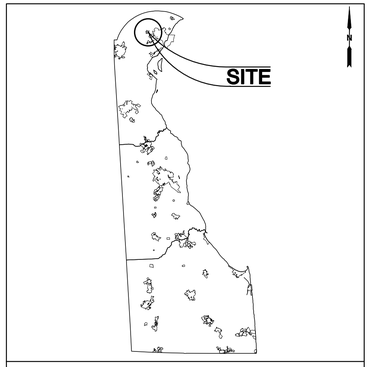
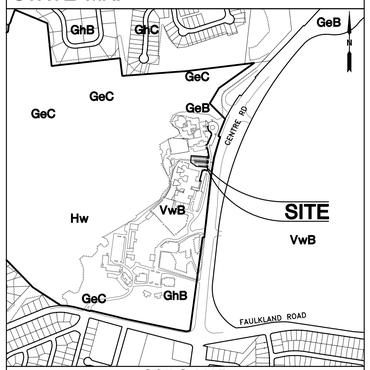
FERRIS SCHOOL FOR BOYS
NEW PARKING LOT

CHRISTIANA HUNDRED
WILMINGTON - NEW CASTLE COUNTY
DELAWARE 19805

DBF # 586B036
STATE PROJECT #MC370100049
FINAL DESIGN
AUGUST, 2016



STATE MAP SCALE: 1" = 20-MILES



SOILS MAP
SCALE: 1" = 800 FEET

VwB: URBAN LAND-WHEATON COMPLEX, 0 to 8 PERCENT SLOPES

DATA COLUMN

TAX MAP ID:	0703230010
ACRES:	179.93
ZONING EXISTING:	SR - UDC - SUBRBAN RESERVE NC15 - UDC - SINGLE FAMILY - 15000 SF
PROPOSED IMPERVIOUS AREA:	
PARKING PROPOSED:	61 SPACES
VERTICAL DATUM:	NAVD 88
HORIZONTAL DATUM:	NAD 83/STATE PLANE
SITE BENCHMARK:	X-MARK IN LIGHT POLE BASE, ELEV.= 163.13'

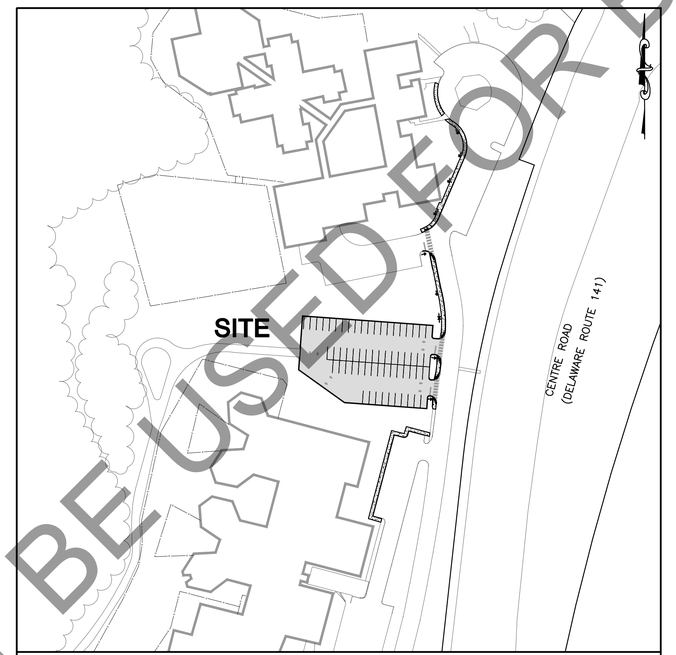
PROPERTY OWNER:
DEPARTMENT OF SERVICES FOR CHILDREN,
YOUTH AND THEIR FAMILIES
1825 FAULKLAND ROAD
WILMINGTON, DE 19805
PHONE: 302-633-2632

ENGINEER:
DAVIS, BOWEN, & FRIEDEL, INC.
23 NORTH WALNUT STREET
MILFORD, DE 19963
PHONE: 302-424-1441
FAX: 302-424-0430

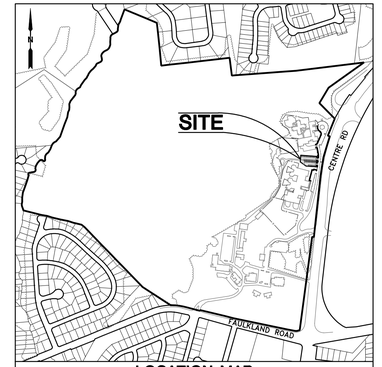
PROPERTY ADDRESS:
959 CENTRE ROAD,
BUILDING #2 (ADMISSION OFFICE)
WILMINGTON, DE 19805

GENERAL NOTES:

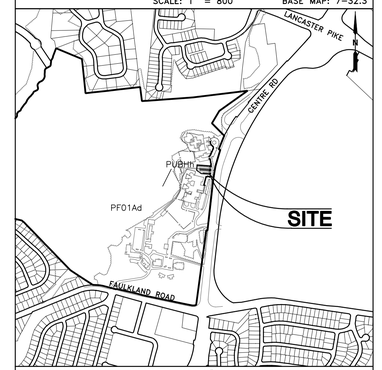
1. THE PURPOSE OF THIS PROJECT IS TO ADD 61 PARKING SPACES AND SIDEWALK TO IMPROVE INNER-SITE CONNECTIVITY.
2. MISS UTILITY OF DELMARVA SHALL BE NOTIFIED THREE CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555.
3. EXISTING UTILITIES ARE SHOWN IN ACCORDANCE WITH THE BEST AVAILABLE INFORMATION. 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 AND A PRIVATE LOCATING COMPANY (I.E. SOFTDIG).
4. BREAKAWAY POSTS SHALL BE USED WHEN INSTALLING ALL SIGNS. DETAIL CAN BE FOUND IN DELDOT'S STANDARD CONSTRUCTION DETAILS.
5. ACCORDING TO FEMA FLOOD INVENTORY MAP #10003C0065J, DATED JANUARY 17, 2007, THE SITE IS NOT LOCATED WITHIN THE 100 YEAR FLOOD PLAIN.
6. WETLANDS DO NOT EXIST IN THE AREA OF THE DISTURBANCE PER PER NWI (2012). A WETLANDS INVESTIGATION WAS NOT CONDUCTED.
7. BUILDING IS TO REMAIN OPEN DURING ALL PHASES OF PROJECT. CONTRACTOR TO PROVIDE UNIMPEDED ACCESS AT ALL TIMES.
8. THE SITE DOES NOT CONTAIN ANY CRITICAL NATURAL AREAS ACCORDING TO THE NEW CASTLE COUNTY STATE RESOURCE AREA MAP UPDATED IN 2006.
9. BUILDING PERMIT WILL BE REQUIRED FOR ALL RETAINING WALL STRUCTURES WITH STEM HEIGHTS IN EXCESS OF 4 FEET.
10. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:
    DAVIS, BOWEN & FRIEDEL, INC. ...302-424-1441
    FACILITIES MANAGEMENT 302-739-5644
    DNREC 302-739-9921
    OWNER'S REP.....302-633-2632



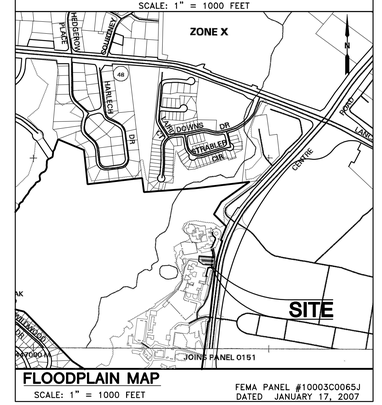
LOCATION MAP SCALE: 1" = 100'



LOCATION MAP
SCALE: 1" = 800' BASE MAP: 7-32.3



WETLANDS MAP
SCALE: 1" = 1000 FEET



FLOODPLAIN MAP
SCALE: 1" = 1000 FEET
FEMA PANEL #10003C0065J
DATED JANUARY 17, 2007

SHEET INDEX

TITLE SHEET	CN-01
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LIGHTING SCHEDULES & DETAILS	E-2
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CONSTRUCTION DETAILS	DT-01
EROSION & SEDIMENT CONTROL	ES-01
EROSION & SEDIMENT CONTROL DETAILS	ES-02 TO ES-03
RECORD PLAN	R-01 TO R-02

REVISIONS:

DAVIS, BOWEN & FRIEDEL, INC.
ARCHITECTS, ENGINEERS & SURVEYORS
SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

LIST OF ABBREVIATIONS

AC	ACRE
FF	FINISH FLOOR
EX	EXISTING
DI	DRAINAGE INLET
RCP	REINFORCED CONCRETE PIPE
INV	INVERT
MH	MANHOLE
P	PIPE
DI	DRAINAGE INLET
°	DEGREE
"	INCH
'	FOOT
%	PERCENT
MAX	MAXIMUM
MIN	MINIMUM
TYP	TYPICAL
TW	TOP OF WALL

ENGINEER'S STATEMENT

I, RING W. LARDNER, P.E., HEREBY CERTIFY THAT I AM A REGISTERED PROFESSIONAL ENGINEER WITH A BACKGROUND IN CIVIL ENGINEERING IN THE STATE OF DELAWARE AND THAT ALL OF THE INFORMATION ON THIS PLAN IS TRUE AND CORRECT TO THE ACCURACY REQUIRED BY ACCEPTED ENGINEERING STANDARDS AND PRACTICES AND BY THE NEW CASTLE COUNTY UNIFIED DEVELOPMENT CODE.

DAVIS, BOWEN & FRIEDEL, INC. DATE
by RING W. LARDNER, P.E.

CANNOT BE USED FOR BIDDING

CN-01

CIVIL PLAN GENERAL NOTES

1. THE CONTRACTOR SHALL NOTIFY THE FOLLOWING TWO WEEKS PRIOR TO THE START OF CONSTRUCTION AND SHALL APPRISE AND COORDINATE DURING ALL PHASES OF CONSTRUCTION:
   1.1 DAVIS, BOWEN & FRIEDEL, INC. 302-424-1441
   1.2 DNREC, SEDIMENT & STORMWATER PROGRAM 302-739-9921
   1.3 NEW CASTLE COUNTY 302-395-5400
   1.4 DEPARTMENT OF TRANSPORTATION, NORTH DISTRICT PERMITS SUPERVISOR 302-326-4679

2. ORIGINAL TOPOGRAPHIC SURVEY WAS PERFORMED BY DAVIS, BOWEN & FRIEDEL, INC. DATED: 08/10/16.

3. 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.

4. THE CONTRACTOR SHALL ASSUME ALL RESPONSIBILITY FOR ANY DEVIATION FROM THESE PLANS UNLESS WRITTEN APPROVAL HAS BEEN PROVIDED BY THE ENGINEER.

DRAINAGE, GRADING AND SEDIMENT CONTROL GENERAL NOTES

1. CONTRACTOR SHALL GRADE, TOPSOIL, SEED AND MULCH ALL DISTURBED AREAS OF CONSTRUCTION, AND EROSION CONTROL MATTING SHALL BE PROVIDED ON ALL SLOPES GREATER THAN 3:1.

2. 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.

3. EQUIPMENT AND/OR STOCKPILE MATERIAL SHALL NOT BE STORED IN THE DRIPLINE AREA OF ANY TREE.

4. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY DNREC.

DEMOLITION AND SAFETY GENERAL NOTES

1. MISS UTILITY OF DELMARVA SHALL BE NOTIFIED THREE CONSECUTIVE WORKING DAYS PRIOR TO EXCAVATION, AT 1-800-282-8555.

2. 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.

3. THE CONTRACTOR SHALL REMOVE AND IMMEDIATELY REPLACE, RELOCATE, RESET OR RECONSTRUCT ALL OBSTRUCTIONS IN THE ROAD WAY, INCLUDING, BUT NOT LIMITED TO, MAILBOXES, SIGNS, LANDSCAPING, LIGHTING, PLANTERS, CULVERTS, DRIVEWAYS, PARKING AREAS, CURBS, GUTTERS, FENCES, OR OTHER NATURAL OR MAN-MADE OBSTRUCTIONS. TRAFFIC CONTROL, REGULATORY, WARNING AND 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.

4. 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.

5. 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.

6. 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.

FIRE PROTECTION GENERAL NOTES

1. ALL FIRE LANES, FIRE HYDRANTS, STAND PIPES, SPRINKLER CONNECTIONS, EXITS, ETC., SHALL BE MARKED AND/OR PROTECTED IN ACCORDANCE WITH STATE FIRE PROTECTION REGULATIONS AS EVIDENCED IN SECTION 705, CHAPTER 5, STANDARD FOR THE MARKING, IDENTIFICATION, AND ACCESSIBILITY OF FIRE LANES, EXITS, FIRE HYDRANTS, SPRINKLER, AND STANDPIPE CONNECTIONS.

INTERNAL PAVING / CONCRETE NOTES

1. BITUMINOUS CONCRETE SHALL BE INSTALLED IN ACCORDANCE WITH THE 2016 DelDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION:
   1.1. SECTION 401 FOR PLACEMENT OF TACK COAT AND BITUMINOUS CONCRETE.
   1.2. ASPHALT SHALL BE FROM A DelDOT APPROVED PLANT.
   1.3. BITUMINOUS CONCRETE SHALL NOT BE APPLIED WHEN THE TEMPERATURE IS BELOW 40° F OR ON ANY WET OR FROZEN SURFACE.

