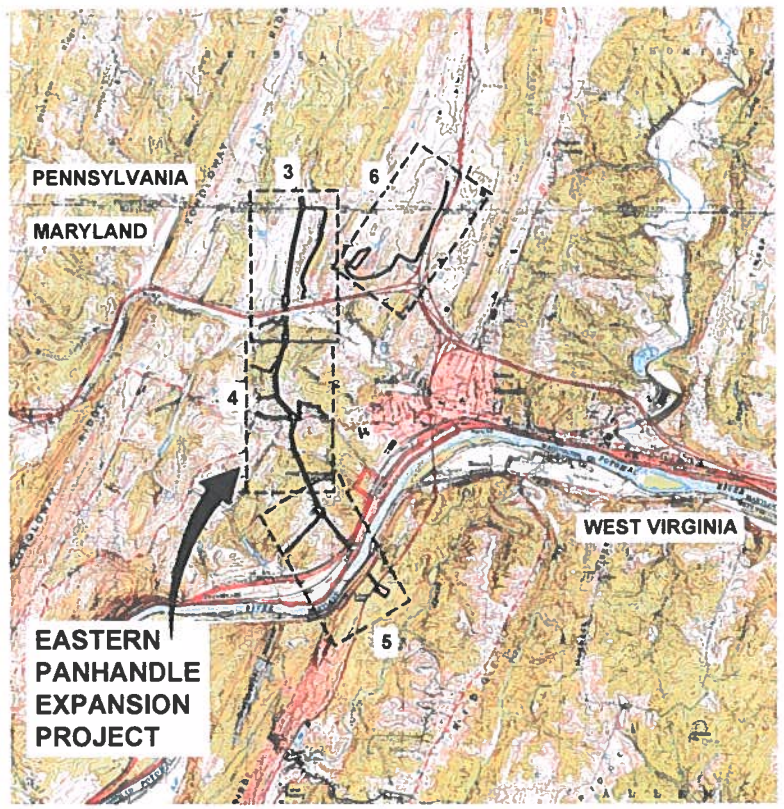
EROSION AND SEDIMENT CONTROL PLAN
EASTERN PANHANDLE EXPANSION PROJECT

WASHINGTON COUNTY, MARYLAND



REFERENCE: BASE MAP USGS 7.5 MINUTE QUADRANGLE, HANCOCK, MD - WV - PA, 1996

LOCATION MAP

0 4000' 8000'

GRAPHIC SCALE

KEY CONTACTS:

OWNER:
COLUMBIA GAS TRANSMISSION, LLC, A TRANSCANADA COMPANY
5151 SAN FELIPE, SUITE 2400
HOUSTON, TX 77056
TELEPHONE: 713.386.3302
CONTACT: CLIFFORD ABBOTT

ENGINEERING FIRM:
ARCADIS U.S., INC.
6041 WALLACE ROAD EXTENSION, SUITE 300
WEXFORD, PA 15090
TELEPHONE: 724.934.9562
CONTACT: ALLEN LONG, P.E.

MARYLAND ONE-CALL
TELEPHONE: 811 OR 1.800.257.7777

MARCH 2017
REVISED SEPTEMBER 2017

COLUMBIA GAS TRANSMISSION, LLC.,
A TRANSCANADA COMPANY
HOUSTON, TEXAS

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

STATE OF MARYLAND
ALLEN R. LONG
NO. 34982
PROFESSIONAL ENGINEER
2/22/18

INDEX TO DRAWINGS

CITY: DIV/GROUP: DB: A.SIDARI LD: PIC: PM: TM: LYR ON= *; OFF=*REF*
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PURPOSE:

THE PURPOSE OF THIS EROSION AND SEDIMENT CONTROL PLAN (ESCP) IS TO ENSURE COMPLIANCE WITH THE RULES AND REGULATIONS OF THE WASHINGTON COUNTY SOIL CONSERVATION DISTRICT (WSCD), THE MARYLAND DEPARTMENT OF THE ENVIRONMENT (MDE), AND THE CODE OF MARYLAND REGULATIONS (COMAR), AND TO PROTECT, MAINTAIN, AND ENHANCE THE PUBLIC HEALTH, SAFETY, AND GENERAL WELFARE BY ESTABLISHING MINIMUM REQUIREMENTS AND PROCEDURES TO CONTROL ADVERSE IMPACTS ASSOCIATED WITH LAND DISTURBANCES.

CONSTRUCTION SEQUENCE:

THE EASTERN PANHANDLE EXPANSION (EPE) PROJECT CONSTRUCTION ACTIVITIES ARE ANTICIPATED TO BEGIN IN 2018. THE FOLLOWING DESCRIBES THE TYPICAL SEQUENCE OF CONSTRUCTION ACTIVITIES.

SOIL DISTURBANCE (E.G., GRUBBING, AND TOPSOIL STRIPPING) SHALL BE MINIMIZED PRIOR TO INSTALLING EROSION AND SEDIMENT CONTROLS IN ACCORDANCE WITH THIS PLAN. SIGNIFICANT DEVIATION FROM THE FOLLOWING SEQUENCE MUST BE APPROVED IN WRITING (E.G., VIA E-MAIL) BY THE WSCD.

CONSTRUCTION PREPARATION ACTIVITIES:

1. AT LEAST 3 DAYS PRIOR TO STARTING ANY EARTH DISTURBANCE ACTIVITIES, OR EXPANDING INTO AN AREA PREVIOUSLY UNMARKED, ALL CONTRACTORS INVOLVED IN THOSE ACTIVITIES SHALL NOTIFY THE MARYLAND ONE CALL SYSTEM, INC. AT 1-800-257-7777 FOR THE LOCATION OF EXISTING UNDERGROUND UTILITIES.
2. AT LEAST 5 DAYS PRIOR TO COMMENCING ANY WORK IN CONJUNCTION WITH THE APPROVED FINAL ESCP, THE WSCD SHALL BE NOTIFIED.
3. PRIOR TO THE START OF CONSTRUCTION, A REQUEST FOR A PRE-CONSTRUCTION MEETING MUST BE MADE TO THE WSCD.
4. SURVEY AND STAKEOUT THE APPROVED LIMITS OF DISTURBANCE (I.E., EXISTING PIPELINE CENTERLINE, CONSTRUCTION RIGHT-OF-WAY (ROW) BOUNDARIES, AND TEMPORARY WORKSPACE AREAS) AND FLAG THE LOCATIONS OF APPROVED ACCESS ROADS AND FOREIGN UTILITIES, AS APPLICABLE.
5. MARK OR FENCE FOR PROTECTION WETLAND BOUNDARIES AND OTHER ENVIRONMENTALLY SENSITIVE AREAS.
6. MOBILIZE CREW, FACILITIES, EQUIPMENT, AND MATERIALS REQUIRED TO COMPLETE THE WORK.
7. INSTALL 50-FOOT LONG ROCK CONSTRUCTION ENTRANCES WHERE LOCATED ON THE ESCP DRAWINGS. TIRE WASH RACKS WILL BE INSTALLED IF REQUIRED TO CONTROL THE TRACKING OF SEDIMENT ONTO PAVED ROADWAYS..
8. INSTALL SILT FENCE AND INTERCEPTOR DIVERSIONS AT THE LOCATIONS SHOWN ON THE ESCP DRAWINGS AND DOWNGRADIENT OF EARTH DISTURBANCE ACTIVITIES WHERE NECESSARY/APPROPRIATE.
9. NOTIFY THE WSCD FOLLOWING INSTALLATION OF EROSION AND SEDIMENT CONTROLS.
10. CLEAR AND GRUB THE CONSTRUCTION ROW OF TREES, BRUSH, LOGS, AND ROCKS, AS NECESSARY. HAUL MERCHANTABLE TIMBER OFF-SITE OR STACK AT A LANDOWNER DESIGNATED LOCATION ON-SITE, BUT NOT WITHIN 50 FEET OF STREAMS, WETLANDS, OR FLOODPLAINS. UNMERCHANTABLE MATERIALS MAY BE CHIPPED AND BLOWN OFF THE CONSTRUCTION ROW (PER LANDOWNER AGREEMENT AND APPROVALS), EXCEPT IN AGRICULTURAL AREAS AND WITHIN 50 FEET OF STREAMS, WETLANDS, OR FLOODPLAINS.
11. PERFORM GRADING AS NECESSARY TO PROVIDE A LEVEL WORK SURFACE AND LEAVE ROOTSTOCK IN PLACE IN AREAS WHERE THE GROUND IS RELATIVELY FLAT AND DOES NOT REQUIRE GRADING.
12. SEGREGATE THE TOPSOIL, WHERE REQUIRED, FROM THE SUBSOIL WHERE POSSIBLE DURING LEVELING AND GRADING OF THE ROW AND/OR PRIOR TO TRENCH EXCAVATION TO FACILITATE SITE RESTORATION.

PIPELINE INSTALLATION – UPLAND LOCATIONS:

1. VERIFY EROSION AND SEDIMENT CONTROLS HAVE BEEN INSTALLED IN ACCORDANCE WITH THESE DRAWINGS AND TO THE SATISFACTION OF THE ENVIRONMENTAL INSPECTOR.
2. EXCAVATE THE PIPELINE TRENCH TO A DEPTH THAT WILL ALLOW FOR THE REQUIRED MINIMUM COVER TO BE PLACED OVER THE PIPELINE AFTER BACKFILLING.
3. STRING THE PIPE SECTION ALONG THE OPEN TRENCH IN A CONTINUOUS LINE.
4. BEND PIPE SECTIONS WHERE NECESSARY TO SHAPE THE PIPE TO THE CONTOURS OF THE TERRAIN, WELD THE PIPE JOINTS TOGETHER INTO LONG STRINGS AND PLACE THE STRINGS ON TEMPORARY SUPPORTS, AND LOWER THE WELDED PIPELINE INTO THE TRENCH.
5. INSTALL TRENCH PLUGS AT THE REQUIRED SPACING AS THE PIPELINE IS INSTALLED AS INDICATED ON THE ESCP DRAWINGS.
6. BACKFILL THE TRENCH USING EXISTING SUBSOIL MATERIAL AND ROUGH GRADE THE CONSTRUCTION ROW TO PRE-CONSTRUCTION CONTOURS MINUS THE DEPTH OF THE TOPSOIL.
7. REPLACE THE SEGREGATED TOPSOIL OVER THE CONSTRUCTION ROW.
8. APPLY PERMANENT SEED, FERTILIZER, AND MULCH OR SOIL STABILIZATION MATTING (WHERE REQUIRED).
9. REMOVE ROCK CONSTRUCTION ENTRANCES AND VEGETATE ENTRANCE AREAS.
10. INSTALL ASPHALT PAVING OR GRAVEL WHERE PREVIOUSLY REMOVED.
11. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ONCE THE SITE HAS BEEN STABILIZED BY A MINIMUM, UNIFORM, PERENNIAL 85% VEGETATIVE COVER.
12. IMMEDIATELY STABILIZE AREAS (IF ANY) DISTURBED DURING REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

PIPELINE INSTALLATION – WETLAND CROSSINGS:

1. INSTALL TEMPORARY TIMBER MATS FOR CONSTRUCTION EQUIPMENT CROSSING OF THE WETLAND AS INDICATED ON THE ESCP DRAWINGS.
2. INSTALL SILT FENCING AND WEIGHTED SEDIMENT FILTER TUBES AT THE ENDS OF THE TIMBER MATS AS INDICATED ON THE ESCP DRAWINGS.
3. SEGREGATE THE TOP 1 FOOT OF TOPSOIL AND VEGETATIVE ROOT MASS FROM THE AREA TO BE DISTURBED BY TRENCHING, EXCEPT IN AREAS WHERE STANDING WATER IS PRESENT OR SOILS ARE SATURATED OR FROZEN.
4. EXCAVATE THE PIPELINE TRENCH TO A DEPTH THAT WILL ALLOW FOR THE REQUIRED MINIMUM COVER TO BE PLACED OVER THE PIPELINE AFTER BACKFILLING. STOCKPILE THE SUBSOIL SEPARATELY FROM THE TOPSOIL OUTSIDE THE LIMIT OF THE WETLAND.
5. INSTALL THE PIPELINE WITHIN THE TRENCH AND INSTALL TRENCH PLUGS AT EITHER SIDE OF THE WETLAND EDGES AS INDICATED ON THE ESCP DRAWINGS.
6. REMOVE DEWATERING STRUCTURES FROM THE PIPE TRENCH.
7. BACKFILL THE TRENCH USING THE SEGREGATED SUBSOIL MATERIAL AND REPLACE THE SEGREGATED TOPSOIL AND VEGETATIVE ROOT MASS.
8. APPLY SEED WHERE NEEDED, IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON THIS SHEET.
9. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ONCE THE SITE HAS BEEN STABILIZED BY A MINIMUM, UNIFORM, PERENNIAL 85% VEGETATIVE COVER.
10. IMMEDIATELY STABILIZE AREAS (IF ANY) DISTURBED DURING REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

PIPELINE INSTALLATION – STREAM CROSSINGS:

1. SCHEDULE CROSSINGS DURING LOW FLOW PERIODS IF POSSIBLE.
2. MOBILIZE ALL EQUIPMENT AND MATERIALS REQUIRED TO COMPLETE THE CROSSING.
3. INSTALL THE TEMPORARY BRIDGE STREAM CROSSING FOR CONSTRUCTION EQUIPMENT TRAVEL OVER THE STREAMS AS INDICATED ON THE ESCP DRAWINGS.
5. INSTALL SILT FENCING AND WEIGHTED SEDIMENT FILTER TUBES AT THE ENDS OF THE TEMPORARY BRIDGE CROSSINGS AS INDICATED ON THE ESCP DRAWINGS.
6. CONSTRUCT THE UPSTREAM AND DOWNSTREAM SANDBAG DIVERSION DAMS (OR AQUA BARRIERS) WITHIN THE STREAM ON EITHER SIDE OF THE PROPOSED PIPELINE TRENCH ALIGNMENT AS INDICATED ON THE ESCP DRAWINGS.
7. BYPASS STREAM FLOW AROUND THE PROPOSED PIPELINE TRENCH BY INSTALLING THE BYPASS PUMP INTAKE AND DISCHARGE HOSES (AND DISCHARGE HOSE ENERGY DISSIPATERS), AND PUMPS AS INDICATED ON THE ESCP DRAWINGS. SIZE PUMPS FOR DIVERSION OF ENTIRE STREAM AROUND THE PIPELINE TRENCH. INSTALL PUMPS ON POLYETHYLENE BARRIERS FOR FUEL/OIL SPILL CONTAINMENT. SCREEN THE BYPASS PUMP INTAKE AND INSTALL THE INTAKE A SUFFICIENT DISTANCE FROM THE STREAM BOTTOM TO PREVENT PUMPING OF CHANNEL BOTTOM MATERIALS. MONITOR PUMPS AND WATER STRUCTURES ON A 24-HOUR BASIS UNTIL THE CROSSING INSTALLATION IS COMPLETE.
8. DEWATER THE PROPOSED TRENCH ALIGNMENT THROUGH THE STREAM BY PUMPING THE WATER TO A PUMP FILTER BAG LOCATED A MINIMUM OF 50 FEET FROM THE TOP OF THE STREAM BANK IN A WELL-VEGETATED AREA.
9. EXCAVATE THE PIPELINE TRENCH TO A DEPTH THAT WILL ALLOW FOR THE REQUIRED MINIMUM COVER TO BE PLACED OVER THE PIPELINE AFTER BACKFILLING.
10. PLACE TRENCH SPOILS A MINIMUM OF 10 FEET FROM THE TOP OF THE STREAM BANKS WITHIN THE CONSTRUCTION ROW AND INSTALL A SEDIMENT BARRIER (I.E., SILT FENCE) DOWNGRADIENT OF ANY SPOIL PILES.
11. INSTALL THE PIPELINE WITHIN THE TRENCH AND INSTALL TRENCH PLUGS AT EITHER SIDE OF THE STREAM CHANNEL AS INDICATED ON THE ESCP DRAWINGS.
12. BACKFILL THE TRENCH WITH SPOIL MATERIAL AND RETURN ALL STREAMBANKS TO PRE-CONSTRUCTION CONTOURS.
13. REMOVE THE UPSTREAM AND DOWNSTREAM SANDBAG DIVERSION DAMS AND BYPASS PUMP INTAKES, PUMP, AND ENERGY DISSIPATER.
14. APPLY PERMANENT SEEDING TO DISTURBED RIPARIAN AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON THIS SHEET.
15. REMOVE TEMPORARY BRIDGE STREAM CROSSING AS SOON AS PRACTICABLE FOLLOWING COMPLETION OF WORK ACTIVITIES REQUIRING THE CROSSING.
16. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ONCE THE SITE HAS BEEN STABILIZED BY A MINIMUM, UNIFORM, PERENNIAL 85% VEGETATIVE COVER.
17. IMMEDIATELY STABILIZE AREAS (IF ANY) DISTURBED DURING REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

SEQUENCE OF CONSTRUCTION FOR CULVERTS AND UTILITY CROSSINGS:

1. NOTIFY THE MDE COMPLIANCE DIVISION 5 DAYS PRIOR TO THE START OF CONSTRUCTION.
2. PERFORM IN-STREAM CONSTRUCTION DURING A PERIOD OF EXPECTED CLEAR WEATHER.
3. IMPLEMENT EROSION AND SEDIMENT CONTROL MEASURES (E.G., SILT FENCE).
4. IMPLEMENT DIVERSION AND DEWATERING MEASURES (I.E., DAM AND PUMP BYPASS, FILTER BAG).
5. REMOVE EXISTING CULVERT AND INSTALL NEW CULVERT AND ROCK OUTLET PROTECTION AS SHOWN ON THE ESCP DRAWINGS.
6. REMOVE DIVERSION AND DEWATERING MEASURES.
7. APPLY SEED AND MULCH TO DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON THIS SHEET.
8. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES ONCE THE SITE HAS BEEN STABILIZED BY A MINIMUM, UNIFORM, PERENNIAL 85% VEGETATIVE COVER.
9. IMMEDIATELY STABILIZE AREAS (IF ANY) DISTURBED DURING REMOVAL OF TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.

DEMOBILIZATION AND SITE CLEANUP:

1. UPON COMPLETION OF ALL EARTH DISTURBANCE ACTIVITIES AND PERMANENT STABILIZATION (I.E., UNIFORM, PERENNIAL, MINIMUM 85% VEGETATIVE COVER OF ALL DISTURBED AREAS), THE OWNER AND/OR OPERATOR SHALL OBTAIN APPROVAL FROM THE WSCD.
2. REMOVAL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES UPON APPROVAL OF WSCD.
3. PERMANENTLY STABILIZE ANY AREAS THAT ARE DISTURBED DURING REMOVAL OF THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES.
4. DEMOBILIZE CREW, FACILITIES, EQUIPMENT, AND MATERIALS FROM THE SITE.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

1. PROJECT REPRESENTATIVES SHALL CONTACT THE WSCD AT THE FOLLOWING STAGES OF THE PROJECT, UNLESS OTHERWISE DIRECTED BY WSCD REPRESENTATIVES
   a. PRIOR TO THE START OF EARTH DISTURBANCE;
   b. UPON COMPLETION OF THE INSTALLATION OF PERIMETER EROSION AND SEDIMENT CONTROL MEASURES, BUT BEFORE PROCEEDING WITH ANY OTHER EARTH DISTURBANCE OR GRADING;
   c. PRIOR TO THE START OF ANOTHER PHASE OF CONSTRUCTION OR OPENING OF ANOTHER GRADING UNIT; AND
   d. PRIOR TO THE REMOVAL OF EROSION AND SEDIMENT CONTROL PRACTICES.
2. PRIOR TO CONSTRUCTION, CONSTRUCTION PERSONNEL RESPONSIBLE FOR EROSION AND SEDIMENT CONTROL SHALL HAVE OBTAINED A CERTIFICATE OF TRAINING FROM AN MDE APPROVED TRAINING PROGRAM FOR EROSION AND SEDIMENT CONTROL.
3. CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED IN ACCORDANCE WITH THIS ESCP, INCLUDING THE INSPECTION AND MAINTENANCE OF ALL CONTROLS. MDE AND OTHER REGULATORY AGENCIES SHALL BE PROVIDED RIGHT OF ENTRY TO THE SITE FOR PERIODIC ON-SITE EVALUATION OF THE CONSTRUCTION ACTIVITIES IN ACCORDANCE WITH THE ESCP.
4. ADDITIONAL AND/OR MODIFICATIONS TO THE PROPOSED EROSION AND SEDIMENT CONTROLS MAY BE REQUIRED BASED ON ACTUAL FIELD CONDITIONS ENCOUNTERED AT THE TIME OF CONSTRUCTION. THE REVIEWING AGENCY (WSCD) SHALL BE NOTIFIED OF ANY SUBSTANTIVE CHANGES TO THE APPROVED ESCP PRIOR TO IMPLEMENTATION OF THOSE CHANGES. THE REVIEWING AGENCY (WSCD) MAY REQUIRE A WRITTEN SUBMITTAL OF THOSE CHANGES FOR REVIEW AND APPROVAL AT ITS DISCRETION.
5. ACCUMULATED SOIL MATERIALS REMOVED FROM EROSION AND SEDIMENT CONTROLS SHALL BE SPREAD WITHIN THE CONSTRUCTION ROW AND STABILIZED. ALL BUILDING MATERIALS AND WASTES SHALL BE REMOVED FROM THE SITE AND RECYCLED OR DISPOSED OF IN ACCORDANCE WITH THE APPLICABLE REGULATIONS.
6. GENERAL SITE CLEARING, GRUBBING, AND TOPSOIL STRIPPING MAY NOT COMMENCE IN ANY STAGE OR PHASE OF THE PROJECT UNTIL THE EROSION AND SEDIMENT CONTROLS FOR THAT STAGE OR PHASE HAVE BEEN INSTALLED AND ARE FUNCTIONING AS DESCRIBED IN THIS ESCP.
7. TOPSOIL SHALL BE STOCKPILED SEPARATELY FROM SUBSOIL AT THE WORK AREA EXCAVATIONS FOR REUSE WITHIN ACTIVELY CULTIVATED OR ROTATED CROPLANDS AND PASTURES, RESIDENTIAL AREAS, HAYFIELDS, AND OTHER AREAS AT THE LANDOWNER'S OR LAND MANAGING AGENCY'S REQUEST.
8. ALL DISTURBED GRAVEL AND PAVED AREAS SHALL BE REPLACED IN-KIND IN COORDINATION WITH THE LANDOWNER.
9. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN:
   a. 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND
   b. 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.

BASEMAP NOTES:

1. TOPOGRAPHIC INFORMATION OBTAINED FROM ENSITE USA DATED 1/25/2017.
2. FEATURE DATA WITHIN THE PROJECT AREA IS BASED UPON GPS SURVEY PROVIDED BY ENSITE USA ON 1/23/2017 AND DIGITIZED INFORMATION OBTAINED FROM GOOGLE EARTH AERIAL IMAGERY.
3. EXISTING CONTOURS ARE SHOWN AT A 2-FOOT CONTOUR INTERVAL.
4. AERIAL IMAGERY OBTAINED FROM ENSITE USA ON 1/25/2017.
5. PRELIMINARY FEDERAL EMERGENCY MANAGEMENT AGENCY (FEMA) FLOODPLAIN BOUNDARY INFORMATION DATED 8/14/2013 WAS OBTAINED FROM MARYLAND IMAP.

PERMANENT STABILIZATION NOTES:

1. A SOIL TEST IS REQUIRED FOR ANY EARTH DISTURBANCE OF 5 ACRES OR MORE. THE MINIMUM SOIL CONDITIONS REQUIRED FOR PERMANENT VEGETATIVE ESTABLISHMENT ARE:
   a. SOIL PH BETWEEN 6.0 AND 7.0.
   b. SOLUBLE SALTS LESS THAN 500 PARTS PER MILLION (PPM).
   c. SOIL CONTAINS LESS THAN 40% CLAY BUT ENOUGH FINE GRAINED MATERIAL (GREATER THAN 30% SILT PLUS CLAY) TO PROVIDE THE CAPACITY TO HOLD A MODERATE AMOUNT OF MOISTURE. AN EXCEPTION: IF LOVEGRASS WILL BE PLANTED, THEN A SANDY SOIL (LESS THAN 30% SILT PLUS CLAY).
   d. WOULD BE ACCEPTABLE.
   e. SOIL CONTAINS 1.5 PERCENT MINIMUM ORGANIC MATTER BY WEIGHT.
   f. SOIL CONTAINS SUFFICIENT PORE SPACE TO PERMIT ADEQUATE ROOT PENETRATION.
2. APPLICATION OF AMENDMENTS OR TOPSOIL IS REQUIRED IF ON-SITE SOILS DO NOT MEET THE ABOVE CONDITIONS.
3. GRADED AREAS MUST BE MAINTAINED IN A TRUE AND EVEN GRADE AS SPECIFIED ON THE APPROVED ESCP, THEN SCARIFIED OR OTHERWISE LOOSENED TO A DEPTH OF 3 TO 5 INCHES.
4. APPLY SOIL AMENDMENTS AS SPECIFIED ON THE APPROVED PLAN OR AS INDICATED BY THE RESULTS OF A SOIL TEST.
5. MIX SOIL AMENDMENTS INTO THE TOP 3 TO 5 INCHES OF SOIL BY DISKING OR OTHER SUITABLE MEANS. RAKE LAWN AREAS TO SMOOTH THE SURFACE, REMOVE LARGE OBJECTS LIKE STONES AND BRANCHES, AND READY THE AREA FOR SEED APPLICATION. LOOSEN SURFACE SOIL BY DRAGGING WITH A HEAVY CHAIN OR OTHER EQUIPMENT TO ROUGHEN THE SURFACE WHERE SITE CONDITIONS WILL NOT PERMIT NORMAL SEEDBED PREPARATION. TRACK SLOPES 3H:1V OR FLATTER WITH TRACKED EQUIPMENT LEAVING THE SOIL IN AN IRREGULAR CONDITION WITH RIDGES RUNNING PARALLEL TO THE CONTOUR OF THE SLOPE. LEAVE THE TOP 1 TO 3 INCHES OF SOIL LOOSE AND FRIABLE. SEEDBED LOOSENING MAY BE UNNECESSARY ON NEWLY DISTURBED AREAS.

PLANS APPROVED BY: [signature] DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

OWNER'S/DEVELOPER'S CERTIFICATION

WE HEREBY CERTIFY THAT ALL CLEARING, GRADING, CONSTRUCTION, AND/OR DEVELOPMENT WILL BE DONE PURSUANT TO THIS PLAN AND THAT ANY RESPONSIBLE PERSONNEL INVOLVED IN THE CONSTRUCTION PROJECT WILL HAVE A CERTIFICATION OF ATTENDANCE AT A MARYLAND DEPARTMENT OF ENVIRONMENT APPROVED TRAINING PROGRAM FOR THE CONTROL OF SEDIMENT AND EROSION BEFORE THE BEGINNING OF THE PROJECT. I HEREBY AUTHORIZE THE RIGHT OF ENTRY FOR PERIODIC ON-SITE EVALUATION BY STATE OF MARYLAND, DEPARTMENT OF THE ENVIRONMENT, COMPLIANCE INSPECTORS.

08/21/2017 — DATE
716-386-3302 — PHONE NUMBER
[signature]
OWNER/DEVELOPER SIGNATURE
5151 SAN FELIPE, SUITE 2400, HOUSTON, TX 77056
ADDRESS
CLIFFORD ABBOTT, US ENVIRONMENTAL PLANNING & PERMITTING PRINCIPAL
PRINTED NAME AND TITLE

DESIGN CERTIFICATION

I HEREBY CERTIFY THAT THIS PLAN OF EROSION & SEDIMENT CONTROL AND/OR POND DESIGN IS/ARE IN ACCORDANCE WITH THE 2011 STANDARDS AND SPECIFICATIONS AND ANY OTHER LOCAL OR STATE REQUIREMENTS. ANY STORMWATER STRUCTURES ARE DESIGNED IN ACCORDANCE WITH THE WASHINGTON COUNTY STORMWATER MANAGEMENT ORDINANCE AND ACCEPTED STANDARDS OF ENGINEERING PRACTICE.

8/21/2017 — DATE
724-934-9562 — PHONE NUMBER
[signature]
DESIGNER'S SIGNATURE
34862 — MD REGISTRATION NUMBER
ALLEN LONG — PRINTED NAME
(P.E.) R.L.S. R.L.A. (CIRCLE)

PROFESSIONAL CERTIFICATION: I HEREBY CERTIFY THAT THESE DOCUMENTS WERE PREPARED OR APPROVED BY ME, AND THAT I AM DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MARYLAND, LICENSE NO. 42518, EXPIRATION DATE: 06-24-2018.

SIGNATURE — DATE

TEMPORARY SEEDING/WETLAND SEED MIX

HARDINESS ZONE: 6A
SEED MIXTURE: COOL SEASON GRASS MIXES

SPECIES	APPLICATION RATE (LBS/ACRE)	OPTIMAL SEEDING DATES	SEEDING DEPTHS (IN)	FERTILIZER RATE* (10-20-20) (LBS/ACRE)	LIME RATE* (TONS/ ACRE)	STRAW MULCH RATE (TONS/ ACRE)
ANNUAL RYEGRASS	40	MARCH 15 TO MAY 31; AUGUST 1 TO SEPTEMBER 30	1.0 (TEMPORARY) 0.5 (WETLANDS)	436	2	2.5

* DO NOT APPLY FERTILIZER OR LIME TO SEED MIXTURE WHEN USED FOR WETLAND RESTORATION APPLICATIONS.

