


# GET Colesville Project Lower Saucon Township Northampton County, PA UGI Utilities, Inc. Construction Plans

## EXECUTIVE SUMMARY:


THIS PROJECT INCLUDES THE INSTALLATION OF APPROXIMATELY 7,250 LF 2" PE3408 AND 2,100 LF 4" PE3408 GAS MAIN BY HORIZONTAL DIRECTIONAL DRILL IN NORTHAMPTON COUNTY, PENNSYLVANIA.

THIS PROJECT MEETS THE DEFINITION OF A COMPLEX PROJECT UNDER THE PENNSYLVANIA ONE CALL ACT.

USGS 7.5 MIN. LOCATION MAP (NOT TO SCALE)  
ALLENTOWN E. QUADRANGLE



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Utilities, Inc.  
225 Morgantown Road  
Reading, PA 19612




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DESIGN PA-1—CALL  
SERIAL NUMBER(S):  
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CD—C

CONSTRUCTION  
PLANS  
COVER

BASE MAPPING  
PREPARED BY:



No.	Revision	Date Received	Date Approved
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Sheet 1 of 17

Scale:	NTS	Map Grid:	99A99
Designed By:	_Designer		
Drafted By:	JLR		
Reviewed By:	_Reviewer		
WMS:	INGRES/Avenir		
Budget Line:	B011738		
District:	0099		
WR#: 50-123375			

Colesville GET Gas Project

Lower Saucon Township,  
Northampton County, PA



LEGEND

EXISTING ROADWAY CENTERLINE

EXISTING MUNICIPAL BOUNDARY

EXISTING RIGHT-OF-WAY

EXISTING PROPERTY LINE

EXISTING EASEMENT

EXISTING 2-FOOT CONTOUR

EXISTING BUILDING

EXISTING BRIDGE

EXISTING DRIVEWAY

EXISTING FENCE

EXISTING GUIDERAIL

EXISTING RAILROAD TRACKS

EXISTING EDGE OF PAVEMENT

EXISTING EDGE OF CURB

EXISTING PAINT STRIPE

EXISTING SIDEWALK

EXISTING RETAINING WALL

EXISTING SOIL LAYER

EXISTING WETLAND

EXISTING STREAM

EXISTING FLOODWAY

EXISTING MAILBOX

EXISTING STREET SIGN

EXISTING GAS

27(0-99999)

EXISTING GAS VALVE

EXISTING RETIRE GAS

EXISTING WATER

EXISTING WATER VALVE

EXISTING WATER HYDRANT

EXISTING SANITARY

EXISTING MANHOLE

EXISTING FORCEMAIN

EXISTING STORM

EXISTING STORM INLET

EXISTING UNDERGROUND ELECTRIC

EXISTING ELECTRIC BOX

EXISTING TELECOM / CABLE

EXISTING OVERHEAD WIRES

EXISTING UTILITY POLE

EXISTING UTILITY POLE W/GUY WIRE

EXISTING UTILITY POLE W/LIGHT

EXISTING UNDERGROUND TRAFFIC SIGNAL

EXISTING TRAFFIC LIGHT

EXISTING PETROLEUM

EXISTING STEAM

PROPOSED GAS (HIGH PRESSURE)

PROPOSED GAS (LOW PRESSURE)

PROPOSED GAS (MEDIUM PRESSURE)

PROPOSED FLOW DIRECTION (1-WAY)

PROPOSED FLOW DIRECTION (2-WAY)

PROPOSED EXCAVATION (TRENCH)

PROPOSED EXCAVATION (6' X 10')

PROPOSED EXCAVATION (3' X 5')

PROPOSED CORE BORE (18")

PROPOSED MILL & OVERLAY

PROPOSED EASEMENT

PROPOSED LIMIT OF DISTURBANCE

PROPOSED SILT FENCE

PROPOSED SILT SOCK

PROPOSED ROCK CONSTRUCTION ENTRANCE

PROPOSED EROSION BLANKET

PROPOSED FILTER BAG

PROPOSED INLET PROTECTION

VALVE OPEN / CLOSED

MECH. CAP / END CAP

ELBOW 45° / 90°

COUPLING / REDUCER

FULL TEE

PCF / SQUEEZE OFF

TAPPING TEE

GAUGE TEE

TEST STATION

REGULATOR STATION / METER

EXISTING FLOW DIRECTION (1-WAY)

EXISTING FLOW DIRECTION (2-WAY)

NORTH ARROW

PROPOSED EXCAVATION (TRENCH)

PROPOSED EXCAVATION (6' X 10')

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TEST STATION

REGULATOR STATION / METER

EXISTING FLOW DIRECTION (1-WAY)

EXISTING FLOW DIRECTION (2-WAY)

NORTH ARROW

NOTIFIED UTILITIES

UGI UTILITIES, INC. [ NO CONFLICT ]	EASTON SUBURBAN WATER [ NO CONFLICT ]
BETHLEHEM CITY DEPT OF WATER [ NO CONFLICT ]	METROPOLITAN EDISON/FIRST ENERGY [ NO CONFLICT ]
PPL ELECTRIC UTILITIES [ NO CONFLICT ]	SERVICE ELECTRIC CABLE TV [ NO CONFLICT ]
RCN TELECOM SERVICE [ NO CONFLICT ]	
VERIZON PENNSYLVANIA LLC [ NO CONFLICT ]	

GENERAL NOTES

- THE CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS OF UGI UTILITIES, INC. LATEST PIPELINE OCCUPANCY SPECIFICATIONS & GAS OPERATIONS MANUALS. ANY ACTIVITY PERFORMED ON A UGI FACILITY IDENTIFIED AS AN OQ QUALIFIED TASK MUST BE COMPLETED BY A PERSON(S) WITH THE PROPER OPERATOR QUALIFICATIONS.
- CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO START OF FABRICATION.
- THE CONTRACTOR MUST CONTACT THE PENNSYLVANIA ONE CALL NUMBER (811) THREE WORKING DAYS PRIOR TO START OF WORK TO HAVE ALL UTILITIES MARKED IN THE WORK AREA.
- EXISTING UTILITIES AND STORM DRAINAGE SYSTEMS ARE SHOWN TO ALERT THE CONTRACTOR TO THEIR PRESENCE AND THE CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ACTUAL LOCATIONS AND ELEVATIONS OF ALL UTILITIES AND STORM DRAINAGE SYSTEMS INCLUDING SERVICES. APPROXIMATE LOCATIONS OF EXISTING UTILITIES ARE BASED ON FIELD SURVEY BY HMI TECHNICAL SERVICES AND/OR BY SITE PLANS PROVIDED BY UTILITY OWNER.
- ANY DRAINAGE INSTALLED AS PART OF THIS PERMIT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN.
- MAINTENANCE OF ALL SIGNS AND PAVEMENT MARKINGS ARE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL RESTORE ANY DRAINAGE STRUCTURE, PIPE, UTILITY, PAVEMENT, CURBS, SIDEWALKS, LANDSCAPED AREAS OR SIGNAGE DISTURBED DURING CONSTRUCTION TO THEIR ORIGINAL CONDITION.
- ALL 2" PIPING SHALL BE SDR 11 HIGH-DENSITY POLYETHYLENE (PE3408) PIPE.
- PIPE SHALL BE AIR TESTED AT A PRESSURE AT LEAST 1.5 TIMES THE MAOP OR 90 PSIG, WHICHEVER IS GREATER.
- THE PRESSURE TEST SHALL LAST A MINIMUM OF 1-1/4 HOURS FOR THE NEWLY INSTALLED 2"HDPE PIPE. IF PRESSURE TESTING SHORTER LENGTHS OF MAIN THEN THE PROJECT ENTIRETY, REFER TO GOM 50.10.10 FOR PRESSURE TEST REQUIREMENTS/MINIMUM TEST TIME.
- GAS MAIN TO BE INSTALLED WITH A MINIMUM 36" COVER IN ALL ROADWAYS AND A MINIMUM OF 24" COVER OUTSIDE OF ROADWAYS UNLESS NOTED OTHERWISE.
- WHEN A DEPTH OF TRENCH EXCEEDS 5 FEET OR MORE, A TRENCH BOX OR SHORING SHALL BE REQUIRED.
- NO ADDITIONAL SURFACE WATER MAY BE GENERATED OR DIRECTED TO THE STATE OR TOWNSHIP RIGHT-OF-WAY.
- ALL BACKFILL SHALL BE 2A SUBBASE.
- ALL TRENCH SPOILS TO BE HAULED AWAY DAILY. NO TEMPORARY STOCKPILING OF SPOILS.
- CRITICAL BEND RADIUS OF PIPE AS ESTABLISHED PER MANUFACTURER SPECIFICATIONS AND/OR UGI GOM 30.10.20.12 SHALL NOT BE EXCEEDED.
- NOTIFY LARRY STINSON, OPERATIONS PROGRAM LEADER, CROSS BORE PREVENTION PROGRAM AT (610) 796-3543 PRIOR TO START OF CONSTRUCTION AND ONCE CONSTRUCTION HAS BEEN COMPLETED.

SHEET INDEX

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CD-N

CONSTRUCTION  
PLANS

NOTES

BASE MAPPING  
PREPARED BY:

CSD

ENGINEERS

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Sheet 2 of 17

Scale: NTS      Map Grid: 99A99

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Drafted By:      JLR

Reviewed By:      \_Reviewer

WMS:      INGRES/Avenir

Budget Line:      B011738

District:      0099

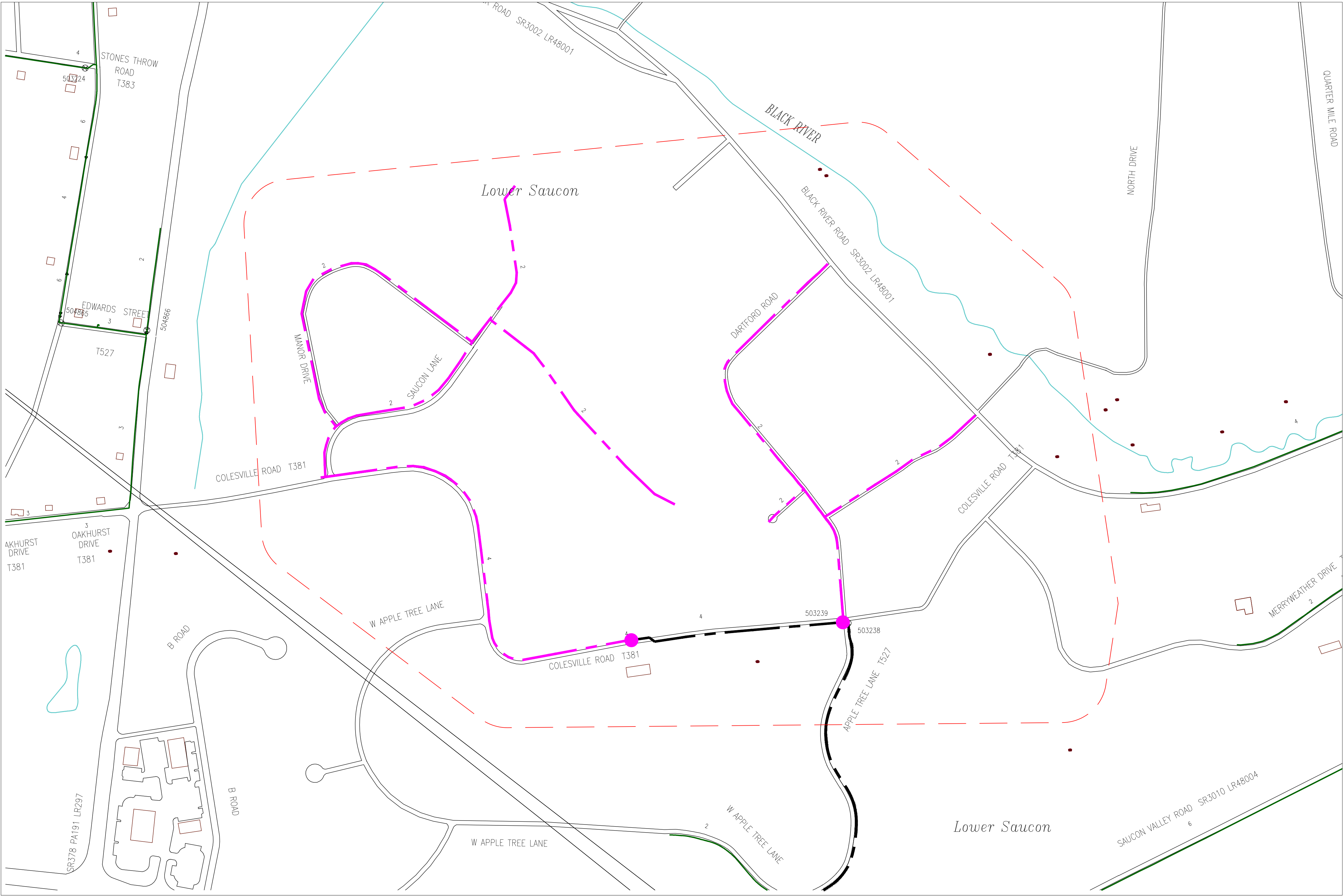
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Lower Saucon Township,  
Northampton County, PA

Feb 25, 2021 - 5:56pm





LEGEND

EX. METER SET

EX. PRESSURE CONTROL FITTING

EX. TEST STATION

EX. END CAP

EX. VALVE

EX. DISTRICT REGULATOR STATION

EX. CASING

EX. CAST IRON (LP) GM

EX. BARE STEEL (LP) GM

EX. COATED STEEL (LP) GM

EX. PE2406/PE3408 (MP) GM

EX. BARE STEEL (MP) GM

EX. COATED STEEL (MP) GM

EX. BARE STEEL (HP) GM

EX. COATED STEEL (HP) GM

PROPOSED #\" PE3408 (MP) GM

TIE-IN LOCATION

PROJECT LOCATION

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CD-0

CONSTRUCTION  
PLANS

PROJECT OVERVIEW

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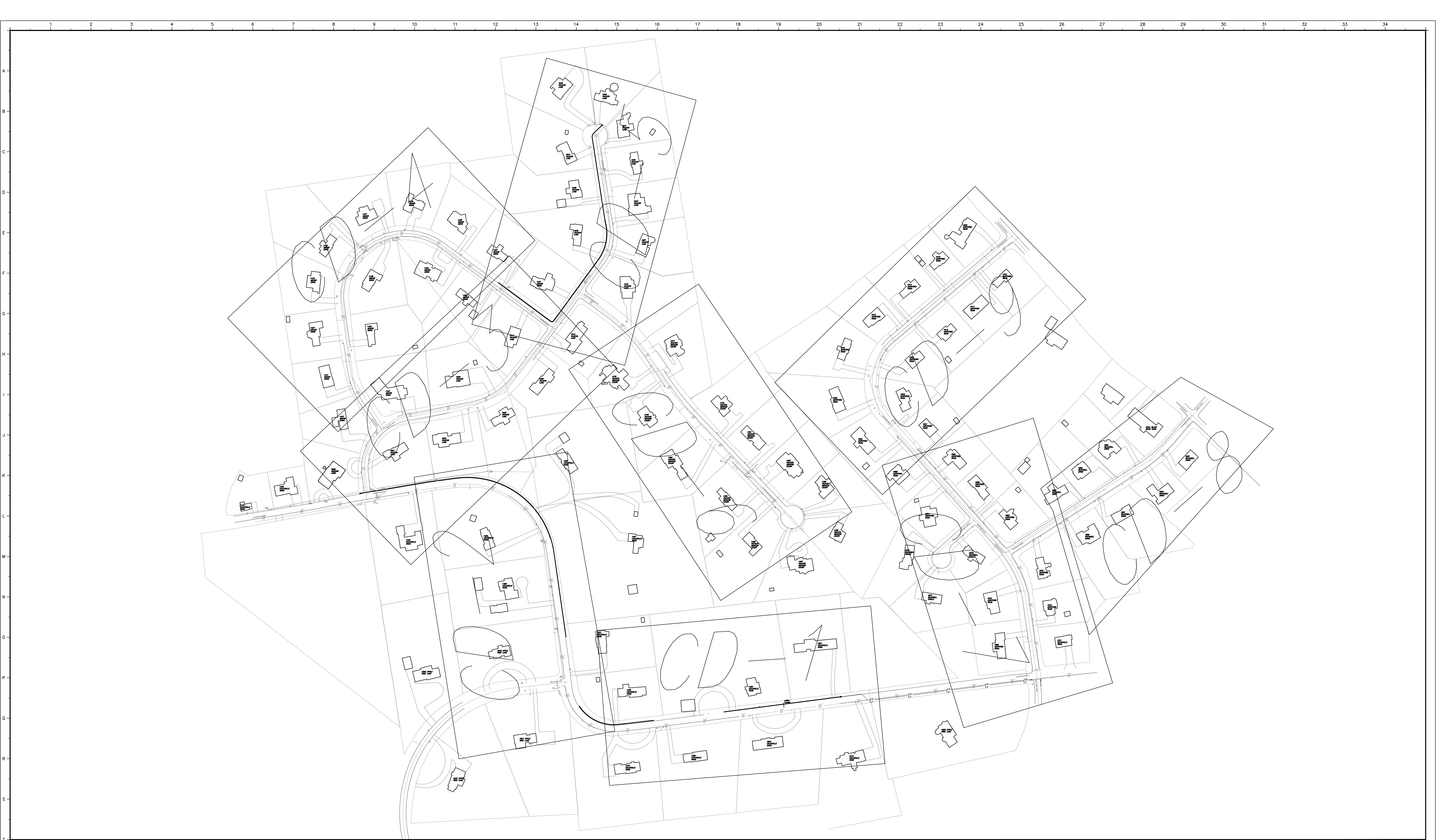
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CD-P

