

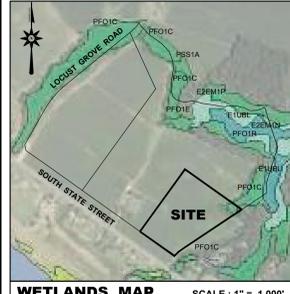
**SOIL SURVEY MAP** SCALE: 1" = 1,667'

SOIL MAP TAKEN FROM "WEB SOIL SURVEY" NATURAL RESOURCES CONSERVATION SERVICE KENT COUNTY, DELAWARE

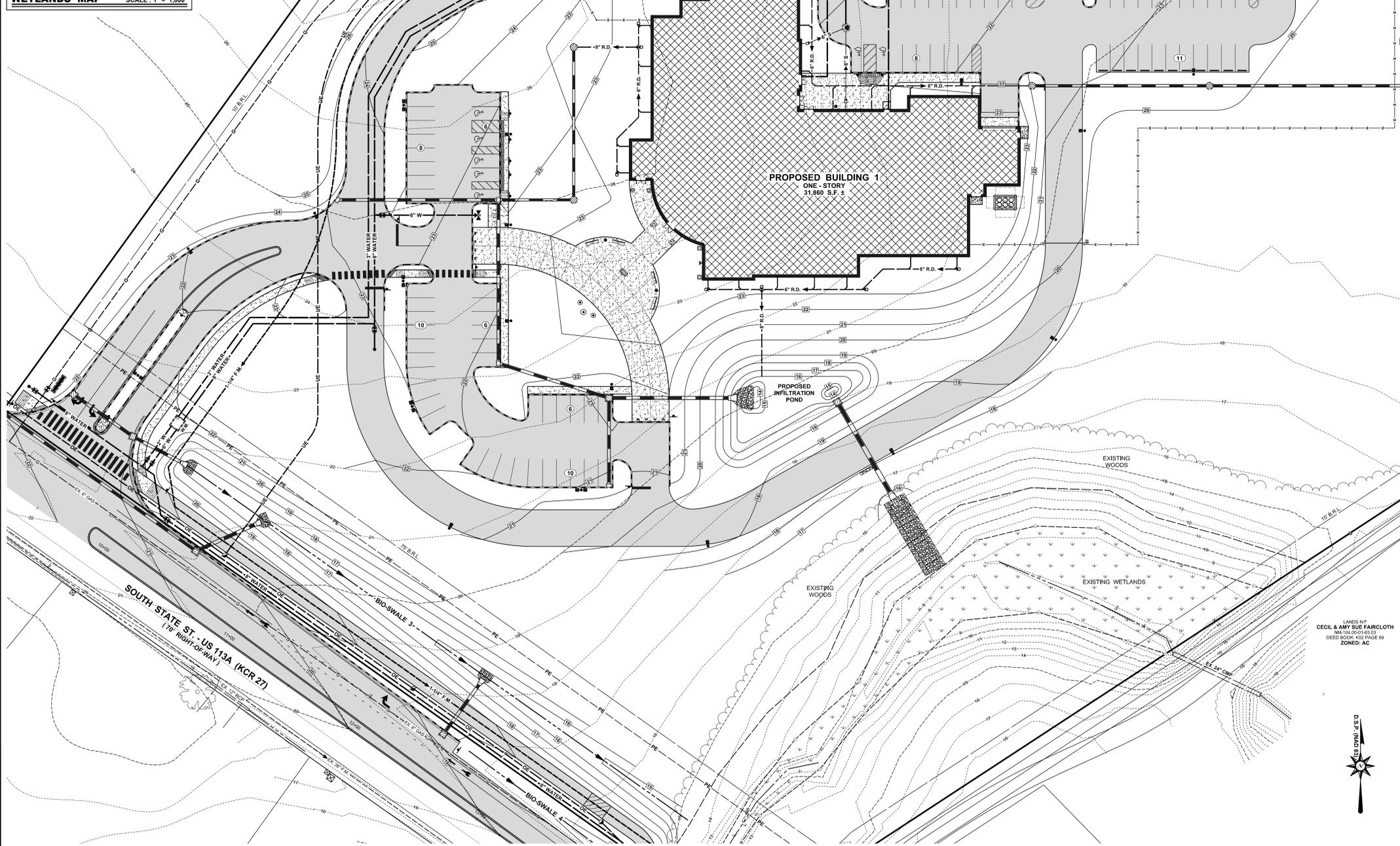
D1S - DOWNER LOAMY SAND, 2 TO 5 PERCENT SLOPES  
 D1C - DOWNER LOAMY SAND, 5 TO 10 PERCENT SLOPES  
 S1A - SASAPARRAS SANDY LOAM, 0 TO 2 PERCENT SLOPES  
 S1B - SASAPARRAS SANDY LOAM, 2 TO 5 PERCENT SLOPES  
 S1C - SASAPARRAS SANDY LOAM, 5 TO 10 PERCENT SLOPES  
 L1B - INGLESLIDE LOAMY SAND, 2 TO 5 PERCENT SLOPES  
 S1D - SASAPARRAS SANDY LOAM, 10 TO 15 PERCENT SLOPES  
 Z1A - ZEPHAN SANDY LOAM, FREQUENTLY FLOODED

**LOCATION MAP** SCALE: 1" = 1,000'

LANDS NIF  
 CYPRESS GLEN  
 NAD-00-104-00-01-75-00  
 DEED BOOK: 446 PAGE: 201  
 ZONED: AR



**WETLANDS MAP** SCALE: 1" = 1,000'



**SITE DATA**

- OWNER OF RECORD: STATE OF DELAWARE, 540 S. DUPONT HIGHWAY, DOVER, DELAWARE 19901, (302) 739-5644
- ENGINEER / SURVEYOR: BECKER MORGAN GROUP, 209 S. GOVERNORS AVENUE, DOVER, DELAWARE 19904, (302) 734-7950, NM-00-104-00-01-75-02
- PROPERTY MAP NUMBER: DEED BOOK: 446 PAGE: 201, DEED BOOK: 446 PAGE: 208, PLAT BOOK: 119 PAGE: 11
- PLAT REFERENCE: AC - AGRICULTURAL CONSERVATION DISTRICT
- ZONING CLASSIFICATION: FRONT: 25 FT. ALONG LOCAL ROAD AND 75 FT. ALONG MAJOR ROAD, SIDE: 10 FT. MINIMUM A TOTAL OF 25 FT. COMBINED, REAR: 25 FT.
- SETBACKS: 20.00 ACRES ±
- TOTAL SITE AREA: BUILDING (ONE-STORY): 31,785 S.F. ± (0.73 AC. ±), MAINTENANCE BLDG.: 7,275 S.F. ± (0.17 AC. ±), PAVEMENT / SIDEWALK: 140,560 S.F. ± (3.23 AC. ±)
- IMPERVIOUS AREAS: 15,499 S.F. ± (0.35 ACRES ±), AGRICULTURAL
- STORMWATER MANAGEMENT: 0.12 ACRES ±
- AREA OF WETLANDS: 15,499 S.F. ± (0.35 ACRES ±)
- PRESENT USE: PUBLIC SERVICE - POLICE STATION
- PROPOSED USE: 1 LOT WITH RESIDUE LANDS
- NUMBER OF LOTS: RESIDUE LANDS = 1,007.16' TOTAL ALONG SOUTH STATE STREET
- RESIDUAL FRONTAGE: 30% MAXIMUM
- IMPERVIOUS COVERAGE: 1.10 LOT PER 49+ ACRES
- DENSITY: THIS PARCEL LIES WITHIN THE KENT COUNTY GROWTH ZONE
- GROWTH ZONE: SOUTH STATE STREET - MINOR ARTERIALS
- ROAD CLASSIFICATION: ARTESIAN WATER COMPANY
- SOURCE OF WATER: KENT COUNTY
- SOURCE OF SEWER: VERIZON
- SOURCE OF TELEPHONE: DELMARVA POWER
- SOURCE OF ELECTRIC: CHESAPEAKE UTILITIES
- SOURCE OF GAS: NGS DISK SET IN CONCRETE MONUMENT (G30)
- SURVEY BENCHMARK: VERTICAL: NAVD83, HORIZONTAL: NAD83
- MONUMENTATION: EXISTING: 7 FEELING, PROPOSED: 4 TO BE SET
- PARKING CALCULATIONS: POLICE STATION, REQUIRED: 154 SPACES, PROVIDED: 157 SPACES, HANDICAP PARKING SPACES: 8, LOADING SPACES: EX. WOODLAND AREA = 76,602 S.F. ± OR 1.76 ACRES ±, (NON-WOODLAND AREA INSIDE GROWTH ZONE), 1 TREE PER 49+ ACRES, TOTAL SITE AREA = 871,265 S.F. ± OR 20.00 ACRES ±, DEVELOPED SITE AREA = 794,683 S.F. ± OR 18.24 ACRES ±, REQUIRED NO. OF TREES = 794,683 S.F. / 1 TREE PER 1,000 S.F. = 159 TREES, EXISTING = 0 TREES, PROPOSED = 241 TREES

**BUILDING DATA:**

BUILDING	BUILDING NUMBER	FOOTPRINT AREA	NUMBER OF FLOORS	GROSS FLR. AREA	BLDG. HEIGHT	BLDG. TYPE (NPPA)
POLICE STATION	1	31,860 S.F.	1	31,860 S.F.	29'-0"	TYPE II-000
MAINTENANCE BLDG.	2	7,275 S.F.	1	7,275 S.F.	18'-0"	TYPE II-000
<b>TOTAL:</b>		<b>39,135 S.F.</b>		<b>39,135 S.F.</b>		

**GENERAL NOTES:**

- BOUNDARY AND TOPOGRAPHIC SURVEY DATA SHOWN HEREON WAS PREPARED BY BECKER MORGAN GROUP, DOVER, DE. IN JANUARY 2013. VERTICAL DATUM IS BASED ON NAVD 88. HORIZONTAL DATUM IS BASED ON DELAWARE STATE PLANE NAD 83.
- THE BOUNDARY LINES PORTRAYED HEREON HAVE BEEN ESTABLISHED BASED SOLELY ON PHYSICAL EVIDENCE DISCOVERED IN THE FIELD IN CONJUNCTION WITH DETERMINATIONS DERIVED FROM SOURCE OF TITLE AND ADJACENT DEED RECORD INFORMATION.
- PORTIONS OF THIS SITE ARE LOCATED WITHIN THE ONE HUNDRED YEAR FLOOD PLAIN ZONE AE (EL. 9.0'), BASED ON FIRM MAP 100010222H, PANEL 232 OF 435, DATED MAY 5, 2003. FIRM MAP 100010222H, PANEL 251 OF 435, DATED MAY 5, 2003 AND FIRM MAP 100010222H, PANEL 252 OF 435, DATED MAY 5, 2003.
- A WETLANDS WATERS OF THE UNITED STATES DELINEATION WAS FIELD MARKED BY WATERSHED ECO, NEWARK, DELAWARE, 19702 AND IS BASED ON A SITE DELINEATION PERFORMED IN JANUARY OF 2013. THE DELINEATION DETERMINED THAT THERE ARE WETLANDS EXISTENT ON THE SUBJECT SITE. SEE REPORT PREPARED BY WATERSHED ECO FOR DETAILS.
- THIS PROPERTY IS LOCATED IN THE VICINITY OF LAND USED PRIMARILY FOR AGRICULTURAL PURPOSES ON WHICH NORMAL AGRICULTURAL USES HAVE BEEN AFFORDED THE HIGHEST PRIORITY USE STATUS. IT CAN BE ANTICIPATED THAT SUCH AGRICULTURAL USES MAY NOW OR IN THE FUTURE INVOLVE NOISE, DUST, MANURE AND OTHER ODORS. THE USE OF AGRICULTURAL CHEMICALS AND NIGHT TIME FARMING OPERATIONS.
- THIS PROPERTY IS IMPACTED BY STREAMS, DITCHES, PONDS, OR LAKES. KENT COUNTY HAS REGULATIONS REGARDING THE PRESERVATION OF STREAMS, DITCHES, PONDS, OR LAKES AND THE DEVELOPER IS ADVISED TO CONSULT WITH KENT COUNTY PLANNING SERVICES TO DETERMINE THE SETBACKS FROM STREAMS, DITCHES, PONDS OR LAKES.
- ALL ENTRANCES SHALL CONFORM TO DELDOT'S "STANDARDS AND REGULATIONS FOR SUBDIVISION STREETS AND STATE HIGHWAY ACCESS" AND SHALL BE SUBJECT TO ITS APPROVAL.
- IF THE RESIDUAL LANDS OF THE APPLICANT ARE EVER DEVELOPED INTO A MAJOR SUBDIVISION, THE ACCESS TO THESE PARCELS SHALL BE FROM AN INTERNAL SUBDIVISION STREET.
- 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 HIGHER 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.
- THE PARCEL DESIGNATED AS LOT NO. 2 AS SHOWN HEREON WAS CREATED FROM A PLAN ENTITLED "MINOR SUBDIVISION PLAT LOT 2" PREPARED BY BECKER MORGAN GROUP, INC., DATED JANUARY 28, 2013 AND RECORDED IN THE KENT COUNTY RECORDER OF DEEDS OFFICE IN PLAT BOOK 120, PAGE 97.
- DELAWARE REGULATIONS PROHIBIT THE BURIAL OF CONSTRUCTION DEMOLITION DEBRIS, INCLUDING TREES AND STUMPS ON CONSTRUCTION SITES. ANY SOLID WASTE FOUND DURING EXCAVATION MUST BE REMOVED AND PROPERLY DISCARDED.
- ALL HANDICAPPED PARKING, DEMARKATION, STALLS, AND BUILDING ACCESSIBLE ROUTES SHALL COMPLY WITH THE "AMERICANS WITH DISABILITIES ACT".
- THIS DRAWING DOES NOT INCLUDE NECESSARY COMPONENT FOR CONSTRUCTION SAFETY. ALL CONSTRUCTION MUST BE IN COMPLIANCE WITH THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970 AND ALL RULES AND REGULATIONS THERETO APPURTENANT.
- BEFORE THE CONTRACTOR CAN BEGIN CONSTRUCTION HE MUST OBTAIN THE PROPER PERMITS AND/OR APPROVALS FROM KENT COUNTY PLANNING, KENT COUNTY PUBLIC WORKS DEPARTMENT, DELAWARE DEPARTMENT OF NATURAL RESOURCES (D.N.R.), DELAWARE DEPARTMENT OF TRANSPORTATION (DELDOT), AND APPROPRIATE STATE AND COUNTY AGENCIES.
- ALL CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH THE KENT COUNTY DEPARTMENT OF PUBLIC WORKS CONSTRUCTION STANDARDS AND SPECIFICATIONS AND THE STATE OF DELAWARE CONSTRUCTION STANDARDS AND SPECIFICATIONS.
- ALL MATERIALS AND WORKMANSHIP, INCLUDING STORM DRAIN PIPING, INLET, MANHOLE AND END SECTION INSTALLATION, WITHIN THE STATE OF DELAWARE RIGHT-OF-WAY SHALL BE IN ACCORDANCE WITH CURRENT STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, SUPPLEMENTAL SPECIFICATIONS, STANDARD CONSTRUCTION DETAILS, SPECIAL PROVISIONS AND DESIGN GUIDANCE MEMORANDUMS.
- TRAFFIC AND SAFETY CONTROL SHALL BE MAINTAINED DURING CONSTRUCTION IN CONFORMANCE WITH THE CURRENT VERSION OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS.
- STORMWATER MANAGEMENT AND SEDIMENT / EROSION CONTROL SHALL BE IN ACCORDANCE WITH THE CURRENT VERSION DELAWARE SEDIMENT AND STORMWATER REGULATIONS SET FORTH BY THE DELAWARE DEPARTMENT OF NATURAL RESOURCES AND ENVIRONMENTAL CONTROL (DNREC).
- DNREC RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE INSPECTION.
- ALL FIRE LINES, FIRE HYDRANTS, AND FIRE DEPARTMENT CONNECTIONS SHALL BE MARKED IN ACCORDANCE WITH THE DELAWARE STATE FIRE PREVENTION REGULATIONS (DSFPR).
- PROPOSED MAIN BUILDING 1 AND MAINTENANCE BUILDING 2 SHALL BE PROTECTED BY AUTOMATIC SPRINKLERS IN ACCORDANCE WITH NFPA 13.
- THIS SITE HAS ELEVATED LEVELS OF ARSENIC IN THE SOIL BASED ON SAMPLE EVIDENCE THAT WAS COLLECTED BY THE HAZARDOUS SUBSTANCE CLEANUP ACT (HSCA) ALLOWED FOR VOLUNTARY CLEANUP PROGRAM (VCP). DNREC AND DRM HAVE ENTERED INTO A VCP AGREEMENT AT THIS SITE (DE-1559). ALL SOILS ARE REQUIRED TO REMAIN ON SITE AND BE INCORPORATED INTO THE PROJECT BASED ON THIS VCP AGREEMENT. THE OWNER MUST BE NOTIFIED IMMEDIATELY IF FOR SOME REASON SOIL WOULD NEED TO BE REMOVED FROM THIS PARCEL OF LAND. FOR FURTHER DETAILS CONTACT STEPHEN JOHNSON, DNREC PROJECT OFFICER AT 302-395-2600.

**SHEET INDEX**

NO.	DESCRIPTION
C-001	COVER SHEET
C-101	EXISTING CONDITIONS PLAN
C-201	OVERALL SIGNAGE, STRIPING & SITE PLANS (WITH ALTERNATES)
C-201-BASE	OVERALL SIGNAGE, STRIPING & SITE PLANS (BASE BID)
C-301 - C-302	UTILITIES PLANS
C-303	WATER MAIN EXTENSION PLAN
C-304	PUMP STATION SITE PLAN & DETAILS
C-305	UTILITIES SCHEDULES
C-401 - C-402	GRADING PLANS
C-500	OVERALL E.S.C. PLAN
C-501 - C-502	EROSION & SEDIMENT CONTROL PLANS
C-503	S.W.M. POND & BIOSWALE DETAILS
C-504 - C-505	EROSION & SEDIMENT CONTROL DETAILS
C-601	ENTRANCE PLAN (SIGNAGE & STRIPING)
C-602	ENTRANCE PLAN (GRADING & UTILITY)
C-603	ENTRANCE PLAN NOTES & DETAILS
C-701	FORCE MAIN PROFILE
C-702	SANITARY SEWER PROFILES
C-801 - C-904	CONSTRUCTION DETAILS
L-101	LANDSCAPE PLAN
L-102	LANDSCAPE DETAILS
E-20 - E-22	SITE ELECTRICAL PLANS
P-101	MAINTENANCE BUILDING PLUMBING SERVICE PLAN

**OWNERS CERTIFICATION**

WE, THE STATE OF DELAWARE, HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE PROPERTY DESCRIBED AND SHOWN ON THIS PLAN, THAT THE PLAN WAS MADE AT OUR DIRECTION, AND THAT WE ACKNOWLEDGE THE SAME TO BE OUR ACT AND DESIRE THE PLAN TO BE RECORDED AS SHOWN IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS.

**ENGINEER'S CERTIFICATION**

I, DEAN E. HOLDEN, HEREBY CERTIFY THAT I AM A REGISTERED ENGINEER IN THE STATE OF DELAWARE, THAT THE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF REPRESENTS GOOD ENGINEERING PRACTICES AS REQUIRED BY THE APPLICABLE LAWS OF THE STATE OF DELAWARE.

MARK DEVORE, P.E. DATE: 20111116.00  
 DEAN E. HOLDEN, P.E. DATE: 08-13-2013

SCALE: 1" = 30'

DRAWN BY: J.S.F. / PROJ. MGR.: D.E.H.

