

DEMOLITION AND SAFETY GENERAL NOTES

- MISS UTILITY OF DELMARVA SHALL BE NOTIFIED THREE CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555.
- EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48 HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELMARVA.
- THE CONTRACTOR SHALL REMOVE AND IMMEDIATELY REPLACE, RELOCATE, RESET OR RECONSTRUCT ALL OBSTRUCTIONS IN THE ROADWAY, INCLUDING, BUT NOT LIMITED TO, MANHOLES, SIGNS, LANDSCAPING, LIGHTING, PLANTERS, CULVERTS, DRIVEWAYS, PARKING AREAS, CURBS, GUTTERS, FENCES, OR OTHER NATURAL OR MAN-MADE OBSTRUCTIONS. TRAFFIC CONTROL, REGULATORY, WARNING AND INFORMATIONAL SIGNS SHALL REMAIN FUNCTIONAL AND VISIBLE TO THE APPROPRIATE LANES OF TRAFFIC AT ALL TIMES, WITH THEIR RELOCATION KEPT TO A MINIMUM DISTANCE. THE COST SHALL BE INCLUDED IN THE COST OF ITEMS BID.
- 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.
- 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 TO PERFORM. ADDITIONAL COSTS WILL BE NEGOTIATED WITH THE OWNER.
- DRAWINGS DO NOT INCLUDE NECESSARY COMPONENTS FOR CONSTRUCTION SAFETY. ALL WORK MUST BE DONE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, AS AMENDED AND ALL RULES AND REGULATIONS THERETO APPURTENANT.

INTERNAL PAVING / CONCRETE NOTES

- BITUMINOUS CONCRETE ASPHALT SHALL BE INSTALLED IN ACCORDANCE WITH THE JUNE 2021 DeIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION TO INCLUDE SPECIAL PROVISIONS.
 - SECTION 1011 FOR PLACEMENT OF TACK COAT.
 - SECTION 401 FOR PLACEMENT OF BITUMINOUS CONCRETE ASPHALT.
 - BITUMINOUS CONCRETE ASPHALT SHALL BE FROM A DeIDOT APPROVED PLANT.
- ALL DISTURBED AREAS NOT COVERED WITH IMPERVIOUS MATERIAL SHALL BE TOPSOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED.
- ALL SIGNING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- DESIGN, FABRICATION, AND INSTALLATION OF ALL PERMANENT SIGNING SHALL BE AS OUTLINED IN THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).
- FOR FINAL PERMANENT PAVEMENT MARKINGS, EPOXY RESIN PAINT SHALL BE REQUIRED FOR LONG LINE STRIPING AND THERMO WILL BE REQUIRED FOR SHORT LINE STRIPING. I.E. SYMBOLS/LEGENDS.
- ALL TRAFFIC CONTROL DEVICES SHALL BE IN NEW OR REFURBISHED CONDITION, SHALL COMPLY WITH THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION), AND SHALL BE NCHRP - 350 APPROVED AND SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION. TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION FOR DURATION OF USE.
- BREAKAWAY POSTS MEETING THE REQUIREMENTS OF THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION) SHALL BE USED WHEN INSTALLING ALL SIGNS.
- PLAN LOCATION AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT PAVING IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE. PONDING IS DEFINED AS WATER STANDING IN AN AREA MORE THAN 1 HOUR AFTER A RAINFALL EVENT THAT PRODUCES RUNOFF. ELIMINATION OF PONDING WILL BE COMPLETED BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE.
- OPEN CUT TRENCHES AND PROVIDE PAVEMENT RESTORATION IN ACCORDANCE WITH THE APPROPRIATE JURISDICTION'S STANDARDS AND SPECIFICATIONS. USE ONLY SUITABLE AND APPROVED GRANULAR MATERIALS FOR BACKFILLING TRENCHES.
- CONCRETE SHALL BE PLACED IN ACCORDANCE WITH THE JUNE 2021 DeIDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.

SANITARY SEWER GENERAL NOTES

- MISS UTILITY OF DELMARVA SHALL BE NOTIFIED THREE CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555.
- CONTRACTOR SHALL PROVIDE STAKEOUT SURVEY NECESSARY FOR THE INSTALLATION OF UTILITY WORK AND APPURTENANCES AS REQUIRED PER THE SUSSEX COUNTY ENGINEERING STANDARDS AND SPECIFICATIONS.
- SANITARY SEWER CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH SUSSEX COUNTY ENGINEERING STANDARDS AND SPECIFICATIONS, AND DETAILS.
- ALL SANITARY SEWER MATERIALS AND APPURTENANCES SHALL MEET OR EXCEED THOSE REQUIRED BY SUSSEX COUNTY ENGINEERING STANDARDS AND SPECIFICATIONS, AND DETAILS.
- USE ONLY SUITABLE GRANULAR MATERIAL APPROVED BY SUSSEX COUNTY ENGINEERING FOR BACKFILLING TRENCHES.
- SANITARY SEWER LATERAL SHALL BE 6" PVC UNLESS OTHERWISE NOTED. SEWER LATERAL SHALL INCLUDE A 6" CLEANOUT, WYE, AND CAP JUST BEHIND THE RIGHT-OF-WAY LINE OR AS SHOWN ON PLANS.
- ALL TRENCHING, PIPE LAYING, AND BACKFILLING SHALL BE IN ACCORDANCE WITH FEDERAL OSHA REGULATIONS.
- TOP OF MANHOLE ELEVATIONS ARE TOP OF MANHOLE FRAME AND COVER.
- PIPE SPAN LENGTHS ARE MEASURED FROM C/L OF STRUCTURE TO C/L OF STRUCTURE, WHERE APPLICABLE ARE ROUNDED TO THE NEAREST FOOT.
- THE CONTRACTOR SHALL FIELD VERIFY INVERTS AND LOCATION OF EXISTING SANITARY SEWER MAINS OR MANHOLES TO WHICH NEW CONSTRUCTION WILL CONNECT.
- THE SEWER LATERAL SHALL HAVE A MINIMUM COVER OF 3.0 FEET FROM PROPOSED GRADE, AS MEASURED FROM THE TOP OF PIPE.
- 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. TRENCHES MAY NOT BE LEFT OPEN WITHOUT PERMISSION FROM SUSSEX COUNTY ENGINEERING.
- 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.
- THE CONTRACTOR SHALL MAINTAIN ONE COMPLETE SET OF CONTRACT DRAWINGS ON WHICH SHALL NOTE, IN RED, THE ALIGNMENTS AND INVERTS OF ALL UNDERGROUND UTILITIES INSTALLED OR ENCOUNTERED DURING THE PROSECUTION 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 SUSSEX COUNTY ENGINEERING. THESE INSPECTIONS DO NOT RELIEVE THE CONTRACTOR FROM HIS/HER OBLIGATION AND RESPONSIBILITY FOR CONSTRUCTING A SANITARY SEWER SYSTEM IN STRICT ACCORDANCE WITH SUSSEX COUNTY STANDARDS AND SPECIFICATIONS.
- THE CONTRACTOR SHALL TAKE PRECAUTIONS TO LOCATE PROPERTY LINES, EASEMENTS, 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 SUSSEX COUNTY ENGINEERING. ANY DISTURBED AREAS BEYOND THE RIGHT-OF-WAY OR EASEMENT LINES SHALL BE RESTORED IMMEDIATELY TO THEIR ORIGINAL CONDITION. PAYMENT FOR THIS WORK SHALL BE INCLUDED IN THE COST OF ITEMS BID.
- THE CONTRACTOR SHALL ALLOW SUFFICIENT TIME FOLLOWING EXCAVATIONS FOR INSPECTION AND EVALUATION OF EXISTING SOIL SUBGRADE CONDITIONS BY SUSSEX COUNTY ENGINEERING OR DESIGNER. SUSSEX COUNTY ENGINEERING SHALL INSPECT ALL SUBGRADES 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 SUSSEX COUNTY 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 INFILTRATION/INTRUSION INTO THE SURROUNDING SOILS, AS DETERMINED BY SUSSEX COUNTY ENGINEERING, THE CONTRACTOR SHALL, AS DIRECTED BY THE SUSSEX COUNTY ENGINEER, REMOVE THE UNSUITABLE MATERIAL AND FILL WITH SUITABLE APPROVED GRANULAR FILL MATERIAL.
- SEWER MAINS SHALL BE LAID AT LEAST 10 FEET HORIZONTALLY FROM WATER MAINS. SEWER CROSSING WATER MAINS SHALL HAVE A MINIMUM VERTICAL CLEARANCE OF 18" TO OUTSIDE OF PIPES. IF AN 18" CLEARANCE CANNOT BE OBTAINED, CONTRACTOR IS TO CONTACT THE DESIGN ENGINEER TO DETERMINE THE APPROPRIATE INSTALLATION PER SUSSEX COUNTY ENGINEERING APPROVAL. OF SEWER MAIN AT CLEARANCE CONFLICT, WATER MAINS MAY NEED TO BE DEFLECTED TO MEET THE SEPARATION REQUIREMENTS.
- ALL DUCTILE IRON PIPE (DIP) IS TO BE DOUBLE CEMENT LINED AND EXTERNAL EPOXY COATED PIPE CLASS 52.

DeIDOT GENERAL NOTES

- PLANS ARE REVIEWED FOR GENERAL CONFORMITY. DELDOT IS NOT RESPONSIBLE FOR ERRORS OR OMISSIONS WITHIN THE PLAN SET. THE UTILITY OWNER IS RESPONSIBLE TO ENSURE ACCURACY OF PLANS AND CONFORMANCE WITH DELDOT STANDARDS.
- MANHOLE TOP SECTIONS WILL BE OFF SET CONE STYLE. ANY MANHOLE LIDS THAT ARE DETERMINED BY DELDOT TO NOT BE IN THE CENTER OF THE LANE SHALL BE ADJUSTED PRIOR TO FINAL PAVEMENT PLACEMENT.
- MANHOLE FRAME AND LIDS/VALVE BOXES AND LIDS SHALL BE INITIALLY SET 1/4" LOW AND ADJUSTED TO FINISH GRADE WITH CONCRETE COLLAR AFTER FINAL PAVEMENT HAS BEEN PLACED.
- CONCRETE COLLARS SHALL BE POURED AROUND MANHOLE FRAME AND LIDS/VALVE BOXES TO FINISH GRADE USING CLASS "A" CONCRETE.
- ALL BACKFILL MATERIAL IN EXISTING/PROPOSED ROADWAY SHALL CONFORM TO TYPE "C" BORROW. ALL BORROW BACKFILL SHALL BE COMPACTED TO 95% USING AASHTO T99 STANDARD FOR TESTING.
- GABC PLACED SHALL BE COMPACTED TO 98%.
- COMPACTION TESTING SHALL BE PERFORMED EVERY 100' AND TESTING SHALL BE TAKEN ON EACH LIFT OF MATERIAL PLACED, (WHEN UTILITY IS IN THE ROADWAY)
- TAR CHIP/HOT MIXES ROADS: TRAVEL WAY PAVEMENT DISTURBED SHALL BE RESTORED AT THE END OF THE DAY PRIOR TO REOPENING TO TRAFFIC. HOT MIX SHALL BE PLACE PER TEMP PATCHING DETAIL 6" GABC AND 2" TYPE "C" HOT MIX.
- TAR CHIP/HOT MIXES SHOULDERS: SHOULDERS DISTURBED MAY BE LEFT IN GABC TO FINISH GRADE OVERNIGHT BUT SHALL BE CLOSED USING APPROPRIATE SIGNING AND DRUMS. TEMP PAVEMENT SHALL BE PLACED FOR SHOULDERS AT THE END OF EACH WORK WEEK.
- IF THE REMAINING PORTION OF HOTMIX BETWEEN THE PIPE TRENCH EXCAVATION AND EDGE OF PAVEMENT IS LESS THAN 3' THE REMAINING SECTION SHALL BE REMOVED AND REPAVED AS PART OF THE FULL DEPTH PAVING RESTORATION.
- ALL AREAS DISTURBED OUTSIDE OF THE PAVEMENT SHALL BE GRADED EACH DAY TO ENSURE POSITIVE DRAINAGE AND SHALL BE PERMANENTLY RESTORED AT THE END OF EACH WEEK.
- ALL TEMPORARY HOT MIX SHALL BE PLACED TO PROVIDE A SMOOTH RIDABLE SURFACE TO DELDOT STANDARDS.
- A SAFETY EDGE IS REQUIRED ON ALL HOT MIX PLACED.
- ANY STRIPING DISTURBED SHALL BE PLACED AT THE END OF THE DAY PRIOR TO OPENING TO TRAFFIC.
- PROOF ROLL OF GABC SHALL BE PERFORMED USING A LOADED 10 WHEELER PRIOR TO PLACEMENT OF HOT MIX.
- ALL MATERIALS AND WORKMANSHIP WITHIN THE STATE R/W SHALL BE COMPLETED IN ACCORDANCE WITH CURRENT STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATION FOR ROAD AND BRIDGE CONSTRUCTION, SUPPLEMENTAL SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, UTILITY MANUAL, SPECIAL PROVISIONS AND DESIGN MEMORANDUMS.
- THERE IS A ONE YEAR WARRANTY ON ALL EARTH WORK AND CONCRETE. A THREE YEAR WARRANTY ON ALL HOT MIX INCLUDING SUBBASE/SUBGRADE ISSUES WITHIN THE PAVEMENT AREAS. WARRANTY DOES NOT START UNTIL ALL WORK IS COMPLETED AND A STAND OF GRASS HAS BEEN ESTABLISHED TO DELDOT STANDARDS AND AN ACCEPTANCE LETTER HAS BEEN ISSUED.
- ALL DISTURBED AREAS WITHIN THE STATE RIGHT-OF-WAY, BUT NOT IN THE PAVEMENT, SHALL BE TOP-SOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED. IF SOO IS USED NEXT TO SIDEWALK OR SHARED-USE PATH, CONTRACTOR SHALL GRADE TOPSOIL ADJACENT TO THE SIDEWALK OR SHARED-USE PATH PRIOR TO PLACEMENT OF SOO TO ENSURE THAT SOO IS PLACED FLUSH OR JUST BELOW EDGE OF SIDEWALK OR SHARED-USE PATH TO AVOID WATER PONDING ON THE SIDEWALK OR SHARED-USE PATH.
- A 72-HOUR (MINIMUM) NOTICE SHALL BE GIVEN TO THE DELDOT DISTRICT PERMIT SUPERVISOR PRIOR TO FINAL UTILITY CONSTRUCTION.
- A 48 HOUR NOTICE IS REQUIRED TO BE GIVEN TO THE DELDOT INSPECTOR PRIOR TO MATERIAL RELEASES.
- ALL CONCRETE /HOT MIX MATERIALS SHALL BE RELEASED BY THE INSPECTOR PRIOR TO PLACEMENT
- MISS UTILITY OF DELAWARE SHALL BE NOTIFIED THREE (3) CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1800-282-8555.
- ALL SIGNING, STRIPING AND MAINTENANCE OF TRAFFIC IS THE CONTRACTOR'S RESPONSIBILITY AND SHALL FOLLOW THE GUIDELINES SHOWN IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) FOR STREETS AND HIGHWAYS (LATEST EDITION), THE OWNER OR MAINTENANCE CORPORATION SHALL BE RESPONSIBLE FOR MAINTENANCE OF ALL SIGNS INSTALLED AS PART OF THIS PROJECT.
- A COPY OF THE UP TO DATE APPROVED CONSTRUCTION DOCUMENTS AND DELDOT APPROVAL LETTERS SHALL BE MAINTAINED ON THE PROJECT SITE AT ALL TIMES AND BE AVAILABLE FOR INSPECTION BY DELDOT PERSONNEL.
- EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. COMPLETENESS OR CORRECTNESS THEREOF IS NOT GUARANTEED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE UTILITY COMPANIES INVOLVED IN ORDER TO SECURE THE MOST ACCURATE INFORMATION AVAILABLE AS TO UTILITY LOCATION AND ELEVATION. NO CONSTRUCTION AROUND OR ADJACENT TO UTILITIES SHALL BEGIN WITHOUT NOTIFYING THEIR OWNERS AT LEAST 48-HOURS IN ADVANCE. THE CONTRACTOR SHALL TAKE THE NECESSARY PRECAUTIONS TO PROTECT THE EXISTING UTILITIES AND MAINTAIN UNINTERRUPTED SERVICE AND ANY DAMAGE DONE TO THEM DUE TO HIS/HER NEGLIGENCE SHALL BE IMMEDIATELY AND COMPLETELY REPAIRED AT THE CONTRACTOR'S EXPENSE. TO LOCATE EXISTING UTILITIES IN THE FIELD PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL CONTACT MISS UTILITY OF DELAWARE (SEE NOTE #5).
- SHOULD UTILITY RELOCATION BE REQUIRED, THE DEVELOPER MUST SUBMIT A UTILITY RELOCATION PLAN FOR DELDOT REVIEW, ALONG WITH CORRESPONDENCE FROM THE UTILITY COMPANIES STATING PRELIMINARY APPROVAL TO THE RELOCATION AND DESIGN OF THE UTILITIES PRIOR TO THE DELDOT PRE-CONSTRUCTION MEETING. NO PHYSICAL CONSTRUCTION CAN OCCUR UNTIL THE UTILITY PLANS ARE APPROVED, THE INDIVIDUAL UTILITY COMPANIES ISSUE FINAL APPROVAL, AND A DELDOT UTILITY PERMIT IS ISSUED TO THE UTILITY COMPANY.
- DESIGN AND INSTALLATION OF ALL PAVEMENT MARKINGS AND STRIPING SHALL BE AS OUTLINED IN THE LATEST VERSION OF THE DE MUTCD. FOR FINAL PERMANENT PAVEMENT MARKINGS EPOXY RESIN PAINT SHALL BE REQUIRED FOR LONG LINE STRIPING. THERMO PLASTIC (EXTRUDED OR PREFORMED MATERIAL) WILL BE REQUIRED ON ASPHALT SURFACES, FOR SHORT LINE STRIPING, I.E. SYMBOLS/LEGENDS. PERMANENT PAVEMENT MARKING TAPE (PER DELDOT APPROVED MATERIALS LIST) WILL BE REQUIRED ON CONCRETE SURFACES. FOR SHORT LINE STRIPING, I.E. SYMBOLS/LEGENDS.
- BREAKAWAY POSTS SHALL BE USED WHEN INSTALLING ALL SIGNS. REFERENCE DELDOT STANDARD CONSTRUCTION DETAIL T-15.
- ALL PROPOSED CLOSED STORM DRAIN SYSTEMS SHALL BE VIDEO INSPECTED, REPAIRED AS NECESSARY AND APPROVED PRIOR TO THE INSTALLATION OF FINAL PAVING. IF REPAIRS ARE NEEDED, THE REPAIRED PIPE SECTIONS WILL NEED TO BE VIDEO INSPECTED AGAIN BEFORE THE REPAIR CAN BE APPROVED.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSURE THAT PAVING WITHIN THE STATE OF DELAWARE RIGHT-OF-WAY IS INSTALLED TO THE ELEVATIONS SHOWN AND THAT NO PONDING OF WATER EXISTS AFTER PAVING IS COMPLETE.
- THE DEPARTMENT RESERVES THE RIGHT TO STOP THE CONTRACTOR'S OPERATIONS, IF, IN THE OPINION OF THE DEPARTMENT'S REPRESENTATIVE, THE CONTRACTOR'S OPERATIONS ARE NOT IN COMPLIANCE WITH THE DELAWARE MUTCD, THE SPECIFICATIONS OR THE PLANS OR IF THE CONTRACTOR'S OPERATIONS ARE DEEMED UNSAFE.
- ALL ROADWAY CLOSURES OR LANE CLOSURES BEYOND THOSE SPECIFIED AND APPROVED IN THE PLANS SHALL BE APPROVED BY THE DISTRICT SAFETY OFFICER A MINIMUM OF TWO WEEKS IN ADVANCE OF THE PROPOSED RESTRICTION
- TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE MAINTAINED IN GOOD CONDITION IN ACCORDANCE WITH THE BROCHURE ENTITLED "QUALITY GUIDELINES FOR TEMPORARY TRAFFIC CONTROL DEVICES" PUBLISHED BY THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA). ANY TEMPORARY TRAFFIC CONTROL DEVICES THAT DO NOT MEET THE QUALITY GUIDELINES SHALL BE REMOVED AND REPLACED WITH ACCEPTABLE DEVICES. FAILURE TO COMPLY WILL RESULT IN WORK STOPPAGE.
- THE CONTRACTOR SHALL PROVIDE ALL PROPERTY OWNERS AND RESIDENTS WHO LIVE ADJACENT TO THE WORK ZONE WITH WRITTEN NOTICE. 48 HOURS IN ADVANCE OF THE START OF CONSTRUCTION WORK, THIS NOTIFICATION SHALL INCLUDE THE SCOPE OF WORK, WORKING HOURS, ANTICIPATED START AND COMPLETION DATES; A SUMMARY OF INCLUDING A SCHEDULE AND ACCESS COORDINATION PLAN, CONTRACTOR'S NAME AND ADDRESS AND A DELDOT CONTACT PHONE NUMBER. FAILURE TO GIVE PROPER NOTICE WILL RESULT IN A SUSPENSION OF THE WORK REQUIRING NOTICE, UNTIL PROPER NOTICE IS PROVIDED. THE CONTRACTOR SHALL PROVIDE WRITTEN VERIFICATION TO THE ENGINEER THAT THE PROPERTY OWNERS AND RESIDENTS WERE NOTIFIED.