CONSTRUCTION  
PLANS

PLAN KEY

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Sheet 4 of 17

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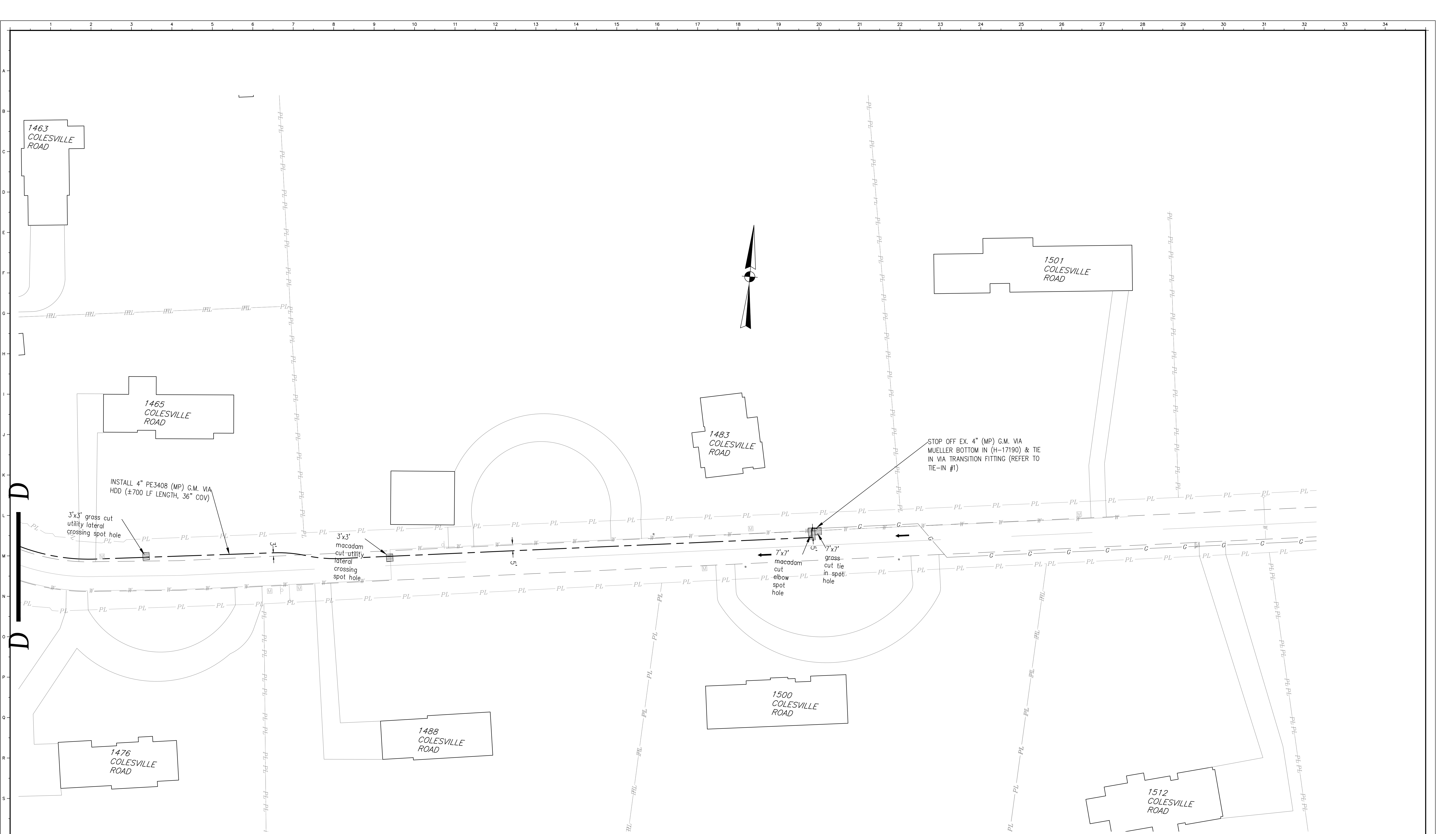
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CD-1

SECTION 1

HORIZONTAL  
GRAPHIC SCALE

30 15 0 30

SCALE IN FEET

BASE MAPPING  
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Sheet 5 of 17

Scale: 1"=30' Map Grid: 99A99

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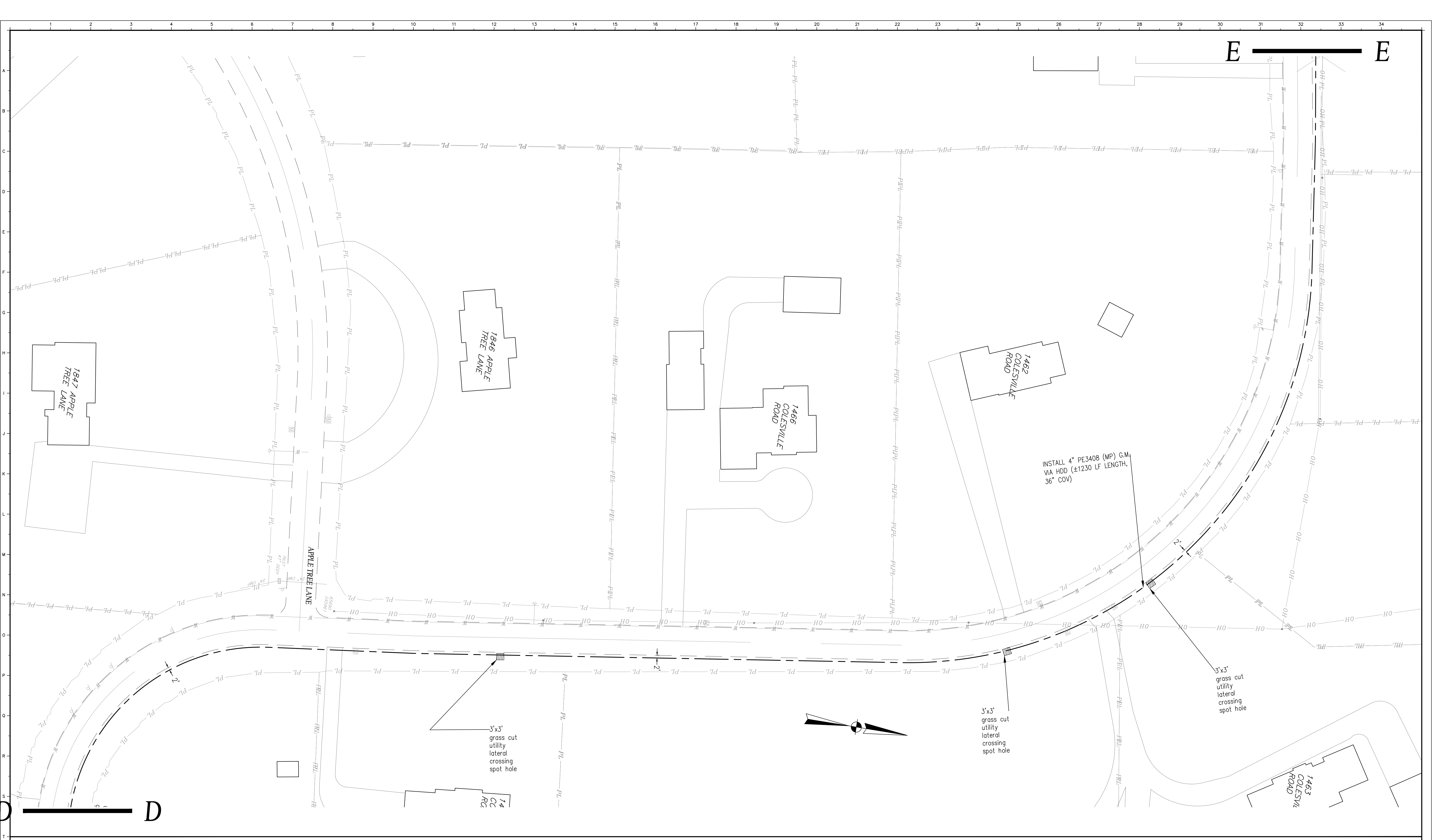
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CD-2


SECTION 2

HORIZONTAL  
GRAPHIC SCALE

30 15 0 30

SCALE IN FEET

BASE MAPPING  
PREPARED BY:



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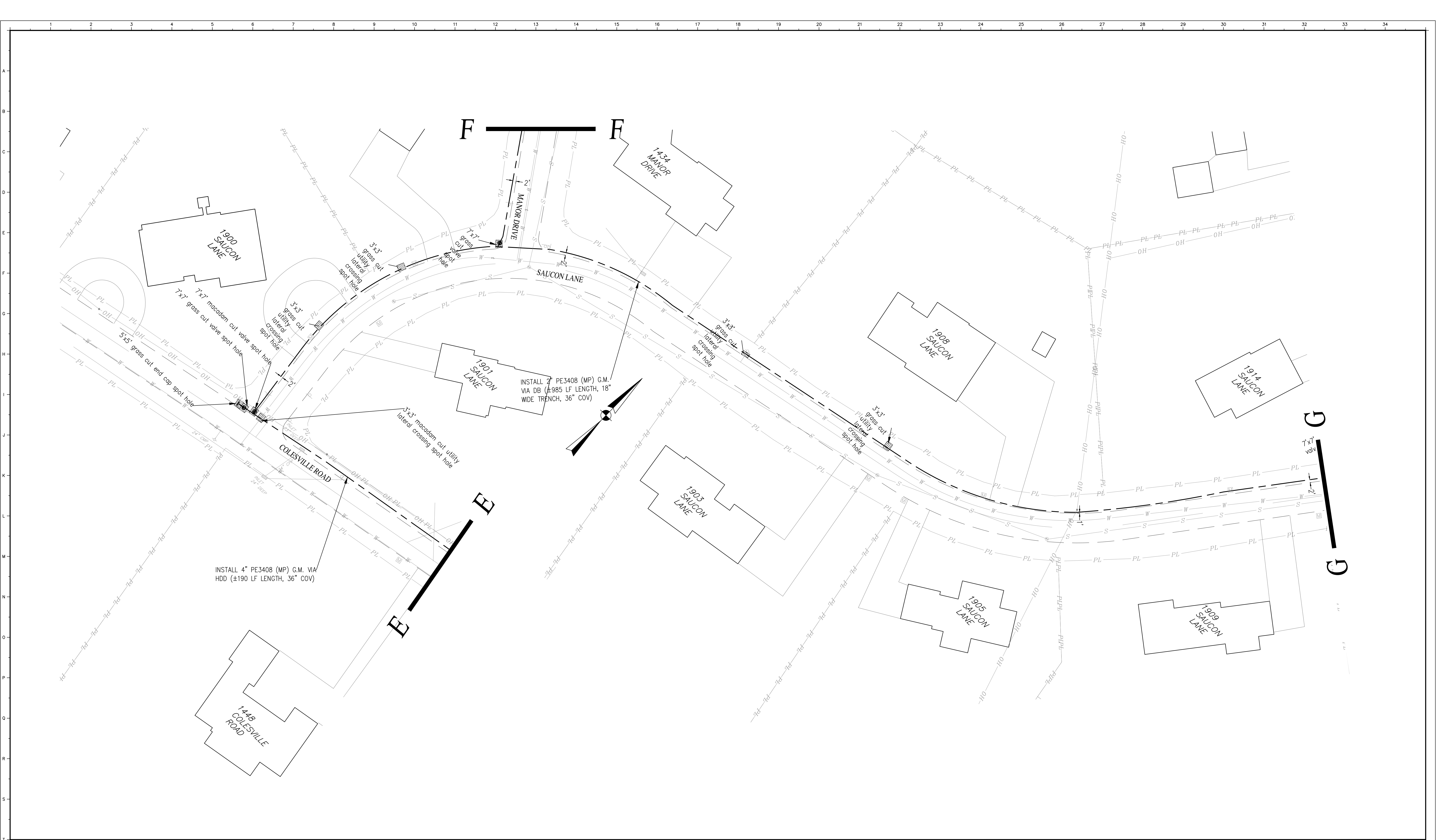
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## Lower Saucon Township, Northampton County, PA





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CD-3  
SECTION 3  
HORIZONTAL  
GRAPHIC SCALE  
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SCALE IN FEET

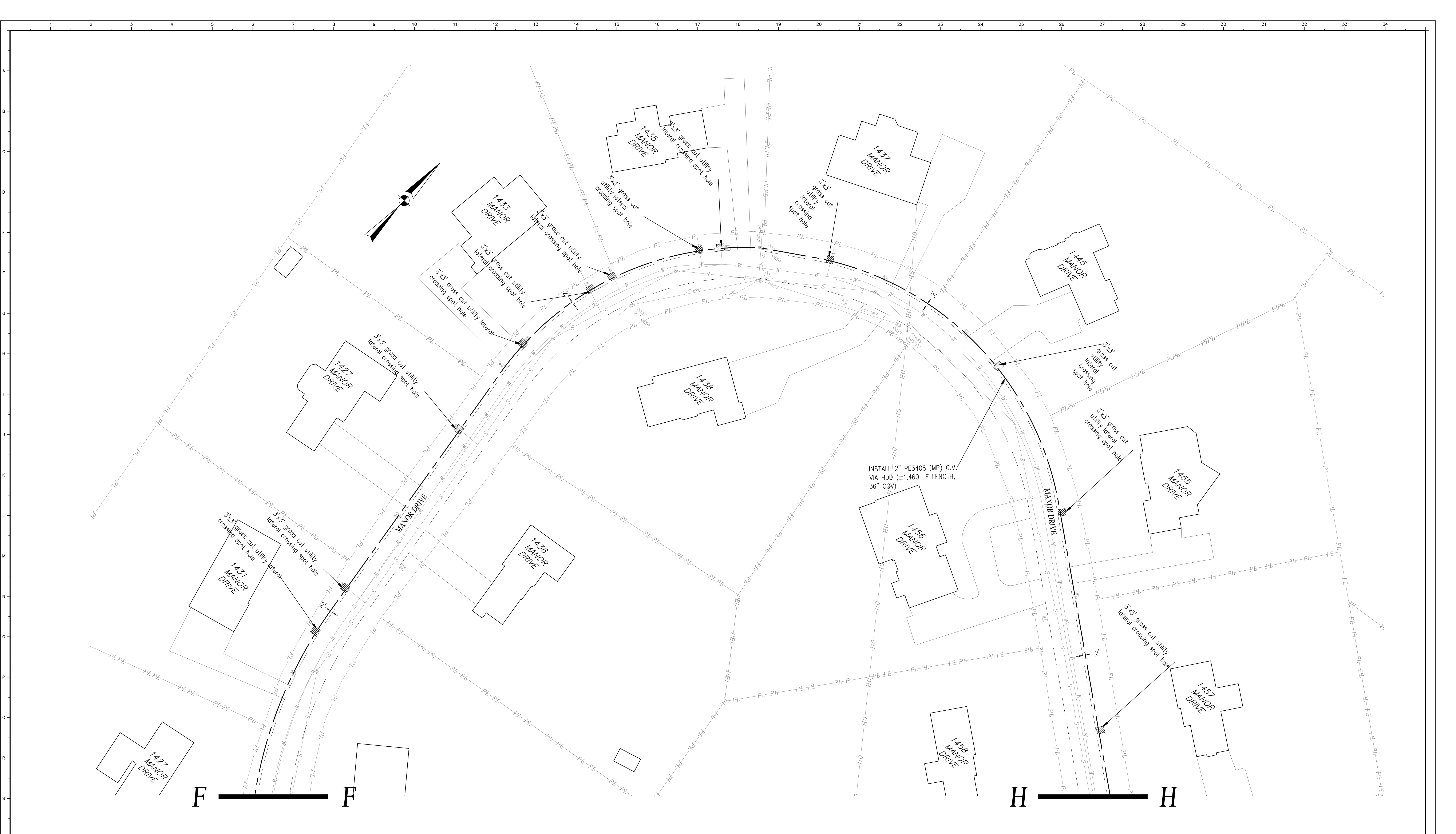
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**CSD**  
ENGINEERS

