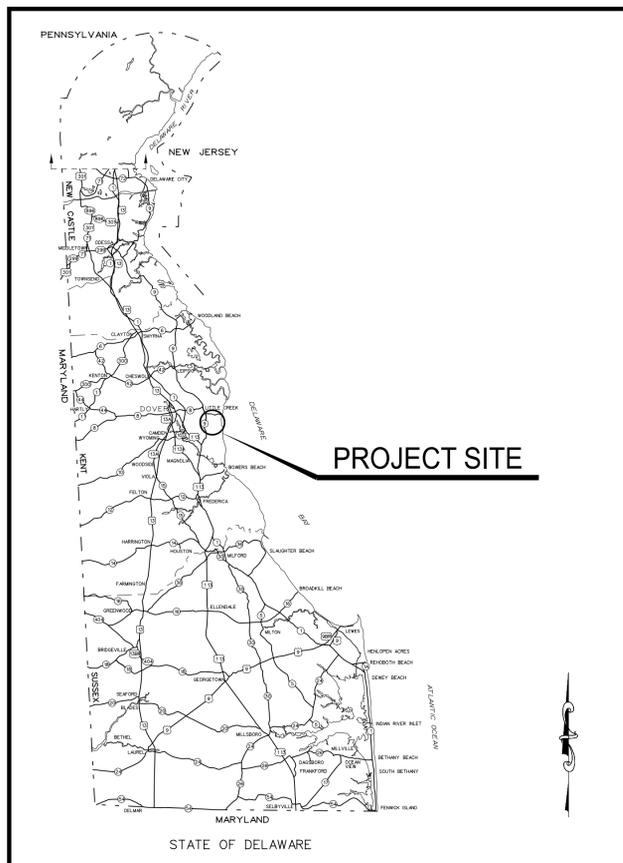


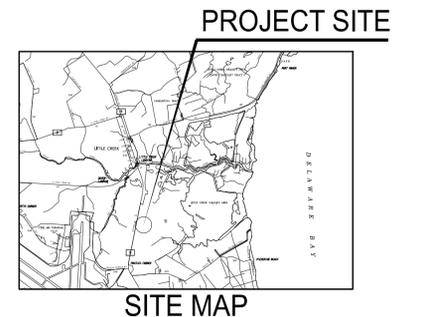
STATE OF DELAWARE  
 DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL  
 DIVISION OF FISH & WILDLIFE

# Delaware Bayshore Byway LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS



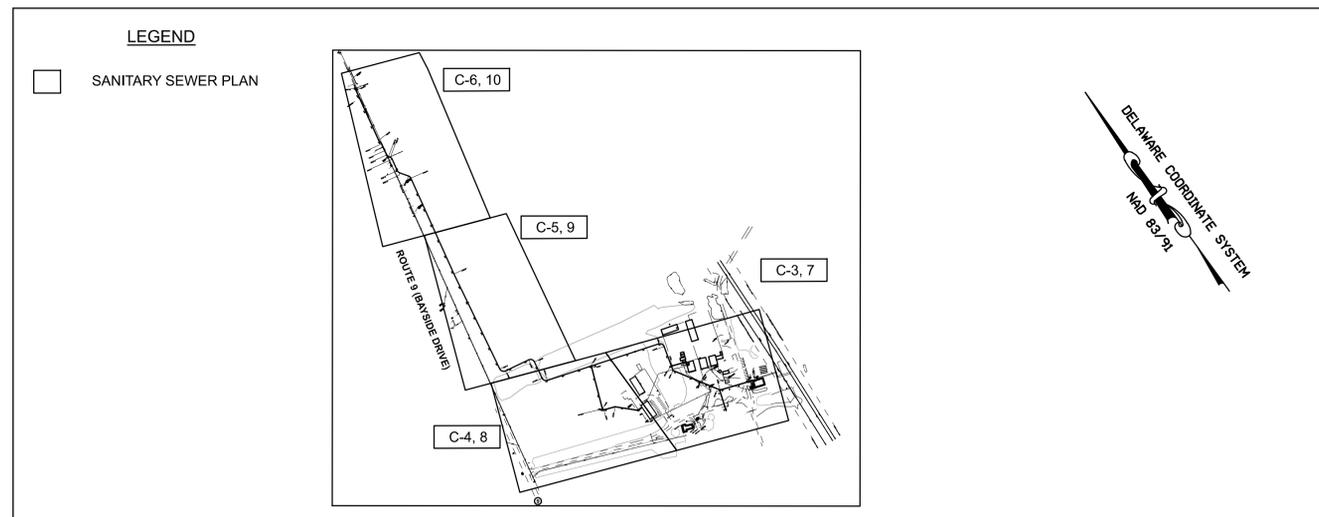
LOCATION MAP

CONTRACT NO. TBD  
 CONSTRUCTION DOCUMENTS  
 MARCH 2ND, 2026



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SHEET INDEX  
 SCALE: 1"=300'

OWNER INFORMATION

OWNER: STATE OF DELAWARE  
 89 KINGS HIGHWAY  
 DOVER, DELAWARE 19901

PROPERTY ADDRESS: 3018 BAYSIDE DRIVE  
 DOVER, DELAWARE 19901

TAX PARCEL #: 2-00-07900-01-0300-00001

DESIGNER/APPLICANT: RK&K  
 700 E. PRATT STREET, SUITE 500  
 BALTIMORE, MARYLAND 21202

PREPARED BY  
 THE CONSULTING FIRM OF

RUMMEL, KLEPPER & KAHL, LLP  
 CONSULTING ENGINEERS  
 700 E. PRATT STREET, SUITE 500  
 BALTIMORE, MD 21202

DATE: 03/02/2026

PREPARED FOR:  
 DELAWARE DIVISION OF FISH & WILDLIFE  
 89 KINGS HIGHWAY  
 DOVER, DELAWARE 19901  
 PHONE: 302-739-9910  
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DATE: MARCH 02 2026

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# GENERAL NOTES

- BEFORE EXCAVATION IS STARTED IN AREAS OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL GIVE NOTIFICATION BY TELEPHONE, CALLING "MISS UTILITY", TEL. (800) 282-8555. THE CONTRACTOR IS ADVISED THAT MISS UTILITY HAS REFUSED TO LOCATE UTILITIES ON STATE PROPERTY IN SOME INSTANCES. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ALL UTILITIES IN THE FIELD BY EMPLOYING A PROFESSIONAL UTILITY LOCATOR TO FIELD LOCATE EXISTING UTILITIES PRIOR TO ANY EXCAVATION. EXISTING UTILITIES ARE SHOWN ON THE DRAWINGS BASED ON THE BEST INFORMATION AVAILABLE, HOWEVER THIS INFORMATION HAS NOT BEEN FIELD VERIFIED AND IS NOT GUARANTEED. ALL EXISTING UTILITIES SHALL BE PROTECTED AND TEMPORARILY SUPPORTED OR RELOCATED AS NECESSARY TO COMPLETE THE WORK IN ACCORDANCE WITH THE PERTINENT UTILITY COMPANY REQUIREMENTS. ALL COSTS SHALL BE INCLUDED IN THE CONTRACT.
- THE CONTRACTOR SHALL DESIGNATE A PERSON WHO SHALL BE RESPONSIBLE FOR WORK SAFETY.
- THE CONTRACTOR IS RESPONSIBLE FOR SECURING THE AREA WITHIN THE LIMITS OF CONSTRUCTION TO PROHIBIT PUBLIC ACCESS UNTIL COMPLETION OF THE PROJECT. THE CONTRACTOR'S PROCEDURE/METHOD FOR LIMITING ACCESS SHALL BE REVIEWED BY AND COORDINATED WITH THE OWNER PRIOR TO THE START OF WORK. THE COST SHALL BE INCLUDED IN THE CONTRACT.
- THE LIMIT OF CONSTRUCTION SHALL BE AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL NOT WORK OR TRESPASS OUTSIDE OF THE LIMIT OF CONSTRUCTION AS SHOWN ON THE PLANS UNLESS OTHERWISE APPROVED BY THE OWNER.
- APPROVED COVERS TO PREVENT MATERIAL FROM LEAVING THE TRUCKS MUST BE INSTALLED OVER ALL LOADED TRUCKS HAULING BORROW, EXCAVATED MATERIALS, AND/OR FINE AGGREGATES TO OR FROM THE PROJECT SITE OVER STATE MAINTAINED ROADS. THE TRUCKS SHALL BE FULLY COVERED AND THE COVERS SHALL BE TIED ON THE REAR AND BOTH SIDES TO PREVENT MATERIAL FROM LEAVING THE TRUCK DURING HAULING.
- IN CASE OF CONFLICT BETWEEN THE "MANUFACTURER'S RECOMMENDATIONS" FOR AN APPROVED MATERIAL AND THE GOVERNING "CONTRACT SPECIFICATIONS" FOR THE MATERIAL, THE MORE RESTRICTIVE OF THE TWO SHALL PREVAIL UNLESS OTHERWISE DIRECTED BY THE OWNER.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ESTABLISHING, BY SURVEY, ALL POINTS AND LIMIT OF CONSTRUCTION LINES NECESSARY FOR CONSTRUCTION OF THE PROJECT. THE CONTRACTOR SHALL ENGAGE A PROFESSIONAL LAND SURVEYOR, REGISTERED IN THE STATE OF DELAWARE, TO PERFORM REQUIRED SURVEYING SERVICES. THE COST OF ALL SURVEY STAKEOUT WORK SHALL BE INCLUDED IN THE CONTRACT.
- THE CONTRACTOR SHALL SUBMIT A STAGING PLAN TO THE OWNER FOR APPROVAL PRIOR TO CONSTRUCTION OF THE PROJECT. THE STAGING PLAN SHALL INCLUDE SITE LOCATION, AND ALL OTHER INCIDENTALS, AS DIRECTED BY THE OWNER. ALL COSTS ASSOCIATED WITH PREPARING AND IMPLEMENTING THE STAGING PLAN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
- UPON COMPLETION OF THE PROJECT, THE CONTRACTOR SHALL FULLY RESTORE ALL AREAS USED FOR STAGING OPERATIONS, INCLUDING SOIL STOCKPILE AREAS, TO ITS ORIGINAL CONDITION TO THE SATISFACTION OF THE OWNER. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE INCLUDED IN THE CONTRACT.
- THE CONTRACTOR SHALL PROVIDE NECESSARY RESTROOM FACILITIES FOR WORKERS DURING CONSTRUCTION.
- THE DATUM USED ON THIS PROJECT IS HORIZONTAL NAD 83/91 AND VERTICAL NGVD 88.
- ALL SIGNS AND POSTS SHALL BE IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DEMUTCD), CURRENT EDITION, UNLESS OTHERWISE NOTED ON THE PLANS.
- ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH THE LATEST DELDOT STANDARDS, SPECIFICATIONS AND DETAILS, UNLESS OTHERWISE NOTED ON THE PLANS OR IN THE SPECIFICATIONS FOR THIS PROJECT AND AS FOLLOWS. FOR THIS PROJECT, DIVISION 100 GENERAL PROVISIONS IN THE DELDOT STANDARD SPECIFICATIONS DOES NOT APPLY. THERE WILL BE NO MEASUREMENT FOR PAYMENT EXCEPT WHERE SPECIFICALLY STATED IN THE PLANS AND SPECIFICATIONS FOR THIS PROJECT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING AND PROPERLY DISPOSING OF ALL SPOILS FROM THE SITE.
- THIS PROJECT IS SUBJECT TO THE BUILD AMERICA, BUY AMERICA ACT (BABA), ENACTED AS PART OF THE BIPARTISAN INFRASTRUCTURE LAW (BIL) REQUIRES IRON, STEEL, MANUFACTURED PRODUCTS, AND CONSTRUCTION MATERIALS USED IN INFRASTRUCTURE PROJECTS FUNDED BY FEDERAL FINANCIAL ASSISTANCE TO BE PRODUCED IN THE UNITED STATES. ALL MATERIALS THAT WILL BE PERMANENTLY INCORPORATED INTO THIS PROJECT WILL MEET THE BABA MATERIAL REQUIREMENTS. THE CONTRACTOR IS REQUIRED TO CERTIFY AND PROVIDE DOCUMENTATION THAT ALL IRON, STEEL, MANUFACTURED PRODUCTS AND CONSTRUCTION MATERIALS ARE COMPLIANT WITH BABA REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

# EXISTING UNDERGROUND UTILITIES COORDINATION NOTES:

- THE LOCATION OF UNDERGROUND UTILITIES AS INDICATED ON PLANS HAS BEEN OBTAINED FROM EXISTING RECORDS. NEITHER THE OWNER OR THE ARCHITECT/ENGINEER ASSUMES ANY RESPONSIBILITY WHATEVER IN RESPECT TO ACCURACY, COMPLETENESS, OR SUFFICIENCY OF THE INFORMATION SHOWN. THERE IS NO GUARANTEE, EITHER EXPRESSED OR IMPLIED THAT THE LOCATIONS, SIZE AND TYPE OF MATERIALS OF EXISTING UNDERGROUND UTILITIES INDICATED ARE REPRESENTATIVE OF THOSE TO BE ENCOUNTERED DURING CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH UTILITIES, INCLUDING SERVICE CONNECTIONS TO UNDERGROUND UTILITIES. IN THE EVENT OF AN UNEXPECTED UTILITY INTERFERENCE DURING CONSTRUCTION, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER. ANY SUCH MAINS AND/OR SERVICES DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED IMMEDIATELY AT HIS EXPENSE.
- PRIOR TO PERFORMING ANY EXCAVATION GREATER THAN 6 INCHES, THE CONTRACTOR SHALL COORDINATE WITH KENT COUNTY DEPARTMENT OF PUBLIC WORKS AND ALL PRIVATE UTILITY COMPANIES TO DETERMINE THE LOCATION OF UNDERGROUND UTILITY LINES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL ORGANIZATIONS THAT CONTROL EXISTING UNDERGROUND UTILITIES IN THE CONSTRUCTION AREA OR WOULD BE AFFECTED BY CONSTRUCTION WORK AROUND THE EXISTING UTILITIES.
- THE CONTRACTOR SHALL NOT START EXCAVATION UNTIL ALL UTILITY LINE LOCATIONS HAVE BEEN STAKED OR OTHERWISE CLEARLY MARKED AND DOCUMENTATION FURNISHED TO THE OWNER. ALL MARKINGS SHALL BE CONSIDERED APPROXIMATE. AND UTILITIES OTHER THAN THOSE SHOWN SHALL BE CONSIDERED TO EXIST.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DEFINITE LOCATION OF EACH UTILITY WITHIN THE WORK AREA. CARE SHOULD BE EXERCISED DURING EXCAVATION WORK TO AVOID DAMAGING OR DISRUPTING UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING (AT CONTRACTOR'S EXPENSE) DAMAGE TO ANY UTILITY CAUSED BY THE CONTRACTOR'S WORK.
- WHERE EXISTING UNDERGROUND UTILITIES OR OTHER CONSTRUCTION ARE EXPECTED TO BE IN PROXIMITY TO PROPOSED CONSTRUCTION, OR WHEN APPROACHING EXISTING UTILITIES OR STRUCTURES FOR CONNECTIONS, THE CONTRACTOR SHALL DIG TEST PITS TO DETERMINE THE EXACT LOCATION AND INVERTS OF THE EXISTING UTILITY TO ALLOW FOR POSSIBLE CHANGES TO THE PROPOSED UTILITY IN LINE AND/OR GRADE. THE CONTRACTOR SHALL ALSO DIG TEST PITS IN THE LOCATION OF THE PROPOSED CONNECTIONS TO EXISTING UTILITIES AND SHALL MAKE ALL MEASUREMENTS NECESSARY TO ENSURE PROPER CONNECTION. ANY NECESSARY CHANGES IN LINE OR GRADE OF WORK CAUSED BY FAILURE TO TAKE SUCH PRECAUTIONS SHALL BE AT THE EXPENSE OF THE CONTRACTOR.
- WHEN IT IS NECESSARY TO EXCAVATE NEAR OR INTERFERE WITH ANY SEWER LINE, WATER SERVICES, DRAIN PIPE, CATCH BASIN, CULVERT, OR OTHER STRUCTURES, THE CONTRACTOR SHALL MAINTAIN THE SAME IN WORKING ORDER AND SHALL REPAIR AND MAKE GOOD ANY DAMAGE DONE DURING THE PROGRESS OF THE WORK.
- WHERE EXISTING UTILITIES CROSS THE TRENCH EXCAVATION, THEY SHALL BE ADEQUATELY SUPPORTED AND PROTECTED FROM DAMAGE DUE TO CONSTRUCTION. ALL METHODS FOR SUPPORTING AND MAINTAINING THESE UTILITIES SHALL BE SUBJECT TO REVIEW BY OWNER. CARE SHALL BE TAKEN TO ENSURE THAT THE EXISTING UTILITY GRADES AND ALIGNMENT ARE MAINTAINED AND THE PIPE JOINTS ARE NOT DISTURBED. BACKFILL SHALL BE CAREFULLY PLACED AND TAMPED TO PREVENT DAMAGE OR FUTURE SETTLEMENT. ANY DAMAGE OR MISALIGNMENT OF THE UTILITIES DUE TO CONSTRUCTION OR SETTLEMENT SHALL BE REPAIRED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- ANY UNPROTECTED CABLE (DIRECT BURIED) ENCOUNTERED THAT IS VERIFIED AS NOT ABANDONED IN PLACE SHALL BE PROTECTED. THE UTILITY OWNER MAY DIRECT THE CABLE BE PLACED IN SPLIT DUCT OF APPROPRIATE SIZE AND CONCRETE ENCASED THROUGH THE AREA OF CONSTRUCTION. CONTRACTOR SHALL TAKE ALL REASONABLE MEASURES TO AVOID HAVING TO CUT AND SPLICE DIRECT BURIED CABLE. THE CONTRACTOR SHALL NOTE SPLIT DUCT PORTIONS ON AS-BUILTS.
- ALL EXCESS EXCAVATED MATERIALS SHALL BE DISPOSED OF OFF COUNTY/STATE PROPERTY, EXCEPT FOR CONTAMINATED SOILS OR LIQUIDS. ALL CONTAMINATED SOILS AND LIQUIDS SHALL BE TRANSPORTED TO AN APPROVED RECEIVING SITE AS DIRECTED BY THE ENGINEER, FOR FINAL DISPOSITION.
- INTERUPTION OF EXISTING UTILITIES SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND/OR AT THE DIRECTION OF THE UTILITY OWNERS.

