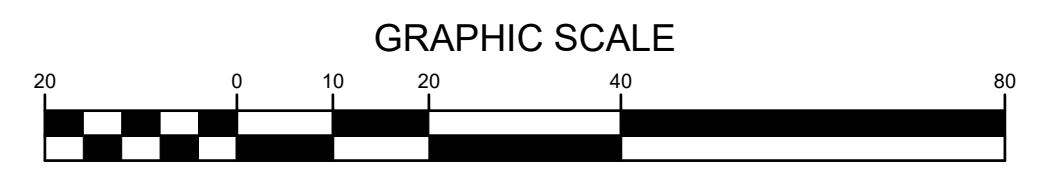


SEE SHEET 40

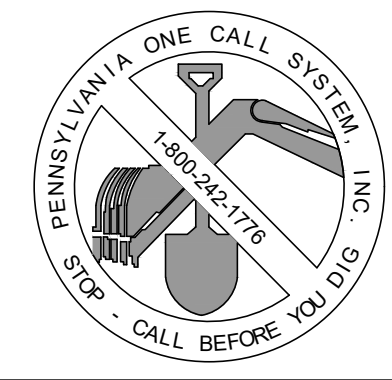
SEE SHEET 42

PLANTING LEGEND

-  ZONE 1 - TOP OF BANK PLANTING
-  ZONE 2 - STREAMBANK STABILIZATION
-  ZONE 3 - FLOODPLAIN MEADOW
-  ZONE 4 - TURF REESTABLISHMENT
-  MAINTENANCE ACCESS PATH

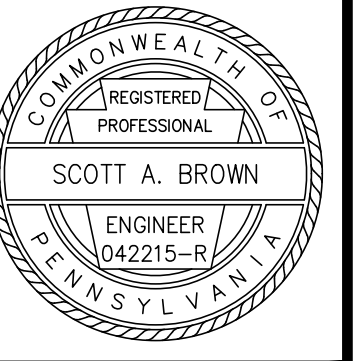
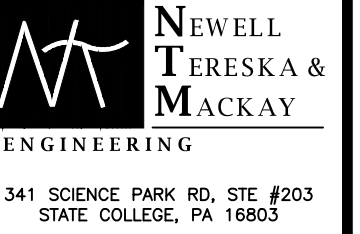


MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



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P:\14003\14003.04 Park Hills Drainageway\CAD\Y-planting.dwg Sep 06, 2023 - 9:47am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C702

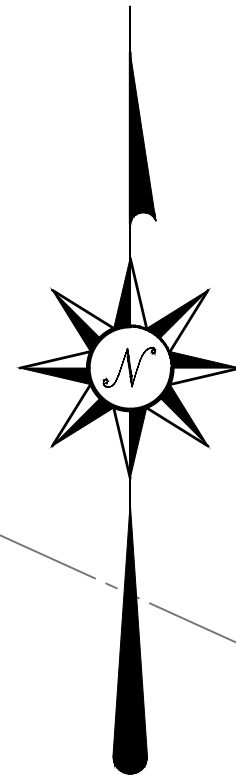


NO.	DESCRIPTION	BY	DATE	REVISIONS
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23	
2	REVISION FOR ADDENDUM 1	JSN	9/5/23	

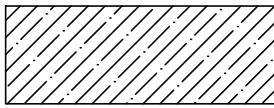
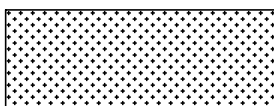

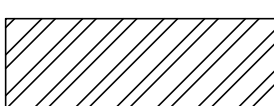

FERGUSON TOWNSHIP
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801
 CENTRE COUNTY
 PENNSYLVANIA
 PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
 LANDSCAPE PLAN
 1" = 20'

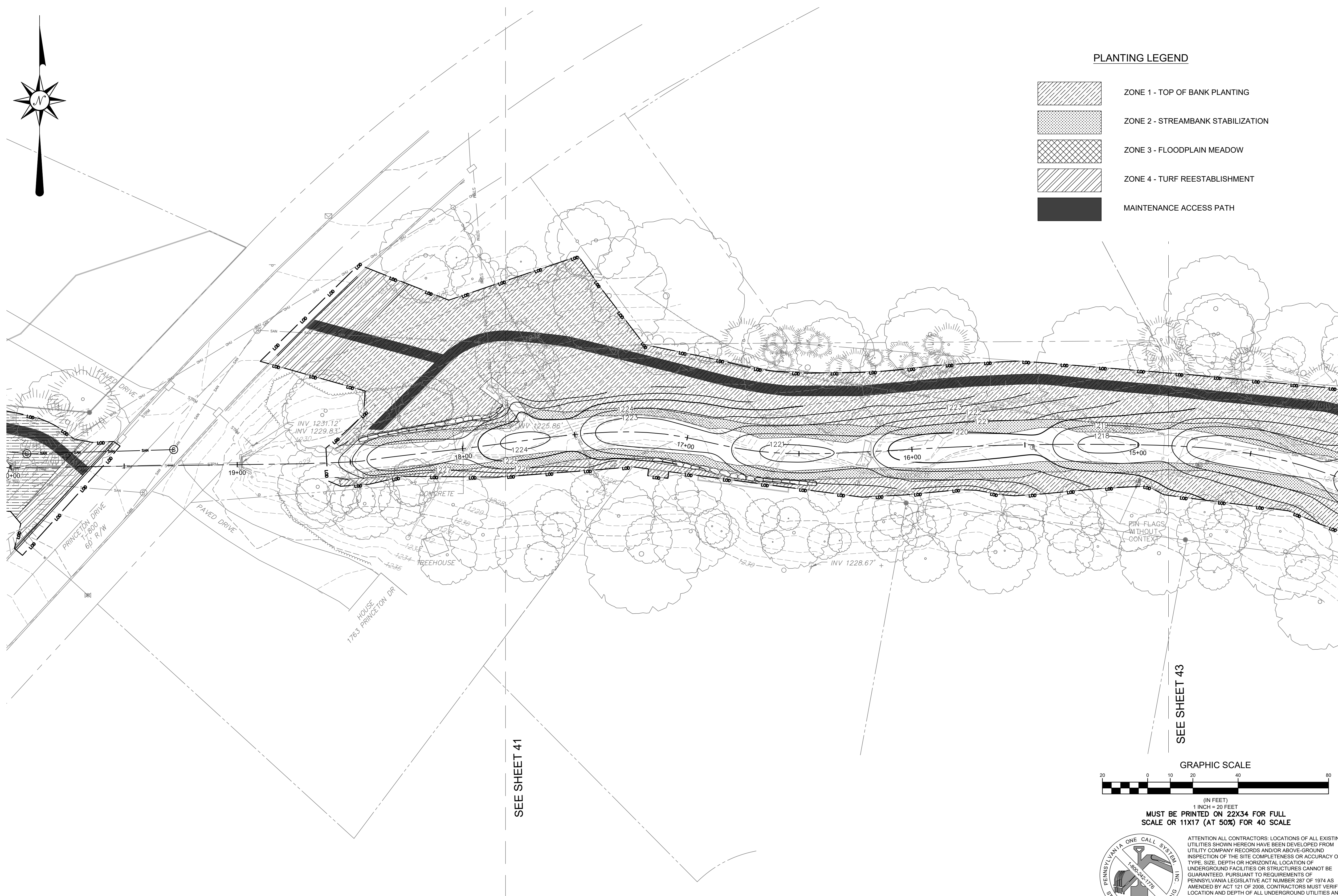
ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C702
SHEET NO. 41 OF 55



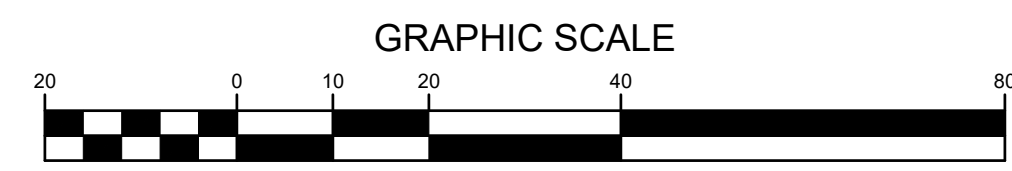
PLANTING LEGEND

-  ZONE 1 - TOP OF BANK PLANTING
-  ZONE 2 - STREAMBANK STABILIZATION
-  ZONE 3 - FLOODPLAIN MEADOW
-  ZONE 4 - TURF REESTABLISHMENT
-  MAINTENANCE ACCESS PATH



SEE SHEET 41

SEE SHEET 43

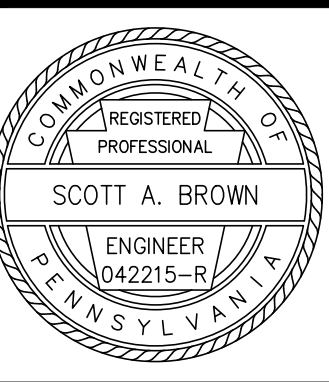
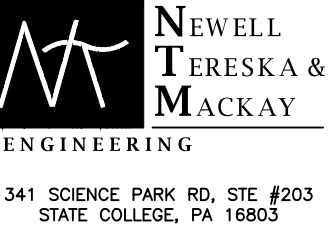


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P:\14003\14003.04 Park Hills Drainageway\CAD\Y-planting.dwg Sep 06, 2023 - 9:47am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C703



NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

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3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

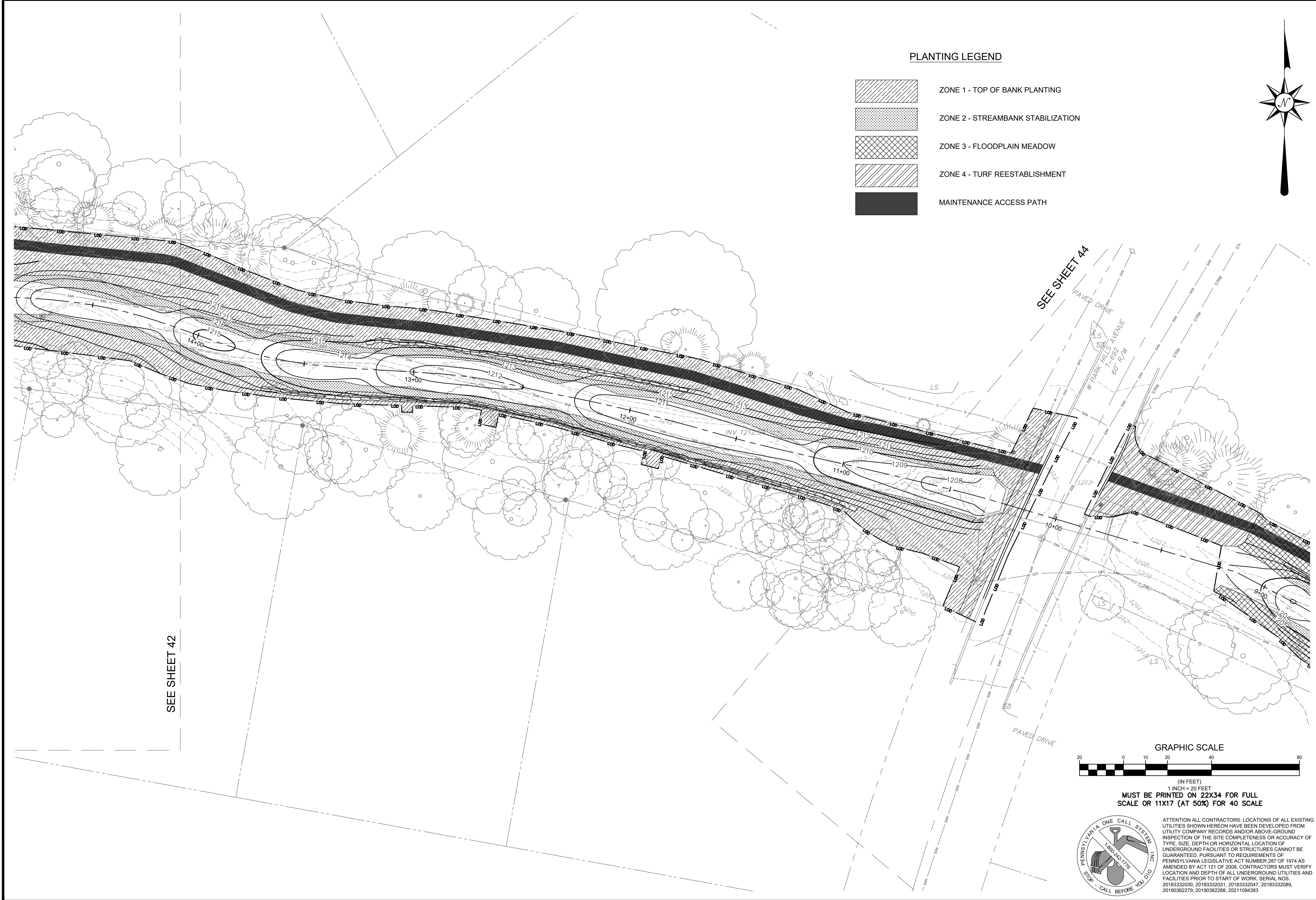
LANDSCAPE PLAN

1" = 20'