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING THE LOCAL 911 CENTER, LOCAL SCHOOLS AND THE DELDOT PUBLIC INFORMATION CENTER OF ALL ROADS AND LANES TO BE CLOSED A MINIMUM OF SEVEN CALENDAR DAYS BEFORE THE CLOSURE.
- THE CONTRACTOR SHALL NOTIFY THE LOCAL 911 CENTER IF ACCESS TO A FIRE HYDRANT IS TEMPORARILY RESTRICTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE TRANSPORTATION MANAGEMENT CENTER IS NOTIFIED EACH AND EVERY DAY WHEN WORK IS BEING PERFORMED IN STATE RIGHT-OF-WAY. THE CONTRACTOR SHALL IDENTIFY THE TYPE OF WORK, ANY LANE(S) OR SHOULDERS CLOSED, THE LENGTH OF TIME FOR WORK, WHEN THE LANE RESTRICTIONS ARE IN PLACE AND WHEN LANE RESTRICTIONS ARE LIFTED. CONTACT PERSON/PHONE NUMBER AND STATE INSPECTOR. THE TRANSPORTATION MANAGEMENT CENTER CAN BE REACHED AT (302) 659-4600.
- AT THE END OF EACH WORKDAY, THE CONTRACTOR SHALL CORRECT ALL VERTICAL DIFFERENCES IN ACCORDANCE WITH TABLE 6G-1 OF THE DELAWARE MUTCD.
- AT THE END OF EACH DAY'S OPERATION AND BEFORE TRAFFIC IS RETURNED TO UNRESTRICTED ROADWAY USE, TEMPORARY PAVEMENT MARKINGS SHALL BE APPLIED IN ACCORDANCE WITH THE DELAWARE MUTCD AND DELDOT'S TEMPORARY PAVEMENT MARKINGS POLICY.
- WHEN SIDE ROADS INTERSECT THE WORK ZONE, ADDITIONAL TRAFFIC CONTROL DEVICES SHALL BE ERECTED INCLUDING PERMANENT WARNING SIGNS.
- ALL STORAGE OF EQUIPMENT AND MATERIAL SHALL COMPLY WITH SECTION 6G.21 OF THE DELAWARE MUTCD.
- ALL FLAGGERS SHALL COMPLY WITH CHAPTER 6E OF THE DELAWARE MUTCD.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH OTHER CONTRACTORS IN THE AREA.
- ALL PERSONS WORKING WITHIN THE STATE RIGHT-OF-WAY SHALL WEAR A MINIMUM OF AN ANSI CLASS II SAFETY VEST MEETING OR EXCEEDING THE ANSI 107-2004 REQUIREMENTS, AS SPECIFIED IN THE DELAWARE
- ALL PAVEMENT MARKINGS THAT ARE NO LONGER IN USE AND CONFLICT WITH TEMPORARY PAVEMENT MARKINGS SHALL BE REMOVED AND COMPLETELY OBLITERATED BY A METHOD APPROVED BY THE ENGINEER. PAINTING OVER THE CONFLICTING PAVEMENT MARKINGS WILL NOT BE ACCEPTED AS A METHOD OF REMOVAL.
- WITHIN THE MAINLINE WORK AREA, PERMANENT ADVANCE WARNING SIGNS WITH THE LEGENDS ROAD WORK 1500 FT. ROAD WORK 1000 FT AND ROAD WORK 500 FT SHALL BE INSTALLED IN ADVANCE OF THE WORK AREA IN BOTH DIRECTIONS. AN END ROAD WORK SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM FROM THE WORK AREA. ON INTERSECTING ROADWAYS WITHIN THE PROJECT LIMITS, A ROAD WORK AHEAD SIGN SHALL BE PLACED AT A DISTANCE NOT LESS THAN 500 FEET IN ADVANCE OF THE WORK AREA AND AN END ROAD WORK SIGN SHALL BE LOCATED 500 FEET DOWNSTREAM OF THE WORK AREA. ALL PERMANENT ADVANCE WARNING SIGNS SHALL BE GROUND MOUNTED ON TWO NCHRP-350 OR MASH APPROVED BREAKAWAY POSTS AND SHALL BE MOUNTED IN COMPLIANCE WITH THE DELAWARE MUTCD. PERMANENT ADVANCE WARNING SIGNS SHALL BE MOUNTED AT A HEIGHT OF 7 FEET, MEASURED FROM THE ROADWAY TO THE BOTTOM OF THE SIGN. THE USE OF SKID MOUNTED SIGN SUPPORTS IS NOT ALLOWED UNLESS THE CONTRACTOR CAN DEMONSTRATE THAT A UTILITY CONFLICT EXISTS, WHICH SHALL BE VERIFIED BY THE ENGINEER. OR CONCRETE MEDIANS PREVENT THE INSTALLATION OF THE PERMANENT ADVANCE WARNING SIGNS IN THE APPROPRIATE LOCATION.
- TYPICAL APPLICATIONS PER THE DELAWARE MUTCD SHALL BE INCORPORATED TO ACHIEVE REQUIRED TEMPORARY TRAFFIC CONTROL AND SAFETY REQUIREMENTS. THIS PROJECT IS SUBJECT TO THE FOLLOWING TYPICAL APPLICATIONS UNLESS DIRECTED OTHERWISE BY THE DELDOT DISTRICT SAFETY OFFICER. TYPICAL APPLICATION 3: *WORK ON THE SHOULDER OF A TWO-LANE ROAD" (TA-3), AND TYPICAL APPLICATION 10: *LANE CLOSURE ON A TWO-LANE ROAD USING FLAGGERS" (TA-10).

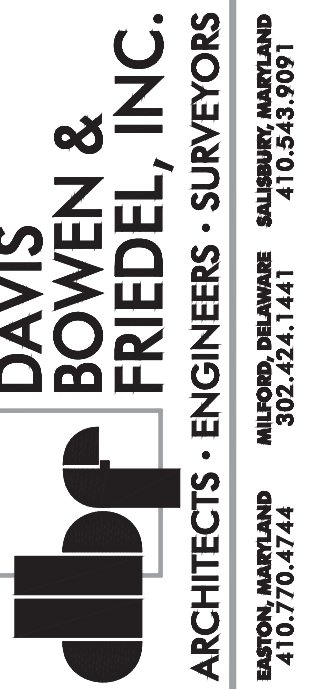
DRAINAGE, GRADING AND SEDIMENT CONTROL GENERAL NOTES

- ALL STORM DRAIN PIPING, INLET, MANHOLE, AND END SECTION INSTALLATION SHALL BE IN ACCORDANCE WITH DELDOT STANDARDS AND SPECIFICATIONS AND STANDARD CONSTRUCTION DETAILS.
- ALL STORM DRAIN DESIGNATED AS RCP IS TO BE REINFORCED CONCRETE PIPE, MEETING ASTM DESIGNATION: C-76 REINFORCED CONCRETE CULVERT, STORM DRAIN AND SEWER PIPE. FOR PIPE CLASSIFICATION, SEE PIPE SCHEDULE.
- ALL STORM DRAIN DESIGNATED AS HDPE IS TO BE HIGH DENSITY POLYETHYLENE PIPE. HDPE PIPE SHALL COMPLY WITH AASHTO M252, M294, MP1, AND ASTM 3350. PIPE SHALL BE INSTALLED PER ASTM D2321 AND AS RECOMMENDED BY THE MANUFACTURER. ALL HDPE PIPE SHALL HAVE WATER TIGHT CONNECTIONS.
- PIPE SPAN LENGTHS ARE MEASURED FROM C/L OF STRUCTURE TO C/L OF STRUCTURE, WHERE APPLICABLE ARE ROUNDED TO THE NEAREST FOOT.
- ALL SEALS MUST BE WATER TIGHT AND CONCRETE STRUCTURES MUST BE PRECAST OR POURED IN PLACE.
- CONTRACTOR SHALL GRADE, TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS OF CONSTRUCTION, INCLUDING PIPE INSTALLATION OR DITCH CONSTRUCTION. EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL SLOPES GREATER THAN 3:1.
- 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, SEEDED 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.
- IF THE APPROVED PLAN NEEDS TO BE MODIFIED DUE TO THE SITE CONDITION DURING CONSTRUCTION, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE SUSSEX CONSERVATION DISTRICT. ALL COSTS FOR THE ADDITIONAL MEASURES TO INCLUDE FLOCCULANTS SHALL BE AT THE SOLE COST OF THE CONTRACTOR.
- IF LARGE AMOUNTS OF SEDIMENT HAVE ENTERED INTO THE STORM DRAIN SYSTEM, THE COUNTY ENGINEER, PROJECT ENGINEER OR SUSSEX CONSERVATION DISTRICT MAY REQUIRE THE PIPES BE FLUSHED AND VIDEO INSPECTED. ALL COSTS FOR THE PIPE FLUSHING AND VIDEO INSPECTION SHALL BE AT THE SOLE COST OF THE CONTRACTOR.

CIVIL PLAN GENERAL NOTES

- THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION.
 - SUSSEX COUNTY ENGINEERING DEPARTMENT 302-855-7718
 - DAVIS, BOWEN & FRIEDEL, INC. 302-424-1441
 - SUSSEX CONSERVATION DISTRICT 302-852-2105
 - DEPARTMENT OF TRANSPORTATION, SOUTH DISTRICT PERMIT SUPERVISOR 302-853-1342
- BOUNDARY AND TOPOGRAPHIC SURVEY WAS PERFORMED BY DAVIS, BOWEN & FRIEDEL, INC. FEBRUARY 2023 ON DELAWARE STATE PLANE COORDINATE NAD 83. BENCHMARKS ARE AS SHOWN ON PLANS, VERTICAL DATUM NGVD88.
- CONTRACTOR SHALL PROVIDE STAKEOUT NECESSARY FOR THE INSTALLATION OF UTILITIES, STORM DRAINS, PAVING AND ALL OTHER SITE WORK INCLUDED IN THESE PLANS. ALL STAKEOUT WORK IS TO BE PERFORMED UNDER THE DIRECT SUPERVISION OF A PROFESSIONAL LAND SURVEYOR REGISTERED IN THE STATE OF DELAWARE.
- THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS UNLESS WRITTEN APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.
- ACCORDING TO FEMA FLOOD INVENTORY MAP #10005C0488J, DATED: JANUARY 6, 2005, THE SITE IS IMPACTED BY THE 100 YEAR FLOODPLAIN, ZONE A, NO BASE FLOOD ELEVATION DETERMINED.

Utility Construction Permit Checklist:		Addressed		Comments
5.6.5.2	The plans shall show the following:	Yes	No	
5.6.5.2.1	Roadway Name:	✓		Delaware Avenue
5.6.5.2.2	Width of the right-of-way and method of right-of-way determination;	✓		50 ft ROW; Determined from Tax Maps
5.6.5.2.3	Type of roadway material;	✓		Bituminous Base and Surface
5.6.5.2.4	Width of traveled way;	✓		10'-0"/11'-0"; See Dwg. C-102 to C-104
5.6.5.2.5	Speed Limit of the affected road;	✓		45 mph
5.6.5.2.6	Proposed work;	✓		Countryside Hamlet Sanitary Sewer Project: Includes the furnishing and installation of approximately 122 linear feet of 3" SCH 80 PVC Forcemain installed via Open Cut; 2363 linear feet of 3" HDPE IPS DR-11 Forcemain via Directional Bore.
5.6.5.2.7	Areas of pavement disturbance including sidewalks and shared use paths;	✓		Road Crossing and Manhole Connection
5.6.5.2.8	Distance from the crossroad or side road to the installation;	✓		Installation begins along Delaware Avenue approximately 335 ft from the intersection of Dupont Boulevard
5.6.5.2.9	Distance from cross arm to existing right-of-way;	✓		n/a
5.6.5.2.10	Distance from the centerline of the roadway to the installation;	✓		Varies; Installation is parallel to centerline of road; 12' to 14'
5.6.5.2.11	Type of shoulder;	✓		Grass
5.6.5.2.12	Width of shoulder;	✓		n/a
5.6.5.2.13	Bore Pits;	✓		To Be Determined by Contractor
5.6.5.2.14	Test pit locations;	✓		To Be Determined by Contractor
5.6.5.2.15	Drainage systems or systems in the utility area;	✓		18" RCP Pipe Culvert Across Delaware Avenue, 15" RCP Pipe Culvert along East Side of Delaware Avenue
5.6.5.2.16	Location of existing utilities (aerial and underground);	✓		See Dwg. V-101 and C-101 to C-104
5.6.5.2.17	Trench and restoration details;	✓		See Dwg. C-502
5.6.5.2.18	North arrow, scale, and legend;	✓		
5.6.5.2.19	Railroad crossing roadways;	✓		n/a
5.6.5.2.20	Location and width of sidewalk;	✓		n/a
5.6.5.2.21	Location and width of pedestrian connections; and	✓		n/a
5.6.5.2.22	Sidewalk and pedestrian restoration details.	✓		n/a
5.6.5.3	Pressure pipeline installations shall specify the type of transmittant, the maximum working pressure, the maximum design pressures, and the design standards for the carrier.	✓		See Dwg. C-102 to C-104



COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE

DATE	COMMENTS

Date: MARCH 2024

Scale: NOT TO SCALE

Dwn.By: JML

Proj.No.: 1897B031

GENERAL NOTES & LEGEND

Dwg.No.:

G-002



EXISTING SITE PLAN
1" = 40'



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**COUNTRY SIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE**

DATE	COMMENTS

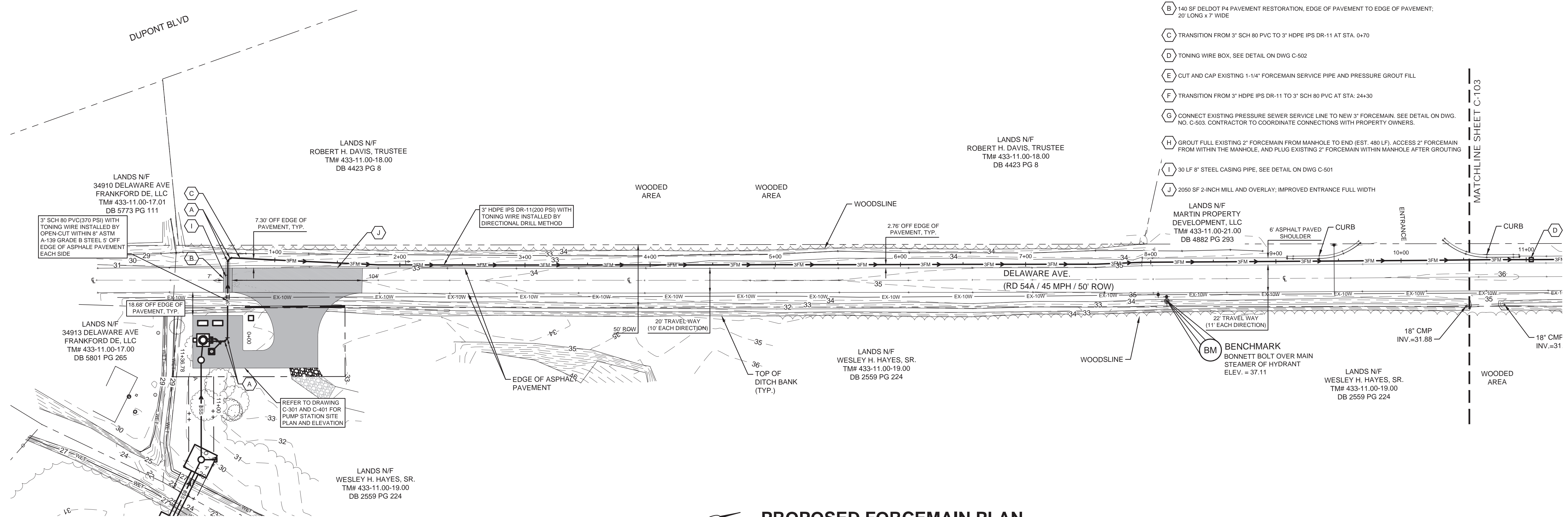
Date: MARCH 2024
Scale: 1" = 40'
Dwn. By: JML
Proj. No.: 1897B031

EXISTING SITE PLAN

Dwg. No.: **V-101**

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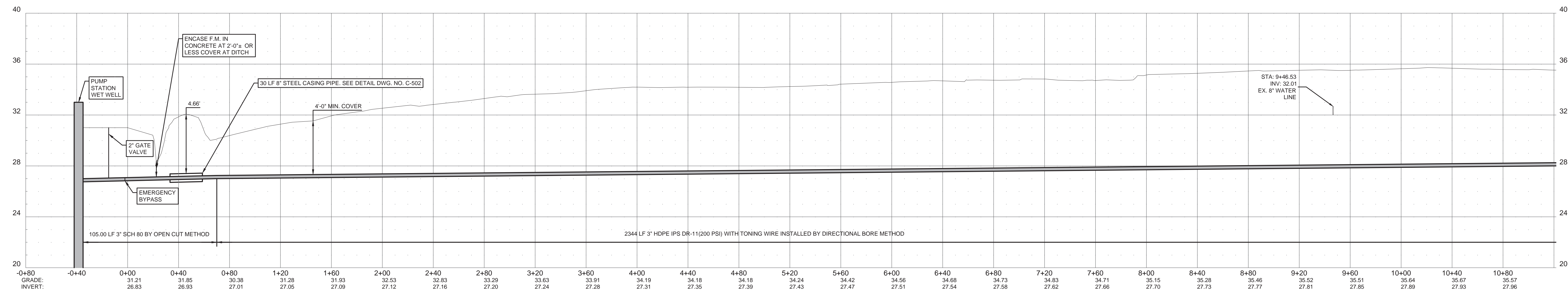
- (A) 45° BEND
- (B) 140 SF DELDOT P4 PAVEMENT RESTORATION, EDGE OF PAVEMENT TO EDGE OF PAVEMENT: 20' LONGS x 7' WIDE
- (C) TRANSITION FROM 3" SCH 80 PVC TO 3" HDPE IPS DR-11 AT STA. 0+70
- (D) TONING WIRE BOX. SEE DETAIL ON DWG C-502
- (E) CUT AND CAP EXISTING 1-1/4" FORCEMAIN SERVICE PIPE AND PRESSURE GROUT FILL
- (F) TRANSITION FROM 3" HDPE IPS DR-11 TO 3" SCH 80 PVC AT STA. 24+30
- (G) CONNECT EXISTING PRESSURE SEWER SERVICE LINE TO NEW 3" FORCEMAIN. SEE DETAIL ON DWG. NO. C-503. CONTRACTOR TO COORDINATE CONNECTIONS WITH PROPERTY OWNERS.
- (H) GROUT FULL EXISTING 2" FORCEMAIN FROM MANHOLE TO END (EST. 480 LF). ACCESS 2" FORCEMAIN FROM WITHIN THE MANHOLE, AND PLUG EXISTING 2" FORCEMAIN WITHIN MANHOLE AFTER GROUTING
- (I) 30 LF 8" STEEL CASING PIPE. SEE DETAIL ON DWG C-501
- (J) 2050 SF 2-INCH MILL AND OVERLAY, IMPROVED ENTRANCE FULL WIDTH



PROPOSED FORCEMAIN PLAN

1" = 40'

PROPOSED FORCEMAIN SHALL BE MINIMUM 2-FEET OFF EDGE OF EXISTING PAVEMENTS. ANY DISTURBANCE TO EXISTING PAVEMENT SHALL BE CORRECTED AT CONTRACTORS EXPENSE TO THE SATISFACTION OF DELDOT.



