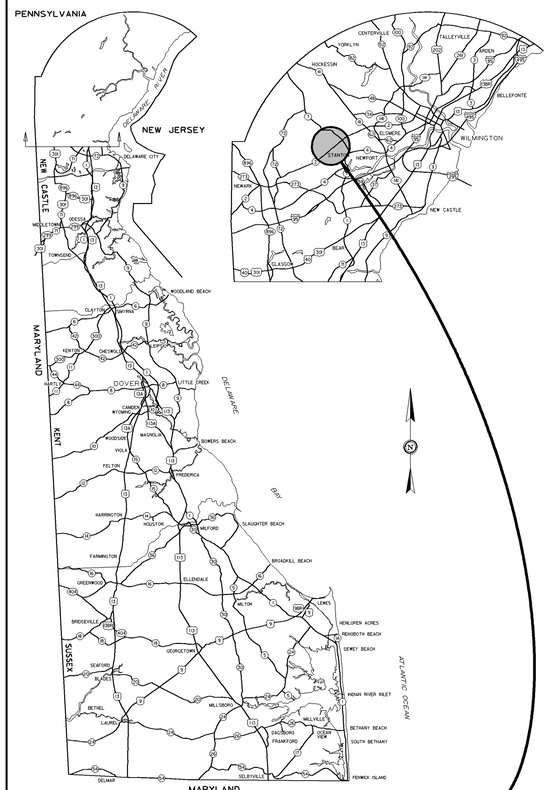


GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

CONSTRUCTION & RIGHT-OF-WAY PLANS FOR:

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

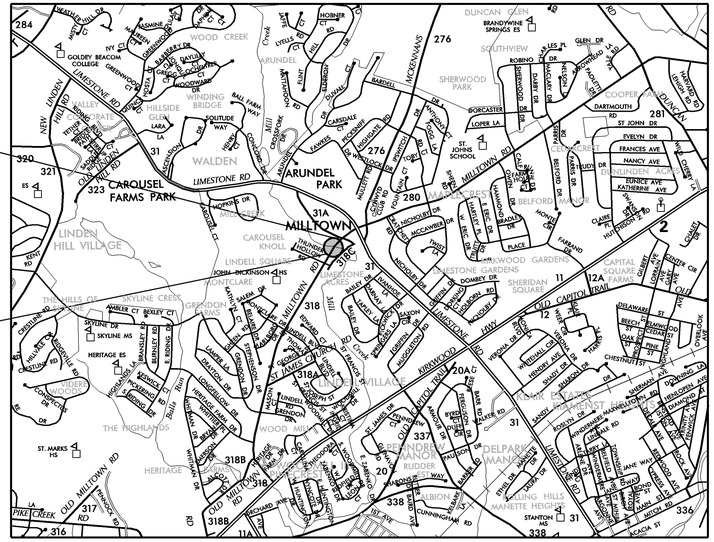
CONTRACT NUMBER: T201407402

FEDERAL AID PROJECT NUMBER: EBHOS-N318(04)

COUNTY: NEW CASTLE **M.R. #: N318**

END CONTRACT STATION 19+36.41

BEGIN CONTRACT STATION 10+27.44



RECOMMENDED

SQUAD MANAGER, CONSTRUCTION — DATE

GROUP ENGINEER, CONSTRUCTION — DATE

ASSISTANT DIRECTOR, TRANSPORTATION SOLUTIONS (CONSTRUCTION) — DATE

PRELIMINARY PLANS

DESIGN DESIGNATION

FUNCTIONAL CLASS: URBAN MINOR ARTERIAL	D.H.V. PROJECTED: 891	YEAR: 2040
TYPE OF CONSTRUCTION: DECK REPLACEMENT	DESIGN SPEED: 40 M.P.H.	
A.A.D.T. CURRENT: 11563 — YEAR: 2011	TRUCKS: 7%	
A.A.D.T. PROJECTED: 13500 — YEAR: 2040	DIRECTION OF DISTRIBUTION: 60 %	

INDEX OF SHEETS

SHEET Nº	TABLE OF CONTENTS
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2	LEGEND
3	NOTES
4	TYPICAL SECTIONS
5	HORIZONTAL AND VERTICAL CONTROL
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7	PROFILE
8	BRIDGE PLAN AND ELEVATION
9	EXISTING AND PROPOSED DECK SECTION
10	FRAMING PLAN
11	ENVIRONMENTAL NOTES
12	ENVIRONMENTAL COMPLIANCE PLAN
13	CONSTRUCTION PHASING
14	DETOUR PLAN
15	UTILITY RELOCATION PLAN
16	SIGNING, STRIPING, AND CONDUIT PLAN
17	RIGHT-OF-WAY PLAN

TOTAL SHEETS: 17

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
1638	MILLTOWN ROAD (KIRKWOOD HIGHWAY TO NEWPORT GAP TURNPIKE)
8307401	BRIDGE 191, CATHODIC PROTECTION
8807406	BRIDGE NO'S 74-C, 191, 531, 634, AND 655 IN N.C. CO. SLOPE PAVING REPAIRS

RECOMMENDED

STORMWATER ENGINEER

DATE _____ SEAL

RECOMMENDED

SQUAD MANAGER, BRIDGE DESIGN

DATE _____ SEAL

RECOMMENDED

BRIDGE DESIGN ENGINEER

DATE _____ SEAL

RECOMMENDED

ASSISTANT DIRECTOR, BRIDGE

DATE _____ SEAL

APPROVED

CHIEF ENGINEER

DATE _____ SEAL

LAST REVISED: 8/7/2008
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EXISTING SYMBOLS

DRAINAGE

	DITCH OR STREAM CENTERLINE
	DIRECTIONAL STREAM FLOW ARROW
C.B. / D.I.	DRAINAGE INLET
J.B.	DRAINAGE JUNCTION BOX
Ⓓ	DRAINAGE MANHOLE
SIZE/TYPE LABEL	DRAINAGE PIPE AND FLOW ARROW
	DRAINAGE PIPE HEADWALL
	RIPRAP - AREA FEATURE
	RIPRAP - LINEAR FEATURE

MANMADE ROADSIDE FEATURES

	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
(TYPE LABEL)	CURB
(TYPE LABEL)	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
F.P.	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
LAMP	LAMP AND POST - RESIDENTIAL
MB	MAILBOX
P.M.	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
WL	DELINEATED WETLAND BOUNDARY LINE
	WOODS LINE BOUNDARY

RIGHT-OF-WAY SYMBOLS

C.M.	PROPERTY MARKER - CONCRETE MON.
I.P.	PROPERTY MARKER - IRON PIPE
100+00	HISTORIC RIGHT-OF-WAY BASELINE
	EXISTING RIGHT-OF-WAY
	EXISTING PROPERTY LINE
EASEMENT TYPE	EXISTING EASEMENT
DA	EXISTING DENIAL OF ACCESS
R/W-DA	EXISTING R/W & DENIAL OF ACCESS

SURVEY CONTROL & MONUMENTATION

B.M.	SURVEY BENCHMARK LOCATION
T.P.	SURVEY TIE POINT LOCATION
△	SURVEY TRAVERSE POINT
⊙	POINT OF CURVATURE OR TANGENCY
⊙	POINT OF INTERSECTING TANGENTS

UTILITY

	SOIL BORING LOCATION
	UTILITY TEST HOLE LOCATION
CM	CABLE TV DISTRIBUTION BOX
Ⓔ	ELECTRIC MANHOLE
EM	ELECTRIC METER
E	ELECTRIC TRANSFORMER
	POLE MOUNTED LUMINAIRE
Ⓖ	GAS MANHOLE
G.M.	GAS METER
G.V.	GAS VALVE
G.P.	GAS PUMP - SERVICE STATION
	RAILROAD TRACKS
Ⓢ	SANITARY SEWER MANHOLE
S.V.	SANITARY SEWER VALVE
VENT	SANITARY SEWER VENT OR CLEANOUT
S.D.F.	SEPTIC DRAIN FIELD
B	TELEPHONE BOOTH
Ⓣ	TELEPHONE MANHOLE
T	TELEPHONE TEST POINT
J.W.	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
U	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
F.H.	WATER - FIRE HYDRANT
W.M.	WATER METER
W.V.	WATER VALVE
WELL	WELL HEAD
?	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES

DP-G	DELMARVA POWER - GAS
DP-E	DELMARVA POWER - ELECTRIC
VER	VERIZON
COM-C	COMCAST - CABLE
COM-FO	COMCAST - FIBER OPTIC
NCC-S	NEW CASTLE COUNTY - SEWER

PROPOSED SYMBOLS

CONSTRUCTION

	CONCRETE SAFETY BARRIER - PERMANENT
BFS	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
100+00	CONSTRUCTION BASELINE
CSF	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
CZ	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
HC	HORIZONTAL CLEARANCE
	IMPACT ATTENUATOR
	JUNCTION BOX - DRAINAGE
LOC	LIMIT OF CONSTRUCTION
MB	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
DA	PROPOSED DENIAL OF ACCESS
PE	PROPOSED PERMANENT EASEMENT
R/W	PROPOSED RIGHT-OF-WAY
R/W-DA	PROPOSED R/W & DENIAL OF ACCESS
TCE	TEMPORARY CONSTRUCTION EASEMENT
100+00	PROPOSED RIGHT-OF-WAY BASELINE

IDENTIFIERS

A/C	ADJUST BY CONTRACTOR
A/O	ADJUST BY OTHERS
B	CONCRETE SAFETY BARRIER
C	CURB OR CURB & GUTTER
CJB	CONVERT TO JUNCTION BOX
CMH	CONVERT TO DRAINAGE MANHOLE
CO	CURB OPENING
CR	CURB RAMP / TYPE
CR-N	CURB RAMP / TYPE - WITHOUT SIDEWALK SURFACE DETECTABLE WARNING SYSTEM
CSF	CONSTRUCTION SAFETY FENCE
DI	DRAINAGE INLET
DND	DO NOT DISTURB
ED	ENERGY DISSIPATOR
F	FENCE
FES	FLARED END SECTION
FF/C	FILL WITH FLOWABLE FILL
FS	FILTRATION STRUCTURE
GR	GUARDRAIL
JB	JUNCTION BOX
MH	MANHOLE
M	MONUMENT - RIGHT-OF-WAY
P	PIPE
RL/C	RELOCATE BY CONTRACTOR
RL/O	RELOCATE BY OTHERS
RM/C	REMOVE BY CONTRACTOR
RM/O	REMOVE BY OTHERS
UD	UNDERDRAIN / LENGTH
UDO	UNDERDRAIN OUTLET PIPE

LANDSCAPING

LS	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

TRAFFIC

ITMS-CON	ITMS CONDUIT
SIG-CON	SIGNAL CONDUIT
	CONDUIT JUNCTION WELL
	LUMINAIRE
	PAVEMENT MARKINGS
	PAVEMENT STRIPING
	TRAFFIC SIGN

PAVEMENT SECTION(S)

	TBD
	TBD
	TBD

UTILITY COMPANY FACILITIES

DCE	DELAWARE ELECTRIC COOPERATIVE
DPL	DP&L ELECTRIC
VER	VERIZON

EROSION & SEDIMENT CONTROL

DWBAG	DEWATERING BAG
DWB	DEWATERING BASIN
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE / LENGTH
SF	SILT FENCE
RSF	SILT FENCE - REINFORCED
SP-1	SUMP PIT, TYPE 1
SP-2	SUMP PIT, TYPE 2
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
T XXX	TURBIDITY CURTAIN / LENGTH
T	TURBIDITY CURTAIN

LAST REVISED: 01/08/2013
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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT T201407402	BRIDGE NO. 1-191		SHEET NO. 2
COUNTY NEW CASTLE	DESIGNED BY: PFE	**LEGEND**	TOTAL SHTS. 17
	CHECKED BY: EM		

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.