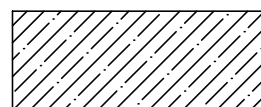
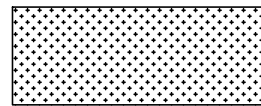
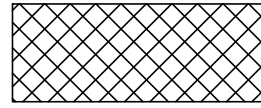
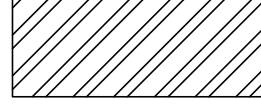

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

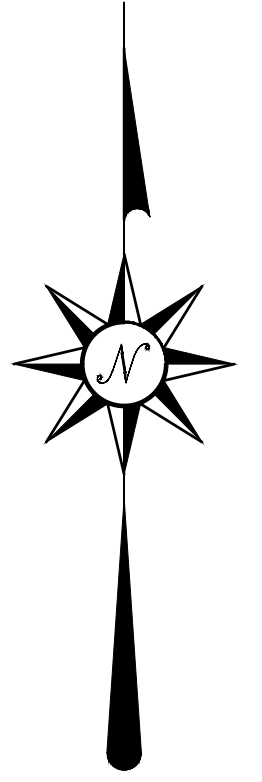
DRAWING NUMBER
C703
SHEET NO. 42 OF 55

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-planting.dwg Sep 06, 2023 - 9:47am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C704

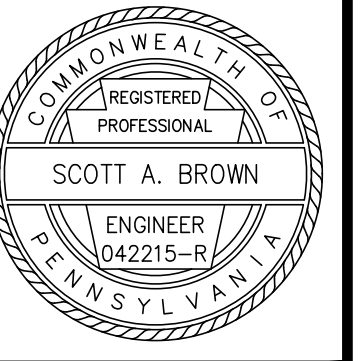
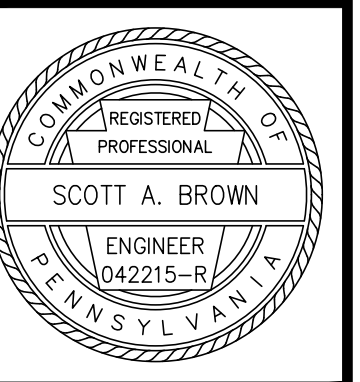


PLANTING LEGEND

-  ZONE 1 - TOP OF BANK PLANTING
-  ZONE 2 - STREAMBANK STABILIZATION
-  ZONE 3 - FLOODPLAIN MEADOW
-  ZONE 4 - TURF REESTABLISHMENT
-  MAINTENANCE ACCESS PATH



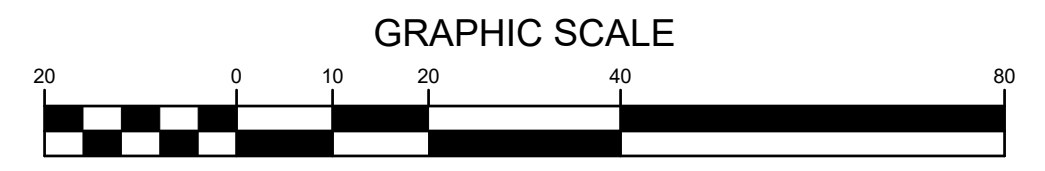
NEWELL TERESKA & MACKAY
ENGINEERING
341 SCIENCE PARK RD, STE #203
STATE COLLEGE, PA 16803



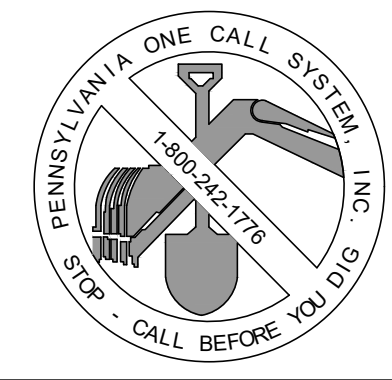
NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

SEE SHEET 42

SEE SHEET 44



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



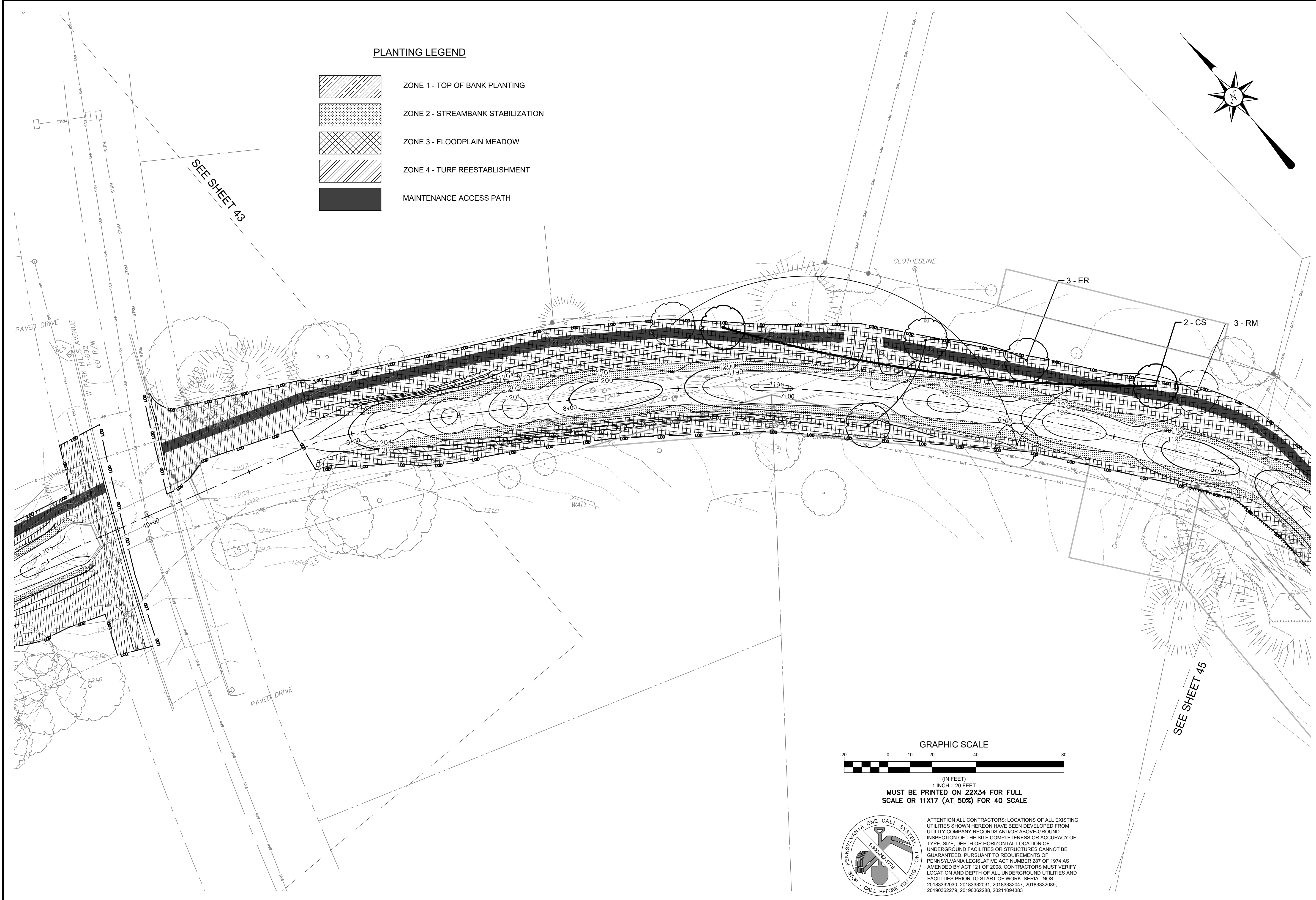
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FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PENNSYLVANIA
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
LANDSCAPE PLAN
1" = 20'

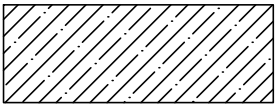
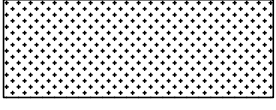
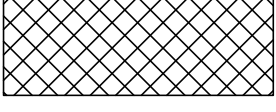
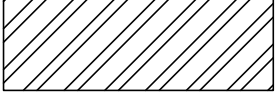

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C704
SHEET NO. 43 OF 55

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-planting.dwg Sep 06, 2023 - 9:47am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C705



PLANTING LEGEND

-  ZONE 1 - TOP OF BANK PLANTING
-  ZONE 2 - STREAMBANK STABILIZATION
-  ZONE 3 - FLOODPLAIN MEADOW
-  ZONE 4 - TURF REESTABLISHMENT
-  MAINTENANCE ACCESS PATH

SEE SHEET 43

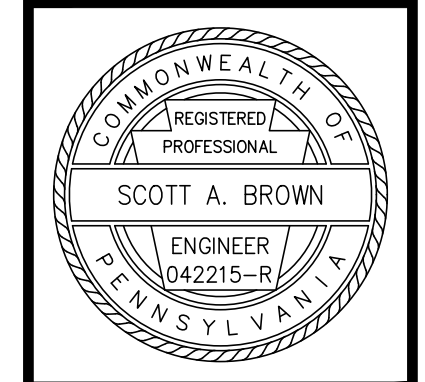
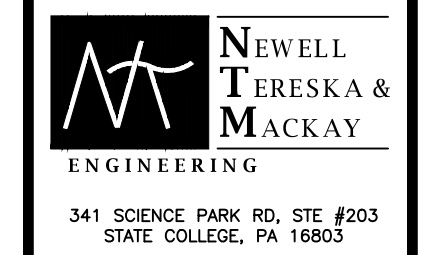
SEE SHEET 45



MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE



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NO.	DESCRIPTION	BY	DATE
1	ISSUED FOR CONSTRUCTION	JSN	8/21/23
2	REVISION FOR ADDENDUM 1	JSN	9/5/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

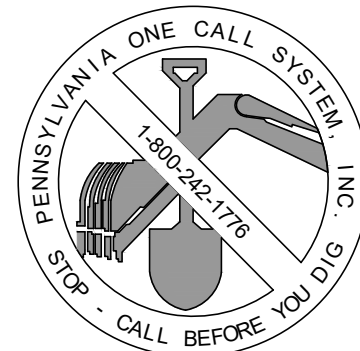
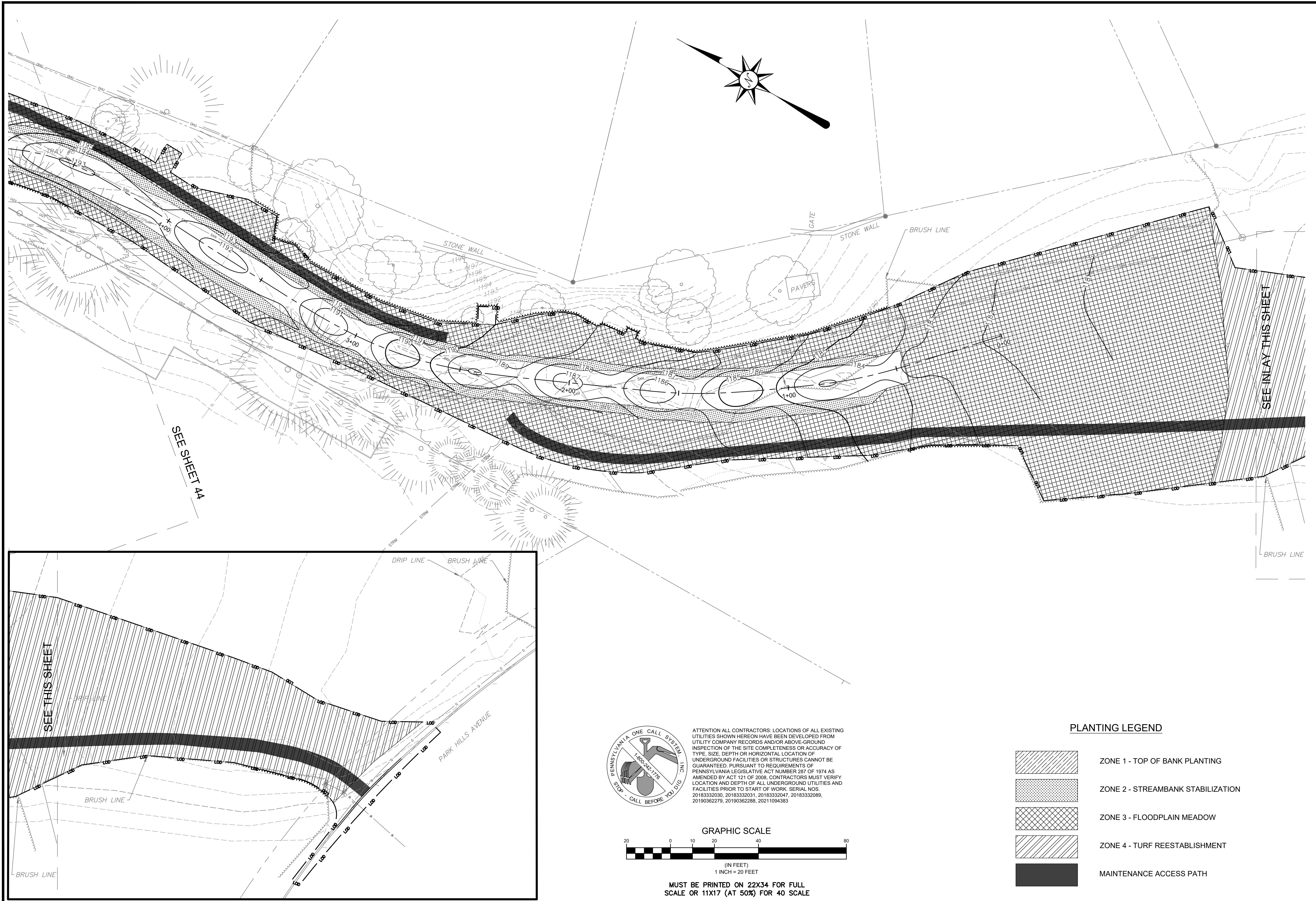
LANDSCAPE PLAN