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Sheet 7 of 17  
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CD-4

SECTION 4

HORIZONTAL  
GRAPHIC SCALE

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SCALE IN FEET

BASE MAPPING  
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Sheet 8 of 17

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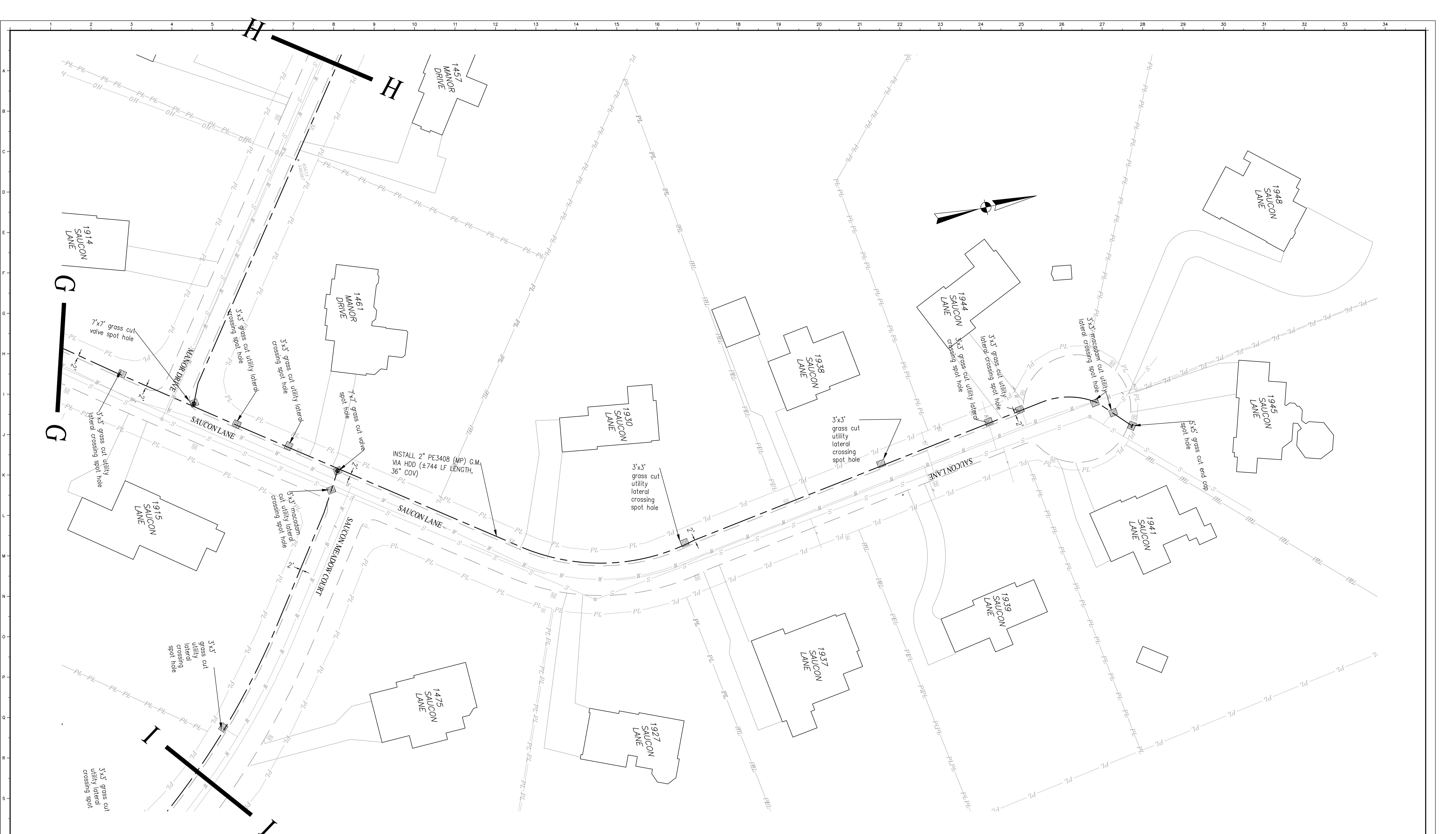
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CD-5

SECTION 5

HORIZONTAL  
GRAPHIC SCALE

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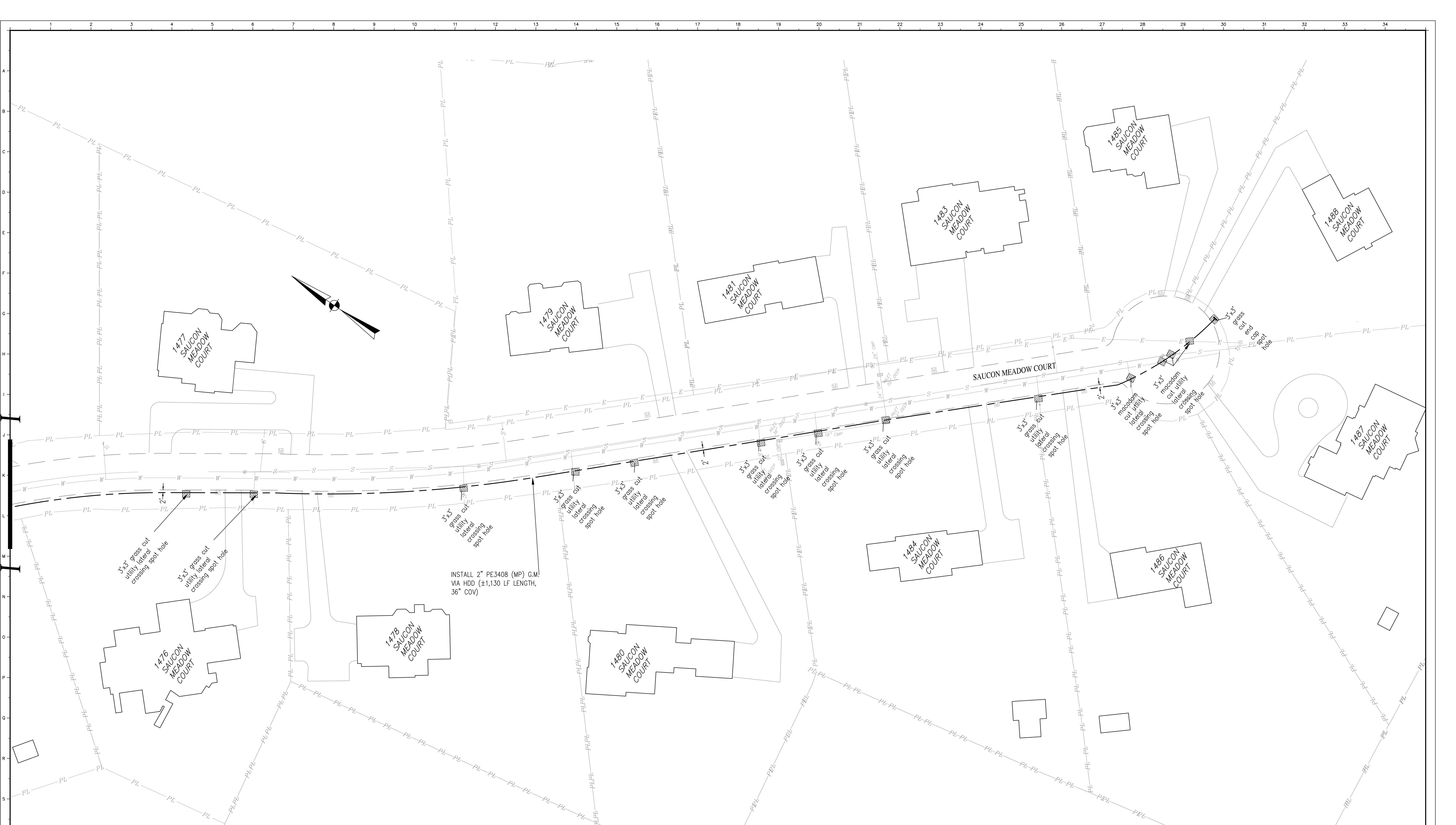
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CD-6

SECTION 6

HORIZONTAL  
GRAPHIC SCALE

30 15 0 30

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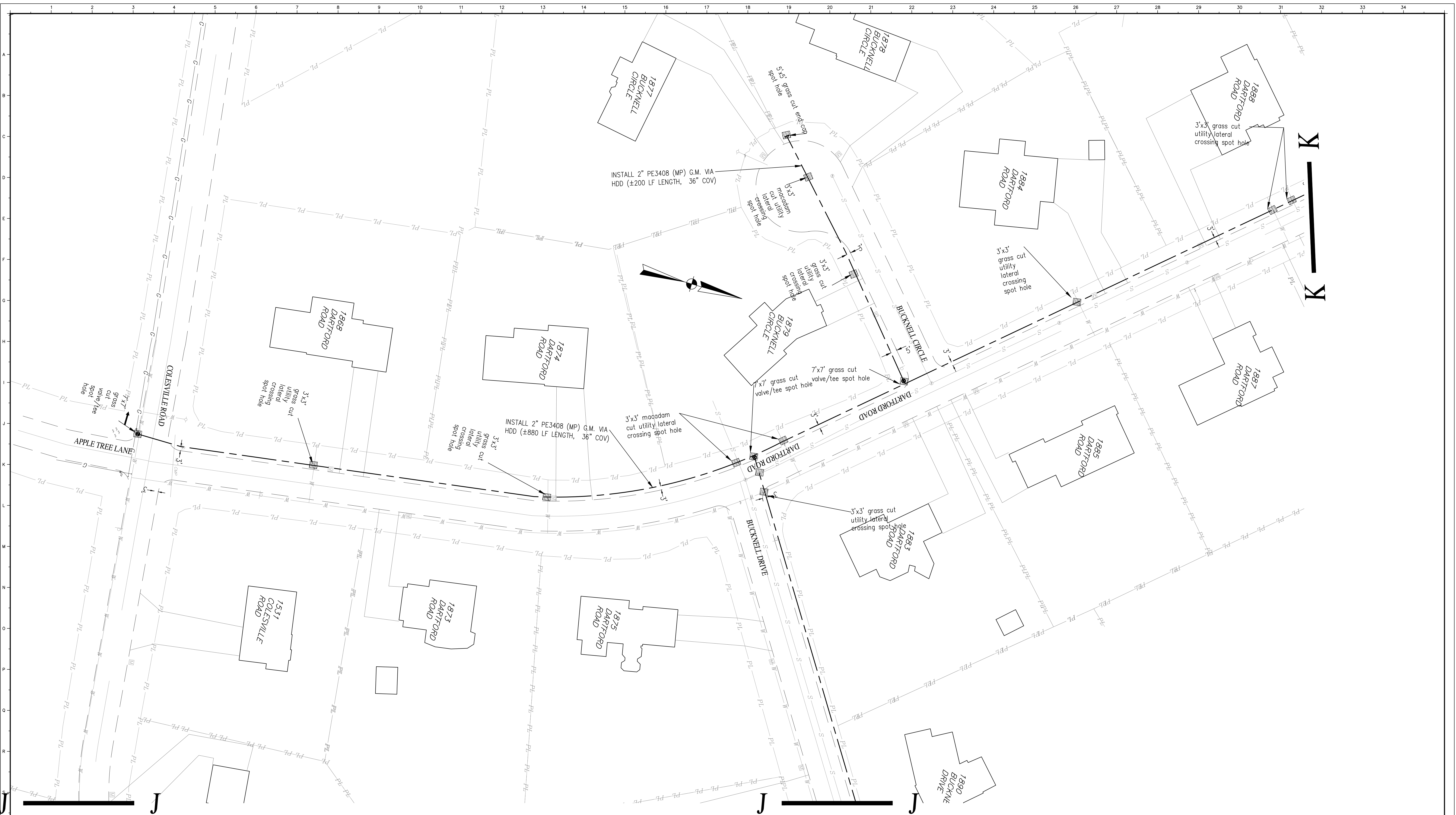
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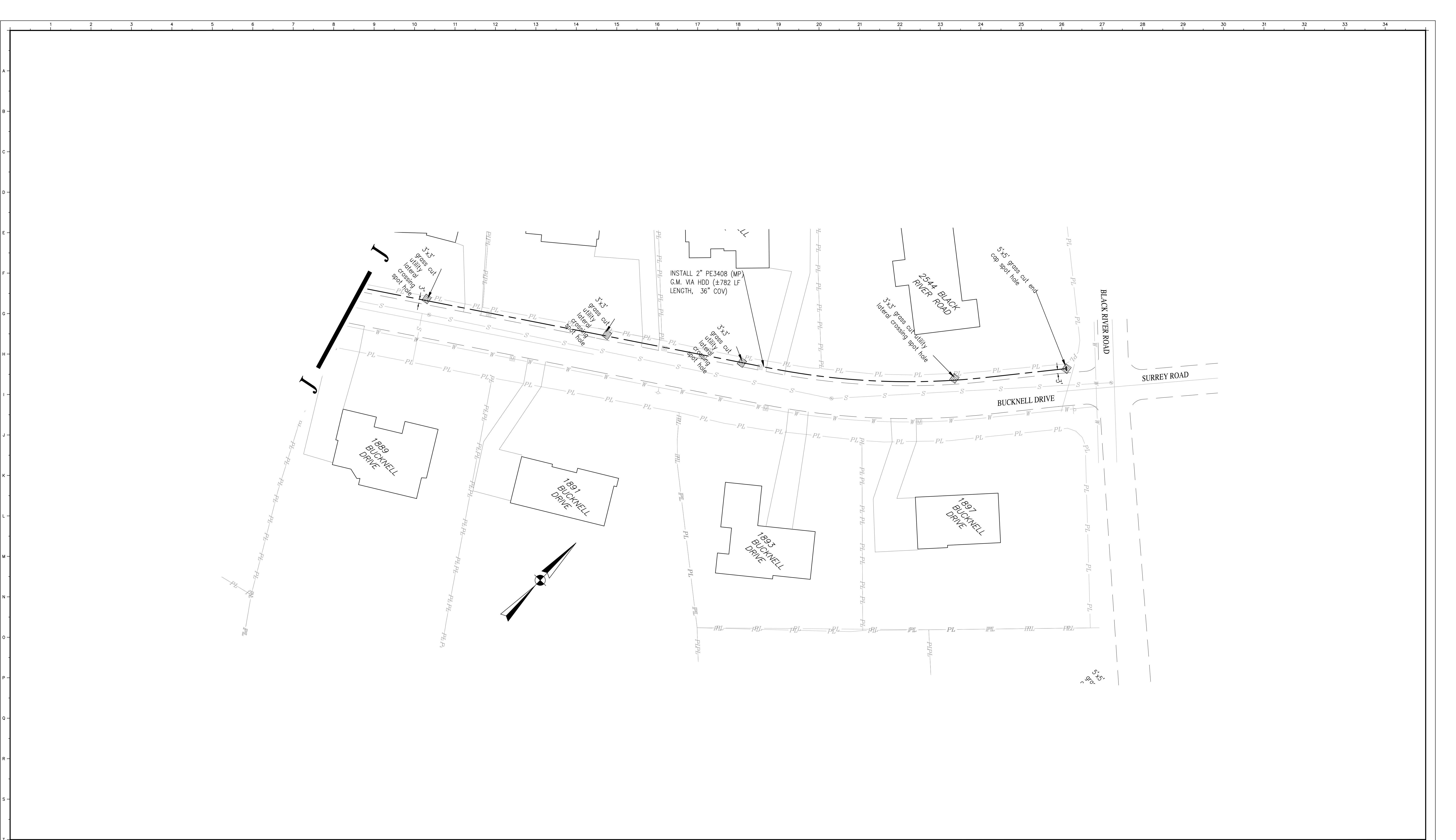
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 UGI Utilities, Inc. 225 Morgantown Road Reading, PA 19612	 DESIGN PA-1-CALL SERIAL NUMBER(S):  20193571209 Final Design Tickets: 20210182237 20210182238	CD-7  SECTION 7 HORIZONTAL GRAPHIC SCALE 30 15 0 30 SCALE IN FEET	BASE MAPPING PREPARED BY:  	No.	Revision	Date Received	Date Approved	Sheet 11 of 17 Scale: 1"=30' Map Grid: 99A99 Designed By: _Designer Drafted By: JLR Reviewed By: _Reviewer WMS: INGRES/Avenir Budget Line: B011738 District: 0099 WR#: 50-123375	Colesville GET Gas Project  Lower Saucon Township, Northampton County, PA
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SECTION 8

