

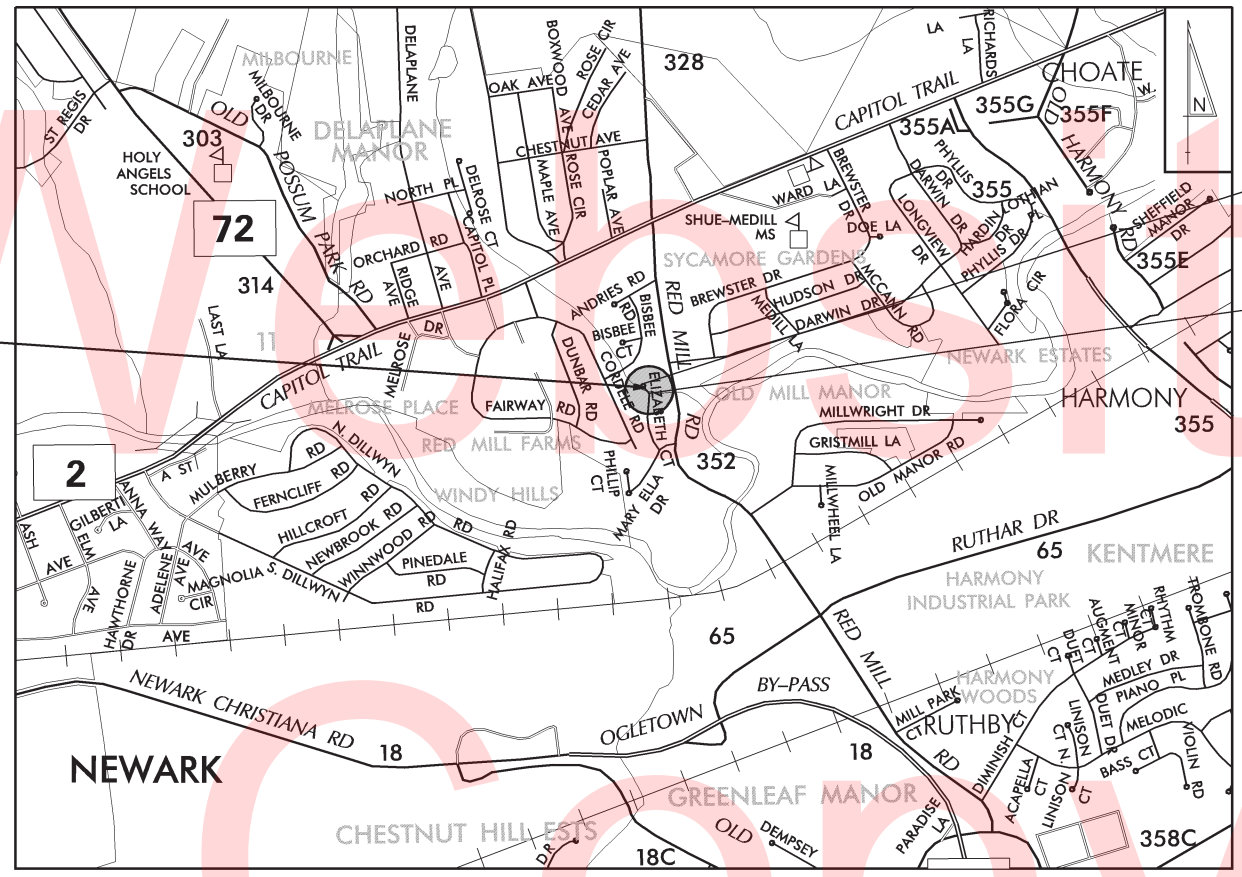
# THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY  
UNITS



## CONSTRUCTION & RIGHT-OF-WAY PLANS FOR: BR 1-238 ON ELIZABETH COURT OVER TRIBUTARY TO WHITE CLAY CREEK

CONTRACT NUMBER: T201507103  
 FEDERAL AID PROJECT NUMBER: NA  
 COUNTY: NEW CASTLE M.R. #: 000



END CONTRACT  
STATION 6+38

BEGIN CONTRACT  
STATION 5+02

DESIGN DESIGNATION		
FUNCTIONAL CLASS: LOCAL (000)	D.H.V. PROJECTED: -	YEAR: -
TYPE OF CONSTRUCTION: PIPE LINER	DESIGN SPEED: 30 M.P.H.	
A.A.D.T. CURRENT: 99	YEAR: 2012	TRUCKS: 2%
A.A.D.T. PROJECTED: 165	YEAR: 2040	DIRECTION OF DISTRIBUTION: -

INDEX OF SHEETS	
SHEET No	TABLE OF CONTENTS
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15-17	RIGHT-OF-WAY PLANS

APPROVED DESIGN EXCEPTIONS			
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS	
DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS	
CONTRACT NO.	CONTRACT NAME
68-09-008	RED MILL ROAD
78-021-13	RED MILL ROAD (DARWIN DR. - KIRKWOOD HWY)
89-031-08	RED MILL RD. (N352), CURB, SIDEWALK, TURN LANE
T201407101	BR 1-239 ON N352 RED MILL ROAD OVER TRIBUTARY TO WHITE CLAY CREEK

**RECOMMENDED**

*Vincent W. Davis* 07/18/2017  
 SQUAD MANAGER, CONSTRUCTION DATE

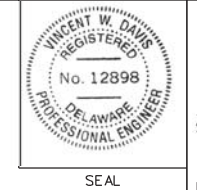
*John F. [Signature]* 07/19/2017  
 GROUP ENGINEER, CONSTRUCTION DATE

*James A. [Signature]* 07/19/2017  
 ASSISTANT DIRECTOR, CONSTRUCTION DATE

**RECOMMENDED**

*Vincent W. Davis*  
 STORMWATER ENGINEER

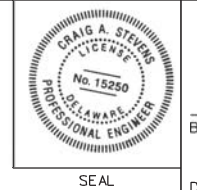
DATE 07/12/2017



**RECOMMENDED**

*[Signature]*  
 SQUAD MANAGER, BRIDGE DESIGN

DATE 07/06/2017



**RECOMMENDED**

*[Signature]*  
 BRIDGE DESIGN ENGINEER

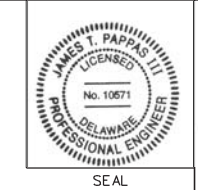
DATE 07/19/2017



**RECOMMENDED**

*James T. Pappas III*  
 ASSISTANT DIRECTOR, BRIDGE

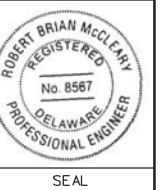
DATE 07/31/2017



**APPROVED**

*Robert Brian McCleary*  
 CHIEF ENGINEER

DATE 08/01/2017



LAST REVISED: 03/03/2011  
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## EXISTING SYMBOLS

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

MANMADE ROADSIDE FEATURES	
	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
	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

RIGHT-OF-WAY SYMBOLS	
	PROPERTY MARKER - CONCRETE MON.
	PROPERTY MARKER - IRON PIPE
	HISTORIC RIGHT-OF-WAY BASELINE
	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
	EXISTING EASEMENT
	EXISTING DENIAL OF ACCESS
	EXISTING R/W & DENIAL OF ACCESS

SURVEY CONTROL & MONUMENTATION	
	SURVEY BENCHMARK LOCATION
	SURVEY TIE POINT LOCATION
	SURVEY TRAVERSE POINT
	POINT OF CURVATURE OR TANGENCY
	POINT OF INTERSECTING TANGENTS

UTILITY	
	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
	CABLE TV DISTRIBUTION BOX
	ELECTRIC MANHOLE
	ELECTRIC METER
	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
	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
	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES	
	CITY OF NEWARK - WATER
	NEW CASTLE COUNTY - SEWER
	DELMARVA POWER - ELECTRIC
	COMCAST CABLE
	VERIZON CABLE
	VERIZON FIBER OPTIC

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
	CONSTRUCTION BASELINE
	CONSTRUCTION SAFETY FENCE
	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, TYPE 1
	GUARDRAIL, TYPE 2
	GUARDRAIL, TYPE 3
	GUARDRAIL END ANCHORAGE
	GUARDRAIL END TREATMENT, TYPE 1
	GUARDRAIL END TREATMENT, TYPE 2
	GUARDRAIL END TREATMENT, TYPE 3
	HORIZONTAL CLEARANCE
	IMPACT ATTENUATOR
	JUNCTION BOX - DRAINAGE
	LIMIT OF CONSTRUCTION
	MAILBOX
	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
	UNDERDRAIN
	UNDERDRAIN OUTLET

RIGHT-OF-WAY SYMBOLS	
	PROPOSED RIGHT-OF-WAY MONUMENT
	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

## PROPOSED SYMBOLS

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
	CONSTRUCTION SAFETY FENCE
	DRAINAGE INLET
	DO NOT DISTURB
	ENERGY DISSIPATOR
	FENCE
	FLARED END SECTION
	FILL WITH FLOWABLE FILL
	FILTRATION STRUCTURE
	GUARDRAIL
	JUNCTION BOX
	MANHOLE
	MONUMENT - RIGHT-OF-WAY
	PIPE
	RELOCATE BY CONTRACTOR
	RELOCATE BY OTHERS
	REMOVE BY CONTRACTOR
	REMOVE BY OTHERS
	UNDERDRAIN / LENGTH
	UNDERDRAIN OUTLET PIPE

LANDSCAPING	
	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

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

PAVEMENT SECTION(1-238)	
	2" MILLING 2" SUPERPAVE, TYPE C PG 64-22, 160 GYRATIONS

EROSION & SEDIMENT CONTROL	
	DEWATERING BAG
	DEWATERING BASIN
	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
	PORTABLE SEDIMENT TANK
	SANDBAG DIKE
	SANDBAG DIVERSION
	STONE CHECK DAM
	STABILIZED CONSTRUCTION ENTRANCE
	SILT FENCE / LENGTH
	SILT FENCE
	SILT FENCE - REINFORCED
	SUMP PIT
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN
	TURBIDITY CURTAIN / LENGTH
	TURBIDITY CURTAIN

LAST REVISED: 01/08/2013  
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## GENERAL NOTES

1. 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.

EROSION POTENTIAL FOR THIS PROJECT	CONTRACTOR ESC SUPERVISOR REQUIREMENT
( ) INSIGNIFICANT	NONE
( ) MINOR	CONTRACTOR TRAINING PROGRAM, AS DEFINED IN SECTION 6.2 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
( X ) MAJOR	CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 6.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.

3. ELECTRONIC PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( )	NONE
( )	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
( X )	ALL PLAN SHEETS, IN PDF FORMAT.
( )	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).

NOTE: THE DOCUMENT ENTITLED "RELEASE FOR DELIVERY OF DOCUMENTS IN ELECTRONIC FORM TO A CONTRACTOR" MUST BE SIGNED BY ALL PARTIES PRIOR TO THE DELIVERY OF ANY ELECTRONIC PROJECT FILES.

4. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

( X )	CROSS SECTIONS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)
( X )	RIGHT-OF-WAY PLANS (INCLUDED IN PLAN SET)

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

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
( X )	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. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 743000.
( )	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. PAYMENT FOR ATSSA SUPERVISOR SHALL BE PAID FOR UNDER ITEM 743031.

6. THE DISTURBED AREA FOR THIS PROJECT IS 0.37 ACRES.

7. THERE IS NO ADDED IMPERVIOUS AREA FOR THIS PROJECT.

8. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A FIVE YEAR PERIOD, BEGINNING ON THE DATE THE STORMWATER ENGINEER SIGNED THE CONSTRUCTION TITLE SHEET. IF THE FINAL ACCEPTANCE OF THE PROJECT IS ANTICIPATED TO EXTEND BEYOND THE FIVE YEARS, THE CONTRACTOR WILL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS. THE STORMWATER ENGINEER WILL REVIEW THE CURRENT SEDIMENT AND STORMWATER MANAGEMENT PLAN AND ISSUE AN EXTENSION WITH ANY APPROPRIATE MODIFICATIONS.

## PROJECT NOTES

### SECTION 100

1. ANY DAMAGE TO ITEMS NOTED TO BE RELOCATED OR RESET BY THE CONTRACTOR, AT THE DISCRETION OF THE ENGINEER, SHALL BE REPAIRED AND/OR REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.