2. 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 PRIOR TO THE EXECUTION OF THE CONTRACT. 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 PRIOR TO THE EXECUTION OF THE CONTRACT. 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 1.3 OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS.
( ) MEDIUM	THE SUPERINTENDENT OR A SEPARATE INDIVIDUAL FROM THE CONTRACTOR'S STAFF SHALL BE A CERTIFIED CONSTRUCTION REVIEWER (CCR), AS DEFINED IN SECTION 1.2 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 PRIOR TO THE EXECUTION OF THE CONTRACT. THE SUPERINTENDENT MUST BECOME A CCR WITHIN ONE YEAR AFTER THE AWARD OF CONTRACT.

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.
( )	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).

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:

( )	CROSS SECTIONS
( )	RIGHT-OF-WAY PLANS (WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR)

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.
( )	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 _____ ACRES.

7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADHERING TO THE CONSTRUCTION SITE POLLUTION PREVENTION SPECIFICATIONS AS DETAILED IN SECTION 3.6 OF THE "DELAWARE EROSION AND SEDIMENT CONTROL HANDBOOK". ALL COSTS ASSOCIATED WITH ADHERING TO THE STANDARDS SHALL BE INCIDENTAL TO THE OVERALL CONTRACT COSTS.

8. THE EROSION AND SEDIMENT CONTROL PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE EROSION AND SEDIMENT CONTROL PLANS ARE VALID FOR A THREE 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 THREE YEARS, THE CONTRACTOR SHALL INFORM THE ENGINEER THREE MONTHS PRIOR TO THE EXPIRATION OF THE EROSION AND SEDIMENT CONTROL PLAN APPROVAL. DELDOT WILL REVIEW THE CURRENT EROSION AND SEDIMENT CONTROL 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. THE ENGINEER MAY REQUIRE THE CONTRACTOR TO EXCAVATE TEST PITS ALONG PROPOSED DRAINAGE RUNS, AT POINTS OF POSSIBLE UTILITY CONFLICTS, TO DETERMINE IF A CONFLICT EXISTS. ANY CONFLICTS SHALL BE COORDINATED BY THE CONTRACTOR, WITH THE ENGINEER AND THE UTILITY COMPANY INVOLVED. THE ENGINEER SHALL ULTIMATELY DETERMINE THE SOLUTION TO THE UTILITY CONFLICT. TEST HOLES SHALL BE MEASURED AND PAID FOR IN ACCORDANCE WITH ITEM 208000 - EXCAVATION AND BACKFILL FOR PIPE TRENCHES, BUT ONLY TO THE ACTUAL DEPTH EXCAVATED.

3. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   - EXISTING CONCRETE DECK AND CATHODIC SYSTEM
   - EXISTING APPROACH SLABS
   - EXISTING GUARDRAIL
   -EXISTING BRIDGE RAIL
   -EXISTING PARAPET

4. 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 IS 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.

SECTION 300

5. A. THE CONTRACTOR MAY ELECT TO USE ANY OF THE FOLLOWING MATERIALS TO MEET THE REQUIREMENTS OF ITEM 302007
   - GRADED AGGREGATE BASE COURSE, TYPE 'B':
     a. CRUSHED STONE (PER STANDARD SPECIFICATION 821)
     b. CRUSHED CONCRETE (PER STANDARD SPECIFICATION 821)
     c. HOT-MIX MILLINGS (PER SPECIAL PROVISION 302514 MILLED HOT-MIX BASE COURSE)

   THE CONTRACTOR WILL NOT BE ALLOWED TO MIX DIFFERENT MATERIALS (OR SIMILAR MATERIALS FROM DIFFERENT SOURCES) TO MEET THE REQUIREMENTS OF ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

   ALL OF THE ABOVE LISTED MATERIALS ARE PERMITTED FOR USE ON THE JOB, PROVIDED THEY ARE SEPARATED INTO APPROVED AREAS. EACH AREA OF BASE COURSE MUST BE CONSTRUCTED USING MATERIALS FROM A SINGULAR SOURCE, FULL DEPTH, IN ORDER THAT PROPER TESTING MAY BE ACCOMPLISHED. THE CONTRACTOR AND ENGINEER SHALL AGREE ON THE LIMITS OF EACH SOURCE OF MATERIAL PRIOR TO PLACEMENT.

   B. THE QUANTITY USED FOR BASE OF EACH OF THE ABOVE LISTED MATERIALS WILL BE THE CONTRACTOR'S CHOICE, WITH THE TOTAL BEING EQUAL TO THE ACTUAL QUANTITY USED UNDER ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

   C. THE CONTRACTOR MAY ALSO ELECT TO RECYCLE MILLINGS FOR USE IN HOT-MIX AS PERMITTED BY THE STANDARD SPECIFICATIONS. THE CHOICE OF THE QUANTITY OF MILLINGS USED FOR THIS PURPOSE, OR FOR BASE COURSE, LIES WITH THE CONTRACTOR. ALL EXCESS MILLING MATERIAL SHALL BECOME PROPERTY OF THE CONTRACTOR.

   D. HOT-MIX MILLINGS MAY BE GENERATED FROM THE FOLLOWING SOURCES:
      a. MATERIAL MADE AVAILABLE WHEN MILLED ON THIS CONTRACT UNDER ITEM XXXXXX.
      b. MATERIAL MILLED ON THIS CONTRACT AT THE CONTRACTOR'S CHOICE UNDER ITEM 202000.
      c. MILLED MATERIAL FURNISHED ON THE JOB FROM THE CONTRACTOR'S YARD OR OTHER OUTSIDE SOURCE.
   ALL MILLED MATERIALS SHALL MEET THE MATERIAL REQUIREMENTS OF ITEM 302514 - MILLED HOT-MIX BASE COURSE.

   E. PAYMENT CLARIFICATION:
      a. SHOULD THE CONTRACTOR ELECT TO MILL PORTIONS OF HOT-MIX SHOWN ON THE PLANS TO BE REMOVED UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT THE COST OF MILLING THIS HOT-MIX WILL BE PAID AS ITEM 202000 - EXCAVATION AND EMBANKMENT. THE MILLINGS GENERATED MAY BE RECYCLED INTO HOT-MIX, UTILIZED FOR BASE COURSE, OR DISPOSED OF TO AN APPROVED SITE. HAULING COSTS FOR DISPOSAL AND/OR RECYCLING ARE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.

      b. MILLINGS GENERATED UNDER ITEM 760502 - PAVEMENT MILLINGS, TAPERCUT MAY BE RECYCLED INTO HOT-MIX, UTILIZED FOR BASE COURSE OR DISPOSED OF BY THE CONTRACTOR TO AN APPROVED SITE. NO SEPARATE PAYMENT WILL BE MADE FOR TRANSPORTING MILLINGS ON SITE OR TO AN APPROVED DISPOSAL SITE.

      c. SHOULD THE CONTRACTOR ELECT TO TEMPORARILY STOCKPILE MILLINGS ON THE JOB SITE FOR LATER USE, ALL COSTS FOR STOCKPILING AND SUBSEQUENT REHANDLING SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.

      d. MILLINGS USED FOR BASE COURSE SHALL BE PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF SPECIAL PROVISION 302514 - MILLED HOT-MIX BASE COURSE. NO SEPARATE PAYMENT WILL BE MADE TO FURNISH MILLINGS FROM AN OUTSIDE SOURCE OR TRANSPORT MILLINGS WITHIN THE PROJECT LIMITS. MILLINGS USED FOR BASE COURSE WILL BE PAID FOR AT THE UNIT BID PRICE FOR ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'.

      e. ALL COSTS TO UTILIZE MILLINGS IN RECYCLED HOT-MIX WILL BE INCIDENTAL TO THE UNIT PRICE BID FOR THE HOT-MIX ITEM USING THE RECYCLED MATERIAL.

      f. SPECIAL PROVISION 302514 - MILLED HOT-MIX BASE COURSE IS PROVIDED TO SPECIFY THE MEANS OF LAY DOWN AND COMPACTION AS WELL AS THE MATERIAL REQUIREMENTS FOR MILLINGS USED AS BASE COURSE. ALL COSTS TO BRING THE MILLINGS INTO COMPLIANCE WITH THE REQUIREMENTS OF ITEM - 302514 MILLED HOT-MIX BASE COURSE ARE INCIDENTAL TO ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE 'B'. NO PAYMENT WILL BE MADE FOR ITEM 302514 - MILLED HOT-MIX BASE COURSE. THE QUANTITY OF MILLINGS USED FOR BASE COURSE WILL BE PAID FOR UNDER ITEM 302007 - GRADED AGGREGATE BASE COURSE.

SECTION 600

6. 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.

7. BAR REINFORCEMENT
   REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2" MINIMUM UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH EPOXY COATED REINFORCING CONFORMING TO M284 (ASTM D3963).

8. PORTLAND CEMENT CONCRETE
   SPECIFIED COMPRESSIVE STRENGTH @ 28 DAYS:
   - BARRIER 4.5 ksi (CLASS A)
   - BRIDGE DECK 4.5 ksi (CLASS D)
   -APPROACH SLAB 4.5 ksi (CLASS D)
   MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE STANDARD SPECIFICATIONS.
   ALL EXPOSED EDGES SHALL BE CHAMFERED ¾" UNLESS OTHERWISE NOTED.
   SLIP FORMING OF THE BARRIERS WILL NOT BE ALLOWED.

SECTION 700

9. 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.

10. ALL HOT-MIX SAW CUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.

MISCELLANEOUS

11. ENVIRONMENTAL COMPLIANCE
    SEE ENVIRONMENTAL COMPLIANCE PLAN FOR FURTHER RESTRICTIONS/GUIDANCE ASSOCIATED WITH THIS PROJECT.

12. UTILITIES
    SEE THE UTILITIES STATEMENT AND UTILITY RELOCATION PLAN FOR UTILITIES INFORMATION.

13. DESIGN CRITERIA
    2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6th EDITION.

14. LOADING
    AASHTO HL-93 OR DELAWARE LEGAL LOAD FOR LIVE LOAD, 25 psf FOR FUTURE WEARING SURFACE.

15. 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.