2. ALL DISTURBED AREAS NOT COVERED WITH IMPERVIOUS MATERIAL, SHALL BE TOPSOILED (6" MINIMUM), FERTILIZED, SEEDED AND MULCHED.

3. 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).

4. DESIGN, FABRICATION, AND INSTALLATION OF ALL PERMANENT SIGNING SHALL BE AS OUTLINED IN THE 2011 DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (LATEST EDITION).

5. 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.

6. 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.

7. BREAKAWAY POSTS SHALL BE USED WHEN INSTALLING ALL SIGNS. DETAIL CAN BE FOUND IN DELDOT'S STANDARD CONSTRUCTION DETAILS.

8. PLAN LOCATION AND DIMENSIONS SHALL BE STRICTLY ADHERED TO UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

9. 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.

10. SUPERPAVE BITUMINOUS CONCRETE SHALL BE USED IN ACCORDANCE WITH DelDOT SPECIAL PROVISIONS.

11. CONCRETE SHALL BE PLACED IN ACCORDANCE WITH DelDOT STANDARD SPECIFICATIONS.

LEGEND

EXISTING	PROPOSED
BOUNDARY LINE	CATCH BASIN, STORM PIPE, STORM MANHOLE, LABELS (DI NUM, MH NUM, P NUM)
ADJACENT PROPERTY OWNER	SIGN
GAS LINE	PAVEMENT / FULL DEPTH
ELECTRIC CONDUIT LINE (E)	SIDEWALK
CONTOUR ELEVATION AND LABEL (33)	PARKING COUNT IDENTIFICATION (9)
CATCH BASIN, STORM PIPE, STORM MANHOLE	ELEVATION (EP:44.83)
SANITARY SEWER MANHOLE, PIPE, FLOW ARROW, PIPE SIZE (EX-12SS)	CONTOUR ELEVATION AND LABEL (33)
SEWER CLEAN-OUT (C)	CURB
WATER VALVE (W)	LIGHT POLES
GAS MANHOLE, GAS VALVE (G)	PAINTED DIRECTIONAL AROW
UTILITY POLE AND GUY WIRES, TELEPHONE (T)	
SIGN, POSTS	
EXISTING SIDEWALK (EXISTING SIDEWALK)	
TREES	
PAVEMENT	
PARKING PAVERS	
STONE DRIVEWAY TO REMOVED	
BUILDING	
FENCE	
CONCRETE SIDEWALK TO BE REMOVED	
CONCRETE CURB TO BE REMOVED	
PARKING PAVERS TO BE REMOVED	

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SALISBURY, MARYLAND (410) 543-9091
MILFORD, DELAWARE (302) 424-1441

CIVIL NOTES / LEGEND

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES

CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

REVISIONS:

Date:	AUGUST, 2016
Scale:	NO SCALE
Dwn.By:	ACM
Proj.No.:	0586B036
Dwg.No.:	CN-02

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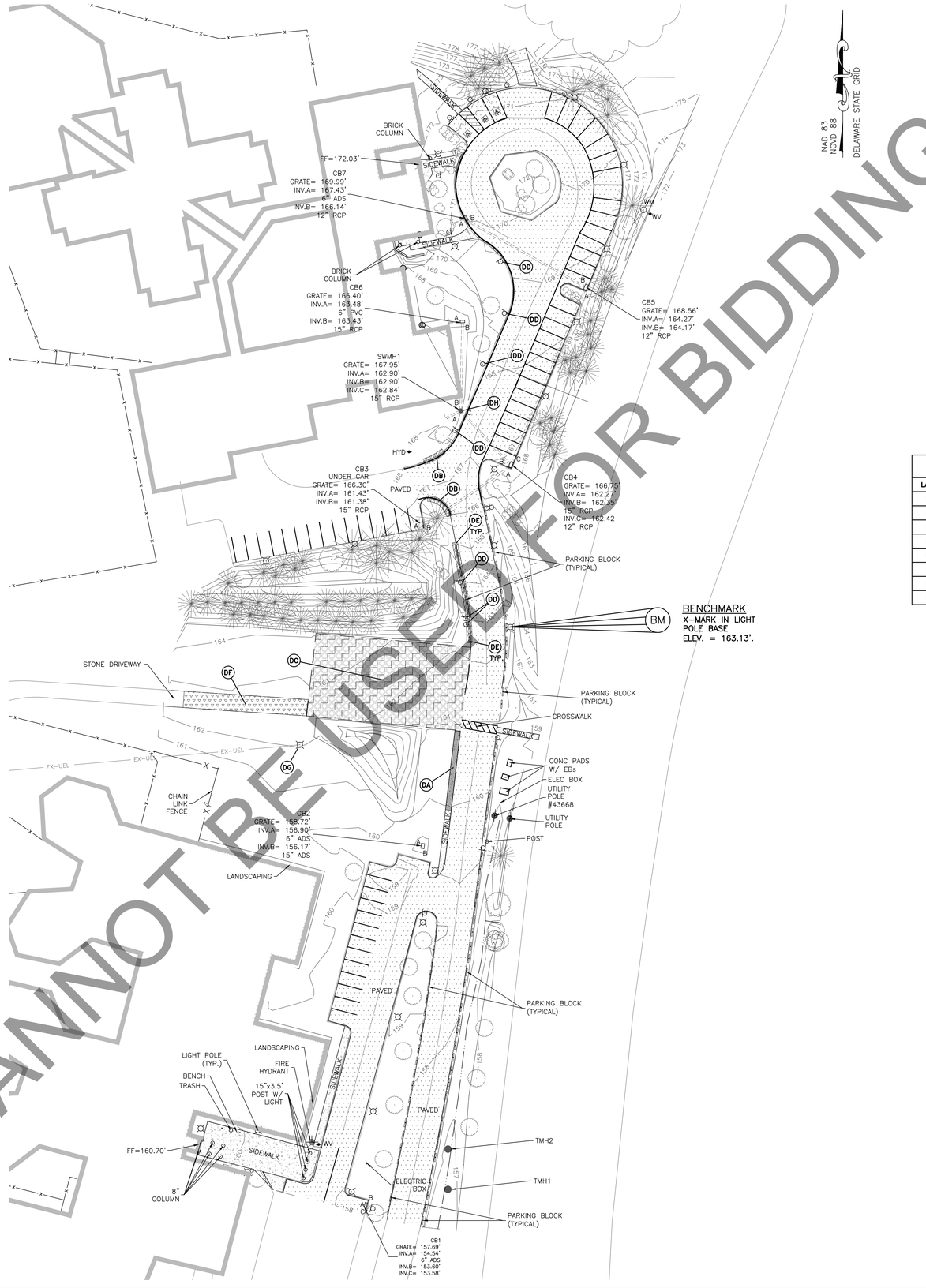

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KEY LEGEND

LABEL	DESCRIPTION
DA	SIDEWALK – TO BE REMOVED AND REPLACED (SEE SHEET C-01)
DB	CURB – TO BE REMOVED AND REPLACED (SEE SHEET C-01)
DC	PARKING LOT PAVERS – TO BE REMOVED
DD	SIGN – TO BE RELOCATED (SEE SHEET C-01)
DE	PARKING BUMPERS – TO BE REMOVED
DF	PORTION OF STONE DRIVEWAY – TO BE REMOVED
DG	LIGHT POLE – TO BE REMOVED/RELOCATED (SEE SHEET C-01)
DH	DRAINAGE MANHOLE – TO BE ADJUSTED BY CONTRACTOR

0 40 80 120

SCALE: 1" = 40'

DAVIS, BOWEN & FRIEDEL, INC.
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EASTON, MARYLAND (410) 770-4744
MILFORD, DELAWARE (302) 424-1441

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

EXISTING CONDITIONS / DEMOLITION PLAN

Date: AUGUST, 2016
Scale: 1" = 40'
Dwn.By: ACM
Proj.No.: 0586B036
Dwg.No.: D-01

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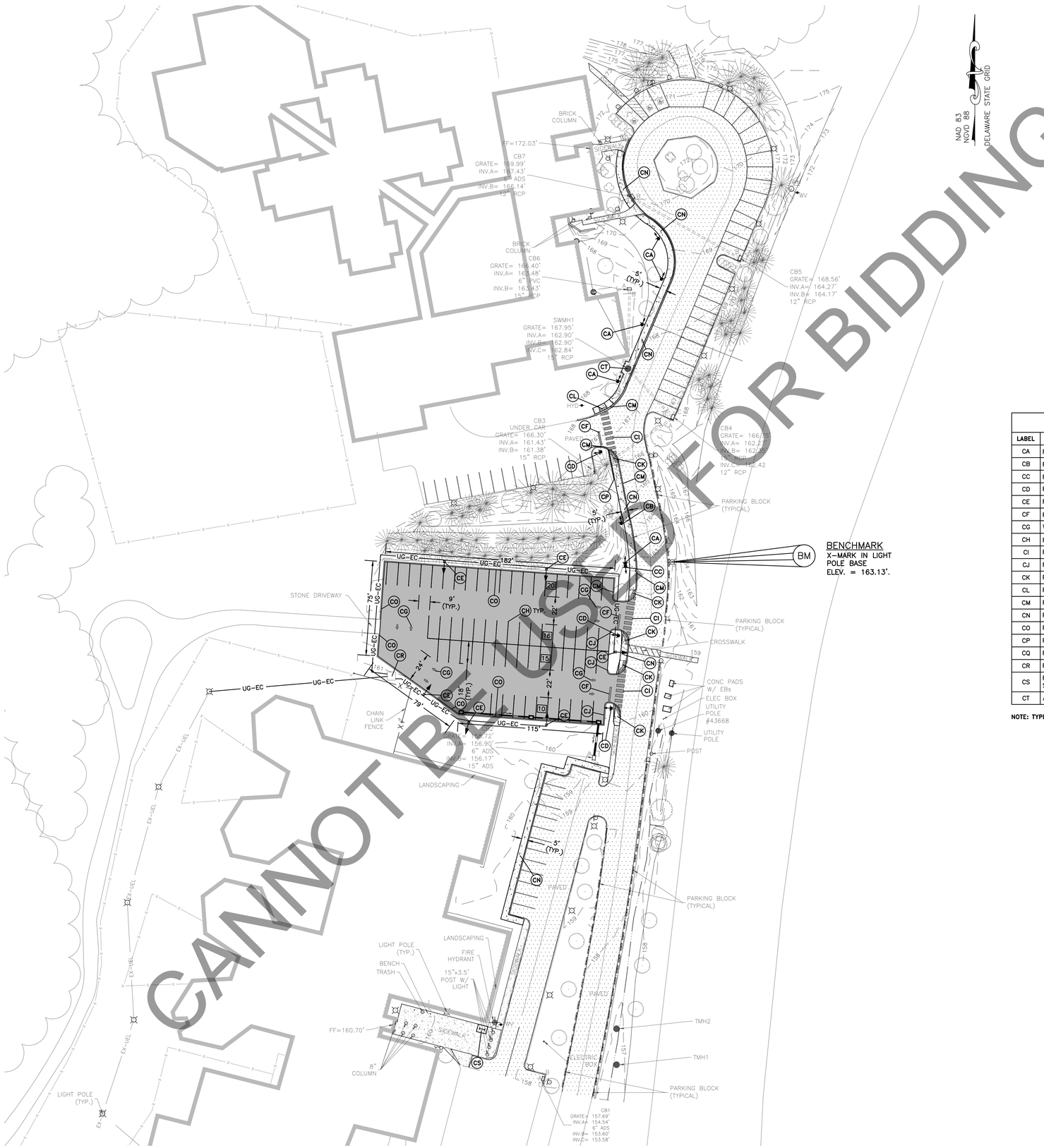

FOR BIDDING
CANNOT BE USED

KEY LEGEND

LABEL	DESCRIPTION
CA	RELOCATED "FIRE LANE" SIGN
CB	RELOCATED "15 MPH" SIGN
CC	RELOCATED "NO TRESPASSING" SIGN
CD	PROPOSED "STOP" (R1-1) SIGN - 36"X36"
CE	PROPOSED LIGHTING POLE (SEE ELECTRICAL PLANS SHEETS E-1 & E-2)
CF	PROPOSED 16" WIDE BY 11' LONG WHITE STOP BAR - THERMO STRIPING
CG	WHITE PAINTED DIRECTIONAL ARROWS - (SEE DETAIL SHEET DT-01)
CH	PROPOSED 4" WIDE PAINTED WHITE LINE
CI	PROPOSED PEDESTRIAN CROSSWALK STRIPING (SEE DETAIL SHEET DT-01)
CJ	PROPOSED P.C.C. CURB (TYPE 1-2)
CK	PROPOSED CURB RAMP, TYPE 1 (REFER TO DELDOT STANDARD DETAILS)
CL	PROPOSED CURB RAMP, TYPE 2 (REFER TO DELDOT STANDARD DETAILS)
CM	PROPOSED P.C.C. CURB (TYPE 1-8)
CN	PROPOSED POURED CONCRETE SIDEWALK (SEE DETAIL SHEET DT-01)
CO	PROPOSED P.C.C. CURB (TYPE 1-6)
CP	PROPOSED 2' HIGH RETAINING WALL (SEE DETAIL SHEET DT-01)
CQ	PROPOSED FULL DEPTH ASPHALT PAVEMENT (SEE DETAIL SHEET DT-01)
CR	PROPOSED QUAZITE BOX (SEE ELECTRICAL PLANS SHEETS E-1 & E-2)
CS	PROPOSED BIKE RACK, FINAL LOCATION TO BE DETERMINED IN FIELD (SEE DETAIL SHEET DT-01)
CT	ADJUSTED BY CONTRACTOR TO BE FLUSH WITH SIDEWALK

NOTE: TYPE 1-6 CURB ALONG EXISTING BERM TO BE BACKFILLED TO ENSURE POSITIVE DRAINAGE.