UTILITY RIGHTS-OF-WAY

HARDINESS ZONE: 6A
SEED MIXTURE: COOL SEASON GRASS MIXES

SPECIES	APPLICATION RATE (LBS/ACRE)	OPTIMAL SEEDING DATES	SEEDING DEPTHS (IN)	FERTILIZER TYPE (10-20-20) (LBS/ACRE) N	P_2O	K_2O	LIME RATE (TONS/ ACRE)	STRAW MULCH RATE (TONS/ ACRE)
TALL FESCUE	40	MARCH 1 TO JUNE 15; AUGUST 15 TO OCTOBER 15	¼-½	45	90	90	2	2.5
PERENNIAL RYEGRASS	25							
BIRDSFOOT TREFOIL	8							

RESIDENTIAL AREAS

HARDINESS ZONE: 6A
SEED MIXTURE: COOL SEASON GRASS MIXES

SPECIES	APPLICATION RATE (LBS/ACRE)	OPTIMAL SEEDING DATES	SEEDING DEPTHS (IN)	FERTILIZER TYPE (10-20-20) (LBS/ACRE) N	P_2O	K_2O	LIME RATE (TONS/ ACRE)	STRAW MULCH RATE (TONS/ ACRE)
TALL FESCUE	100	MARCH 1 TO JUNE 15; AUGUST 15 TO OCTOBER 15	¼-½	45	90	90	2	2.5

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD PIC: PM: TM: LYR:ON=*;OFF=*REF*
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XREFS: CPGL00EP-X00

No.	Date	Revisions	By	Ckd
1	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

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THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS | Design & Consultancy for natural and built assets
ARCADIS U S , INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

GENERAL NOTES

ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

1

MAINTENANCE SCHEDULE

E&S CONTROL MEASURE	INSPECTION REQUIREMENT	MAINTENANCE/REPAIR REQUIREMENT
STABILIZED CONSTRUCTION ENTRANCE	CONTINUOUSLY DURING WORK DAY AND THE NEXT DAY AFTER EACH RAIN EVENT	CONSTANTLY MAINTAIN IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT BY ADDING STONE OR MAKING OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN A CLEAN SURFACE, THE MOUNTABLE BERM, AND THE SPECIFIED DIMENSIONS. ALL STONE OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO THE ADJACENT ROADWAY MUST BE REMOVED IMMEDIATELY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING THE ROADWAY TO REMOVE SEDIMENT TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE. INSTALL WITH WASH RACKS AS NEEDED.
ADEQUATE VEGETATIVE STABILIZATION	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	ADEQUATE VEGETATIVE STABILIZATION REQUIRES 95% GROUNDCOVER. IF AN AREA HAS LESS THAN 40% GROUNDCOVER, RESTABILIZE FOLLOWING THE ORIGINAL RECOMMENDATIONS FOR LIME, FERTILIZER, SEEDBED PREPARATION, AND SEEDING. IF AN AREA HAS BETWEEN 40% AND 94% GROUNDCOVER, OVER-SEED AND FERTILIZE USING HALF OF THE RATES ORIGINALLY SPECIFIED.
SOIL STABILIZATION MATTING	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	ESTABLISH AND MAINTAIN VEGETATIVE STABILIZATION SO THAT ADEQUATE VEGETATIVE STABILIZATION (95% GROUNDCOVER) IS CONTINUOUSLY MET.
SILT FENCE	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN THE SILT FENCE OR WHEN SEDIMENT REACHES 25% OF THE FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. REINSTALL FENCE IF UNDERMINING OCCURS.
FILTER BAG	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	REPLACE CLOGGED FILTER BAGS. REPLACE THE FILTER BAG IF THE BAG IS RIPPED, TORN, AND/OR PUNCTURED. KEEP THE CONNECTION BETWEEN THE PUMP HOSE AND FILTER BAG WATER TIGHT DURING OPERATION. REPLACE BEDDING THAT BECOMES DISPLACED.
INTERCEPTOR DIVERSIONS / MOUNTABLE BERMS	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	MAINTAIN THE LINE, GRADE, AND CROSS-SECTION OF THE INTERCEPTOR DIVERSION. REMOVE ACCUMULATED SEDIMENT AND DEBRIS AND MAINTAIN POSITIVE DRAINAGE. KEEP INTERCEPTOR DIVERSION FREE OF EROSION WITH VEGETATIVE STABILIZATION.
TRENCH PLUGS	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	REMOVE WATER THAT ACCUMULATES BEHIND TRENCH PLUGS WITH DEWATERING PUMPS DISCHARGING THROUGH PUMPED WATER FILTER BAGS.
TEMPORARY ACCESS BRIDGE	DAILY AND THE NEXT DAY AFTER EACH RAIN EVENT	STABILIZE THE APPROACH TO THE BRIDGE AND KEEP FREE OF EROSION. CLEAN DECKING AND CURBS OF SEDIMENT DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. MAINTAIN THE DECKING AND CURBS TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY THE BRIDGE. MAINTAIN AREAS ADJACENT TO THE CROSSING TO MEET THE REQUIREMENTS OF ADEQUATE VEGETATIVE STABILIZATION.
WEIGHTED SEDIMENT FILTER TUBE	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	REPLACE DAMAGED TUBES WITHIN 24 HOURS OF INSPECTION. REMOVE SEDIMENT WHEN ACCUMULATION REACHES ½ ABOVE GROUND HEIGHT OF TUBE AND UPON REMOVAL FOR EQUIPMENT CROSSING.
WETLAND CROSSING	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	REPAIR DAMAGES WITHIN 24 HOURS OF INSPECTION AND PRIOR TO ANY SUBSEQUENT USE. REMOVE SEDIMENT DEPOSITS ON CROSSING OR APPROACHES TO CROSSING WITHIN 24 HOURS OF INSPECTION.
DAM AND PUMP BYPASS STREAM CROSSING	WEEKLY AND THE NEXT DAY AFTER EACH RAIN EVENT	IMMEDIATELY REPAIR OR REPLACE ANY FAILED PUMP OR LEAKS IN PIPING AND/OR IMPROPER CONNECTION TO THE PUMP. REPAIR AND EROSION AT THE DISCHARGE POINT AND INSTALL MEASURES TO PREVENT FURTHER EROSION. IMMEDIATELY REPAIR LEAKS OR DAMAGES TO THE IMPERVIOUS DAM.

SUMMARY OF QUANTITIES

DESCRIPTION	QUANTITY	UNIT
PROJECT/DISTURBED AREA	53.2	ACRES
PIPELINE LENGTH	16,542	LINEAR FEET
SILT FENCE	9,250	LINEAR FEET
SUPER SILT FENCE	8,840	LINEAR FEET
PLASTIC MESH TREE PROTECTION FENCE	25,000	LINEAR FEET
STABILIZED CONSTRUCTION ENTRANCE (SCE)	12	EACH
SCE WITH WASH RACK	AS REQUIRED FOR SEDIMENT REMOVAL	
STONE PER SCE	15	CUBIC YARDS
GEOTEXTILE UNDERLAYMENT PER SCE	750	SQUARE FEET
INTERCEPTOR DIVERSIONS	55	EACH
TRENCH PLUGS	16	EACH
SOIL STABILIZATION MATTING	125,000	SQUARE FEET
TEMPORARY ACCESS BRIDGE	4	EACH
TIMBER MATS FOR WETLAND CROSSING	60	LINEAR FEET
WEIGHTED SEDIMENT FILTER TUBE	17	LOCATIONS
DAM AND PUMP BYPASS STREAM CROSSING	6	EACH
RIPRAP BASIN ENERGY DISSIPATOR	45	CUBIC YARDS
MOUNTABLE BERMS	7	EACH
HORIZONTAL DIRECTION DRILLING ENTRY/EXIT	2	EACH
TEMPORARY SEEDING (SOIL STOCKPILES)	2.6	ACRES
PERMANENT SEEDING (WETLAND SEED MIX)	0.1	ACRES
PERMANENT SEEDING (RESIDENTIAL AREAS)	1.7	ACRES
PERMANENT SEEDING (UTILITY RIGHT-OF-WAY)	51.4	ACRES

LEGEND:

- APPROXIMATE STATE BOUNDARY
- APPROXIMATE PROPERTY BOUNDARY
- EXISTING BUILDING
- 980 EXISTING ELEVATION CONTOUR
- x x EXISTING FENCE LINE
- EXISTING ROAD
- EXISTING GRAVEL ROAD
- S8 W1 AQUATIC RESOURCE (I.E., STREAM OR WETLAND) ID
- EXISTING STREAM
- STREAM FLOW DIRECTION
- EXISTING WETLAND
- 25-FOOT NON-TIDAL WETLAND BUFFER
- G G EXISTING L10240, L1804, AND L138 GAS TRANSMISSION LINES
- 60 DD PROPOSED 8"ø EPE GAS TRANSMISSION LINE
- M 0.0 PROPOSED 8"ø EPE GAS TRANSMISSION LINE MILEPOST MARKER
- OE EXISTING OVERHEAD ELECTRIC LINE
- C EXISTING UNDERGROUND CABLE LINE
- EXISTING CULVERT
- EXISTING WATER WELL
- EXISTING POWER POLE
- EXISTING GUY WIRE ANCHOR
- EXISTING RAILROAD
- FEMA FLOODPLAIN BOUNDARY
- EXISTING TREELINE
- LOD LIMIT OF DISTURBANCE
- PROPOSED HDD ENTRY/EXIT LOCATION
- TEMPORARY WORK SPACE
- ADDITIONAL TEMPORARY WORK SPACE
- ID INTERCEPTOR DIVERSION 1/34
- TP TRENCH PLUG 2/34
- SF SILT FENCE 3/33
- SSF SUPER SILT FENCE 4/33
- P DAM AND PUMP BYPASS 4/35
- FB FILTER BAG 3/34
- TEMPORARY ACCESS BRIDGE 2/35
- STABILIZED CONSTRUCTION ENTRANCE (WITH WASH RACK AS REQUIRED) 1/33 2/33
- SOIL STABILIZATION MATTING 1/35
- WETLAND CROSSING 1/36
- RIRPAP BASIN ENERGY DISSIPATOR 4/37 ⚠1 ⚠3
- WEIGHTED SEDIMENT FILTER TUBE 2/36
- MOUNTABLE BERM 4/36
- TPF PLASTIC MESH TREE PROTECTION FENCE 3/37 ⚠3
- X/X DETAIL REFERENCE NUMBER / DRAWING REFERENCE NUMBER

PLANS APPROVED BY: [signature] 7/26/18
DATE:
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

⚠3 ⚠3

No.	Date	Revisions	By	Ckd
3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862

State	Date Signed	Project Mgr.
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND ALLEN LONG No. 34862 PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

GENERAL NOTES AND LEGEND

ARCADIS Project No. CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS, 6041 Wallace Road Extension, Suite 300, Wexford, PA 15090, Tel. 724.742.9180

2

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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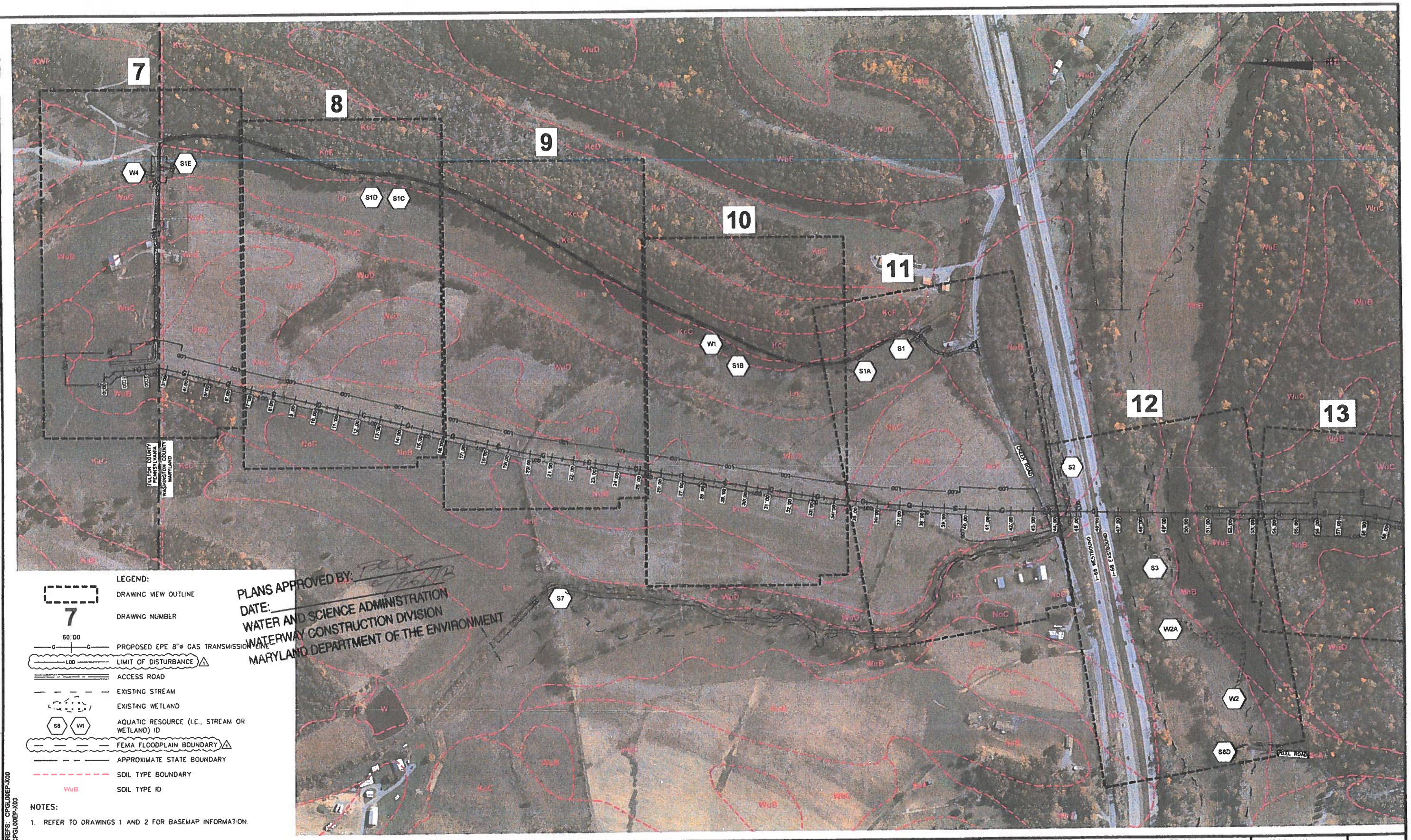
XREFS: CPGL00EP-X00



LEGEND:

- 7 — DRAWING VIEW OUTLINE
- 7 — DRAWING NUMBER
- 60.00 C C — PROPOSED EPE 8"ø GAS TRANSMISSION LINE
- LOD — LIMIT OF DISTURBANCE ⚠
- ACCESS ROAD
- EXISTING STREAM
- EXISTING WETLAND
- S8 W1 — AQUATIC RESOURCE (I.E., STREAM OR WETLAND) ID
- FEMA FLOODPLAIN BOUNDARY ⚠
- APPROXIMATE STATE BOUNDARY
- SOIL TYPE BOUNDARY
- WuB — SOIL TYPE ID

NOTES:

1. REFER TO DRAWINGS 1 AND 2 FOR BASEMAP INFORMATION.

PLANS APPROVED BY: _____
DATE: _____
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

200' 0 200' 400'
1" = 200'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862

State	Date Signed	Project Mgr.
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS | Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

OVERALL SITE PLAN - STA. 0+00 TO 59+00

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS, 6041 Wallace Road Extension, Suite 300, Wexford, PA 15090, Tel. 724.742.9180

3

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD; PIC: PM: TM: LYR:ON=*;OFF=*REF* G:\CADD\ACAD\Proj\CPGL00EP\DWG\MDCPGL00EP-G03.dwg LAYOUT: 3 SAVED: 8/8/2017 9:58 AM ACADVER: 20.1S (LMS TECH) PAGESETUP — PLOTSTYLETABLE: PLTHALF.CTB PLOTTED: 8/16/2017 3:07 PM BY: SIDARI, ALEXIS
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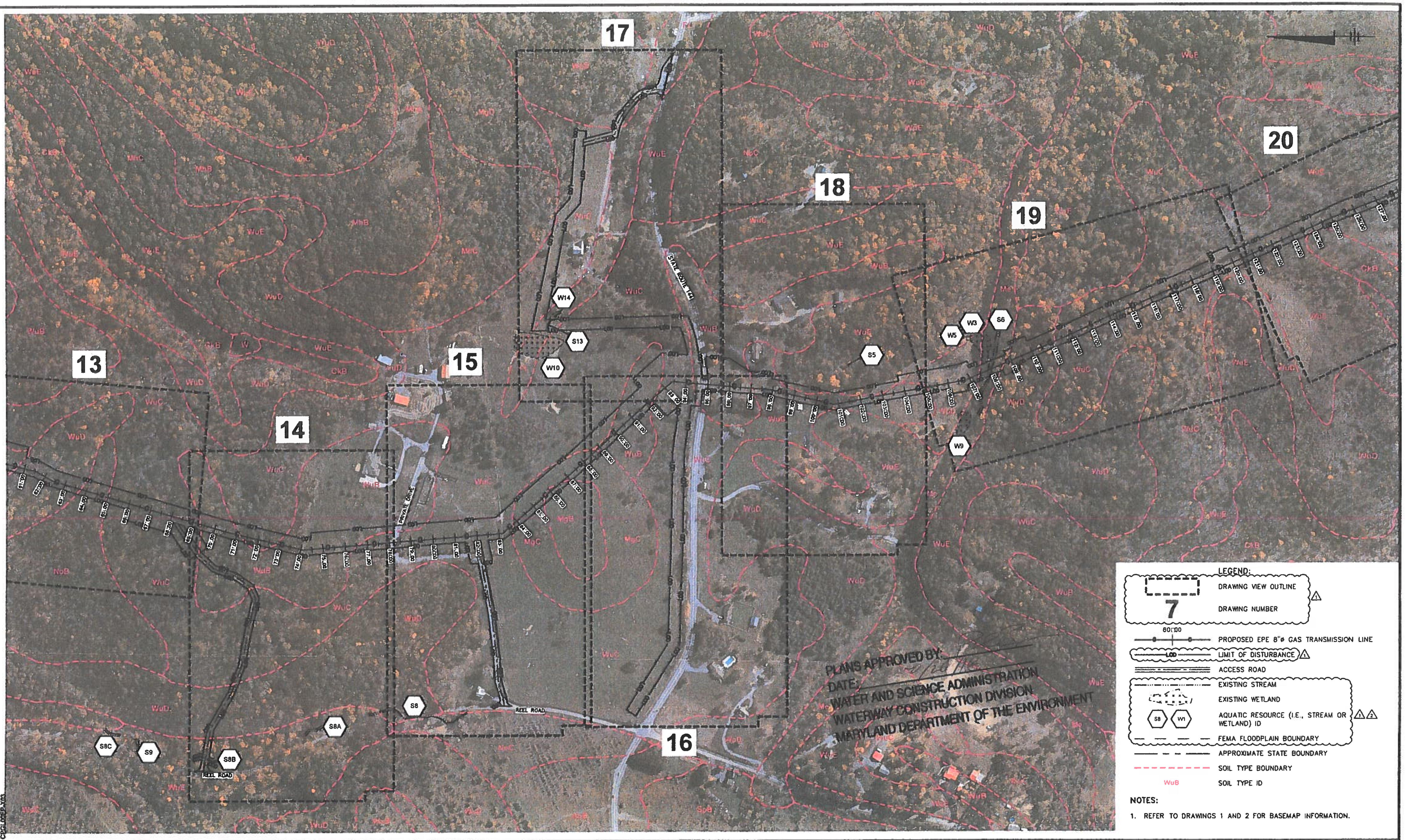
XREFS: CPGL00EP-X00
CPGL00EP-X03



LEGEND:

- DRAWING VIEW OUTLINE
- 7 — DRAWING NUMBER
- 60+00 — PROPOSED EPE 8"ø GAS TRANSMISSION LINE
- LOD — LIMIT OF DISTURBANCE
- ACCESS ROAD
- EXISTING STREAM
- EXISTING WETLAND
- S8 / W1 — AQUATIC RESOURCE (I.E., STREAM OR WETLAND) ID
- FEMA FLOODPLAIN BOUNDARY
- APPROXIMATE STATE BOUNDARY
- SOIL TYPE BOUNDARY
- WuB — SOIL TYPE ID

NOTES:

1. REFER TO DRAWINGS 1 AND 2 FOR BASEMAP INFORMATION.

200' 0 200' 400'
1"=200'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

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Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862
State: MD | Date Signed: | Project Mgr.: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

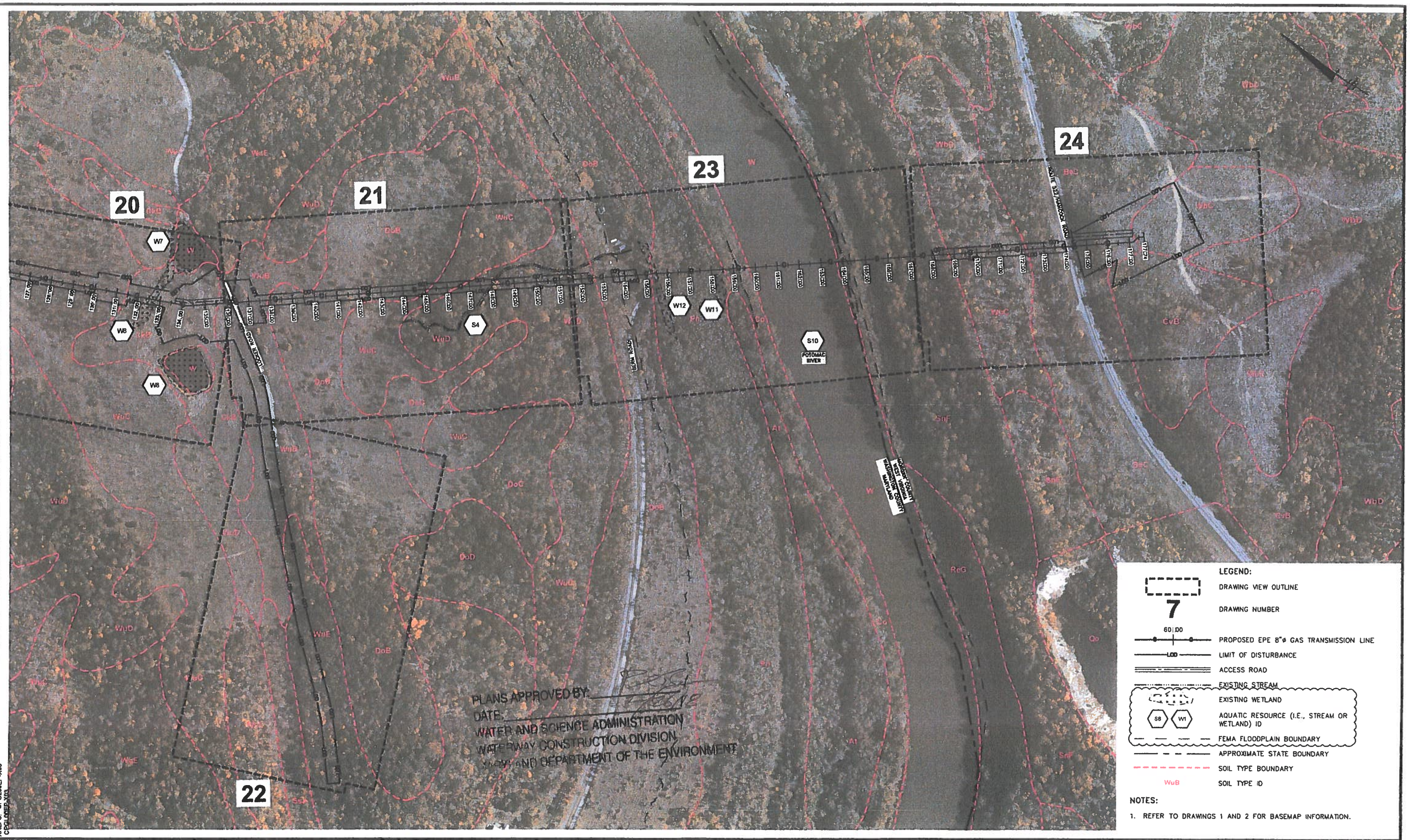
ARCADIS | Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

OVERALL SITE PLAN - STA. 59+00 TO 126+00

ARCADIS Project No. CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

4



LEGEND:

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- 60|00 — PROPOSED EPE 8"ø GAS TRANSMISSION LINE
- LOD — LIMIT OF DISTURBANCE
- ACCESS ROAD
- EXISTING STREAM
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- S8 / W1 — AQUATIC RESOURCE (I.E., STREAM OR WETLAND) ID
- FEMA FLOODPLAIN BOUNDARY
- APPROXIMATE STATE BOUNDARY
- SOIL TYPE BOUNDARY
- WuB — SOIL TYPE ID

NOTES:

1. REFER TO DRAWINGS 1 AND 2 FOR BASEMAP INFORMATION.

1" = 200' (200' 0 200' 400')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER — 8/18/17

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COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS

EASTERN PANHANDLE EXPANSION PROJECT

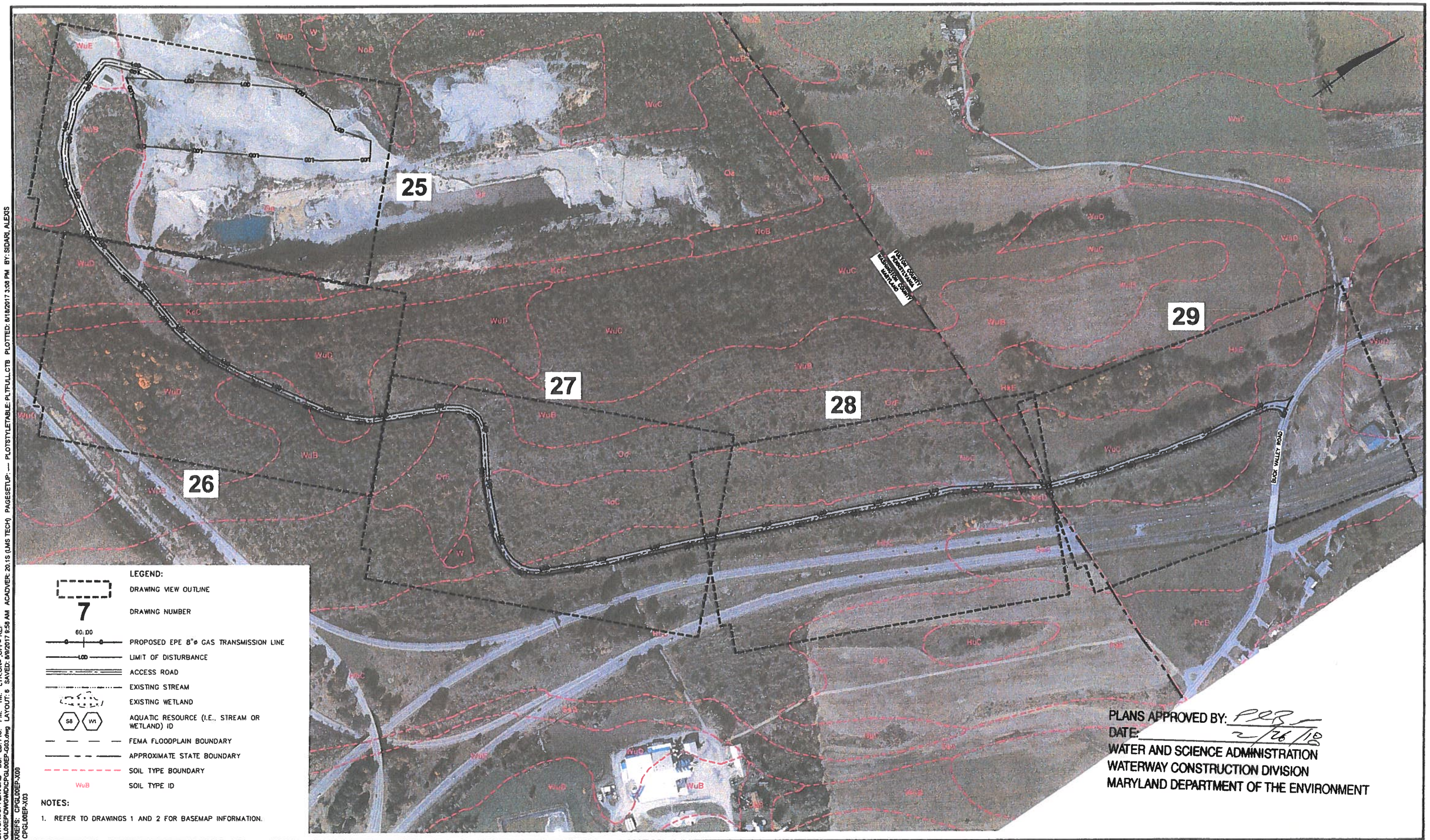
OVERALL SITE PLAN - STA. 126+00 TO 177+74

ARCADIS Project No.
CPGL60EP.0001.0008A

Date
MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9160

5



LEGEND:

- DRAWING VIEW OUTLINE
- 7 — DRAWING NUMBER
- 60:D0 — PROPOSED EPE 8"ø GAS TRANSMISSION LINE
- LOD — LIMIT OF DISTURBANCE
- ACCESS ROAD
- EXISTING STREAM
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- S8 / W1 — AQUATIC RESOURCE (I.E., STREAM OR WETLAND) ID
- FEMA FLOODPLAIN BOUNDARY
- APPROXIMATE STATE BOUNDARY
- SOIL TYPE BOUNDARY
- WuB — SOIL TYPE ID

NOTES:

1. REFER TO DRAWINGS 1 AND 2 FOR BASEMAP INFORMATION.

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

200' 0 200' 400'
1"=200'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No	Date	Revisions	By	Ckd

Professional Engineer's Name: ALLEN LONG		
Professional Engineer's No: MD 34862		
State: MD	Date Signed:	Project Mgr: JD
Designed by: ALS	Drawn by: ALS	Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

OVERALL SITE PLAN - CONTRACTOR STAGING AREA AND TEMPORARY ACCESS ROAD TAR-1

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel: 724.742.9180

6

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON="OFF="REF"
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XREFS: CPGL00EP-X00
CPGL00EP-X03

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TEMPORARY EARTH DISTURBANCE IN PENNSYLVANIA WILL BE CONDUCTED UNDER A SEPARATE EROSION AND SEDIMENT CONTROL PLAN REVIEW. ONLY WORK IN MARYLAND IS INCORPORATED WITHIN THIS PLAN.
3. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
4. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
5. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
6. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
7. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
8. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
9. THE PORTION OF EXISTING ACCESS ROAD PAR-1 FROM APPROXIMATELY STATION 0+00 TO 12+00 IS AN EXISTING DIRT FARM ROAD THAT WILL BE IMPROVED WITH THE PLACEMENT OF STONE. THE REMAINING PORTION OF EXISTING ACCESS ROAD PAR-1 (BETWEEN STATIONS 12+00 AND 51+98) IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.