1" = 20'

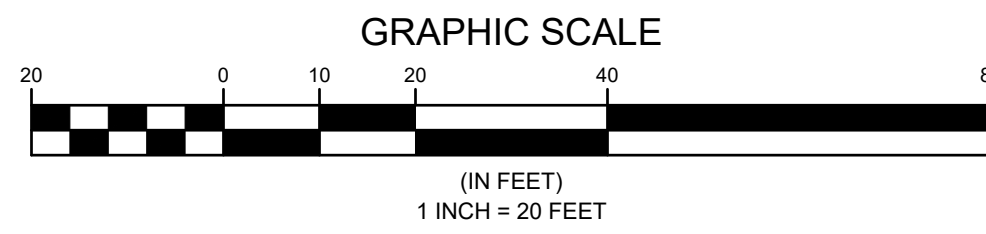
ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C705
SHEET NO. 44 of 55

P:\14003\14003.04 Park Hills Drainageway\CAD\Y-planting.dwg Sep 06, 2023 - 9:47am ENV/CTB Plot Scale 1=1 Plot By: jnewman Tab: C706

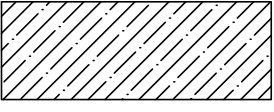
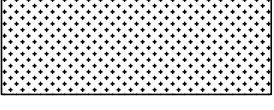
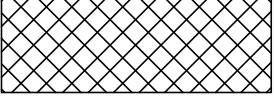
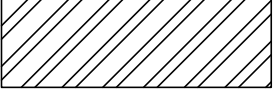



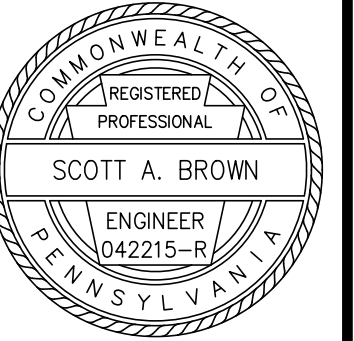
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MUST BE PRINTED ON 22X34 FOR FULL SCALE OR 11X17 (AT 50%) FOR 40 SCALE

PLANTING LEGEND

-  ZONE 1 - TOP OF BANK PLANTING
-  ZONE 2 - STREAMBANK STABILIZATION
-  ZONE 3 - FLOODPLAIN MEADOW
-  ZONE 4 - TURF REESTABLISHMENT
-  MAINTENANCE ACCESS PATH



REVISIONS		NO.	DESCRIPTION	BY	DATE
Δ	REVISION FOR ADDENDUM 1	JSN	ISSUED FOR CONSTRUCTION	JSN	9/5/23
					8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

LANDSCAPE PLAN

1" = 20'

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C706
SHEET NO. 45 OF 55

NO.	DESCRIPTION	ISSUED FOR CONSTRUCTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	JSN	9/5/23
2				8/21/23

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3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801

PENNSYLVANIA

CENTRE COUNTY

PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT

LANDSCAPE DETAILS

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C801
SHEET NO. 46 OF 55

DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED, HOWEVER DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKE TREES ONLY UPON APPROVAL FROM THE LANDSCAPE ARCHITECT. (SEE STAKING DETAIL AS APPROPRIATE)

MARK THE NORTH SIDE OF THE TREE IN THE NURSERY. ROTATE TREE TO FACE NORTH AT THE SITE WHEN EVER POSSIBLE.

EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.

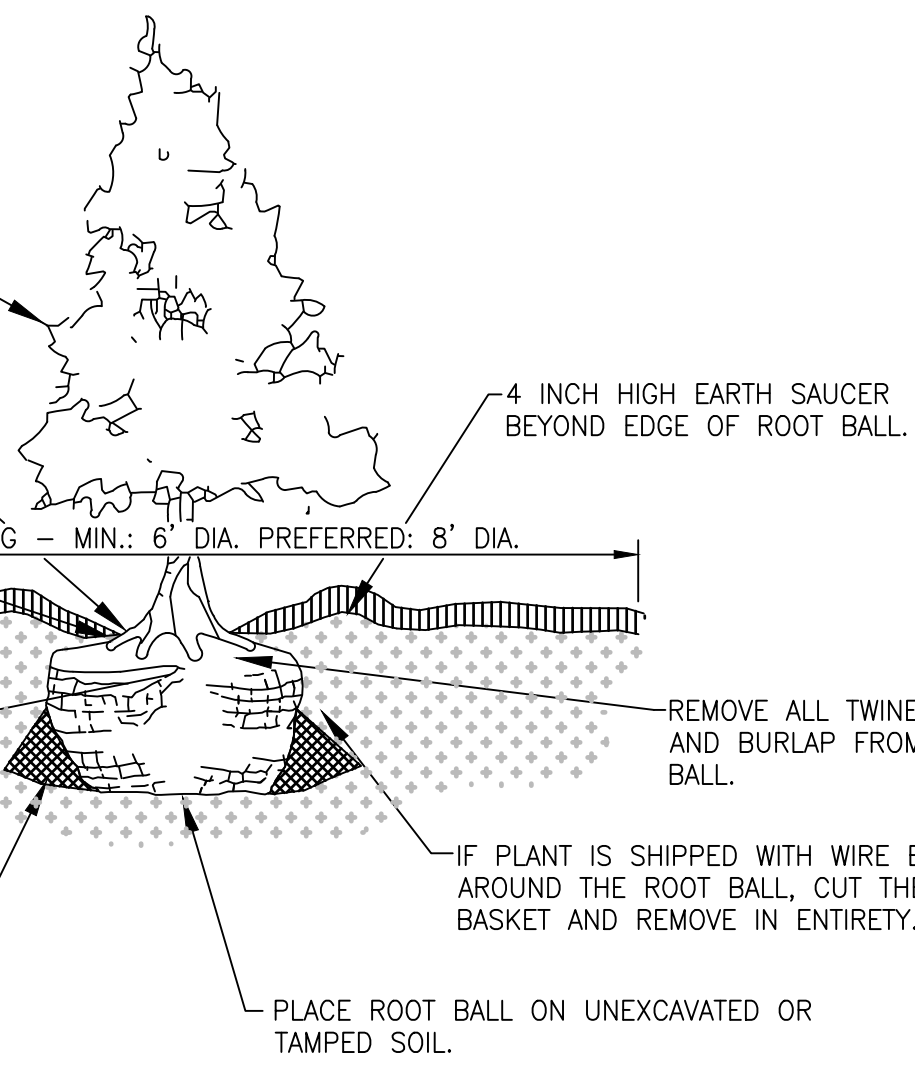
SET TOP OF ROOT BALL FLUSH TO GRADE OR 1-2 INCHES HIGHER IN SLOWLY DRAINING SOILS.

MULCH RING - MIN.: 6' DIA. PREFERRED: 8' DIA.

THREE INCHES (3") OF MULCH. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. MAINTAIN THE MULCH WEED-FREE FOR A MINIMUM OF THREE YEARS AFTER PLANTING.

NOTE: FOR DIMENSIONS OF PLANTING AREA, TYPES OF SOIL AMENDMENTS, OR SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS."

TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.



- NOTES:
- TREES WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED SHALL BE REJECTED.
 - TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS SHALL BE REJECTED.
 - TREES WITH CENTRAL LEADER BROKEN SHALL BE REJECTED.
 - TREES THAT DO NOT DISPLAY THE NORMAL CHARACTERISTICS SHALL BE REJECTED.

EVERGREEN TREE PLANTING DETAIL
IN ALL SOIL TYPES

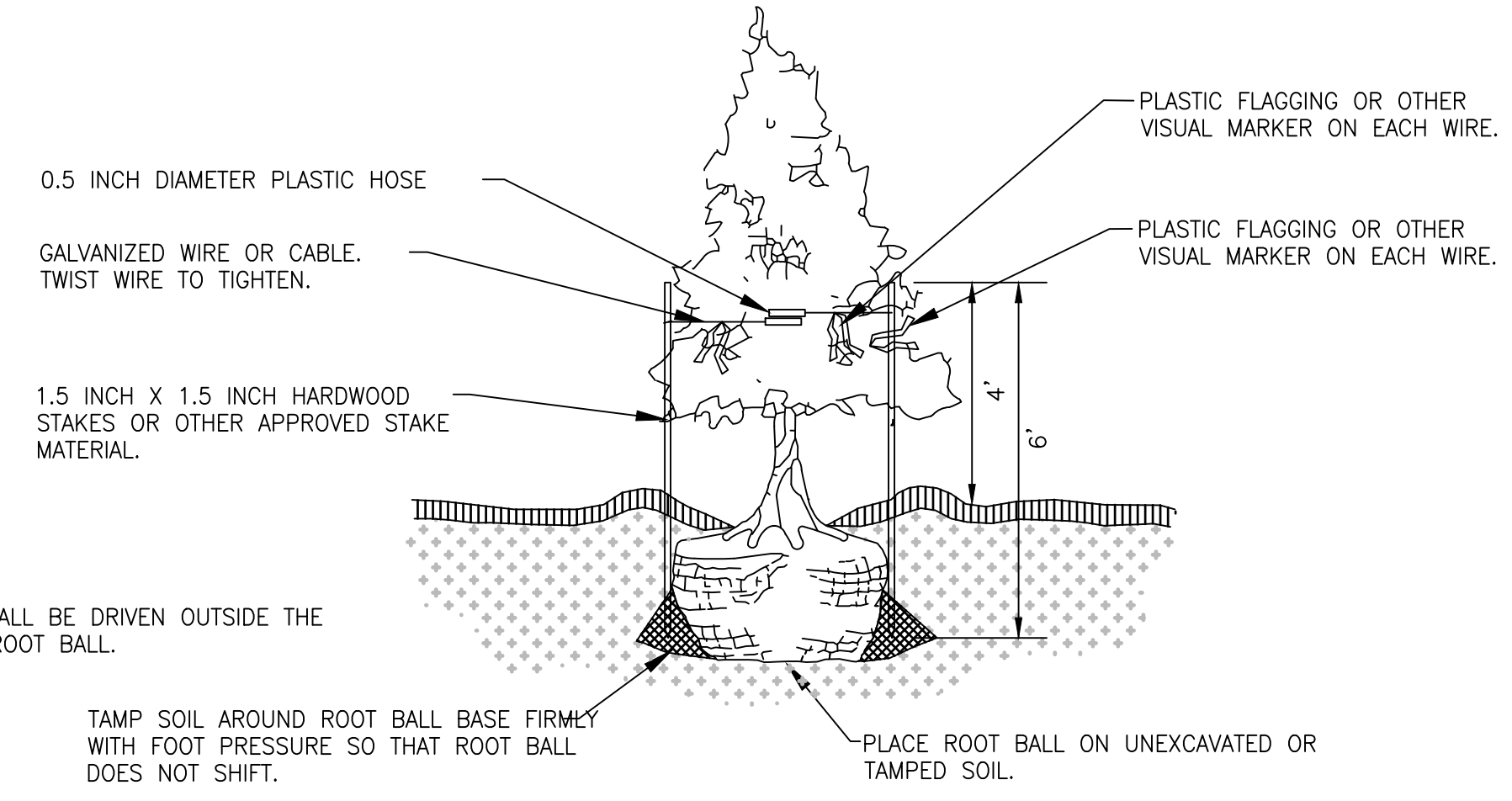
NOT TO SCALE

WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 2.5 INCH CALIPER - 14 GAUGE
TREES 2.5 INCH TO 3 INCH CALIPER - 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 1.5 INCH CALIPER OF GROWTH AND BUFFER ALL BRANCHES FROM WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.