HORIZONTAL  
GRAPHIC SCALE

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Reviewed By: \_Reviewer

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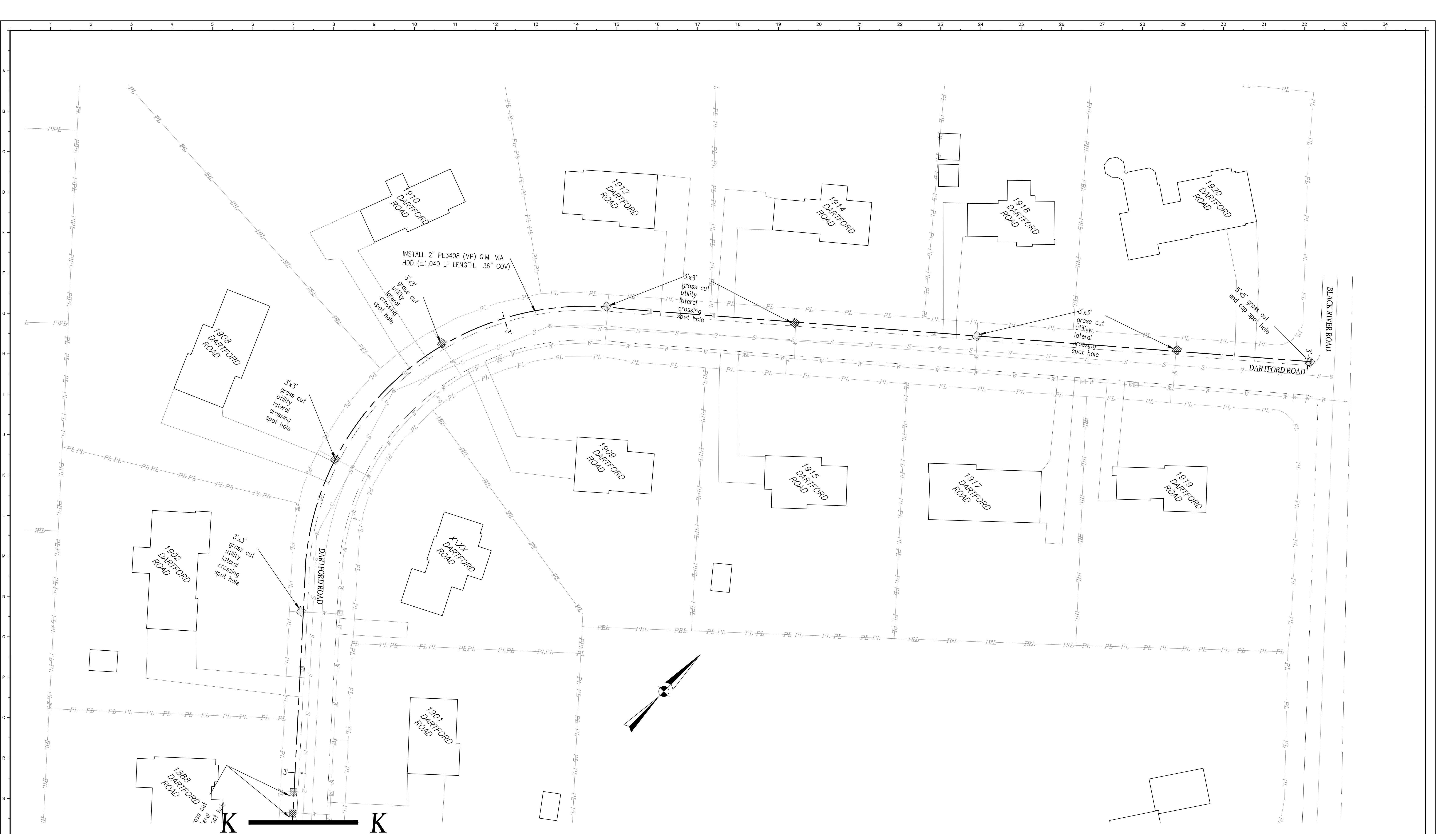
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SECTION 9  
HORIZONTAL  
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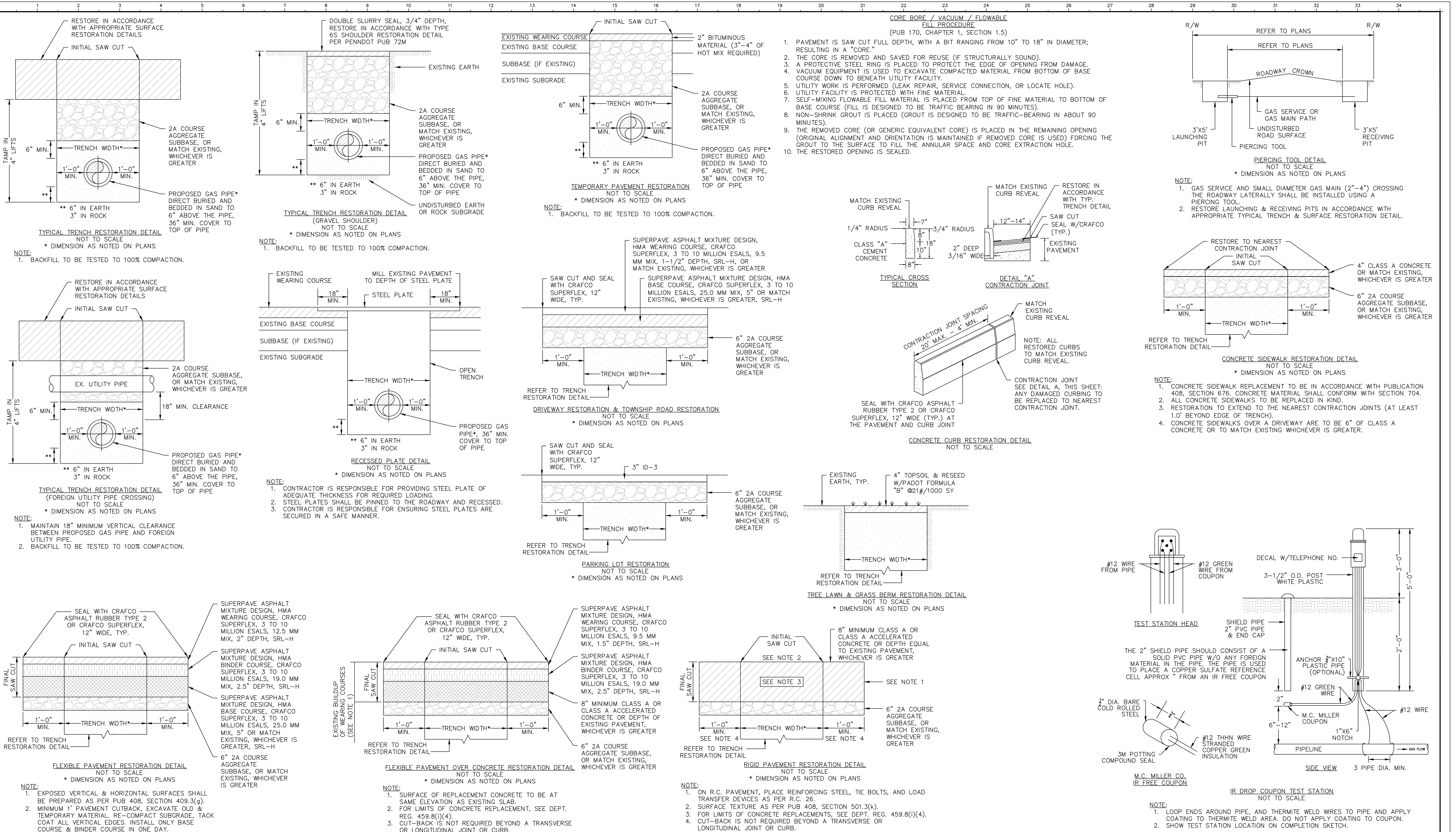
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ENGINEERS


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CD-D

CONSTRUCTION  
PLANS

DETAILS



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## Lower Saucon Township, Northampton County, PA



EROSION & SEDIMENTATION CONTROL GENERAL NOTES:

1.

ALL EARTH DISTURBANCES, INCLUDING CLEARING AND GRUBBING AS WELL AS CUTS AND FILLS SHALL BE DONE IN ACCORDANCE WITH THE APPROVED E&S PLAN. A COPY OF THE APPROVED DRAWINGS (STAMPED, SIGNED AND DATED BY THE REVIEWING AGENCY) MUST BE AVAILABLE AT THE PROJECT SITE AT ALL TIMES. THE REVIEWING AGENCY SHALL BE NOTIFIED OF ANY CHANGES TO THE APPROVED PLAN PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
2.

AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, THE PENNSYLVANIA ONE CALL SYSTEM INC. SHALL BE NOTIFIED AT 811 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
3.

ALL EARTH DISTURBANCE ACTIVITIES SHALL PROCEED IN ACCORDANCE WITH THE SEQUENCE PROVIDED ON THE PLAN DRAWINGS. DEVIATION FROM THAT SEQUENCE MUST BE APPROVED IN WRITING FROM THE LOCAL CONSERVATION DISTRICT OR BY THE DEPARTMENT PRIOR TO IMPLEMENTATION.
4.

AREAS TO BE FILLED ARE TO BE CLEARED, GRUBBED, AND STRIPPED OF TOPSOIL TO REMOVE TREES, VEGETATION, ROOTS, AND OTHER OBJECTIONABLE MATERIAL.
5.

CLEARING, GRUBBING, AND TOPSOIL STRIPPING SHALL BE LIMITED TO THOSE AREAS DESCRIBED IN EACH STAGE OF THE CONSTRUCTION SEQUENCE. GENERAL SITE CLEARING, GRUBBING AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE E&S BMPS SPECIFIED BY THE BMP SEQUENCE FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS E&S PLAN.
6.

AT NO TIME SHALL CONSTRUCTION VEHICLES BE ALLOWED TO ENTER AREAS OUTSIDE THE LIMIT OF DISTURBANCE BOUNDARIES SHOWN ON THE PLAN MAPS. THESE AREAS MUST BE CLEARLY MARKED AND FENCED OFF BEFORE CLEARING AND GRUBBING OPERATIONS BEGIN.
7.

TOPSOIL REQUIRED FOR THE ESTABLISHMENT OF VEGETATION SHALL BE STOCKPILED AT THE LOCATION(S) SHOWN ON THE PLAN MAP(S) IN THE AMOUNT NECESSARY TO COMPLETE THE FINISH GRADING OF ALL EXPOSED AREAS THAT ARE TO BE STABILIZED BY VEGETATION. EACH STOCKPILE SHALL BE PROTECTED IN THE MANNER SHOWN ON THE PLAN DRAWINGS. STOCKPILE HEIGHTS SHALL NOT EXCEED 35 FEET. STOCKPILE SLOPES SHALL BE 2H:1V OR FLATTER.
8.

IMMEDIATELY UPON DISCOVERING UNFORESEEN CIRCUMSTANCES POSING THE POTENTIAL FOR ACCELERATED EROSION AND/OR SEDIMENT POLLUTION, THE OPERATOR SHALL IMPLEMENT APPROPRIATE BEST MANAGEMENT PRACTICES TO MINIMIZE THE POTENTIAL FOR EROSION AND SEDIMENT POLLUTION AND NOTIFY THE LOCAL CONSERVATION DISTRICT AND/OR THE REGIONAL OFFICE OF THE DEPARTMENT.
9.

ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE DEPARTMENT'S SOLID WASTE MANAGEMENT REGULATIONS AT 25 PA. CODE 260.1 ET SEQ., 271.1, AND 287.1 ET. SEQ. NO BUILDING MATERIALS OR WASTES OR UNUSED BUILDING MATERIALS SHALL BE BURNED, BURIED, DUMPED, OR DISCHARGE AT THE SITE.
10.

ALL OFF-SITE WASTE AND BORROW AREAS MUST HAVE AN E&S PLAN APPROVED BY THE LOCAL CONSERVATION DISTRICT OR THE DEPARTMENT FULLY IMPLEMENTED PRIOR TO BEING ACTIVATED.
11.

THE CONTRACTOR IS RESPONSIBLE FOR ENSURING THAT ANY MATERIAL BROUGHT ON SITE IS CLEAN FILL.
12.

FORM FP-001 MUST BE RETAINED BY THE PROPERTY OWNER FOR ANY FILL MATERIAL AFFECTED BY A SPILL OR RELEASE OF A REGULATED SUBSTANCE BUT QUALIFYING AS CLEAN FILL DUE TO ANALYTICAL TESTING.
13.

ALL PUMPING OF WATER FROM ANY WORK AREA SHALL BE DONE ACCORDING TO THE PROCEDURE DESCRIBED IN THIS PLAN, OVER UNDISTURBED UPLAND VEGETATED AREAS.
14.

UNTIL THE SITE IS STABILIZED, ALL EROSION AND SEDIMENT BMPS SHALL BE MAINTAINED PROPERLY. MAINTENANCE SHALL INCLUDE INSPECTION OF ALL EROSION AND SEDIMENT BMPS AFTER EACH RUNOFF EVENT AND ON A WEEKLY BASIS. ALL PREVENTATIVE AND REMEDIAL MAINTENANCE WORK, INCLUDING CLEAN OUT, REPAIR, REPLACEMENT, REGRADING, RESEEDING, REMULCHING AND RENETTING MUST BE PERFORMED IMMEDIATELY. IF THE E&S BMPS FAIL TO PERFORM AS EXPECTED, REPLACEMENT BMPS, OR MODIFICATIONS OF THOSE INSTALLED WILL BE REQUIRED.
15.

A LOG SHOWING DATES THAT E&S BMPS WERE INSPECTED AS WELL AS ANY DEFICIENCIES FOUND AND THE DATE THEY WERE CORRECTED SHALL BE MAINTAINED ON THE SITE AND BE MADE AVAILABLE TO REGULATORY AGENCY OFFICIALS AT THE TIME OF INSPECTION.

CONSTRUCTION SEQUENCE:

1.

PRIOR TO COMMENCEMENT OF ANY EARTH DISTURBANCE ACTIVITY, INCLUDING CLEARING AND GRUBBING, THE CONTRACTOR SHALL CLEARLY DELINEATE SENSITIVE AREAS, LIMITS OF CLEARING, AND TREES THAT ARE TO BE CONSERVED WITHIN THE PROJECT SITE. THE CONTRACTOR SHALL INSTALL APPROPRIATE BARRIERS WHERE EQUIPMENT MAY NOT BE PARKED, STAGED, OPERATED, OR LOCATED FOR ANY PURPOSE.
2.