PROPOSED FORCEMAIN PROFILE

1" = 4' VERTICAL
1" = 40' HORIZONTAL



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**COUNTRYSIDE HAMLET
 SANITARY SEWER
 SUSSEX COUNTY PROJECT NO. S23-01
 SUSSEX COUNTY, DELAWARE**

DATE	COMMENTS

Date: MARCH 2024
 Scale: 1" = 40'
 Dwn. By: JML
 Proj. No.: 1897B031

PROPOSED FORCEMAIN PLAN & PROFILE

Dwg. No.: **C-102**

CONTRACTOR TO SUBMIT FORCEMAIN DIRECTIONAL BORE PLAN FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION



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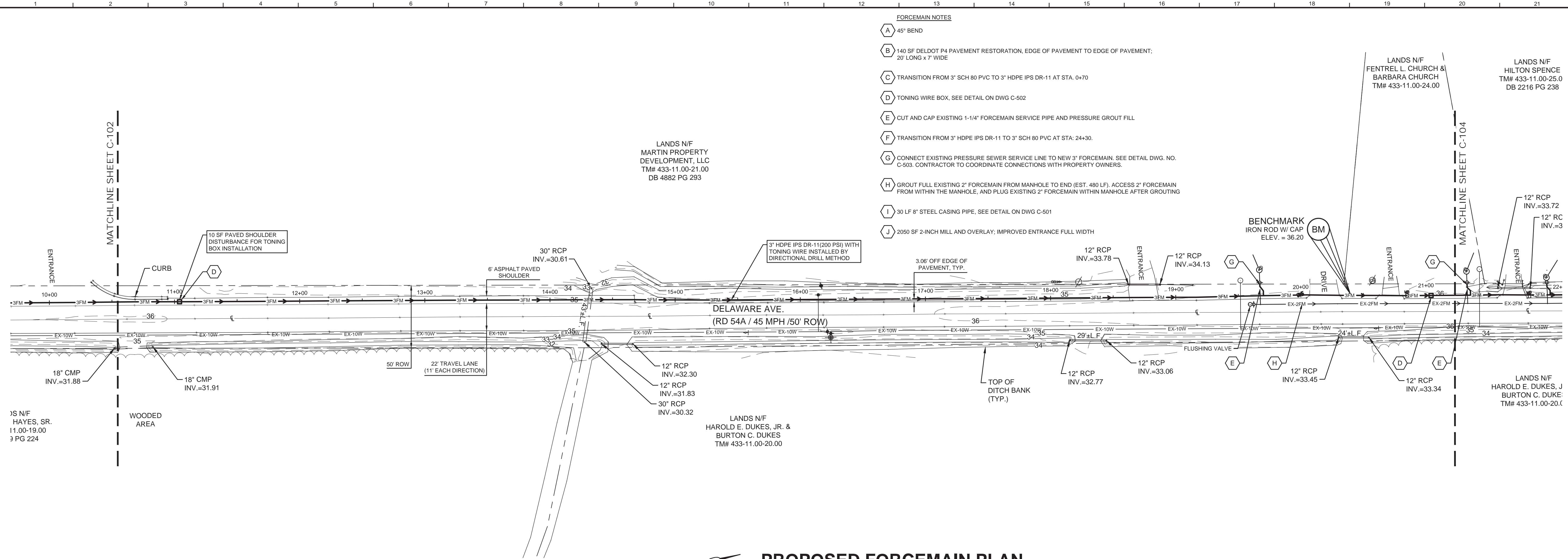
**COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE**

DATE	COMMENTS

PROPOSED FORCEMAIN PLAN & PROFILE

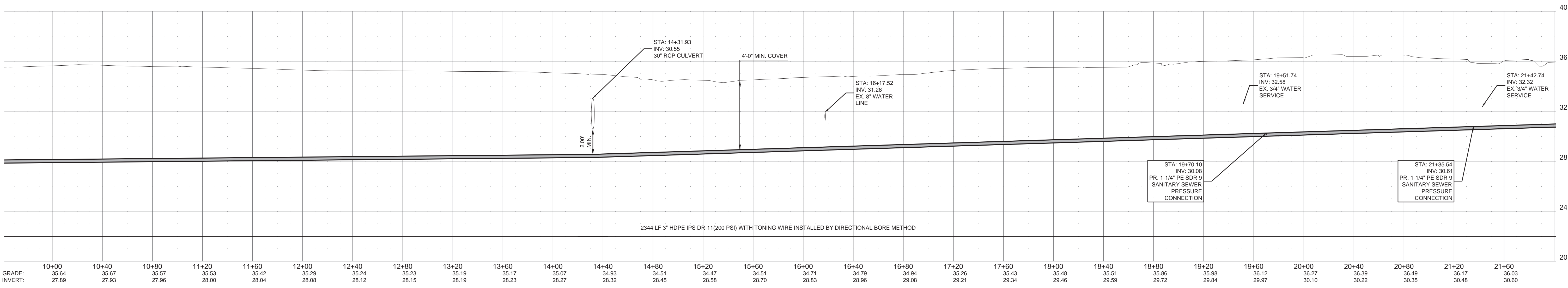
Dwg No.: **C-103**

- FORCEMAIN NOTES**
- A 45° BEND
 - B 140 SF DELDOT P4 PAVEMENT RESTORATION, EDGE OF PAVEMENT TO EDGE OF PAVEMENT; 20' LONG x 7' WIDE
 - C TRANSITION FROM 3" SCH 80 PVC TO 3" HDPE IPS DR-11 AT STA. 0+70
 - D TONING WIRE BOX. SEE DETAIL ON DWG C-502
 - E CUT AND CAP EXISTING 1-1/4" FORCEMAIN SERVICE PIPE AND PRESSURE GROUT FILL
 - F TRANSITION FROM 3" HDPE IPS DR-11 TO 3" SCH 80 PVC AT STA. 24+30.
 - G CONNECT EXISTING PRESSURE SEWER SERVICE LINE TO NEW 3" FORCEMAIN. SEE DETAIL DWG. NO. C-503. CONTRACTOR TO COORDINATE CONNECTIONS WITH PROPERTY OWNERS.
 - H GROUT FULL EXISTING 2" FORCEMAIN FROM MANHOLE TO END (EST. 480 LF). ACCESS 2" FORCEMAIN FROM WITHIN THE MANHOLE, AND PLUG EXISTING 2" FORCEMAIN WITHIN MANHOLE AFTER GROUTING
 - I 30 LF 8" STEEL CASING PIPE. SEE DETAIL ON DWG C-501
 - J 2050 SF 2-INCH MILL AND OVERLAY; IMPROVED ENTRANCE FULL WIDTH



PROPOSED FORCEMAIN PLAN
1" = 40'

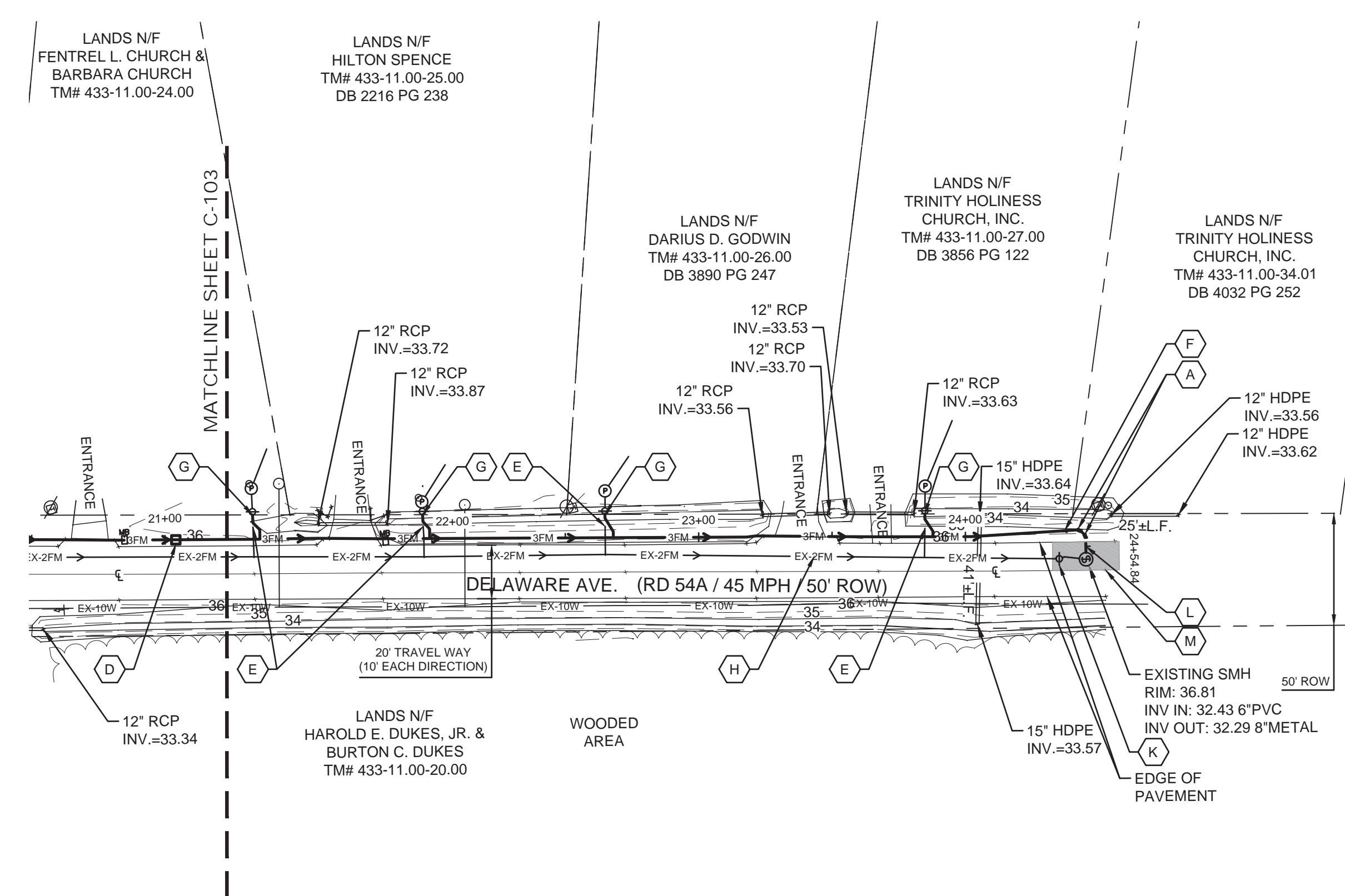
PROPOSED FORCEMAIN SHALL BE MINIMUM 2-FOOT OFF EDGE OF EXISTING PAVEMENTS. ANY DISTURBANCE TO EXISTING PAVEMENT SHALL BE CORRECTED AT CONTRACTORS EXPENSE TO THE SATISFACTION OF DELDOT.



FORCEMAIN PROFILE
1" = 4' VERTICAL
1" = 40' HORIZONTAL

CONTRACTOR TO SUBMIT FORCEMAIN DIRECTIONAL BORE PLAN FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION

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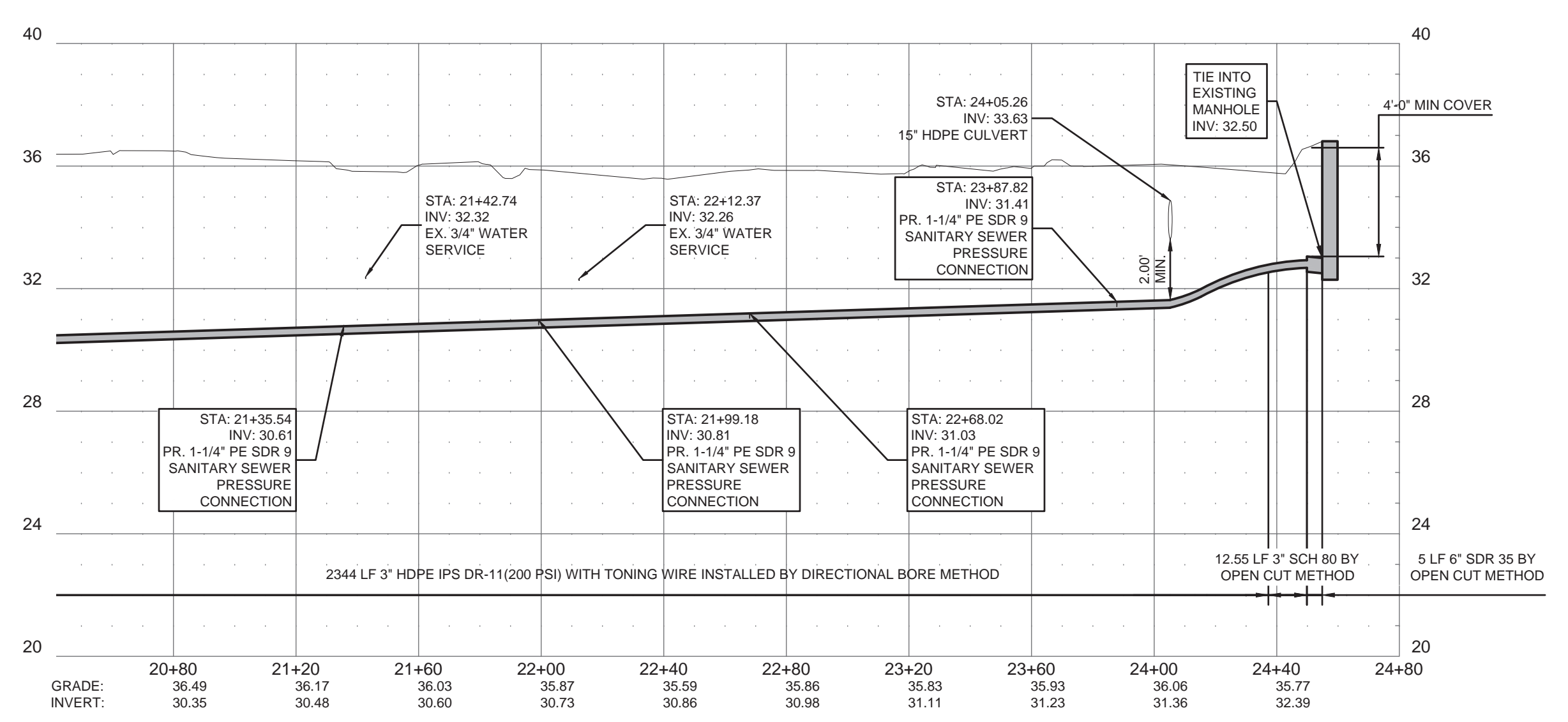


- FORCEMAIN NOTES**
- (A) 45° BEND
 - (B) 140 SF DELDOT P4 PAVEMENT RESTORATION, EDGE OF PAVEMENT TO EDGE OF PAVEMENT; 20' LONG x 7' WIDE
 - (C) TRANSITION FROM 3" SCH 80 PVC TO 3" HDPE IPS DR-11 AT STA. 0+70
 - (D) TONING WIRE BOX, SEE DETAIL ON DWG C-502
 - (E) CUT AND CAP EXISTING 1-1/4" FORCEMAIN SERVICE PIPE AND PRESSURE GROUT FILL
 - (F) TRANSITION FROM 3" HDPE IPS DR-11 TO 3" SCH 80 PVC AT STA. 24+37
 - (G) CONNECT EXISTING PRESSURE SEWER SERVICE LINE TO NEW 3" FORCEMAIN. SEE DETAIL DWG. NO. C-503. CONTRACTOR TO COORDINATE CONNECTIONS WITH PROPERTY OWNERS.
 - (H) GROUT FULL EXISTING 2" FORCEMAIN FROM MANHOLE TO END (EST. 480 LF). ACCESS 2" FORCEMAIN FROM WITHIN THE MANHOLE, AND PLUG EXISTING 2" FORCEMAIN WITHIN MANHOLE AFTER GROUTING
 - (I) 30 LF 8" STEEL CASING PIPE, SEE DETAIL ON DWG C-501
 - (J) 2050 SF 2-INCH MILL AND OVERLAY; IMPROVED ENTRANCE FULL WIDTH
 - (K) REMOVE EX. VALVE BOX
 - (L) INSTALL 5'-0" 6" DIAMETER PVC SDR-35 DIFFUSER STUB AT MIN 1% SLOPE AND CONNECT NEW FORCEMAIN PER FORCEMAIN DISCHARGE MH DETAIL ON DWG. C-501
 - (M) 250 SF DELDOT P4 PAVEMENT RESTORATION, EDGE OF PAVEMENT; 25' LONG x 10' WIDE

PROPOSED FORCEMAIN PLAN

1" = 40'

PROPOSED FORCEMAIN SHALL BE MINIMUM 2-FEET OFF EDGE OF EXISTING PAVEMENTS. ANY DISTURBANCE TO EXISTING PAVEMENT SHALL BE CORRECTED AT CONTRACTORS EXPENSE TO THE SATISFACTION OF DELDOT.



FORCEMAIN PROFILE

1" = 4' VERTICAL
1" = 40' HORIZONTAL



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**COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE**

DATE	COMMENTS

Date: MARCH 2024
Scale: 1" = 40'
Dwn. By: JML
Proj. No.: 1897B031

PROPOSED FORCEMAIN PLAN & PROFILE

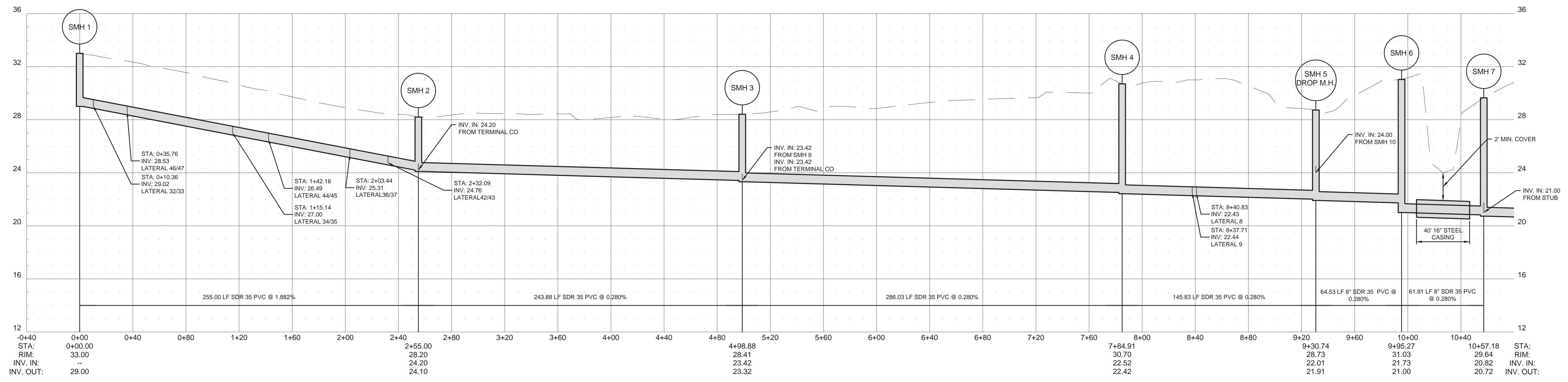
CONTRACTOR TO SUBMIT FORCEMAIN DIRECTIONAL BORE PLAN FOR REVIEW AND APPROVAL PRIOR TO BEGINNING CONSTRUCTION

Dwg. No.: **C-104**



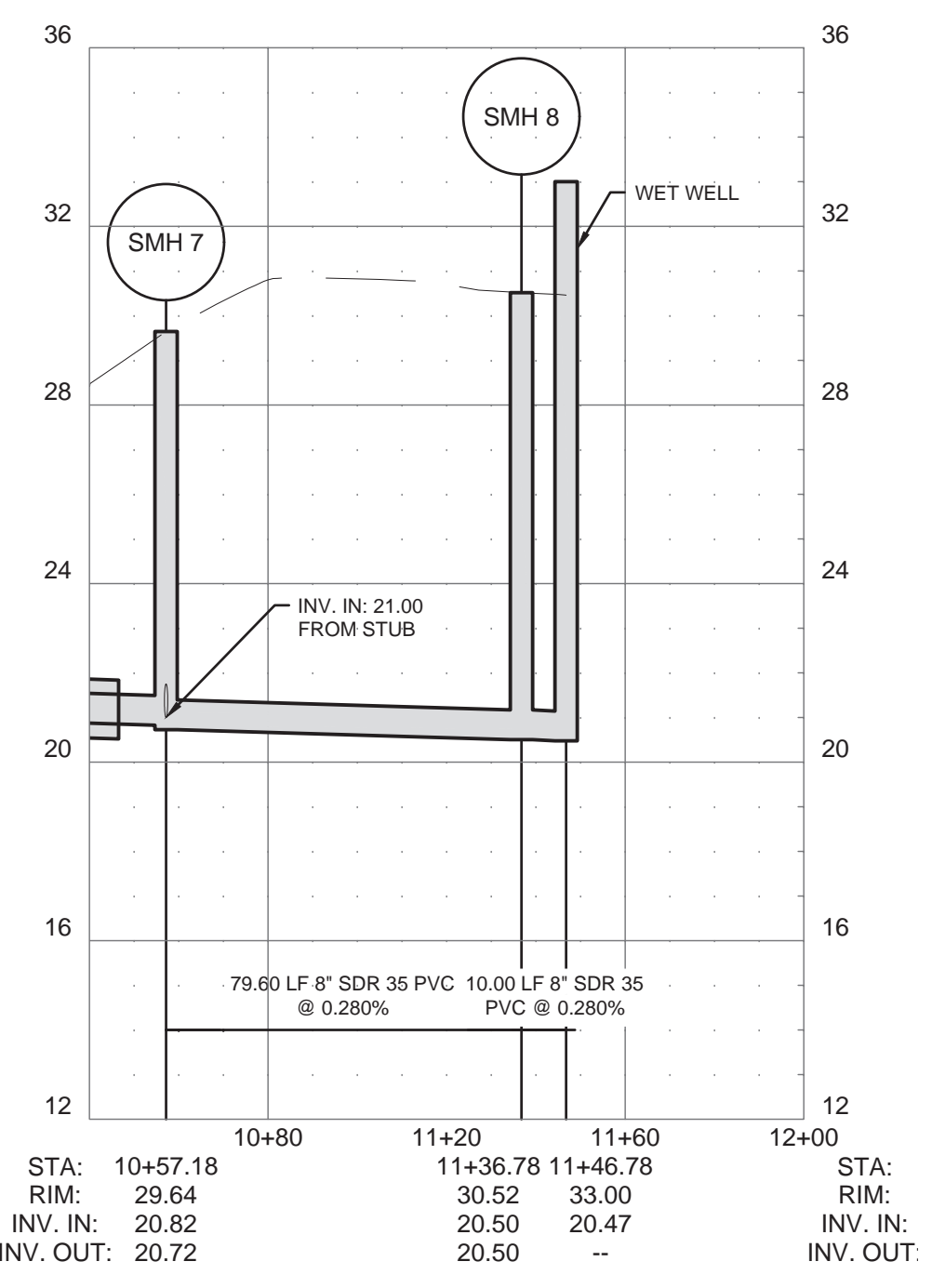
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**COUNTRYSIDE HAMLET
 SANITARY SEWER
 SUSSEX COUNTY PROJECT NO. S23-01
 SUSSEX COUNTY, DELAWARE**