INSTALL THREE GUY WIRES PER TREE, SPACED EVENLY AROUND THE TRUNK.



ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL.

ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM 0.5 INCH.

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON.

EVERGREEN TREE STAKING DETAIL

NOT TO SCALE

DO NOT HEAVILY PRUNE THE TREE AT PLANTING. PRUNE ONLY CROSSOVER LIMBS, CO-DOMINANT LEADERS AND BROKEN OR DEAD BRANCHES. SOME INTERIOR TWIGS AND LATERAL BRANCHES MAY BE PRUNED, HOWEVER DO NOT REMOVE THE TERMINAL BUDS OF BRANCHES THAT EXTEND TO THE EDGE OF THE CROWN.

STAKE TREES ONLY UPON APPROVAL FROM THE LANDSCAPE ARCHITECT. (SEE STAKING DETAIL AS APPROPRIATE)

WRAP TREE TRUNKS ONLY UPON APPROVAL FROM THE LANDSCAPE ARCHITECT. (SEE TREE WRAPPING DETAIL AS APPROPRIATE)

MARK THE NORTH SIDE OF THE TREE IN THE NURSERY. ROTATE TREE TO FACE NORTH AT THE SITE WHEN EVER POSSIBLE.

EACH TREE MUST BE PLANTED SUCH THAT THE TRUNK FLARE IS VISIBLE AT THE TOP OF THE ROOT BALL. TREES WHERE THE TRUNK FLARE IS NOT VISIBLE SHALL BE REJECTED. DO NOT COVER THE TOP OF THE ROOT BALL WITH SOIL.

SET TOP OF ROOT BALL FLUSH TO GRADE OR 1-2 INCHES HIGHER IN SLOWLY DRAINING SOILS.

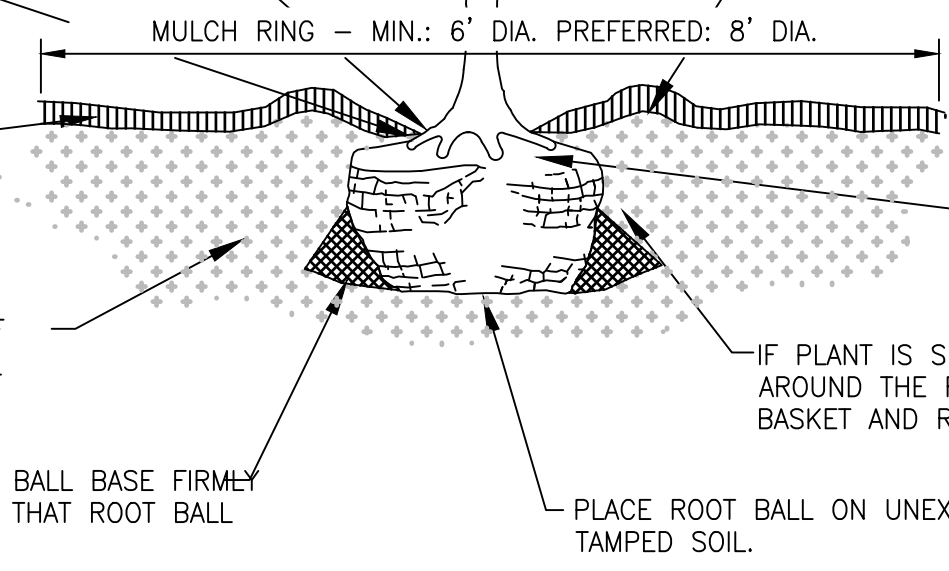
MULCH RING - MIN.: 6' DIA. PREFERRED: 8' DIA.

THREE INCHES (3") OF MULCH. DO NOT PLACE MULCH IN CONTACT WITH TREE TRUNK. MAINTAIN THE MULCH WEED-FREE FOR A MINIMUM OF THREE YEARS AFTER PLANTING.

NOTE: FOR DIMENSIONS OF PLANTING AREA, TYPES OF SOIL AMENDMENTS, OR SOIL REPLACEMENT, SEE "SOIL IMPROVEMENT DETAILS."

TAMP SOIL AROUND ROOT BALL BASE FIRMLY WITH FOOT PRESSURE SO THAT ROOT BALL DOES NOT SHIFT.

4 INCH HIGH EARTH SAUCER BEYOND EDGE OF ROOT BALL.



- NOTES:
- TREES WITH POOR QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED SHALL BE REJECTED.
 - TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS SHALL BE REJECTED.
 - TREES WITH CENTRAL LEADER BROKEN SHALL BE REJECTED.
 - TREES THAT DO NOT DISPLAY THE NORMAL CHARACTERISTICS SHALL BE REJECTED.

DECIDUOUS TREE PLANTING DETAIL
IN ALL SOIL TYPES

NOT TO SCALE

0.5 INCH DIAMETER PLASTIC HOSE

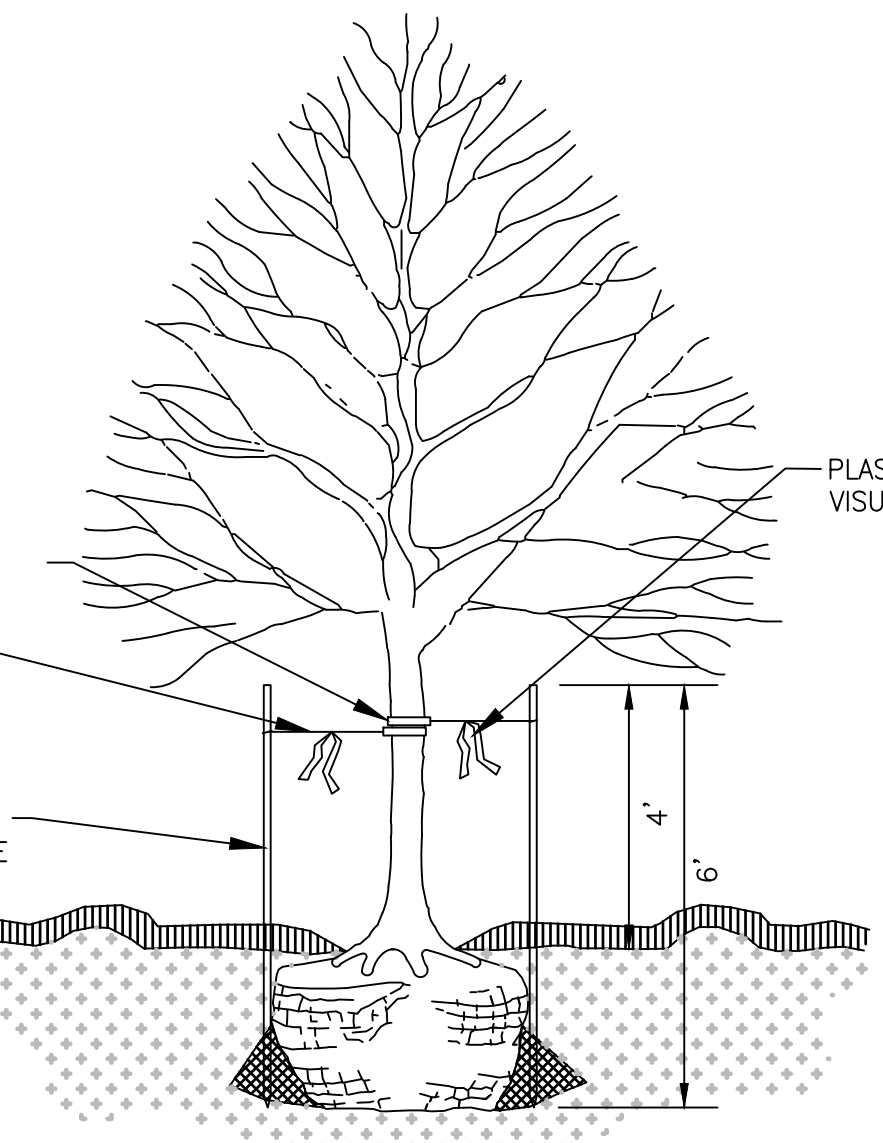
GALVANIZED WIRE OR CABLE. TWIST WIRE TO TIGHTEN.

1.5 INCH X 1.5 INCH HARDWOOD STAKES OR OTHER APPROVED STAKE MATERIAL.

ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL.

ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM 0.5 INCH.

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THAN THE END OF THE FIRST GROWING SEASON.



DECIDUOUS TREE STAKING DETAIL
TREES 3" CALIPER OR LESS

NOT TO SCALE

PLANT COMPOSITION SCHEDULE
ZONE 1 - Top of Bank Planting

Size (acres): 1.17										
Overall Minimum Spacing (ft.)	Qty per acre	Frequency (%)	Species Quantity	Vegetation Strata/Species Name	Common Name	Unit	Spacing Type	Size		
29	53	12%	7	TREES						
		17%	11	<i>Acer rubrum</i>	Red Maple	B&B	RANDOM	1.5" CAL		
		10%	10	<i>Betula lenta</i>	Sweet Birch	B&B	RANDOM	1.5" CAL		
		17%	11	<i>Liriodendron tulipifera</i>	Tulip Poplar	B&B	RANDOM	1.5" CAL		
		8%	5	<i>Quercus alba</i>	White Oak	B&B	RANDOM	1.5" CAL		
		8%	5	<i>Quercus rubra</i>	Red Oak	B&B	RANDOM	1.5" CAL		
		10%	6	<i>Quercus velutina</i>	Black Oak	B&B	RANDOM	1.5" CAL		
		12%	7	<i>Pinus strobus</i>	Eastern White Pine	B&B	RANDOM	1.5" CAL		
		100%	62	<i>Sassafras albidum</i>	Sassafras	B&B	RANDOM	1.5" CAL		
9	567			SHRUB						
		17%	116	<i>Juniperus virginiana</i>	Red cedar	CON	CLUSTER	24-36"		
		17%	116	<i>Cornus racemosa</i>	Gray Dogwood	CON	CLUSTER	24-36"		
		17%	116	<i>Vernonia noveboracensis</i>	New York Ironweed	CON	CLUSTER	24-36"		
		17%	116	<i>Kalmia latifolia</i>	Mountain Laurel	CON	CLUSTER	24-36"		
		17%	116	<i>Rhododendron maximum</i>	Rosebay Rhododendron	CON	CLUSTER	24-36"		
		17%	116	<i>Rhus copallina</i>	Shining Sumac	CON	CLUSTER	24-36"		
		100%	696	= total						
N/A	20			HERBACEOUS SEED						
	lbs/acre	100%	23	<i>Elymus glaberrimus, Southeastern Wildrye</i>	ELYGLA01	SEED	LB of P.L.S. 76%	N/A		
		100%	23	= total						

Clusters to group 5-7 individuals together of the same species
B&B = Balled & Burlapped
CON = Containerized
P.L.S. = Pure Live Seed

PLANT COMPOSITION SCHEDULE
ZONE 2 - Streambank Stabilization

Size (acres): 0.35										
Overall Minimum Spacing (ft.)	Qty per acre	Frequency (%)	Species Quantity	Vegetation Strata/Species Name	Common Name	Unit	Spacing Type	Size		
2.5	6970			HERBACEOUS						
		25%	606	<i>Elymus riparianus</i>	Riverbank Wildrye	PLUG	CLUSTER	2"		
		25%	606	<i>Eurybia divaricata</i>	White Wood Aster	PLUG	CLUSTER	2"		
		25%	606	<i>Carex pennsylvanica</i>	Pennsylvania Sedge	PLUG	CLUSTER	2"		
		25%	606	<i>Elymus virginicus</i>	Virginia Wild Rye	PLUG	CLUSTER	2"		
		100%	2423	= total						
N/A	30			HERBACEOUS SEED						
	lbs/acre	100%	10	<i>Elymus glaberrimus, Southeastern Wildrye</i>	ELYGLA01	SEED	LB of P.L.S. 76%	N/A		
		100%	10	= total						
N/A	20			HERBACEOUS SEED						
	lbs/acre	100%	7	<i>PA Valley & Ridge Province Riparian Mx</i>	ERNMX-233	SEED	LB of P.L.S. 76%	N/A		
		100%	7	= total						

Clusters to group 5-7 individuals together of the same species
CON = Containerized
P.L.S. = Pure Live Seed

