

GENERAL LOCATION OF CONTRACT

FINAL PLANS

**THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION**

**U.S. CUSTOMARY
UNITS**



CONSTRUCTION PLANS FOR:
**BR 1-404 ON N427 CEDAR LANE,
MIDDLETOWN**

CONTRACT NUMBER: **T201007101**
FEDERAL AID PROJECT NUMBER: **NA**
COUNTY: **NEW CASTLE** M.R. #: **N427**

DESIGN DESIGNATION		
FUNCTIONAL CLASS: MAJOR COLLECTOR	D.H.V. PROJECTED: 440	YEAR: 2040
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT	DESIGN SPEED: 30 M.P.H.	
A.A.D.T. CURRENT: 4226	YEAR: 2008	TRUCKS: 14 %
A.A.D.T. PROJECTED: 8000	YEAR: 2040	DIRECTION OF DISTRIBUTION: 55 %

INDEX OF SHEETS	
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PREPARED BY
THE CONSULTING FIRM OF

SEAL

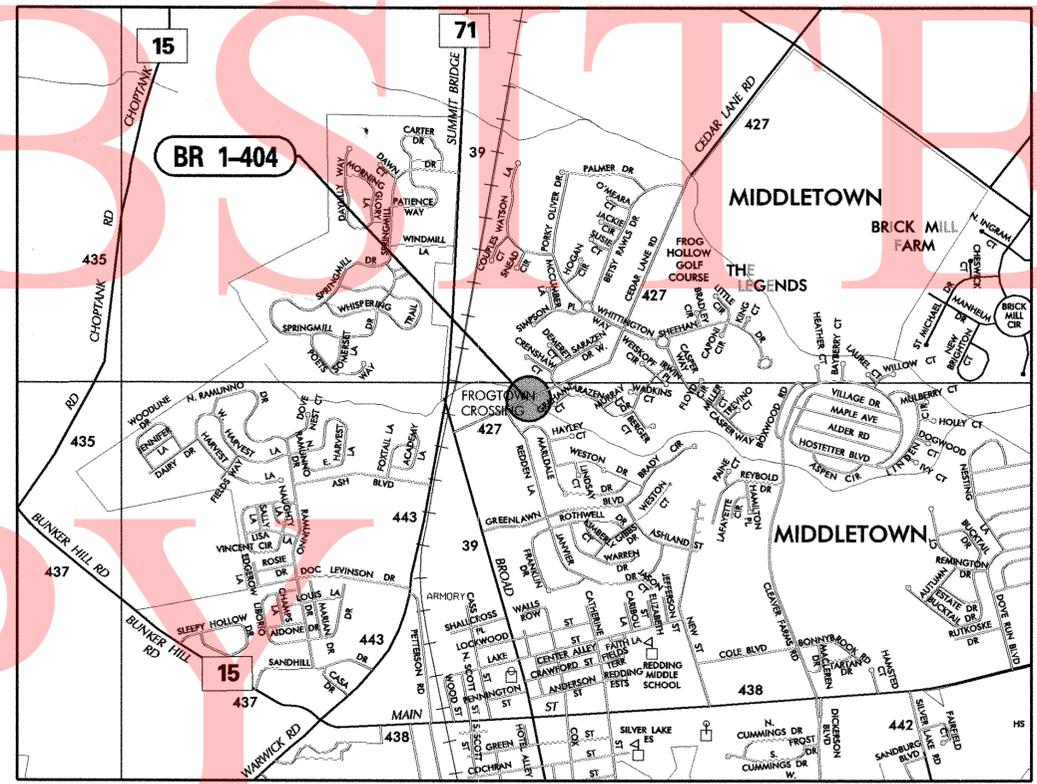
RECOMMENDED DATE

RECOMMENDED

SQUAD MANAGER, CONSTRUCTION DATE

GROUP ENGINEER, CONSTRUCTION DATE

ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS (CONSTRUCTION) DATE



TOTAL SHEETS: 19

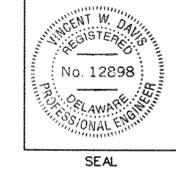
APPROVED DESIGN EXCEPTIONS			
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS	
DESCRIPTION	NAME & DATE

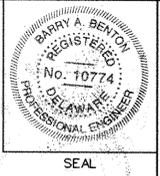
ASSOCIATED CONTRACTS	
CONTRACT NO.	CONTRACT NAME
77-06-004	1977 S.I.P. SECTION 230 - BRIDGE 404 - ROAD 427

LAST REVISED: 8/7/2008
Y:\NEWCASTLE\427\BRIDGE\T201007101\PLANS\T.C.DGN

RECOMMENDED
Vincent W. Davis
STORMWATER ENGINEER
DATE **16 MAR 2011**



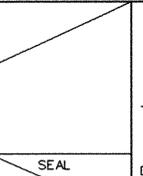
RECOMMENDED
R.A.R.
SQUAD MANAGER, TRANSPORTATION SOLUTIONS (PROJECT DEVELOPMENT OR BRIDGE DESIGN)
DATE **MARCH 15, 2011**



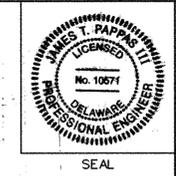
RECOMMENDED
Jiten K. Sonji
BRIDGE DESIGN ENGINEER
DATE **March 17, 2011**



RECOMMENDED
GROUP ENGINEER, PROJECT DEVELOPMENT
DATE



RECOMMENDED
J.T.P.
ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS
DATE **3-17-11**



APPROVED
Natalie Banhart
CHIEF ENGINEER
DATE **3/17/11**



EXISTING SYMBOLS

DRAINAGE	
	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
	DRAINAGE CATCH BASIN
	DRAINAGE JUNCTION BOX
	DRAINAGE MANHOLE
	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
	CABLE TV DISTRIBUTION BOX
	ELECTRIC MANHOLE
	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
	GAS MANHOLE
	GAS METER
	GAS VALVE
	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
	SANITARY SEWER MANHOLE
	SANITARY SEWER VALVE
	SANITARY SEWER VENT OR CLEANOUT
	SEPTIC DRAIN FIELD
	TELEPHONE BOOTH
	TELEPHONE MANHOLE
	TELEPHONE TEST POINT
	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
	WATER - FIRE HYDRANT
	WATER METER
	WATER VALVE
	WELL HEAD

MANMADE ROADSIDE FEATURES	
	CURB
	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
	LAMP AND POST - RESIDENTIAL
	MAILBOX
	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES	
	GRASS LAWN
	HEDGEROW OR THICKET
	MARSH BOUNDARY LINE
	TREE - CONIFEROUS
	TREE - DECIDUOUS
	TREE STUMP
	SHRUBBERY
	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

SURVEY CONTROL & MONUMENTATION	
	SURVEY BENCHMARK LOCATION
	SURVEY TIE POINT LOCATION
	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS
	PROPERTY MARKER - CONCRETE MON.
	PROPERTY MARKER - IRON PIPE

UTILITY COMPANY FACILITIES	
	CHESAPEAKE UTILITIES
	TOWN OF MIDDLETOWN
	VERIZON

PROPOSED SYMBOLS

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BUTT JOINT
	CONSTRUCTION BASELINE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CLEAR ZONE
	DRAINAGE INLET
	DITCH
	FENCE - METAL
	FENCE - WOOD
	FLARED END SECTION
	GUARDRAIL, TYPES 1 & 3
	GUARDRAIL, TYPE 2
	GUARDRAIL END TREATMENT - PARALLEL
	GUARDRAIL END TREATMENT - PARABOLIC
	HORIZONTAL CLEARANCE
	JUNCTION BOX - DRAINAGE
	LIMIT OF CONSTRUCTION
	MANHOLE
	PAVEMENT PATCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK @ 4"
	P.C.C. SIDEWALK @ 6"
	UNDERDRAIN
	UNDERDRAIN OUTLET

CONSTRUCTION PHASING SYMBOLS	
	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
	CONSTRUCTION WARNING SIGN LOCATION
	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	PHASING TRAFFIC FLOW ARROW

LANDSCAPING	
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

EROSION & SEDIMENT CONTROL	
	DEWATERING BASIN
	EROSION CONTROL BLANKET
	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
	PORTABLE SEDIMENT TANK
	REINFORCED SILT FENCE
	SANDBAG DIKE
	SANDBAG DIVERSION
	STONE CHECK DAM
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE
	SUMP PIT, TYPE 1
	SUMP PIT, TYPE 2
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN

IDENTIFIERS	
	ADJUST BY CONTRACTOR
	ADJUST BY OTHERS
	CONCRETE SAFETY BARRIER
	CURB OR CURB & GUTTER
	CONVERT TO JUNCTION BOX
	CONVERT TO DRAINAGE MANHOLE
	CURB OPENING
	CURB RAMP / TYPE
	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
	DRAINAGE INLET
	DO NOT DISTURB
	FLARED END SECTION
	FILTRATION STRUCTURE
	GUARDRAIL
	JUNCTION BOX
	LANDSCAPE PLANTINGS
	MANHOLE
	MONUMENT - RIGHT-OF-WAY
	PIPE
	RELOCATE BY CONTRACTOR
	RELOCATE BY OTHERS
	REMOVE BY CONTRACTOR
	REMOVE BY OTHERS
	SEDIMENT TRAP
	SILT FENCE
	UNDERDRAIN

PAVEMENT SECTION(S)	
	2" SUPERPAVE TYPE C, PG 64-22, 160 GYRATIONS
	2.25" SUPERPAVE TYPE B, PG 64-22, 160 GYRATIONS
	3" BITUMINOUS CONCRETE BASE COURSE, PG 64-22, 160 GYRATIONS
	8" GRADED AGGREGATE BASE COURSE

RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING RIGHT-OF-WAY
	PROPOSED DENIAL OF ACCESS
	PROPOSED PERMANENT EASEMENT
	PROPOSED RIGHT-OF-WAY
	PROPOSED R/W & DENIAL OF ACCESS
	TEMPORARY CONSTRUCTION EASEMENT
	PROPOSED RIGHT-OF-WAY BASELINE
	HISTORIC RIGHT-OF-WAY BASELINE

TRAFFIC	
	ITMS CONDUIT
	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

LAST REVISED: 3/12/2008
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GENERAL NOTES

- THIS PROJECT IS TO BE CONSTRUCTED IN ACCORDANCE WITH THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", DATED AUGUST 2001 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2001, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.
- THE CONTRACTOR SHALL GIVE TWO (2) WEEKS NOTICE TO THE PROPERTY OWNER WHEN ANY FIXTURE, SHRUB OR OTHER OBJECT MUST BE REMOVED FROM THE RIGHT OF WAY OR EASEMENT AREA. IF THE OWNER HAS NOT ATTEMPTED TO SALVAGE THIS PROPERTY, THE CONTRACTOR SHALL REMOVE IT WITHOUT OBLIGATION. COMPENSATION SHALL BE INCIDENTAL TO THE CONTRACT.
- THE ENDS OF ALL CURBS SHALL BE DEPRESSED FLUSH WITH THE PAVEMENT AT A RATIO OF TWELVE TO ONE (12:1) UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
- THE CONTRACTOR SHALL PROVIDE AND INSTALL PVC SLEEVES (4" INSIDE MINIMUM DIAMETER, 6" INSIDE MAXIMUM DIAMETER) IN PROPOSED CONCRETE SIDEWALKS, ISLANDS, AND MEDIANS FOR FUTURE TRAFFIC SIGN POSTS AS DIRECTED BY THE ENGINEER. THE LOWER END OF THE SLEEVE SHALL SIT ON THE TOP OF THE SUBBASE MATERIAL. THE COST SHALL BE INCIDENTAL TO THE CONTRACT.
- STAGING AREAS - PROPER EROSION AND SEDIMENT CONTROL MEASURES AS DETERMINED BY THE ENGINEER SHALL BE INSTALLED IN ALL STAGING AREAS. ALL AREAS USED BY THE CONTRACTOR FOR STAGING OPERATIONS SHALL BE FULLY RESTORED BY THE CONTRACTOR UPON COMPLETION OF THE CONTRACT. IF THE STAGING AREA IS PAVED, IT SHALL BE RESTORED TO ITS ORIGINAL CONDITION. IF THE AREA IS UNPAVED, IT SHALL BE RE-GRADED, TOPSOILED, SEEDING AND MULCHED IN ACCORDANCE WITH DELAWARE STANDARD SPECIFICATIONS 732, 734 AND 735, FOR TOPSOIL, SEED AND MULCH RESPECTIVELY, TO THE SATISFACTION OF THE ENGINEER. THE SEED SHALL ADHERE TO THE SPECIFICATIONS OF SECTION 734 FOR PERMANENT GRASS SEEDING - DRY GROUND. 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 REESTABLISHING A SATISFACTORY STAND OF GRASS SHALL BE AT THE CONTRACTOR'S EXPENSE.
- SITE REVIEWER - AN EROSION CONTROL SITE REVIEWER SHALL BE A PERSON FROM THE CONTRACTOR'S STAFF ASSIGNED TO EROSION AND SEDIMENT CONTROL IMPLEMENTATION AND MAINTENANCE AND SHALL BE REQUIRED ON SPECIFIC PROJECTS. THE NAME AND DNREC CERTIFICATION NUMBER OF EACH SITE REVIEWER SO REQUIRED SHALL BE SUBMITTED TO THE DEPARTMENT AT THE TIME OF BID. THE NAME OF THE DELAWARE REGISTERED PROFESSIONAL ENGINEER PROVIDING DIRECTION AND SUPERVISION OF THE SITE REVIEWER, AS REQUIRED IN SECTION 12.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS, SHALL ALSO BE SUBMITTED TO THE DEPARTMENT AT THE TIME OF BID. THE SITE REVIEWER REQUIREMENTS IN EFFECT ON THIS PROJECT SHALL BE MARKED WITH AN "X" BELOW:

EROSION POTENTIAL FOR THIS PROJECT	SITE REVIEWER REQUIREMENT
() INSIGNIFICANT	NONE
() MINOR	CONTRACTOR CERTIFICATION COURSE TRAINING ONLY, AS DEFINED IN SECTION 13 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
(X) MEDIUM	AT THE TIME OF BID OF THE CONTRACT, EITHER THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 12 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
() MAJOR	SUPERINTENDENT AND AN INDIVIDUAL FROM CONTRACTOR'S STAFF SHALL BE CCR. ONE INDIVIDUAL FROM THE CONTRACTOR'S STAFF MUST BE A CCR AT THE TIME OF BID OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF CONTRACT.

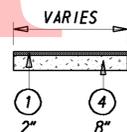
- ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR INCLUDE:

(X)	NONE
()	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
()	RASTER FILES, IN .CAL FILE FORMAT, FOR ALL PLAN SHEETS.
()	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
()	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
()	DESIGN FILE, IN .DGN FILE FORMAT, CONTAINING ONLY THE PROPOSED 3D TRIANGLES OF THE PROPOSED DIGITAL TERRAIN MODEL (DTM).

- AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

(X)	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE ATSSA SUPERVISOR'S SOLE JOB SHALL BE SUPERVISION OF THE INSTALLATION, OPERATION AND MAINTENANCE OF TRAFFIC CONTROL DEVICES FOR THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT SHALL NOT BE THE ATSSA SUPERVISOR.

- THE DISTURBED AREA FOR THIS PROJECT IS 0.378 ACRES.



DRIVEWAY SECTION
(APPROX. @ STA 1+50)
1/4" = 1'-0"

PROJECT NOTES

SECTION 100

- UNLESS OTHERWISE NOTED ON THE PLANS, THE CONTRACTOR SHALL, AS PART OF HIS PROJECT SCHEDULE, SUBMIT TO THE ENGINEER AN ESTIMATE OF THE MONTHLY PAYMENTS EXPECTED TO BE RECEIVED ON THE CONTRACT. THIS WILL BE REFERENCED AS THE "MONTHLY PAYMENT CHART".

A CHART IN MICROSOFT EXCEL, MICROSOFT WORD, OR HAND WRITTEN FORMAT WILL BE ACCEPTABLE FOR THIS PURPOSE. THE CHART SHOULD INCLUDE, AS A MINIMUM, COLUMNS FOR THE MONTH, YEAR AND ESTIMATED MONTHLY PAYMENTS. THE TOTAL OF ALL ESTIMATED MONTHLY PAYMENTS SHOULD EQUAL THE AWARDED CONTRACT TOTAL BID PRICE.

THE ENGINEER MAY REQUEST AN UPDATED "MONTHLY PAYMENT CHART" AT HIS DISCRETION, DEPENDING ON THE ACCURACY OF THE INITIAL ESTIMATES AND ACCORDING TO THE OVERALL NEEDS OF THE DEPARTMENT.

THE "MONTHLY PAYMENT CHART" WILL NOT BE CONSIDERED A BINDING DOCUMENT BY EITHER THE CONTRACTOR OR THE DEPARTMENT AND IS CONSIDERED SOLELY INFORMATIONAL.

ON PROJECTS REQUIRING CPM SCHEDULES, THE CONTRACTOR MAY, BUT IS NOT REQUIRED TO, "COST LOAD" THE CPM SCHEDULE IN ORDER TO GENERATE THE MONTHLY SPEND PAYMENT CHART.

COSTS TO PREPARE AND/OR UPDATE THE "MONTHLY PAYMENT CHART" ARE ADDRESSED AS FOLLOWS:

- ON CONTRACTS REQUIRING CPM SCHEDULES AND UPDATES, PREPARATION OF THE INITIAL CHART SHALL BE INCIDENTAL TO ITEM 763508. UPDATES SHALL BE INCIDENTAL TO ITEM 763509.
- ON CONTRACTS NOT REQUIRING CPM SCHEDULES, THE COST TO PREPARE AND UPDATE THE "MONTHLY PAYMENT CHART" SHALL BE INCLUDED IN ITEM 763000 - INITIAL EXPENSE.

SECTION 200

- SHORING SHALL BE REQUIRED FOR ANY EXCAVATION EXCEEDING 5 FEET IN HEIGHT, THE COST OF SHORING SHALL BE INCIDENTAL TO ITEM # 207000 - EXCAVATION AND BACKFILL FOR STRUCTURES. IN LIEU OF SHORING, THE CONTRACTOR MAY USE A 2:1 CUT SLOPE. NO PAYMENT SHALL BE MADE FOR ADDITIONAL EXCAVATION OR FILL OUTSIDE THE LIMITS AS DEFINED IN SECTION 207 OF THE STANDARD SPECIFICATIONS.

- ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- REMOVAL OF THE EXISTING STRUCTURE IN ITS ENTIRETY.
- REMOVAL OF ALL EXISTING GUARDRAIL.
- REMOVAL OF EXISTING FENCE ON THE DOWNSTREAM SIDE OF THE CULVERT.

SECTION 600

- STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED:
(F'c = 28 DAY COMPRESSIVE STRENGTH)
PRECAST CONCRETE (F'c = 5 KSI)
CLASS A - CULVERT (F'c = 4.5 KSI)
CLASS A - WINGWALLS (F'c = 4.5 KSI)
MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO UTILIZE ANY APPROVED CONCRETE ADDITIVES TO ACCELERATE THE CONCRETE CURING TIME FOR CAST-IN-PLACE CONCRETE SO THAT IT REACHES THE 28 DAY COMPRESSIVE STRENGTH BEFORE THE ROAD IS OPEN TO TRAFFIC. PAYMENT SHALL BE INCIDENTAL TO THE RESPECTIVE CONCRETE BID ITEM.
- REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2" UNLESS OTHERWISE SPECIFIED ON THE PLANS. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963).
- LIMITS OF COURSE AGGREGATE FOR FOUNDATION STABILIZATION AND SUBFOUNDATION BACKFILL (ITEM #608000) SHALL EXTEND 18" OUTSIDE OF THE NEAT LINE PERIMETER OF THE VERTICAL FACES OF THE FOOTING OR STRUCTURAL UNIT.

SECTION 700

- WHERE PROPOSED CONCRETE SIDEWALK IS CONSTRUCTED TO MEET EXISTING SIDEWALK, THE EXISTING SIDEWALK SHALL BE SAWCUT AT THE TIE-IN POINT OR MEET THE NEAREST EXISTING SIDEWALK JOINT. ALL SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS OR DIRECTED BY THE ENGINEER AND SHALL BE PAID FOR UNDER ITEM 762002 - SAWCUTTING, CONCRETE, FULL DEPTH.
- ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT. ALL HOT-MIX SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS

- THE CONTRACTOR SHALL CONTACT MICHAEL ELLER, THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION AT 302-576-6061.
- DESIGN CRITERIA: 2010 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 5TH EDITION, USING AASHTO HL93 FOR LIVE LOAD, AND 25 PSF FOR FUTURE WEARING SURFACE.
- HYDRAULIC DATA
DRAINAGE AREA = 1.44 SQ. MILES
DESIGN FREQUENCY = 50 YEARS
DESIGN DISCHARGE = 627 CFS
50 YR FLOOD ELEVATION = 45.29 FT
PROPOSED OPENING = 72 SF
- THE PROPOSED STRUCTURE HAS BEEN ANALYZED FOR THE EFFECTS OF SCOUR IN ACCORDANCE WITH HEC-18 - EVALUATING SCOUR AT BRIDGES AND HEC-23 - BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES. SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE WORST CASE OF THE OVERTOPPING FLOOD OR THE 500-YR FLOOD EVENT.
DESIGN EVENT = OVERTOPPING
DESIGN DISCHARGE = 724 CFS
DESIGN VELOCITY = 10.09 FT/SEC
DESIGN DEPTH OF FLOW = 6.06 FT
- CONSTRUCTION JOINTS: KEYED CONSTRUCTION JOINTS SHALL BE 2" X 4" OR AS NOTED. ALL EXPOSED CONSTRUCTION JOINT EDGES SHALL HAVE A 3/4" V-NOTCH.
- ENVIRONMENTAL COMPLIANCE: SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.
- UTILITIES: THE EXISTING AERIAL LINES WILL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT.

UNDERGROUND VERIZON LINE WILL REMAIN IN PLACE THROUGHOUT THE DURATION OF THE PROJECT. DURING PHASE 2, THE CONTRACTOR WILL HAVE TO CAREFULLY EXCAVATE AROUND THE LINE AND SUPPORT IT OVER THE CULVERT WITHOUT DAMAGING THE LINE. ONCE THE CULVERT IS CONSTRUCTED, VERIZON WILL PLACE A SPLIT SLEEVE AROUND THE LINE AND IT WILL REST ON TOP OF THE CULVERT PRIOR TO THE GABC FOR THE ROADWAY BEING PLACED. THE VERIZON LINE IS VERY CLOSE TO THE BOTTOM OF THE EXCAVATION FOR THE ROAD BOX. CARE MUST BE TAKEN BY THE CONTRACTOR NOT TO DAMAGE THE LINE DURING EXCAVATION.

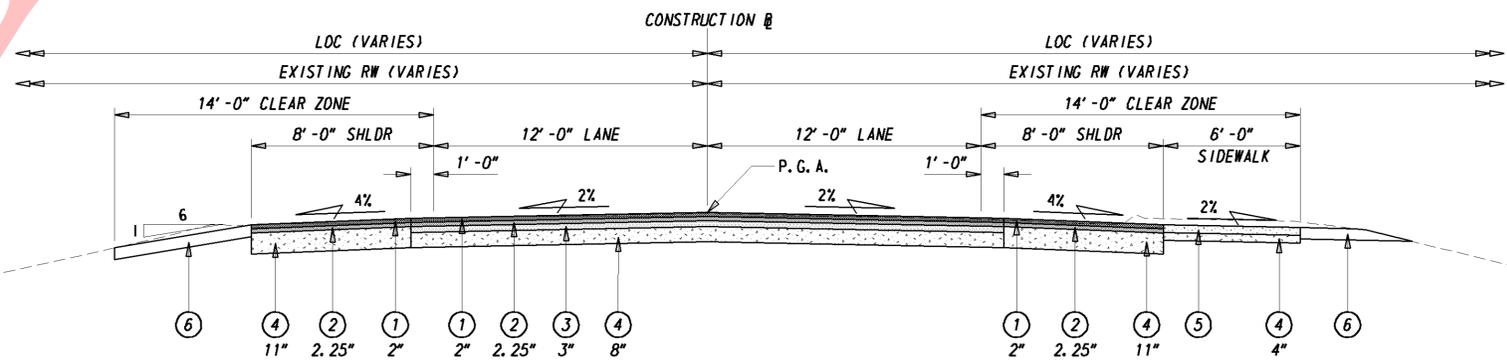
THE GAS LINE WILL REMAIN IN PLACE DURING CONSTRUCTION OF THE PROJECT. THE LINE IS ANTICIPATED TO BE 2 FEET BELOW THE BOTTOM OF THE EXCAVATION. CARE MUST BE TAKEN BY THE CONTRACTOR NOT TO DAMAGE THE LINE DURING EXCAVATION.

THE WATER LINE WILL REMAIN IN PLACE DURING CONSTRUCTION OF THE PROJECT. THE LINE IS ANTICIPATED TO BE 1 FOOT BELOW THE BOTTOM OF EXCAVATION. CARE MUST BE TAKEN BY THE CONTRACTOR NOT TO DAMAGE THE LINE DURING EXCAVATION. IF THE LINE IS WITHIN THE EXCAVATION LIMITS, IT MUST BE ENCASED WITH CONCRETE. WORK WILL BE TRACKED AND PAYMENT FOR ANY NECESSARY CONCRETE ENCASEMENT WILL BE BY OTHERS.

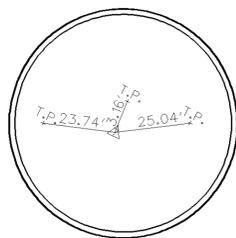
SEE THE UTILITY STATEMENT FOR ADDITIONAL DETAILS ON UTILITIES.

TYP. SECTION LEGEND

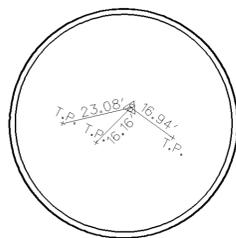
- SUPERPAVE, TYPE C HOT MIX, 160 GYRATIONS, PG 64-22. (ITEM #401645)
- SUPERPAVE, TYPE B HOT MIX, 160 GYRATIONS, PG 64-22. (ITEM #401648)
- BITUMINOUS CONCRETE BASE COURSE, 160 GYRATIONS, PG 64-22. (ITEM #401663)
- GRADED AGGREGATE BASE COURSE TYPE B (ITEM #302007)
- 4" P.C.C. SIDEWALK (ITEM #705001)
- 6" TOPSOIL (ITEM #732002), PERMANENT GRASS SEEDING DRY GROUND (ITEM #734013), AND SOIL RETENTION BLANKET MULCH, TYPE 3 (ITEM #735533)



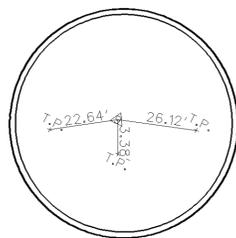
TYPICAL ROADWAY SECTION
(STA 2+50 TO STA 4+50)
1/4" = 1'-0"



TRAVERSE POINT #7
PK NAIL



TRAVERSE POINT #8
DELDOT CAP



TRAVERSE POINT #9
PK NAIL



HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
7	3+49.37	15.91	532967.05	571448.25	46.02
8	1+25.89	14.08	532872.76	571245.61	53.31
9	3+50.34	-16.98	532997.17	571435.00	46.09

DATUM REFERENCE:

HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/07).