LAST REVISED: 10/22/2013
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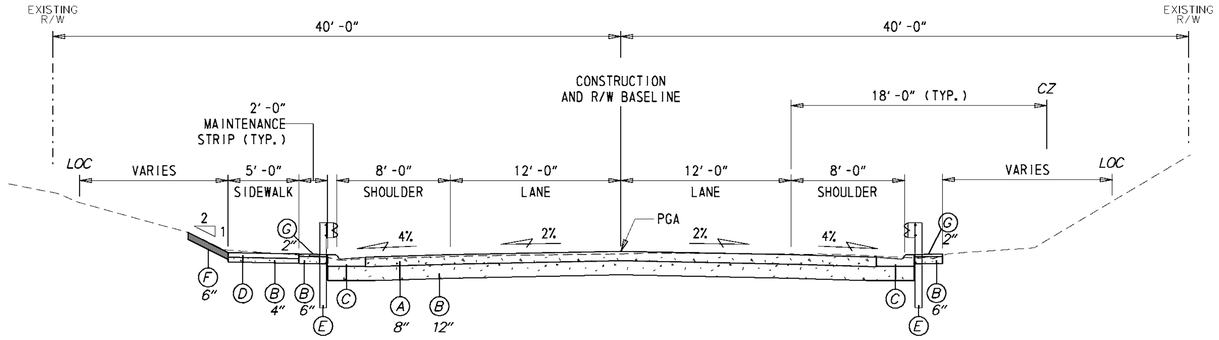
DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

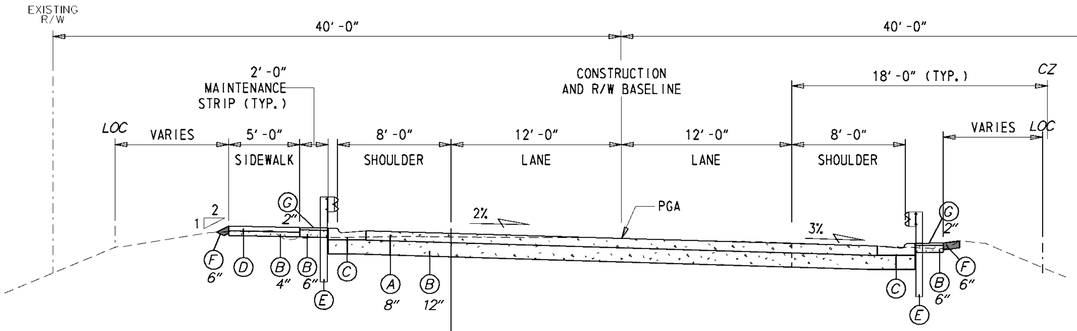
CONTRACT	BRIDGE NO. 1-191	SHEET NO.
T201407402	DESIGNED BY: PFE	3
COUNTY		TOTAL SHTS.
NEW CASTLE	CHECKED BY: EM	17

NOTES



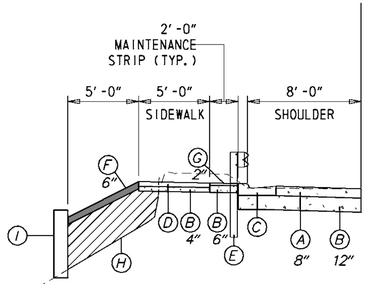
TYPICAL NORMAL SECTION

1/16" = 1'-0"



TYPICAL SUPERELEVATED SECTION

1/8" = 1'-0"



STATION 13+10.00 - 13+35.23
STATION 14+23.35 - 14+50.00

LEGEND

- (A) ITEM 501001 - PORTLAND CEMENT CONCRETE PAVEMENT, 8"
- (B) ITEM 302007- GRADED AGGREGATE BASE COURSE, TYPE B
- (C) ITEM 701016 - INTEGRAL P.C.C. CURB & GUTTER, TYPE 1-4
- (D) ITEM 705001 - P.C.C. SIDEWALK, 4"
- (E) ITEM 720050 - STEEL BEAM GUARDRAIL, TYPE 1-31
  ITEM 720585 - GUARDRAIL END TREATMENT ATTENUATOR, TYPE 1-31
  ITEM 725001 - GUARDRAIL TO BARRIER CONNECTION (EXIT TYPE 1-31)
- (F) ITEM 732004 - TOPSOIL
  ITEM 734013 - PERM. GRASS SEEDING, DRY GROUND
- (G) ITEM 401801 - WMA, SUPERPAVE TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE
- (H) ITEM 209006 - BORROW, TYPE F
- (I) ITEM 602615 - MODULAR BLOCK RETAINING WALL

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE AS NOTED

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT	BRIDGE NO.	1-191
T201407204	DESIGNED BY: PFE	
COUNTY	CHECKED BY: EM	
NEW CASTLE		

TYPICAL SECTIONS

SHEET NO. 4
TOTAL SHTS. 17

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HORIZONTAL / VERTICAL CONTROL DATA

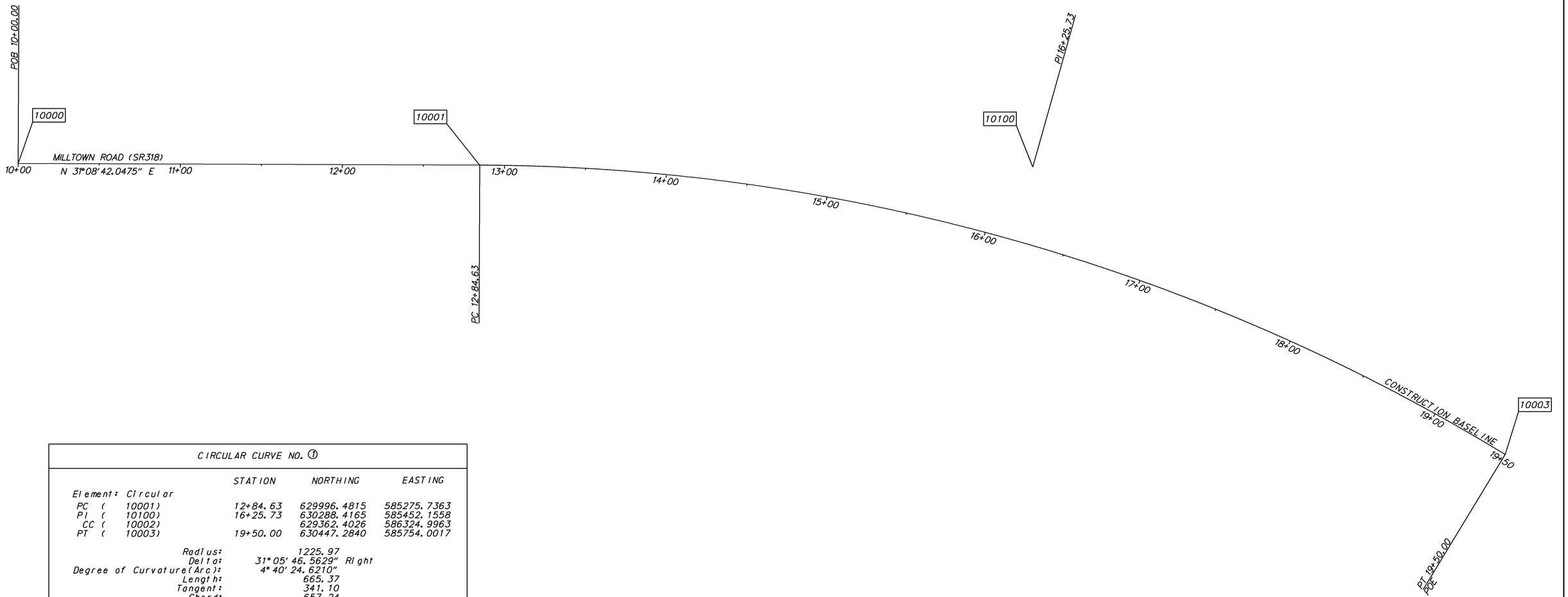
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
TP# 3	16+53.25	-35.61	630307.2201	585490.7696	99.37
TP# 4	15+14.80	-95.34	630247.1432	585345.1842	87.93
TP# 5	13+82.97	-53.96	630112.5052	585289.2972	83.32
TP# 6	13+04.19	-24.89	630028.8888	585267.7955	101.37
TP# 7	10+84.02	-24.36	629839.4521	585154.5034	111.88
TP# 9	10+71.67	30.94	629800.4221	585195.5794	112.55
TP# 10	13+13.68	27.05	630009.0085	585316.7126	100.34
TP# 11	13+98.12	60.95	630056.6825	585390.8705	82.62
TP# 12	15+81.60	198.13	630090.9517	585601.6247	86.26
TP# 13	19+32.23	116.73	630337.2055	585798.1085	108.02

CONSTRUCTION ALIGNMENT CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING
10000	10+00.00	0.00	629754.8642	585132.1953
10003	19+50.00	0.00	630451.4434	585755.2469

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 AND BASED ON THE FOLLOWING STATE OF DELAWARE BENCHMARKS ESTABLISHED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION:
GPS #630569.36N 585859.23E, ELEVATION 121.33
GPS #630130.86N 586076.21E, ELEVATION 106.87



CIRCULAR CURVE NO. ①

	STATION	NORTHING	EASTING
Element: Circular			
PC (10001)	12+84.63	629996.4815	585275.7363
PI (10100)	16+25.73	630288.4165	585452.1558
CC (10002)		629362.4026	586324.9963
PT (10003)	19+50.00	630447.2840	585754.0017

Radius:	1225.97
Delta:	31°05'46.5629" Right
Degree of Curvature(Arc):	4°40'24.6210"
Length:	665.37
Tangent:	341.10
Chord:	657.24
Middle Ordinate:	44.86
External:	46.57
Tangent Direction:	N 31°08'42.0475" E
Radial Direction:	S 58°51'17.9525" E
Chord Direction:	N 46°41'35.3289" E
Radial Direction:	S 27°45'31.3896" E
Tangent Direction:	N 62°14'28.6104" E