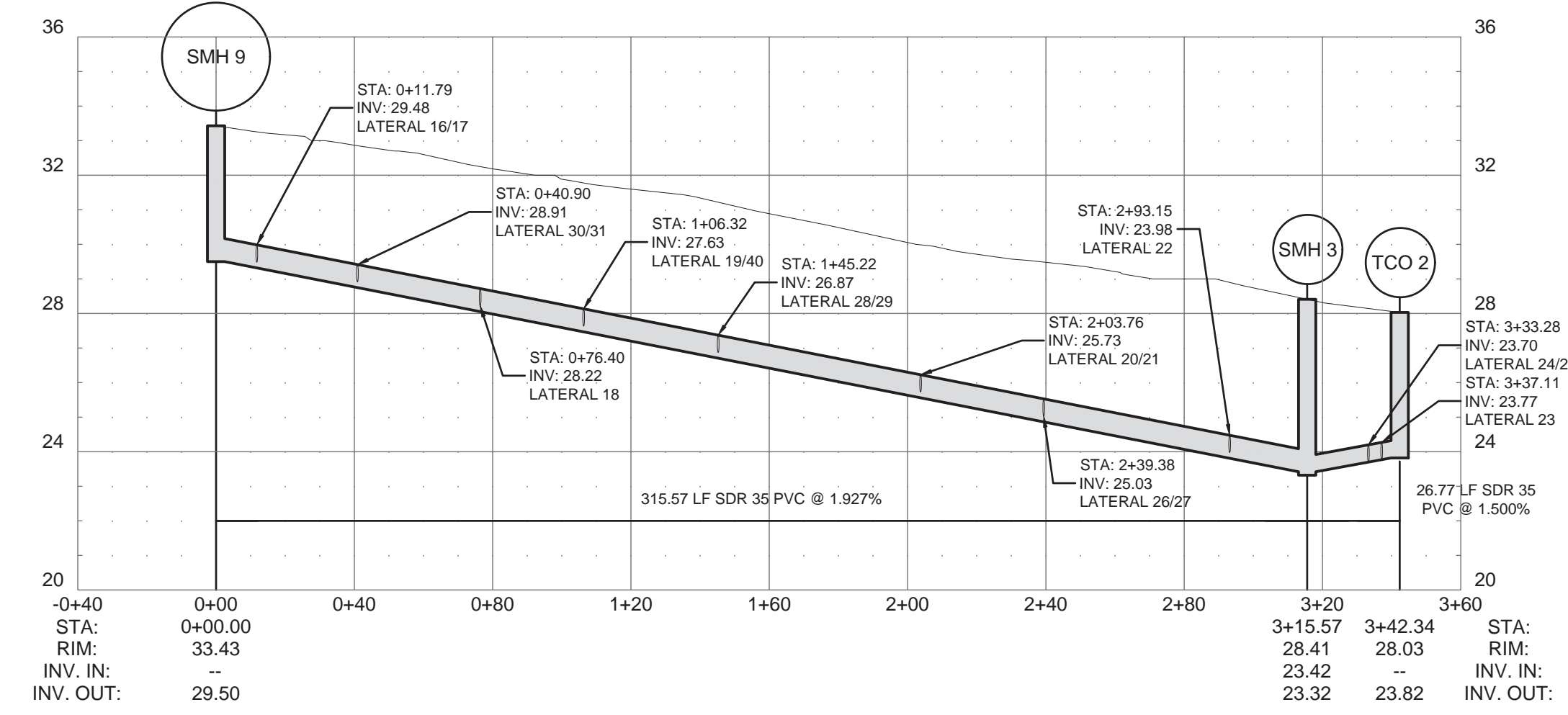
SMH1-SMH6 PROFILE

1"=4' VERTICAL
 1"=40' HORIZONTAL



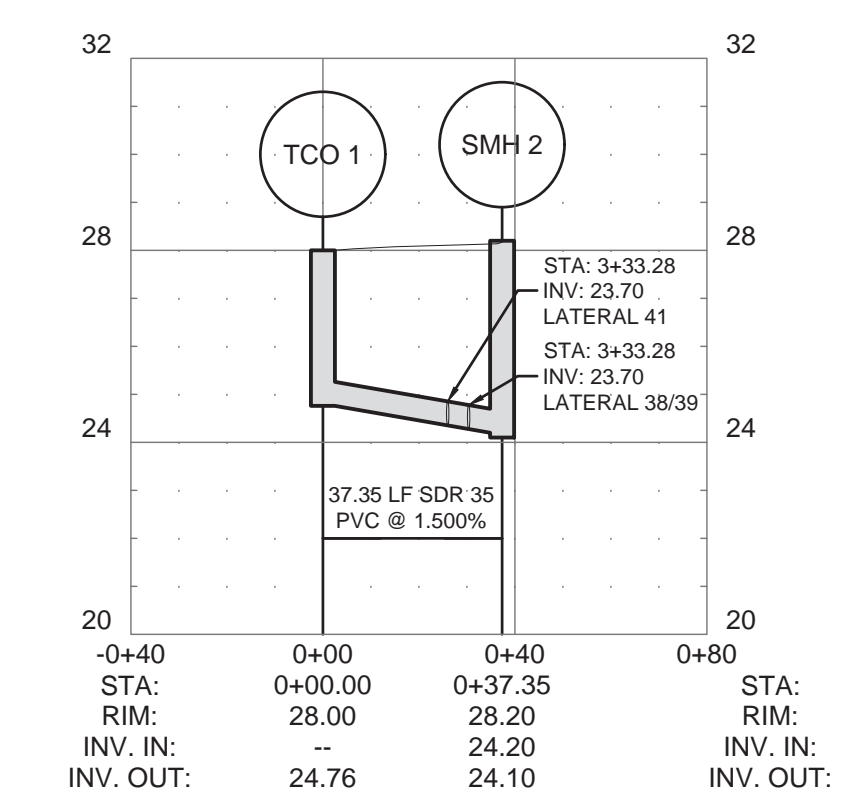
SMH1-SMH6 PROFILE CONT.

1"=4' VERTICAL
 1"=40' HORIZONTAL



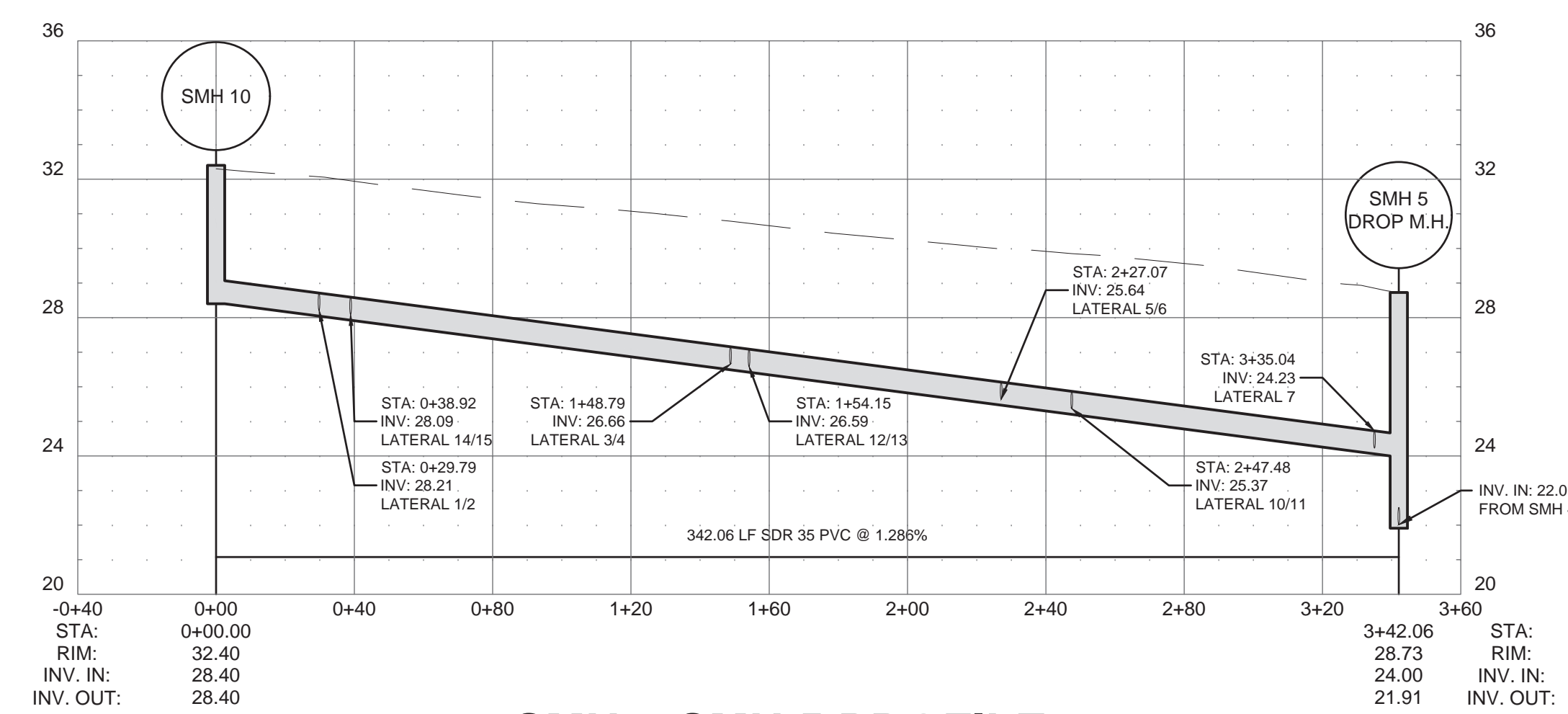
SMH 7-SMH 3 PROFILE

1"=4' VERTICAL
 1"=40' HORIZONTAL



TCO 1-SMH 2 PROFILE

1"=4' VERTICAL
 1"=40' HORIZONTAL



SMH 8-SMH 5 PROFILE

1"=4' VERTICAL
 1"=40' HORIZONTAL

DATE	COMMENTS

Date: MARCH 2024
 Scale: 1" = 40'
 Dwn.By: JML
 Proj.No.: 1897B031

**GRAVITY
 SANITARY
 SEWER
 PROFILE**

Dwg.No.: **C-201**

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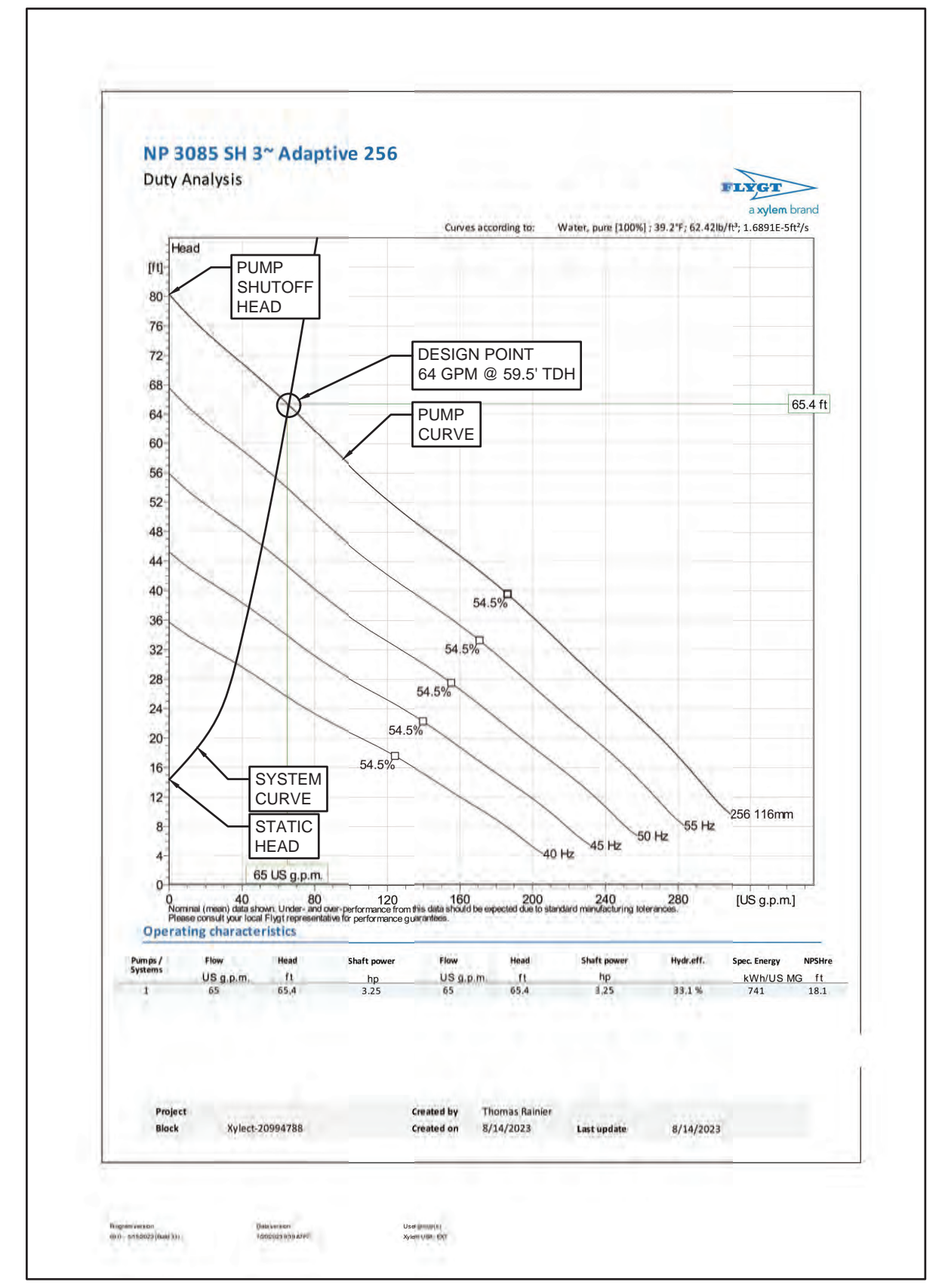
**COUNTRYSIDE HAMLET
 SANITARY SEWER
 SUSSEX COUNTY PROJECT NO. S23-01
 SUSSEX COUNTY, DELAWARE**

DATE	COMMENTS

Date: MARCH 2024
 Scale: NOT TO SCALE
 Dwn.By: JML
 Proj.No.: 1897B031

PUMP STATION ELEVATION

Dwg.No.: **C-401**



PUMPS SHALL BE FLYGT MODEL NP3085 SH3 ADAPTIVE 256 4 HP 60 Hz 230V 3 PHASE

PUMP CURVE
NOT TO SCALE

PUMP STATION NOTES

1. WASTEWATER PIPING INSIDE WET WELL AND VALVE VAULT SHALL BE SCHEDULE 80 PVC PIPE.
2. ALL PRECAST JOINTS SHALL BE FITTED WITH D-LOC JOINT GASKETS.
3. ALL WET WELL AND VALVE VAULT PIPE PENETRATIONS TO BE FITTED WITH A-LOK RESILIENT SEAL JOINT.
4. APPLY 2 COATS OF WATER PROOF COAL TAR EPOXY ON EXTERIOR OF WET WELL. (MIN. THICKNESS OF 30 MILS)
5. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS FOR PROPER REMOVAL OF PUMPS PRIOR TO ORDERING HATCH.
6. ALL METALS INSIDE WET WELL AND VALVE VAULT ARE TO BE STAINLESS STEEL, UNLESS NOTED OTHERWISE.
7. PUMP OFF FLOAT ALSO TO ALTERNATE LEAD/LAG SEQUENCING.
8. CONTRACTOR TO PROVIDE SEAL OFF FITTINGS FOR ALL ELECTRICAL CONDUIT.
9. REINFORCED PRECAST CONCRETE WETWELL SHALL BE DESIGNED FOR H20 VEHICLE SURCHARGE LOADING ADJACENT TO STRUCTURE.

SANITARY FLOW DATA

PROPOSED AVERAGE DAILY FLOW:
 ON SITE 184 EDU'S x 250 G.P.D. = 46,000 G.P.D.

PUMP STATION WET WELL SIZING

PEAK DESIGN FLOW: (46,000 GPD / 1440 MIN./DAY) x 2.0 (P.F.) = 64 GPM

WET WELL VOLUME MIN.
 VMIN = 7.5 MIN. x 64 GPM = 240 GAL (32.08 CF)

WET WELL VOLUME PER VERTICAL FOOT:
 147 GAL (19.65 CF)

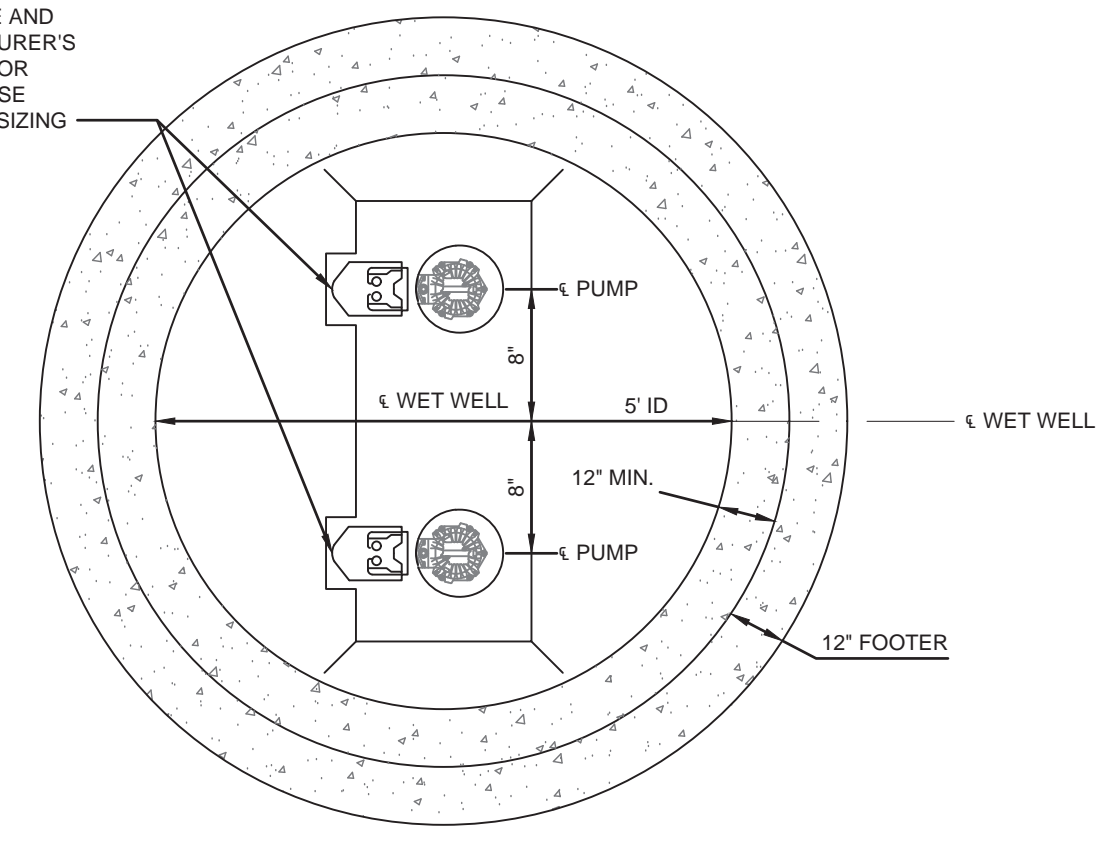
DISTANCE FROM PUMP ON TO PUMP OFF (MIN):
 (240 GAL / 17.48 GAL/CF) / 28.21 CF = 1.63 FT.