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88 AND BASED ON THE FOLLOWING STATE OF DELAWARE

BENCHMARKS ESTABLISHED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION:

GPS *NCC01, ELEVATION 62.39

GPS *NCC02, ELEVATION 61.42



CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
10000	0+00.00	0.00	532831.43	571125.88
10001	6+99.58	0.00	533131.77	571757.71

ADDENDUMS / REVISIONS



BR 1-404 ON N427 CEDAR LANE,
MIDDLETOWN

CONTRACT	BRIDGE NO.	BR 1-404
T201007101	DESIGNED BY:	KRL
COUNTY	CHECKED BY:	BAB
NEW CASTLE		

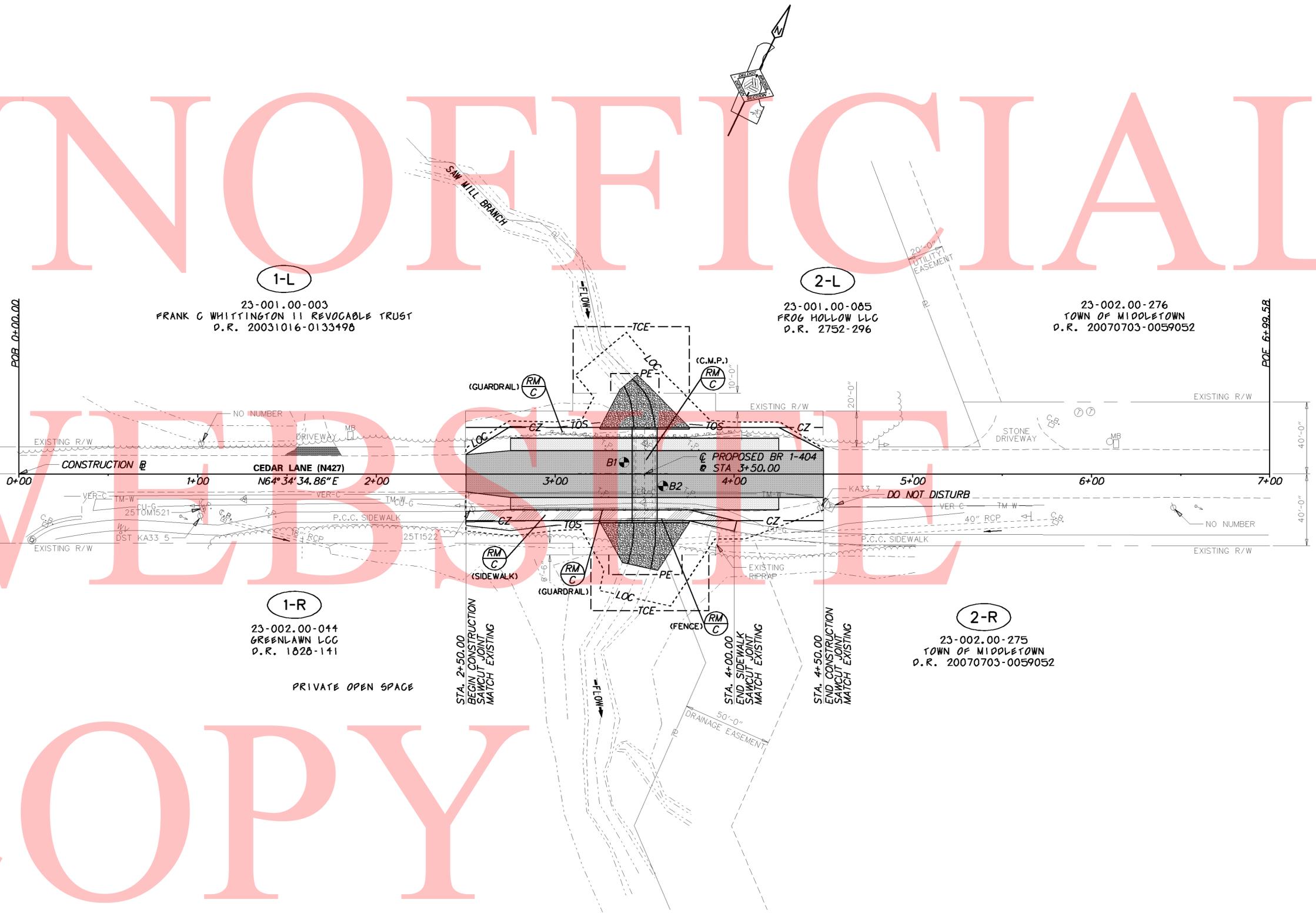
HORIZONTAL AND
VERTICAL CONTROL

SHEET NO.	4
TOTAL SHTS.	19

UNOFFICIAL

WEB SITE

COPY



1-L
23-001.00-003
FRANK C WHITTINGTON II REVOCABLE TRUST
D.R. 20031016-0133498

2-L
23-001.00-085
FROG HOLLOW LLC
D.R. 2752-296

23-002.00-276
TOWN OF MIDDLETOWN
D.R. 20070703-0059052

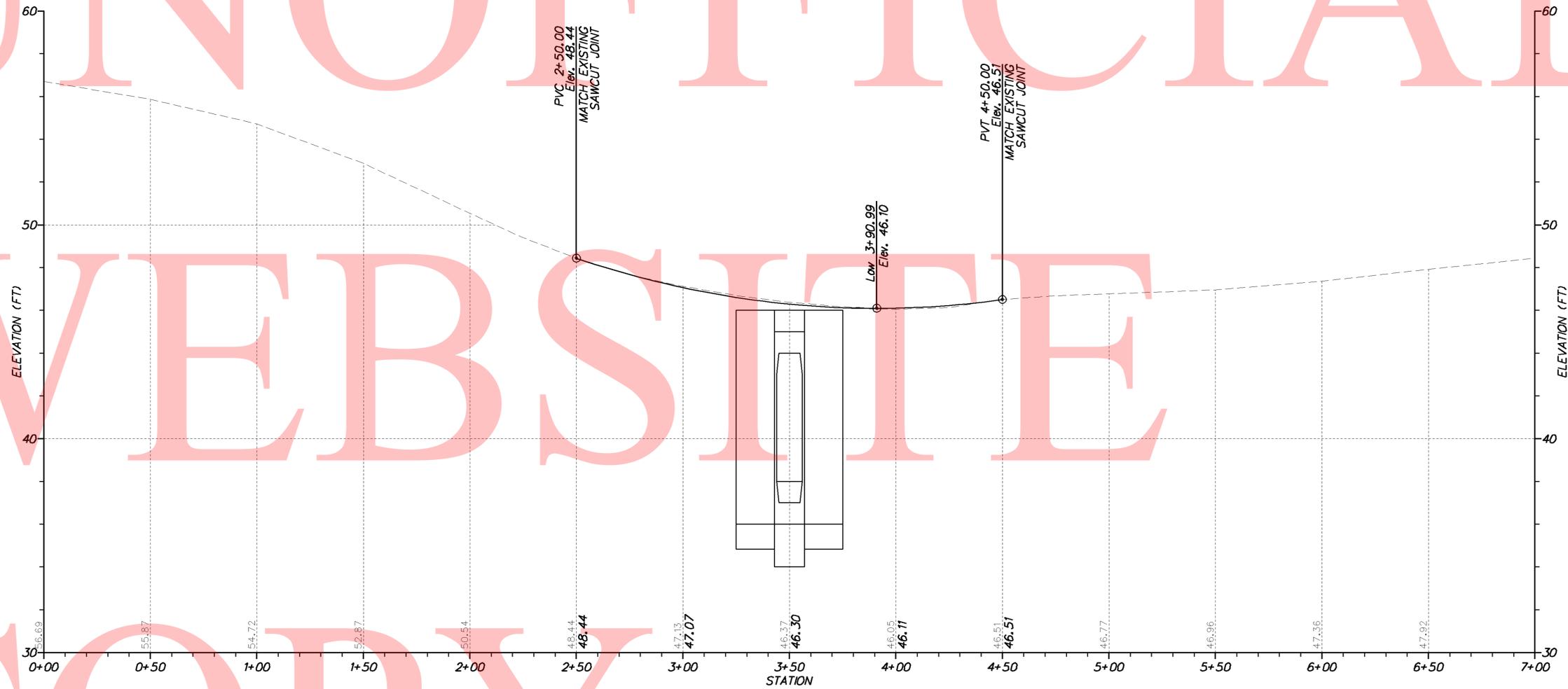
1-R
23-002.00-044
GREENLAWN LCC
D.R. 1828-141

2-R
23-002.00-275
TOWN OF MIDDLETOWN
D.R. 20070703-0059052

PRIVATE OPEN SPACE

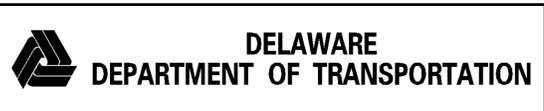
UNOFFICIAL

VERTICAL CURVE DATA
L. V. C. = 200'
P. V. I. STA. = 3+50.00
P. V. I. ELEV. = 45.12
G₁ = -3.32
G₂ = 1.39
E = 1.177

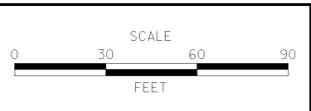


Cedar Lane (N427) Profile

W:\MSV8\CELLS\PROJDEV\SB\CEL



ADDENDUMS / REVISIONS	

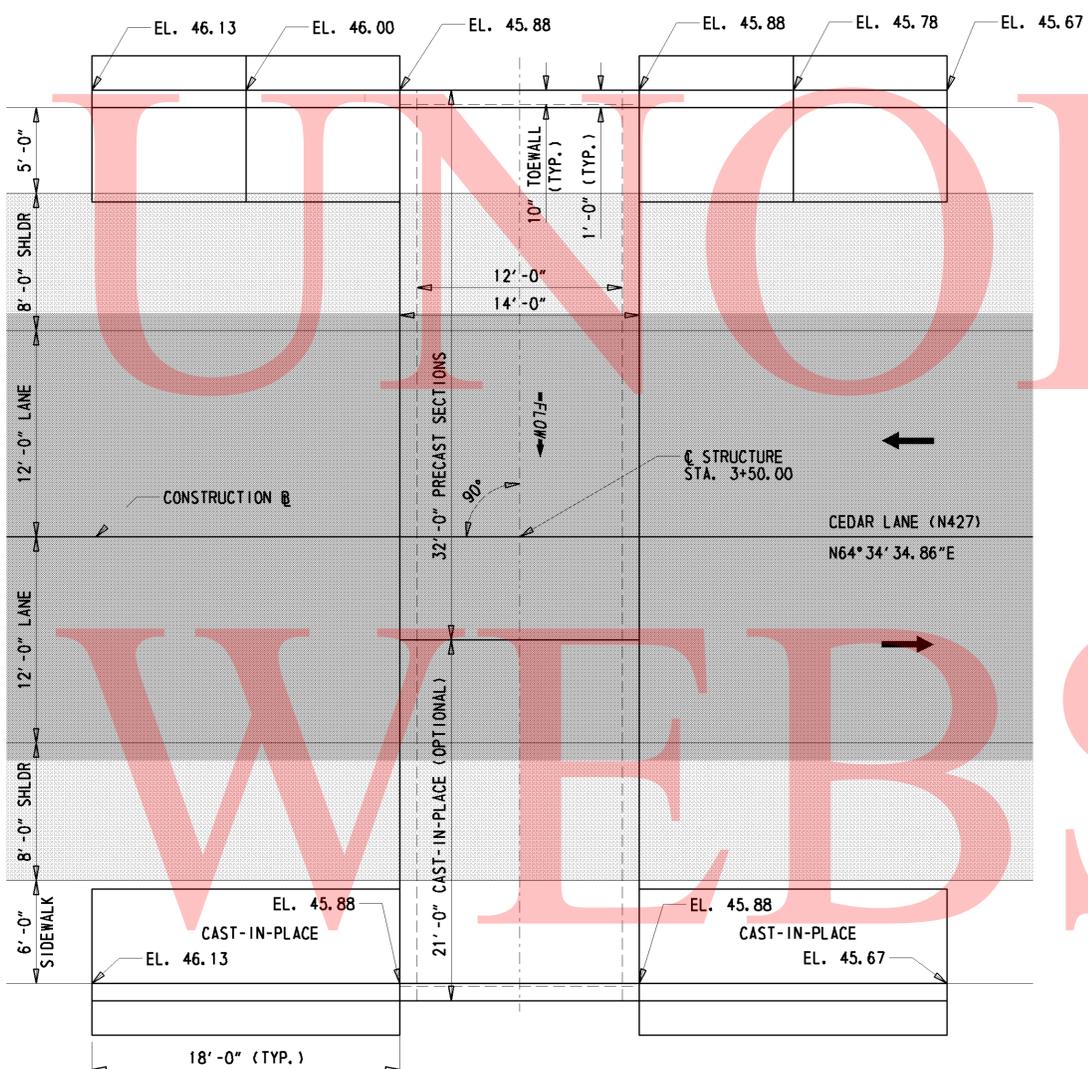


BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN

CONTRACT T201007101	BRIDGE NO. 1-404
COUNTY NEW CASTLE	DESIGNED BY: KRL CHECKED BY: BAB

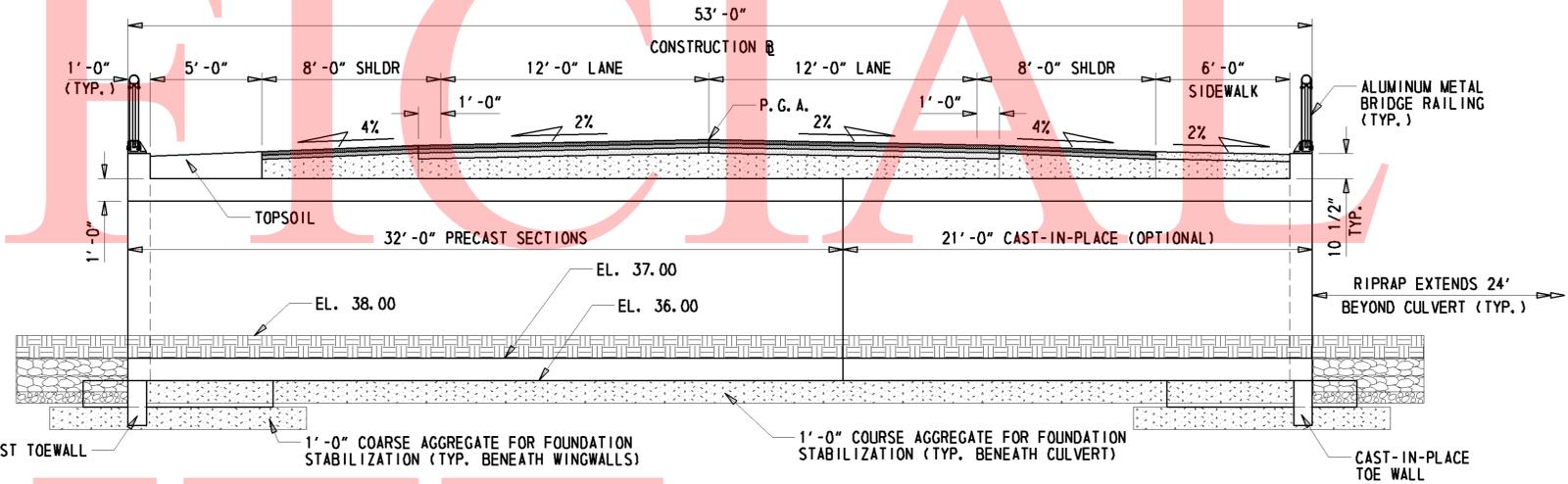
PROFILE

VERTICAL SCALE FEET	9
	6
	3
	0
SHEET NO.	6
TOTAL SHTS.	19



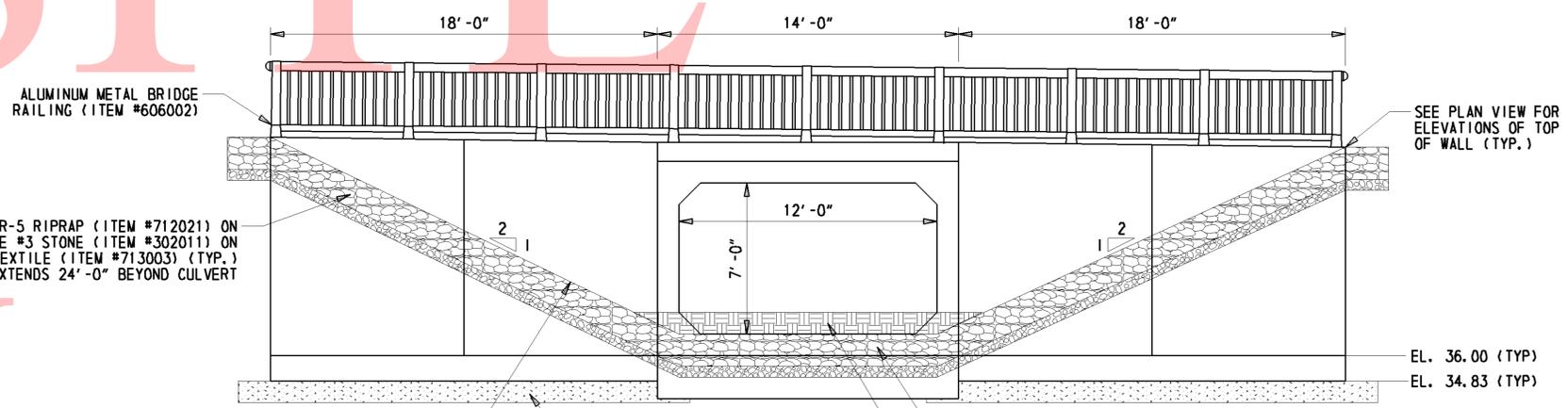
PLAN

3/16" = 1'-0"



SECTION

1/4" = 1'-0"



ELEVATION

1/4" = 1'-0"

NOTES FOR BRIDGE CONSTRUCTION:

THE PROPOSED BRIDGE SHALL BE CONSTRUCTED WITH THE EXISTING AERIAL UTILITY LINES IN PLACE AND IN SERVICE DURING CONSTRUCTION. SEE THE UTILITY STATEMENT FOR MORE INFORMATION ABOUT THE EXISTING FACILITIES AND CLEARANCE THAT MUST BE MAINTAINED DURING CONSTRUCTION. THE PORTION OF THE BRIDGE BENEATH THE AERIAL LINES WILL NEED TO BE CONSTRUCTED USING CAST-IN-PLACE CONCRETE AS DETAILED ON THIS SHEET.