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

**BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK**

CONTRACT	BRIDGE NO.	1-191
T201407402	DESIGNED BY: PFE	
COUNTY	CHECKED BY: EM	
NEW CASTLE		

HORIZONTAL AND VERTICAL CONTROL

SHEET NO.
5
TOTAL SHTS.
17

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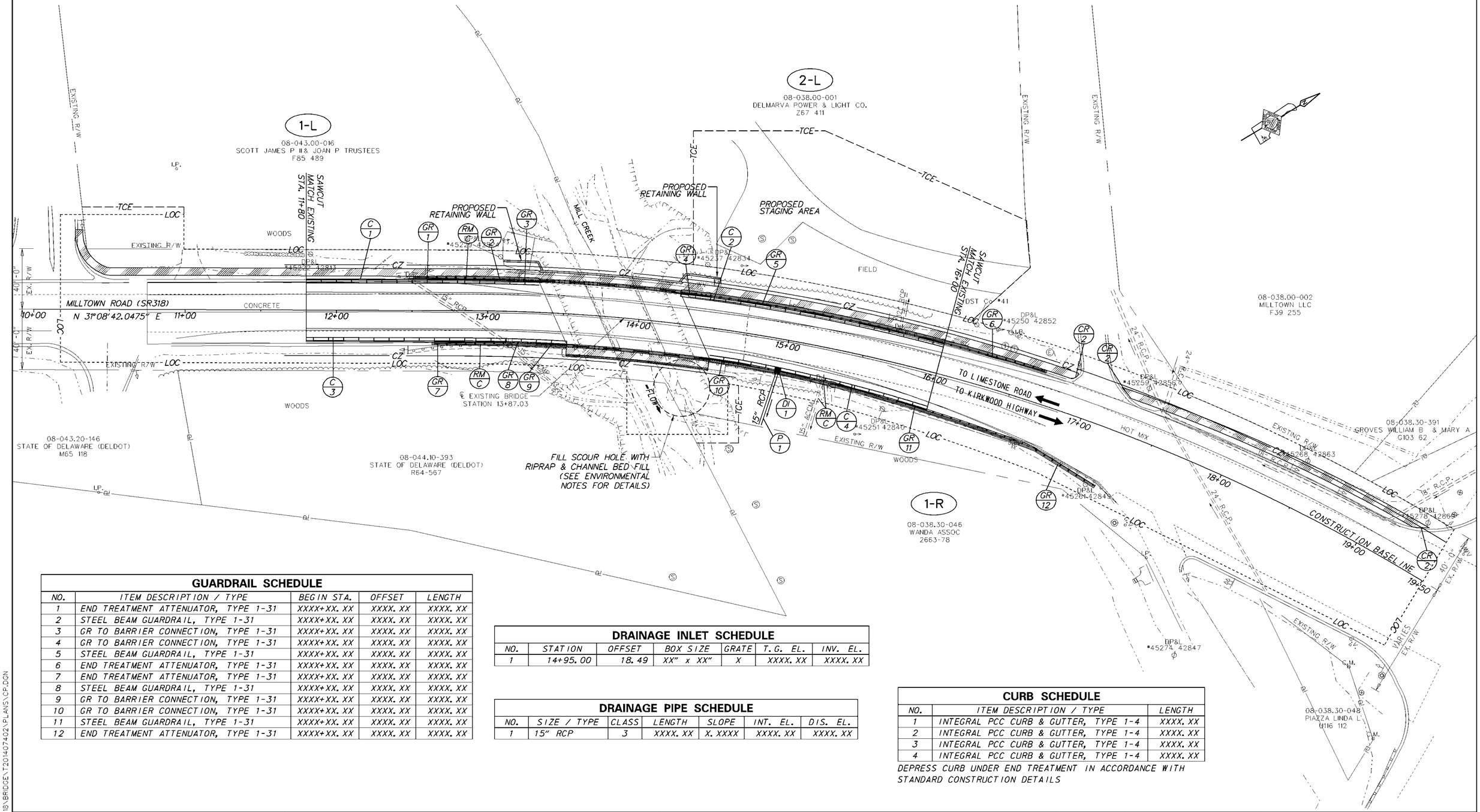

GUARDRAIL SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	BEGIN STA.	OFFSET	LENGTH
1	END TREATMENT ATTENUATOR, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
2	STEEL BEAM GUARDRAIL, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
3	GR TO BARRIER CONNECTION, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
4	GR TO BARRIER CONNECTION, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
5	STEEL BEAM GUARDRAIL, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
6	END TREATMENT ATTENUATOR, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
7	END TREATMENT ATTENUATOR, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
8	STEEL BEAM GUARDRAIL, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
9	GR TO BARRIER CONNECTION, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
10	GR TO BARRIER CONNECTION, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
11	STEEL BEAM GUARDRAIL, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX
12	END TREATMENT ATTENUATOR, TYPE 1-31	XXXX+XX. XX	XXXX. XX	XXXX. XX

DRAINAGE INLET SCHEDULE

NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
1	14+95. 00	18. 49	XX" x XX"	X	XXXX. XX	XXXX. XX

DRAINAGE PIPE SCHEDULE

NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
1	15" RCP	3	XXXX. XX	X. XXXX	XXXX. XX	XXXX. XX

CURB SCHEDULE

NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	INTEGRAL PCC CURB & GUTTER, TYPE 1-4	XXXX. XX
2	INTEGRAL PCC CURB & GUTTER, TYPE 1-4	XXXX. XX
3	INTEGRAL PCC CURB & GUTTER, TYPE 1-4	XXXX. XX
4	INTEGRAL PCC CURB & GUTTER, TYPE 1-4	XXXX. XX

DEPRESS CURB UNDER END TREATMENT IN ACCORDANCE WITH STANDARD CONSTRUCTION DETAILS

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DELAWARE
DEPARTMENT OF TRANSPORTATION

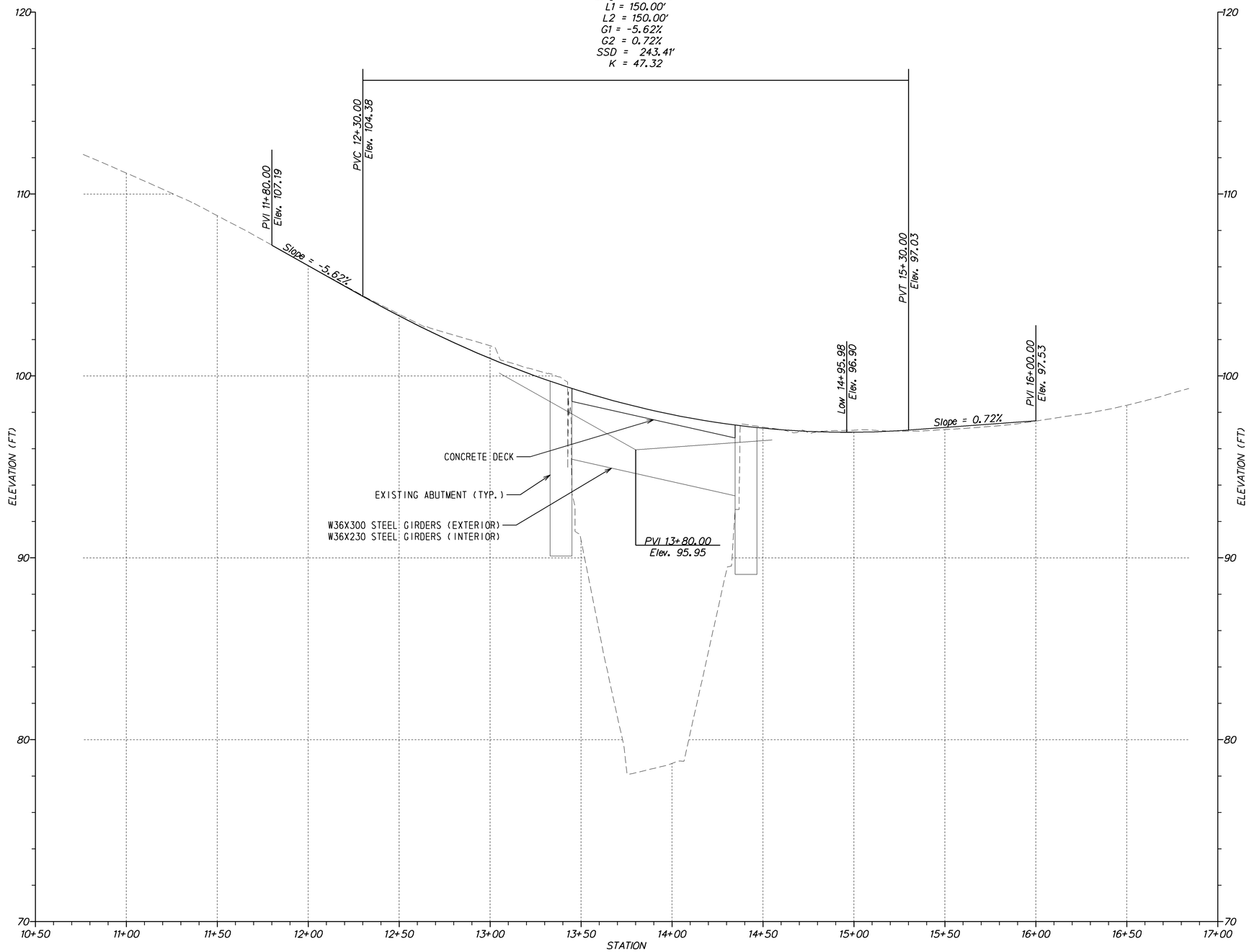
ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT	BRIDGE NO. 1-191	CONSTRUCTION PLAN	SHEET NO.
T201407402	DESIGNED BY: PFE		6
COUNTY	CHECKED BY: EM		TOTAL SHTS.
NEW CASTLE			17

Type of Curve = Symmetric Parabola
Direction = Sag
Length = 300.00'
L1 = 150.00'
L2 = 150.00'
G1 = -5.62%
G2 = 0.72%
SSD = 243.41'
K = 47.32



N318 – MILLTOWN ROAD

VERTICAL SCALE FEET
9
6
3
0

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	**BR 1-191 ON N318 MILLTOWN ROAD OVER MILL CREEK**	CONTRACT T201407402 / COUNTY NEW CASTLE	BRIDGE NO. 1-191 / DESIGNED BY: PFE / CHECKED BY: EM