# LEGEND/ABBREVIATIONS

ASSY ASSEMBLY  
 BMP BEST MANAGEMENT PRACTICE  
 BOV BLOW-OFF VAULT  
 CAV COMBINATION AIR VALVE  
 CL CENTERLINE  
 CMP CORRUGATED METAL PIPE  
 CO CLEANOUT  
 COMM COMMUNICATIONS  
 CONC CONCRETE  
 CV CHECK VALVE  
 DIA DIAMETER  
 DR DRAINAGE RATIO  
 DWV DRAIN, WASTE AND VENT  
 ELEV ELEVATION  
 EPDM ETHYLENE PROPYLENE DIENE MONOMER  
 EQD ELECTRICAL QUICK DISCONNECT  
 EX EXISTING  
 F-FL FINISHED FLOOR ELEVATION  
 FLU FLUSHING CONNECTION  
 FM FORCE MAIN  
 GND GROUND  
 HDPE HIGH DENSITY POLYETHYLENE PIPE  
 INV INVERT  
 IPS IRON PIPE SIZE  
 M.B. MAILBOX  
 MIN MINIMUM  
 MNPT MALE NATIONAL PIPE THREAD  
 NO. NUMBER  
 NPT NATIONAL PIPE THREAD  
 NTS NOT TO SCALE  
 PC POINT OF CURVATURE  
 PI POINT OF INTERSECTION  
 POE POINT OF ENDING  
 PVC POLYVINYL CHLORIDE PIPE  
 PS PUMP STATION  
 PT POINT OF TANGENCY  
 RCP REINFORCED CONCRETE PIPE  
 S.F. SQUARE FEET  
 S.S. STAINLESS STEEL  
 SSMH SANITARY SEWER MANHOLE  
 STA STATION  
 STD STANDARD  
 SWM STORMWATER MANAGEMENT  
 TYP TYPICAL  
 UTIL UTILITY  
 W/ WITH  
 XMFR TRANSFORMER

## CONSTRUCTION

- DRAINAGE PIPE/CULVERT
- FLARED END SECTION
- DITCH CENTERLINE
- RIPRAP
- SIGNS
- DO NOT DISTURB
- REMOVE BY CONTRACTOR
- FLARED END SECTION IDENTIFIER
- PIPE IDENTIFIER
- PAVEMENT REMOVAL
- PROPOSED CONCRETE DRIVEWAY/SIDEWALK
- PROPOSED ASPHALT ROAD/PARKING LOT
- LIMIT OF CONSTRUCTION

## EROSION & SEDIMENT CONTROL

- INFILTRATION BASIN
- STABILIZED CONSTRUCTION ENTRANCE
- TEMPORARY CHAIN LINK FENCE
- TYPE III BARRICADE
- SILT FENCE
- COMPOST FILTER LOG
- SOIL TYPE
- RIP-RAP OUTLET PROTECTION-I
- GEOTEXTILE DEWATERING BAG

## EXISTING DETAIL

- SURVEY TRAVERSE POINT
- SPOT ELEVATION
- POINT OF INTERSECTION - TANGENTS
- CONTOUR LINE
- POINT OF TANGENCY & CURVATURE
- SMALL BUSH OR ORNAMENTAL SHRUB
- SURVEY TIE POINT LOCATION
- CONIFEROUS TREE 6" AND LARGER
- DECIDUOUS TREE 6" AND LARGER
- CATCH BASIN
- EXISTING DRAINAGE PIPE AND FLOW ARROW
- HEDGEROW OR THICKET
- WOODS LINE
- BOTTOM OF DITCH
- SIGN
- FLEXIBLE PAVEMENT EDGE
- STRAND OR WOVEN WIRE FENCE
- RIGID PAVEMENT EDGE
- WOODEN FENCE
- STREAM, DITCH OR POND BOUNDARY
- WOOD POLE
- USACE WETLANDS BOUNDARY
- SOIL BORING LOG - PROFILE VIEW
- DNREC WETLANDS BOUNDARY
- SOIL BORING LOCATION - PLAN VIEW
- MEAN HIGH WATER
- SOIL TYPE AND BOUNDARY LINE
- ORDINARY HIGH WATER
- PROPERTY LINE
- RIGHT-OF-WAY LINE
- UTILITIES
- ELECTRIC (OVERHEAD)
- ELECTRIC (UNDERGROUND)
- SANITARY SEWER
- GAS
- TELECOMMUNICATIONS (UNDERGROUND)
- WATER
- SANITARY FORCE MAIN
- WOODEN POST
- ELECTRIC TRANSFORMER
- GAS MANHOLE
- SANITARY SEWER MANHOLE
- TELEPHONE MANHOLE
- ELECTRIC MANHOLE
- FIRE HYDRANT
- TELEPHONE BOOTH
- UTILITY POLE GUY WIRE ANCHOR
- GAS VALVE
- WATER VALVE
- MONITORING/OBSERVATION WELL
- LUMINAIRE SUPPORT POLE AND/OR BASE
- POLE MOUNTED LUMINAIRE
- WATER METER
- UTILITY POLE

BY:	
DESCRIPTION:	
DATE:	

# DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS GENERAL NOTES & LEGEND



DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	NOT TO SCALE
SHEET NO.:	C-1
DFW PROJECT #:	N/A
CONTRACT #:	TBD

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# SANITARY NOTES

- THE EXISTING SEPTIC SYSTEMS SHOWN ARE BASED ON THE FOLLOWING INFORMATION. THE CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE LOCATIONS OF ALL EXISTING SEPTIC SYSTEM COMPONENTS PRIOR TO BEGINNING WORK. ANY DISCREPENCIES FOUND SHALL BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY.
  - FISHERIES OFFICE BUILDING: PERMIT #158802-S
  - HUNTER EDUCATION TRAINING BUILDING: PERMIT #220633
  - RESIDENCE: PERMIT #248453
  - WORKSHOP: PERMIT #251225
- CONTRACTOR IS RESPONSIBLE FOR MAINTAINING SANITARY SEWER SERVICE TO ALL EXISTING BUILDINGS FOR THE ENTIRETY OF THE PROJECT. THE CONNECTION OF THE NEW SANITARY SEWER PIPING TO THE EXISTING SEPTIC SYSTEMS SHALL BE COORDINATED WITH THE OWNER A MINIMUM OF 2 WEEKS IN ADVANCE.
- ALL EXISTING SEPTIC SYSTEMS TO BE ABANDONED SHALL BE ABANDONED IN ACCORDANCE WITH THE REQUIREMENTS OF THE DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC) REGULATIONS GOVERNING THE DESIGN, INSTALLATION AND OPERATION OF ON-SITE WASTEWATER TREATMENT AND DISPOSAL SYSTEMS. UPON COMPLETION, THE CONTRACTOR SHALL SUBMIT AN ON-SITE WASTEWATER SYSTEM ABANDONMENT REPORT
- THE CONTRACTOR SHALL SUBMIT A PROPOSED SEQUENCE OF CONSTRUCTION (SOC) FOR REVIEW PRIOR TO COMMENCEMENT OF ANY WORK. THE SOC SHALL INCLUDE ANY TEMPORARY BYPASS PUMPING OR HAULING REQUIRED TO COMPLETE THE WORK, CLEARING AND GRUBBING, DEMOLITION, EXCAVATION SUPPORT AND PROTECTION, DEWATERING, LINE TAPPING AND STOPPING, SITE RESTORATION, AND ALL OTHER WORK REQUIRED TO COMPLETE THE PROJECT.
- NO SOIL BORINGS HAVE BEEN PERFORMED FOR THE DESIGN OF THE PROPOSED SANITARY SEWER SYSTEM. THE CONTRACTOR IS RESPONSIBLE FOR PERFORMING THEIR OWN SUBSURFACE EXPLORATIONS, AS NECESSARY, TO DETERMINE THE SUBSURFACE CONDITIONS TO THEIR OWN SATISFACTION.

# SEWER MAIN GENERAL NOTES

- THE CONTRACTOR SHALL PROVIDE SEDIMENT CONTROL MEASURES TO PROTECT STOCKPILE AREAS AND STORAGE AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE PROJECT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE STAGING AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDDED AND MULCHED TO THE SATISFACTION OF THE ENGINEER. ALL COSTS ASSOCIATED WITH RESTORATION OF THE STAGING AREA SHALL BE AT THE CONTRACTOR'S EXPENSE. IF THE ENGINEER DETERMINES THAT A SATISFACTORY STAND OF GRASS DOES NOT EXIST AT THE TIME OF FINAL INSPECTION, ALL COSTS ASSOCIATED WITH RE- ESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- EQUIPMENT AND/OR STOCKPILE MATERIAL SHALL NOT BE STORED IN THE DRIPLINE AREA OF ANY TREE.
- THE CONTRACTOR SHALL CONTACT KENT COUNTY DEPARTMENT OF PUBLIC WORKS AT 302-744-2430 AT LEAST 48 HOURS IN ADVANCE OF STARTING CONSTRUCTION. A PRE-CONSTRUCTION MEETING WILL ALSO BE REQUIRED.
- THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA AT 1-800-282-8555 FOR UTILITY LOCATIONS WITHIN AND SURROUNDING CONSTRUCTION AREAS NO LESS THAN 3 DAYS BEFORE PERFORMING ANY EXCAVATION.
- THE CONTRACTOR SHALL ESTABLISH BENCHMARK ELEVATION DATUM IN ACCORDANCE WITH KENT COUNTY DEPARTMENT OF PUBLIC WORKS AND IN ACCORDANCE WITH THE APPROVED PLANS.
- THE CONTRACTOR SHALL PROVIDE TEMPORARY SEED AND MULCH FOR ALL AREAS WHERE SOIL IS EXPOSED AND SILT FENCE IS NOT SPECIFIED, BY THE CLOSE OF EACH BUSINESS DAY.
- THE CONTRACTOR SHALL MAINTAIN PUBLIC ROADS AND STREETS IN A BROOM SWEEP CONDITION AT ALL TIMES.
- PIPE JOINTS TO BE RESTRAINED IN ACCORDANCE WITH DRAWING DETAILS.
- THE CONTRACTOR SHALL USE ONLY NEW MATERIALS, PARTS, AND PRODUCTS. ALL MATERIALS SHALL BE STORED SO AS TO ASSURE THE PRESERVATION OF THEIR QUALITY AND FITNESS FOR THE INTENDED WORK.
- MAINTENANCE OF TRAFFIC - ALL WORK SHALL BE PERFORMED IN A MANNER THAT WILL ENSURE THE LEAST PRACTICABLE OBSTRUCTION TO TRAFFIC CONSISTENT WITH SAFETY AND SHALL COMPLY WITH THE DEPARTMENT MANUAL ENTITLED "TRAFFIC CONTROLS FOR STREETS AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY AND EMERGENCY OPERATIONS". THE MOST CURRENT VERSION OF THIS MANUAL IN EFFECT AT THE TIME OF CONSTRUCTION SHALL BE USED. HEREINAFTER, THIS MANUAL SHALL BE REFERRED TO AS THE "TRAFFIC CONTROL MANUAL". THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN FOR APPROVAL BY THE ENGINEER BEFORE THE START OF THE PROJECT. DELDOT HAS JURISDICTION OVER STATE ROADS.
- ALL UTILITIES PLOTTED ON THE DRAWINGS ARE FROM THE BEST AVAILABLE INFORMATION. THE CONTRACTOR, PRIOR TO LAYING A RUN OF PIPE OF OTHER INVOLVED CONSTRUCTION, SHALL EXCAVATE WITHIN THE ALIGNMENT AT POINTS OF POSSIBLE CONFLICT TO DETERMINE IF A CONFLICT EXISTS. ANY CONFLICTS SHALL BE COORDINATED BY THE CONTRACTOR WITH THE ENGINEER AND THE UTILITY INVOLVED. THE ENGINEER SHALL DETERMINE THE SOLUTION. EXCAVATING, BACKFILLING AND RESTORATION OF THE TEST HOLES AS REQUIRED FOR UTILITY INVESTIGATIONS SHALL BE CONSIDERED INCIDENTAL TO THE INSTALLATION OF THE UTILITIES AS SHOWN ON THE PLANS.
- CONTRACTOR SHALL OBTAIN ALL THE NECESSARY DEWATERING PERMITS AND TEMPORARY EASEMENTS IF NECESSARY FOR THE EXECUTION OF THIS CONTRACT.
- ALL CONSTRUCTION SHALL BE PERFORMED TO THE SATISFACTION OF THE ENGINEER, KENT COUNTY DEPARTMENT OF PUBLIC WORKS (DPW), DELAWARE'S DEPARTMENT OF TRANSPORTATION (DELDOT) AND ALL RESPECTIVE UTILITY OWNER'S IN ACCORDANCE WITH ALL APPLICABLE CONTRACT DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE LAWS, ORDINANCES, RULES, REGULATIONS AND ORDERS OF ANY PUBLIC BODY HAVING JURISDICTION. THE CONTRACTOR SHALL ERECT AND MAINTAIN, AS REQUIRED BY THE CONDITIONS AND PROGRESS OF THE WORK, ALL NECESSARY SAFEGUARDS FOR SAFETY AND PROTECTION. DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL COMPLIANCE MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- THE CONTRACTOR SHALL INSTALL THE PROPOSED SANITARY SEWER AND FORCE MAINS WITH A MINIMUM OF 3' OF COVER. THE CONTRACTOR SHALL MAINTAIN A MINIMUM HORIZONTAL CLEARANCE OF 10 FT. BETWEEN WATER MAINS AND SANITARY SEWERS (BOTH EXISTING AND PROPOSED MAINS). IN CASES WHERE THIS MINIMUM HORIZONTAL CLEARANCE IS NOT SHOWN OR FEASIBLE, THE CONTRACTOR MAY INSTALL THE PROPOSED SANITARY SEWER LESS THAN 10 FT. FROM EXISTING WATER LINES, PROVIDED ALL EXISTING WATER MAINS REMAIN ON AN UNDISTURBED EARTH SHELF IN A SEPARATE TRENCH FROM THE PROPOSED SANITARY SEWER MAINS AND THERE IS AT LEAST 18 INCHES OF VERTICAL CLEARANCE WITH THE WATER MAIN HIGHER THAN THE SEWER. IF VERTICAL CLEARANCE BETWEEN PROPOSED SANITARY SEWER AND EXISTING WATER MAINS IS LESS THAN 18 INCHES OR IN VERTICAL CLEARANCE BETWEEN PROPOSED SANITARY SEWER AND ALL OTHER EXISTING UTILITY CROSSINGS IS LESS THAN 12 INCHES, THE CONTRACTOR SHALL CONCRETE ENCASE THE SANITARY SEWER PIPING A MINIMUM OF 10 FT. ON EACH SIDE OF THE WATER MAIN CROSSING OR 10 FT. BEYOND THE LIMITS WHERE VERTICAL CLEARANCE IS NOT MAINTAINED.
- THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL MATERIALS FOR APPROVAL TO THE OWNER PRIOR TO COMMENCEMENT OF CONSTRUCTION. ALL MATERIALS ORDERED AND INSTALLED PRIOR TO THE OWNER'S REVIEW AND ACCEPTANCE WILL BE AT THE CONTRACTOR'S RISK.
- THE CONTRACTOR SHALL OPEN ONLY THAT SECTION OF TRENCH OR ACCESS PITS WHICH CAN BE BACKFILLED AND STABILIZED AT THE END OF EACH WORKING DAY. STEEL PLATES SHALL BE USED ON ANY TRENCH OR ACCESS PITS WHICH MUST REMAIN OPEN OVERNIGHT. THIS REQUIREMENT DOES NOT APPLY TO AREAS COMPLETELY CLOSED AND SECURE FROM VEHICULAR OR PEDESTRIAN TRAFFIC.
- "MANHOLE" SHALL INCLUDE PRECAST STRUCTURE, BEDDING, CONNECTION TO EXISTING AND PROPOSED SANITARY PIPING, FRAME AND COVER AND RELATED APPURTENANCES. SEE MANHOLE DETAILS AND APPLICABLE SPECIFICATIONS.
- SANITARY SEWER PIPE AND FITTINGS SHALL BE TYPE PSM, POLYVINYL CHLORIDE (PVC) MATERIAL WITH A MINIMUM CELL CLASSIFICATION OF 12454B AND COMPLYING WITH ASTM D1784; INSIDE NOMINAL DIAMETER AS INDICATED ON THE DRAWINGS; BELL AND SPIGOT STYLE RUBBER RING SEALED ELASTOMERIC LOCKED-IN GASKET JOINT COMPLYING WITH ASTM F477.
 