DAVIS, BOWEN & FRIEDEL, INC.
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SALISBURY, MARYLAND (410) 543-9091
EASTON, MARYLAND (410) 770-4744
MILFORD, DELAWARE (302) 424-1441

SITE PLAN

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES

CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

Date:	AUGUST, 2016
Scale:	1" = 40'
Dwn.By:	ACM
Proj.No.:	0586B036
Dwg.No.:	C-01

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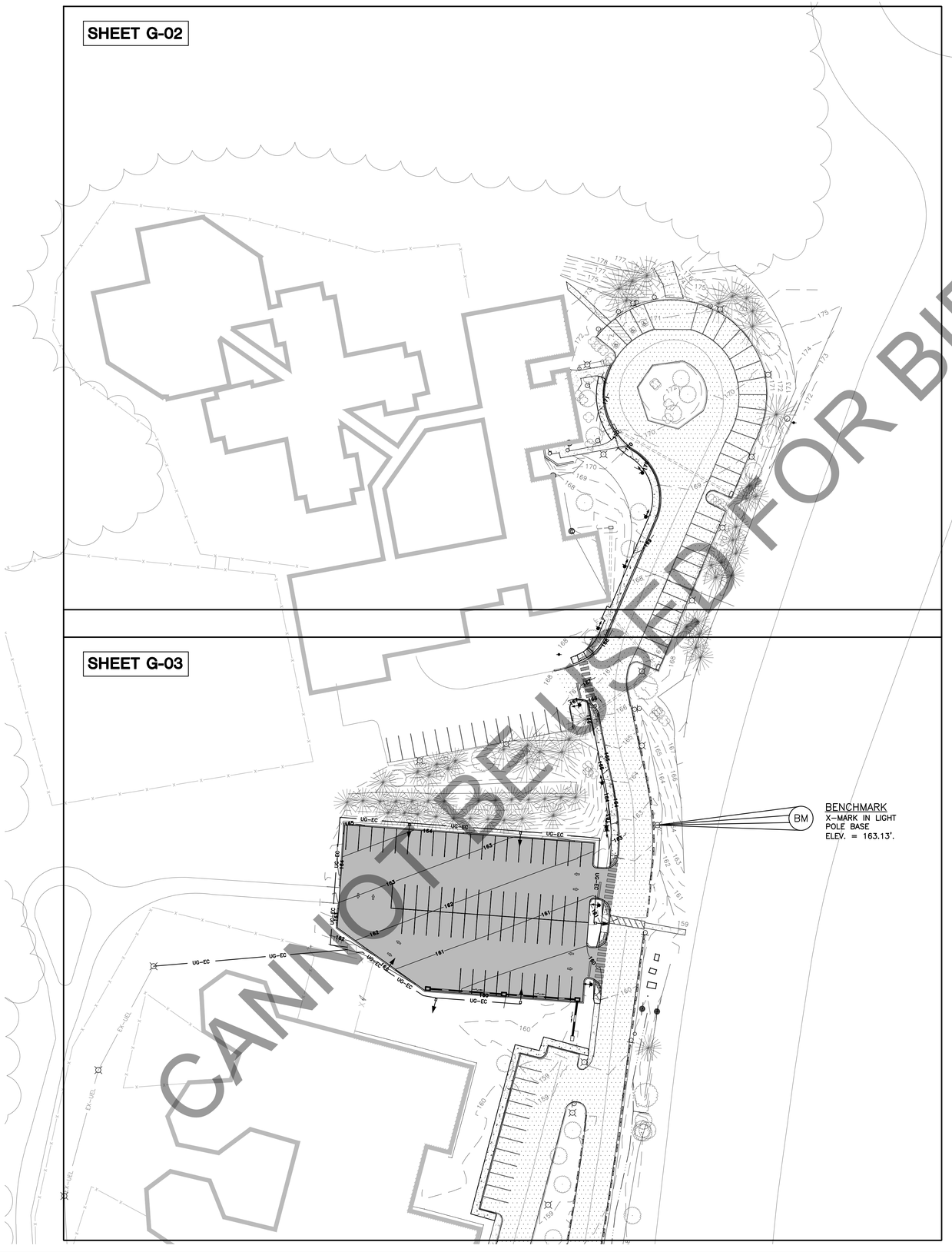
SHEET G-02

SHEET G-03



CANNOT BE USED FOR BIDDING

NAD 83
NGVD 88
DELAWARE STATE GRID

GENERAL NOTE:

1. ABBREVIATION INDEX
   EP = EDGE OF PAVEMENT
   ES = EDGE OF SIDEWALK
   TC = TOP OF CURB
   PS = PAVEMENT SPOT ELEVATION
   TG = TOP OF GRATE
   BK = BACK OF CURB
   EX = EXISTING ELEVATION
   BC = BOTTOM OF CURB
   TE = TOP OF EXISTING CURB

0 40 80 120

SCALE: 1" = 40'

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MILFORD, DELAWARE (302) 424-1441

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

GRADING OVERVIEW PLAN

Date:	DECEMBER, 2016
Scale:	1" = 40'
Dwn.By:	ACM
Proj.No.:	0586B036
Dwg.No.:	G-01

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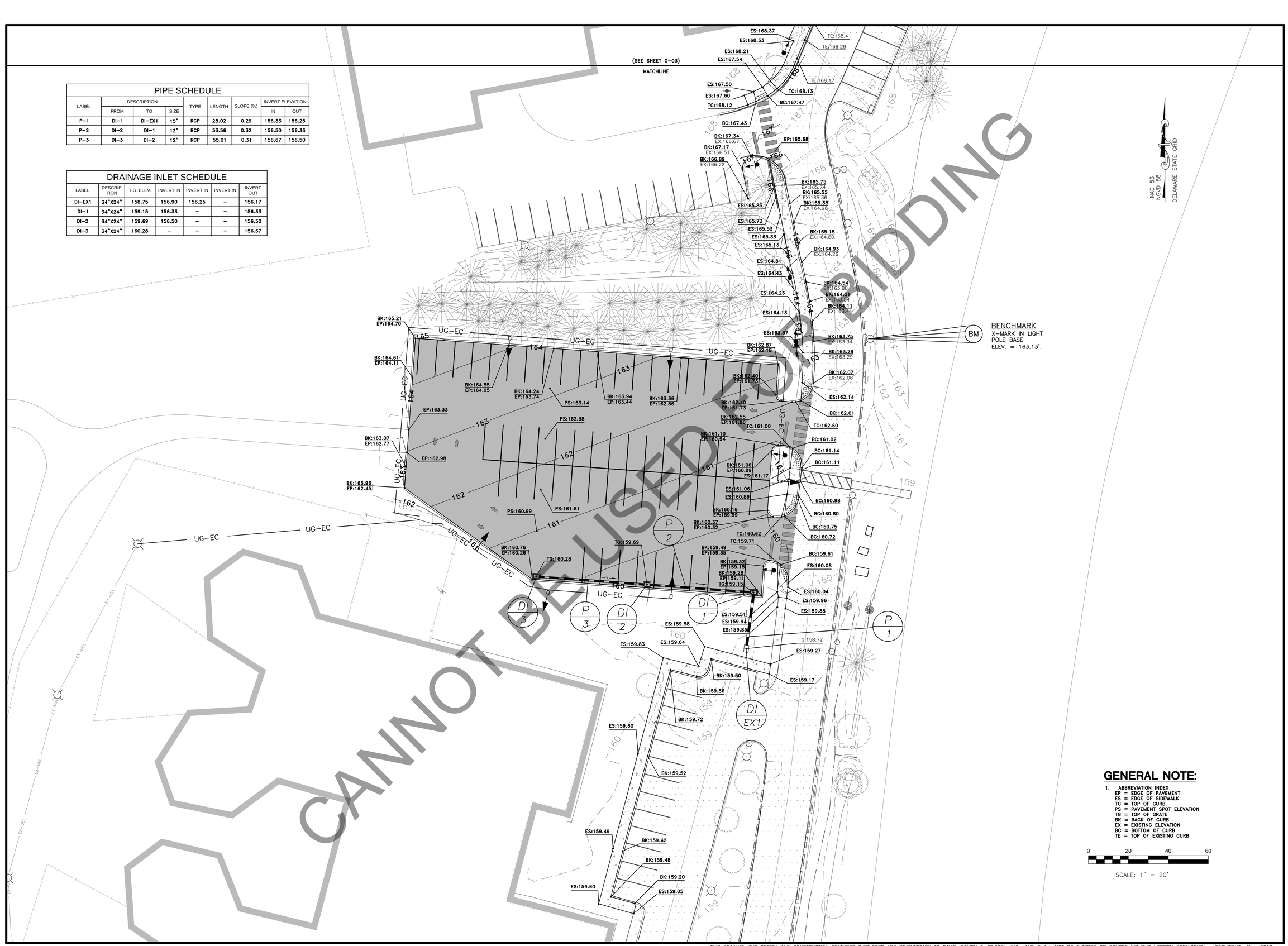
PIPE SCHEDULE								
LABEL	DESCRIPTION			TYPE	LENGTH	SLOPE (%)	INVERT ELEVATION	
	FROM	TO	SIZE				IN	OUT
P-1	DI-1	DI-EX1	15"	RCP	28.02	0.29	156.33	156.25
P-2	DI-2	DI-1	12"	RCP	53.56	0.32	156.50	156.33
P-3	DI-3	DI-2	12"	RCP	55.01	0.31	156.67	156.50

DRAINAGE INLET SCHEDULE						
LABEL	DESCRIPTION	T.G. ELEV.	INVERT IN	INVERT IN	INVERT IN	INVERT OUT
DI-EX1	34"X24"	158.75	156.90	156.25	–	156.17
DI-1	34"X24"	159.15	156.33	–	–	156.33
DI-2	34"X24"	159.69	156.50	–	–	156.50
DI-3	34"X24"	160.28	–	–	–	156.67



CANNOT BE USED FOR BIDDING

GENERAL NOTE:

1. ABBREVIATION INDEX
   - EP = EDGE OF PAVEMENT
   - ES = EDGE OF SIDEWALK
   - TC = TOP OF CURB
   - PS = PAVEMENT SPOT ELEVATION
   - TG = TOP OF GRATE
   - BK = BACK OF CURB
   - EX = EXISTING ELEVATION
   - BC = BOTTOM OF CURB
   - TE = TOP OF EXISTING CURB

0 20 40 60

SCALE: 1" = 20'

DAVIS, BOWEN & FRIEDEL, INC.
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EASTON, MARYLAND (410) 770-4744
MILFORD, DELAWARE (302) 424-1441

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

GRADING PLAN

Date: DECEMBER, 2016
Scale: 1" = 20'
Dwn.By: ACM
Proj.No.: 0586B036
Dwg.No.: G-02

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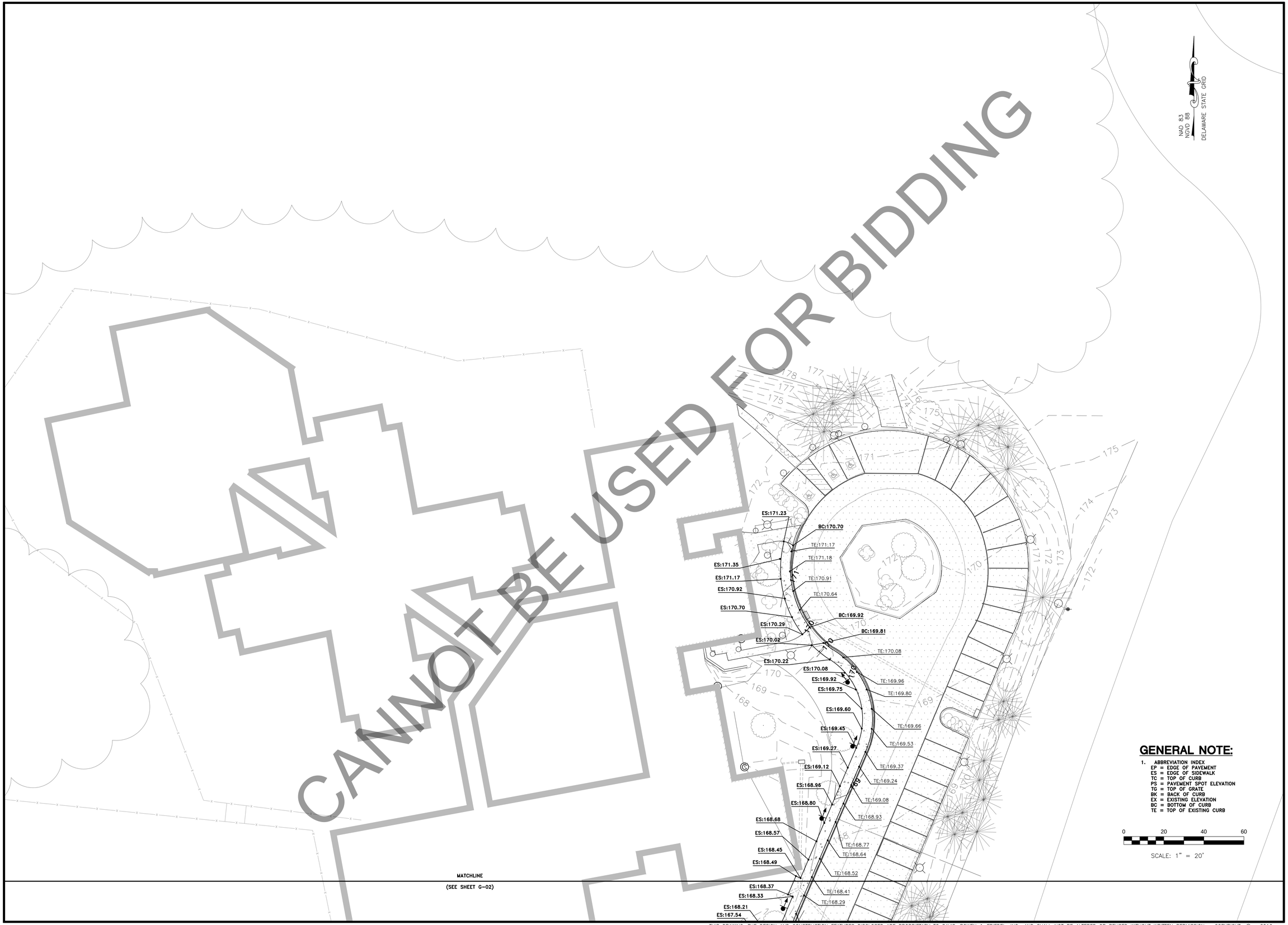
NAD 83
NGVD 88
DELAWARE STATE GRID