SOIL COMPACTION SHALL BE LIMITED TO THE MINIMUM AMOUNT REQUIRED TO CONSTRUCT THE PROJECT. EXCESSIVE, ARBITRARY, AND UNNECESSARY VEHICULAR MOVEMENT ABOUT THE PROJECT RIGHT OF WAY SHALL BE MINIMIZED. THE EXTENT AND DURATION OF EARTH DISTURBANCE SHALL BE LIMITED TO THE MINIMUM AMOUNT REQUIRED TO CONSTRUCT THE PROJECT.
3.

ROCK CONSTRUCTION ENTRANCE/SITE ACCESS – THIS IS THE FIRST LAND-DISTURBANCE ACTIVITY TO TAKE PLACE AT THE SITE. THE CONTRACTOR SHOULD PROVIDE THE ROCK CONSTRUCTION ENTRANCE IN ADDITION TO OTHER BMPS, AS SHOWN ON THE PLANS, TO MINIMIZE ACCELERATED EROSION AND SEDIMENTATION FROM THE FOLLOWING AREAS: ENTRANCE TO THE SITE, CONSTRUCTION ROUTES, AND AREAS DESIGNATED FOR EQUIPMENT OR OTHER USE AT THE SITE INCLUDING PARKING, STAGING AREAS, AND STOCKPILES. DUE TO THE LIMITED NATURE OF EARTH DISTURBANCE ASSOCIATED WITH THIS PROJECT, THE CONTRACTOR MAY ELECT TO PERFORM THE WORK USING ONLY EQUIPMENT NOT CAPABLE OF TRACKING SEDIMENT OUTSIDE THE LOD. IN SUCH A CASE, THE ROCK CONSTRUCTION ENTRANCE/EXIT MAY BE OMITTED ONLY SUCH THAT ALL EQUIPMENT IS TRAILER LOADED ONTO TIRED VEHICLES CONTINUOUSLY IN CONTACT WITH IMPROVED (PAVED) SURFACES. SHOULD ANY TRACKING OF SEDIMENT OCCUR ONTO PAVED ROADWAYS OR ELSEWHERE, THE CONTRACTOR SHALL IMMEDIATELY INSTALL A ROCK CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE STANDARD DETAILS.
4.

SEDIMENT BARRIERS – INSTALL PERIMETER BMPS AFTER THE CONSTRUCTION SITE IS ACCESSED. THE CONTRACTOR SHALL KEEP THE ASSOCIATED CLEARING AND GRUBBING LIMITED TO ONLY THAT AMOUNT REQUIRED FOR INSTALLING PERIMETER BMPS. ADDITIONAL SEDIMENT BARRIER(S) SHALL BE ADDED AS REQUIRED TO PREVENT SEDIMENT-LADEN STORMWATER FROM LEAVING THE SITE.
5.

INLET PROTECTION – PROVIDE INLET PROTECTION IN ACCORDANCE WITH THE DETAILS SHOWN ON THE E&S PLANS AND AT ALL INLETS WITHIN THE PROJECT AREA, WHETHER SPECIFICALLY INDICATED ON THE PROJECT PLANS OR NOT.
6.

LAND CLEARING AND GRADING – BEGIN CLEARING AND GRADING ONLY AFTER ALL DOWNSLOPE EROSION AND SEDIMENTATION BMPS HAVE BEEN CONSTRUCTED AND STABILIZED. REMOVE ONLY THE MINIMUM AMOUNT OF VEGETATION NECESSARY TO INSTALL THE PIPELINE.
7.

PIPELINE CONSTRUCTION – THE AMOUNT OF WORK AREA DISTURBED AT ANY ONE TIME WILL BE KEPT TO THE MINIMUM REQUIRED TO CONDUCT THE WORK SAFELY. INSTALL THE PROPOSED PIPELINE AFTER OPENING THE MINIMUM WIDTH TRENCH NEEDED TO COMPLETE THE WORK. DAILY TRENCH EXCAVATION LENGTH SHALL BE LIMITED TO THE LENGTH OF PIPE THAT IS EXPECTED TO BE ABLE TO BE INSTALLED, BACKFILLED AND STABILIZED IN THE SAME DAY. ANY DE-WATERING OF THE TRENCH SHALL OCCUR WITH THE USE OF A WATER FILTER BAG IN ACCORDANCE WITH THE STANDARD DETAILS. THE WATER FILTER BAG SHALL BE PLACED IN A WELL VEGETATED UPLAND AREA.
8.

SURFACE STABILIZATION – APPLY TEMPORARY OR PERMANENT STABILIZATION MEASURES IMMEDIATELY TO ANY DISTURBED AREAS WHERE WORK HAS REACHED FINAL GRADE, HAS BEEN DELAYED, OR HAS OTHERWISE BEEN TEMPORARILY SUSPENDED. WHEN FINAL GRADE IS ACHIEVED DURING NON-GERMINATING MONTHS, THE AREA SHOULD BE MULCHED UNTIL THE BEGINNING OF THE NEXT PLANTING SEASON.
9.

CONSTRUCTION – DURING CONSTRUCTION, INSTALL AND MAINTAIN ANY ADDITIONAL EROSION AND SEDIMENT CONTROL BMPS.
10.

FINAL STABILIZATION/SITE RESTORATION – DISTURBED AREAS SHALL BE RETURNED TO PRECONSTRUCTION CONDITIONS IN TERMS OF GRADE AND VEGETATIVE STABILIZATION TO RESTORE DRAINAGE PATTERNS. AFTER CONSTRUCTION IS COMPLETED , INSTALL STABILIZATION BMPS INCLUDING: PLACING TOPSOIL, PERMANENT SEEDING, AND MULCHING. (REFER TO THE SITE RESTORATION CONSTRUCTION SEQUENCE FOR ADDITIONAL INFORMATION REGARDING THE SITE RESTORATION PROCESS).
11.

AFTER 70% UNIFORM, VEGETATIVE COVER HAS BEEN ACHIEVED AND THE SITE HAS BEEN STABILIZED, REMOVE ALL EROSION AND SEDIMENTATION BMPS AND STABILIZE ANY DISTURBANCES ASSOCIATED WITH THE REMOVAL OF THE BMPS. REMOVED BMPS SHALL INCLUDE ALL INLET PROTECTION BAGS, SILT FENCE AND/OR SOCK, AND CONSTRUCTION ENTRANCE/EXITS AS APPLICABLE.

BMP MAINTENANCE SCHEDULE:

1.

ROCK CONSTRUCTION ENTRANCE/EXIT

1.1.

INSPECTION: ROCK CONSTRUCTION ENTRANCES SHALL BE INSPECTED DAILY AND AFTER EACH RUNOFF EVENT.

1.2.

MAINTENANCE: ROCK CONSTRUCTION ENTRANCE THICKNESS SHALL BE CONSTANTLY MAINTAINED TO THE SPECIFIED DIMENSIONS BY ADDING ROCK. A STOCKPILE OF ROCK MATERIAL SHALL BE MAINTAINED ON THE SITE FOR THIS PURPOSE. AT THE END OF EACH CONSTRUCTION DAY, ALL SEDIMENT DEPOSITED ON ROADWAYS SHALL BE REMOVED AND RETURNED TO THE CONSTRUCTION SITE IMMEDIATELY. WASHING THE ROADWAY OR SWEEPING THE DEPOSITS INTO ROADWAY DITCHES, SEWERS, CULVERTS, OR OTHER DRAINAGE COURSES IS NOT ACCEPTABLE.
2.

SILT FENCE

2.1.

INSPECTION:SILT FENCE SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.

2.2.

MAINTENANCE: DAMAGED FENCE SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE SILT FENCE. UPON STABILIZATION OF THE AREA TRIBUTARY TO THE FENCE, THE FENCE AND STAKES SHALL BE REMOVED.

2.3.

SILT FENCE MAY NOT BE APPLICABLE FOR THE EXISTING RESOURCES IN THE AREA, PLEASE CONSULT WITH THE PROJECT ENGINEER OR ENVIRONMENTAL DEPARTMENT PRIOR TO INSTALLING SILT FENCE.

2.4.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE SILT FENCE, THE STAKES AND FENCE SHALL BE REMOVED AND DISPOSED OF.
3.

COMPOST FILTER SOCK

3.1.

INSPECTION: COMPOST FILTER SOCK SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.

3.2.

MAINTENANCE: DAMAGED SOCKS SHALL BE REPAIRED ACCORDING TO MANUFACTURER'S SPECIFICATIONS OR REPLACED WITHIN 24 HOURS OF INSPECTION. ACCUMULATED SEDIMENT SHALL BE REMOVED AND DISPOSED OF WHEN IT REACHES 1/2 THE ABOVE GROUND HEIGHT OF THE BARRIER.

3.3.

UPON STABILIZATION OF THE AREA TRIBUTARY TO THE COMPOST FILTER SOCK, THE STAKES SHALL BE REMOVED AND THE SOCK CAN THEN BE CUT OPEN WITH THE MULCH SPREAD OUT AND THE COVER DISPOSED OF OR THE ENTIRE SOCK REMOVED AND DISPOSED OF.
4.

INLET FILTER BAG

4.1.

INSPECTION: INLET FILTER BAGS SHOULD BE INSPECTED ON A WEEKLY BASIS AND AFTER EACH RUNOFF EVENT. NEEDED REPAIRS SHOULD BE INITIATED IMMEDIATELY AFTER THE INSPECTION.

4.2.

MAINTENANCE: FILTER BAGS SHOULD BE CLEANED AND/OR REPLACED WHEN THE BAG IS HALF FULL OR WHEN FLOW CAPACITY HAS BEEN REDUCED SO AS TO CAUSE FLOODING OR BYPASSING OF THE INLET. ACCUMULATED SEDIMENT SHOULD BE DISPOSED IN THE APPROVED MANNER. BAGS THAT WILL BE REUSED SHOULD BE RINSED AT A LOCATION WHERE THE RINSE WATER WILL ENTER A SEDIMENT TRAP OR SEDIMENT BASIN. DAMAGED FILTER BAGS SHOULD BE REPLACED.

4.3.

SPARE BAGS SHALL BE AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED DUE TO DAMAGE.
5.

WATER FILTER BAG

5.1.

INSPECTION: WATER FILTER BAGS SHALL BE INSPECTED DAILY AND PRIOR TO EACH USE.

5.2.

MAINTENANCE: A SUITABLE MEANS OF ACCESSING THE BAG WITH MACHINERY REQUIRED FOR DISPOSAL PURPOSES MUST BE PROVIDED. FILTER BAGS SHALL BE REPLACED WHEN THEY BECOME HALF FULL. SPARE BAGS SHALL BE KEPT AVAILABLE FOR REPLACEMENT OF THOSE THAT HAVE FAILED OR ARE FILLED. IF ANY PROBLEM IS DETECTED, PUMPING SHALL CEASE IMMEDIATELY AND SHALL NOT RESUME UNTIL THE PROBLEM IS CORRECTED. SEDIMENT REMOVED FROM THE FILTER BAG SHALL BE SPREAD ONSITE UPSTREAM FROM ESTABLISHED SEDIMENT CONTROLS AND ALLOWED TO DRY. ONCE DRY, THE SEDIMENT MAY BE INCORPORATED ONSITE AS PART OF THE FILL.
6.

EROSION CONTROL BLANKET

6.1.

INSPECTION: EROSION CONTROL BLANKETS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL THE AREA HAS ACHIEVED PERMANENT STABILIZATION.

6.2.

MAINTENANCE: DAMAGED OR DISPLACED BLANKETS SHALL BE REPLACED OR RESTORED WITHIN 4 CALENDAR DAYS OF INSPECTION.
7.

TEMPORARY VEGETATIVE STABILIZATION

7.1.

INSPECTION: SEEDED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL UNIFORM 70% INITIAL VEGETATION IS ESTABLISHED.

7.2.

MAINTENANCE: RE-APPLY TOPSOIL, SOIL AMENDMENTS, SEED, AND MULCH TO AREAS WHERE VEGETATION HAS NOT BEEN ADEQUATELY ESTABLISHED.
8.

PERMANENT VEGETATIVE STABILIZATION

8.1.

INSPECTION: SEEDED AREAS SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT UNTIL UNIFORM 70% INITIAL VEGETATION IS ESTABLISHED.

8.2.

MAINTENANCE: CONTRACTOR SHALL INSPECT THE SITE TWICE A WEEK UNTIL A UNIFORM 70% PERENNIAL VEGETATIVE COVER IS ESTABLISHED. THE CONTRACTOR IS TO PLACE SEED ON ALL BARE SPOTS AND DISTURBED AREAS NOT ESTABLISHING GROUND COVER.
9.

EARTH DISTURBANCE AREAS WILL BE REPAIRED WHERE SIGNS OF ACCELERATED EROSION ARE DETECTED.
10.

SEEDING AND MULCHING SHALL BE REPEATED IN THOSE AREAS THAT APPEAR TO BE FAILING OR HAVE FAILED.



UGI  
Utilities, Inc.

225 Morgantown Road  
Reading, PA 19612



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CONSTRUCTION  
PLANS

EROSION  
&  
SEDIMENTATION  
CONTROL NOTES

BASE MAPPING  
PREPARED BY:



No.	Revision	Date Received	Date Approved
1			
2			
3			
4			
5			
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Sheet 15 of 17

Scale: NTS      Map Grid: 99A99  
Designed By:    \_Designer  
Drafted By:     JLR  
Reviewed By:    \_Reviewer  
WMS:            INGRES/Avenir  
Budget Line:    B011738  
District:        0099