PROFILES

SHEET NO. 7
TOTAL SHTS. 17

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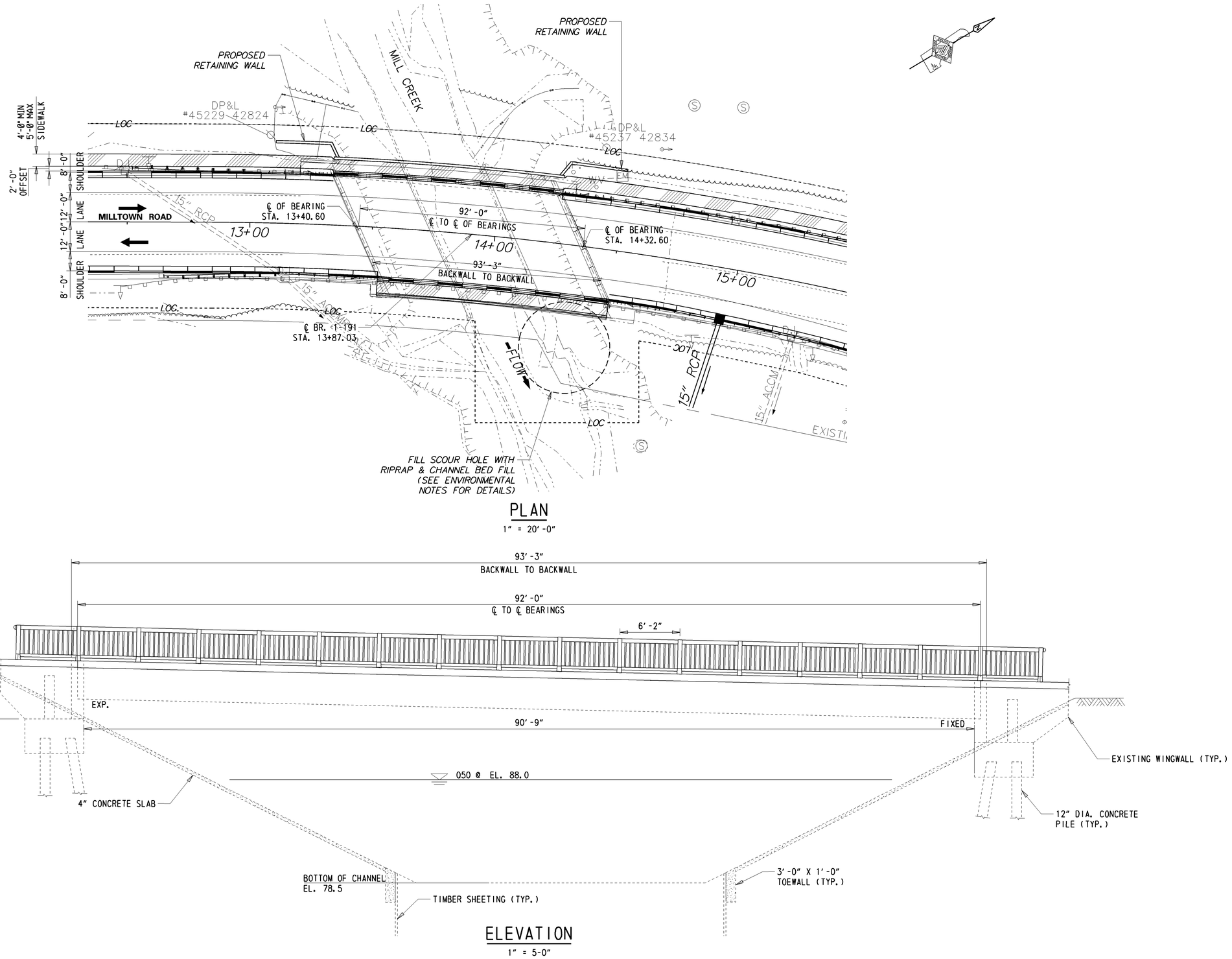

PLAN

1" = 20'-0"

ELEVATION

1" = 5-0"

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE AS NOTED	BR 1-191 ON N318 MILLTOWN ROAD OVEVR MILL CREEK	CONTRACT T201407204	BRIDGE NO. 1-191	BRIDGE PLAN AND ELEVATION	SHEET NO. 8
				COUNTY NEW CASTLE	DESIGNED BY: PFE		TOTAL SHTS. 17
					CHECKED BY: EM		

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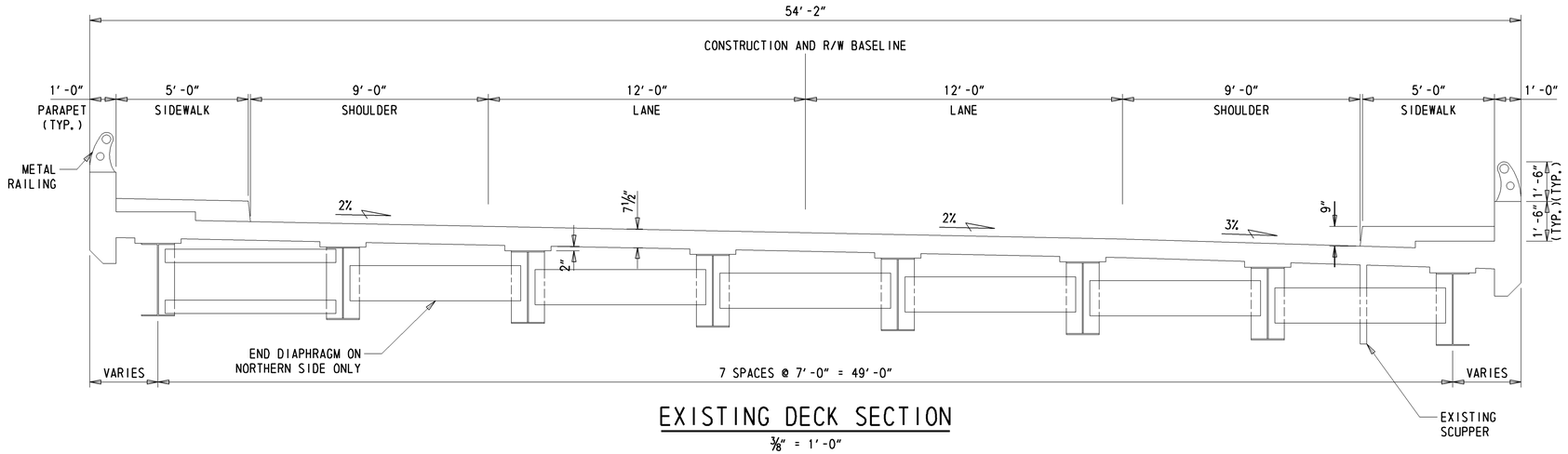
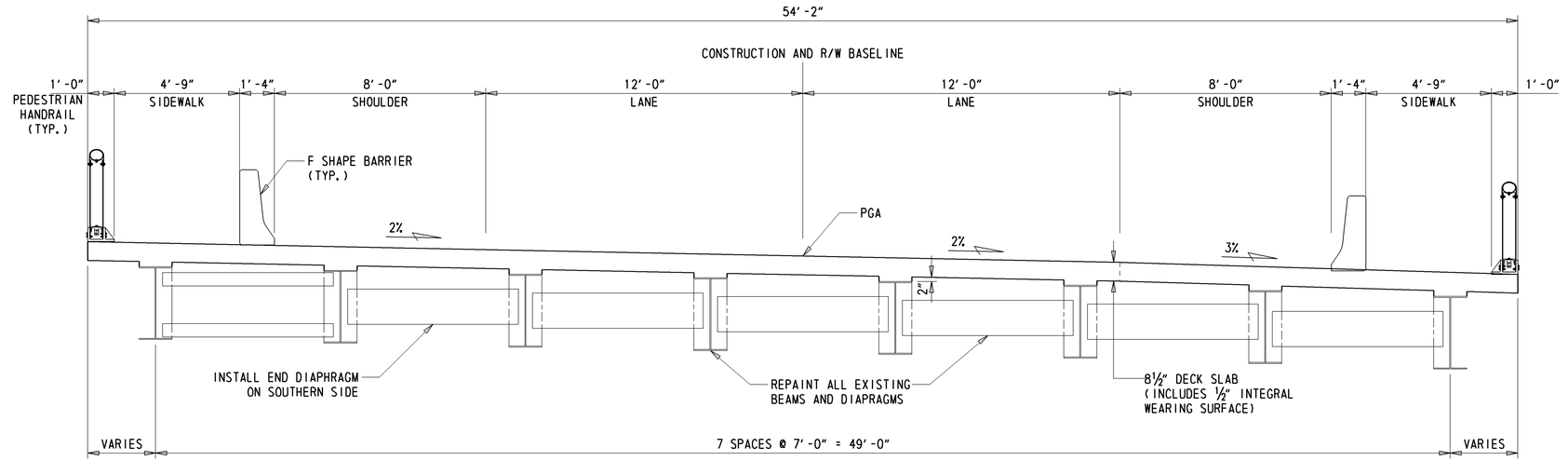


EXISTING DECK SECTION

3/8″ = 1′-0″



PROPOSED DECK SECTION

3/8″ = 1′-0″

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE AS NOTED	BR 1-191 ON N318 MILLTOWN ROAD OVER MILL CREEK	CONTRACT T201407402 / COUNTY NEW CASTLE	BRIDGE NO. 1-191 / DESIGNED BY: PFE / CHECKED BY: EM	EXISTING AND PROPOSED DECK SECTION	SHEET NO. 9 / TOTAL SHTS. 17

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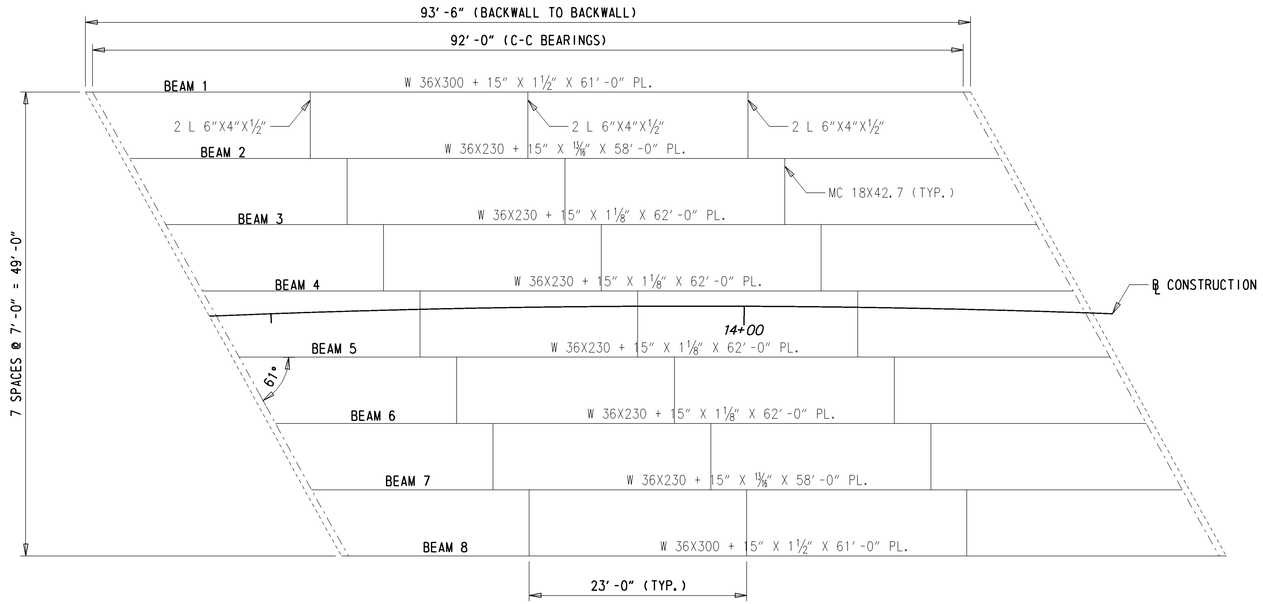


FRAMING PLAN

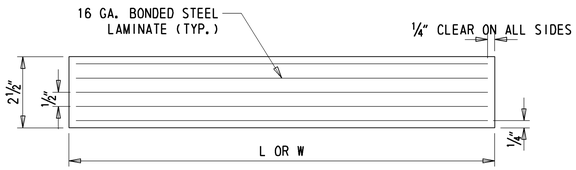
⅛″ = 1′-0″

FRAMING PLAN NOTES:

1. ALLSTRUCTURAL STEEL IS TO CONFORM TO M270 GRADE 50 AND SHALL BE GALVANIZED. ANCHOR STUDS ARE TO BE AUTOMATIC END-WELDED (TYP.)