GENERAL NOTE:

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   EP = EDGE OF PAVEMENT
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   TC = TOP OF CURB
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0 20 40 60

SCALE: 1" = 20'

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FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

GRADING PLAN

Date:	DECEMBER, 2016
Scale:	1" = 20'
Dwn.By:	ACM
Proj.No.:	0586B036
Dwg.No.:	G-03

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UNIFIED DEVELOPMENT CODE COMPLIANCE STATEMENT

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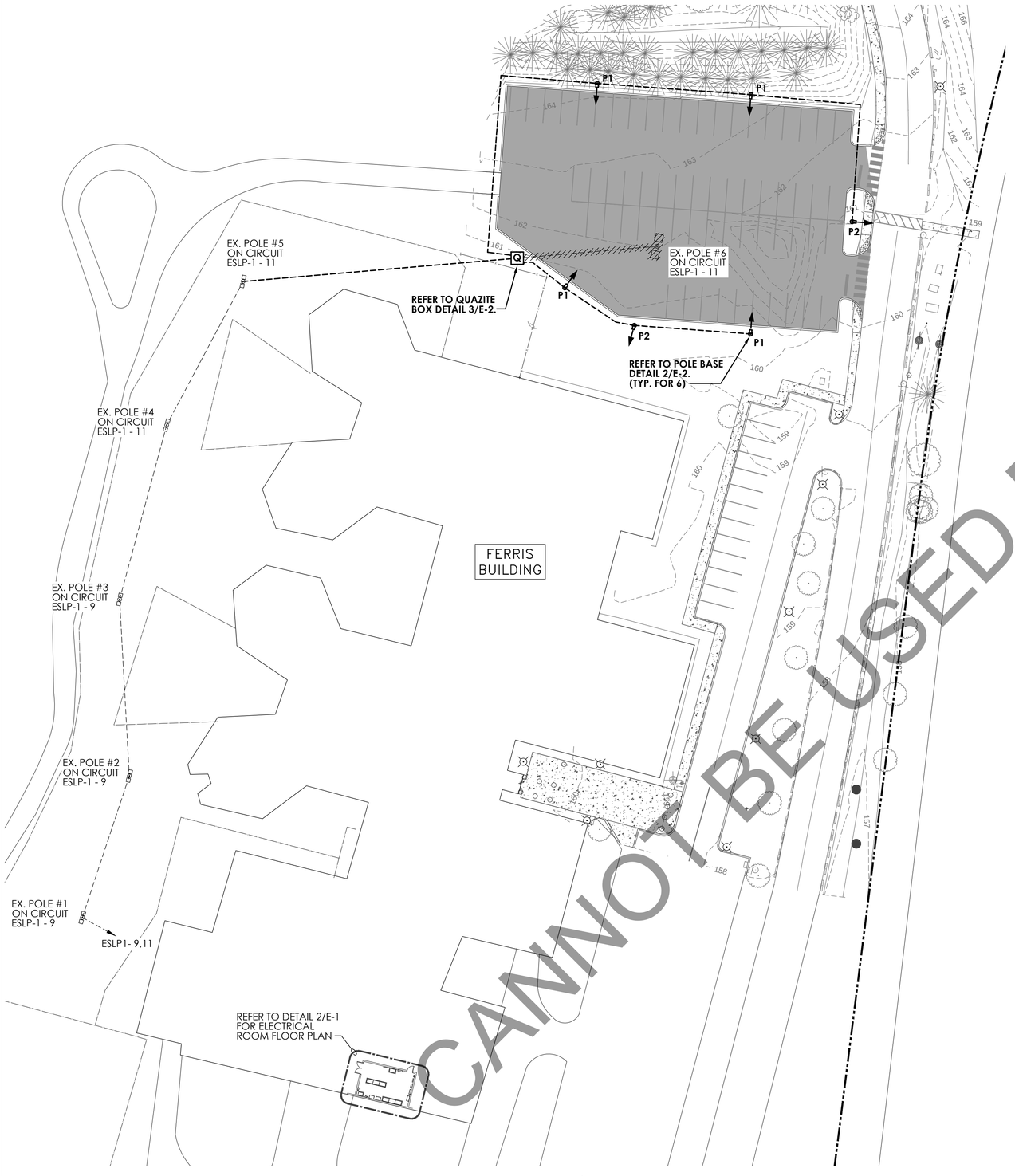
EDWARD FAYDA LICENSE No. 8240 PROFESSIONAL ENGINEER



1 E-1 SITE PLAN
SCALE: 1" = 30'-0"

LEGEND AND ABBREVIATIONS

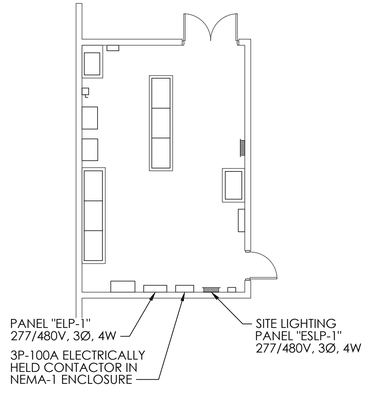
DP-3	NEW WIRING AND/OR EQUIPMENT. ARROW INDICATES HOMERUN, LETTERS DENOTE CIRCUIT
	NEW WIRING RUN UNDERGROUND
	EXISTING WIRING AND/OR EQUIPMENT TO BE REMOVED
	PROPERTY LINE
X / X-X	EQUIPMENT/DETAIL REFERENCE SYMBOL
P1	SINGLE ARM SITE LIGHTING POLE WITH OPTICS IN DIRECTION OF ARROW. 'P1' DENOTES POLE DESIGNATION.
P1	180° DOUBLE ARM SITE LIGHTING POLE WITH OPTICS IN DIRECTION OF ARROW. 'P1' DENOTES POLE DESIGNATION.
Q	QUAZITE BOX
PE	PHOTOCELL

CKT	CIRCUIT
EX	EXISTING
FC	FOOT CANDLES
MTD	MOUNTED
UNO	UNLESS NOTED OTHERWISE
W/	WITH

GENERAL NOTES

(NOT REFERENCED ON DRAWING)

1. ALL NEW POLES SHALL BE SET UNIFORMLY, 3' OFF OF CURB AND IN THE SAME CENTERLINE.
2. UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 AND SET 24" BELOW FINAL FINISHED GRADE TO TOP OF CONDUITS.
3. NEW QUAZITE BOX SHALL BE SET OUTSIDE OF EXISTING FENCE AREA. NO NEW WORK SHALL BE PERFORMED INSIDE FENCE.
4. DISCONNECT AND REMOVE EXISTING 30' POLE #6, TWO (2) FIXTURES ON POLE AND EXISTING CONCRETE FOUNDATION IN ITS ENTIRETY.
5. DISCONNECT AND REMOVE EXISTING UNDERGROUND CONDUIT BACK TO LOCATION OF NEW QUAZITE BOX.
6. DISCONNECT AND REMOVE EXISTING WIRING BACK TO POLE #5 AND PROVIDE NEW WIRING FROM POLE #5 TO NEW QUAZITE BOX AND TO ALL NEW POLES/FIXTURES. SYSTEM VOLTAGE IS 277VAC.
7. 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.
8. CONTRACTOR SHALL OBTAIN THE SERVICES OF AN INDEPENDENT TESTING 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.



2 E-1 ELECTRICAL ROOM FLOOR PLAN
SCALE: 1/8" = 1'-0"

CANNOT BE USED FOR BIDDING

11-18-2016

FAYDA ENGINEERING & ENERGY SOLUTIONS, LLC
801 W. Newport Pike, Wilmington, DE 19804
Tel: 302-999-1060, Fax: 302-999-1053
www.FaydaEES.com FE&ES COMM. NO: 16-1243

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ARCHITECTS, ENGINEERS & SURVEYORS
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MILFORD, DELAWARE (302) 424-1441

SITE PLAN - LIGHTING - NEW WORK

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

Date:	NOVEMBER, 2016
Scale:	AS NOTED
Dwn.By:	MJG/EF
Proj.No.:	0586B036
Dwg.No.:	E-1

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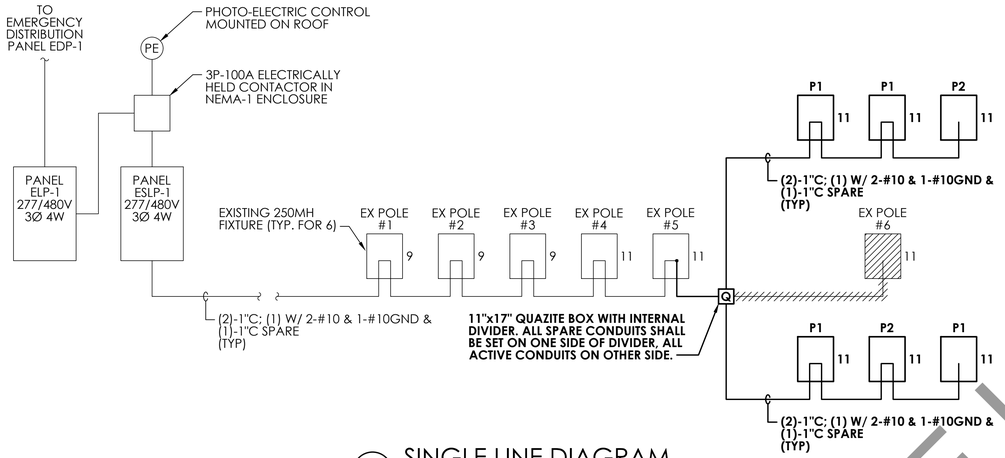
LIGHTING FIXTURE SCHEDULE

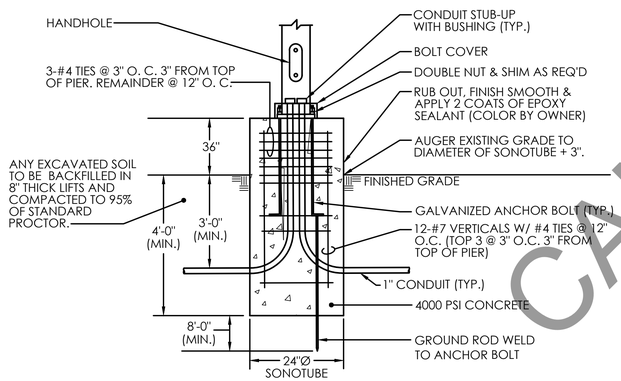
TYPE	MANUF.	CATALOG NUMBER	LAMP DATA				FIXTURE TYPE		MOUNTING	FULL CUTOFF	REMARKS
			CRI	TEMP	DRIVER	WATTS	H.I.D.	LED			
A	BEACON	VPL-64NB-135-4K-T4-UNV-BLC-WHT	70	4000K	625mA	136	-	X	POLE	-	MOUNTED TO NEW 22' LIGHT POLE
B	BEACON	VPL-64NB-135-4K-T2-UNV-WHT	70	4000K	625mA	136	-	X	POLE	-	MOUNTED TO NEW 22' LIGHT POLE
PP1	BEACON	SSS-B-22-60-B-1-B1-WHT	-	-	-	-	-	-	36" H CONCRETE BASE	-	22', 6" SQUARE STEEL POLE MOUNTED TO CONCRETE BASE; SINGLE ARM MOUNT

POLE SCHEDULE

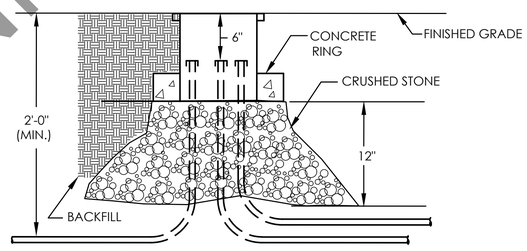
TYPE	FIXTURE	POLE	CCTV CAMERA OUTLET	REMARKS
P1	A (1)	PP1	PROVIDE 3/4" NIPPLE @ 18'	NEW 22', 6" SQUARE STEEL LIGHT POLE MOUNTED ON NEW CONCRETE BASE.
P2	B (1)	PP1	PROVIDE 3/4" NIPPLE @ 18'	NEW 22', 6" SQUARE STEEL LIGHT POLE MOUNTED ON NEW CONCRETE BASE.