PUMP DESIGN DATA

FORCE MAIN LENGTH:
 3 INCH PVC SCH 80: 105 ± FT.
 3 INCH HDPE TFS DR11: 2,360 ± FT.
 6 INCH PVC SCH 80: 14 ± FT.

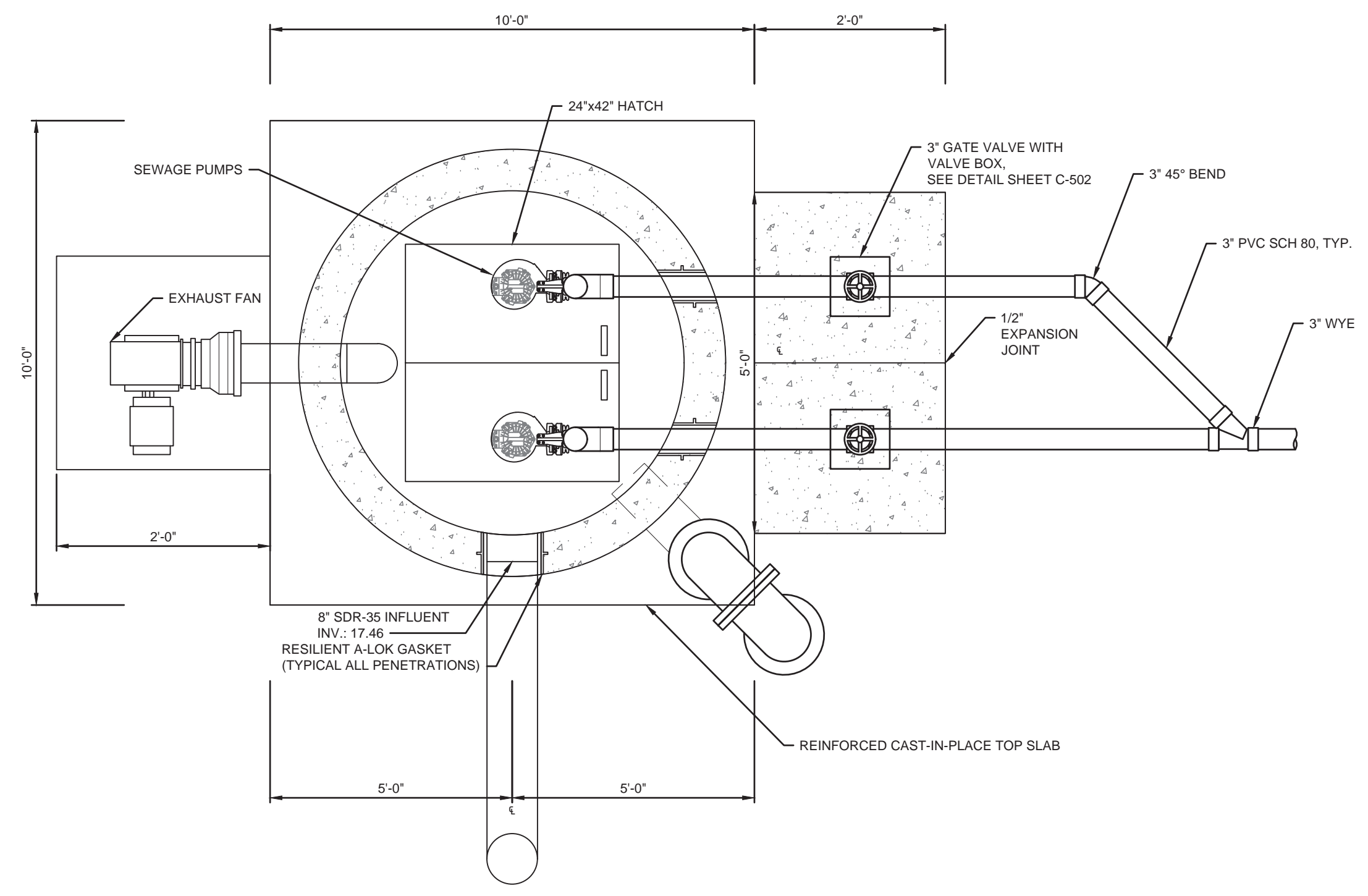
FORCE MAIN VELOCITY (AT 64 GPM):
 3 INCH FORCEMAIN: 3.23 FPS
 STATIC HEAD: 14.43 FT.

FORCE MAIN LOSSES:
 TOTAL MINOR LOSSES: Hm = 11.62 FT.
 TOTAL FRICTION LOSSES: Hf = 33.32 FT.
 TOTAL VELOCITY LOSSES: Hv = 0.18 FT.
 TOTAL HEAD: 59.53 FT.

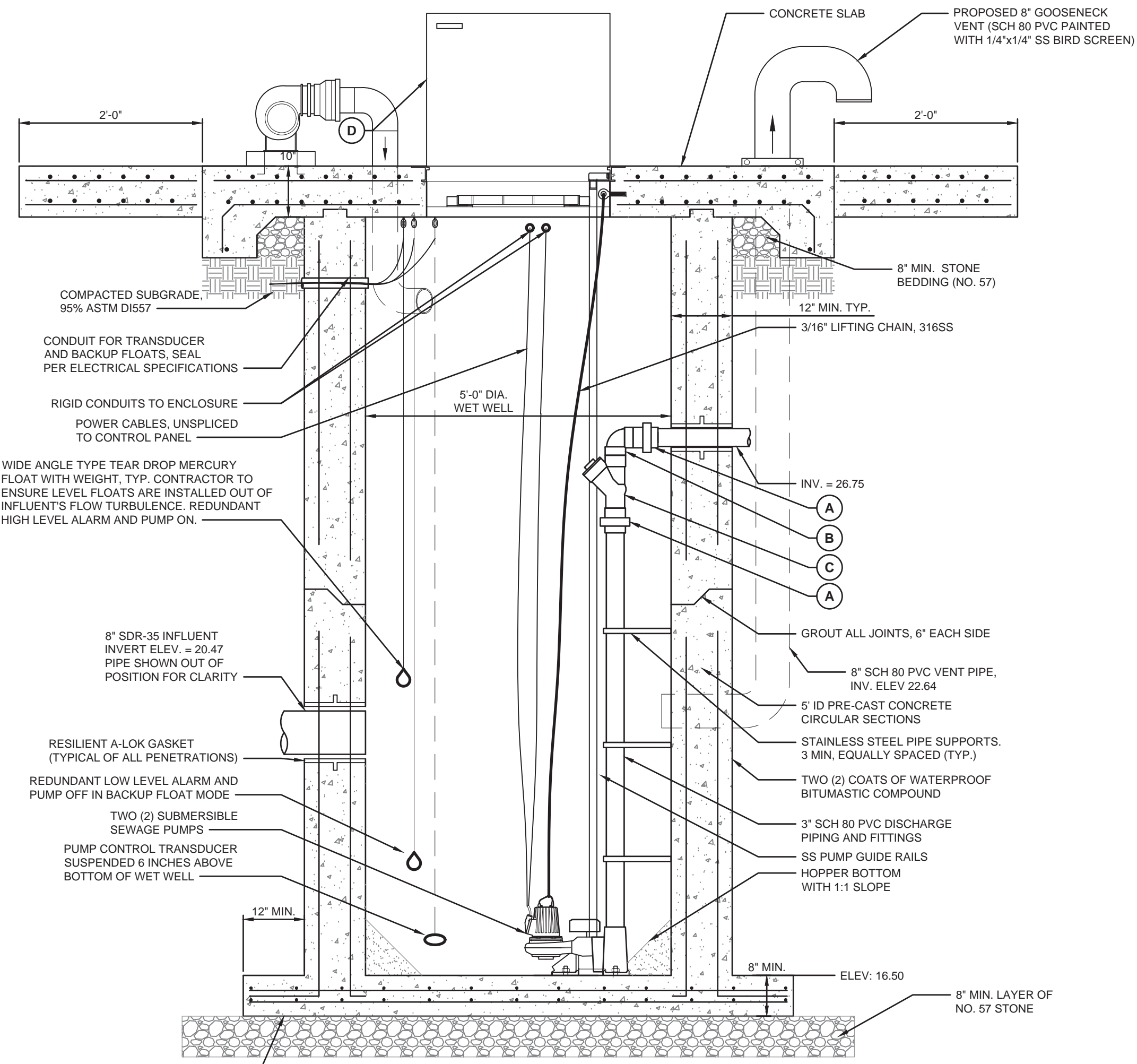


BASE PLAN VIEW
NOT TO SCALE

PUMP MOUNTING BASE AND RAILS, SEE MANUFACTURER'S RECOMMENDATIONS FOR ANCHOR BOLT AND BASE PLATE STACKING AND SIZING



PUMP STATION PLAN VIEW
NOT TO SCALE

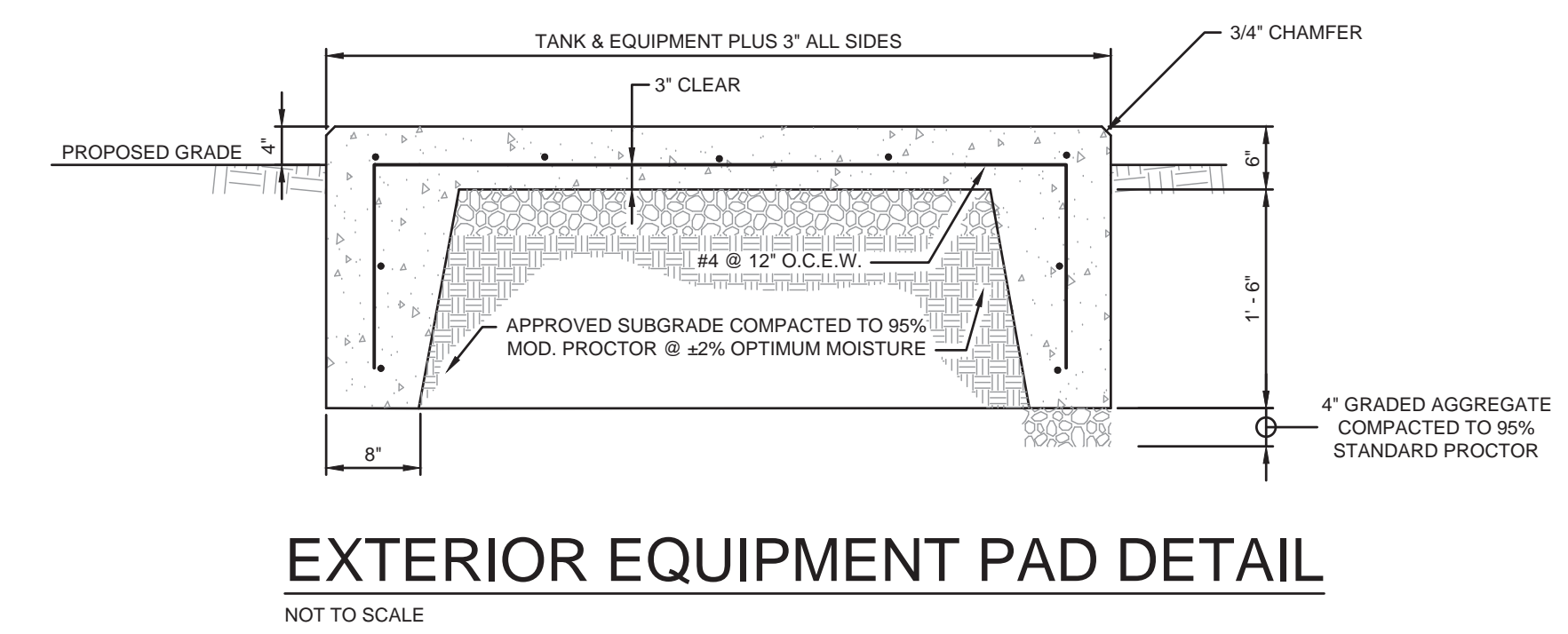
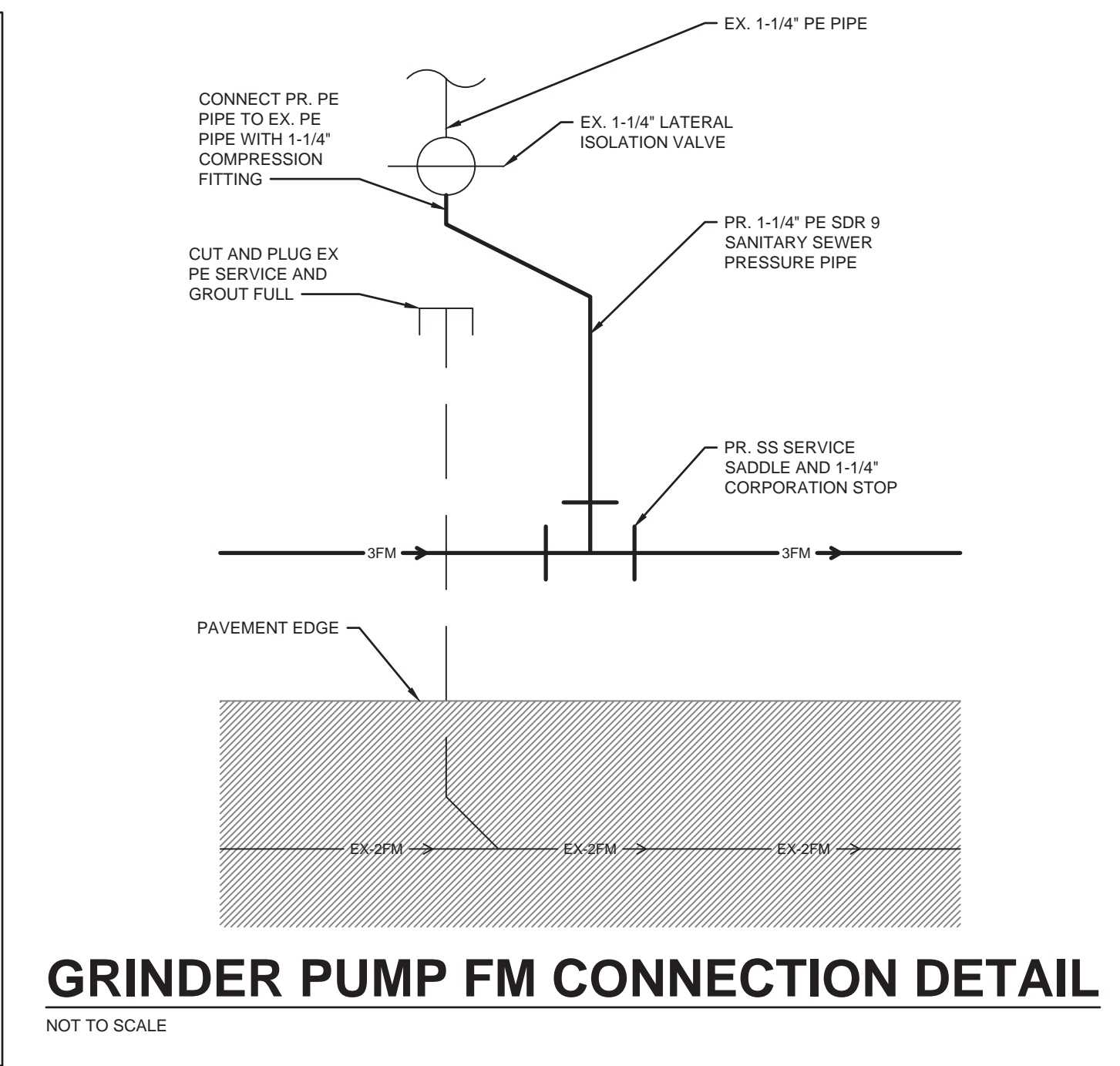
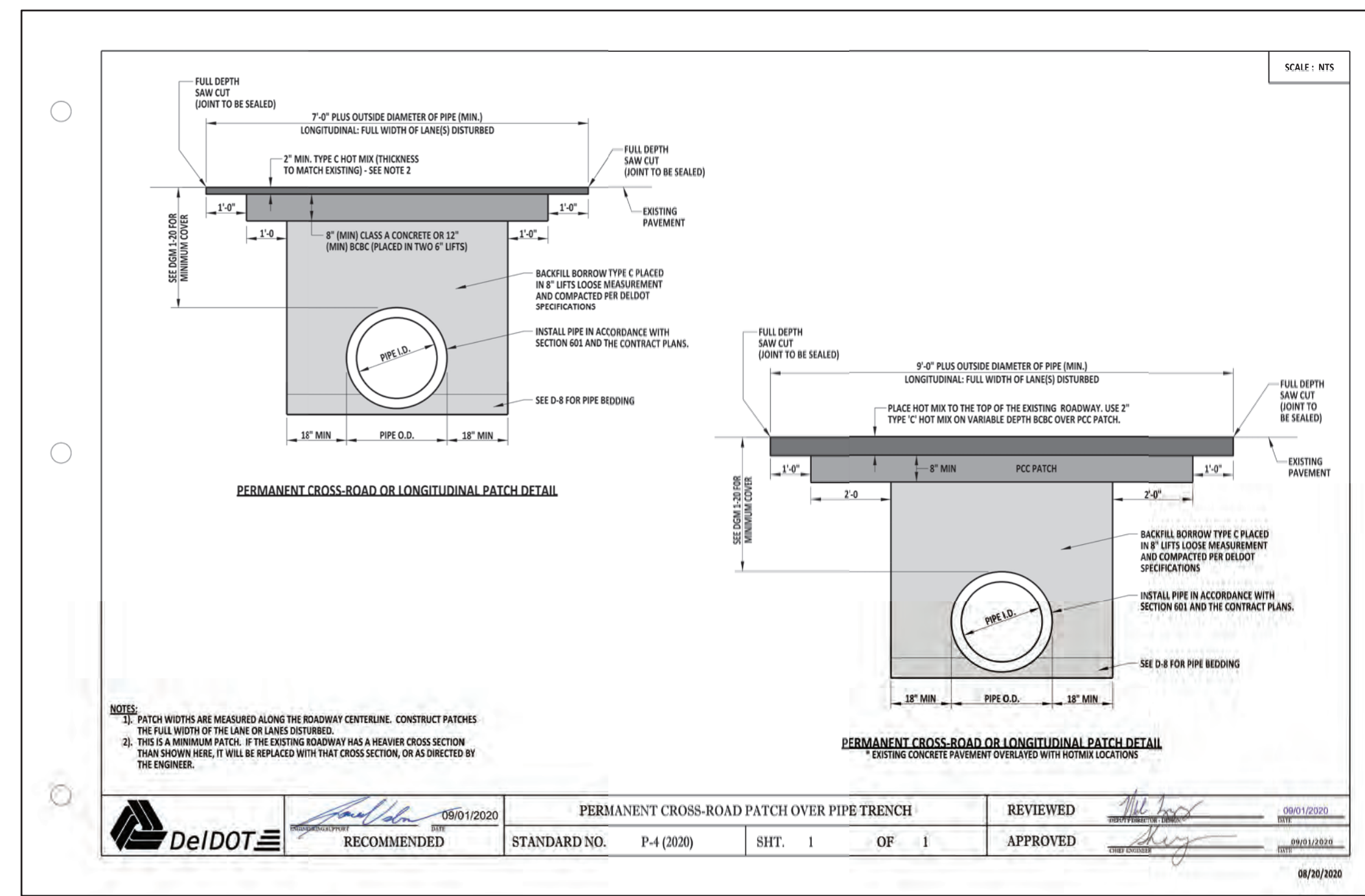


PUMP STATION SECTION
NOT TO SCALE

PUMP OPERATING LEVELS	
8" INVERT IN	20.47
HIGH LEVEL ALARM	20.25
LAG PUMP ON	20.00
LEAD PUMP ON	19.75
PUMPS OFF	18.00
LOW LEVEL ALARM	17.50
WET WELL BOTTOM	16.50

FITTINGS LEGEND	
A	3" UNION (SOCKET x FEMALE NPT)
B	3" SCH 80 PVC 90°
C	3" NPT PVC BALL CHECK VALVE
D	HATCH W/ SAFETY GRATE; 24"x42" ACCESS CLEAR OPENING

L:\1897B Sussex County\1897B031 Countryside Hamlet Sewer\DESIGN\DWG\C-401 - Pump Station Elevation.dwg Mar 14, 2024 4:42:30pm JML



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**COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE**