SANITARY SEWER PIPE AND FITTINGS - 4 INCHES THROUGH 15 INCHES: ASTM D3034 AND F1336 WITH A MINIMUM WALL THICKNESS OF SDR 35. OR AS NOTED ON DRAWINGS.
- SADDLES SHALL BE PVC, CORRECTLY CONTOURED FOR OUTSIDE DIAMETER OF PIPE AND INCORPORATING RING GASKET BELL OUTLET.
- PIPE PLUGS SHALL BE DESIGNED FOR PERMANENT INSTALLATION AND SHALL BE REMOVABLE. OBTAIN PLUGS FOR VARIOUS TYPES OF PIPE USED FROM THE RESPECTIVE PIPE MANUFACTURER.
- ALL PVC SANITARY SEWER AND FORCE MAINS SHALL BE MARKED WITH LOCATOR TAPE, LABELED "SANITARY SEWER", AND INSTALLED 18" BELOW GRADE WITH INSULATED TRACER WIRE RATED FOR DIRECT BURY APPLICATIONS.
- FINAL APPROVED SET OF PLANS AND SPECIFICATIONS SHALL BE MAINTAINED ON THE JOB SITE. FAILURE TO COMPLY WITH THIS PROVISION SHALL BE CONSIDERED CAUSE TO STOP THE WORK.

# SEWER MAIN GENERAL NOTES

- THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF CONTRACT DRAWINGS ON WHICH HE SHALL NOTE, IN RED, THE ALIGNMENTS AND INVERTS OF ALL UNDERGROUND UTILITIES INSTALLED OR ENCOUNTERED DURING THE EXECUTION OF THE WORK. ALL DISCREPANCIES BETWEEN THE PLAN LOCATIONS AND ELEVATIONS OF BOTH THE EXISTING AND PROPOSED UTILITIES SHALL BE SHOWN ON THE AS-BUILT DRAWINGS TO BE MAINTAINED BY THE CONTRACTOR IN THE FIELD.
- ROUTINE PERIODIC INSPECTIONS DURING CONSTRUCTION WILL BE PROVIDED BY THE OWNER. THESE INSPECTIONS DO NOT RELIEVE THE CONTRACTOR FROM HIS OBLIGATION AND RESPONSIBILITY FOR CONSTRUCTING A SANITARY SEWER SYSTEM IN STRICT ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF THE OWNER.
- AFTER TESTING IS COMPLETE AND ALL COMPONENTS OF THE SANITARY SEWER SYSTEM ARE DEEMED ACCEPTABLE TO THE OWNER, THE CONTRACTOR SHALL SUBMIT THE AS- BUILT DRAWINGS TO THE OWNER. ANY DISCREPANCIES NOTED DURING THE FINAL INSPECTION SHALL BE CORRECTED BY THE CONTRACTOR WITHIN 30 DAYS.
- THE PROPERTY AND RIGHT OF WAY LINES SHOWN ON THESE DRAWINGS ARE APPROXIMATE, AND ARE NOT BASED ON METES AND BOUNDS FIELD RUN SURVEYS OR PROPERTY RECORDS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS TO LOCATE PROPERTY LINES AND RIGHT OF WAY LINES PRIOR TO CONSTRUCTION AND AVOID CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY AND/OR RIGHTS OF WAYS WHERE SAID CONSTRUCTION IS PROHIBITED. THE CONTRACTOR MAY CONDUCT CONSTRUCTION ACTIVITIES ON PRIVATE PROPERTY PROVIDED HE HAS OBTAINED PRIOR WRITTEN PERMISSION FROM THE PROPERTY OWNER AND HAS SUBMITTED A COPY OF SAID WRITTEN PERMISSION TO THE DIRECTOR OF THE KENT COUNTY DEPARTMENT OF PUBLIC WORKS.
- STRUCTURES AND/OR THRUST BLOCKING HAVE BEEN DESIGNED BASED ON THE FOLLOWING.
  - A. A MINIMUM 3,000 PSF PASSIVE SOIL BEARING CAPACITY.
  - B. A MINIMUM 28 DAY CONCRETE COMPRESSIVE STRENGTH OF 3,500 PSI (EXCEPT FOR PRECAST CONCRETE).
  - C. TEST PRESSURE (WORKING PLUS SURGE) IS 100 PSI.
  - D. DEPTH FROM FINISHED GRADE TO TOP OF PIPE ASSUMED TO BE 3.0 FT. OR DEEPER.

DIFFERING SITE CONDITIONS AND/OR DIFFERING MATERIAL PROPERTIES SHALL REQUIRE KENT COUNTY DPW APPROVAL OF SPECIAL DESIGN DETAILS PREPARED BY THE DESIGN ENGINEER PRIOR TO INITIATING OR RESUMING CONSTRUCTION ACTIVITIES.

THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOLLOWING EXCAVATIONS FOR INSPECTION AND EVALUATION OF EXISTING SOIL SUBGRADE CONDITIONS BY THE CONSTRUCTION ENGINEER (AGENT FOR KENT COUNTY DPW). THE CONSTRUCTION ENGINEER SHALL INSPECT ALL STRUCTURE AND THRUST BLOCKING SUBGRADE AND PIPELINE SUBGRADE FOLLOWING EXCAVATION AND PRIOR TO CONSTRUCTION OF NEW WORK TO CONFIRM DESIGN CONDITIONS ARE MET AND SUBGRADE CONDITIONS ARE SUITABLE FOR CONSTRUCTION. IN THE EVENT THE SOIL BEARING CAPACITY IS LESS THAN THE MINIMUM DESIGN VALUE, THE CONSTRUCTION ENGINEER SHALL CAUSE AFFECTED CONSTRUCTION TO CEASE AND SHALL NOTIFY THE DESIGN ENGINEER FOR RE-DESIGN TO ACCOMMODATE THE REDUCED SOIL BEARING CAPACITY.

IN THE EVENT THE SUBGRADE CONDITION IS UNSTABLE, DUE TO UNSUITABLE MATERIALS AND/OR GROUNDWATER INTILTRATION/INTRUSION INTO THE SURROUNDING SOILS, AS DETERMINED BY THE CONSTRUCTION ENGINEER, THE CONTRACTOR SHALL, AS DIRECTED BY THE CONSTRUCTION ENGINEER, REMOVE THE UNSUITABLE MATERIAL AND WILL WITH SUITABLE APPROVED GRANULAR FILL MATERIAL.

- ALL PRESSURE SEWER PIPE JOINTS AND FITTING JOINTS SHALL BE RESTRAINED. ALL FITTINGS SHALL BE THERMOPLASTIC COMPRESSION OR FUSED TYPES.
- TOPOGRAPHIC SURVEY PERFORMED BY KARINS AND ASSOCIATES IN 2018 AND RK&K IN 2025.
- THE CONTRACTOR SHALL REMOVE AND IMMEDIATELY REPLACE, RELOCATE, RESET OR RECONSTRUCT ALL OBSTRUCTIONS IN THE WORK AREA, INCLUDING, BUT NOT LIMITED TO, MAILBOXES, SIGNS, LANDSCAPING, LIGHTING, PLANTERS, CULVERTS, DRIVEWAYS, PARKING AREAS, CURBS, GUTTERS, FENCES, OR OTHER NATURAL OR MAN-MADE OBSTRUCTIONS. TRAFFIC CONTROL REGULATORY, WARNING AND INFORMATION SIGNS SHALL REMAIN FUNCTIONAL AND VISIBLE TO THE APPROPRIATE LANES OF TRAFFIC AT ALL TIMES, WITH THEIR RELOCATION KEPT TO A MINIMUM DISTANCE.
- ALL EXISTING REGULATORY AND WARNING TYPE TRAFFIC SIGNS, AND ALL STREET NAME SIGNS OCCURRING WITHIN THE PROPOSED PROJECT LIMITS SHALL BE REMOVED AND IMMEDIATELY REPLACED AS DIRECTED BY DELDOT.
- DELAWARE REGULATIONS PROHIBIT THE BURIAL OF CONSTRUCTION DEMOLITION DEBRIS, INCLUDING TREES AND STUMPS ON CONSTRUCTION SITES. ANY SOLID WASTE FOUND DURING THE EXCAVATION FOR STRUCTURES AND UTILITY LINES ON AND OFF SITE MUST BE REMOVED AND PROPERLY DISCARDED. ANY REMEDIAL ACTION REQUIRED IS THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRAISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:
 

RK&K	(410) 728-2900
KENT COUNTY DEPARTMENT OF PUBLIC WORKS	(302) 744-2430
KENT CONSERVATION DISTRICT	(302) 697-2600
DELAWARE DEPARTMENT OF TRANSPORTATION	(302) 760-2272
DELAWARE STORAGE & PIPELINE COMPANY	(302) 736-1774
- NO AIR RELEASE MANHOLES ARE TO BE PLACED IN THE FLOW LINE OF DITCHES. PREFERABLY PLACED AT BACK SLOPES OF DITCHES. THERE SHALL BE NO VERTICAL SANITARY SEWER STRUCTURES INSTALLED HERE.
- ALL SMALL DIAMETER FORCE MAIN PIPING SHALL BE INSTALLED VIA THE OPEN CUT METHOD. SHOULD CONTRACTOR WISH TO INSTALL FORCE MAIN DIFFERENT FROM WHAT IS SHOWN ON THE CONSTRUCTION DOCUMENTS THE CONTRACTOR SHALL SUBMIT A REVISED SET OF PLANS FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION.
- ALL WORK SHALL BE PERFORMED SUCH THAT ONE VEHICLE TRAVEL LANE IS OPEN TO TRAFFIC AT ALL TIMES.
- ALL ROAD CROSSING AND DRIVEWAY PIPE DISTURBED IN CONJUNCTION WITH THE INSTALLATION OF THE FORCE MAIN SHALL BE REPAIRED OR REPLACED IN KIND

BY:					
DESCRIPTION:					
DATE:					
<b>DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS</b>					
<b>GENERAL NOTES &amp; LEGEND</b>					
					
DESIGNED BY:					
RKK					
DRAWN BY:					
RKK					
BUILDING NO.:					
N/A					
DATE:					
MARCH 02, 2026					
SCALE:					
NOT TO SCALE					
SHEET NO.:					
<b>C-2</b>					
DFW PROJECT #:					
N/A					
CONTRACT #:					
TBD					

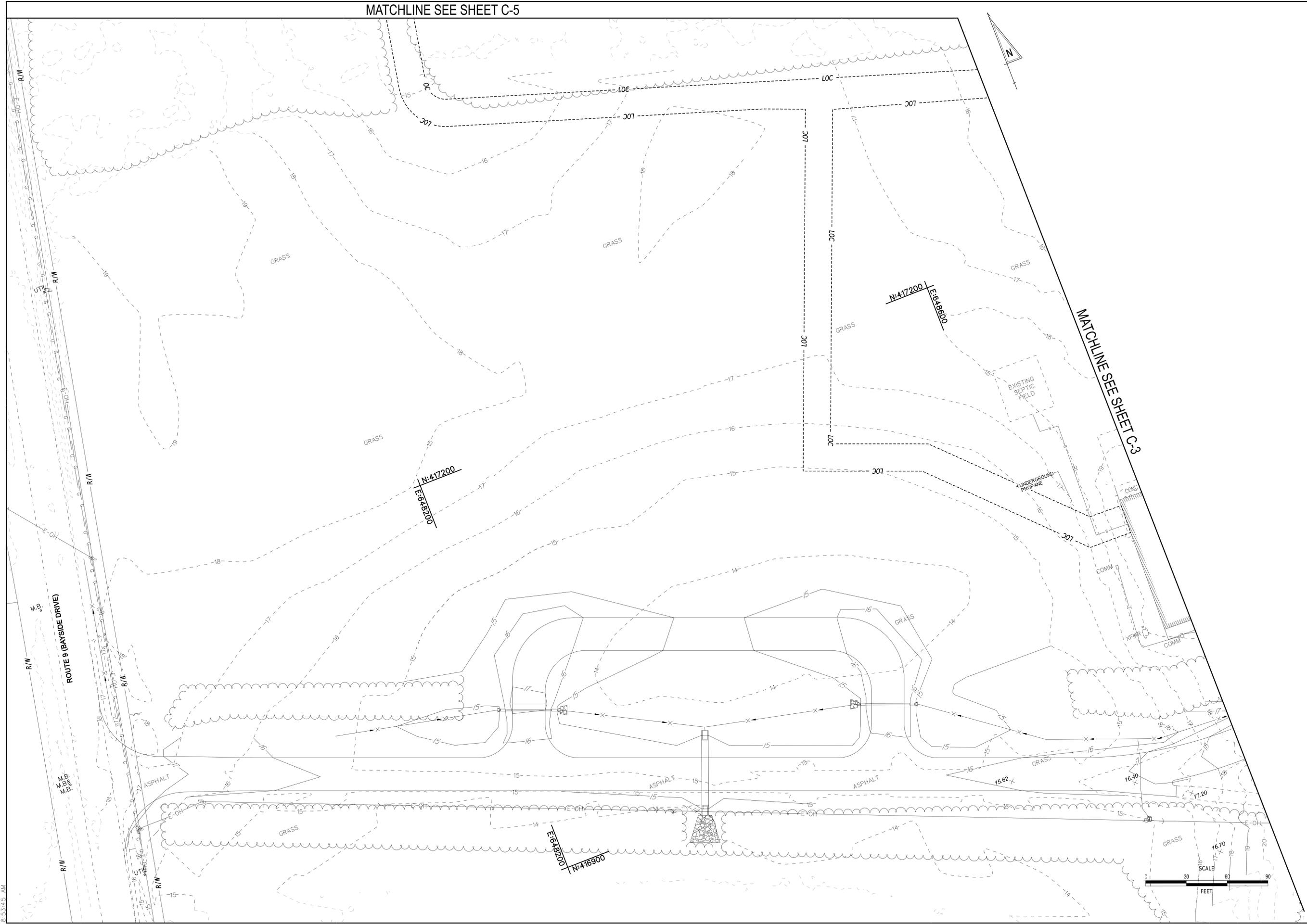
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3/2/2026  
8:53:37 AM



MATCHLINE SEE SHEET C-4

BY:	
DESCRIPTION:	
DATE:	
<b>DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS</b>	
<b>EXISTING CONDITIONS PLAN</b>	
	
DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	1" = 30'
SHEET NO.:	<b>C-3</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

MATCHLINE SEE SHEET C-5



DATE:	
DESCRIPTION:	
BY:	

**DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS  
EXISTING CONDITIONS PLAN**

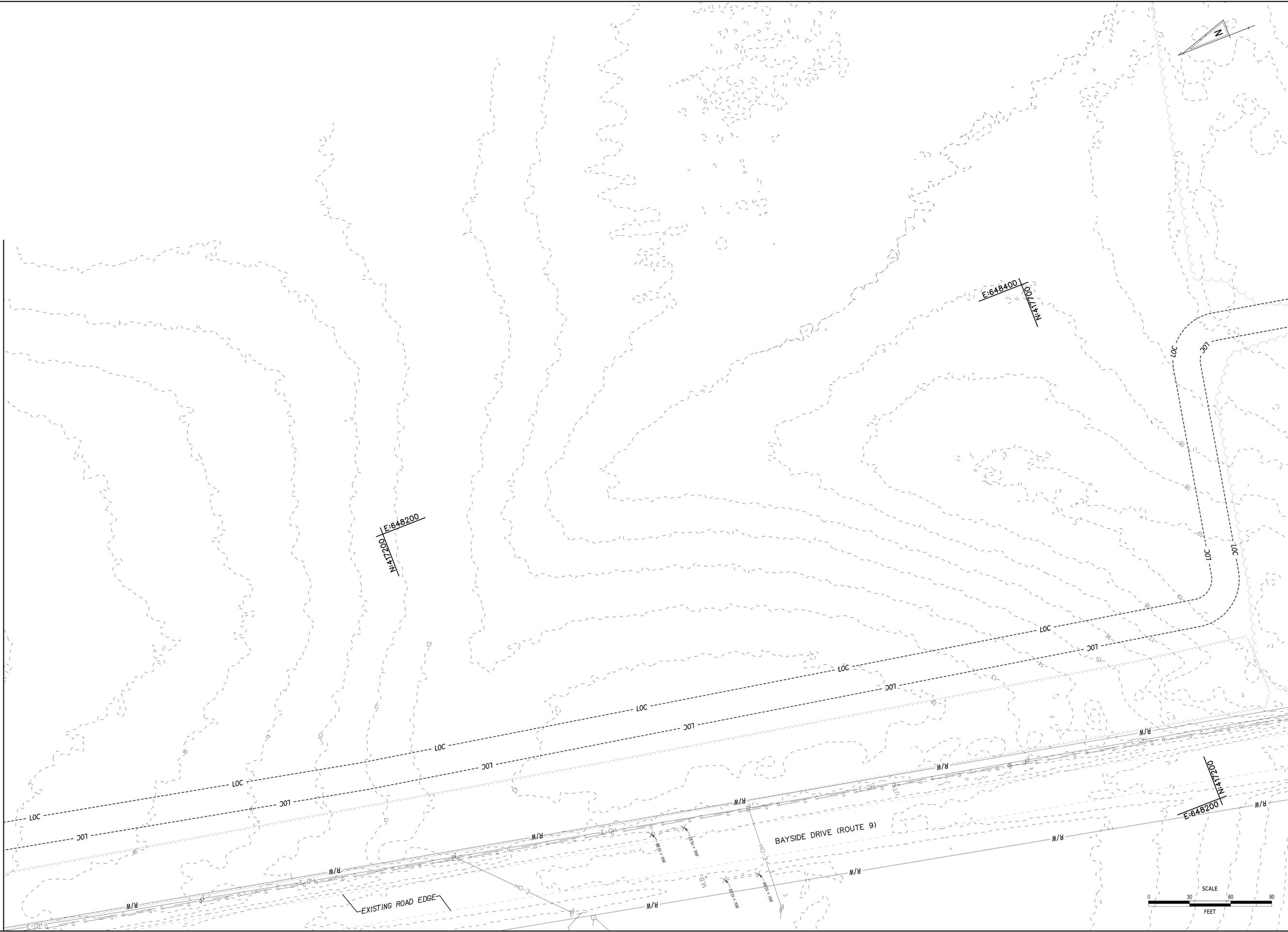


DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
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SHEET NO.:	<b>C-4</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

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MATCHLINE SEE SHEET C-6



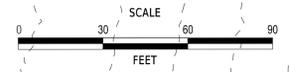
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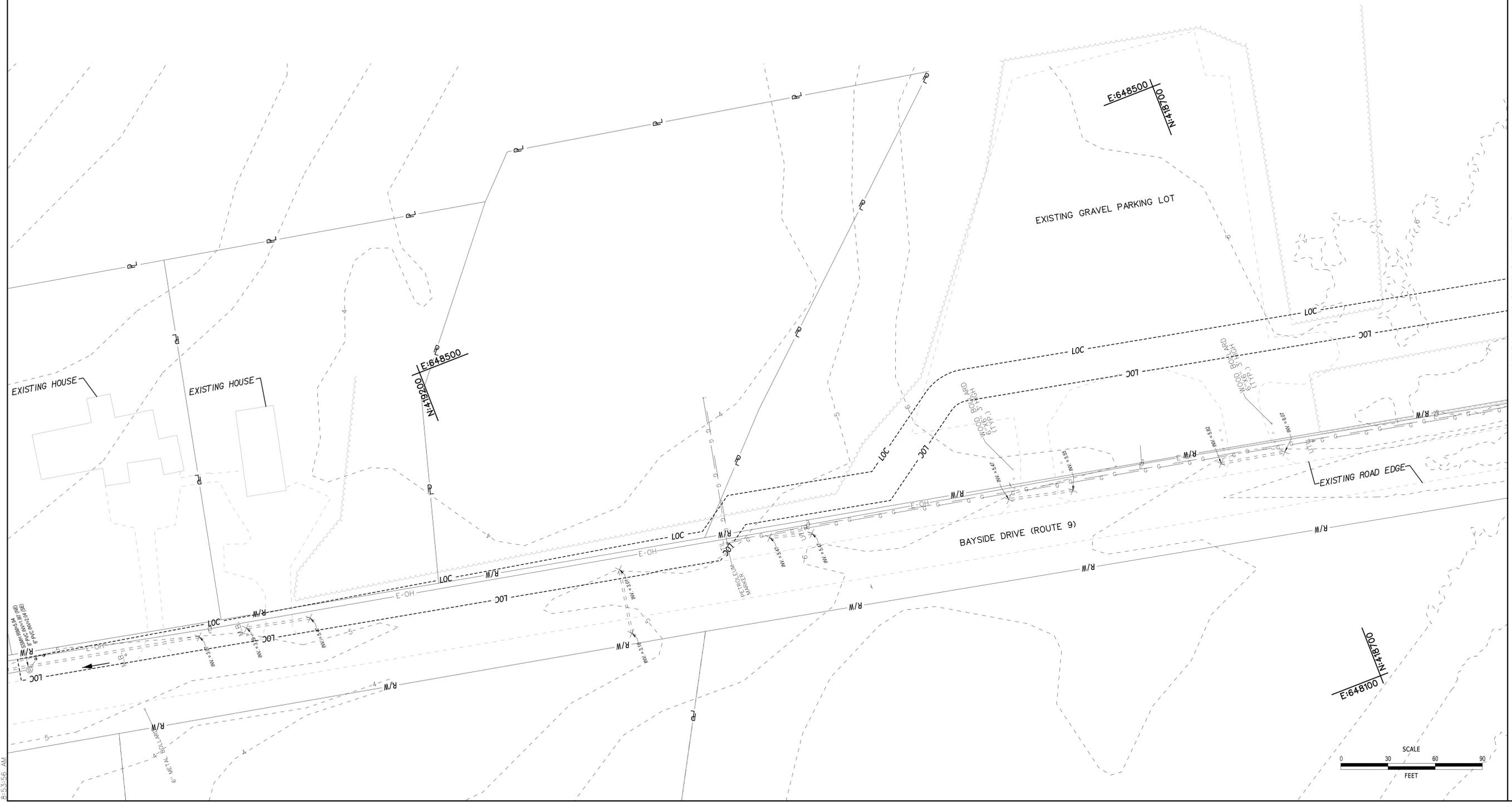
**DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS  
EXISTING CONDITIONS PLAN**



DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	1" = 30'
SHEET NO.:	<b>C-5</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD



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MATCHLINE SEE SHEET C-5

**DELAWARE BAYSHORE BYWAY  
 LITTLE CREEK LAND DEVELOPMENT  
 SANITARY SEWER PLANS  
 EXISTING CONDITIONS PLAN**

DATE:	DESCRIPTION:	BY:

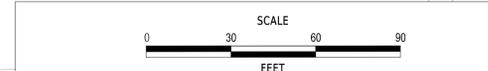


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DRAWN BY:	RKK
BUILDING NO.:	N/A
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SHEET NO.:	<b>C-6</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

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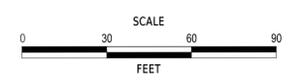
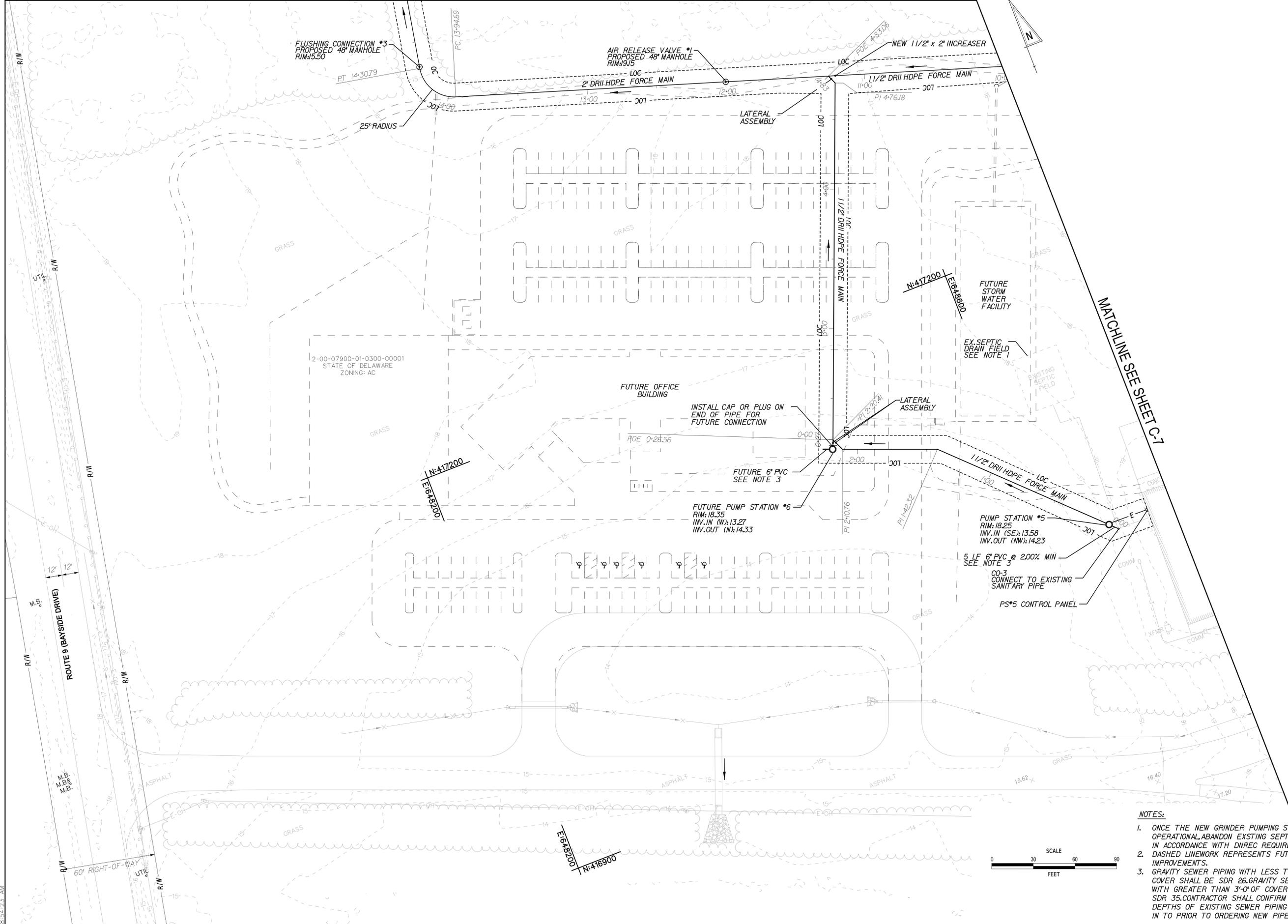
MATCHLINE SEE SHEET C-8



- NOTES:**
- ONCE THE NEW GRINDER PUMPING STATIONS ARE OPERATIONAL, ABANDON EXISTING SEPTIC SYSTEMS IN ACCORDANCE WITH DNREC REQUIREMENTS.
  - DASHED LINEWORK REPRESENTS FUTURE SITE IMPROVEMENTS.
  - THE STEEL CASING PIPES WILL BE INSTALLED AS PART OF THE ROADWAY IMPROVEMENTS. IF THE SEPTIC IMPROVEMENTS ARE INSTALLED IN CONJUNCTION WITH OR PRIOR TO THE ROADWAY IMPROVEMENTS, THE STEEL CASING PIPES ARE NOT REQUIRED.
  - GRAVITY SEWER PIPING WITH LESS THAN 3'-0" OF COVER SHALL BE SDR 26. GRAVITY SEWER PIPING WITH GREATER THAN 3'-0" OF COVER SHALL BE SDR 35. CONTRACTOR SHALL CONFIRM THE DEPTHS OF EXISTING SEWER PIPING TO BE TIED IN TO PRIOR TO ORDERING NEW PIPE.

BY:	
DATE:	
DESCRIPTION:	
<b>DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS</b>	
<b>SANITARY SEWER PLAN</b>	
DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	1" = 30'
SHEET NO.:	<b>C-7</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

MATCHLINE SEE SHEET C-9



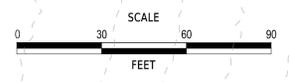
- NOTES:**
- ONCE THE NEW GRINDER PUMPING STATIONS ARE OPERATIONAL, ABANDON EXISTING SEPTIC SYSTEMS IN ACCORDANCE WITH DNREC REQUIREMENTS.
  - DASHED LINWORK REPRESENTS FUTURE SITE IMPROVEMENTS.
  - GRAVITY SEWER PIPING WITH LESS THAN 3'-0" OF COVER SHALL BE SDR 26. GRAVITY SEWER PIPING WITH GREATER THAN 3'-0" OF COVER SHALL BE SDR 35. CONTRACTOR SHALL CONFIRM THE DEPTHS OF EXISTING SEWER PIPING TO BE TIED IN TO PRIOR TO ORDERING NEW PIPE.