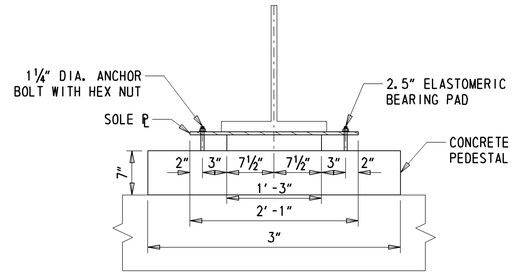
BEARING PAD:

1. 8 TOTAL ELASTOMERIC BEARING PADS ARE REQUIRED.



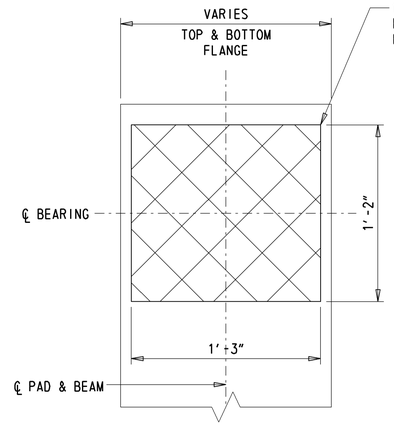
LAMINATED ELASTOMERIC PAD

N.T.S.



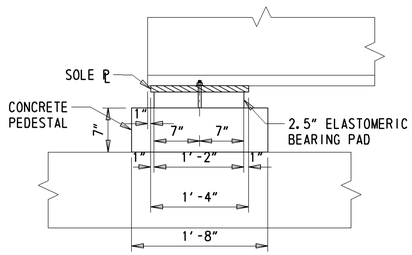
BEARING ELEVATION

N.T.S



BEARING PAD PLAN

N.T.S



SIDE ELEVATION

N.T.S

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE AS NOTED	BR 1-191 ON N318 MILLTOWN ROAD OVER MILL CREEK	CONTRACT T201407402	BRIDGE NO. 1-191	FRAMING PLAN	SHEET NO. 10
				COUNTY NEW CASTLE	DESIGNED BY: PFE		TOTAL SHTS. 17
					CHECKED BY: EM		

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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): _____
DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): _____
DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): _____

* 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 - _____
ENDANGERED SPECIES - _____
MIGRATORY BIRDS - _____

3. CULTURAL RESOURCE ISSUES:

A. _____

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 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 INCIDENTAL TO THE RIPRAP ITEM. ALL OTHER ITEMS SHALL BE PAID FOR UNDER THEIR RESPECTIVE ITEMS.

LAST REVISED: 03/22/2011
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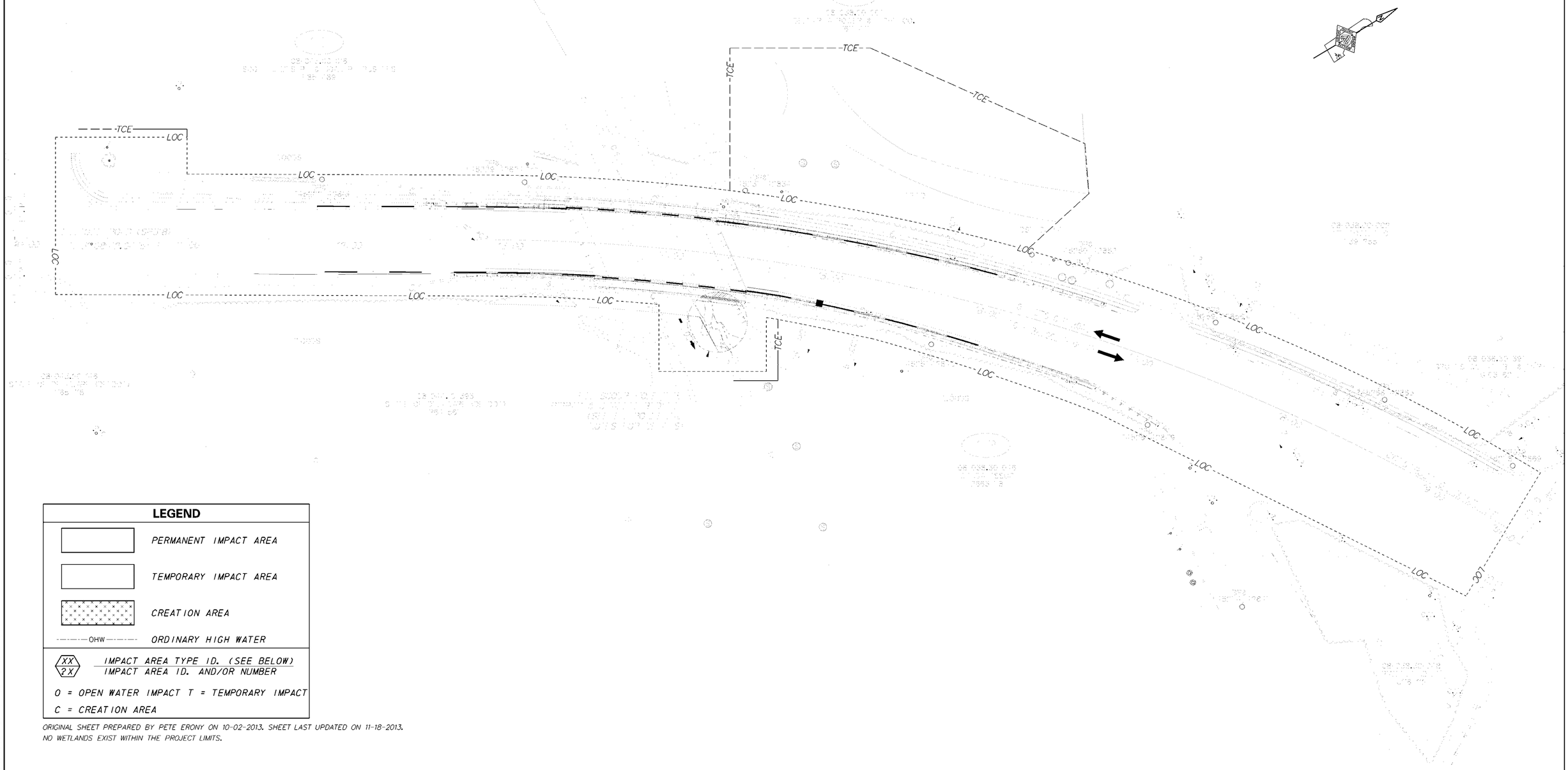
DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT	BRIDGE NO.	1-191
T201407402	DESIGNED BY: PFE	ENVIRONMENTAL NOTES
COUNTY		
NEW CASTLE	CHECKED BY: EM	

SHEET NO.
11
TOTAL SHTS.
17



LEGEND

- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- CREATION AREA
- OHW — ORDINARY HIGH WATER
- XX / 2X — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

O = OPEN WATER IMPACT T = TEMPORARY IMPACT

C = CREATION AREA

ORIGINAL SHEET PREPARED BY PETE ERONY ON 10-02-2013. SHEET LAST UPDATED ON 11-18-2013.
NO WETLANDS EXIST WITHIN THE PROJECT LIMITS.

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DELAWARE
DEPARTMENT OF TRANSPORTATION

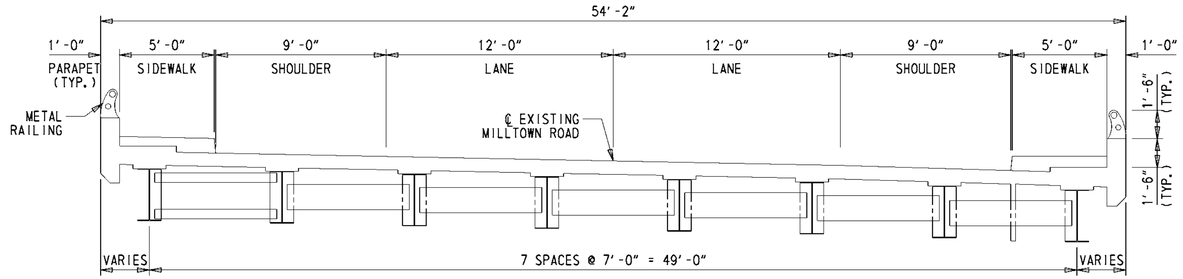
ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

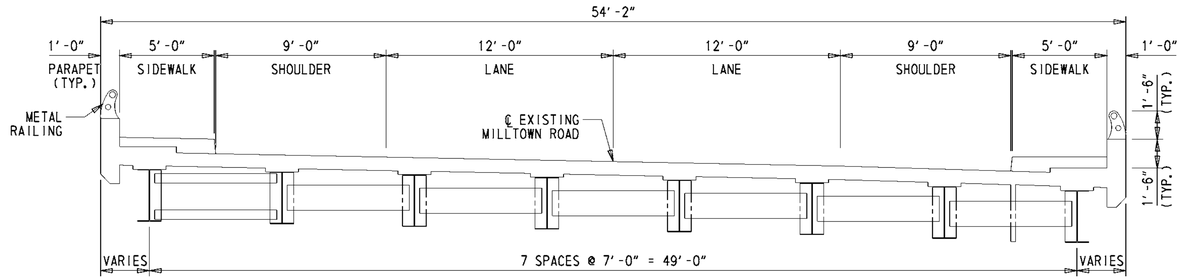
BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT	BRIDGE NO. 1-191	SHEET NO.
T201407402	DESIGNED BY: PFE	12
COUNTY		TOTAL SHTS.
NEW CASTLE	CHECKED BY: EM	17

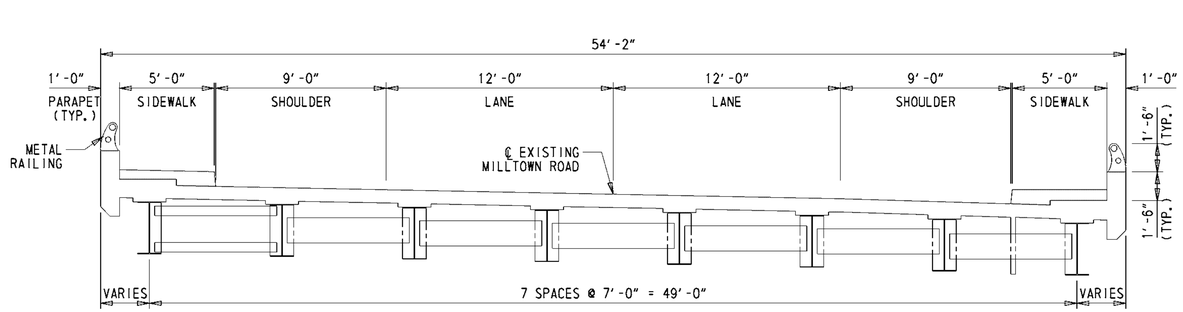
ENVIRONMENTAL COMPLIANCE PLAN



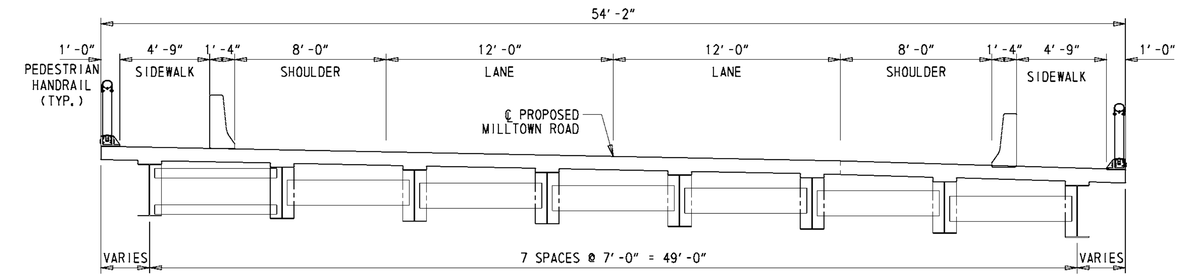
EXISTING



PHASE 1



PHASE 2



FINAL

SEQUENCE OF REHABILITATION WORK

PHASE 1:
1. REPAIR SLOPE PROTECTION ON NORTHERN ABUTMENT.
2. INSTALL DIAPHRAGMS ON SOUTHERN SIDE OF BRIDGE.
3. JACK BRIDGE AND REPLACE BEARINGS UNDER THE SOUTHERN BEAM SUPPORTS. CLEAN AND GREASE BEARINGS UNDER THE NORTHERN BEAM SUPPORTS.
4. FILL SCOUR HOLE ON EASTERN SIDE OF THE BRIDGE.