EXISTING 24" CPG LINE 1024D ROW
EXISTING 24" CPG LINE 1024D
EXISTING 20" CPG LINE 1804
EXISTING 20" CPG LINE 1804 ROW
MAINLINE VALVE AND TIE-IN ASSEMBLY AREA
M100
0+00
3/33 SILT FENCE (TYP.)
1+00
PROPOSED EPE 8" PIPELINE
PERMANENT GRAVEL ACCESS ROAD PAR-1 TO BE IMPROVED (SEE NOTE 9) 2/37
EXISTING BUILDING
EXISTING CPG LINE 138
2+00
FULTON COUNTY PENNSYLVANIA
WASHINGTON COUNTY MARYLAND
3+00
4/36 MOUNTABLE BERM (TYP.)
EXISTING WATER WELL
EXISTING BUILDING
HEATHER & JAMES W. TRAIL
4+00
APPROXIMATE TRENCH LIMITS
LARRY A. & VICKY L. ROLLINS
5+00
1/34 INTERCEPTOR DIVERSION (TYP.)
6+00
FOR CONTINUATION SEE DRAWING 8

W4
S1E
4/35 DAM AND PUMP BYPASS STREAM CROSSING
2/36 WEIGHTED SEDIMENT FILTER TUBE (TYP.)
REFER TO DRAWING 30 FOR PLAN AND PROFILE
4/37 RIPRAP BASIN ENERGY DISSIPATOR
BEGIN ACCESS ROAD IMPROVEMENTS (SEE NOTE 9)
FULTON COUNTY PENNSYLVANIA
WASHINGTON COUNTY MARYLAND
10+00
EXISTING CULVERTS TO BE REPLACED
1/35 SOIL STABILIZATION MATTING (TYP.)
11+00
12+00
APPROXIMATE CENTERLINE OF EXISTING ACCESS ROAD PAR-1 (WILL NOT BE IMPROVED)
14+00
RONALD GOLDEN
3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.)
15+00

PLANS APPROVED BY:
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

CITY: WEXFORD, PA DIVGROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CADD\ACADPrj\CPGL00EP\DWG\MDCPGL00EP-004.dwg LAYOUT: 7 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:20 PM BY: SIDARI, ALEXIS
XREFS: CPGL00EP-X00, CPGL00EP-X01, CPGL00EP-X02

1"=50' (50' 0 50' 100')
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No.	Date	Revisions	By	Ckd
3	8/11/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
2	7/11/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/11/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862
State: MD | Date Signed: | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

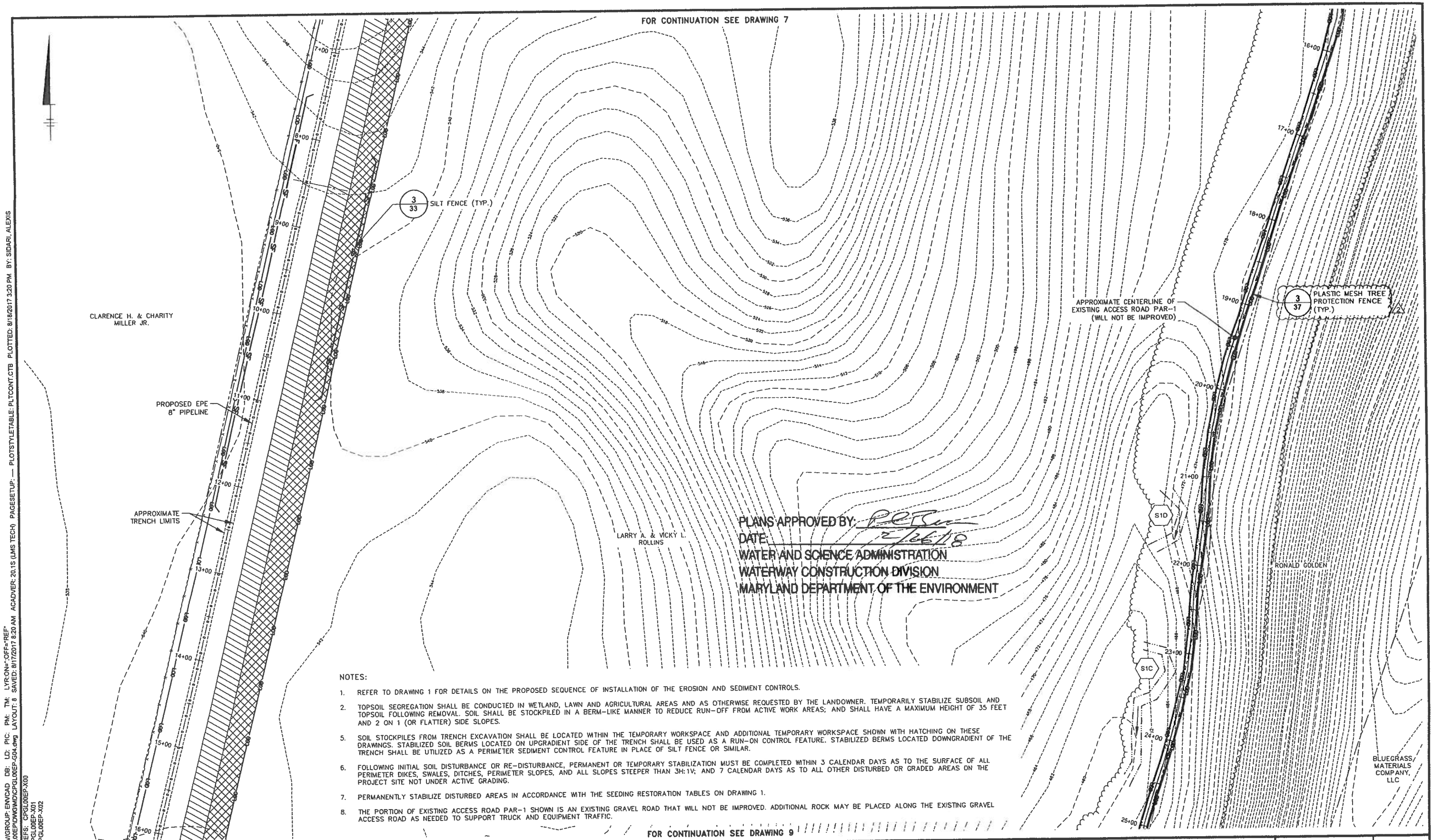
COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 0+00 TO 6+50)

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS, 6041 Wallace Road Extension, Suite 300, Wexford, PA 15090, Tel. 724.742.9180

7

FOR CONTINUATION SEE DRAWING 7



PLANS APPROVED BY: _____
DATE: 12/6/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
5. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
7. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
8. THE PORTION OF EXISTING ACCESS ROAD PAR-1 SHOWN IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.

FOR CONTINUATION SEE DRAWING 9

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYRON="OFF="REF"
G:\CADDACAD\Proj\CPGL00EP\DWG\MCPGL00EP-004.dwg LAYOUT: 8 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:20 PM BY: SIDARI, ALEXIS
XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
A	7/7/17	FOREST CONSERVATION ACT RE: UIREMENT	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No.		
MD 34862		
State: MD	Date Signed:	Project Mgr: JD
Designed by: ALS	Drawn by: ALS	Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER — 12/7/17

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 6+50 TO 16+00)

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS, 6041 Wallace Road Extension, Suite 300, Wexford, PA 15090, Tel. 724.742.9180

8

FOR CONTINUATION SEE DRAWING 8

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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CLARENCE H. & CHARITY MILLER JR.

LARRY A. & VICKY L. ROLLINS

LARRY A. & VICKY L. ROLLINS

RONALD GOLDEN

MICHAEL H. & CHARLOTTE HOFFMAN

APPROXIMATE TRENCH LIMITS

PROPOSED EPE 8" PIPELINE

APPROXIMATE CENTERLINE OF EXISTING ACCESS ROAD PAR-1 (WILL NOT BE IMPROVED)

3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.)

16+00 17+00 18+00 19+00 20+00 21+00 22+00 23+00 24+00 25+00 26+00 27+00 28+00 29+00 30+00 31+00 32+00 33+00 34+00 35+00

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

FOR CONTINUATION SEE DRAWING 10

CITY:\WEXFORD_PA DIVGROUP:ENVCAD DB: LD: PIC: PM: TM: LYRON="OFF*;REF*
G:\CAD\ACAD\Proj\CPGL00EP\DWG\MDCPGL00EP-G04.dwg LAYOUT: 9 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP:--- PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:20 PM BY: SIDARI, ALEXIS

XREFs: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING: USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
1	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 16+00 TO 25+50)

ARCADIS Project No.
CPGL00EP.00D1.0008A

Date
MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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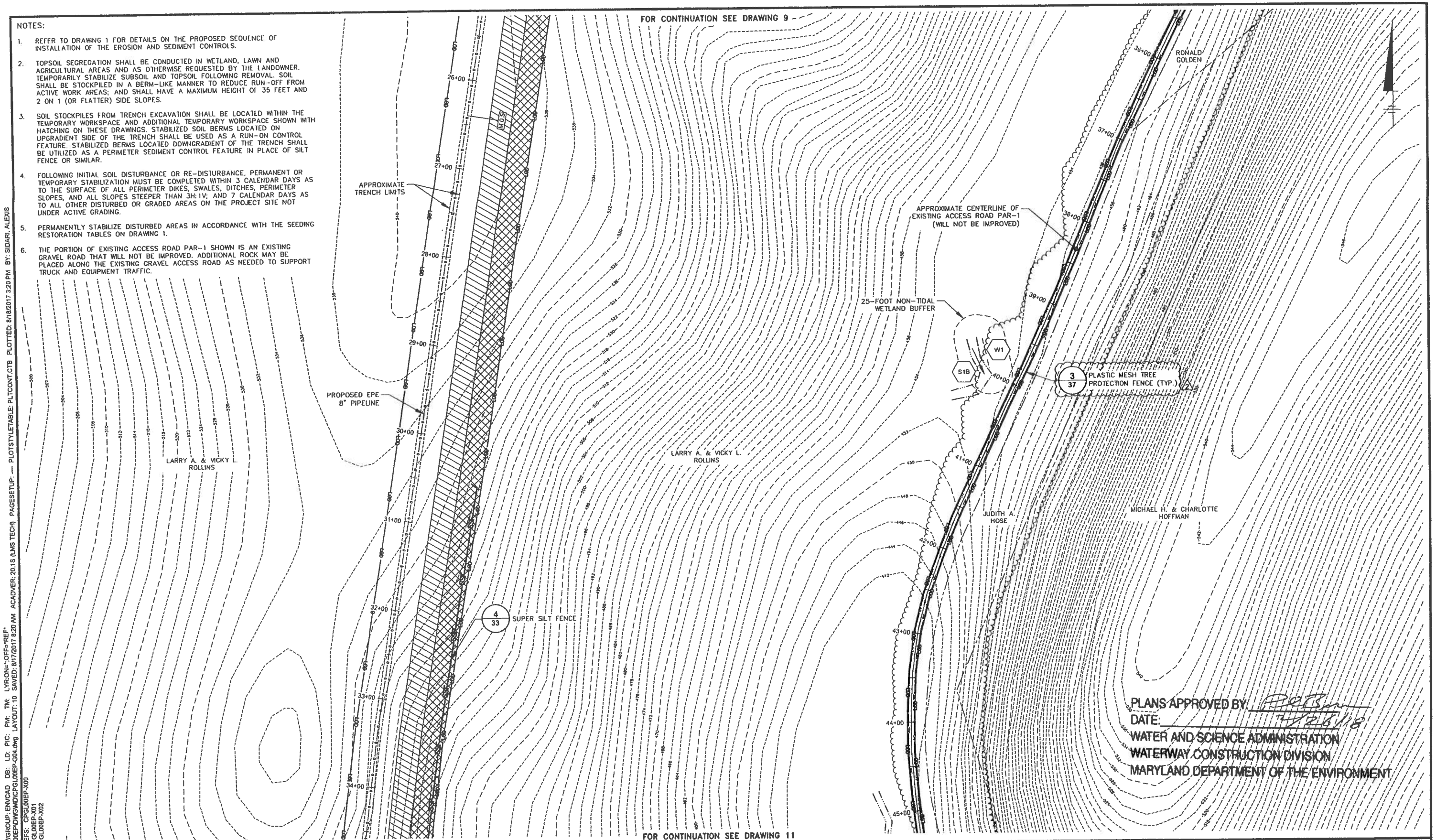
FOR CONTINUATION SEE DRAWING 9



PLANS APPROVED BY: _____
DATE: 7/28/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

FOR CONTINUATION SEE DRAWING 11

XREFS: CPGL00EP-X00, CPGL00EP-X01, CPGL00EP-X02

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CADD\ACAD\Proj\CPGL00EP\DWGS\MDIC\PGL00EP-G04.dwg LAYOUT: 10 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:20 PM BY: SIDARI, ALEXIS

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER — 8/18/17

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 25+50 TO 34+50)

ARCADIS Project No.
CPGL00EP.0001.0008A

Date
MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

10

NOTES:

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7. DISTURBANCE ACTIVITIES WITHIN PORTIONS OF THE LIMIT OF DISTURBANCE BETWEEN HORIZONTAL DIRECTIONAL DRILLING ENTRY/EXIT LOCATIONS WILL CONSIST OF TREE CLEARING ONLY. EQUIPMENT ACCESS TO THESE AREAS WILL BE REQUIRED.
8. ACTUAL LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES MAY BE ADJUSTED BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

FOR CONTINUATION SEE DRAWING 10

4/33 SUPER SILT FENCE
APPROXIMATE TRENCH LIMITS
TRENCH PLUG 2/34
FEMA FLOODPLAIN BOUNDARY
PROPOSED EPE 8" PIPELINE
1/34 INTERCEPTOR DIVERSION (TYP.)
LARRY A. & VICKY L. ROLLINS
S1A
45+00
46+00
3/37 PLASTIC MESH TREE PROTECTION FENCE
APPROXIMATE CENTERLINE OF EXISTING ACCESS ROAD PAR-1 (WILL NOT BE IMPROVED)
47+00
REFER TO DRAWING 30 FOR PLAN AND PROFILE
MICHAEL H. & CHARLOTTE HOFFMAN
48+00
2/36 WEIGHTED SEDIMENT FILTER TUBE (TYP.)
DAM AND PUMP BYPASS STREAM CROSSING 4/35
S1
4/37 RIPRAP BASIN ENERGY DISSIPATOR
50+00
EXISTING CULVERT TO BE REPLACED
MICHAEL H. & CHARLOTTE HOFFMAN
51+00
EXISTING BUILDING
STABILIZED CONSTRUCTION ENTRANCE (TYP.) 1/33
51+98
CREEK ROAD
S2
35+00
36+00
37+00
38+00
39+00
40+00
41+00
42+00
43+00
44+00
EXISTING BUILDING
HDD ENTRY
EXISTING OVERHEAD UTILITY LINE OWNED BY FIRST ENERGY
PROPOSED EPE 8" PIPELINE (HDD; SEE NOTE 7)
3/33 SILT FENCE (TYP.)
EXISTING CULVERT TO REMAIN IN PLACE
CREEK ROAD
FEMA FLOODPLAIN BOUNDARY

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

FOR CONTINUATION SEE DRAWING 12

CITY: WEXFORD, PA DIVGROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CADD\ACADProj\CPGL00EP\DWG\MD\CPGL00EP-G04.dwg LAYOUT: 11 SAVED: 9/22/2017 9:37 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 9/22/2017 10:56 AM BY: SIDARI, ALEXIS
XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

1" = 50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING

USE TO VERIFY FIGURE REPRODUCTION SCALE

No	Date	Revisions	By	Ckd
4	9/20/17	MDE COMMENT RESPONSE	ALS	ARL
3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862

State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — CHRISTOPHER T. LONG — No. 34862 — PROFESSIONAL ENGINEER — 4/12/2018

ARCADIS | Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 34+50 TO 44+00)

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel 724 742 9180

11

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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6. DISTURBANCE ACTIVITIES WITHIN PORTIONS OF THE LIMIT OF DISTURBANCE BETWEEN HORIZONTAL DIRECTIONAL DRILLING ENTRY/EXIT LOCATIONS WILL CONSIST OF TREE CLEARING ONLY. EQUIPMENT ACCESS TO THESE AREAS WILL BE REQUIRED.
7. SOIL STABILIZATION MATTING HAS BEEN PROPOSED ON SLOPES STEEPER THAN 3H:1V.

FOR CONTINUATION SEE DRAWING 11

CREEK ROAD

FEMA FLOODPLAIN BOUNDARY

SILT FENCE 3/33

45+00

S2

AREA LOCATED BETWEEN THE BANKS OF STREAM S2 AND THE NORTHERN EDGE OF I-68 WESTBOUND WILL BE HAND CLEARED

I-68 WESTBOUND

EXISTING CONCRETE STORM DRAIN

EXISTING UNDERGROUND FIBER OPTIC LINE

46+00

I-68 EASTBOUND

FEMA FLOODPLAIN BOUNDARY

47+00

PROPOSED EPE 8" PIPELINE (HDD; SEE NOTE 6)

48+00

RONNIE R. ZIMMERMAN

25-FOOT NON-TIDAL WETLAND BUFFER

RONNIE R. ZIMMERMAN

S3

LITTLE TONOLOWAY CREEK

49+00

PLANS APPROVED BY:
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

W2A

W2

50+00

S8D

EXISTING CULVERT

REEL ROAD

FEMA FLOODPLAIN BOUNDARY

51+00

1/34 INTERCEPTOR DIVERSION (TYP.)

SOIL STABILIZATION MATTING (SEE NOTE 7) 1/35

3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.)

52+00

4/33 SUPER SILT FENCE

TOWN OF HANCOCK

JOHN COHILL

53+00

FOR CONTINUATION SEE DRAWING 13

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CAD\ACAD\Proj\CPGL00EP\DWG\MDCPGL00EP-004.dwg LAYOUT: 12 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:21 PM BY: SIDARI, ALEXIS
XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

50' 0 50' 100'
1"=50'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862
State: MD | Date Signed | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER 8/18/17

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 44+00 TO 53+50)

ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel 724.742 9180

12

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

FOR CONTINUATION SEE DRAWING 12

FOR CONTINUATION SEE DRAWING 14

HDD EXIT

APPROXIMATE TRENCH LIMITS

PROPOSED EPE 8" PIPELINE

JOHN COHILL

JOHN COHILL

JOHN COHILL

3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.)

4/33 SUPER SILT FENCE (TYP.)

1/34 INTERCEPTOR DIVERSION (TYP.)

2/34 TRENCH PLUG

SOIL STABILIZATION MATTING (SEE NOTE 7) 1/35

SILT FENCE (TYP.) 3/33

GRAVEL ACCESS ROAD PAR-2 TO BE IMPROVED (SEE NOTE 8) 2/37

NOTES:

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7. SOIL STABILIZATION MATTING HAS BEEN PROPOSED ON SLOPES STEEPER THAN 3H:1V.
8. PROPOSED PERMANENT ACCESS ROAD PAR-2 IS AN EXISTING FARM ROAD THAT WILL BE STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.

PLANS APPROVED BY: [signature]
DATE: 8/28/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

50' 0 50' 100'
1"=50'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862

State	Date Signed	Project Mgr
MD		JD

Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 53+50 TO 69+00)

ARCADIS Project No.: CPGL00EP.0001.0008A

Date: MARCH 2017

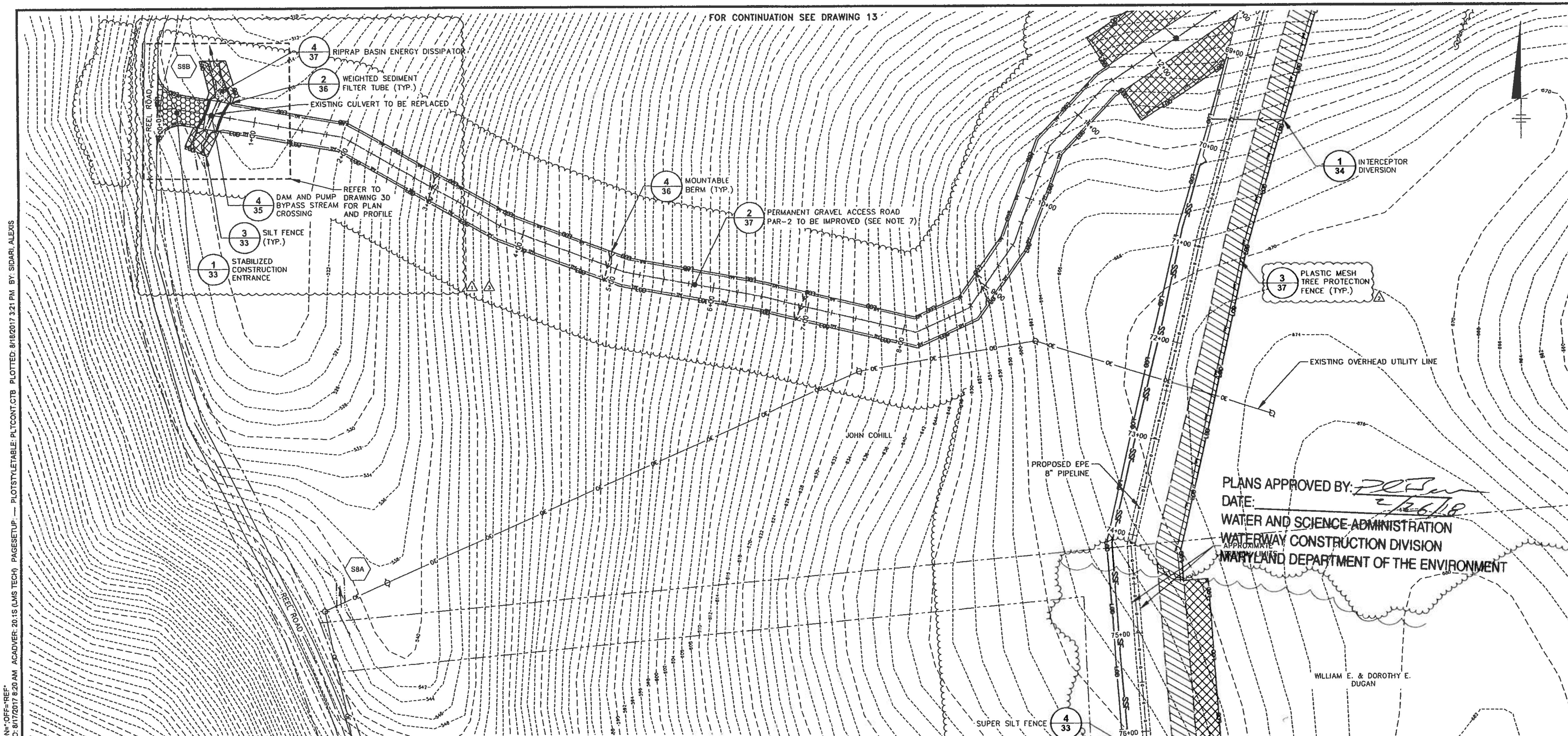
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

13

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CADD\ACAD\Proj\CPGL00EP\DWG\MD\CPGL00EP-G04.dwg LAYOUT: 14 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:21 PM BY: SIDARI, ALEXIS

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

FOR CONTINUATION SEE DRAWING 13



NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
3. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
4. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
5. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
6. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
7. PROPOSED PERMANENT ACCESS ROAD PAR-2 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.

FOR CONTINUATION SEE DRAWING 15

1"=50' — 50' 0 50' 100'
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT RE..UIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No. MD 34862		
State: MD	Date Signed	Project Mgr: JD
Designed by: ALS	Drawn by: ALS	Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS — Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 69+00 TO 78+00)

ARCADIS Project No CPGL00EP.0001.0008A
Date MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel 724 742.9180

14

FOR CONTINUATION SEE DRAWING 14

EXISTING CULVERT

EXISTING CULVERT

EXISTING CULVERT

PRIVATE DRIVE

PRIVATE DRIVE

78+00

79+00

80+00

81+00

82+00

83+00

84+00

85+00

86+00

87+00

88+00

APPROXIMATE TRENCH LIMITS

SEPTIC FIELD

EXISTING BUILDING

EXISTING BUILDING

EXISTING BUILDING

DOROTHY E. DUGAN

WILLIAM E. & DOROTHY E. DUGAN

FAIRVIEW ORCHARDS LANDBESITZ, INC.

FAIRVIEW ORCHARDS LANDBESITZ, INC.

FAIRVIEW ORCHARDS LANDBESITZ, INC.

FAIRVIEW ORCHARDS LANDBESITZ, INC.

S8

REEL ROAD

PLASTIC MESH TREE PROTECTION FENCE 3/37

4/36 MOUNTABLE BERM (TYP.)

PERMANENT GRAVEL ACCESS ROAD PAR-3 TO BE IMPROVED (SEE NOTE 7)

1/33 STABILIZED CONSTRUCTION ENTRANCE

INTERCEPTOR DIVERSION 1/34

TRENCH PLUG 2/34

4/33 SUPER SILT FENCE (TYP.)

PROPOSED EPE 8" PIPELINE

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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6. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
7. PROPOSED PERMANENT ACCESS ROAD PAR-2 IS AN EXISTING GRAVEL ROAD THAT WILL BE STABILIZED WITH ADDITIONAL STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.

FOR CONTINUATION SEE DRAWING 16

PLANS APPROVED BY:

DATE: 2/26/18

WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

50' 0 50' 100'
1"=50'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed: | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 78+00 TO 88+00)

ARCADIS Project No. CPGL00EP.0001.0008A
Date MARCH 2017
ARCADIS 6041 Wallace Road Extension Suite 300 Wexford, PA 15090 Tel. 724.742.9180

15

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM LYR:ON=*;OFF=*REF*
G:\CAD\ACADVProj\CPGL00EP\DWG\MD\CPGL00EP-G04.dwg LAYOUT: 15 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: -- PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:21 PM BY: SIDARI, ALEXIS
XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

NOTES:

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7. ACTUAL LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES MAY BE ADJUSTED BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

FOR CONTINUATION SEE DRAWING 16

FAIRVIEW ORCHARDS LANDBESITZ, INC.

PROPOSED EPE 8" PIPELINE

APPROXIMATE TRENCH LIMITS

PROPOSED CATHODIC PROTECTION ANODE GROUNDBED

INTERCEPTOR DIVERSION (TYP.) 1/34

STATE ROUTE 144

SILT FENCE 3/33

LYNN R. & SANDRA E. LARGENT

4/33 SUPER SILT FENCE (TYP.)

EXISTING BUILDING

STABILIZED CONSTRUCTION ENTRANCE (TYP.) 1/33

WALLACE STEMPLE

MASON DIXON COUNCIL, INC.

STEVEN R. & FAYE E. CONLEY

EXISTING BUILDING

EXISTING BUILDING

PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

CONTINUATION SEE DRAWING 18

CITY: WEXFORD, PA DIV/GROUP: ENV/CAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF* G:\CADD\ACADPro\CPGL00EP\DWGS\MDC\CPGL00EP-G04.dwg LAYOUT: 16 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:21 PM BY: SIDARI, ALEXIS

XREFS: CPGL00EP-X00 CPGL00EP-X01 CPGL00EP-X02

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Chkd
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No.		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND ALLEN E. LONG MD 34862 PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS

EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (CATHODIC PROTECTION ANODE GROUNDBED AT STA. 94+00)

ARCADIS Project No. CPGL00EP.0001.0008A

Date MARCH 2017

ARCADIS 6041 Wallace Road Extension Suite 300 Wexford, PA 15090 Tel. 724.742.9180

16

FOR CONTINUATION SEE DRAWING 16

2/36 WEIGHTED SEDIMENT FILTER TUBE (TYP.)

2/35 TEMPORARY ACCESS BRIDGE

W10

S13

W14

25-FOOT NON-TIDAL WETLAND BUFFER

REFER TO DRAWING 31 FOR PLAN AND PROFILE

4/35 DAM AND PUMP BYPASS STREAM CROSSING

SUPER SILT FENCE (TYP.) 4/33

WILLIAM E. & DOROTHY E. DUGAN

PROPOSED CATHODIC PROTECTION ANODE GROUNDBED

INTERCEPTOR DIVERSION (TYP.) 1/34

JOHN COHILL

EXISTING BUILDING

TEMPORARY GRAVEL ACCESS ROAD TAR-3 TO BE IMPROVED

MOUNTABLE BERM 4/36

FAIRVIEW ORCHARDS LANDBESITZ, INC.

1/35 SOIL STABILIZATION MATTING (SEE NOTE 5)

ELECTRIC UTILITY POLE TO BE RELOCATED

3/33 SILT FENCE (TYP.)

3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.)

53+00

84+00

STATE ROUTE 144

85+00

MERIDITH A. CLARK

ELECTRIC UTILITY POLE TO BE RELOCATED

DONALD D. & KENDRA K. TRAIL

1/33 STABILIZED CONSTRUCTION ENTRANCE

EXISTING GRAVEL PULL-OFF AREA

PLANS APPROVED BY: PCB
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLANDS, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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7. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
8. PROPOSED TEMPORARY ACCESS ROAD TAR-2 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC. FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES, THE ACCESS ROAD WILL BE REMOVED AND THE AREA RESTORED TO PRE-CONSTRUCTION CONDITIONS.