PLANT COMPOSITION SCHEDULE
Zone 3 - Floodplain Meadow

Size (acres): 0.83										
Overall Minimum Spacing (ft.)	Qty per acre	Frequency (%)	Species Quantity	Key	Vegetation Strata/Species Name	Common Name	Unit	Spacing Type	Size	
15					TREES					
			3	RM	<i>Acer rubrum</i>	Red Maple	B&B	SEE PLAN	1.5" CAL	
			2	CS	<i>Ameiuchier arborea</i>	Common Senceberry	B&B	SEE PLAN	1.5" CAL	
			3	ER	<i>Cercis canadensis</i>	Eastern Redbud	B&B	SEE PLAN	1.5" CAL	
			8		= total					
20	109			N/A	SHRUBS					
		24%	21		<i>Cornus sericea</i>	Red-Osier Dogwood	CON	CLUSTER	3 GAL	
		26%	24		<i>Sambucus nigra</i>	Elderberry	CON	CLUSTER	3 GAL	
		24%	21		<i>Itea virginica</i>	Virginia Sweetspine	CON	CLUSTER	3 GAL	
		26%	24		<i>Viburnum acerifolium</i>	Mapleleaf Viburnum	CON	CLUSTER	3 GAL	
		100%	90		= total					
2.8	5576			N/A	HERBACEOUS					
	lbs/acre	20%	924		<i>Aster nove-angliae</i>	New England Aster	CON	CLUSTER	QT	
		30%	1386		<i>Eupatorium fistulosum</i>	Joe Pye Weed	CON	CLUSTER	QT	
		30%	1386		<i>Rubackia hirta</i>	Black-eyed Susan	CON	CLUSTER	QT	
		20%	924		<i>Schizachyrium scoparium</i>	Little Bluestem	CON	CLUSTER	QT	
		100%	4621		= total					
16				N/A	HERBACEOUS SEED					
	lbs/acre	Varies	Varies		<i>Cover crop varies; See notes</i>	Varies	SEED	LB of P.L.S. 76%	N/A	
		100%	13		<i>Seasonally Flooded Wildlife Food Mx</i>	ERNMX-128	SEED	LB of P.L.S. 76%	N/A	
		100%	13		= total					

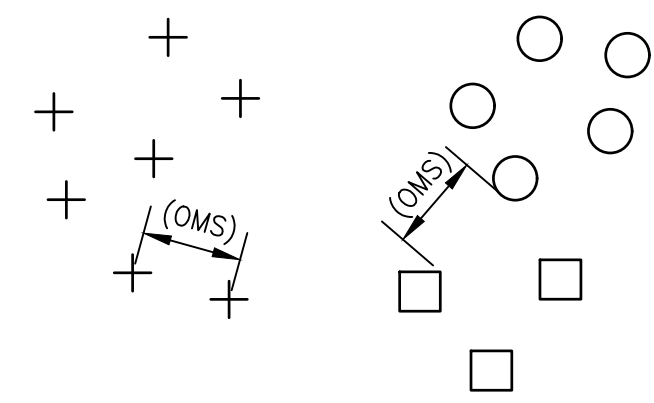
Clusters to group 5-7 individuals together of the same species
Cover crop mix: Grain Rye (1 Sept to 30 April; 30 lbs/acre), Japanese Millet (1 May to 31 Aug; 10 lbs/acre), or Barnyard grass (1 May to 31 Aug; 10 lbs/acre)
B&B = Balled & Burlapped
CON = Container
P.L.S. = Pure Live Seed

PLANT COMPOSITION SCHEDULE
Zone 4 - Turf Reestablishment

Size (acres): 0.42										
Overall Minimum Spacing (ft.)	Qty per acre	Frequency (%)	Species Quantity	Key	Vegetation Strata/Species Name	Common Name	Unit	Spacing Type	Size	
100					HERBACEOUS SEED					
	lbs/acre	100%	42		<i>Commercial Conservation Mx</i>	ERNMX-113	SEED	LB of P.L.S. 76%	N/A	
		100%	42		= total					

P.L.S. = Pure Live Seed

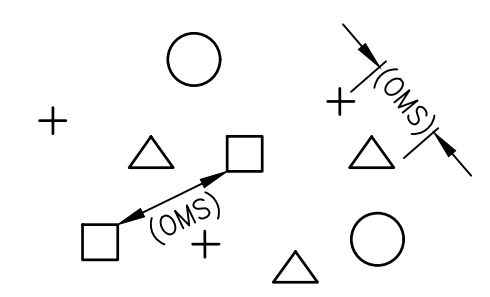
PLANT COMPOSITION SCHEDULES



1. PLANTS ARE ARRANGED IN CLUSTERS CONSISTING OF THE SAME SPECIES.
2. SPACING BETWEEN EACH SPECIES WITH EACH CLUSTER AND SPACING BETWEEN EACH CLUSTER IS DETERMINED BY OVERALL MINIMUM SPACING DISTANCE (OMS)
3. CLUSTERS, WHENEVER POSSIBLE SHALL CONSIST OF ODD NUMBERS WITH NO LESS THAN 3 AND NO MORE THAN 11 INDIVIDUALS OF ONE SPECIES

PLANT SPACING - CLUSTER (PLAN VIEW)

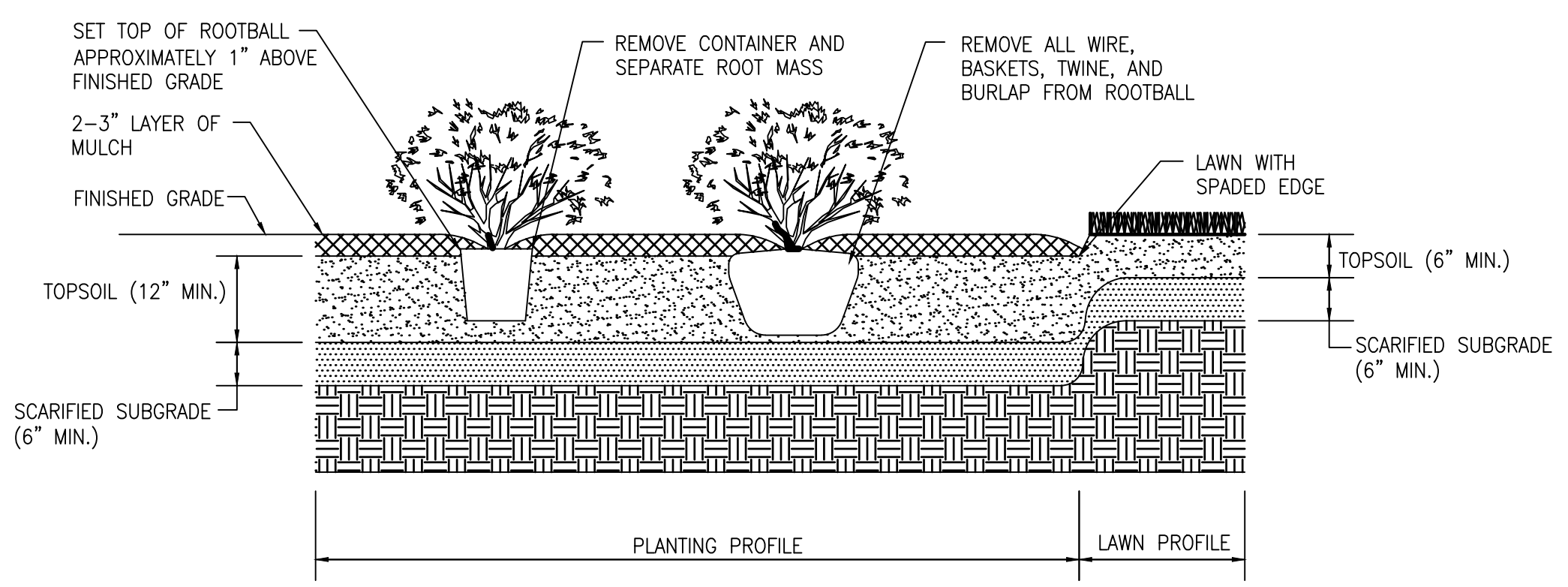
NOT TO SCALE



PLANT SPACING - RANDOM (PLAN VIEW)

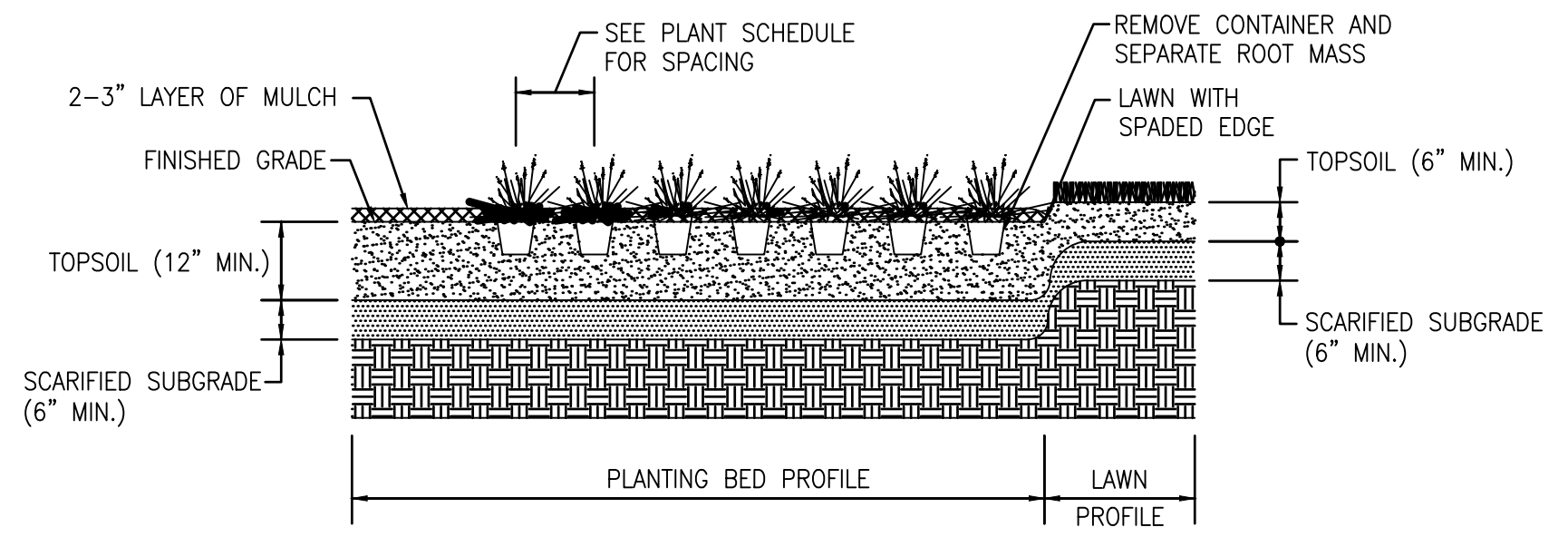
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OVERALL MINIMUM SPACING DISTANCE (OMS) IS ASSIGNED TO PLANTING CONFIGURATION (SEE PLANT SCHEDULE)
NOTE: EACH SYMBOL INDICATES A DIFFERENT SPECIES