**C-001**

**BECKER MORGAN GROUP**

ARCHITECTURE ENGINEERING

Dover, DE  
 309 S. Governors Ave.  
 Dover, DE 19904  
 Ph. 302.734.7950  
 Fax 302.734.7965

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Wilmington, NC  
 3205 Randall Parkway, Suite 211  
 Wilmington, North Carolina 28403  
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www.beckermorgan.com

**CONSULTANTS**

**DEDC, LLC**  
 FIRE PROTECTION, PLUMBING, MECHANICAL AND ELECTRICAL ENGINEERS  
 5115 SOUTH CHAPEL STREET  
 NEWARK, DELAWARE 19711  
 302-738-7172 fax 302-738-7175

**DAYDREAM BELIEVER, INC.**  
 LANDSCAPE CONSULTANT  
 13156 HARBOR COVE DRIVE  
 LONG NECK, DELAWARE 19968  
 302-465-2465 fax 302-465-3988

PROJECT TITLE

**DELAWARE STATE POLICE TROOP 3**

S. STATE STREET (U.S. 113A)  
 N. MURDERKILL HUNDRED  
 KENT COUNTY, DELAWARE

**BID PACK 1**

SHEET TITLE

**COVER SHEET**

**ISSUE BLOCK**

NO.	DATE	DESCRIPTION
6	11-21-13	REVISED PER ADDENDUM #7
5	11-09-13	DELDOT-FINAL PLAN SUBMISSION
4	10-25-13	REVISED PER ADDENDUM #2
3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
2	9-29-13	REVISED PER AGENCY COMMENTS
1	8-28-13	REVISED PER DELDOT COMMENTS

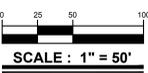
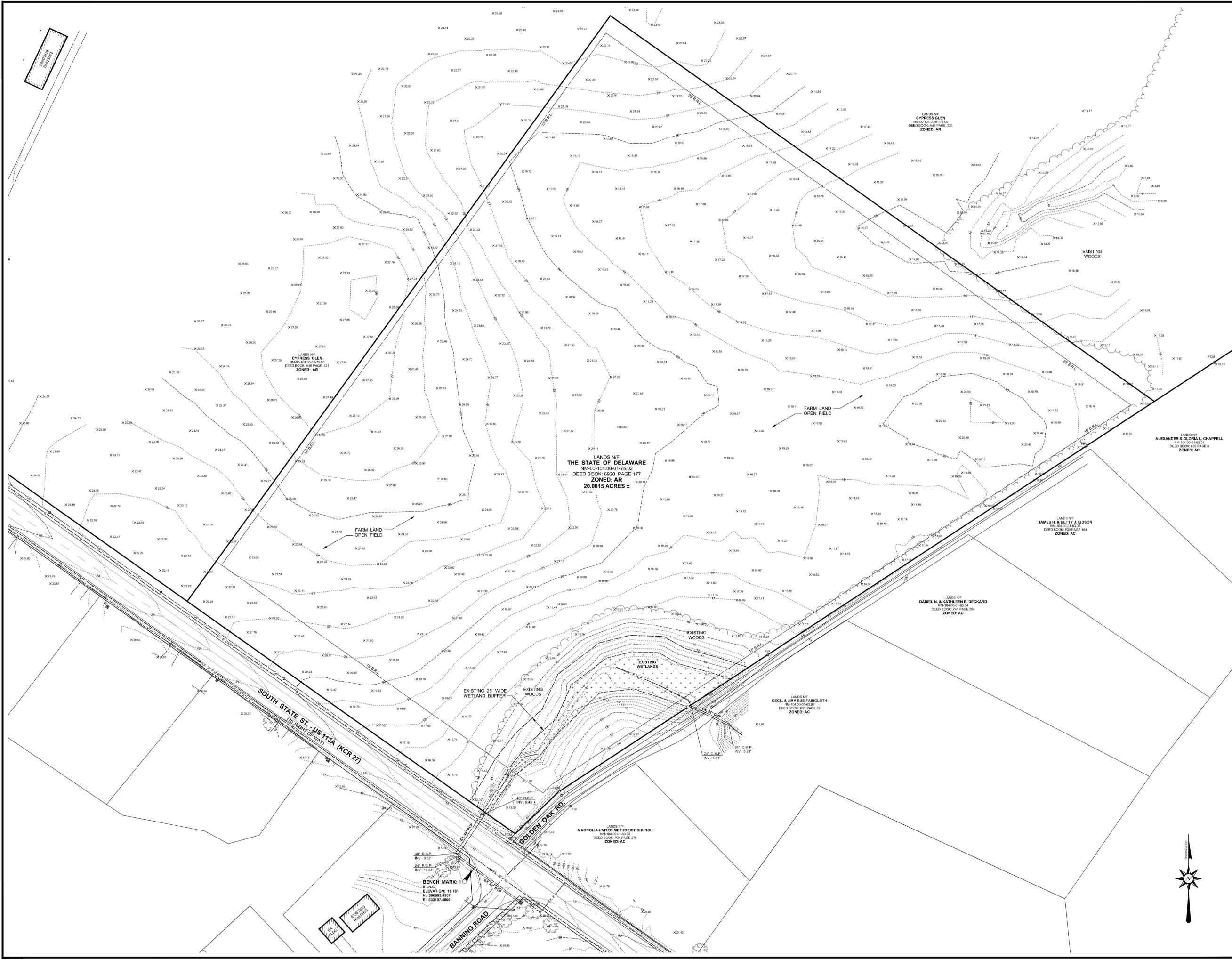
MARK DATE DESCRIPTION

PROJECT NO.: 20111116.00  
 DATE: 08-13-2013  
 SCALE: 1" = 30'  
 DRAWN BY: J.S.F. / PROJ. MGR.: D.E.H.

**C-001**

DEAN E. HOLDEN, P.E. P.E. NO. 14956 DATE

MARK	DATE	DESCRIPTION
1	8-28-13	REVISED PER DELOIT COMMENTS
2	9-25-13	REVISED PER AGENCY COMMENTS
3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
4	10-25-13	REVISED PER ADDENDUM #2
5	11-08-13	DELOIT - FINAL PLAN SUBMISSION
6	11-21-13	REVISED PER ADDENDUM #7

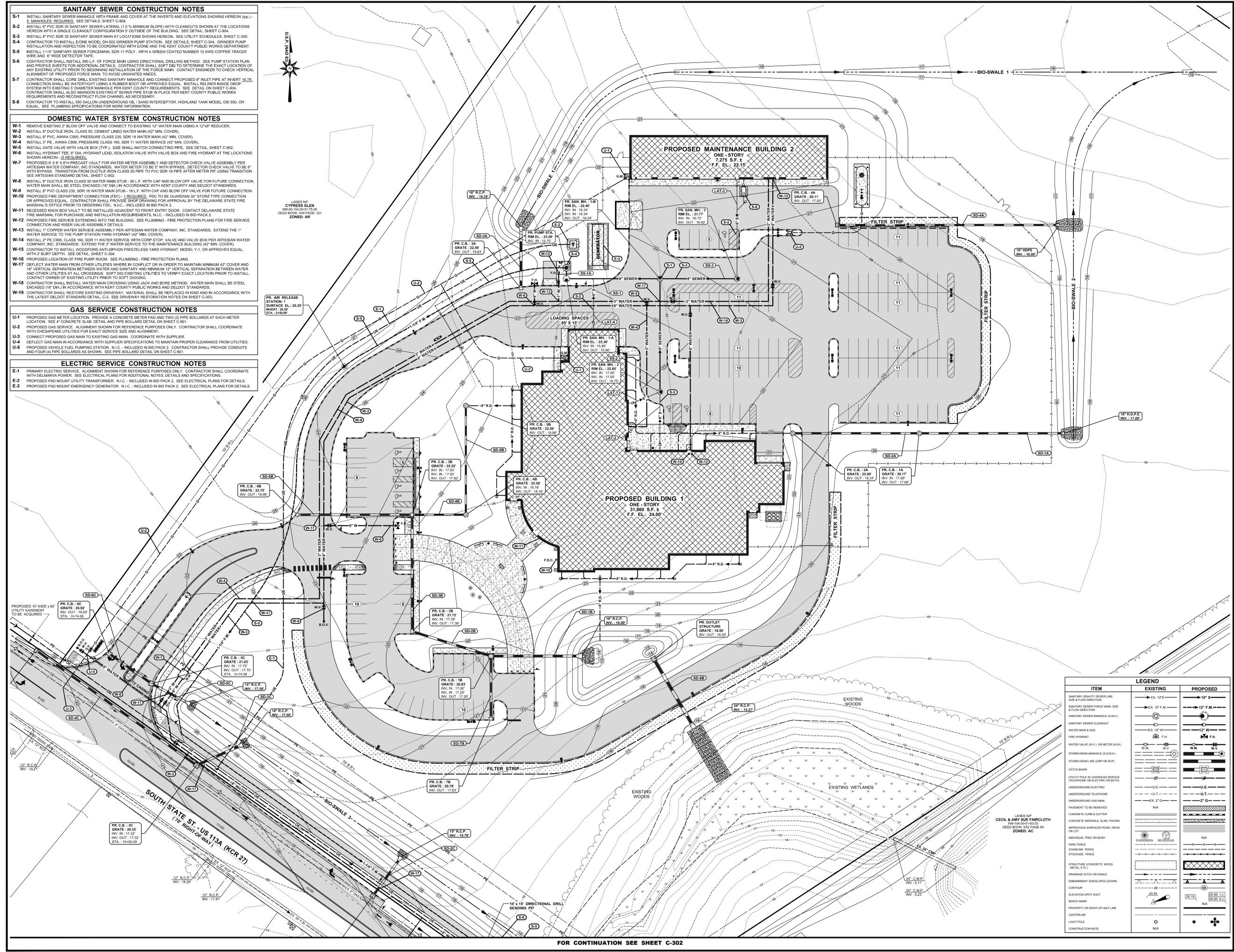


NO.	DATE	DESCRIPTION
6	11-21-13	REVISED PER ADDENDUM #7
5	11-08-13	DELOTT - FINAL PLAN SUBMISSION
4	10-25-13	REVISED PER ADDENDUM #2
3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
2	9-29-13	REVISED PER AGENCY COMMENTS
1	8-28-13	REVISED PER DELOTT COMMENTS

- SANITARY SEWER CONSTRUCTION NOTES**
- S-1 INSTALL SANITARY SEWER MANHOLE WITH FRAME AND COVER AT THE INVERTS AND ELEVATIONS SHOWN HEREON (typ.) - 8" MANHOLES REQUIRED. SEE DETAILS SHEET C-904.
  - S-2 INSTALL 8" PVC SDR 35 SANITARY SEWER LATERAL (1.0% MINIMUM SLOPE) WITH CLEANOUTS SHOWN AT THE LOCATIONS HEREON WITH A SINGLE CLEANOUT CONFIGURATION 5' OUTSIDE OF THE BUILDING. SEE DETAIL SHEET C-904.
  - S-3 INSTALL 8" PVC SDR 35 SANITARY SEWER MAIN AT LOCATIONS SHOWN HEREON. SEE UTILITY SCHEDULES, SHEET C-305.
  - S-4 CONTRACTOR TO INSTALL EIONE MODEL DH-502 GRINDER PUMP STATION. SEE DETAILS SHEET C-304. GRINDER PUMP INSTALLATION AND INSPECTION TO BE COORDINATED WITH EIONE AND THE KENT COUNTY PUBLIC WORKS DEPARTMENT.
  - S-5 INSTALL 1/4" SANITARY SEWER FORCE MAIN, SDR 11 POLY., WITH A GREEN COATED NUMBER 12 AWG COPPER TRACER WIRE AND 6" WIDE DETECTOR TAPE.
  - S-6 CONTRACTOR SHALL INSTALL 90 L.F. OF FORCE MAIN USING DIRECTIONAL DRILLING METHOD. SEE PUMP STATION PLAN AND PROFILE SHEETS FOR ADDITIONAL DETAILS. CONTRACTOR SHALL SOFTEN TO DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITY PRIOR TO BEGINNING INSTALLATION OF THE FORCE MAIN. CONTRACT ENGINEER TO CHECK VERTICAL ALIGNMENT OF PROPOSED FORCE MAIN TO UNWANTED UTILITIES.
  - S-7 CONTRACTOR SHALL CORE DRILL EXISTING SANITARY MANHOLE AND CONNECT PROPOSED 8" INLET PIPE AT INVERT 18.78'. CONNECTION SHALL BE WATER TIGHT USING A RUBBER BOOT OR APPROVED EQUAL. INSTALL RELINER INSIDE DRIP SYSTEM INTO EXISTING 2" DIAMETER MANHOLE PER KENT COUNTY REQUIREMENTS. SEE DETAIL ON SHEET C-204. CONTRACTOR SHALL ALSO ABANDON EXISTING 8" SEWER PIPE STUB IN PLACE PER KENT COUNTY PUBLIC WORKS REQUIREMENTS AND RECONSTRUCT FLOW CHANNEL AS NECESSARY.
  - S-8 CONTRACTOR TO INSTALL 550 GALLON UNDERGROUND OIL / SAND INTERCEPTOR, HIGHLAND TANK MODEL OSI 550, OR EQUAL. SEE PLUMBING SPECIFICATIONS FOR MORE INFORMATION.
- DOMESTIC WATER SYSTEM CONSTRUCTION NOTES**
- W-1 REMOVE EXISTING 2" BLOW OFF VALVE AND CONNECT TO EXISTING 12" WATER MAIN USING A 12x2" REDUCER.
  - W-2 INSTALL 8" DUCTILE IRON, CLASS 50, CEMENT LINED WATER MAIN (42" MIN. COVER).
  - W-3 INSTALL 8" PE C905, CLASS 160, SDR 18 WATER MAIN (42" MIN. COVER).
  - W-4 INSTALL 1/2" ANWIA 0906, PRESSURE CLASS 160, SDR 11 WATER SERVICE (42" MIN. COVER).
  - W-5 INSTALL GATE VALVE WITH VALVE BOX (TYP.). SIZE SHALL MATCH CONNECTING PIPE. SEE DETAIL SHEET C-902.
  - W-6 INSTALL HYDRANT TEE, 6" DIA. HYDRANT LEAD, ISOLATION VALVE WITH VALVE BOX AND FIRE HYDRANT AT THE LOCATIONS SHOWN HEREON - (2 REQUIRED).
  - W-7 PROPOSED 6" X 6" PRECAST VAULT FOR WATER METER ASSEMBLY AND DETECTOR CHECK VALVE ASSEMBLY PER ARTESIAN WATER COMPANY, INC. STANDARDS. WATER METER TO BE 2" WITH BYPASS. DETECTOR CHECK VALVE TO BE 8" WITH BYPASS. TRANSITION FROM DUCTILE IRON CLASS 50 PIPE TO PVC SDR 18 PIPE AFTER METER PIT USING TRANSITION SEE ARTESIAN STANDARD DETAIL, SHEET C-902.
  - W-8 INSTALL 8" DUCTILE IRON CLASS 50 WATER MAIN STUB - 80 L.F. WITH CAP AND BLOW OFF VALVE FOR FUTURE CONNECTION. WATER MAIN SHALL BE STEEL ENCASED 15' DIA. IN ACCORDANCE WITH KENT COUNTY AND DELDOT STANDARDS.
  - W-9 INSTALL 8" PVC CLASS 235, SDR 18 WATER MAIN STUB - 18 L.F. WITH CAP AND BLOW OFF VALVE FOR FUTURE CONNECTION.
  - W-10 PROPOSED FIRE DEPARTMENT CONNECTION (FDC) - 1 REQUIRED. FDC TO BE GUARDIAN 30" STORZ TYPE CONNECTION OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE SHOP DRAWING FOR APPROVAL BY THE DELAWARE STATE FIRE MARSHAL'S OFFICE PRIOR TO ORDERING FDC. N.I.C. - INCLUDED IN BID PACK 2.
  - W-11 RECESSED KNOX BOX VAULT TO BE INSTALLED ADJACENT TO FRONT ENTRY DOOR. CONTACT DELAWARE STATE FIRE MARSHAL FOR PURCHASE AND INSTALLATION REQUIREMENTS. N.I.C. - INCLUDED IN BID PACK 2.
  - W-12 PROPOSED FIRE SERVICE EXTENDING INTO THE BUILDING. SEE PLUMBING - FIRE PROTECTION PLANS FOR FIRE SERVICE CONNECTION AND RISER VALVE ASSEMBLY DETAILS.
  - W-13 INSTALL 1" COPPER WATER SERVICE ASSEMBLY PER ARTESIAN WATER COMPANY, INC. STANDARDS. EXTEND THE 1" WATER SERVICE TO THE PUMP STATION YARD HYDRANT (42" MIN. COVER).
  - W-14 INSTALL 2" PE C905, CLASS 160, SDR 11 WATER SERVICE WITH CORP STOP, VALVE AND VALVE BOX PER ARTESIAN WATER COMPANY, INC. STANDARDS. EXTEND THE 2" WATER SERVICE TO THE MAINTENANCE BUILDING (42" MIN. COVER).
  - W-15 CONTRACTOR TO INSTALL WOODFORD ANTI-SIPHON FREEZELESS YARD HYDRANT, MODEL Y-1, OR APPROVED EQUAL, WITH 2" BURIED DEPTH. SEE DETAIL SHEET C-304.
  - W-16 PROPOSED LOCATION OF FIRE PUMP ROOM. SEE PLUMBING - FIRE PROTECTION PLANS.
  - W-17 DEFLECT WATER MAIN FROM OTHER UTILITIES WHERE IN CONFLICT OR IN ORDER TO MAINTAIN MINIMUM 42" COVER AND 18" VERTICAL SEPARATION BETWEEN WATER AND SANITARY AND MINIMUM 12" VERTICAL SEPARATION BETWEEN WATER AND OTHER UTILITIES AT ALL CROSSINGS. SOFT DIG EXISTING UTILITIES TO VERIFY EXACT LOCATION PRIOR TO INSTALL. CONTACT OWNER OF EXISTING UTILITY PRIOR TO SOFT DIGGING.
  - W-18 CONTRACTOR SHALL INSTALL WATER MAIN CROSSING USING JACK AND BORE METHOD. WATER MAIN SHALL BE STEEL ENCASED 18" DIA. IN ACCORDANCE WITH KENT COUNTY PUBLIC WORKS AND DELDOT STANDARDS.
  - W-19 CONTRACTOR SHALL RESTORE EXISTING DRIVEWAY. MATERIAL SHALL BE REPLACED IN KIND AND IN ACCORDANCE WITH THE LATEST DELDOT STANDARD DETAIL, C-3. SEE DRIVEWAY RESTORATION NOTES ON SHEET C-303.

- GAS SERVICE CONSTRUCTION NOTES**
- U-1 PROPOSED GAS METER LOCATION. PROVIDE A CONCRETE METER PAD AND TWO (2) PIPE BOLLARDS AT EACH METER LOCATION. SEE 4" CONCRETE SLAB DETAIL AND PIPE BOLLARD DETAIL ON SHEET C-901.
  - U-2 PROPOSED GAS SERVICE ALIGNMENT SHOWN FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHALL COORDINATE WITH CHESAPEAKE UTILITIES FOR EXACT SERVICE SIZE AND ALIGNMENT.
  - U-3 CONNECT PROPOSED GAS MAIN TO EXISTING GAS MAIN. COORDINATE WITH SUPPLIER.
  - U-4 DEFLECT GAS MAIN IN ACCORDANCE WITH SUPPLIER SPECIFICATIONS TO MAINTAIN PROPER CLEARANCE FROM UTILITIES.
  - U-5 PROPOSED VEHICLE FUEL PUMPING STATION. N.I.C. - INCLUDED IN BID PACK 2. CONTRACTOR SHALL PROVIDE CONDUITS AND FOUR (4) PIPE BOLLARDS AS SHOWN. SEE PIPE BOLLARD DETAIL ON SHEET C-901.

- ELECTRIC SERVICE CONSTRUCTION NOTES**
- E-1 PRIMARY ELECTRIC SERVICE ALIGNMENT SHOWN FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHALL COORDINATE WITH DELMARVA POWER. SEE ELECTRICAL PLANS FOR ADDITIONAL NOTES, DETAILS AND SPECIFICATIONS.
  - E-2 PROPOSED PAD MOUNT UTILITY TRANSFORMER. N.I.C. - INCLUDED IN BID PACK 2. SEE ELECTRICAL PLANS FOR DETAILS.
  - E-3 PROPOSED PAD MOUNT EMERGENCY GENERATOR. N.I.C. - INCLUDED IN BID PACK 2. SEE ELECTRICAL PLANS FOR DETAILS.