FOR CONTINUATION SEE DRAWING 18

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

50' 0 50' 100'
1"=50'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT RE JUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862

State	Date Signed	Project Mgr
MD		JD
Designed by: ALS	Drawn by: ALS	Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — NO. 34862 — PROFESSIONAL ENGINEER — 8/17/17

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (CATHODIC PROTECTION ANODE GROUNDBED AT STA. 94+25)

ARCADIS Project No. CPGL00EP.0001.0008A

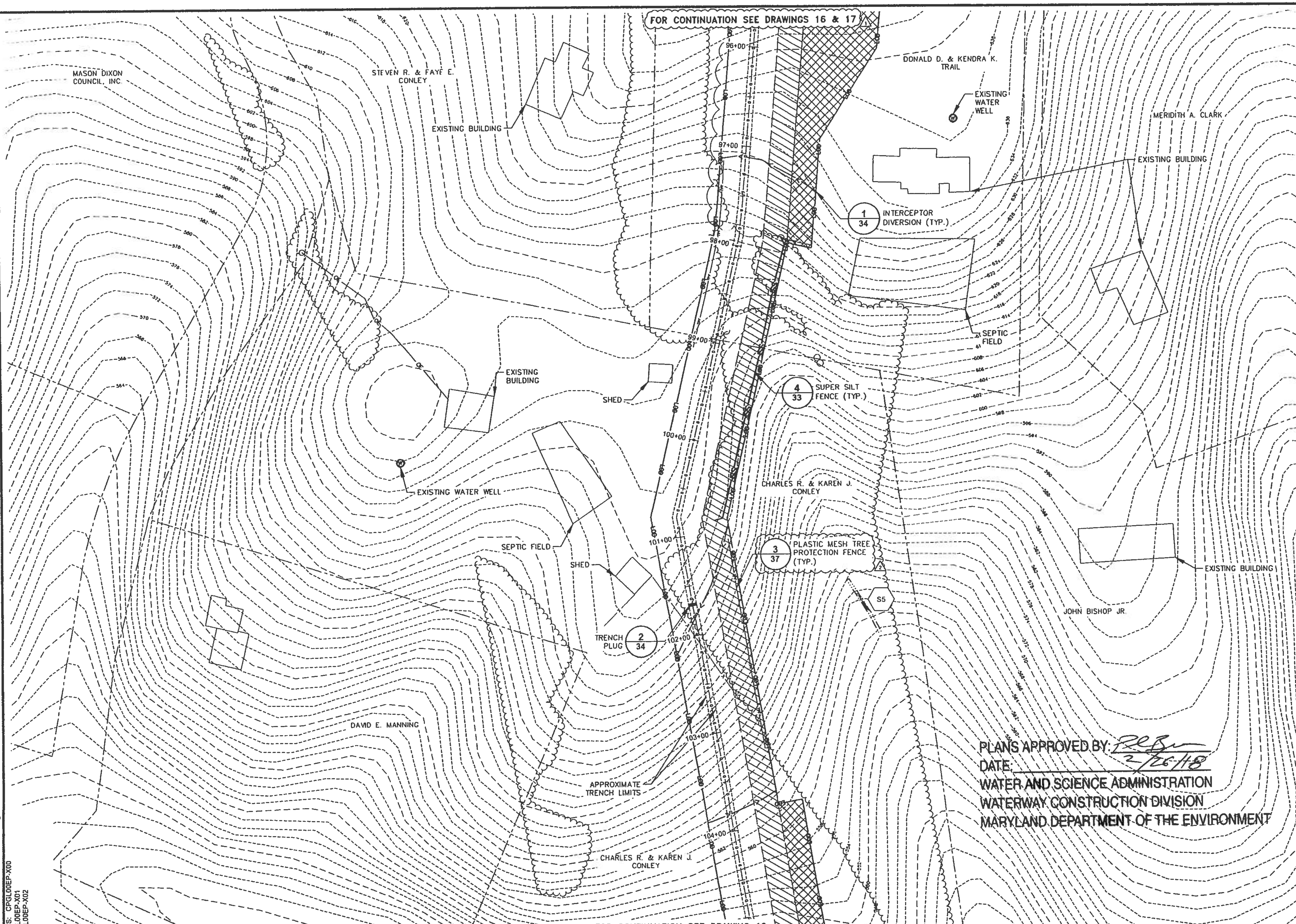
Date MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

17

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

FOR CONTINUATION SEE DRAWINGS 16 & 17



PLANS APPROVED BY:
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
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FOR CONTINUATION SEE DRAWING 19

50' 0 50' 100'
1"=50'
THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING
USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862
State: MD | Date Signed: | Project Mgr.: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 95+00 TO 105+00)

ARCADIS Project No. CPGL00EP.0001.0008A
Date MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

18

FOR CONTINUATION SEE DRAWING 16

FOR CONTINUATION SEE DRAWING 20

JOHN BISHOP JR.

25-FOOT NON-TIDAL WETLAND BUFFER

W5

W3

W9

S6

M20

WEIGHTED SEDIMENT FILTER TUBE (TYP.) 2/36

REFER TO DRAWING 31 FOR PLAN AND PROFILE

2/35 TEMPORARY ACCESS BRIDGE

1/34 INTERCEPTOR DIVERSION (TYP.)

SOIL STABILIZATION MATTING (SEE NOTE 6) 1/35

3/33 SILT FENCE (TYP.)

3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.)

PROPOSED EPE 8" PIPELINE

APPROXIMATE TRENCH LIMITS

2/34 TRENCH PLUG (TYP.)

4/35 DAM AND PUMP BYPASS STREAM CROSSING

GRAVEL PATH

FAIRVIEW ORCHARDS LANDBESITZ, INC.

PLANS APPROVED BY:

DATE:

WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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5. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
6. SOIL STABILIZATION MATTING HAS BEEN PROPOSED ON SLOPES STEEPER THAN 3H:1V.
7. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
8. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.

1"=50' 50' 0 50' 100'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862

Designed by	Drawn by	Checked by
ALS	ALS	ARL

State	Date Signed	Project Mgr
MD		JD

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

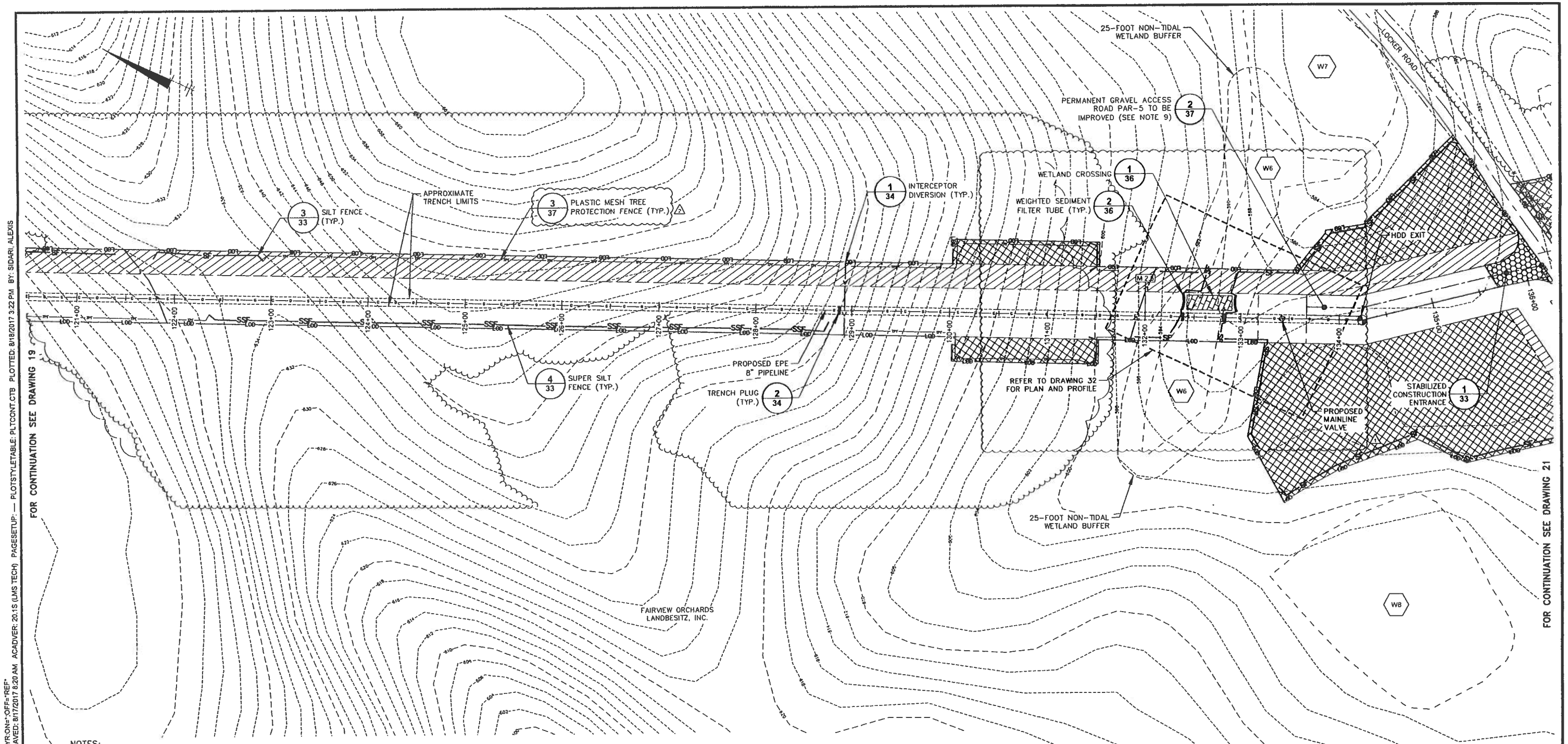
COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 105+00 TO 120+50)

ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724 742 9180

19



NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
4. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
5. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
7. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
8. PROPOSED PERMANENT ACCESS ROAD PAR-5 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.

PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

50' 0 50' 100'
1"=50'

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No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER 4/6/17

ARCADIS Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 120+50 TO 136+00)

ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS 6041 Wallace Road Extension Suite 300 Wexford, PA 15090 Tel. 724.742.9180

20

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD PIC: PW: TM: LYR:ON=*;OFF=*REF*
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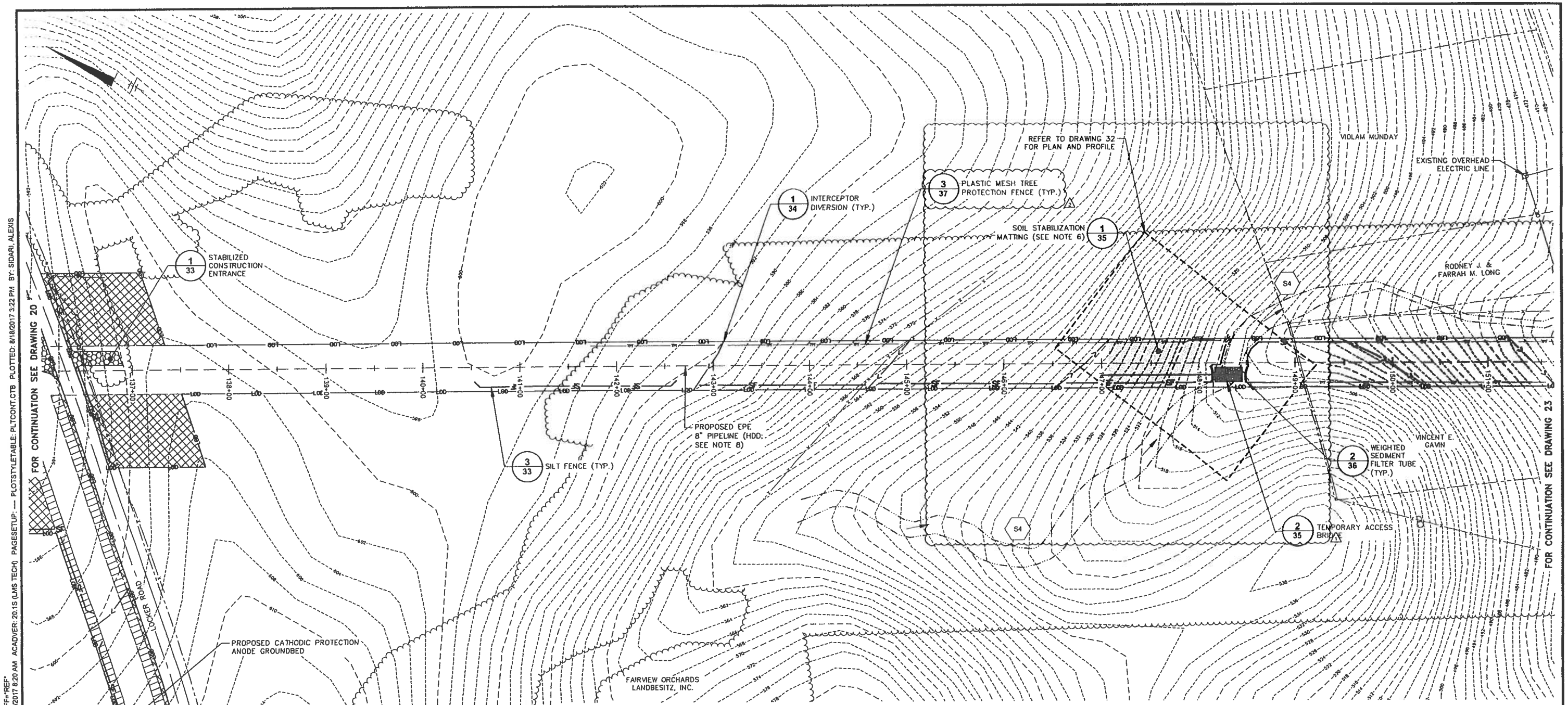
XREFS: CPGL00EP-X00 CPGL00EP-X01 CPGL00EP-X02



PLANS APPROVED BY:

DATE:

WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES
4. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
5. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
6. SOIL STABILIZATION MATTING HAS BEEN PROPOSED ON SLOPES STEEPER THAN 3H:1V.
7. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
8. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
9. DISTURBANCE ACTIVITIES WITHIN PORTIONS OF THE LIMIT OF DISTURBANCE BETWEEN HORIZONTAL DIRECTIONAL DRILLING ENTRY/EXIT LOCATIONS WILL CONSIST OF TREE CLEARING ONLY.
10. ACTUAL LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES MAY BE ADJUSTED BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT RE: UIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34862

State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — NO. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

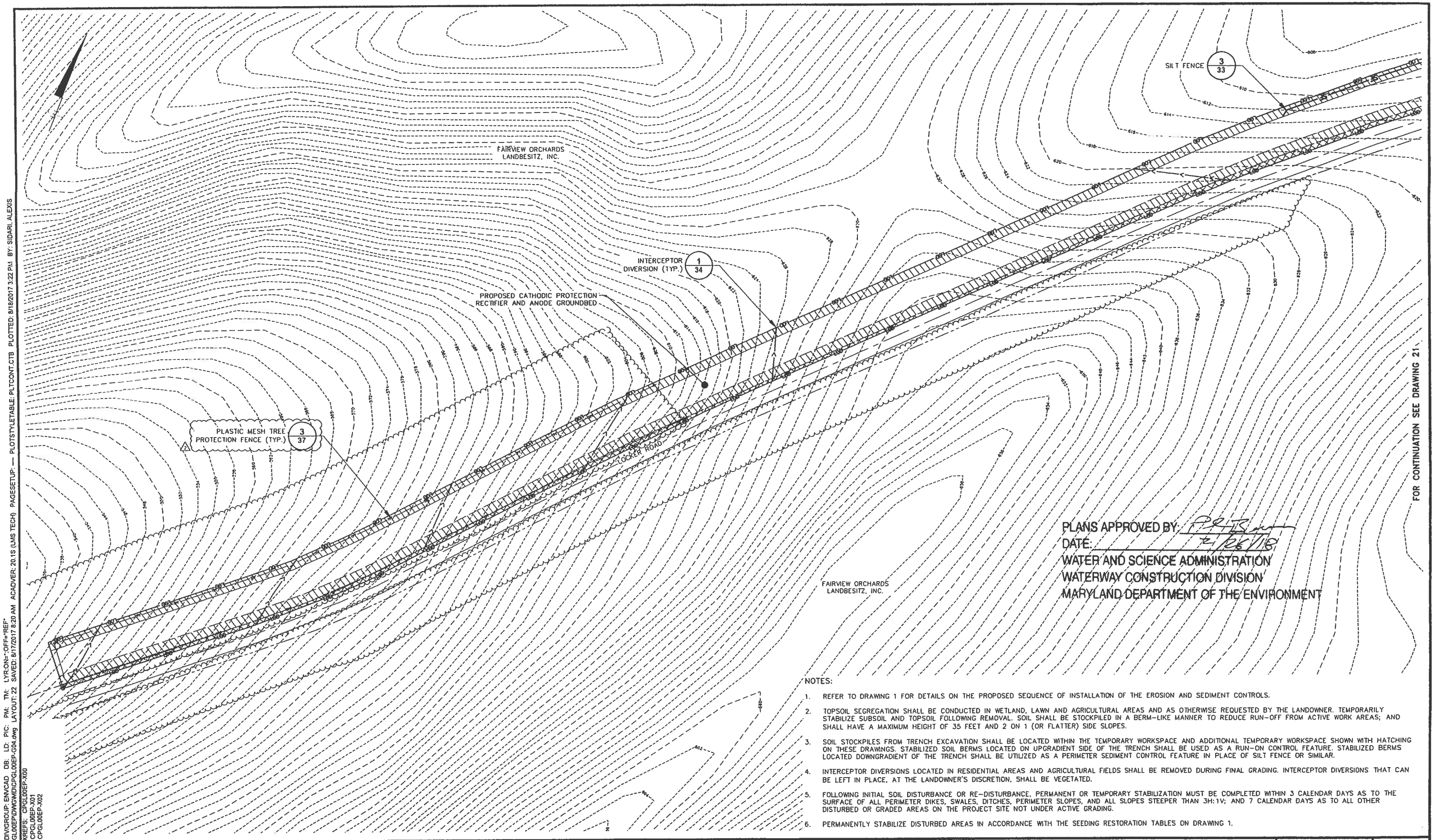
SITE PLAN (STA. 136+00 TO 151+50)

ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel: 724.742.9180

21

CITY: WEXFORD, PA DIVGROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF* G:\CAD\DVACADPro\CPGL00EP\DWG\MD\CPGL00EP-G04.dwg LAYOUT: 21 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:22 PM BY: SIDARI, ALEXIS

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02



PLANS APPROVED BY: [signature]
DATE: 8/18/17
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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6. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.

CITY: WEXFORD, PA DIVGROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
1	7/7/17	FOREST CONSERVATION ACT RE)UIREMENT	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No.		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND · ALLEN R. LONG · No. 34862 · PROFESSIONAL ENGINEER

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

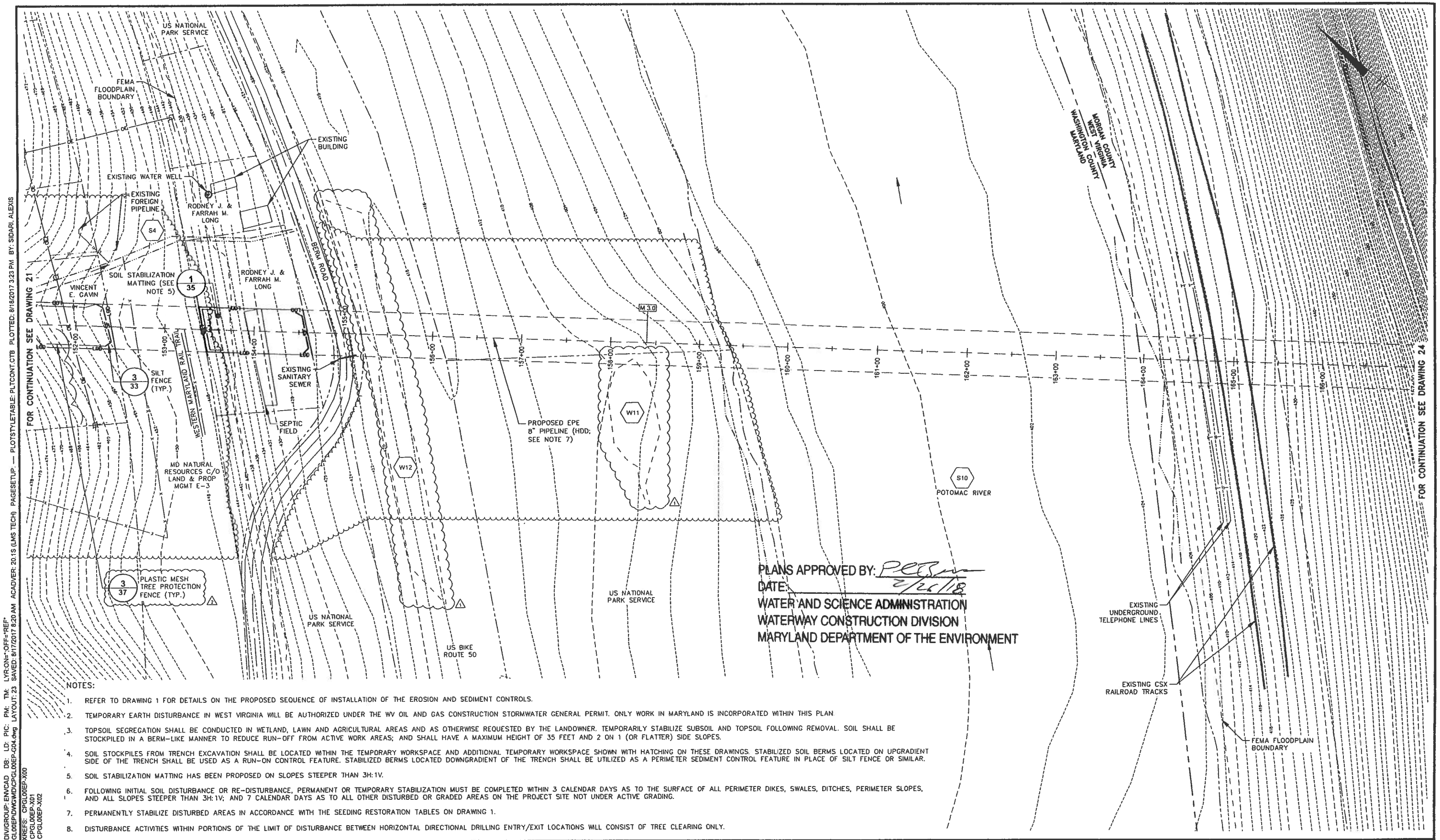
SITE PLAN (ANODE GROUNDBED CATHODIC PROTECTION AT STA. 136+00)

ARCADIS Project No.
CPGL00EP.0001.0008A

Date
MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

22



PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TEMPORARY EARTH DISTURBANCE IN WEST VIRGINIA WILL BE AUTHORIZED UNDER THE WV OIL AND GAS CONSTRUCTION STORMWATER GENERAL PERMIT. ONLY WORK IN MARYLAND IS INCORPORATED WITHIN THIS PLAN.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
4. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE TEMPORARY WORKSPACE AND ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
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8. DISTURBANCE ACTIVITIES WITHIN PORTIONS OF THE LIMIT OF DISTURBANCE BETWEEN HORIZONTAL DIRECTIONAL DRILLING ENTRY/EXIT LOCATIONS WILL CONSIST OF TREE CLEARING ONLY.

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON='OFF='REF'
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XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name	ALLEN LONG
Professional Engineer's No	MD 34862
State	MD
Date Signed	
Project Mgr	JD
Designed by	ALS
Drawn by	ALS
Checked by	ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER 8/17/17

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 151+50 TO 167+00)

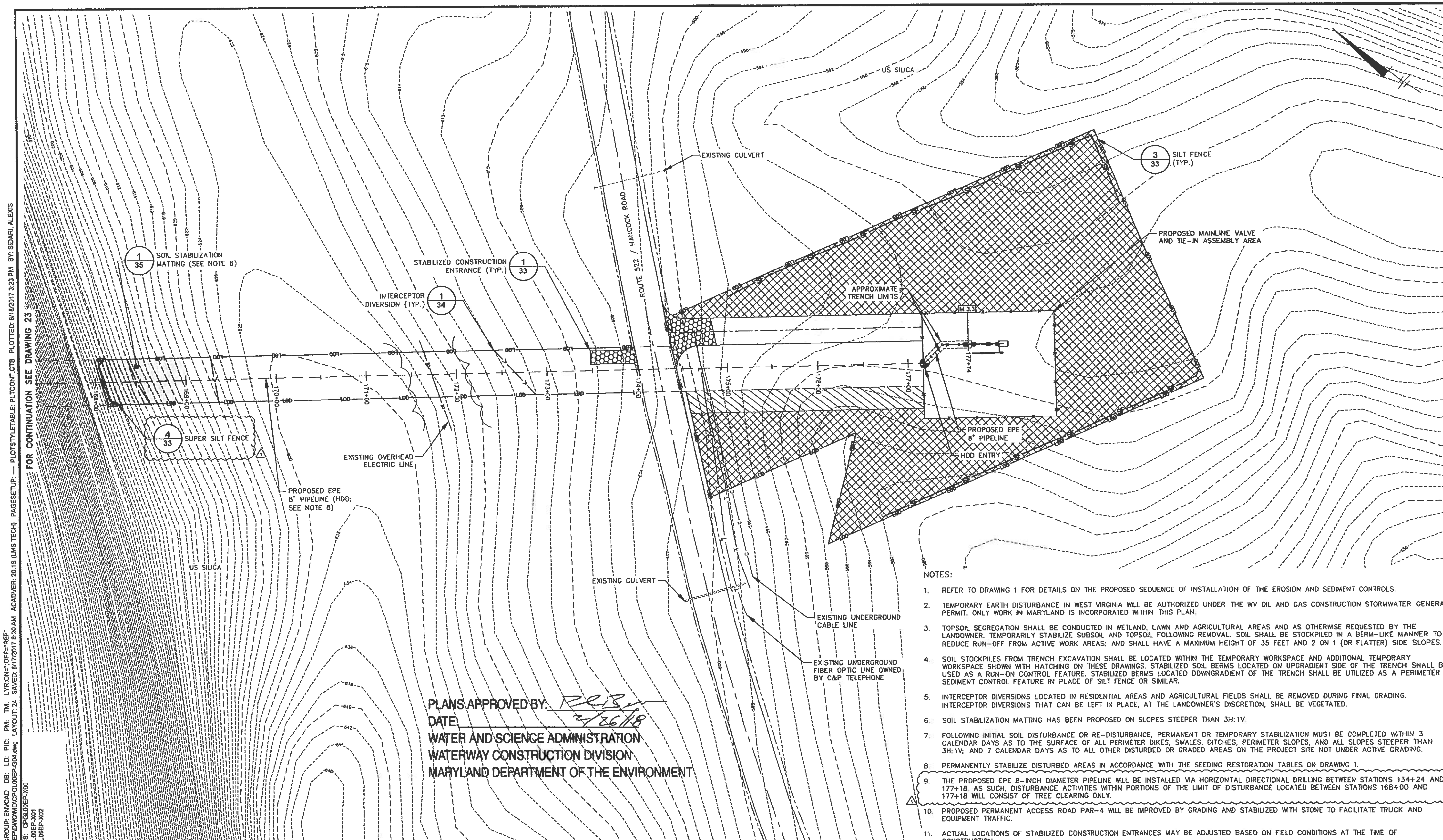
ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

23

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CADD\ACAD\Proj\CPGL00EP\DWG\MD\CPGL00EP-G04.dwg LAYOUT: 24 SAVED: 8/17/2017 8:20 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: — PLOTSTYLETABLE: PLTCONT.CTB PLOTTED: 8/18/2017 3:23 PM BY: SIDARI, ALEXIS
XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

FOR CONTINUATION SEE DRAWING 23



PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TEMPORARY EARTH DISTURBANCE IN WEST VIRGINA WILL BE AUTHORIZED UNDER THE WV OIL AND GAS CONSTRUCTION STORMWATER GENERAL PERMIT. ONLY WORK IN MARYLAND IS INCORPORATED WITHIN THIS PLAN.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
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8. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
9. THE PROPOSED EPE 8-INCH DIAMETER PIPELINE WILL BE INSTALLED VIA HORIZONTAL DIRECTIONAL DRILLING BETWEEN STATIONS 134+24 AND 177+18. AS SUCH, DISTURBANCE ACTIVITIES WITHIN PORTIONS OF THE LIMIT OF DISTURBANCE LOCATED BETWEEN STATIONS 168+00 AND 177+18 WILL CONSIST OF TREE CLEARING ONLY.
10. PROPOSED PERMANENT ACCESS ROAD PAR-4 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.
11. ACTUAL LOCATIONS OF STABILIZED CONSTRUCTION ENTRANCES MAY BE ADJUSTED BASED ON FIELD CONDITIONS AT THE TIME OF CONSTRUCTION.

1"=50' — 50' 0 50' 100'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
1	7/13/17	WV DEP COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed: | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS — Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (STA. 167+00 TO 177+74)

ARCADIS Project No. CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

24

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

APPROXIMATE CENTERLINE OF EXISTING GRAVEL ACCESS ROAD TAR-1 (SEE NOTE 2)

EXISTING BUILDING

EXISTING OVERHEAD UTILITY LINE

PROPOSED CONTRACTOR STAGING AREA (SEE NOTE 1)

4/33 SUPER SILT FENCE (TYP.)

3/37 PLASTIC MESH TREE PROTECTION FENCE

BLUEGRASS MATERIALS COMPANY, LLC

BLUEGRASS MATERIALS COMPANY, LLC

FOR CONTINUATION SEE DRAWING 26

PLANS APPROVED BY: _____
DATE: 9/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. THE PROPOSED CONTRACTOR STAGING AREA IS LOCATED ON EXISTING GRAVEL SURFACES. IT IS NOT ANTICIPATED THAT USE OF THE STAGING AREA WILL RESULT IN SOIL DISTURBANCE IF EXCESSIVE RUTTING OCCURS, THE AREA WILL BE STABILIZED WITH GEOTEXTILE AND GRAVEL FOR THE REMAINDER OF WORK. THIS AREA WILL REMAIN A GRAVEL SURFACE FOLLOWING COMPLETION OF CONSTRUCTION ACTIVITIES.
2. PROPOSED TEMPORARY ACCESS ROAD TAR-1 IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL

Professional Engineer's Name: ALLEN LONG			
Professional Engineer's No.: MD 34862			
State: MD	Date Signed:	Project Mgr: JD	
Designed by: ALS	Drawn by: ALS	Checked by: ARL	

STATE OF MARYLAND · ALLEN R. LONG · No. 34862 · PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (CONTRACTOR STAGING AREA AND TEMPORARY ACCESS ROAD TAR-1)

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

25

FOR CONTINUATION SEE DRAWING 25

BLUEGRASS MATERIALS COMPANY, LLC

3/37 PLASTIC MESH TREE PROTECTION FENCE (TYP.) 2

BLUEGRASS MATERIALS COMPANY, LLC

APPROXIMATE CENTERLINE OF EXISTING GRAVEL ACCESS ROAD TAR-1 (SEE NOTE 1)

BLUEGRASS MATERIALS COMPANY, LLC

BLUEGRASS MATERIALS COMPANY, LLC

FOR CONTINUATION SEE DRAWING 27

PLANS APPROVED BY: _____
DATE: 8/16/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. PROPOSED TEMPORARY ACCESS ROAD TAR-1 IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.