1'-6" R-5 RIPRAP (ITEM #712021) ON 6" DE #3 STONE (ITEM #302011) ON GEOTEXTILE (ITEM #713003) (TYP.) RIPRAP EXTENDS 24'-0" BEYOND CULVERT

SEE ENVIRONMENTAL COMPLIANCE NOTE 4D - STREAM RESTORATION AND SLOPE RIPRAP TREATMENT FOR GUIDANCE

1'-0" COURSE AGGREGATE FOR FOUNDATION STABILIZATION (ITEM #608000), (TYP. UNDER WINGWALLS AND CULVERT).

'IN-FILL' THE RIPRAP VOIDS WITH BORROW TYPE 'B' BELOW THE WATER LINE. PAYMENT UNDER ITEM#209002

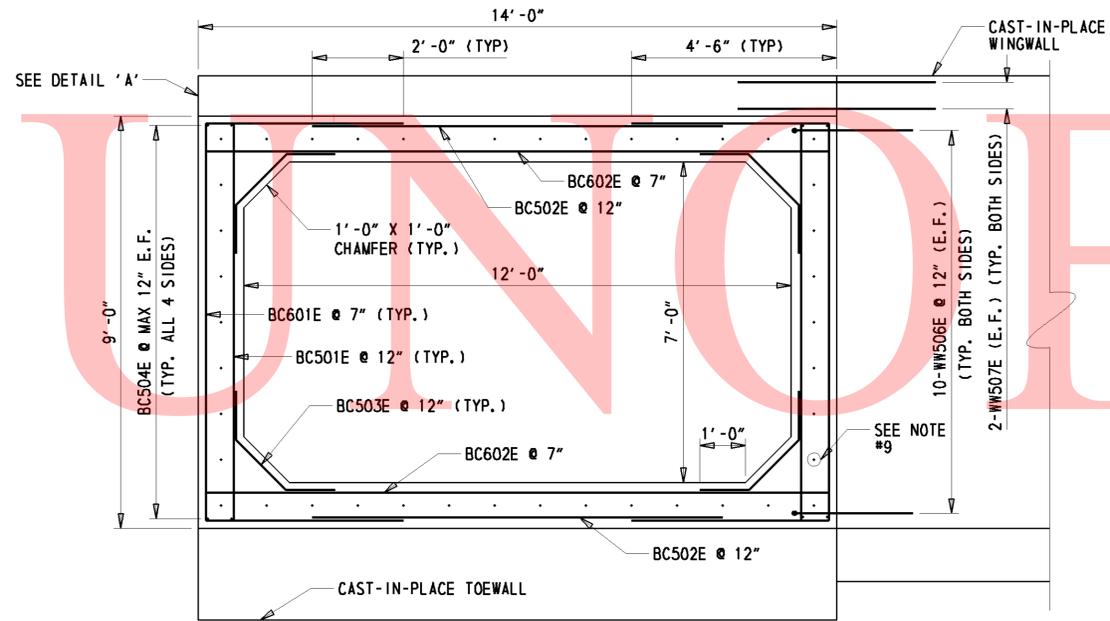
PLACE CHANNEL BED FILL OVER THE RIPRAP & THROUGH THE STRUCTURE (12" MIN. DEPTH IN CHANNEL BOTTOM). PAYMENT UNDER ITEM #712531.

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ADDENDUMS / REVISIONS

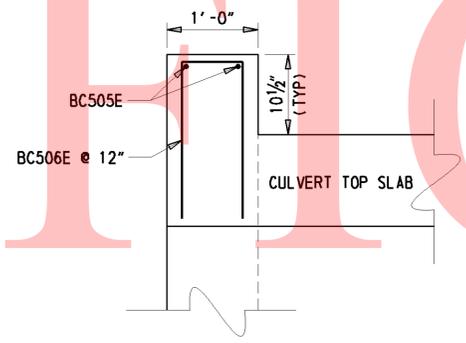
CONTRACT T201007101	BRIDGE NO. BR 1-404
COUNTY NEW CASTLE	DESIGNED BY: KRL CHECKED BY: BAB

SHEET NO. 7
TOTAL SHTS. 19



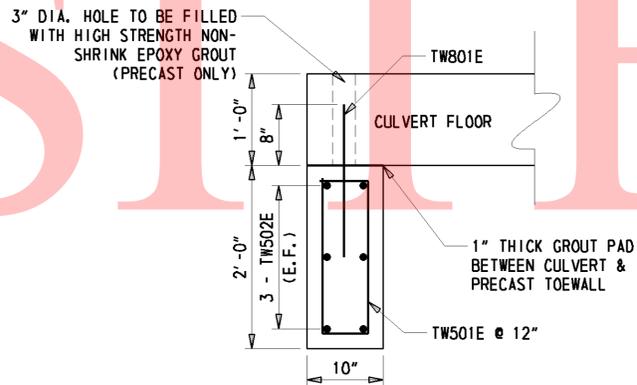
TYPICAL CAST-IN-PLACE BOX SECTION

1/2" = 1'-0"



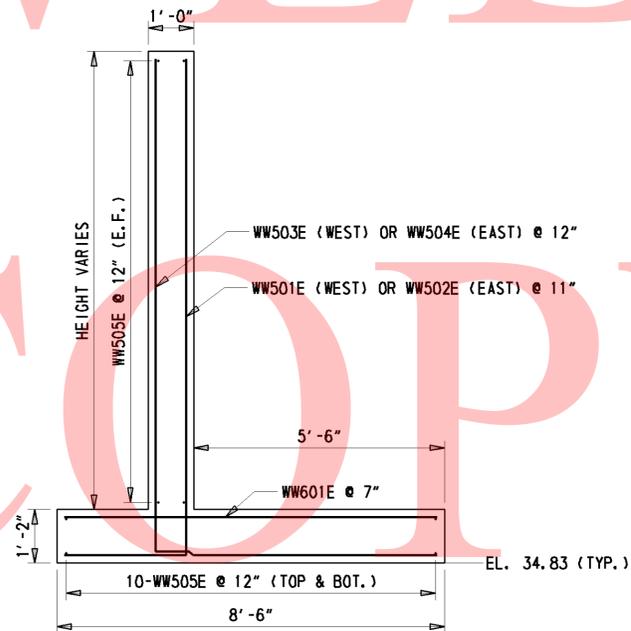
DETAIL 'A'
(PRECAST & CAST-IN-PLACE)

1" = 1'-0"



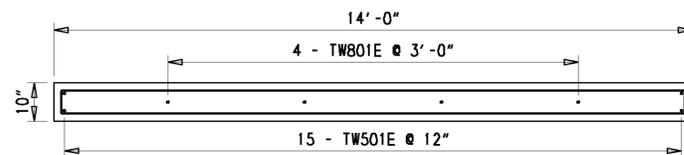
TOEWALL SECTION
(PRECAST OR CAST-IN-PLACE)

1" = 1'-0"



WINGWALL SECTION
(PRECAST & CAST-IN-PLACE)

1/2" = 1'-0"



TOEWALL PLAN
(PRECAST OR CAST-IN-PLACE)

1/2" = 1'-0"

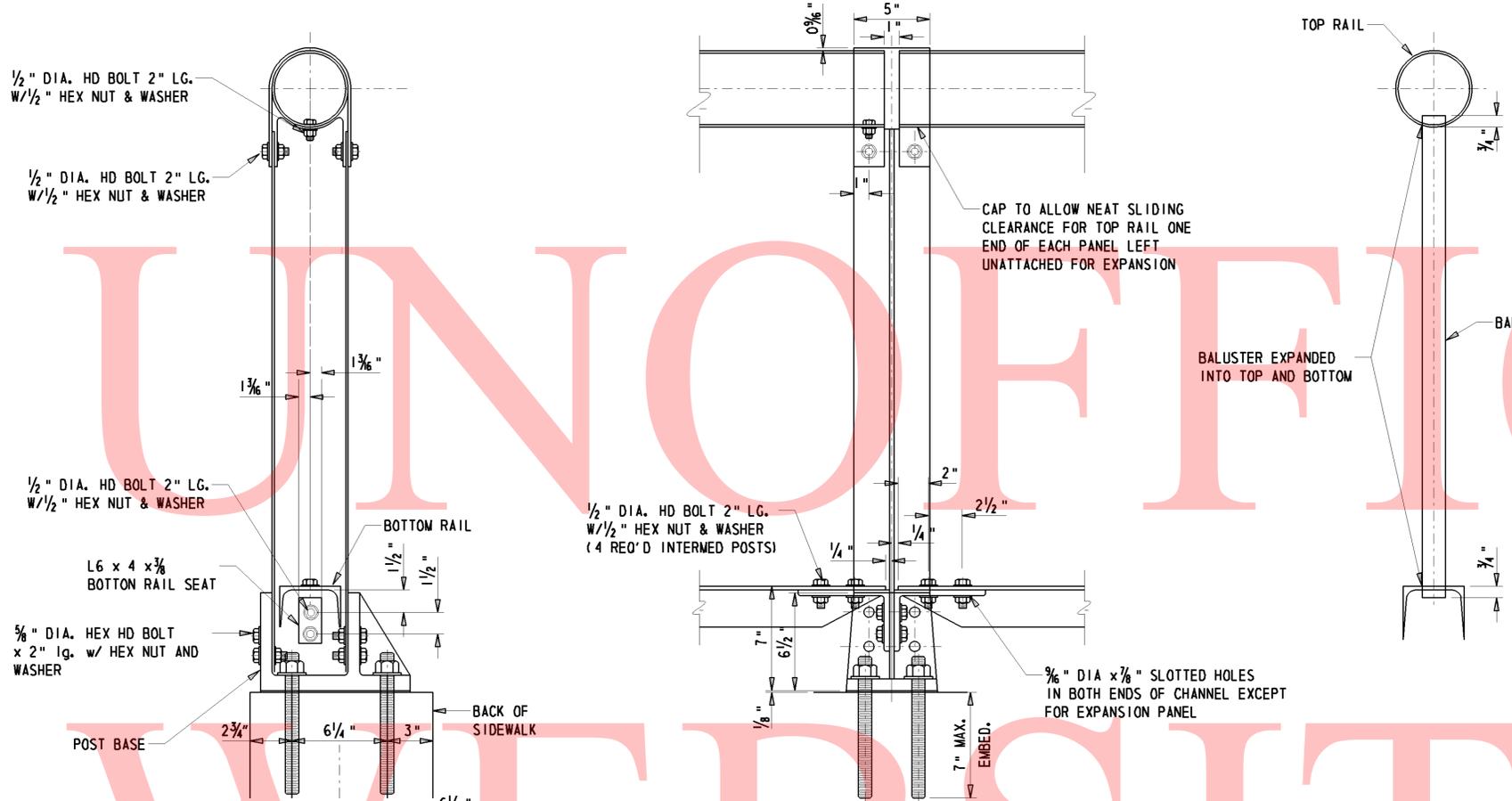
NOTES FOR PRECAST ELEMENTS:

- DESIGN PLANS/ WORKING DRAWINGS
INFORMATION PERTAINING TO THE PRECAST REINFORCED CONCRETE BOX CULVERT AND WINGWALL SECTIONS IS INTENDED TO SERVE AS AN INDICATION OF THE TYPE OF CONSTRUCTION ACCEPTABLE FOR USE. THE CONTRACTOR WILL BE REQUIRED TO PREPARE AND SUBMIT FOR APPROVAL A COMPLETE SET OF DETAILED SHOP PLANS FOR THE PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH. THE PRECASTER SHALL INCLUDE A PLAN VIEW OF REINFORCEMENT FOR ANY IRREGULAR SHAPED (SKEWED, CURVED, ETC.) SECTIONS.
- PRECAST ELEMENTS
ALL PRECAST BOX SECTIONS SHALL CONFORM TO ASTM C1577 FOR DESIGN REINFORCEMENT WHICH IS NOT SHOWN ON THIS SHEET. PRECAST WINGWALLS, TOEWALL & HEADWALL SHALL BE AS PER THE DETAILS PROVIDED ON THIS SHEET. ALL PRECAST ELEMENTS (BOX CULVERT, HEADWALLS, WINGWALLS, AND TOEWALLS), THREADED INSERTS AND ASSOCIATED BAR REINFORCEMENT SHALL BE PAID UNDER ITEM 602506 - PRECAST CONCRETE CULVERT.
- CONCRETE STRENGTHS
THE MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS EQUALS 5000 PSI. MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
- BAR REINFORCEMENT
PRECAST BOX SECTIONS:
FOR PRECAST BOX SECTIONS, COVER SHALL BE AS PER ASTM C1577 FOR CULVERTS WITH LESS THAN 2FT OF FILL WITH THE FOLLOWING EXCEPTION: TOLERANCE FOR COVER IS +3/8", -0".

