THE STATE OF DELAWARE
DEPARTMENT OF TRANSPORTATION

U.S. CUSTOMARY UNITS

CONSTRUCTION PLANS FOR:

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT NUMBER: T201404101
FEDERAL AID PROJECT NUMBER: ESTP-N288(01)

COUNTY: NEW CASTLE M.R. #: N288

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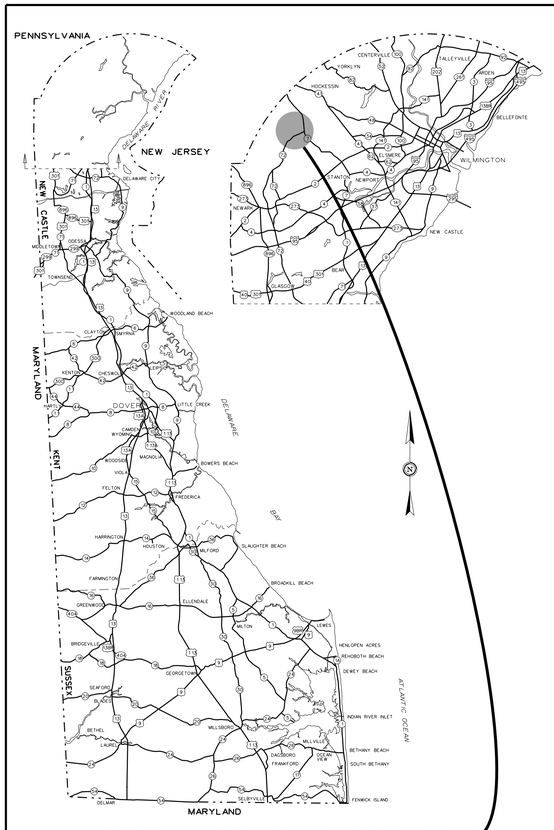
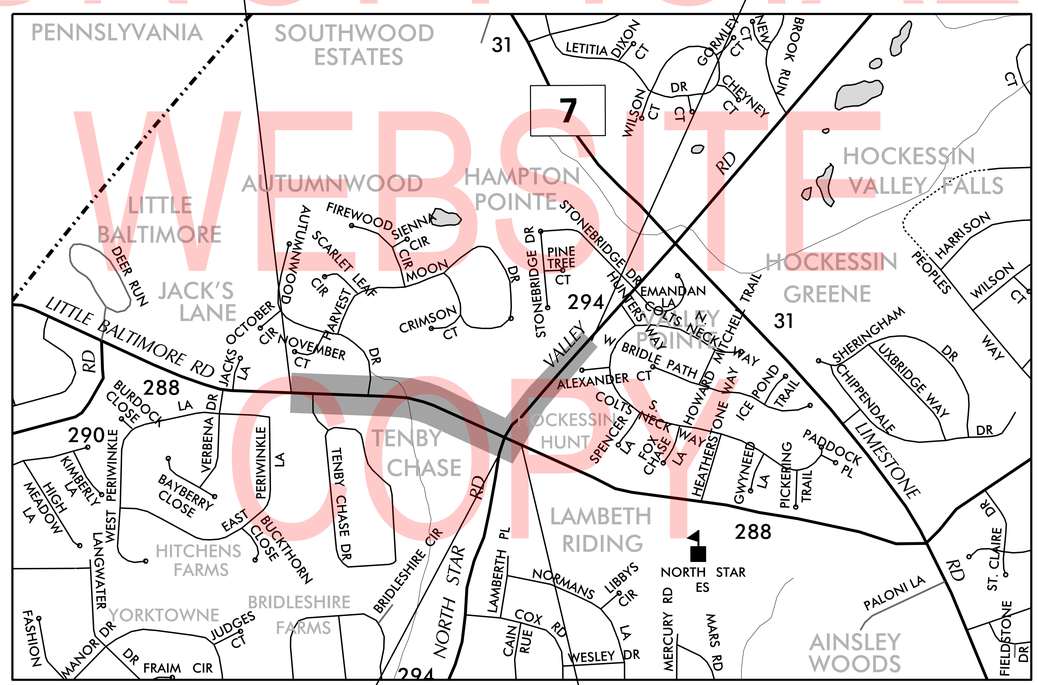