<b>DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS</b>	BY:	
	DATE:	
	DESCRIPTION:	
<b>SANITARY SEWER PLAN</b>		
DESIGNED BY:	RKK	
DRAWN BY:	RKK	
BUILDING NO.:	N/A	
DATE:	MARCH 02, 2026	
SCALE:	1" = 30'	
SHEET NO.:	<b>C-8</b>	
DFW PROJECT #:	N/A	
CONTRACT #:	TBD	

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MATCHLINE SEE SHEET C-10



MATCHLINE SEE SHEET C-8

BY:	
DESCRIPTION:	
DATE:	

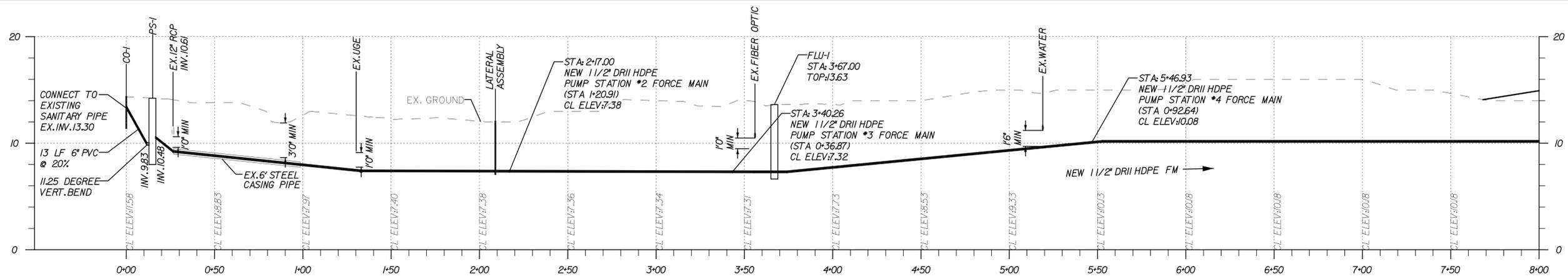
**DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS**

**SANITARY SEWER PLAN**

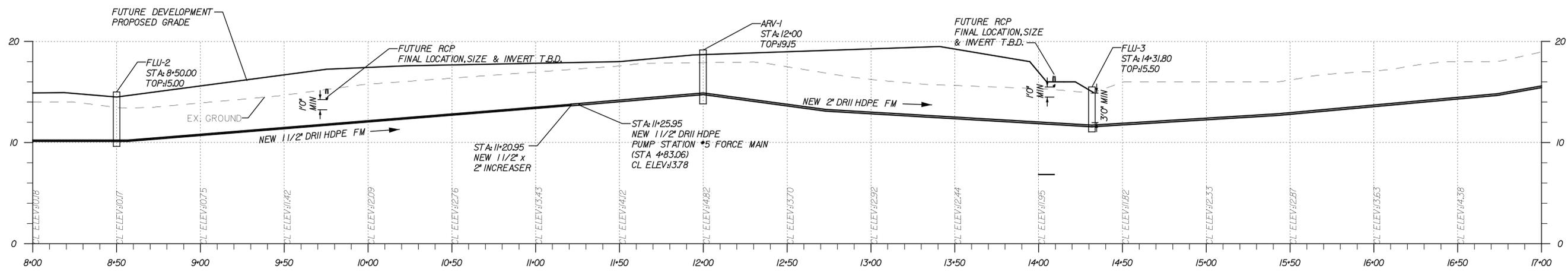


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BUILDING NO.:	N/A
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SHEET NO.:	<b>C-9</b>
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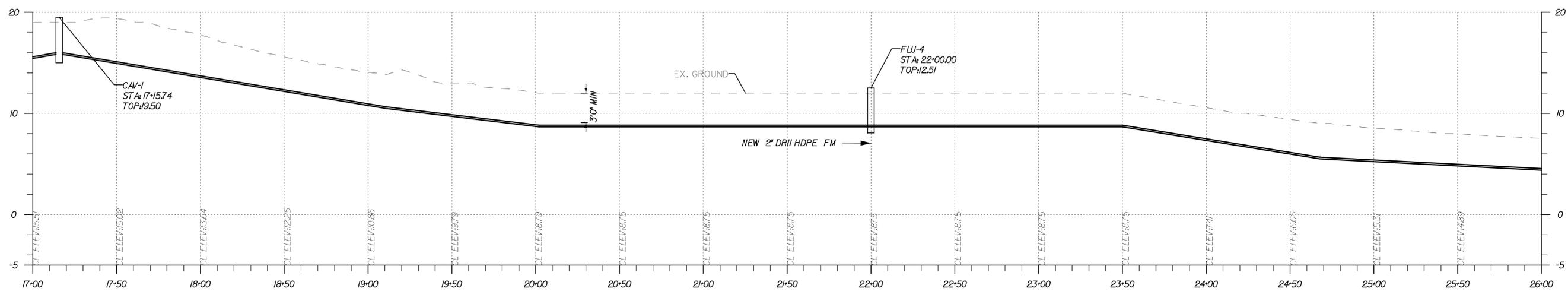




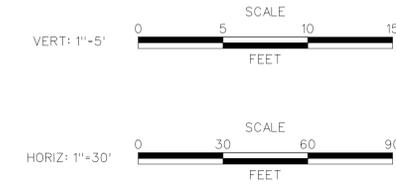
PUMP STATION #1 FORCE MAIN PROFILE



PUMP STATION #1 FORCE MAIN PROFILE



PUMP STATION #1 FORCE MAIN PROFILE



BY:	
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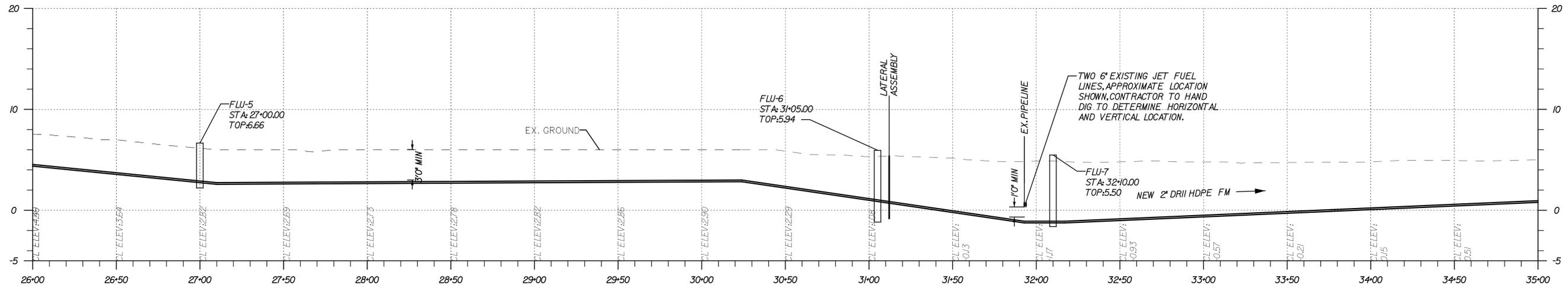
**DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS**

**SANITARY SEWER PROFILE**

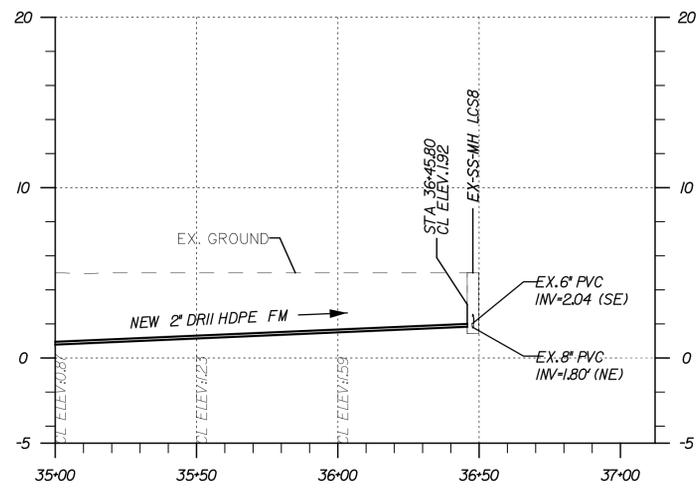


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DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
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CONTRACT #:	TBD

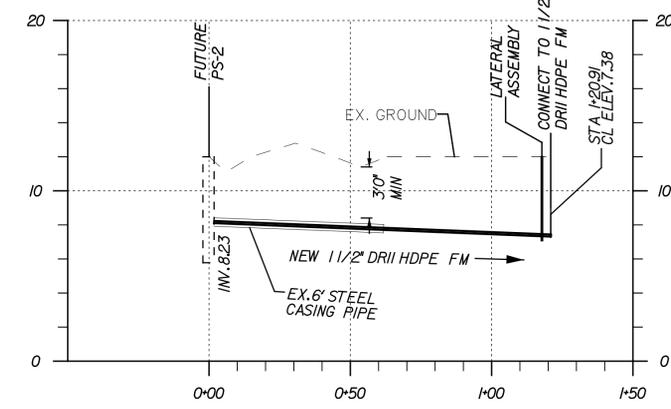
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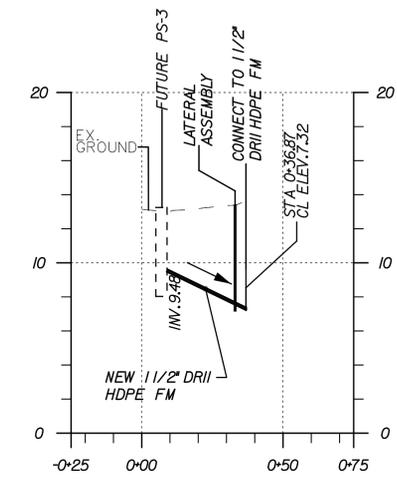
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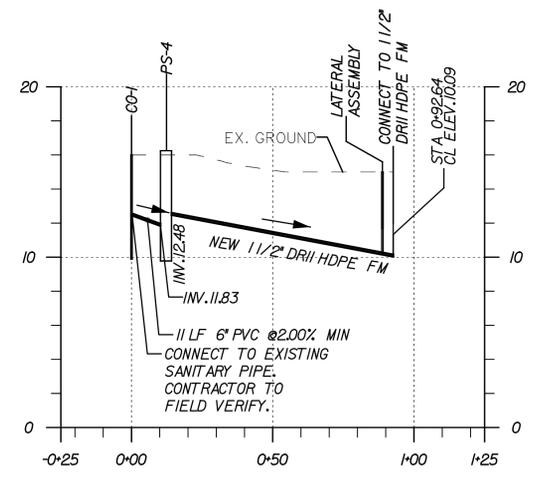
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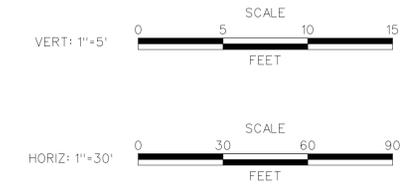
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FUTURE PUMP STATION #3 FORCE MAIN PROFILE



PUMP STATION #4 FORCE MAIN PROFILE



BY:	
DATE:	
DESCRIPTION:	

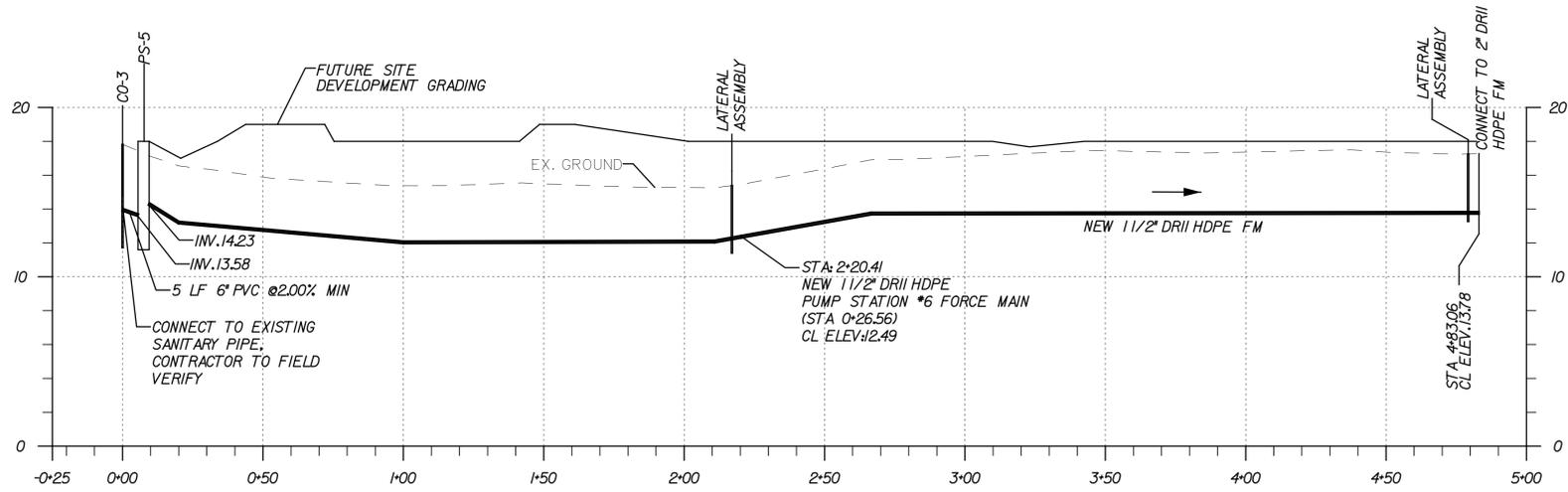
**DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS**

**SANITARY SEWER PROFILE**

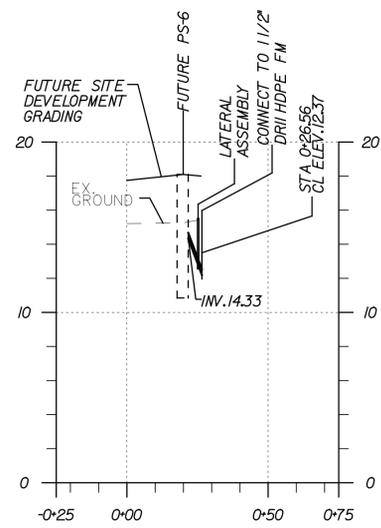
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DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	1" = 30'
SHEET NO.:	<b>C-12</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

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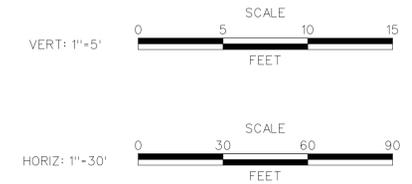
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PUMP STATION #5 FORCE MAIN PROFILE



FUTURE PUMP STATION # 6 FORCE MAIN PROFILE

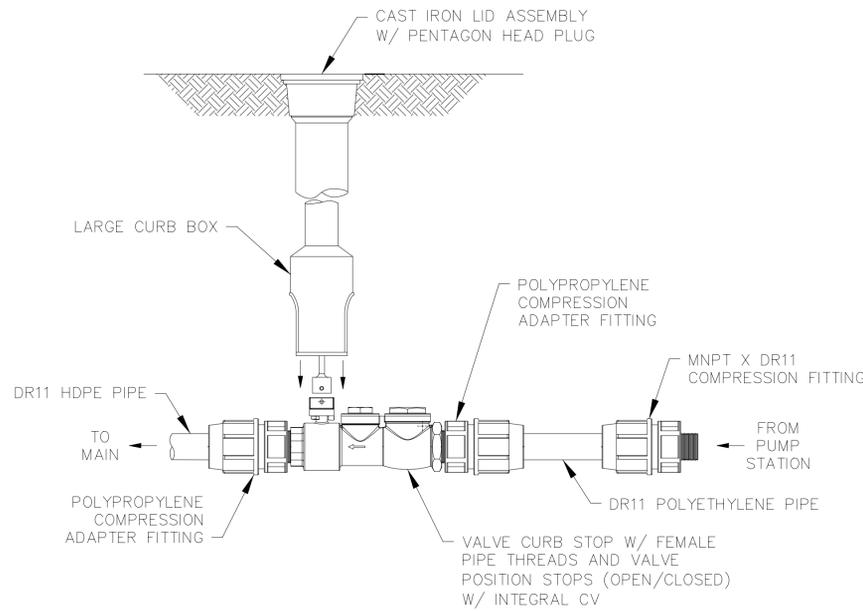


DATE:	DESCRIPTION:	BY:

**DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS  
SANITARY SEWER PROFILE**



DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
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SHEET NO.:	<b>C-13</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

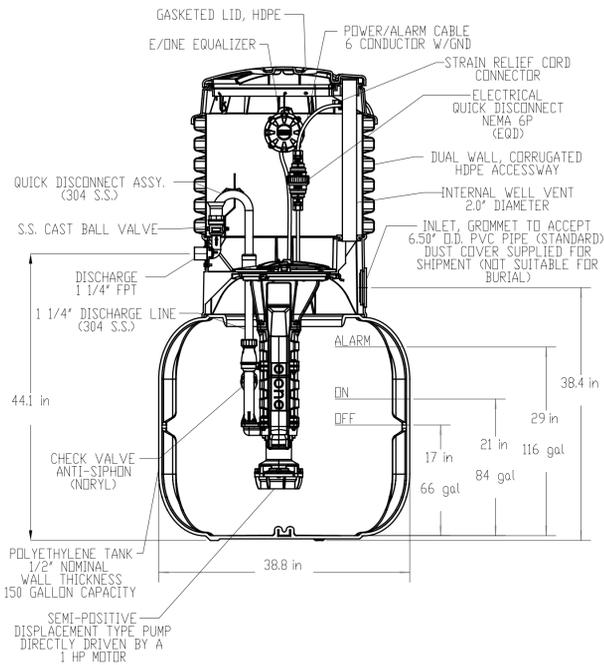


NOTES:

1. APPLY A DOUBLE LAYER OF TEFLON TAPE AND A LAYER OF PIPE DOPE TO THE THREADS ON THE PLASTIC FITTINGS AND INSTALL PER THE MANUFACTURER'S INSTRUCTIONS
2. ASSEMBLY IS TO BE PRESSURE TESTED.