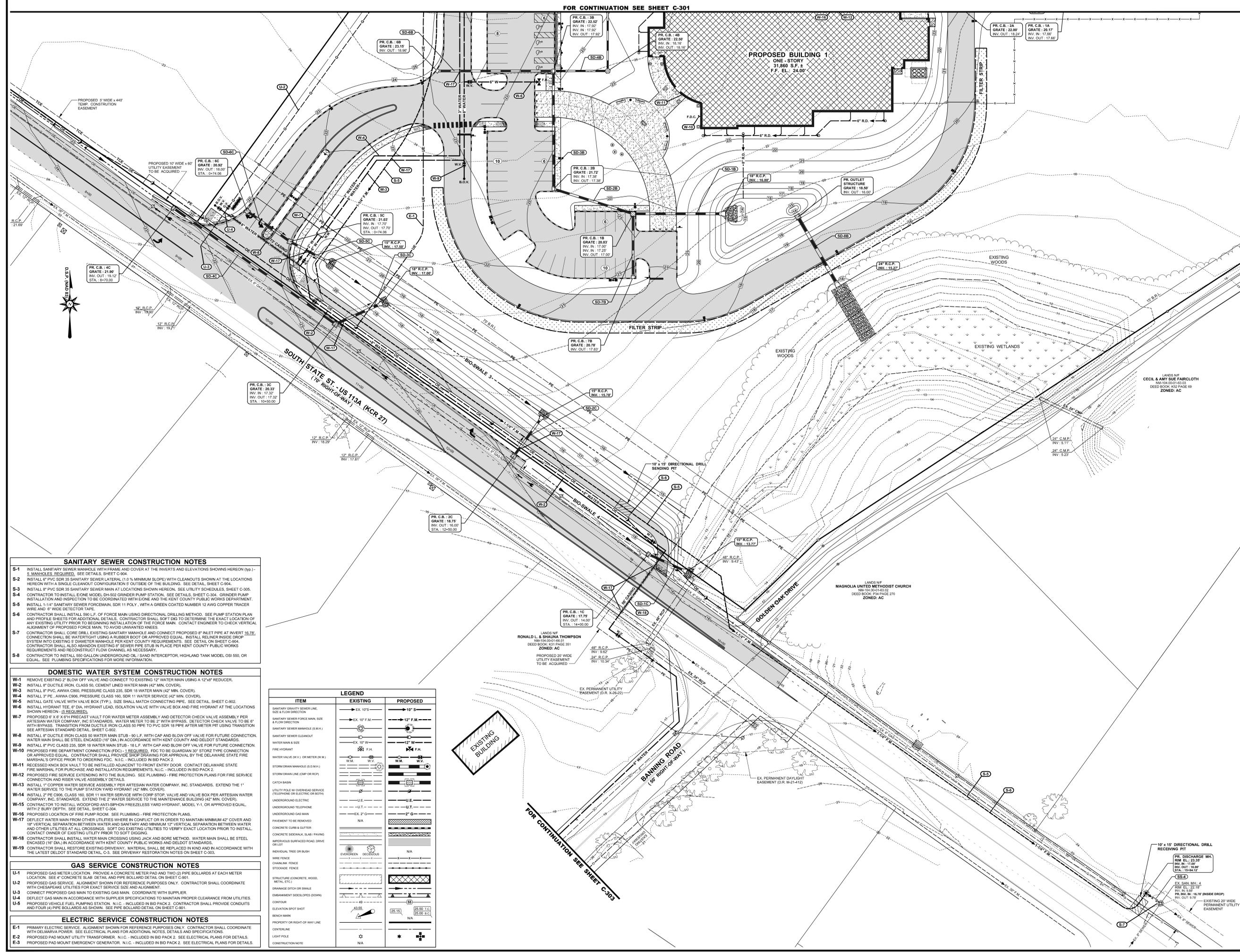


FOR CONTINUATION SEE SHEET C-302

ITEM	EXISTING	PROPOSED
SANITARY GRAVITY SEWER LINE	EX. 10" S	12" S
SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	EX. 10" F.M.	12" F.M.
SANITARY SEWER MANHOLE (S.M.H.)	EX. 10" W	12" W
SANITARY SEWER CLEANOUT	EX. 10" W	12" W
WATER MAIN & SIZE	EX. 10" W	12" W
FIRE HYDRANT	EX. F.H.	F.H.
WATER VALVE (W.V.) OR METER (M.M.)	W.V. / M.M.	W.V. / M.M.
STORM DRAIN MANHOLE (S.D.M.H.)	EX. 10" W	12" W
STORM DRAIN LINE (CMP OR RCP)	EX. 10" S	12" S
CATCH BASIN	EX. 10" W	12" W
UTILITY POLE W/ OVERHEAD SERVICE (OR TELEPHONE OR ELECTRIC OR BOTH)	EX. U.T.	U.T.
UNDERGROUND ELECTRIC	EX. U.E.	U.E.
UNDERGROUND TELEPHONE	EX. U.T.	U.T.
UNDERGROUND GAS MAIN	EX. 2" G	2" G
PAVEMENT TO BE REMOVED	NA	NA
CONCRETE CURB & GUTTER	NA	NA
CONCRETE SIDEWALK, SLAB / PAVING	NA	NA
PERVIOUS SURFACED ROAD, DRIVE OR LOT	NA	NA
INDIVIDUAL TREE OR BUSH	EX. T	T
WIRE FENCE	EX. F	F
CHAINLINK FENCE	EX. C.F.	C.F.
STOCKADE FENCE	EX. S.F.	S.F.
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)	EX. S	S
DRAINAGE DITCH OR SWALE	EX. D	D
EMBANKMENT SLOPES (EOM)	EX. E	E
CONTOUR	EX. C	C
ELEVATION SPOT SHOT	EX. E.S.	E.S.
BOUNDARY OR RIGHT-OF-WAY LINE	EX. B	B
CENTRLINE	EX. CL	CL
LIGHT POLE	EX. L.P.	L.P.
CONSTRUCTION NOTE	NA	NA

ISSUE BLOCK	NO.	DATE	DESCRIPTION
	6	11-21-13	REVISED PER ADDENDUM #7
	5	11-08-13	DELOOT - FINAL PLAN SUBMISSION
	4	10-25-13	REVISED PER ADDENDUM #2
	3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
	2	9-29-13	REVISED PER AGENCY COMMENTS
	1	8-28-13	REVISED PER DELOOT COMMENTS

MARK	DATE	DESCRIPTION
		<b>PROJECT NO.:</b> 2011116.00
		<b>DATE:</b> 08-13-2013
		<b>SCALE:</b> 1" = 30'
		<b>DRAWN BY:</b> J.S.F.   <b>PROJ. MGR.:</b> D.E.H.
		<b>SHEET</b>
		<b>C-302</b>



- SANITARY SEWER CONSTRUCTION NOTES**
- S-1 INSTALL SANITARY SEWER MANHOLE WITH FRAME AND COVER AT THE INVERTS AND ELEVATIONS SHOWN HEREON (typ.) - 5 MANHOLES REQUIRED. SEE DETAILS, SHEET C-304.
  - S-2 INSTALL 8" PVC SDR 35 SANITARY SEWER LATERAL (1.0% MINIMUM SLOPE) WITH CLEANOUTS SHOWN AT THE LOCATIONS HEREON WITH A SINGLE CLEANOUT CONFIGURATION 5' OUTSIDE OF THE BUILDING. SEE DETAIL, SHEET C-304.
  - S-3 INSTALL 8" PVC SDR 35 SANITARY SEWER MAIN AT LOCATIONS SHOWN HEREON. SEE UTILITY SCHEDULES, SHEET C-305.
  - S-4 CONTRACTOR TO INSTALL 4" IONIC MODEL DH-502 GRINDER PUMP STATION. SEE DETAILS, SHEET C-304. GRINDER PUMP INSTALLATION AND INSPECTION TO BE COORDINATED WITH IONIC AND THE KENT COUNTY PUBLIC WORKS DEPARTMENT.
  - S-5 INSTALL 1-1/4" SANITARY SEWER FORCE MAIN, SDR 11 POLY. WITH A GREEN COATED NUMBER 12 AWG COPPER TRACER WIRE AND 6" WIDE DETECTOR TAPE.
  - S-6 CONTRACTOR SHALL INSTALL 500 L.F. OF FORCE MAIN USING DIRECTIONAL DRILLING METHOD. SEE PUMP STATION PLAN AND PROFILE SHEETS FOR ADDITIONAL DETAILS. CONTRACTOR SHALL SOFT DIG TO DETERMINE THE EXACT LOCATION OF ANY EXISTING UTILITY PRIOR TO BEGINNING INSTALLATION OF THE FORCE MAIN. CONTACT ENGINEER TO CHECK VERTICAL ALIGNMENT OF PROPOSED FORCE MAIN TO AVOID UNWANTED KNEES.
  - S-7 CONTRACTOR SHALL CORE DRILL EXISTING SANITARY MANHOLE AND CONNECT PROPOSED 8" INLET PIPE AT INVERT 16.78. CONNECTION SHALL BE WATER TIGHT USING A RUBBER BOOT OR APPROVED EQUAL. INSTALL RELINER INSIDE DROP SYSTEM INTO EXISTING 5" DIAMETER MANHOLE PER KENT COUNTY REQUIREMENTS. SEE DETAIL ON SHEET C-304. CONTRACTOR SHALL ALSO ABANDON EXISTING 8" SEWER PIPE STUB IN PLACE PER KENT COUNTY PUBLIC WORKS REQUIREMENTS AND RECONSTRUCT FLOW CHANNEL, AS NECESSARY.
  - S-8 CONTRACTOR TO INSTALL 550 GALLON UNDERGROUND OIL / SAND INTERCEPTOR, HIGHLAND TANK MODEL OSI 550, OR EQUAL. SEE PLUMBING SPECIFICATIONS FOR MORE INFORMATION.

- DOMESTIC WATER SYSTEM CONSTRUCTION NOTES**
- W-1 REMOVE EXISTING 2" BLOW OFF VALVE AND CONNECT TO EXISTING 12" WATER MAIN USING A 12"x8" REDUCER.
  - W-2 INSTALL 8" DUCTILE IRON, CLASS 50, CEMENT LINED WATER MAIN (42" MIN. COVER).
  - W-3 INSTALL 8" PVC AWWA C900, PRESSURE CLASS 235, SDR 18 WATER MAIN (42" MIN. COVER).
  - W-4 INSTALL 3" PE AWWA C900, PRESSURE CLASS 160, SDR 11 WATER SERVICE (42" MIN. COVER).
  - W-5 INSTALL GATE VALVE WITH VALVE BOX (TYP.). SIZE MATCH CONNECTING PIPE. SEE DETAIL, SHEET C-902.
  - W-6 INSTALL HYDRANT TEE, 8" DIA. HYDRANT LEAD, ISOLATION VALVE WITH VALVE BOX AND FIRE HYDRANT AT THE LOCATIONS SHOWN HEREON - (2 REQUIRED).
  - W-7 PROPOSED 6' X 6' X 6" PRECAST VAULT FOR WATER METER ASSEMBLY AND DETECTOR CHECK VALVE ASSEMBLY PER ARTESIAN WATER COMPANY, INC. STANDARDS. WATER METER TO BE 2" WITH BYPASS. DETECTOR CHECK VALVE TO BE 6" WITH BYPASS. TRANSITION FROM DUCTILE IRON CLASS 50 PIPE TO PVC SDR 18 PIPE AFTER METER SET USING TRANSITION SEE ARTESIAN STANDARD DETAIL, SHEET C-902.
  - W-8 INSTALL 8" DUCTILE IRON CLASS 50 WATER MAIN STUB - 90 L.F. WITH CAP AND BLOW OFF VALVE FOR FUTURE CONNECTION. WATER MAIN SHALL BE STEEL ENCASED 18" DIA. IN ACCORDANCE WITH KENT COUNTY AND DELOOT STANDARDS.
  - W-9 INSTALL 8" PVC CLASS 235, SDR 18 WATER MAIN STUB - 18 L.F. WITH CAP AND BLOW OFF VALVE FOR FUTURE CONNECTION.
  - W-10 PROPOSED FIRE DEPARTMENT CONNECTION (FDC) - 1 REQUIRED. FDC TO BE GUARDIAN 30" STORZ TYPE CONNECTION OR APPROVED EQUAL. CONTRACTOR SHALL PROVIDE SHOP DRAWING FOR APPROVAL BY THE DELAWARE STATE FIRE MARSHAL'S OFFICE PRIOR TO ORDERING FDC. N.I.C. - INCLUDED IN BID PACK 2.
  - W-11 RECESSED ANOX BOX WALL TO BE INSTALLED ADJACENT TO FRONT ENTRY DOOR. CONTACT DELAWARE STATE FIRE MARSHAL FOR PURCHASE AND INSTALLATION REQUIREMENTS, N.I.C. - INCLUDED IN BID PACK 2.
  - W-12 PROPOSED FIRE SERVICE EXTENDING INTO THE BUILDING. SEE PLUMBING - FIRE PROTECTION PLANS FOR FIRE SERVICE CONNECTION AND RISER VALVE ASSEMBLY DETAILS.
  - W-13 INSTALL 1" COPPER WATER SERVICE ASSEMBLY PER ARTESIAN WATER COMPANY, INC. STANDARDS. EXTEND THE 1" WATER SERVICE TO THE PUMP STATION YARD HYDRANT (42" MIN. COVER).
  - W-14 INSTALL 2" PE C900, CLASS 160, SDR 11 WATER SERVICE WITH CORP STOP VALVE AND VALVE BOX PER ARTESIAN WATER COMPANY, INC. STANDARDS. EXTEND THE 2" WATER SERVICE TO THE MAINTENANCE BUILDING (42" MIN. COVER).
  - W-15 CONTRACTOR TO INSTALL WOODFORD ANTI-SIPHON FREEZELESS YARD HYDRANT, MODEL -1, OR APPROVED EQUAL, WITH 2' BURY DEPTH. SEE DETAIL, SHEET C-304.
  - W-16 PROPOSED LOCATION OF FIRE PUMP ROOM. SEE PLUMBING - FIRE PROTECTION PLANS.
  - W-17 DEFLECT WATER MAIN FROM OTHER UTILITIES WHERE IN CONFLICT OR IN ORDER TO MAINTAIN MINIMUM 42" COVER AND 18" VERTICAL SEPARATION BETWEEN WATER AND SANITARY AND MINIMUM 2" VERTICAL SEPARATION BETWEEN WATER AND OTHER UTILITIES AT ALL CROSSINGS. SOFT DIG EXISTING UTILITIES TO VERIFY EXACT LOCATION PRIOR TO INSTALL. CONTACT OWNER OF EXISTING UTILITY PRIOR TO SOFT DIGGING.
  - W-18 CONTRACTOR SHALL INSTALL WATER MAIN CROSSING USING JACK AND BORE METHOD. WATER MAIN SHALL BE STEEL ENCASED (18" DIA.) IN ACCORDANCE WITH KENT COUNTY PUBLIC WORKS AND DELOOT STANDARDS.
  - W-19 CONTRACTOR SHALL RESTORE EXISTING DRIVEWAY. MATERIAL SHALL BE REPLACED IN KIND AND IN ACCORDANCE WITH THE LATEST DETAIL STANDARD DETAIL, C-3. SEE DRIVEWAY RESTORATION NOTES ON SHEET C-303.

- GAS SERVICE CONSTRUCTION NOTES**
- U-1 PROPOSED GAS METER LOCATION. PROVIDE A CONCRETE METER PAD AND TWO (2) PIPE BOLLARDS AT EACH METER LOCATION. SEE 4" CONCRETE SLAB DETAIL AND PIPE BOLLARD DETAIL ON SHEET C-301.
  - U-2 PROPOSED GAS SERVICE. ALIGNMENT SHOWN FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHALL COORDINATE WITH CHESAPEAKE UTILITIES FOR EXACT SERVICE SIZE AND ALIGNMENT.
  - U-3 CONNECT PROPOSED GAS MAIN TO EXISTING GAS MAIN. COORDINATE WITH SUPPLIER.
  - U-4 DEFLECT GAS MAIN IN ACCORDANCE WITH SUPPLIER SPECIFICATIONS TO MAINTAIN PROPER CLEARANCE FROM UTILITIES.
  - U-5 PROPOSED VEHICLE FUEL PUMPING STATION. N.I.C. - INCLUDED IN BID PACK 2. CONTRACTOR SHALL PROVIDE CONDUITS AND FOUR (4) PIPE BOLLARDS AS SHOWN. SEE PIPE BOLLARD DETAIL ON SHEET C-301.

- ELECTRIC SERVICE CONSTRUCTION NOTES**
- E-1 PRIMARY ELECTRIC SERVICE. ALIGNMENT SHOWN FOR REFERENCE PURPOSES ONLY. CONTRACTOR SHALL COORDINATE WITH DELMARVA POWER. SEE ELECTRICAL PLANS FOR ADDITIONAL NOTES, DETAILS AND SPECIFICATIONS.
  - E-2 PROPOSED PAD MOUNT UTILITY TRANSFORMER. N.I.C. - INCLUDED IN BID PACK 2. SEE ELECTRICAL PLANS FOR DETAILS.
  - E-3 PROPOSED PAD MOUNT EMERGENCY GENERATOR. N.I.C. - INCLUDED IN BID PACK 2. SEE ELECTRICAL PLANS FOR DETAILS.

ITEM	EXISTING	PROPOSED
SANITARY GRAVITY SEWER LINE, SIZE & FLOW DIRECTION	EX. 10" S	10" S
SANITARY SEWER FORCE MAIN, SIZE & FLOW DIRECTION	EX. 10" F.M.	12" F.M.
SANITARY SEWER MANHOLE (S.M.H.)	(Symbol)	(Symbol)
SANITARY SEWER CLEANOUT	(Symbol)	(Symbol)
WATER MAIN & FIRE HYDRANT	EX. 10" W.M.	12" W.M.
WATER SERVICE (W.V.) OR METER (M)	(Symbol)	(Symbol)
STORM DRAIN MANHOLE (S.D.M.H.)	(Symbol)	(Symbol)
STORM DRAIN LINE (S.D.R. OR R.C.P.)	(Symbol)	(Symbol)
CATCH BASIN	(Symbol)	(Symbol)
UTILITY POLE W/ OVERHEAD SERVICE (TELEPHONE OR ELECTRIC OR BOTH)	(Symbol)	(Symbol)
UNDERGROUND ELECTRIC	EX. 2" G	2" G
UNDERGROUND GAS MAIN	(Symbol)	(Symbol)
PAVEMENT TO BE REMOVED	N/A	(Symbol)
CONCRETE CURB & GUTTER	(Symbol)	(Symbol)
CONCRETE SIDEWALK, SLAB PAVING	(Symbol)	(Symbol)
PERVIOUS SURFACE ROAD, DRIVE OR LOT	(Symbol)	(Symbol)
INDIVIDUAL TREE OR BUSH	(Symbol)	(Symbol)
WIRE FENCE	(Symbol)	(Symbol)
CHAINS LINK FENCE	(Symbol)	(Symbol)
STRUCTURE (CONCRETE, WOOD, METAL, ETC.)	(Symbol)	(Symbol)
ORANGE DITCH OR SWALE	(Symbol)	(Symbol)
EMBANKMENT (SEES, SPES, DOWN)	(Symbol)	(Symbol)
CONTOUR	(Symbol)	(Symbol)
ELEVATION SPOT SHOT	(Symbol)	(Symbol)
BENCH MARK	(Symbol)	(Symbol)
PROPERTY OR RIGHT-OF-WAY LINE	(Symbol)	(Symbol)
CENTERLINE	(Symbol)	(Symbol)
LIGHT POLE	(Symbol)	(Symbol)
CONSTRUCTION NOTE	(Symbol)	(Symbol)

SANITARY SEWER PIPE SCHEDULE						
PIPE NO.	SIZE	PIPE TYPE	LENGTH	SLOPE	INV. IN	INV. OUT
LAT-1	6"	PVC SDR 35	27'	1.00%	17.27'	17.00'
LAT-2	6"	PVC SDR 35	53'	1.00%	17.53'	17.00'
LAT-3	6"	PVC SDR 35	91'	1.00%	17.63'	16.72'
LAT-4	6"	PVC SDR 35	44'	1.00%	17.34'	16.90'
SS-1	8"	PVC SDR 35	85'	0.40%	16.24'	15.90'
SS-1A	8"	PVC SDR 35	10'	0.50%	15.80'	15.75'
SS-2	8"	PVC SDR 35	104'	0.40%	16.75'	16.34'
SS-3	8"	PVC SDR 35	70'	0.40%	16.62'	16.34'
SS-4	8"	PVC SDR 35	12'	1.00%	16.90'	16.78'

STORM DRAIN PIPE SCHEDULE						
PIPE NO.	SIZE	PIPE TYPE	LENGTH	SLOPE	INV. IN	INV. OUT
SD-1A	18"	H.D.P.E.	132'	0.50%	17.66'	17.00'
SD-2A	18"	H.D.P.E.	116'	0.50%	18.24'	17.66'
SD-3A	18"	R.C.P.	57'	0.85%	19.83'	19.35'
SD-4A	18"	HDPE	202'	0.50%	17.00'	16.00'

STORM DRAIN PIPE SCHEDULE						
PIPE NO.	SIZE	PIPE TYPE	LENGTH	SLOPE	INV. IN	INV. OUT
SD-1B	18"	R.C.P.	83'	1.20%	17.00'	16.00'
SD-2B	15"	R.C.P.	75'	0.50%	17.38'	17.00'
SD-3B	15"	R.C.P.	107'	0.50%	17.92'	17.38'
SD-4B	15"	H.D.P.E.	49'	0.50%	18.16'	17.92'
SD-5B	15"	H.D.P.E.	100'	0.50%	18.66'	18.16'
SD-6B	15"	R.C.P.	104'	1.00%	18.96'	17.92'
SD-7B	15"	R.C.P.	58'	1.01%	17.83'	17.25'
SD-8B	24"	R.C.P.	73'	1.00%	16.00'	15.27'