WR #: 50-123375

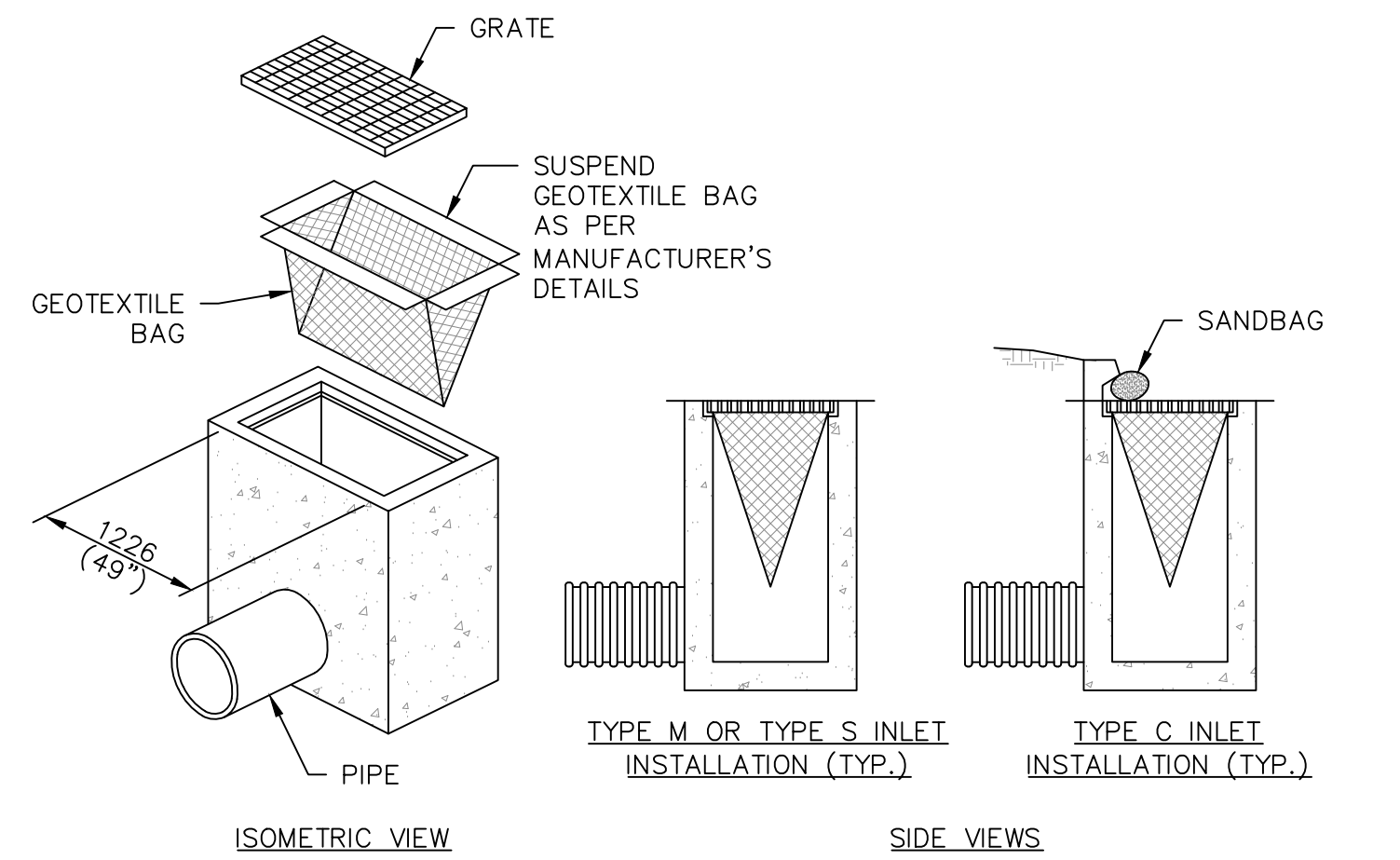
Colesville GET Gas Project

Lower Saucon Township,  
Northampton County, PA

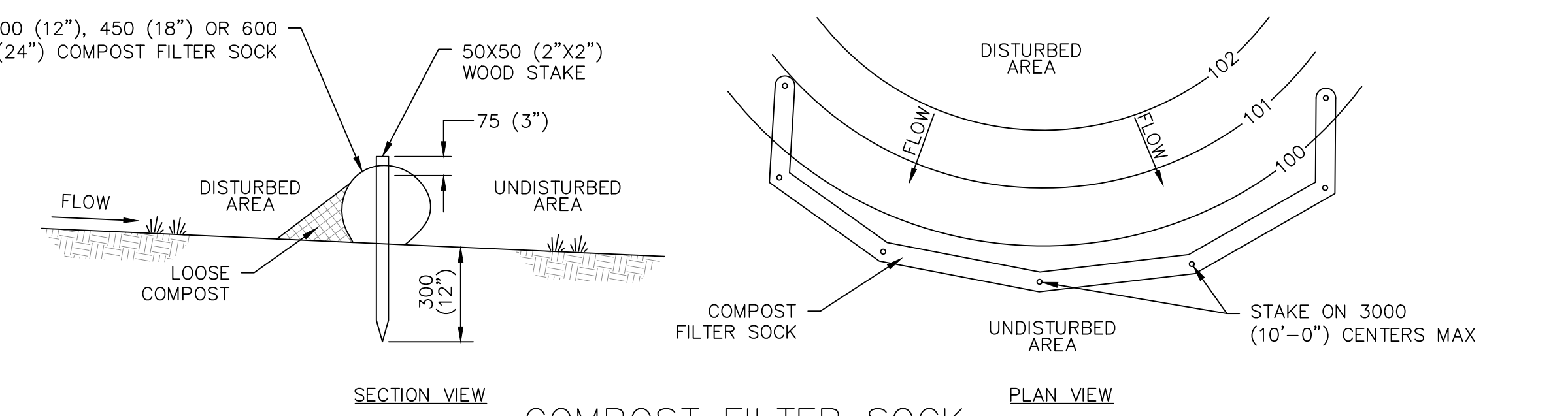


- DROPOFF NOTES:**
- DROPOFFS. THE FOLLOWING CONDITIONS AND TREATMENTS APPLY TO DROPOFFS CREATED BY CONSTRUCTION, MAINTENANCE OR PERMIT/UTILITY OPERATIONS.
1. DRAINAGE DITCHES ARE NOT TO BE CONSIDERED AS DROPOFFS.
  2. IF A DROPOFF IS GREATER THAN 6 INCHES AND THE DISTANCE FROM THE DROPOFF TO THE EDGE OF THE TRAVEL LANE IS SUCH THAT CHANNELIZING DEVICES MUST BE PLACED BELOW GRADE, POSITION THE DEVICES ON A STABLE PLATFORM SO THAT THE BOTTOMS ARE AT GRADE.
    - 2.1. TEMPORARY CONCRETE MEDIAN BARRIERS MAY BE USED AT THE DISCRETION OF THE ENGINEER.
    - 2.2. PAVEMENT COURSES OR COMPACTED EARTHEN EMBANKMENTS TAPERED AT 3:1 OR FLATTER ARE NOT CONSIDERED DROPOFFS.
  3. DROPOFFS BETWEEN TRAVEL LANES. IF A DROPOFF LESS THAN OR EQUAL TO 2 INCHES EXISTS BETWEEN TRAVEL LANES, CHANNELIZING DEVICES ARE NOT REQUIRED. IF A DROPOFF GREATER THAN 2 INCHES EXISTS BETWEEN TRAVEL LANES, PROVIDE THE FOLLOWING AS REQUIRED:
    - 3.1. ON MULTI-LANE HIGHWAYS, CLOSE ONE OR MORE LANES TO PREVENT VEHICLES FROM CROSSING OVER THE DROPOFF.
    - 3.2. ON TWO-WAY, TWO LANE ROADWAYS, INSTALL "DO NOT PASS" SIGNS (R4-1) IN EACH DIRECTION, AT INTERVALS NOT EXCEEDING ½ MILE, THROUGHOUT THE DROPOFF CONDITION AND INSTALL TWO-DIRECTION NO PASSING ZONE, STANDARD PAVEMENT MARKINGS IN ACCORDANCE WITH FIGURE 3, 67 PA CODE, CHAPTER 212.
  4. DROPOFFS FROM THE EDGE OF THE TRAVEL LANE.
  5. SPACING OF CHANNELIZING DEVICES FOR DROPOFFS. SPACE ALL CHANNELIZING DEVICES AT A MAXIMUM DISTANCE IN FEET, EQUAL TO 2 TIMES THE POSTED SPEED LIMIT IN MILES PER HOUR, OR CLOSER AS DIRECTED BY THE ENGINEER. WHEN CHANNELIZING DEVICES ARE USED FOR A DROPOFF CONDITION, A MINIMUM OF 2 DEVICES IS REQUIRED.

DISTANCE FROM EDGE OF TRAVEL LANE	DROPOFF HEIGHT			
	≤ 2 INCHES	> 2 INCHES TO ≤ 4 INCHES	> 4 INCHES TO ≤ 2 FEET	> 2 FEET
≤ 4 FEET	NO CHANNELIZING DEVICES REQUIRED	INSTALL A 1:1 OR FLATTER BITUMINOUS WEDGE. (FOOTNOTE 1,2,3)	- PLACE SUITABLE MATERIAL TO GRADE AND COMPACT TO NON-MOVEMENT. OR -INSTALL A 3:1 SLOPE WITH SUITABLE MATERIAL AND COMPACT TO NON-MOVEMENT (FOOTNOTE 1,2,3) OR -INSTALL TEMPORARY BARRIER.	-INSTALL TEMPORARY BARRIER. OR -PLACE SUITABLE MATERIAL TO GRADE AND COMPACT TO NON-MOVEMENT. OR -INSTALL A 3:1 SLOPE WITH SUITABLE MATERIAL AND COMPACT TO NON-MOVEMENT (FOOTNOTE 1,2,3)
> 4 FEET TO CLEAR ZONE	NO CHANNELIZING DEVICES REQUIRED	INSTALL A 1:1 OR FLATTER BITUMINOUS WEDGE. (FOOTNOTE 2,3)	-PLACE SUITABLE MATERIAL TO GRADE AND COMPACT TO NON-MOVEMENT. OR -INSTALL A 3:1 SLOPE WITH SUITABLE MATERIAL AND COMPACT TO NON-MOVEMENT. (FOOTNOTE 2,3)	- INSTALL TEMPORARY BARRIER. OR - PLACE SUITABLE MATERIAL TO GRADE AND COMPACT TO NON-MOVEMENT. OR -INSTALL A 3:1 SLOPE WITH SUITABLE MATERIAL AND COMPACT TO NON-MOVEMENT. (FOOTNOTE 2,3)
FOOTNOTES: 1. INSTALL LOW SHOULDER SIGNS AT INTERVALS NOT TO EXCEED 800m (½ mile) THROUGHOUT THE DROPOFF CONDITION. 2. USE CHANNELIZING DEVICES THROUGHOUT THE DROPOFF CONDITION. 3. NO CHANNELIZING DEVICES ARE NEEDED IF THE DROPOFF IS: - OUTSIDE RIGHT-OF-WAY OR - BEHIND GUIDERAIL OR BARRIER				



- INLET FILTER BAG**
- NOTES:**
1. INSPECT INLET FILTER BAG AFTER EACH RUNOFF EVENT. MAINTAIN AS REQUIRED TO ENSURE PROPER FUNCTIONING OF THE BAG.
  2. REMOVE ACCUMULATED SEDIMENT/DEBRIS WHEN THE INLET FILTER REACHES ½ MAXIMUM CAPACITY.
  3. REPLACE FILTER BAG IF RIPPED OR TORN, DO NOT USE IN SAG/SUMP CONDITIONS.
  4. USE SANDBAGS AT TYPIC C INLET CURB OPENINGS TO PREVENT BYPASS FLOW.
  5. REMOVE AND PROPERLY DISPOSE OF INLET FILTER BAG WHEN NO LONGER NEEDED.



- COMPOST FILTER SOCK**
- NOTES:**
1. REMOVE DEPOSITS WHEN SEDIMENT ACCUMULATION IS ½ THE HEIGHT OF THE EXPOSED COMPOST FILTER BERM OR ½ OF THE EXPOSED COMPOST FILTER SOCK.
  2. PLACE COMPOST FILTER SOCK/BERM ON LEVEL GRADE. EXTEND BOTH ENDS OF THE FILTER SOCK/BERM AT LEAST 8 LF UPSLOPE AT 45 DEGREES TO THE MAIN ALIGNMENT.
  3. REPLACE BIODEGRADABLE FILTER SOCK AFTER 6 MONTHS: PHOOTODEGRADABLE AFTER 12 MONTHS.

**INADVERTENT RETURN CONTINGENCY PLAN FOR HORIZONTAL DIRECTIONAL DRILLING:**

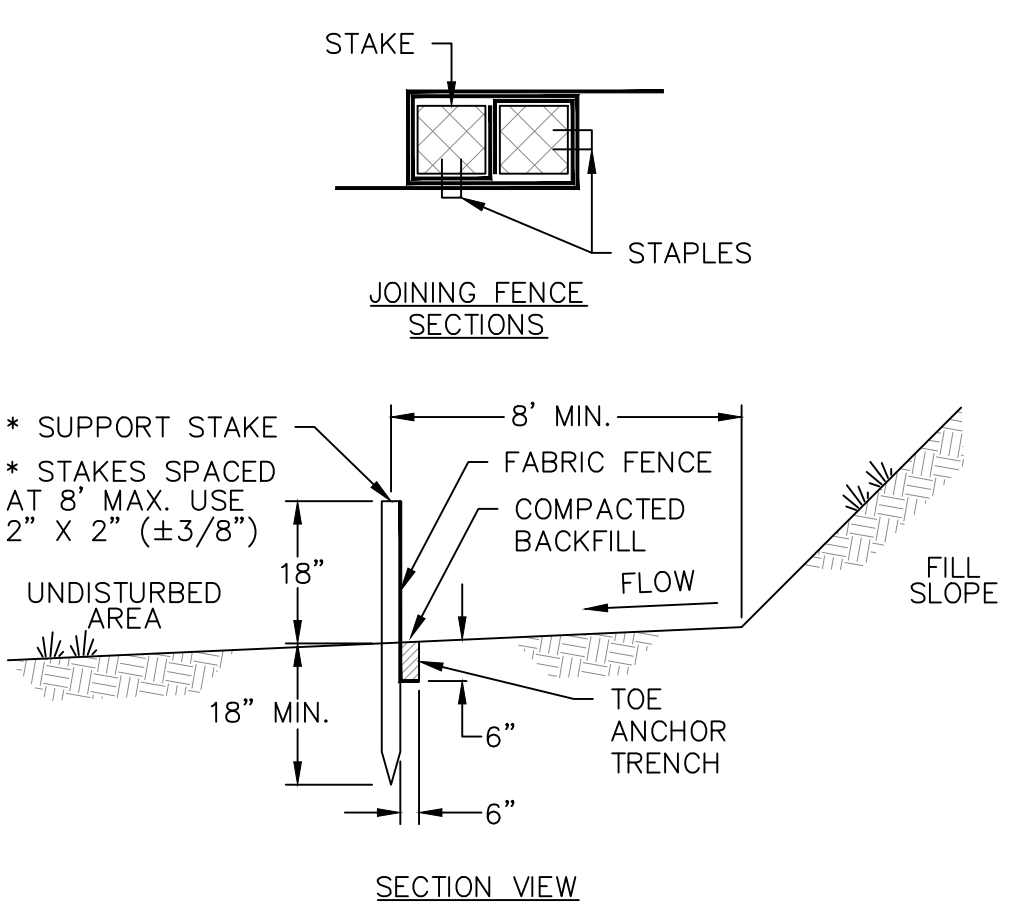
**ONCE A RETURN IS IDENTIFIED:**

1. ALL WORK STOPS, INCLUDING THE RECYCLING OF DRILLING MUD/LUBRICANT. THE PRESSURE OF WATER ABOVE THE PIPE KEEPS EXCESS MUD FROM ESCAPING THROUGH THE FRACTURE.
  2. DETERMINE THE LOCATION AND EXTENT OF THE RETURN.
  3. A CULTURAL RESOURCES MONITOR SHALL MONITOR ALL ACTIVITIES. THE CRS SHALL PROVIDE NOTIFICATION OF CULTURAL MATERIALS IN ASSOCIATION WITH THE RETURN, CLEAN-UP, POST-CONSTRUCTION MAINTENANCE, AND RESTORATION.
- IF THE RETURN IS TERRESTRIAL:**
1. ISOLATE THE AREA WITH HAY BALES, SAND BAGS, OR SILT FENCING TO SURROUND AND CONTAIN THE DRILLING MUD.
  2. A MOBILE VACUUM TRUCK WILL BE USED TO PUMP THE DRILLING MUD FROM THE CONTAINED AREA AND RECYCLED TO THE RETURN PIT.
  3. THE DRILLING MUD WILL BE LEFT IN PLACE TO AVOID POTENTIAL DAMAGE FROM VEHICLES ENTERING THE AREA.
  4. ONCE EXCESS DRILLING MUD IS REMOVED, THE AREA WILL BE SEEDED AND/OR REPLANTED USING SPECIES SIMILAR TO THOSE IN THE ADJACENT AREA, OR ALLOWED TO RE-GROW FROM EXISTING VEGETATION.
  5. REVEGETATED AREAS WILL BE MONITORED TWICE PER YEAR FOR TWO YEARS SUBSEQUENT TO THE RETURN EVENT TO CONFIRM REVEGETATION IS SUCCESSFUL.