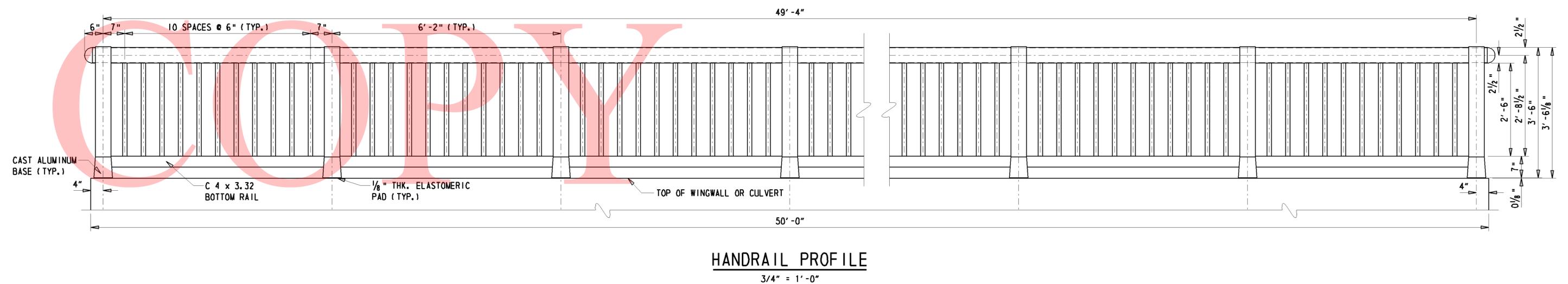
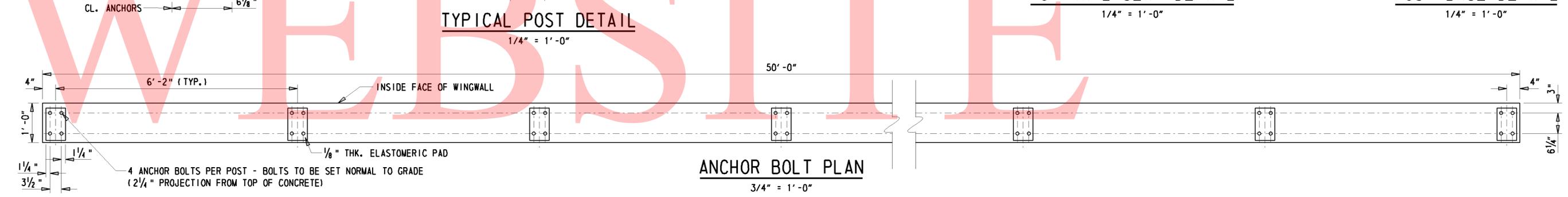
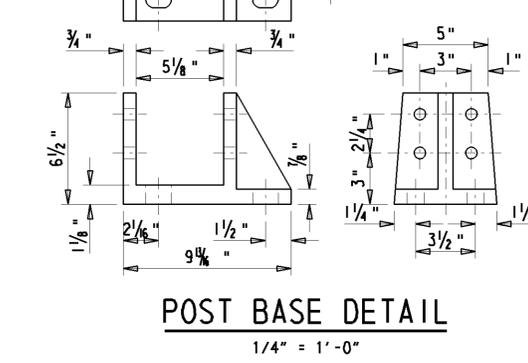
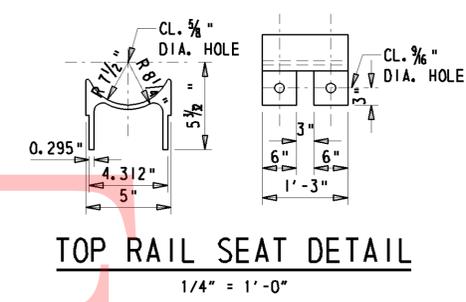
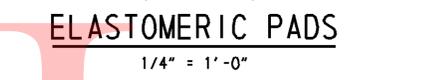
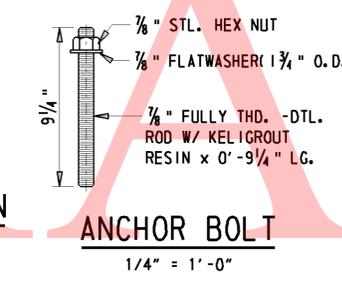
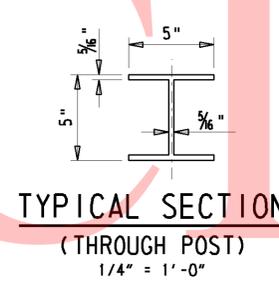
ALL OTHER PRECAST ELEMENTS:
MATERIALS REQUIREMENT: AASHTO M31 (ASTM A615) - GRADE 60. ALL BAR REINFORCEMENT TO HAVE 2" MINIMUM COVER EXCEPT AS NOTED OR DETAILED. ALL BAR REINFORCEMENT AND CHAIR SUPPORTS SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963).
- CONCRETE FINISH
ALL EXPOSED SURFACES SHALL BE PROTECTED WITH WATER MISCIBLE, PENETRATING ALKYL ALKOXY SILANE SEALER. PAYMENT INCIDENTAL TO ITEM 602506 - PRECAST CONCRETE CULVERT.
- CULVERT POST TENSIONING
PRECAST BOX CULVERT SECTIONS SHALL BE POST TENSIONED TOGETHER WITH A MINIMUM OF FOUR 1/2" DIA. 270 KSI LOW RELAXATION POLYSTRANDS. EACH GREASED AND SHEATHED PRESTRESSING STRAND SHALL BE POST-TENSIONED TO 30875 LBS. MINIMUM ULTIMATE STRENGTH ON EACH STRAND EQUALS 41310 LBS. PAYMENT FOR CULVERT POST-TENSIONING IS INCIDENTAL TO ITEM 602506-PRECAST CONCRETE CULVERT. POST-TENSIONING DETAILS SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS FOR THE CULVERT. ALL POCKETS FOR POST-TENSIONING DUCTS IN ANY EXTERIOR SURFACE SHALL BE FILLED WITH NON-SHRINK GROUT. PAYMENT INCIDENTAL TO ITEM #602506.
- WINGWALL POST TENSIONING
THE PRECAST WINGWALL SECTIONS SHALL BE POST TENSIONED TOGETHER AND POSITIVELY CONNECTED TO THE BOX CULVERT WITH A MINIMUM OF TWO 1/2" DIA. 270 KSI LOW RELAXATION POLYSTRANDS. EACH GREASED AND SHEATHED PRESTRESSING STRAND SHALL BE POST-TENSIONED TO 30875 LBS. MINIMUM ULTIMATE STRENGTH ON EACH STRAND EQUALS 41310 LBS. IN LIEU OF POST TENSIONING, A BOLTED CONNECTION MAY BE USED SUBJECT TO APPROVAL BY THE ENGINEER. PAYMENT FOR WINGWALL POST-TENSIONING OR BOLTED CONNECTION IS INCIDENTAL TO ITEM #602506 - PRECAST CONCRETE CULVERT. POST-TENSIONING OR BOLTED CONNECTION DETAILS SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS FOR THE WINGWALLS.
- JOINTS BETWEEN PRECAST SECTIONS
NEOPRENE GASKETS SHALL BE PROVIDED AT THE JOINTS BETWEEN ALL PRECAST UNITS IN ORDER TO MAKE THE JOINTS WATERTIGHT. ALL JOINTS BETWEEN PRECAST CULVERT SECTIONS SHALL BE TONGUE AND GROOVE. ALL WINGWALL TO WINGWALL, AND WINGWALL TO BOX CULVERT, JOINTS SHALL HAVE A SHEAR KEY. THE LOCATIONS OF THE JOINTS IN THE BOX CULVERT SHALL BE DETERMINED BY THE PRECASTER AND SUBMITTED IN THE SHOP DRAWINGS FOR APPROVAL. ALL FILL FACE JOINTS SHALL BE COVERED WITH A MINIMUM 9" WIDE WRAP CENTERED ON THE JOINT AS PER THE SPECIAL PROVISION FOR ITEM 602506 - PRECAST CONCRETE CULVERT.
- PRECAST TO CAST-IN-PLACE BOX CONNECTION
PRECAST TO CAST-IN-PLACE BOX CONNECTION SHALL CONSIST OF #5 BARS @ 12" AROUND THE PERIMETER OF THE BOX SECTION EXTENDING EQUAL LENGTHS INTO BOTH SECTIONS TO FULLY DEVELOPE THE BAR. PAYMENT INCIDENTAL TO ITEM 602506 - PRECAST CONCRETE CULVERT.

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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS		<p>BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN</p>	CONTRACT	BRIDGE NO.	BR 1-404	<p>CULVERT, WINGWALL & TOEWALL DETAILS</p>	SHEET NO.
	T201007101	DESIGNED BY: KRL		8				
	COUNTY	CHECKED BY: BAB		TOTAL SHTS.				
	NEW CASTLE			19				



- NOTES:
1. MATERIAL FOR ALUMINUM PEDESTRIAL RAIL AND NUTS SHALL CONFORM TO A.S.T.M. B-221 ALLOY 60601-T6.
 2. ANCHOR BOLTS SHALL CONFORM TO A.S.T.M. A-276, TYPE 430 (THREADS TO BE ROLLED NOT CUT).
 3. BOLTS SHALL CONFORM TO ASTM B-211, ALUMINUM ALLOY 2024-T4 ALUMINUM WASHERS SHALL CONFORM TO A.S.T.M. B-209, ALLOY ALCLAD 2024-T3.
 4. SIMILAR ALUMINUM RAILINGS MAY BE SUBSTITUTED FOR THE ABOVE RAILINGS WITH THE APPROVAL OF THE ENGINEER.
 5. HILTI HVA ADHESIVE ANCHOR ROD SYSTEM WITH 7/8" HAS ANCHOR ROD OR APPROVED EQUAL SHALL BE USED. PAYMENT FOR ANCHOR ROD SYSTEM IS INCIDENTAL TO ITEM 606002 - METAL BRIDGE RAILING (ALUMINUM).



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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS		<p>BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN</p>	CONTRACT	BRIDGE NO.	BR 1-404	<p>BRIDGE RAILING DETAILS</p>	SHEET NO.
				T201007101	DESIGNED BY: KRL	9		
				COUNTY	CHECKED BY: BAB	TOTAL SHTS.		
				NEW CASTLE		19		

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

- A. THE PURPOSE OF THIS SHEET IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.
- B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY NATURAL AND/OR CULTURAL RESOURCES) IS NECESSARY, THE ENVIRONMENTAL STUDIES SECTION SHALL BE CONTACTED AT (302)760-2264 TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.
- C. USE OF THIS SHEET DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

A. PERMIT REQUIREMENTS/APPROVALS:**

U.S. ARMY CORPS OF ENGINEERS (COE): NATIONWIDE PERMIT #3(A) (NOPCN)
 DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT CONSISTENT WITH DEL. CODE CH. 72, SECTION 7217(B) AS AMENDED BY SB186
 DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): WAIVED (PROJECT IS NOT LOCATED IN CZW)
 NEWCASTLE COUNTY FLOODPLAIN APPROVAL**

* THE PERMITS/APPROVALS LISTED ARE THOSE REQUIRED FOR THIS PROJECT. THE ENVIRONMENTAL STUDIES SECTION IS RESPONSIBLE FOR COORDINATING AND/OR OBTAINING THIS APPROVAL.
 ** THE CONTRACTOR MUST ENSURE THAT THESE PERMITS/APPROVALS ARE IN THEIR POSSESSION PRIOR TO BEGINNING CONSTRUCTION IN THE PERMITTED AREA(S) AND ENSURE IT IS DISPLAYED ON-SITE DURING THE ENTIRE CONSTRUCTION PERIOD.

B. CONSTRUCTION RESTRICTIONS:

FISHERIES - NONE
 ENDANGERED SPECIES - NONE
 MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

- A. PROJECT CONSISTENT WITH STIPULATION II.B. (1,4, & 12) OF DELDOT'S PROGRAMMATIC AGREEMENT WITH FHWA, DE SHPO, & ACHP.

4. STREAM RESTORATION AND SLOPE RIPRAP TREATMENT

- A. THE CONTRACTOR SHALL FOLLOW THE SPECIAL PROVISIONS OF ITEM #712531 - CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFF-SITE MATERIAL. ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) SHALL BE RECESSED ONE FOOT BELOW STREAM BED ELEVATION AND CHOKED WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH MATERIAL. PAYMENT UNDER ITEM #209002 - BORROW TYPE 'B'. THE RIPRAP SHALL THEN BE COVERED WITH 12" CHANNEL BED FILL TO MATCH EXISTING UPSTREAM AND DOWNSTREAM ELEVATIONS. PAYMENT UNDER ITEM #712531 - CHANNEL BED FILL.
- B. OTHER AREAS OF THE CHANNEL BOTTOM AFFECTED BY CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF SUMP PITS, STABILIZED OUTFALLS, TEMPORARY PIPES AND/OR SANDBAG DIKES AND DIVERSIONS) SHALL BE RESTORED TO EXISTING CONDITIONS. ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE FILLED WITH CHANNEL BED FILL. PAYMENT UNDER ITEM #712531 - CHANNEL BED FILL.
- C. WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES ARE REMOVED AND THE STREAM RETURNS TO ITS NATURAL FLOW CONDITIONS, THE FLOW MUST REMAIN ABOVE GROUND AND ABOVE THE RIPRAP (I.E. THE FLOW CANNOT BE "LOST" IN THE RIPRAP OR BENEATH THE STRUCTURE). IF THIS IS NOT ACHIEVED, THE CONTRACTOR WILL BE REQUIRED TO TAKE CORRECTIVE ACTION AT THE CONTRACTOR'S EXPENSE.
- D. ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, SHALL BE CHOKED WITH DELAWARE #57 STONE, FILLED WITH TOPSOIL, SEEDED AND MULCHED WITH SOIL RETENTION BLANKET MULCH, TYPE 3 (ITEM 735533). PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF TOPSOIL THROUGH THE RIPRAP, AND THEN FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. AN ADDITIONAL 4" TOPSOIL LAYER SHALL BE PLACED ON TOP OF THE RIPRAP. SEEDING SHALL BE PERMANENT GRASS SEEDING WET GROUND (ITEM NO. 734015) FROM STREAM BASE FLOW ELEVATION TO 2' UP THE SLOPE AND PERMANENT GRASS SEEDING DRY GROUND (ITEM NO. 734013) ON THE REMAINING SLOPE. ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING, SHALL BE COMPLETED PRIOR TO ANY RAIN EVENT. PAYMENT FOR RIPRAP AND DELAWARE #57 STONE SHALL BE PAID FOR UNDER THE RIPRAP ITEM. ALL OTHER ITEMS SHALL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

LEGEND	
	CREATION AREA
	PERMANENT IMPACT AREA
	TEMPORARY IMPACT AREA
	ORDINARY HIGH WATER
	ORD. HIGH WATER / WETLAND
	WETLAND BOUNDARY
	PROPOSED ORDINARY HIGH WATER
	IMPACT AREA TYPE ID. (SEE BELOW)
	IMPACT AREA ID. AND/OR NUMBER
C	CREATION AREA
T	TEMPORARY IMPACT
O	OPEN WATER IMPACT

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COPY



OPEN WATER CREATION AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OC-1	CHANNEL ENHANCEMENT	106.89	0.0025	1.82	COE/DNREC
OC-2	CHANNEL ENHANCEMENT	140.42	0.0032	2.39	COE/DNREC
TOTAL OPEN WATER CREATION AREAS		247.31	0.0057	4.21	COE/DNREC

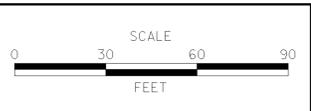
PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
O-1	RIPRAP AREA	786.56	0.0181	58.26	COE/DNREC
O-2	RIPRAP AREA	860.63	0.0198	63.75	COE/DNREC
TOTAL PERMANENT OPEN WATER IMPACTS		1647.19	0.0379	122.01	COE/DNREC

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OT-1	STILLING WELL AREA	54.00	0.0012	3.00	COE/DNREC
OT-2	SANDBAG AREA	175.00	0.0040	11.11	COE/DNREC
OT-3	PIPE REPLACEMENT	742	0.0170	82.44	COE/DNREC
OT-4	SANDBAG AREA	280.22	0.0064	17.79	COE/DNREC
OT-5	RIPRAP AREA	131.55	0.0030	7.31	COE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		1382.77	0.0316	121.65	COE/DNREC

ORIGINAL SHEET PREPARED BY KEVIN LINDELL ON 10-03-2010. SHEET LAST UPDATED ON 11-08-2010.
 WETLANDS DELINEATED BY MCCORMICK TAYLOR, INC. IN JULY 2010 IN ACCORDANCE WITH THE US ARMY CORPS OF ENGINEERS "CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) ADD REGIONAL SUPPLEMENT".