STORM DRAIN PIPE SCHEDULE						
PIPE NO.	SIZE	PIPE TYPE	LENGTH	SLOPE	INV. IN	INV. OUT
SD-1C	15"	R.C.P.	38'	0.80%	14.00'	13.77'
SD-2C	15"	R.C.P.	44'	0.50%	16.00'	15.78'
SD-3C	18"	R.C.P.	46'	0.70%	17.32'	17.00'
SD-4C	15"	R.C.P.	180'	1.00%	19.12'	17.32'
SD-5C	15"	R.C.P.	40'	0.50%	17.70'	17.50'
SD-6C	15"	R.C.P.	48'	0.64%	18.00'	17.70'

SANITARY SEWER MANHOLE SCHEDULE					
MH NO.	RIM EL.	DIA.	DEPTH	INV. IN	INV. OUT
1-A	23.30'	60"	7.50'	15.90' (SS-1)	15.80' (SS-1A)
1-B	22.40'	48"	6.16'	16.34' (SS-2) 16.34' (SS-3)	16.24' (SS-1)
2	22.85'	48"	6.10'	17.00' (LAT-1) 17.00' (LAT-2)	16.75' (SS-2)
3	21.77'	48"	5.15'	16.72' (LAT-3)	16.62' (SS-3)
DISCHARGE	23.35'	48"	6.45'	17.00'	16.90'

CATCH BASIN SCHEDULE							
CB NO.	INLET BOX	COVER SLAB	TOP UNIT	FRAME/GRATE	GRATE EL.	INV. IN	INV. OUT
1A	30"Ø	--	DUCTILE IRON	30" STANDARD	20.17	17.66' (SD-2A)	17.66' (SD-1A)
2A	30"Ø	--	DUCTILE IRON	30" STANDARD	22.00		18.24' (SD-2A)
3A	30"Ø	--	DUCTILE IRON	30" STANDARD	22.58		19.83' (SD-3A)
4A	34" x 24"	--	TYPE A	TYPE 1	20.11		17.00' (SD-4A)

CATCH BASIN SCHEDULE							
CB NO.	INLET BOX	COVER SLAB	TOP UNIT	FRAME/GRATE	GRATE EL.	INV. IN	INV. OUT
1B	48" x 48"	60" x 80"	TYPE C	TYPE 1	20.83	17.00' (SD-2B) 17.25' (SD-7B)	17.00' (SD-1B)
2B	34" x 24"	--	TYPE C	TYPE 1	21.72	17.38' (SD-3B)	17.38' (SD-2B)
3B	34" x 24"	--	TYPE C	TYPE 1	22.52	17.92' (SD-4B) 17.92' (SD-8B)	17.92' (SD-3B)
4B	30"Ø	--	DUCTILE IRON	30" STANDARD	22.50	18.16' (SD-5B)	18.16' (SD-4B)
5B	30"Ø	--	DUCTILE IRON	30" STANDARD	22.50		18.66' (SD-5B)
6B	34" x 24"	--	TYPE C	TYPE 1	23.15		18.86' (SD-6B)
7B	34" x 24"	--	TYPE C	TYPE 1	20.78		17.83' (SD-7B)
OUTLET 1	48" x 30"	--	--	TRASH RACK	18.50		16.00' (SD-8B)

CATCH BASIN SCHEDULE							
CB NO.	INLET BOX	COVER SLAB	TOP UNIT	FRAME/GRATE	GRATE EL.	INV. IN	INV. OUT
1C	34" x 24"	--	TYPE A	TYPE 1	17.79		14.00' (SD-1C)
2C	34" x 24"	--	TYPE C	TYPE 1	18.79		16.00' (SD-2C)
3C	34" x 24"	--	TYPE C	TYPE 1	20.33	17.32' (SD-4C)	17.32' (SD-3C)
4C	34" x 24"	--	TYPE A	TYPE 1	21.90		19.12' (SD-4C)
5C	34" x 24"	--	TYPE C	TYPE 1	21.03	17.70' (SD-6C)	17.70' (SD-5C)
6C	34" x 24"	--	TYPE C	TYPE 1	20.92		18.00' (SD-6C)

NO.	DATE	DESCRIPTION
6	11-21-13	REVISED PER ADDENDUM #7
5	11-08-13	DELDOT - FINAL PLAN SUBMISSION
4	10-25-13	REVISED PER ADDENDUM #2
3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
2	9-29-13	REVISED PER AGENCY COMMENTS
1	8-28-13	REVISED PER DELDOT COMMENTS

CONSULTANTS

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31056 HARBOR COVE DRIVE  
LONG NECK, DELAWARE 19968  
302-945-2485 fax 302-945-3908

PROJECT TITLE

**DELAWARE STATE POLICE TROOP 3**

S. STATE STREET (U.S. 113A)  
N. MURDERKILL HUNDRED  
KENT COUNTY, DELAWARE

**BID PACK 1**

SHEET TITLE

**GRADING PLAN**



SCALE: 1" = 30'

ISSUE BLOCK

MARK	DATE	DESCRIPTION
1	8-28-13	REVISED PER DELOIT COMMENTS
2	9-25-13	REVISED PER AGENCY COMMENTS
3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
4	10-25-13	REVISED PER ADDENDUM #2
5	11-08-13	DELOIT - FINAL PLAN SUBMISSION
6	11-21-13	REVISED PER ADDENDUM #7

PROJECT NO.: 2011116.00

DATE: 08-13-2013

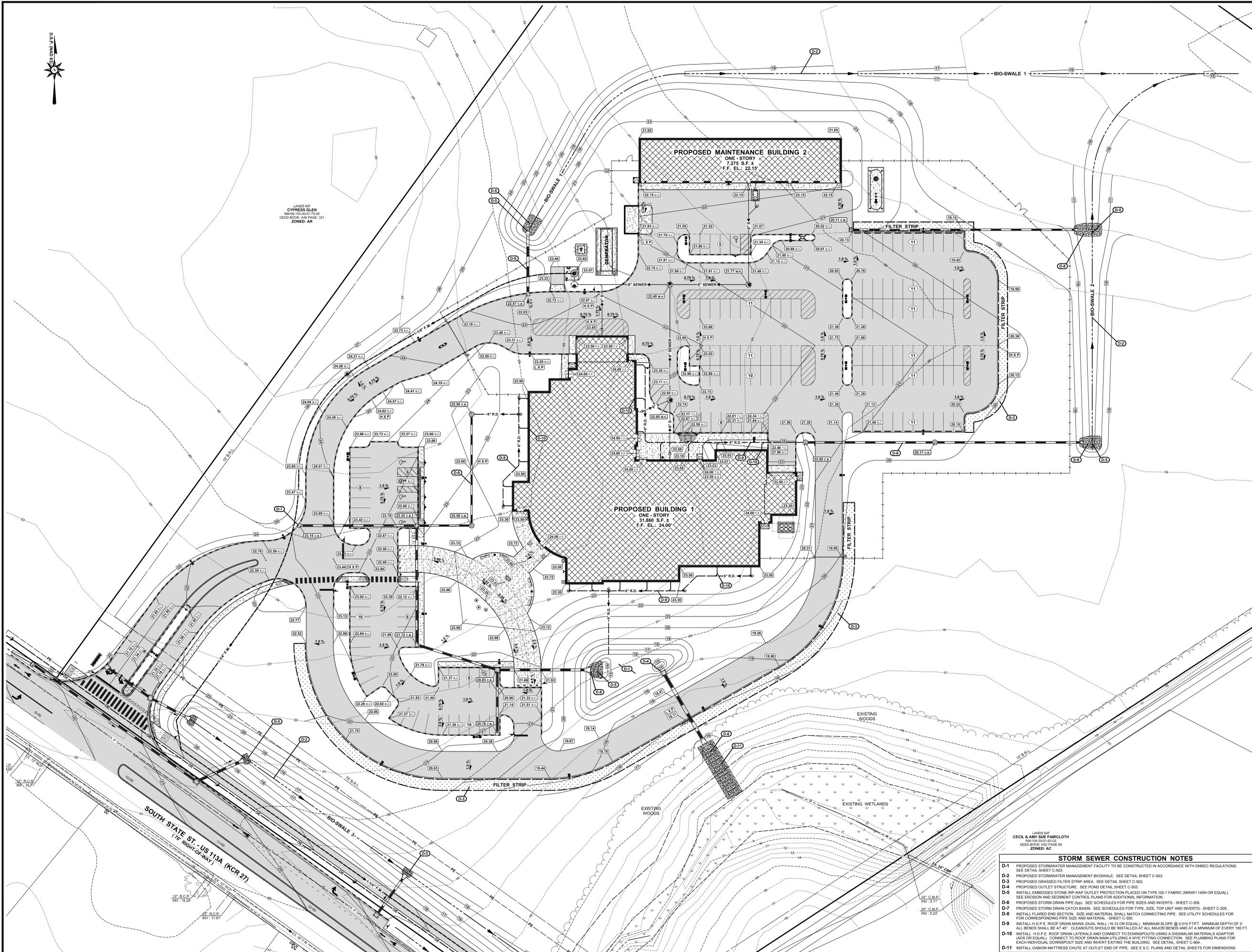
SCALE: 1" = 30'

DRAWN BY: J.S.F. / PROJ. MGR.: D.E.H.

SHEET

**C-401**

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FOR CONTINUATION SEE SHEET C-402

LANDS NIP  
CECIL & AMY SUE FAIRCLOTH  
194-194-001-05323  
DEED BOOK K52 PAGE 69  
ZONED: AC

**STORM SEWER CONSTRUCTION NOTES**

D-1 PROPOSED STORMWATER MANAGEMENT FACILITY TO BE CONSTRUCTED IN ACCORDANCE WITH DNREC REGULATIONS. SEE DETAIL SHEET C-503.

D-2 PROPOSED STORMWATER MANAGEMENT BIOSWALE. SEE DETAIL SHEET C-503.

D-3 PROPOSED GRASSSED FILTER STRIP AREA. SEE DETAIL SHEET C-503.

D-4 PROPOSED OUTLET STRUCTURE. SEE POND DETAIL SHEET C-503.

D-5 INSTALL EMBEDDED STONE RIP-RAP OUTLET PROTECTION PLACED ON TYPE GS-1 FABRIC (MIRAFI 140N OR EQUAL). SEE EROSION AND SEDIMENT CONTROL PLANS FOR ADDITIONAL INFORMATION.

D-6 PROPOSED STORM DRAIN PIPE (IN). SEE SCHEDULES FOR PIPE SIZES AND INVERTS - SHEET C-305.

D-7 PROPOSED STORM DRAIN CATCH BASIN. SEE SCHEDULES FOR TYPE, SIZE, TOP UNIT AND INVERTS - SHEET C-305.

D-8 INSTALL FLARED END SECTION. SIZE AND MATERIAL SMALL MATCH CONNECTING PIPE. SEE UTILITY SCHEDULES FOR CORRESPONDING PIPE SIZE AND MATERIAL - SHEET C-305.

D-9 INSTALL H.D.P.E. ROOF DRAIN MAINS (DUAL WALL / N-12 OR EQUAL). MINIMUM SLOPE @ 0.010 FT/FT. MINIMUM DEPTH OF 2" ALL BENDS SHALL BE AT 45°. CLEANOUTS SHOULD BE INSTALLED AT ALL MAJOR BENDS AND AT A MINIMUM OF EVERY 100 FT.

D-10 INSTALL H.D.P.E. ROOF DRAIN LATERALS AND CONNECT TO DOWNSPOTS USING A DISSIMILAR MATERIALS ADAPTOR (ADS OR EQUAL). CONNECT TO ROOF DRAIN MAIN UTILIZING A WYE FITTING CONNECTION. SEE PLUMBING PLANS FOR EACH INDIVIDUAL DOWNSPOUT SIZE AND INVERT EXISTING THE BUILDING. SEE DETAIL SHEET C-404.

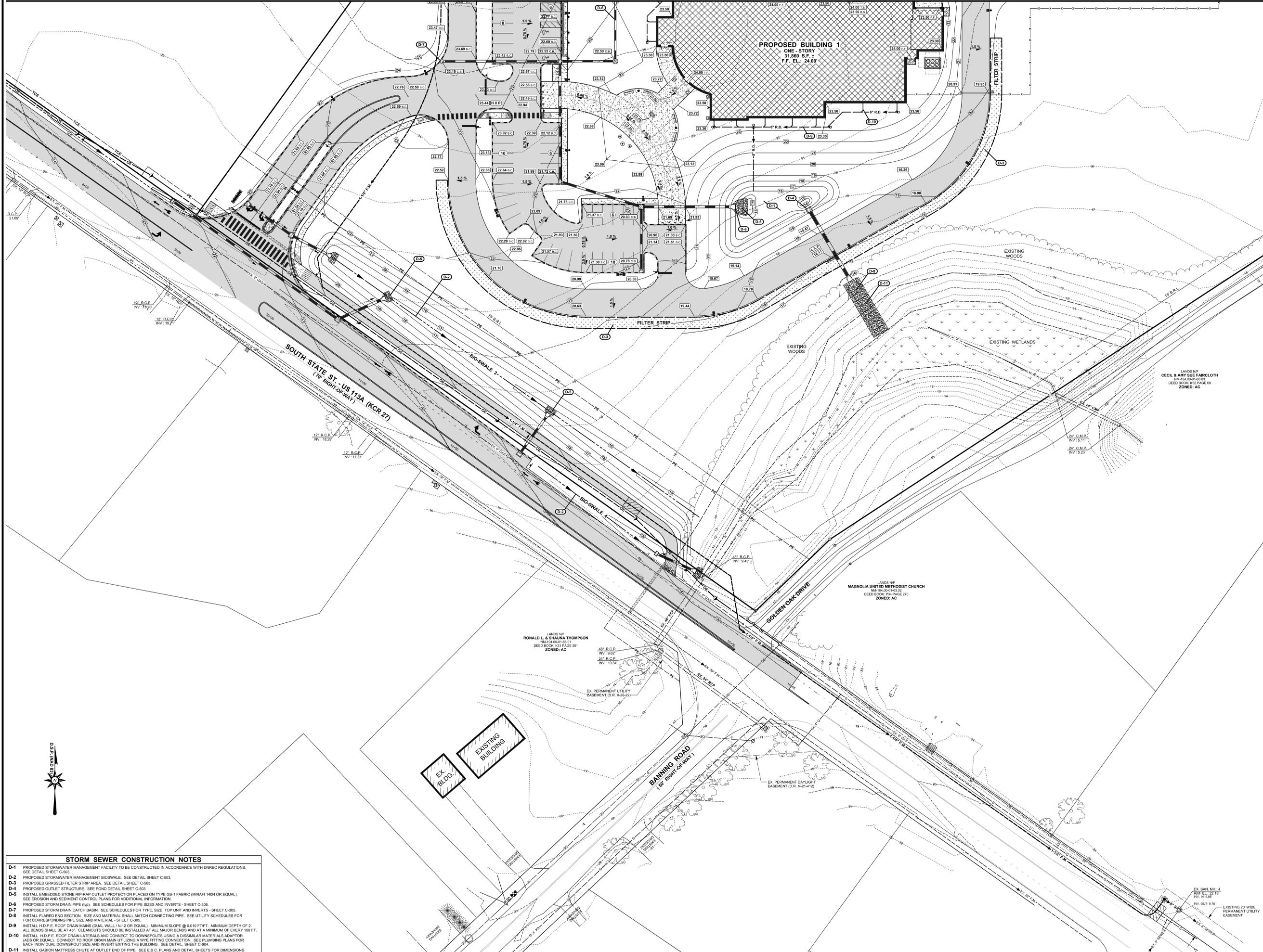
D-11 INSTALL CABIN MATRESS GULCH AT OUTLET END OF PIPE. SEE E.S.C. PLANS AND DETAIL SHEETS FOR DIMENSIONS.



LANDS NIP  
CYPRESS GLEN  
N146-190-001-07100  
DEED BOOK A46 PAGE 321  
ZONED: AR

SOUTH STATE ST - US 113A (KCR 27)  
170' RIGHT-OF-WAY

FOR CONTINUATION SEE SHEET C-401



**STORM SEWER CONSTRUCTION NOTES**

- D-1 PROPOSED STORMWATER MANAGEMENT FACILITY TO BE CONSTRUCTED IN ACCORDANCE WITH DNREC REGULATIONS. SEE DETAIL SHEET C-503.
- D-2 PROPOSED STORMWATER MANAGEMENT BIOSWALE. SEE DETAIL SHEET C-503.
- D-3 PROPOSED GRASSSED FILTER STRIP AREA. SEE DETAIL SHEET C-503.
- D-4 PROPOSED OUTLET STRUCTURE. SEE POND DETAIL SHEET C-503.
- D-5 INSTALL EMBEDDED STONE RIP-RAP OUTLET PROTECTION PLACED ON TYPE GS-1 FABRIC (MIRAFI 140N OR EQUAL). SEE EROSION AND SEDIMENT CONTROL PLANS FOR ADDITIONAL INFORMATION.
- D-6 PROPOSED STORM DRAIN PIPE (76"). SEE SCHEDULES FOR PIPE SIZES AND INVERTS - SHEET C-305.
- D-7 PROPOSED STORM DRAIN CATCH BASIN. SEE SCHEDULES FOR TYPE, SIZE, TOP UNIT AND INVERTS - SHEET C-305.
- D-8 INSTALL FLARED END SECTION. SIZE AND MATERIAL SHALL MATCH CONNECTING PIPE. SEE UTILITY SCHEDULES FOR CORRESPONDING PIPE SIZE AND MATERIAL - SHEET C-305.
- D-9 INSTALL H.D.P.E. ROOF DRAIN MAINS (DUAL WALL / N-12 OR EQUAL). MINIMUM SLOPE @ 0.010 FT/FT. MINIMUM DEPTH OF 2". ALL BENDS SHALL BE AT 45°. CLEANOUTS SHOULD BE INSTALLED AT ALL MAJOR BENDS AND AT A MINIMUM OF EVERY 100 FT.
- D-10 INSTALL H.D.P.E. ROOF DRAIN LATERALS AND CONNECT TO DOWNSPOUTS USING A DISSIPATOR MATERIALS ADAPTOR (ADS OR EQUAL). CONNECT TO ROOF DRAIN MAIN UTILIZING A WYE FITTING CONNECTION. SEE PLUMBING PLANS FOR EACH INDIVIDUAL DOWNSPOUT SIZE AND INVERT EXTING THE BUILDING. SEE DETAIL SHEET C-094.
- D-11 INSTALL GABION MATTRESS CHUTE AT OUTLET END OF PIPE. SEE E.S.C. PLANS AND DETAIL SHEETS FOR DIMENSIONS.

PROJECT TITLE

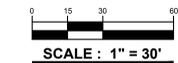
**DELAWARE STATE POLICE TROOP 3**

S. STATE STREET (U.S. 113A)  
N. MURDERKILL HUNDRED  
KENT COUNTY, DELAWARE

**BID PACK 1**

SHEET TITLE

**GRADING PLAN**



ISSUE BLOCK

MARK	DATE	DESCRIPTION
6	11-21-13	REVISED PER ADDENDUM #7
5	11-08-13	DELODT - FINAL PLAN SUBMISSION
4	10-25-13	REVISED PER ADDENDUM #2
3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
2	9-29-13	REVISED PER AGENCY COMMENTS
1	8-28-13	REVISED PER DELODT COMMENTS

PROJECT NO.: 2011116.00

DATE: 08-13-2013

SCALE: 1" = 30'

DRAWN BY: J.S.F. | PROJ. MGR. D.E.H.