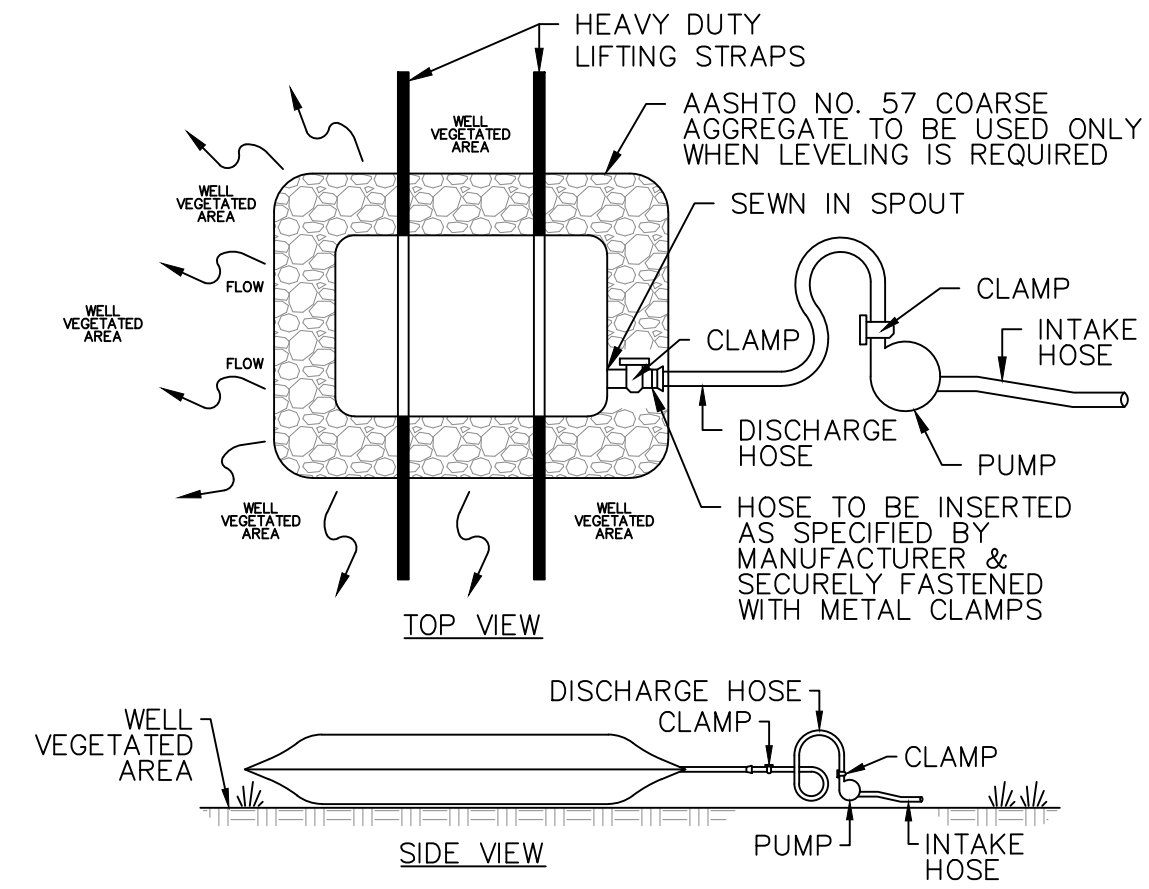
- IF THE RETURN IS AQUATIC (UNDER WATER):**
1. MONITOR THE RETURN FOR 4 HOURS TO DETERMINE IF THE DRILLING MUD CONGEALS. (BENTONITE WILL USUALLY HARDEN, EFFECTIVELY SEALING THE RETURN LOCATION).
  2. IF DRILLING MUD CONGEALS, TAKE NO OTHER ACTION THAT WOULD POTENTIALLY SUSPEND SEDIMENTS IN THE WATER COLUMN.
  3. IF DRILLING MUD DOES NOT CONGEAL, ERECT ISOLATION/CONTAINMENT ENVIRONMENT (UNDERWATER BOOM AND CURTAIN).
  4. IF THE FRACTURE BECOMES EXCESSIVELY LARGE, A SPILL RESPONSE TEAM SHALL BE CALLED IN TO CONTAIN AND CLEAN UP EXCESS DRILLING MUD IN THE WATER. CONTACT INFORMATION FOR SPILL RESPONSE TEAMS SHALL BE AVAILABLE ON SITE AT ALL TIMES.
  5. IF THE SPILL AFFECTS AN AREA THAT IS VEGETATED, THE AREA WILL BE SEEDED AND/OR REPLANTED USING SPECIES SIMILAR TO THOSE IN THE ADJACENT AREA, OR ALLOWED TO RE-GROW FROM EXISTING VEGETATION.
  6. REVEGETATED AREAS WILL BE MONITORED TWICE PER YEAR FOR TWO YEARS SUBSEQUENT TO THE RETURN EVENT TO CONFIRM REVEGETATION IS SUCCESSFUL.
  7. AFTER THE INADVERTENT RETURN IS STABILIZED AND ANY REQUIRED REMOVAL IS COMPLETED, DOCUMENT POST-CLEANUP CONDITIONS WITH PHOTOGRAPHS AND PREPARE INCIDENT REPORT DESCRIBING TIME, PLACE, ACTIONS TAKEN TO REMEDIATE AND MEASURES IMPLEMENTED TO PREVENT RECURRENCE.

RECOMMENDED SEED MIXTURES FOR STABILIZING DISTURBED AREAS		
SITE CONDITIONS	SEED MIXTURE (SELECT ONE MIXTURE)	
CUT SLOPES & FILLS (NOT MOWED) WELL-DRAINED VARIABLE DRAINAGE	2, 4, OR 6 2	
CUT SLOPES & FILLS (MOWED)	1	
CUT SLOPES & FILLS (GRAZED/HAY)	1, 2, OR 3	
GULLIES & ERODED AREAS	2 OR 6	
EROSION CONTROL BMP's: CHANNELS, DRAINAGE DITCHES, TRAP EMBANKMENTS, ETC. FOR HAY OR SILAGE	1 OR 2 2 OR 3	
RIGHT-OF-WAY: WELL-DRAINED VARIABLE DRAINAGE	4 OR 6 2	
WELL-DRAINED AREA FOR GRAZING/HAY	2 OR 3	
STRIP MINE AREAS: SPOILS, WASTE AREAS, FLY ASH, SLAG ETC. (LIME TO SOIL TEST) FOR GRAZING/HAY	2, 4, OR 5 2, 3, OR 6	
SOIL AMENDMENT	TYPE	RATE OF APPLICATION
FERTILIZER	10-20-20	1,000 LBS/ACRE
LIME	AGRICULTURAL	6 TONS/ACRE
STRAW MULCH		3 TONS/ACRE

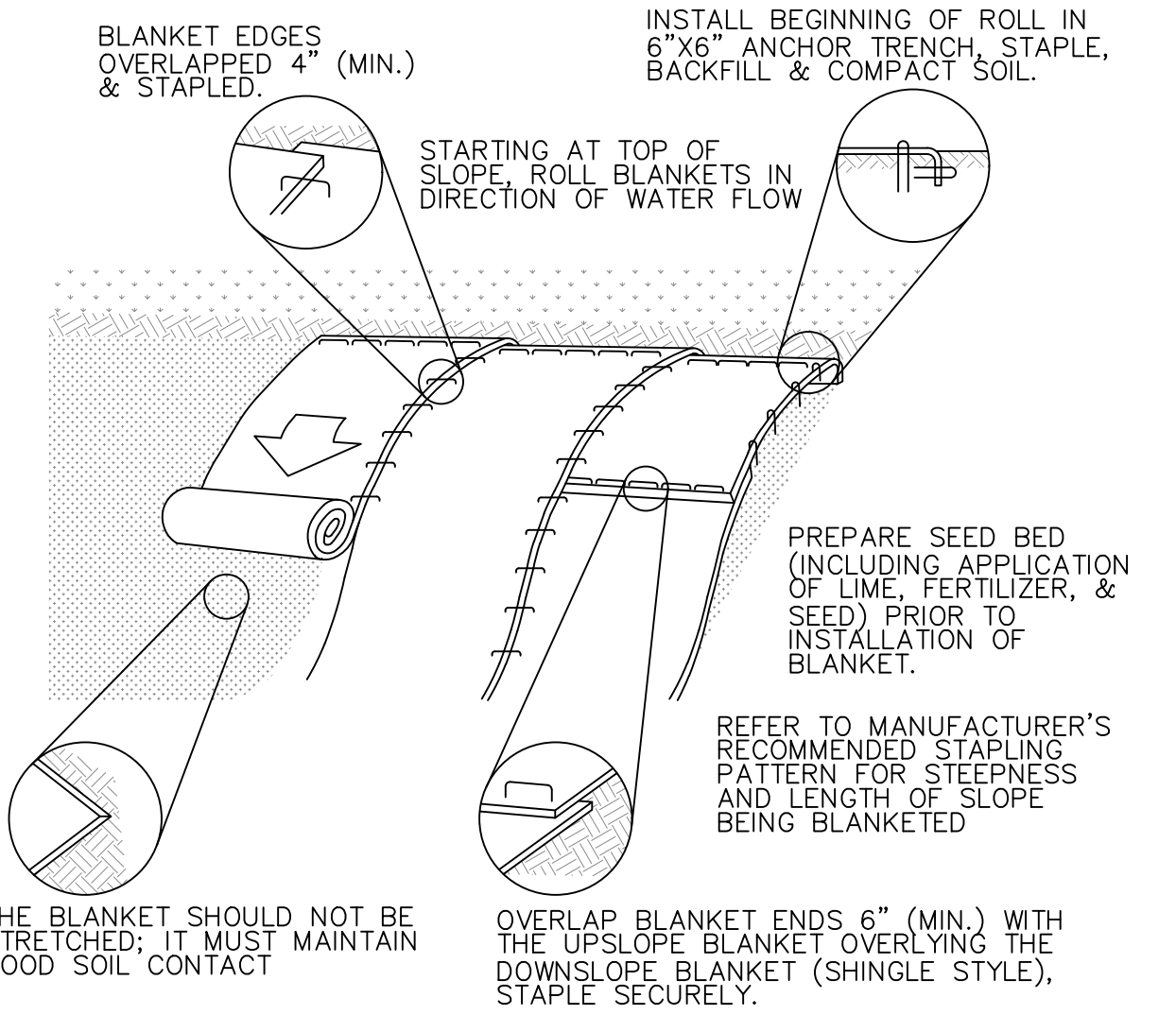
SITE STABILIZATION				
1. THE SITE WILL BE RESTORED TO APPROXIMATE ORIGINAL CONTOURS OF THE PROJECT SITE AND WILL BE REVEGETATED PER PROJECT SPECIFICATIONS. 2. RECOMMEND PERMANENT SEED MIXTURES COOL AND WARM SEASON GRASS.				
MIXTURE NUMBER	SEASON	SPECIES	SEEDING RATE (LB/ACRE)	
1	COOL	TALL FESCUE*, OR FINE FESCUE, PLUS REDTOP, OR PERENNIAL RYEGRASS, PLUS BIRDSFOOT TREFOIL	79	46
			4	19
			8	40
			23	33
2	COOL	BIRDSFOOT TREFOIL, PLUS TALL FESCUE*	8	40
			27	26
3	COOL	ORCHARDGRASS, OR SMOOTH BROMEGRASS, PLUS BIRDSFOOT TREFOIL	27	26
			25	25
4	WARM	PR	21	8
			15	15
5	WARM	DEETONGE, PLUS BIRDSFOOT TREFOIL	15	8
			15	8
6	WARM	SWITHGRASS, OR BIG BLUESTERN, PLUS BIRDSFOOT TREFOIL	15	8
			15	8



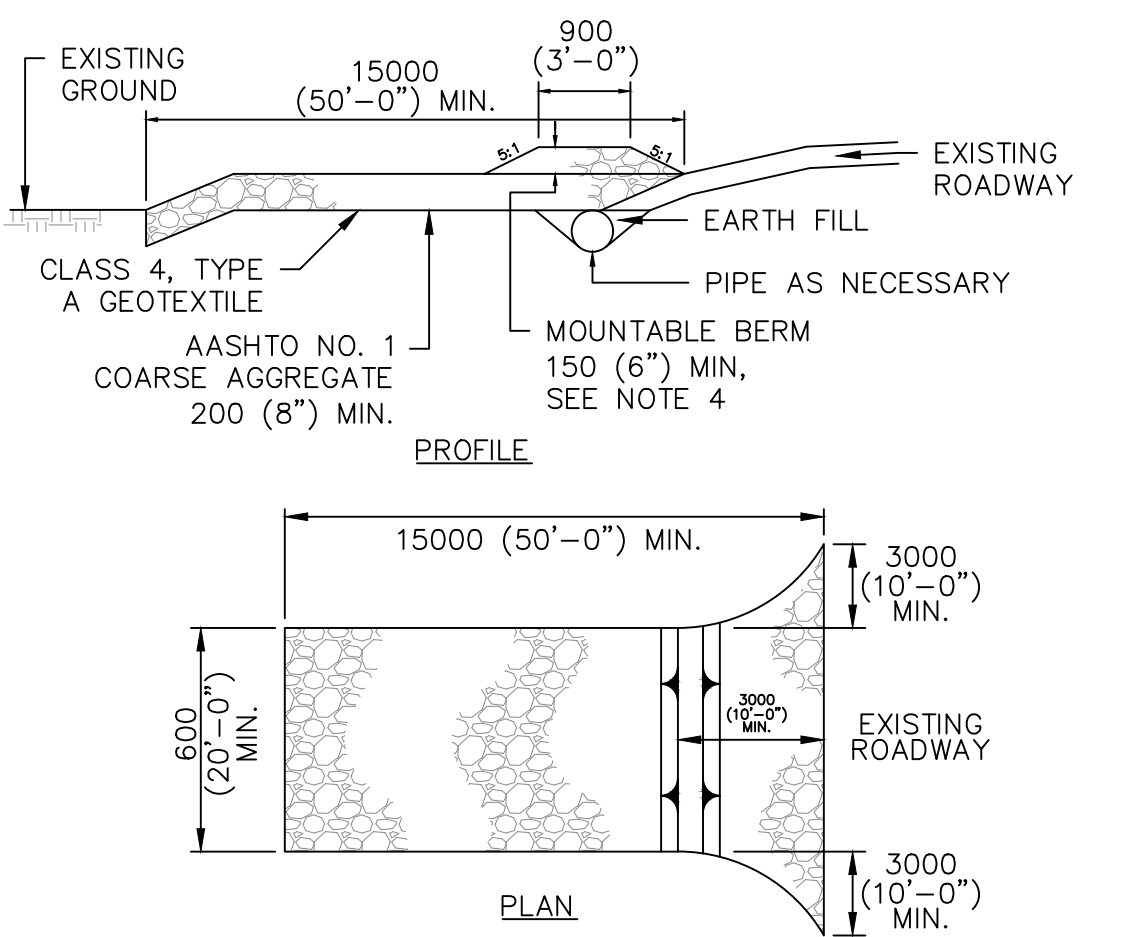
- SILT FENCE**
- NOTES:**
1. FABRIC SHALL HAVE THE MINIMUM PROPERTIES AS SHOWN IN TABLE 4.3 OF THE PADEP EROSION & SEDIMENTATION CONTROL MANUAL.
  2. FABRIC WIDTH SHALL BE 30 INCHES MINIMUM; STAKES SHALL BE HARDWOOD OR EQUIVALENT STEEL (U OR T) STAKES.
  3. SILT FENCE SHALL BE PLACED AT LEVEL EXISTING GRADE. BOTH ENDS OF THE FENCE SHALL BE EXTENDED AT LEAST 8 FEET UP SLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT.
  4. SEDIMENT SHALL BE REMOVED WHEN ACCUMULATIONS REACH HALF THE ABOVE GROUND HEIGHT OF THE FENCE.
  5. ANY SECTION OF SILT FENCE WHICH HAS BEEN UNDERMINED OR TOPPED SHALL BE IMMEDIATELY REPLACED WITH A ROCK FILTER OUTLET (STANDARD CONSTRUCTION DETAIL 4-6).
  6. FENCE SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN TRIBUTARY AREA IS PERMANENTLY STABILIZED.



- PUMPED WATER FILTER BAG**
- NOTES:**
1. LOCATE BAG IN LEVEL AREAS (LESS THAN 5% GRADE). WHEN LEVEL AREAS ARE NOT AVAILABLE, PLACE AASHTO NO. 57 COARSE AGGREGATE TO LEVEL THE BAG.
  2. 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.
  3. LOCATE BAG IN AN AREA ACCESSIBLE BY EQUIPMENT FOR MAINTENANCE AND REMOVAL PURPOSES.
  4. DO NOT INSERT MORE THAN ONE HOSE INTO A BAG.
  5. 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.
  6. 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.
  7. DO NOT PERMIT DISCHARGE FROM THE BAG TO DRAIN BACK INTO WORK OR ACCESS AREAS OF THE PROJECT.
  8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESES.