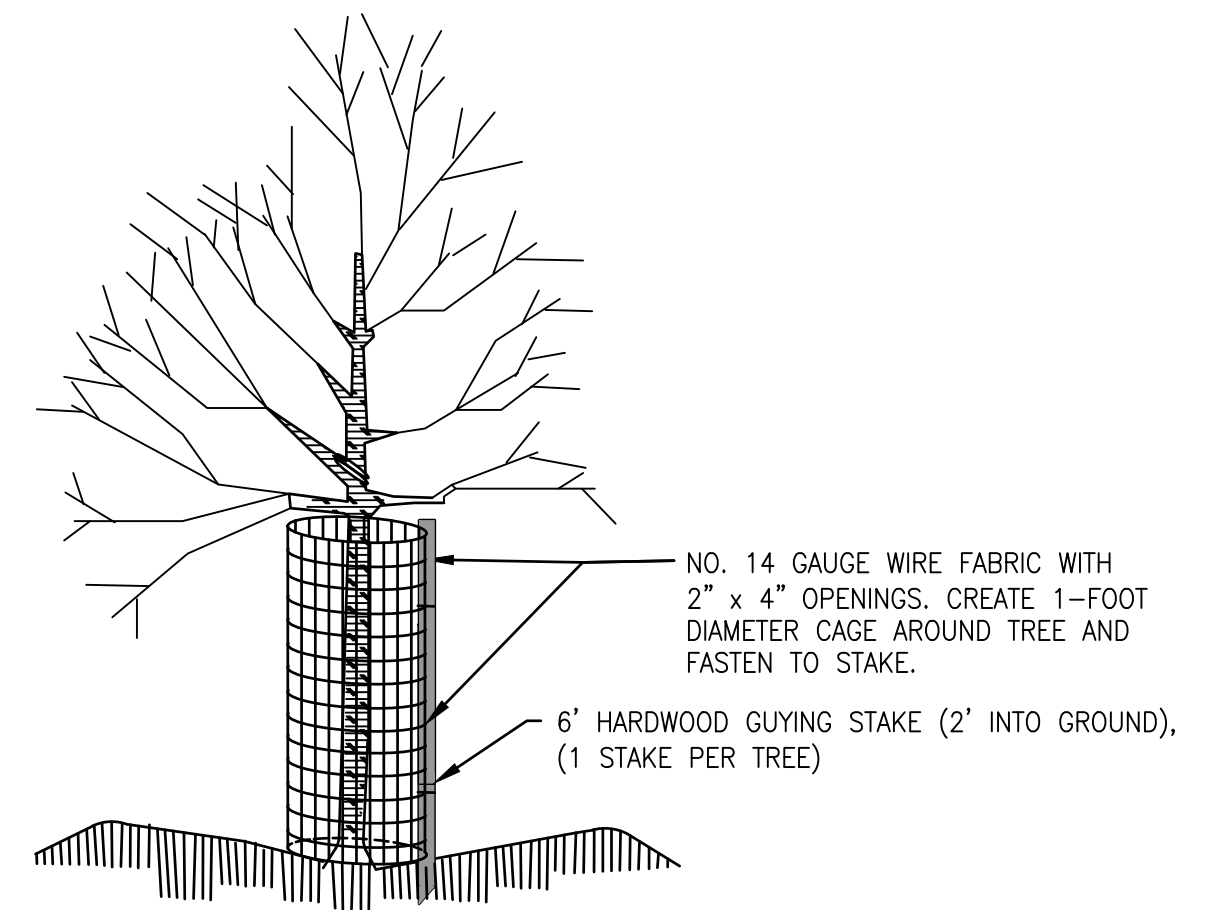
PLANTING FOR BALLED & BURLAPPED, OR CONTAINER GROWN SHRUBS

NOT TO SCALE



UNIFORM PLANTING DETAIL FOR CONTAINER GROWN PERENNIALS

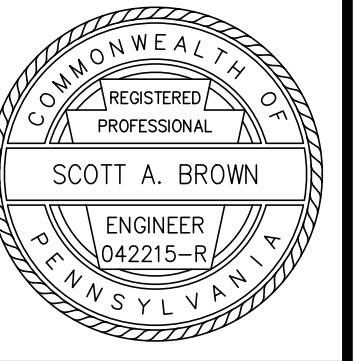
NOT TO SCALE



- NOTES:
1. DEER PROTECTION CAGES TO BE INSTALLED AROUND ALL PLANTED TREES AND SHRUBS.
 2. HEIGHT OF CAGE SHALL BE 4- FEET (MIN.)
 3. CAGE SHALL BE FASTENED TO STAKE WITH TWO (MIN.) 11-INCH RELEASABLE CABLE TIES (ONE AT TOP AND ONE 6" (MIN.) ABOVE THE GROUND.
 4. DO NOT DAMAGE TREE DURING INSTALLATION.
 5. DEER BARK PROTECTORS (ITEM #BG48, BY A.M. LEONARD, OR EQUAL) MAY BE SUBSTITUTED FOR TREES GREATER THAN 3/4" CALIPER. ALL OTHER SUBSTITUTIONS MUST BE APPROVED BY FOREST ECOLOGIST.
 6. CAGES TO BE REMOVED AT DIRECTION OF FOREST ECOLOGIST.
 7. ENSURE CAGE IS SECURE TO GROUND TO PREVENT UPLIFT BY DEER.

DEER PROTECTION CAGE

NOT TO SCALE



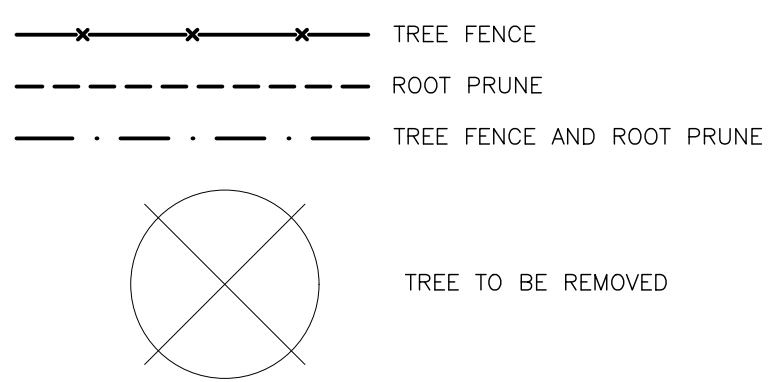
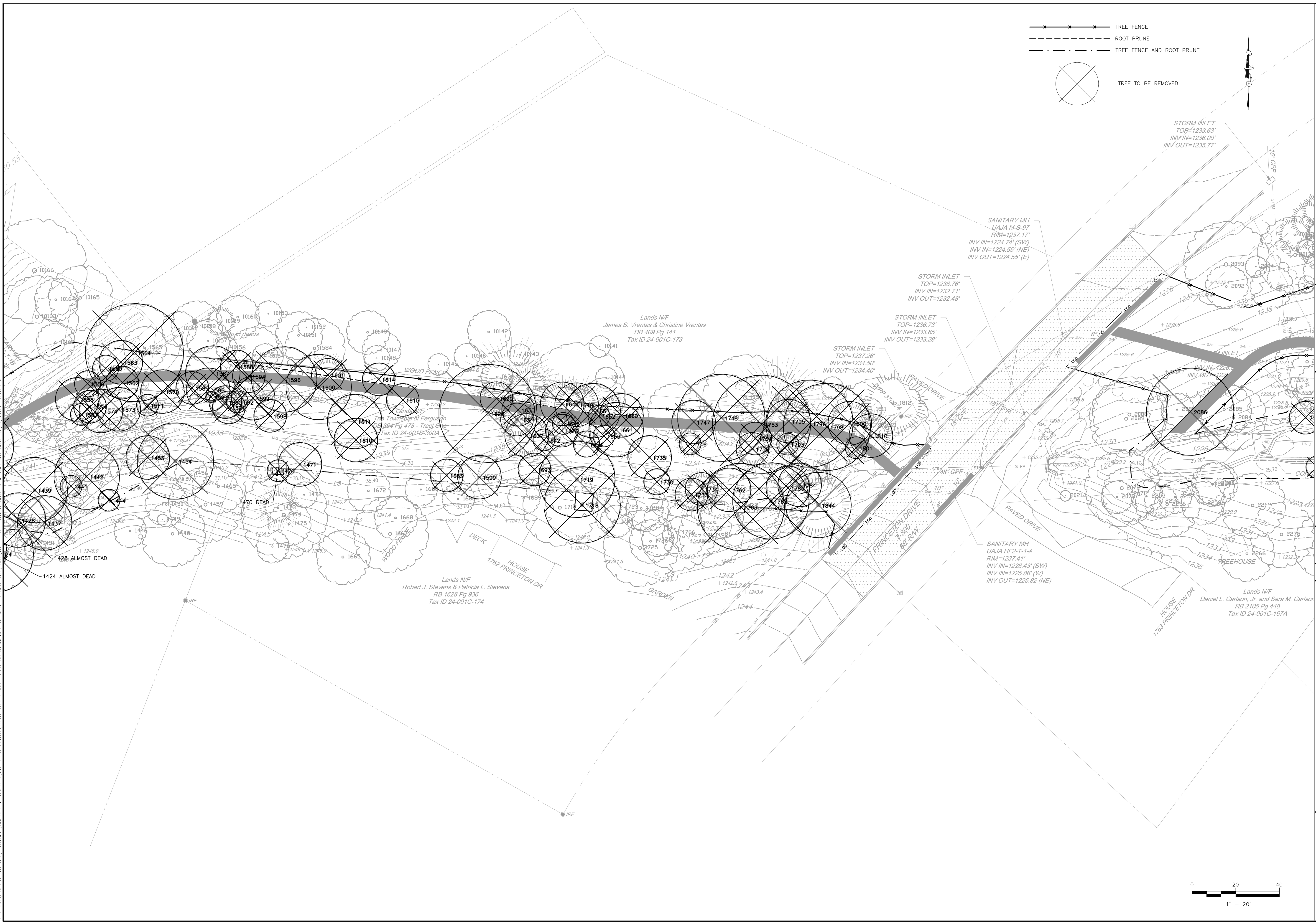
NO.	DESCRIPTION	BY	DATE
1	REVISION FOR ADDENDUM 1	JSN	9/5/23
2	ISSUED FOR CONSTRUCTION	JSN	8/21/23

FERGUSON TOWNSHIP
3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
CENTRE COUNTY
PENNSYLVANIA
PARK HILLS DRAINAGEWAY IMPROVEMENTS PROJECT
LANDSCAPE DETAILS

ENGINEER	DESIGNED BY
SAB	AJJ
DRAWN BY	DATE
JSN	7/6/22
PROJECT NUMBER	
14003.04	

DRAWING NUMBER
C802
SHEET NO. 47 OF 55

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STORM INLET
TOP=1239.63'
INV IN=1236.00'
INV OUT=1235.77'

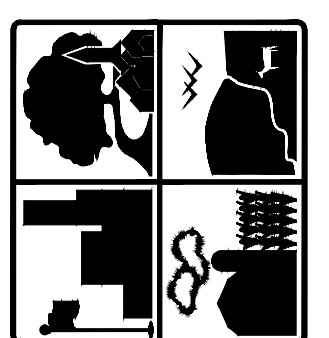
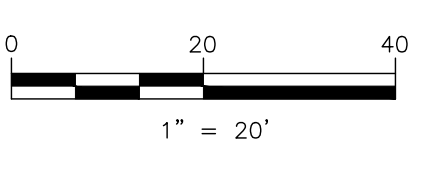
SANITARY MH
U/AJA M-S-97
RIM=1237.17'
INV IN=1224.74' (SW)
INV IN=1224.55' (NE)
INV OUT=1224.55' (E)

STORM INLET
TOP=1236.76'
INV IN=1232.71'
INV OUT=1232.48'

STORM INLET
TOP=1236.73'
INV IN=1233.85'
INV OUT=1233.28'

STORM INLET
TOP=1237.26'
INV IN=1234.50'
INV OUT=1234.40'

SANITARY MH
U/AJA HF2-T-1-A
RIM=1237.41'
INV IN=1226.43' (SW)
INV IN=1225.86' (W)
INV OUT=1225.82' (NE)



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3147 RESEARCH DRIVE
STATE COLLEGE, PA 16801
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FAX: 814-238-3454
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1	8/21/23	ISSUED FOR CONSTRUCTION

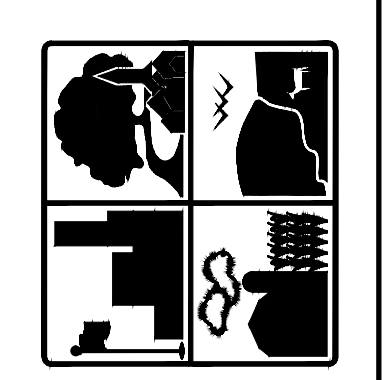
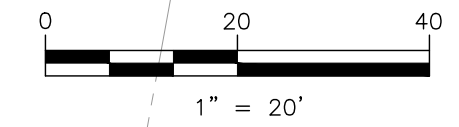
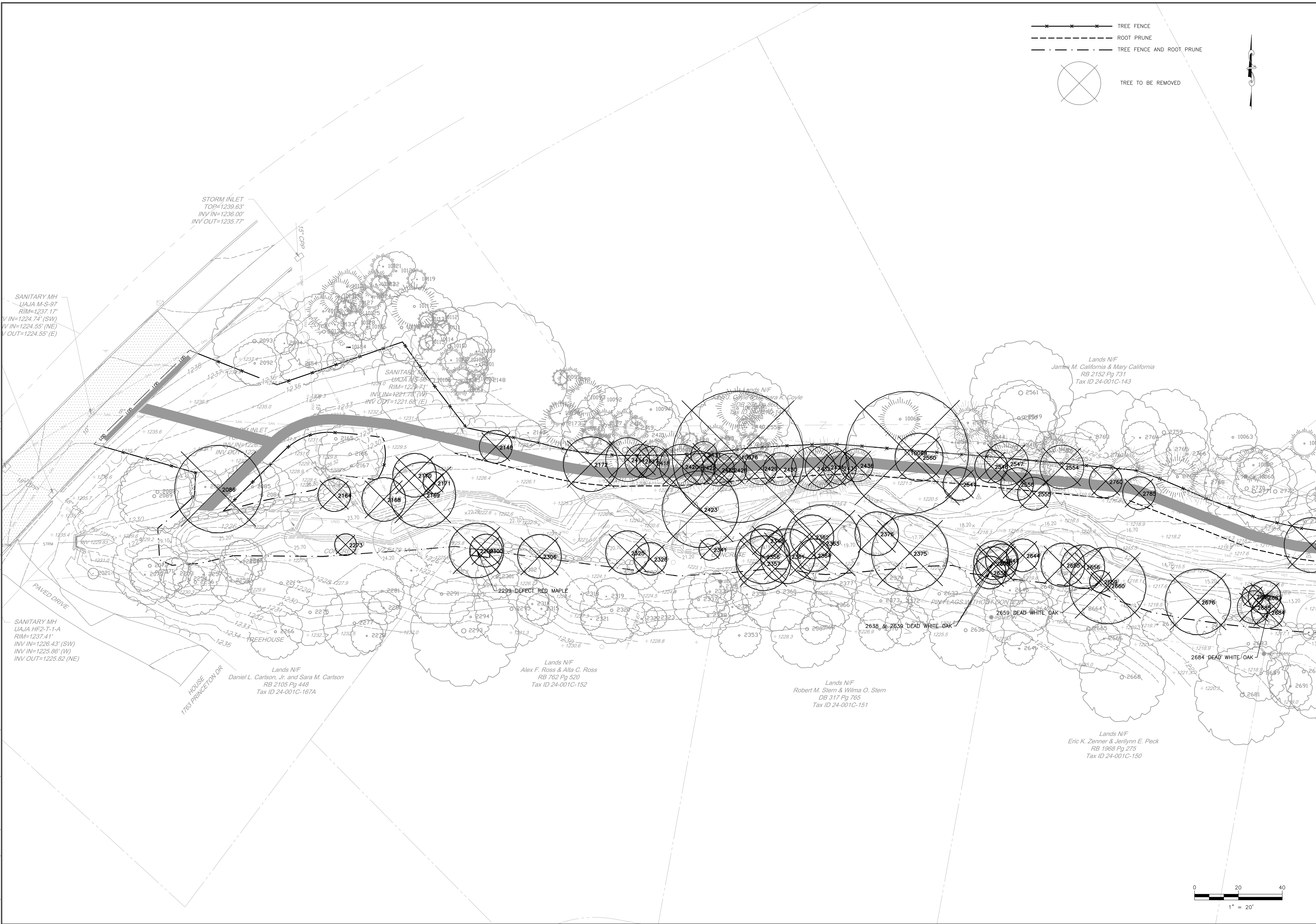
PARK HILLS DRAINAGE - TREE PROTECTION AND REMOVAL PLAN
CONTRACT 2018-C20