SHEET

**C-402**

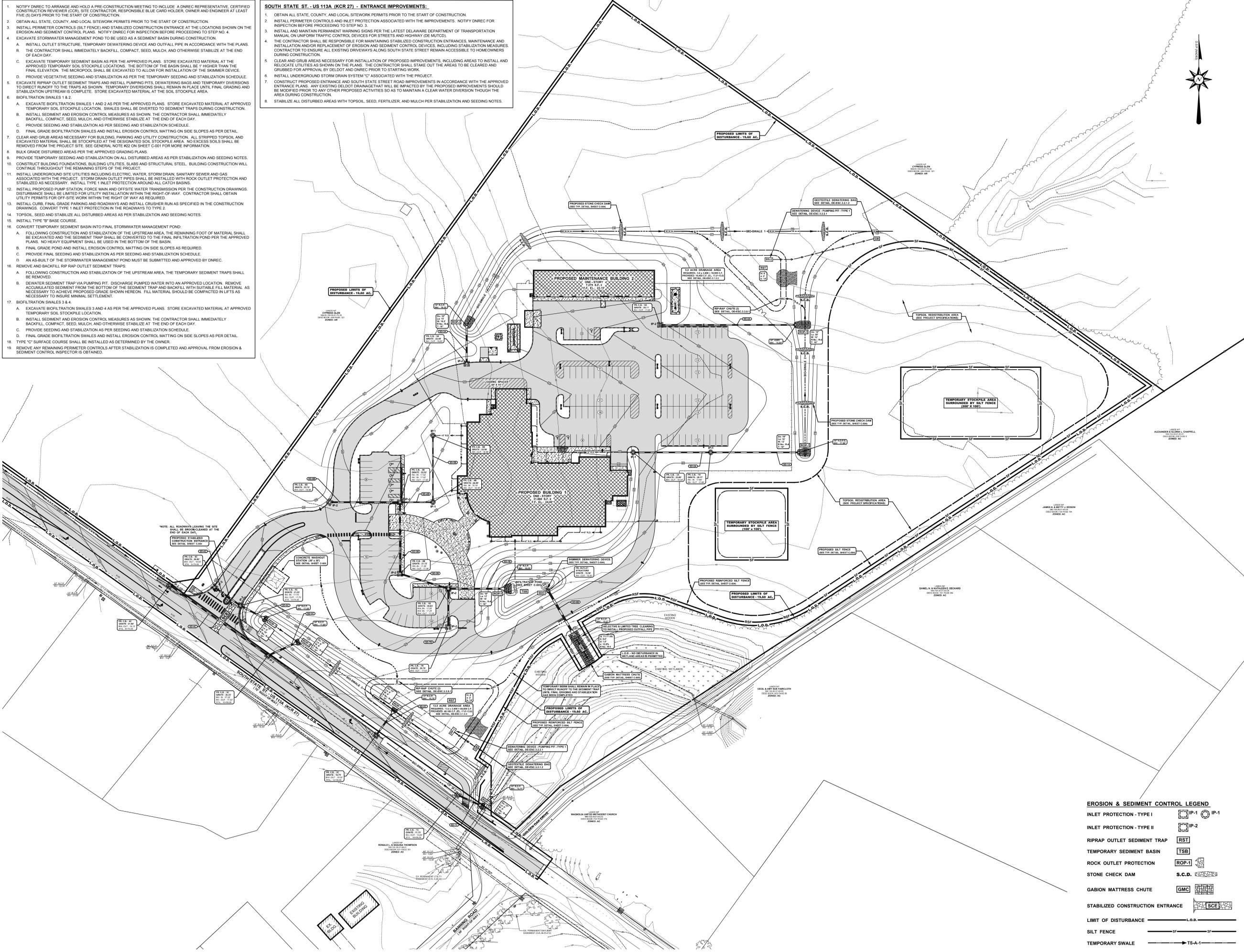
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**CONSTRUCTION SCHEDULE FOR EROSION AND SEDIMENT CONTROL:**

- NOTIFY DNREC TO ARRANGE AND HOLD A PRE-CONSTRUCTION MEETING TO INCLUDE A DNREC REPRESENTATIVE, CERTIFIED CONSTRUCTION REVIEWER (CCR), SITE CONTRACTOR, RESPONSIBLE BLUE CARD HOLDER, OWNER AND ENGINEER AT LEAST FIVE (5) DAYS PRIOR TO THE START OF CONSTRUCTION.
- OBTAIN ALL STATE, COUNTY, AND LOCAL SITEMARK PERMITS PRIOR TO THE START OF CONSTRUCTION.
- INSTALL PERIMETER CONTROLS (SILT FENCE) AND STABILIZED CONSTRUCTION ENTRANCE AT THE LOCATIONS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLANS. NOTIFY DNREC FOR INSPECTION BEFORE PROCEEDING TO STEP NO. 4.
- EXCAVATE STORMWATER MANAGEMENT POND TO BE USED AS A SEDIMENT BASIN DURING CONSTRUCTION:
  - INSTALL OUTLET STRUCTURE, TEMPORARY DESWATERING DEVICES AND OUTFALL PIPE IN ACCORDANCE WITH THE PLANS.
  - THE CONTRACTOR SHALL IMMEDIATELY BACKFILL, COMPACT, SEED, MULCH, AND OTHERWISE STABILIZE AT THE END OF EACH DAY.
  - EXCAVATE TEMPORARY SEDIMENT BASIN AS PER THE APPROVED PLANS. STORE EXCAVATED MATERIAL AT THE APPROVED TEMPORARY SOIL STOCKPILE LOCATIONS. THE BOTTOM OF THE BASIN SHALL BE 1' HIGHER THAN THE FINAL ELEVATION. THE MICROPOOL SHALL BE EXCAVATED TO ALLOW FOR INSTALLATION OF THE SKIMMER DEVICE.
  - PROVIDE VEGETATIVE SEEDING AND STABILIZATION AS PER THE TEMPORARY SEEDING AND STABILIZATION SCHEDULE.
- EXCAVATE RIPRAP OUTLET SEDIMENT TRAPS AND INSTALL PUMPING PITS, DESWATERING BAGS AND TEMPORARY DIVERSIONS TO DIRECT RUNOFF TO THE TRAPS AS SHOWN. TEMPORARY DIVERSIONS SHALL REMAIN IN PLACE UNTIL FINAL GRADING AND STABILIZATION UPSTREAM IS COMPLETE. STORE EXCAVATED MATERIAL AT THE SOIL STOCKPILE AREA.
- BIOFILTRATION SWALES 1 & 2
  - EXCAVATE BIOFILTRATION SWALES 1 AND 2 AS PER THE APPROVED PLANS. STORE EXCAVATED MATERIAL AT APPROVED TEMPORARY SOIL STOCKPILE LOCATION. SWALES SHALL BE DIVERTED TO SEDIMENT TRAPS DURING CONSTRUCTION.
  - INSTALL SEDIMENT AND EROSION CONTROL MEASURES AS SHOWN. THE CONTRACTOR SHALL IMMEDIATELY BACKFILL, COMPACT, SEED, MULCH, AND OTHERWISE STABILIZE AT THE END OF EACH DAY.
  - PROVIDE SEEDING AND STABILIZATION AS PER SEEDING AND STABILIZATION SCHEDULE.
  - FINAL GRADE BIOFILTRATION SWALES AND INSTALL EROSION CONTROL MATTING ON SIDE SLOPES AS PER DETAIL.
- CLEAR AND GRUB AREAS NECESSARY FOR BUILDING, PARKING AND UTILITY CONSTRUCTION. ALL STRIPPED TOPSOIL AND EXCAVATED MATERIAL SHALL BE STOCKPILED AT THE DESIGNATED SOIL STOCKPILE AREA. NO EXCESS SOILS SHALL BE REMOVED FROM THE PROJECT SITE. SEE GENERAL NOTE #22 ON SHEET C-001 FOR MORE INFORMATION.
- BULK GRADE DISTURBED AREAS PER THE APPROVED GRADING PLANS.
- PROVIDE TEMPORARY SEEDING AND STABILIZATION ON ALL DISTURBED AREAS AS PER STABILIZATION AND SEEDING NOTES. CONSTRUCT BUILDING FOUNDATIONS, BUILDING UTILITIES, SLABS AND STRUCTURAL STEEL. BUILDING CONSTRUCTION WILL CONTINUE THROUGHOUT THE REMAINING STEPS OF THE PROJECT.
- INSTALL UNDERGROUND SITE UTILITIES INCLUDING ELECTRIC, WATER, STORM DRAIN, SANITARY SEWER AND GAS ASSOCIATED WITH THE PROJECT. STORM DRAIN OUTLET PIPES SHALL BE INSTALLED WITH ROCK OUTLET PROTECTION AND STABILIZED AS NECESSARY. INSTALL TYPE "I" INLET PROTECTION AROUND ALL CATCH BASINS.
- INSTALL PROPOSED PUMP STATION, FORCE MAIN AND OFF-SITE WATER TRANSMISSION PER THE CONSTRUCTION DRAWINGS. DISTURBANCE SHALL BE LIMITED FOR UTILITY INSTALLATION WITHIN THE RIGHT-OF-WAY. CONTRACTOR SHALL OBTAIN UTILITY PERMITS FOR OFF-SITE WORK WITHIN THE RIGHT OF WAY AS REQUIRED.
- INSTALL CURB, FINAL GRADE PARKING AND ROADWAYS AND INSTALL CRUSHER RUN AS SPECIFIED IN THE CONSTRUCTION DRAWINGS. CONVERT TYPE "I" INLET PROTECTION IN THE ROADWAYS TO TYPE 2.
- TOPSOIL, SEED AND STABILIZE ALL DISTURBED AREAS AS PER STABILIZATION AND SEEDING NOTES.
- INSTALL TYPE "F" BASE COURSE.
- CONVERT TEMPORARY SEDIMENT BASIN INTO FINAL STORMWATER MANAGEMENT POND:
  - FOLLOWING CONSTRUCTION AND STABILIZATION OF THE UPSTREAM AREA, THE REMAINING FOOT OF MATERIAL SHALL BE EXCAVATED AND THE SEDIMENT TRAP SHALL BE CONVERTED TO THE FINAL INFILTRATION POND PER THE APPROVED PLANS. NO HEAVY EQUIPMENT SHALL BE USED IN THE BOTTOM OF THE BASIN.
  - FINAL GRADE POND AND INSTALL EROSION CONTROL MATTING ON SIDE SLOPES AS REQUIRED.
  - PROVIDE FINAL SEEDING AND STABILIZATION AS PER SEEDING AND STABILIZATION SCHEDULE.
  - AN AS-BUILT OF THE STORMWATER MANAGEMENT POND MUST BE SUBMITTED AND APPROVED BY DNREC.
- REMOVE AND BACKFILL RIP RAP OUTLET SEDIMENT TRAPS:
  - FOLLOWING CONSTRUCTION AND STABILIZATION OF THE UPSTREAM AREA, THE TEMPORARY SEDIMENT TRAPS SHALL BE REMOVED.
  - DEWATER SEDIMENT TRAP VIA PUMPING PIT. DISCHARGE PUMPED WATER INTO AN APPROVED LOCATION. REMOVE ACCUMULATED SEDIMENT FROM THE BOTTOM OF THE SEDIMENT TRAP AND BACKFILL WITH SUITABLE FILL MATERIAL AS NECESSARY TO ACHIEVE PROPOSED GRADE SHOWN HEREON. FILL MATERIAL SHOULD BE COMPACTED IN LIFTS AS NECESSARY TO INSURE MINIMAL SETTLEMENT.
- BIOFILTRATION SWALES 3 & 4
  - EXCAVATE BIOFILTRATION SWALES 3 AND 4 AS PER THE APPROVED PLANS. STORE EXCAVATED MATERIAL AT APPROVED TEMPORARY SOIL STOCKPILE LOCATION.
  - INSTALL SEDIMENT AND EROSION CONTROL MEASURES AS SHOWN. THE CONTRACTOR SHALL IMMEDIATELY BACKFILL, COMPACT, SEED, MULCH, AND OTHERWISE STABILIZE AT THE END OF EACH DAY.
  - PROVIDE SEEDING AND STABILIZATION AS PER SEEDING AND STABILIZATION SCHEDULE.
  - FINAL GRADE BIOFILTRATION SWALES AND INSTALL EROSION CONTROL MATTING ON SIDE SLOPES AS PER DETAIL.
- TYPE "C" SURFACE COURSE SHALL BE INSTALLED AS DETERMINED BY THE OWNER.
- REMOVE ANY REMAINING PERIMETER CONTROLS AFTER STABILIZATION IS COMPLETED AND APPROVAL FROM EROSION & SEDIMENT CONTROL INSPECTOR IS OBTAINED.

**CONSTRUCTION SCHEDULE FOR EROSION AND SEDIMENT CONTROL:**

- SOUTH STATE ST. - US 113A (KCR 27) - ENTRANCE IMPROVEMENTS:**
- OBTAIN ALL STATE, COUNTY, AND LOCAL SITEMARK PERMITS PRIOR TO THE START OF CONSTRUCTION.
  - INSTALL PERIMETER CONTROLS AND INLET PROTECTION ASSOCIATED WITH THE IMPROVEMENTS. NOTIFY DNREC FOR INSPECTION BEFORE PROCEEDING TO STEP NO. 3.
  - INSTALL AND MAINTAIN PERMANENT WARNING SIGNS PER THE LATEST DELAWARE DEPARTMENT OF TRANSPORTATION MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (DE MUTCD).
  - THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING STABILIZED CONSTRUCTION ENTRANCES, MAINTENANCE AND INSTALLATION AND/OR REPLACEMENT OF EROSION AND SEDIMENT CONTROL DEVICES, INCLUDING STABILIZATION MEASURES. CONTRACTOR TO ENSURE ALL EXISTING DRIVEWAYS ALONG SOUTH STATE STREET REMAIN ACCESSIBLE TO HOMEOWNERS DURING CONSTRUCTION.
  - CLEAR AND GRUB AREAS NECESSARY FOR INSTALLATION OF PROPOSED IMPROVEMENTS, INCLUDING AREAS TO INSTALL AND RELOCATE UTILITIES AS SHOWN ON THE PLANS. THE CONTRACTOR SHALL STAKE OUT THE AREAS TO BE CLEARED AND GRUBBED FOR APPROVAL BY DELOIT AND DNREC PRIOR TO STARTING WORK.
  - INSTALL UNDERGROUND STORM DRAIN SYSTEM "C" ASSOCIATED WITH THE PROJECT.
  - CONSTRUCT PROPOSED ENTRANCE AND SOUTH STATE STREET ROAD IMPROVEMENTS IN ACCORDANCE WITH THE APPROVED ENTRANCE PLANS. ANY EXISTING DELOIT DRAINAGE THAT WILL BE IMPACTED BY THE PROPOSED IMPROVEMENTS SHOULD BE MODIFIED PRIOR TO ANY OTHER PROPOSED ACTIVITIES SO AS TO MAINTAIN A CLEAR WATER DIVERSION THROUGH THE AREA DURING CONSTRUCTION.
  - STABILIZE ALL DISTURBED AREAS WITH TOPSOIL, SEED, FERTILIZER, AND MULCH PER STABILIZATION AND SEEDING NOTES.



**EROSION & SEDIMENT CONTROL LEGEND**

INLET PROTECTION - TYPE I		IP-1
INLET PROTECTION - TYPE II		IP-2
RIPRAP OUTLET SEDIMENT TRAP		RST
TEMPORARY SEDIMENT BASIN		TSB
ROCK OUTLET PROTECTION		ROP-1
STONE CHECK DAM		S.C.D.
GABION MATTRESS CHUTE		GMC
STABILIZED CONSTRUCTION ENTRANCE		SCE
LIMIT OF DISTURBANCE		L.O.D.
SILT FENCE		SF
TEMPORARY SWALE		TS-A-1

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CONSULTANTS

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302-738-7172 fax 302-738-7175

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LANDSCAPE CONSULTANT  
31056 HARBOR COVE DRIVE  
LONG NECK, DELAWARE 19966  
302-945-2495 fax 302-945-3908

PROJECT TITLE

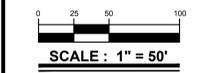
**DELAWARE STATE POLICE TROOP 3**

S. STATE STREET (U.S. 113A)  
N. MURDERKILL HUNDRED  
KENT COUNTY, DELAWARE

**BID PACK 1**

SHEET TITLE

**OVERALL E.S.C. PLAN**



ISSUE BLOCK	NO.	DATE	DESCRIPTION
	6	11-21-13	REVISED PER ADDENDUM #7
	5	11-08-13	DELDOT - FINAL PLAN SUBMISSION
	4	10-25-13	REVISED PER ADDENDUM #2
	3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
	2	9-25-13	REVISED PER AGENCY COMMENTS
	1	8-28-13	REVISED PER DELDOT COMMENTS
MARK	DATE	DESCRIPTION	
<b>PROJECT NO.: 201116.00</b>			
<b>DATE:</b>		<b>08-13-2013</b>	
<b>SCALE:</b>		<b>1" = 50'</b>	
DRAWN BY: J.S.F. PROJ. MGR: D.E.H.			
<b>SHEET</b>			
<b>C-500</b>			
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**DAYDREAM BELIEVER, INC.**

LANDSCAPE CONSULTANT  
31056 HARBOR COVE DRIVE  
LONG NECK, DELAWARE 19968  
302-945-2485 fax 302-945-3988

PROJECT TITLE

**DELAWARE STATE POLICE TROOP 3**

S. STATE STREET (U.S. 113A)  
N. MURDERKILL HUNDRED  
KENT COUNTY, DELAWARE

BID PACK 1

SHEET TITLE

**EROSION & SEDIMENT CONTROL PLAN**

ISSUE BLOCK

MARK	DATE	DESCRIPTION
6	11-21-13	REVISED PER ADDENDUM #7
5	11-09-13	DELOOT - FINAL PLAN SUBMISSION
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1	8-28-13	REVISED PER DELOOT COMMENTS

PROJECT NO.:

2011116.00

DATE:

08-13-2013

SCALE:

1" = 30'

DRAWN BY:

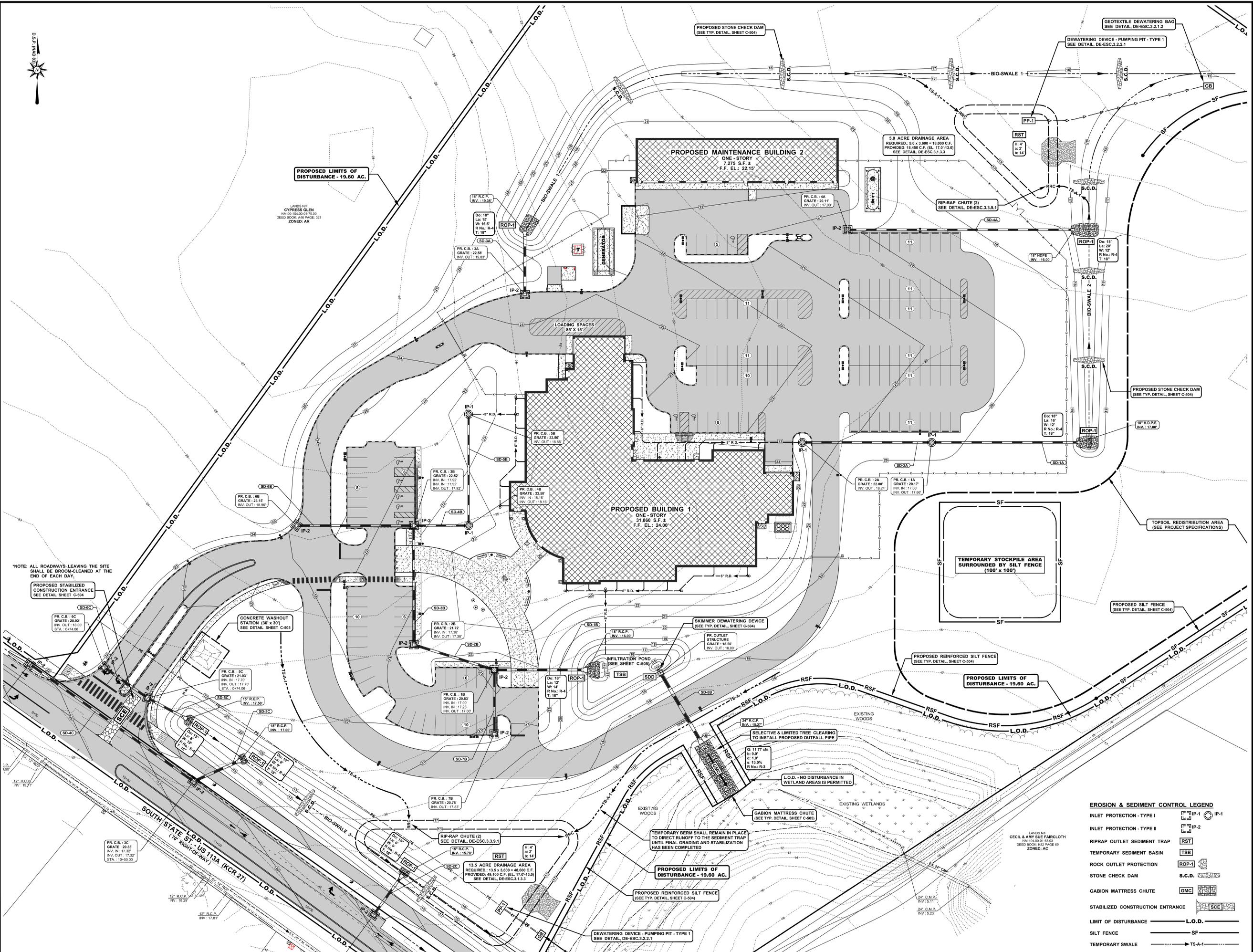
J.S.F. / PROJ. MGR. D.E.H.

SHEET

C-501

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NOTE: ALL ROADWAYS LEAVING THE SITE SHALL BE BROOM-CLEANED AT THE END OF EACH DAY.

PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE DETAIL SHEET C-504

PR. C.B.: 1C GRATE: 26.92 INV. OUT: 18.00 STA.: 0+74.06

CONCRETE WASHOUT STATION (30' x 30') SEE DETAIL SHEET C-505

PR. C.B.: 3C GRATE: 26.33 INV. IN: 17.32 INV. OUT: 17.32 STA.: 10+60.00

12" R.C.P. INV. 19.71

12" R.C.P. INV. 18.29

12" R.C.P. INV. 17.81

12" R.C.P. INV. 17.33

12" R.C.P. INV. 16.85

12" R.C.P. INV. 16.37

12" R.C.P. INV. 15.89

12" R.C.P. INV. 15.41

12" R.C.P. INV. 14.93

12" R.C.P. INV. 14.45

12" R.C.P. INV. 13.97

12" R.C.P. INV. 13.49

12" R.C.P. INV. 13.01

12" R.C.P. INV. 12.53

12" R.C.P. INV. 12.05

12" R.C.P. INV. 11.57

PR. C.B.: 6B GRATE: 23.18 INV. OUT: 18.99

PR. C.B.: 18 GRATE: 21.83 INV. IN: 17.00 INV. OUT: 17.00

PR. C.B.: 38 GRATE: 21.93 INV. IN: 17.70 INV. OUT: 17.70 STA.: 0+74.06

PR. C.B.: 5C GRATE: 21.93 INV. IN: 17.70 INV. OUT: 17.70 STA.: 0+74.06

PR. C.B.: 1B GRATE: 20.83 INV. IN: 17.00 INV. OUT: 17.00

PR. C.B.: 7B GRATE: 20.78 INV. OUT: 17.81

PR. C.B.: 3B GRATE: 22.52 INV. IN: 17.92 INV. OUT: 17.92

PR. C.B.: 4B GRATE: 22.59 INV. IN: 18.16 INV. OUT: 18.16

PR. C.B.: 8B GRATE: 22.59 INV. IN: 18.16 INV. OUT: 18.16

PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 1A GRATE: 22.59 INV. IN: 17.92 INV. OUT: 17.92

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

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PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

PR. C.B.: 1A GRATE: 20.11 INV. IN: 17.95 INV. OUT: 17.95

PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

PR. C.B.: 1A GRATE: 20.11 INV. IN: 17.95 INV. OUT: 17.95

PR. C.B.: 18 GRATE: 21.83 INV. IN: 17.00 INV. OUT: 17.00

PR. C.B.: 38 GRATE: 21.93 INV. IN: 17.70 INV. OUT: 17.70 STA.: 0+74.06

PR. C.B.: 5C GRATE: 21.93 INV. IN: 17.70 INV. OUT: 17.70 STA.: 0+74.06

PR. C.B.: 1B GRATE: 20.83 INV. IN: 17.00 INV. OUT: 17.00

PR. C.B.: 7B GRATE: 20.78 INV. OUT: 17.81

PR. C.B.: 3B GRATE: 22.52 INV. IN: 17.92 INV. OUT: 17.92

PR. C.B.: 4B GRATE: 22.59 INV. IN: 18.16 INV. OUT: 18.16

PR. C.B.: 8B GRATE: 22.59 INV. IN: 18.16 INV. OUT: 18.16

PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 1A GRATE: 22.59 INV. IN: 17.92 INV. OUT: 17.92

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

PR. C.B.: 1A GRATE: 20.11 INV. IN: 17.95 INV. OUT: 17.95

PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

PR. C.B.: 1A GRATE: 20.11 INV. IN: 17.95 INV. OUT: 17.95

PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

PR. C.B.: 1A GRATE: 20.11 INV. IN: 17.95 INV. OUT: 17.95

PR. C.B.: 3A GRATE: 22.28 INV. OUT: 19.81

PR. C.B.: 4A GRATE: 20.11 INV. IN: 18.16 INV. OUT: 17.95

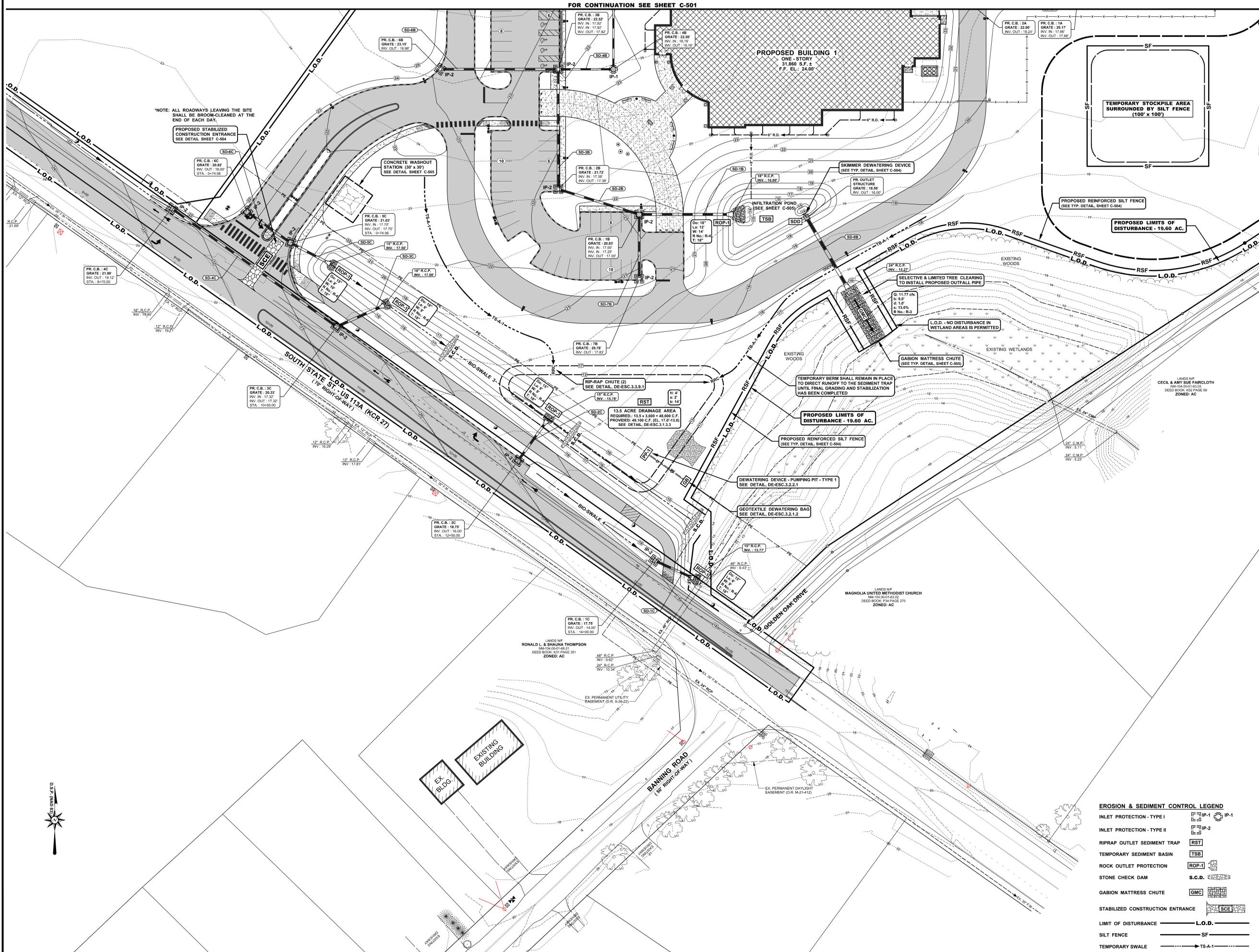
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PR. C.B.: 18 GRATE: 21.83 INV. IN: 17.00 INV. OUT: 17.00

PR. C.B.: 38 GRATE: 21.93 INV. IN: 17.70 INV. OUT: 17.70 STA.: 0+74.06

PR. C.B.: 5C GRATE: 21.93 INV. IN: 17.70 INV. OUT: 17.70 STA.: 0+74.06

&lt;



NOTE: ALL ROADWAYS LEAVING THE SITE SHALL BE BROOM-CLEANED AT THE END OF EACH DAY.

PROPOSED STABILIZED CONSTRUCTION ENTRANCE SEE DETAIL SHEET C-504

CONCRETE WASHOUT STATION (30' x 30') SEE DETAIL SHEET C-505

PROPOSED REINFORCED SILT FENCE (SEE TYP. DETAIL SHEET C-504)

PROPOSED LIMITS OF DISTURBANCE - 19.60 AC.

PROPOSED LIMITS OF DISTURBANCE - 19.60 AC.

PROPOSED REINFORCED SILT FENCE (SEE TYP. DETAIL SHEET C-504)

DEWATERING DEVICE - PUMPING PIT - TYPE 1 SEE DETAIL DE-ESC.3.2.2.1

GEOTEXTILE DEWATERING BAG (SEE DETAIL DE-ESC.3.2.1.2)

DEWATERING DEVICE - PUMPING PIT - TYPE 1 SEE DETAIL DE-ESC.3.2.2.1

PROPOSED LIMITS OF DISTURBANCE - 19.60 AC.

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DEWATERING DEVICE - PUMPING PIT - TYPE 1 SEE DETAIL DE-ESC.3.2.2.1

GEOTEXTILE DEWATERING BAG (SEE DETAIL DE-ESC.3.2.1.2)

DEWATERING DEVICE - PUMPING PIT - TYPE 1 SEE DETAIL DE-ESC.3.2.2.1

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GEOTEXTILE DEWATERING BAG (SEE DETAIL DE-ESC.3.2.1.2)

**EROSION & SEDIMENT CONTROL LEGEND**

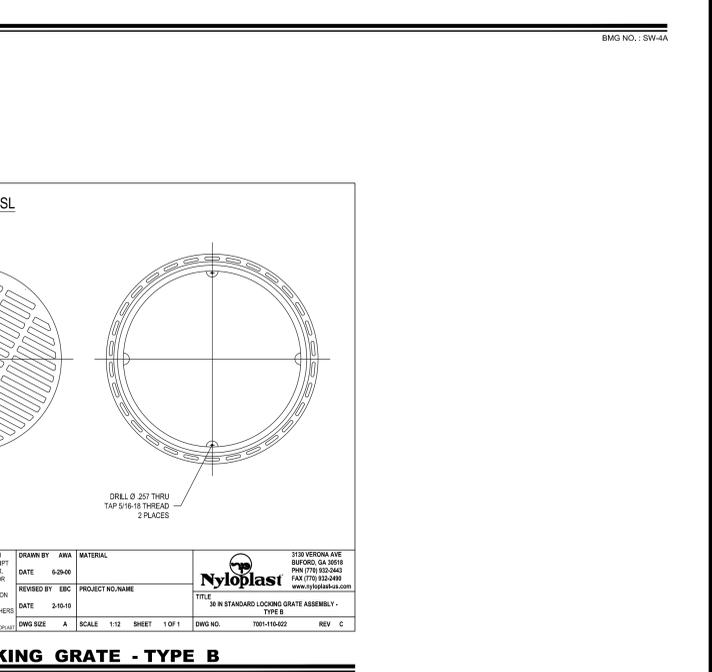
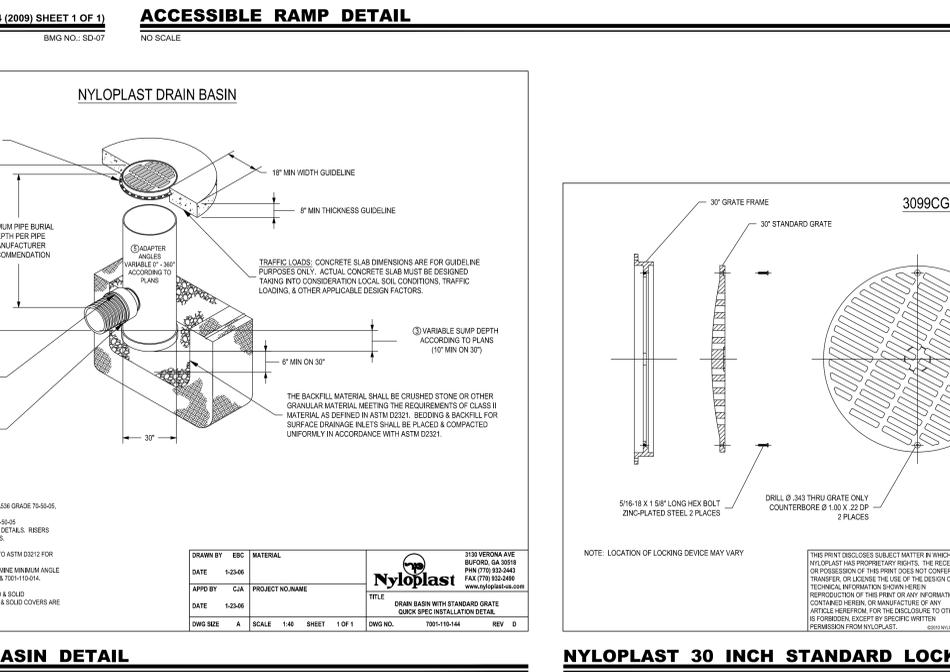
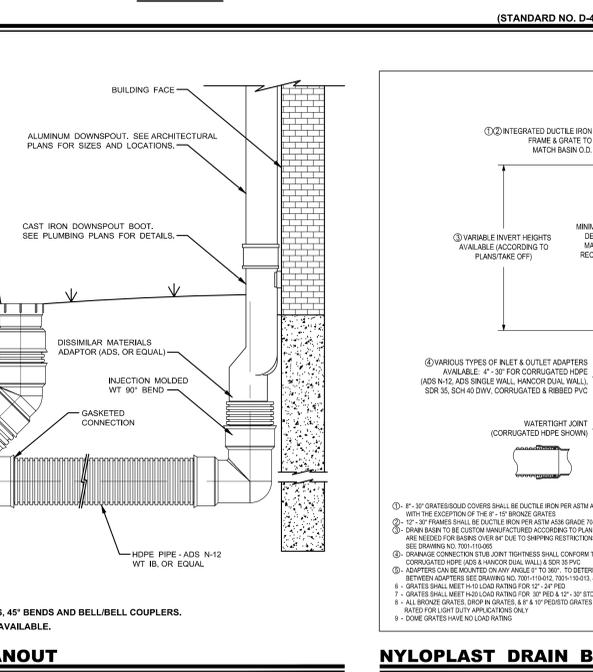
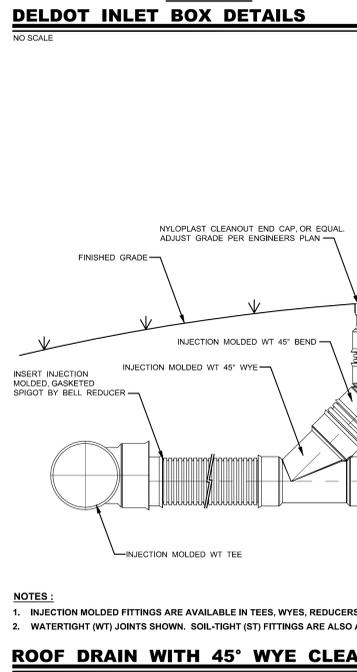
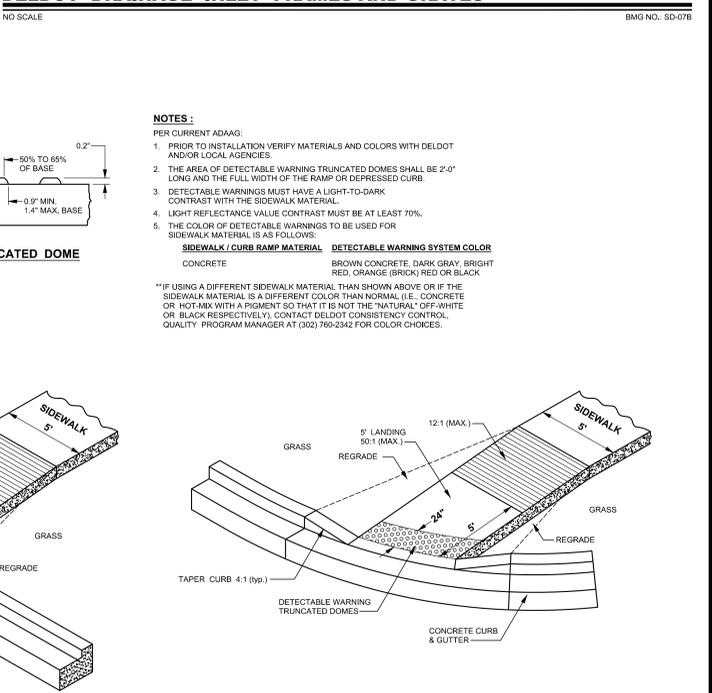
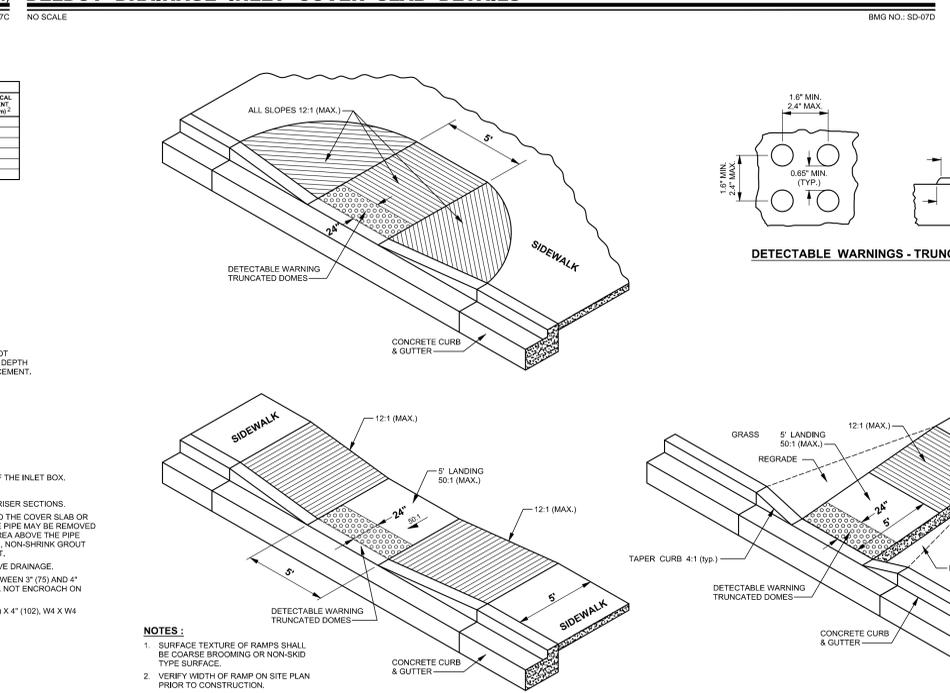
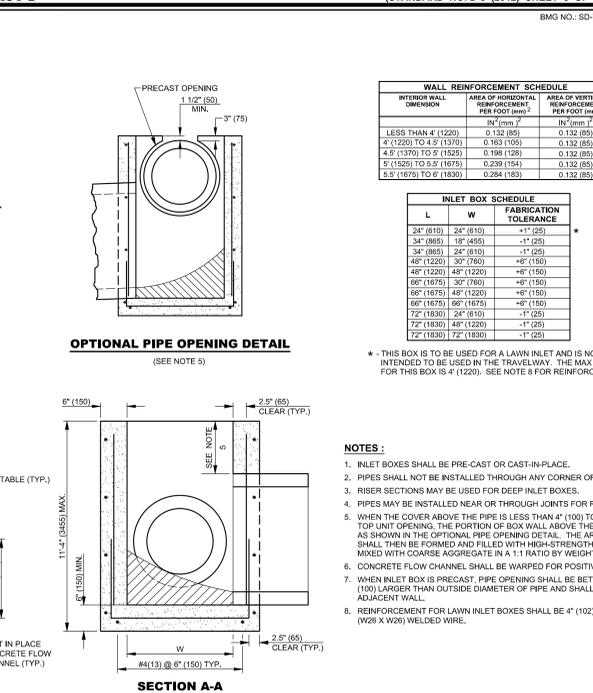
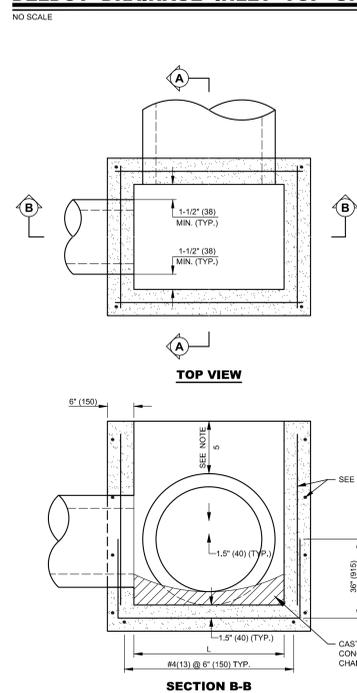
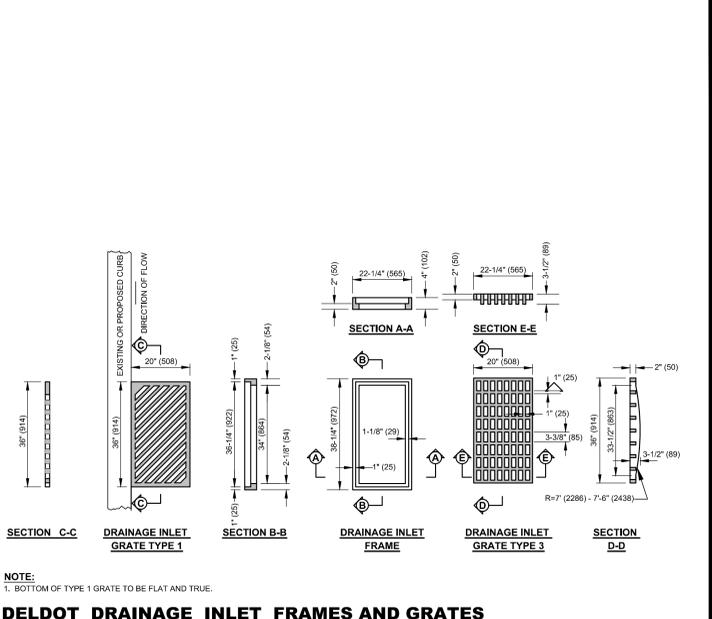
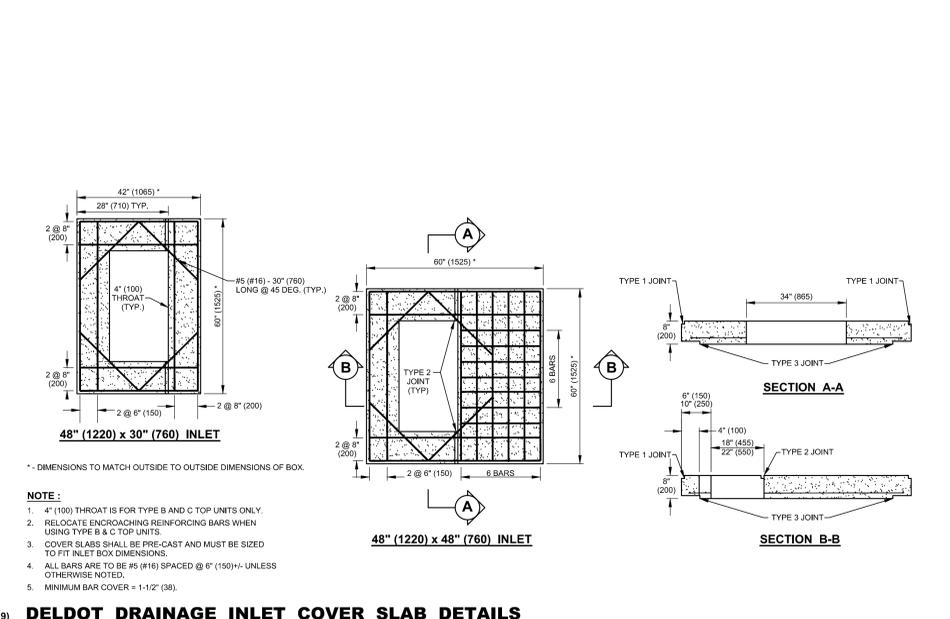
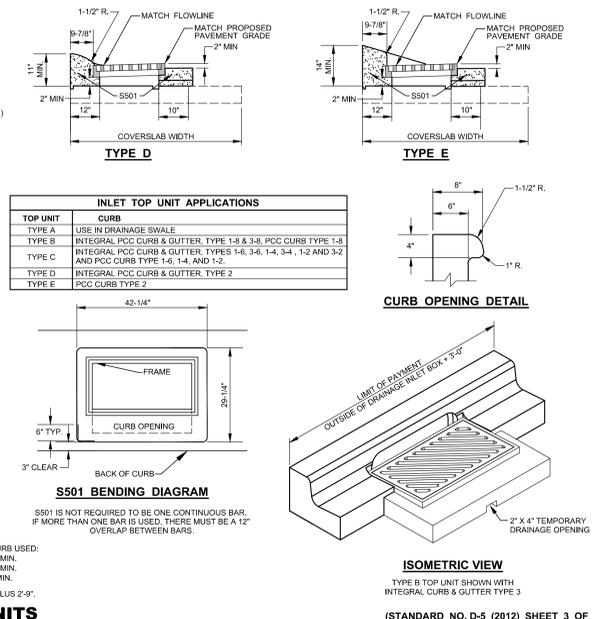
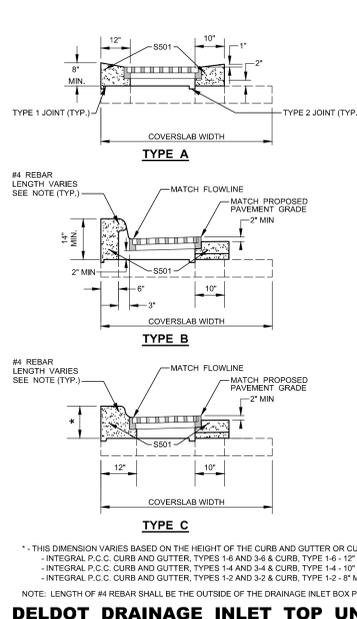
INLET PROTECTION - TYPE I	IP-1
INLET PROTECTION - TYPE II	IP-2
RIPRAP OUTLET SEDIMENT TRAP	RST
TEMPORARY SEDIMENT BASIN	TSB
ROCK OUTLET PROTECTION	ROP-1
STONE CHECK DAM	S.C.D.
GABION MATTRESS CHUTE	GMC
STABILIZED CONSTRUCTION ENTRANCE	SCE
LIMIT OF DISTURBANCE	L.O.D.
SILT FENCE	SF
TEMPORARY SWALE	TS-A-1