DATE	COMMENTS

Date: MARCH 2024
Scale: AS SHOWN
Dwn.By: JML
Proj.No.: 1897B031

SITE DETAILS

Dwg.No.: **C-503**



LANDS N/F
ROBERT H. DAVIS, TRUSTEE
TM# 433-11.00-18.00
DB 4423 PG 8

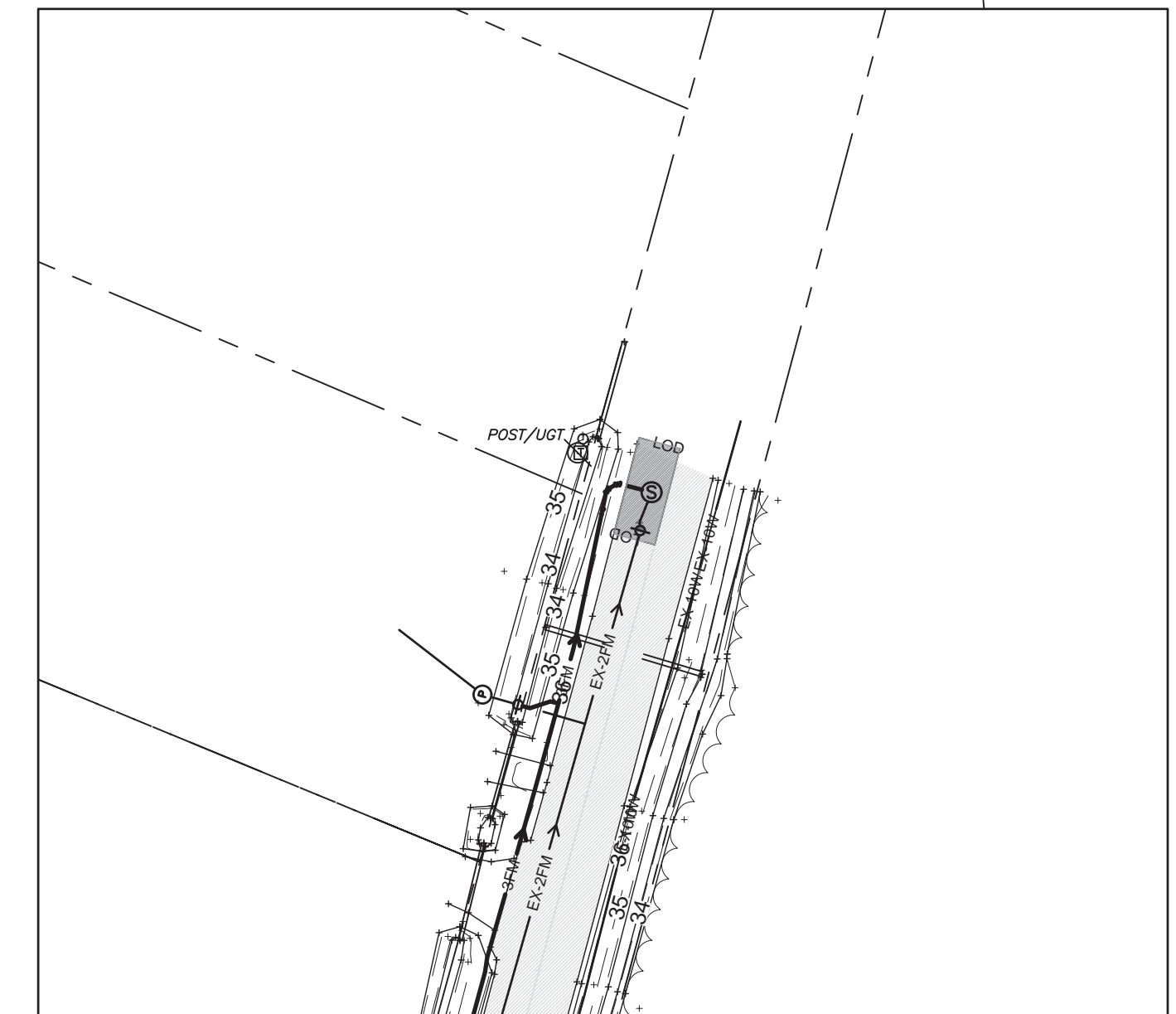
LANDS N/F
1910 DELAWARE AVE
RANKFORD DE, LLC
TM# 433-11.00-17.01
DB 5773 PG 111

LANDS N/F
34913 DELAWARE AVE
FRANKFORD DE, LLC
TM# 433-11.00-17.00
DB 5801 PG 265

LANDS N/F
WESLEY H. HAYES, SR.
TM# 433-11.00-19.00
DB 2569 PG 224

ESC PLAN
1" = 40'

GRAVITY SEWER LIMIT OF DISTURBANCE: .251 ACRES (10870.1954 SF)
PUMP STATION LIMIT OF DISTURBANCE: .222 ACRES (9719.0298 SF)
TOTAL LIMIT OF DISTURBANCE: .473 ACRES (20589.2252 SF)



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SANITARY SEWER
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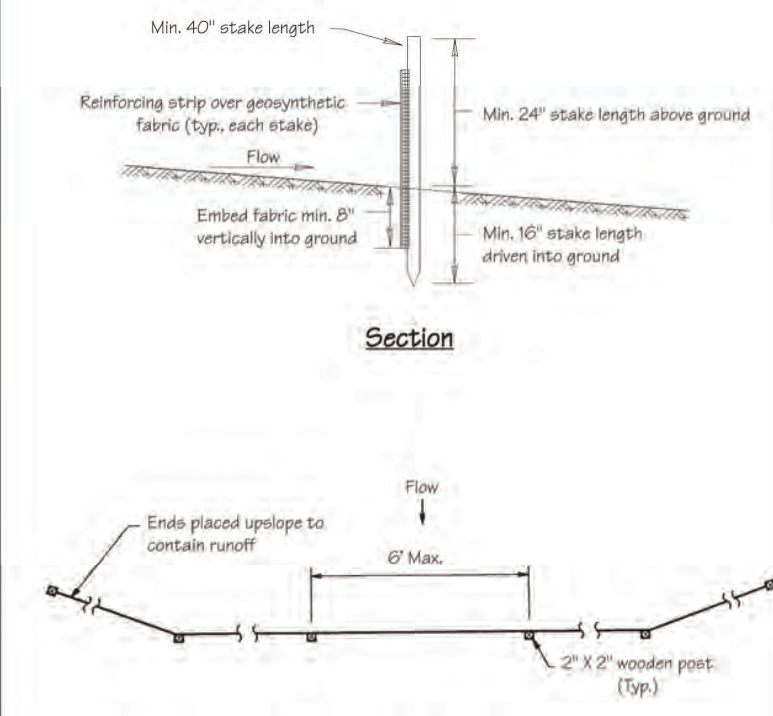
ESC PLAN

Dwg.No.: **CG101**

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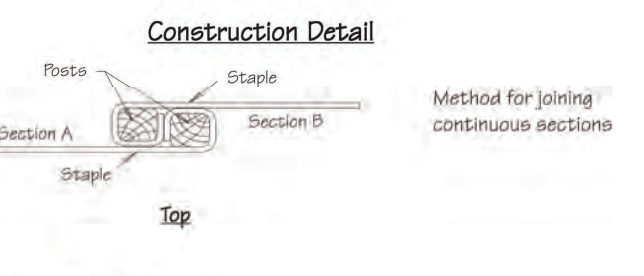
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Standard Detail & Specifications
Silt Fence



Source: Adapted from MD Stds. & Specs. for ESC
Symbol: SF
Detail No. DE-ESC-3.1.2.1
Sheet 1 of 2
Effective July 2023

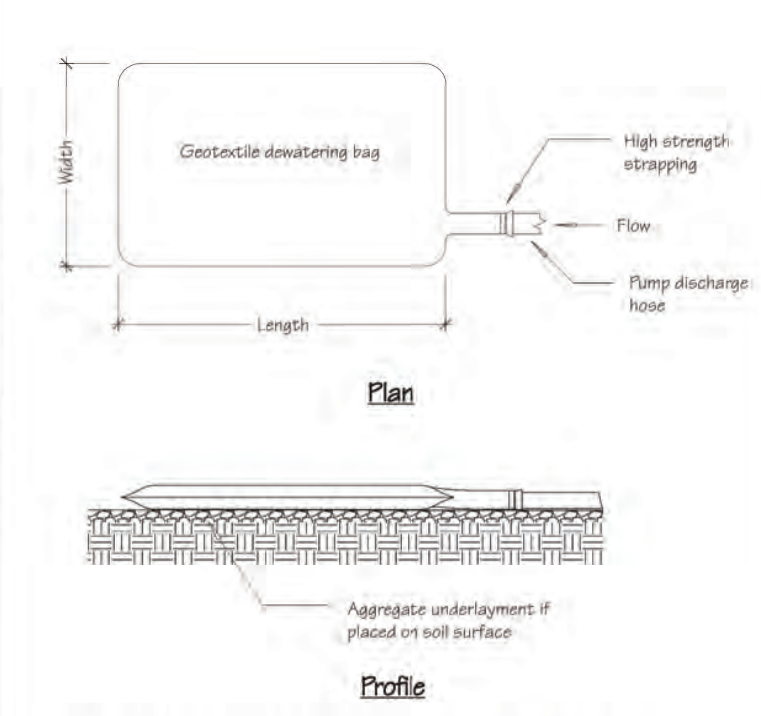
Standard Detail & Specifications
Silt Fence



- Construction Notes:
- Geosynthetic fabric to be fastened securely to fence posts with wire ties or staples.
 - When two sections of filter cloth adjoin each other they shall be overlapped by six inches and folded.
 - Maintenance shall be performed as needed and material removed when "bulges" develop in the silt fence.
- Materials:
- Stakes: Steel (either T or U) or 2" x 2" hardwood
 - Geosynthetic Fabric: Type GD4
 - Reinforcing strip: Wooden lath or plastic strip

Source: Adapted from MD Stds. & Specs. for ESC
Symbol: SF
Detail No. DE-ESC-3.1.2.1
Sheet 2 of 2
Effective July 2023

Standard Detail & Specifications
Geotextile Dewatering Bag



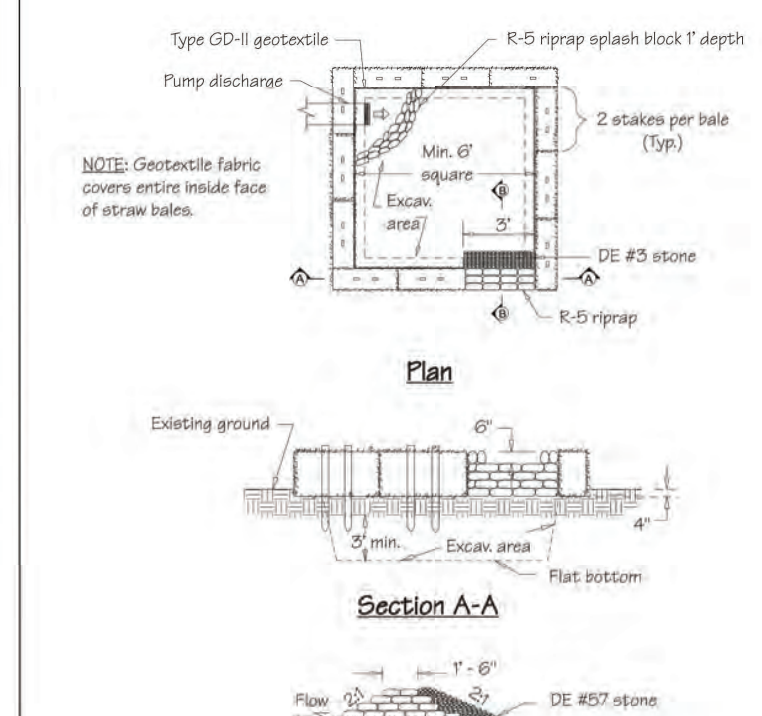
Source: Adapted from ACF Products, Inc.
Symbol: GB
Detail No. DE-ESC-3.2.1.2
Sheet 1 of 2
Effective July 2023

Standard Detail & Specifications
Geotextile Dewatering Bag

- Construction Notes:
- The dewatering bag should be placed so the incoming water flows into and through the bag, and then flow off the site without creating more erosion. The neck should be tied off lightly to stop the water from flowing out of the bag without going through the walls. The dewatering bag should be placed on a gravel bed to allow water to flow in all directions.
 - The dewatering bag is considered full and should be disposed when it is impractical for the bag to filter the sediment out at a reasonable flow rate. At this point, it should be replaced with a new bag.
 - Disposal may be accomplished as directed by the construction reviewer. If the site allows, the bag may be buried on site and seeded, visible fabric removed and seeded or removed from site to a proper disposal area.
- Materials:
- The geotextile fabric shall be a Type GD4V.
 - The dewatering bag shall be sewn with a double needle machine using high strength thread. All structural seams will be sewn with high strength, double stitched "I" type. Seams strength test will have the following minimum average roll values:
- | Type | TEST METHOD | TEST RESULT |
|------------|-------------|-------------|
| Heavy duty | ASTM D-4884 | 100 lb/in |
- The dewatering bag shall have an opening large enough to accommodate a four (4) inch discharge hose with attached filter to tie off the hose to prevent the pumped water from escaping from the bag without being filtered.

Source: Adapted from ACF Products, Inc.
Symbol: GB
Detail No. DE-ESC-3.2.1.2
Sheet 2 of 2
Effective July 2023

Standard Detail & Specifications
Dewatering Basin - Type 1



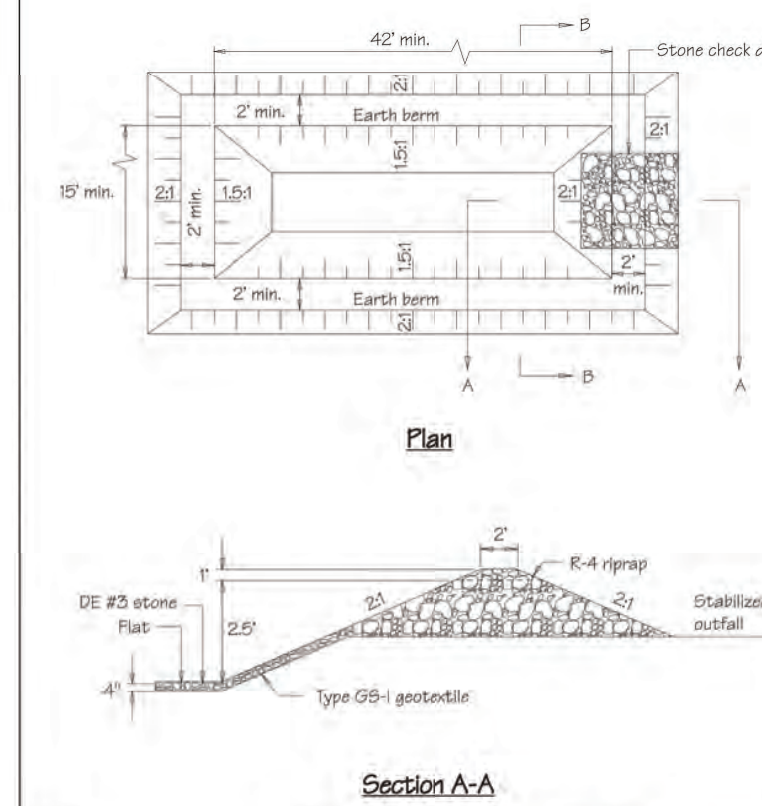
Source: Adapted from VA ESC Handbook
Symbol: DWB-1
Detail No. DE-ESC-3.2.4.1
Sheet 1 of 2
Effective July 2023

Standard Detail & Specifications
Dewatering Basin - Type 1

- Construction Notes:
- Capacity of the basin shall be based on the following formula:
Pump discharge (gpm) x 16 = cubic feet of storage required
 - Available volume shall be measured from the floor of the excavation to the crest of the stone weir.
 - The excavated area shall be a min. of 3' below the base of the straw bales.
 - Once the water level reaches the crest of the stone weir, the pump shall be shut off while the structure drains down to the elevation of the wet storage.
 - The wet storage area may be dewatered only after a min. of 6 hours of sediment settling time. The effluent shall be pumped across a well vegetated area or through a silt fence prior to entering a watercourse.
 - Once the wet storage area becomes filled to one-half of the excavated depth, accumulated sediment shall be removed and properly disposed.
 - The straw bales and/or geotextile fabric shall be inspected on a regular basis and shall be repaired or replaced once sediment prevents the structure from functioning as designed.

Source: Adapted from VA ESC Handbook
Symbol: DWB-1
Detail No. DE-ESC-3.2.4.1
Sheet 2 of 2
Effective July 2023

Standard Detail & Specifications
Dewatering Basin - Type 2



Source: Adapted from DelDOT Stds. & Specs.
Symbol: DWB-2
Detail No. DE-ESC-3.2.4.2
Sheet 1 of 2
Effective July 2023

Standard Detail & Specifications
Dewatering Basin - Type 2

- Construction Notes:
- Length of the basin shall be based on the following formula:
Top length (ft) = 26 + .01 x pump discharge (gpm)
 - Basin shall have a min. length of 42 feet, a min. width of 15 feet and a min. depth of 3.5 feet as measured from the floor to the top of the berm.
 - Excess excavated material shall be stockpiled in accordance with the approved plan and surface runoff shall be diverted around the basin.
 - The outlet from the basin to the receiving water shall be stabilized. If used in conjunction with the installation of a collar dam, dewatering shall begin no sooner than 12 hours after collar dam is completed in order to allow settling of sediment prior to discharge.
 - Pumping into the basin shall cease when the effluent from the basin becomes sediment-laden.
 - Accumulated sediment shall be removed and disposed of in an approved disposal area when the basin is filled to within 18 inches of the crest of the weir.

Source: Adapted from DelDOT Stds. & Specs.
Symbol: DWB-2
Detail No. DE-ESC-3.2.4.2
Sheet 2 of 2
Effective July 2023

Standard Detail & Specifications
Topsoiling

- Construction Notes:
- Site Preparation (Where Topsoil is to be added)
Note: When topsoiling, maintain needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, waterways and sediment basins.
a. Grading - Grades on the areas to be topsoiled which have been previously established shall be maintained.
b. Liming - Where the topsoil is either highly acid or composed of heavy clays, ground limestone shall be spread at the rate of 4-8 tons/acre (200-400 pounds per 1,000 square feet). Lime shall be distributed uniformly over designated areas and worked into the soil in conjunction with tillage operations as described in the following procedures.
c. Tilling - After the areas to be topsoiled have been brought to grade, and immediately prior to dumping and spreading the topsoil, the subgrade shall be tilled by discing or by scarifying to a depth of at least 3 inches to permit bonding of the topsoil to the subsoil. Pluck by passing a bulldozer up and down over the entire surface area of the slope to create horizontal erosion check slots to prevent topsoil from sliding down the slope.
 - Topsoil Material and Application
Note: Topsoil salvaged from the existing site may often be used but it should meet the same standards as set forth in these specifications. The depth of topsoil to be salvaged shall be no more than the depth described as a representative profile for that particular soil type as described in the soil survey published by USDA-SCS in cooperation with Delaware Agricultural Experimental Station.

Source: USDA - NRCS
Symbol: DWB-2
Detail No. DE-ESC-3.4.1
Sheet 1 of 2
Effective July 2023

Standard Detail & Specifications
Topsoiling

- Construction Notes (cont.)
- Materials - Topsoil shall be a loam, sandy loam, clay loam, silt loam, sandy clay loam, loamy sand or other soil as approved by an agronomist or soil scientist. It shall not have a mixture of contrasting textured soils and contain no more than 5 percent by volume of cinders, stones, slag, coarse fragment, gravel, sticks, roots, trash or other extraneous materials larger than 1-1/2 inches in diameter. Topsoil must be free of plants or plant parts of bermudagrass, quackgrass, Johnsongrass, nutgrass, poison ivy, thistles, or others as specified. All topsoil shall be tested by a reputable laboratory for organic matter content, pH and soluble salts. A pH of 6.0 to 7.5 and an organic content of not less than 1.5 percent by weight is required. If pH value is less than 6.0 lime shall be applied and incorporated with the topsoil to adjust the pH to 6.5 or higher. Topsoil containing soluble salts greater than 500 parts per million shall not be used.
Note: No sod or seed shall be placed on soil which has been treated with soil sterilant or chemicals used for weed control until sufficient time has elapsed to permit dissipation of toxic materials.
 - Grading - The topsoil shall be uniformly distributed and compacted to a minimum of four (4) inches. Spreading shall be performed in such a manner that seeding or sodding can proceed with a minimum of additional soil preparation and tillage. Any irregularities in the surface resulting from topsoiling or other operations shall be corrected in order to prevent the formation of depressions or water pockets. Topsoil shall not be placed within a frozen or muddy condition, when the subgrade is excessively wet, or in a condition that may otherwise be detrimental to proper grading and seedbed preparation.
- Note: Topsoil substitutes or amendments as approved by a qualified agronomist or soil scientist, may be used in lieu of natural topsoil. Compost material used to improve the percentage of organic matter shall be provided by a certified supplier.
- Compost amendments that are intended to meet specific post-construction stormwater management goals shall further meet the requirements of Appendix 3.06.2 Post Construction Stormwater Management BMP Standards and Specifications, Section 14.0 Soil Amendments.