PHASE 2:
1. SET UP MAINTENANCE OF TRAFFIC PATTERN FOR PHASE 2 CONSTRUCTION IN ACCORDANCE WITH DETOUR PLAN.
2. REMOVE EXISTING DECK SLAB, APPROACH SLABS, GUARDRAIL, SIDEWALKS, CURB, AND PARAPETS.
3. CONSTRUCT PROPOSED DECK SLAB, APPROACH SLABS, SIDEWALKS, AND PEDESTRIAN RAILINGS.
4. REPLACE ROAD SIGNS IN ACCORDANCE WITH SIGNING AND STRIPING PLAN.

PHASE 3:
1. REPAINT ALL EXISTING BEAMS AND DIAPHRAGMS.
2. CONSTRUCT PROPOSED SIDEWALK

NOTE:
1. CONTRACTOR SHALL TAKE CARE TO NOT DAMAGE BEAMS DURING CONSTRUCTION. ANY DAMAGE DONE SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.

2. DIAPHRAGM SHOWN IN EXISTING DECK IS ON NORTHERN SIDE OF THE BRIDGE ONLY. PHASE ONE IS SHOWING INSTALLATION OF END DIAPHRAGM ON SOUTHER END, LOOKING UPSTATION

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DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 4 8 12
FEET

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT	BRIDGE NO. 1-191	SHEET NO.
T201407402	DESIGNED BY: PFE	13
COUNTY		TOTAL SHTS.
NEW CASTLE	CHECKED BY: EM	17

CONSTRUCTION PHASING

PORTABLE CHANGEABLE MESSAGE SIGNS

PRIOR TO DETOUR
(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

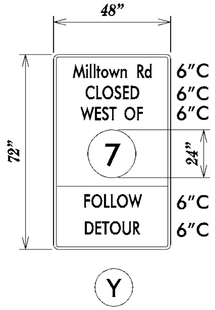
MILLTOWN ROAD TO CLOSE	STARTING XX/XX/XX

DURING DETOUR
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

PCMS-2

MILLTOWN RD WEST OF DE 7	CLOSED FOLLOW DETOUR

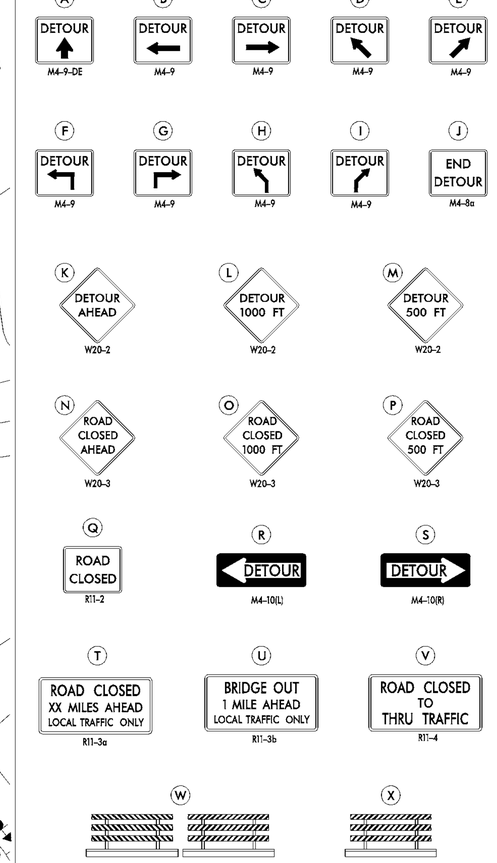
SPECIAL SIGNS



***D/G RETROREFLECTIVE FLUORESCENT ORANGE BACKGROUND; BLACK LEGEND**

***ROUTE SHIELD–WHITE BACKGROUND; BLACK LEGEND**

LEGEND



GENERAL NOTES

1. ALL DETOUR SIGNING, INCLUDING TRAILBLAZERS, ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR IN COMPLIANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.)
2. THE CONTRACTOR SHALL COMPLY WITH GUIDELINES IN "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD PART 6) FOR BARRICADES AND SIGNS (AS PER LATEST REVISION.)
3. DESIGN OF ALL SIGNS SHALL BE IN ACCORDANCE WITH THE FHWA STANDARD HIGHWAY SIGNS BOOK.
4. SIZES OF ALL SIGNS SHALL BE IN ACCORDANCE WITH "THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (DE MUTCD.) SIZE OF SIGN SHALL BE BASED ON TYPE OF ROADWAY ON WHICH THE SIGN IS INSTALLED.
5. SIGNS NO LONGER IN USE SHALL BE COMPLETELY COVERED WITH NO RETROREFLECTIVE MATERIAL SHOWING, OR SHALL BE REMOVED, AS DIRECTED BY THE ENGINEER.
6. 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" (DE MUTCD) WILL PREVAIL.
7. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHOULD BE CHANGED TO "RAMP", "RR XING", OR "BRIDGE" WHERE APPLICABLE.
8. WARNING SIGNS AND DETOUR TRAILBLAZERS SHALL BE MOUNTED ON BREAKAWAY POSTS AND HAVE RETROREFLECTIVE FLUORESCENT ORANGE SHEETING.
9. "W" BARRICADES SHALL COMPLETELY RUN THE FULL WIDTH OF THE ROADWAY.
10. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

RECOMMENDED _____ DATE:	RECOMMENDED _____ DATE:	RECOMMENDED _____ DATE:	APPROVED CHIEF SAFETY OFFICER _____ DATE:	APPROVED TRAFFIC ENGINEER _____ DATE:

DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUM / REVISIONS

NOT TO SCALE

BR 1-191 ON N318 MILLTOWN ROAD OVER MILL CREEK

CONTRACT	ROAD NO.	N318	DETOUR PLAN	SHEET NO.
T201407402	DESIGNED BY: MFR			14
COUNTY				TOTAL SHTS.
NEW CASTLE	CHECKED BY: ASW			17

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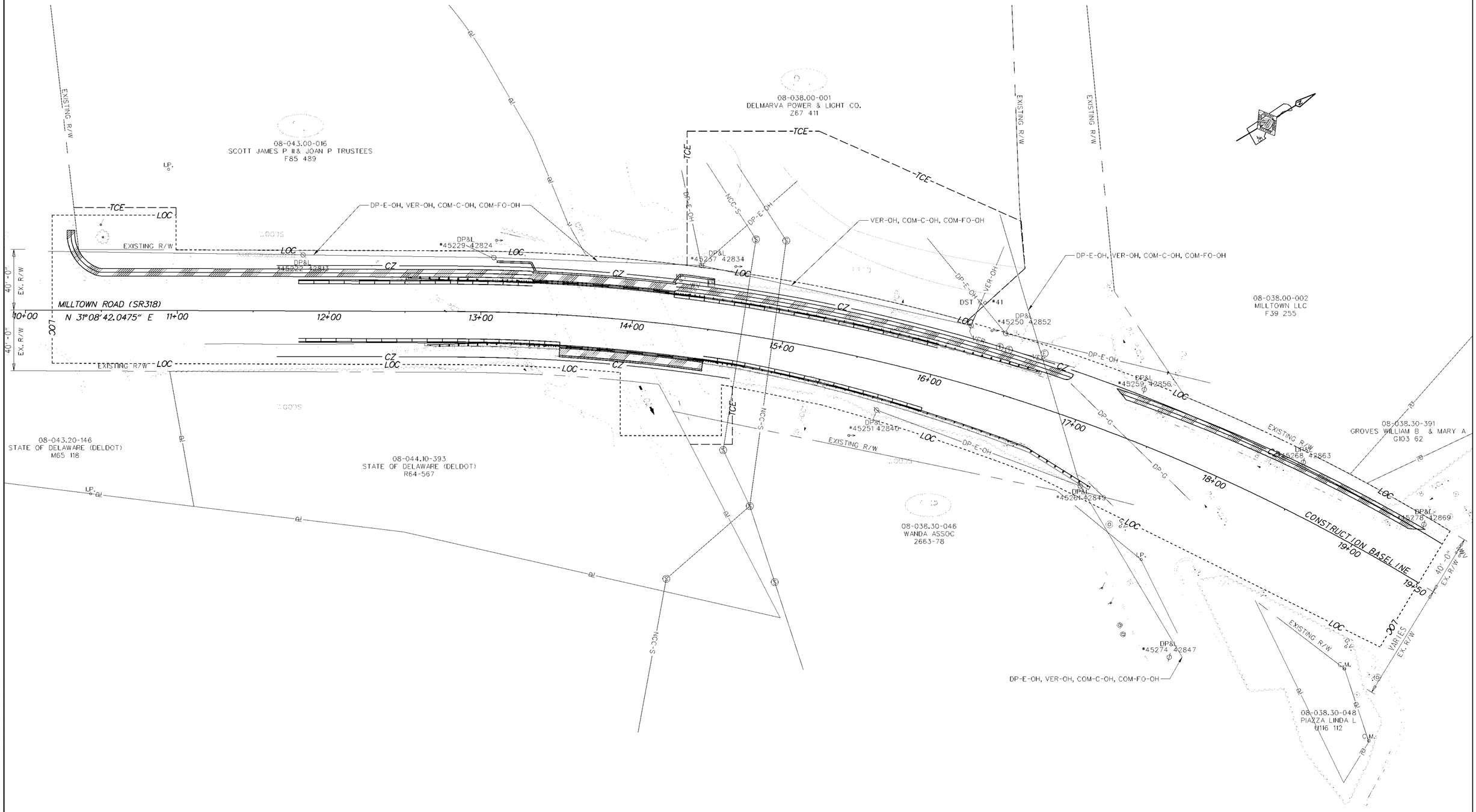

DELAWARE DEPARTMENT OF TRANSPORTATION	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	**BR 1-191 ON N318 MILLTOWN ROAD OVER MILL CREEK**	CONTRACT T201407402	BRIDGE NO. 1-191	**UTILITY RELOCATION PLAN**
				COUNTY NEW CASTLE	DESIGNED BY: PFE	SHEET NO. 15
					CHECKED BY: EM	TOTAL SHTS. 17

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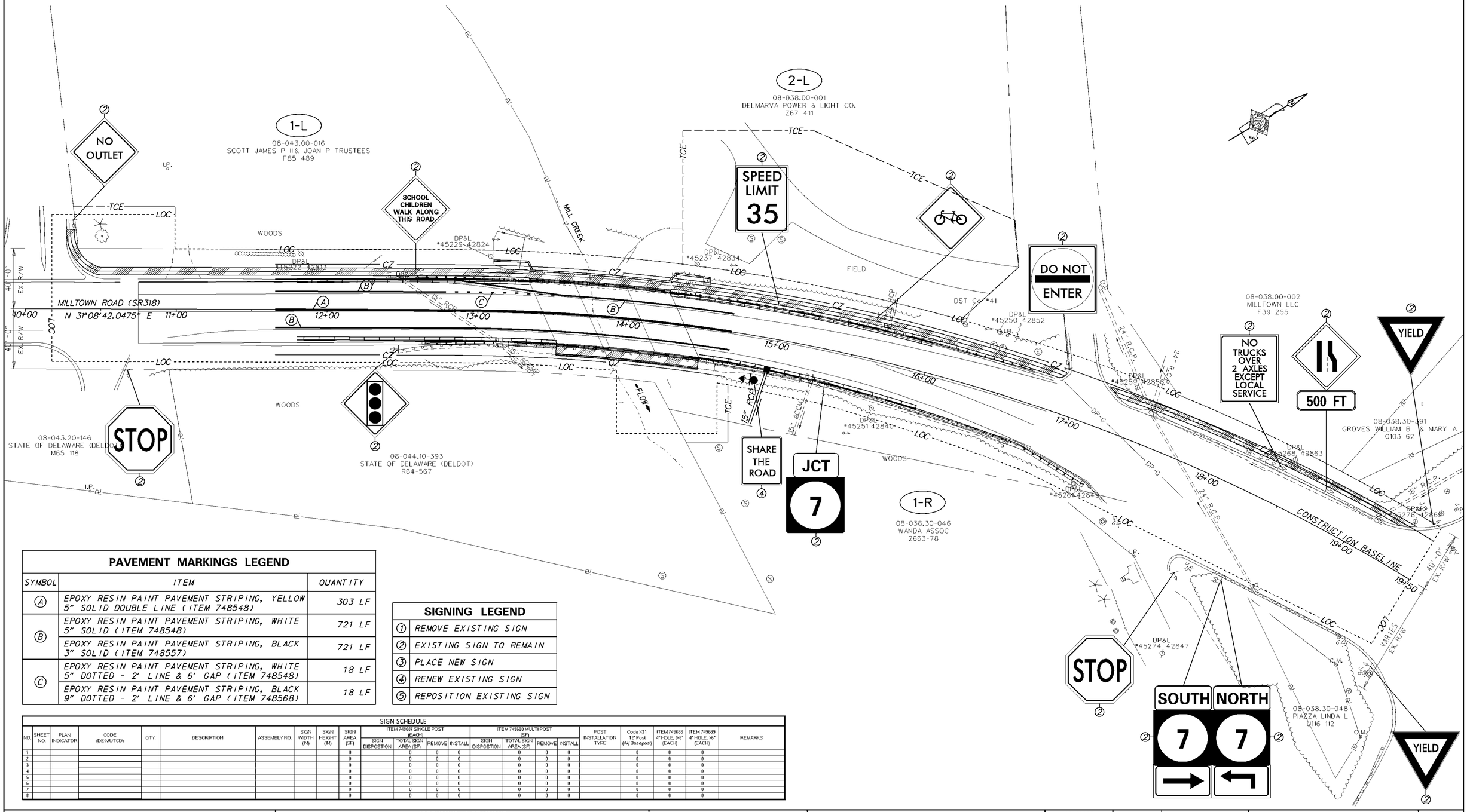

PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID DOUBLE LINE (ITEM 748548)	303 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548)	721 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 3" SOLID (ITEM 748557)	721 LF
(C)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" DOTTED - 2' LINE & 6' GAP (ITEM 748548)	18 LF
	EPOXY RESIN PAINT PAVEMENT STRIPING, BLACK 9" DOTTED - 2' LINE & 6' GAP (ITEM 748568)	18 LF

SIGNING LEGEND

(1)	REMOVE EXISTING SIGN
(2)	EXISTING SIGN TO REMAIN
(3)	PLACE NEW SIGN
(4)	RENEW EXISTING SIGN
(5)	REPOSITION EXISTING SIGN

SIGN SCHEDULE

NO.	SHEET NO.	PLAN INDICATOR	CODE (DE-MUTCD)	QTY.	DESCRIPTION	ASSEMBLY NO.	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 749687 SINGLE POST (EACH) SIGN DISPOSITION	TOTAL SIGN AREA (SF)	REMOVE	INSTALL	ITEM 749699 MULTI POST (SF) SIGN DISPOSITION	TOTAL SIGN AREA (SF)	REMOVE	INSTALL	POST INSTALLATION TYPE	Code X11 12' Post (W/ Baseplate)	ITEM 749688 4" HOLE, 6'-6" (EACH)	ITEM 749689 4" HOLE, >6" (EACH)	REMARKS
1									0		0	0	0		0	0	0		0	0	0	
2									0		0	0	0		0	0	0		0	0	0	
3									0		0	0	0		0	0	0		0	0	0	
4									0		0	0	0		0	0	0		0	0	0	
5									0		0	0	0		0	0	0		0	0	0	
6									0		0	0	0		0	0	0		0	0	0	
7									0		0	0	0		0	0	0		0	0	0	
8									0		0	0	0		0	0	0		0	0	0	

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

BR 1-191 ON N318
MILLTOWN ROAD OVER
MILL CREEK

CONTRACT	BRIDGE NO.	1-191
T201407402	DESIGNED BY: PFE	
COUNTY	CHECKED BY: EM	
NEW CASTLE		

SIGNING, STRIPING AND CONDUIT PLAN

SHEET NO. 16
TOTAL SHTS. 17

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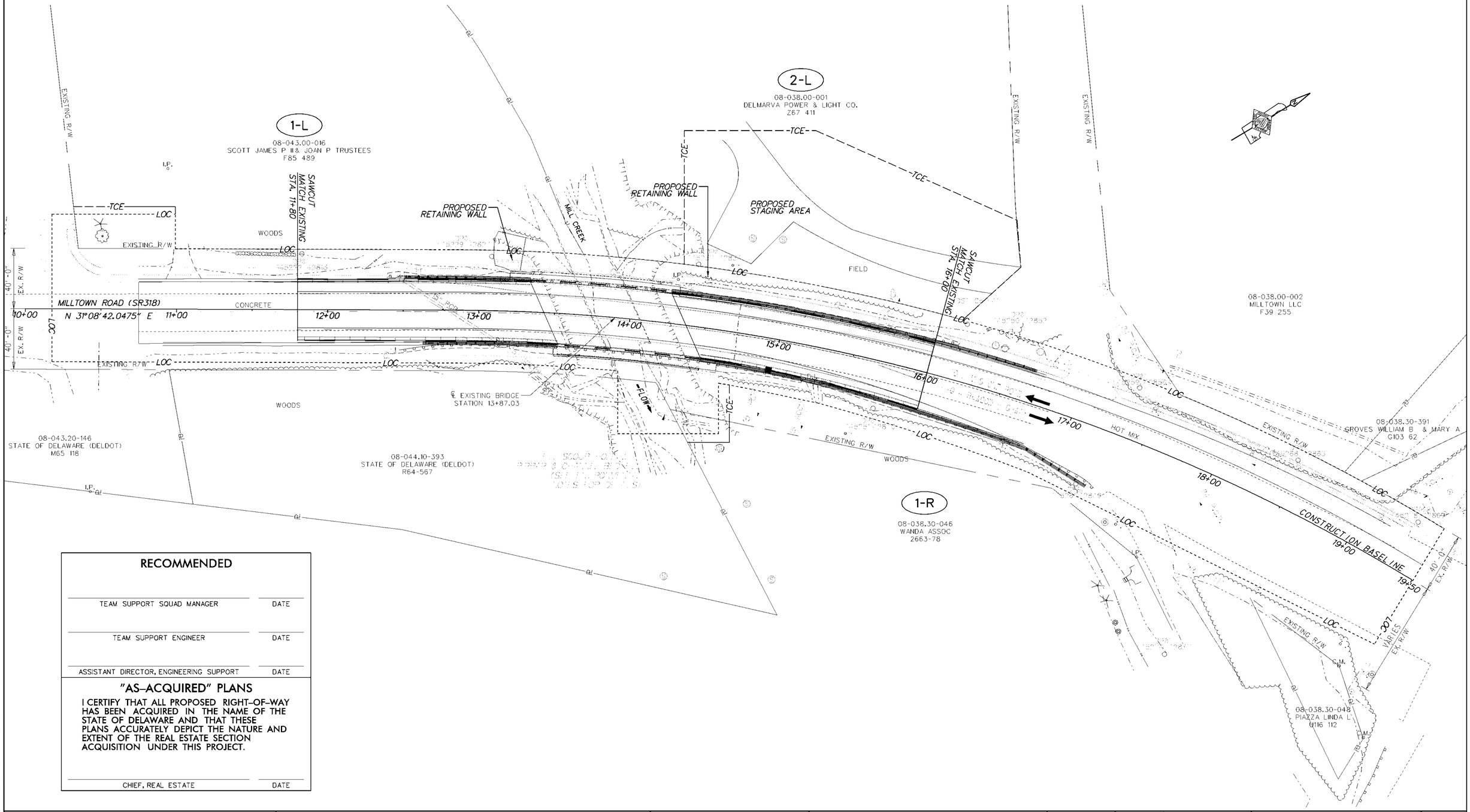

RECOMMENDED

TEAM SUPPORT SQUAD MANAGER — DATE

TEAM SUPPORT ENGINEER — DATE

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

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS

SCALE
0 30 60 90
FEET

BR 1–191 ON N318 MILLTOWN ROAD OVER MILL CREEK

CONTRACT	BRIDGE NO.	1–191
T201407402	DESIGNED BY: PFE	
COUNTY	CHECKED BY: EM	
NEW CASTLE		

RIGHT–OF–WAY PLAN

SHEET NO. 17
TOTAL SHTS. 17

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