ADDENDUMS / REVISIONS



BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN

CONTRACT	BRIDGE NO.	BR 1-404
T201007101	DESIGNED BY:	KRL
COUNTY	CHECKED BY:	BAB
NEW CASTLE		

ENVIRONMENTAL COMPLIANCE PLAN	SHEET NO.	11
	TOTAL SHTS.	19

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WEB SITE

COPY



PHASE 1 SEQUENCE OF CONSTRUCTION NOTES

1. INSTALL SILT FENCE (ITEM 251000) EXCEPT CONNECTION TO SANDBAG DIKES (ITEM 265500). AFTER THE SANDBAG DIKES ARE CONSTRUCTED IN STEP 3, CONNECT ENDS OF SILT FENCE TO SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA.
2. INSTALL A 6'x9' STILLING WELL (ITEM 265500) JUST UPSTREAM OF THE PROPOSED UPSTREAM SANDBAG DIKE. PLACE R5 RIPRAP (ITEM 265500) AT THE PROPOSED DISCHARGE AREA OF THE PUMP WITH THE TOP OF STONES LEVEL WITH THE EXISTING STREAM BOTTOM.
3. CONSTRUCT THE SANDBAG DIKES, AT THE LOCATIONS SHOWN, 3 FEET HIGH OR TO TOP OF STREAM BANK, WHICHEVER IS LOWER. CONNECT SILT FENCE TO SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA. USE PUMP (ITEM 265500) TO DIVERT THE STREAM BASE FLOW AROUND THE ENCLOSED WORK AREA. WHEN THE FLOW IS HIGHER THAN PUMP CAPACITY DURING RAINFALL EVENTS, THE STREAM FLOW IS ALLOWED TO FLOW OVER THE SANDBAG DIKE. THEREFORE, THE ENCLOSED AREA SHALL BE KEPT CLEAR OF DEBRIS AND OBSTRUCTIONS AT THE END OF EACH WORKDAY.
4. INSTALL SUMP PIT, TYPE 2 (ITEM 263001) AND A PORTABLE SEDIMENT TANK (ITEM 270000) AS A SEDIMENT TRAPPING DEVICE. DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 111 OF DELDOT STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE RIPRAP DISCHARGE AREA FOR THE DIVERSION PUMP OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
5. INSTALL CONSTRUCTION SAFETY FENCE AS SHOWN ON THIS PLAN SHEET TO SEPARATE ALL PEDESTRIAN TRAFFIC FROM THE CONSTRUCTION ALONG THE EXISTING SIDEWALK FOR THE DURATION OF PHASE 1. PAYMENT UNDER ITEM 763646 - MAINTENANCE OF TRAFFIC FOR PEDESTRIAN ACCESS.
6. REMOVE EXISTING ROADBOX, C.M.P. CULVERT, AND GUARDRAIL (UPSTREAM SIDE ONLY) WITHIN THE SHADED WORK AREA LIMITS AS SHOWN ON THIS PLAN SHEET.
7. IF THE CONTRACTOR CHOOSES TO USE ON-SITE CHANNEL BED FILL, EXCAVATE AND STOCKPILE THE EXISTING STREAMBED MATERIAL IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF ITEM *712531-CHANNEL BED FILL.
8. INSTALL THE PRECAST CONCRETE BOX CULVERT SECTIONS, PRECAST WINGWALLS AND THE METAL BRIDGE RAILING (UPSTREAM). THE BRIDGE RAILING ON THE UPSTREAM SIDE MUST BE INSTALLED PRIOR TO SHIFTING THE PEDESTRIAN TRAFFIC AS SHOWN IN PHASE 2 TO THE NORTH END OF THE BRIDGE.
9. CONSTRUCT SLOPES AND PLACE RIPRAP FOR THE UPSTREAM SIDE.
10. CONSTRUCT THE PROPOSED ROADWAY PAVEMENT SECTION EXCEPT FOR THE 2" SUPERPAVE TYPE C LIFT. THE LIMIT OF ROADBOX INSTALLATION FOR PHASE 1 SHALL BE FROM THE CONSTRUCTION BASELINE TO THE OUTER LIMITS OF THE PROPOSED SHOULDER (UPSTREAM SIDE).

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DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN	CONTRACT T201007101	BRIDGE NO. BR 1-404	CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1	SHEET NO. 12
					COUNTY NEW CASTLE		DESIGNED BY: KRL CHECKED BY: BAB

UNOFFICIAL

WEBSTER

COPY



TYPE 3 BARRICADE (TYP BOTH SIDES)
PAYMENT UNDER ITEM 763646 - MAINTENANCE
OF TRAFFIC FOR PEDESTRIAN ACCESS

CONSTRUCT RAMP FROM EXISTING SIDEWALK TO ROAD.
(TYP BOTH SIDES). PAYMENT UNDER ITEM 763646 -
MAINTENANCE OF TRAFFIC FOR PEDESTRIAN ACCESS.

PHASE 2 SEQUENCE OF CONSTRUCTION NOTES

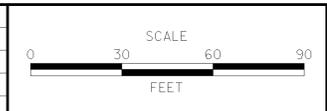
1. INSTALL CONSTRUCTION SAFETY FENCE AND CONSTRUCT RAMPS AS SHOWN ON THIS PLAN SHEET TO DIVERT ALL PEDESTRIAN TRAFFIC THROUGH THIS AREA FOR THE DURATION OF PHASE 2. PAYMENT UNDER ITEM 763646 - MAINTENANCE OF TRAFFIC FOR PEDESTRIAN ACCESS.
2. REMOVE EXISTING ROADBOX, C.M.P. CULVERT, GUARDRAIL, P.C.C. SIDEWALK AND FENCING ON DOWNSTREAM SIDE OF THE CULVERT WITHIN THE SHADED WORK AREA LIMITS AS SHOWN ON THIS PLAN SHEET.
3. IF THE CONTRACTOR CHOOSES TO USE ON-SITE CHANNEL BED FILL, EXCAVATE AND STOCKPILE THE EXISTING STREAMBED MATERIAL IN ACCORDANCE WITH THE SPECIAL PROVISIONS OF ITEM *712531-CHANNEL BED FILL.
4. CONSTRUCT THE CAST-IN-PLACE BOX CULVERT AND WINGWALL SECTIONS, AND CHANNEL BED FILL.
5. CONSTRUCT SLOPES AND PLACE RIPRAP FOR THE DOWNSTREAM SIDE.
6. CONSTRUCT THE PROPOSED ROADWAY PAVEMENT SECTION. THE LIMIT OF ROADBOX INSTALLATION FOR PHASE 2 SHALL BE FROM THE CONSTRUCTION BASELINE TO THE OUTER LIMITS OF THE PROPOSED SHOULDER (DOWNSTREAM SIDE).
7. CONSTRUCT THE PROPOSED P.C.C. SIDEWALK AND INSTALL NEW FENCING AS SHOWN ON PLANS.
8. REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES WHEN PHASE 2 ROADWORK IS COMPLETE. STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER.

PHASE 3 SEQUENCE OF CONSTRUCTION NOTES (NOT SHOWN)

1. SHIFT ALL PEDESTRIAN TRAFFIC TO THE P.C.C. SIDEWALK ON THE DOWNSTREAM SIDE THAT WAS COMPLETED IN PHASE 2 FOR THE DURATION OF PHASE 3.
2. PLACE THE FINAL 2" SUPERPAVE TYPE C LIFT FROM THE CONSTRUCTION BASELINE TO THE OUTER LIMITS OF THE PROPOSED SHOULDER (UPSTREAM SIDE).
3. PLACE ALL PERMANENT PAVEMENT MARKINGS AND SIGNS AS SHOWN ON THE SIGNING, STRIPING AND CONDUIT PLAN SHEET.

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ADDENDUMS / REVISIONS



CONTRACT T201007101	BRIDGE NO. DESIGNED BY: KRL	BR 1-404
COUNTY NEW CASTLE	CHECKED BY: BAB	

CHANGEABLE MESSAGE BOARDS

CMS-1
 PRIOR TO DETOUR
 (10 Days prior to beginning of detour)

CEDAR
 LANE RD
 CLOSED

STARTING
 ON
 XX/XX/XX

CMS-1
 DURING DETOUR

CEDAR
 LANE RD
 CLOSED

FOLLOW
 POSTED
 DETOUR

CMS-2
 PRIOR TO DETOUR
 (10 Days prior to beginning of detour)

XXXXXXXXXX
 XXXXXXXXXXXX
 XXXXXXXXXXXX

XXXXXXXXXX
 XXXXXXXXXXXX
 XXXXXXXXXXXX

CMS-2
 DURING DETOUR

XXXXXXXXXX
 XXXXXXXXXXXX
 XXXXXXXXXXXX

XXXXXXXXXX
 XXXXXXXXXXXX
 XXXXXXXXXXXX

SPECIAL SIGNS

U

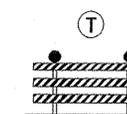
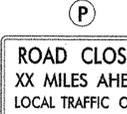
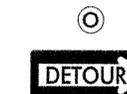
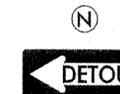
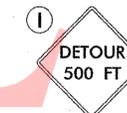
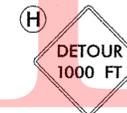
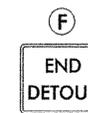
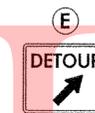
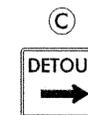
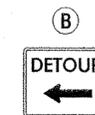
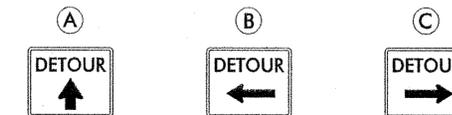
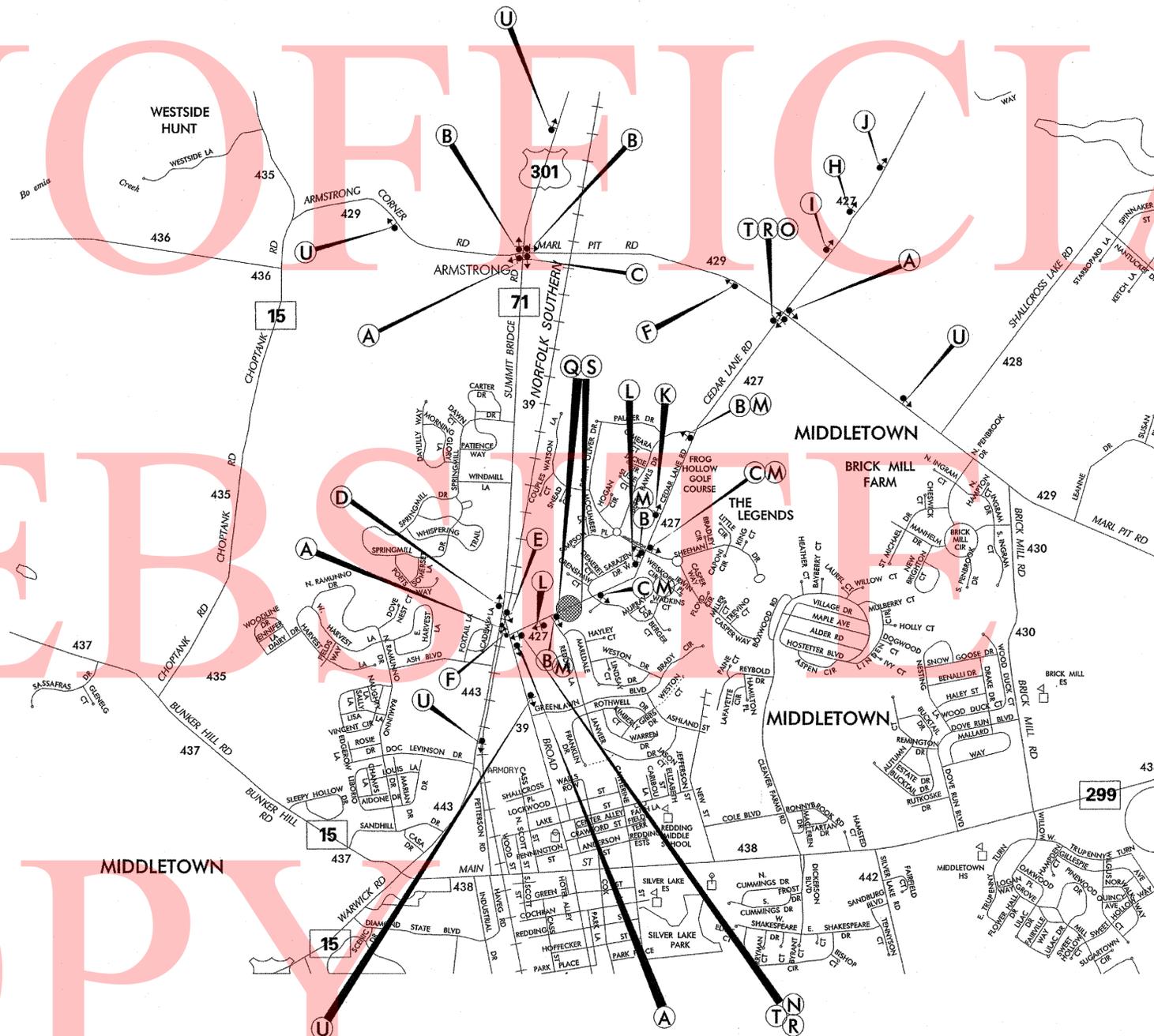
48"

CEDAR LANE ROAD CLOSED 6" C
 FOLLOW DETOUR 6" C

72"

D/G ORANGE
 BLACK LEGEND

ALL NEIGHBORHOODS AND HOUSES ADJACENT TO CLOSURE MUST BE INFORMED OF CLOSURE 10 DAYS PRIOR TO DETOUR.