Source: USDA - NRCS
Symbol: DWB-2
Detail No. DE-ESC-3.4.1
Sheet 2 of 2
Effective July 2023

Standard Detail & Specifications
Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES									
No. #	Species*	Seeding Rate	Optimum Seeding Dates*	Planting Depth†	Remarks				
Cultivated Seed									
1	Barley	135 4 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
2	Oats	135 4 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
3	Rye	135 4 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
4	Perennial Ryegrass	135 4 0 0 A 10 0 A 0	10/10/23 - 11/15/23	0.5 inches	1" straw mulch				
5	Annual Ryegrass	135 4 0 0 A 10 0 A 0	10/10/23 - 11/15/23	0.5 inches	1" straw mulch				
6	Winter Wheat	135 4 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
7	Fescue Mixture	30 PLS 0 7 0 0 0	10/10/23 - 11/15/23	0.5 inches	1" straw mulch				
8	Peat Moss	20 PLS 0 5 0 0 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				

1. Winter seeding requires 3 tons per acre of straw for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Application on slopes 3:1 or less.
4. Use seedlings currently recommended for Delaware. Contact a County Extension Office for information.
5. Warm season grasses such as Millet may be used between 5/1 and 9/1 if allowed. Seed at 3-5 lb. per acre. Oper on low fertility and acid soils. Seed after frost through summer at a depth of 0.7".
- NOTE: Alternative seed mixes may be used with prior approval from the Department or Designated Agency.

Source: Delaware ESC Handbook
Symbol: DWB-2
Detail No. DE-ESC-3.4.3
Sheet 1 of 4
Effective July 2023

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES									
No. #	Species*	Seeding Rate†	Optimum Seeding Dates*	Planting Depth†	Remarks				
Well Drained Soils									
1	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
2	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
3	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
4	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
5	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
6	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
7	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
8	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
9	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
10	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				

1. When topsoiling is the chosen method of application, the seed rate shall be increased by 20%.
2. All seed that meet the Delaware and/or national general seed standards recommended by the Delaware Department of Agriculture. The Delaware Department of Agriculture shall be consulted for information on seed quality and testing procedures.
3. Surface erosion may be prevented throughout summer if seed mixture is applied in a timely and/or seeded area can be irrigated.
4. It is recommended that all topsoiling be done in the fall.
5. Warm season grasses such as Millet may be used between 5/1 and 9/1 if allowed. Seed at 3-5 lb. per acre. Oper on low fertility and acid soils. Seed after frost through summer at a depth of 0.7".
6. Winter seeding requires 3 tons per acre of straw for proper stabilization.
7. Winter seeding requires 3 tons per acre of straw for proper stabilization.
- NOTE: Alternative seed mixes may be used with prior approval from the Department or Designated Agency.

Source: Delaware ESC Handbook
Symbol: DWB-2
Detail No. DE-ESC-3.4.3
Sheet 2 of 4
Effective July 2023

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES (cont.)									
No. #	Species*	Seeding Rate†	Optimum Seeding Dates*	Planting Depth†	Remarks				
Well Drained Soils (cont.)									
11	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
12	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
13	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
14	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
15	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
16	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
17	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
18	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
19	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				
20	Grass Seed Blend	180 3 0 0 A 10 0 A 0	10/10/23 - 11/15/23	1.2 inches	2" straw mulch				

1. When topsoiling is the chosen method of application, the seed rate shall be increased by 20%.
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6. Winter seeding requires 3 tons per acre of straw for proper stabilization.
7. Winter seeding requires 3 tons per acre of straw for proper stabilization.
- NOTE: Alternative seed mixes may be used with prior approval from the Department or Designated Agency.

Source: Delaware ESC Handbook
Symbol: DWB-2
Detail No. DE-ESC-3.4.3
Sheet 3 of 4
Effective July 2023

Standard Detail & Specifications
Vegetative Stabilization

- Construction Notes:
- Site Preparation
a. Prior to seeding, install needed erosion and sediment control practices such as diversions, grade stabilization structures, berms, dikes, grassed waterways, and sediment basins.
b. Final grading and shaping is not necessary for temporary seedings.
 - Seedbed Preparation
It is important to prepare a good seedbed to ensure the success of establishing vegetation. The seedbed should be well prepared, loose, uniform, and free of large clods, rocks, and other objectionable material. The soil surface should not be compacted or crusted.
 - Soil Amendments
a. Lime - Apply liming materials based on the recommendations of a soil test in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply dolomitic limestone at the rate of 1-2 tons per acre. Apply limestone uniformly and incorporate into the top 4 to 6 inches of soil.
b. Fertilizer - Apply fertilizer based on the recommendations of a soil test in accordance with the approved nutrient management plan. If a nutrient management plan is not required, apply a formulation of 10-10-10 at the rate of 600 pounds per acre. Apply fertilizer uniformly and incorporate into the top 4 to 6 inches of soil.
 - Seeding
a. For temporary stabilization, select a mixture from Sheet 1. For a permanent stabilization, select a mixture from Sheet 2 or Sheet 3 depending on the conditions. Alternative seed mixes may be used with prior approval from the Department or Designated Agency.
b. Apply seed uniformly at the broadcast seed rate, cultipacker seed rate or hydroseeder. All seed will be applied at the recommended rate and planting depth.
c. Seed that has been broadcast should be covered by raking or dragging and then lightly tamped into place using a roller or cultipacker. If hydroseeding is used and the seed and fertilizer is mixed, they will be mixed on site and the seeding shall be done immediately and without interruption.
 - Mulching
All mulching shall be done in accordance with detail DE-ESC-3.4.5.

Source: Delaware ESC Handbook
Symbol: DWB-2
Detail No. DE-ESC-3.4.3
Sheet 4 of 4
Effective July 2023

Standard Detail & Specifications
Mulching

1. Materials and Amounts
- Straw - Straw shall be unrotted small grain straw applied at the rate of 1-1/2 to 2 tons per acre, or 70 to 80 pounds live bales per 1,000 square feet. Mulch materials shall be relatively free of weeds and shall be free of noxious weeds such as: Thistles, Johnsongrass, and quackgrass. Spread mulch uniformly by hand or mechanically. For uniform distribution of hard annual mulch, divide area into approximately 1,000 square feet sections and place 70-80 pounds (two bales) of mulch in each section.
 - Woodchips - Apply at the rate of approximately 6 tons per acre or 275 pounds per 1,000 square feet when available and when feasible. These are particularly well suited for utility and road right-of-way. If wood chips are used, increase the application rate of nitrogen fertilizer by 200 pounds of N per acre (200 pounds of 10-10-10 or 88 pounds of 20-20-20 per acre).
 - Hydraulically applied mulch - The following conditions apply to hydraulically applied mulch:
 - Definitions:
 - Wood fiber mulch shall consist of specially prepared wood that has been processed to a uniform state, is packaged for sale as a hydraulic mulch for use with hydraulic seeding equipment, and consists of a minimum of 70% virgin or recycled wood fiber combined with 30% paper fiber and additives.
 - Blended fiber mulch shall consist of any hydraulic mulch that contains greater than 30% paper fiber. The paper component must consist of specially prepared paper that has been processed to a uniform fibrous state and is packaged for sale as a hydraulic mulch for use with hydraulic seeding equipment.
 - A bonded fiber matrix (BFM) consists of long strand, specially prepared wood fibers that have been processed to a uniform state held together by a water resistant bonding agent. BFM shall contain no paper (cellulose) that may contain small percentages of synthetic fibers to enhance performance.
 - Refer to Figure 3.4.5a for conditions and limitations of use for each of the above categories of hydraulic mulch.
 - All components of the hydraulically applied mulches shall be pre-packaged by the manufacturer to assure material performance. Fielding of the mulch components is acceptable, but must be done per manufacturer's recommendations to ensure the proper results.
 - Hydraulic mulches shall be applied with a viable seed and at manufacturer's recommended rates. Increased rates may be necessary based on site conditions.
 - Hydraulically applied mulches and additives shall be mixed according to manufacturer's recommendations.
 - Materials within this category shall only be used when hydraulically applied mulch has been specified for use on the approved Erosion and Stormwater Plan, or supplemental approval from the plan approval agency has been obtained in writing for a specific area.

Source: Delaware ESC Handbook & Filtrix™ International
Symbol: DWB-2
Detail No. DE-ESC-3.4.5
Sheet 1 of 3
Effective July 2023

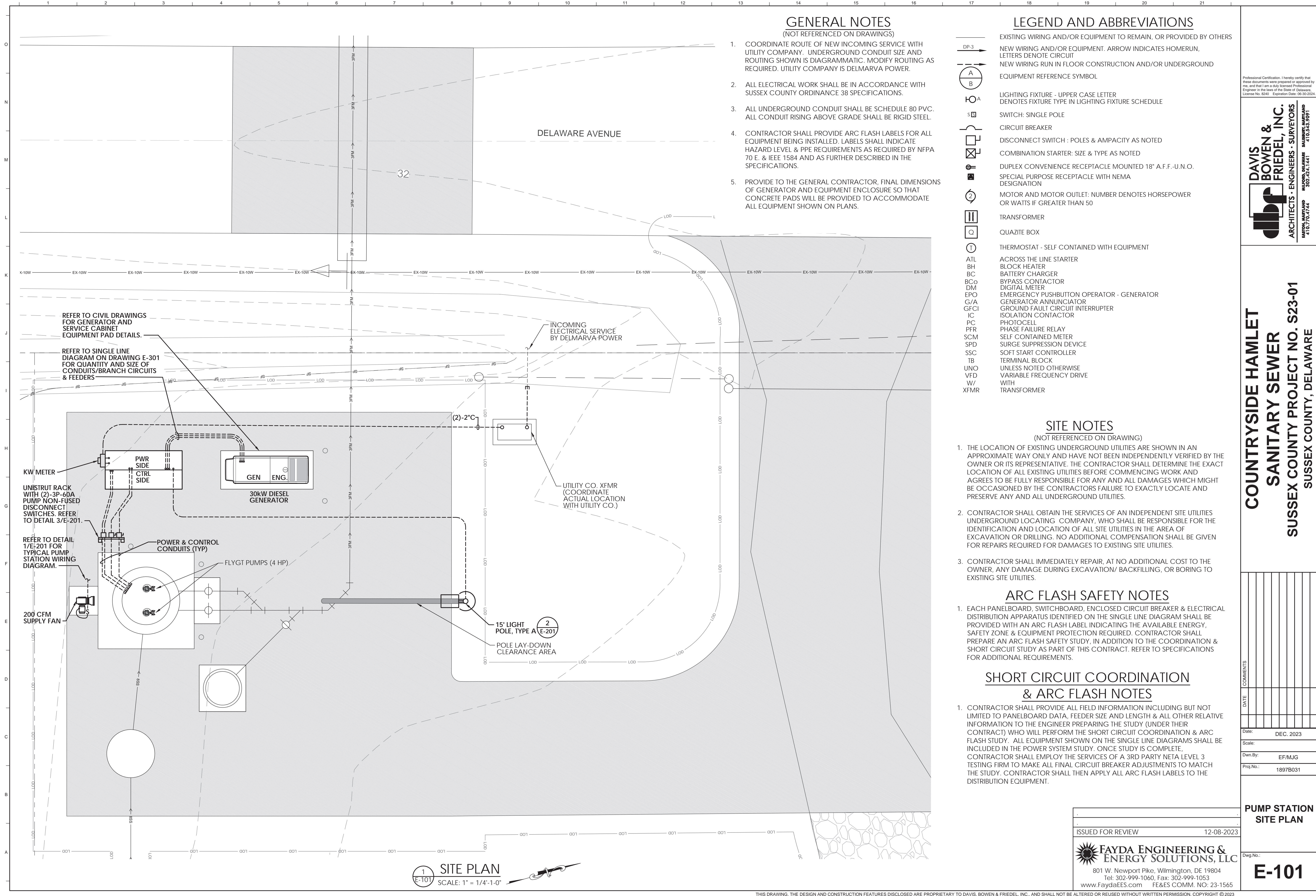
Professional Engineer
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COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE

DATE	COMMENTS
MARCH 2024	

Date: MARCH 2024
Scale: NOT TO SCALE
Dwn. By: JML
Proj. No.: 1897B031

ESC DETAILS
CG501



GENERAL NOTES

(NOT REFERENCED ON DRAWINGS)

- COORDINATE ROUTE OF NEW INCOMING SERVICE WITH UTILITY COMPANY. UNDERGROUND CONDUIT SIZE AND ROUTING SHOWN IS DIAGRAMMATIC. MODIFY ROUTING AS REQUIRED. UTILITY COMPANY IS DELMARVA POWER.
- ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY ORDINANCE 38 SPECIFICATIONS.
- ALL UNDERGROUND CONDUIT SHALL BE SCHEDULE 80 PVC. ALL CONDUIT RISING ABOVE GRADE SHALL BE RIGID STEEL.
- CONTRACTOR SHALL PROVIDE ARC FLASH LABELS FOR ALL EQUIPMENT BEING INSTALLED. LABELS SHALL INDICATE HAZARD LEVEL & PPE REQUIREMENTS AS REQUIRED BY NFPA 70 E. & IEEE 1584 AND AS FURTHER DESCRIBED IN THE SPECIFICATIONS.
- PROVIDE TO THE GENERAL CONTRACTOR, FINAL DIMENSIONS OF GENERATOR AND EQUIPMENT ENCLOSURE SO THAT CONCRETE PADS WILL BE PROVIDED TO ACCOMMODATE ALL EQUIPMENT SHOWN ON PLANS.

LEGEND AND ABBREVIATIONS

- EXISTING WIRING AND/OR EQUIPMENT TO REMAIN, OR PROVIDED BY OTHERS
- NEW WIRING AND/OR EQUIPMENT. ARROW INDICATES HOMERUN, LETTERS DENOTE CIRCUIT
- NEW WIRING RUN IN FLOOR CONSTRUCTION AND/OR UNDERGROUND
- EQUIPMENT REFERENCE SYMBOL
- LIGHTING FIXTURE - UPPER CASE LETTER DENOTES FIXTURE TYPE IN LIGHTING FIXTURE SCHEDULE
- SWITCH: SINGLE POLE
- CIRCUIT BREAKER
- DISCONNECT SWITCH : POLES & AMPACITY AS NOTED
- COMBINATION STARTER: SIZE & TYPE AS NOTED
- DUPLEX CONVENIENCE RECEPTACLE MOUNTED 18" A.F.F.-U.N.O.
- SPECIAL PURPOSE RECEPTACLE WITH NEMA DESIGNATION
- MOTOR AND MOTOR OUTLET: NUMBER DENOTES HORSEPOWER OR WATTS IF GREATER THAN 50
- TRANSFORMER
- QUAZITE BOX
- THERMOSTAT - SELF CONTAINED WITH EQUIPMENT
- ATL ACROSS THE LINE STARTER
- BH BLOCK HEATER
- BC BATTERY CHARGER
- BCo BYPASS CONTACTOR
- DM DIGITAL METER
- EPO EMERGENCY PUSHBUTTON OPERATOR - GENERATOR
- G/A GENERATOR ANNUNCIATOR
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- IC ISOLATION CONTACTOR
- PC PHOTOCCELL
- PFR PHASE FAILURE RELAY
- SCM SELF CONTAINED METER
- SPD SURGE SUPPRESSION DEVICE
- SSC SOFT START CONTROLLER
- TB TERMINAL BLOCK
- UNO UNLESS NOTED OTHERWISE
- VFD VARIABLE FREQUENCY DRIVE
- W/ WITH
- XFMR TRANSFORMER

SITE NOTES

(NOT REFERENCED ON DRAWING)

- THE LOCATION OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTORS FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- CONTRACTOR SHALL OBTAIN THE SERVICES OF AN INDEPENDENT SITE UTILITIES UNDERGROUND LOCATING COMPANY, WHO SHALL BE RESPONSIBLE FOR THE IDENTIFICATION AND LOCATION OF ALL SITE UTILITIES IN THE AREA OF EXCAVATION OR DRILLING. NO ADDITIONAL COMPENSATION SHALL BE GIVEN FOR REPAIRS REQUIRED FOR DAMAGES TO EXISTING SITE UTILITIES.
- CONTRACTOR SHALL IMMEDIATELY REPAIR, AT NO ADDITIONAL COST TO THE OWNER, ANY DAMAGE DURING EXCAVATION/ BACKFILLING, OR BORING TO EXISTING SITE UTILITIES.

ARC FLASH SAFETY NOTES

- EACH PANELBOARD, SWITCHBOARD, ENCLOSED CIRCUIT BREAKER & ELECTRICAL DISTRIBUTION APPARATUS IDENTIFIED ON THE SINGLE LINE DIAGRAM SHALL BE PROVIDED WITH AN ARC FLASH LABEL INDICATING THE AVAILABLE ENERGY, SAFETY ZONE & EQUIPMENT PROTECTION REQUIRED. CONTRACTOR SHALL PREPARE AN ARC FLASH SAFETY STUDY, IN ADDITION TO THE COORDINATION & SHORT CIRCUIT STUDY AS PART OF THIS CONTRACT. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

SHORT CIRCUIT COORDINATION & ARC FLASH NOTES

- CONTRACTOR SHALL PROVIDE ALL FIELD INFORMATION INCLUDING BUT NOT LIMITED TO PANELBOARD DATA, FEEDER SIZE AND LENGTH & ALL OTHER RELATIVE INFORMATION TO THE ENGINEER PREPARING THE STUDY (UNDER THEIR CONTRACT) WHO WILL PERFORM THE SHORT CIRCUIT COORDINATION & ARC FLASH STUDY. ALL EQUIPMENT SHOWN ON THE SINGLE LINE DIAGRAMS SHALL BE INCLUDED IN THE POWER SYSTEM STUDY. ONCE STUDY IS COMPLETE, CONTRACTOR SHALL EMPLOY THE SERVICES OF A 3RD PARTY NETA LEVEL 3 TESTING FIRM TO MAKE ALL FINAL CIRCUIT BREAKER ADJUSTMENTS TO MATCH THE STUDY. CONTRACTOR SHALL THEN APPLY ALL ARC FLASH LABELS TO THE DISTRIBUTION EQUIPMENT.

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the State of Delaware. License No. 8243. Expiration Date: 09-30-2024.

DAVIS BOWEN & FRIEDEL, INC.
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COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE

DATE	COMMENTS

Date: DEC. 2023
 Scale:
 Dwn By: EF/MJG
 Proj No.: 1897B031

PUMP STATION SITE PLAN

ISSUED FOR REVIEW 12-08-2023

FAYDA ENGINEERING & ENERGY SOLUTIONS, LLC
 801 W. Newport Pike, Wilmington, DE 19804
 Tel: 302-999-1060, Fax: 302-999-1053
 www.FaydaEES.com FE&S COMM. NO: 23-1565

Dwg No.: **E-101**

1 SITE PLAN
 SCALE: 1" = 1/4"-1-0"

GENERAL NOTES

1. WIRING ENTERING FROM CONCRETE PAD SHALL BE IN RIGID GALVANIZED STEEL CONDUIT.
2. ALL INTERCONNECT WIRING WITHIN ENCLOSURE SHALL BE IN SCHEDULE 40 PVC OR RIGID ALUMINUM CONDUIT. LIQUID-TIGHT FLEXIBLE NONMETALLIC CONDUIT IN LENGTHS NOT EXCEEDING 12" MAY BE USED WHERE INSTALLATION OF RIGID CONDUIT IS IMPRACTICAL.
3. SEAL FAILURE AND OVERTEMPERATURE MODULES TO BE FURNISHED BY PUMP MANUFACTURER.
4. **EQUIPMENT ENCLOSURE:** PROVIDE A NEMA 3R ENCLOSURE TO HOUSE ALL ELECTRICAL EQUIPMENT AS SHOWN ON SINGLE-LINE DIAGRAM. ENCLOSURE SHALL BE COMPLETELY ASSEMBLED BY A U.L. LISTED PANEL SHOP. PROVIDE INTERNAL HVAC EQUIPMENT AS NECESSARY TO CONTROL ENVIRONMENTAL CONDITIONS WITHIN SUITABLE RANGE OF ALL EQUIPMENT IN ENCLOSURE. ENCLOSURE DIMENSIONS SHOWN ON PLAN ARE APPROXIMATE - VERIFY ACTUAL SIZE REQUIRED AND COORDINATE LOCATION WITH OWNER. PROVIDE POWDERCOAT PAINT FINISH IN COMPLIANCE WITH SUSSEX COUNTY ENGINEERING ORDINANCE 38.
5. ALL ELECTRICAL WORK SHALL BE IN ACCORDANCE WITH SUSSEX COUNTY ORDINANCE 38 SPECIFICATIONS.
6. ALL PUMP CONTROL SHALL BE PERFORMED THROUGH A MODICON PROGRAMMABLE CONTROLLER, PROGRAMMED BY A SUSSEX COUNTY ENGINEERING APPROVED SYSTEMS INTEGRATOR, TO MEET THE REQUIREMENTS OF A SUSSEX COUNTY ORDINANCE 38 COMPLIANT PUMP STATION. CONTRACTOR SHALL OBTAIN A COPY OF THE LATEST REVISION OF THAT SPEC IN ORDER TO INCORPORATE THE LATEST DESIGN DETAILS. ORDINANCE 38, SECTIONS 13318, 13320, AND 13440 PROVIDE THE ELECTRICAL CONTROL DETAILS OF THE CURRENT REQUIREMENTS.