### SECTION 200

2. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- REMOVAL OF TIMBER RAILING
  - REMOVAL OF CONCRETE SLOPE PROTECTION

3. THE CONTRACTOR SHALL REMOVE AND RESET ALL MAILBOXES TO MAINTAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE MAILBOXES AS REQUIRED BY THE PROPOSED GEOMETRICS AND AS DIRECTED BY THE ENGINEER. WHEN RELOCATING MAILBOXES IN CURBED SECTIONS, THE FACE OF THE MAILBOX SHALL BE FLUSH WITH THE BACK EDGE OF CURB. WHEN RELOCATING MAILBOXES IN OPEN SECTIONS, THE FACE OF THE MAILBOX SHALL SET BACK 8 INCHES FROM THE EDGE OF THE PAVED SHOULDER. THE BOTTOM OF THE MAILBOX SHALL BE SET 46 INCHES ABOVE THE ROADWAY SURFACE. MAILBOXES LOCATED AT DRIVEWAY ENTRANCES SHALL BE PLACED ON THE FAR SIDE OF THE DRIVEWAY IN THE DIRECTION OF TRAVEL. POSTS BEING RESET IN CONCRETE SIDEWALK SHALL BE PLACED IN AN APPROPRIATE SIZE PVC SLEEVE. COST FOR ALL WORK AND MATERIALS SHALL BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

### SECTION 600

4. PORTLAND CEMENT CONCRETE  
STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED ( $F'c = 28$  DAY COMPRESSIVE STRENGTH)
- CAST-IN-PLACE ELEMENTS ( $F'c = 4000$  psi) - FOR REPAIR OR REPLACEMENT OF CURB/SIDEWALK DAMAGED BY THE CONTRACTOR.
  - MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS.
  - ALL EXPOSED EDGES SHALL BE CHAMFERED  $\frac{3}{4}$ " UNLESS OTHERWISE NOTED.
  - ALL EXPOSED CONSTRUCTION JOINT EDGES SHALL HAVE A  $\frac{3}{4}$ " V-NOTCH.
5. THE DEPARTMENT AND THE CONTRACTOR SHALL INSPECT ALL EXISTING PIPES AND DRAINAGE STRUCTURES TO BE USED IN THE FINAL DRAINAGE SYSTEM AND AGREE ON THE CONDITION PRIOR TO THE START OF CONSTRUCTION. EXISTING PIPES AND DRAINAGE STRUCTURES DAMAGED DUE TO CONTRACTOR OPERATIONS SHALL BE REPAIRED OR REPLACED IN-KIND AT THE CONTRACTOR'S EXPENSE. THE DEPARTMENT WILL VIDEO INSPECT NEW PIPE RUNS TO CONFIRM CONDITION PRIOR TO ACCEPTANCE. PIPE CLEANING PRIOR TO VIDEO INSPECTION AND MAINTENANCE OF TRAFFIC DURING THE VIDEO INSPECTION ARE THE RESPONSIBILITY OF THE CONTRACTOR AND INCIDENTAL TO THE PIPE ITEM THAT IS BEING VIDEO INSPECTED.
6. CENTRIFUGALLY CAST PIPE SPECIFICATIONS
- THE CONTRACTOR SHALL ADHERE TO ALL REQUIRED OSHA STANDARDS.
  - PRIOR TO THE PLACEMENT OF THE PIPE LINER, EACH PIPE SHALL BE INSPECTED BY EXPERIENCED PERSONNEL TO ENSURE THERE ARE NO LOCATIONS THAT WILL PREVENT PROPER INSTALLATION. SEE SPECIFICATIONS FOR REQUIRED QUALIFICATIONS OF PERSONNEL.
  - IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REMOVE ALL OBSTRUCTIONS WITHIN THE PIPE INCLUDING, BUT NOT LIMITED TO, SEDIMENT, PLANT LIFE, ROCKS, AND DEBRIS. PRIOR TO PLACING THE LINER THE PIPE SHALL BE CLEANED WITH A HIGH-PRESSURE WATER-BLAST TO REMOVE ALL LOOSE MATERIAL AND FLUSH DEBRIS FROM THE PIPE.
  - MATERIAL USED IN THE REPAIR OF THE PIPE SHALL BE ULTRA-HIGH STRENGTH, ABRASION RESISTANT, SELF-CONSOLIDATING AND BASED ON ADVANCED CEMENTS WITH RUST INHIBITORS.
  - FINAL SET TIME WILL BE COMPLETE WITHIN 4 HOURS OF PLACEMENT WITH A 24 HR COMPRESSIVE STRENGTH OF 3000 PSI (MIN.) AND 28 DAY STRENGTH OF 8000 PSI (MIN.)
  - REFER TO THE SPECIFICATIONS UNDER SECTION 612553 FOR MORE INFORMATION ON MATERIAL REQUIREMENTS.

### SECTION 700

7. WHERE PROPOSED CONCRETE SIDEWALK (INSTALLED AS A RESULT OF DAMAGE BY THE CONTRACTOR) 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.
8. 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 HOTMIX SAWCUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
9. THE ENDS OF ALL CURBS (INSTALLED AS A RESULT OF DAMAGE BY THE CONTRACTOR) SHALL BE DEPRESSED FLUSH WITH THE PAVEMENT AT A RATIO OF TWELVE TO ONE (12:1) UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
10. ALL GEOTEXTILES SHALL BE KEYED UNDER ADJACENT SOIL OR RIPRAP A MINIMUM OF 6" IN LENGTH TO PREVENT FREE EDGES.

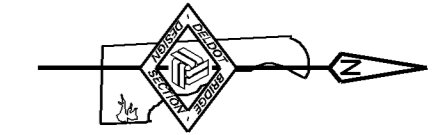
### SECTION 900

11. THIS PROJECT IS COVERED UNDER AN NPDES GENERAL PERMIT FOR CONSTRUCTION. UNDER THE GENERAL PERMIT, COMPLIANCE WITH DELDOT'S APPROVED SEDIMENT AND STORMWATER MANAGEMENT PLANS WILL CONSTITUTE COMPLIANCE WITH THE NPDES INDUSTRIAL PERMITTING REQUIREMENTS FOR THIS CONSTRUCTION PROJECT. A COPY OF THE NPDES GENERAL PERMIT AND NOI'S KEPT ON FILE IN EACH OF THE CONSTRUCTION OFFICES AND THE DEPARTMENT'S TEAM SUPPORT SECTION. A COPY OF THE GENERAL PERMIT OR THE NOI CAN BE OBTAINED UPON REQUEST FROM EITHER THE DEPARTMENT'S STORMWATER ENGINEER OR THE APPROPRIATE CONSTRUCTION ENGINEER.

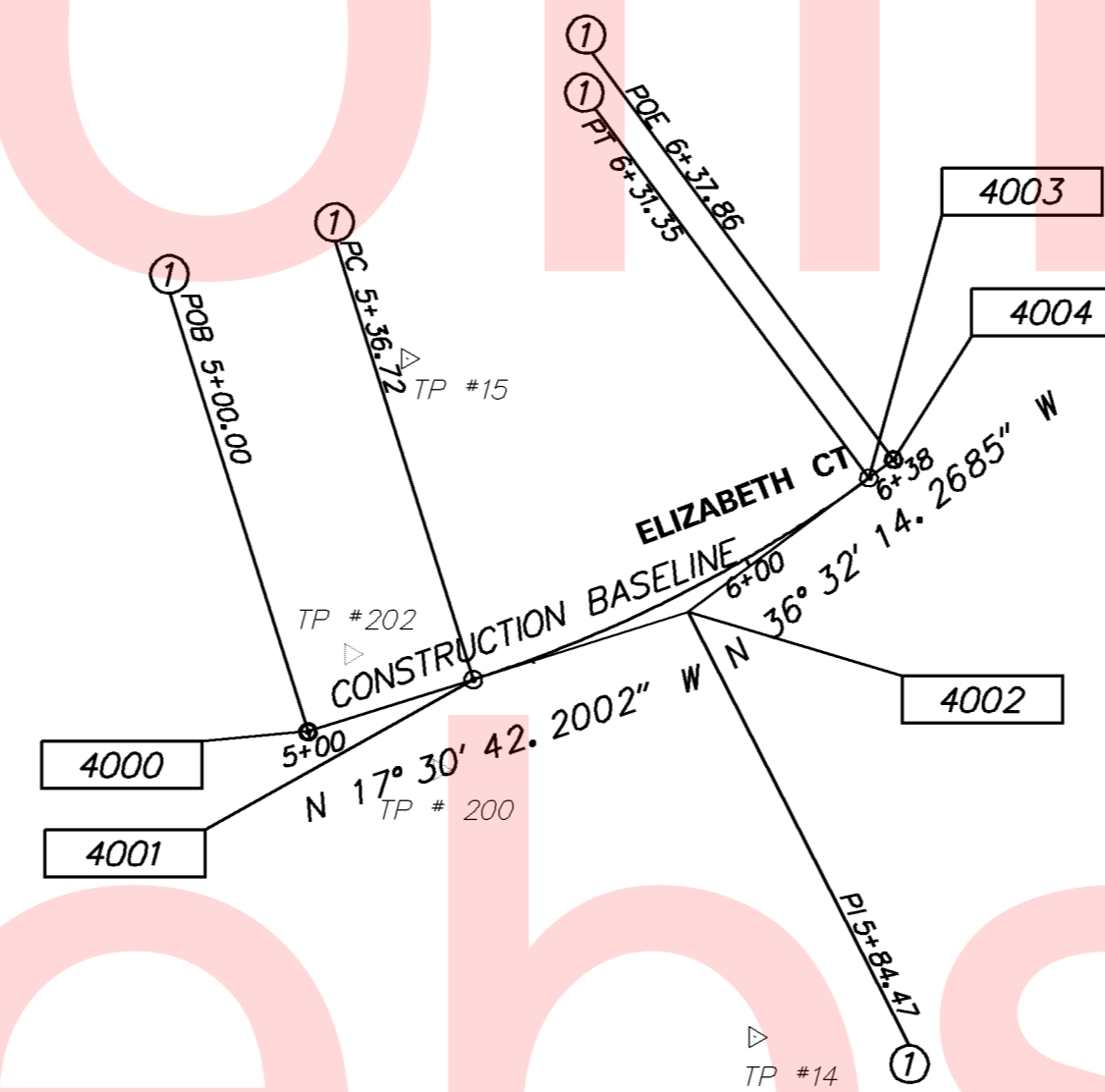
## MISCELLANEOUS

12. 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.
13. THE CONTRACTOR SHALL CONTACT JAMILA JONES, THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION AT 302-576-6019.
14. DURING REMOVAL OF THE EROSION AND SEDIMENT CONTROL AND STREAM DIVERSION EQUIPMENT, THE EXISTING CURB AND SIDEWALK SHALL BE PROTECTED FROM ANY DAMAGE FROM CONSTRUCTION VEHICLES OR EQUIPMENT. ANY DAMAGE OR MARKING THAT OCCURS DURING THE CONSTRUCTION DURATION WILL BE REPAIRED TO THE ENGINEERS SATISFACTION AT THE EXPENSE OF THE CONTRACTOR.
15. ALL DRAINAGE INLETS SHALL BE PROTECTED THROUGH THE DURATION OF THE CONSTRUCTION PERIOD WITH THE APPROPRIATE SEDIMENT CONTAINMENT. DRAINAGE RUNS THAT OUTLET UPSTREAM AND DOWNSTREAM OF THE BRIDGE SHALL BE BLOCKED SUFFICIENTLY OR REDIRECTED TO MAINTAIN A DRY WORK AREA.
16. DESIGN CRITERIA  
2014 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 7TH EDITION, CUSTOMARY U.S. UNITS.  
USING AASHTO HL93 FOR LIVE LOAD, 25 psf FOR FUTURE WEARING SURFACE.
17. HYDRAULIC DATA:
- |                                   |                |                                   |              |
|-----------------------------------|----------------|-----------------------------------|--------------|
| DRAINAGE AREA:                    | 0.42 sq. miles | DESIGN FREQ.: 25 YEARS            |              |
| DESIGN DISCHARGE:                 | 438 cfs        | 100-YEAR DISCHARGE:               | 648 cfs      |
| EXISTING (DESIGN STORM) WSE:      | 46.88 ft       | PROPOSED (DESIGN STORM) WSE:      | 45.52 ft     |
| EXISTING (DESIGN STORM) VELOCITY: | 11.18 fps      | PROPOSED (DESIGN STORM) VELOCITY: | 12.01 fps    |
| EXISTING 100-YEAR WSE:            | 49.23 ft       | PROPOSED 100-YEAR WSE:            | 48.21 ft     |
| EXISTING 100-YEAR VELOCITY:       | 9.81 fps       | PROPOSED 100-YEAR VELOCITY:       | 12.79 fps    |
| EXISTING WATERWAY OPENING:        | 52.14 sq. ft   | PROPOSED WATERWAY OPENING:        | 46.20 sq. ft |
18. SCOUR ANALYSIS:  
SCOUR DESIGN FREQUENCY: 100 YEARS or OVERTOPPING  
SCOUR DESIGN FLOOD DISCHARGE: 648 cfs  
SCOUR DESIGN FLOOD VELOCITY: 12.79 fps (AT BRIDGE OUTLET)  
WATER SURFACE ELEVATION: 48.21 ft (IMMEDIATELY UPSTREAM OF BRIDGE)
- SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE SCOUR DESIGN FLOOD IN ACCORDANCE WITH HEC 23 - BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES AND HEC 14 - HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS.
19. ENVIRONMENTAL COMPLIANCE:  
SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.
20. UTILITIES:  
REFER TO THE 'UTILITY PLAN' FOR ADDITIONAL INFORMATION ON TYPES AND LOCATIONS OF ALL UTILITIES. ANY UTILITIES WHICH WILL CONFLICT WITH THE PROPOSED WORK SHOWN IN THESE PLANS, SHALL BE RELOCATED PRIOR TO THE COMMENCEMENT OF ANY PROPOSED BRIDGE OR ROAD WORK. FOR ADDITIONAL GUIDANCE, REFER TO THE 'UTILITY STATEMENT.'

DATUM REFERENCE:  
 HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM (NAD 83/91).  
 VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.