GENERAL NOTES

- ALL DETOUR SIGNING INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE-MUTC PART 6) FOR LIGHTS, BARRICADES AND SIGNS, AS PER LATEST REVISION.
- FIELD CONDITIONS MAY DICTATE CHANGES AT SOME TIME DURING THE LIFE OF THE CONTRACT. IN THE EVENT OF OMISSIONS OR CORRECTIONS, THE SIGNING PROVISIONS OF THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES WILL PREVAIL.
- SIGNS J THROUGH L AND P THROUGH R, THE WORD (ROAD) SHOULD BE CHANGED TO RAMP, R/R OR BRIDGE WHERE APPLICABLE.
- WARNING SIGNS SHOULD BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT SHEETING.
- "S" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF ROADWAY.
- BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED *John C. Schuler* DATE: 5-2-10

RECOMMENDED _____ DATE: _____

RECOMMENDED *W. J. ...* DATE: 5-3-10

APPROVED CHIEF SAFETY OFFICER *...* DATE: 5-12-10

APPROVED TRAFFIC ENGINEER *...* DATE: 5/13/10

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

NOT TO SCALE

PIPE REPLACEMENTS
 NEW CASTLE COUNTY

CONTRACT 30-071-01
 COUNTY NEW CASTLE
 ROAD NO. 427
 DESIGNED BY: MF
 CHECKED BY:

DETOUR PLAN
 CEDAR LANE ROAD

SHEET NO. 14
 TOTAL SHTS. 19

TEST HOLE	ACTUAL SIZE, MATERIAL TYPE OF UTILITY	OWNER	UTILITY CONDITION			REF. MARK ELEV.	UTILITY TOP EL.	UTILITY BOTTOM EL.	WIDTH	NORTHING	EASTING	SURFACE/DEPTH			GENERALIZED SOIL TYPE				
			GOOD	POOR	OTHER							ASPHALT	CONC.	SOIL	SELECT FILL	ROCK	SAND	CLAY	OTHER
1 8-27-10	PLASTIC GAS PIPE **SEE NOTE BELOW	CHESAPEAKE UTILITIES	N/A			HUB 45.47'	31.49'	N/A	N/A	532920.4492	571355.4353			X			X	X	WATER
2 8-27-10	WATER PIPE **SEE NOTE BELOW	CITY OF MIDDLETOWN	N/A			HUB 48.34'	33.49'	N/A	N/A	532925.7551	571356.9673			X			X	X	WATER
3 8-27-10	1-1/2" BLACK TELEPHONE CABLE (DIRECT BURY)	VERIZON	X			HUB 48.31'	45.26'	N/A	N/A	532928.3730	571355.4167			X			X	X	WATER
4 8-28-10	PLASTIC GAS PIPE **SEE NOTE BELOW	CHESAPEAKE UTILITIES	N/A			HUB 45.54'	37.54'	N/A	N/A	532983.5581	571497.5713			X			X	X	WATER
5 8-27-10	NO UTILITY FOUND ** SEE NOTE BELOW	N/A	N/A			N/A	LOOKING FOR WATER LINE			533009.0646	571537.0991			X			X		WATER
5A 9-14-10	NO UTILITY FOUND ** SEE NOTE BELOW	N/A	N/A			N/A	LOOKING FOR WATER LINE			533009.0287	571535.9946			X			X		WATER
6 8-27-10	1-1/2" BLACK TELEPHONE CABLE (DIRECT BURY)	VERIZON	X			HUB 46.03'	43.38'	N/A	N/A	533012.0295	571541.8315			X			X	X	WATER

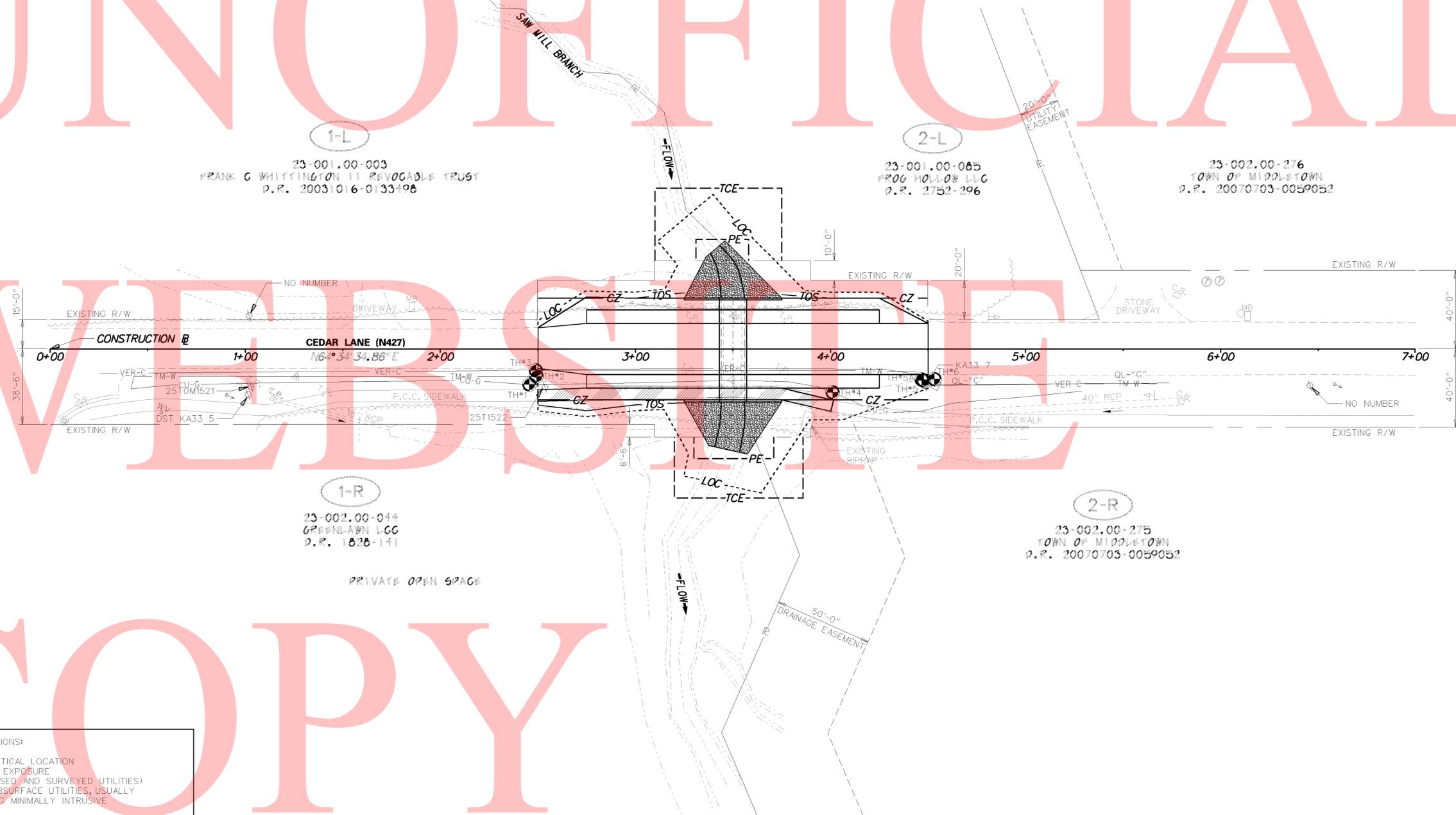
NOTES: TH#1&4: UNABLE TO VISUALLY VERIFY DUE TO EXCESSIVE WATER IN THE HOLE CAUSING THICK MUD AND CAVE INS. (QL-D' & 4' PE-BF-98)
 TH#2&5: UNABLE TO VISUALLY VERIFY DUE TO EXCESSIVE WATER IN THE HOLE.
 TH#5: PROBED HOLE TO 16', COULD NOT FIND PIPE.
 TH#5A: PROBED HOLE TO 20', COULD NOT FIND PIPE.

CHECKED BY: WSR
 Date: 09/20/10

William S. Richardson, P.L.S.
 Underground Services, Inc.



UNOFFICIAL



ASCE QUALITY LEVEL STANDARD DEFINITIONS:
 QL "A" - PRECISE HORIZONTAL AND VERTICAL LOCATION OF UTILITIES OBTAINED BY THE ACTUAL EXPOSURE (OR VERIFICATION OF PREVIOUSLY EXPOSED AND SURVEYED UTILITIES) AND SUBSEQUENT MEASUREMENT OF SUBSURFACE UTILITIES, USUALLY AT A SPECIFIC POINT (TEST HOLE) USING MINIMALLY INTRUSIVE EXCAVATION EQUIPMENT.
 QL "B" - INFORMATION OBTAINED THROUGH THE APPLICATION OF APPROPRIATE SURFACE GEOPHYSICAL METHODS TO DETERMINE THE EXISTENCE AND APPROXIMATE HORIZONTAL POSITION OF SUBSURFACE UTILITIES.
 QL "C" - INFORMATION OBTAINED BY SURVEYING AND PLOTTING VISIBLE ABOVE-GROUND UTILITY FEATURES AND BY USING PROFESSIONAL JUDGEMENT IN CORRELATING THIS INFORMATION TO QUALITY LEVEL D INFORMATION.
 QL "D" - INFORMATION DERIVED FROM EXISTING RECORDS OR ORAL RECOLLECTIONS.

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	ADDENDUMS / REVISIONS		SCALE 0 30 60 90 FEET	BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN	CONTRACT T201007101	BRIDGE NO. BR 1-404	UTILITY PLAN	SHEET NO. 15
					COUNTY NEW CASTLE	DESIGNED BY: KRL		TOTAL SHTS. 19
					CHECKED BY: BAB			

UNOFFICIAL

END
NO STOPPING
STANDING
OR
PARKING
NO LITTERING
UP TO \$500 FINE

1-L
23-001.00-003
FRANK C WHITTINGTON II REVOCABLE TRUST
D.R. 20031016-0133498

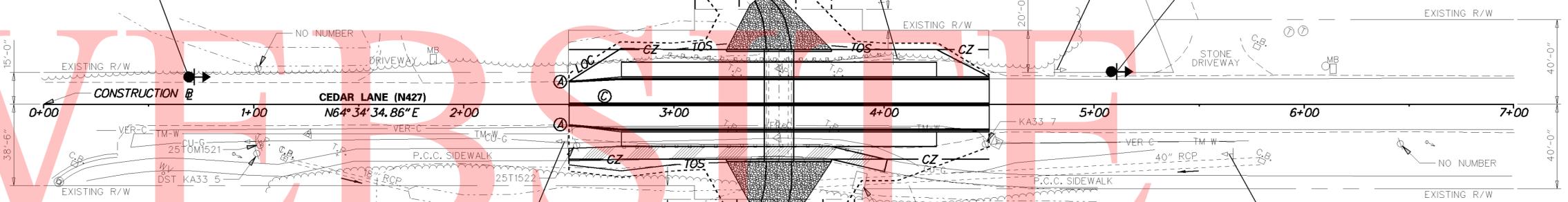
**WEIGHT
LIMIT
10
TONS**

2-L
23-001.00-085
FROG HOLLOW LLC
D.R. 2752-296

**SPEED
LIMIT
25**

BEGIN
NO STOPPING
STANDING
OR
PARKING
NO LITTERING
UP TO \$500 FINE

23-002.00-276
TOWN OF MIDDLETOWN
D.R. 20070703-0059052



1-R
23-002.00-044
GREENLAWN LCC
D.R. 1828-141

**WEIGHT
LIMIT
10
TONS**

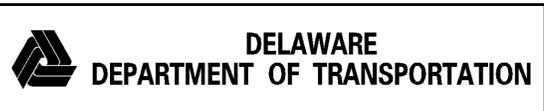
2-R
23-002.00-275
TOWN OF MIDDLETOWN
D.R. 20070703-0059052

**STOP
AHEAD**

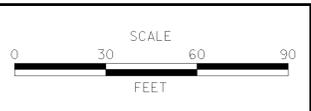
PRIVATE OPEN SPACE

SIGNING LEGEND	
①	REMOVE EXISTING SIGN
②	EXISTING SIGN TO REMAIN
③	PLACE NEW SIGN
④	RENEW EXISTING SIGN
⑤	REPOSITION EXISTING SIGN

PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE EPOXY RESIN PAVEMENT STRIPING (ITEM 748506)	402 LF
Ⓒ	4" SOLID DOUBLE YELLOW EPOXY RESIN PAVEMENT STRIPING (ITEM 748506)	400 LF