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 1175 SCOTTY CHARLES STREET  
 NEWARK, DELAWARE 19711  
 302-738-7172 Fax 302-738-7175

PROJECT TITLE  
**DELAWARE STATE POLICE TROOP 3**  
 S. STATE STREET (U.S. 113A)  
 N. MURDERKILL HUNDRED  
 KENT COUNTY, DELAWARE

BID PACK 1  
 SHEET TITLE  
**CONSTRUCTION DETAILS**

MARK	DATE	DESCRIPTION
1	8-28-13	REVISED PER AGENCY COMMENTS
2	9-25-13	REVISED PER AGENCY COMMENTS
3	10-25-13	BID PACK 1 - ISSUED FOR BIDDING
4	10-25-13	REVISED PER ADDENDUM #2
5	11-08-13	DELDOT - FINAL PLAN SUBMISSION
6	11-21-13	REVISED PER ADDENDUM #7

ISSUE BLOCK  
 PROJECT NO.: 2011116.00  
 DATE: 08-13-2013  
 SCALE: AS SHOWN  
 DRAWN BY: J.S.F., PROJ. MGR.: D.E.H.  
 SHEET  
**C-903**  
 COPYRIGHT 2013



3	10-09-13	BID PACK 1 - ISSUED FOR BIDDING
2	9-25-13	REVISED PER AGENCY COMMENTS
1	8-28-13	REVISED PER DELDOT COMMENTS

MARK	DATE	DESCRIPTION
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PROJECT NO.: 2011116.00

DATE: 08-13-2013

SCALE: 1" = 50'

DRAWN BY: AMD PROJ. MGR.: D.E.H.

SHEET

**L-101**



**TREE DENSITY REQUIREMENTS:**

- TREE DENSITY REQUIREMENT: (NON-WOODLAND AREA INSIDE GROWTH ZONE)  
1 TREE PER 5,000 S.F. OF SITE AREA (NON-RESIDENTIAL)  
TOTAL SITE AREA = 871,265 S.F. ± OR 20.00 ACRES ±  
WOODED AREA = 76,802 S.F. ± OR 1.76 ACRES ±  
DEVELOPED SITE AREA = 794,463 S.F. ± OR 18.24 ACRES ±  
REQUIRED NO. OF TREES = 794,463 S.F. / 1 TREE PER 5,000 S.F. = 159 TREES
- TREES PROVIDED:  
EXISTING = 0 TREES  
PROPOSED = 166 TREES  
TOTAL TREES = 166

**GENERAL LANDSCAPE NOTES:**

- MULCH ALL TREE PITS, PLANT BEDS, AND GROUND COVER AREAS WITH A MINIMUM 3" DEPTH (AFTER SETTLEMENT) OF MULCH OR AS NOTED. SHREDDED HARDWOOD MULCH SHALL BE USED FOR ALL BEDS AND TREE PITS.
- THIS DRAWING TO BE USED FOR LANDSCAPE DEVELOPMENT PURPOSES ONLY.
- ALL TREE STAKING, GUYING, AND WRAPPING SHALL BE REMOVED AFTER ONE YEAR.
- ALL SHRUB, FLOWER, AND GROUND COVER BEDS SHALL BE PITCHED OR CROWNED TO ASSURE A MINIMUM SURFACE PITCH OF 3% FOR POSITIVE SURFACE DRAINAGE.
- NOT APPLICABLE TO BIOTRETMENT AREA.
- ALL PROPOSED LANDSCAPE PLANT MATERIAL TO BE GUARANTEED FOR A PERIOD OF TWELVE MONTHS FROM THE DATE OF ACCEPTANCE, AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM NEGLIGENCE BY OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND LANDSCAPE INSTALLER CONTROL. CONTRACTOR, IF NOT MAINTAINING THE PROPERTY DURING THE GUARANTEE PERIOD, SHALL BE RESPONSIBLE FOR MAKING MONTHLY INSPECTIONS AND ISSUING WRITTEN REPORTS DETAILING ANY MAINTENANCE PRACTICES HE OBSERVES WHICH WOULD IN ANYWAY NEGATE HIS GUARANTEE OBLIGATION.
- ALL AREAS BEYOND THE LIMIT OF LAWN/GROUND COVER THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION AND/OR TO COMPLY WITH STANDARDS INDICATED ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
- ALL TREES ADJACENT TO CURBS (OR EDGE OF PAVEMENT) SHALL BE PLACED 5'-0" AWAY FROM THE CURB FACE MEASURED TO THE CENTERLINE OF THE TREE TRUNK. IF PLACED IN THE MEDIAN ISLAND, THEY SHALL BE CENTERED IN THE SPACE BETWEEN THE CURBS OR AS NOTED ON THE LANDSCAPE PLAN. ALL TREES PLANTED ADJACENT TO PEDESTRIAN WALKWAYS SHALL BE BRANCHED AT 6' INITIALLY.
- NO PLANT MATERIAL ABOVE 24" WILL BE INSTALLED WITHIN ANY APPROVED SIGHT TRIANGLE.
- PLANT BACKFILL MIX SHALL CONTAIN THE FOLLOWING:  
1 PART AMENDED TOPSOIL (SCREENED) WITH FERTILIZATION AS REQUIRED BELOW:  
AMENDED TOPSOIL: SHALL BE WITHOUT ADMIXTURE OF SUBSOIL OF SLAG AND SHALL BE FREE OF STONES, LUMPS, PLANTS OR THEIR ROOTS, STICKS AND EXTRANEOUS MATTER, AND SHALL NOT BE MOVED, PLACED OR USED WHILE IN FROZEN OR MUDDY CONDITION. TOPSOIL SHALL HAVE AN ACIDITY RANGE OF PH 5.0 TO 7.0 AND SHALL CONTAIN NOT LESS THAN 5% ORGANIC MATTER AS DETERMINED BY THE "WALKLEY-BLACK METHOD" (COLORIMETRIC VERSION). SUFFICIENT LIMESTONE SHALL BE ADDED TO TOPSOIL USED TO BRING SOIL TO RANGE OF PH 6.0 TO PH 6.5. THERE SHALL BE A MINIMUM OF 12" OF TOPSOIL (AFTER SETTLEMENT) IN ALL PLANT BEDS, OR GROUND COVER AREAS AND 3" IN ALL FINE LAWN, SEEDING AREAS OR AS CALLED FOR.  
FERTILIZATION: 1. FOR TREES, SHRUBS AND ALL GROUND COVER (HERBACEOUS AND CONIFEROUS); TERRAZOLIN AS AT THE RATE OF 32 OZ PER CUBIC YARD OF SOIL MIX.  
2. FOR TREES AND SHRUBS (EXCLUDING CONIFEROUS GROUND COVER); PHC HEALTHY START 3-4-3 ORGANIC FERTILIZER/SOIL CONDITIONER, SHALL BE APPLIED AT 1/2 LB. PER TRUNK DIAMETER (CAL. INCH) FOR TREES.  
FOR SHRUBS USE THE FOLLOWING TABLE:  

PLANT SIZE	RATE CUPS	LBS.	#PLANT BAG
1 GALLON	1/2	14	10
5 GALLON	1	1/2	50
15 GALLON	2	1	25
24" BALL/BOX	3	1 1/2	16
36" BALL/BOX	5	2 1/2	10
42" BALL/BOX	6	3	8
54" BALL/BOX	8	4	6
72" BALL/BOX	10	5	5

  
 FOR HERBACEOUS AND CONIFEROUS GROUND COVER: DRY ROOTS 2 SHALL BE APPLIED AT THE FOLLOWING RATES:  
 CONIFEROUS GROUND COVER:  
 PLANT SIZE    RATE CUPS    LBS.    #PLANT BAG  
 15-18" B&B    1 1/2    34    37  
 HERBACEOUS GROUND COVER: 20LBS./1000 SQUARE FEET.  
 FOR LAWN AND SEEDING AREAS: 10-6.4 50% ORGANIC FERTILIZER AT THE RATE OF 20LBS. PER 1,000 SQUARE FEET (OR AS REQUIRED BY TOPSOIL ANALYSIS REPORT).
- ALL PLANT MATERIAL MUST COMPLY WITH THE RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "STANDARD FOR NURSERY STOCK".
- PLANT QUANTITIES ARE GIVEN FOR COMPARISON PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING PLANT COUNTS AND SHALL BE RESPONSIBLE FOR PROVIDING ALL PLANT MATERIAL SHOWN ON THE DRAWING. ANY DISCREPANCIES BETWEEN PLANT SCHEDULE QUANTITIES AND PLANS SHALL IMMEDIATELY BE BROUGHT TO THE LANDSCAPE ARCHITECTS ATTENTION PRIOR TO SUBMISSION OF BID. NO SUBSTITUTIONS OF TYPE OF PLANT MATERIAL OR SIZES OF PLANT MATERIAL WILL BE ACCEPTABLE UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. ANY CHANGES TO AN APPROVED LANDSCAPE PLAN MUST BE AUTHORIZED BY THE LANDSCAPE ARCHITECT.
- APPLY ANTI-DESICCANT PRIOR TO THE ONSET OF WINTER AND AGAIN IN MID-WINTER, USING POWER SPRAY TO PROVIDE AN ADEQUATE FILM OVER TRUNKS, BRANCHES, STEMS, TWIGS, AND FOLIAGE. IF DECIDUOUS TREES OR SHRUBS ARE MOVED IN FULL LEAF, SPRAY WITH ANTI-DESICCANT AT NURSERY BEFORE MOVING AND AGAIN TWO WEEKS AFTER INSTALLATION.
- ALL PLANTED TREES, SHRUBS, GROUND COVERS AND ANNUAL FLOWERS, SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF THE COMPLETED CONTRACT OR WHEN INSTALLATION IS ACCEPTED AND MAINTENANCE IS TRANSFERRED TO OWNER. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, CONTROL OF INSECTS, FUNGUS, AND OTHER HORTICULTURAL OPERATIONS NECESSARY FOR THE PROPER GROWTH OF ALL PLANT MATERIAL.
- PLANT LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE AND SUBJECT TO FIELD AND UTILITY LOCATIONS.
- NO TREE SHALL BE INSTALLED WITHIN TEN (10) FEET OF UNDERGROUND UTILITIES OR FIRE HYDRANTS.

**TREES PROTECTION NOTES**

- LIMIT OF WORK LINE TO BE DELINEATED BY SNOW FENCING OR APPROVED EQUAL.
- PROTECTIVE FENCING TO BE SNOW FENCING OR EQUIVALENT TO PROTECT VEGETATION FROM HEAVY MACHINERY OR CONSTRUCTION OPERATIONS.
- PROTECTIVE FENCING TO BE ERECTED BEFORE EXCAVATION AND REMOVED UPON COMPLETION OF GRADING.

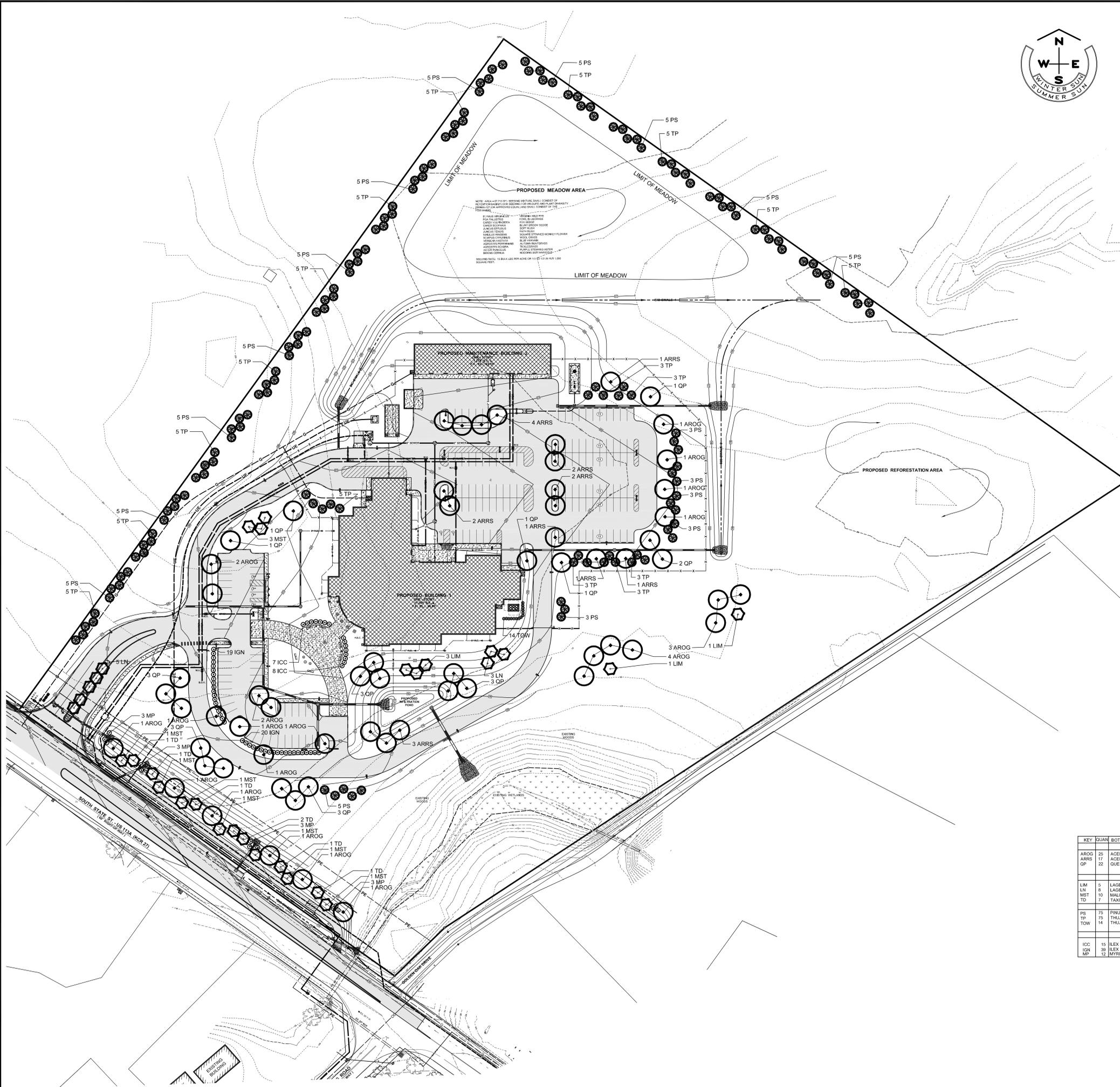
**PLANT LIST**

KEY	QUAN	BOTANICAL NAME	COMMON NAME	SIZE	ROOT	COMMENTS
<b>CANOPY TREES</b>						
AROG	25	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2.5-3" CAL.	B&B	
ARRS	17	ACER RUBRUM 'RED SUNSET'	RED SUNSET RED MAPLE	2.5-3" CAL.	B&B	
OP	22	QUERCUS PHELLOS	WILLOW OAK	2.5-3" CAL.	B&B	
<b>UNDERSTORY TREES</b>						
LIM	5	LAGERSTROEMIA INDICA 'MIAMI'	MIAMI CRAPEMYRTLE	6-7' HT.	B&B	THREE (3) STEM MIN.
LN	8	LAGERSTROEMIA INDICA 'NATCHEZ'	'NATCHEZ' CRAPEMYRTLE	6-7' HT.	B&B	THREE (3) STEM MIN.
MST	10	MALUS 'SUGAR TUNE'	SUGAR TUNE CRABAPPLE	1.5-2" CAL.	B&B	
TD	7	TAXODIUM DISTICHUM 'SHAWNEE BRAVE'	SHAWNEE BRAVE BALD CYPRESS	6-7' HT.	B&B	
<b>EVERGREEN TREES</b>						
PS	75	PRUNUS STROBUS	WHITE PINE	5-6' HT.	B&B	
TP	75	THUJA PLICATA	GREEN GIANT WESTERN ARBORVITAE	4-5' HT.	B&B	
TOW	14	THUJA OCCIDENTALIS 'WINTERGREEN'	WINTERGREEN EASTERN ARBORVITAE	7 GAL.	3" O.C.	
<b>SHRUBS</b>						
ICC	15	ILEX CRENATA 'CHESAPEAKE'	CHESAPEAKE JAPANESE HOLLY	2.5-3" HT.	5 GAL	5" O.C.
IGN	39	ILEX GLABRA 'NIGRA'	NIGRA HIBERRY	2.2-2" HT.	3 GAL	5" O.C.
MP	12	MIRICA PENSLVANICA	NORTHERN BAY BERRY	1.5-4" HT.	1 GAL	3" O.C.