TREE PROTECTION PLAN

DESIGNED BY: RAS
DRAWN BY: LMS
CHECKED BY: DJM
DATE: 1/21/2022

C902

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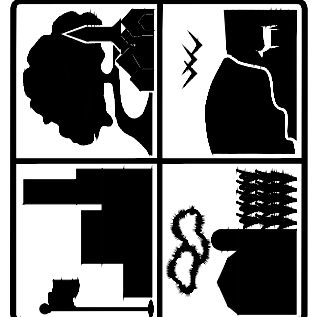
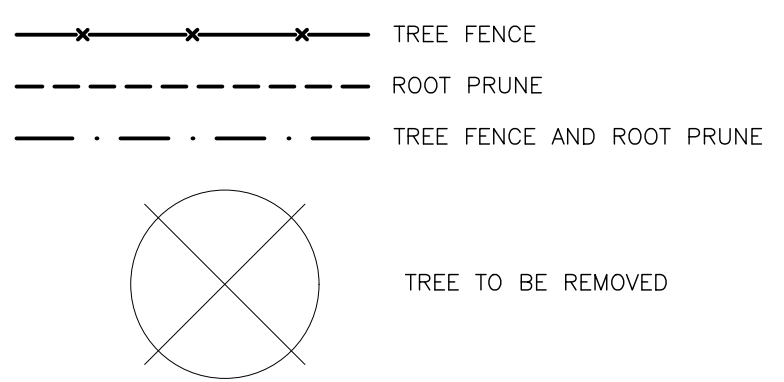
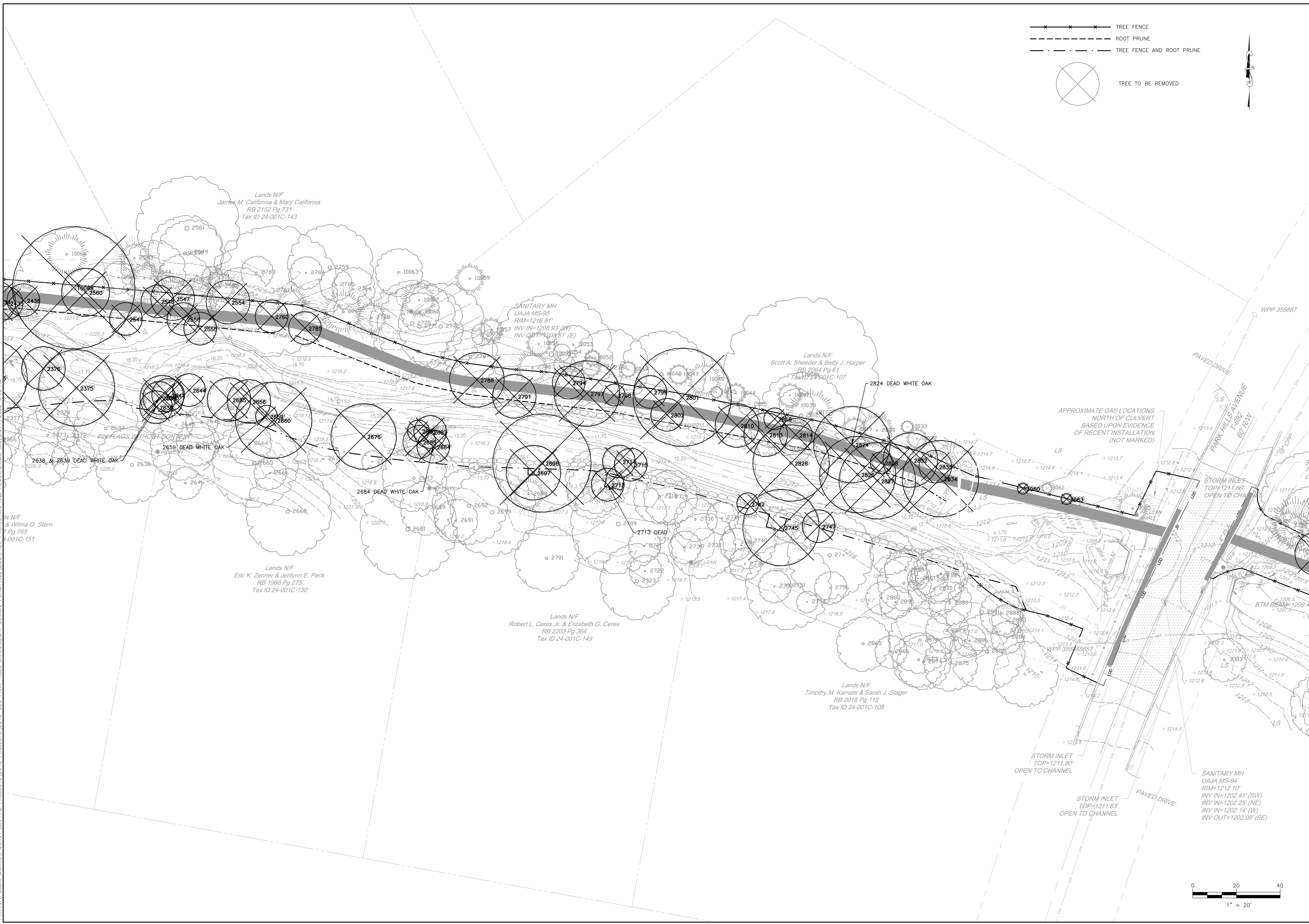
REV.	DATE	DESCRIPTION
1	8/21/23	ISSUED FOR CONSTRUCTION

PARK HILLS DRAINAGE - TREE PROTECTION AND REMOVAL PLAN
 CONTRACT 2018-C20
TREE PROTECTION PLAN

DESIGNED BY: RAS
 DRAWN BY: LMS
 CHECKED BY: DJM
 DATE: 1/21/2022

C903

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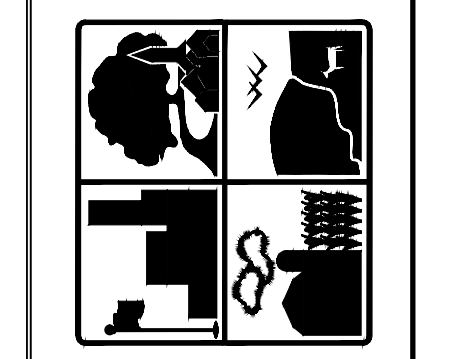
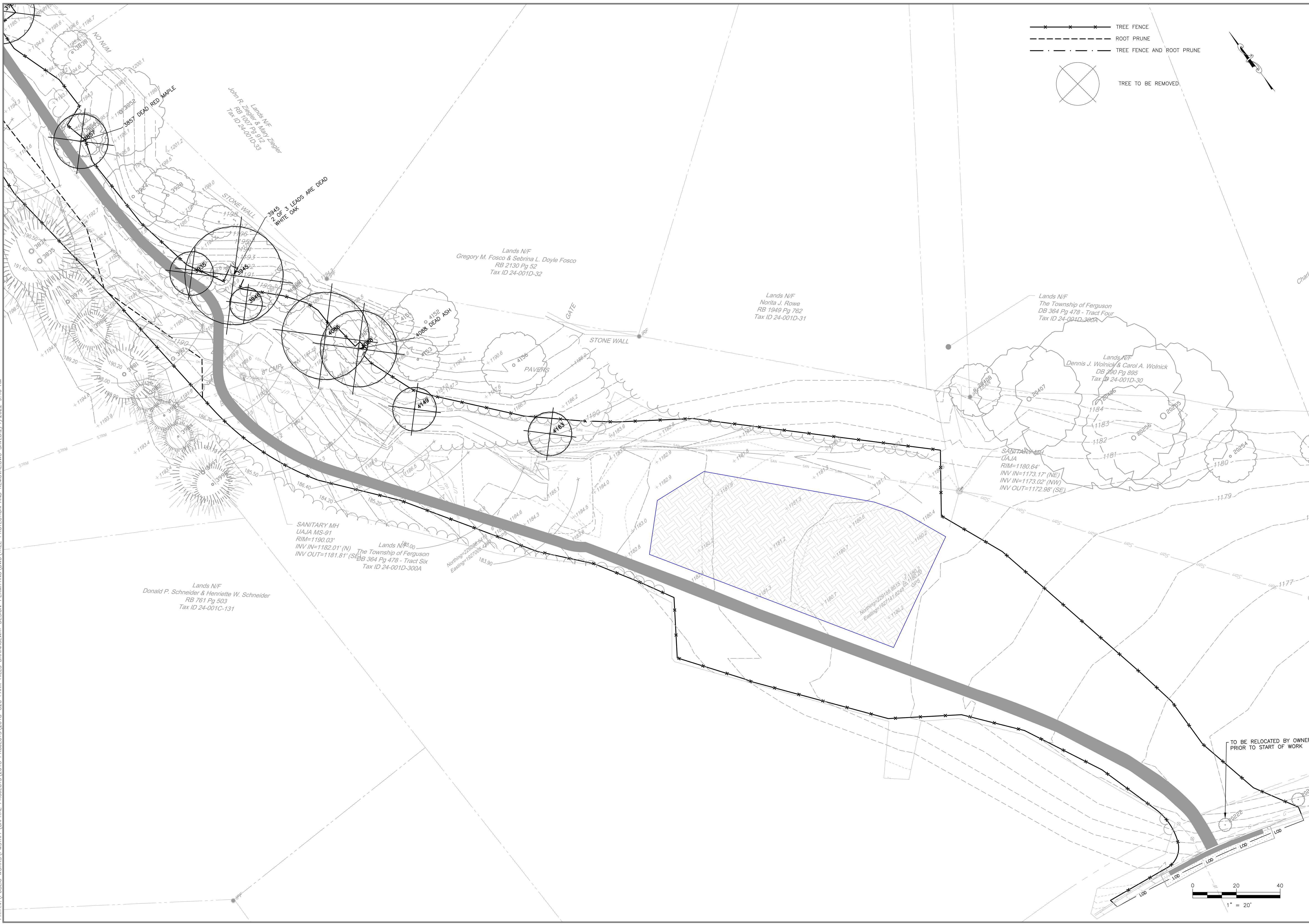
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1	8/21/23	ISSUED FOR CONSTRUCTION