1 E-2 SINGLE LINE DIAGRAM
NO SCALE



2 E-2 POLE FOOTING DETAIL
NO SCALE



3 E-2 QUAZITE BOX DETAIL
NO SCALE

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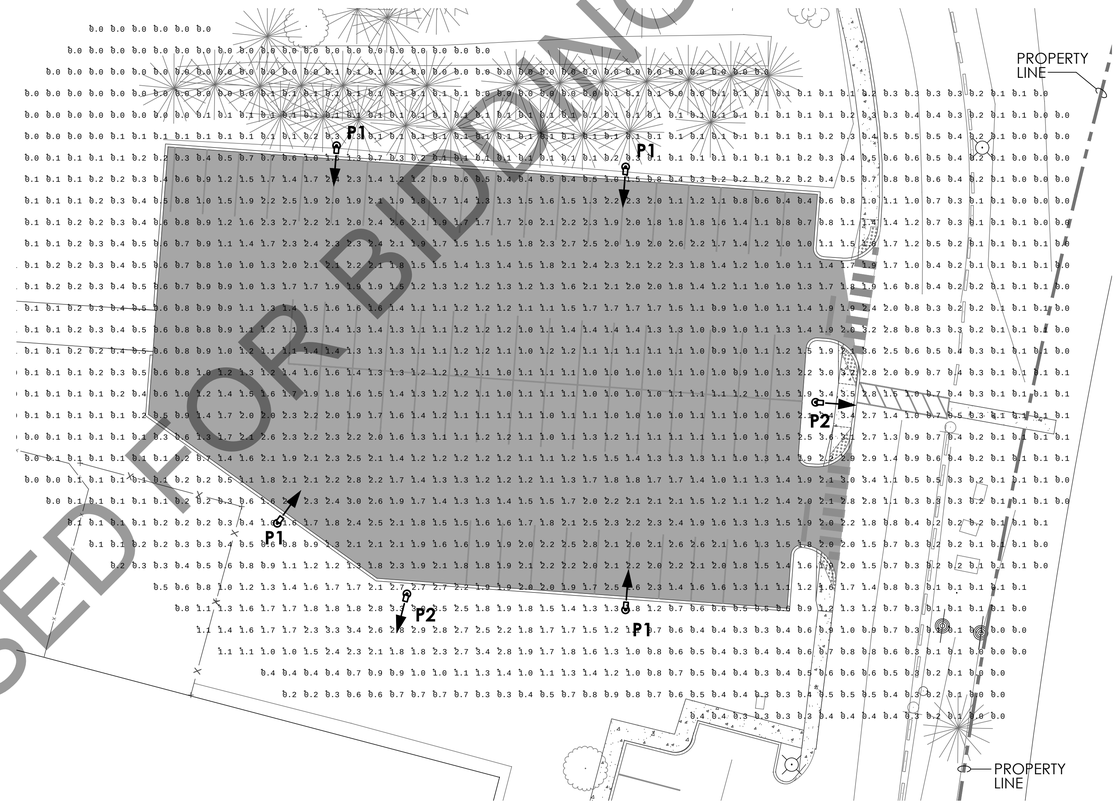

4 E-2 SITE LIGHTING - POINT x POINT CALCULATIONS
SCALE: 1" = 20'

N

Point X Point Luminaire Schedule					Illuminance (Fc)
Symbol	Qty	Label	LLF	Description	
P1	4	P1	0.850	REFER TO LIGHTING FIXTURE SCHEDULE	Average = 1.08
P2	1	P2	0.850	REFER TO LIGHTING FIXTURE SCHEDULE	Maximum = 3.6
					Minimum = 0.0

CANNOT BE USED FOR BIDDING

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ARCHITECTS, ENGINEERS & SURVEYORS
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SCHEDULES & DETAILS

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

Date:	NOVEMBER, 2016
Scale:	AS NOTED
Dwn.By:	MJG/EF
Proj.No.:	05868036
Dwg.No.:	E-2

11-18-2016

FAYDA ENGINEERING & ENERGY SOLUTIONS, LLC
801 W. Newport Pike, Wilmington, DE 19804
Tel: 302-999-1060, Fax: 302-999-1053
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GENERAL LANDSCAPE NOTES

1 QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS, AND SIZE OF ROOT BALLS SHALL BE IN ACCORDANCE WITH THE CURRENT STANDARDS OF THE AMERICAN ASSOCIATION OF NURSERYMEN "AMERICAN STANDARDS FOR NURSERY STOCK".

2 CONTRACTOR SHALL BE REQUIRED TO GUARANTEE ALL PLANT MATERIALS FOR A PERIOD OF ONE YEAR AFTER INSTALLATION IS COMPLETE AND FINAL ACCEPTANCE OF PHASE I SITE WORK HAS BEEN GIVEN. AT THE END OF ONE YEAR ALL PLANT MATERIAL WHICH IS DEAD OR DYING SHALL BE REPLACED AT THE CONTRACTOR'S EXPENSE AS ORIGINALLY SPECIFIED.

3 CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO UTILITIES AND MAY MAKE MINOR ADJUSTMENTS IN SPACING AND/OR LOCATION OF PLANT MATERIALS. CONTRACTOR TO VERIFY "AS BUILT" LOCATION OF ALL UTILITIES.

4 NO SUBSTITUTIONS SHALL BE MADE WITHOUT APPROVAL OF THE OWNER.

5 ALL AREAS NOT STABILIZED IN PAVING OR PLANT MATERIALS SHOULD BE SEEDED AND MULCHED. (SEE EROSION & SEDIMENT CONTROL PLAN.)

6 EVERGREEN TREES SHALL HAVE A FULL, WELL-BRANCHED, CONICAL FORM TYPICAL OF THE SPECIES.

7 ALL DECIDUOUS SHADE TREES SHALL BRANCH A MINIMUM OF 7'-0" ABOVE GROUND LEVEL. TREES SHALL BE PLANTED AND STAKED IN ACCORDANCE WITH THE STAKING DETAIL SHOWN.

8 THE FULL EXTENT OF ALL PLANTING BEDS SHALL RECEIVE 4" OF TOPSOIL AND 3" OF SHREDDED HARDWOOD MULCH PER SPECIFICATIONS.

9 THE CONTRACTOR SHALL SUPPLY ALL PLANT MATERIALS IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTINGS SHOWN ON THIS DRAWING AND AS SPECIFIED.

10 ALL PLANTS SHALL BEAR THE SAME RELATIONSHIP TO FINISHED GRADE AS THE PLANT'S ORIGINAL GRADE BEFORE DIGGING.

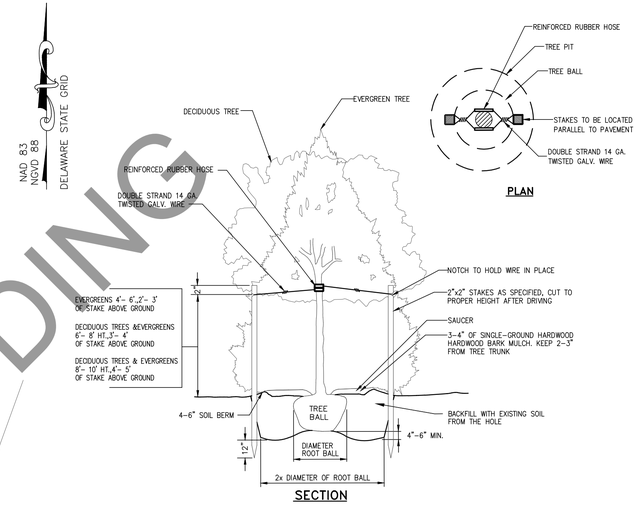
11 THE CONTRACTOR SHALL WATER ALL PLANTS THOROUGHLY TWICE DURING THE FIRST 24-HOUR PERIOD AFTER PLANTING, AND THEN WEEKLY OR MORE OFTEN, IF NECESSARY, DURING THE FIRST GROWING SEASON.

12. ALL TAPE, TWINE, TAGS, ROPE, ETC. SHALL BE REMOVED PRIOR TO ACCEPTANCE BY THE OWNER.

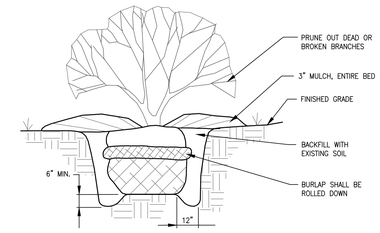
13. CAREFULLY REMOVE CONTAINERS, WRAPPINGS, WIRES AND TIES FROM ROOTBALL BEFORE PLANTING. LOOSEN OUTSIDE ROOTS AND UNWRAP ANY CIRCLING ROOTS.

FOR BIDDING
CANNOT BE USED

NAD 83
NGVD 88
DELAWARE STATE GRID



STAKING DETAIL
NO SCALE



SHRUB PLANTING DETAIL
NO SCALE

LANDSCAPE PLANT SCHEDULE

SYMBOL	KEY	BOTANICAL NAME	COMMON NAME	SIZE	QUANTITY
		DECIDUOUS CANOPY TREE			
	FG	Fagus grandifolia	AMERICAN BEECH	2 – 2 1/2" Cal., B&B	2
	QM	Quercus phellos	WILLOW OAK	2 – 2 1/2" Cal., B&B	2
		DECIDUOUS UNDERSTORY TREE			
	AG	Amelanchier x grandiflora 'Autumn Brilliance'	AUTUMN BRILLIANCE SERVICEBERRY	1 1/2 – 2" Cal., B&B	2
	CC	Cercis canadensis	EASTERN REDBUD	1 1/2 – 2" Cal., B&B	2
	CV	Chionanthus virginicus	WHITE FRINGETREE	1 1/2 – 2" Cal., B&B	2
		DECIDUOUS SHRUB			
	ND	Nandina domestica 'FIRE POWER'	FIRE POWER NANDINA	1 1/2 – 3' Ht., Cont.	14
	SL	Spiraea japonica 'LITTLE PRINCESS'	LITTLE PRINCESS SPIRAEA	1 1/2 – 3' Ht., Cont.	14
		EVERGREEN SHRUB			
	TD	Taxus x media 'DENSIFORMIS'	DENSE YEW	1 1/2 – 3' Ht., Cont.	14

SECTION 40.22.614 – EXISTING NONCONFORMING PARKING
- 1 PLANT UNIT PER SIXTEEN (16) PARKING SPACES
- 41 NEW PARKING SPACES PROPOSED = 2.56 PLANT UNITS REQUIRED

SECTION 40.23.110 – STANDARD PLANT UNITS
- 1 PLANT UNIT = ONE (1) CANOPY TREE, TWO (2) 1-1/2" TO 2" CALIPER UNDERSTORY TREES, AND THIRTEEN (13) 1-1/2' TO 3' HIGH SHRUBS

SECTION 40.23.140 – STANDARDS FOR BUFFERYARD PLANTINGS
- 0.10 OPACITY FOR 20'x100' BUFFERYARD = 0.65 PLANT UNITS

PLANTINGS REQUIRED
- PER SECTION 40.22.614 – 3 CANOPY TREES, 5 UNDERSTORY TREES AND 33 SHRUBS
- PER SECTION 40.23.140 – 1 CANOPY TREE, 1 UNDERSTORY TREE, AND 9 SHRUBS

0 40 80 120
SCALE: 1" = 40'

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LANDSCAPE PLAN

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

Date:	AUGUST, 2016
Scale:	1" = 40'
Dwn.By:	ANM/TMM
Proj.No.:	0586B036
Dwg.No.:	L-01

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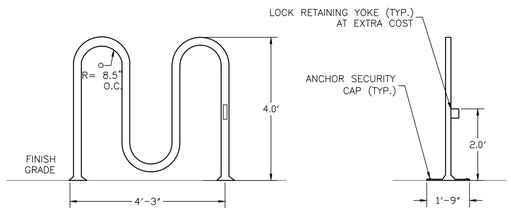
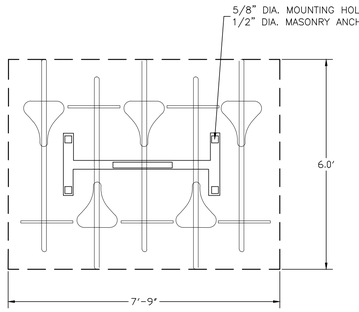
MODEL NO. BS-4S (AE)
SURFACE MOUNTED



FRONT ELEVATION

SIDE ELEVATION



PLAN VIEW

Bike Security Racks Co. sells bicycle racks, bike parking equipment and bicycle storage systems.
12 Sawyer Loop / Wentworth, NH 03282
To order, call (800) 545-2757 or (617) 876-1180.