ADDENDUMS / REVISIONS	



**BR 1-404 ON N427 CEDAR LANE,
MIDDLETOWN**

CONTRACT T201007101	BRIDGE NO. BR 1-404
COUNTY NEW CASTLE	DESIGNED BY: KRL CHECKED BY: BAB

**SIGNING, STRIPING
AND CONDUIT PLAN**

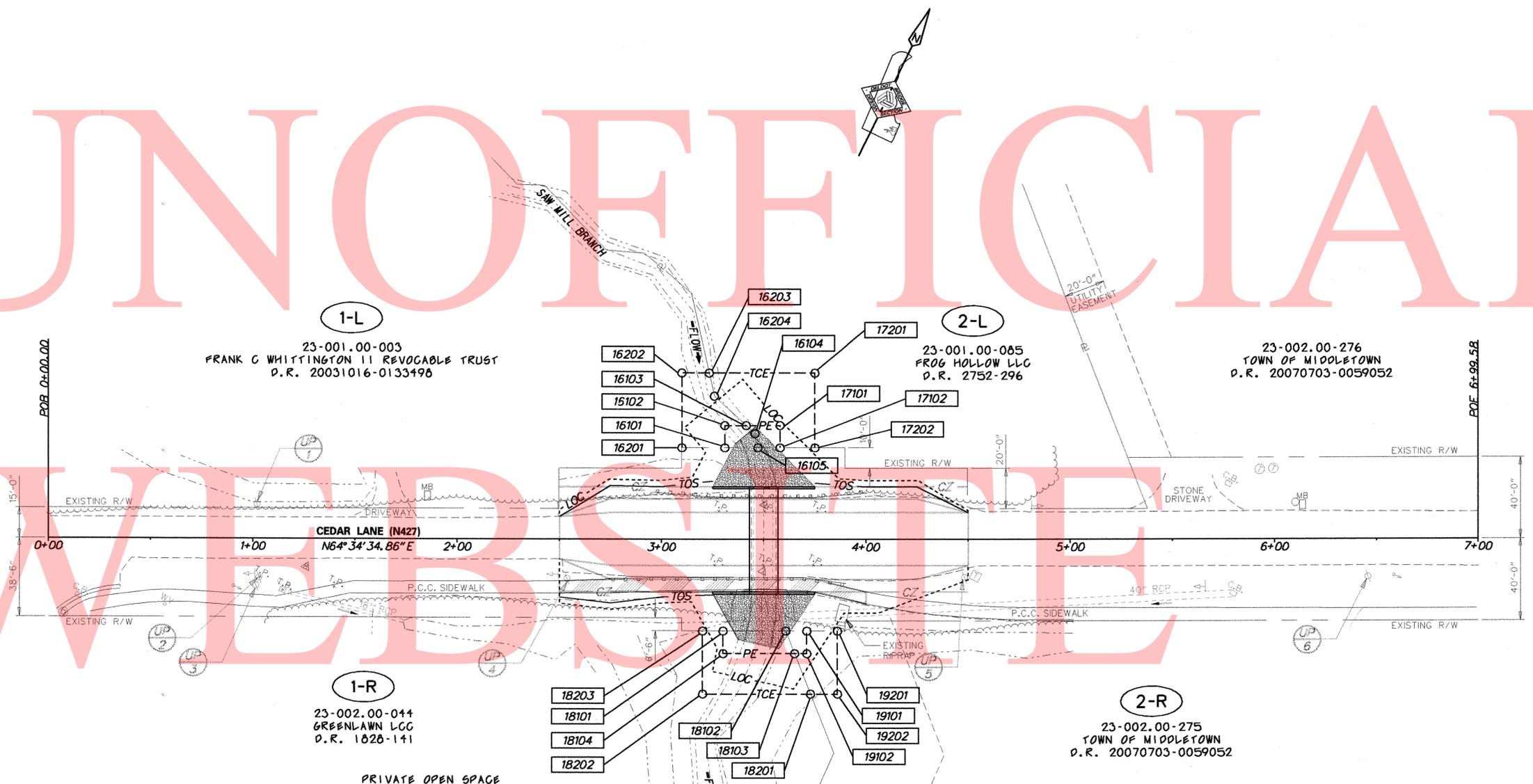
SHEET NO. 16
TOTAL SHTS. 19

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UNOFFICIAL

WEBSTER

COPY



1-L
 23-001.00-003
 FRANK C WHITTINGTON II REVOCABLE TRUST
 D.R. 20031016-0133498

2-L
 23-001.00-085
 FROG HOLLOW LLC
 D.R. 2752-296

23-002.00-276
 TOWN OF MIDDLETOWN
 D.R. 20070703-0059052

1-R
 23-002.00-044
 GREENLAWN LCC
 D.R. 1828-141

PRIVATE OPEN SPACE

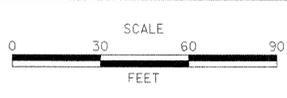
2-R
 23-002.00-275
 TOWN OF MIDDLETOWN
 D.R. 20070703-0059052

RECOMMENDED	
<i>Shelby Danalle</i>	10/29/10
TEAM SUPPORT SQUAD MANAGER	DATE
<i>Heather Dull</i>	10/29/10
TEAM SUPPORT ENGINEER	DATE
<i>Christ B. McCleary</i>	11/01/10
ASSISTANT DIRECTOR, ENGINEERING SUPPORT	DATE
"AS-ACQUIRED" PLANS	
I CERTIFY THAT ALL PROPOSED RIGHT-OF-WAY HAS BEEN ACQUIRED IN THE NAME OF THE STATE OF DELAWARE AND THAT THESE PLANS ACCURATELY DEPICT THE NATURE AND EXTENT OF THE REAL ESTATE SECTION ACQUISITION UNDER THIS PROJECT.	
CHIEF, REAL ESTATE	DATE

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10/29/2010 10:30:07-1-01

ADDENDUMS / REVISIONS



BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN

CONTRACT	BRIDGE NO.	BR 1-404
T201007101	DESIGNED BY:	KRL
COUNTY	CHECKED BY:	BAB
NEW CASTLE		

RIGHT-OF-WAY PLAN

SHEET NO.	17
TOTAL SHTS.	19

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-001.00-003	(1-L) FRANK C WHITTINGTON 11 REVOCABLE TRUST	TCE	20031016-0133498	4.050							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
16201	10000	3+10.00	-45.00	533005.1577	571386.5355						
16202	10000	3+10.00	-82.00	533038.5746	571370.6511	N 25°25' 25.14" W	37.0000				
16203	10000	3+23.33	-82.00	533044.2973	571382.6902	N 64°34' 34.86" E	13.3300				
16204	10000	3+25.87	-70.56	533035.0556	571389.8955	S 37°56' 30.66" E	11.7186				
16103	10000	3+41.40	-56.00	533028.5727	571410.1722	S 72°16' 12.12" E	21.2879				
16102	10000	3+31.00	-56.00	533024.1079	571400.7794	S 64°34' 34.86" W	10.4000				
16101	10000	3+31.00	-45.00	533014.1732	571405.5018	S 25°25' 25.14" E	11.0000				
16201	10000	3+10.00	-45.00	533005.1577	571386.5355	S 64°34' 34.86" W	21.0000				
FIGURE 16201 AREA = 742,1496 SQ. FT. (0.0170 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-001.00-003	(1-L) FRANK C WHITTINGTON 11 REVOCABLE TRUST	P/E	20031016-0133498	4.050							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
16101	10000	3+31.00	-45.00	533014.1732	571405.5018	N 25°25' 25.14" W	11.0000				
16102	10000	3+31.00	-56.00	533024.1079	571400.7794	N 64°34' 34.86" E	10.4000				
16103	10000	3+41.40	-56.00	533028.5727	571410.1722	S 69°16' 12.72" E	6.3228				
16104	10000	3+45.78	-51.44	533026.3347	571416.0857	S 37°00' 25.45" E	6.5739				
16105	10000	3+47.10	-45.00	533021.0851	571420.0426	S 64°34' 34.86" W	16.1000				
16101	10000	3+31.00	-45.00	533014.1732	571405.5018						
FIGURE 16101 AREA = 156,8440 SQ. FT. (0.0036 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-002.00-044	(1-R) GREENLAWN LLC	TCE	1828-141	26.590							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
18101	10000	3+30.00	45.00	532932.4597	571443.2363	S 25°25' 25.14" E	11.0000				
18104	10000	3+30.00	56.00	532922.5249	571447.9587	N 64°34' 34.86" E	34.9900				
18103	10000	3+64.99	56.00	532937.5464	571479.5602	S 46°39' 17.27" E	21.4563				
18201	10000	3+72.76	76.00	532922.8190	571495.1639	S 64°34' 34.86" W	52.7600				
18202	10000	3+20.00	76.00	532900.1687	571447.5133	N 25°25' 25.14" W	31.0000				
18203	10000	3+20.00	45.00	532928.1666	571434.2048	N 64°34' 34.86" E	10.0000				
18101	10000	3+30.00	45.00	532932.4597	571443.2363						
FIGURE 18201 AREA = 1087,5000 SQ. FT. (0.0250 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-002.00-044	(1-R) GREENLAWN LLC	P/E	1828-141	26.590							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
18101	10000	3+30.00	45.00	532932.4597	571443.2363	N 64°34' 34.86" E	30.7300				
18102	10000	3+60.73	45.00	532945.6523	571470.9904	S 46°35' 37.24" E	11.7961				
18103	10000	3+64.99	56.00	532937.5464	571479.5602	S 64°34' 34.86" W	34.9900				
18104	10000	3+30.00	56.00	532922.5249	571447.9587	N 25°25' 25.14" W	11.0000				
18101	10000	3+30.00	45.00	532932.4597	571443.2363						
FIGURE 18101 AREA = 361,4600 SQ. FT. (0.0083 ACRES)											

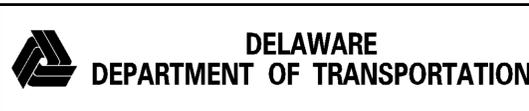
ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-001.00-085	(2-L) FROG HOLLOW LLC	TCE	2752-296	7.805							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
17102	10000	3+58.00	-45.00	533025.7645	571429.8871	N 25°25' 25.14" W	11.0000				
17101	10000	3+58.00	-56.00	533035.6992	571425.1647	S 64°34' 34.86" W	16.6000				
16103	10000	3+41.40	-56.00	533028.5727	571410.1722	N 72°16' 12.12" W	21.2879				
16204	10000	3+25.87	-70.56	533035.0556	571389.8955	N 37°56' 30.66" W	11.7186				
16203	10000	3+23.33	-82.00	533044.2973	571382.6902	N 64°34' 34.86" E	51.6700				
17201	10000	3+75.00	-82.00	533066.4796	571429.3563	S 25°25' 25.14" E	37.0000				
17202	10000	3+75.00	-45.00	533033.0627	571445.2407	S 64°34' 34.86" W	17.0000				
17102	10000	3+58.00	-45.00	533025.7645	571429.8871						
FIGURE 17201 AREA = 1365,8504 SQ. FT. (0.0314 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-001.00-085	(2-L) FROG HOLLOW LLC	P/E	2752-296	7.805							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
16105	10000	3+47.10	-45.00	533021.0851	571420.0426	N 37°00' 25.45" W	6.5739				
16104	10000	3+45.78	-51.44	533026.3347	571416.0857	N 69°16' 12.72" W	6.3228				
16103	10000	3+41.40	-56.00	533028.5727	571410.1722	N 64°34' 34.86" E	16.6000				
17101	10000	3+58.00	-56.00	533035.6992	571425.1647	S 25°25' 25.14" E	11.0000				
17102	10000	3+58.00	-45.00	533025.7645	571429.8871	S 64°34' 34.86" W	10.9000				
16105	10000	3+47.10	-45.00	533021.0851	571420.0426						
FIGURE 17101 AREA = 140,1560 SQ. FT. (0.0032 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-002.00-275	(2-R) TOWN OF MIDDLETOWN	TCE	20070703-0059052	93.250							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
18201	10000	3+72.76	76.00	532922.8190	571495.1639	N 46°39' 17.27" W	21.4563				
18103	10000	3+64.99	56.00	532937.5464	571479.5602	N 64°34' 34.86" E	6.0100				
19102	10000	3+71.00	56.00	532940.1265	571484.9882	N 25°25' 25.14" W	11.0000				
19101	10000	3+71.00	45.00	532950.0613	571480.2658	N 64°34' 34.86" E	15.0000				
19201	10000	3+86.00	45.00	532956.5009	571493.8132	S 25°25' 25.14" W	31.0000				
19202	10000	3+86.00	76.00	532928.5030	571507.1217	S 64°34' 34.86" W	13.2400				
18201	10000	3+72.76	76.00	532922.8190	571495.1639						
FIGURE 19201 AREA = 507,5000 SQ. FT. (0.0117 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
23-002.00-275	(2-R) TOWN OF MIDDLETOWN	P/E	20070703-0059052	93.250							
ALIGNMENT NUMBER & DESCRIPTION: 10000 - CEDAR LANE CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
18102	10000	3+60.73	45.00	532945.6523	571470.9904	N 64°34' 34.86" E	10.2700				
19101	10000	3+71.00	45.00	532950.0613	571480.2658	S 25°25' 25.14" E	11.0000				
19102	10000	3+71.00	56.00	532940.1265	571484.9882	S 64°34' 34.86" W	6.0100				
18103	10000	3+64.99	56.00	532937.5464	571479.5602	N 46°35' 37.24" W	11.7961				
18102	10000	3+60.73	45.00	532945.6523	571470.9904						
FIGURE 19101 AREA = 89,5400 SQ. FT. (0.0021 ACRES)											

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ADDENDUMS / REVISIONS

BR 1-404 ON N427 CEDAR LANE, MIDDLETOWN

CONTRACT	BRIDGE NO.	1-404
T20100701	DESIGNED BY:	KRL
COUNTY	CHECKED BY:	BAB
NEW CASTLE		

RIGHT-OF-WAY DATA SHEET	SHEET NO.	18
	TOTAL SHTS.	19

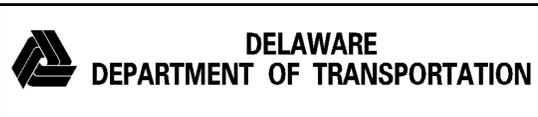
LEGEND
 FEE AREA OF ACQUISITION
 RW AREA OCCUPIED BY EXISTING RW
 BE PERMANENT EASEMENT
 TCE TEMPORARY CONSTRUCTION EASEMENT
 * - - - OFFSET IS LEFT OF BASELINE
 ** - - - CURVE TURNS TO THE LEFT

COUNTY ASSESSMENT PARCEL NUMBER	PLAN SHEET NUMBER	OWNERSHIP OF RECORD	TITLE SOURCE	PROPERTY AREA BEFORE ACQUISITION (ACRE) D=DEED C=CALCULATED A=ASSESSMENT	ACQUISITION CODE FEE, R/W, P/E, TCE	AREA TO BE ACQUIRED		EASEMENT		PROPERTY AREA REMAINING (SQ. FEET /ACRES)	DEED RECORD OF ACQUISITION	REMARKS
						ACQUISITION (SQ. FEET /ACRES)	AREA OCCUPIED BY EXISTING RIGHT OF WAY (SQ. FEET /ACRES)	PERMANENT (SQ. FEET /ACRES)	TEMPORARY (SQ. FEET /ACRES)			
23-001.00-003	12	(1-L) FRANK C WHITTINGTON II REVOCABLE TRUST	20031016-0133498	A - 4.05	TCE P/E			156.844 / 0.00	742.1496 / 0.02	176418.00 / 4.05		
23-002.00-044	12	(1-R) GREENLAWN LCC	1828-141	A - 26.59	TCE P/E			361.46 / 0.01	1087.50 / 0.02	1158260.40 / 26.59		23.5' DEDICATION PER MF 200105310041405 PRIVATE OPEN SPACE
23-001.00-085	12	(2-L) FROG HOLLOW LLC	2752-296	D - 7.81	TCE P/E			140.156 / 0.00	1365.8504 / 0.03	339978.15 / 7.80		
23-002.00-275	12	(2-R) TOWN OF MIDDLETOWN	20070703-0059052	A - 93.25	TCE P/E			89.54 / 0.00	507.50 / 0.01	4061970.00 / 93.25		

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ACQUISITION CODES
 FEE - ACQUISITION
 R/W - AREA OCCUPIED BY EXISTING R/W
 P/E - PERMANENT EASEMENT
 TCE - TEMPORARY EASEMENT



ADDENDUMS / REVISIONS

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**BR 1-404 ON N427 CEDAR
LANE, MIDDLETOWN**

CONTRACT T201007101	BRIDGE NO. 1-404
COUNTY NEW CASTLE	DESIGNED BY: KRL
	CHECKED BY: BAB

**RIGHT-OF-WAY
TABULATION SHEET**

SHEET NO. 19
TOTAL SHTS. 19