GENERAL LOCATION OF CONTRACT

BEGIN CONTRACT STATION 404+00

LIMIT OF CONTRACT STATION 513+00



LIMIT OF CONTRACT STATION 501+00

END CONTRACT STATION 426+00

DESIGN DESIGNATION (LITTLE BALTIMORE ROAD)

FUNCTIONAL CLASS: MAJOR COLLECTOR		D.H.V. PROJECTED: 627	YEAR: 2050
TYPE OF CONSTRUCTION: RECONSTRUCTION		DESIGN SPEED: 45 M.P.H.	
A.A.D.T. CURRENT: 8,082	YEAR: 2016	TRUCKS: 10%	
A.A.D.T. PROJECTED: 9,400	YEAR: 2050	DIRECTION OF DISTRIBUTION: 60%	

DESIGN DESIGNATION (VALLEY ROAD)

FUNCTIONAL CLASS: MAJOR COLLECTOR		D.H.V. PROJECTED: 726	YEAR: 2050
TYPE OF CONSTRUCTION: MAINTENANCE		DESIGN SPEED: 45 M.P.H.	
A.A.D.T. CURRENT: 8,874	YEAR: 2016	TRUCKS: 10%	
A.A.D.T. PROJECTED: 11,000	YEAR: 2050	DIRECTION OF DISTRIBUTION: 60%	

APPROVED DESIGN EXCEPTIONS

DESIGN PARAMETER	REQUIRED	PROVIDED	DATE

ADDENDA & REVISIONS

DESCRIPTION	NAME & DATE

ASSOCIATED CONTRACTS

CONTRACT NO.	CONTRACT NAME
64-01-010	NORTH STAR ROAD

APPROVED FOR ADVERTISEMENT

DIRECTOR OF TRANSPORTATION SOLUTIONS — 08/29/2019 DATE

PREPARED BY

DELDOT - TRANSPORTATION SOLUTIONS
PROJECT DEVELOPMENT

08/29/2019
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "PD" SECTION DESIGNATION.

DAVID CHESTER KLEINOT LICENSE No. 20308 DELAWARE PROFESSIONAL ENGINEER
SEAL

LAST REVISED: 08/16/2017
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ADDENDA / REVISIONS	

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS	CONTRACT T201404101	BRIDGE NO. 1-614	ADDENDA AND REVISIONS	SECTION
	COUNTY NEW CASTLE	DESIGNED BY: DCK		SHEET NO. 3
		CHECKED BY: JKL		

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EXISTING SYMBOLS

DRAINAGE

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

MANMADE ROADSIDE FEATURES

	BOLLARD - STEEL POLE
	BOLLARD - WOOD POST
(TYPE LABEL)	CURB
(TYPE LABEL)	CURB AND GUTTER
	FENCE - CHAINLINK OR STRANDED
	FENCE - STOCKADE OR SPLIT RAIL
F.P.	FLAG POLE
	GUARDRAIL - STEEL BEAM
	GUARDRAIL - WIRE ROPE
LAMP	LAMP AND POST - RESIDENTIAL
MB	MAILBOX
P.M.	PARKING METER AND POST
	PAVEMENT - FLEXIBLE
	PAVEMENT - RIGID
	PILE - BRIDGE
	PILLAR OR MISCELLANEOUS POST
	TRAFFIC SIGN AND POST
	WALL - BRICK OR BLOCK
	WALL - STONE

NATURAL ROADSIDE FEATURES

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

RIGHT-OF-WAY SYMBOLS

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

SURVEY CONTROL & MONUMENTATION

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

UTILITY

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

UTILITY COMPANY FACILITIES

AW-W	ARTESIAN WATER COMPANY
COM-C	COMCAST CABLE
DP-E	DELMARVA POWER ELECTRIC
DP-G	DELMARVA POWER GAS
ESNG-G	EASTERN SHORE NATURAL GAS
NCC-S	NEW CASTLE COUNTY SEWER
VER-C	VERIZON

PROPOSED SYMBOLS

CONSTRUCTION

	CONCRETE SAFETY BARRIER - PERMANENT
BFS	BIOFILTRATION SWALE
	BRICK PATTERNED SURFACE
	BUTT JOINT
CZ	CLEAR ZONE
100+00	CONSTRUCTION BASELINE
CSF	CONSTRUCTION SAFETY FENCE
	CURB, TYPE 1 & TYPE 3
	CURB, TYPE 2
	CURB & GUTTER, TYPE 1
	CURB & GUTTER, TYPE 2
	CURB & GUTTER, TYPE 3
	CURB & GUTTER, TYPE 4
	CURB OPENING - SUMP / ON GRADE
	CURB OPENING WITH SIDEWALK
	DRAINAGE INLET
	DITCH
	FENCE - METAL / FENCE - WOOD
	FLARED END / SAFETY 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
LO	LATERAL OFFSET
LOC	LIMIT OF CONSTRUCTION
MB	MAILBOX
	MANHOLE
	PAVEMENT PATCH
	PAVEMENT REMOVAL - TOPSOIL, SEED AND MULCH
	PIPE & DIRECTIONAL FLOW ARROW
	RIPRAP
	P.C.C. SIDEWALK - 4"
	P.C.C. SIDEWALK - 6" (USE 8" DEPTH FOR CHANNELIZATION ISLANDS.)
	UNDERDRAIN
	UNDERDRAIN OUTLET

RIGHT-OF-WAY SYMBOLS

	PROPOSED RIGHT-OF-WAY MONUMENT
DA	PROPOSED DENIAL OF ACCESS
PE	PROPOSED PERMANENT EASEMENT
R/W	PROPOSED RIGHT-OF-WAY
R/W-DA	PROPOSED R/W & DENIAL OF ACCESS
RTE	RIGHT-TO-ENTER
TCE	TEMPORARY CONSTRUCTION EASEMENT
100+00	PROPOSED RIGHT-OF-WAY BASELINE

IDENTIFIERS

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

LANDSCAPING

LS XXX	LANDSCAPE PLANTINGS
	SHRUBBERY
	CONIFEROUS TREE
	DECIDUOUS TREE

TRAFFIC

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

PAVEMENT SECTION(S)

	MILL AND OVERLAY PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	RECONSTRUCTED PAVEMENT - SEE TYPICAL SECTIONS FOR MATERIALS AND DEPTHS
	DRIVEWAY AND ENTRANCE PAVEMENT - SEE NOTES FOR MATERIALS AND DEPTHS

UTILITY COMPANY FACILITIES

AW-W	ARTESIAN WATER COMPANY
DP-G	DELMARVA POWER GAS
DP-E	DELMARVA POWER ELECTRIC
COM-C	COMCAST CABLE
VER-C	VERIZON
NCC-S	NEW CASTLE COUNTY SEWER

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ADDENDA / REVISIONS

NOT TO SCALE

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

LEGEND

SECTION
PD
SHEET NO.
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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 2016 AND THE DELAWARE DEPARTMENT OF TRANSPORTATION "STANDARD CONSTRUCTION DETAILS", DATED 2014, INCLUDING ALL REVISIONS UP TO THE DATE OF ADVERTISEMENT.

2. ELECTRONIC DESIGN DATA FILES THAT WILL BE MADE AVAILABLE TO THE AWARDED CONTRACTOR, INCLUDE:

( )	NONE
(X)	ASCII DATA FILES WITH COORDINATES AND ELEVATIONS FOR PROPOSED POINTS AS SELECTED BY THE ENGINEER.
(X)	EXISTING DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	PROPOSED DIGITAL TERRAIN MODEL, IN .DTM FILE FORMAT, COMPATIBLE WITH SOFTWARE CURRENTLY USED BY DELDOT.
(X)	DESIGN FILE, IN .DGN FILE FORMAT, THAT CONTAINS 3D FEATURE LINES FOR THE PROPOSED DESIGN. 3D FEATURE LINES ARE FOR THE PROPOSED TOP SURFACE ELEVATION ONLY.

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.

NOTE: THERE MAY BE SOME AREAS OF THE PROJECT NOT INCLUDED IN THE ELECTRONIC DESIGN DATA FILE(S). IT IS THE CONTRACTOR'S RESPONSIBILITY TO REVIEW THE DESIGN DATA FILE AND DETERMINE THE LIMITS OF THE PROJECT INCLUDED.

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

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

PROJECT NOTES

SECTION 100

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

2. THE CONTRACTOR WILL CONTACT THE DELAWARE TMC AT 302-659-4600 PRIOR TO ANY UNMANNED AIRCRAFT VEHICLE (UAV) FLIGHTS. THE CONTRACTOR WILL BE REQUIRED TO PROVIDE THE FOLLOWING INFORMATION: THE REGISTRATION NUMBER OF THE UAV, THE FLIGHT TIME, LOCATION OF THE FLIGHT, THE PILOT'S NAME AND THE PILOT'S CONTACT NUMBER DURING THE FLIGHT.

SECTION 200

3. THE CONTRACTOR SHALL REMOVE AND RESET ALL MAILBOXES TO MAINTAIN MAIL SERVICE AS DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL RELOCATE MAILBOXES AS REQUIRED BY THE PROPOSED GEOMETRICS AND AS DIRECTED BY THE ENGINEER. WHEN RELOCATING MAILBOXES IN CURBED SECTIONS, THE FACE OF THE MAILBOX SHALL BE FLUSH WITH THE BACK EDGE OF CURB. WHEN RELOCATING MAILBOXES IN OPEN SECTIONS, THE FACE OF THE MAILBOX SHALL SET BACK 8 INCHES FROM THE EDGE OF THE PAVED SHOULDER. THE BOTTOM OF THE MAILBOX SHALL BE POSITIONED IN ACCORDANCE WITH THE LATEST VERSION OF THE UNITED STATES POSTAL SERVICE GUIDELINES. MAILBOXES LOCATED AT DRIVEWAY ENTRANCES SHALL BE PLACED ON THE FAR SIDE OF THE DRIVEWAY IN THE DIRECTION OF TRAVEL. POSTS BEING RESET IN CONCRETE SIDEWALK SHALL BE IN AN APPROPRIATE SIZE PVC SLEEVE. ACCEPTABLE POST SHALL BE 4 INCH X 4 INCH WOOD POST OR 4 INCH DIAMETER WOOD POST. FOR RELOCATING MULTIPLE MAILBOXES TOGETHER ALL POST SHALL BE SEPARATED BY A DISTANCE OF NO LESS THAN 3/4 OF THEIR FULL HEIGHT ABOVE THE GROUND. MULTIPLE MAILBOXES ATTACHED TO A SINGLE HORIZONTAL BOARD SHALL NOT BE LOCATED INSIDE THE CLEARZONE. EACH MAIL BOX SHALL BE PLACED ON AN INDIVIDUAL POST MEETING THE CRITERIA ABOVE. ALL MAILBOXES SHALL BE SET NOT TO IMPEDE THE MINIMUM PAR (PEDESTRIAN ACCESS ROUTE) WIDTH AS DETERMINED BY THE CURRENT EDITION OF THE PEDESTRIAN ACCESSIBILITY STANDARDS FOR FACILITIES IN THE PUBLIC RIGHT OF WAY.IF MAILBOXES ARE NOT SET IN ACCORDANCE WITH THE ABOVE DIRECTIONS, RESETTING OF THE MAILBOXES WILL BE AT THE COST OF THE CONTRACTOR. COST FOR ALL WORK AND MATERIALS SHALL BE PAID UNDER ITEM 201000 - CLEARING AND GRUBBING.

4. ITEMS TO BE REMOVED UNDER ITEM 211000 - REMOVAL OF STRUCTURES AND OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:
   a. DECORATIVE POLES.
   b. EXISTING BOX CULVERT.
   b. EXISTING JUNCTION BOXES.
   b. EXISTING PIPES.

5. EXCAVATION FOR THE FOLLOWING SECTION(S) WILL NOT BE INCIDENTAL TO THEIR INDIVIDUAL CONSTRUCTION ITEMS AND WILL BE QUANTIFIED AND PAID UNDER ITEM 202000 - EXCAVATION AND EMBANKMENT:
   a. DRAINAGE PIPES
   b. DRAINAGE INLETS
   c. UTILITY TEST PITS

SECTION 400

6. THE PAVEMENT SECTION FOR FLEXIBLE PAVEMENT RESIDENTIAL DRIVEWAYS SHALL BE 2" BITUMINOUS CONCRETE, TYPE 'C' OVER 8" GRADED AGGREGATE BASE COURSE, TYPE 'B', UNLESS OTHERWISE NOTED ON THE PLANS

SECTION 600

7. 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.

SECTION 700

8. 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.