ORDERING INFORMATION

BIKE-STANCHIONS: ADULT-EXPANDED (AE)
VERSION, MODERATE SECURTY BIKE RACKS

MODEL NO. SURFACE-MOUNT		BELOW-GRADE	LENGTH (O.C)	BIKE CAP.
BS- 2S(AE)	OR	BS- 2B(AE)	1'-5"	3
BS- 4S(AE)	OR	BS- 4B(AE)	4'-3"	5
BS- 6S(AE)	OR	BS- 6B(AE)	7'-1"	7
BS- 8S(AE)	OR	BS- 8B(AE)	9'-11"	9
BS- 10S(AE)	OR	BS- 10B(AE)	12'-9"	11
BS- 12S(AE)	OR	BS- 12B(AE)	15-7"	13

MATERIALS
- 2" nom., Sched. 40, ASTM A500, welded seamless-steel pipe construction
- 3/8" x 3" H.R. steel flat-bar for foot assemblies
- 1/2" dia. H.R. steel round-bar for lock-retaining yokes
- 2-1/2" nom., Sched. 40, ASTM A500, welded seamless-steel pipe for below-grade sleeves

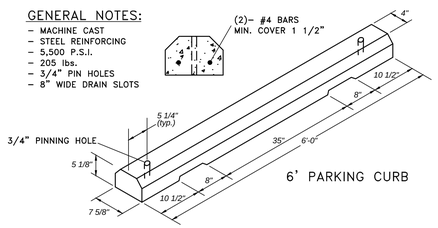
FABRICATION
- All metallurgical joints are MIG welds

FINISHES
- Black thermoplastic powder coating 8 to 10 mils thick
- Hot-dipped galvanized

BIKE RACK DETAIL (CS)
NO SCALE

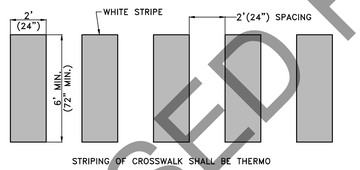
DETAIL INFORMATION TABLE						
ITEM	LOCATION OF DETAIL	YEAR	SECTION	NAME	DESCRIPTION	SHEET NUMBER(S)
CURB	DelDOT – STANDARD CONSTRUCTION DETAILS	2014	SECTION II – CURB & GUTTER	P.C.C CURB AND INTEGRAL P.C.C. CURB & GUTTER	P.C.C. CURB (TYPE 1–8, 1–6, 1–2)	C–1 (2013) – 1
CURB RAMP	DelDOT – STANDARD CONSTRUCTION DETAILS	2014	SECTION II – CURB & GUTTER	CURB RAMPS	CURB RAMP, TYPE 1	C–2 (2013) – 1
CURB RAMP	DelDOT – STANDARD CONSTRUCTION DETAILS	2014	SECTION II – CURB & GUTTER	CURB RAMPS	CURB RAMP, TYPE 2	C–2 (2013) – 2
BREAKAWAY POST	DelDOT – STANDARD CONSTRUCTION DETAILS	2014	SECTION VIII – TRAFFIC	BREAKAWAY SIGN POST AND PIN ASSEMBLY DETAILS	BREAKAWAY SIGN POST AND PIN ASSEMBLY DETAILS	T–15 (2013)
SIGN(S)	DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES – DE MUTCD	2011	PART 2, CHAPTER 2B	STOP SIGN	STOP SIGN (R1–1), 36"X36"	2B–2, 2B–9 & 2B–10
SIDEWALK	DelDOT – STANDARD CONSTRUCTION DETAILS	2014	SECTION VI – MISCELLANEOUS	SHARED–USE PATH & SIDEWALK DETAILS	SIDEWALK	M–3 (2013)
CURB RETAINING WALL	DelDOT – STANDARD CONSTRUCTION DETAILS	2014	SECTION II – CURB & GUTTER	CURB RETAINING WALL	CURB RETAINING WALL	C–6 (2014)

GENERAL NOTES:
- MACHINE CAST
- STEEL REINFORCING
- 5,500 P.S.I.
- 205 lbs.
- 3/4" PIN HOLES
- 8" WIDE DRAIN SLOTS



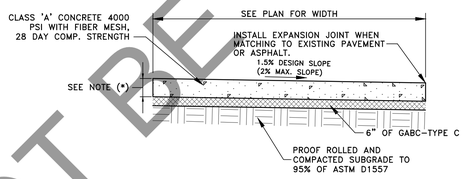
6' PARKING CURB

STANDARD PARKING BUMP STOP DETAIL (CO)
NO SCALE
DETAIL FOR EXAMPLE (EQUIVALENT MAY BE USED)



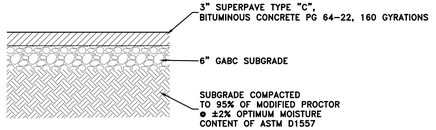
STRIPING OF CROSSWALK SHALL BE THERMO

PEDESTRIAN CROSSWALK DETAIL (CI)
NO SCALE



NOTES:
1. MARK IN 5' SQUARES, USE PREMOLDED EXPANSION JOINTS AT INTERVALS NOT GREATER THAN 20'.
* – STANDARD SIDEWALK SHALL BE 4" THICK. FOR WALL/CURB AREA THE SIDEWALK SHALL BE 5" THICK.

SIDEWALK DETAIL (CN)
NO SCALE



PAVEMENT SECTION (FULL DEPTH) (CQ)
NO SCALE

KEY LEGEND	
LABEL	DESCRIPTION
CA	RELOCATED "FIRE LANE" SIGN
CB	RELOCATED "15 MPH" SIGN
CC	RELOCATED "NO TRESPASSING" SIGN
CD	PROPOSED "STOP" (R1–1) SIGN – 36"X36"
CE	PROPOSED LIGHTING POLE (SEE ELECTRICAL PLANS SHEETS E–1 & E–2)
CF	PROPOSED 16" WIDE BY 11' LONG WHITE STOP BAR – THERMO STRIPING
CG	WHITE PAINTED DIRECTIONAL ARROWS – (SEE DETAIL SHEET DT–01)
CH	PROPOSED 4" WIDE PAINTED WHITE LINE
CI	PROPOSED PEDESTRIAN CROSSWALK STRIPING (SEE DETAIL SHEET DT–01)
CJ	PROPOSED P.C.C. CURB (TYPE 1–2)
CK	PROPOSED CURB RAMP, TYPE 1 (REFER TO DELDOT STANDARD DETAILS)
CL	PROPOSED CURB RAMP, TYPE 2 (REFER TO DELDOT STANDARD DETAILS)
CM	PROPOSED P.C.C. CURB (TYPE 1–8)
CN	PROPOSED POURED CONCRETE SIDEWALK (SEE DETAIL SHEET DT–01)
CO	PROPOSED P.C.C. CURB (TYPE 1–6)
CP	PROPOSED 2' HIGH RETAINING WALL (SEE DETAIL SHEET DT–01)
CQ	PROPOSED FULL DEPTH ASPHALT PAVEMENT (SEE DETAIL SHEET DT–01)
CR	PROPOSED QUAZITE BOX (SEE ELECTRICAL PLANS SHEETS E–1 & E–2)
CS	PROPOSED BIKE RACK, FINAL LOCATION TO BE DETERMINED IN FIELD (SEE DETAIL SHEET DT–01)

CANNOT BE USED FOR BIDDING

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MILFORD, DELAWARE (302) 424–1441

CONSTRUCTION DETAILS

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

Date:	AUGUST, 2016
Scale:	AS NOTED
Dwn.By:	ACM
Proj.No.:	0586B036
Dwg.No.:	DT-01

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SEQUENCE OF CONSTRUCTION

1. NOTIFY DNREC IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION TO SCHEDULE A PRE-CONSTRUCTION MEETING. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN.
2. INSTALL SILT FENCE AND OTHER EROSION SEDIMENT CONTROL DEVICES.
3. REMOVE CONCRETE PAVERS AND PARKING BUMPERS TO INCLUDE ANY NECESSARY CLEARING AND GRUBBING.
4. A) CONSTRUCT PARKING LOT.
   B) INSTALL NEW LIGHTING. (REFER TO ELECTRICAL DRAWINGS ON SHEETS E-01 & E-02)
5. CONSTRUCT CURB RAMPS, CURB, SIDEWALK AND RETAINING WALL.
6. INSTALL STRIPING.
7. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THE EROSION AND SEDIMENT CONTROL NOTES.
8. CONTACT DNREC FOR INSPECTION.
9. REMOVE REMAINING TEMPORARY EROSION CONTROL MEASURES (SILT FENCE, INLET PROTECTION).

GENERAL CONSTRUCTION NOTES

1. DNREC MUST BE NOTIFIED IN WRITING FIVE (5) DAYS PRIOR TO COMMENCING WITH CONSTRUCTION. FAILURE TO DO SO CONSTITUTES A VIOLATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLAN. THIS PROJECT RECEIVED STANDARD PLAN APPROVAL ON DECEMBER 6, 2016. APPROVAL IS VALID FOR FIVE (5) YEARS AND EXPIRES ON DECEMBER 6, 2021.

2. REVIEW AND OR APPROVAL OF THE SEDIMENT AND STORMWATER MANAGEMENT STANDARD PLAN SHALL NOT RELIEVE THE CONTRACTOR FROM HIS OR HER RESPONSIBILITIES FOR COMPLIANCE WITH THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, NOR SHALL IT RELIEVE THE CONTRACTOR FROM ERRORS OR OMISSIONS IN THE APPROVED PLAN.

3. IF THE APPROVED PLAN NEEDS TO BE MODIFIED, ADDITIONAL SEDIMENT AND STORMWATER CONTROL MEASURES MAY BE REQUIRED AS DEEMED NECESSARY BY THE DNREC OR THE DELEGATED AGENCY.

4. DNREC RESERVES THE RIGHT TO ENTER PRIVATE PROPERTY FOR PURPOSES OF PERIODIC SITE INSPECTION.

5. FOLLOWING SOIL DISTURBANCE OR REDISTURBANCE, PERMANENT OR TEMPORARY STABILIZATION SHALL BE COMPLETED FOR ALL PERIMETER CONTROLS, SOIL STOCKPILES, AND ALL OTHER DISTURBED OR GRADED AREAS ON THE PROJECT SITE WITHIN 14 CALENDAR DAYS UNLESS MORE RESTRICTIVE FEDERAL REQUIREMENTS APPLY.

6. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL COMPLY WITH THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, LATEST EDITION.

7. IT SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN AND REPAIR ALL EROSION, SEDIMENT CONTROL AND STORMWATER MANAGEMENT PRACTICES DURING UTILITY INSTALLATION AND SITE CONSTRUCTION.

8. ALL SEDIMENT AND STORNWATER MANAGEMENT PLANS SHALL CONTAIN CERTIFICATION BY THE OWNER OR DEVELOPER OF THE RIGHT OF THE DEPARTMENT OR DELEGATED INSPECTION AGENCY TO CONDUCT ON-SITE INSPECTIONS. THE CERTIFICATION IS ON SHEET ES-1.

9. UPON COMPLETION OF THE PROJECT, THE FERRIS SCHOOL FOR BOYS WILL BE RESPONSIBLE FOR PERPETUAL MAINTENANCE OF THE STORMWATER FACILITIES.

10. THE SIGNED OWNER'S CERTIFICATION IS ON SHEET ES-01.

11. POST CONSTRUCTION VERIFICATION DOCUMENTS ARE TO BE SUBMITTED TO DNREC SEDIMENT AND STORMWATER PROGRAM WITHIN 60-DAYS OF THE STORMWATER MANAGEMENT FACILITY COMPLETION.

12. APPROVAL OF A SEDIMENT AND STORMWATER PLAN DOES NOT GRANT OR IMPLY A RIGHT TO DISCHARGE STORMWATER RUNOFF. THE OWNER/DEVELOPER IS RESPONSIBLE FOR ACQUIRING ANY AND ALL AGREEMENTS, EASEMENTS, ETC. NECESSARY TO COMPLY WITH STATE DRAINAGE AND OTHER APPLICABLE LAWS.

13. A PERIODIC MAINTENANCE OF ALL SEDIMENT CONTROL MEASURES SHALL BE REQUIRED TO INSURE EFFECTIVE SEDIMENT CONTROL. INSPECTION OF ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE MADE WEEKLY AND AFTER EACH RAINFALL.

14. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL FINAL STABILIZATION IS ESTABLISHED.

15. ALL AREAS NOT COVERED BY PAVEMENT WILL BE SEEDED USING PERMANENT SEED MIXTURE SHOWN ON THIS PLAN.

16. UPON COMPLETION OF STOCKPILING TOPSOIL, SEED AND MULCH USING TEMPORARY SEED MIXTURE SPECIFICATIONS IF TO REMAIN IN PLACE LONGER THAN 14 DAYS.

17. PERMANENT STABILIZATION:
SEED MIX #7 SHALL BE UTILIZED AND SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAIL 3.4.3 AND 3.4.5 ON SHEET ES-02.

18. TEMPORARY STABILIZATION:
SEED MIX # 5 SHALL BE UTILIZED AND SHALL BE INSTALLED IN ACCORDANCE WITH STANDARD DETAIL 3.4.3 AND 3.4.5 ON SHEET ES-02.