SHEET NOTES

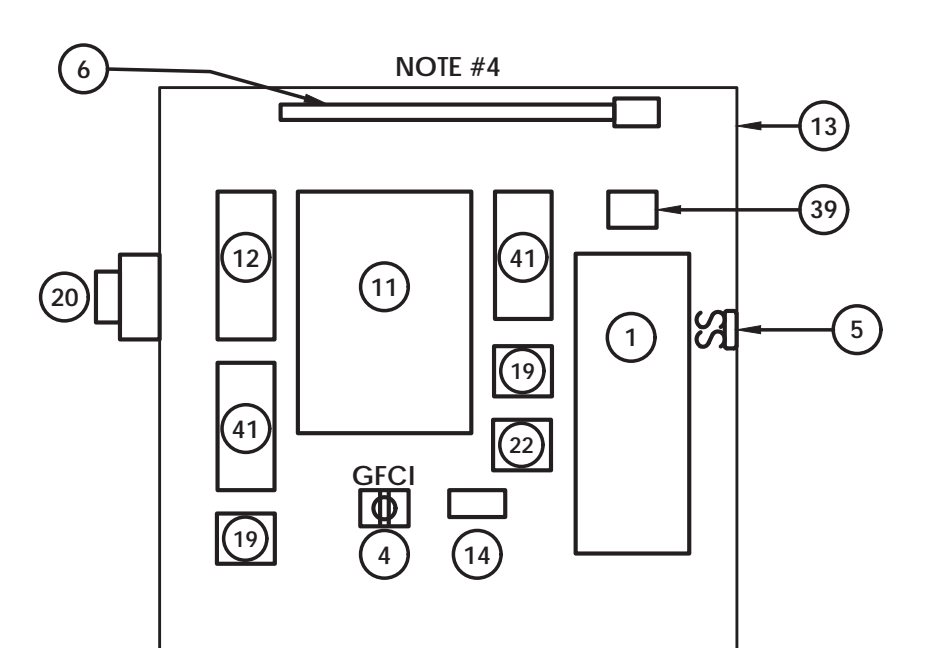
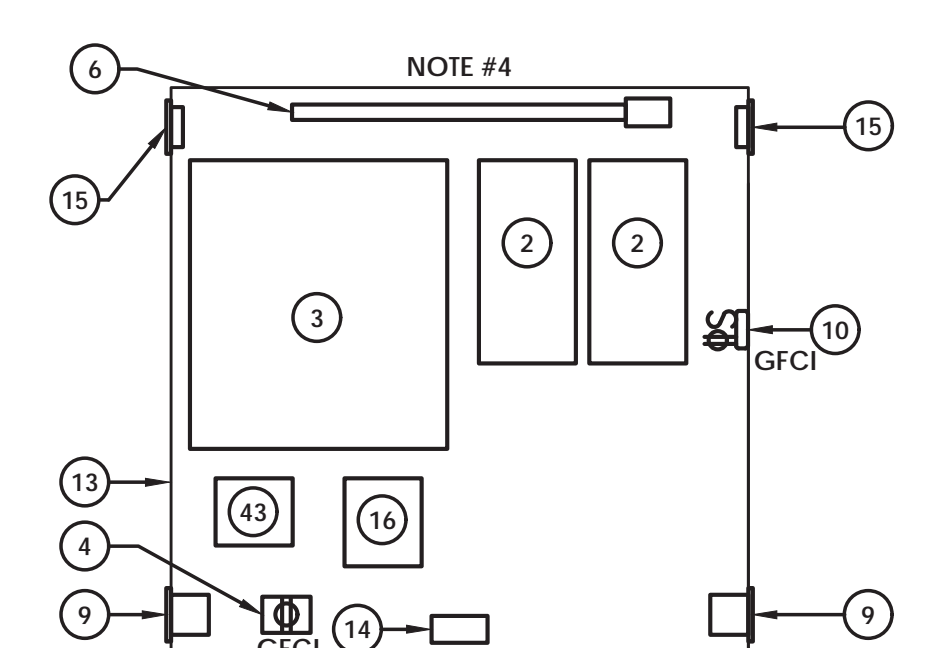
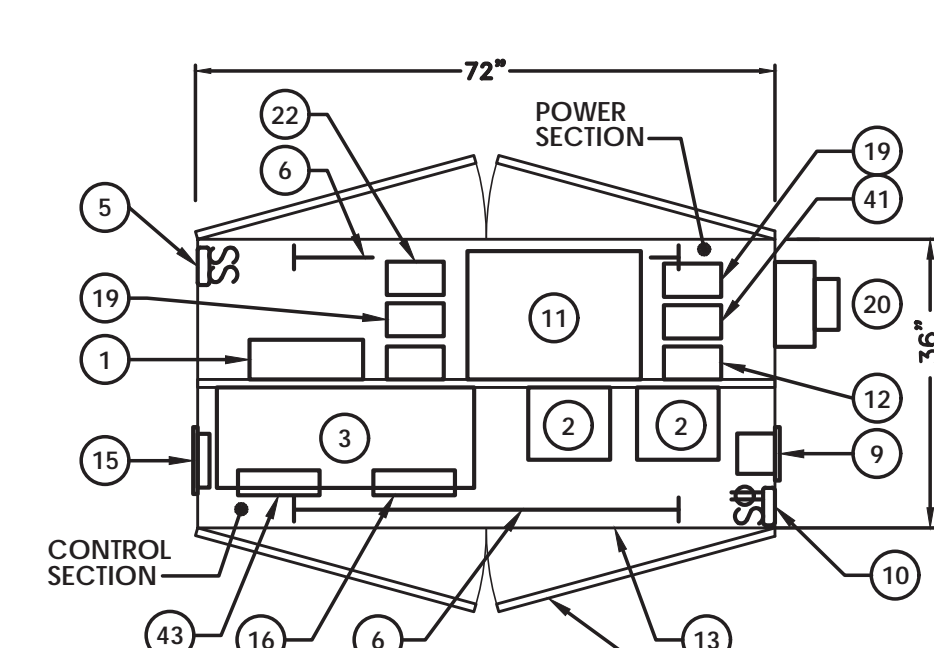
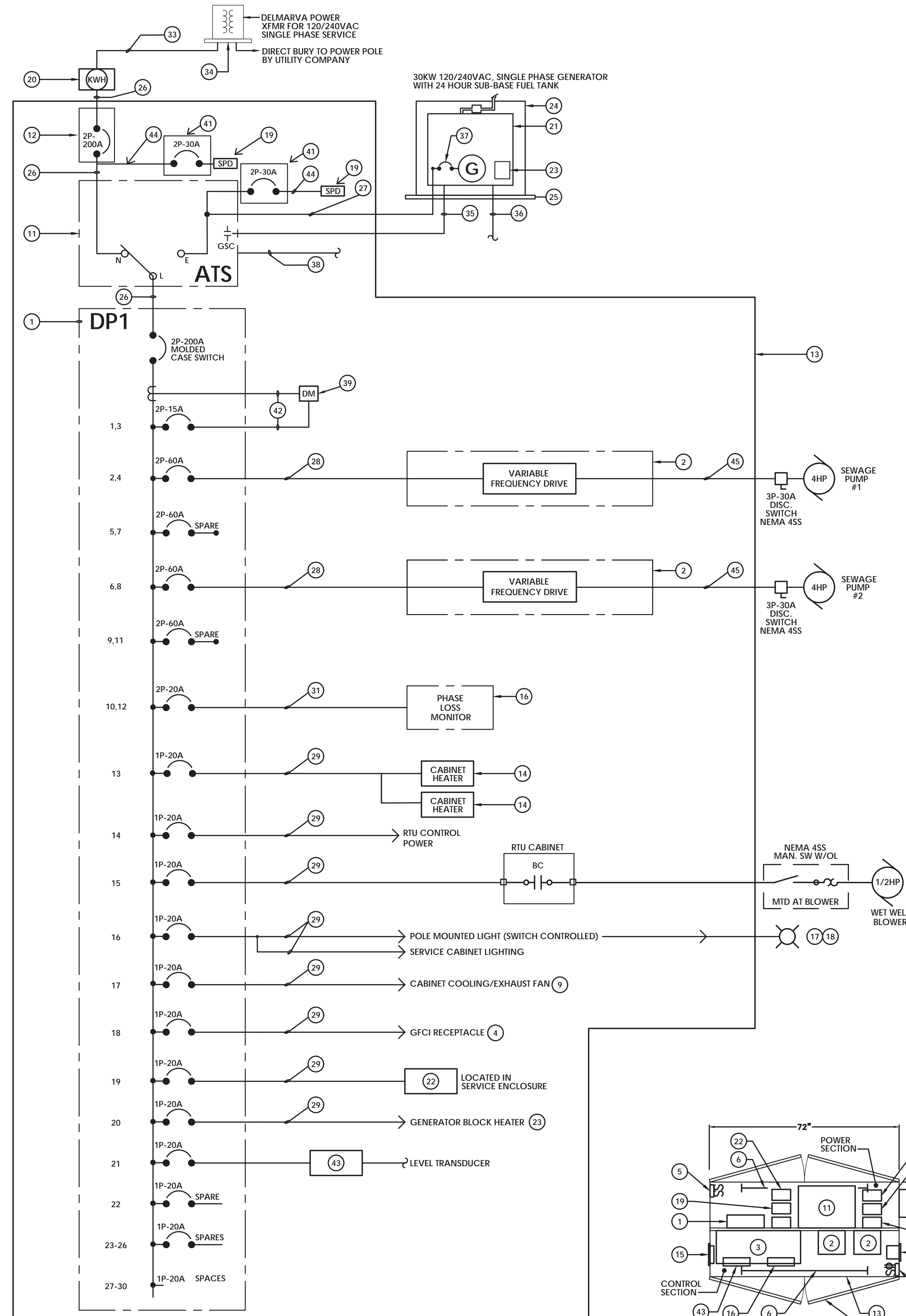
1. PROVIDE REINFORCEMENT OF SERVICE CABINET TO ACCOMMODATE WEIGHT OF VFD'S.
2. PROVIDE INTEGRAL LIFTING EYE OVER EACH VFD TO ACCOMMODATE FUTURE REPLACEMENT OF EACH VFD.
3. CENTER MULLION IS NOT PREFERRED BUT IF REQUIRED SHALL BE REMOVABLE.
4. ELECTRICAL CONTRACTOR IS ENCOURAGED TO CONSOLIDATE PANEL EQUIPMENT, AND/OR PRESENT AN ALTERNATE LAYOUT FOR REVIEW BY SUSSEX COUNTY ENGINEERING.

EQUIPMENT LIST

1	PANEL DP1 - 120/240VAC, SINGLE PHASE, 3 WIRE, 200A, 30-CIRCUIT, NEMA 1, 10KAIC
2	ALTIVAR 630, 5HP VARIABLE FREQUENCY DRIVE - NO BYPASS CONTACTOR - 5% THD FILTER, SQUARE D MODEL ATV630-D11-M3
3	REMOTE TELEMETRY UNIT WITH PUMP CONTROLLER (RTU/PLC) IN NEMA 12 ENCLOSURE (48"x48"x12")
4	20A/120VAC DUPLEX GFCI RECEPTACLE IN FS BOX WITH COVER
5	FLOODLIGHT & ENCLOSURE LIGHT SWITCHES IN DUAL-GANG FS BOX: PROVIDE IDENTIFICATION LABELS
6	LED STRIP CABINET LIGHTING FIXTURE WITH POWER SUPPLY - REFER TO FIXTURE SCHEDULE ON DRAWING E-4.
7	NOT USED
8	NOT USED
9	THERMOSTATICALLY CONTROLLED COOLING FAN
10	LIGHT SWITCH & 20A/120VAC DUPLEX GFCI RECEPTACLE IN DUAL-GANG FS BOX WITH COVER
11	AUTOMATIC TRANSFER SWITCH: 2P-225A, 120/240VAC, NEMA 1, (CT'S AND POWER MONITORING ON LOAD SIDE OF ATS).
12	MAIN CIRCUIT BREAKER: 2P-200A IN NEMA 1 ENCLOSURE
13	SERVICE CABINET ENCLOSURE: FREESTANDING NEMA TYPE 12, TYPICAL SIZE 84"H X 72"W X 48"D (ADJUST LENGTH AND NUMBER OF SECTIONS AS REQUIRED FOR INSTALLED EQUIPMENT). NOTES 1,2&3
14	THERMOSTATICALLY CONTROLLED ELECTRIC HEATER: QUANTITY/CAPACITIES AS REQUIRED FOR 30°F RISE ABOVE AMBIENT TEMPERATURE.
15	EXHAUST LOUVER PLATE WITH REPLACEABLE ALUMINUM FILTER
16	PHASE LOSS MONITOR 120/240VAC, SINGLE PHASE
17	LIGHT FIXTURE: REFER TO FIXTURE SCHEDULE ON DRAWING E-401.
18	LIGHT POLE: HINGED POLE (SEE DETAIL) REFER TO FIXTURE SCHEDULE ON DRAWING E-401.
19	SURGE PROTECTION DEVICE SQUARE D TYPE HWA - UNIT LEADS TO BE KEPT AS SHORT AS POSSIBLE
20	UTILITY COMPANY METER, 200A SINGLE PHASE: PROVIDE UTILITY APPROVED METER BASE
21	EMERGENCY GENERATOR: DIESEL FIRED, 30KW/37.5KVA, 120/240VAC, 1 PHASE, 3 WIRE WITH 24 HOUR, DOUBLE WALL SUB-BASE FUEL TANK, QUIET SITE II ENCLOSURE - CUMMINS MODEL C30-D6
22	GENERATOR BATTERY CHARGER
23	BLOCK HEATER: 1.5KW, 120VAC STANDARD OF DESIGN
24	GENSET SOUND ENCLOSURE (QUIET SITE II)
25	GENSET PAD - SEE DETAIL SHEET
26	(3)-#3/0 & (1)-#6GND - 2"C
27	(3)-#2/0 & (1)-#6GND - 2"C
28	(3)-#6 & (1)-#10GND - 1"C
29	(2)-#12 & (1)-#12GND - 3/4"C
30	(2)-#10 & (1)-#10GND - 3/4"C
31	(3)-#12 & (1)-#12GND - 3/4"C
32	SEE STRUCTURAL DRAWINGS FOR SERVICE CABINET ENCLOSURE PAD
33	(3)-#3/0 & (1)-#4GND - 2"C & (1)-2"C SPARE. COORDINATE INCOMING SERVICE REQUIREMENTS WITH DELMARVA POWER.
34	TRANSFORMER, PAD AND GROUNDING PROVIDED BY UTILITY COMPANY
35	GENERATOR START SIGNAL WIRING IN 3/4"C. (NO. & SIZE OF WIRES PROVIDED BY MANUFACTURER)
36	GENERATOR CONTROL PANEL ALARM SIGNAL TO PLC - 3/4"C
37	GENERATOR OUTPUT CIRCUIT BREAKER, 2P-175A BY GENERATOR MANUFACTURER
38	CONTROL WIRE TO PLC - 3/4"C
39	POWER LOGIC PM-5100 DIGITAL METER IN NEMA 1 ENCLOSURE. PROVIDE SPLIT-CORE CT'S IN DP1 BACKBOX.
40	NOT USED
41	2P-30A CIRCUIT BREAKER IN NEMA 1 ENCLOSURE
42	CT & PT WIRING PER DIGITAL METER MANUFACTURER - 3/4"C
43	LEVEL TRANSDUCER CONTROLLER
44	(3)-#10 & (1)-#10GND-3/4"C - 24" MAX. LEAD LENGTH
45	(3)-#10 & (1)-#10GND-3/4"C

PARTIAL BILL OF MATERIAL - PUMP CONTROL & TELEMETRY PANEL

QUAN.	DESCRIPTION	CATALOG NO.	MANUFACTURER
1	ENCLOSURE NEMA 1	NIC-364811	WIEGMANN
1	BACK PANEL	NP-4836	WIEGMANN
2	SEAL FAIL	14-40-7113	FLYGT
2	SELECTOR SWITCH 3 POSITION	9001KS43B	SQUARE D
2	INDICATOR LIGHT GREEN	9001KT1G31	SQUARE D
3	INDICATOR LIGHT RED	9001KT1R31	SQUARE D
3	PUSH BUTTON	9001KR1B	SQUARE D
3	FUSES	KLDR1	LITTELFUSE
1	TRANSFORMER 120/24	TF50 D13	SQUARE D
79	6MM TERMINAL	UK5N	PHOENIX
2	3A FUSE	KLDR3A	LITTELFUSE
8	FUSE HOLDER	LPSM	LITTELFUSE
1	M340 8 SLOT RACK	BMX XBP 0800	MODICON
1	M340 POWER SUPPLY 120 VAC, 20W	BMX CPS 2000	MODICON
1	M340 PROCESSOR w/MODBUS PORT AND ETHERNET PORT	BMX P34 2020	MODICON
2	M340 16PT. 24VDC D.I. MODULE	BMX DDI 1602	MODICON
1	M340 16PT. 24VDC D.O. MODULE	BMX DDO 1602	MODICON
1	M340 4PT. A.I. MODULE	BMX AMI 0410	MODICON
11	CONTROL RELAYS	RH1B-U 24VDC	IDEC
27	CONTROL RELAYS BASE	SH1B-05	IDEC
1	COLOR TOUCH SCREEN OHT, 5.7", 24VDC	HMIQT02310	MODICON
9	CONTROL RELAYS	RH1B-U-120VAC	IDEC
2	STARTER	SD03V02S	SQUARE D
1	ROUTER 150M, NO WIFI (5 YEAR NetCloud LICENSE)	TBS-650C150M-N0N	CRADLEPOINT
1	FAST ETHERNET SWITCH	FS 105	NET GEAR
2	BREAKER	FAL36030-15M	SQUARE D
1	BELLOWS	815-000-000	KPSI
2	INTERBUS CABLE	170 MCI 00700	MODICON
2	SELECTOR SWITCH	KS11B	SQUARE D
3	TERMINAL KIT	170XTS001 00	MODICON
1	ETHERNET HUB	499-NEH10410	MODICON
1	SURGE ARRESTOR	TDF-20A-120V	ERICO
2	LOUVERS	WAVK0304	WIEGMANN
2	RECEPTACLE	991548	WEIDMULLER
2	10A FUSE	FLM 10A	LITTELFUSE
1	1A FUSE	FLM 1A	LITTELFUSE
1	MMS	FG1	SQUARE D
1	24VDC POWER SUPPLY	P55R-D24	IDEC
1	GROUND BAR	PK9 GIA	SQUARE D
1	DIST. BLOCK	LD0402-3	SQUARE D
1	PHASE LOSS RELAY	252B	TIME MARK
1	CONTACTOR	C06V20	SQUARE D
6	4A FUSE	3AG 4A 312	LITTELFUSE
1	3/10 A GLASS FUSE	3AG 3/10A 312	LITTELFUSE
1	5A FUSE	3AG 5A 312	LITTELFUSE
2	OVERLOAD MODULE W/ALARM	S04	SQUARE D
10	GLASS FUSE HOLDER	C383THS	CUTLER-HAMMER
1	24V POWER SUPPLY	P55R-A24	IDEC
1	TVSS	UL LISTED	APT
1	UPS	89341	MGE PULSAR
1	LOW PROFILE MIMO LTE ANTENNA	LPAM-BC3G-26-3SP	PANORAMA



PLAN VIEW- SERVICE CABINET ENCLOSURE
NO SCALE

CONTROL SIDE ELEVATION- SERVICE CABINET ENCLOSURE
NO SCALE

POWER SIDE ELEVATION- SERVICE CABINET ENCLOSURE
NO SCALE

ISSUED FOR REVIEW 12-08-2023

FAYDA ENGINEERING & ENERGY SOLUTIONS, LLC
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SINGLE LINE DIAGRAM & SCHEDULES

Dwg No.: **E-301**

COUNTRYSIDE HAMLET
SANITARY SEWER
SUSSEX COUNTY PROJECT NO. S23-01
SUSSEX COUNTY, DELAWARE

DAVIS BOWEN & FRIEDEL, INC.
ARCHITECTS - ENGINEERS - SURVEYORS
WILMINGTON, DELAWARE
302-42-1141
410-70-7474

Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed Professional Engineer in the State of Delaware. License No. 8240. Expiration Date: 09-30-2024.