**LANDSCAPE ARCHITECTS CERTIFICATION**

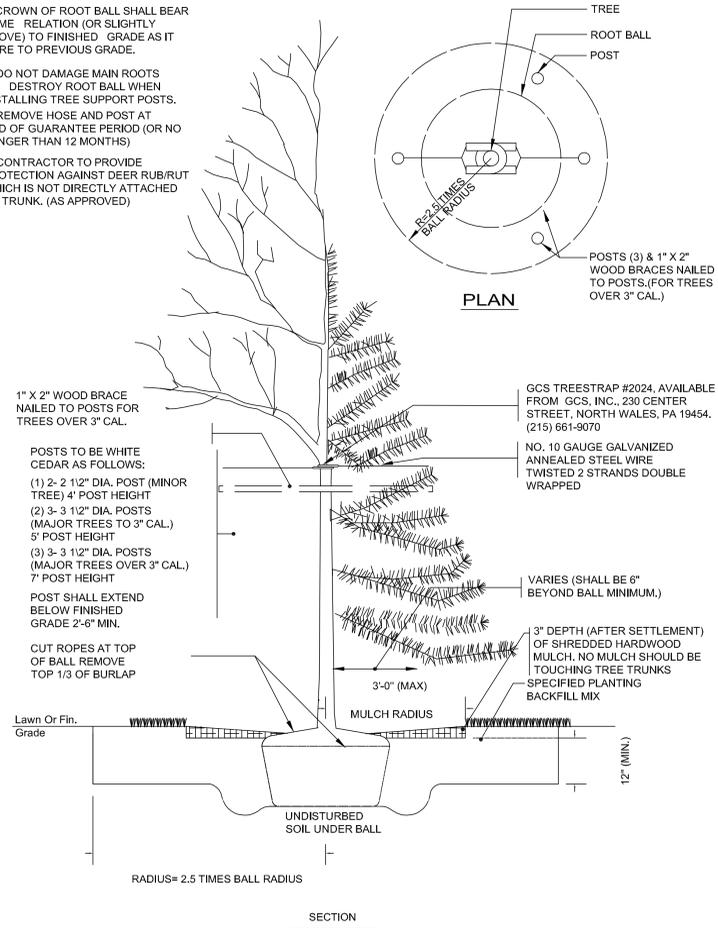
I, Albert M. Demerich, RLA, ASLA, HEREBY CERTIFY THAT I AM A REGISTERED LANDSCAPE ARCHITECT IN THE STATE OF DELAWARE, THAT THE LANDSCAPE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF, REPRESENTS GOOD LANDSCAPE PRACTICES.

ALBERT M. DEMERICH, RLA, ASLA    LICENSE # S1-0000394    DATE

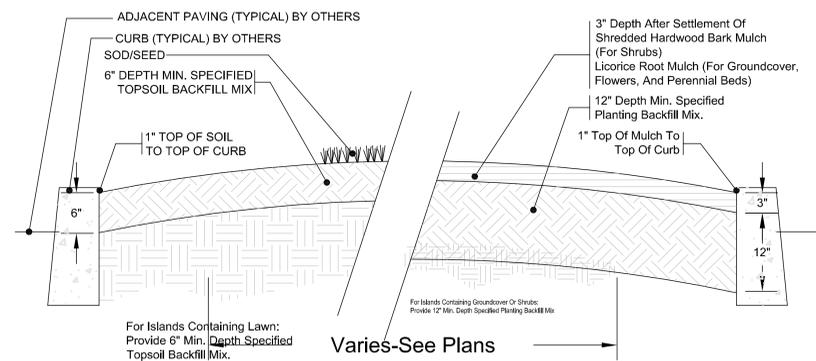


**PLANTING NOTES:**

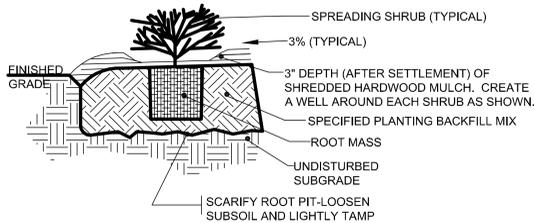
1. CROWN OF ROOT BALL SHALL BEAR SAME RELATION (OR SLIGHTLY ABOVE) TO FINISHED GRADE AS IT BORE TO PREVIOUS GRADE.
2. DO NOT DAMAGE MAIN ROOTS OR DESTROY ROOT BALL WHEN INSTALLING TREE SUPPORT POSTS.
3. REMOVE HOSE AND POST AT END OF GUARANTEE PERIOD (OR NO LONGER THAN 12 MONTHS)
4. CONTRACTOR TO PROVIDE PROTECTION AGAINST DEER RUB/RUT WHICH IS NOT DIRECTLY ATTACHED TO TRUNK. (AS APPROVED)



**DETAIL: TREE PLANTING**  
SCALE: NOT TO SCALE

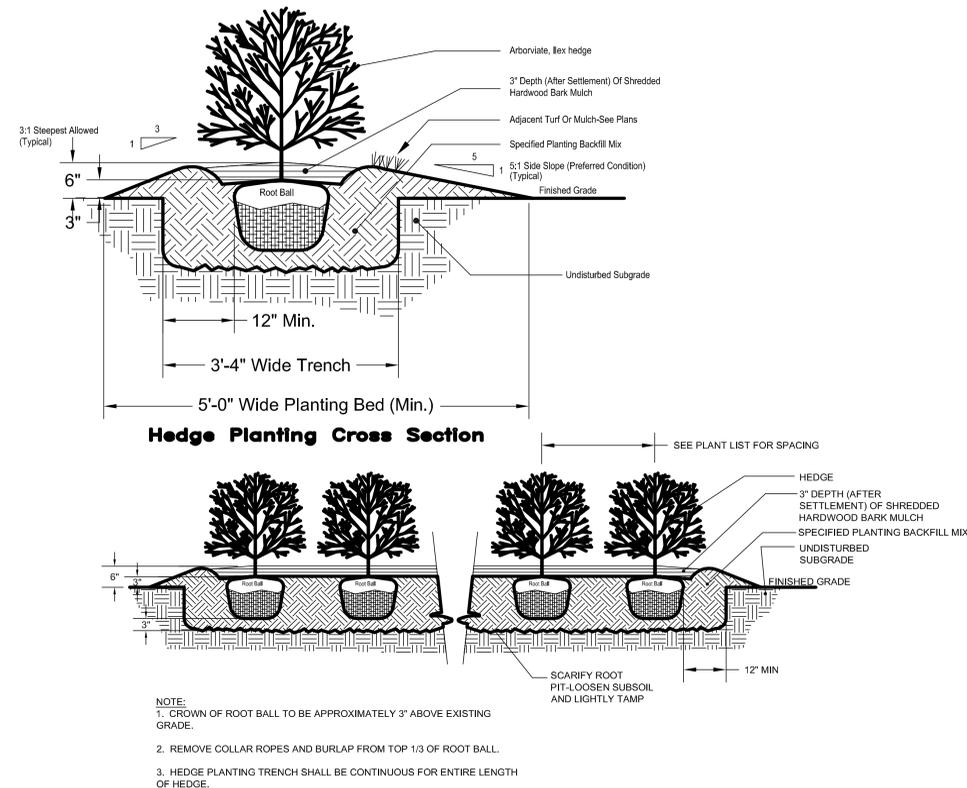


**DETAIL: ISLAND**  
SCALE: NOT TO SCALE



1. CROWN OF ROOT MASS TO BE SLIGHTLY ABOVE EXISTING GRADE. IF DRAINAGE IS QUESTIONABLE NOTIFY LANDSCAPE ARCHITECT IMMEDIATELY FOR DECISION.
2. FOR BARE ROOT SHRUBS: THIN BRANCHES AND FOLIAGE (NOT ALL END TIPS) BY 1/3 RETAINING NORMAL PLANT SHAPE. (BARE ROOT PLANTS ONLY).
3. FOR CONTAINER SHRUBS: REMOVE POT, CHECK ROOT SYSTEM. IF THERE ARE ANY SIGNS OF BEING ROOT BOUND, SLASH ROOT MASS (WITH A SHARP KNIFE) VERTICALLY IN 4 EQUIDISTANT LOCATIONS.
4. FOR BALLED AND BURLAPPED SHRUBS: REMOVE COLLAR ROPES AND TOP 1/3 OF BURLAP. 5. CROWN OR SLOPE ALL SHRUB BEDS TO ASSURE A MIN. PITCH OF 3%.

**DETAIL: SHRUB PLANTING**  
SCALE: NOT TO SCALE



**DETAIL: HEDGE PLANTING**  
SCALE: NOT TO SCALE

**TREE DENSITY REQUIREMENTS:**

1. TREE DENSITY REQUIREMENT	(NON-WOODLAND AREA INSIDE GROWTH ZONE) 1 TREE PER 3,000 S.F. OF SITE AREA (NON-RESIDENTIAL) TOTAL SITE AREA = 871,265 S.F. ± OR 20.00 ACRES ± WOODED AREA = 76,602 S.F. ± OR 1.76 ACRES ± DEVELOPED SITE AREA = 794,663 S.F. ± OR 18.24 ACRES ± REQUIRED NO. OF TREES = 794,663 S.F. / 1 TREE PER 3,000 S.F. = 159 TREES
2. TREES PROVIDED:	EXISTING = 0 TREES PROPOSED = 166 TREES PROPOSED = 16 TREES (STREET BUFFER AND PARKING AREAS) TOTAL TREES = 241

**GENERAL LANDSCAPE NOTES:**

1. MULCH ALL TREE PITS, PLANT BEDS, AND GROUND COVER AREAS WITH A MINIMUM 3" DEPTH (AFTER SETTLEMENT) OF MULCH OR AS NOTED. SHREDDED HARDWOOD MULCH SHALL BE USED FOR ALL BEDS AND TREE PITS.
2. THIS DRAWING TO BE USED FOR LANDSCAPE DEVELOPMENT PURPOSES ONLY.
3. ALL TREE STAKING, GUYING, AND WRAPPING SHALL BE REMOVED AFTER ONE YEAR.
4. ALL SHRUB, FLOWER, AND GROUND COVER BEDS SHALL BE PITCHED OR CROWNED TO ASSURE A MINIMUM SURFACE PITCH OF 3% FOR POSITIVE SURFACE DRAINAGE. NOT APPLICABLE TO BIoretention AREA.
5. ALL PROPOSED LANDSCAPE PLANT MATERIAL TO BE GUARANTEED FOR A PERIOD OF TWELVE MONTHS FROM THE DATE OF ACCEPTANCE, AGAINST DEFECTS INCLUDING DEATH AND UNSATISFACTORY GROWTH, EXCEPT FOR DEFECTS RESULTING FROM NEGLIGENCE BY OWNER, ABUSE OR DAMAGE BY OTHERS, OR UNUSUAL PHENOMENA OR INCIDENTS WHICH ARE BEYOND LANDSCAPE INSTALLER CONTROL. CONTRACTOR, IF NOT MAINTAINING THE PROPERTY DURING THE GUARANTEE PERIOD, SHALL BE RESPONSIBLE FOR MAKING MONTHLY INSPECTIONS AND ISSUING WRITTEN REPORTS DETAILING ANY MAINTENANCE PRACTICES HE OBSERVES WHICH WOULD IN ANYWAY NEGATE HIS GUARANTEE OBLIGATION.
6. ALL AREAS BEYOND THE LIMIT OF LAWN/GROUND COVER THAT ARE DISTURBED BY CONSTRUCTION OPERATIONS SHALL BE REPAIRED TO PRE-CONSTRUCTION CONDITION AND/OR TO COMPLY WITH STANDARDS INDICATED ON THE SOIL EROSION AND SEDIMENT CONTROL PLAN.
7. ALL TREES ADJACENT TO CURBS (OR EDGE OF PAVEMENT) SHALL BE PLACED 5'-0" AWAY FROM THE CURB FACE MEASURED TO THE CENTERLINE OF THE TREE TRUNK. IF PLACED IN THE MEDIAN ISLAND, THEY SHALL BE CENTERED IN THE SPACE BETWEEN THE CURBS OR AS NOTED ON THE LANDSCAPE PLAN. ALL TREES PLANTED ADJACENT TO PEDESTRIAN WALKWAYS SHALL BE BRANCHED AT 6' INITIALLY.
8. NO PLANT MATERIAL ABOVE 24" WILL BE INSTALLED WITHIN ANY APPROVED SIGHT TRIANGLE.

**PLANT BACKFILL MIX SHALL CONTAIN THE FOLLOWING:**

1 PART AMENDED TOPSOIL (SCREENED) WITH FERTILIZATION AS REQUIRED BELOW:

AMENDED TOPSOIL: SHALL BE WITHOUT ADMIXTURE OF SUBSOIL OF SLAG AND SHALL BE FREE OF STONES, LUMPS, PLANTS OR THEIR ROOTS, STICKS AND EXTRANEOUS MATTER, AND SHALL NOT BE MOVED, PLACED OR USED WHILE IN FROZEN OR MUDDY CONDITION. TOPSOIL SHALL HAVE AN ACIDITY RANGE OF pH 5.0 TO 7.0 AND SHALL CONTAIN NOT LESS THAN 5% ORGANIC MATTER AS DETERMINED BY THE 'WALKLEY-BLACK METHOD' (COLORIMETRIC VERSION). SUFFICIENT LIMESTONE SHALL BE ADDED TO TOPSOIL USED TO BRING SOIL TO RANGE OF pH 6.0 TO pH 6.5. THERE SHALL BE A MINIMUM OF 12" OF TOPSOIL (AFTER SETTLEMENT) IN ALL PLANT BEDS, OR GROUND COVER AREAS AND 3" IN ALL FINE LAWN, SEEDING AREAS OR AS CALLED FOR.

FERTILIZATION: 1. FOR TREES, SHRUBS AND ALL GROUND COVER (HERBACEOUS AND CONIFEROUS): 'TERRA-SORB' AG AT THE RATE OF 32 OZ PER CUBIC YARD OF SOIL MIX.  
2. FOR TREES AND SHRUBS (EXCLUDING CONIFEROUS GROUND COVER): PHO HEALTHY START 34-3 ORGANIC FERTILIZER/SOIL CONDITIONER, SHALL BE APPLIED AT 1/2 LB. PER TRUNK DIAMETER (CAL. INCH) FOR TREES.  
FOR SHRUBS USE THE FOLLOWING TABLE:

PLANT SIZE	RATE CUPS	LBS.	#PLANT BAG
1 GALLON	1/2	1/4	100
5 GALLON	1	1/2	50
15 GALLON	2	1	25
24" BALL/BOX	3	1 1/2	16
36" BALL/BOX	5	2 1/2	10
42" BALL/BOX	6	3	8
54" BALL/BOX	8	4	6
72" BALL/BOX	10	5	5

FOR HERBACEOUS AND CONIFEROUS GROUND COVER: DRY ROOTS 2 SHALL BE APPLIED AT THE FOLLOWING RATES:

CONIFEROUS GROUND COVER:	RATE CUPS	LBS.	#PLANT BAG
15-18" B&B	1 1/2	3/4	37

HERBACEOUS GROUND COVER: 20LBS./1000 SQUARE FEET.

FOR LAWN AND SEEDING AREAS: 104-4 50% ORGANIC FERTILIZER AT THE RATE OF 20LBS. PER 1,000 SQUARE FEET (OR AS REQUIRED BY TOPSOIL ANALYSIS REPORT).

**ALL PLANT MATERIAL MUST COMPLY WITH THE RECOMMENDATIONS AND REQUIREMENTS OF ANSI Z60.1 "STANDARD FOR NURSERY STOCK"**

11. PLANT QUANTITIES ARE GIVEN FOR COMPARISON PURPOSES ONLY. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING PLANT COUNTS AND SHALL BE RESPONSIBLE FOR PROVIDING ALL PLANT MATERIAL SHOWN ON THE DRAWING. ANY DISCREPANCIES BETWEEN PLANT SCHEDULE QUANTITIES AND PLANS SHALL IMMEDIATELY BE BROUGHT TO THE LANDSCAPE ARCHITECT'S ATTENTION PRIOR TO SUBMISSION OF BID. NO SUBSTITUTIONS OF TYPE OF PLANT MATERIAL OR SIZES OF PLANT MATERIAL WILL BE ACCEPTABLE UNLESS APPROVED BY THE LANDSCAPE ARCHITECT. ANY CHANGES TO AN APPROVED LANDSCAPE PLAN MUST BE AUTHORIZED BY THE LANDSCAPE ARCHITECT.
12. APPLY ANTI-DESICCANT PRIOR TO THE ONSET OF WINTER AND AGAIN IN MID-WINTER, USING POWER SPRAY TO PROVIDE AN ADEQUATE FILM OVER TRUNKS, BRANCHES, STEMS, TWIGS, AND FOLIAGE. IF DECIDUOUS TREES OR SHRUBS ARE MOVED IN FULL-LEAF, SPRAY WITH ANTI-DESICCANT AT NURSERY BEFORE MOVING AND AGAIN TWO WEEKS AFTER INSTALLATION.
13. ALL PLANTED TREES, SHRUBS, GROUND COVERS AND ANNUAL FLOWERS, SHALL BE MAINTAINED UNTIL FINAL ACCEPTANCE OF THE COMPLETED CONTRACT. OR WHEN INSTALLATION IS ACCEPTED AND MAINTENANCE IS TRANSFERRED TO OWNER. MAINTENANCE SHALL INCLUDE WATERING, CULTIVATING, CONTROL OF INSECTS, FUNGUS, AND OTHER HORTICULTURAL OPERATIONS NECESSARY FOR THE PROPER GROWTH OF ALL PLANT MATERIAL.
14. PLANT LOCATIONS SHOWN ON THE PLAN ARE APPROXIMATE AND SUBJECT TO FIELD AND UTILITY LOCATIONS.
15. NO TREE SHALL BE INSTALLED WITHIN TEN (10) FEET OF UNDERGROUND UTILITIES OR FIRE HYDRANTS.

**TREES PROTECTION NOTES**

1. LIMIT OF WORK LINE TO BE DELINEATED BY SNOW FENCING OR APPROVED EQUAL.
2. PROTECTIVE FENCING TO BE SNOW FENCING OR EQUIVALENT TO PROTECT VEGETATION FROM HEAVY MACHINERY OR CONSTRUCTION OPERATIONS.
3. PROTECTIVE FENCING TO BE ERRECTED BEFORE EXCAVATION AND REMOVED UPON COMPLETION OF GRADING.

**LANDSCAPE ARCHITECTS CERTIFICATION**

I, Albert M. Demerich, RLA, ASLA, HEREBY CERTIFY THAT I AM A REGISTERED LANDSCAPE ARCHITECT IN THE STATE OF DELAWARE, THAT THE LANDSCAPE INFORMATION SHOWN HEREON HAS BEEN PREPARED UNDER MY SUPERVISION AND TO MY BEST KNOWLEDGE AND BELIEF, REPRESENTS GOOD LANDSCAPE PRACTICES.

ALBERT M. DEMERICH, RLA, ASLA LICENSE # 51-000294 DATE



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PROJECT TITLE

**DELAWARE STATE POLICE TROOP 3**

S. STATE STREET (U.S. 113A)  
N. MURDERKILL HUNDRED  
KENT COUNTY, DELAWARE

**BID PACK 1**

SHEET TITLE

**LANDSCAPE DETAILS**

ISSUE BLOCK

0 25 50 100

SCALE: 1" = 50'

ISSUE BLOCK

3 10-09-13 BID PACK 1 - ISSUED FOR BIDDING

2 9-25-13 REVISED PER AGENCY COMMENTS

1 8-28-13 REVISED PER DELDOT COMMENTS

MARK | DATE | DESCRIPTION

PROJECT NO.: 2011116.00

DATE: 08-13-2013

SCALE: 1" = 50'

DRAWN BY: AMD PROJ. MGR.: D.E.H.

SHEET

**L-102**

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