19. IF TEMPORARY STABILIZATION IS REQUESTED, PERMANENT SEEDING SHALL BE PERFORMED DURING THE NEXT APPLICABLE PERIOD PER PARAGRAPH 18 ABOVE.

20. ALL FILL SLOPE AREAS SHOWN HEREON ARE TO BE STABILIZED PER PARAGRAPHS 18 OR 19 ABOVE IMMEDIATELY AFTER COMPLETION OF GRADING OPERATIONS FOR THESE SLOPES.

21. IF CONSTRUCTION ACTIVITY IS COMPLETED OR CEASES FOR A PERIOD OF 14 DAYS, ALL DISTURBED AREAS WILL BE STABILIZED EITHER PERMANENTLY OR TEMPORARILY, FOLLOWING THE SPECIFICATIONS AND STANDARDS IN THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, 1989.

22. TEMPORARY VEGETATIVE COVER, MULCHING AND/OR SPRINKLING WITH WATER SHALL BE THE METHODS USED AS NECESSARY TO CONTROL DUST. SEE DETAIL 3.4.8 ON SHEET ES-02.

23. EROSION CONTROL MATTING IS REQUIRED IN ALL OPEN CHANNELS AND ON ALL SLOPES 3:1 OR GREATER.

24. A CERTIFIED CONSTRUCTION REVIEWER (CCR) MAY BE REQUIRED TO REVIEW THE EROSION AND SEDIMENT CONTROL AND STORMWATER MANAGEMENT WORK FOR THIS PROJECT.

25. THE PROJECT BENCHMARK IS X-MARK IN LIGHT POLE BASE, ELEV.= 163.13'

26. AT ANY TIME A DEWATERING OPERATION IS USED, IT SHALL BE PREVIOUSLY APPROVED BY THE AGENCY CONSTRUCTION SITE REVIEWER FOR A NON-EROSIVE POINT OF DISCHARGE, AND A DEWATERING PERMIT SHALL BE APPROVED BY THE DNREC WELL PERMITTING BRANCH.

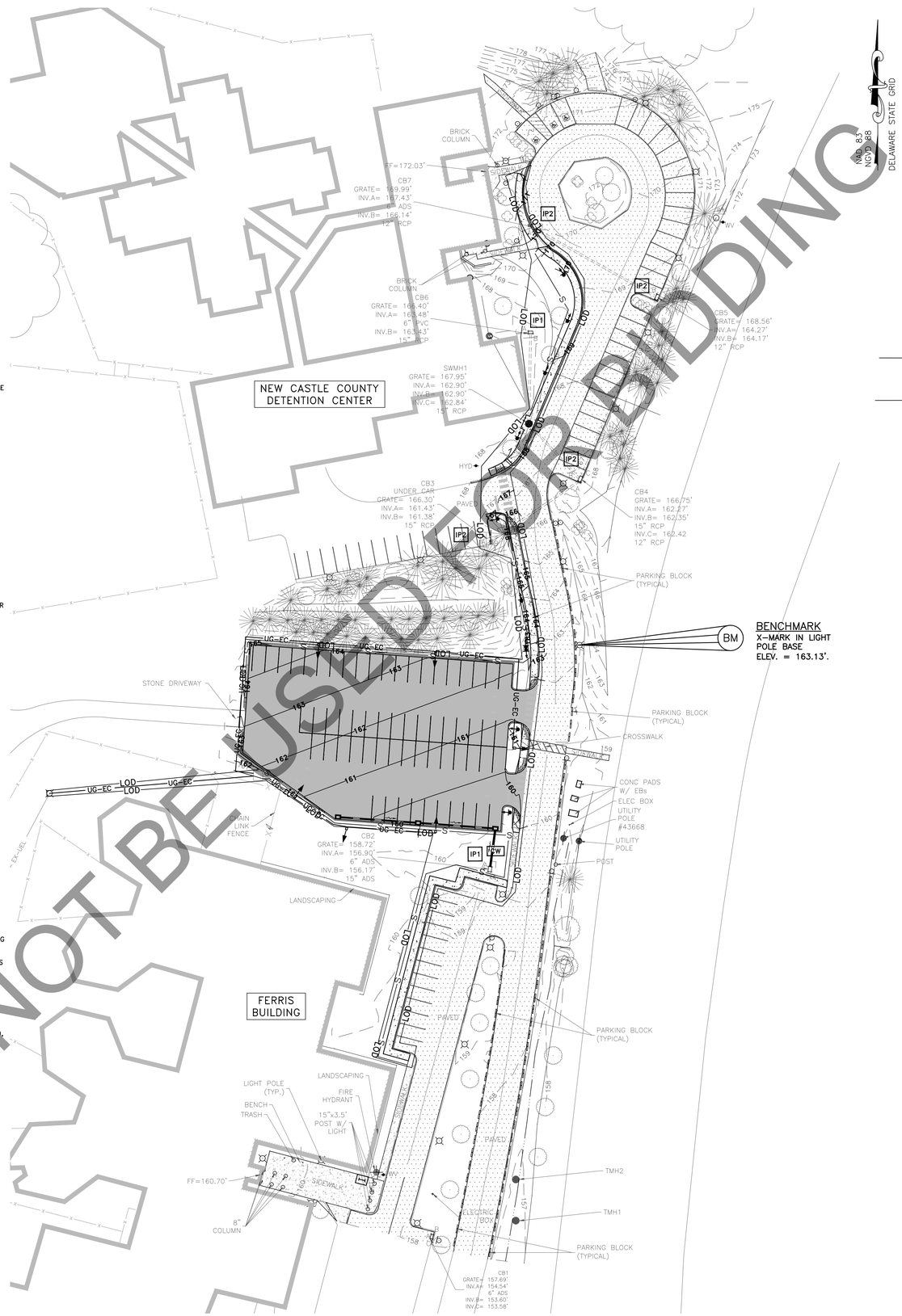
27. THE OWNER SHALL BE FAMILIAR WITH AND COMPLY WITH ALL ASPECTS OF THE NPDES CONSTRUCTION GENERAL PERMIT ASSOCIATED WITH THE PROJECT, INCLUDING, BUT NOT LIMITED TO, PERFORMING WEEKLY SITE INSPECTIONS DURING CONSTRUCTION AND AFTER RAIN EVENTS, AND MAINTAINING WRITTEN LOGS OF THESE INSPECTIONS.

28. BEFORE ANY EARTHWORK OR EXCAVATION TAKES PLACE, THE CONTRACTOR SHALL CALL MISS UTILITY AT 811 OR 1.800.282.8555 AT LEAST 48 HOURS PRIOR TO CONSTRUCTION, TO HAVE ALL EXISTING UTILITIES MARKED ONSITE.

29. THE CONTRACTOR SHALL AT ALL TIMES PROTECT AGAINST SEDIMENT OR DEBRIS LADEN RUNOFF OR WIND FROM LEAVING THE SITE. PERIMETER CONTROLS SHALL BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENT FROM LEAVING THE SITE. ACCUMULATED SEDIMENT SHALL BE REMOVED WHEN IT HAS REACHED HALF OF THE EFFECTIVE CAPACITY OF THE CONTROL. IN ADDITION, THE CONTRACTOR MAY NEED TO ADJUST OR ALTER MEASURES IN TIMES OF ADVERSE WEATHER CONDITIONS, OR AS DIRECTED BY THE AGENCY CONSTRUCTION SITE REVIEWER.

30. BEST AVAILABLE TECHNOLOGY (BAT) SHALL BE EMPLOYED TO MANAGE TURBID DISCHARGES IN ACCORDANCE WITH REQUIREMENTS OF 7. DEL C. CH 60, REGULATIONS GOVERNING THE CONTROL OF WATER POLLUTION, SECTION 9.1.02, KNOWN AS SPECIAL CONDITIONS FOR STORMWATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITIES, AND DEPARTMENT POLICIES, PROCEDURES, AND GUIDANCE.

31. DOCUMENTATION OF SOIL TESTING AND MATERIALS USED FOR TEMPORARY OR PERMANENT STABILIZATION INCLUDING BUT NOT LIMITED TO SOIL TEST RESULTS, SEED TAGS, SOIL AMENDMENT TAGS, ETC. SHALL BE PROVIDED TO THE DEPARTMENT OR DELEGATED AGENCY TO VERIFY THAT THE PERMANENT OR TEMPORARY STABILIZATION HAS BEEN COMPLETED IN ACCORDANCE WITH THE APPROVED PLAN. THE DEPARTMENT OR DELEGATED AGENCY MAY REQUIRE ADDITIONAL SOIL TESTING AND REAPPLICATION OF PERMANENT OR TEMPORARY STABILIZATION IN ACCORDANCE WITH SPECIFICATIONS PROVIDED IN THE DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK, OR ALTERNATIVE MEASURES THAT PROVIDE FUNCTIONAL EQUIVALENCY.



NOT FOR BIDDING
CANNOT BE USED

LEGEND

S S	SILT FENCE
LOD	LIMIT OF DISTURBANCE
IP2	INLET PROTECTION – TYPE 2
IP1	INLET PROTECTION – TYPE 1
CW	CONCRETE WASHOUT

OWNER'S CERTIFICATION

I, THE UNDERSIGNED, CERTIFY THAT ALL LAND CLEARING, CONSTRUCTION, AND DEVELOPMENT SHALL BE DONE PURSUANT TO THE APPROVED PLAN AND THAT RESPONSIBLE PERSONNEL INVOLVED IN THE LAND DISTURBANCE WILL HAVE A CERTIFICATION OF TRAINING AT A DEPARTMENTAL SPONSORED OR APPROVED TRAINING PROGRAM FOR THE CONTROL OF EROSION AND SEDIMENT CONTROL BEFORE INITIATION OF THE PROJECT. I ALSO HEREBY GIVE THE RIGHT OF THE DNREC OR DELEGATED INSPECTION AGENCY TO CONDUCT ON-SITE INSPECTIONS.

_____DATE_____
CHARLES BORING
DEPARTMENT OF SERVICES FOR CHILDREN,
YOUTH AND THEIR FAMILIES (D.S.C.Y.F.)
1825 FAULKLAND ROAD
WILMINGTON, DE 19805

LIMIT OF DISTURBANCE: 0.83 ACRES

SCALE: 1" = 40'

DAVIS, BOWEN & FRIEDEL, INC.
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E&S PLAN

FERRIS SCHOOL FOR BOYS NEW PARKING LOT

DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
WILMINGTON, DE 19805

Date:	AUGUST, 2016
Scale:	1" = 40'
Dwn.By:	TAJ
Proj.No.:	0586B036
Dwg.No.:	ES-01

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Standard Detail & Specifications
Vegetative Stabilization

TEMPORARY SEEDING BY RATES, DEPTHS AND DATES

Mix #	Species[4]	Seeding Rate	Optimum Seeding Dates [1] O = Optimum Planting Period. A = Acceptable Planting Period								Planting Depth[2]
			Coastal Plain		Piedmont		All				
	Certified Seed	lb/Ac[3]	lb/1000 sq.ft.	2/1-4/30	4/1-8/14	8/15-10/31	3/1-4/30	4/1-7/31	8/1-10/31	10/31-2/1	
1	Barley	125	4	O	A	O	O	A	O		1-2 inches 2-3" sandy soils
2	Oats	125	4	O	A	A	O	A	A		1-2 inches 2-3" sandy soils
3	Rye	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
4	Perennial Ryegrass	125	4	O	A	O	O	A	O		0.5 inches 1-2" sandy soils
5	Annual Ryegrass	125	4	O	A	O	O	A	O	A	0.5 inches 1-2" sandy soils
6	Winter Wheat	125	4	O	A	O	O	A	O	A	1-2 inches 2-3" sandy soils
7	Foxtail Millet	30 PLS	0.7		O				O		0.5 inches 1-2" sandy soils
8	Pearl Millet	20 PLS	0.5		O				O		0.5 inches 1-2" sandy soils

1. Winter seeding requires 3 tons per acre of straw mulch for proper stabilization.
2. May be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
3. Applicable on slopes 3:1 or less.
4. Fifty pounds per acre of Annual Lespedeza may be added to 1/2 the seeding rate of any of the above species.
5. Use varieties currently recommended for Delaware. Contact a County Extension Office for information.
6. Warm season grasses such as Millet or Weeping Lovegrass may be used between 5/1 and 9/1 if desired. Seed at 3-5 lbs. per acre. Good on low fertility and acid areas. Seed after frost through summer at a depth of 0.5".