CITY: WEXFORD, PA DIV/GROUP: ENV/CAD DB: LD: PIC: PM: TM: LYR/ON=*;OFF=*REF*
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XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed: | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

SITE PLAN (TEMPORARY ACCESS ROAD TAR-1)

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

26

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

FOR CONTINUATION SEE DRAWING 26

FOR CONTINUATION SEE DRAWING 28

BLUEGRASS MATERIALS COMPANY, LLC

BLUEGRASS MATERIALS COMPANY, LLC

APPROXIMATE CENTERLINE OF EXISTING GRAVEL ACCESS ROAD TAR-1 (SEE NOTE 1)

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. PROPOSED TEMPORARY ACCESS ROAD TAR-1 IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING

USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No.: MD 34662

State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND ALLEN RUSSELL LONG No. 34662 PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

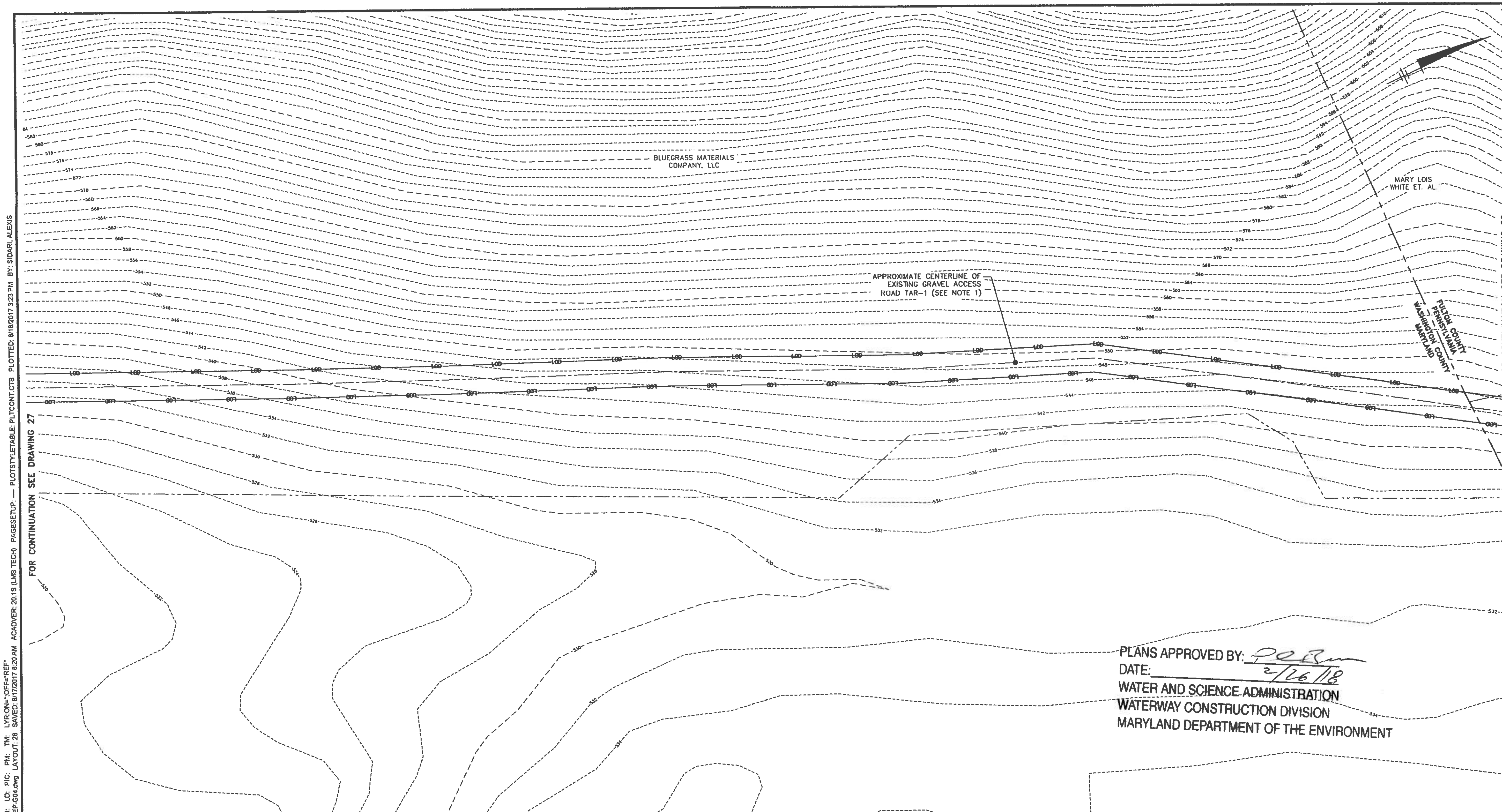
SITE PLAN (TEMPORARY ACCESS ROAD TAR-1)

ARCADIS Project No.: CPGL00EP.0001.0008A
Date: MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

27

FOR CONTINUATION SEE DRAWING 27



FOR CONTINUATION SEE DRAWING 29

PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. PROPOSED TEMPORARY ACCESS ROAD TAR-1 IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.
2. TEMPORARY EARTH DISTURBANCE IN PENNSYLVANIA WILL BE CONDUCTED UNDER A SEPARATE EROSION AND SEDIMENT CONTROL PLAN REVIEW. ONLY WORK IN MARYLAND IS INCORPORATED WITHIN THIS PLAN.

1"=50' — 50' 0 50' 100'

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862

State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS — Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

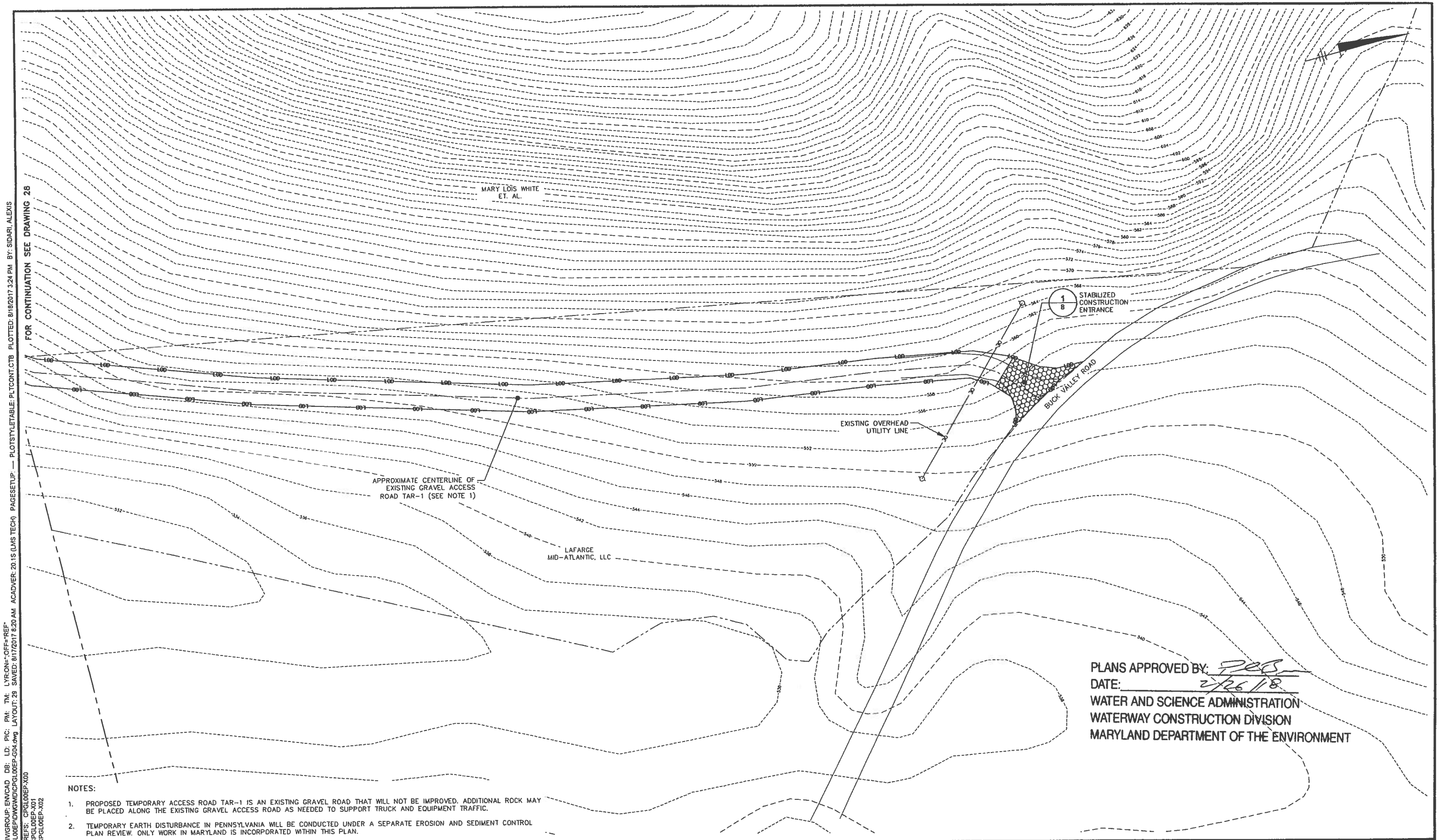
SITE PLAN (TEMPORARY ACCESS ROAD TAR-1)

ARCADIS Project No. CPGL00EP.0001.0008A
Date MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

28

XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X02

FOR CONTINUATION SEE DRAWING 28



PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. PROPOSED TEMPORARY ACCESS ROAD TAR-1 IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK AND EQUIPMENT TRAFFIC.
2. TEMPORARY EARTH DISTURBANCE IN PENNSYLVANIA WILL BE CONDUCTED UNDER A SEPARATE EROSION AND SEDIMENT CONTROL PLAN REVIEW. ONLY WORK IN MARYLAND IS INCORPORATED WITHIN THIS PLAN.

1"=50' (50' 0 50' 100')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC , A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

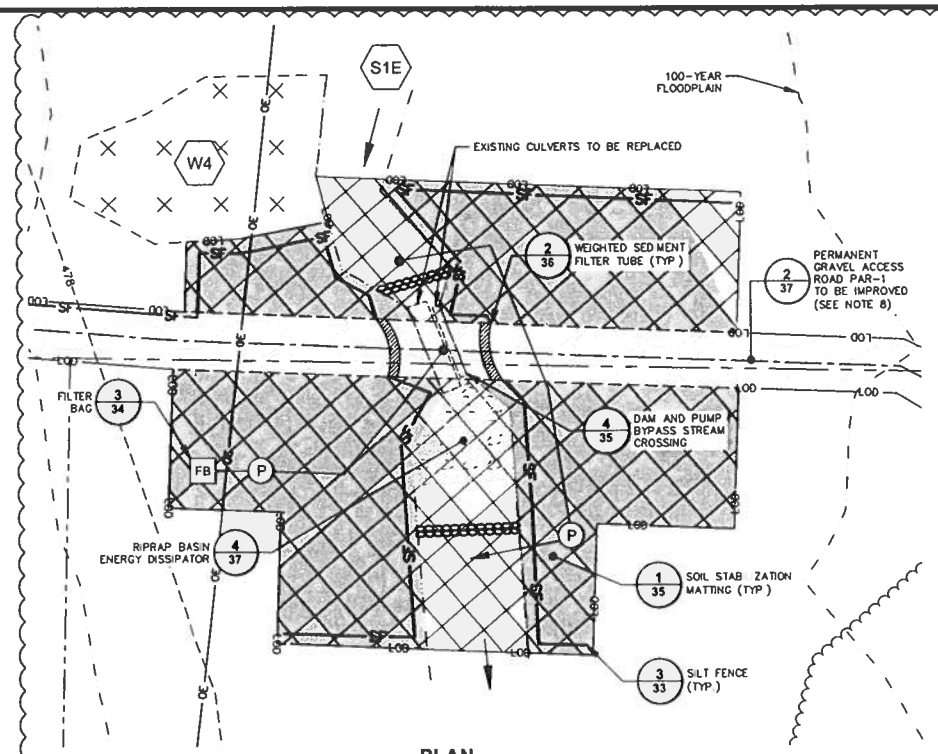
SITE PLAN (TEMPORARY ACCESS ROAD TAR-1)

ARCADIS Project No
CPGL00EP.0001.0008A

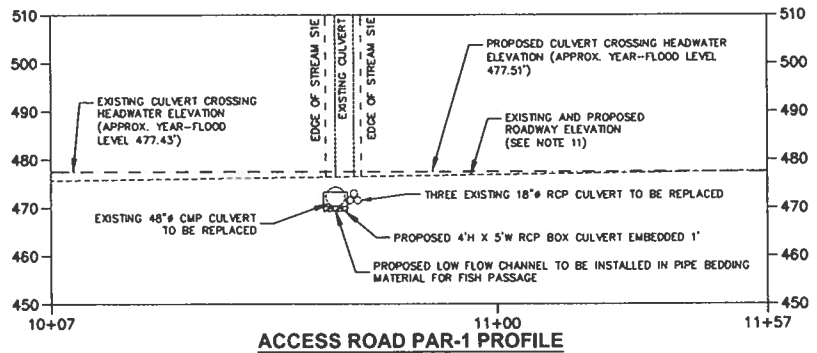
Date
MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742 9180

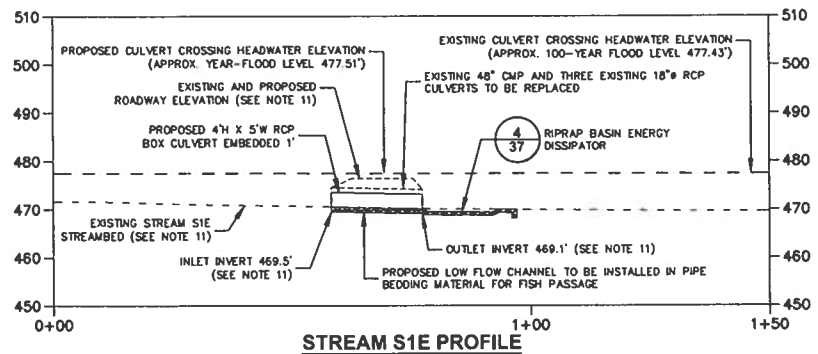
29



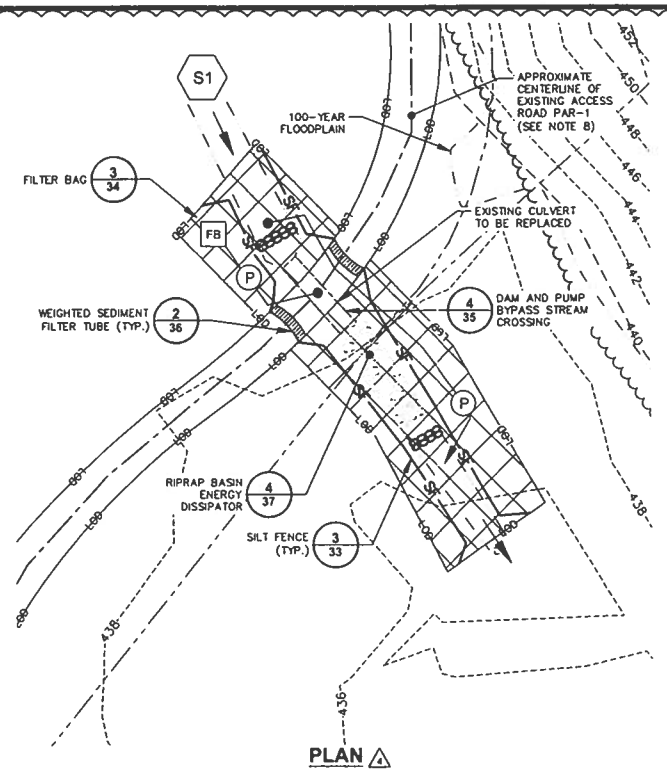
PLAN



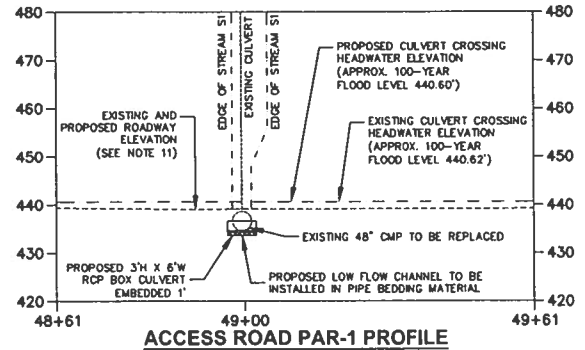
ACCESS ROAD PAR-1 PROFILE



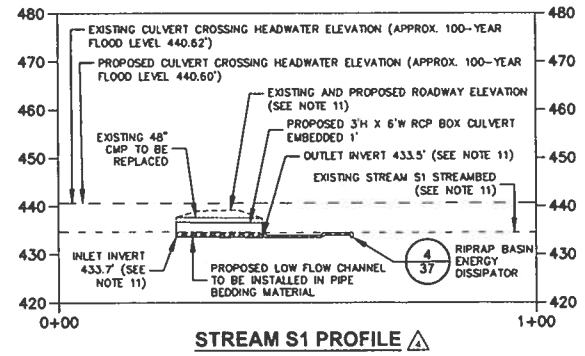
STREAM S1E PROFILE



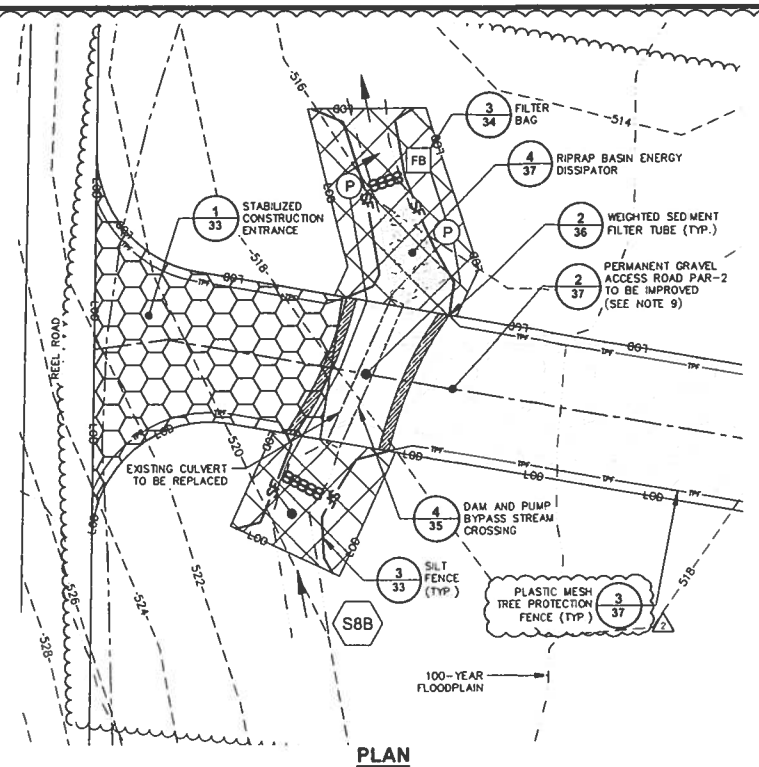
PLAN △



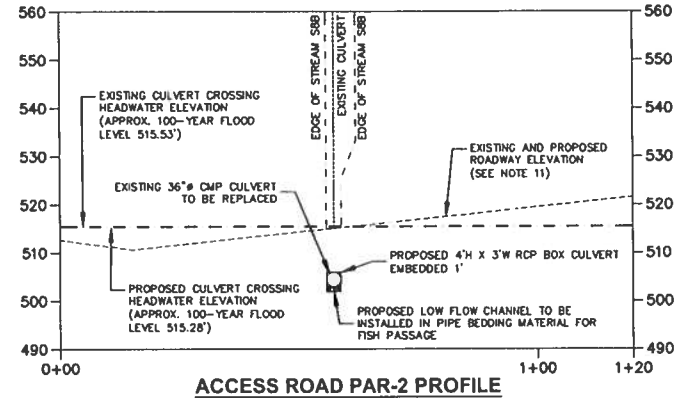
ACCESS ROAD PAR-1 PROFILE



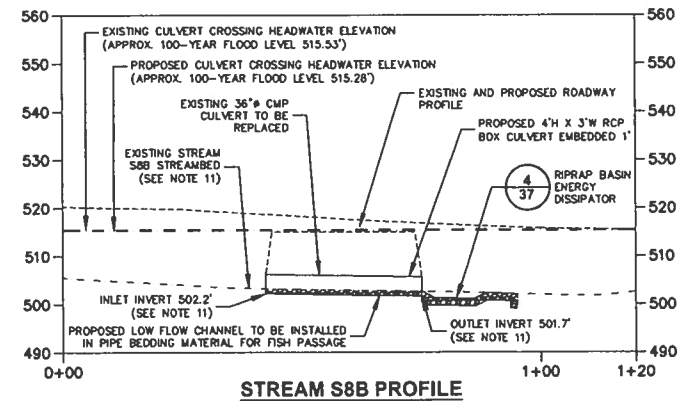
STREAM S1 PROFILE △



PLAN



ACCESS ROAD PAR-2 PROFILE



STREAM S8B PROFILE

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. TEMPORARY EARTH DISTURBANCE IN PENNSYLVANIA WILL BE CONDUCTED UNDER A SEPARATE EROSION AND SEDIMENT CONTROL PLAN REVIEW. ONLY WORK IN MARYLAND IS INCORPORATED WITHIN THIS PLAN.
3. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
4. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
5. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
6. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
7. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
8. THE PORTION OF EXISTING ACCESS ROAD PAR-1 FROM APPROXIMATELY STATION 0+00 TO 12+00 IS AN EXISTING FARM ROAD THAT WILL BE IMPROVED WITH THE PLACEMENT OF STONE. THE REMAINING PORTION OF EXISTING ACCESS ROAD PAR-1 (BETWEEN STATION 12+00 AND 51+98) IS AN EXISTING GRAVEL ROAD THAT WILL NOT BE IMPROVED. ADDITIONAL ROCK MAY BE PLACED ALONG THE EXISTING GRAVEL ACCESS ROAD AS NEEDED TO SUPPORT TRUCK TRAFFIC. ADDITIONALLY, THE CULVERT REPLACEMENTS ALONG EXISTING ACCESS ROAD PAR-1 MAY REQUIRED ADDITIONAL ROADWAY FILL OVER THE NEW CULVERTS TO MEET THE MINIMUM COVER REQUIREMENTS.
9. PROPOSED PERMANENT ACCESS ROAD PAR-2 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.
10. EXISTING 2-FOOT CONTOUR ELEVATIONS SHOWN ON THE PLAN VIEWS ARE BASED ON TOPOGRAPHIC CONTOURS PROVIDED BY ENSITE USA, INC. ON 1/25/2017.
11. EXISTING ROADWAY SURFACE, STREAMBED, AND CULVERT ELEVATIONS DEPICTED ON THIS PROFILE ARE BASED ON SURVEY SPOT ELEVATIONS PROVIDED BY ENSITE USA, INC. ON 8/10/2017.

AQUATIC RESOURCE CROSSINGS

RESOURCE ID	SIZE OF AQUATIC RESOURCE ON SITE (SF)	TEMPORARY STREAM IMPACT STREAM WIDTH - TOP OF BANK TO TOP OF BANK (FT)	TEMPORARY STREAM IMPACT CENTER LINE OF STREAM (LF)	TEMPORARY STREAM IMPACT AREA (SF)	PERMANENT STREAM IMPACT STREAM WIDTH - TOP OF BANK TO TOP OF BANK (FT)	PERMANENT STREAM IMPACT CENTER LINE OF STREAM (LF)	PERMANENT STREAM IMPACT AREA (SF)	TEMPORARY 100-YEAR FLOODPLAIN IMPACT (SF)	PERMANENT 100-YEAR FLOODPLAIN IMPACT (SF)
S1E	506	21	20	420	15	40	468	6,717	N/A
S1	679	7	20	140	7	34	183	1,542	N/A
S8B	553	8	20	160	11	53	272	1,700	N/A

△1

PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

△1 △2

1"=20' (20' 0 20' 40')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
△4	9/20/17	MDE COMMENT RESPONSE	ALS	ARL
△3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
△2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
△1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND — CHRISTOPHER ALLEN LONG — No. 34862 — PROFESSIONAL ENGINEER — 9/20/17

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

PROPOSED STREAMS S1, S1E, AND S8B CULVERT REPLACEMENT PLANS AND PROFILES

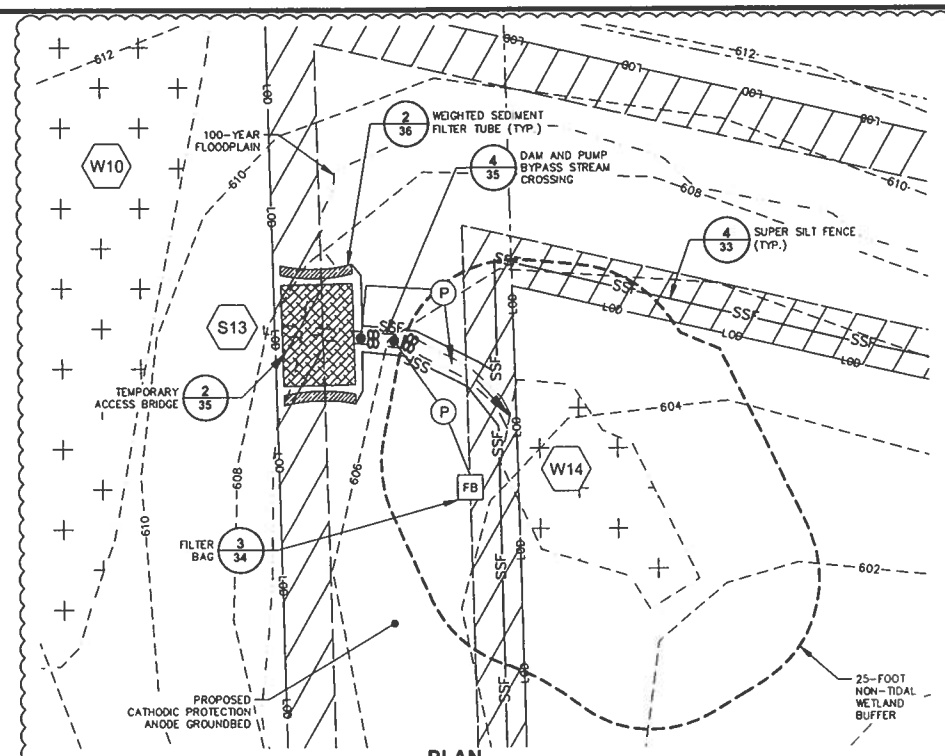
△1

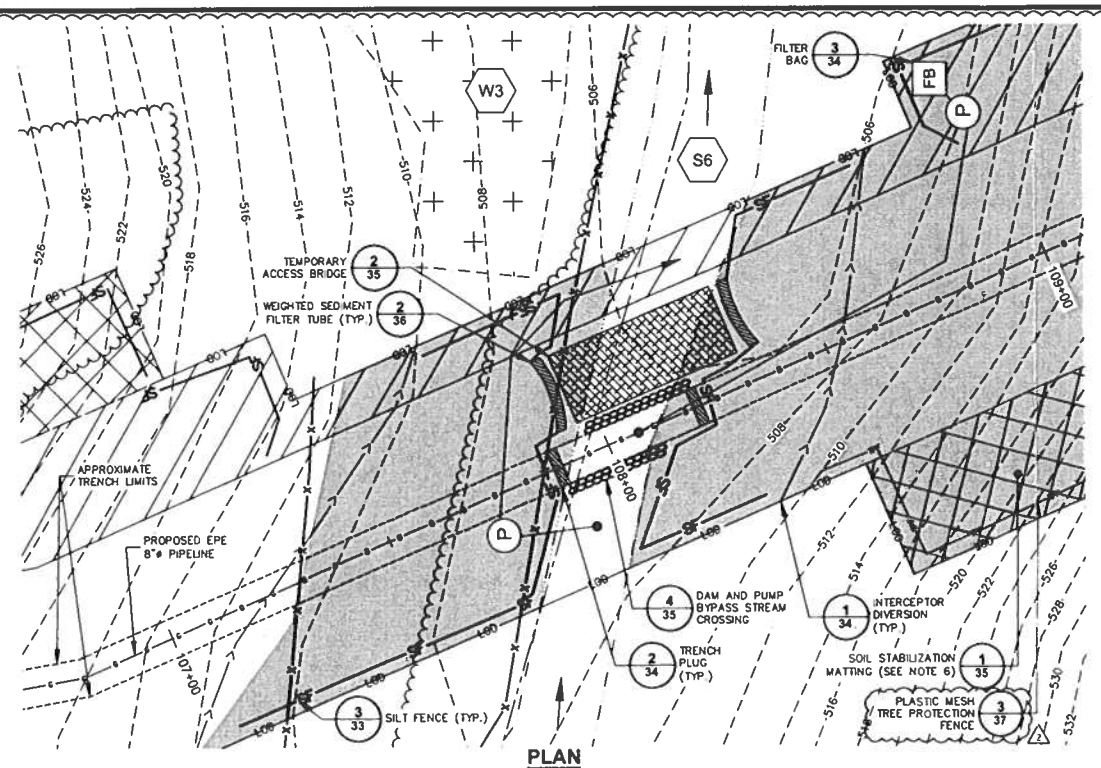
ARCADIS Project No	CPGL00EP 0001 0008A
Date	MARCH 2017

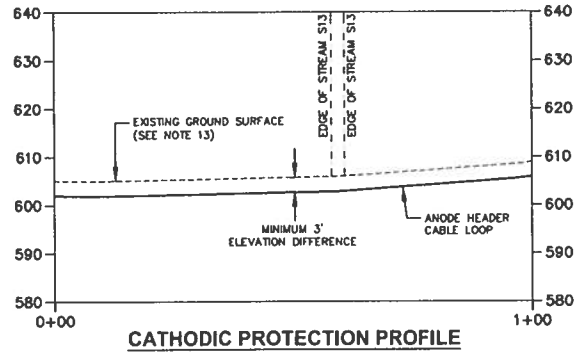
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724 742 9180

30

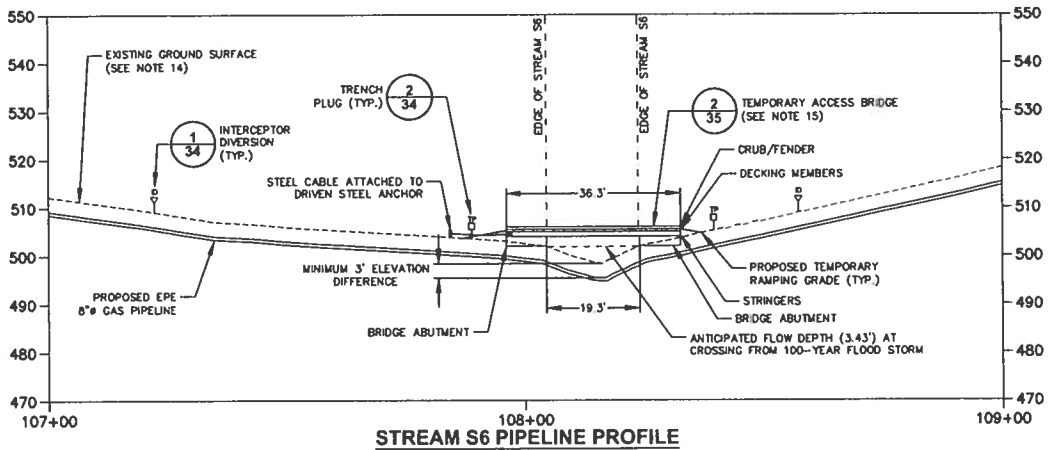
CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
G:\CADD\ACAD\Proj\CPGL00EP\DWG\MD\CPGL00EP-G05.dwg LAYOUT: 30 SAVED: 9/22/2017 9:40 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTCONT1.CTB PLOTTED: 9/22/2017 11:00 AM BY SIDARI, ALEXIS
XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X05



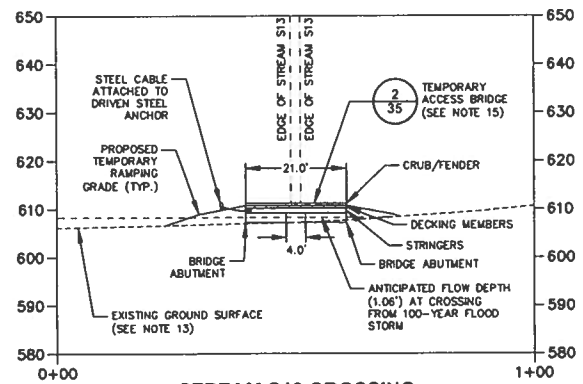




CATHODIC PROTECTION PROFILE



STREAM S6 PIPELINE PROFILE



STREAM S13 CROSSING

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
4. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
5. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
6. SOIL STABILIZATION MATTING HAS BEEN PROPOSED ON SLOPES STEEPER THAN 3H:1V.
7. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
8. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
9. PROPOSED PERMANENT ACCESS ROAD PAR-5 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.
12. EXISTING 2-FOOT CONTOUR ELEVATIONS SHOWN ON THE PLAN VIEWS ARE BASED ON TOPOGRAPHIC CONTOURS PROVIDED BY ENSITE USA, INC. ON 1/25/2017.
13. EXISTING GRADES DEPICTED ON THIS PROFILE ARE BASED ON TOPOGRAPHIC CONTOURS PROVIDED BY ENSITE USA, INC. ON 1/25/2017.
14. EXISTING GRADES DEPICTED ON THIS PROFILE ARE BASED ON SURVEY SPOT ELEVATIONS PROVIDED BY ENSITE USA, INC. ON 8/10/2017.
15. TEMPORARY ACCESS BRIDGE WILL BE PLACED FROM ONE SIDE OF THE STREAM TO THE AVOID IMPACTS TO THE STREAM BED AND BANKS.