PARK HILLS DRAINAGE - TREE PROTECTION AND REMOVAL PLAN
 CONTRACT 2018-C20
TREE PROTECTION PLAN

DESIGNED BY: RAS
 DRAWN BY: LMS
 CHECKED BY: DJM
 DATE: 1/21/2022
C904

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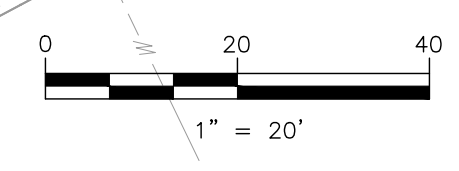
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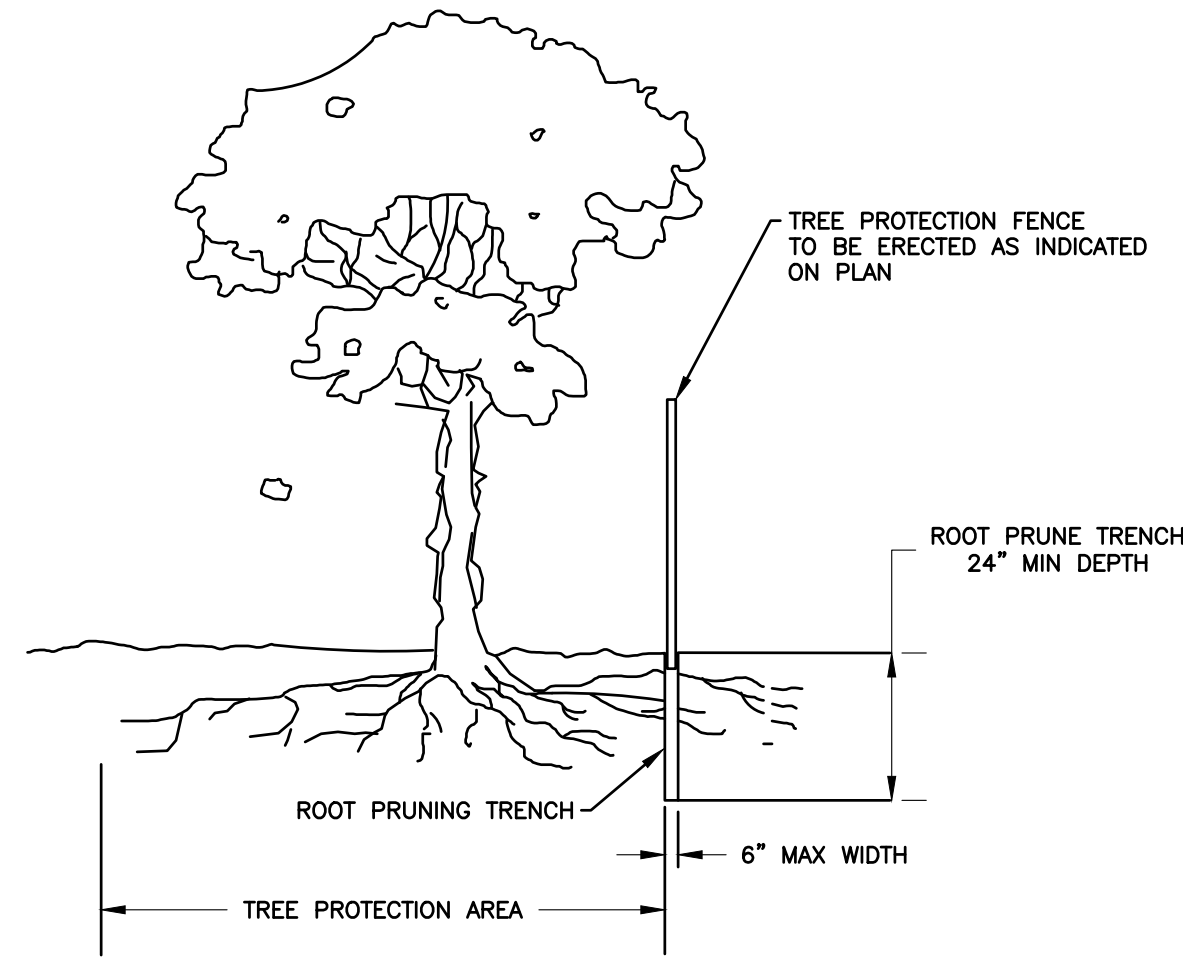
PARK HILLS DRAINAGE - TREE PROTECTION AND REMOVAL PLAN
 CONTRACT 2018-C20
TREE PROTECTION PLAN

DESIGNED BY: RAS
 DRAWN BY: LMS
 CHECKED BY: DJM
 DATE: 1/21/2022

C906

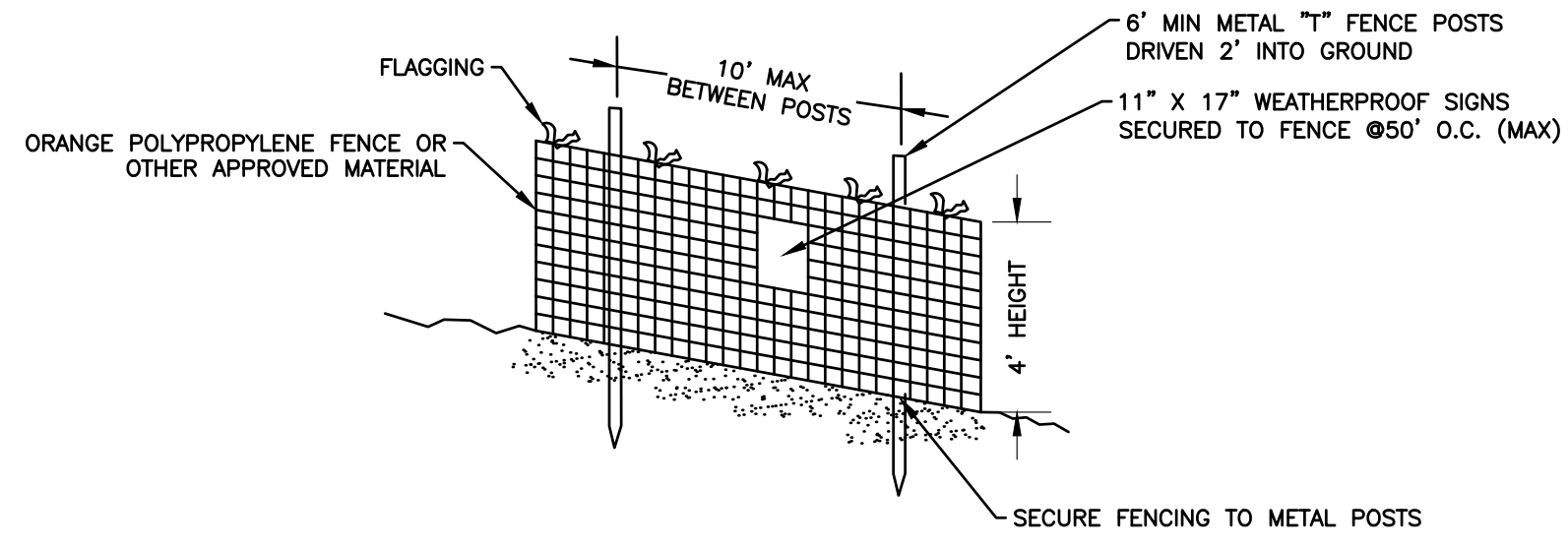


TO BE RELOCATED BY OWNER PRIOR TO START OF WORK



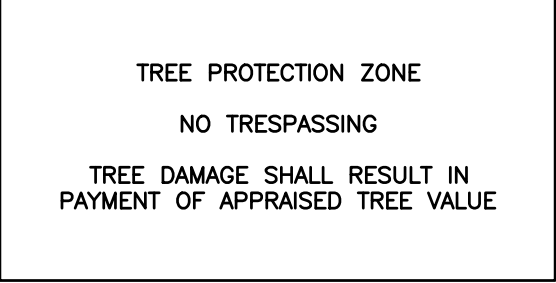
ROOT PRUNING DETAIL

- NOTES:
1. EXACT LOCATION OF TRENCH SHALL BE DETERMINED IN THE FIELD IN COORDINATION WITH THE TOWNSHIP ARBORIST.
 2. TRENCH SHOULD BE IMMEDIATELY BACKFILLED WITH EXCAVATED SOIL OR OTHER ORGANIC SOIL AS SPECIFIED PER PLAN OR BY THE TOWNSHIP ARBORIST.
 3. ROOTS SHALL BE CLEANLY CUT USING VIBRATORY KNIFE OR OTHER ACCEPTABLE EQUIPMENT.
 4. ALL PRUNING MUST BE EXECUTED WITH LIMIT OF DISTURBANCE SHOWN ON PLANS OR AS AUTHORIZED IN WRITING BY THE TOWNSHIP ARBORIST.

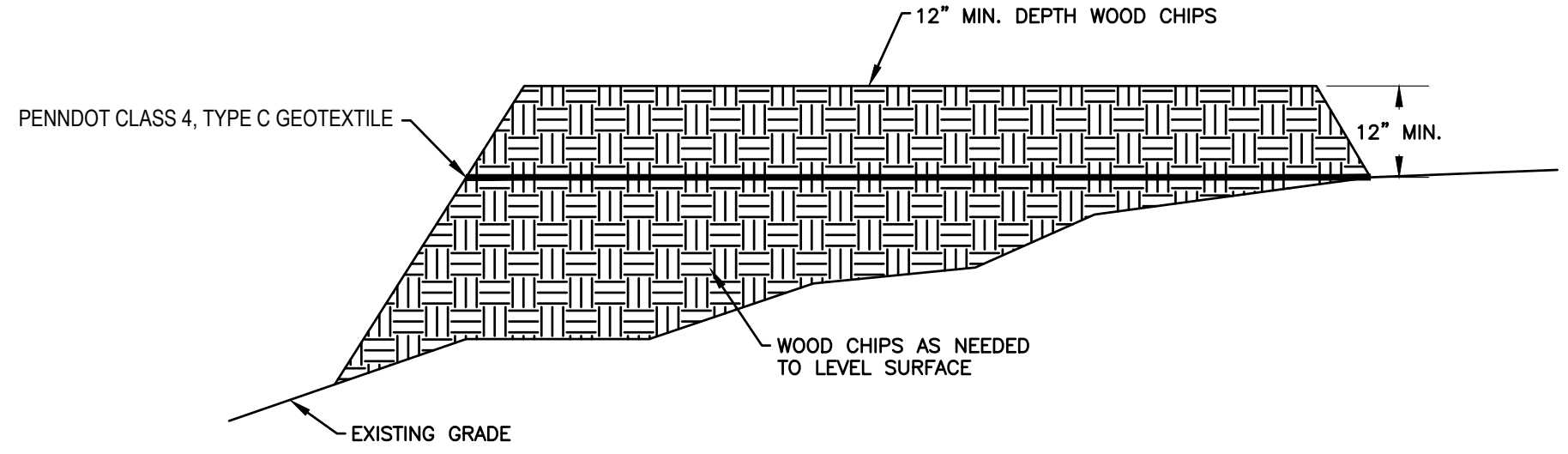


TREE PROTECTION FENCE DETAIL

- NOTES:
1. PRACTICE MAY BE COMBINED WITH SEDIMENT CONTROL FENCING WHERE APPROPRIATE.
 2. LOCATION AND LIMITS OF FENCING SHOULD BE COORDINATED IN FIELD WITH ARBORIST.
 3. BOUNDARIES OF PROTECTION AREA SHOULD BE STAKED PRIOR TO INSTALLING PROTECTIVE DEVICE.
 4. ROOT DAMAGE SHOULD BE AVOIDED.
 5. PROTECTION SIGNAGE IS REQUIRED.
 6. FENCING SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.
 7. SHOULD THE POLYPROPYLENE FENCE FAIL TO BE MAINTAINED OR PREVENT TRESPASS, A 6 FOOT HIGH CHAIN LINK FENCE SHALL BE REQUIRED.

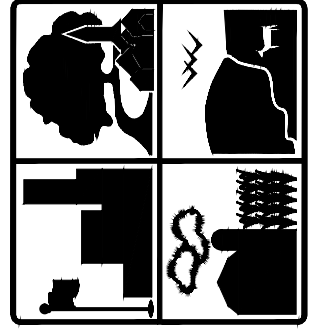


11" X 17" WEATHERPROOF SIGN



CONSTRUCTION ACCESS ROUTE DETAIL

- NOTES:
1. TIMBER MATS SHALL BE USED AS REQUIRED TO PREVENT COMPACTION OF THE UNDERLYING ROOTS.
 2. CONTRACTOR SHALL MAINTAIN CONSTRUCTION ACCESS ROUTE WITH A MINIMUM OF 12 INCHES OF WOOD CHIP MATERIAL AT ALL TIMES.



FERGUSON TOWNSHIP
 DEPT. OF PUBLIC WORKS & ENGINEERING
 3147 RESEARCH DRIVE
 STATE COLLEGE, PA 16801
 PHONE: 814-238-4651
 FAX: 814-238-3454
 www.twp.ferguson.pa.us

REV.	DATE	DESCRIPTION
1	8/21/23	ISSUED FOR CONSTRUCTION

PARK HILLS DRAINAGE - TREE PROTECTION AND REMOVAL PLAN
 CONTRACT 2018-C20
PLAN

DESIGNED BY: RAS
 DRAWN BY: LMS
 CHECKED BY: DJM
 DATE: 1/21/2022

C907