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 1 of 4

Effective October 2015

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES

Mix No.	Seeding Mixtures: Certified Seed[5]	Seeding Rate[1]	Optimum Seeding Dates [2] O = Optimum Planting Period A = Acceptable Planting Period								Remarks
			Coastal Plain			Piedmont			All[6]		
	Woll Drained Soils	lb/Ac	lb/1000 sq.ft.	2/1-4/30	4/1-8/14	8/15-10/31	3/1-4/30	4/1-7/31	8/1-10/31	10/31-2/1	
1	Tall Fescue	140	3.2	A	O	A	A	A	O	A	Add 100 lbs./ac. Winter Rye	Good erosion control mix. Tolerant of low fertility soils.
	Weeping Lovegrass	10	0.23									Lovegrass very difficult to mow; Germinates only in hot weather.
2	Deertongue	30	0.69	A	O	A	A	O	A	A	Add 100 lbs./ac. Winter Rye	Good erosion control mix. Tolerant of low fertility soils
	Sheep Fescue	30	0.69									Good wildlife cover and food
	Common Lespedeza[4] (Inoculated)	15	0.35									
3	Tall Fescue (Turf-type) **or**	50	1.15	O	A	O	O	A	O	A	Add 100 lbs./ac. Winter Rye	Good erosion control mix
	Strong Creeping Red Fescue **or**	50	1.15									Tolerant of low fertility soil conditions. Creeping Red
	Perennial Ryegrass	50	1.15									Fescue for heavy shade. Flatpea
	plus Flatpea[7]	15	0.34									to suppress woody vegetation.
4	Strong Creeping Red Fescue	100	2.3	O	A	O	O	A	O	A	Add 100 lbs./ac. Winter Rye	Suitable waterway mix.
	Kentucky Bluegrass	70	1.61									Canada Bluegrass more
	Perennial Ryegrass **or**	15	0.35									drought tolerant.
	Redtop	5	0.11									Use Redtop for increased drought tolerance.
	plus White Clover[4]	3	0.07									
5	Switchgrass[8] **or**	10	0.23		O				O			Native warm-season mixture,
	Indian Grass[8] **or**	10	0.23									Tolerant of low fertility soils.
	Big Bluestem[8]	5	0.11									Drought tolerant.
	Little Bluestem	5	0.11									Poor shade tolerance.
	Indian Grass	5	0.1									N fertilizer discouraged - weeds
6	Tall Fescue (turf-type) (Blend of 3 cultivars)	150	3.5	O	A	O	O	A	O			Managed filter strip for nutrient uptake.
7	Tall Fescue	150	3.5	O	A	O	O	A	O			Three cultivars of Kentucky
	Ky. Bluegrass (Blend)	20	0.46									Bluegrass. Traffic tolerant.
	Perennial Ryegrass	20	0.46									
8	Big Bluestem[8]	10	0.23	O	A			O	A			All species are native.
	Indian Grass[8]	10	0.23									Indian Grass and Bluestem have
	Little Bluestem[8]	8	0.18									fluffy seeds. Plant with a
	Switchgrass[8]	30	0.69									specialized native seed drill.
	plus one of:											
	Partridge Pea	5	0.11									Creeping Red Fescue will
	Bush Clover	3	0.07									provide erosion protection while
	Wild Indigo	3	0.07									the warm season grasses
	Showy Tick-Trefoil	2	0.05									get established.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 2 of 4

Effective October 2015

Standard Detail & Specifications
Vegetative Stabilization

PERMANENT SEEDING AND SEEDING DATES (cont.)

Mix No.	Seeding Mixtures: Certified Seed[5]	Seeding Rate[1]	Optimum Seeding Dates [2] O = Optimum Planting Period A = Acceptable Planting Period								Remarks
			Coastal Plain			Piedmont			All[6]		
	Perennial Ryegrass Blend	lb/Ac	lb/1000 sq.ft.	2/1-4/30	4/1-8/14	8/15-10/31	3/1-4/30	4/1-7/31	8/1-10/31	10/31-2/1	
9	Redtop	75	1.73	A		O	A	O	A	A	Add 100 lbs./ac. Winter Rye	Quick stabilization of disturbed sites and waterways
	Creeping Bentgrass	35	0.8									
	Sheep Fescue	30	0.69									
	Rough Bluegrass	45	1									
10	Reed Canarygrass[9]	10	0.23	A			O	A		O		Good erosion control; wildlife cover and wetland revegetation.
	Residential Lawns											
11	Tall Fescue	100	2.3	O	A	O	O	A	O			High value, high maintenance,
	Perennial Ryegrass	25	0.57									light traffic, irrigation necessary.
	Kentucky Bluegrass Blend	30	0.69									Well drained soils, full sun.
12	Tall Fescue	100	2.3	O	A	O	O	A	O			Moderate value,
	Perennial Ryegrass	25	0.57									maintenance, irrigation,
	Sheep Fescue	25	0.57									traffic tolerant
13	Creeping Red Fescue	60	1.15	O	A	O	O	A	O			Shade tolerant,
	Chewings Fescue	50	1.15									moderate traffic tolerance,
	Rough Bluegrass	20	0.4									moderate maintenance.
	Kentucky Bluegrass	20	0.4									
14	Creeping Red Fescue	90	1.15	O	A	O	O	A	O			Shade tolerant,
	Rough Bluegrass **or**	90	2.1									moisture tolerant.
	Chewings Fescue											
15	K-31 Tall Fescue	150	3.5	O	A	O	O	A	O			Monoculture, but performs well alone in lawns. Discouraged.

1. When hydroseeding is the chosen method of application, the total rate of seed should be increased by 25%.
2. Winter seeding requires 3 tons per acre of straw mulch. Planting dates listed above are average for Delaware. These dates may require adjustment to reflect local conditions.
3. All seed shall meet the minimum purity and minimum germination percentages recommended by the Delaware Department of Agriculture. The maximum % of weed seeds shall be in accordance with Section 1, Chapter 24, Title 3 of the Delaware Code.
4. Cool season species may be planted throughout summer if soil moisture is adequate or seeded area can be irrigated.
5. Inoculate legumes with proper bacteria.
6. Warm season grass mix and Reed Canary Grass cannot be mowed more than 4 times per year.
7. Warm season grasses require a soil temperature of at least 50 degrees in order to germinate, and will remain dormant until then.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 3 of 4

Effective October 2015

Standard Detail & Specifications
Vegetative Stabilization

Construction Notes:

1. 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.
2. Seedbed Preparation

   It is important to prepare a good seedbed to insure 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.
3. 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 to 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.
4. 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.
   b. Apply seed uniformly with a broadcast seeder, drill, cultipacker seeder 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.
5. Mulching

   All mulching shall be done in accordance with detail **DE-ESC-3.4.5**.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.4.3** Sheet 4 of 4

Effective October 2015

Standard Detail & Specifications
Dust Control

Temporary Methods:

1. Mulches - See **DE-ESC-3.4.5**, Standard Detail and Specifications for Mulching.
2. Vegetative cover - See **DE-ESC-3.4.3**, Std. Detail and Specifications for Vegetative Stabilization.
3. Adhesives - Use on mineral soils only (not effective on muck soils). Keep traffic off these areas. The following table may be used for general guidance.

Type of Emulsion	Water Dilution	Type of Nozzle	Apply Gal/Ac.
Latex emulsion	12.5:1	Fine spray	235
Resin-in-water emulsion	4:1	Fine spray	300
Acrylic emulsion (non-traffic)	7:1	Coarse spray	450
Acrylic emulsion (traffic)	3.5:1	Coarse spray	350

4. Tillage - For emergency temporary treatment, scarify the soil surface to prevent or reduce the amount of blowing dust until a more appropriate solution can be implemented. Begin the tillage operation on the windward side of the site using a chisel-type plow for best results.
5. Sprinkling - Sprinkle site with water until the surface is moist . Repeat as needed.
6. Calcium Chloride - Apply as flakes or granular material with a spreader at a rate that will keep the soil surface moist. Re-apply as necessary.
7. Barriers - Place barriers such as solid board fences, snow fences, hay bales, etc. at right angles to the prevailing air currents at intervals of approx. 10X their height.

Permanent Methods:

1. Vegetative cover - See **DE-ESC-3.4.3**, Std. Detail and Specifications for Vegetative Stabilization.
2. Stone - Apply layer of crushed stone or coarse gravel to protect soil surface.

Source:	Symbol:	Detail No.
Adapted from VA ESC Handbook		**DE-ESC-3.4.8** Sheet 1 of 1

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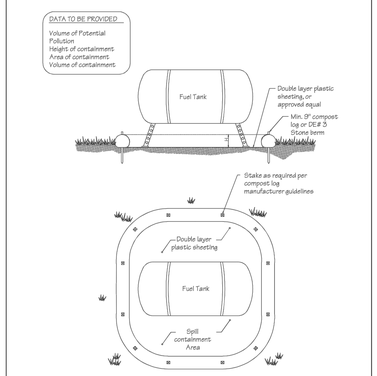
Construction Site Waste Mgt & Spill Control



Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.6.1** Sheet 1 of 5

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Pollution Prevention – Spill Prevention

1. Fueling should only take place in signed designated areas, away from downstream drainage facilities and watercourses.
2. Fueling must be with nozzles equipped with automatic shut-off to control drips. Do not top off.
3. Protect the areas where equipment or vehicles are being repaired, maintained, fueled or parked from storm water run-on and runoff.
4. Use barriers such as berms to prevent storm water run-on and runoff, and to contain spills.
5. Place a "Fueling Area" sign next to each fueling area.
6. Store hazardous materials such as fuel, solvents, oil and chemicals in secondary containment.
7. Inspect vehicles and equipment for leaks on each day of use. Repair fluid and oil leaks immediately.
8. Absorbent spill clean-up materials and spill kits must be available in fueling areas and on fuel trucks.
9. If fueling is to take place at night, make sure the fueling area is sufficiently illuminated.
10. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.

CLEAN UP SPILLS

1. If it is safe to do so, immediately contain and clean up any chemical and/or hazardous material spills.
2. Properly dispose of used oil, fluids, lubricants and spill clean-up materials.
3. Do not bury spills or wash them down with water.

LEAKS AND DRIPS

1. Use drip pans or absorbent pads at all times. Place under and around leaky equipment.
2. Do not allow oil, grease, fuel or chemicals to drip onto the ground.
3. Have spill kits and clean up material on-site.
4. Repair leaky equipment promptly or remove problem vehicles and equipment from the site. Clean up contaminated soil immediately.
5. Store contaminated waste in sealed containers constructed of suitable material. Label these containers properly.
6. Clean up all spills and leaks. Promptly dispose of waste and spent clean up materials.

Source:	Symbol:	Detail No.
Delaware ESC Handbook		**DE-ESC-3.6.1** Sheet 2 of 5

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Notes:

The Construction Site Pollution Prevention Plan should include the following elements:

1. Material Inventory

Document the storage and use of the following materials:

a. Concrete
b. Detergents
c. Paints (enamel and latex)
d. Cleaning solvents
e. Pesticides
f. Wood scraps
g. Fertilizers
h. Petroleum based products

2. Good housekeeping practices

a. Store only enough product required to do the job.
b. All materials shall be stored in a neat, orderly manner in their original labeled containers and covered.
c. Substances shall not be mixed.
d. When possible, all of a product shall be used up prior to disposal of the container.
e. Manufacturers' instructions for disposal shall be strictly adhered to.
f. The site foreman shall designate someone to inspect all BMPs daily.

3. Waste management practices

a. All waste materials shall be collected and stored in securely lidded dumpsters in a location that does not drain to a waterbody.
b. Waste materials shall be salvaged and/or recycled whenever possible.
c. The dumpsters shall be emptied a minimum of twice per week, or more if necessary. The licensed trash hauler is responsible for cleaning out dumpsters.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 3 of 5

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Notes (cont.)

d. Trash shall be disposed of in accordance with all applicable Delaware laws.
e. Trash cans shall be placed at all lunch spots and littering is strictly prohibited. Recycle bins shall be placed near the construction trailer.
f. If fertilizer bags can not be stored in a weather-proof location, they shall be kept on a pallet and covered with plastic sheeting which is overlapped and anchored.

4. Equipment maintenance practices

a. If possible, equipment should be taken to off-site commercial facilities for washing and maintenance.
b. If performed on-site, vehicles shall be washed with high-pressure water spray without detergents in an area contained by an impervious berm.
c. Drip pans shall be used for all equipment maintenance.
d. Equipment shall be inspected for leaks on a daily basis.
e. Washout from concrete trucks shall be disposed of in a temporary pit for hardening and proper disposal.
f. Fuel nozzles shall be equipped with automatic shut-off valves.
g. All used products such as oil, antifreeze, solvents and tires shall be disposed of in accordance with manufacturers' recommendations and local, state and federal laws and regulations.

5. Spill prevention practices

a. Potential spill areas shall be identified and contained in covered areas with no connection to the storm drain system.
b. Warning signs shall be posted in hazardous material storage areas.
c. Preventive maintenance shall be performed on all tanks, valves, pumps, pipes and other equipment as necessary.
d. Low or non-toxic substances shall be prioritized for use.

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 4 of 5

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Notes (cont.)

e. Contact information for reporting spills through the DNREC 24-Hour Toll Free Number shall be prominently posted.

6. Education

a. Best management practices for construction site pollution control shall be a part of regular progress meetings.
b. Information regarding waste management, equipment maintenance and spill prevention shall be prominently posted in the construction trailer.

CONTACT INFORMATION

DNREC 24-Hour Toll Free Number	**800-662-8802**
DNREC Solid & Hazardous Waste Branch	**302-739-9403**

Source:	Symbol:	Detail No.
Adapted from USEPA Pub. 840-B-92-002		**DE-ESC-3.6.1** Sheet 5 of 5

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EROSION & SEDIMENT CONTROL DETAILS

FERRIS SCHOOL FOR BOYS NEW PARKING LOT
DEPARTMENT OF SERVICES FOR CHILDREN, YOUTH AND THEIR FAMILIES
CHRISTIANA HUNDRED, NEW CASTLE COUNTY, DE

Date: AUGUST, 2016
Scale: AS NOTED
Dwn.By: ACM
Proj.No.: 0586B036
Dwg.No.:

ES-02

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