TYPICAL LATERAL ASSEMBLY INSTALLATION DETAIL

NTS

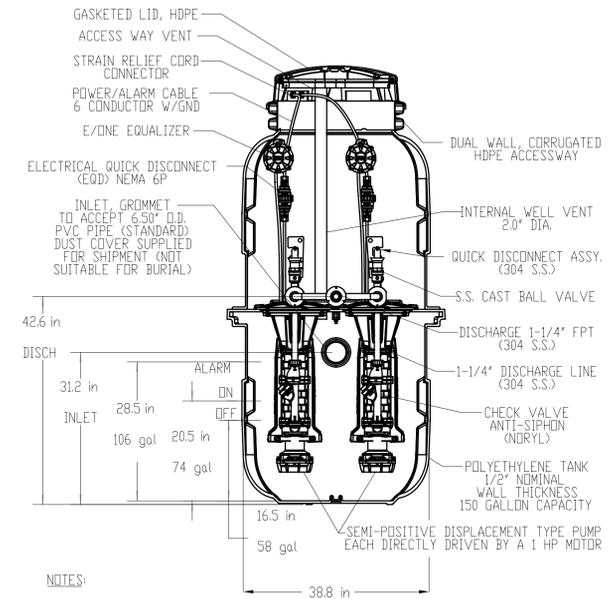


NOTES:

1. CONCRETE BALLAST MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH THE MANUFACTURER.
2. FIELD JOINTS ARE REQUIRED FOR MODELS DH151-129 AND DH151-160.
3. FOLLOWING INSTALLATION, ALL PUMP STATIONS SHALL BE TESTED IN ACCORDANCE WITH SPECIFICATION 11200 BY THE MANUFACTURER'S REPRESENTATIVE, FREEMIRE & ASSOCIATES, INC.

TYPICAL SIMPLEX PUMP STATION DETAIL (PS#1, PS#4, PS#5)

NTS



NOTES:

1. CONCRETE BALLAST MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH THE MANUFACTURER.
2. FIELD JOINTS ARE REQUIRED FOR MODELS DH152-129 AND DH152-160.
3. FOLLOWING INSTALLATION, ALL PUMP STATIONS SHALL BE TESTED IN ACCORDANCE WITH SPECIFICATION 11200 BY THE MANUFACTURER'S REPRESENTATIVE, FREEMIRE & ASSOCIATES, INC.

TYPICAL DUPLEX PUMP STATION DETAIL (PS#2, PS#3, PS#6)

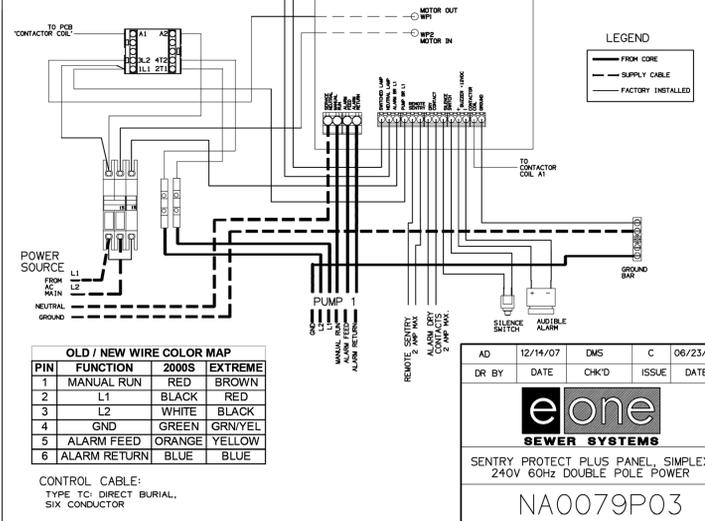
NTS

Zone Number	Connects to Zone	Number of Pumps in Zone	Accum Pumps in Zone	Gals/day per Pump	Max Flow Per Pump (gpm)	Max Sim Ops (GPM)	Pipe Size (inches)	Max Velocity (FPS)	Length of Main this Zone (ft/100 ft)	Friction Loss This Zone (ft/100 ft)	Accum Friction Loss (feet)	Max Main Elevation	Minimum Pump Elevation	Static Head (feet)	Total Dynamic Head (ft)	
This spreadsheet was calculated using pipe diameters for: SDR11HDPE																
1.00	2.00	2	2	4500	9.44	2	18.88	1.50	3.29	345.00	2.81	9.68	116.70	14.50	7.15	124.05
2.00	4.00	2	4	4500	9.88	3	29.64	1.50	5.04	795.00	6.18	49.12	107.02	14.50	7.30	114.22
3.00	4.00	2	2	4500	11.46	2	22.92	1.50	3.93	470.00	3.90	18.31	76.21	14.50	11.98	78.73
4.00	4.00	0	6	0	12.39	3	37.17	2.00	3.40	2,510.00	2.31	57.90	57.90	14.50	0.00	57.90

Zone Number	Connects to Zone	Accumulated Total of Pumps this Zone	Pipe Size (inches)	Gallons per 100 lineal feet	Length of Zone	Capacity of Zone	Average Daily Flow	Average Fluid Changes per Day	Average Retention Time (Hr)	Accumulated Retention Time (Hr)
This spreadsheet was calculated using pipe diameters for: SDR11HDPE										
1.00	2.00	2	1.50	9.85	345.00	33.99	9,000	264.76	0.09	0.54
2.00	4.00	4	1.50	9.85	795.00	78.33	18,000	229.79	0.10	0.45
3.00	4.00	2	1.50	9.85	470.00	46.31	9,000	194.35	0.12	0.47
4.00	4.00	6	2.00	15.40	2,510.00	386.61	27,000	69.84	0.34	0.34

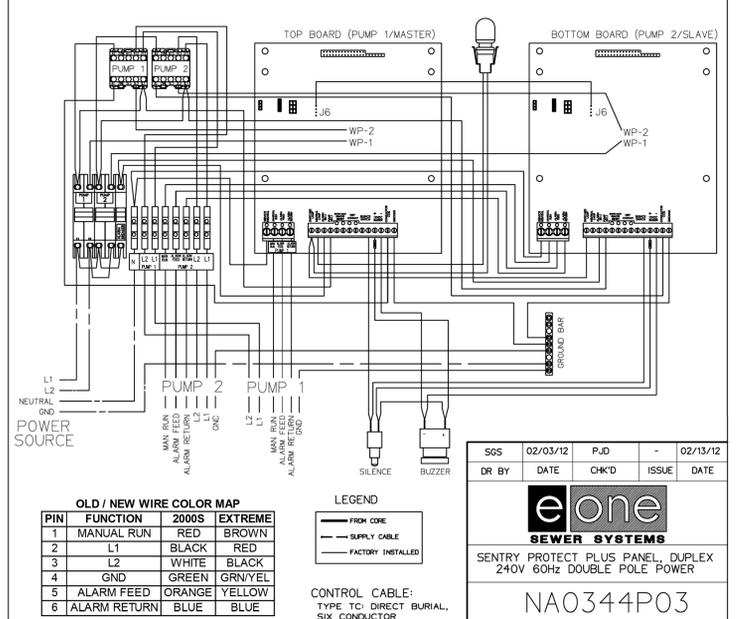
SENTRY PROTECT PLUS SIMPLEX

REDUNDANT RUN (HIGH LEVEL)  
EXTERNAL VISUAL & AUDIBLE ALARM  
REMOTE SENTRY DRY CONTACTS FOR  
OPTIONAL POWER LOSS HIGH LEVEL  
ALARM (POWER LOSS ALARM FOR WIRELESS)  
MANUAL ALARM SILENCE  
MANUAL RUN  
STATUS LED'S: NORMAL, PUMP RUNNING, HIGH LEVEL  
TROUBLE INDICATIONS: RUN DRY, OVERPRESSURE, BROWNOUT,  
VOLTAGE, EXTENDED RUN TIME  
DRY CONTACTS  
CONFORMAL COATED CIRCUIT BOARD (BOTH SIDES)  
PADLOCK  
DEAD FRONT  
PREDICTIVE ALARMS  
REAL TIME PUMP PERFORMANCE  
ADJUSTABLE ALARM DELAY  
ADJUSTABLE RUN TIME DELAY  
HOUR/CYCLE COUNTER  
NEMA 4X ENCLOSURE ASSEMBLY



SENTRY PROTECT PLUS DUPLEX

EXTERNAL VISUAL & AUDIBLE ALARM  
REMOTE SENTRY DRY CONTACTS FOR  
OPTIONAL POWER LOSS HIGH LEVEL  
ALARM (POWER LOSS ALARM FOR WIRELESS)  
MANUAL ALARM SILENCE  
MANUAL RUN  
STATUS LED'S: NORMAL, PUMP RUNNING, HIGH LEVEL  
TROUBLE INDICATIONS: RUN DRY, OVERPRESSURE, BROWNOUT,  
VOLTAGE, EXTENDED RUN TIME  
DRY CONTACTS  
CONFORMAL COATED CIRCUIT BOARD (BOTH SIDES)  
PADLOCK  
DEAD FRONT  
PREDICTIVE ALARMS  
REAL TIME PUMP PERFORMANCE  
ADJUSTABLE ALARM DELAY  
ADJUSTABLE RUN TIME DELAY  
HOUR/CYCLE COUNTER  
NEMA 4X ENCLOSURE ASSEMBLY



BY: \_\_\_\_\_

DESCRIPTION: \_\_\_\_\_

DATE: \_\_\_\_\_

DELaware BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS

SANITARY SEWER DETAILS

DESIGNED BY: RKK

DRAWN BY: RKK

BUILDING NO.: N/A

DATE: MARCH 02, 2026

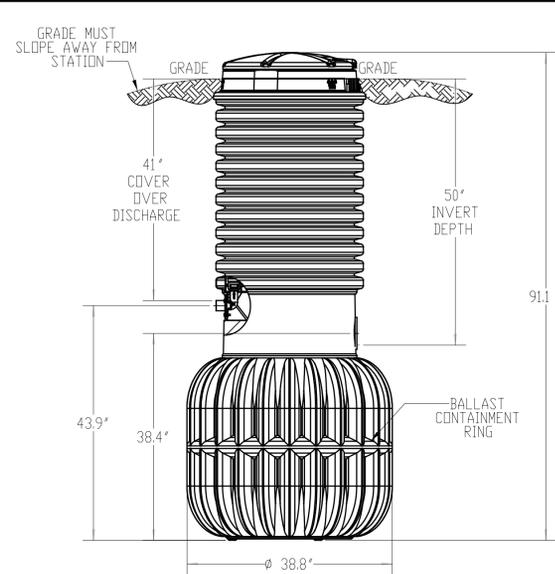
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SHEET NO.: C-14

DFW PROJECT #: N/A

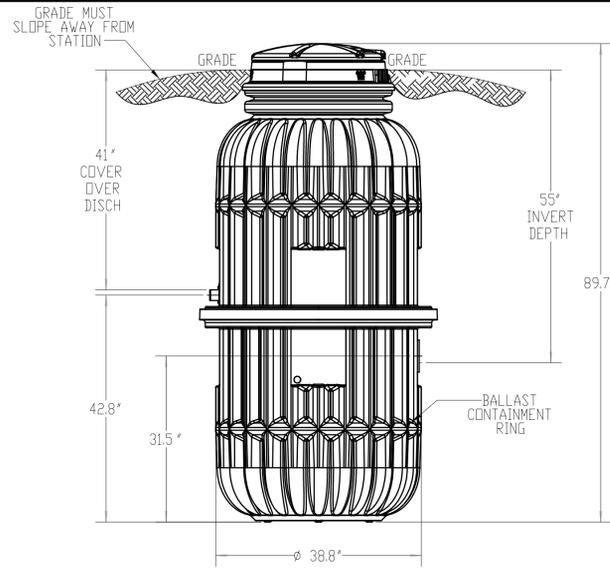
CONTRACT #: TBD

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SIMPLEX PUMP STATION #1, #4, #5 SECTION

NTS



DUPLEX PUMP STATION #2, #3, #6 SECTION

NTS

NOTES:

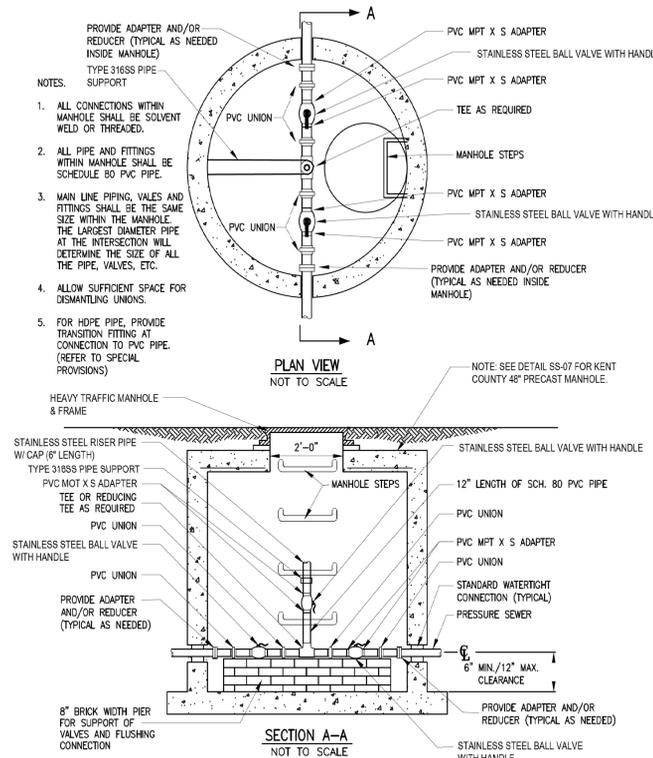
- DISCHARGE PIPE SHALL BE 1-1/4-INCH FEMALE PIPE THREAD CONNECTION.
- INLET CONNECTION SHALL INCLUDE EPDM GASKET FOR 6-INCH DWV PVC PIPE.

PUMP STATION DIMENSIONS				
PUMP ID*	RIM ELEVATION	GROUND ELEVATION	INVERT OUT	INVERT IN
PS-1	14.50	14.00	10.48	9.83
PS-4	16.50	16.00	12.48	11.83
PS-5	18.25	17.75	14.23	13.58

NOTES:

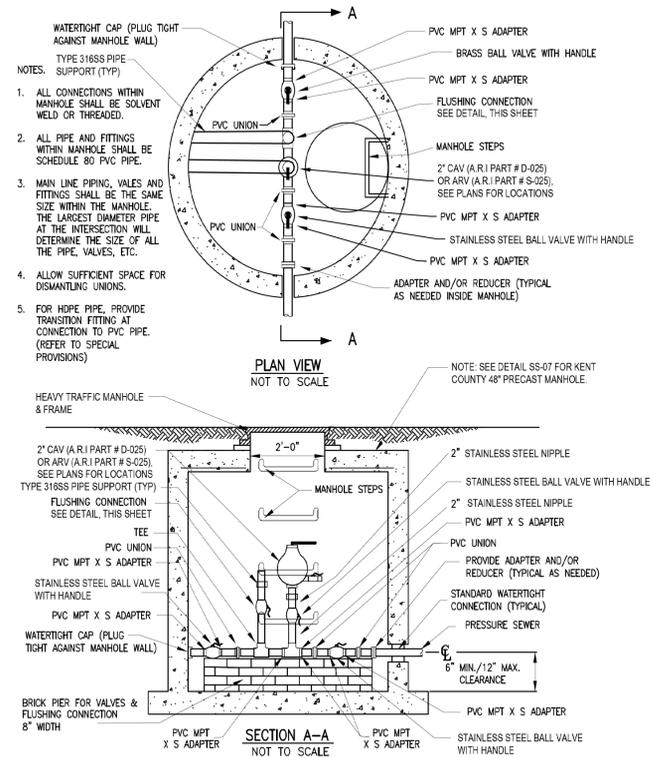
- DISCHARGE PIPE SHALL BE 1-1/4-INCH FEMALE PIPE THREAD CONNECTION.
- INLET CONNECTION SHALL INCLUDE EPDM GASKET FOR 6-INCH DWV PVC PIPE.