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

AQUATIC RESOURCE CROSSINGS

RESOURCE ID	STATION BEGIN	STATION END	SIZE OF AQUATIC RESOURCE ON SITE (SF)	TEMPORARY STREAM IMPACT STREAM WIDTH - TOP OF BANK TO TOP OF BANK (FT)	TEMPORARY STREAM IMPACT CENTER LINE OF STREAM (LF)	TEMPORARY STREAM IMPACT AREA (SF)	TEMPORARY 100-YEAR FLOODPLAIN IMPACT (SF)	TEMPORARY WETLAND IMPACT AREA (SF)	TEMPORARY MDE 25-FOOT WETLAND BUFFER IMPACT (SF)
S13	N/A	N/A	132	1	10	10	1,750	N/A	N/A
S6	107+88	108+03	1,346	16	25	400	675	N/A	N/A
W14	N/A	N/A	42	N/A	N/A	N/A	N/A	42	2,032

1 2

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD PIC: PM TM LYR:ON=*;OFF=*REF*
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XREFS: CPGL00EP-X00
CPGL00EP-X01
CPGL00EP-X05

1"=20' (20' 0 20' 40')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING — USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd
2	9/20/17	MDE COMMENT RESPONSE	ALS	ARL
1	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed: | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN P. LONG — No. 34862 — PROFESSIONAL ENGINEER

ARCADIS | Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

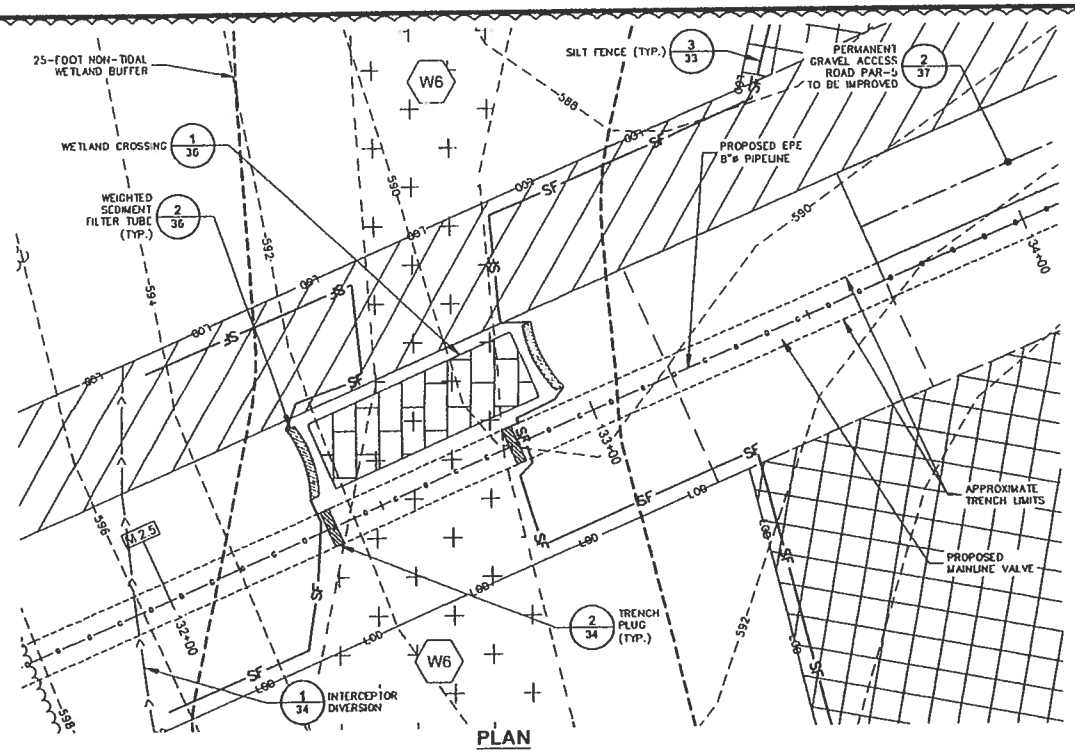
COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

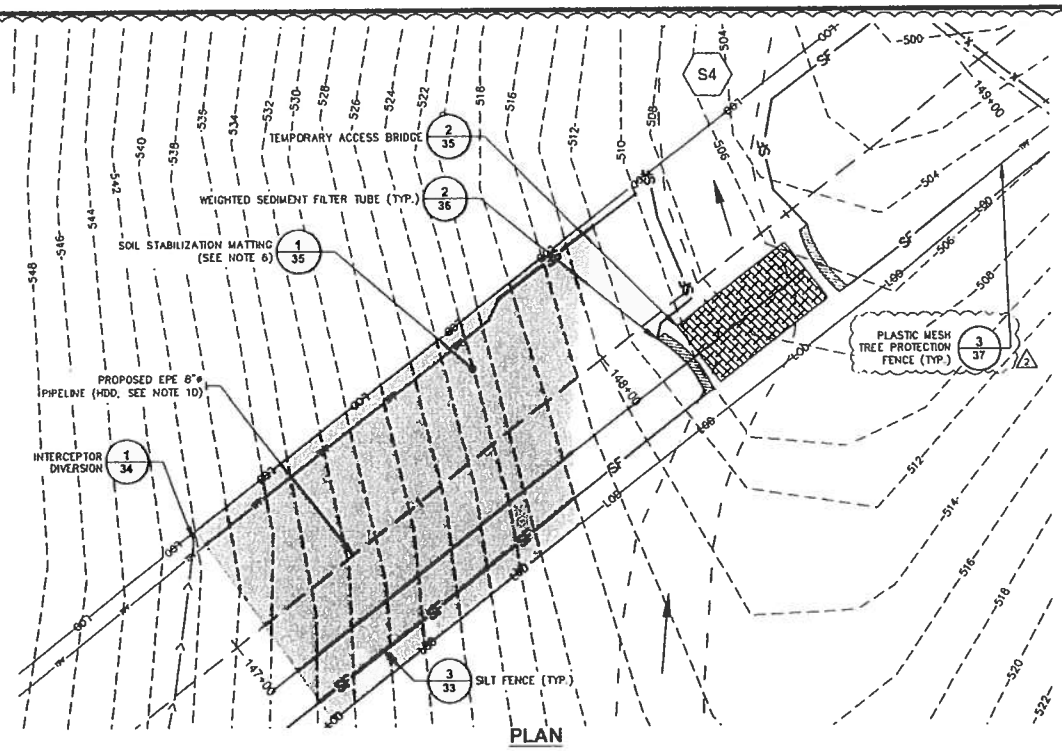
PROPOSED STREAM CROSSINGS S6 AND S13 PLANS AND PROFILES

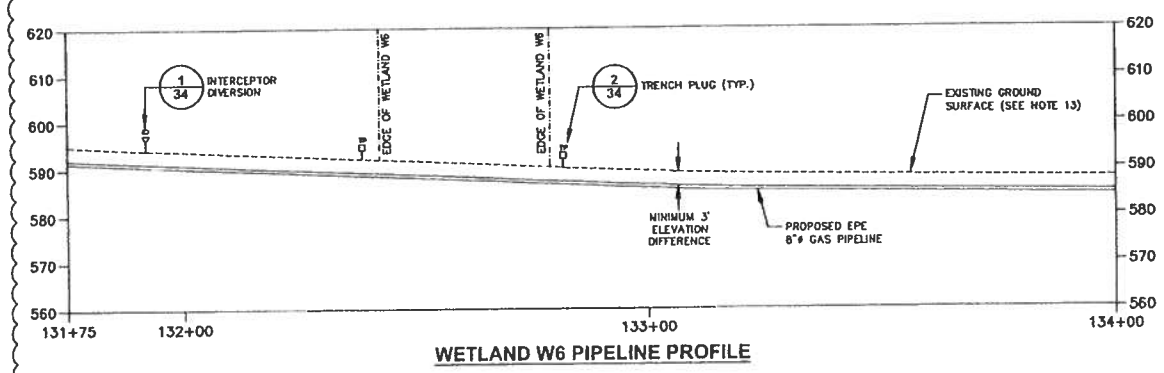
1

ARCADIS Project No: CPGL00EP.0001 0008A
Date: MARCH 2017

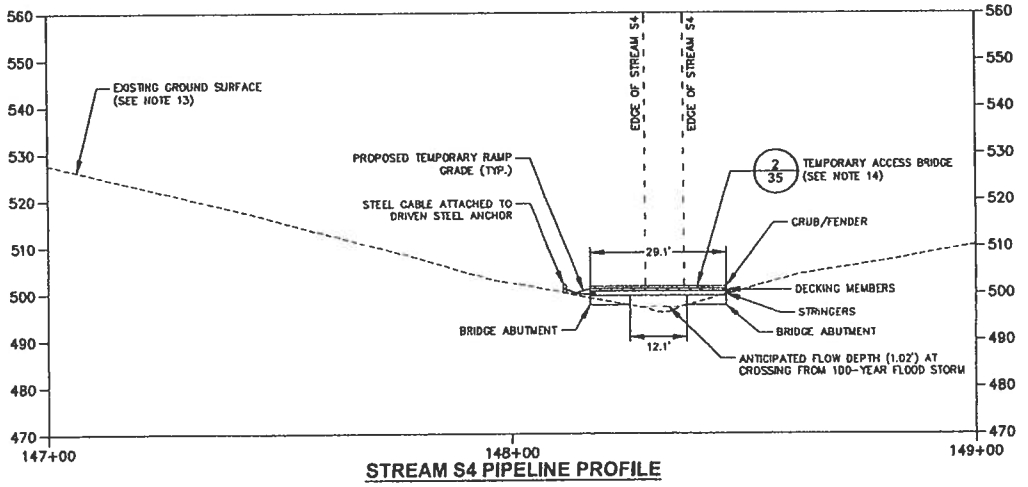
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180







WETLAND W6 PIPELINE PROFILE



STREAM S4 PIPELINE PROFILE

AQUATIC RESOURCE CROSSINGS

RESOURCE ID	STATION BEGIN	STATION END	SIZE OF AQUATIC RESOURCE ON SITE (SF)	TEMPORARY STREAM IMPACT STREAM WIDTH - TOP OF BANK TO TOP OF BANK (FT)	TEMPORARY STREAM IMPACT CENTER LINE OF STREAM (LF)	TEMPORARY STREAM IMPACT AREA (SF)	TEMPORARY WETLAND IMPACT AREA (SF)	MDE 25-FOOT WETLAND BUFFER IMPACT (SF)
W6	132+42	132+79	2,600	N/A	N/A	N/A	2,600	6,797
S4	147+94	148+06	599	N/A	N/A	N/A	N/A	N/A

PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTES:

1. REFER TO DRAWING 1 FOR DETAILS ON THE PROPOSED SEQUENCE OF INSTALLATION OF THE EROSION AND SEDIMENT CONTROLS.
2. SILT FENCE HAS BEEN PROPOSED AROUND THE PERIMETER OF AQUATIC RESOURCES (I.E., WETLANDS/STREAMS) PER FERC REGULATIONS, UNDERSTANDING THAT THE CONTROLS DO NOT FOLLOW THE ELEVATION CONTOURS IN ALL LOCATIONS.
3. TOPSOIL SEGREGATION SHALL BE CONDUCTED IN WETLAND, LAWN AND AGRICULTURAL AREAS AND AS OTHERWISE REQUESTED BY THE LANDOWNER. TEMPORARILY STABILIZE SUBSOIL AND TOPSOIL FOLLOWING REMOVAL. SOIL SHALL BE STOCKPILED IN A BERM-LIKE MANNER TO REDUCE RUN-OFF FROM ACTIVE WORK AREAS; AND SHALL HAVE A MAXIMUM HEIGHT OF 35 FEET AND 2 ON 1 (OR FLATTER) SIDE SLOPES.
4. SOIL STOCKPILES FROM TRENCH EXCAVATION SHALL BE LOCATED WITHIN THE ADDITIONAL TEMPORARY WORKSPACE SHOWN WITH HATCHING ON THESE DRAWINGS. STABILIZED SOIL BERMS LOCATED ON UPGRADIENT SIDE OF THE TRENCH SHALL BE USED AS A RUN-ON CONTROL FEATURE. STABILIZED BERMS LOCATED DOWNGRADIENT OF THE TRENCH SHALL BE UTILIZED AS A PERIMETER SEDIMENT CONTROL FEATURE IN PLACE OF SILT FENCE OR SIMILAR.
5. INTERCEPTOR DIVERSIONS LOCATED IN RESIDENTIAL AREAS AND AGRICULTURAL FIELDS SHALL BE REMOVED DURING FINAL GRADING. INTERCEPTOR DIVERSIONS THAT CAN BE LEFT IN PLACE, AT THE LANDOWNER'S DISCRETION, SHALL BE VEGETATED.
6. SOIL STABILIZATION MATTING HAS BEEN PROPOSED ON SLOPES STEEPER THAN 3H:1V.
7. FOLLOWING INITIAL SOIL DISTURBANCE OR RE-DISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION MUST BE COMPLETED WITHIN 3 CALENDAR DAYS AS TO THE SURFACE OF ALL PERIMETER DIKES, SWALES, DITCHES, PERIMETER SLOPES, AND ALL SLOPES STEEPER THAN 3H:1V; AND 7 CALENDAR DAYS AS TO ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE NOT UNDER ACTIVE GRADING.
8. PERMANENTLY STABILIZE DISTURBED AREAS IN ACCORDANCE WITH THE SEEDING RESTORATION TABLES ON DRAWING 1.
9. PROPOSED PERMANENT ACCESS ROAD PAR-5 WILL BE IMPROVED BY GRADING AND STABILIZED WITH STONE TO FACILITATE TRUCK AND EQUIPMENT TRAFFIC.
10. DISTURBANCE ACTIVITIES WITHIN PORTIONS OF THE LIMIT OF DISTURBANCE BETWEEN HORIZONTAL DIRECTIONAL DRILLING ENTRY/EXIT LOCATIONS WILL CONSIST OF TREE CLEARING ONLY.
11. PROPOSED EPE 8-INCH DIAMETER PIPELINE IS NOTE SHOWN ON THE PROFILE FOR STREAM S4 CROSSING, AS THE PIPELINE WILL BE INSTALLED VIA HORIZONTAL DIRECTIONAL DRILLING TO BE LOCATED APPROXIMATELY 200 FEET BELOW GROUND SURFACE AT THIS STREAM CROSSING.
12. EXISTING 2-FOOT CONTOUR ELEVATIONS SHOWN ON THE PLAN VIEWS ARE BASED ON TOPOGRAPHIC CONTOURS PROVIDED BY ENSITE USA, INC. ON 1/25/2017.
13. EXISTING GRADES DEPICTED ON THIS PROFILE ARE BASED ON SURVEY SPOT ELEVATIONS PROVIDED BY ENSITE USA, INC. ON 8/10/2017.
14. TEMPORARY ACCESS BRIDGE WILL BE PLACED FROM ONE SIDE OF THE STREAM TO THE AVOID IMPACTS TO THE STREAM BED AND BANKS.

1"=20' (20' 0 20' 40')

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No	Date	Revisions	By	Ckd
3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
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Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862

State	Date Signed	Project Mgr
MD		JD
Designed by: ALS	Drawn by: ALS	Checked by: ARL

STATE OF MARYLAND ALLEN RICHARD LONG No. 34862 PROFESSIONAL ENGINEER

ARCADIS Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

PROPOSED STREAM CROSSING S4 AND WETLAND CROSSING W6 PLANS AND PROFILES

ARCADIS Project No: CPGL00EP.0001.0008A
Date: MARCH 2017
ARCADIS, 6041 Wallace Road Extension, Suite 300, Wexford, PA 15090, Tel. 724.742 9180

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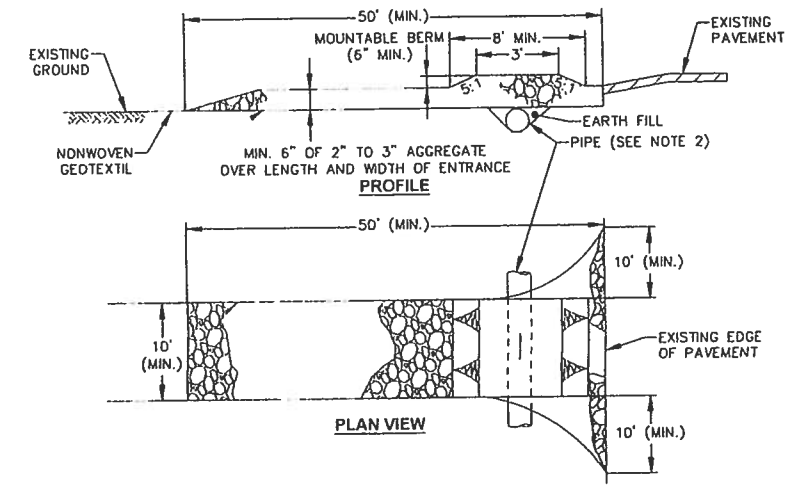
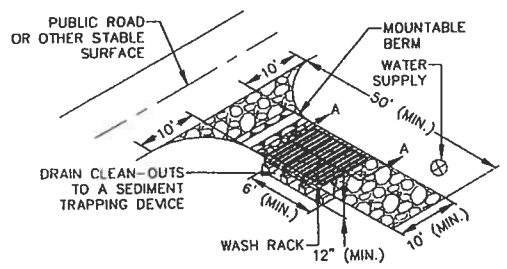


NOTES:

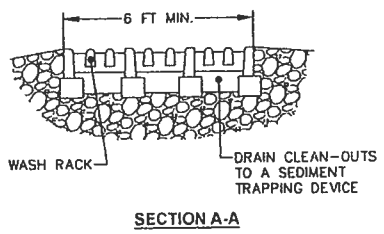
1. PLACE STABILIZED CONSTRUCTION ENTRANCE IN ACCORDANCE WITH THE APPROVED PLAN. VEHICLES MUST TRAVEL OVER THE ENTIRE LENGTH OF THE SCE. USE MINIMUM LENGTH OF 50 FEET. USE MINIMUM WIDTH OF 10 FEET. FLARE STABILIZED CONSTRUCTION ENTRANCE 10 FEET MINIMUM AT THE EXISTING ROAD TO PROVIDE A TURNING RADIUS.
2. PIPE ALL SURFACE WATER FLOWING TO OR DIVERTED TOWARD THE SCE UNDER THE ENTRANCE, MAINTAINING POSITIVE DRAINAGE. PROTECT PIPE INSTALLED THROUGH THE SCE WITH A MOUNTABLE BERM WITH 5H:1V SLOPES AND A MINIMUM OF 12 INCHES OF STONE OVER THE PIPE. PROVIDE PIPE AS SPECIFIED ON APPROVED PLAN. WHEN THE STABILIZED CONSTRUCTION ENTRANCE IS LOCATED AT A HIGH SPOT AND HAS NO DRAINAGE TO CONVEY, A PIPE IS NOT NECESSARY. A MOUNTABLE BERM IS REQUIRED WHEN STABILIZED CONSTRUCTION ENTRANCE IS NOT LOCATED AT A HIGH SPOT.
3. PLACE CRUSHED AGGREGATE (2 TO 3 INCHES IN SIZE) OR EQUIVALENT RECYCLED CONCRETE (WITHOUT REBAR) AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE STABILIZED CONSTRUCTION ENTRANCE.
4. MAINTAIN ENTRANCE IN A CONDITION THAT MINIMIZES TRACKING OF SEDIMENT. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN CLEAN SURFACE, MOUNTABLE BERM, AND SPECIFIED DIMENSIONS. IMMEDIATELY REMOVE STONE AND/OR SEDIMENT SPILLED, DROPPED, OR TRACKED ONTO ADJACENT ROADWAY BY VACUUMING, SCRAPING, AND/OR SWEEPING. WASHING ROADWAY TO REMOVE MUD TRACKED ONTO PAVEMENT IS NOT ACCEPTABLE UNLESS WASH WATER IS DIRECTED TO AN APPROVED SEDIMENT CONTROL PRACTICE.

STABILIZED CONSTRUCTION ENTRANCE (1)

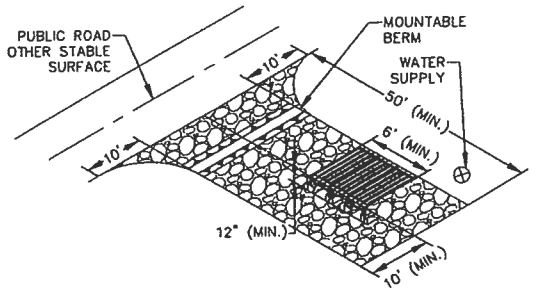
NOT TO SCALE



ISOMETRIC VIEW - WASH RACK IN SCE



SECTION A-A

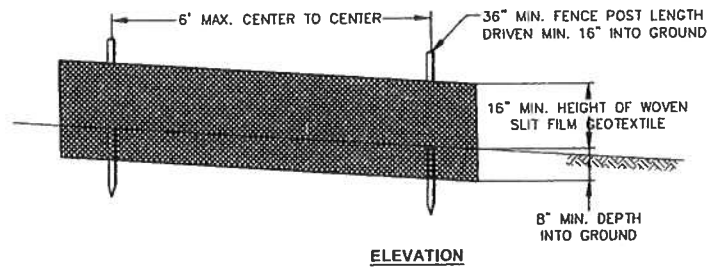


NOTES:

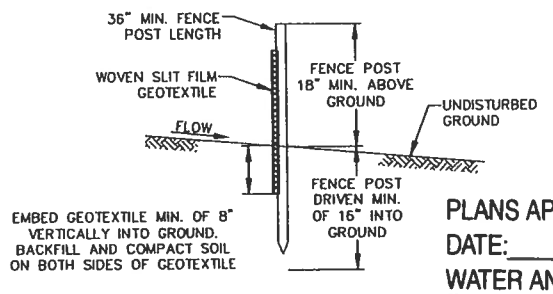
1. USE A WASH RACK DESIGNED AND CONSTRUCTED/MANUFACTURED FOR THE ANTICIPATED TRAFFIC LOADS. CONCRETE, STEEL, OR OTHER MATERIALS ARE ACCEPTABLE. PRE-FABRICATED UNITS SUCH AS CATTLE GUARDS ARE ACCEPTABLE. USE MINIMUM DIMENSION OF 6 FEET BY 10 FEET. ORIENT DIRECTION OF RIBS AS SHOWN ON THE DETAIL.
2. INSTALL PRIOR TO, ALONG SIDE OF, OR AS PART OF THE STABILIZED CONSTRUCTION ENTRANCE.
3. DIRECT WASH WATER TO AN APPROVED SEDIMENT TRAPPING DEVICE.
4. KEEP AREA UNDER WASH RACK FREE OF ACCUMULATED SEDIMENT. IF DAMAGED, REPAIR OR REPLACE WASH RACK.

WASH RACK OPTION (2)

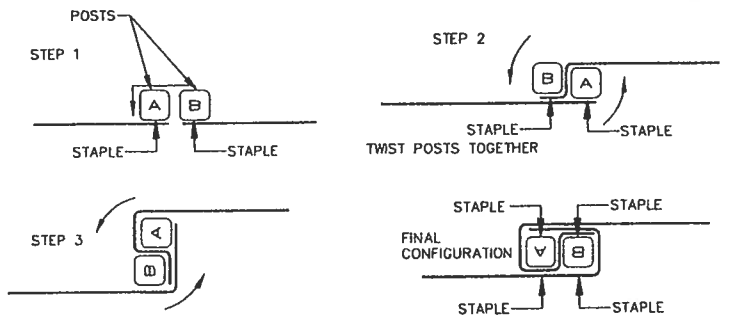
NOT TO SCALE



ELEVATION



CROSS SECTION



JOINING TWO ADJACENT SILT FENCE SECTIONS (TOP VIEW)

NOTES:

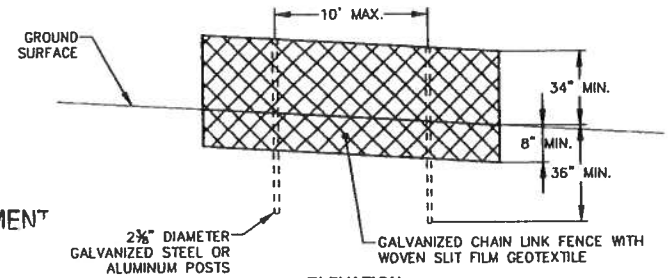
1. USE WOOD POSTS 1 3/4" BY 1 3/4" ± 1/16" (MINIMUM) SQUARE CUT OF SOUND QUALITY HARDWOOD. AS AN ALTERNATIVE TO WOODEN POST USE STANDARD "T" OR "U" SECTION STEEL POSTS WEIGHING NOT LESS THAN 1 POUND PER LINEAR FOOT.
2. USE 36 INCH MINIMUM POSTS DRIVEN 16 INCH MINIMUM INTO GROUND NO MORE THAN 6 FEET APART.
3. FASTEN GEOTEXTILE SECURELY TO UPSLOPE SIDE OF FENCE POSTS WITH WIRE TIES OR STAPLES AT TOP AND MID-SECTION.
4. PROVIDE MANUFACTURER CERTIFICATION TO THE AUTHORIZED REPRESENTATIVE OF THE INSPECTION/ ENFORCEMENT AUTHORITY SHOWING THAT THE GEOTEXTILE USED MEETS THE REQUIREMENTS OF THIS DETAIL.
5. EMBED GEOTEXTILE A MINIMUM OF 8 INCHES VERTICALLY INTO THE GROUND. BACKFILL AND COMPACT THE SOIL ON BOTH SIDES OF FABRIC.
6. WHERE TWO SECTIONS OF GEOTEXTILE ADJOIN: OVERLAP, TWIST, AND STAPLE TO POST IN ACCORDANCE WITH THIS DETAIL.
7. EXTEND BOTH ENDS OF THE SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SILT FENCE.
8. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN SILT FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL FENCE.