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



- ROCK CONSTRUCTION ENTRANCE**
- NOTES:**
1. INSPECT THE ENTRANCE DAILY. REMOVE ALL SEDIMENT DEPOSITED ON THE PUBLIC ROADWAYS AND RETURN TO THE CONSTRUCTION SITE. WASHING OF THE ROADWAY WILL NOT BE PERMITTED.
  2. MAINTAIN THE SPECIFIED ROCK CONSTRUCTION ENTRANCE THICKNESS. PLACE ADDITIONAL ROCK WHENEVER ROCK BECOMES CLOGGED WITH SEDIMENT.
  3. MAINTAIN STOCKPILE OF AASHTO NO. 1 COARSE AGGREGATE.
  4. CONSTRUCT A MOUNTABLE BERM ONLY WHEN 150 (6'') MIN COVER CANNOT BE PROVIDED OVER THE PIPE.
  5. SATISFACTORILY REMOVE MATERIALS AS PER SPECIFICATION IN PUBLICATION 408, SECTION 849 WHEN ROCK CONSTRUCTION ENTRANCE IS NO LONGER NEEDED.
  6. PROVIDE GEOTEXTILE MATERIAL MEETING THE REQUIREMENTS OF PUBLICATION 408, SECTION 735. FURNISH AND INSTALL IN ACCORDANCE WITH PUBLICATION 408, SECTION 212. PROVIDE GEOTEXTILE ALONG ALL INTERFACE AREAS WITH GROUND CONTACT.
  7. CONSTRUCT ROCK CONSTRUCTION ENTRANCE WITHIN THE RIGHT-OF-WAY OR EASEMENT AREAS. ENTRANCE MAY BE CONSTRUCTED ON A SKEW IF ADEQUATE PULL OUT SIGHT DISTANCE IS AVAILABLE.
  8. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. U.S. CUSTOMARY UNITS IN ( ) PARENTHESES.

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CD-ESCD

CONSTRUCTION  
PLANS

EROSION  
&  
SEDIMENTATION  
CONTROL DETAILS

BASE MAPPING  
PREPARED BY:

CSD  
ENGINEERS

No.	Revision	Date Received	Date Approved
1			
2			
3			
4			
5			
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7			
8			
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Sheet 16 of 17

Scale: NTS Map Grid: 99A99  
Designed By: \_Designer  
Drafted By: JLR  
Reviewed By: \_Reviewer  
WMS: INGRES/Avenir  
Budget Line: B011738  
District: 0099  
WR#: 50-123375

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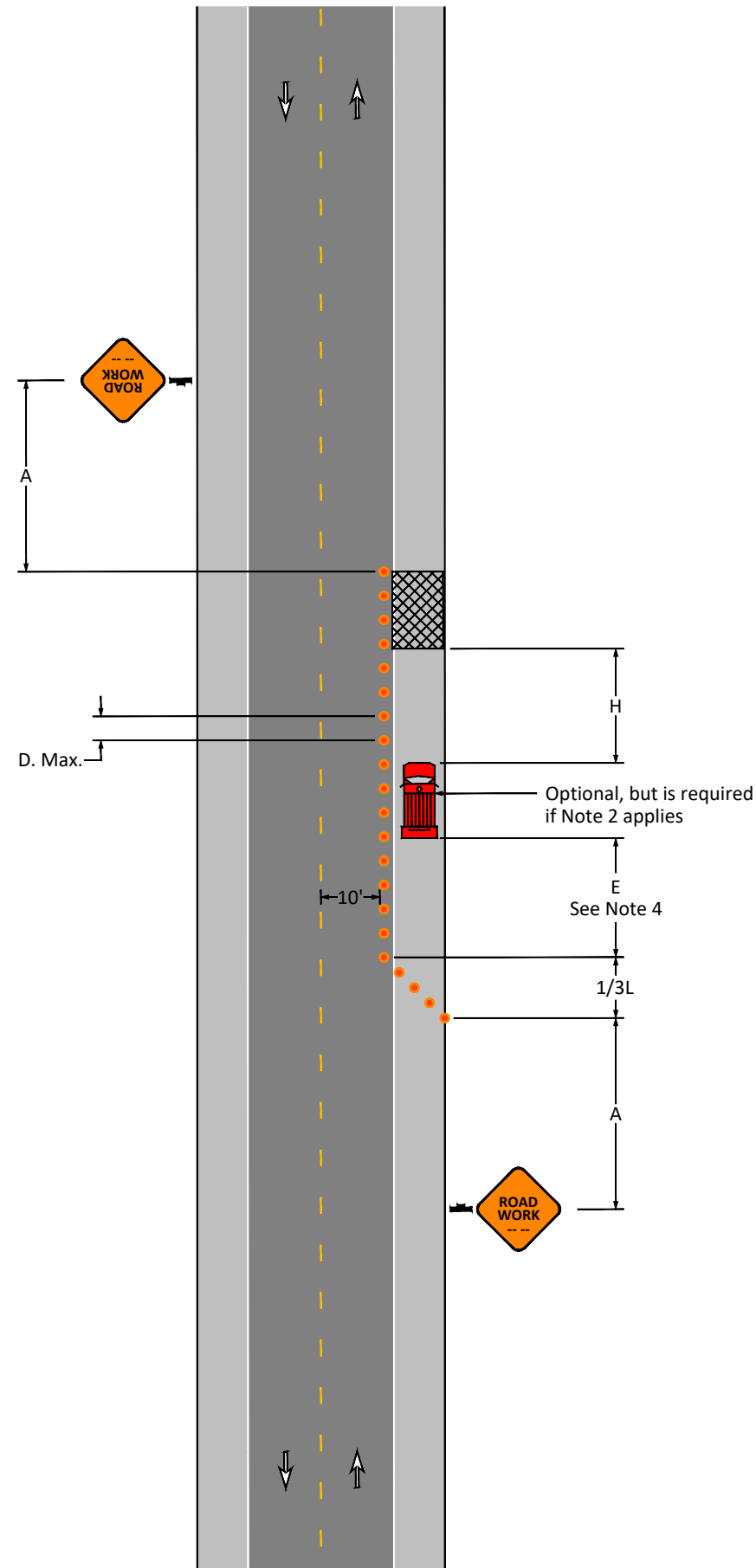
Lower Saucon Township,  
Northampton County, PA



M.P.T. NOTES:

1. THIS WORK CONSISTS OF THE MAINTENANCE OF TRAFFIC AND THE PROTECTION OF THE TRAVELING PUBLIC APPROACHING THE CONSTRUCTION AREA AND WITHIN THE LIMITS OF CONSTRUCTION.
2. THE SAFETY FOR PEDESTRIANS WILL ALSO BE MAINTAINED AT ALL TIMES OF CONSTRUCTION AND APPROACHING THE CONSTRUCTION AREA.
3. FURNISH, ERECT, PLACE AND MAINTAIN TRAFFIC CONTROL SINS AND DEVICES. MAINTAIN TRAFFIC DURING HOURS OF CONSTRUCTION AND AT ALL OTHER TIMES IN ACCORDANCE WITH THE METHODS INDICATED ON THESE DRAWINGS AND,
  - 3.1. THE SPECIAL PROVISIONS OF THE CONTRACT.
  - 3.2. PA. CODE, TITLE 67, PUB. 213, WORK ZONE TRAFFIC CONTROL.
  - 3.3. PA. CODE, TITLE 67, CHAPTER 212, OFFICIAL TRAFFIC CONTROL DEVICES.
  - 3.4. PADOT PUBLICATION NO. 35, APPROVED CONSTRUCTION MATERIALS (BULLETIN 15).
  - 3.5. PADOT PUBLICATION NO. 408, SPECIFICATIONS.
4. IMMEDIATELY UPON COMPLETION OF THE WORK, REMOVE THE DEVICES. THE DEPARTMENT WILL REMOVE ANY TRAFFIC CONTROL DEVICES ERECTED BY DEPARTMENT FORCES.
5. THE ENGINEER WILL INSPECT ALL TRAFFIC CONTROL DEVICES PRIOR TO START OF WORK.
6. COVER OR REMOVE ALL SIGNS NOT IN USE AND ALL CONFLICTING SIGNS AND ALL CONFLICTING PAVEMENT MARKINGS.
7. ALL SIGNS TO BE MOUNTED ON TYPE III BARRICADES UNLESS OTHERWISE NOTED.
8. ALL SIGNS TO BE IN NEW OR LIKE NEW CONDITION AND MAINTAINED AS SUCH.
9. DRIVEWAYS ARE TO BE KEPT ACCESSIBLE AT ALL TIMES. LOCATE ALL SIGNS SO THAT SIGHT DISTANCE WILL NOT BE OBSTRUCTED AT DRIVEWAYS AND SIDE STREETS.
10. ALL LONG TERM ADVANCE WARNING SIGNS TO BE TYPE VII SHEETING ON FREEWAY OR EXPRESSWAY PROJECTS, AND TYPE III SHEETING ON OTHER CONSTRUCTION PROJECTS.
11. CONTRACTOR IS TO NOTIFY LOCAL EMERGENCY UNITS (POLICE, FIRE, MEDICAL, ETC.), BUSINESSES, SCHOOL DISTRICT AND THE GENERAL PUBLIC AT LEAST ONE WEEK PRIOR TO THE START OF WORK.
12. EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION ACTIVITIES.
13. ALL ARROW PANELS AND SHADOW VEHICLES ARE NOW REQUIRED WHERE PREVIOUSLY SHOWN AS OPTIONAL IN ALL PADOT PUB 213 FIGURES.

PATA 102 (Old PATA 7)  
Work Space On Or Beyond The Shoulder (Minor Roadway Encroachment)



PATA 102 (Old PATA 7) - Notes

1. If the work space is completely within a parking lane and parking is present, the taper or shadow vehicle is not required.
2. For operations of 15 minutes or less:
  - a. The Road Work (W20-1) sign is not required.
  - b. All channelizing devices may be eliminated if a shadow vehicle is present.
3. For divided highways and one-way highways where it is physically possible, advance warning signs should also be placed on the left-hand side of the roadway.
4. When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.

Signs



W20-1

Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type.  
Example: either all "AHEAD" or XXX FEET.

Taper Length Formulas

S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

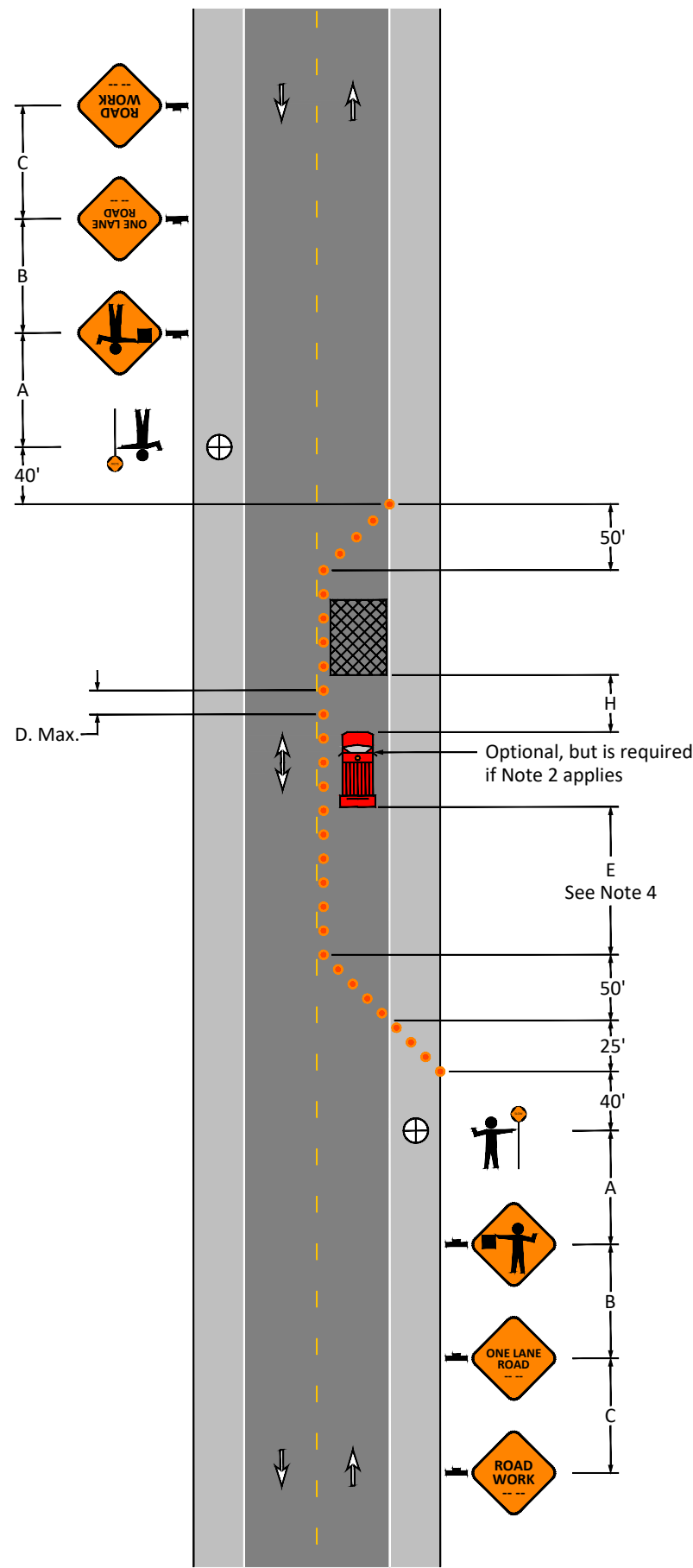
S = Regulatory Speed Limit  
W = Width of Offset  
L = Length

Distance and Spacing Quick Reference Chart

Speed MPH	W Feet	L Feet	1/2L Feet	1/3L Feet	Min. Channelizing Devices Per Taper Type (Length)				D Feet	E Feet	H Feet
					L	1/2L	1/3L	50'			
25	10	105	55	35	6	6	6	6	50	155	150
30	10	150	75	50	6	6	6	6	60	200	150
35	11	225	115	75	8	6	6	6	70	250	150
40	12	320	160	110	9	6	6	6	80	305	150
45	11	495	250	165	12	7	6	6	90	360	150
50	10	500	250	170	11	6	6	6	100	425	250
55	11	605	305	205	12	7	6	6	110	495	250

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.

PATA 107 (Old PATA 10a)  
Work In One Lane; Two Flaggers



PATA 107 (Old PATA 10a) - Notes

1. Each flagger shall be clearly visible to traffic for a minimum distance of E and shall be in constant communication with all other flaggers.
2. For operations of 15 minutes or less:
  - a. The Road Work (W20-1), One Lane Road (W20-4), and Flagger Symbol (W20-7) signs are not required.
  - b. All channelizing devices may be eliminated if a shadow vehicle is present.
3. The buffer space shall be extended so that the two-way traffic taper is placed before a horizontal (or crest vertical) curve to provide adequate sight distance for the flagger and a queue of stopped vehicles.
4. When a shadow vehicle is not used, distance E is measured from end of taper to beginning of work space.

Signs



W20-1



W20-4



W20-7

Sign Spacing Chart

Condition	Distance			
	A	B	C	F
	Feet	Feet	Feet	Feet
Urban 35 MPH or less	100	100	100	100
Urban Greater than 35 MPH	350	350	350	350
Rural	500	500	500	500

When multiple distance plaques are used on advance warning signs, they shall all be of the same series type.  
Example: either all "AHEAD" or XXX FEET.

Taper Length Formulas

S	L
40 MPH or less	$L = \frac{WS^2}{60}$
45 MPH or more	$L = WS$

S = Regulatory Speed Limit  
W = Width of Offset  
L = Length

Distance and Spacing Quick Reference Chart

Speed MPH	W Feet	L Feet	1/2L Feet	1/3L Feet	Min. Channelizing Devices Per Taper Type (Length)				D Feet	E Feet	H Feet
					L	1/2L	1/3L	50'			
25	10	105	55	35	6	6	6	6	50	155	150
30	10	150	75	50	6	6	6	6	60	200	150
35	11	225	115	75	8	6	6	6	70	250	150
40	12	320	160	110	9	6	6	6	80	305	150
45	11	495	250	165	12	7	6	6	90	360	150
50	10	500	250	170	11	6	6	6	100	425	250
55	11	605	305	205	12	7	6	6	110	495	250

Note: Channelizing devices used in taper shall be equally spaced at 1/2 D Max.



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CONSTRUCTION  
PLANS

TRAFFIC  
CONTROL  
DETAILS

BASE MAPPING  
PREPARED BY:



No.	Revision	Date Received	Date Approved
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Sheet 17 of 17

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Drafted By: JLR  
Reviewed By: \_Reviewer  
WMS: INGRES/Avenir  
Budget Line: B011738  
District: 0099

WR#: 50-123375

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