PUMP STATION DIMENSIONS				
PUMP ID*	RIM ELEVATION	GROUND ELEVATION	INVERT OUT	INVERT IN
FUTURE PS-2	12.25	11.75	8.23	7.77
FUTURE PS-3	13.50	13.00	9.48	8.42
FUTURE PS-6	18.35	17.85	14.33	13.27



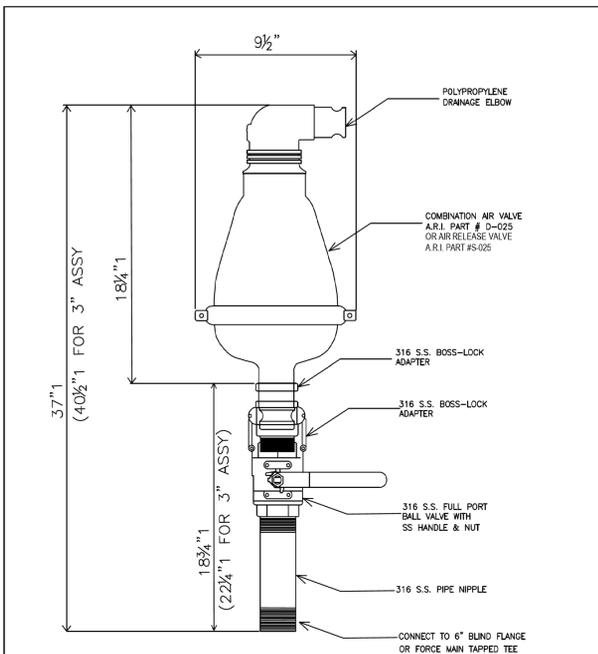
FLUSHING CONNECTION DETAIL

NOT TO SCALE



TERMINAL COMBINATION FLUSHING CONNECTION AND AIR VALVE DETAIL

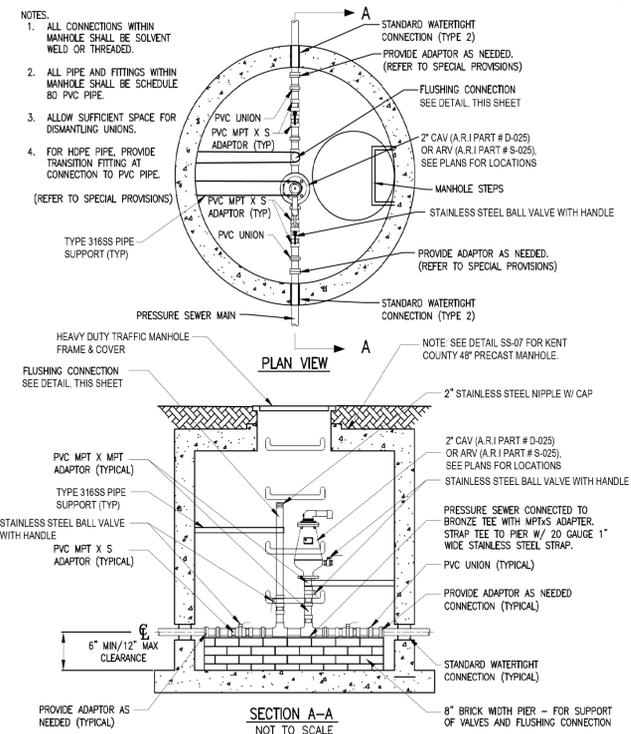
NOT TO SCALE



- NOTE: 1) IF AIR RELEASE VALVE IS A TIGHT FIT YOU CAN USE A 2" CLOSE NIPPLE AND CUT THE LEVER  
2) BALL VALVE SHALL BE APOLLO 76F-100-A SERIES OR EQUAL

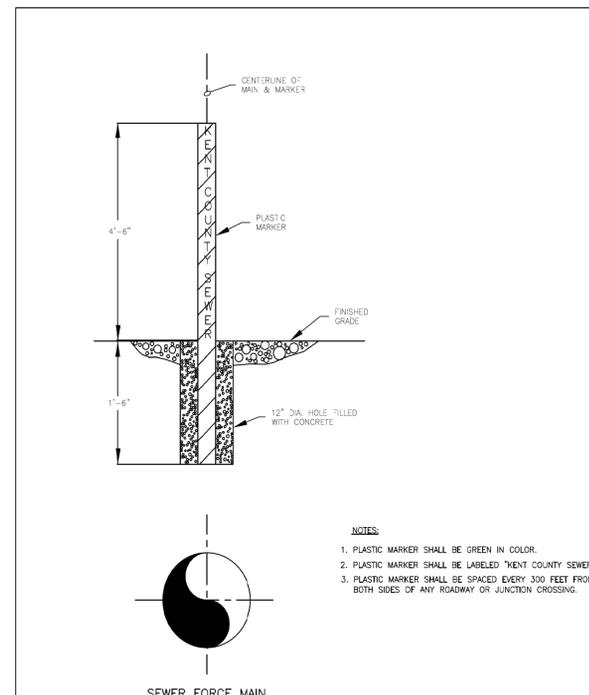
2" AIR RELEASE VALVE ASSEMBLY WITH 316 STAINLESS STEEL QUICK COUPLER ASSEMBLY

NOT TO SCALE



COMBINATION FLUSHING CONNECTION AND AIR VALVE DETAIL

- NOTE: 1. CONTRACTOR SHALL COORDINATE THE LOCATION OF THE MANHOLE FRAME AND COVER WITH THE DEPTH OF THE MANHOLE AND LOCATION OF THE FLUSHING CONNECTION AND AIR VALVE TO ENSURE THE FLUSHING CONNECTION AND AIR VALVE CAN OPERATE AS INTENDED.

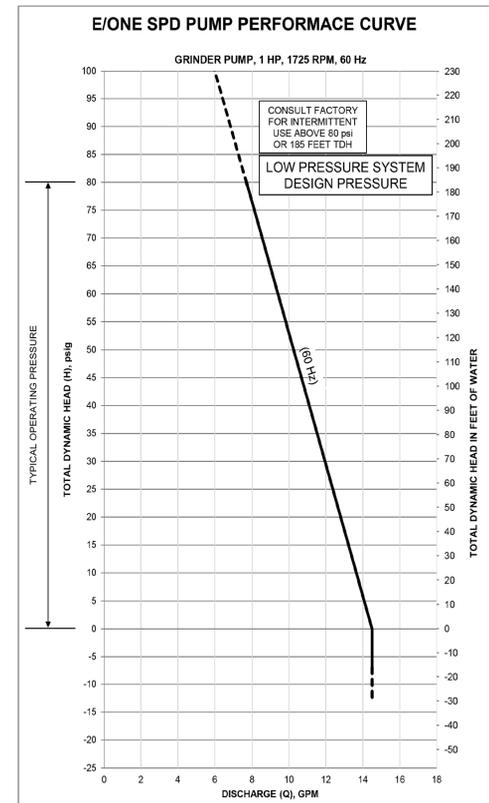


STANDARD MARKER FOR SEWER FORCE MAINS IN EASEMENTS

NOT TO SCALE

NOTES:

- PLASTIC MARKER SHALL BE GREEN IN COLOR.
- PLASTIC MARKER SHALL BE LABELED "KENT COUNTY SEWER"
- PLASTIC MARKER SHALL BE SPACED EVERY 300 FEET FROM BOTH SIDES OF ANY ROADWAY OR JUNCTION CROSSING.



KENT COUNTY	APPROVAL	DEPARTMENT OF PUBLIC WORKS	ISSUED:
	DIRECTOR OF PUBLIC WORKS	STANDARD DETAILS	REVISED: 03-08-19
		MODIFIED	REVISED: 05-14-08
		2" AIR RELEASE VALVE ASSEMBLY	PLATE
	DATE		PS-07B

KENT COUNTY	APPROVAL	DEPARTMENT OF PUBLIC WORKS	ISSUED:
	DIRECTOR OF PUBLIC WORKS	STANDARD DETAILS	REVISED: 3-27-08
		STANDARD MARKER FOR SEWER FORCE MAINS IN EASEMENTS	PLATE
	DATE		PS-04

04/25/2025

NA0880P01 Rev A

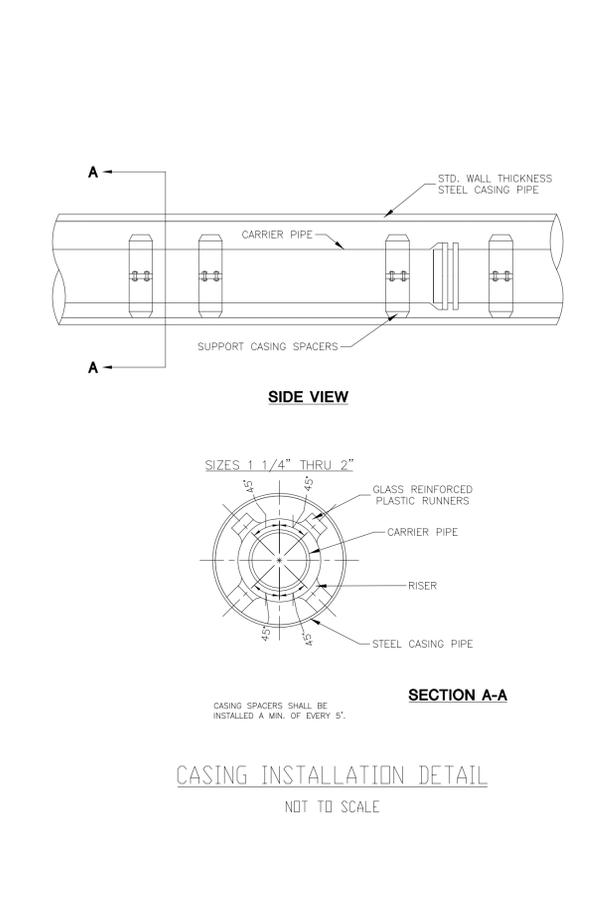
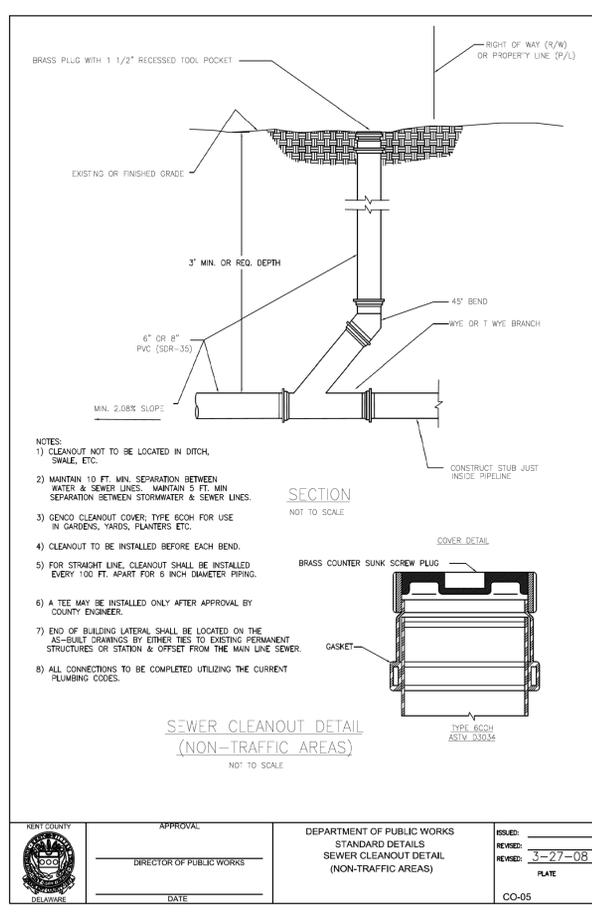
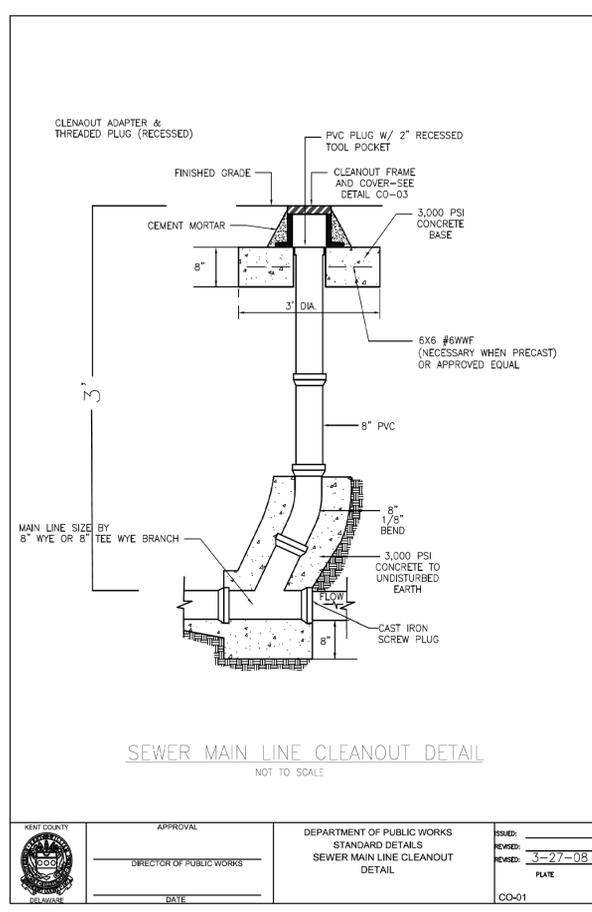
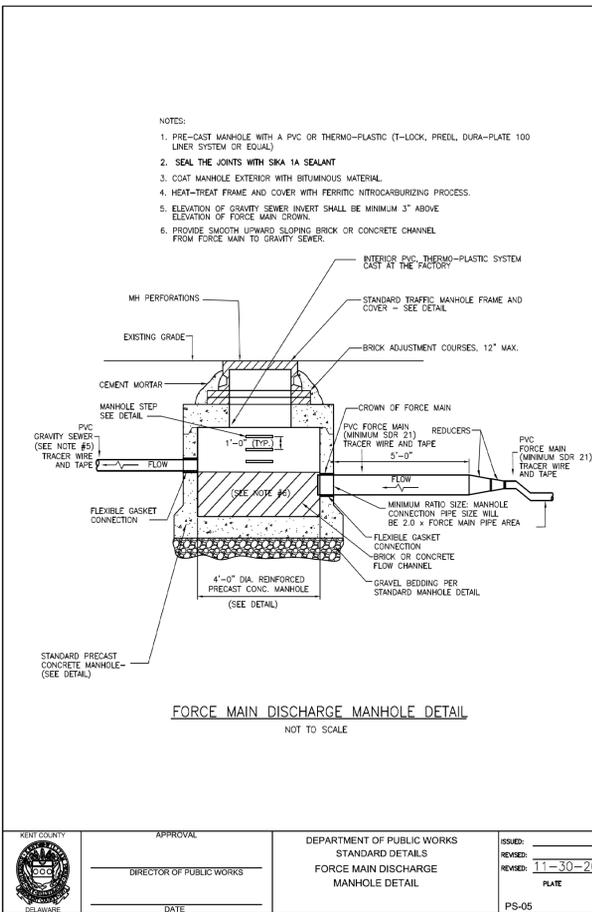
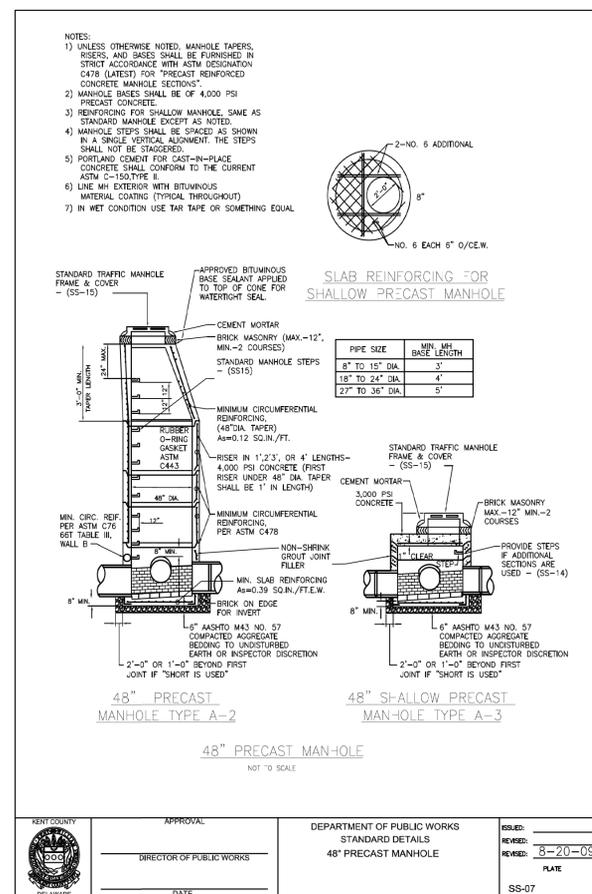
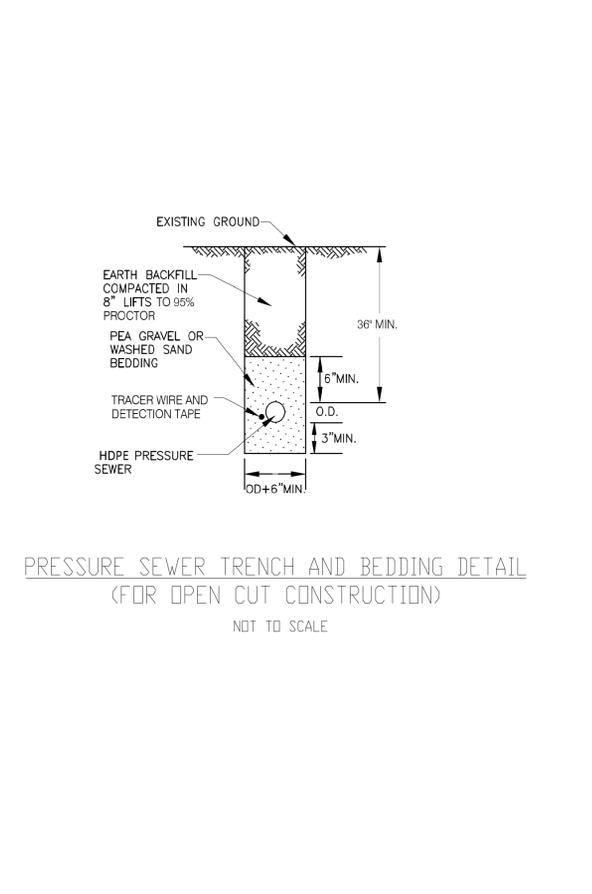
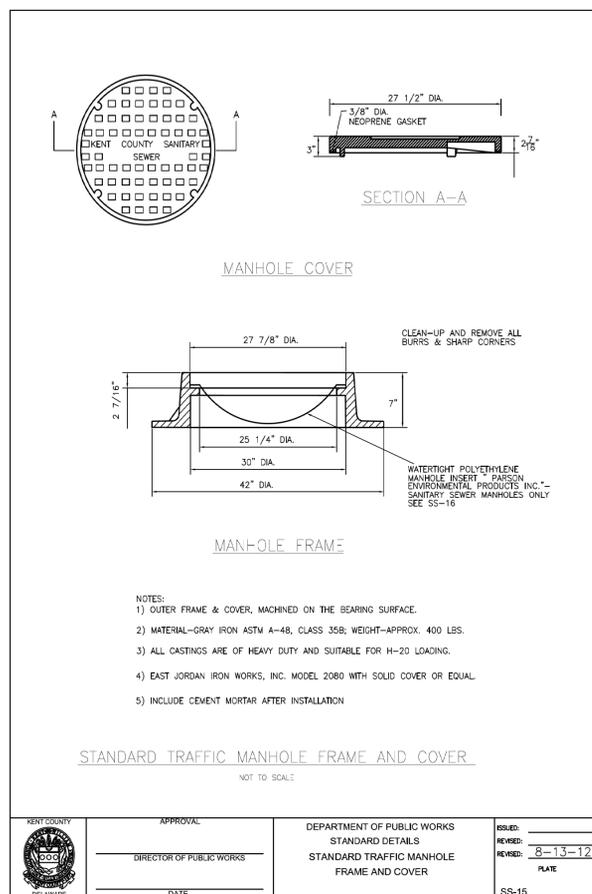
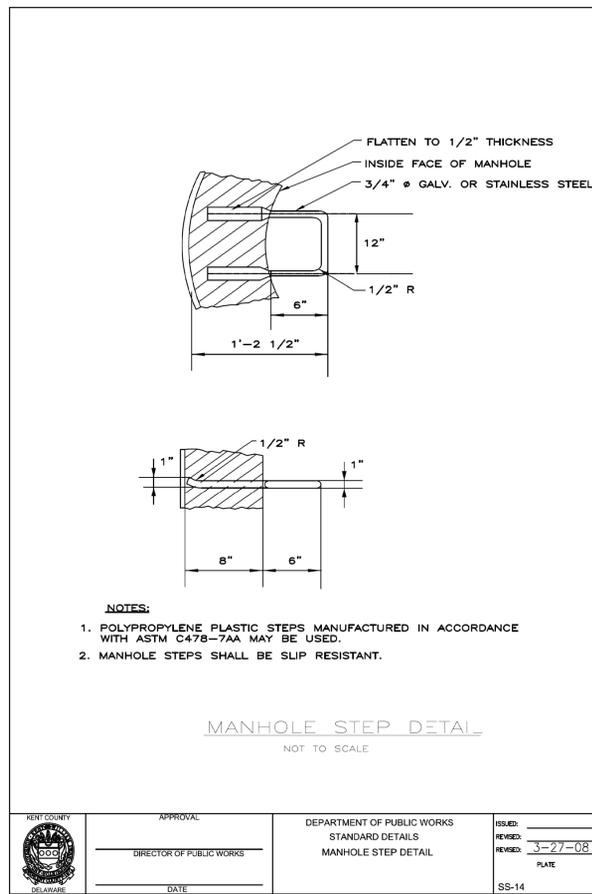
BY:	
DESCRIPTION:	
DATE:	