SILT FENCE (3)

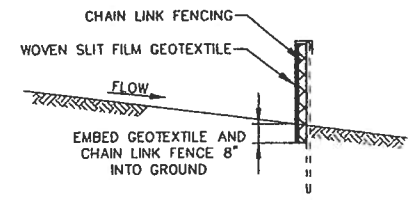
NOT TO SCALE

GEOTEXTILE FABRICS							
PROPERTY	TEST METHOD	WOVEN SLIT FILM GEOTEXTILE		WOVEN NONFILAMENT GEOTEXTILE		NONWOVEN GEOTEXTILE	
		MINIMUM AVERAGE ROLL VALUE					
		MD	CD	MD	CD	MD	CD
GRAB TENSILE STRENGTH	ASTM D-4632	200 LBS	200 LBS	370 LBS	250 LBS	200 LBS	200 LBS
GRAB TENSILE ELONGATION	ASTM D-4632	15%	10%	15%	15%	50%	50%
TRAPEZOIDAL TEAR STRENGTH	ASTM D-4533	75 LBS	75 LBS	100 LBS	60 LBS	80 LBS	80 LBS
PUNCTURE STRENGTH	ASTM D-6241	450 LBS		900 LBS		450 LBS	
APPARENT OPENING SIZE	ASTM D-4751	U.S. SIEVE 30 (0.59 MM)		U.S. SIEVE 70 (0.21 MM)		U.S. SIEVE 70 (0.21 MM)	
PERMITTIVITY	ASTM D-4491	0.05/SEC		0.28/SEC		1.1/SEC	
ULTRAVIOLET RESISTANCE RETAINED AT 500 HOURS	ASTM D-4355	70% STRENGTH		70% STRENGTH		70% STRENGTH	

PLANS APPROVED BY: [signature]
DATE: 2/28/16
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT



ELEVATION



CROSS SECTION

NOTES:

1. INSTALL 2 3/8" DIAMETER GALVANIZED STEEL POSTS OF 0.095" WALL THICKNESS AND SIX FOOT LENGTH SPACED NO FURTHER THAN 10 FEET APART. DRIVE THE POSTS A MINIMUM OF 36 INCHES INTO THE GROUND.
2. FASTEN 9 GAUGE OR HEAVIER GALVANIZED CHAIN LINK FENCE (2 3/8" MAXIMUM OPENING) 42 INCHES IN HEIGHT SECURELY TO THE FENCE POSTS WITH WIRE TIES OR HOG RINGS.
3. FASTEN WOVEN SLIT FILM GEOTEXTILE SECURELY TO THE UPSLOPE SIDE OF CHAIN LINK FENCE WITH TIES SPACED EVERY 24 INCHES AT THE TOP AND MID SECTION. EMBED GEOTEXTILE AND CHAIN LINK FENCE A MINIMUM OF 8 INCHES INTO THE GROUND.
4. WHERE ENDS OF THE GEOTEXTILE COME TOGETHER, THE ENDS SHALL BE OVERLAPPED BY 6 INCHES, FOLDED, AND STAPLED TO PREVENT SEDIMENT BY PASS.
5. EXTEND BOTH ENDS OF THE SUPER SILT FENCE A MINIMUM OF FIVE HORIZONTAL FEET UPSLOPE AT 45 DEGREES TO THE MAIN FENCE ALIGNMENT TO PREVENT RUNOFF FROM GOING AROUND THE ENDS OF THE SUPER SILT FENCE.
6. PROVIDE MANUFACTURER CERTIFICATION TO THE INSPECTION/ENFORCEMENT AUTHORITY SHOWING THAT GEOTEXTILE USED MEETS THE REQUIREMENTS OF THIS DETAIL.
7. REMOVE ACCUMULATED SEDIMENT AND DEBRIS WHEN BULGES DEVELOP IN FENCE OR WHEN SEDIMENT REACHES 25% OF FENCE HEIGHT. REPLACE GEOTEXTILE IF TORN. IF UNDERMINING OCCURS, REINSTALL CHAIN LINK FENCING AND GEOTEXTILE.

SUPER SILT FENCE (4)

NOT TO SCALE

NOT TO SCALE

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No.		
MD 34862		
State	Date Signed	Project Mgr
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER

ARCADIS | Design & Consultancy for natural and built assets

ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

MISCELLANEOUS DETAILS

ARCADIS Project No.
CPGL00EP.0001.0008A
Date
MARCH 2017

ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR:ON=*;OFF=*REF*
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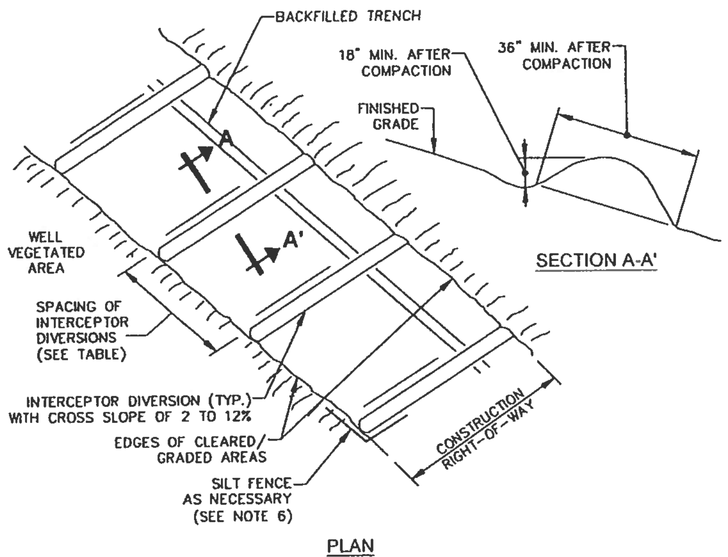
XREFS: CPGL00EP-X00

PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT



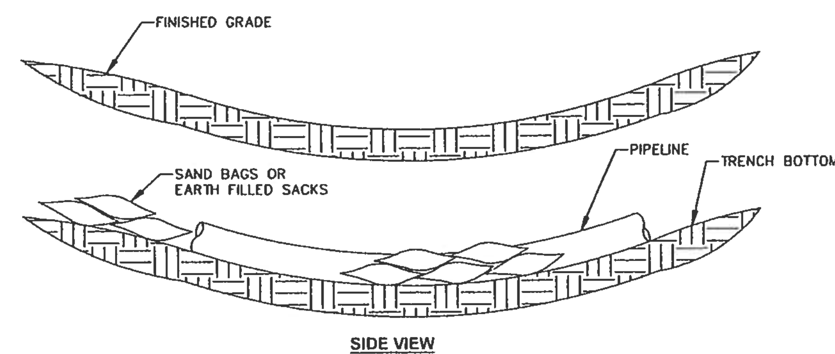
MINIMUM SPACING FOR INTERCEPTOR DIVERSIONS (SEE NOTE 1)	
PERCENT SLOPE	SPACING (FT.)
0-5	NONE
5-15	300
15-30	200
>30	100

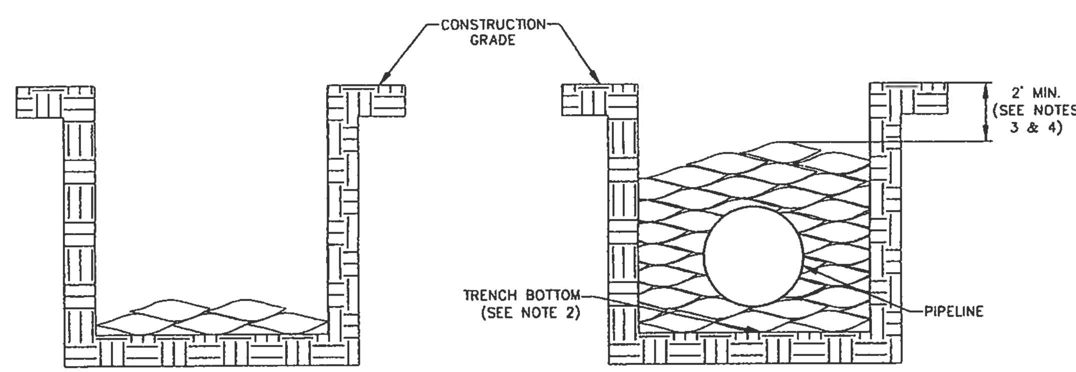
NOTES:

1. MINIMUM SPACING SPECIFIED FOR BOTH TEMPORARY AND PERMANENT INTERCEPTOR DIVERSIONS.
2. INTERCEPTOR DIVERSIONS SHALL DISCHARGE TO A WELL VEGETATED, STABLE AREA.
3. INTERCEPTOR DIVERSIONS SHALL BE INSPECTED WEEKLY (DAILY ON ACTIVE ROADS) AND AFTER EACH RUNOFF EVENT. DAMAGED OR ERODED WATERBARS SHALL BE RESTORED TO ORIGINAL DIMENSIONS WITHIN 24 HOURS OF INSPECTION.
4. MAINTENANCE OF INTERCEPTOR DIVERSIONS SHALL BE PROVIDED UNTIL RIGHT-OF-WAY HAS ACHIEVED PERMANENT STABILIZATION. INTERCEPTOR DIVERSIONS IN AGRICULTURAL AND RESIDENTIAL AREAS SHALL BE REMOVED DURING FINAL RESTORATION.
5. INTERCEPTOR DIVERSIONS MUST BE INSTALLED WITHIN ALL CLEARED AREAS AT THE LOCATIONS IDENTIFIED ON THESE DRAWINGS BY THE END OF THE WORK DAY.
6. SILT FENCE SHALL BE INSTALLED AT THE OUTLETS OF THE INTERCEPTOR DIVERSIONS, WHERE A WELL VEGETATED AREA IS NOT AVAILABLE AND/OR ADJACENT TO SURFACE WATERS.
7. DIVERSION OUTLETS WILL ALTERNATE FROM SIDE TO SIDE WHENEVER POSSIBLE.

INTERCEPTOR DIVERSION (1)

NOT TO SCALE



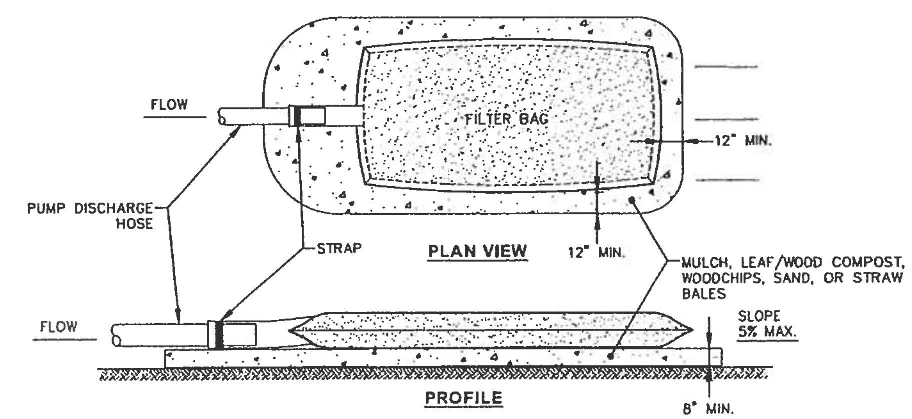


NOTES:

1. PROMPTLY INSTALL TRENCH PLUG AT EVERY SECOND INTERCEPTOR DIVERSION AS TRENCH IS COMPLETED.
2. PRIOR TO LOWERING PIPELINE INTO THE TRENCH, REMOVE ALL DECOMPOSED MATERIAL AND ROCKS FROM THE TRENCH BOTTOM.
3. INSTALL SAND BAGS OR EARTH FILLED SACKS TO TOP OF TRENCH ON STEEP SLOPES GREATER THAN 3H:1V IN NON-AGRICULTURAL AREAS.
4. TOP OF TRENCH PLUG SHALL BE A MINIMUM OF 2 FEET BELOW THE CONSTRUCTION GRADE IN AGRICULTURAL AREAS TO PROVIDE CLEARANCE FOR PLOWING.

TRENCH PLUG (2)

NOT TO SCALE



NOTES:

1. TIGHTLY SEAL SLEEVE AROUND THE PUMP DISCHARGE HOSE WITH A STRAP OR SIMILAR DEVICE.
2. PLACE FILTER BAG ON SUITABLE BASE (E.G., MULCH, LEAF/WOOD COMPOST, WOODCHIPS, SAND, OR STRAW BALES) LOCATED ON A LEVEL OR 5% MAXIMUM SLOPING SURFACE. DISCHARGE TO A STABILIZED AREA. EXTEND BASE A MINIMUM OF 12 INCHES FROM EDGES OF BAG.
3. CONTROL PUMPING RATE TO PREVENT EXCESSIVE PRESSURE WITHIN THE FILTER BAG IN ACCORDANCE WITH THE MANUFACTURER RECOMMENDATIONS. AS THE BAG FILLS WITH SEDIMENT, REDUCE PUMPING RATE.
4. REMOVE AND PROPERLY DISPOSE OF FILTER BAG UPON COMPLETION OF PUMPING OPERATIONS OR AFTER BAG HAS REACHED CAPACITY, WHICHEVER OCCURS FIRST. SPREAD THE DEWATERED SEDIMENT FROM THE BAG IN AN APPROVED UPLAND AREA AND STABILIZE WITH SEED AND MULCH BY THE END OF THE WORK DAY. RESTORE THE SURFACE AREA BENEATH THE BAG TO ORIGINAL CONDITION UPON REMOVAL OF THE DEVICE.
5. USE NONWOVEN GEOTEXTILE WITH DOUBLE STITCHED SEAMS USING HIGH STRENGTH THREAD. SIZE SLEEVE TO ACCOMMODATE A MAXIMUM 4 INCH DIAMETER PUMP DISCHARGE HOSE. THE BAG MUST BE MANUFACTURED FROM A NONWOVEN GEOTEXTILE THAT MEETS OR EXCEEDS MINIMUM AVERAGE ROLL VALUES (MARV) FOR THE FOLLOWING:

GRAB TENSILE	250 LB	ASTM D-4632
PUNCTURE	150 LB	ASTM D-4833
FLOW RATE	70 GAL/MIN/FT²	ASTM D-4491
PERMITTIVITY (SEC-1/)	1.2 SEC-1/	ASTM D-4491
UV RESISTANCE	70% STRENGTH @ 500 HOURS	ASTM D-4355
APPARENT OPENING SIZE (AOS)	0.15-0.18 MM	ASTM D-4751
SEAM STRENGTH	90%	ASTM D-4632

6. REPLACE FILTER BAG IF BAG CLOGS OR HAS RIPS, TEARS, OR PUNCTURES. DURING OPERATION KEEP CONNECTION BETWEEN PUMP HOSE AND FILTER BAG WATER TIGHT. REPLACE BEDDING IF IT BECOMES DISPLACED.

FILTER BAG (3)

NOT TO SCALE

NOT TO SCALE

THIS BAR REPRESENTS ONE INCH ON THE ORIGINAL DRAWING. USE TO VERIFY FIGURE REPRODUCTION SCALE

No.	Date	Revisions	By	Ckd

Professional Engineer's Name: ALLEN LONG
Professional Engineer's No: MD 34862
State: MD | Date Signed: | Project Mgr: JD
Designed by: ALS | Drawn by: ALS | Checked by: ARL

STATE OF MARYLAND — ALLEN R. LONG — No. 34862 — PROFESSIONAL ENGINEER

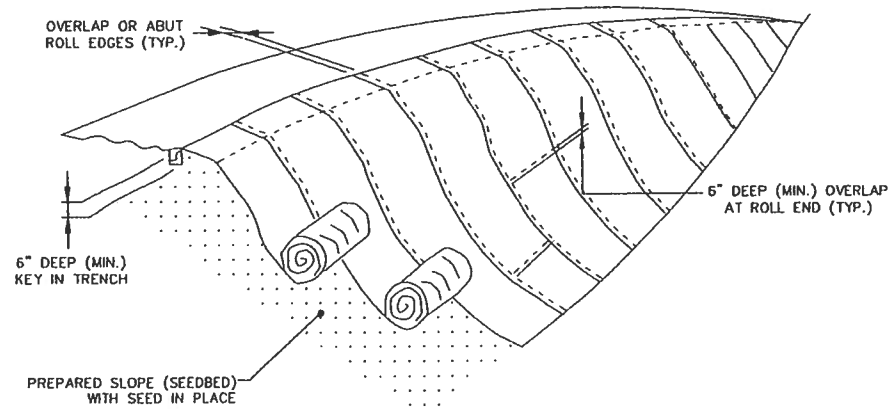
ARCADIS — Design & Consultancy for natural and built assets
ARCADIS U.S., INC.

COLUMBIA GAS TRANSMISSION, LLC., A TRANSCANADA COMPANY • HOUSTON, TEXAS
EASTERN PANHANDLE EXPANSION PROJECT

MISCELLANEOUS DETAILS

ARCADIS Project No. CPGL00EP.0001.0008A
Date MARCH 2017
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel. 724.742.9180

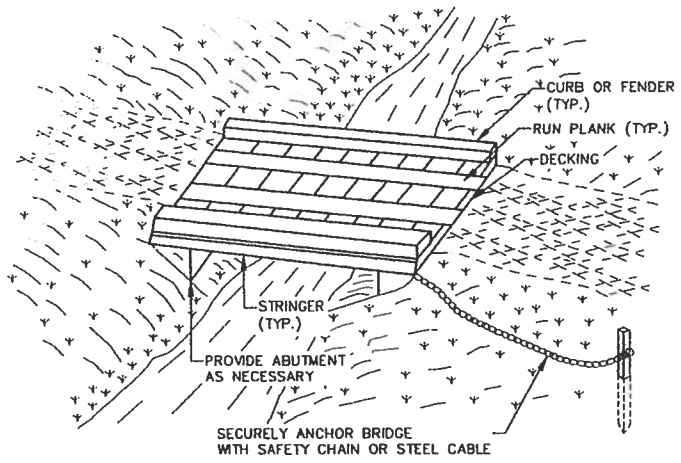
PLANS APPROVED BY: _____
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT



NOTES:

1. USE TEMPORARY SOIL STABILIZATION MATTING MADE OF DEGRADABLE (LASTS 6 MONTHS MINIMUM) NATURAL OR MAN-MADE FIBERS (MOSTLY ORGANIC). MAT MUST HAVE UNIFORM THICKNESS AND DISTRIBUTION OF FIBERS THROUGHOUT AND BE SMOLDER RESISTANT. CHEMICALS USED IN THE MAT MUST BE NON-LEACHING AND NON-TOXIC TO VEGETATION AND SEED GERMINATION AND NON-INJURIOUS TO THE SKIN. IF PRESENT, NETTING MUST BE EXTRUDED PLASTIC WITH A MAXIMUM MESH OPENING OF 2X2 INCHES AND SUFFICIENTLY BONDED OR SEWN ON 2 INCH CENTERS ALONG LONGITUDINAL AXIS OF THE MATERIAL TO PREVENT SEPARATION OF THE NET FROM THE PARENT MATERIAL.
2. SECURE MATTING USING STEEL STAPLES, WOOD STAKES, OR BIODEGRADABLE EQUIVALENT. STAPLES MUST BE "U" OR "T" SHAPED STEEL WIRE HAVING A MINIMUM GAUGE OF NO. 11 AND NO. 8 RESPECTIVELY. "U" SHAPED STAPLES MUST AVERAGE 1 TO 1 1/2 INCHES WIDE AND BE A MINIMUM OF 6 INCHES LONG. "T" SHAPED STAPLES MUST HAVE A MINIMUM 8 INCH MAIN LEG, A MINIMUM 1 INCH SECONDARY LEG, AND A MINIMUM 4 INCH HEAD. WOOD STAKES MUST BE ROUGH-SAWN HARDWOOD, 12 TO 24 INCHES IN LENGTH, 1 BY 3 INCH IN CROSS SECTION, AND WEDGE SHAPED AT THE BOTTOM.
3. PERFORM FINAL GRADING, TOPSOIL APPLICATION, SEEDBED PREPARATION, AND PERMANENT SEEDING IN ACCORDANCE WITH SPECIFICATIONS. PLACE MATTING WITHIN 48 HOURS OF COMPLETING SEEDING OPERATIONS UNLESS END OF WORKDAY STABILIZATION IS SPECIFIED ON THE APPROVED EROSION & SEDIMENT CONTROL PLAN.
4. UNROLL MATTING DOWNSLOPE. LAY MAT SMOOTHLY AND FIRMLY UPON THE SEEDED SURFACE. AVOID STRETCHING THE MATTING.
5. OVERLAP OR ABUT ROLL EDGES PER MANUFACTURER RECOMMENDATIONS. OVERLAP ROLL ENDS BY 6 INCHES (MINIMUM), WITH THE UPSLOPE MAT OVERLAPPING ON TOP OF THE DOWNSLOPE MAT.
6. KEY IN THE UPSLOPE END OF MAT 6 INCHES (MINIMUM) BY DIGGING A TRENCH, PLACING THE MATTING ROLL END IN THE TRENCH, STAPLING THE MAT IN PLACE, REPLACING THE EXCAVATED MATERIAL, AND TAMPING TO SECURE THE MAT END IN THE KEY.
7. STAPLE/STAKE MAT IN A STAGGERED PATTERN ON 4 FOOT (MAXIMUM) CENTERS THROUGHOUT AND 2 FOOT (MAXIMUM) CENTERS ALONG SEAMS, JOINTS, AND ROLL ENDS.
8. ESTABLISH AND MAINTAIN VEGETATION SO THAT REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT ARE CONTINUOUSLY MET IN ACCORDANCE WITH SECTION B-4 VEGETATIVE STABILIZATION OF THE 2011 MARYLAND STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL.

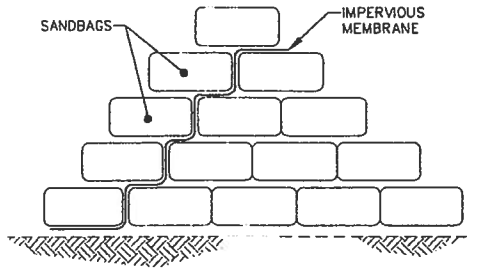
SOIL STABILIZATION MATTING (1)
NOT TO SCALE



NOTES:

1. CONSTRUCT TEMPORARY BRIDGE STRUCTURE AT OR ABOVE THE BANK ELEVATION TO PREVENT IMPACTS FROM FLOATING MATERIALS AND DEBRIS.
2. PLACE ABUTMENTS PARALLEL TO, AND ON, STABLE BANKS.
3. CONSTRUCT BRIDGE TO SPAN ENTIRE CHANNEL UNLESS OTHERWISE INDICATED ON APPROVED PLAN.
4. USE STRINGERS CONSISTING OF LOGS, SAWN TIMBER, PRESTRESSED CONCRETE BEAMS, METAL BEAMS, OR OTHER APPROVED MATERIALS.
5. SELECT DECKING MATERIALS TO PROVIDE SUFFICIENT STRENGTH TO SUPPORT THE ANTICIPATED LOAD. PLACE ALL DECKING MEMBERS PERPENDICULAR TO THE STRINGERS, BUTT TIGHTLY, AND SECURELY FASTEN. DECKING MATERIALS MUST BE BUTTED TIGHTLY TO PREVENT ANY SOIL MATERIAL TRACKED ONTO THE BRIDGE FROM FALLING INTO THE WATERWAY BELOW.
6. SECURELY FASTEN OPTIONAL RUN PLANKING FOR THE LENGTH OF THE SPAN. PROVIDE A RUN PLANK FOR EACH TRACK OF THE EQUIPMENT WHEELS. ALTHOUGH RUN PLANKS ARE OPTIONAL, THEY MAY BE NECESSARY TO PROPERLY DISTRIBUTE LOADS.
7. INSTALL CURBS THE ENTIRE LENGTH OF THE OUTER SIDES OF THE DECK TO PREVENT SEDIMENT FROM ENTERING THE STREAM CHANNEL.
8. ANCHOR BRIDGE SECURELY AT ONLY ONE END USING STEEL CABLE OR CHAIN. ANCHORING AT ONLY ONE END WILL PREVENT CHANNEL OBSTRUCTION IN THE EVENT THAT FLOODWATERS FLOAT THE BRIDGE. ACCEPTABLE ANCHORS ARE LARGE TREES, LARGE BOULDERS, OR DRIVEN STEEL POSTS. ANCHOR MUST BE SUFFICIENT TO PREVENT THE BRIDGE FROM FLOATING DOWNSTREAM.
9. AREAS DISTURBED DURING BRIDGE INSTALLATION AND\OR REMOVAL MUST NOT BE LEFT UNSTABILIZED OVERNIGHT UNLESS THE RUNOFF IS DIRECTED TO AN APPROVED SEDIMENT CONTROL DEVICE.
10. STABILIZE APPROACH TO BRIDGE AND KEEP FREE OF EROSION. CLEAN SEDIMENT FROM DECKING AND CURBS DAILY BY SCRAPING, SWEEPING, AND/OR VACUUMING. ENSURE THAT DECKING AND CURBS REMAIN TIGHTLY BUTTED WITHOUT GAPS. REMOVE DEBRIS TRAPPED BY BRIDGE. MAINTAIN AREAS ADJACENT TO CROSSING TO CONTINUOUSLY MEET REQUIREMENTS FOR ADEQUATE VEGETATIVE ESTABLISHMENT.
11. AFTER THE TEMPORARY CROSSING IS NO LONGER NEEDED, REMOVE IT WITHIN 14 CALENDAR DAYS. IF SUBJECT TO THE USE DESIGNATION CLOSURE, REMOVE AT THE END OF CLOSURE PERIOD. PROTECT STREAM BANKS DURING BRIDGE REMOVAL AND STABILIZE ALL DISTURBED AREAS WITH EROSION CONTROL MATTING. ACCOMPLISH REMOVAL OF THE BRIDGE AND CLEANUP OF THE AREA WITHOUT CONSTRUCTION EQUIPMENT WORKING IN THE WATERWAY CHANNEL. STORE ALL REMOVED MATERIALS IN AN APPROVED STAGING AREA.
12. TEMPORARY CROSSINGS SHALL BE MADE FROM SUITABLE MATERIALS (I.E., STEEL PLATE, TIMBER MATTING).

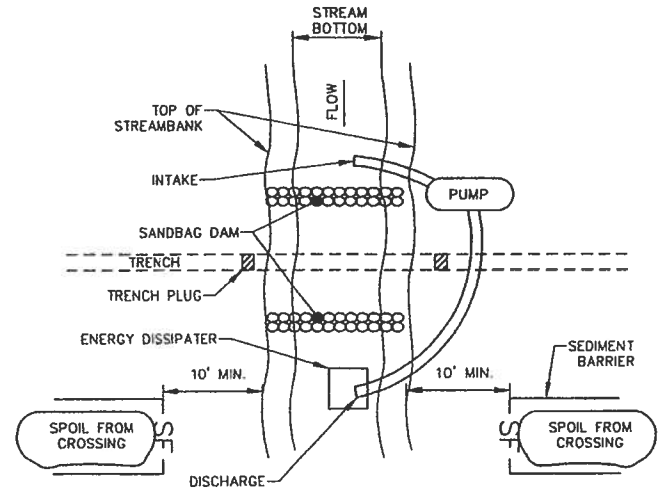
TEMPORARY ACCESS BRIDGE (2)
NOT TO SCALE



NOTES:

1. TWO BAG MINIMUM HEIGHT ABOVE NORMAL BASE FLOW.
2. A TEMPORARY COFFERDAM, AS MUNUFACTURED BY AQUA-BARRIER® OR SIMILAR, MAY BE USED IN PLACE OF SANDBAG DIVERSION DAM.

SANDBAG DIVERSION DAM (3)
NOT TO SCALE



NOTES:

1. GRUBBING SHALL NOT TAKE PLACE WITHIN 50 FEET OF THE TOP-OF-BANK UNTIL ALL MATERIALS REQUIRED TO COMPLETE CROSSING ARE ON SITE AND PIPE IS READY FOR INSTALLATION.
2. BYPASS PUMP INTAKE SHALL BE MAINTAINED A SUFFICIENT DISTANCE FROM THE BOTTOM TO PREVENT PUMPING OF CHANNEL BOTTOM MATERIALS.
3. TRENCH PLUGS SHALL BE INSTALLED WITHIN THE TRENCH ON BOTH SIDES OF THE STREAM CHANNEL (SEE TRENCH PLUG DETAIL).
4. WATER ACCUMULATING WITHIN THE WORK AREA SHALL BE PUMPED TO A FILTER BAG PRIOR TO DISCHARGING INTO ANY RECEIVING SURFACE WATER.
5. HAZARDOUS OR POLLUTANT MATERIAL STORAGE AREAS SHALL BE LOCATED AT LEAST 100 FEET BACK FROM THE TOP OF STREAM BANK.
6. ALL EXCESS EXCAVATED MATERIAL SHALL BE IMMEDIATELY REMOVED FORM THE STREAM CROSSING AREA.
7. APPROPRIATE STREAMBANK PROTECTION SHALL BE PROVIDED WITHIN THE CHANNEL.

DAM AND PUMP BYPASS STREAM CROSSING (4)
NOT TO SCALE

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ALLEN LONG		
Professional Engineer's No.		
MD 34862		
State	Date Signed	Project Mgr.
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

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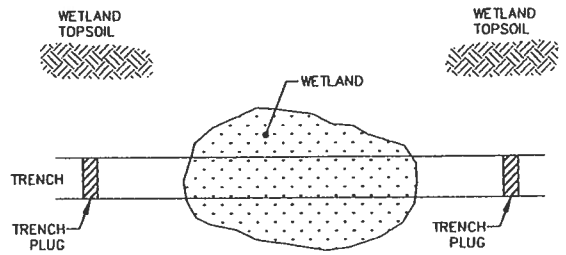
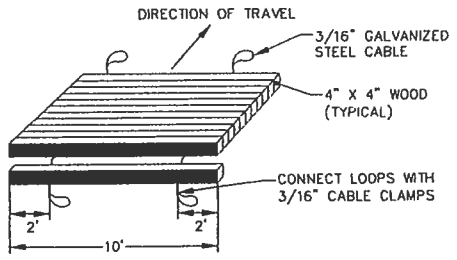


TYPICAL WETLAND CROSSING



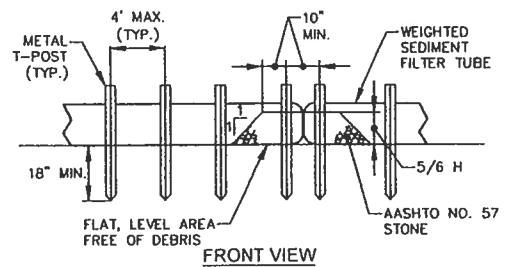
TIMBER MAT

NOTES:

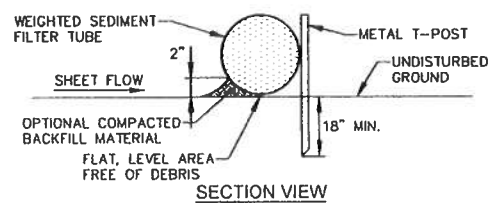
1. STAGING AREAS SHALL BE LOCATED AT LEAST 50 FEET FROM THE EDGE OF THE WETLAND.
2. SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE PLAN DRAWINGS.
3. DISTURBANCE FOR WETLAND CROSSINGS WILL BE LIMITED TO THE MINIMUM IMPACT NEEDED FOR PIPELINE INSTALLATION.
4. THE MOVEMENT OF VEHICLES ACROSS THE WETLAND WILL BE MINIMIZED IF SOFT SOILS ARE ENCOUNTERED IN THE WETLAND AREA. THE USE OF TIMBER PADS/MATS WILL BE USED TO SUPPORT THE MOVEMENT OF EQUIPMENT AND/OR VEHICLES.
5. EXCAVATED UPPER MOST 1 FOOT OF TOPSOIL (WITH THE VEGETATIVE ROOT MASS) WILL BE CAREFULLY REMOVED AND STOCKPILED SEPARATELY FROM THE SUBSOIL, UNLESS THERE IS STANDING WATER OR THE SOIL IS TOO SATURATED TO SEGREGATE.
6. TRENCH PLUGS WILL BE INSTALLED WHERE SHOWN TO PREVENT THE PIPELINE TRENCH FROM DRAINING THE WETLANDS OR CHANGING ITS HYDROLOGY.
7. UPSLOPE RUNOFF WILL BE DIVERTED AROUND THE WORK AREA BY THE USE OF INTERCEPTOR DIVERSIONS, WHERE INDICATED.