Unofficial



Website

Copy

**CURVE INFORMATION ①**

	STATION	NORTHING	EASTING
<i>Element: Linear</i>			
POB (4000)	5+00.00	616847.6777	573752.5234
PC (4001)	5+36.72	616882.6917	573741.4757
Tangent Direction: N 17° 30' 42.2002" W			
Tangent Length: 36.72			
<i>Element: Circular</i>			
PC (4001)	5+36.72	616882.6917	573741.4757
PI (4002)	5+84.47	616928.2364	573727.1052
CC ( )		616796.9349	573469.6839
PT (4003)	6+31.35	616966.6085	573698.6727
Radius: 285.00			
Delta: 19° 01' 32.0683" Left			
Degree of Curvature(Arc): 20° 06' 13.6162"			
Length: 94.64			
Tangent: 47.76			
Chord: 94.20			
Middle Ordinate: 3.92			
External: 3.97			
Tangent Direction: N 17° 30' 42.2002" W			
Radial Direction: N 72° 29' 17.7998" E			
Chord Direction: N 27° 01' 28.2343" W			
Radial Direction: N 53° 27' 45.7315" E			
Tangent Direction: N 36° 32' 14.2685" W			
<i>Element: Linear</i>			
PT (4003)	6+31.35	616966.6085	573698.6727
POE (4004)	6+37.86	616971.8391	573694.7970
Tangent Direction: N 36° 32' 14.2685" W			
Tangent Length: 6.51			

**CONSTRUCTION ALIGNMENT CONTROL**

POINT	STATION	OFFSET	NORTHING	EASTING
4000	5+00.00	0	616847.6777	573752.5234
4004	6+37.86	0	616971.8332	573694.8014

**HORIZONTAL / VERTICAL CONTROL DATA BR 1-238**

POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
TP #14	5+61.70	90.52	616942.4886	573817.3201	40.85
TP #15	5+47.78	-70.59	616868.7058	573673.4241	51.95
TP #200	5+24.67	14.44	616875.6317	573760.6276	48.56
TP #202	5+12.68	-14.06	616856.7571	573736.1385	48.62

ADDENDUMS / REVISIONS



**BR 1-238 ON ELIZABETH COURT  
 OVER TRIBUTARY TO  
 WHITE CLAY CREEK**

CONTRACT	BRIDGE NO.	<b>1-238</b>
T201507103	DESIGNED BY:	GML
COUNTY	CHECKED BY:	CAS
NEW CASTLE		

**HORIZONTAL AND  
 VERTICAL CONTROL**

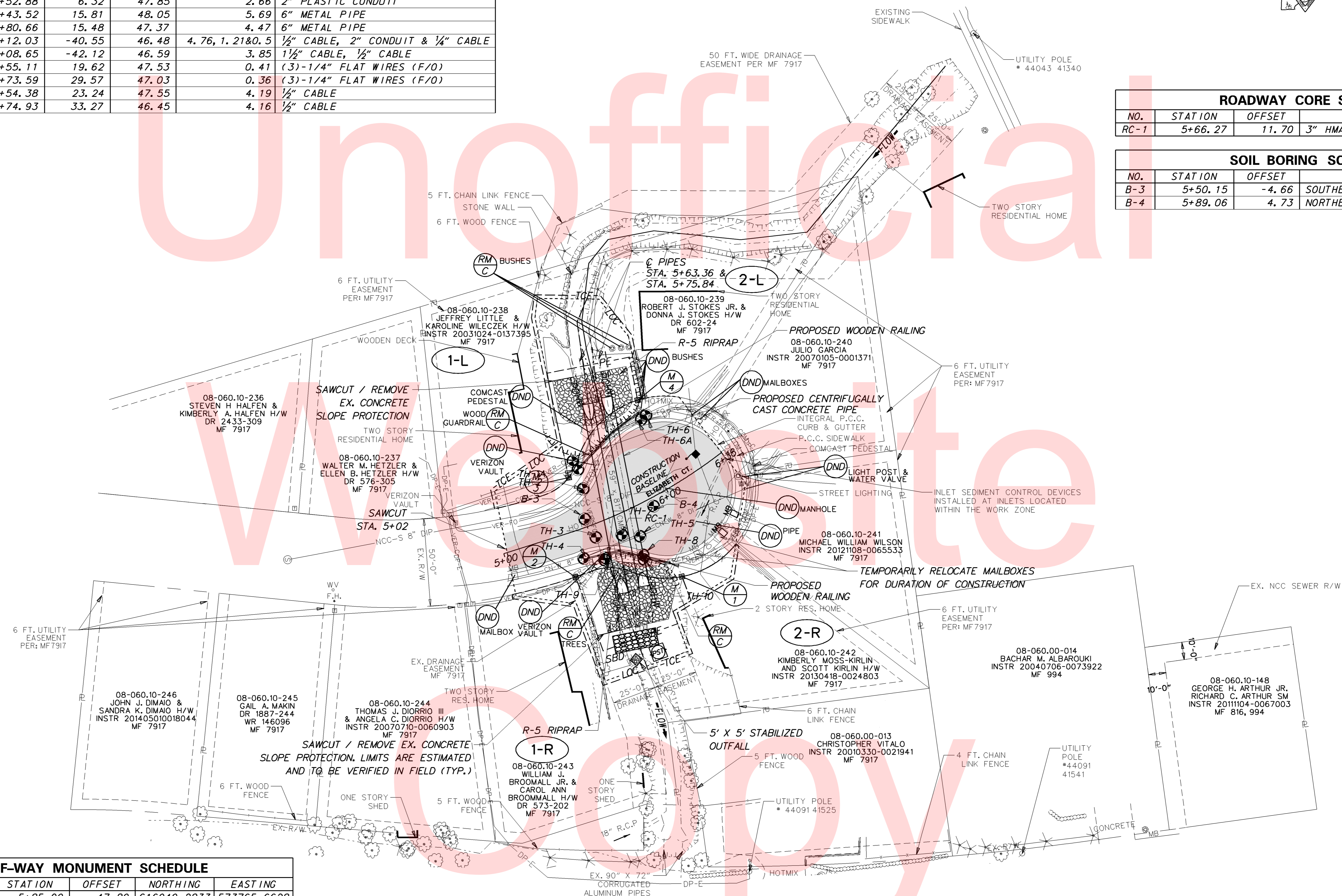
SHEET NO.	4
TOTAL SHTS.	17

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UTILITY TEST HOLE SCHEDULE						
NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O. D. & MATERIAL
1	DP&L, VER-C	5+56.68	-29.58	48.96	4.0	1 1/2" CABLE, (2)-1/2" CABLES
1A	COM-C	5+57.08	-32.40	48.27	1.66, 0.93	1" CABLE, 1/4" CABLE
2	VER-FO	5+55.25	-21.11	48.05	2.93	2" PLASTIC CONDUIT
3	VER-FO	5+52.88	6.32	47.85	2.66	2" PLASTIC CONDUIT
4	CN-W	5+43.52	15.81	48.05	5.69	6" METAL PIPE
5	X	5+80.66	15.48	47.37	4.47	6" METAL PIPE
6	COM-C, VER-C	6+12.03	-40.55	46.48	4.76, 1.21&0.5	1/2" CABLE, 2" CONDUIT & 1/4" CABLE
6A	DP&L, VER-C	6+08.65	-42.12	46.59	3.85	1 1/2" CABLE, 1/2" CABLE
7	VER-FO	5+55.11	19.62	47.53	0.41	(3)-1/4" FLAT WIRES (F/O)
8	VER-FO	5+73.59	29.57	47.03	0.36	(3)-1/4" FLAT WIRES (F/O)
9	VER-C	5+54.38	23.24	47.55	4.19	1/2" CABLE
10	VER-C	5+74.93	33.27	46.45	4.16	1/2" CABLE

ROADWAY CORE SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
RC-1	5+66.27	11.70	3" HMA, 3" CR

SOIL BORING SCHEDULE			
NO.	STATION	OFFSET	DESCRIPTION
B-3	5+50.15	-4.66	SOUTHBOUND LANE SOUTH OF BRIDGE
B-4	5+89.06	4.73	NORTHBOUND LANE NORTH OF BRIDGE

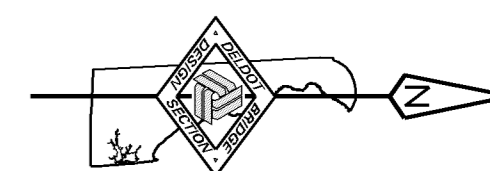


RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
1	CAPPED REBAR	5+85.09	47.89	616949.2833	573765.6628
2	CAPPED REBAR	5+35.00	25.01	616888.5841	573765.8450
3	CAPPED REBAR	5+49.68	-29.98	616884.6562	573709.1472
4	CAPPED REBAR	6+14.06	-52.03	616924.0229	573664.9344

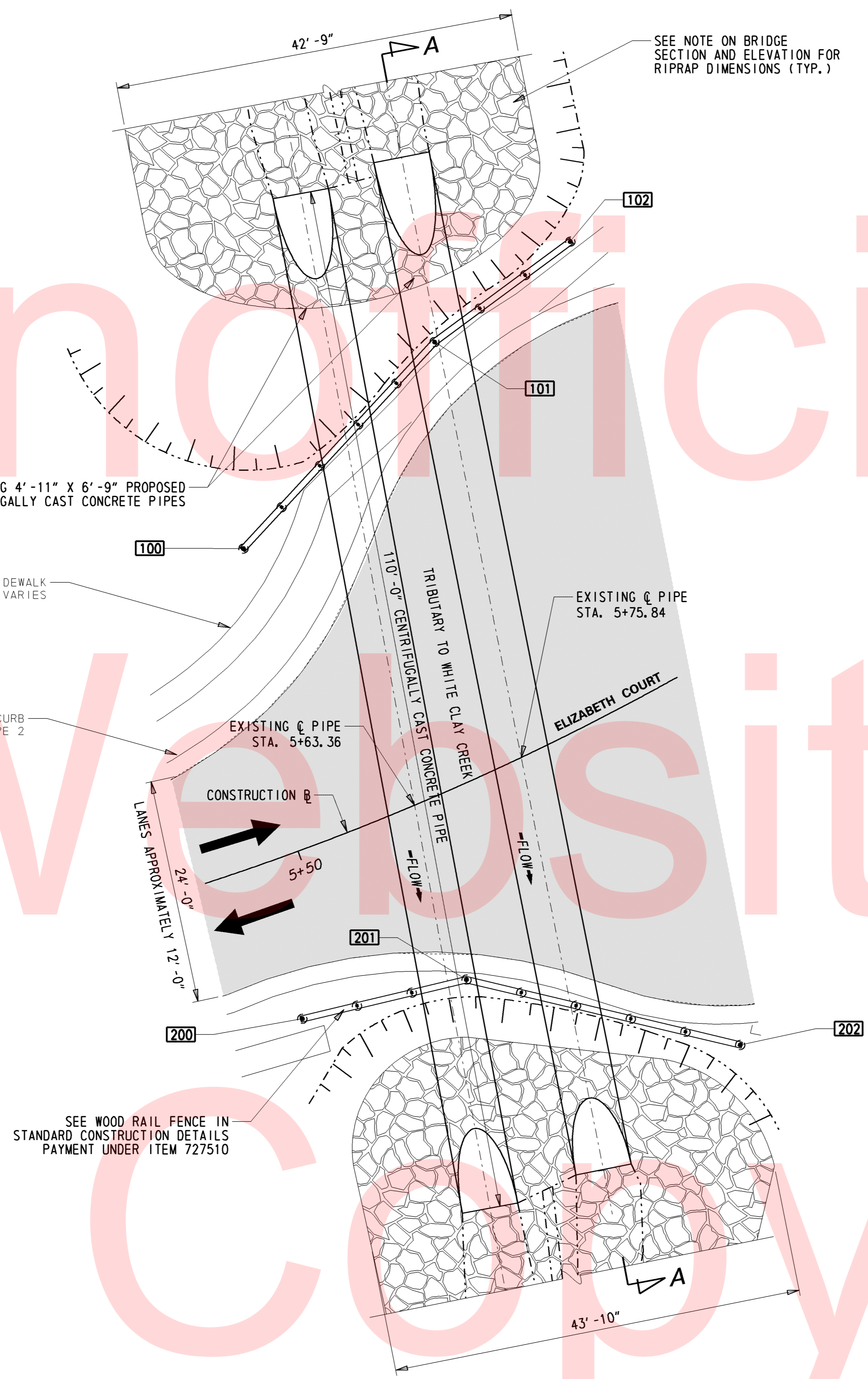
NOTE: PARCELS 0806010238 THROUGH 0806010247 HAVE THE FOLLOWING EXISTING EASEMENTS AND RIGHTS OF WAY: A 20' WIDE SANITARY SEWER AND STORMWATER EASEMENT WITHIN R/W AND 10' WIDE EASEMENT IN PRIVATELY PAVED AREAS (10' AND 5' FROM C.L. OF PIPE RESPECTIVELY), DP&L EASEMENT 10' FROM C.L. EACH SIDE OF UTILITY, DST BLANKET EASEMENT, ROLLINS CABLE BLANKET EASEMENT, 6 FT. UTILITY EASEMENT ALONG PROPERTY LINES OF PARCELS.

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	ADDENDUMS / REVISIONS		SCALE 0 30 60 90 FEET	<b>BR 1-238 ON ELIZABETH COURT OVER TRIBUTARY TO WHITE CLAY CREEK</b>		CONTRACT T201507103	BRIDGE NO. <b>1-238</b>	<b>CONSTRUCTION PLAN</b>	SHEET NO. 5
					COUNTY NEW CASTLE	DESIGNED BY: GML & JWJ	CHECKED BY: CAS		TOTAL SHTS. 17



Unofficial  
Website



**PLAN**  
1/8" = 1'-0"

HANDRAIL WORKING POINTS				
PT.	STATION	OFFSET	NORTHING	EASTING
100	5+56.37	-32.24	616889.42	573704.91
101	5+88.37	-43.75	616909.81	573682.90
102	6+09.59	-45.77	616924.28	573672.20
200	5+44.58	16.96	616895.70	573755.03
201	5+61.37	19.27	616913.21	573750.86
202	5+82.85	37.77	616942.39	573757.82

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**DELAWARE**  
**DEPARTMENT OF TRANSPORTATION**

ADDENDUMS / REVISIONS

**SCALE: AS NOTED**

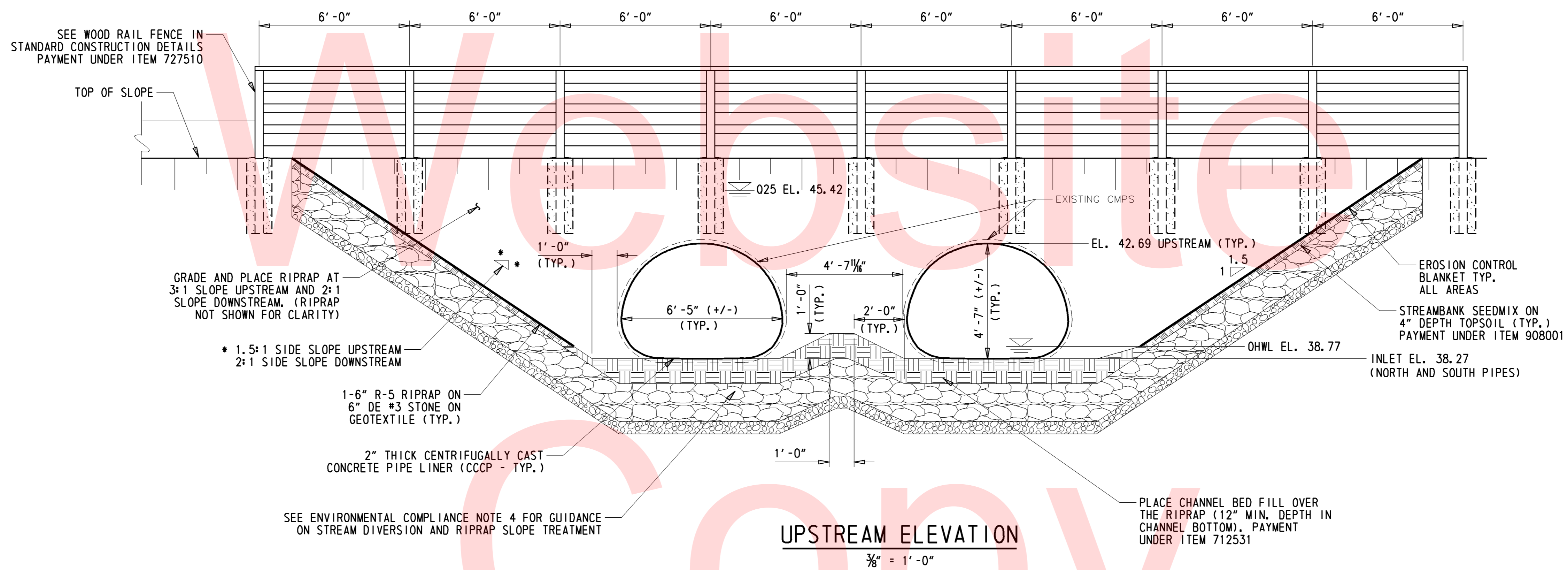
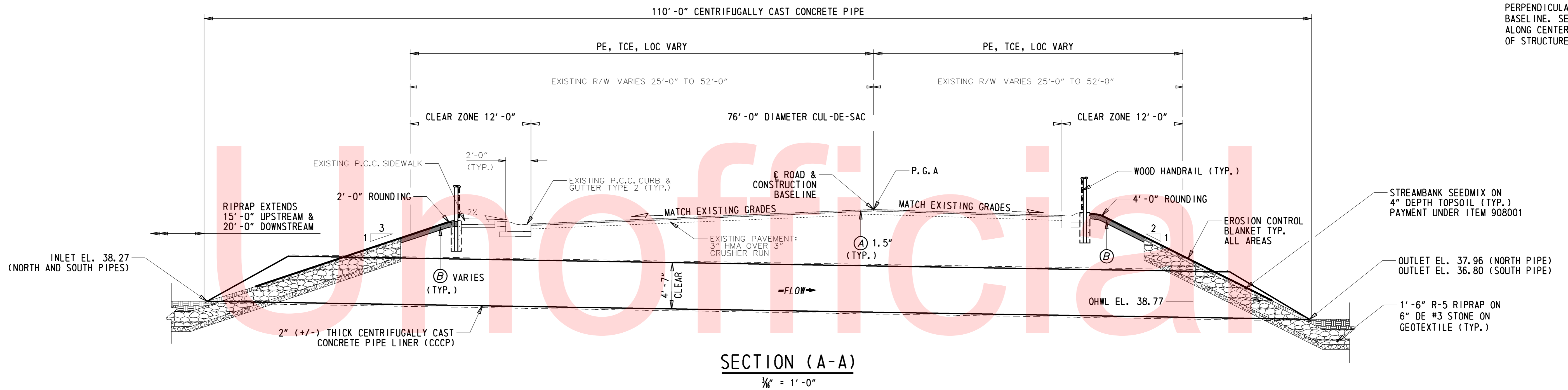
**BR 1-238 ON ELIZABETH COURT  
OVER TRIBUTARY TO  
WHITE CLAY CREEK**

CONTRACT	BRIDGE NO.	<b>1-238</b>
T201507103	DESIGNED BY:	JWK
COUNTY	CHECKED BY:	CAS
NEW CASTLE		

**BRIDGE PLAN**

SHEET NO.	6
TOTAL SHTS.	17

NOTE: SECTION IS NOT PERPENDICULAR TO BASELINE. SECTION IS ALONG CENTERLINE OF STRUCTURE.



LEGEND	
(A)	ITEM 401827 - 1.5" MILL, SUPERPAVE TYPE C, PG 62-22, 160 GYRATIONS, NC STONE (TON)
(B)	ITEM 908004 - TOPSOIL, 6" DEPTH (S.Y.) ITEM 908019 - STREAMBANK SEED MIX (S.Y.) ITEM 908020 - EROSION CONTROL BLANKET (S.Y.)

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	ADDENDUMS / REVISIONS		SCALE: AS NOTED	BR 1-238 ON ELIZABETH COURT OVER TRIBUTARY TO WHITE CLAY CREEK	CONTRACT	BRIDGE NO.	1-238	SHEET NO. 7	
					T201507103	DESIGNED BY: GML & JWK	BRIDGE SECTION & ELEVATION		TOTAL SHTS.
					COUNTY	CHECKED BY: CAS			17
					NEW CASTLE				

BORING: B-3 (BR 1-238)	DATE DRILLED: 8/28/14
STATION: 5+50.15	OFFSET: -4.66 FT
ELEVATION: 47.88	NORTHING: 616894
COMMENTS: N/A	EASTING: 573733

B-1 CONT. (BR 1-238)

SAMPLE INFORMATION					
NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0	16	MOIST MEDIUM DENSE BROWN FINE GRAVEL W/SOME COARSE TO FINE SAND AND SILT.	A-1-A	
		10			
2	0.5	11	WET VERY STIFF BROWN CLAYEY FINE SANDY SILT W/TRACE COARSE SAND AND FINE GRAVEL.	A-4(2)	
		7			
3	2.0	10	WET MEDIUM DENSE BROWN SILTY FINE SAND W/SOME COARSE SAND AND FINE GRAVEL.	A-2-4(0)	
		9			
4	4.0	7	NO SIEVE ANALYSIS - INDICATION OF WET MEDIUM DENSE BROWN SILTY FINE SAND W/SOME COARSE SAND AND FINE GRAVEL.		
		6			
5	6.0	5	NO SIEVE ANALYSIS - INDICATION OF WET MEDIUM DENSE BROWN SILTY FINE SAND W/SOME COARSE SAND AND FINE GRAVEL.		
		13			
6	8.0	12	WET MEDIUM DENSE BROWN COARSE SANDY FINE GRAVEL W/SOME FINE SAND, TRACE OF SILT.	A-1-A	
		13			
7	10.0	6	SATURATED MEDIUM DENSE BROWN CLAYEY FINE SAND W/SOME COARSE SAND, FINE GRAVEL AND SILT.	A-2-7(1)	BOTTOM OF EXISTING CMP'S
		7			
8	12.0	10	SATURATED VERY STIFF BROWN CLAYEY FINE SAND W/SOME COARSE FINE GRAVEL.	A-4(0)	
		16			
9	14.0	11	SATURATED MEDIUM DENSE BROWN SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
		13			
10	16.0	9	SATURATED DENSE BROWN SILTY COARSE TO FINE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
		16			
11	18.0	26	SATURATED DENSE BROWN SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
		21			
	23.0	31	END BORING		
	25.0				

BORING: B-4 (BR 1-238)	DATE DRILLED: 8/28/14
STATION: 6+89.06	OFFSET: 4.73 FT
ELEVATION: 47.21	NORTHING: 616933
COMMENTS: N/A	EASTING: 573725

SAMPLE INFORMATION					
NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0	14	NO SIEVE ANALYSIS - INDICATION OF MOIST DENSE BROWN SILTY FINE TO COARSE W/SOME FINE GRAVEL.		
		18			
2	1.0	8	MOIST VERY STIFF BROWN FINE GRAVELLY SILT W/SOME CLAY, TRACE OF COARSE TO FINE SAND.	A-4(0)	
		9			
3	2.0	17	MOIST MEDIUM DENSE BROWN SILTY FINE GRAVEL W/SOME COARSE TO FINE SAND.	A-2-4(0)	
		10			
4	4.0	11	MOIST LOOSE BROWN FINE GRAVEL W/SOME FINE TO COARSE SAND AND SILT.	A-1-B	
		13			
5	6.0	4	WET LOOSE BROWN SILTY COARSE SANDY FINE GRAVEL W/SOME FINE SAND.	A-2-4(0)	
		4			
6	8.0	4	SATURATED VERY STIFF BROWN FINE TO COARSE SANDY SILT.	A-5(0)	
		6			
7	10.0	8	SATURATED VERY STIFF BROWN FINE TO COARSE SANDY SILT.		BOTTOM OF EXISTING CMP'S
		9			
8	12.0	50	NO SIEVE ANALYSIS - INDICATION OF SATURATED HARD BROWN FINE TO COARSE SANDY SILT.		
		50			
9	14.0	16	SATURATED HARD BROWN CLAYEY FINE SANDY SILT W/SOME COARSE SAND, TRACE OF FINE GRAVEL.	A-5(1)	
		50			
10	16.0	13	SATURATED HARD BROWN FINE TO COARSE SANDY CLAY W/SOME SILT, TRACE OF FINE GRAVEL.	A-7-5(5)	
		14			
11	18.0	50	NO SAMPLE		
		50			
	23.0		END BORING		
	25.0				

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ADDENDUMS / REVISIONS

NOT TO SCALE

**BR 1-238 ON ELIZABETH COURT  
OVER TRIBUTARY TO  
WHITE CLAY CREEK**

CONTRACT	BRIDGE NO.	<b>1-238</b>
T201507103	DESIGNED BY:	GML
COUNTY	CHECKED BY:	CAS
NEW CASTLE		

**SOIL BORINGS**

SHEET NO.	8
TOTAL SHTS.	17





ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

A. THE PURPOSE OF THESE SHEETS 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 THESE SHEETS 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): NWP \*3 (A) AND (C) (NO PCN)  
 DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT IS CONSISTENT WITH DEL. CODE CH. 72, SECTION 7217, SPECIAL EXEMPTION (B)  
 DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED (PROJECT IS NOT LOCATED IN CRW)  
 NEW CASTLE COUNTY DEPT. OF LAND USE: FLOODPLAIN APPROVAL\*\* - NONE  
 NATIONAL PARK SERVICE (NPS): APPROVED

NOTE: THE ABSENCE OF ASTERISKS AFTER A PERMIT (COE, WLSL, WQC, CZM, NPS) INDICATES THAT COORDINATION HAS BEEN DONE WITH THAT AGENCY BUT NO WRITTEN AUTHORIZATION WAS REQUIRED. AS SUCH, NO PAPERWORK FROM THAT AGENCY SHOULD BE ANTICIPATED.

\* 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. AS A RESULT OF THE CURRENT PROJECT COORDINATION, THIS PROJECT IS CONSISTENT WITH STIPULATION II.A.4 OF DELDOT'S PROGRAMMATIC AGREEMENT WITH DE STATE HISTORIC PRESERVATION OFFICE (DE SHPO), FEDERAL HIGHWAY ADMINISTRATION (FHWA) AND ADVISORY COUNCIL ON HISTORIC PRESERVATION (ACHP). THERE ARE NO CULTURAL RESOURCE CONCERNS AS LONG AS THE PROJECT SCOPE IS NOT MODIFIED AND ALL STAGING AND STOCKPILING REMAINS WITHIN THE EXISTING ROADWAY FOOTPRINT. SHOULD IT BE NECESSARY TO ADD ADDITIONAL ACCESS LOCATIONS OR OTHER STOCKPILING/STAGING AREAS, DELDOT ENVIRONMENTAL STUDIES STAFF WILL NEED TO REVIEW THESE AREAS FOR POTENTIAL CULTURAL AND OR NATURAL RESOURCES CONCERNS.

4. STREAM RESTORATION AND RIPRAP TREATMENT

A. FOLLOW THE SPECIAL PROVISION FOR ITEM 712531 CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFF-SITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL MUST CONFORM TO THE REQUIREMENTS OF ITEM 712531 CHANNEL BED FILL. RECESS ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) ONE FOOT BELOW STREAM BED ELEVATION AND CHOKE WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH SPECIFIED MATERIAL. PAYMENT UNDER ITEM 209002 BORROW, TYPE B. COVER THE RIPRAP WITH A MINIMUM OF 12" CHANNEL BED FILL. MATCH THE FINAL CHANNEL ELEVATIONS WITH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS WILL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM 712531 CHANNEL BED FILL.

B. RESTORE 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) TO EXISTING CONDITIONS. FILL ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES 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.

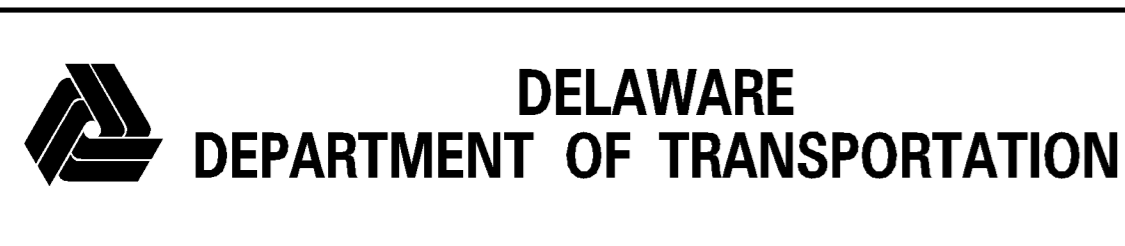
D. CHOKE ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, WITH DELAWARE #57 STONE. PLACE JUST ENOUGH CHOKE MATERIAL TO PREVENT THE LOSS OF TOPSOIL THROUGH THE RIPRAP, AND THEN FINISH FILLING THE VOIDS WITH TOPSOIL SO THAT THE RIPRAP PEAKS ARE BARELY VISIBLE. PLACE AN ADDITIONAL 4-INCH TOPSOIL LAYER ON TOP OF THE RIPRAP. SLOPE SEEDING WILL BE DONE WITH ITEM 908019 STREAMBANK SEED MIX, SEEDING, FOLLOWING THE SEEDING OPERATION, INSTALL ITEM 908020 EROSION CONTROL BLANKET (ECB) MULCH, OR OTHER BLANKET AS SHOWN ON THE PLANS. ECB AT TOE OF SLOPE CAN BE EITHER TRENCHED IN OR STAPLED AT 6" ON CENTER. COMPLETE ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING AND MULCHING PRIOR TO ANY RAIN EVENT. DELAWARE #57 STONE IS INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS WILL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

E. THE TOPSOIL/SEED/MULCH CAN BE PLACED BEFORE OR AFTER THE REMOVAL OF THE STREAM DIVERSION. IF THE PLACEMENT OCCURS AFTER STREAM DIVERSION REMOVAL, USE A TURBIDITY CURTAIN TO MINIMIZE IN-STREAM SEDIMENTATION. PAYMENT WILL BE INCIDENTAL TO ITEM 909005 STREAM DIVERSION.

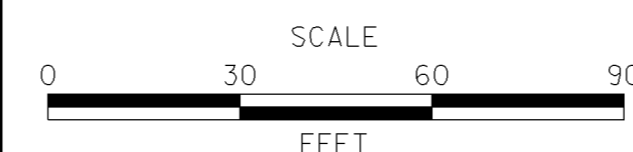
TEMPORARY OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OT-1	SANDBAG DIKE UPSTREAM	149.97	0.0034	8.33	COE/DNREC
OT-2	SANDBAG DIKE DOWNSTREAM	200.03	0.0046	11.52	COE/DNREC
OT-3	STABILIZED OUTFALL	25.00	0.0006	1.38	COE/DNREC
OT-4	SUMP PIT	13.09	0.0003	2.30	COE/DNREC
OT-5	STILLING WELL	40.00	0.0009	2.22	COE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		428.09	0.0098	25.75	COE/DNREC

PERMANENT OPEN WATER IMPACT AREA SCHEDULE					
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
0-1	PIPE TO CONCRETE LINER	1265.84	0.0291	21.91	COE/DNREC
0-2	UPSTREAM RIPRAP	295.18	0.0068	16.40	COE/DNREC
0-3	DOWNSTREAM RIPRAP	438.78	0.0100	24.37	COE/DNREC
TOTAL PERMANENT OPEN WATER IMPACTS		1999.80	0.0459	62.68	COE/DNREC

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ADDENDUMS / REVISIONS



**BR 1-238 ON ELIZABETH CT  
 OVER TRIBUTARY TO  
 WHITE CLAY CREEK**

CONTRACT	BRIDGE NO.	<b>1-238</b>
T201507103	DESIGNED BY: GML & JWK	
COUNTY	CHECKED BY: CAS	
NEW CASTLE		

**ENVIRONMENTAL  
 COMPLIANCE PLAN**

EC-01
SHEET NO.
9
TOTAL SHTS.
17

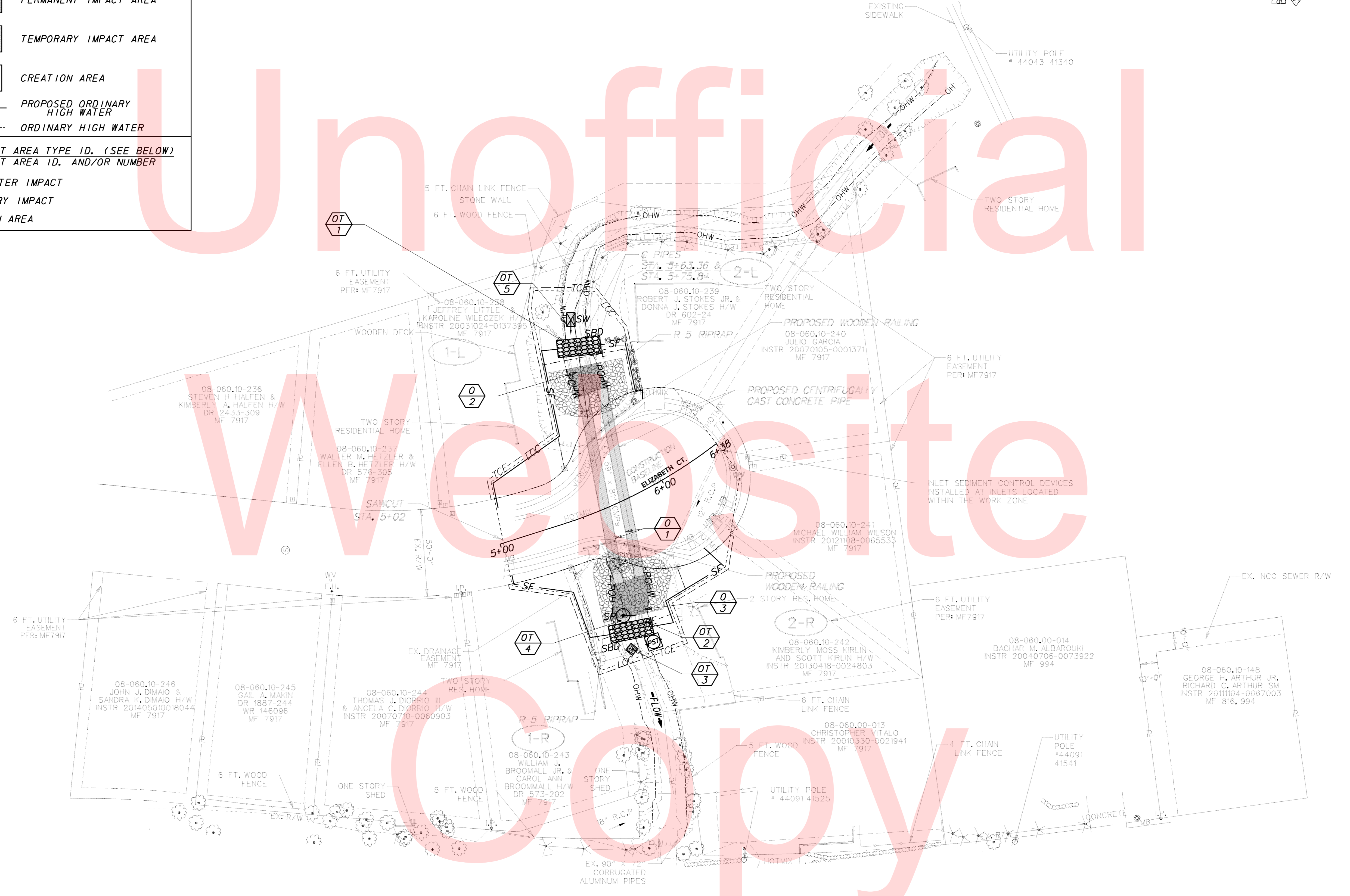


**LEGEND**

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- CREATION AREA
- POHW PROPOSED ORDINARY HIGH WATER
- OHW ORDINARY HIGH WATER

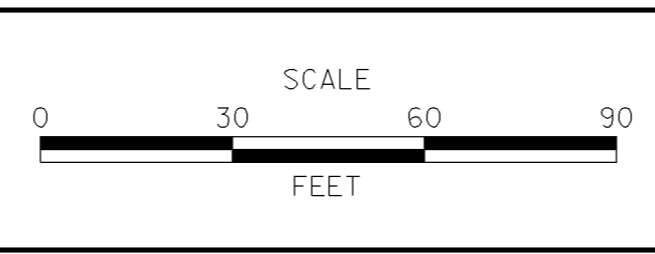
**IMPACT AREA TYPE ID. (SEE BELOW)**  
**IMPACT AREA ID. AND/OR NUMBER**

O = OPEN WATER IMPACT  
 T = TEMPORARY IMPACT  
 C = CREATION AREA



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ADDENDUMS / REVISIONS	



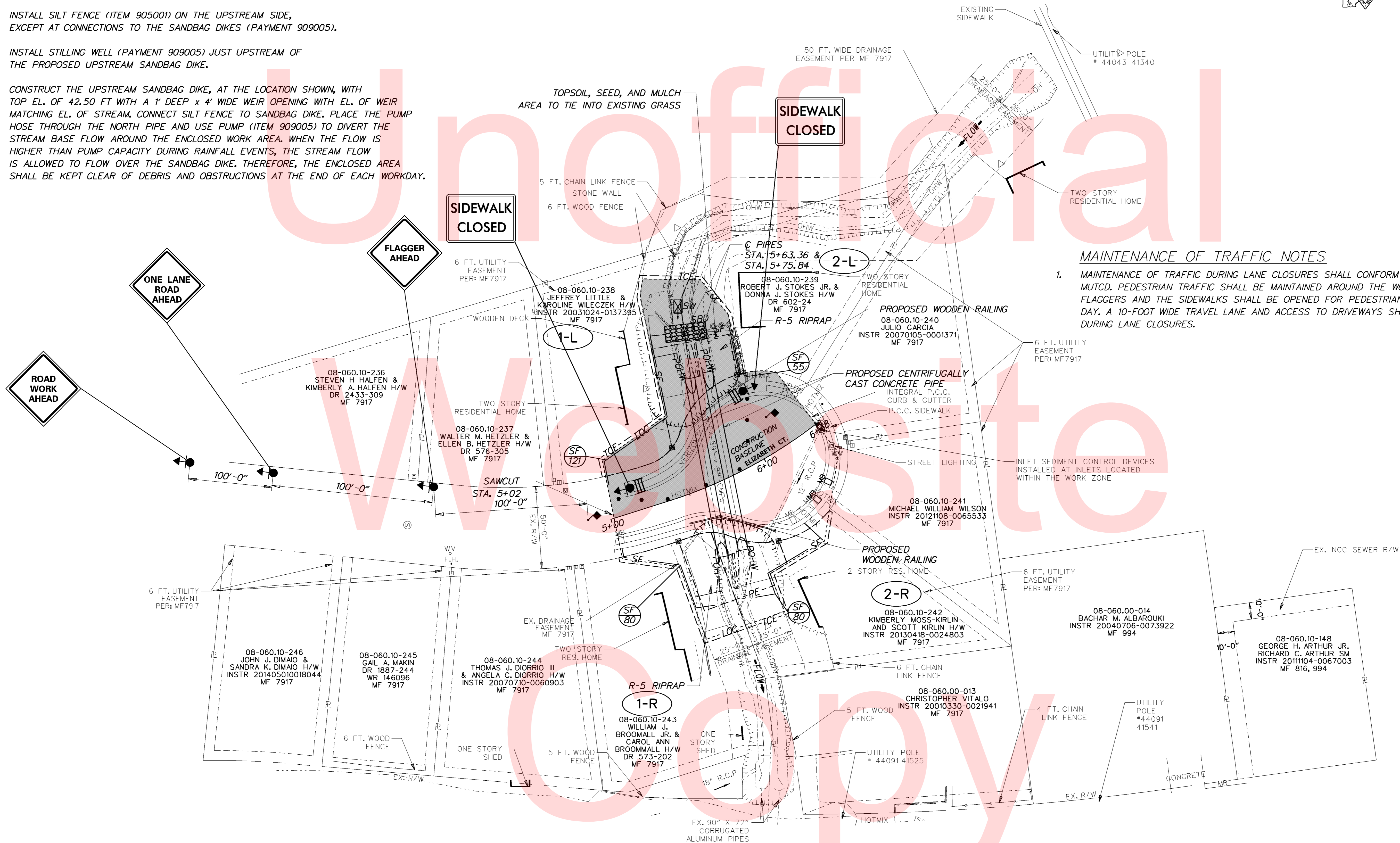
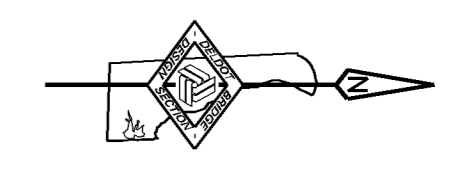
**BR 1-238 ON ELIZABETH COURT OVER TRIBUTARY TO WHITE CLAY CREEK**

CONTRACT	BRIDGE NO.	<b>1-238</b>
T201507103	DESIGNED BY:	GML & JWK
COUNTY	CHECKED BY:	CAS
NEW CASTLE		

<b>ENVIRONMENTAL COMPLIANCE PLAN</b>
SHEET NO.
10
TOTAL SHTS.
17

**CONSTRUCTION SEQUENCE**

1. INSTALL M.O.T. DEVICES IN ACCORDANCE WITH TA-10 OF THE DELAWARE MUTCD TO SHIFT TRAFFIC TO THE EAST SIDE OF THE ROADWAY. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED THROUGH THE WORK AREA USING FLAGGERS AND THE SIDEWALKS SHALL BE OPENED FOR PEDESTRIANS AT THE END OF EACH DAY.
2. INSTALL SILT FENCE (ITEM 905001) ON THE UPSTREAM SIDE, EXCEPT AT CONNECTIONS TO THE SANDBAG DIKES (PAYMENT 909005).
3. INSTALL STILLING WELL (PAYMENT 909005) JUST UPSTREAM OF THE PROPOSED UPSTREAM SANDBAG DIKE.
4. CONSTRUCT THE UPSTREAM SANDBAG DIKE, AT THE LOCATION SHOWN, WITH TOP EL. OF 42.50 FT WITH A 1' DEEP x 4' WIDE WEIR OPENING WITH EL. OF WEIR MATCHING EL. OF STREAM. CONNECT SILT FENCE TO SANDBAG DIKE. PLACE THE PUMP HOSE THROUGH THE NORTH PIPE AND USE PUMP (ITEM 909005) 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.



**MAINTENANCE OF TRAFFIC NOTES**

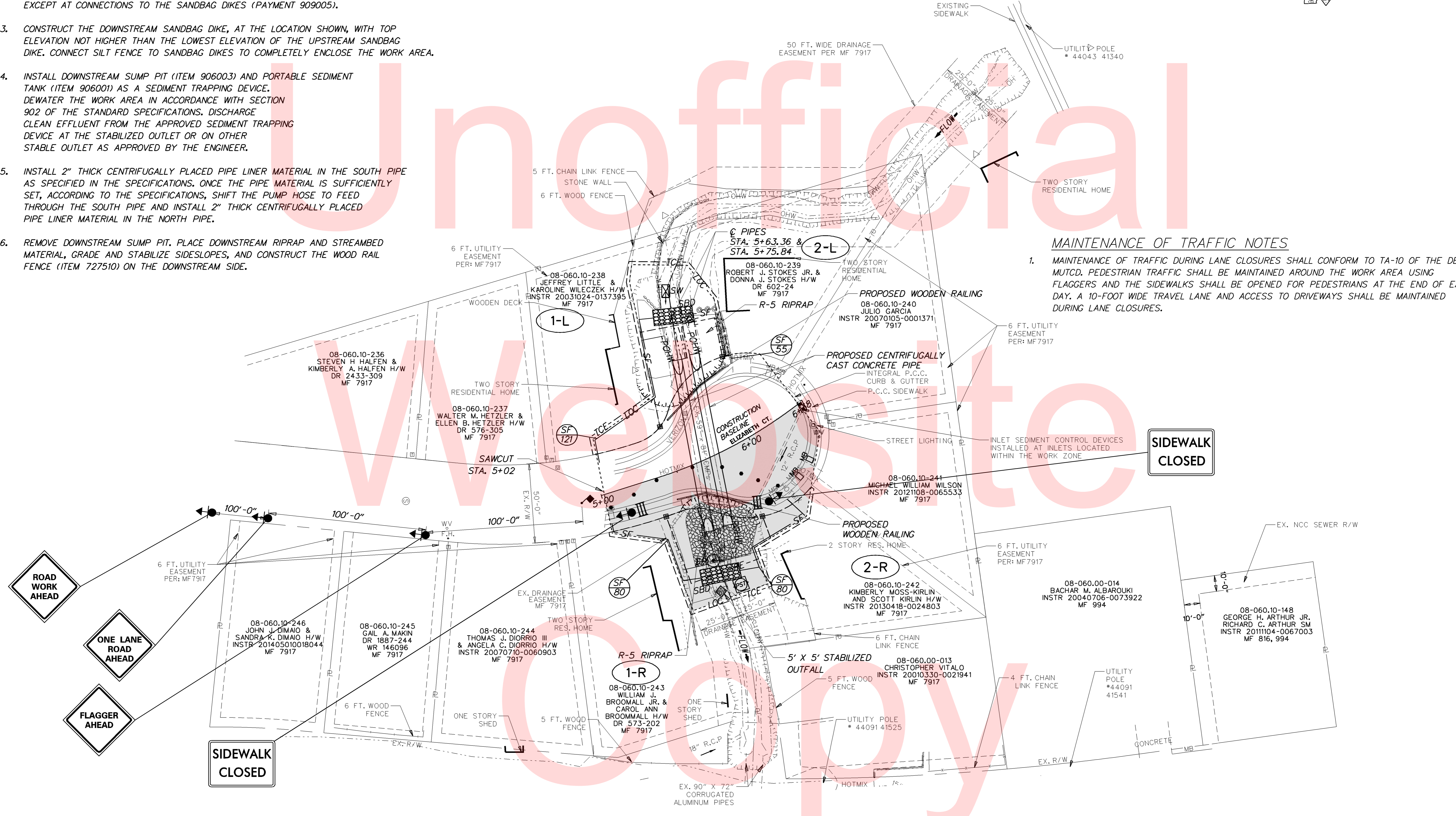
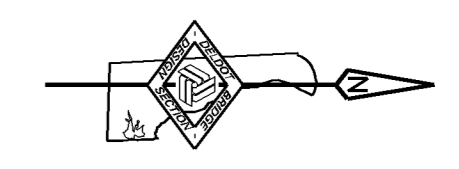
1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AROUND THE WORK AREA USING FLAGGERS AND THE SIDEWALKS SHALL BE OPENED FOR PEDESTRIANS AT THE END OF EACH DAY. A 10-FOOT WIDE TRAVEL LANE AND ACCESS TO DRIVEWAYS SHALL BE MAINTAINED DURING LANE CLOSURES.

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<p><b>DELAWARE DEPARTMENT OF TRANSPORTATION</b></p>	ADDENDUMS / REVISIONS		<p>SCALE</p> <p>0 30 60 90</p> <p>FEET</p>	<p><b>BR 1-238 ON ELIZABETH COURT OVER TRIBUTARY TO WHITE CLAY CREEK</b></p>		<p>CONTRACT</p> <p>T201507103</p>	<p>BRIDGE NO.</p> <p><b>1-238</b></p>	<p><b>CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1</b></p>	<p>SHEET NO.</p> <p>11</p>	
					<p>COUNTY</p> <p>NEW CASTLE</p>	<p>DESIGNED BY: GML &amp; JWK</p>	<p>CHECKED BY: CAS</p>		<p>TOTAL SHTS.</p> <p>17</p>	

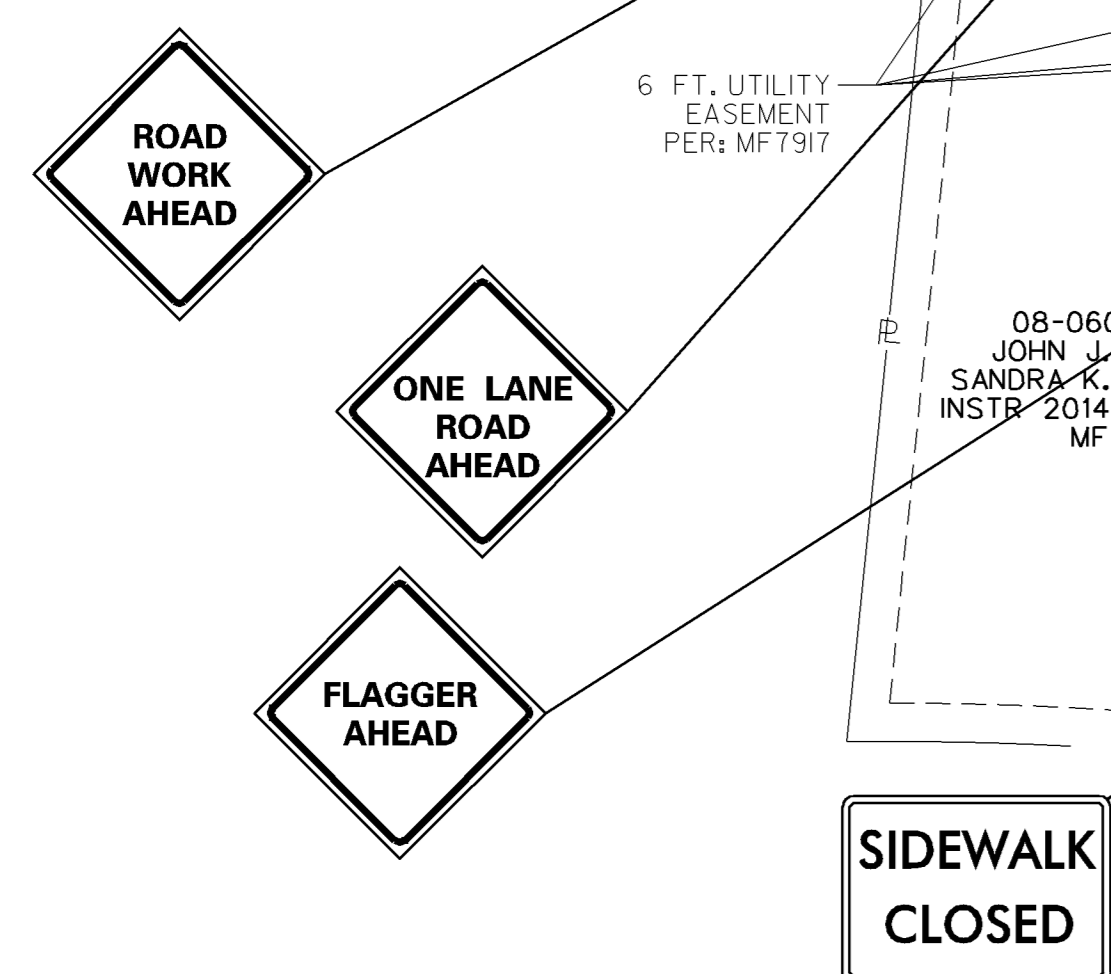
**CONSTRUCTION SEQUENCE**

1. REPOSITION M.O.T. DEVICES IN ACCORDANCE WITH TA-10 OF THE DELAWARE MUTCD TO SHIFT TRAFFIC TO THE WEST SIDE OF THE ROAD AS SHOWN ON THE PLANS.
2. INSTALL SILT FENCE (ITEM 905001) ON THE DOWNSTREAM SIDE, EXCEPT AT CONNECTIONS TO THE SANDBAG DIKES (PAYMENT 909005).
3. CONSTRUCT THE DOWNSTREAM SANDBAG DIKE, AT THE LOCATION SHOWN, WITH TOP ELEVATION NOT HIGHER THAN THE LOWEST ELEVATION OF THE UPSTREAM SANDBAG DIKE. CONNECT SILT FENCE TO SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA.
4. INSTALL DOWNSTREAM SUMP PIT (ITEM 906003) AND PORTABLE SEDIMENT TANK (ITEM 906001) AS A SEDIMENT TRAPPING DEVICE. DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 902 OF THE STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE STABILIZED OUTLET OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.
5. INSTALL 2" THICK CENTRIFUGALLY PLACED PIPE LINER MATERIAL IN THE SOUTH PIPE AS SPECIFIED IN THE SPECIFICATIONS. ONCE THE PIPE MATERIAL IS SUFFICIENTLY SET, ACCORDING TO THE SPECIFICATIONS, SHIFT THE PUMP HOSE TO FEED THROUGH THE SOUTH PIPE AND INSTALL 2" THICK CENTRIFUGALLY PLACED PIPE LINER MATERIAL IN THE NORTH PIPE.
6. REMOVE DOWNSTREAM SUMP PIT. PLACE DOWNSTREAM RIPRAP AND STREAMBED MATERIAL, GRADE AND STABILIZE SIDESLOPES, AND CONSTRUCT THE WOOD RAIL FENCE (ITEM 727510) ON THE DOWNSTREAM SIDE.



**MAINTENANCE OF TRAFFIC NOTES**

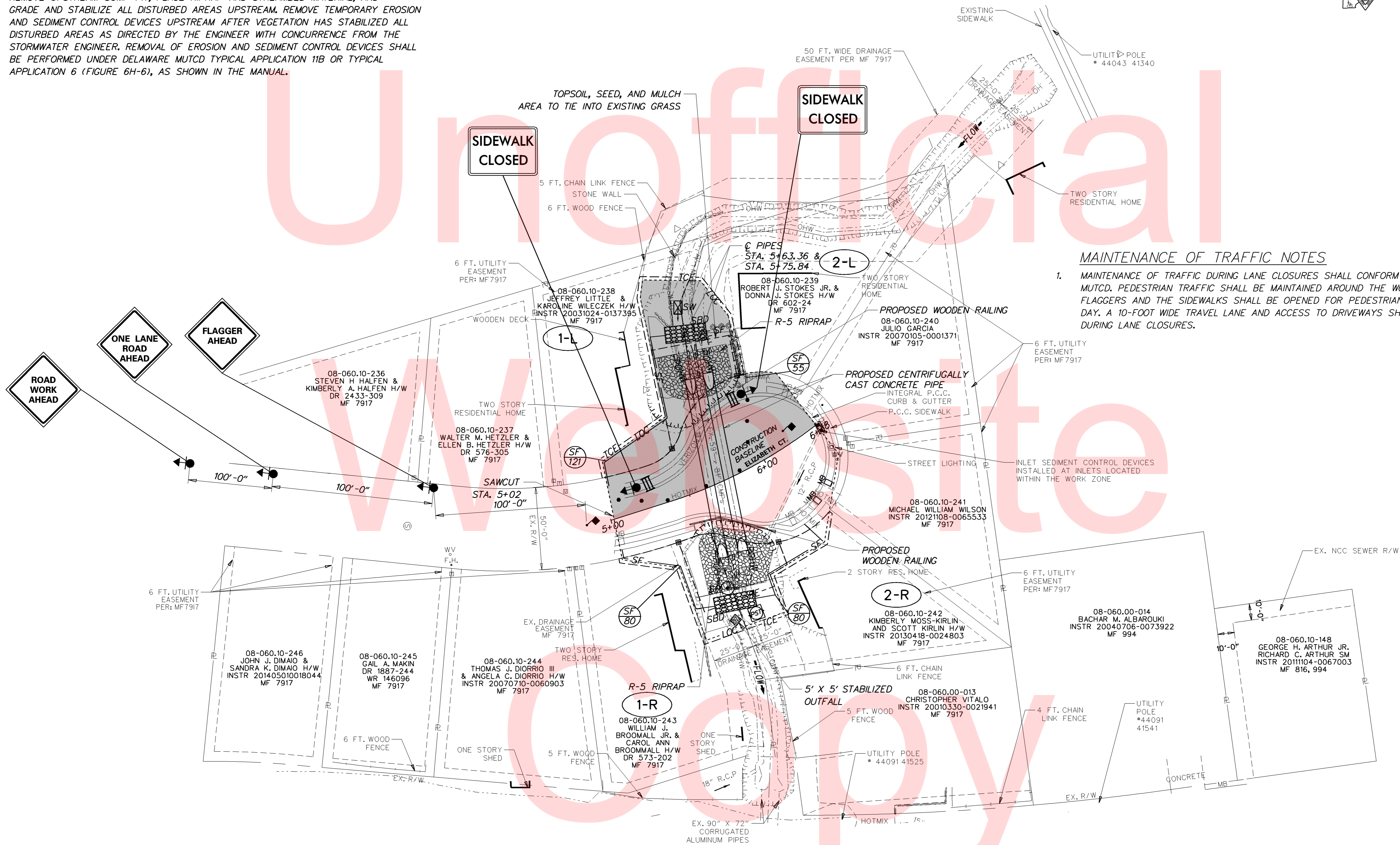
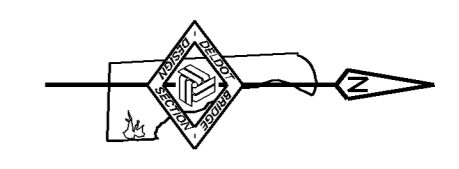
1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AROUND THE WORK AREA USING FLAGGERS AND THE SIDEWALKS SHALL BE OPENED FOR PEDESTRIANS AT THE END OF EACH DAY. A 10-FOOT WIDE TRAVEL LANE AND ACCESS TO DRIVEWAYS SHALL BE MAINTAINED DURING LANE CLOSURES.



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**CONSTRUCTION SEQUENCE**

1. REPOSITION M.O.T. DEVICES IN ACCORDANCE WITH TA-10 OF THE DELAWARE MUTCD TO SHIFT TRAFFIC TO THE EAST SIDE OF THE ROAD
2. REMOVE UPSTREAM SUMP PIT, PLACE RIPRAP AND STREAMBED MATERIAL, AND GRADE AND STABILIZE ALL DISTURBED AREAS UPSTREAM. REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES UPSTREAM AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS AS DIRECTED BY THE ENGINEER WITH CONCURRENCE FROM THE STORMWATER ENGINEER. REMOVAL OF EROSION AND SEDIMENT CONTROL DEVICES SHALL BE PERFORMED UNDER DELAWARE MUTCD TYPICAL APPLICATION 11B OR TYPICAL APPLICATION 6 (FIGURE 6H-6), AS SHOWN IN THE MANUAL.



**MAINTENANCE OF TRAFFIC NOTES**

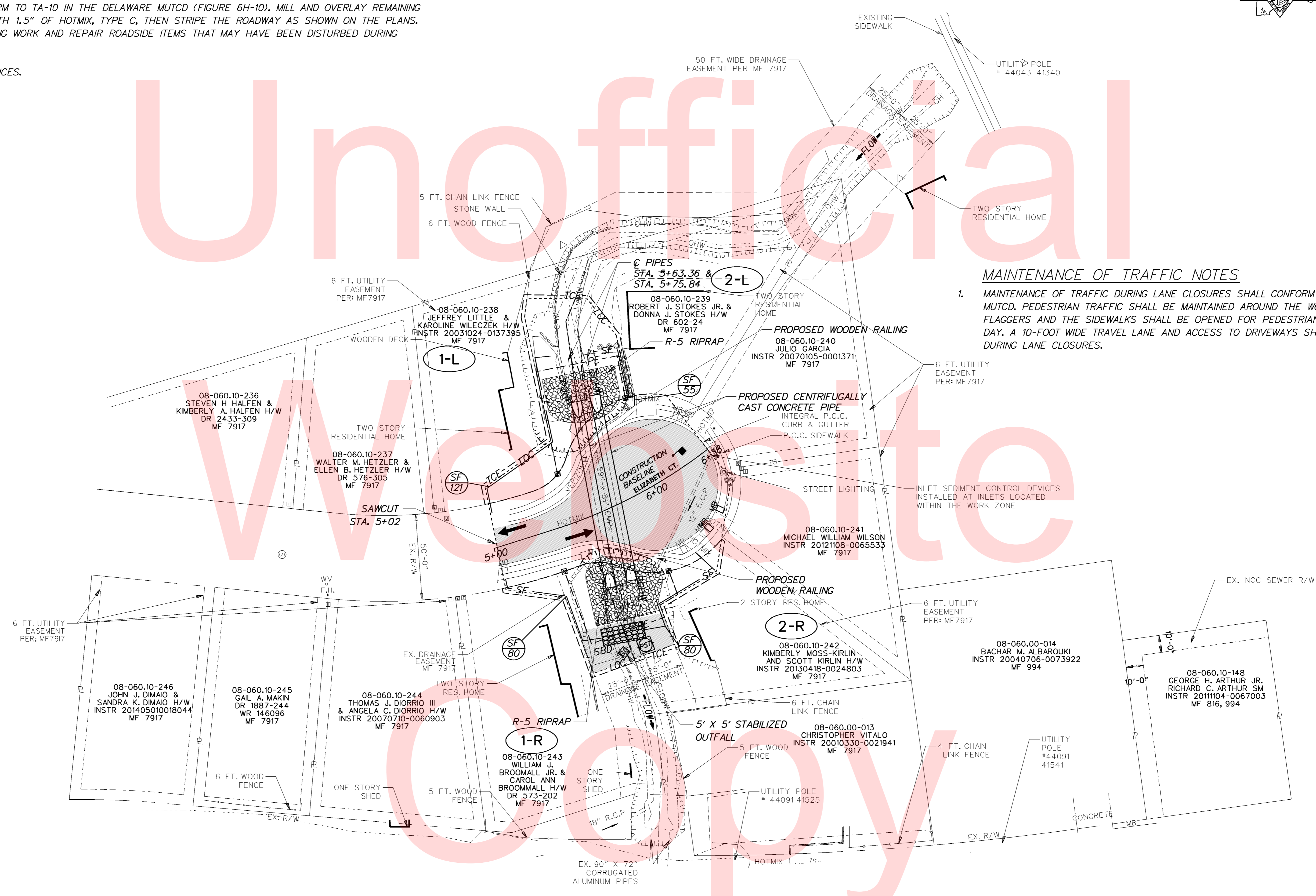
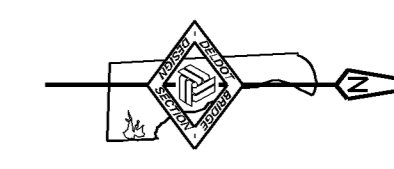
1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AROUND THE WORK AREA USING FLAGGERS AND THE SIDEWALKS SHALL BE OPENED FOR PEDESTRIANS AT THE END OF EACH DAY. A 10-FOOT WIDE TRAVEL LANE AND ACCESS TO DRIVEWAYS SHALL BE MAINTAINED DURING LANE CLOSURES.

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<p><b>DELAWARE DEPARTMENT OF TRANSPORTATION</b></p>	ADDENDUMS / REVISIONS		<p>SCALE</p> <p>FEET</p>	<p><b>BR 1-238 ON ELIZABETH COURT OVER TRIBUTARY TO WHITE CLAY CREEK</b></p>		<p>CONTRACT</p> <p>T201507103</p>	<p>BRIDGE NO.</p> <p><b>1-238</b></p>	<p><b>CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 3</b></p>	<p>SHEET NO.</p> <p>13</p>
						<p>COUNTY</p> <p>NEW CASTLE</p>	<p>DESIGNED BY: GML &amp; JWK</p>		<p>TOTAL SHTS.</p> <p>17</p>
						<p>CHECKED BY: CAS</p>			

CONSTRUCTION SEQUENCE

1. REMOVE DOWNSTREAM DIVERSION AND TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES. GRADE AND STABILIZE ALL DISTURBED AREAS DOWNSTREAM.
2. SHIFT M.O.T. TO CONFORM TO TA-10 IN THE DELAWARE MUTCD (FIGURE 6H-10). MILL AND OVERLAY REMAINING WIDTH OF THE ROAD WITH 1.5" OF HOTMIX, TYPE C, THEN STRIPE THE ROADWAY AS SHOWN ON THE PLANS. COMPLETE ANY REMAINING WORK AND REPAIR ROADSIDE ITEMS THAT MAY HAVE BEEN DISTURBED DURING CONSTRUCTION.
3. REMOVE ALL M.O.T. DEVICES.

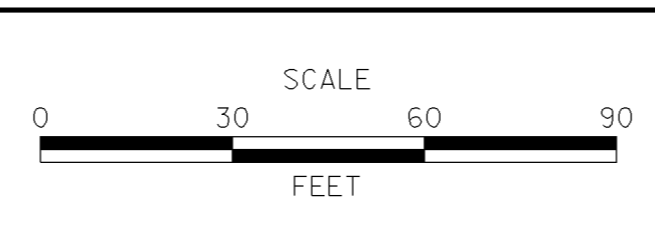


MAINTENANCE OF TRAFFIC NOTES

1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD. PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AROUND THE WORK AREA USING FLAGGERS AND THE SIDEWALKS SHALL BE OPENED FOR PEDESTRIANS AT THE END OF EACH DAY. A 10-FOOT WIDE TRAVEL LANE AND ACCESS TO DRIVEWAYS SHALL BE MAINTAINED DURING LANE CLOSURES.

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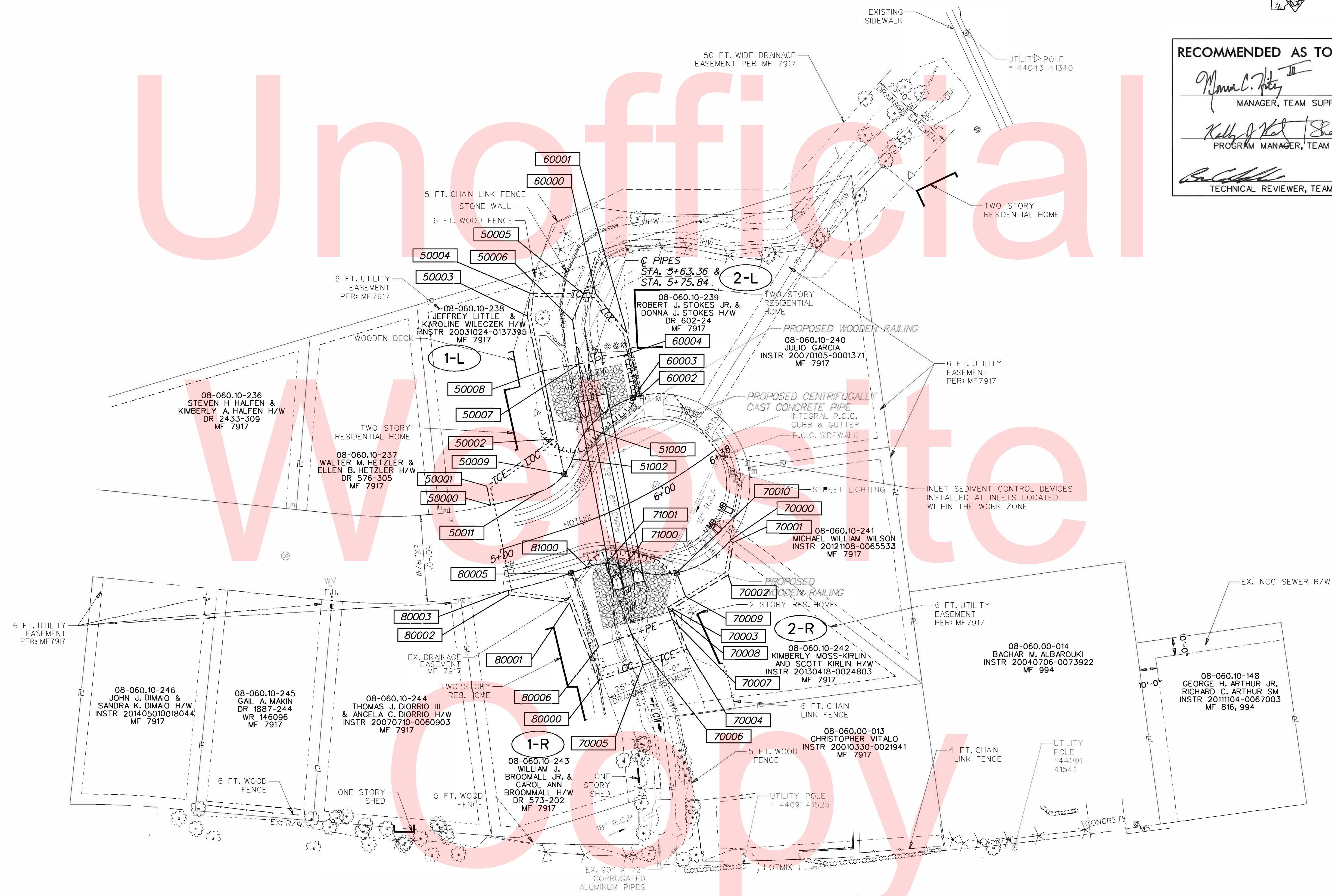
ADDENDUMS / REVISIONS	



CONTRACT	T201507103	BRIDGE NO.	<b>1-238</b>
COUNTY	NEW CASTLE	DESIGNED BY:	GML & JWJ
		CHECKED BY:	CAS



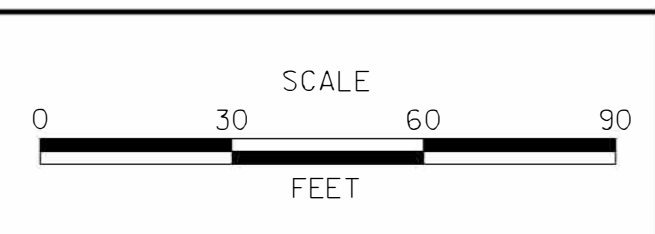
RECOMMENDED AS TO ENGINEERING NEED	
<i>Myron C. Pity</i> MANAGER, TEAM SUPPORT	7/13/16 DATE
<i>Kelly J. Kat / Shelby Candel</i> PROGRAM MANAGER, TEAM SUPPORT	7/13/16 DATE
<i>Ben C. ...</i> TECHNICAL REVIEWER, TEAM SUPPORT	7/13/16 DATE



NOTE: PARCELS 0806010238 THROUGH 0806010247 HAVE THE FOLLOWING EXISTING EASEMENTS AND RIGHTS OF WAY: A 20' WIDE SANITARY SEWER AND STORMWATER EASEMENT WITHIN R/W AND 10' WIDE EASEMENT IN PRIVATELY PAVED AREAS (10' AND 5' FROM C.L. OF PIPE RESPECTIVELY), DP&L EASEMENT 10' FROM C.L. EACH SIDE OF UTILITY, DST BLANKET EASEMENT, ROLLINS CABLE BLANKET EASEMENT, 6 FT. UTILITY EASEMENT ALONG PROPERTY LINES OF PARCELS.

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ADDENDUMS / REVISIONS



CONTRACT T201507103	BRIDGE NO. <b>1-238</b>
COUNTY NEW CASTLE	DESIGNED BY: GML & JWJ
	CHECKED BY: CAS

<b>RIGHT-OF-WAY PLAN SHEET 1 OF 3</b>	SHEET NO. 15
	TOTAL SHTS. 17

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-238	(1-L) JEFFREY LITTLE & KAROLINE WILECZEK H/W	P/E	INSTR 20031024-013795	0.260							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
50009	4000	5+49.68	-29.98	616884.6562	573709.1472	S 78°06' 59.12" W	60.85				
50008	4000	5+62.43	-90.00	616872.1261	573649.6032	N 11°03' 30.98" W	21.29				
50007	4000	5+92.15	-84.62	616893.0248	573645.5187	N 81°56' 55.43" E	37.60				
51000	4000	5+76.16	-49.06	616898.2911	573682.7486			S 63°07' 43.53" E	19.70	19.82	-52.00
51002	4000	5+58.26	-36.52	616889.3859	573700.3236			S 61°48' 27.60" E	10.01	10.06	30.00
50009	4000	5+49.68	-29.98	616884.6562	573709.1472						
FIGURE 51000 AREA = 963.8024 SQ. FT. (0.0221 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-238	(1-L) JEFFREY LITTLE & KAROLINE WILECZEK H/W	TCE	INSTR 20031024-013795	0.260							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
50000	4000	5+02.68	-25.98	616842.4213	573726.9414	S 78°23' 27.40" W	11.19				
50001	4000	5+03.84	-37.11	616840.1699	573715.9821	N 35°17' 45.71" W	46.79				
50002	4000	5+50.95	-51.11	616878.3612	573688.9451	S 78°06' 59.12" W	72.58				
50003	4000	5+69.76	-122.54	616863.4156	573617.9224	N 82°55' 18.73" W	13.17				
50004	4000	5+82.62	-133.64	616865.0382	573604.8552	N 0°42' 48.78" E	30.67				
50005	4000	6+29.08	-117.28	616895.7104	573605.2372	S 67°37' 34.85" E	16.40				
50006	4000	6+06.53	-108.14	616889.4673	573620.4038	N 81°56' 16.15" E	25.37				
50007	4000	5+92.15	-84.62	616893.0248	573645.5187	S 11°03' 30.98" E	21.29				
50008	4000	5+62.43	-90.00	616872.1261	573649.6032	N 78°06' 59.12" E	60.85				
50009	4000	5+49.68	-29.98	616884.6562	573709.1472			S 35°22' 15.92" E	17.37	17.63	30.00
50011	4000	5+31.78	-24.91	616870.4895	573719.2042			S 15°24' 40.29" E	29.12	29.13	275.00
50000	4000	5+02.68	-25.98	616842.4213	573726.9414						
FIGURE 50000 AREA = 2042.1078 SQ. FT. (0.469 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-239	(2-L) ROBERT J. STOKES JR. & DONNA J. STOKES H/W	P/E	DR 602-24	0.260							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
51000	4000	5+76.16	-49.06	616898.2911	573682.7486	S 81°56' 55.43" W	37.60				
50007	4000	5+92.15	-84.62	616893.0248	573645.5187	N 11°03' 30.98" W	26.71				
60004	4000	6+26.79	-75.00	616919.2403	573640.3951	N 78°58' 17.58" E	25.00				
60003	4000	6+14.06	-52.03	616924.0229	573664.9344			S 34°41' 41.90" E	31.30	31.79	-52.00
51000	4000	5+76.16	-49.06	616898.2911	573682.7486						
FIGURE 61000 AREA = 809.2817 SQ. FT. (0.0186 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-239	(2-L) ROBERT J. STOKES JR. & DONNA J. STOKES H/W	TCE	DR 602-24	0.260							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
50007	4000	5+92.15	-84.62	616893.0248	573645.5187	S 81°56' 55.43" W	25.37				
50006	4000	6+06.53	-108.14	616889.4673	573620.4038	N 67°37' 34.85" W	16.40				
50005	4000	6+29.08	-117.28	616895.7104	573605.2372	N 0°42' 48.78" E	7.17				
60000	4000	6+35.72	-112.94	616902.8787	573605.3265	N 51°21' 42.82" E	28.41				
60001	4000	6+36.76	-84.55	616920.6173	573627.5170	N 78°06' 59.12" E	37.10				
60002	4000	6+19.11	-50.62	616928.2563	573663.8183			S 14°46' 08.14" E	4.38	4.38	-52.00
60003	4000	6+14.06	-52.03	616924.0229	573664.9344	S 78°58' 17.58" W	25.00				
60004	4000	6+26.79	-75.00	616919.2403	573640.3951	S 11°03' 30.98" E	26.71				
50007	4000	5+92.15	-84.62	616893.0248	573645.5187						
FIGURE 60000 AREA = 1009.6120 SQ. FT. (0.0232 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-243	(1-R) WILLIAM J. BROOMMALL JR. & CAROL ANN BROOMMALL H/W	P/E	DR 573-202	0.320							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
81000	4000	5+44.30	24.73	616897.9630	573762.4768	N 10°23' 48.32" W	10.64		10.69	30.00	
71001	4000	5+53.93	26.51	616908.4250	573760.5573	N 69°50' 06.57" E	43.24				
70006	4000	5+53.44	69.74	616923.3295	573801.1432	S 19°59' 36.19" E	20.15				
80006	4000	5+37.26	70.00	616904.3965	573808.0318	S 69°27' 10.72" W	45.05				
80005	4000	5+35.00	25.01	616888.5841	573765.8450			N 19°45' 15.00" W	9.97	9.97	-325.00
81000	4000	5+44.30	24.73	616897.9630	573762.4768						
FIGURE 81000 AREA = 907.5968 SQ. FT. (0.0208 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-243	(1-R) WILLIAM J. BROOMMALL JR. & CAROL ANN BROOMMALL H/W	TCE	DR 573-202	0.320							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT, -											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
80000	4000	5+31.30	88.87	616904.2696	573827.8516	S 69°43' 01.91" W	47.99				
80001	4000	5+28.98	40.93	616887.6321	573782.8330	S 7°16' 50.06" W	34.92				
80002				616852.9960	573778.4079	S 78°23' 22.21" W	2.56				
80003				616852.4817	573775.9048			N 15°34' 13.12" W	37.48	37.50	-325.00
80005	4000	5+35.00	25.01	616888.5841	573765.8450	N 69°27' 10.72" E	45.05				
80006	4000	5+37.26	70.00	616904.3965	573808.0318	N 19°59' 36.19" E	20.15				
70006	4000	5+53.44	69.74	616923.3295	573801.1432	N 69°27' 10.72" E	18.71				
70005	4000	5+53.35	88.45	616929.8978	573818.6671	S 19°42' 59.80" E	27.22				
80000	4000	5+31.30	88.87	616904.2696	573827.8516						
FIGURE 80000 AREA = 1094.5936 SQ. FT. (0.0251 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-242	(2-R) KIMBERLY MOSS-KIRLIN & SCOTT KIRLIN H/W	P/E	INSTR 20130418-0024803	0.230							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
70006	4000	5+53.44	69.74	616923.3295	573801.1432	S 69°50' 06.57" W	43.24				
71000	4000	5+53.93	26.51	616908.4250	573760.5573			N 10°01' 32.08" E	10.64	10.69	30.00
71001	4000	5+62.12	32.12	616918.8992	573762.4090			N 6°06' 44.68" E	30.56	31.02	-52.00
70010	4000	5+85.09	47.89	616949.2833	573765.6628	N 69°16' 57.21" E	14.66				
70009	4000	5+83.72	62.46	616954.4697	573779.3754	S 31°02' 37.75" E	12.00				
70008	4000	5+73.93	63.52	616944.1884	573785.5638	N 69°27' 10.72" E	7.51				
70007	4000	5+73.47	71.00	616946.8239	573792.5950	S 69°27' 10.72" E	7.51				
70006	4000	5+53.44	69.74	616923.3295	573801.1432	S 19°59' 36.19" E	25.00				
FIGURE 71000 AREA = 1084.6722 SQ. FT. (0.0249 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD	TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)							
08-060.10-242	(2-R) KIMBERLY MOSS-KIRLIN & SCOTT KIRLIN H/W	TCE	INSTR 20130418-0024803	0.230							
ALIGNMENT NUMBER & DESCRIPTION: 4000 - ELIZABETH COURT											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
70000	4000	6+15.90	47.34	616980.0323	573747.0436	N 37°47' 55.45" E	2.19				
70001	4000	6+16.50	49.42	616981.7614	573748.3848	S 81°00' 34.38" E	18.89				
70002	4000	6+06.05	63.57	616978.8087	573767.0476	S 31°02' 37.75" E	37.54				
70003	4000	5+75.45	65.32	616946.6449	573786.4071	N 69°27' 48.00" E	24.72				
70004	4000	5+73.89	89.97	616955.3173	573809.5572	S 19°42' 59.80" W	27.00				
70005	4000	5+53.35	88.45	616929.8978	573818.6671	S 69°27' 10.72" E	18.71				
70006	4000	5+53.44	69.74	616923.3295	573801.1432	N 19°59' 36.19" W	25.00				
70007	4000	5+73.47	71.00	616946.8239	573792.5950	S 69°27' 10.72" W	7.51				
70008	4000	5+73.93	63.52	616944.1884	573785.5638	N 31°02' 37.75" W	12.00				
70009	4000	5+83.72	62.46	616954.4697	573779.3754	S 69°16' 57.21" W	14.66				
70010	4000	5+85.09	47.89	616949.2833	573765.6628			N 31°11' 44.63" W	35.95	36.70	-52.00
70000	4000	6+15.90	47.34	616980.0323	573747.0436						
FIGURE 70000 AREA = 1005.5918 SQ. FT. (0.0231 ACRES)											



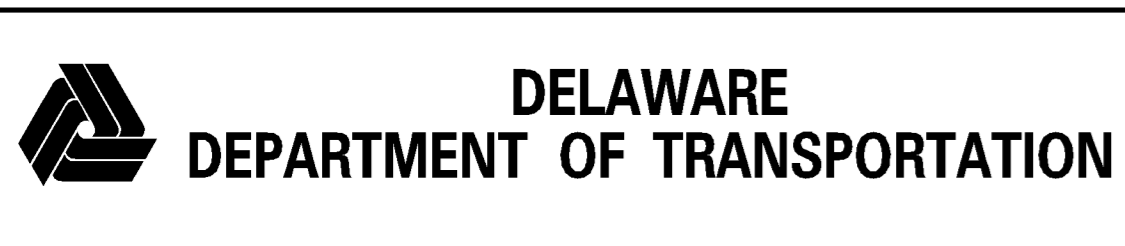
COUNTY ASSESSMENT PARCEL NUMBER	PLAN SHEET NUMBER	OWNERSHIP OF RECORD	TITLE SOURCE	PROPERTY AREA BEFORE ACQUISITION (ACRE)  D=DEED C=CALCULATED A=ASSESSMENT	ACQUISITION CODE  FEE, R/W, P/E, TCE	AREA TO BE ACQUIRED				PROPERTY AREA REMAINING (SQ. FEET /ACRES)	DEED RECORD OF ACQUISITION	REMARKS
						ACQUISITION (SQ. FEET /ACRES)	AREA OCCUPIED BY EXISTING RIGHT OF WAY (SQ. FEET /ACRES)	EASEMENT				
								PERMANENT (SQ. FEET /ACRES)	TEMPORARY (SQ. FEET /ACRES)			
08-060.10-238	13	(1-L) JEFFREY LITTLE & KAROLINE WILECZEK H/W	INSTR 20031024-013795	D - 0.26	P/E			963.8024 / 0.02			963.8024 SF (0.02 AC) IN EXISTING DRAINAGE EASEMENT 246.1270 SF (0.005 AC) IN EXISTING UTILITY EASEMENT	
					TCE				2042.1078 / 0.05	11326.00 / 0.26	1018.8896 SF (0.02 AC) IN EXISTING DRAINAGE EASEMENT 254.1880 SF (0.006 AC) IN EXISTING UTILITY EASEMENT	
08-060.10-239	13	(2-L) ROBERT J. STOKES JR. & DONNA J. STOKES H/W	DR 602-24	D - 0.26	P/E			809.2817 / 0.02			809.2817 SF (0.02 AC) IN EXISTING DRAINAGE EASEMENT 208.9118 SF (0.005 AC) IN EXISTING UTILITY EASEMENT	
					TCE				1009.612 / 0.02	11326.00 / 0.26	931.4171 SF (0.02 AC) IN EXISTING DRAINAGE EASEMENT 247.0146 SF (0.005 AC) IN EXISTING UTILITY EASEMENT	
08-060.10-243	13	(1-R) WILLIAM J. BROOMMALL JR. & CAROL ANN BROOMMALL H/W	DR 573-202	D - 0.32	TCE				1094.5936 / 0.03		684.8250 SF (0.015 AC) IN EXISTING DRAINAGE EASEMENT 112.1993 SF (0.0025 AC) IN EXISTING UTILITY EASEMENT	
					P/E			907.5968 / 0.02		13939.00 / 0.32	907.5968 SF (0.02 AC) IN EXISTING DRAINAGE EASEMENT 271.1740 SF (0.006 AC) IN EXISTING UTILITY EASEMENT	
08-060.10-242	13	(2-R) KIMBERLY MOSS-KIRLIN & SCOTT KIRLIN H/W	INSTR 20130418-0024803	D - 0.23	TCE				1005.5918 / 0.02		469.3693 SF (0.01 AC) IN EXISTING DRAINAGE EASEMENT 112.3732 SF (0.0025 AC) IN EXISTING UTILITY EASEMENT	
					P/E			1084.6722 / 0.02		10019.00 / 0.23	1084.6722 SF (0.02 AC) IN EXISTING DRAINAGE EASEMENT 245.9258 SF (0.005 AC) IN EXISTING UTILITY EASEMENT	

Unofficial

Website

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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

NOT TO SCALE

BR 1-238 ON ELIZABETH COURT  
OVER TRIBUTARY TO  
WHITE CLAY CREEK

CONTRACT T201507103	BRIDGE NO. 1-238
COUNTY NEW CASTLE	DESIGNED BY: JWK
	CHECKED BY: CAS

RIGHT-OF-WAY  
TABULATION SHEET

SHEET NO. 17
TOTAL SHTS. 17