DELAWARE BAYSHORE BYWAY  
LITTLE CREEK LAND DEVELOPMENT  
SANITARY SEWER PLANS  
SANITARY SEWER DETAILS



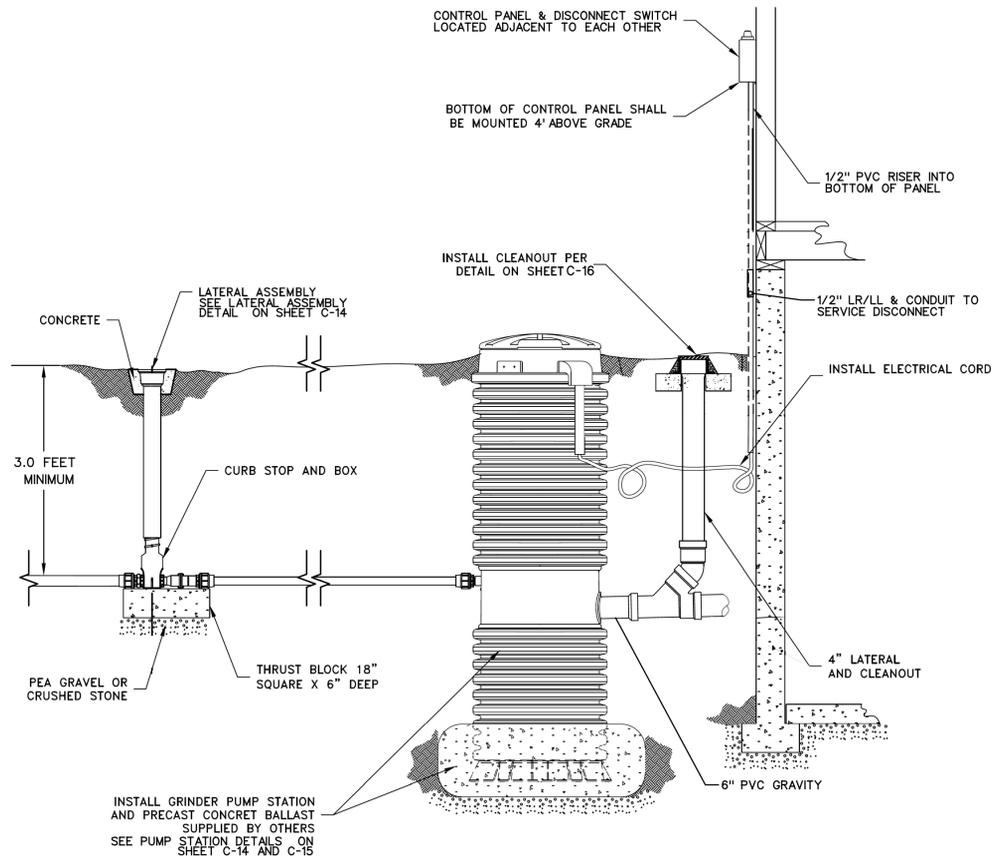
DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	NOT TO SCALE
SHEET NO.:	C-15
DFW PROJECT #:	N/A
CONTRACT #:	TBD

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BY:	
DATE:	
DESCRIPTION:	
<b>DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS</b>	
<b>SANITARY SEWER DETAILS</b>	
DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	NOT TO SCALE
SHEET NO.:	<b>C-16</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

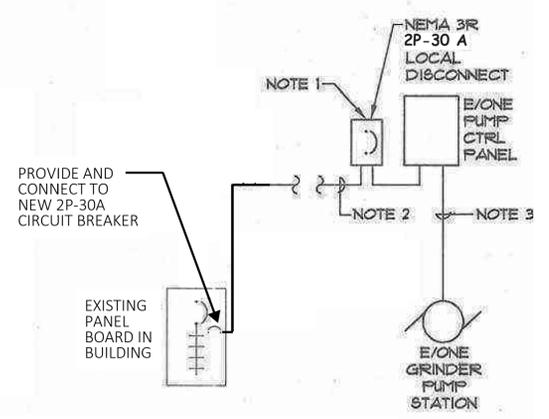
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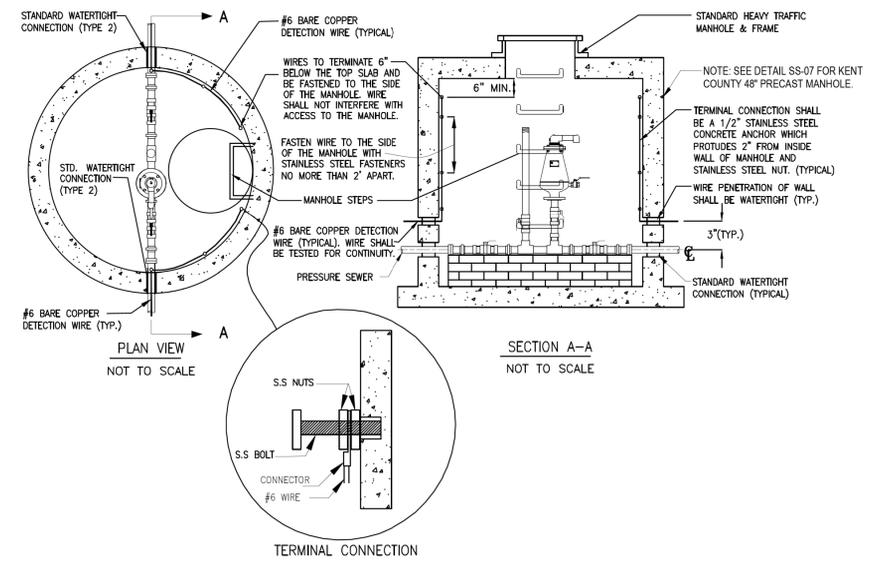
FORCE MAIN, VENTILATION, AND ELECTRICAL CONNECTION DETAIL  
NOT TO SCALE

**SHEET NOTES**

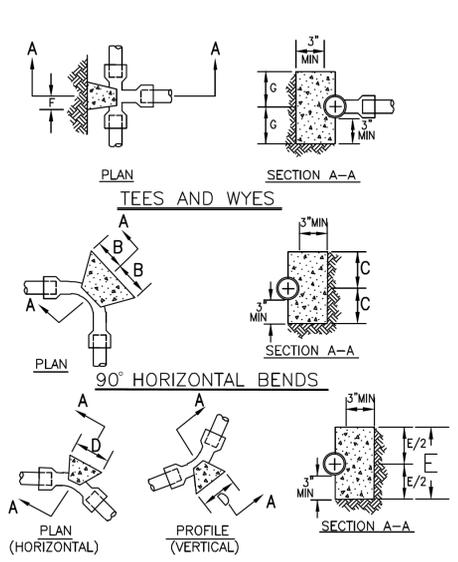
1. PROVIDE SECONDARY LOCAL DISCONNECT AT PUMP CONTROL PANEL.
2. PROVIDE 3-#10 WITH 1-#10 GRD FROM EXISTING BUILDING PANEL BOARD TO PUMP CONTROL PANEL. WIRING SHALL BE INSTALLED IN 3/4" CONDUIT ON EXTERIOR OF AND THROUGH INTERIOR OF EXISTING BUILDING TO EXISTING PANEL BOARD. CONTRACTOR SHALL SUBMIT PROPOSED CONDUIT ROUTING FOR REVIEW/APPROVAL PRIOR TO INSTALLATION.
3. CONNECT PUMP CONTROL & POWER CABLES TO PUMP CONTROL PANEL PER MANUFACTURER'S INSTRUCTIONS. PROVIDE 3/4" C FOR INSTALLATION OF PUMP MANUFACTURER'S CABLE.



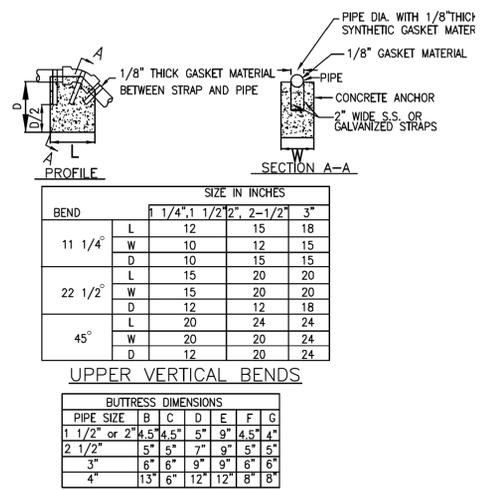
TYPICAL SINGLE LINE DIAGRAM  
NOT TO SCALE



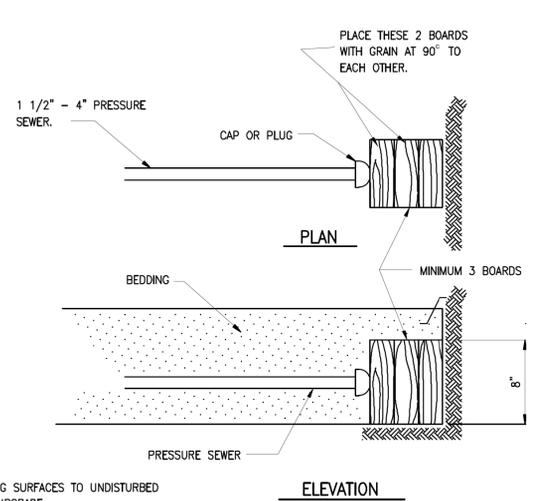
DETECTION WIRE CONNECTION DETAIL (TYPICAL ALL MANHOLES)  
NOT TO SCALE



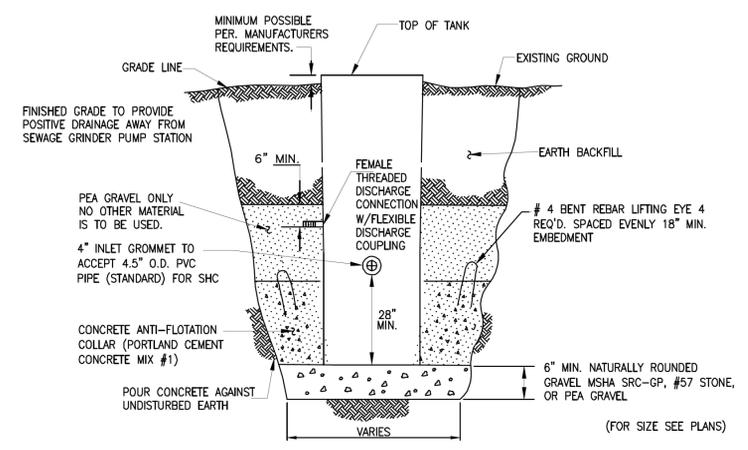
11 1/4°, 22 1/2°, 45° HORIZONTAL AND LOWER VERTICAL BENDS DETAIL  
NOT TO SCALE



PRESSURE SEWER BLOCKING DETAILS  
NOT TO SCALE



CAPS AND PLUG BLOCKING DETAIL  
NOT TO SCALE



SEWAGE GRINDER PUMP UNIT INSTALLATION DETAIL  
NOT TO SCALE

BY:	
DESCRIPTION:	
DATE:	
<b>DELAWARE BAYSHORE BYWAY LITTLE CREEK LAND DEVELOPMENT SANITARY SEWER PLANS</b>	
<b>SANITARY SEWER DETAILS</b>	
DESIGNED BY:	RKK
DRAWN BY:	RKK
BUILDING NO.:	N/A
DATE:	MARCH 02, 2026
SCALE:	NOT TO SCALE
SHEET NO.:	<b>C-17</b>
DFW PROJECT #:	N/A
CONTRACT #:	TBD

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