WETLAND CROSSING (1)

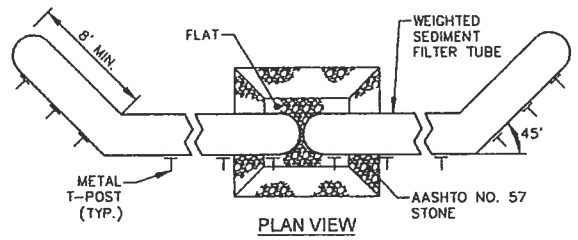
NOT TO SCALE



FRONT VIEW



SECTION VIEW



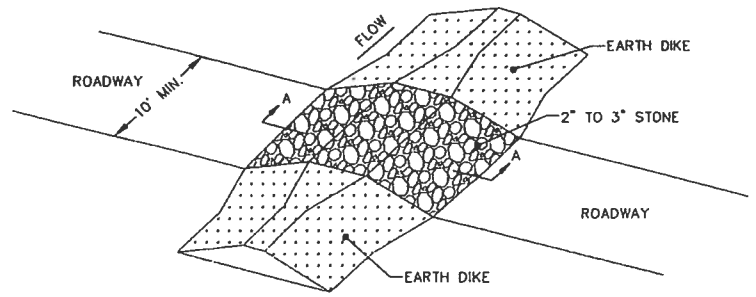
PLAN VIEW

NOTES:

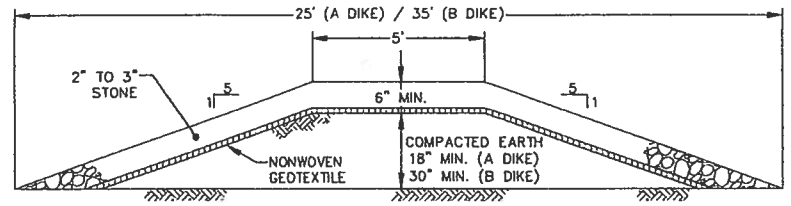
1. A SEDIMENT TUBE PLACEMENT AREA SHALL BE PREPARED SO THAT IT IS FREE OF ALL DEBRIS, INCLUDING ROCKS, STICKS, ROOTS, ETC. A 2" LAYER OF AASHTO #57 STONE SHALL BE PLACED WHERE THE LOGS COME TOGETHER. ENDS OF TUBES MAY BE OVERLAPPED ACCORDING TO MANUFACTURER'S SPECIFICATIONS INSTEAD OF THE AASHTO #57 STONE.
2. SEDIMENT TUBES SHALL BE PLACED AT EXISTING LEVEL GRADE. ENDS SHALL BE EXTENDED UPSLOPE AT 45 DEGREES TO THE MAIN FILTER LOG ALIGNMENT FOR A MINIMUM OF 8 FEET.
3. SEDIMENT TUBES SHALL BE INSPECTED WEEKLY AND AFTER EACH RUNOFF EVENT.
4. SEDIMENT DEPOSITS SHALL BE CLEANED FROM THE LOG WHEN IT REACHES HALF THE HEIGHT OF THE TUBE.
5. DAMAGED TUBES SHALL BE REPLACED WITHIN 24 HOURS OF INSPECTION. A SUPPLY OF TUBES SHALL BE MAINTAINED ON SITE FOR THIS PURPOSE.

WEIGHTED SEDIMENT FILTER TUBE (2)

NOT TO SCALE



ISOMETRIC VIEW



SECTION A-A

NOTES:

1. USE MINIMUM WIDTH OF 10 FEET TO ALLOW FOR VEHICULAR PASSAGE.
2. PLACE NONWOVEN GEOTEXTILE OVER THE EARTH MOUND PRIOR TO PLACING STONE.
3. PLACE 2 TO 3 INCH STONE OR EQUIVALENT RECYCLED CONCRETE AT LEAST 6 INCHES DEEP OVER THE LENGTH AND WIDTH OF THE MOUNTABLE BERM.
4. MAINTAIN LINE, GRADE, AND CROSS SECTION. ADD STONE OR MAKE OTHER REPAIRS AS CONDITIONS DEMAND TO MAINTAIN SPECIFIED DIMENSIONS. REMOVE ACCUMULATED SEDIMENT AND DEBRIS. MAINTAIN POSITIVE DRAINAGE.

MOUNTABLE BERM (4)

NOT TO SCALE

NOT TO SCALE

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No.	Date	Revisions	By	Ckd

Professional Engineer's Name		
ALLEN LONG		
Professional Engineer's No		
MD 34862		
State	Date Signed	Project Mgr.
MD		JD
Designed by	Drawn by	Checked by
ALS	ALS	ARL

STATE OF MARYLAND ALLEN R. LONG No. 34862 PROFESSIONAL ENGINEER

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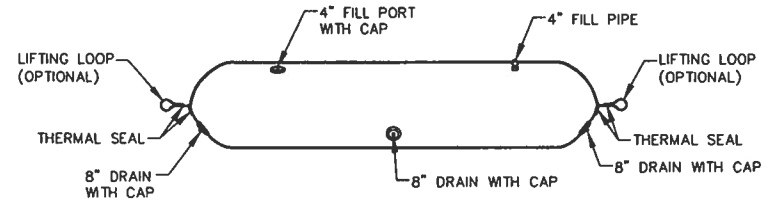
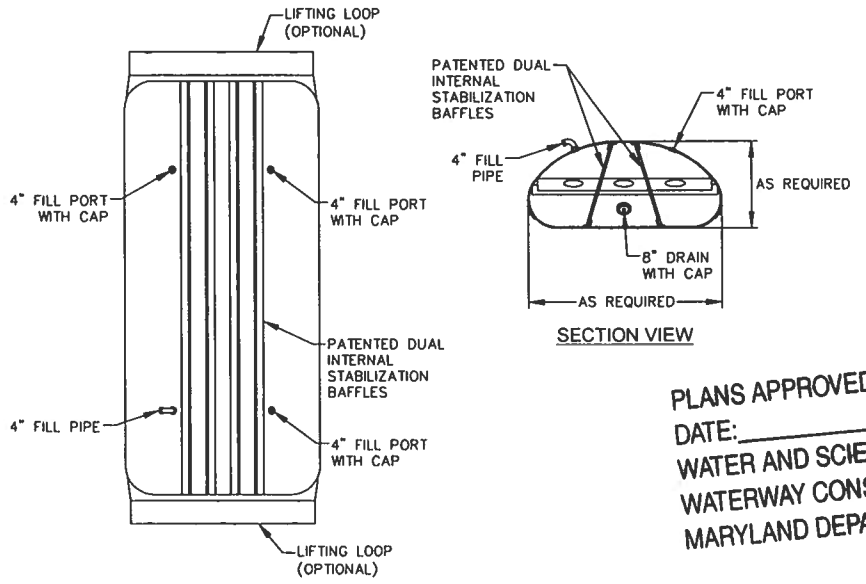


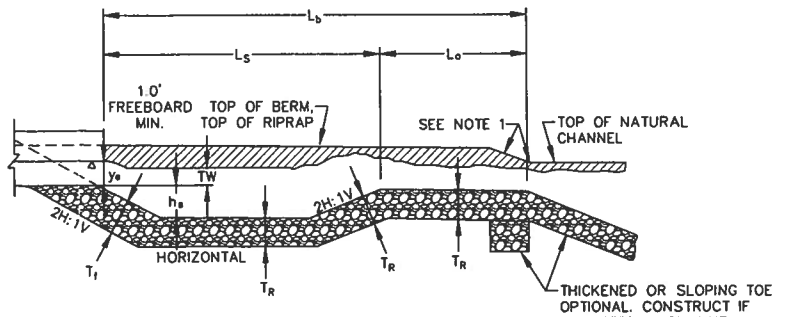
FRONT VIEW



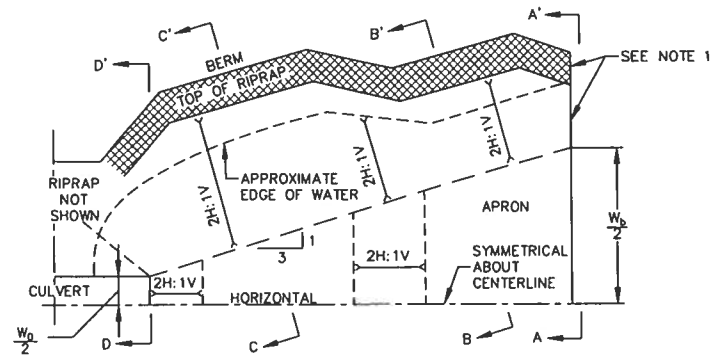
PLAN VIEW

SECTION VIEW

STREAM CROSSING ID	CULVERT SIZE	RIPRAP BASIN											
		D_{50} (FT)	D_{MAX} (FT)	TAILWATER DEPTH (TW) (FT)	EQUIVALENT BRINK (OUTLET) DEPTH (y_e) (FT)	DISSIPATOR POOL DEPTH (h_s) (FT)	CULVERT WIDTH (W_O) (FT)	FORESLOPE THICKNESS (T_f) (FT)	RIPRAP THICKNESS (T_R) (FT)	BASIN WIDTH (W_b) (FT)	BASIN LENGTH (L_b) (FT)	POOL LENGTH (L_s) (FT)	APRON LENGTH (L_a) (FT)
S1E	5'H X 4'W CONCRETE BOX CULVERT	0.30	0.45	5.00	3.00	0.60	4.00	0.89	0.67	18.33	20.00	15.00	5.00
S1	3'H X 6'W CONCRETE BOX CULVERT	0.23	0.34	5.94	2.00	0.47	6.00	0.68	0.51	22.00	24.00	18.00	6.00
S8B	4'H X 3'W CONCRETE BOX CULVERT	0.67	1.00	3.38	3.83	1.34	3.00	2.00	1.50	16.37	20.05	13.37	6.68



CENTERLINE SECTION



HALF PLAN

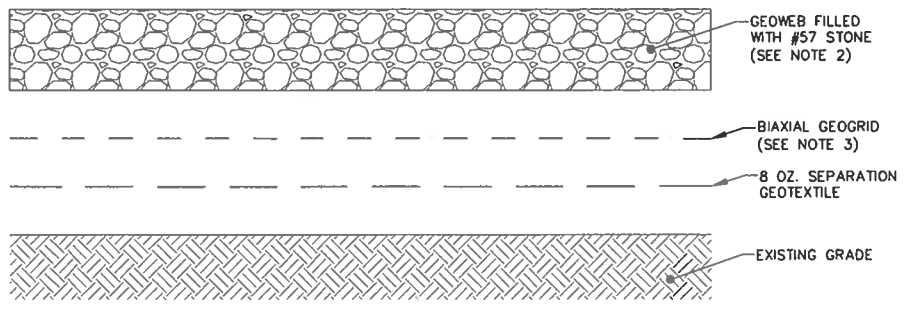
PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

NOTE:

1. AQUA-BARRIER® SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION GUIDELINES.

AQUA-BARRIER® 1

NOT TO SCALE

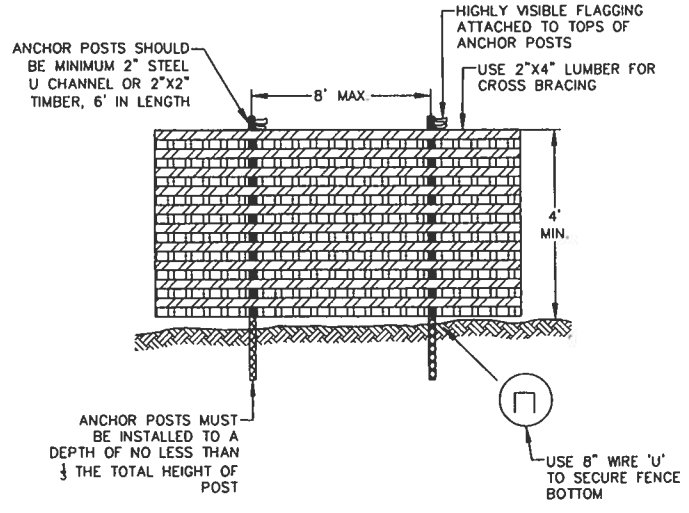


NOTES:

1. NEW PERMANENT ACCESS ROADS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THIS DETAIL TO PROVIDE A PERVIOUS SURFACE FOR STORMWATER INFILTRATION AND STABILITY FOR EQUIPMENT TRAVEL.
2. GEOWEB SHALL BE STRATA 356 (8-INCH PROFILE) OR SIMILAR.
3. GEOGRID SHALL BE STRATA BASE 12 OR SIMILAR.
4. EXISTING GRADE SHALL BE INSPECTED AT THE TIME OF CONSTRUCTION TO DETERMINE SUBGRADE PREPARATION REQUIREMENTS.

TYPICAL PERMANENT ACCESS ROAD DETAIL 2

NOT TO SCALE

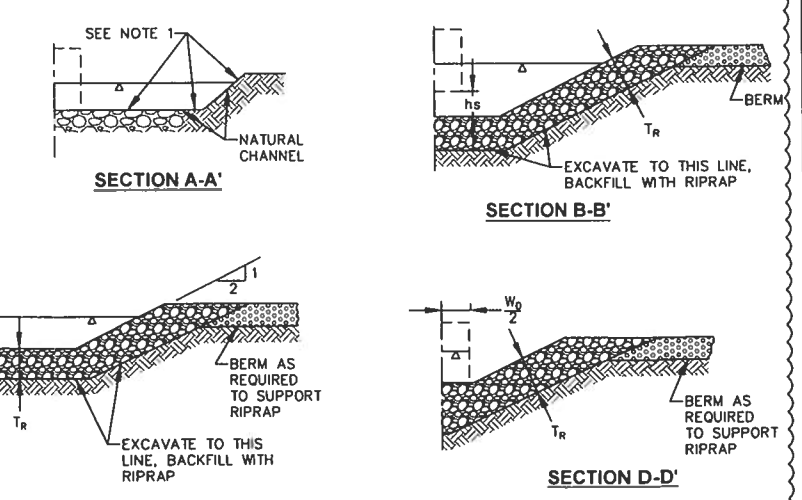


NOTES:

1. BLAZE ORANGE OR BLUE PLASTIC MESH FENCE FOR TREE PROTECTION FENCE, ONLY.
2. BOUNDARIES OF RETENTION AREA WILL BE ESTABLISHED AS PART OF THE FOREST CONSERVATION PLAN REVIEW PROCESS.
3. BOUNDARIES OF RETENTION AREA SHALL BE STAKED AND FLAGGED PRIOR TO INSTALLING TREE PROTECTION FENCE.
4. AVOID DAMAGES TO CRITICAL ROOT ZONE. DO NOT DAMAGE OR SEVER LARGE ROOTS WHEN INSTALLING POSTS.
5. TREE PROTECTION SIGNS ARE REQUIRED.
6. TREE PROTECTION FENCE SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION.

PLASTIC MESH TREE PROTECTION FENCE 3

NOT TO SCALE



NOTES:

1. WARP BASIN TO CONFORM TO NATURAL STREAM CHANNEL. TOP OF RIPRAP IN FLOOR OF BASIN SHOULD BE AT LEAST THE SAME ELEVATION OR LOWER THAN THE NATURAL CHANNEL BOTTOM AT SECTION A-A'.

RIPRAP BASIN ENERGY DISSIPATOR 4

NOT TO SCALE

CITY: WEXFORD, PA DIV/GROUP: ENVCAD DB: LD: PIC: PM: TM: LYR ON=*;OFF=*REF* G:\CADD\ACAD\Proj\CPGL00EP\DWG\MISC\CPGL00EP-G00.dwg LAYOUT: 37 SAVED 9/22/2017 9:42 AM ACADVER: 20.1S (LMS TECH) PAGESETUP: ---- PLOTSTYLETABLE: PLTCONT1.CTB PLOTTED: 9/22/2017 11:02 AM BY: SIDARI, ALEXIS XREFS: CPGL00EP-X00

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No	Date	Revisions	By	Ckd
4	9/20/17	MDE COMMENT RESPONSE	ALS	ARL
3	8/11/17	MDE COMMENT RESPONSE	ALS	ARL
2	7/7/17	FOREST CONSERVATION ACT REQUIREMENT	ALS	ARL
1	7/7/17	MDE COMMENT RESPONSE	ALS	ARL

Professional Engineer's Name		
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Designed by	Drawn by	Checked by
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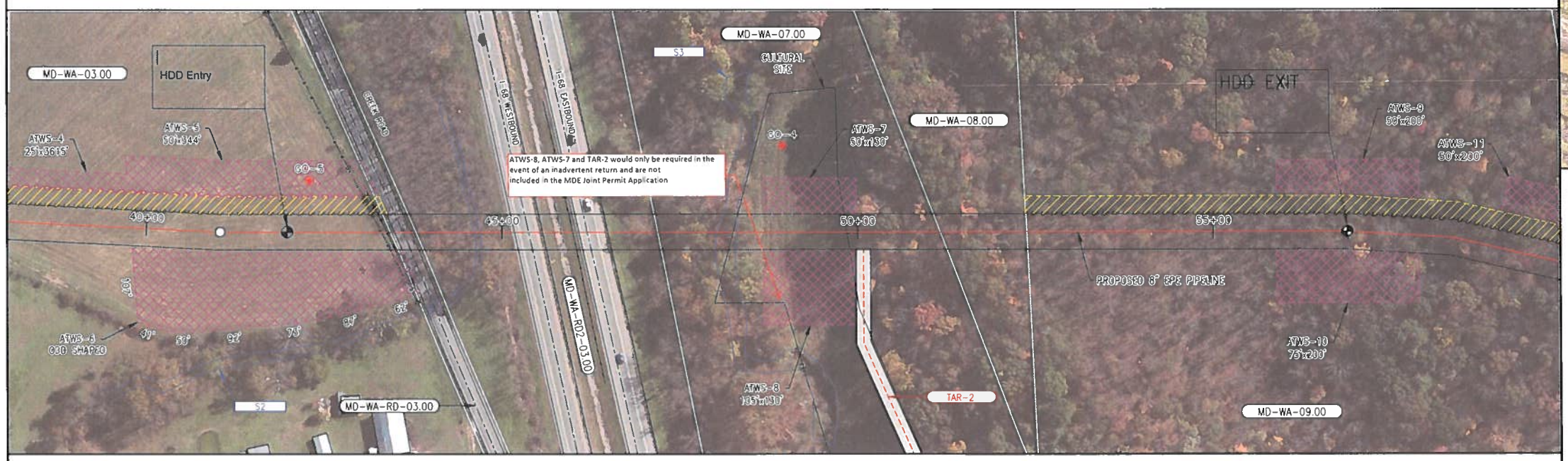
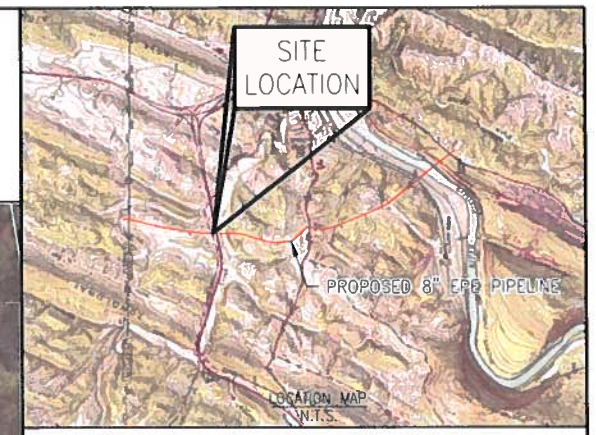
ARCADIS
6041 Wallace Road Extension
Suite 300
Wexford, PA 15090
Tel: 724 742 9180

37

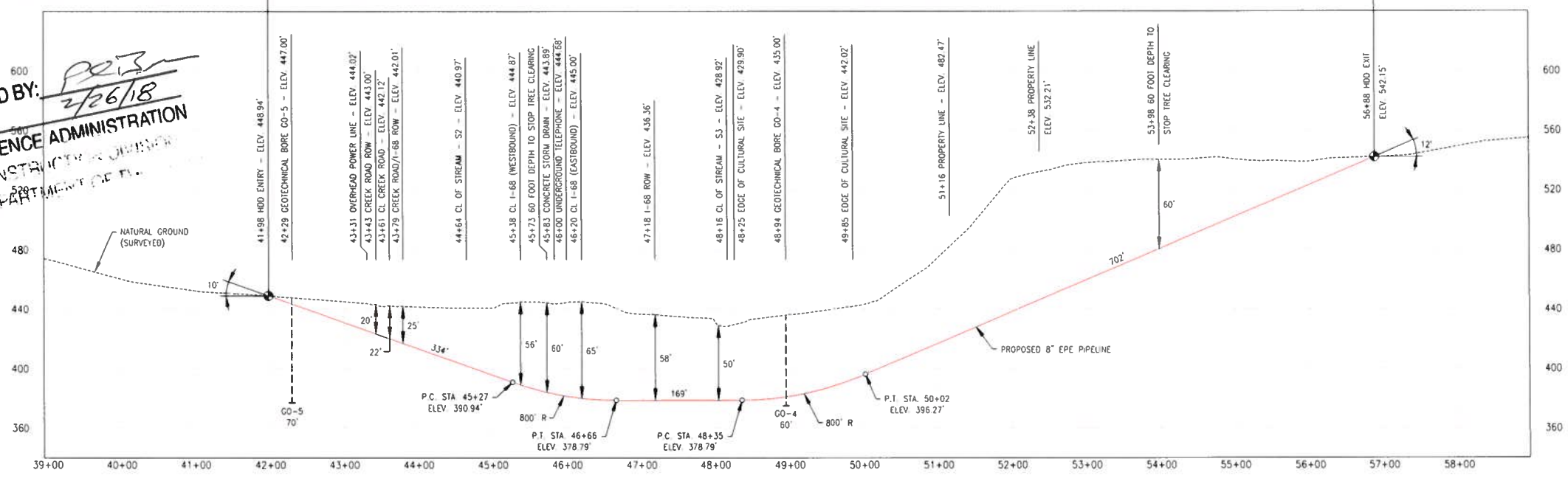
WASHINGTON COUNTY, MD



PLAN
SCALE 1"=80'



1490.2' APPROXIMATE HORIZONTAL DRILL LENGTH (PIPE LENGTH 1512.6')



PROFILE
HORIZ. SCALE 1"=80'
VERT. SCALE 1"=40'

PLANS APPROVED BY: [signature]
DATE: 2/26/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

LEGEND

ISSUED FOR FERC SUPPLEMENTAL FILING
DATE 08/29/2017

LEGEND

SCALE: 1" = 80'

No.	REVISIONS	APPROVED BY	DATE
4	ISSUED FOR FERC SUPPLEMENTAL FILING	JH-S	08/29
3	ISSUED FOR BID	JH-S	06/22
2	ISSUED FOR FERC FILING	JH-S	10/15
1	ISSUED FOR 50% REVIEW	JH-S	10/13
0	RE-ISSUED FOR 30% REVIEW	JH-S	09/22
P	ISSUED FOR 30% REVIEW	JH-S	08/16

DWG NO.	REFERENCE
ALG-1	ALIGNMENT SHEET

PROJECT DELIVERY
PROJECT ENGINEERING

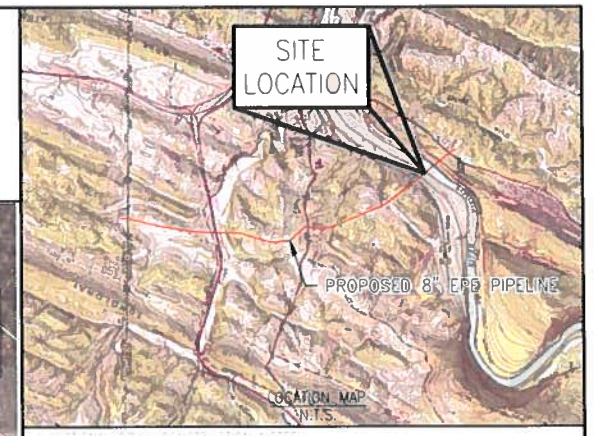
Columbia Gas Transmission

PL-10376

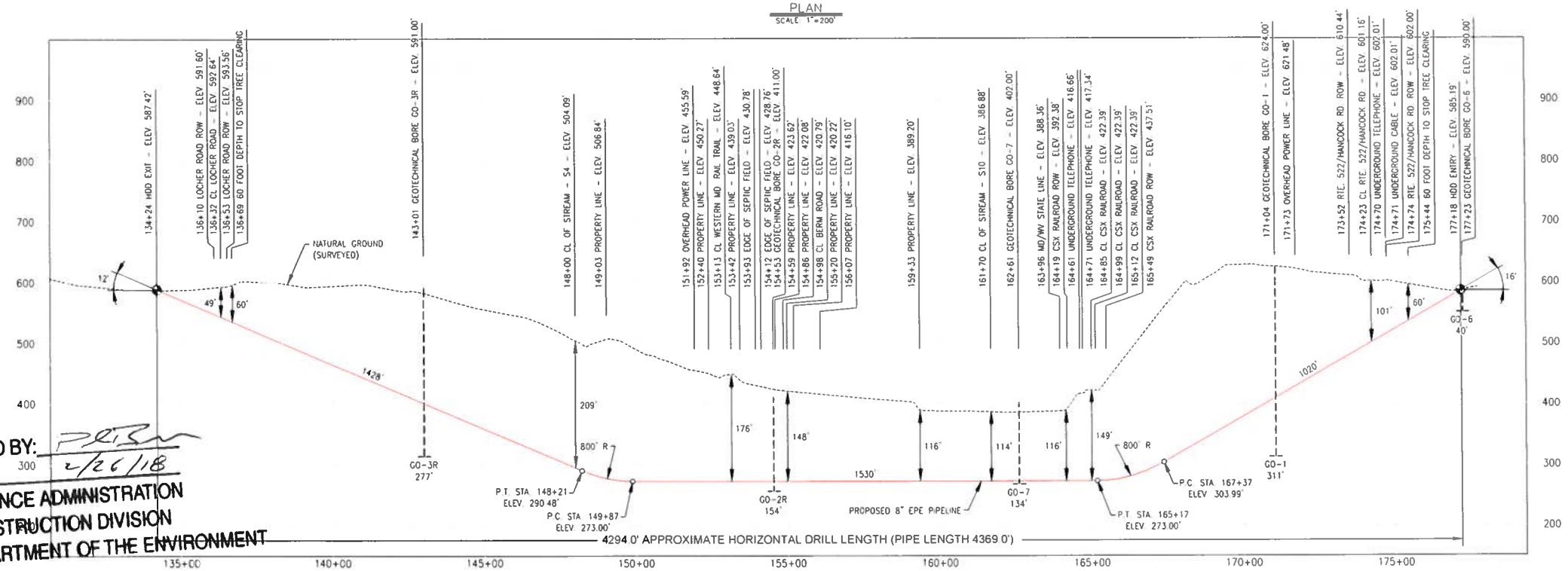
TITLE
EASTERN PANHANDLE EXPANSION
HORIZONTAL DIRECTIONAL DRILL - INTERSTATE 68

DRAWN BY	CAC	DATE	DRAWING NUMBER	SHEET	ISSUE
PROJECT NUMBER	23154	08/16	D23154-HDD-1	1 OF 1	P6
CONTRACT NUMBER					

WASHINGTON COUNTY, MD – MORGAN COUNTY, WV



PLAN
SCALE: 1" = 200'



PROFILE
HORIZ. SCALE: 1" = 200'
VERT. SCALE: 1" = 100'

PLANS APPROVED BY: P.R.S.
DATE: 2/22/18
WATER AND SCIENCE ADMINISTRATION
WATERWAY CONSTRUCTION DIVISION
MARYLAND DEPARTMENT OF THE ENVIRONMENT

LEGEND

ISSUED FOR FERC SUPPLEMENTAL FILING
DATE 06 29 2017

SCALE: 1" = 200'

No.	REVISIONS	APPROVED BY	DATE
4	ISSUED FOR FERC SUPPLEMENTAL FILING	JHS	06/18
3	ISSUED FOR BID	JHS	06/18
2	ISSUED FOR FERC FILING	JHS	05/18
1	ISSUED FOR 50% REVIEW	JHS	12/17
4	RE-ISSUED FOR 30% REVIEW	JHS	09/17
3	RE-ISSUED FOR 30% REVIEW	JHS	08/17

DWG NO	REFERENCE
ALG-3	ALIGNMENT SHEET

PROJECT DELIVERY
PROJECT ENGINEERING

Columbia Gas Transmission

PL-10376

TITLE: EASTERN PANHANDLE EXPANSION
HORIZONTAL DIRECTIONAL DRILL - POTOMAC RIVER

DRAWN BY	DATE	DRAWING NUMBER	SHEET	ISSUE
CAC	08/18	D23154-HDD-2	1 OF 1	P6

PROJECT NUMBER: 23154
UTILITY ORDER NUMBER: