

GENERAL LOCATION OF CONTRACT

THE STATE OF DELAWARE DEPARTMENT OF TRANSPORTATION



CONSTRUCTION & RIGHT-OF-WAY PLANS FOR:

BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN

CONTRACT NUMBER: **T201307102**
FEDERAL AID PROJECT NUMBER: **EBROS-N350(01)**

COUNTY: **NEW CASTLE** M.R. #: **350**

U.S. CUSTOMARY
UNITS

DESIGN DESIGNATION

FUNCTIONAL CLASS: URBAN COLLECTOR	D.H.V. PROJECTED: 134	YEAR: 2040
TYPE OF CONSTRUCTION: BRIDGE REPLACEMENT	DESIGN SPEED: 30 M.P.H.	
A.A.D.T. CURRENT: 2567	YEAR: 2012	TRUCKS: 7 %
A.A.D.T. PROJECTED: 3400	YEAR: 2040	DIRECTION OF DISTRIBUTION: 58 %

INDEX OF SHEETS

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TOTAL SHEETS: 27

APPROVED DESIGN EXCEPTIONS

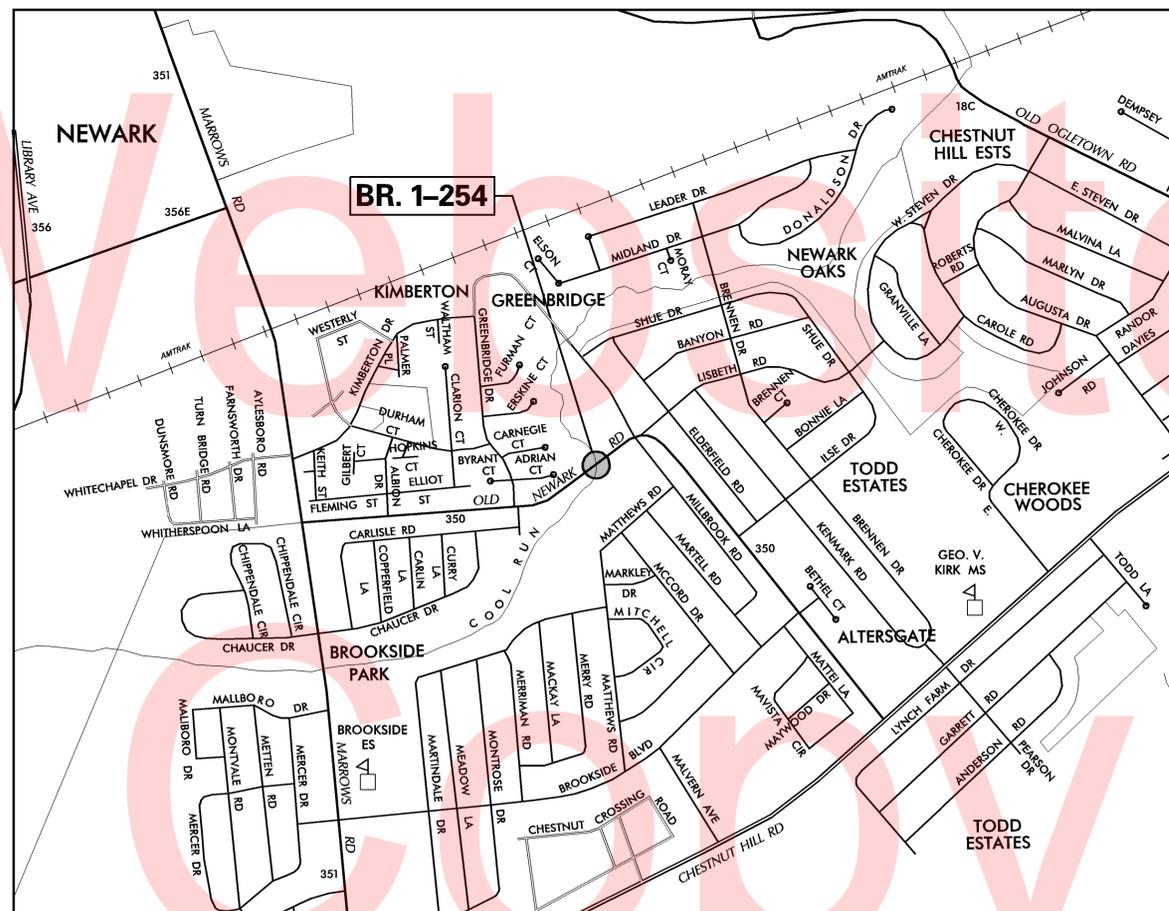
DESIGN PARAMETER	REQUIRED	PROVIDED	DATE
WIDTH OF OUTSIDE SHOULDER	8' - 0"	2' - 0"	1/26/16
MINIMUM K (CREST)*	44.00	24.64	1/26/16
MINIMUM K (SAG)*	64.00	37.21	1/26/16

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
67-12-004	REPLACEMENT OF BRIDGE NO. 254 ON ROAD NO. 350, NEW CASTLE COUNTY
75-06-020	OLD NEWARK ROAD PEDESTRIAN SIDEWALK



RECOMMENDED

Paul H. Pahn
AREA ENGINEER, CONSTRUCTION 04/07/2016
DATE

Christopher Costello
GROUP ENGINEER, CONSTRUCTION 04/08/2016
DATE

Jim A. Zujewski
ASSISTANT DIRECTOR, CONSTRUCTION 04/08/2016
DATE

RECOMMENDED

Vincent W. Davis
STORMWATER ENGINEER
DATE 04/11/2016



RECOMMENDED

[Signature]
SQUAD MANAGER, BRIDGE DESIGN
DATE 04/07/2016

RECOMMENDED

[Signature]
BRIDGE DESIGN ENGINEER
DATE 04/14/2016



RECOMMENDED

[Signature]
ASSISTANT DIRECTOR, BRIDGE
DATE 04/15/2016



APPROVED

Robert Brian McCleary
CHIEF ENGINEER
DATE 04/15/2016



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
	SEPTIC DRAIN FIELD
	TELEPHONE BOOTH
	TELEPHONE MANHOLE
	TELEPHONE TEST POINT
	TRAFFIC - CONDUIT JUNCTION WELL
	TRAFFIC - LIGHT POLE AND BASE
	TRAFFIC - PEDESTRIAN POLE & BASE
	TRAFFIC - SIGNAL CABINET & BASE
	TRAFFIC - SIGNAL POLE AND BASE
	UTILITY BOX
	UTILITY POLE GUY WIRE ANCHOR
	UTILITY POLE
	WATER - FIRE HYDRANT
	WATER METER
	WATER VALVE
	WELL HEAD
	MANHOLE - UNDETERMINED OWNER

UTILITY COMPANY FACILITIES	
	DELMARVA POWER - GAS
	NEW CASTLE COUNTY - SEWER
	VERIZON - OVERHEAD
	VERIZON FIBER OPTIC - UNDERGROUND
	VERIZON - UNDERGROUND
	UNITED WATER - WATER

CONSTRUCTION	
	CONCRETE SAFETY BARRIER - PERMANENT
	BIOFILTRATION SWALE
	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
	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
	IMPACT ATTENUATOR
	JUNCTION BOX - DRAINAGE
	LATERAL OFFSET
	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 SECTIONS	
	2" WMA, SUPERPAVE, TYPE C VARIABLE DEPTH WMA, SUPERPAVE, TYPE B (USED FOR BRIDGE DECK ONLY)
	2" WMA, SUPERPAVE, TYPE C 3" WMA, SUPERPAVE, TYPE B 8" GRADED AGGREGATE BASE COURSE, TYPE B
	2" WMA, SUPERPAVE, TYPE C 8" GRADED AGGREGATE BASE COURSE, TYPE B (SIDEWALK & ATHLETIC FIELD ENTRANCE)
	2" DEPTH MILL AND OVERLAY, REPLACE WITH 2" WMA, SUPERPAVE, TYPE C

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 / NUMBER
	SEDIMENT TRAP
	SEDIMENT TRAP WITH INLET AS OUTLET
	SEDIMENT TRAP PIPE OUTLET
	STILLING WELL
	TEMPORARY SWALE
	TEMPORARY SLOPE DRAIN
	TURBIDITY CURTAIN / LENGTH
	TURBIDITY CURTAIN

UTILITY COMPANY FACILITIES	
	DELMARVA POWER - GAS

LAST REVISED: 01/30/2012
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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.
() MEDIUM	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.

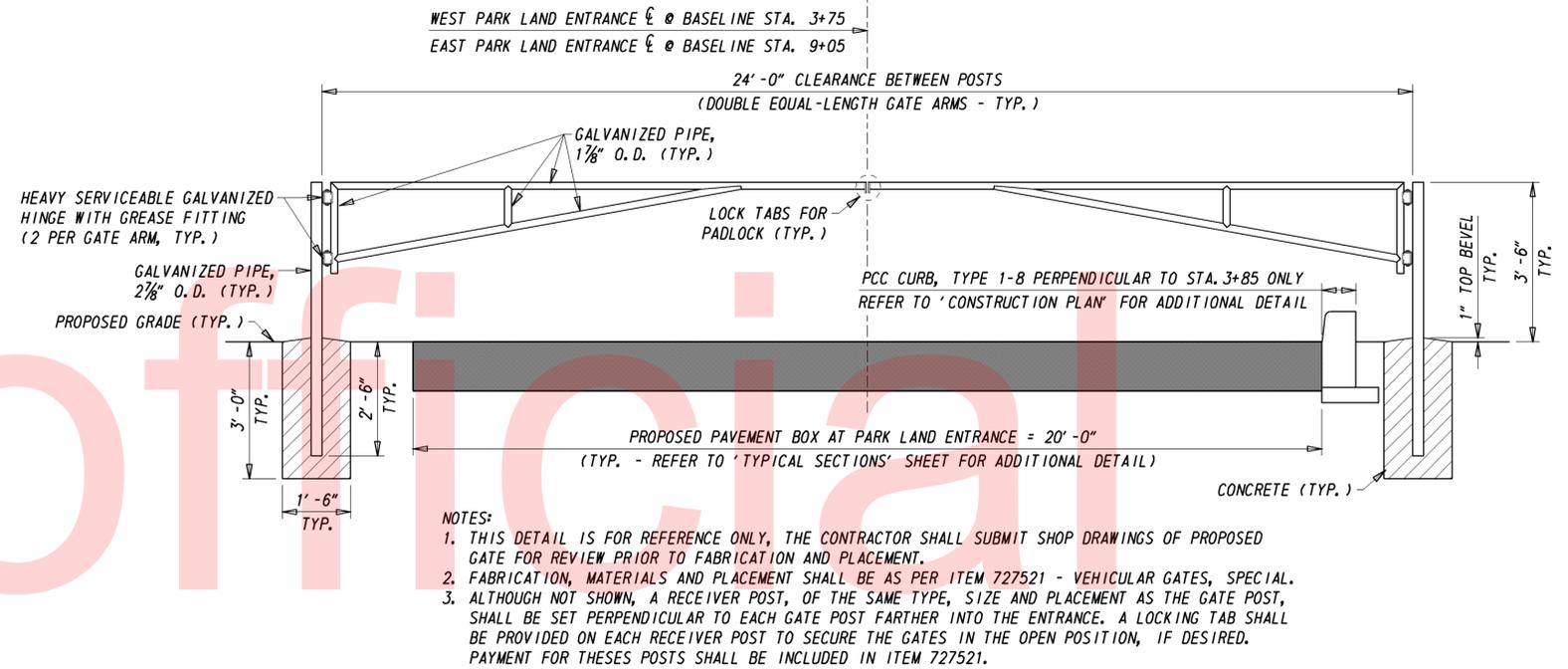
4. PROJECT FILES THAT WILL BE MADE AVAILABLE TO THE CONTRACTOR, INCLUDE:

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

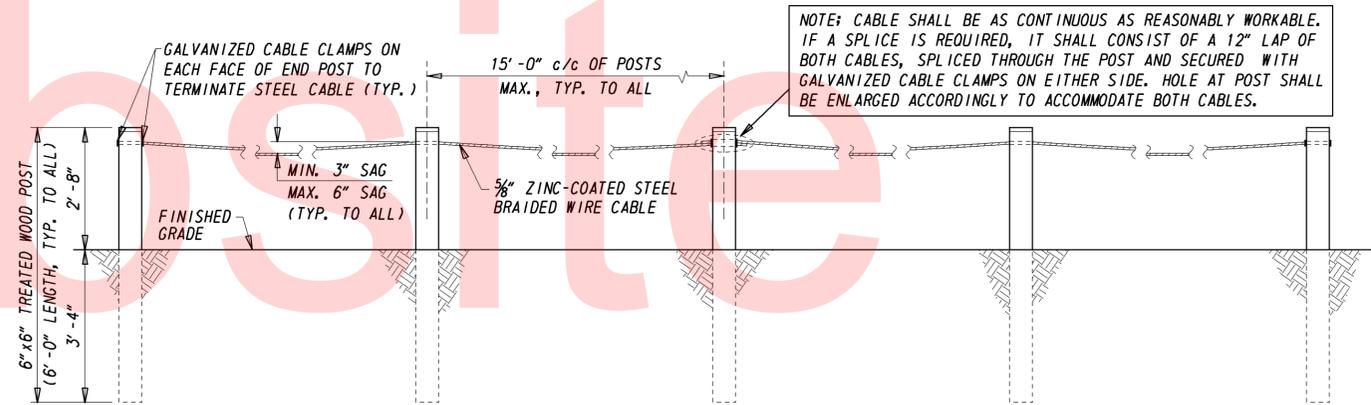
5. AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) CERTIFIED TRAFFIC CONTROL SUPERVISOR REQUIREMENT FOR THIS PROJECT.

(X)	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
()	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. 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.

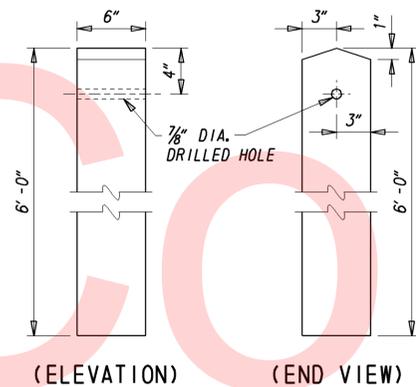
6. THE DISTURBED AREA FOR THIS PROJECT IS 1,660 ACRES.
7. THE TOTAL ADDITIONAL IMPERVIOUS AREA FOR THIS PROJECT IS 2065 SQUARE FEET.
8. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS HAVE BEEN APPROVED BY DELDOT'S STORMWATER ENGINEER UNDER DELDOT'S DELEGATED AUTHORITY. THE SEDIMENT AND STORMWATER MANAGEMENT PLANS ARE VALID FOR A 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 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.



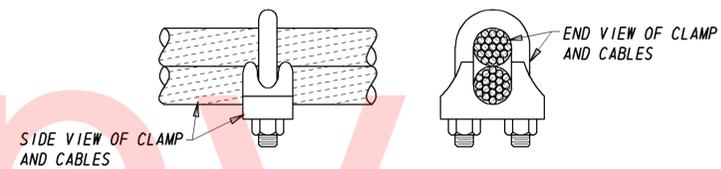
VEHICULAR GATE FOR PARK LAND ENTRANCE
(ITEM 727521 - 2 REQ'D.)
1/2" = 1'-0"



POST AND CABLE DELINEATOR DETAIL
(ITEM 720542)
1/2" = 1'-0"



TREATED WOOD POST DETAIL
1 1/2" = 1'-0"



- ALL CABLE CLAMPS SHALL BE PLACED AS REQUIRED AND NOTED ON THE 'POST AND CABLE DELINEATOR DETAIL'.
- ALL CLAMPS BOLT THREADS SHALL BE TREATED WITH A THREAD-LOCKING COMPOUND AND NUTS SHALL BE TIGHTENED ACCORDINGLY.
- CLAMPS SHALL BE TIGHT ENOUGH TO PREVENT MOVEMENT ALONG THE CABLE BUT SHALL NOT BE OVER-TIGHTENED SO AS TO CAUSE DEFORMATION OR DAMAGE TO THE CABLE.

TYPICAL GALVANIZED CABLE CLAMP
N. T. S.

- POST AND CABLE NOTES:**
- ALL POSTS TO BE SIZED AS SHOWN, PRESSURE-TREATED AND LABELED AS APPLICABLE FOR 'IN-GROUND' INSTALLATION.
 - ANY POST WITH A FRESHLY-CUT END WILL REQUIRE THE CUT END TO BE TREATED WITH A PRESSURE-TREATED WOOD SEALER PRIOR TO BEING SET AND BACKFILLED.
 - ALL POST HOLES SHALL BE A MINIMUM OF 12" WIDTH TO ALLOW FOR PROPER COMPACTION OF BACKFILL.
 - SET POSTS IN THE HOLES ON A 6" LAYER OF CRUSHED STONE OR GRAVEL. THE HOLES CAN BE BACKFILLED WITH THE REMOVED MATERIAL MIXED WITH CRUSHED STONE OR GRAVEL TO PROVIDE DRAINAGE. ALL MATERIAL SHALL BE COMPACTED WHILE PLACED TO SECURELY ANCHOR EACH POST. CARE SHALL BE TAKEN NOT TO SIGNIFICANTLY SCAR OR DAMAGE ANY POSTS DURING PLACEMENT.
 - THE CABLE SHALL HAVE A NOMINAL DIAMETER OF 5/8" INCH AND SHALL BE A MULTI-WIRE (19 PREFERRED) TIGHTLY WOUND STRAND. THE WIRE SHALL HAVE A BONDED ZINC COATING AND SHALL MEET THE REQUIREMENTS OF ASTM A475.
 - ALL MATERIALS AND LABOR REQUIRED FOR INSTALLING THIS POST AND CABLE DELINEATOR SHALL BE AS PER ITEM 720542.

LAST REVISED: 03/22/2011
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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. IN AREAS WHERE TREES OR SHRUBS WILL BE OVERHANGING THE PROPOSED SIDEWALK, PRUNING MAY BE NECESSARY TO ACHIEVE A VERTICAL CLEAR SPACE OF 10 FEET ABOVE THE PROPOSED SIDEWALK ELEVATION. THE CONTRACTOR SHALL PRUNE EXISTING TREE AND SHRUB BRANCHES, WHICH OVERHANG THE SIDEWALK, IN ACCORDANCE WITH I.S.A. STANDARDS. THE CONTRACTOR SHALL NOTIFY DELDOT'S ACTING ROADSIDE ENVIRONMENTALIST ADMINISTRATOR, BRIAN URBANEK AT (302) 760-2536 AND/OR HIS DESIGNEE, AT LEAST TWO (2) DAYS PRIOR TO THE PRUNING OPERATION. ALL COSTS ASSOCIATED WITH THE ABOVE WORK TO BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.
3. 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.
4. ITEMS TO BE REMOVED UNDER ITEM 210000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
- REMOVAL OF EXISTING STRUCTURE AND ALL CONCRETE SLOPE PAVING, IN THEIR ENTIRETY.
- REMOVAL OF ALL EXISTING DRAINAGE INLETS, JUNCTION BOXES AND ASSOCIATED PIPES WITHIN THE LIMITS OF PROPOSED FULL-DEPTH PAVEMENT, CURB AND SIDEWALK WORK.
- REMOVAL OF THE EXISTING GATES AND ALL ASSOCIATED HARDWARE AT BOTH EXISTING FIELD ENTRANCES.
- REMOVAL OF ANY EXISTING CHAIN LINK FENCE, ALONG WITH POSTS AND FOOTERS, NOTED IN THESE PLANS.
- REMOVAL OF ANY LARGE DEBRIS IN THE STREAM (I.E., TIRES, SHOPPING CARTS, FALLEN TREES, ETC.)
- REMOVAL OF ANY EXISTING 8" UNITED WATER MAIN THAT CONFLICTS WITH PROPOSED STRUCTURE PLACEMENT.
- REMOVAL OF ANY ABANDONED UTILITY PIPES AND CONDUIT THAT ARE IN CONFLICT WITH THE PROPOSED CONSTRUCTION.
- REMOVAL OF ALL WOOD POLE TIES LAID IN PARKING AREA BETWEEN STA. 2+00 RIGHT TO STA. 3+50 RIGHT.
5. REMOVAL OF THE EXISTING HOT-MIX SIDEWALK AND ALL EXCAVATION FOR PROPOSED HOT-MIX SIDEWALK SHALL BE AS PER ITEM 202000 - EXCAVATION AND EMBANKMENT. PLACEMENT OF THE PROPOSED HOT-MIX SIDEWALK SHALL BE AS PER THE RESPECTIVE PAY ITEMS.
6. 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 NOIS 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

- 7. 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 760000.
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. SHOULD THE CONTRACTOR ELECT TO TEMPORARILY STOCKPILE MILLINGS ON THE JOB SITE FOR LATER USE, ALL COSTS FOR STOCKPILING AND SUBSEQUENT RE-HANDLING SHALL BE INCIDENTAL TO ITEM 202000 - EXCAVATION AND EMBANKMENT.
c. 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'.
d. 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.
e. 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

- 8. 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.
9. PORTLAND CEMENT CONCRETE
STRUCTURAL ELEMENTS OF PORTLAND CEMENT CONCRETE SHALL BE AS NOTED: (F'c = 28 DAY COMPRESSIVE STRENGTH)
- PRECAST ELEMENTS (F'c = 5000 psi)
- MIX REQUIREMENTS SHALL CONFORM TO SECTION 812 OF THE SPECIFICATIONS.
- ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.
- ALL KEYED CONSTRUCTION JOINTS SHALL BE 2" x 4" UNLESS OTHERWISE NOTED.
- ALL EXPOSED CONSTRUCTION JOINTS EDGES SHALL HAVE A 3/4" V-NOTCH.
10. BAR REINFORCEMENT
REINFORCING STEEL SHALL CONFORM TO AASHTO M31 (ASTM A615), GRADE 60. ALL REINFORCING STEEL SHALL HAVE A CLEAR COVER OF 2", UNLESS OTHERWISE SPECIFIED ON THE PLANS. ALL REINFORCING STEEL SHALL BE PROTECTED WITH FUSION BONDED EPOXY. EPOXY COATED REINFORCING STEEL SHALL CONFORM TO AASHTO M284 (ASTM D3963) AND IS DENOTED WITH A SUFFIX 'E' IN THE BAR MARKS.
11. LIMITS OF COARSE AGGREGATE FOR FOUNDATION STABILIZATION SHALL EXTEND 18" OUTSIDE OF THE NEAT LINE PERIMETER OF THE VERTICAL FACES OF ANY FOOTER, ENCASEMENT OR STRUCTURAL UNIT.

SECTION 700

- 12. ALL CONCRETE PAVEMENT, SIDEWALK AND PCC CURB TO BE REMOVED SHALL BE PAID FOR AS PER ITEM 758000 - REMOVAL OF EXISTING PCC PAVEMENT, CURB, SIDEWALK, ETC.
13. IN AREAS WHERE PROPOSED CURB MEETS EXISTING CURB AND THE TWO CURB TYPES ARE NOT SIMILAR, THE PROPOSED CURB SHALL BE TRANSITIONED IN 10 LINEAR FEET, UNLESS OTHERWISE DIRECTED BY THE ENGINEER. PAYMENT FOR THIS WORK, INCLUDING SAW CUTTING EXISTING CURB SHALL BE INCIDENTAL TO THE PROPOSED CURB ITEM.
14. STATION AND ELEVATION DATA GIVEN FOR DRAINAGE STRUCTURES ARE TO BE APPLIED TO THE CENTER OF THE GRATE FOR INLETS, AND TO THE CENTER OF THE STRUCTURE FOR JUNCTION BOXES AND MANHOLES.
15. ALL PAVED AREAS TO BE REPLACED OR OVERLAYED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT. ALL HOT-MIX AND CONCRETE SAWCUTTING SHALL BE FULL DEPTH, UNLESS OTHERWISE NOTED ON THE PLANS, OR AS DIRECTED BY THE ENGINEER.
16. STRIPING
PROPOSED STRIPING SHALL MATCH THE EXISTING STRIPING PATTERN OF A DOUBLE YELLOW CENTERLINE AND WHITE EDGE LINES. PAYMENT FOR PERMANENT PAVEMENT STRIPING UNDER ITEM 748548. REFER TO THE 'SIGNING AND STRIPING PLAN' FOR CLARIFICATION.

MISCELLANEOUS

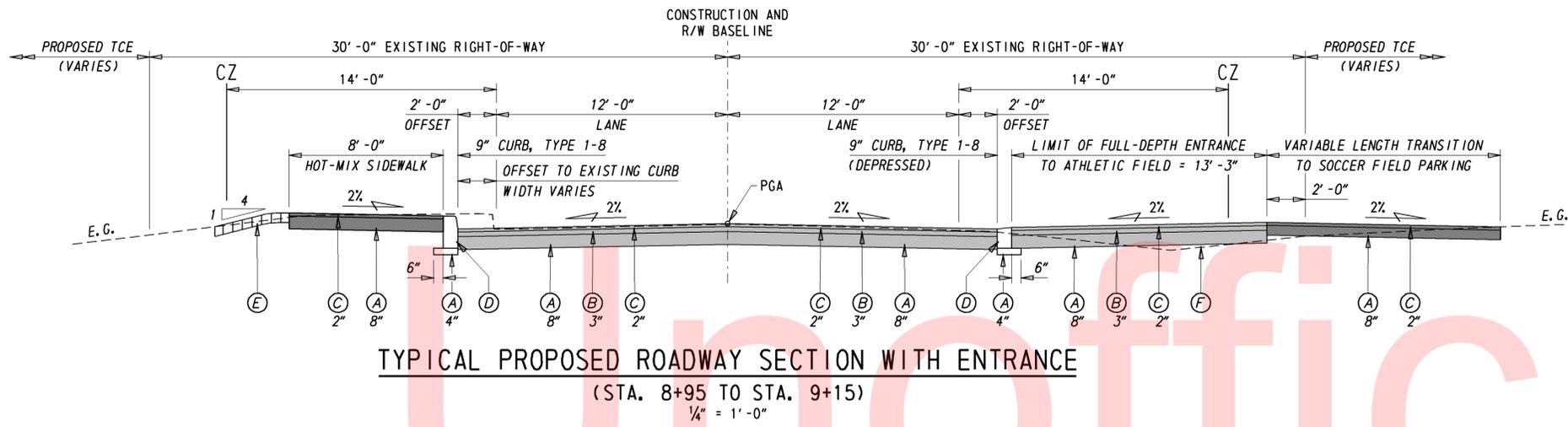
- 17. DESIGN CRITERIA
2012 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, 6TH EDITION, CUSTOMARY U.S. UNITS.
USING AASHTO HL93 FOR LIVE LOAD, 25 psf FOR FUTURE WEARING SURFACE.
18. HYDRAULIC DATA
PROPOSED OPENING: 158.97 SF
DRAINAGE AREA: 2.20 sq miles
DESIGN DISCHARGE: 705.0 cfs
DESIGN FREQUENCY: 50 YEARS
50-YEAR FLOOD ELEVATION: 60.38 ft
PLEASE REFER TO THE HYDROLOGY & HYDRAULIC REPORT FOR MORE INFORMATION ON HOW THE 50-YEAR STORM ELEVATION WAS OBTAINED.
19. SCOUR ANALYSIS
THE PROPOSED STRUCTURE HAS BEEN ANALYZED FOR THE EFFECTS OF SCOUR IN ACCORDANCE WITH HEC-14 - 'HYDRAULIC DESIGN OF ENERGY DISSIPATORS FOR CULVERTS AND CHANNELS', HEC-18 - 'EVALUATING SCOUR AT BRIDGES' AND HEC 23 - 'BRIDGE SCOUR AND STREAM INSTABILITY COUNTERMEASURES'. SCOUR COUNTERMEASURES HAVE BEEN DESIGNED FOR THE LESSEER OF THE OVERTOPPING FLOOD OR THE 500-yr STORM EVENT.
DESIGN EVENT: 500 year
DESIGN VELOCITY: 6.76 fps
DESIGN DISCHARGE: 1290.0 cfs
DESIGN DEPTH OF FLOW: 7.82 ft
20. THE CONTRACTOR SHALL CONTACT WILLIAM LOTHARP, THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION AT 302-576-6006.
21. ENVIRONMENTAL COMPLIANCE:
REFER TO THE ENVIRONMENTAL COMPLIANCE PLAN FOR ANY RESTRICTIONS AND ADDITIONAL GUIDANCE THAT MAY BE ASSOCIATED TO THIS PROJECT.
22. 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' AND THE PLAN SHEET 'EROSION AND SEDIMENT CONTROL PLAN & CONSTRUCTION SEQUENCE DETAIL - PHASE 3'.
23. LOAD RATINGS FOR BR. 1-254 HAVE BEEN PERFORMED BY DELDOT'S BRIDGE MANAGEMENT SECTION IN ACCORDANCE WITH THE 2011 AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS AND THE MANUAL FOR BRIDGE EVALUATION. ALL CURRENT AASHTO, DELAWARE LEGAL AND PERMIT LOADS HAVE BEEN CONFIRMED TO HAVE A MINIMUM LOAD RATING FACTOR OF 1.0 IN ACCORDANCE WITH DELDOT'S BRIDGE DESIGN MANUAL. REFER TO 'TYPICAL SECTIONS' SHEET FOR LOAD RATING SUMMARY.
24. REFER TO THE 'CONSTRUCTION PLAN' SHEET FOR THE LOCATION OF THE CLEAR ZONE AREA LIMITS.
25. THE EXISTING PARK ENTRANCE AT STA. 3+60+/- SHALL BE RELOCATED TO CENTERLINE STA. 3+75 AND PLACED AS PER THE LIMITS SHOWN ON THE 'CONSTRUCTION PLAN'. THE EXISTING SOCCER FIELD PARKING ENTRANCE AT STA. 6+90+/- SHALL BE RELOCATED TO CENTERLINE STA. 9+05. THE NEW ENTRANCE SHALL BE PLACED AS PER THE LIMITS SHOWN ON THE 'CONSTRUCTION PLAN' AND THE SECTION DETAILED ON THE 'TYPICAL SECTIONS' SHEET. PLACEMENT OF NEW VEHICULAR GATES FOR BOTH PROPOSED ENTRANCES SHALL BE AS PER ITEM 727521 - VEHICULAR GATES, SPECIAL AND SHALL COMPARE TO THE DETAIL SHOWN ON THE 'GENERAL NOTES & MISCELLANEOUS DETAILS' SHEET. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THE NEW VEHICULAR GATES FOR REVIEW PRIOR TO FABRICATION AND PLACEMENT. THE EXISTING GATES SHALL BE REMOVED IN THEIR ENTIRETY AND SHALL NOT BE REUSED.
26. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR ALL PRECAST ITEMS PRIOR TO FABRICATION. REFER TO INDIVIDUAL ITEM SPECIFICATIONS FOR ADDITIONAL GUIDANCE.

MISCELLANEOUS - CONT.

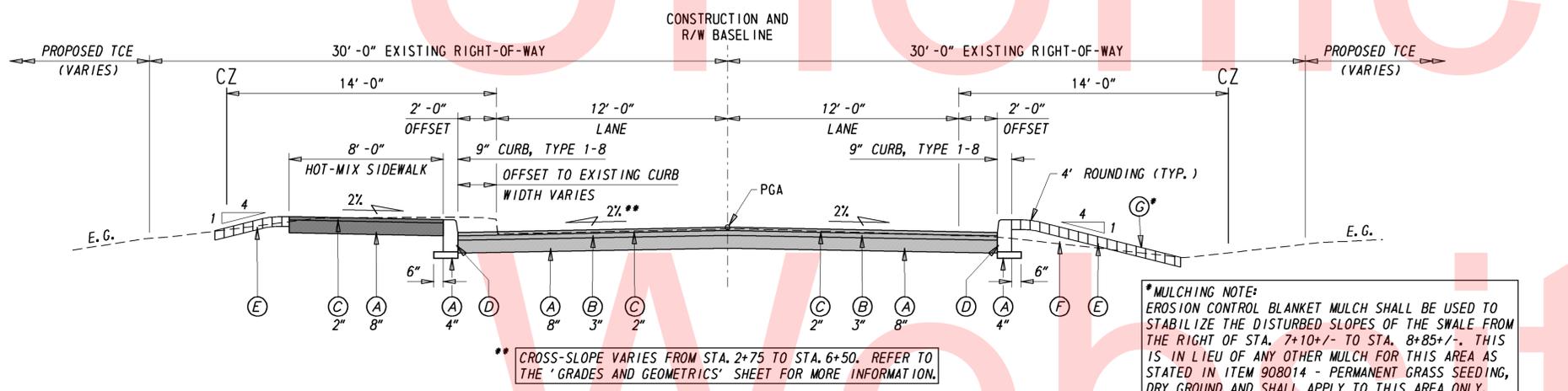
- 27. ANY EXISTING 4' HT. CHAIN LINK FENCE THAT CONFLICTS WITH THE PLACEMENT OF THE PROPOSED ENTRANCE AND VEHICULAR GATE AT STA. 9+05 SHALL BE REMOVED AND ADJUSTED ACCORDINGLY. REMOVAL SHALL BE AS PER ITEM 21000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS. ADJUSTING THE REMAINING FENCE SHALL BE AS PER ITEM 727011 - RESET CHAIN-LINK FENCE AND ITEM 727005 - TERMINAL POSTS FOR 4' CHAIN-LINK FENCE.
28. THE 8 FOOT HIGH CHAIN LINK FENCE THAT FRONTS THE ATHLETIC FIELD PARKING SHALL BE REPAIRED AND EXTENDED BY THE CONTRACTOR. THE WORK SHALL CONSIST OF REMOVING THE EXISTING CHAIN LINK FENCING, REPLACING ANY DAMAGED FENCE POLES AND EXTENDING THE EXISTING FENCE ON THE WEST END TO ENCLOSE THE OLD ENTRANCE. ALL LABOR AND MATERIALS FOR ADJUSTING OR EXTENDING THE EXISTING FENCE SHALL BE UNDER ITEM 727007 - CHAIN-LINK FENCE, 8' HIGH.
29. PROPOSED SLOPE, SIDEWALK AND STRUCTURAL WORK SHALL NECESSITATE THE NEED FOR SOME TREE REMOVAL ALONG THE FRONTAGE OF PARCEL 1-L. THE TREES THAT WILL NEED TO BE REMOVED HAVE BEEN INDICATED ON THE 'LANDSCAPING PLAN' BY STATION, OFFSET, TRUNK DIAMETER AND AVERAGE SPREAD. THEY SHALL BE MARKED WITH PAINT PRIOR TO THE E&S PRECONSTRUCTION / ENVIRONMENTAL COMPLIANCE MEETING TO CONFIRM REMOVAL. ANY TREE REMOVAL BEYOND WHAT IS SHOWN ON THE 'LANDSCAPING PLAN' MUST BE COORDINATED WITH THE ENVIRONMENTAL STUDIES SECTION.
30. A TOTAL OF 34 TREES OF VARIOUS SIZES HAVE BEEN IDENTIFIED FOR REMOVAL AND SHALL BE FOLLOWS:
~ 22 TREES TOTAL AS PER ITEM 741001 - TREE REMOVAL 6" TO 10.9"
~ 7 TREES TOTAL AS PER ITEM 741002 - TREE REMOVAL 11" TO 14.9"
~ 5 TREES TOTAL AS PER ITEM 741004 - TREE REMOVAL 19" TO 24.9"
REFER TO THE 'LANDSCAPING PLAN' AND THESE ITEM SPECIFICATIONS FOR ANY CLARIFICATION AND GUIDANCE.
31. DUE TO THE MIXED DENSITY OF THE TREE REMOVAL AREA, ANY ADJACENT TREES THAT ARE NOT MARKED FOR REMOVAL WILL NEED TO BE PROTECTED FROM DAMAGE DUE TO ALL LIMB PRUNING AND TREE FELLING OPERATIONS. ANY PRUNING NECESSARY TO THE REMAINING TREES TO FACILITATE THE PROPOSED TREE REMOVAL SHALL BE PERFORMED BY A CERTIFIED ARBORIST. PAYMENT FOR THIS WORK SHALL BE AS PER ITEM 741501 - TREE TRIMMING. ADDITIONALLY, ANY DAMAGE TO EXISTING TREES DEEMED EXTENSIVE OR DETRIMENTAL TO ANY TREE'S OVERALL HEALTH SHALL BE CORRECTED, AT THE CONTRACTOR'S EXPENSE, BY REMOVAL AND REPLACEMENT UNDER THE DIRECTION OF AND TO THE SATISFACTION OF THE DEPARTMENT AND ANY COORDINATING AGENCIES.
32. THE PROPERTY FRONTAGE OF PARCEL 1-L ADJACENT TO THE SIDEWALK, BETWEEN STA. 4+00 TO STA. 6+50, HAS AN INFESTATION OF POISON IVY THAT WILL REQUIRE REMOVAL PRIOR TO ANY PROPOSED SLOPE WORK. APPLICATION OF A HERBICIDE MAY BE REQUIRED PRIOR TO REMOVAL AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GUIDELINES. CARE SHALL BE TAKEN TO AVOID OVERSPRAY ONTO AREAS WHICH ARE NOT AFFECTED BY POISON IVY INFESTATION. ALL REQUIRED SPRAYING SHALL BE PERFORMED BY OTHERS IN ADVANCE OF THIS CONTRACT. REMOVAL OF THE PLANTS WILL ALSO REQUIRE CLEARING AND GRUBBING OF ALL PLANT ROOTS AND VINES ASSOCIATED WITH THE POISON IVY. GRUBBING IN THIS AREA SHALL BE DONE MANUALLY, AS REQUIRED, IN ORDER TO PROTECT THE ROOTS OF ALL REMAINING TREES. PAYMENT FOR THIS WORK SHALL BE AS PER ITEM 201000 - CLEARING AND GRUBBING AND SHALL BE PERFORMED BY THE CONTRACTOR.
33. THE STREAM FRONTAGE OF PARCEL 1-R ADJACENT TO COOL RUN, BETWEEN STA. 4+80 TO STA. 6+00, HAS AN INFESTATION OF JAPANESE HOPS AND/OR GREENBRIER (SMILAX) THAT WILL REQUIRE REMOVAL PRIOR TO ANY PROPOSED LANDSCAPING. APPLICATION OF A HERBICIDE MAY BE REQUIRED PRIOR TO REMOVAL AND SHALL BE APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS AND GUIDELINES. CARE SHALL BE TAKEN TO AVOID OVERSPRAY ONTO AREAS WHICH ARE NOT AFFECTED BY JAPANESE HOPS, GREENBRIER (SMILAX) OR TO THE STREAM ITSELF. ALL REQUIRED SPRAYING SHALL BE PERFORMED BY OTHERS IN ADVANCE OF THIS CONTRACT. REMOVAL OF THESE PLANTS WILL ALSO REQUIRE CLEARING AND GRUBBING OF ALL PLANTS AND ROOTS OF THE JAPANESE HOPS OR GREENBRIER (SMILAX). GRUBBING IN THIS AREA SHALL BE DONE MANUALLY, AS REQUIRED, TO MINIMIZE IMPACT TO THE SURROUNDING AREA. PAYMENT FOR THIS WORK SHALL BE AS PER ITEM 201000 - CLEARING AND GRUBBING AND SHALL BE PERFORMED BY THE CONTRACTOR.
34. ALL PROPOSED LANDSCAPING WORK INDICATED ON THE 'LANDSCAPING PLAN' SHALL BE PERFORMED BY OTHERS AND WILL NOT BE THE RESPONSIBILITY OF THE CONTRACTOR.
35. THE PROPOSED ALUMINUM BRIDGE RAILING SHALL BE AS PER ITEM 606003 - METAL BRIDGE RAILING (PEDESTRIAN). LAYOUT AND PLACEMENT SHALL BE AS SHOWN ON THE 'PEDESTRIAN RAILING DETAILS' AND 'BRIDGE PLAN, SECTION AND ELEVATION SHEETS. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR THIS RAILING PRIOR TO FABRICATION AND INSTALLATION.
36. PERMITTING FOR UTILITIES: AS OUTLINED IN CHAPTER 3 OF THE DELDOT UTILITIES MANUAL, THE INDIVIDUAL UTILITY COMPANIES ARE RESPONSIBLE FOR OBTAINING ALL REQUIRED PERMITS FROM MUNICIPAL, STATE AND FEDERAL GOVERNMENT AGENCIES AND RAILROADS. THIS INCLUDES BUT IS NOT LIMITED TO WATER QUALITY PERMIT/DNREC WATER QUALITY CERTIFICATION, DNREC SUBAQUEOUS LANDS/WETLANDS PERMITS, DNREC COASTAL ZONE CONSISTENCY CERTIFICATION, COUNTY FLOODPLAIN PERMITS (NEW CASTLE COUNTY ONLY), U.S. COAST GUARD PERMITS, U.S. ARMY CORPS 404 PERMITS, SEDIMENT AND EROSION PERMITS, AND RAILROAD CROSSING PERMITS. THE ENVIRONMENTAL PERMITS CITED ON THE ENVIRONMENTAL COMPLIANCE SHEET DO NOT AUTHORIZE ANY PART OF THE UTILITY WORK ASSOCIATED WITH THIS PROJECT.
37. TRENCHING OF THE TEMPORARY SILT FENCE (ITEM 905001) WILL NOT BE REQUIRED IN ANY AREA WHERE SHALLOW TREE ROOTS WILL CONFLICT WITH SPECIFIED PLACEMENT. SAND BAGS MAY BE USED AS AN ALTERNATIVE TO TRENCHING IN THESE AREAS ONLY AND SHALL BE AS DIRECTED BY THE ENGINEER.
38. THE EXISTING STORMWATER MANHOLE SHOWN 16' LEFT OF STA. 3+65 (+/-) SHALL NOT BE REMOVED IN ITS ENTIRETY DUE TO AN UNDERGROUND GAS LINE IN THAT AREA. THE CONTRACTOR SHALL REMOVE AT LEAST 12" FROM THE TOP OF THE EXISTING MANHOLE TO CLEAR PROPOSED SIDEWALK WORK. REMOVAL SHALL BE UNDER ITEM 210000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS AND ITEM 762002 - SAW CUTTING, CONCRETE, FULL-DEPTH. THE REMAINING MANHOLE SHALL BE FILLED WITH ITEM 208001 - FLOWABLE FILL.
39. PART OF THE EXISTING WOOD STOCKADE FENCE BETWEEN STA. 2+85 TO STA. 3+75 IS SITUATED IN STATE RIGHT-OF-WAY. THE PROPERTY OWNER HAS BEEN MADE AWARE OF THIS AND WILL BE GIVEN AN OPPORTUNITY TO REMOVE THEIR PROPERTY PRIOR TO ANY CONTRACT WORK. THE CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER A MINIMUM OF 14 DAYS PRIOR TO COMMENCING ANY CLEARING OPERATIONS. THE PROPERTY OWNER HAS BEEN MADE AWARE THAT THEY WILL RECEIVE NO COMPENSATION FOR REMOVAL OF OR DAMAGE TO THEIR FENCE IF THEY CHOOSE NOT TO REMOVE IT THEMSELVES.
40. BROOKSIDE COMMUNITY HAS REQUESTED A METHOD OF LIMITING VEHICULAR ACCESS IMMEDIATELY WEST OF THE NEW ENTRANCE AND GATE AT STA. 3+75. CURRENTLY, WOOD UTILITY POLES LAID ON THE GROUND END-TO-END ARE BEING USED FOR THIS PURPOSE BUT SHALL BE REMOVED DURING CLEARING AND GRUBBING. A NEW POST AND CABLE DELINEATOR SHALL BE PLACED WEST OF THE NEW GATE AND RUN WEST PARALLEL WITH THE ROADWAY OUTSIDE THE STATE RIGHT-OF-WAY, AS SHOWN ON THE 'CONSTRUCTION PLAN'. REFER TO THE 'GENERAL NOTES AND MISCELLANEOUS DETAILS' SHEET FOR THE DETAIL AND GUIDANCE.
41. A TEMPORARY PEDESTRIAN PATHWAY (ITEM 743553) PLACED IN SEQUENCE OF CONSTRUCTION - PHASE 2, SHALL BE UTILIZED TO PERMANENTLY REESTABLISH THE EXISTING ATHLETIC FIELD PARKING IN PHASE 5. WHEN THE TEMPORARY PATHWAY IS REMOVED, ALL MATERIAL WHETHER AGGREGATE OR MILLINGS, SHALL BE PLACED AND GRADED ON THE AREA OF THE EXISTING ATHLETIC FIELD PARKING DELINEATED BY CHAIN-LINK FENCE ON THREE SIDES. THE MATERIAL AVAILABLE SHALL BE PLACED IN ANY LOW AREAS FIRST AND SHALL BE SPREAD AS UNIFORMLY AS POSSIBLE. AVERAGE DEPTH OF PLACEMENT WILL VARY WITH NO MINIMUM DEPTH SPECIFIED. PAYMENT FOR THIS ADDITIONAL PLACEMENT AND GRADING SHALL BE INCIDENTAL TO ITEM 743553.

LAST REVISED: 03/22/2011
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Table with project information including Delaware Department of Transportation logo, project name 'BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN', contract number 'T201307102', county 'NEW CASTLE', sheet number '4', and total sheets '27'.



TYPICAL PROPOSED ROADWAY SECTION WITH ENTRANCE
(STA. 8+95 TO STA. 9+15)
1/4" = 1'-0"



TYPICAL PROPOSED ROADWAY SECTION
1/4" = 1'-0"

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
HOT-MIX, TYPE 'C'	1.25"	2"
HOT-MIX, TYPE 'B'	2.25"	3"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	--	8"

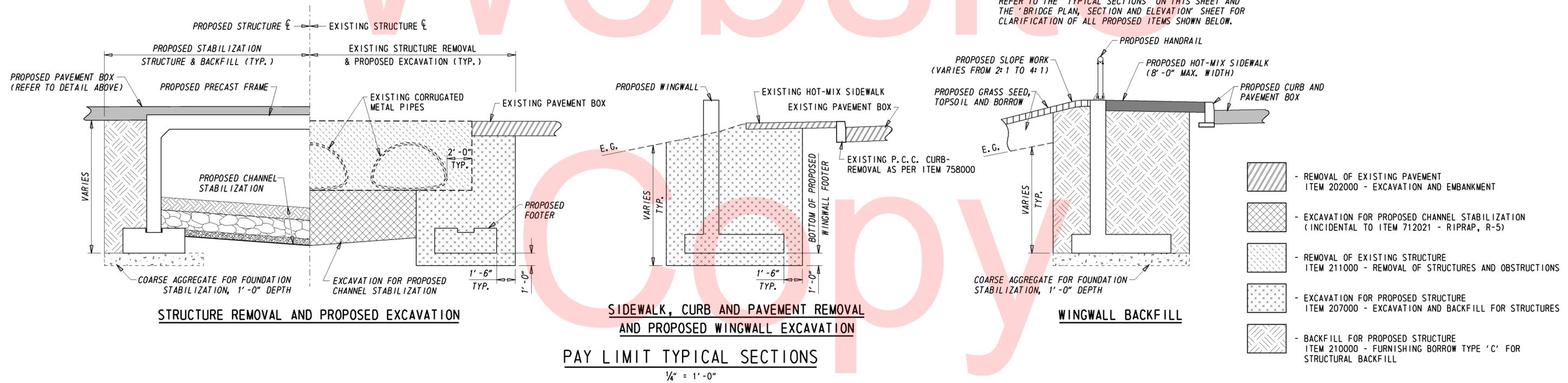
LEGEND

- (A) ITEM 302007 - GRADED AGGREGATE BASE COURSE, TYPE B
- (B) ITEM 401810 - WMA, SUPERPAVE, TYPE B, 160 GYRATIONS, PG 64-22
- (C) ITEM 401801 - WMA, SUPERPAVE, TYPE C, 160 GYRATIONS, PG 64-22 (CARBONATE STONE)
- (D) ITEM 701010 - P.C.C. CURB, TYPE 1-8
- (E) ITEM 908004 - TOPSOIL, 6" DEPTH (S.Y.)
- ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (F) ITEM 209006 - BORROW, TYPE F
- (G) ITEM 908020 - EROSION CONTROL BLANKET MULCH

Load Rating Summary

Vehicle Type	Rating Factor	Rating Weight (tons)	Controlling Member	Controlling Point	Load Effect
HL-93 Truck (Inventory)	1.55	N/A	Span 1: Interior Beam	109.16	Shear
HL-93 Tandem (Inventory)	1.51	N/A	Span 1: Interior Beam	109.16	Shear
HS20 (Inventory)	1.55	55.69	Span 1: Interior Beam	109.16	Shear
HL-93 Truck (Operating)	2.01	N/A	Span 1: Interior Beam	109.16	Shear
HL-93 Tandem (Operating)	1.95	N/A	Span 1: Interior Beam	109.16	Shear
HS20 (Operating)	2.01	72.20	Span 1: Interior Beam	109.16	Shear
DE S220	2.44	48.75	Span 1: Interior Beam	109.16	Shear
DE S335	1.39	48.82	Span 1: Interior Beam	109.16	Shear
DE S437	1.40	51.24	Span 1: Interior Beam	109.16	Shear
DE T330	2.38	71.43	Span 1: Interior Beam	109.16	Shear
DE T435	1.98	69.19	Span 1: Interior Beam	109.16	Shear
DE T540	1.84	73.60	Span 1: Interior Beam	109.16	Shear

NOTE: LOAD RATING INCLUDES FUTURE WEARING SURFACE AS NOTED IN THE PLANS.



PAY LIMIT TYPICAL SECTIONS
1/4" = 1'-0"

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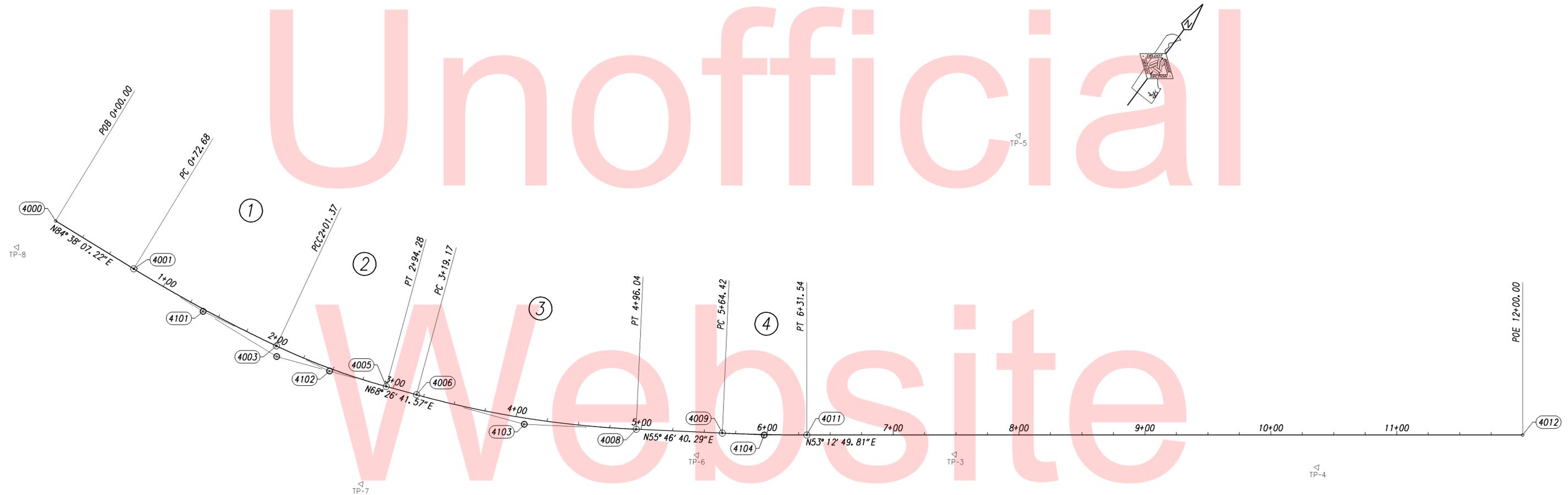
HORIZONTAL / VERTICAL CONTROL DATA					
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
TP-3	7+49.09	+15.28	610043.52	570804.70	60.85
TP-4	10+36.82	+25.52	610207.62	571041.26	64.29
TP-5	7+99.57	-236.88	610275.70	570694.12	58.23
TP-6	5+45.11	+18.35	609920.32	570641.10	61.08
TP-7	2+95.46	+79.58	609742.50	570441.26	61.56
TP-8	N/A	N/A	609728.78	570110.13	71.45

CONSTRUCTION ALIGNMENT CONTROL				
POINT	STATION	OFFSET	NORTHING	EASTING
4000	0+00.00	0.00	609763.73	570122.34
4012	12+00.00	0.00	610325.60	571156.44

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



ELEMENT: CIRCULAR ①

	STATION	NORTHING	EASTING
PC (4001)	0+72.68	609770.5261	570194.6976
PI (4101)	1+37.09	609776.5479	570258.8229
CC (4002)	610940.3794	570084.8419	
PCC (4003)	2+01.37	609789.5425	570321.9058
RADIUS:	1175.00		
DELTA:	6° 16' 30.1238" LEFT		
DEGREE OF CURVATURE (ARC):	4° 52' 34.4516"		
LENGTH:	128.69		
TANGENT:	64.41		
CHORD:	128.62		
MIDDLE ORDINATE:	1.76		
EXTERNAL:	1.76		
TANGENT DIRECTION:	N 84° 38' 07.2246" E		
RADIAL DIRECTION:	S 5° 21' 52.7754" E		
CHORD DIRECTION:	N 81° 29' 52.1627" E		
RADIAL DIRECTION:	S 11° 38' 22.8991" E		
TANGENT DIRECTION:	N 78° 21' 37.1009" E		

ELEMENT: CIRCULAR ②

	STATION	NORTHING	EASTING
PCC (4003)	2+01.37	609789.5425	570321.9058
PI (4102)	2+47.94	609798.9393	570367.5230
CC (4004)	610315.4260	570213.5777	
PT (4005)	2+94.28	609816.0506	570410.8408
RADIUS:	536.92		
DELTA:	9° 54' 55.0897" LEFT		
DEGREE OF CURVATURE (ARC):	10° 40' 15.9438"		
LENGTH:	92.92		
TANGENT:	46.57		
CHORD:	92.80		
MIDDLE ORDINATE:	2.01		
EXTERNAL:	2.02		
TANGENT DIRECTION:	N 78° 21' 37.1009" E		
RADIAL DIRECTION:	S 11° 38' 22.8991" E		
CHORD DIRECTION:	N 73° 24' 09.5560" E		
RADIAL DIRECTION:	S 21° 33' 17.9889" E		
TANGENT DIRECTION:	N 68° 26' 41.5676" E		

ELEMENT: CIRCULAR ③

	STATION	NORTHING	EASTING
PC (4006)	3+19.17	609825.1939	570433.9869
PI (4103)	4+07.97	609857.8167	570516.5720
CC (4007)	610569.2459	570140.0710	
PT (4008)	4+96.04	609907.7553	570589.9934
RADIUS:	800.00		
DELTA:	12° 40' 01.5516" LEFT		
DEGREE OF CURVATURE (ARC):	7° 09' 43.1008"		
LENGTH:	176.87		
TANGENT:	88.79		
CHORD:	176.51		
MIDDLE ORDINATE:	4.88		
EXTERNAL:	4.91		
TANGENT DIRECTION:	N 68° 26' 41.8444" E		
RADIAL DIRECTION:	S 21° 33' 18.1556" E		
CHORD DIRECTION:	N 62° 06' 41.0686" E		
RADIAL DIRECTION:	S 34° 13' 19.7071" E		
TANGENT DIRECTION:	N 55° 46' 40.2929" E		

ELEMENT: CIRCULAR ④

	STATION	NORTHING	EASTING
PC (4009)	5+64.42	609946.2119	570646.5335
PI (4104)	5+97.98	609965.0909	570674.2901
CC (4010)	611186.5068	569802.9291	
PT (4011)	6+31.54	609985.1928	570701.1744
RADIUS:	1500.00		
DELTA:	2° 33' 50.4847" LEFT		
DEGREE OF CURVATURE (ARC):	3° 49' 10.9871"		
LENGTH:	67.13		
TANGENT:	33.57		
CHORD:	67.12		
MIDDLE ORDINATE:	0.38		
EXTERNAL:	0.38		
TANGENT DIRECTION:	N 55° 46' 40.2929" E		
RADIAL DIRECTION:	S 34° 13' 19.7071" E		
CHORD DIRECTION:	N 54° 29' 45.0505" E		
RADIAL DIRECTION:	S 36° 47' 10.1919" E		
TANGENT DIRECTION:	N 53° 12' 49.8081" E		

ADDENDUMS / REVISIONS



**BR 1-254 ON N350
OLD NEWARK ROAD
OVER COOL RUN**

CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

**HORIZONTAL AND
VERTICAL CONTROL**

SHEET NO.	6
TOTAL SHTS.	27

DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
(1)	15" R.C.P.	3	48.0'	0.0100	59.20	58.72
2	36" R.C.P.	3	70.0'	0.0116	57.40	56.67
3	15" R.C.P.	3	120.0'	0.0030	58.00	57.64
4	15" R.C.P.	3	64.0'	0.0030	58.09	57.90
5	15" R.C.P.	3	72.0'	0.0060	57.90	57.47
6	18" R.C.P.	3	24.0'	0.0051	57.79	57.67
7	18" R.C.P.	3	120.0'	0.0030	57.47	57.11
8	18" R.C.P.	3	32.00'	0.0036	56.93	56.50
9	18" R.C.P.	3	24.0'	0.0030	55.37	55.30
10	18" R.C.P.	3	144.0'	0.0030	56.00	55.57
11	18" R.C.P.	3	25.5'	0.0039	56.30	56.20
12	15" R.C.P.	3	80.0'	0.0224	58.10	57.53
13	12" R.C.P.	3	8.0'	0.0100	56.90	56.82
14	12" R.C.P.	3	43.0'	0.0100	57.83	57.40

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
*1	3+81.75	-12.20'	34" x 24"	1	61.09	58.09
*2	4+03.85	14.00'	34" x 24"	1	61.00	58.00
*3	4+49.62	-12.17'	34" x 24"	1	60.89	57.89
*4	5+25.76	14.00'	48" x 30"	1	61.04	57.79
*5	5+25.76	-12.00'	48" x 30"	1	61.08	57.47
*6	6+50.00	-14.00'	48" x 30"	1	61.87	56.93
*7	7+32.36	-14.00'	48" x 30"	1	61.60	55.37
*8	8+80.35	-14.00'	48" x 30"	1	60.53	56.00
*9	8+80.35	14.00'	48" x 30"	1	60.53	56.30
*10	9+63.78	-13.74'	34" x 24"	1	61.10	58.10
11	8+80.00	24.50'	24" x 24"	6	59.00	56.90
12	9+25.00	20.85'	24" x 24"	6	60.16	57.83

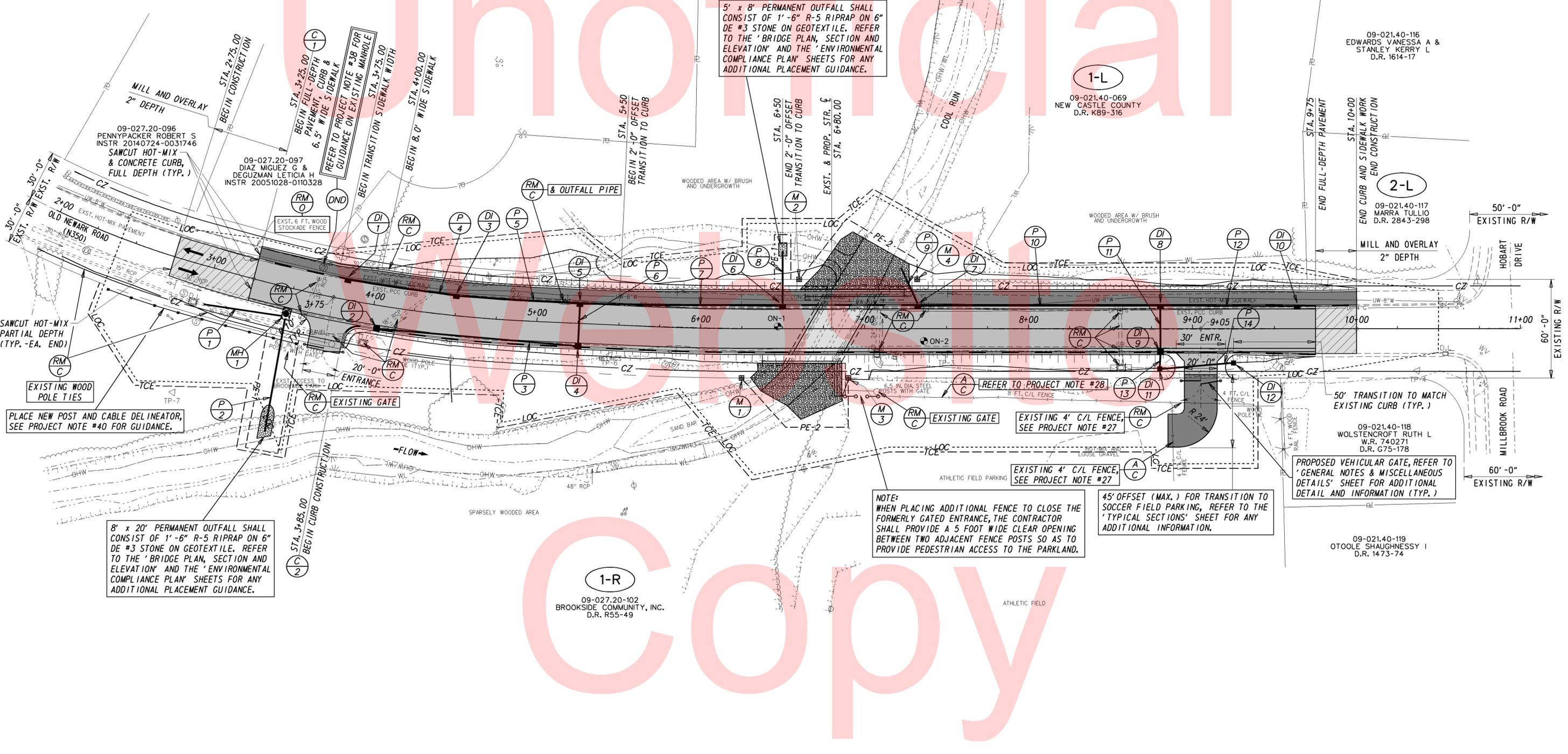
BOX MANHOLE SCHEDULE					
NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
1	3+49.33	15.95'	48" x 72"	62.18	57.75

CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	P.C.C. CURB, TYPE 1-8 (BEGIN @ STA. 3+25)	675.00
2	P.C.C. CURB, TYPE 1-8 (BEGIN @ STA. 3+85)	605.00

SOIL BORING SCHEDULE					
NO.	STATION	OFFSET	ELEVATION	NORTHING	EASTING
ON-1	6+47.00	-1.35	--	609995.553	570712.782
ON-2	7+36.17	7.47	--	610041.858	570789.431

RIGHT-OF-WAY MONUMENT SCHEDULE					
NO.	TYPE	STATION	OFFSET	NORTHING	EASTING
1	CAPPED REBAR	6+25.00	30.00	609957.180	570713.790
2	CAPPED REBAR	6+60.00	-30.00	610026.261	570706.001
3	CAPPED REBAR	6+90.00	30.00	609996.170	570765.960
4	CAPPED REBAR	7+32.00	-30.00	610069.376	570763.664

(-) - USE A POURED PCC COLLAR BETWEEN NEW AND EXISTING PCC PIPE, COST INCIDENTAL TO PROPOSED PIPE ITEM

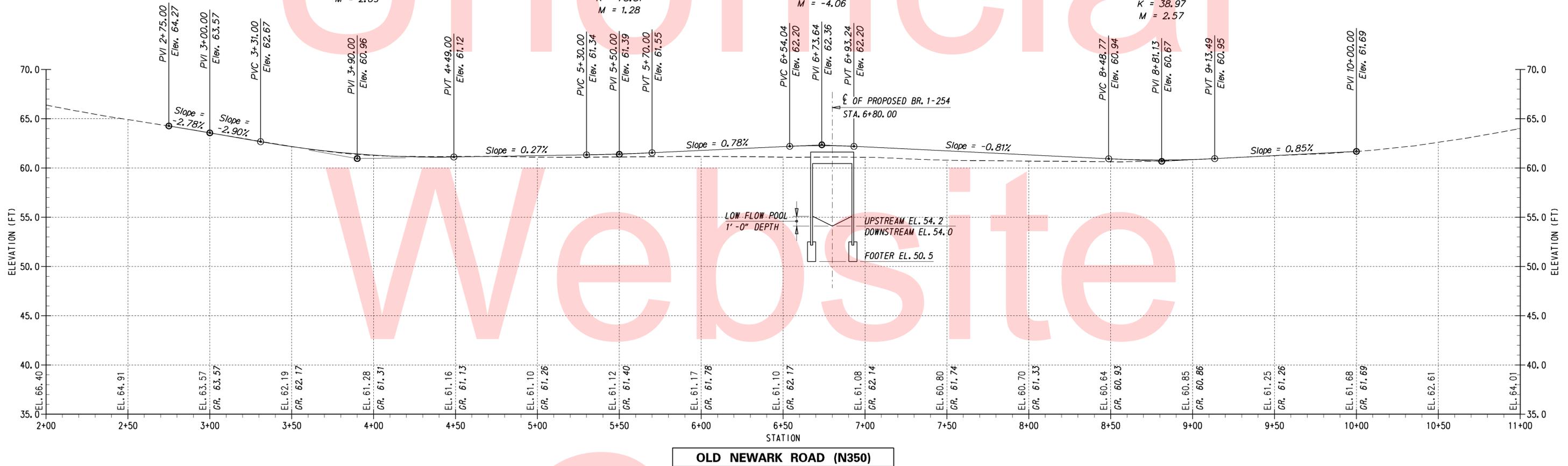


Type = Symmetric Parabola
 Direction = Sag
 L = 118.00'
 G1 = -2.90%
 G2 = 0.27%
 e = 0.47'
 K = 37.21
 M = 2.69

Type = Symmetric Parabola
 Direction = Sag
 L = 40.00'
 G1 = 0.27%
 G2 = 0.78%
 e = 0.03'
 K = 78.31
 M = 1.28

Type = Symmetric Parabola
 Direction = Crest
 L = 39.20'
 G1 = 0.78%
 G2 = -0.81%
 e = -0.08'
 K = 24.64
 M = -4.06

Type = Symmetric Parabola
 Direction = Sag
 L = 64.72'
 G1 = -0.81%
 G2 = 0.85%
 e = 0.13'
 K = 38.97
 M = 2.57



OLD NEWARK ROAD (N350)

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ADDENDUMS / REVISIONS



BR 1-254 ON N350
 OLD NEWARK ROAD
 OVER COOL RUN

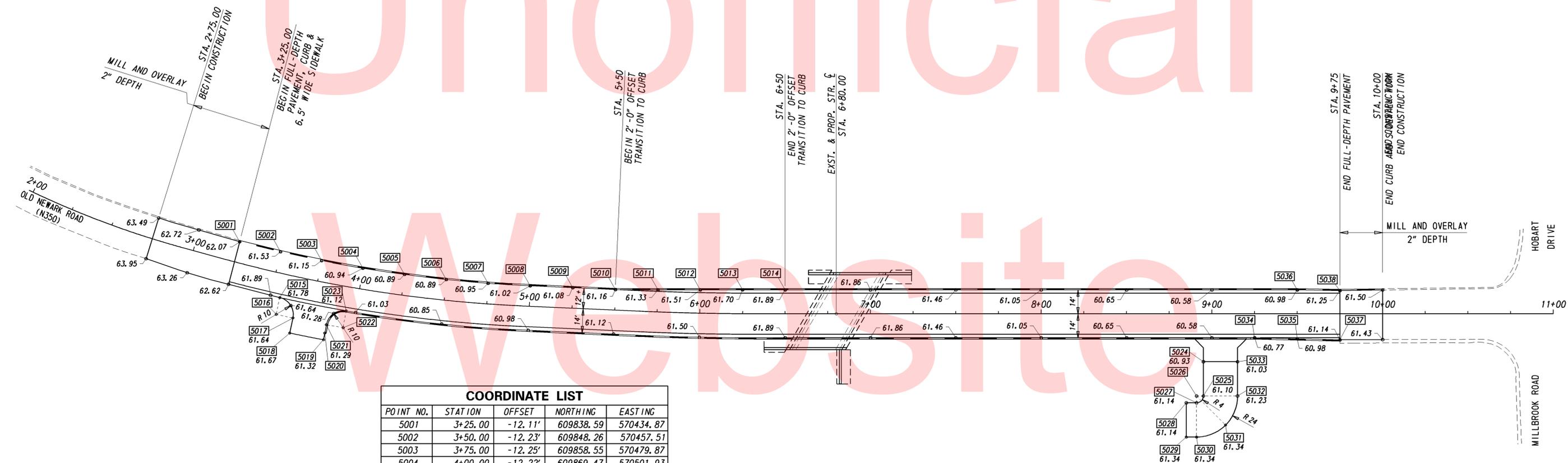
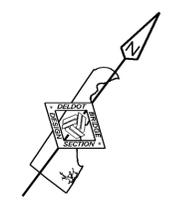
CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

PROFILE



SHEET NO.	8
TOTAL SHTS.	27

Unofficial



COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
5001	3+25.00	-12.11'	609838.59	570434.87
5002	3+50.00	-12.23'	609848.26	570457.51
5003	3+75.00	-12.25'	609858.55	570479.87
5004	4+00.00	-12.22'	609869.47	570501.93
5005	4+25.00	-12.20'	609881.15	570523.60
5006	4+50.00	-12.16'	609893.41	570544.95
5007	4+75.00	-12.07'	609906.31	570565.92
5008	5+00.00	-12.00'	609919.90	570586.53
5009	5+25.00	-12.00'	609933.96	570607.20
5010	5+50.00	-12.00'	609948.03	570627.86
5011	5+75.00	-12.94'	609962.84	570647.91
5012	6+00.00	-13.66'	609977.68	570667.77
5013	6+25.00	-14.00'	609992.54	570687.59
5014	6+50.00	-14.00'	610007.46	570707.57
5015	3+55.52	14.00'	609826.54	570473.21
5016	3+55.58	24.00'	609817.44	570477.36
5017	3+65.29	24.00'	609821.59	570486.46
5018	3+65.29	33.00'	609813.42	570490.24
5019	3+84.71	33.00'	609822.14	570508.48
5020	3+84.71	29.00'	609825.73	570506.71
5021	3+84.71	24.00'	609830.21	570504.50
5022	3+94.43	24.00'	609834.69	570513.45
5023	3+94.49	14.00'	609843.64	570508.98

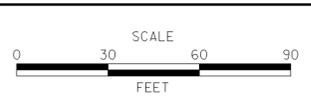
COORDINATE LIST

POINT NO.	STATION	OFFSET	NORTHING	EASTING
5024	8+95.00	28.00'	610120.53	570928.93
5025	8+95.00	48.00'	610104.52	570940.92
5026	8+91.00	48.00'	610102.12	570937.70
5027	8+91.00	52.00'	610098.91	570940.10
5028	8+85.00	52.00'	610095.32	570935.29
5029	8+85.00	72.00'	610079.30	570947.27
5030	8+91.00	72.00'	610082.90	570952.08
5031	9+07.96	64.97'	610098.69	570961.46
5032	9+15.00	48.00'	610116.49	570956.92
5033	9+15.00	28.00'	610132.51	570944.95
5034	9+25.00	14.00'	610149.71	570944.58
5035	9+50.00	14.61'	610164.20	570964.97
5036	9+50.00	-14.00'	610187.11	570947.84
5037	9+75.00	15.21'	610178.68	570985.35
5038	9+75.00	-13.87'	610201.71	570968.14

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DELAWARE
DEPARTMENT OF TRANSPORTATION

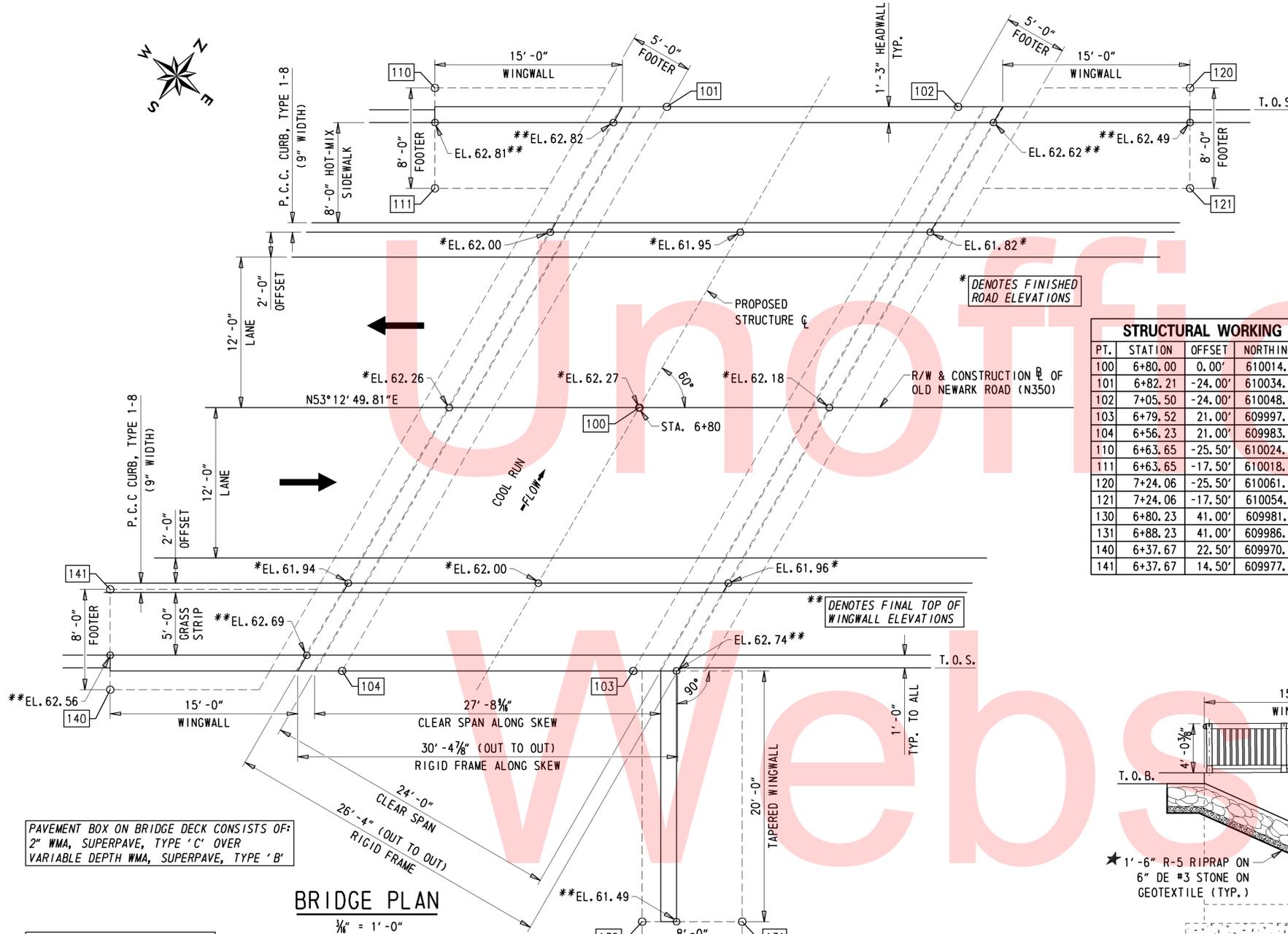
ADDENDUMS / REVISIONS



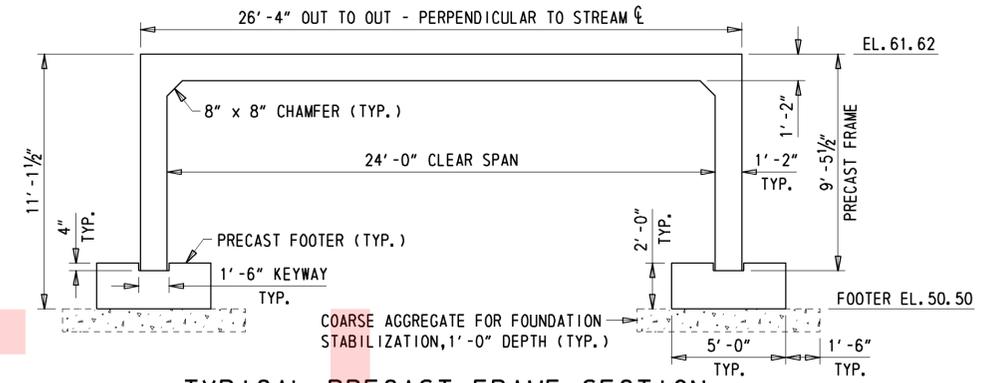
**BR 1-254 ON N350
OLD NEWARK ROAD
OVER COOL RUN**

CONTRACT T201307102	BRIDGE NO. 1-254
COUNTY NEW CASTLE	DESIGNED BY: JB CHECKED BY: CS

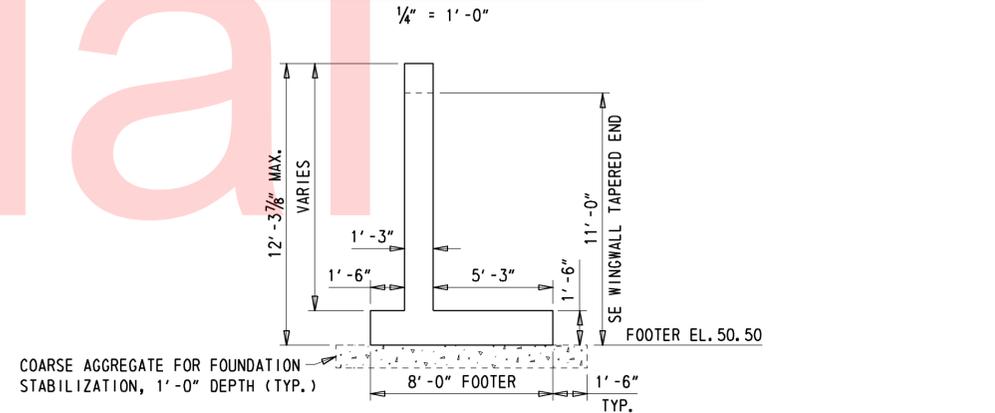
GRADES AND GEOMETRICS	SHEET NO. 9
	TOTAL SHTS. 27



STRUCTURAL WORKING POINTS				
PT.	STATION	OFFSET	NORTHING	EASTING
100	6+80.00	0.00'	610014.21	570739.98
101	6+82.21	-24.00'	610034.76	570727.38
102	7+05.50	-24.00'	610048.70	570746.03
103	6+79.52	21.00'	609997.10	570752.17
104	6+56.23	21.00'	609983.16	570733.52
110	6+63.65	-25.50'	610024.84	570711.62
111	6+63.65	-17.50'	610018.44	570716.41
120	7+24.06	-25.50'	610061.02	570760.00
121	7+24.06	-17.50'	610054.61	570764.79
130	6+80.23	41.00'	609981.51	570764.72
131	6+88.23	41.00'	609986.30	570771.13
140	6+37.67	22.50'	609970.84	570719.56
141	6+37.67	14.50'	609977.25	570714.77



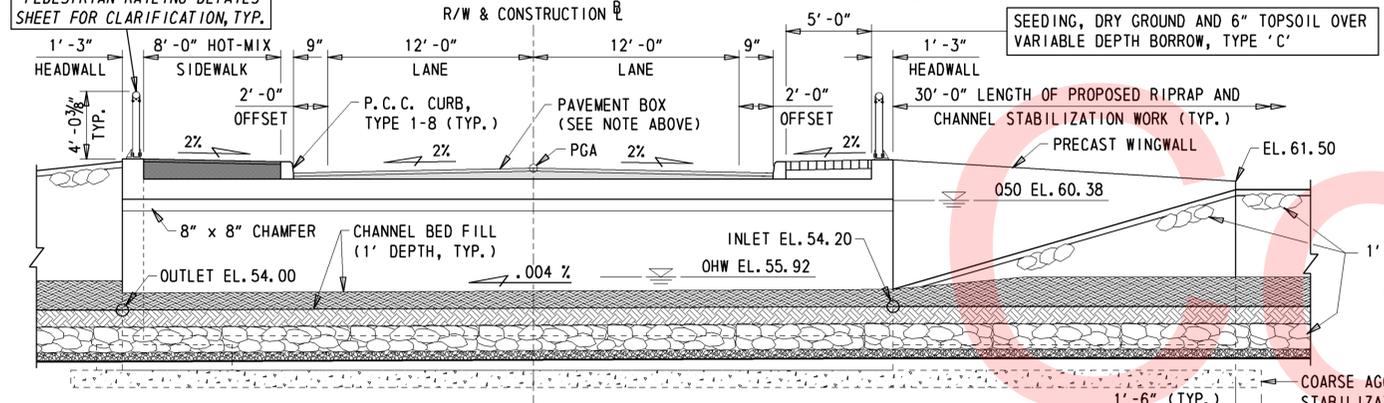
TYPICAL PRECAST FRAME SECTION



TYPICAL PRECAST WINGWALL SECTION

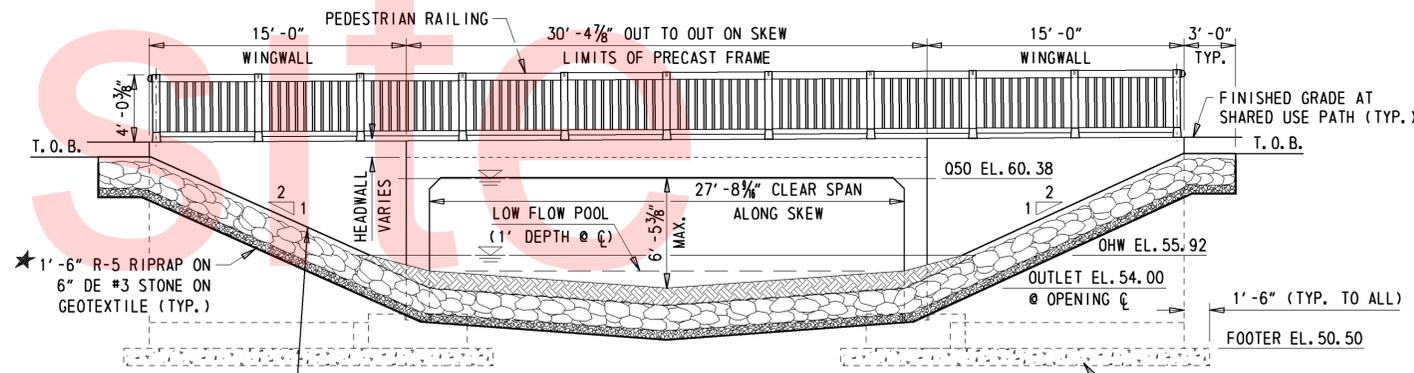
PAVEMENT BOX ON BRIDGE DECK CONSISTS OF:
2" WMA, SUPERPAVE, TYPE 'C' OVER
VARIABLE DEPTH WMA, SUPERPAVE, TYPE 'B'

PEDESTRIAN RAILING, REFER TO
'PEDESTRIAN RAILING DETAILS'
SHEET FOR CLARIFICATION, TYP.



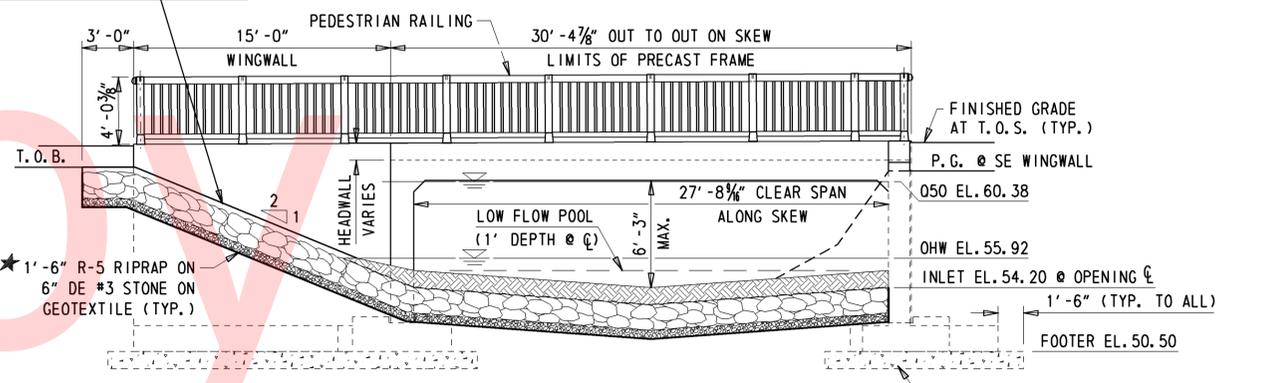
BRIDGE SECTION ALONG STREAM FLOW CENTERLINE
(SECTION PERPENDICULAR TO CONSTRUCTION BASELINE)

* NOTE: TRANSITION SLOPE STABILIZATION AT TOP OF BANK (T.O.B.) AND PROPOSED GRADE (P.G.) TO MATCH PROPOSED INVERT ELEVATION AT CULVERT OPENING. TRANSITION SLOPE FROM THERE TO MATCH EXISTING SLOPE AND CHANNEL CONDITIONS TO THE LIMIT THAT IS SPECIFIED FOR CHANNEL STABILIZATION WORK.

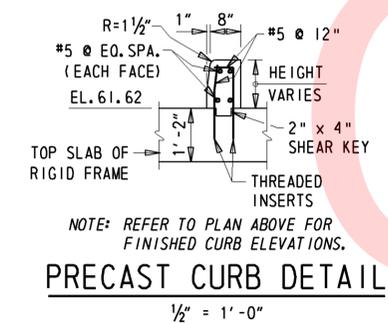
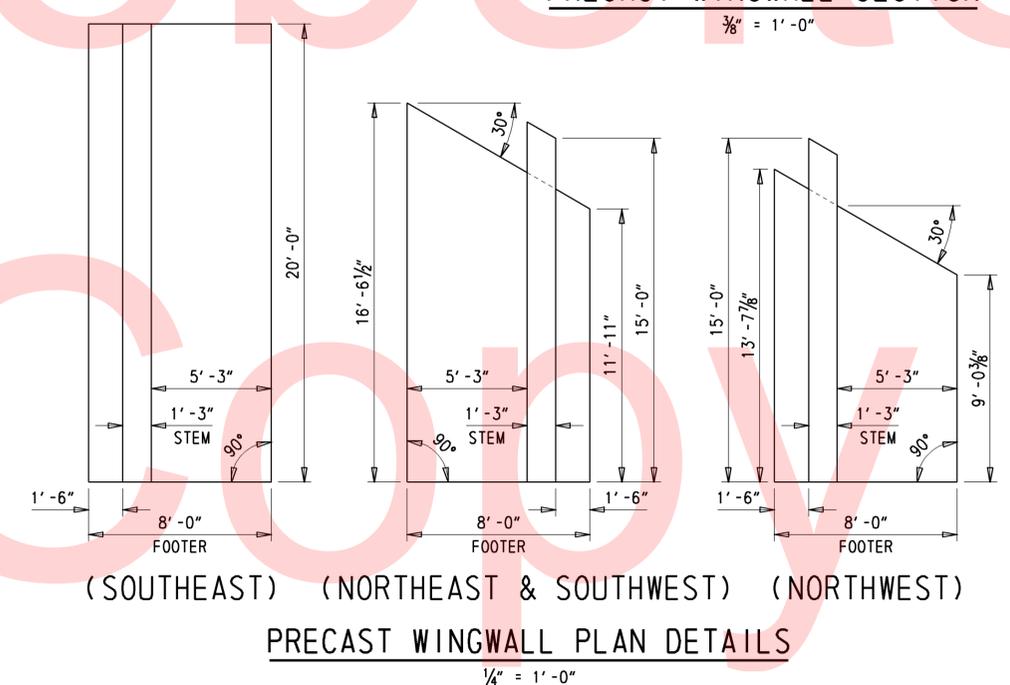
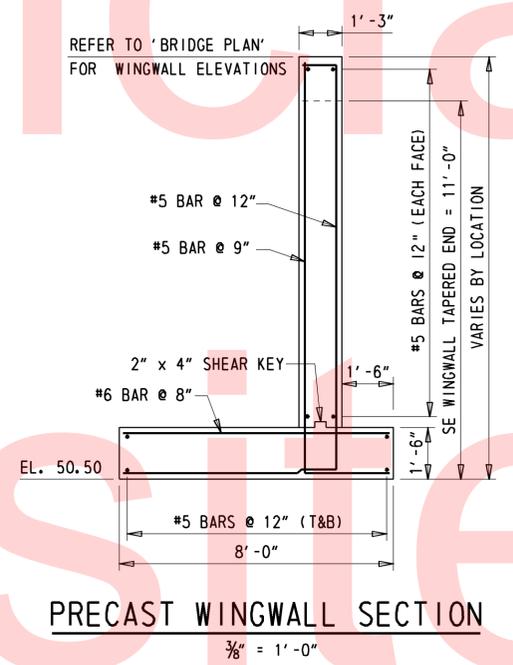
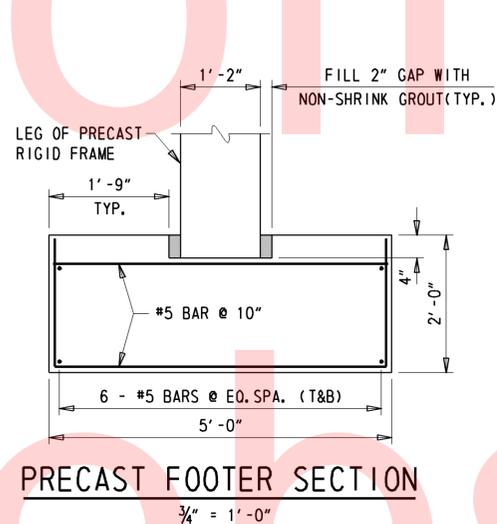
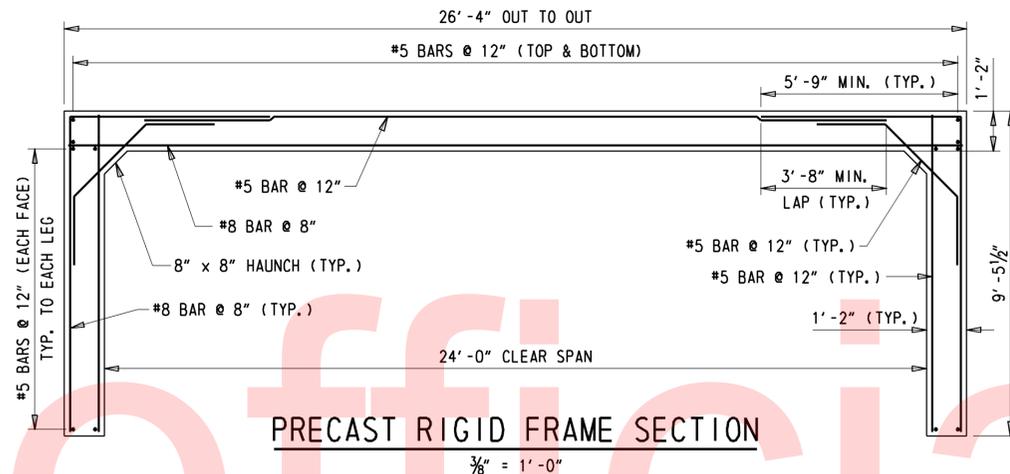
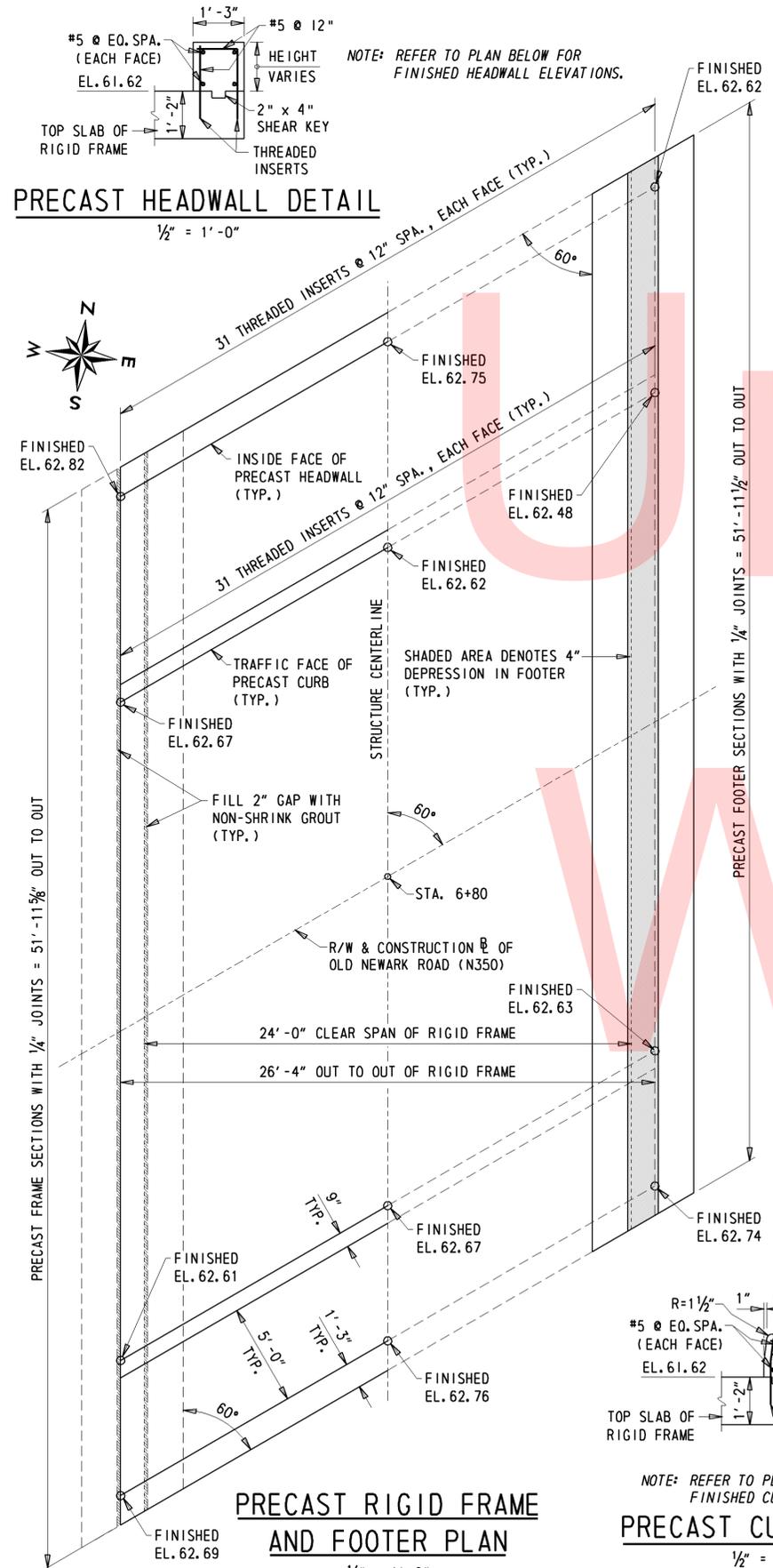


DOWNSTREAM END ELEVATION

REFER TO 'ENVIRONMENTAL COMPLIANCE PLAN' -
NOTE 4 FOR ADDITIONAL GUIDANCE ON STREAM
RESTORATION AND RIPRAP SLOPE TREATMENT.

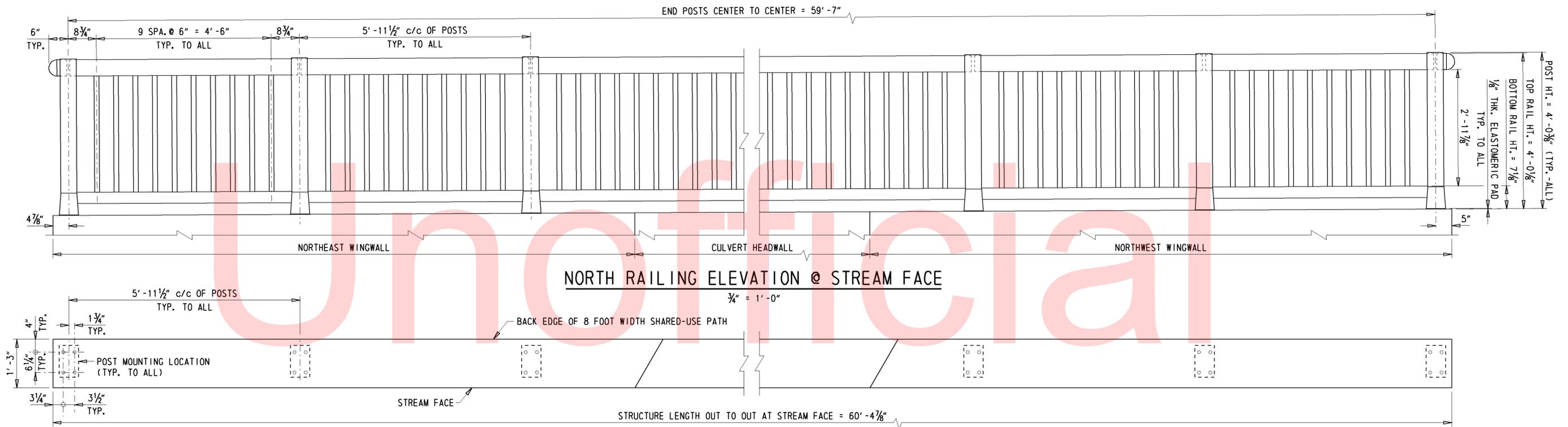


UPSTREAM END ELEVATION

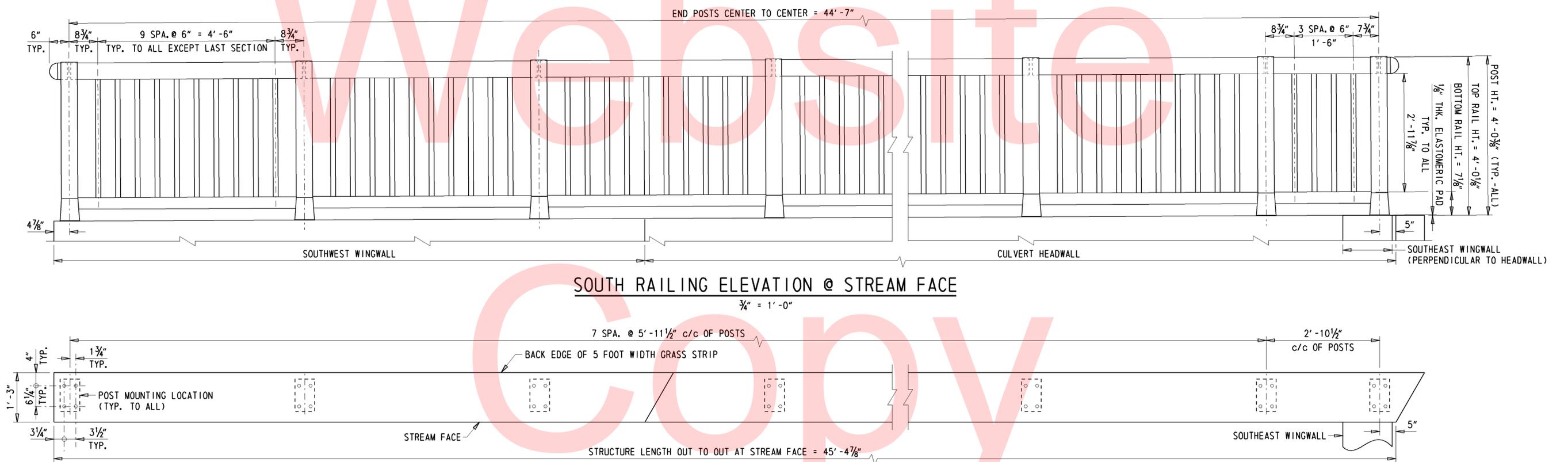


PRECAST ELEMENT NOTES:

- DESIGN PLANS / WORKING DRAWINGS
 INFORMATION PERTAINING TO THE PRECAST REINFORCED CONCRETE RIGID FRAME AND WINGWALL SECTIONS IS INTENDED TO SERVE AS AN INDICATION OF THE TYPE OF CONSTRUCTION ACCEPTABLE FOR USE. THE CONTRACTOR WILL BE REQUIRED TO PREPARE AND SUBMIT FOR APPROVAL A COMPLETE SET OF DETAILED SHOP DRAWINGS FOR THE PRECAST CONCRETE UNITS THEY PROPOSE TO FURNISH. THE SHOP DRAWINGS SHALL INCLUDE:
 A. AN OVERALL PLAN SHOWING ALL UNITS TOGETHER AND DETAILS OF EACH TYPE OF UNIT.
 B. A PLAN VIEW OF REINFORCEMENT FOR ANY IRREGULAR SHAPED (SKEWED, ETC.) SECTIONS.
 C. REINFORCING BAR LIST
 D. BILL OF MATERIALS INCLUDING ALL ACCESSORIES
 E. METHOD AND SEQUENCE OF POST-TENSIONING
- PRECAST ELEMENTS, ACCESSORIES AND INSTALLATION
 PAYMENT FOR ITEM 602739 - PRECAST CONCRETE RIGID FRAME AND ITEM 602738 - PRECAST CONCRETE RETAINING WALL SHALL INCLUDE:
 A. ALL PRECAST ELEMENTS FOR RIGID FRAME, HEADWALLS, CURBS AND FOOTERS UNDER ITEM 602739 AND WINGWALLS UNDER ITEM 602738.
 B. ALL ASSOCIATED REINFORCEMENT.
 C. ALL ACCESSORIES (INCLUDING, BUT NOT LIMITED TO, WEEP HOLES, CONCRETE FINISH, POST-TENSIONING TENDONS, CONNECTION PLATES, GROUT, JOINT WRAP, THREADED INSERTS) MENTIONED IN THE FOLLOWING NOTES UNLESS NOTED OTHERWISE.
 D. DELIVERY AND INSTALLATION OF ALL PRECAST ELEMENTS AND ALL ACCESSORIES.
- MISCELLANEOUS CONCRETE NOTES
 A. ALL EXPOSED SURFACES SHALL BE PROTECTED WITH A WATER MISCIBLE, PENETRATING SILANE SEALER SUCH AS ENVIROSEAL 20 BY BASF SUPERIOR OR APPROVED EQUAL.
 B. ALL EXPOSED EDGES SHALL BE CHAMFERED $\frac{3}{4}''$ UNLESS OTHERWISE NOTED.
- RIGID FRAME POST-TENSIONING
 THE PRECAST RIGID FRAME SECTIONS SHALL BE POST-TENSIONED TOGETHER WITH A MINIMUM OF FOUR POST-TENSIONING TENDONS. THE FRAME SHALL BE POST-TENSIONED SUCH THAT THE NEOPRENE GASKETS ARE COMPRESSED ALL AROUND AND THERE IS A $\frac{1}{2}''$ MAXIMUM GAP BETWEEN SECTIONS. MAXIMUM POST-TENSIONING FORCE SHALL BE 28,900 lbs. POST-TENSIONING DETAILS (PLACEMENT, SEQUENCE OF TENSIONING, etc.) SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS. ALL POCKETS FOR POST-TENSIONING DUCTS SHALL BE FILLED WITH NON-SHRINK GROUT.
- WINGWALL POST TENSIONING
 A. THE PRECAST WINGWALL SECTIONS SHALL BE POST TENSIONED TOGETHER AND POSITIVELY CONNECTED TO THE RIGID FRAME WITH A MINIMUM OF TWO POST-TENSIONING TENDONS. POST-TENSIONING SHALL BE AS PER NOTE 4.
 B. AT LOCATIONS WHERE POST TENSIONING OF THE WINGWALLS IS NOT FEASIBLE, A BOLTED CONNECTION MAY BE USED. BOLTED CONNECTION DETAILS SHALL BE SHOWN IN THE SUBMITTED SHOP DRAWINGS.
- BOLTED CONNECTIONS
 THE BOLTED CONNECTION MUST CONSIST OF A MINIMUM OF TWO 3'-0" WIDE x 2'-0" TALL x $\frac{1}{4}''$ THICK PLATES PER JOINT WITH AT LEAST FOUR $\frac{3}{4}''$ BOLTS PER PLATE. ANGLED PLATES SHALL HAVE 8 BOLTS. SLOTTED HOLES IN THE PLATE SHALL NOT BE PERMITTED. HOLES FOR ANCHOR BOLTS MAY BE FIELD DRILLED.
- JOINTS BETWEEN PRECAST SECTIONS
 A. NEOPRENE GASKETS SHALL BE PROVIDED AT THE JOINTS BETWEEN ALL PRECAST UNITS IN ORDER TO MAKE THE JOINTS WATERTIGHT. AFTER INSTALLATION, THE GASKETS SHALL BE COMPRESSED SUCH THAT GAPS ARE NOT VISIBLE.
 B. ALL JOINTS BETWEEN PRECAST RIGID FRAME SECTIONS SHALL HAVE A SHEAR KEY ALL AROUND.
 C. ALL WINGWALL TO WINGWALL AND WINGWALL TO RIGID FRAME JOINTS SHALL HAVE A SHEAR KEY.
 D. THE LOCATIONS OF THE JOINTS IN THE RIGID FRAME OR WINGWALLS SHALL BE DETERMINED BY THE PRECASTER AND SUBMITTED IN THE SHOP DRAWINGS FOR APPROVAL.
 E. THE REINFORCEMENT SHALL HAVE 2" COVER AT THE END OF EACH SECTION AND MEET OR EXCEED THE MINIMUM AREA OF STEEL PER FOOT DENOTED IN THE PLANS.
 F. ALL JOINT EXTERIORS SHALL BE COVERED WITH A MINIMUM 9" WIDE WRAP CENTERED ON THE JOINT AS PER THE SPECIAL PROVISION FOR ITS RESPECTIVE ITEM.



NORTH RAILING POST ANCHOR BOLT PLAN
3/4" = 1'-0"



SOUTH RAILING POST ANCHOR BOLT PLAN
3/4" = 1'-0"

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BORING: ON-1		DATE DRILLED: 6/4/13	
STATION: 4+22.00	OFFSET: 1.33' LEFT	ELEVATION: 61.06+/-	NORTHING: 609995.553
COMMENTS: N/A		EASTING: 570712.782	
SAMPLE INFORMATION			
NO.	DEPTH	BLOWS /6"	DESCRIPTION
1	0.0	5	MOIST VERY STIFF GRAY COARSE SANDY SILT W/SOME FINE SAND, FINE GRAVEL AND CLAY.
2	1.0	11	WET STIFF DARK GRAY CLAYEY FINE SANDY SILT W/SOME COARSE SAND, TRACE OF FINE GRAVEL.
3	2.0	8	WET LOOSE GRAY SILTY FINE TO COARSE SAND AND FINE GRAVEL W/TRACE OF CLAY AND ORGANIC MATTER.
4	4.0	15	WET MEDIUM DENSE GRAY FINE GRAVELLY COARSE SAND W/SOME FINE SAND, TRACE OF SILT.
5	6.0	3	WET VERY STIFF BROWN FINE SANDY CLAY W/SOME FINE GRAVEL, TRACE OF COARSE SAND AND SILT.
6	8.0	8	WET MEDIUM DENSE GRAY COARSE SAND W/SOME FINE SAND AND FINE GRAVEL, TRACE OF SILT.
7	10.0	4	WET VERY STIFF GRAY FINE SANDY SILT W/SOME COARSE SAND, TRACE OF FINE GRAVEL.
8	12.0	5	WET MEDIUM DENSE GRAY SILTY FINE TO COARSE SAND W/TRACE OF FINE GRAVEL.
9	14.0	6	WET MEDIUM DENSE GRAY SILTY COARSE TO FINE SAND W/TRACE OF FINE GRAVEL.
10	16.0	9	WET VERY STIFF GRAY CLAYEY FINE SANDY SILT W/SOME COARSE SAND AND FINE GRAVEL.
11	18.0	6	WET MEDIUM DENSE GRAY SILTY FINE GRAVELLY FINE SAND W/SOME COARSE SAND.
12	23.0	3	SATURATED STIFF GRAY CLAY W/TRACE OF FINE TO COARSE SAND AND SILT.
13	28.0	5	SATURATED VERY STIFF BROWN CLAY W/SOME COARSE TO FINE SAND, TRACE OF SILT.
14	33.0	3	SATURATED VERY STIFF BROWN CLAY W/TRACE OF FINE TO COARSE SAND AND SILT.
15	38.0	4	SATURATED VERY STIFF BROWN CLAY W/SOME COARSE SAND, TRACE OF FINE SAND AND SILT.
16	43.0	14	SATURATED HARD GREEN CLAY W/SOME FINE TO COARSE SAND AND FINE GRAVEL, TRACE OF SILT.
	48.0	26	END BORING
	50.0		

BORING: ON-2		DATE DRILLED: 6/8/13	
STATION: 5+11.17	OFFSET: 7.47' RIGHT	ELEVATION: 60.83+/-	NORTHING: 610041.858
COMMENTS: N/A		EASTING: 570789.431	
SAMPLE INFORMATION			
NO.	DEPTH	BLOWS /6"	DESCRIPTION
1	0.0	10	MOIST MEDIUM DENSE GRAY COARSE SANDY FINE GRAVEL W/SOME FINE SAND AND SILT.
2	1.0	9	MOIST MEDIUM DENSE BROWN COARSE SANDY FINE GRAVEL W/SOME FINE SAND AND SILT.
3	2.0	8	MOIST MEDIUM DENSE BROWN COARSE TO FINE SAND W/SOME FINE GRAVEL AND SILT.
4	4.0	6	MOIST MEDIUM DENSE BROWN SILTY COARSE TO FINE SAND W/SOME FINE GRAVEL.
5	6.0	2	WET LOOSE REDDISH BROWN SILTY FINE TO COARSE SAND W/TRACE OF FINE GRAVEL.
6	8.0	10	WET MEDIUM DENSE GRAY CLAYEY FINE TO COARSE SAND W/SOME SILT, TRACE OF FINE GRAVEL.
7	10.0	2	WET LOOSE GRAY SILTY FINE TO COARSE SAND W/TRACE OF FINE GRAVEL.
8	12.0	7	WET STIFF RED SILTY FINE SANDY CLAY W/TRACE OF COARSE SAND.
9	14.0	5	WET STIFF RED SILTY FINE SANDY CLAY W/TRACE OF COARSE SAND.
10	17.5	3	WET STIFF GRAY FINE SANDY SILT W/SOME COARSE SAND AND CLAY, TRACE OF FINE GRAVEL.
11	18.0	2	SATURATED STIFF RED FINE SANDY CLAY W/TRACE OF COARSE SAND AND SILT.
12	23.0	3	SATURATED FIRM BROWN CLAYEY FINE SANDY SILT W/SOME COARSE SAND.
13	28.0	2	SATURATED FIRM BROWN FINE SANDY SILT W/SOME COARSE SAND AND CLAY.
14	33.0	5	SATURATED FIRM GRAY CLAYEY FINE SANDY SILT W/SOME COARSE SAND.
15	38.0	3	SATURATED MEDIUM DENSE BROWN SILTY COARSE TO FINE SAND.
16	43.0	5	SATURATED STIFF BROWN FINE SANDY CLAY W/SOME COARSE SAND AND SILT.
	48.0	7	END BORING
	50.0		

NOTES:

- BORING LOGS CREATED BY THE DELAWARE DEPARTMENT OF TRANSPORTATION. SUBSURFACE EXPLORATION COMPLETED BY WALTON CORPORATION.
- REFER TO CONSTRUCTION PLAN SHEET (SHEET 6) FOR APPROXIMATE BORING LOCATIONS. BORING LOGS ARE LABELED AS SW-1 AND SW-2.
- SOIL SAMPLING: 2 IN. OUTSIDE DIA. SPLIT BARREL SAMPLER, DRIVEN WITH A 140 LB. HAMMER FALLING 30 IN.
- ALL DEPTHS GIVEN ARE IN FEET.

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ADDENDUMS / REVISIONS

**BRIDGE 1-254 ON N350
OLD NEWARK ROAD
OVER COOL RUN**

CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	
NEW CASTLE		

SOIL BORING LOGS

SHEET NO.	14
TOTAL SHTS.	27

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): NWP #3(a) AND (c) (NO PCN)
 - DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): PROJECT CONSISTENT WITH DE CODE CH. 72, SEC. 7217, SPECIAL EXEMPTION (b).
 - DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED
 - NATIONAL PARK SERVICE (NPS) - APPROVAL**
 - NCC - FLOODPLAIN PERMIT**

* 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:
- ARCHAEOLOGICAL: NONE
 - SECTION 4(f): PENDING

4. STREAM RESTORATION AND RIPRAP TREATMENTS

- 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. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL SHALL CONFORM TO THE REQUIREMENTS OF ITEM 712531 CHANNEL BED FILL. 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 A MINIMUM OF 12" CHANNEL BED FILL. FINAL CHANNEL ELEVATIONS SHALL MATCH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS SHALL BE AS NOTED ON THE PLANS. 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 THEIR EXPENSE.
- D. ALL RIPRAP ON THE STREAM BANK, OUTSIDE THE CHANNEL BED, SHALL BE CHOKED WITH DELAWARE #57 STONE, FILLED WITH TOPSOIL AND SEEDED. 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-INCH TOPSOIL LAYER SHALL BE PLACED ON TOP OF THE RIPRAP. SLOPE SEEDING SHALL BE WITH ITEM 908019 - STREAMBANK SEED MIX. FOLLOWING THE SEEDING OPERATION, ITEM 908020 - EROSION CONTROL BLANKET MULCH, AS SHOWN ON THE PLANS, SHALL BE INSTALLED. ALL WORK, STARTING WITH THE INITIAL CHOKING WITH TOPSOIL THROUGH THE SEEDING SHALL BE COMPLETED PRIOR TO ANY RAIN EVENT. PAYMENT FOR DELAWARE #57 STONE SHALL BE INCIDENTAL TO THE RIPRAP ITEM.
- E. THE TOPSOIL/SEED/MULCH MAY BE PLACED BEFORE OR AFTER THE REMOVAL OF THE STREAM DIVERSION, IF IT OCCURS AFTER STREAM DIVERSION REMOVAL, A TURBIDITY CURTAIN SHALL BE USED TO MINIMIZE IN-STREAM SEDIMENTATION. PAYMENT SHALL BE INCIDENTAL ITEM 909005 - STREAM DIVERSION.

5. PROTECTION OF RESOURCES

- A. CLEARING IN STREAMBANK AND WETLAND AREAS SHALL BE KEPT TO A MINIMUM ABSOLUTELY NECESSARY FOR CONSTRUCTION ACCESS. IN STREAMBANK AND WETLAND AREAS THAT ARE CLEARED, THERE SHALL BE NO GRUBBING EXCEPT WHERE NECESSARY TO CONSTRUCT PROJECT COMPONENTS SUCH AS FOUNDATIONS AND RIPRAP PROTECTION. VEGETATION SHALL BE CUT FLUSH WITH THE GROUND (I.E. NO DISTURBANCE OF THE ROOT MAT. TEMPORARILY DISTURBED STREAMBANK AND WETLAND AREAS SHALL BE RESTORED TO GRADE AND SEEDED WITH ITEM 908017 - TEMPORARY GRASS SEEDING, DRY GROUND.

PROJECT AREA DELINEATED BY KEN DUNNE, DELDOT, ON 6/03/13, IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) AND THE ATLANTIC AND GULF COAST REGIONAL SUPPLEMENT (2010).

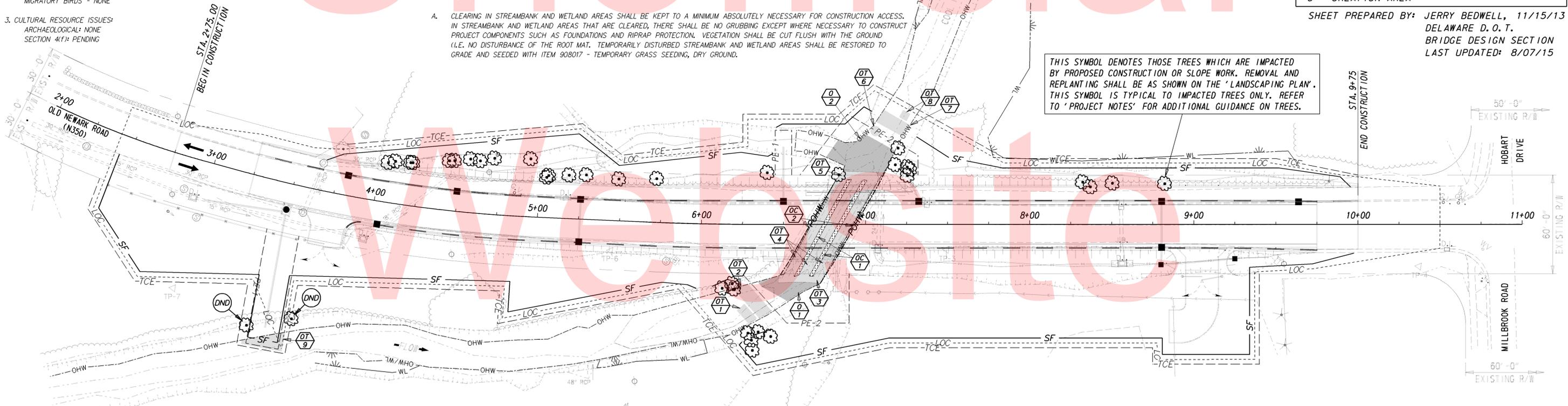
LEGEND

- CREATION AREA
- PERMANENT IMPACT AREA
- TEMPORARY IMPACT AREA
- OHW --- ORDINARY HIGH WATER
- WL --- WETLAND BOUNDARY
- OHW/WL --- ORD. HIGH WATER / WETLAND
- POHW --- PROPOSED ORD. HIGH WATER

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

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

SHEET PREPARED BY: JERRY BEDWELL, 11/15/13
 DELAWARE D. O. T.
 BRIDGE DESIGN SECTION
 LAST UPDATED: 8/07/15



THIS SYMBOL DENOTES THOSE TREES WHICH ARE IMPACTED BY PROPOSED CONSTRUCTION OR SLOPE WORK. REMOVAL AND REPLANTING SHALL BE AS SHOWN ON THE 'LANDSCAPING PLAN'. THIS SYMBOL IS TYPICAL TO IMPACTED TREES ONLY. REFER TO 'PROJECT NOTES' FOR ADDITIONAL GUIDANCE ON TREES.

5. PROTECTION OF RESOURCES (CONT.)

- B. SILT FENCE OR CONSTRUCTION SAFETY FENCE SHALL BE USED ALONG THE LIMITS OF CONSTRUCTION IN ALL AREAS WHERE WATER/WETLANDS ARE BEING IMPACTED (AS SHOWN ON EC SHEETS), AND ALSO IN ANY AREA WHERE WATER/WETLANDS EXIST WITHIN 20 FEET OF THE LOC (AS SHOWN ON CONSTRUCTION PLANS). CONTRACTOR ACCESS BEYOND THE LOC IS STRICTLY PROHIBITED.
- C. SILT FENCE INSTALLATION ADJACENT TO WOODED UPLANDS/WETLANDS: SANDBAGS SHALL BE USED TO SECURE SILT FENCE IN LIEU OF TRENCHING UNLESS PROPER EROSION & SEDIMENT CONTROL CANNOT BE MAINTAINED. SANDBAGS USED TO SECURE SILT FENCE SHALL BE INCIDENTAL TO ITEM 905001 - SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (CAROL SULLIVAN, 302-760-2129) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.
- D. TREE REMOVAL: DUE TO THE ENVIRONMENTAL SENSITIVITY OF THE AREA, THE FOLLOWING INDIVIDUALS WILL BE INVITED TO ATTEND THE E&S PRECONSTRUCTION / ENVIRONMENTAL COMPLIANCE MEETING: CAROL SULLIVAN ~ DELDOT, MATT BAILEY ~ DNREC WSCR AND JULIE BELL ~ NPS. CONTACT CAROL SULLIVAN AND SHE WILL ENSURE THE OTHERS GET INVITED. ALL TREES TO BE REMOVED SHALL BE CLEARLY IDENTIFIED WITH PAINT PRIOR TO THIS MEETING.
- E. THE NORWAY MAPLE (ACER PLANTANOIDES) AT STA 6+10R (NORTH SIDE OF BANK) SHALL BE REMOVED UNDER ITEM 201000 - CLEARING AND GRUBBING. IMMEDIATELY FOLLOWING REMOVAL OF THIS TREE, THE REMAINING STUMP SHALL BE TREATED WITH AN EPA- APPROVED HERBICIDE CONTAINING TRICHOPIRYL AND LABELED FOR STUMP TREATMENT TO PREVENT RESPROUTING OF THE STUMP. APPLICATION SHALL BE MADE BY A DELAWARE CERTIFIED APPLICATOR. PAYMENT FOR THE HERBICIDE APPLICATION SHALL BE INCIDENTAL TO ITEM 201000 - CLEARING AND GRUBBING.

6. PROPOSED LANDSCAPE PLANTING:
 REFER TO THE 'LANDSCAPING PLAN' FOR ADDITIONAL GUIDANCE.

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

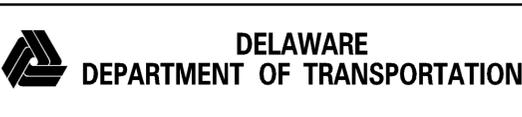
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OT-1	STILLING WELL	70.00	0.0016	5.19	COE/DNREC
OT-2	UPSTREAM SANDBAG DIKE	202.81	0.0047	30.05	COE/DNREC
OT-3	SACKED RIPRAP TO PROP. RIPRAP	109.71	0.0025	4.06	COE/DNREC
OT-4	EXST. PIPES TO PROPOSED RIPRAP	1201.56	0.0276	89.00	COE/DNREC
OT-5	SACKED RIPRAP TO PROP. RIPRAP	122.96	0.0028	4.55	COE/DNREC
OT-6	TEMP. SUMP PIT	30.00	0.0007	3.33	COE/DNREC
OT-7	DOWNSTREAM SANDBAG DIKE	157.88	0.0036	23.39	COE/DNREC
OT-8	TEMP. STABILIZED OUTFALL	25.00	0.0006	1.39	COE/DNREC
OT-9	PROP. OUTFALL WORK FOR 36" RCP	177.00	0.0041	6.56	COE/DNREC
TOTAL TEMPORARY OPEN WATER IMPACTS		2096.92	0.0482	167.52	COE/DNREC

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

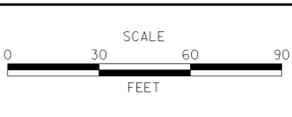
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
O-1	UPSTREAM RIPRAP	257.89	0.0059	19.10	COE/DNREC
O-2	DOWNSTREAM RIPRAP	642.51	0.0148	47.59	COE/DNREC
TOTAL PERMANENT OPEN WATER IMPACTS		900.40	0.0207	66.69	COE/DNREC

OPEN WATER CREATION AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
OC-1	EXST. FILL TO PROP. CHANNEL	288.90	0.0066	74.90	COE/DNREC
OC-2	EXST. FILL TO PROP. STRUCTURE	86.92	0.0020	20.93	COE/DNREC
TOTAL OPEN WATER CREATION AREAS		375.82	0.0086	95.83	COE/DNREC



ADDENDUMS / REVISIONS



**BR 1-254 ON N350
 OLD NEWARK ROAD
 OVER COOL RUN**

CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY: JB	
COUNTY	CHECKED BY: CS	
NEW CASTLE		

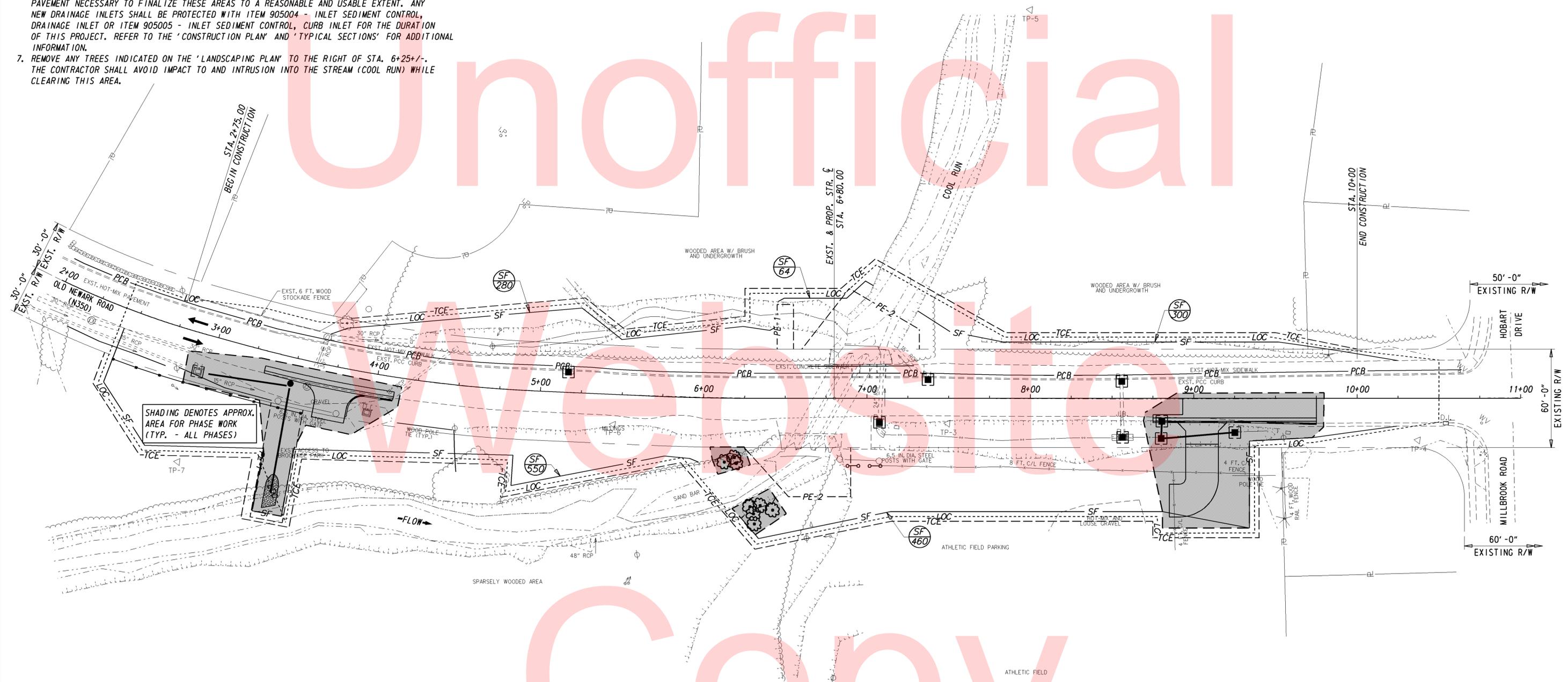
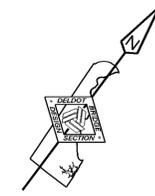
ENVIRONMENTAL COMPLIANCE PLAN

SHEET NO.	15
TOTAL SHTS.	27

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SEQUENCE OF CONSTRUCTION - PHASE 1:

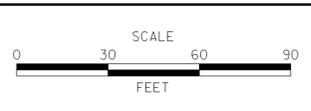
1. INSTALL MOT DEVICES IN ACCORDANCE WITH THE VEHICULAR DETOUR PLAN FOR TEMPORARY ROAD CLOSURE.
2. INSTALL SILT FENCE (ITEM 905001) AROUND PERIMETER AS SHOWN AND UP TO STREAM BANKS.
3. CLEAN AND CLEAR THE EXISTING SIDEWALK BETWEEN HOBART DRIVE TO THE EAST AND THE LIMITS OF THE PROJECT TO THE WEST, STA. 2+00 (APPROX.). REMOVE ALL LEAF AND TRASH DEBRIS AND CLEAR ALL OVERGROWTH OF VEGETATION TO THE FULL EXISTING SIDEWALK WIDTH. ALL AFOREMENTIONED WORK SHALL BE AS PER ITEM 201000 - CLEARING AND GRUBBING. CARE SHALL BE TAKEN TO NOT OBSTRUCT ANY PEDESTRIAN TRAFFIC WHILE PERFORMING ANY OF THIS WORK.
4. PLACE PEDESTRIAN CHANNELIZING BARRICADE (PCB ~ ITEM 743552) ADJACENT TO THE CURBLINE OF THE EXISTING SIDEWALK. DO NOT OBSTRUCT PEDESTRIAN TRAFFIC DURING PLACEMENT OF THIS BARRICADE.
5. COMPLETE PROPOSED DRAINAGE WORK RIGHT OF STA. 3+50+/- . REFER TO THE 'CONSTRUCTION PLAN' AND 'UTILITY PLAN' SHEETS FOR ADDITIONAL INFORMATION.
6. BUILD PROPOSED ENTRANCES RIGHT OF STA. 3+75 AND 9+05. PLACE ALL CURB, DRAINAGE AND PAVEMENT NECESSARY TO FINALIZE THESE AREAS TO A REASONABLE AND USABLE EXTENT. ANY NEW DRAINAGE INLETS SHALL BE PROTECTED WITH ITEM 905004 - INLET SEDIMENT CONTROL, DRAINAGE INLET OR ITEM 905005 - INLET SEDIMENT CONTROL, CURB INLET FOR THE DURATION OF THIS PROJECT. REFER TO THE 'CONSTRUCTION PLAN' AND 'TYPICAL SECTIONS' FOR ADDITIONAL INFORMATION.
7. REMOVE ANY TREES INDICATED ON THE 'LANDSCAPING PLAN' TO THE RIGHT OF STA. 6+25+/- . THE CONTRACTOR SHALL AVOID IMPACT TO AND INTRUSION INTO THE STREAM (COOL RUN) WHILE CLEARING THIS AREA.



SHADING DENOTES APPROX. AREA FOR PHASE WORK (TYP. - ALL PHASES)

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ADDENDUMS / REVISIONS



**BR 1-254 ON N350
OLD NEWARK ROAD
OVER COOL RUN**

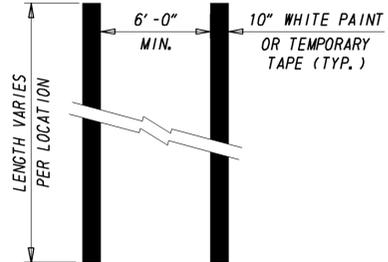
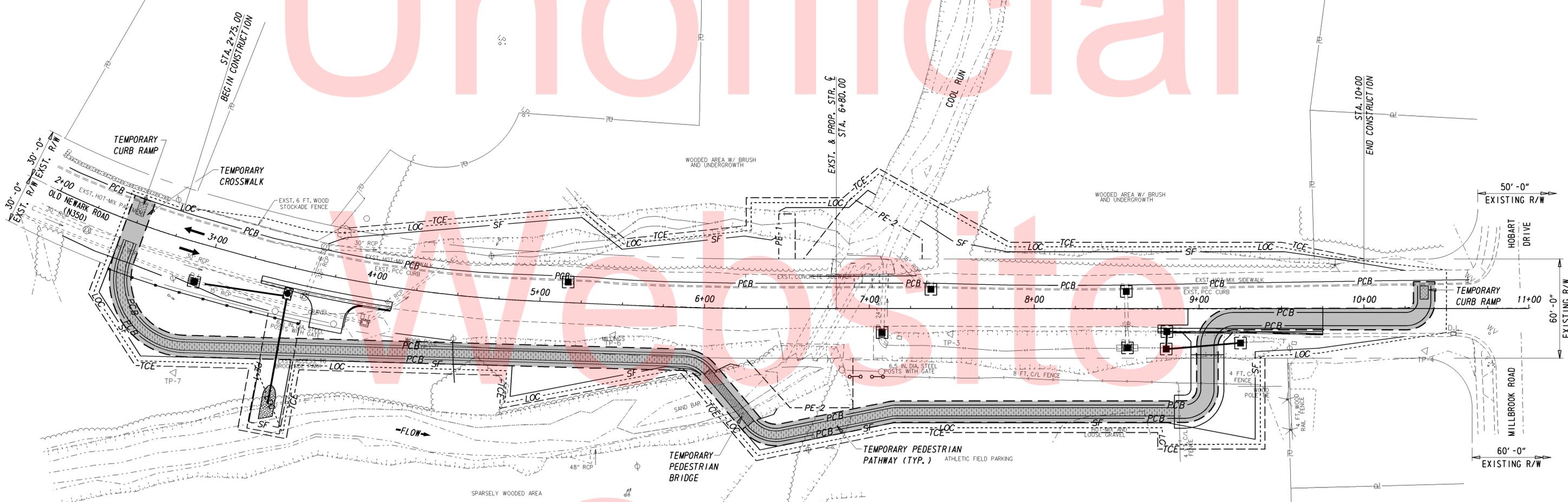
CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

**EROSION AND SEDIMENT
CONTROL PLAN &
CONSTRUCTION SEQUENCE
DETAIL - PHASE 1**

SHEET NO.	16
TOTAL SHTS.	27

SEQUENCE OF CONSTRUCTION - PHASE 2:

1. CONSTRUCT A TEMPORARY PEDESTRIAN BRIDGE WITH A MINIMUM 5 FOOT CLEAR DECK WIDTH ON THE SOUTH SIDE OF THE EXISTING STRUCTURE AT THE LOCATION SHOWN. THE PEDESTRIAN BRIDGE SHALL BE OF THE CONTRACTOR'S DESIGN AND SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS, WITH REVIEW AND ACCEPTANCE BY DELDOT PRIOR TO ITS PLACEMENT. ALL MATERIALS AND LABOR RELATED TO THE PEDESTRIAN BRIDGE INCLUDING PLACEMENT AND REMOVAL SHALL BE AS PER ITEM 763682 - TEMPORARY PEDESTRIAN BRIDGE. CONTRACTOR SHALL PROVIDE ANY NECESSARY EROSION AND SEDIMENT CONTROL MEASURES, IN ACCORDANCE WITH CURRENT STANDARDS AND SPECIFICATIONS, WHILE PLACING THE TEMPORARY PEDESTRIAN BRIDGE. PAYMENT FOR ANY NECESSARY MEASURES SHALL BE AS PER THEIR RESPECTIVE PAY ITEMS.
2. AFTER THE PEDESTRIAN BRIDGE IS SET, A 5 FOOT WIDE TEMPORARY PEDESTRIAN PATHWAY SHALL BE PLACED AT BOTH APPROACHES AND SHALL APPROXIMATELY FOLLOW THE PATH INDICATED ON THE PLANS. THE PATHWAYS SHALL MATCH THE GRADE WHERE THEY MEET THE EXISTING ROADWAY OR PROPOSED ENTRANCE AND SHALL PROVIDE SMOOTH TRANSITIONS TO THE PEDESTRIAN BRIDGE AT A MAXIMUM 12:1 GRADE. ALL MATERIALS AND LABOR RELATED TO THE PEDESTRIAN PATHWAYS, INCLUDING PLACEMENT, REMOVAL AND RESTORING ALL DISTURBED AREAS, SHALL BE AS PER ITEM 743553 - TEMPORARY PEDESTRIAN PATHWAY.
3. PEDESTRIAN CHANNELIZING BARRICADE (PCB) SHALL BE PLACED ALONG BOTH SIDES OF THE ENTIRE TEMPORARY PEDESTRIAN PATHWAY WITH THE EXCEPTION OF THE TEMPORARY CROSSWALK ON THE WEST END. PLACEMENT, MAINTENANCE AND REMOVAL SHALL BE AS PER ITEM 743552 - PEDESTRIAN CHANNELIZING BARRICADE.
4. TEMPORARY CURB RAMPS SHALL BE CONSTRUCTED LEFT OF STA. 2+50 AND 9+85 (APPROX.) WHERE THE TEMPORARY PEDESTRIAN PATHWAY WILL TIE-IN WITH THE EXISTING SIDEWALK. DESIGN AND PLACEMENT SHALL BE AS PER ITEM 705528 - TEMPORARY CURB RAMP.



NOTE: PAYMENT SHALL BE INCIDENTAL TO 763646 - MAINTENANCE OF TRAFFIC FOR TEMPORARY PEDESTRIAN ACCESS. PLACE TEMPORARY CROSSWALK AT LOCATION SHOWN IN THIS PHASE.

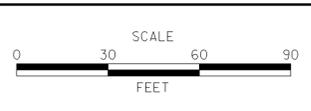
TEMPORARY CROSSWALK DETAIL

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS



BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN

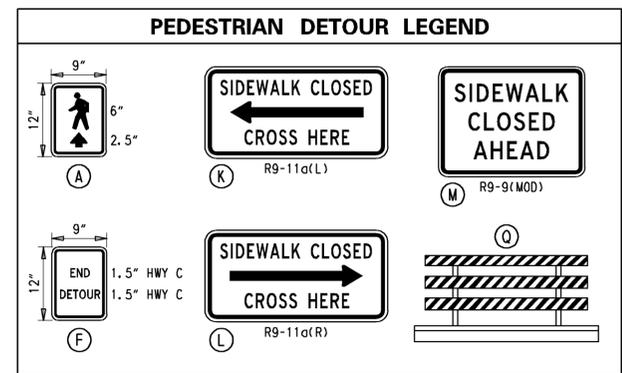
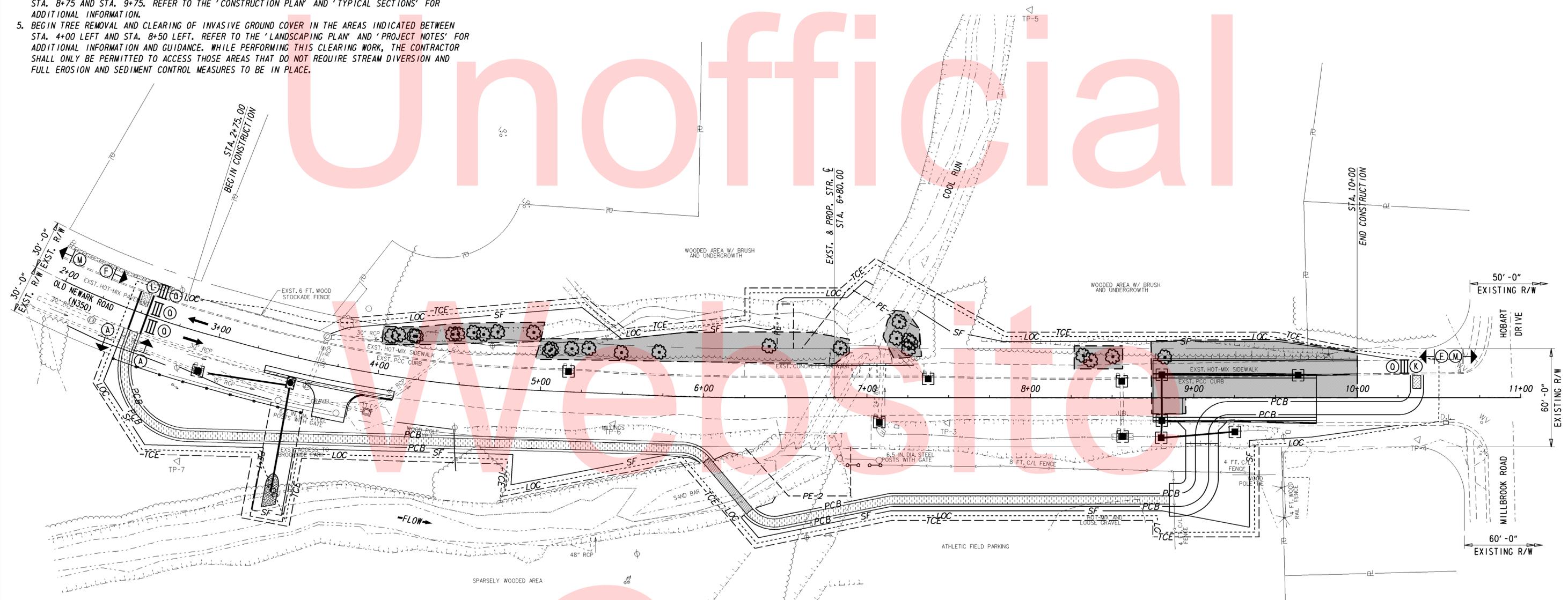
CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

EROSION AND SEDIMENT CONTROL PLAN & CONSTRUCTION SEQUENCE DETAIL - PHASE 2

SHEET NO.	17
TOTAL SHTS.	27

SEQUENCE OF CONSTRUCTION - PHASE 3:

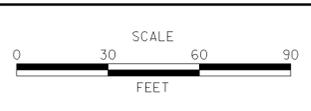
1. DIVERT PEDESTRIAN TRAFFIC TO TEMPORARY PEDESTRIAN PATHWAY, PLACE BARRICADES AND PLACE PEDESTRIAN DETOUR SIGNS AS INDICATED. PAYMENT FOR PLACEMENT, MAINTENANCE AND REMOVAL OF THESE PEDESTRIAN CONTROL DEVICES SHALL BE AS PER ITEM 763646 - MAINTENANCE OF TRAFFIC FOR EXISTING PEDESTRIAN ROUTE.
2. REMOVE PEDESTRIAN CHANNELIZING BARRICADE (PCB) FROM EXISTING SIDEWALK ON THE NORTH SIDE.
3. AT THIS POINT IN THIS PHASE, THE CONTRACTOR WILL NEED TO ALLOW TIME FOR RELOCATION OF AN EXISTING UNDERGROUND GAS LINE. THE CONTRACTOR CAN REFER TO THE UTILITY STATEMENT AND UTILITY PLAN FOR ADDITIONAL GUIDANCE ON COORDINATING THIS OPERATION WITH THE UTILITY COMPANY. THE CONTRACTOR SHALL ALSO COORDINATE THE PLACEMENT AND/OR RELOCATION OF ANY TEMPORARY PEDESTRIAN CONTROL MEASURES WITH THE UTILITY COMPANY, AS NEEDED, DURING THIS GAS LINE RELOCATION WORK.
4. AFTER ANY UTILITY RELOCATION IS COMPLETE, FINISH CURB, DRAINAGE AND ROADWAY WORK BETWEEN STA. 8+75 AND STA. 9+75. REFER TO THE 'CONSTRUCTION PLAN' AND 'TYPICAL SECTIONS' FOR ADDITIONAL INFORMATION.
5. BEGIN TREE REMOVAL AND CLEARING OF INVASIVE GROUND COVER IN THE AREAS INDICATED BETWEEN STA. 4+00 LEFT AND STA. 8+50 LEFT. REFER TO THE 'LANDSCAPING PLAN' AND 'PROJECT NOTES' FOR ADDITIONAL INFORMATION AND GUIDANCE. WHILE PERFORMING THIS CLEARING WORK, THE CONTRACTOR SHALL ONLY BE PERMITTED TO ACCESS THOSE AREAS THAT DO NOT REQUIRE STREAM DIVERSION AND FULL EROSION AND SEDIMENT CONTROL MEASURES TO BE IN PLACE.



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ADDENDUMS / REVISIONS



BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN

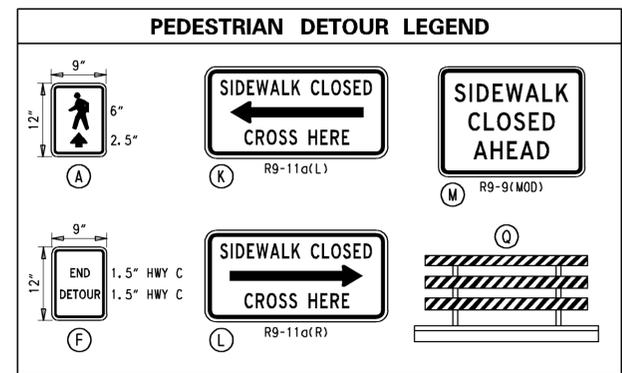
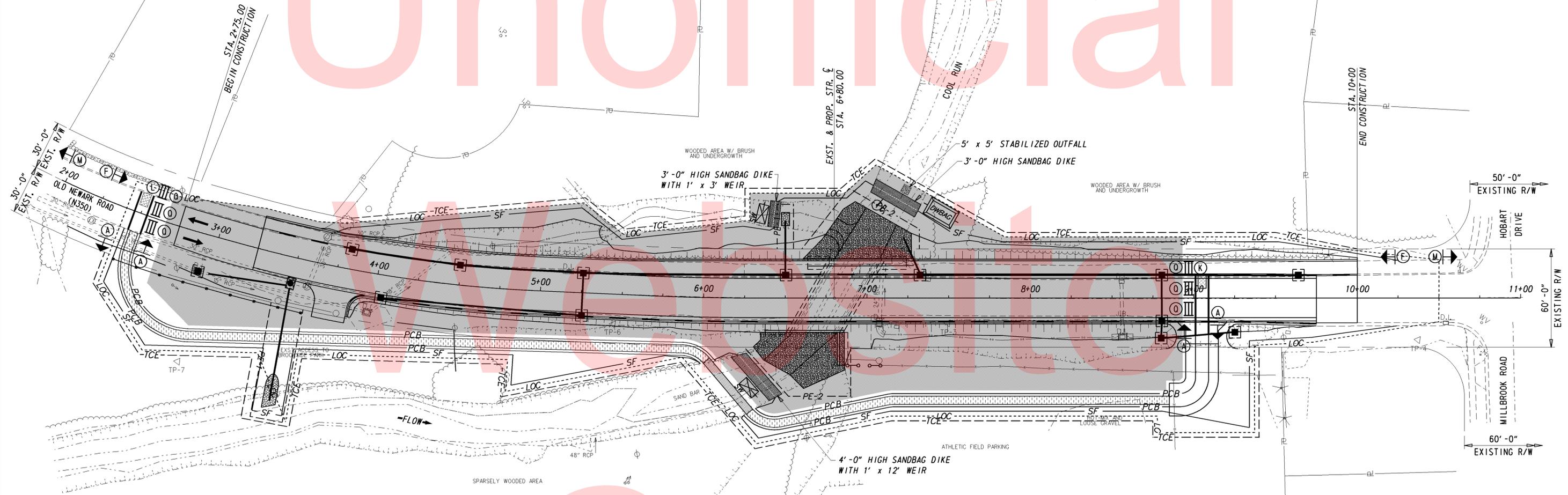
CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

EROSION AND SEDIMENT CONTROL PLAN & CONSTRUCTION SEQUENCE DETAIL - PHASE 3

SHEET NO.	18
TOTAL SHTS.	27

SEQUENCE OF CONSTRUCTION - PHASE 4:

1. REMOVE TEMPORARY CURB RAMP FROM STA. 9+85 AND RELOCATE THE TEMPORARY CURB RAMP AND CROSSWALK AT STA. 9+05 AS SHOWN. PLACE BARRICADES AND RELOCATE TEMPORARY PEDESTRIAN SIGNAGE TO THIS NEW LOCATION ACCORDINGLY. DIVERT PEDESTRIAN TRAFFIC TO NEW CROSSWALK AND CURB RAMP TO ALLOW BETTER CONSTRUCTION INGRESS AND EGRESS.
2. PLACE THE STREAM DIVERSION AS PER ITEM 909005 - STREAM DIVERSION. CONSTRUCT THE SANDBAG DIKES AT THE LOCATIONS SHOWN, WITH HEIGHTS AS INDICATED IN THE PLANS. CONNECT THE SILT FENCE FROM PHASE 1 TO THE SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA.
3. AFTER ENCLOSING THE WORK AREA, INSTALL A SUMP PIT (ITEM 906003) AND A DEWATERING BAG (ITEM 906002) AS A SEDIMENT TRAPPING DEVICE. PLACE A STABILIZED 5' x 5' OUTFALL CONSISTING OF R-5 RIPRAP AND GEOTEXTILE AS NOTED ON THE PLANS. PAYMENT FOR THE STABILIZED OUTFALL SHALL BE UNDER STREAM DIVERSION ITEM. USE PUMPS WITH A MINIMUM BASE FLOW OF 24.0 C.F.S. TO DIVERT THE STREAM BASE FLOW AROUND THE ENCLOSED WORK AREA. DURING RAINFALL EVENTS, IF THE STREAMFLOW IS HIGHER THAN PUMP CAPACITY, THE EXCESS IS ALLOWED TO FLOW OVER THE SANDBAG DIKE. THEREFORE, THE WORK AREA SHALL BE KEPT CLEAR OF DEBRIS AND OBSTRUCTIONS AT THE END OF EACH WORK DAY. ALL DEWATERING OF THE WORK AREA SHALL BE IN ACCORDANCE WITH SECTION 902 AND 207 OF THE DELDOT STANDARD SPECIFICATIONS WITH DISCHARGING OF ALL CLEAN EFFLUENT DIRECTLY ON TO THE AFOREMENTIONED STABILIZED OUTFALL. PAYMENT FOR DEWATERING SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 207000 - EXCAVATION AND BACKFILLING FOR STRUCTURES.
4. COMPLETE ALL PROPOSED BRIDGE AND CHANNEL WORK AS SHOWN IN THESE PLANS.
5. COMPLETE ALL REMAINING ROADWAY, CURB, SIDEWALK AND DRAINAGE WORK AS SHOWN IN THESE PLANS. ALL DRAINAGE INLETS SHALL BE PROTECTED WITH ITEM 905004 - INLET SEDIMENT CONTROL, DRAINAGE INLET OR ITEM 905005 - INLET SEDIMENT CONTROL, CURB INLET.



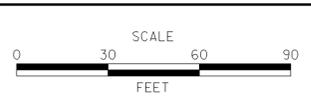
NOTE: PAYMENT SHALL BE INCIDENTAL TO 763646 - MAINTENANCE OF TRAFFIC FOR TEMPORARY PEDESTRIAN ACCESS. PLACE TEMPORARY CROSSWALK AT LOCATION SHOWN IN THIS PHASE.

TEMPORARY CROSSWALK DETAIL

N. T. S.

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ADDENDUMS / REVISIONS



BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN

CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

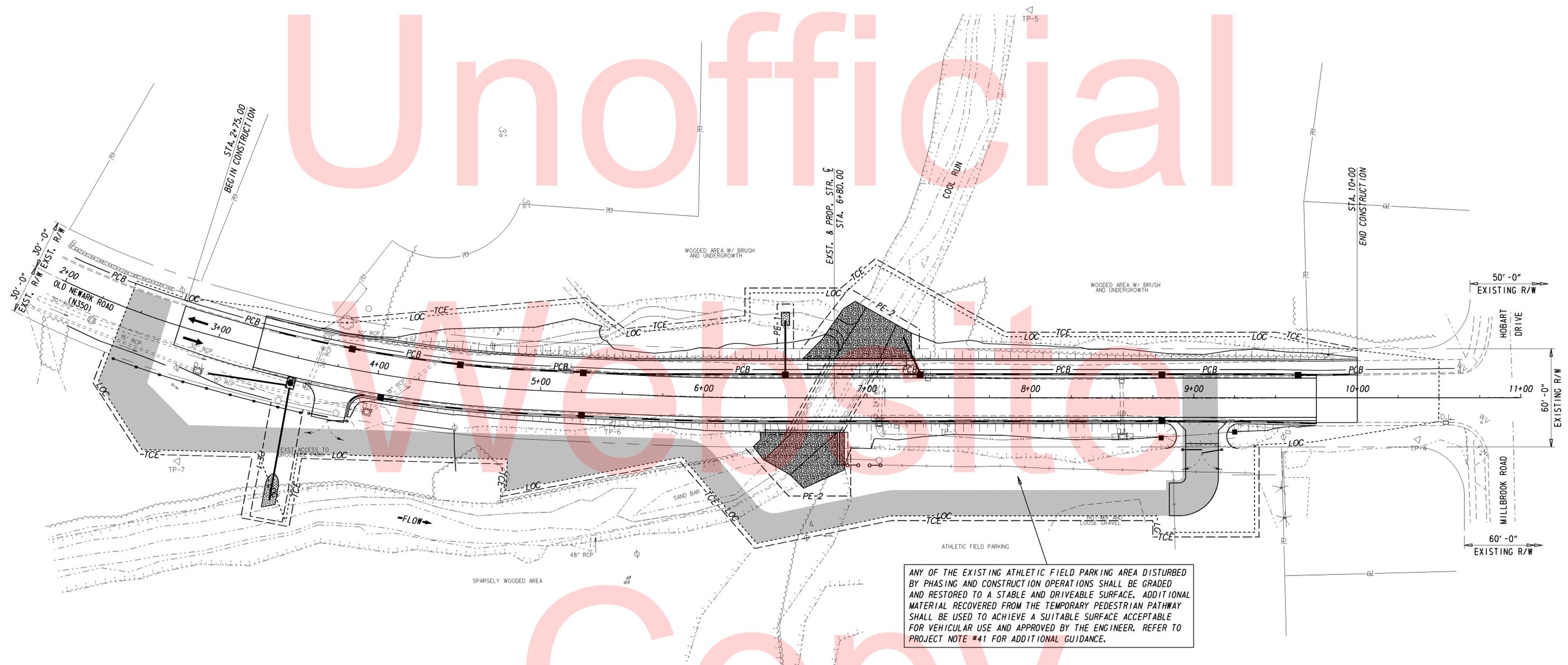
EROSION AND SEDIMENT CONTROL PLAN & CONSTRUCTION SEQUENCE DETAIL - PHASE 4	SHEET NO.	19
	TOTAL SHTS.	27

SEQUENCE OF CONSTRUCTION - PHASE 5:

1. REMOVE ALL STREAM DIVERSION MEASURES, REPAIR AND STABILIZE ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND THE SPECIFICATIONS.
2. PLACE PEDESTRIAN CHANNELIZING BARRICADE (ITEM 743552) ON NEW SIDEWALK ADJACENT TO CURB.
3. DIVERT PEDESTRIANS TO NEW SIDEWALK FROM TEMPORARY PEDESTRIAN PATHWAY.
4. REMOVE TEMPORARY PEDESTRIAN BRIDGE, TEMPORARY PATHWAY, ADJACENT CHANNELIZING BARRICADE, TEMPORARY CURB RAMPS, CROSSWALKS AND TEMPORARY PEDESTRIAN SIGNAGE.
5. FINISH ANY REMAINING ROADWAY WORK, SIGN PLACEMENT AND STRIPING.
6. REMOVE ALL VEHICULAR AND ANY REMAINING PEDESTRIAN TRAFFIC CONTROL MEASURES.
7. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES AFTER VEGETATION HAS STABILIZED ALL DISTURBED AREAS IN ACCORDANCE WITH THESE PLANS AND AS DIRECTED BY THE ENGINEER.



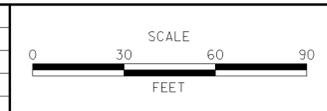
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ADDENDUMS / REVISIONS



CONTRACT	BRIDGE NO.	1-254
T201307102	DESIGNED BY:	JB
COUNTY	CHECKED BY:	CS
NEW CASTLE		

PORTABLE CHANGEABLE MESSAGE SIGNS

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

PCMS-1

**OLD
NEWARK
ROAD**

**TO CLOSE
STARTING
XXXX/XX**

DURING DETOUR

(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

PCMS-1

**OLD
NEWARK
ROAD**

**CLOSED
FOLLOW
DETOUR**

PRIOR TO DETOUR

(10 DAYS PRIOR TO BEGINNING OF DETOUR)

PCMS-1

**XXXXXXXX
XXXXXXXX
XXXXXXXX**

**XXXXXXXX
XXXXXXXX
XXXXXXXX**

DURING DETOUR

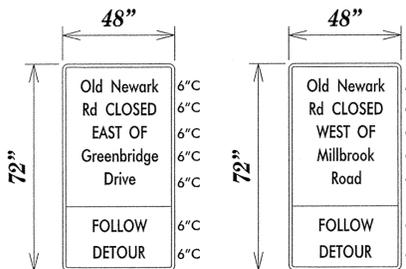
(DISPLAY FOR 5 DAYS AFTER IMPLEMENTATION OF DETOUR)

PCMS-1

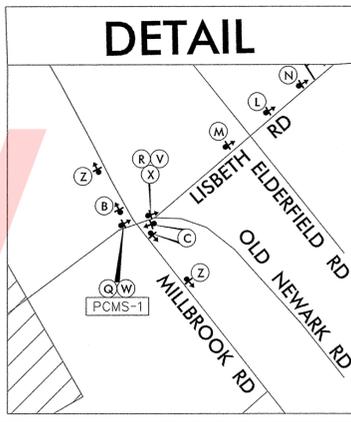
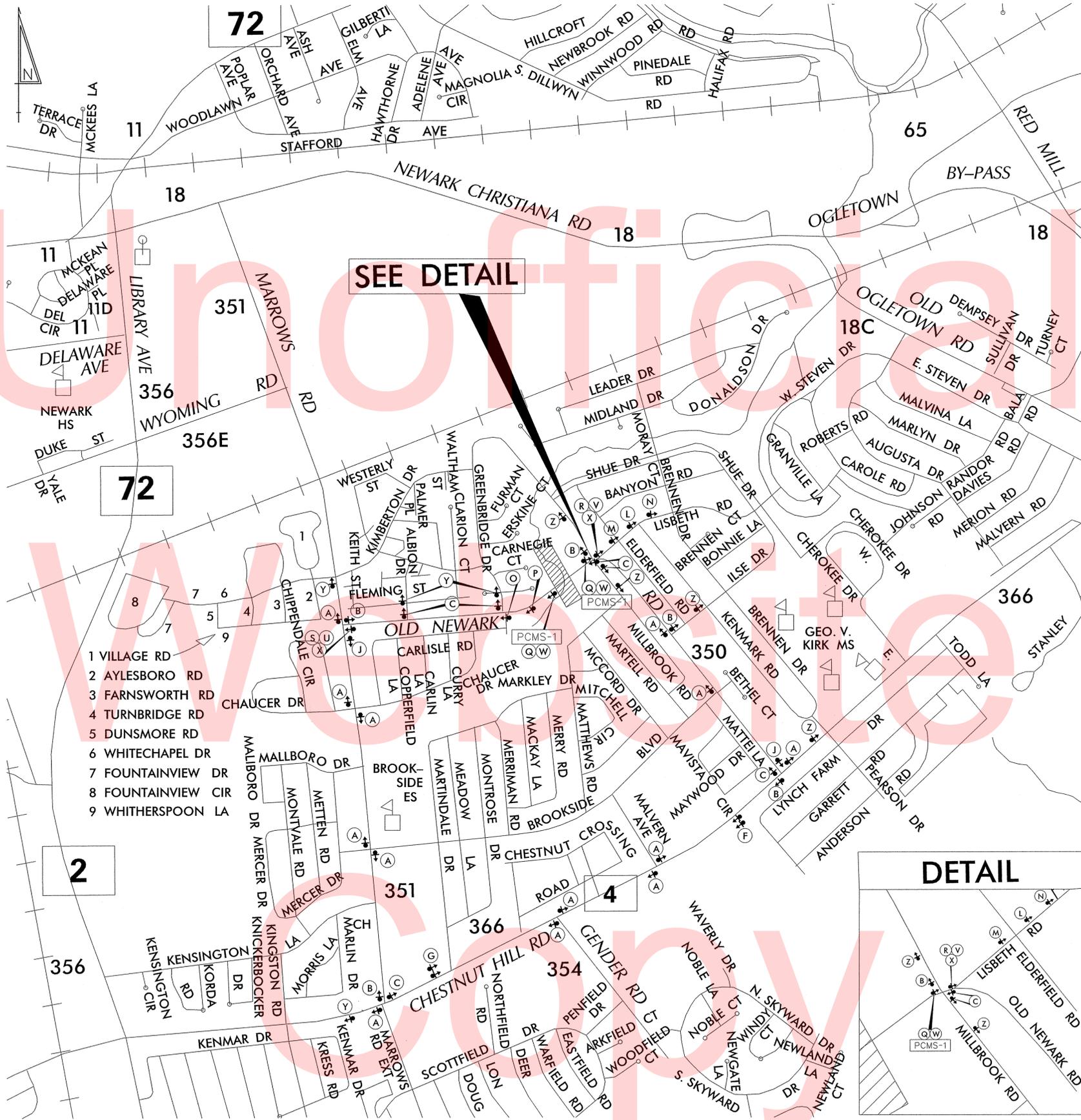
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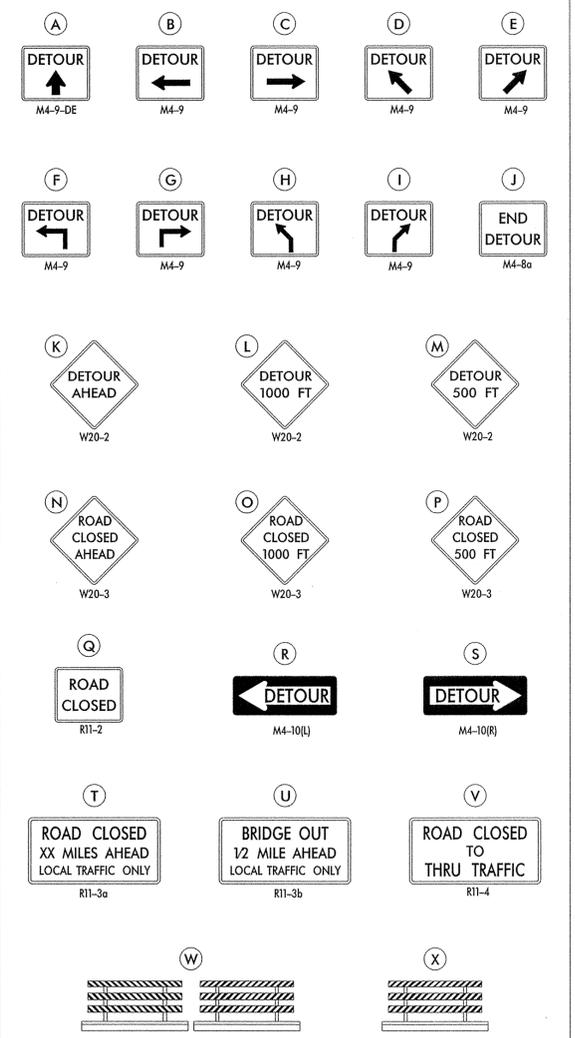
SPECIAL SIGNS



***D/G RETROREFLECTIVE FLUORESCENT
ORANGE 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 *[Signature]* DATE: 3-1-13

RECOMMENDED *[Signature]* DATE: 3-1-13

RECOMMENDED _____ DATE: _____

APPROVED CHIEF SAFETY OFFICER *[Signature]* DATE: 3-5-13

APPROVED TRAFFIC ENGINEER *[Signature]* DATE: 3/5/13

**DELAWARE
DEPARTMENT OF TRANSPORTATION**

ADDENDUM / REVISIONS

NOT TO SCALE

**BRIDGE 1-254 ON N350
OLD NEWARK ROAD
OVER COOL RUN**

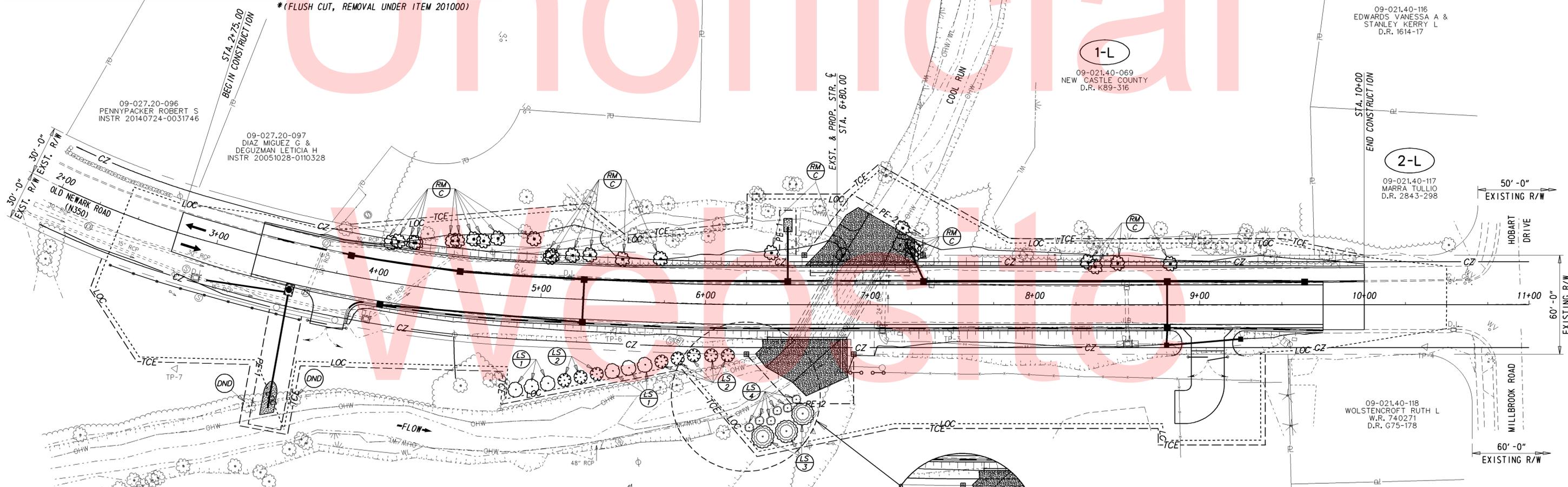
CONTRACT T201307102
ROAD NO. N350
DESIGNED BY: MFR
COUNTY NEW CASTLE
CHECKED BY: ASW
VEHICULAR DETOUR PLAN
SHEET NO. 21
TOTAL SHTS. 27

C:\DOCUMENTS AND SETTINGS\MICHAEL.RIVERA\MY DOCUMENTS\MICRO STATION DGN\OLD NEWARK RD (BR 1-254).T201307102.DGN

EXISTING TREE REMOVAL SCHEDULE

NO.	STATION	OFFSET	TRUNK DIA.	AVG. SPREAD	NO.	STATION	OFFSET	TRUNK DIA.	AVG. SPREAD
1	4+04.88	-23.45'	0.67'	16.00'	19	6+20.09	38.89'	0.83'	15.00'
2	4+09.23	-24.92'	0.67'	16.00'	20	6+28.41	65.57'	0.50'	8.00'
3	4+18.83	-25.48'	2.00'	20.00'	21	6+30.50	69.88'	0.50'	8.00'
4	4+20.24	-25.67'	0.83'	20.00'	22	6+31.54	76.08'	1.00'	15.00'
5	4+43.00	-29.57'	0.50' M	12.00'	23	6+34.54	64.86'	0.67'	10.00'
6	4+46.14	-30.03'	2.00'	48.00'	24	6+40.10	-30.84'	1.00'	24.00'
7	4+56.13	-31.95'	0.83' S	20.00'	25	6+42.18	67.64'	0.25'*	8.00'
8	4+62.40	-31.39'	0.67' S	16.00'	26	6+83.69	-29.63'	1.00' M	24.00'
9	4+71.32	-33.65'	0.83' M	20.00'	27	7+18.11	-35.66'	0.83'	12.00'
10	4+94.29	-34.65'	0.50'	12.00'	28	7+19.80'	-45.78'	0.67'	12.00'
11	5+04.56	-24.26'	0.83'	16.00'	29	7+25.40	-34.33'	0.67'	24.00'
12	5+05.74	-25.00'	0.67'	20.00'	30	7+25.50	-29.11'	2.00' S	48.00'
13	5+18.16	-25.77'	1.00'	24.00'	31	7+26.99	-32.92'	0.67'	24.00'
14	5+28.63	-26.39'	0.83'	20.00'	32	8+32.28	-25.11'	2.00' S	48.00'
15	5+48.50	-24.78'	1.00'	24.00'	33	8+36.73	-22.34'	1.00'	24.00'
16	5+71.69	-26.05'	1.67'	40.00'	34	8+50.36	-24.45'	0.50'	12.00'
17	6+13.12	38.43'	0.83'	15.00'	35	8+82.25	-24.15'	0.67' S	17.00'
18	6+19.03	35.66'	1.20'	20.00'					

NOTE: M = MULTI-TRUNK; S = SPLIT TRUNK
 *(FLUSH CUT, REMOVAL UNDER ITEM 201000)



LANDSCAPE PLANTING SCHEDULE

NO.	PLANTING DESCRIPTION	QTY.
1	BLACKHAW VIBURNUM (VIBURNUM PRUNIFOLIUM)	6
2	SILKY DOGWOOD (CORNUS AMOMUM)	8
3	SWEETGUM (LIQUIDAMBAR STYRACIFLUA)	3
4	CHOCBERRY (ARONIA ARBUTIFOLIA)	8

PROPOSED LANDSCAPING NOTES:

- ALL PROPOSED LANDSCAPING WORK INDICATED ON THIS SHEET, SHALL BE PERFORMED BY OTHERS. THE CONTRACTOR SHALL NOT BE RESPONSIBLE FOR THIS WORK AND THIS SHEET IS PROVIDED FOR INFORMATIONAL PURPOSES ONLY.
- ALL PROPOSED PLANTING TO BE PERFORMED BY OTHERS, SHALL BE IN ACCORDANCE WITH ITEM 737523 - PLANTING.
- IN THE CLEARED AREA LEFT OF AND BETWEEN STA 4+00 AND 5+50, TREES SHALL BE PLANTED IN A NATURALIZED PATTERN (MINIMUM 8' AND MAXIMUM 12' CENTERS). FINAL PLANT COUNTS (MINIMUM QUANTITY: 15 PLANTS) WILL BE BASED ON FIELD CONDITIONS AND DETERMINED BY THE ROADSIDE ENVIRONMENTAL ADMINISTRATOR OR HIS DESIGNEE. SPECIFIC PLANT SELECTION IS AT HIS DISCRETION BUT SHALL BE MADE FROM THE FOLLOWING LIST:

WHITE OAK (QUERCUS ALBA), 1 1/2"-2" CAL., BB OR CONT. RED MAPLE (ACER RUBRUM), 1 1/2"-2" CAL., BB OR CONT.
 WILLOW OAK (QUERCUS PHELLOS), 1 1/2"-2" CAL., BB OR CONT. AMERICAN HOLLY (ILEX OPACA), 6'-7', BB OR CONT.
 SASSAFRAS (SASSAFRAS ALBIDUM), 4', 3G CONT.

EXISTING TREE REMOVAL FOR UPSTREAM BANKS

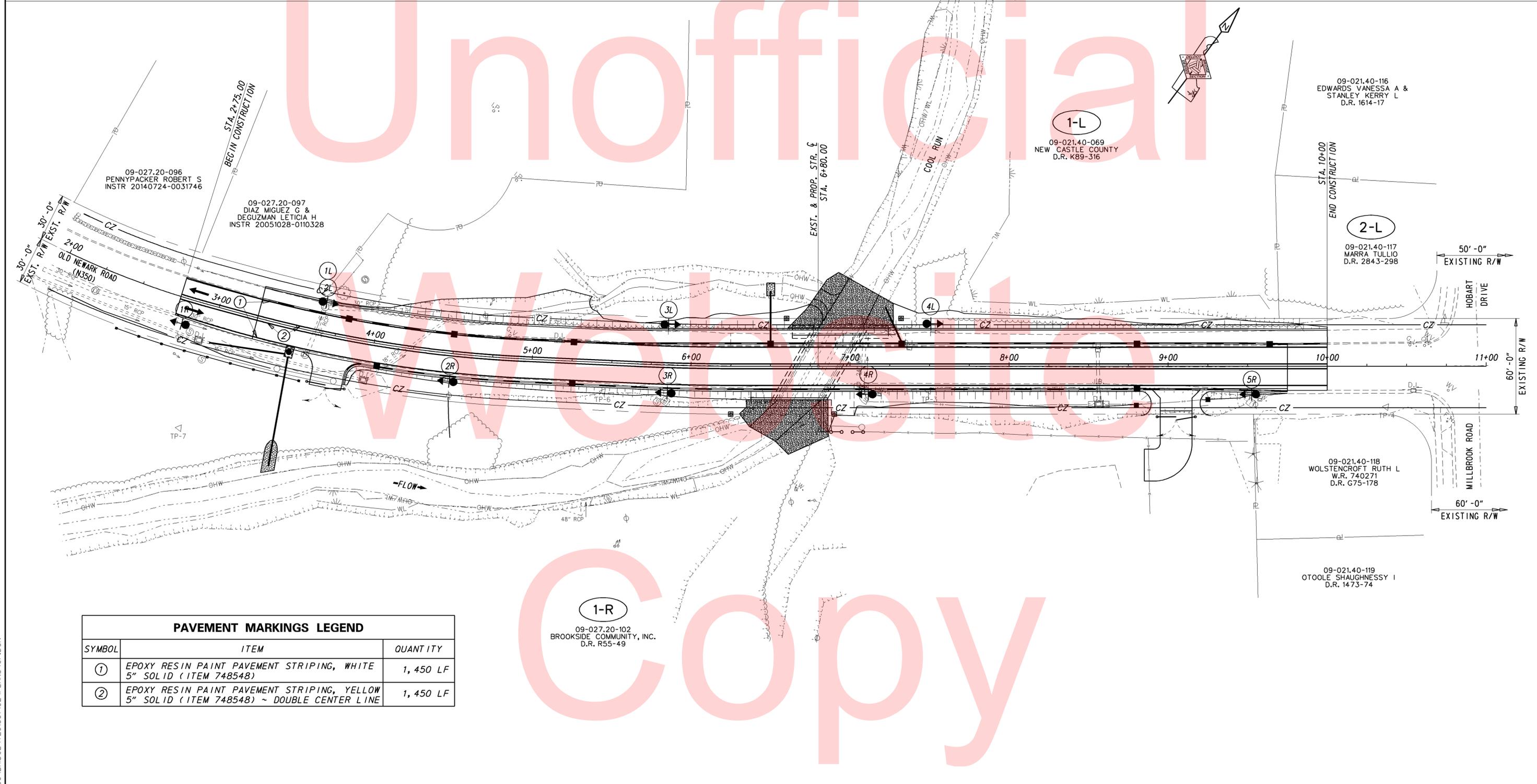
NOTE: REFER TO 'EXISTING TREE REMOVAL SCHEDULE', TREE NUMBERS 17 THROUGH 23 & 25 FOR THE LOCATION OF THE TREES TO BE CUT DOWN IN THIS AREA.

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<p>DELAWARE DEPARTMENT OF TRANSPORTATION</p>	ADDENDUMS / REVISIONS			<p>BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN</p>	CONTRACT	BRIDGE NO.	1-254	<p>LANDSCAPING PLAN</p>	SHEET NO.	22
	T201307102	DESIGNED BY:			JB	TOTAL SHTS.	27			
	NEW CASTLE	CHECKED BY:			CS					

SIGN SCHEDULE

#	SHT. NO.	PLAN ID.	CODE	QTY.	DESCRIPTION	ASSEMBLY NO.	WIDTH (IN)	HEIGHT (IN)	AREA (SF)	ITEM 749687 - SINGLE POST (EA)			ITEM 749690 - MULTI POST (SF)			POST INSTALLATION	Code X11-12' Post (w/ Basepost)	ITEM 749688 (EA)	ITEM 749689 (EA)	REMARKS
										DISPOSITION	REMOVE	INSTALL	DISPOSITION	REMOVE	INSTALL					
423	23	1R	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18		12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	
872	23	1L	W3-1(48)	1	STOP AHEAD (Symbol) - 48x48	1	48"	48"	16	REPOSITION	1	1				SOIL	0	0	0	
423	23	2L	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18	1	12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	Mounted below W3-1(48)
423	23	2R	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18		12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	
424	23	3L	R7-4-DE(18)	1	NO STOPPING, STANDING, OR PARKING - 18x24		18"	24"	3	REPOSITION	1	1				SOIL	0	0	0	
423	23	3R	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18		12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	
423	23	4R	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18		12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	
423	23	4L	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18		12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	
423	23	5R	R7-4-DE(12)	1	NO STOPPING, STANDING, OR PARKING - 12x18		12"	18"	1.5	REPOSITION	1	1				SOIL	0	0	0	



PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
①	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 748548)	1, 450 LF
②	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 748548) ~ DOUBLE CENTER LINE	1, 450 LF

1-R
09-027.20-102
BROOKSIDE COMMUNITY, INC.
D.R. R55-49

	ADDENDUMS / REVISIONS	SCALE 0 30 60 90 FEET	BR 1-254 ON N350 OLD NEWARK ROAD OVER COOL RUN	CONTRACT T201307102	BRIDGE NO. 1-254	SIGNING AND STRIPING PLAN	SHEET NO. 23
	COUNTY NEW CASTLE			DESIGNED BY: JB CHECKED BY: CS	TOTAL SHTS. 27		

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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O. D. & MATERIAL	NO.	UTILITY	STATION	OFFSET	GRND EL.	COVER	O. D. & MATERIAL
1	NCC-S	5+94.31	-20.80	61.37	7.41	SIZE & TYPE N/A	9	UW-W	5+14.80	-16.80	60.95	7.79	8" CAST IRON
2	DP-G	6+69.03	-11.70	60.63	3.66	4" STEEL	10	DP-G	7+92.03	-10.90	60.51	3.08	4" STEEL
3	DP-G	7+16.76	-11.10	60.59	2.60	4" STEEL	11	DP-G	6+15.36	-12.10	60.74	3.57	4" STEEL
4	VER-FO	7+11.72	21.30	59.87	1.73	2.5" PVC	12	DP-G	5+21.54	-15.40	60.88	4.19	4" STEEL
5	VER-FO	7+71.57	6.90	60.67	3.76	2.5" PVC	13	DP-G	3+62.13	22.32	61.25	3.94	4" STEEL
6	VER-FO	8+86.79	12.40	60.41	3.38	2.5" PVC	14	NCC-S	3+94.09	-13.44	61.80	6.50	30" RCP
7	DRY HOLE	7+33.03	-20.40	60.76	N/A	N/A	15	VER-FO	7+31.67	39.64	61.01	3.42	3" PVC
8	UW-W	7+91.42	-14.20	61.11	4.68	8" CAST IRON	16	VER-FO	8+88.62	24.16	59.62	2.28	3" PVC

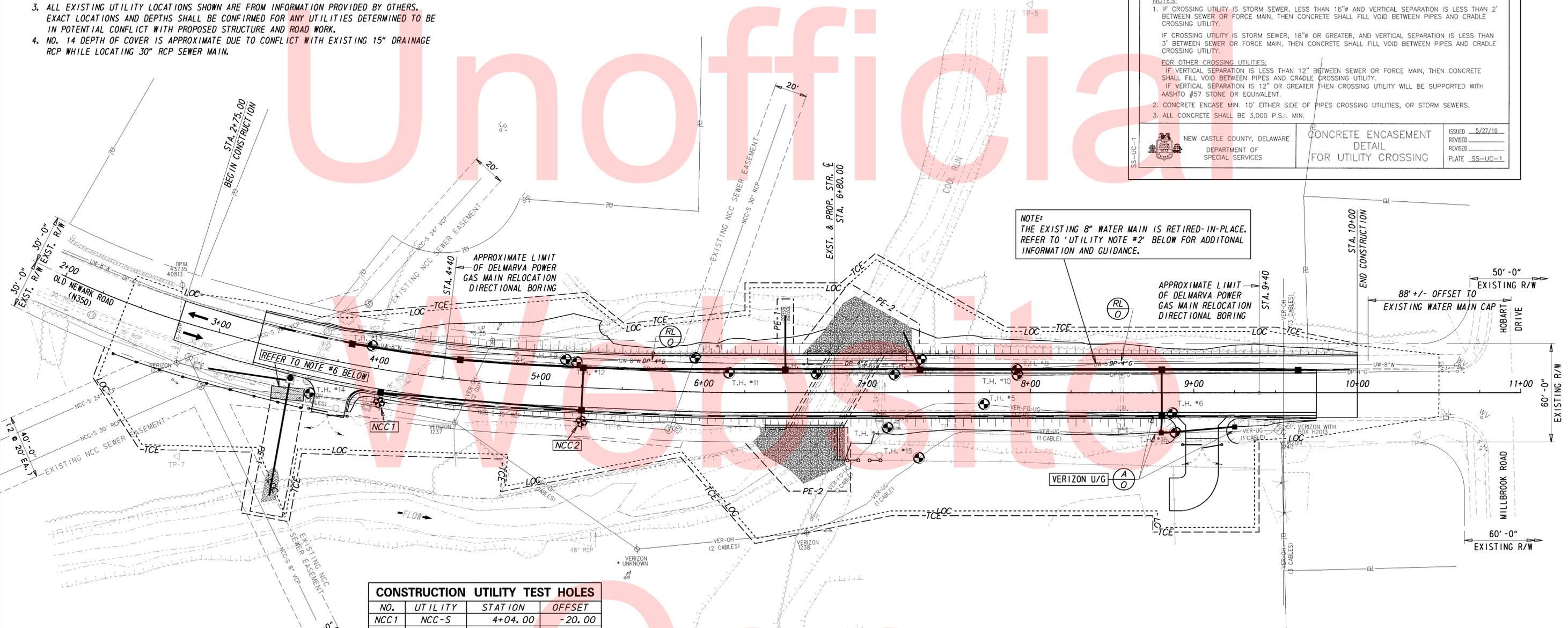
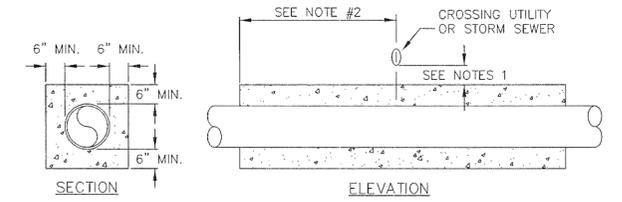
NOTES:

- NO. 1 'O.D. & MATERIAL' COULD NOT BE DETERMINED DUE TO WATER AND MUD IN HOLE.
- NO. 7 COULD NOT BE VERIFIED SINCE NO UTILITY WAS FOUND.
- ALL EXISTING UTILITY LOCATIONS SHOWN ARE FROM INFORMATION PROVIDED BY OTHERS. EXACT LOCATIONS AND DEPTHS SHALL BE CONFIRMED FOR ANY UTILITIES DETERMINED TO BE IN POTENTIAL CONFLICT WITH PROPOSED STRUCTURE AND ROAD WORK.
- NO. 14 DEPTH OF COVER IS APPROXIMATE DUE TO CONFLICT WITH EXISTING 15" DRAINAGE RCP WHILE LOCATING 30" RCP SEWER MAIN.

NOTES:

- IF CROSSING UTILITY IS STORM SEWER, LESS THAN 18" AND VERTICAL SEPARATION IS LESS THAN 2' BETWEEN SEWER OR FORCE MAIN, THEN CONCRETE SHALL FILL VOID BETWEEN PIPES AND CRADLE CROSSING UTILITY.
IF CROSSING UTILITY IS STORM SEWER, 18" OR GREATER, AND VERTICAL SEPARATION IS LESS THAN 3' BETWEEN SEWER OR FORCE MAIN, THEN CONCRETE SHALL FILL VOID BETWEEN PIPES AND CRADLE CROSSING UTILITY.
FOR OTHER CROSSING UTILITIES:
IF VERTICAL SEPARATION IS LESS THAN 12" BETWEEN SEWER OR FORCE MAIN, THEN CONCRETE SHALL FILL VOID BETWEEN PIPES AND CRADLE CROSSING UTILITY.
IF VERTICAL SEPARATION IS 12" OR GREATER THEN CROSSING UTILITY WILL BE SUPPORTED WITH AASHTO #57 STONE OR EQUIVALENT.
- CONCRETE ENCASE MIN. 10' EITHER SIDE OF PIPES CROSSING UTILITIES, OR STORM SEWERS.
- ALL CONCRETE SHALL BE 3,000 P.S.I. MIN.

NEW CASTLE COUNTY, DELAWARE DEPARTMENT OF SPECIAL SERVICES	CONCRETE ENCASEMENT DETAIL FOR UTILITY CROSSING	ISSUED 5/27/10
		REVISED
		REVISED
		PLATE SS-UC-1



NO.	UTILITY	STATION	OFFSET
NCC1	NCC-S	4+04.00	-20.00
NCC2	NCC-S	5+26.00	-21.00

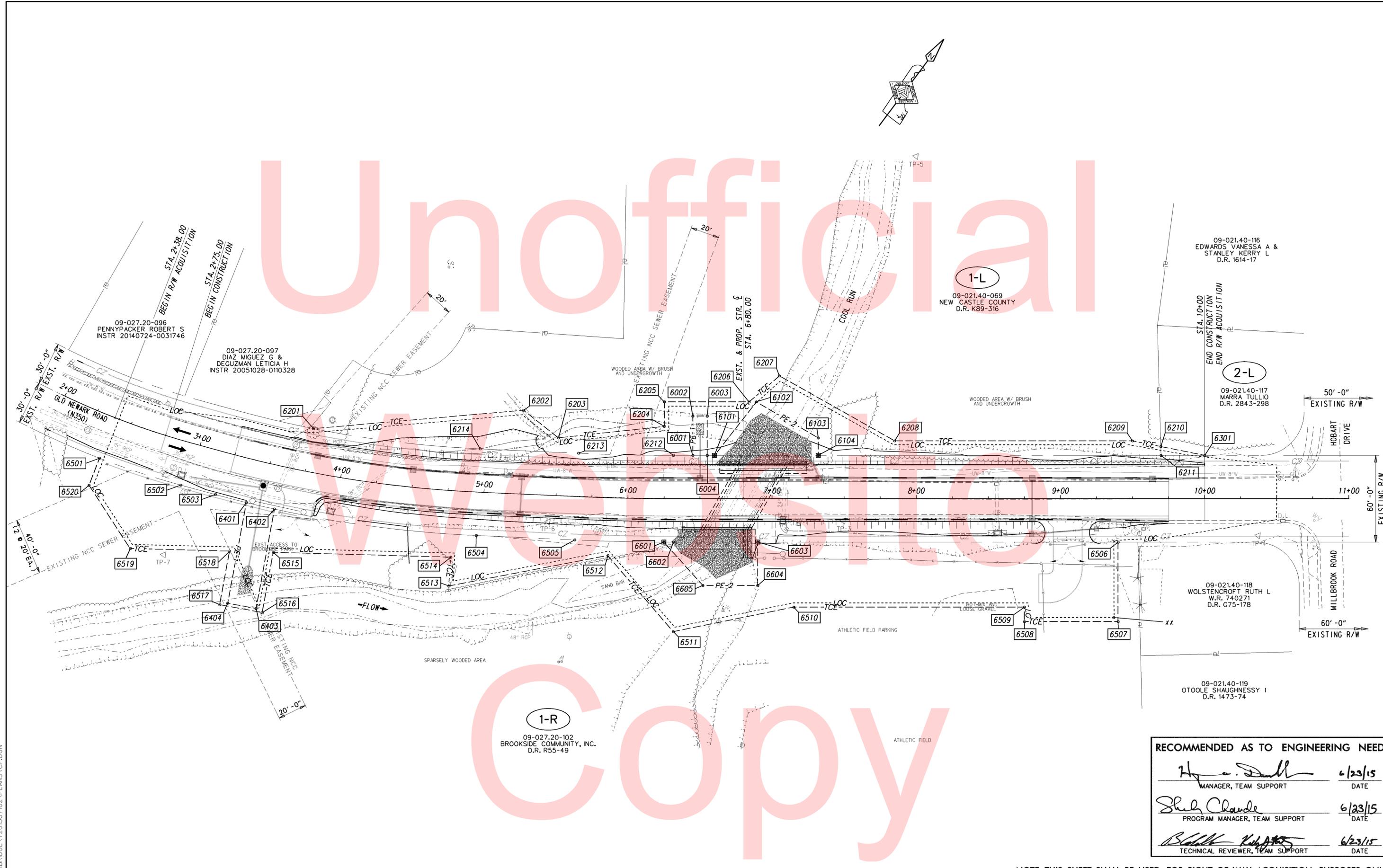
UTILITY NOTES:

- ALL EXISTING UTILITY DEPTHS PROVIDED HAVE BEEN VERIFIED BY TEST HOLES.
- THE EXISTING 8" UNITED WATER MAIN SHOWN HAS BEEN CAPPED AND RETIRED-IN-PLACE. THE LOCATIONS WHERE THE WATER MAIN IS CAPPED ARE 88' WEST OF HOBART DRIVE CENTERLINE ON THE EAST END AND 78' EAST OF GREENBRIDGE DRIVE CENTERLINE ON THE WEST END. THESE LIMITS ARE OUTSIDE OF THE PROJECT'S LIMITS OF CONSTRUCTION AND ANY EXISTING RETIRED WATER LINE CONFLICTING WITH PROPOSED CONSTRUCTION SHALL BE REMOVED BY THE CONTRACTOR. THE COST OF THIS WORK WILL BE INCIDENTAL TO ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS.
- THE EXISTING 4" DELMARVA POWER GAS MAIN SHOWN SHALL BE RELOCATED BY OTHERS. REFER TO CONSTRUCTION SEQUENCE PHASE 3 FOR GUIDANCE ON COORDINATION WITH PROPOSED BRIDGE AND ROADWAY CONSTRUCTION.
- UTILITY TEST HOLES #6 AND #16 INDICATE A CONFLICT WITH EXISTING VERIZON UNDERGROUND UTILITIES AND THE PROPOSED DRAINAGE INLETS AT THOSE LOCATIONS. AN ADDITIONAL CONFLICT MAY EXIST WITH THE PROPOSED DRAINAGE INLET RIGHT OF STA. 9+25 AND SHALL BE VERIFIED. ANY EXISTING UNDERGROUND VERIZON CONFLICTS FOUND SHALL BE OFFSET RELOCATED BY VERIZON PRIOR TO PROPOSED DRAINAGE INLET PLACEMENT.
- THE CONTRACTOR SHALL DETERMINE THE PROXIMITY OF AN EXISTING N.C.C. SEWER MAIN TO THE PROPOSED STORMWATER DRAINAGE BETWEEN STA. 4+04 RIGHT AND STA. 5+26 RIGHT. LOCATIONS OF THE TEST HOLES SHOWN IS AS INDICATED IN THE 'CONSTRUCTION UTILITY TEST HOLES' TABLE AND SHALL BE AS PER ITEM 202573 - TEST HOLES. THE TEST HOLE INFORMATION OBTAINED AT THESE LOCATIONS SHALL BE USED TO DETERMINE BOTH HORIZONTAL AND VERTICAL OFFSET OF THE BOTTOM OF THE PROPOSED DRAINAGE BOXES TO THE TOP AND SIDE OF THE EXISTING SEWER MAIN AT THESE LOCATIONS. ALL PROPOSED DRAINAGE INFORMATION IS SHOWN AND IDENTIFIED ON THE 'CONSTRUCTION PLAN'.

- THE EXISTING N.C.C. SEWER MAIN RIGHT OF STA. 3+50 WILL BE IMPACTED BY THE PROPOSED 36" R.C.P. BEING PLACED FOR STORMWATER OUTFALL. IN ACCORDANCE WITH N.C.C. REGULATIONS, THE EXISTING SEWER LINE SHALL BE ENCASED IN CONCRETE AS PER N.C.C. DETAIL SS-UC-1, THIS SHEET. THE ASSUMED AVERAGE DEPTH TO THE TOP OF THIS MAIN IS 6.50' BASED ON INFORMATION OBTAINED FROM TEST HOLE #14. THE VERTICAL EXCAVATION LIMITS SHALL BE 18" BEYOND THE 6" ENCASEMENT REQUIRED FOR THE EXISTING MAIN. THE CENTER OF THE ENCASEMENT SHALL BE APPROXIMATELY 26 FEET RIGHT OF STA. 3+50 AND SHALL EXTEND 10 FEET IN EITHER DIRECTION ALONG THE EXISTING SEWER LINE AS PER THE DETAIL, FOR A TOTAL LENGTH OF 20 FEET. ALL REQUIRED EXCAVATION SHALL BE AS PER ITEM 208000 - EXCAVATION AND BACKFILL FOR PIPE TRENCHES AND SHALL BE DONE IN CONJUNCTION WITH THE 36" DRAINAGE R.C.P. PLACEMENT IN CONSTRUCTION SEQUENCE - PHASE 1. CONSTRUCTION AND BACKFILL OF THE ENCASEMENT SHALL BE AS PER ITEM 602507 - CONCRETE ENCASEMENT. BACKFILL FOR THE EXCAVATION SHALL BE AS PER ITEM 210000 - FURNISHING BORROW TYPE C FOR PIPE, UTILITY TRENCH AND STRUCTURAL BACKFILL.

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RECOMMENDED AS TO ENGINEERING NEED

Hyman Dill 6/23/15
 MANAGER, TEAM SUPPORT DATE

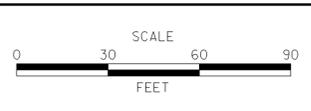
Shah Chande 6/23/15
 PROGRAM MANAGER, TEAM SUPPORT DATE

Blair Kuba 6/23/15
 TECHNICAL REVIEWER, TEAM SUPPORT DATE

NOTE: THIS SHEET SHALL BE USED FOR RIGHT-OF-WAY ACQUISITION PURPOSES ONLY.

DELAWARE
DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS



**BR 1-254 ON N350
 OLD NEWARK ROAD
 OVER COOL RUN**

CONTRACT T201307102	BRIDGE NO. 1-254
COUNTY NEW CASTLE	DESIGNED BY: JB CHECKED BY: CS

RIGHT-OF-WAY PLAN SHEET 1 OF 3	SHEET NO. 25
	TOTAL SHTS. 27

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-021.40-069	(1-L) NEW CASTLE COUNTY					P/E-1	D.R. K89-316	8.660			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6001	4000	6+45.00	-30.00	610017.2781	570693.9876	N 36°47' 10.19" W	27.00				
6002	4000	6+45.00	-57.00	610038.9018	570677.8192	N 53°12' 49.81" E	10.00				
6003	4000	6+55.00	-57.00	610044.8901	570685.8280	S 36°47' 10.19" E	27.00				
6004	4000	6+55.00	-30.00	610023.2664	570701.9694	S 53°12' 49.81" W	10.00				
6001	4000	6+45.00	-30.00	610017.2781	570693.9876						
FIGURE 6000 AREA = 270.0000 SQ. FT. (0.0062 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-021.40-069	(1-L) NEW CASTLE COUNTY					P/E-2	D.R. K89-316	8.660			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6101	4000	6+60.00	-30.00	610026.2606	570706.0008	N 1°18' 09.39" E	47.01				
6102	4000	6+89.00	-67.00	610073.2591	570707.0694	N 83°23' 14.48" E	49.74				
6103	4000	7+32.00	-42.00	610078.9869	570756.4779	S 36°47' 10.19" E	12.00				
6104	4000	7+32.00	-30.00	610069.3763	570763.6638	S 53°12' 49.81" W	72.00				
6101	4000	6+60.00	-30.00	610026.2606	570706.0008						
FIGURE 6100 AREA = 1590.0000 SQ. FT. (0.365 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-021.40-069	(1-L) NEW CASTLE COUNTY					TCE	D.R. K89-316	8.660			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6201	4000	3+75.00	-30.00	609874.5651	570472.2133	N 48°14' 03.65" E	146.28				
6202	4000	5+25.00	-58.00	609972.0022	570581.3224	S 88°28' 05.71" E	30.81				
6203	4000	5+50.00	-40.00	609971.1787	570612.1172	N 47°03' 52.31" E	73.82				
6204	4000	6+25.00	-50.00	610021.4607	570666.1599	N 36°32' 10.59" W	17.00				
6205	4000	6+25.00	-67.00	610035.1198	570656.0393	N 53°13' 37.69" E	58.71				
6206	4000	6+84.00	-67.00	610070.2649	570703.0651	N 12°36' 45.15" E	27.66				
6207	4000	7+05.00	-85.00	610097.2561	570709.1045	N 82°34' 17.72" E	91.79				
6208	4000	7+85.00	-40.00	610109.1231	570800.1220	N 53°12' 49.81" E	165.00				
6209	4000	9+50.00	-40.00	610207.9301	570932.2665	N 64°31' 23.54" E	19.94				
6210	4000	9+69.55	-36.09	610216.5064	570950.2658	S 38°21' 58.81" E	6.09				
6211	4000	9+69.72	-30.00	610211.7297	570954.0473	S 53°12' 49.81" W	237.72				
6104	4000	7+32.00	-30.00	610069.3763	570763.6638	N 36°47' 10.19" W	12.00				
6103	4000	7+32.00	-42.00	610078.9869	570756.4779	S 83°23' 14.48" W	49.74				
6102	4000	6+89.00	-67.00	610073.2591	570707.0694	S 1°18' 09.39" W	47.01				
6101	4000	6+60.00	-30.00	610026.2606	570706.0008	S 53°12' 49.81" W	5.00				
6004	4000	6+55.00	-30.00	610044.8901	570685.8280	N 36°47' 10.19" W	27.00				
6003	4000	6+55.00	-57.00	610023.2664	570677.8192	S 53°12' 49.81" W	10.00				
6002	4000	6+45.00	-57.00	610038.9018	570677.8192	S 36°47' 10.19" E	27.00				
6001	4000	6+45.00	-30.00	610017.2781	570693.9876	S 53°12' 49.81" W	13.46				
6212	4000	6+31.54	-30.00	610009.2191	570683.2094			S 54°29' 45.06" W	65.78	65.78	1470.00
6213	4000	5+64.42	-30.00	609971.0177	570629.6613	S 55°46' 40.29" W	68.38				
6214	4000	4+96.04	-30.00	609932.5612	570573.1212			S 60°06' 43.86" W	116.39	116.50	770.00
6201	4000	3+75.00	-30.00	609874.5651	570472.2133						
FIGURE 6200 AREA = 9615.8153 SQ. FT. (0.2207 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-021.40-117	(2-L) MARRA TULLIO					TCE	D.R. 2843-298	0.190			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6210	4000	9+69.55	-36.09	610216.5064	570950.2658	N 64°31' 26.87" E	31.08				
6301	4000	10+00.00	-30.00	610229.8628	570978.2986	S 53°12' 49.81" W	30.25				
6211	4000	9+69.72	-30.00	610211.7297	570954.0473	N 38°21' 58.81" W	6.09				
6210	4000	9+69.55	-36.09	610216.5064	570950.2658						
FIGURE 6300 AREA = 92.2056 SQ. FT. (0.0021 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-027.20-102	(1-R) BROOKSIDE COMMUNITY, INC.					P/E-1	D.R. R55-49	10.390			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6401	4000	3+40.50	30.00	609805.6953	570465.4792	N 66°13' 35.66" E	20.01		20.01		-830.00
6402	4000	3+59.79	30.00	609813.7634	570483.7949	S 26°15' 30.00" E	70.00				
6403	4000	3+61.74	99.96	609750.9907	570514.7623	S 63°44' 23.11" W	19.98				
6404	4000	3+44.00	100.76	609742.1506	570496.8444	N 26°16' 13.96" W	70.86				
6401	4000	3+40.50	30.00	609805.6953	570465.4792						
FIGURE 6400 AREA = 1406.9123 SQ. FT. (0.323 ACRES)											

ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-027.20-102	(1-R) BROOKSIDE COMMUNITY, INC.					P/E-2	D.R. R55-49	10.390			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6601	4000	6+25.00	30.00	609957.1823	570713.7864			N 53°20' 19.61" E	6.67	6.67	-1530.00
6602	4000	6+31.54	30.00	609961.1665	570719.1392						
6603	4000	6+90.00	30.00	609996.1729	570765.9568	N 53°12' 49.81" E	58.46				
6604	4000	6+90.00	60.00	609972.1466	570783.9218	S 36°47' 10.19" W	38.00				
6605	4000	6+52.00	60.00	609949.3911	570753.4885	N 78°53' 50.26" W	40.46				
6601	4000	6+25.00	30.00	609957.1823	570713.7864						
FIGURE 6600 AREA = 1546.7973 SQ. FT. (0.355 ACRES)											

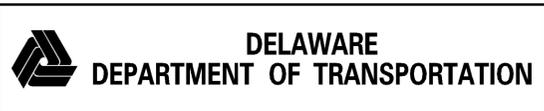
ASSESSMENT NUMBER	OWNERSHIP OF RECORD					TYPE OF ACQUISITION	TITLE SOURCE	PARCEL AREA (ACRES)			
09-027.20-102	(1-R) BROOKSIDE COMMUNITY, INC.					TCE	D.R. R55-49	10.390			
ALIGNMENT NUMBER & DESCRIPTION: 4000 - CONSTRUCTION BASELINE											
PT. NO.	ALIGN. NO.	STATION	OFFSET *	NORTH	EAST	BEARING	DISTANCE	CHORD BEARING	CHORD LENGTH	ARC LENGTH	RADIUS **
6501	4000	2+38.00	30.00	609769.2491	570365.5474			N 71°26' 53.18" E	59.40	59.43	-566.92
6502	4000	2+94.28	30.00	609788.1485	570421.8622	N 68°26' 41.57" E	24.89				
6503	4000	3+19.17	30.00	609797.2920	570445.0088			N 67°40' 52.21" E	22.13	22.13	-830.00
6401	4000	3+40.50	30.00	609805.6953	570465.4792	S 26°16' 13.96" E	70.86				
6403	4000	3+61.74	99.96	609742.1506	570496.8444	N 26°16' 13.96" E	19.98				
6404	4000	3+44.00	100.76	609750.9907	570514.7623	N 63°44' 23.11" W	70.00				
6402	4000	3+59.79	30.00	609813.7634	570483.7949			N 60°39' 24.53" E	141.18	141.36	-830.00
6504	4000	4+96.04	30.00	609882.9493	570606.8654	N 55°46' 40.29" E	68.38				
6505	4000	5+64.42	30.00	609921.4059	570663.4055			N 54°37' 14.86" E	61.79	61.80	-1530.00
6601	4000	6+25.00	30.00	609957.1823	570713.7864	S 78°53' 50.26" E	40.46				
6605	4000	6+52.00	60.00	609949.3911	570753.4885	N 53°12' 49.81" E	38.00				
6604	4000	6+90.00	60.00	609972.1466	570783.9218	N 36°47' 10.19" W	30.00				
6603	4000	6+90.00	30.00	609996.1729	570765.9568	N 53°12' 49.81" E	250.00				
6506	4000	9+40.00	30.00	610145.8805	570966.1758	S 36°47' 10.19" E	55.00				
6507	4000	9+40.00	85.00	610101.8323	570999.1115	S 53°12' 49.81" W	65.00				
6508	4000	8+75.00	85.00	610062.9083	570947.0546	N 36°47' 10.19" W	10.00				
6509	4000	8+75.00	75.00	610070.9171	570941.0663	S 53°12' 49.81" W	160.00				
6510	4000	7+15.00	75.00	609975.1042	570812.9261	S 41°42' 01.69" W	85.17				
6511	4000	6+31.54	92.00	609911.5122	570756.2667	N 77°34' 56.38" W	69.58				
6512	4000	5+87.26	40.00	609926.4734	570688.3192	S 42°22' 54.10" W	112.24				
6513	4000	4+80.00	66.00	609843.5635	570612.6606	N 33°04' 24.85" W	20.00				
6514	4000	4+80.00	46.00	609860.3229	570601.7463	S 54°47' 01.61" W	123.19				
6515	4000	3+65.00	59.47	609789.2859	570501.1056	S 26°26' 34.54" E	42.36				
6516	4000	3+66.07	101.82	609751.3534	570519.9709	S 63°37'					

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)			
09-021.40-069	20	(1-L) NEW CASTLE COUNTY	D.R. K89-316	D - 8.66	P/E-1 P/E-2 TCE			270.00 / 0.01 1590.00 / 0.04	9615.8153 / 0.22	377229.60 / 8.66		AREA OF TCE OCCUPIED BY NCC SEWER EASEMENT = 427.15 / 0.01
09-021.40-117	20	(2-L) MARRA TULLIO	D.R. 2843-298	D - 0.19	TCE				92.2056 / 0.00	8276.40 / 0.19		
09-027.20-102	20	(1-R) BROOKSIDE COMMUNITY, INC.	D.R. R55-49	D - 10.39	P/E-1 P/E-2 TCE			1406.9123 / 0.03 1546.7973 / 0.04	25005.6017 / 0.57	452588.40 / 10.39		AREA OF PE-1 OCCUPIED BY NCC SEWER EASEMENT = 429.36 / 0.01 AREA OF TCE OCCUPIED BY NCC SEWER EASEMENT = 3389.11 / 0.08

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



ADDENDUMS / REVISIONS	

BR 1-254 ON N350
 OLD NEWARK ROAD
 OVER COOL RUN

CONTRACT T201307102	BRIDGE NO. 1-254
COUNTY NEW CASTLE	DESIGNED BY: JB CHECKED BY: CS

**RIGHT-OF-WAY
 TABULATION SHEET
 SHEET 3 OF 3**

SHEET NO. 27
TOTAL SHTS. 27