SECTION 700

9. THE NEW CASTLE COUNTY DEPARTMENT OF PUBLIC WORKS SHALL SUPPLY AND THE STATE'S CONTRACTOR SHALL INSTALL NEW SELF SEALING MANHOLE FRAMES AND COVERS ON ALL COUNTY SEWER MANHOLES THAT ARE NOT BEING RELOCATED, WITHIN THE PROJECT LIMITS IN ACCORDANCE WITH THE COUNTY'S STANDARD SPECIFICATIONS. THE EXISTING MANHOLE FRAMES AND COVERS THAT ARE REMOVED SHALL BECOME THE PROPERTY OF THE STATE'S CONTRACTOR. PAYMENT SHALL BE INCIDENTAL TO ITEM 711500 - ADJUST AND REPAIR EXISTING SANITARY SEWER MANHOLE.

10. THE CONTRACTOR SHALL DELIVER ALL EXCESS MILLED MATERIAL TO THE DELAWARE DEPARTMENT OF TRANSPORTATION'S CHAPMAN MAINTENANCE YARD. THE MATERIAL SHALL BE NEATLY STOCKPILED AT THE YARD. COSTS FOR THIS WORK SHALL BE INCIDENTAL TO THE MILLING ITEM UTILIZED FOR PAYMENT ON THE CONTRACT.

11. ALL PAVED AREAS TO BE RECONSTRUCTED OR WIDENED SHALL BE SAWCUT AT THE POINT WHERE THE NEW PAVEMENT IS TO TIE INTO THE EXISTING PAVEMENT.

SECTION 900

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

MISCELLANEOUS

13. THE CONTRACTOR SHALL CONTACT THE CHIEF OF SCHEDULING FOR DART FIRST STATE, 14 DAYS PRIOR TO THE START OF CONSTRUCTION AT 302-576-6191 OR BY EMAIL NOTIFICATION TO DOT_DETOUR@STATE.DE.US.

14. REFER TO THE CONSTRUCTION PLAN SHEETS FOR THE LOCATION OF THE CLEAR ZONE AREA LIMITS.

ENVIRONMENTAL COMPLIANCE NOTES

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

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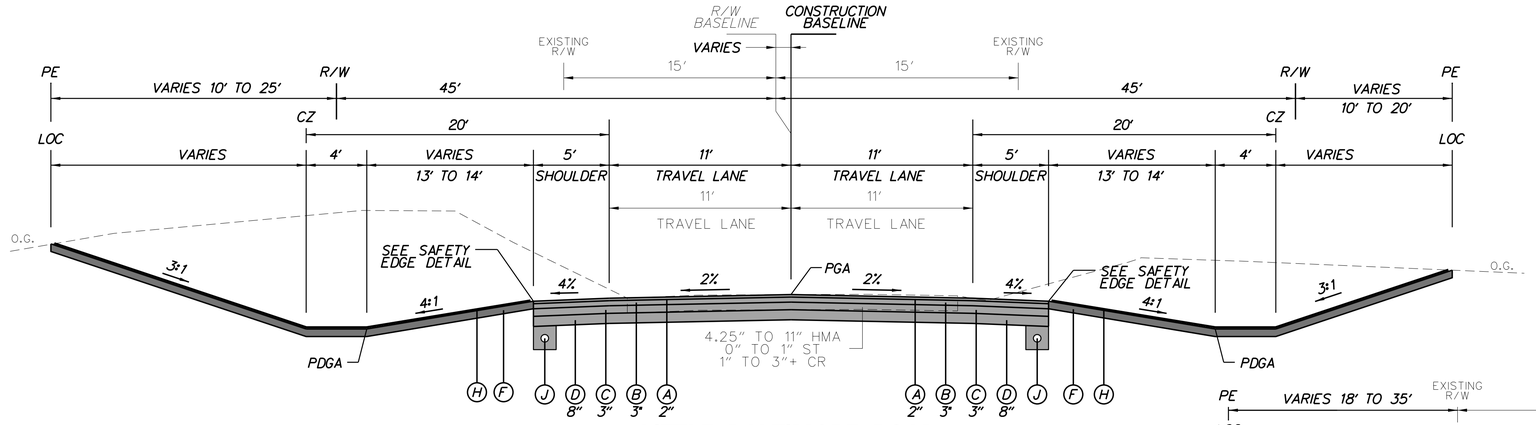
EARTHWORK SUMMARY

EXCAVATION	
EXCAVATION FROM CROSS SECTIONS	24,597 C.Y.
ROCK EXCAVATION FOR ROADWAY AND TRENCHES	0 C.Y.
TOPSOIL STRIPPING	2,991 C.Y.
TOTAL EXCAVATION	27,588 C.Y.
EXCAVATION AVAILABLE FOR EMBANKMENT	
EXCAVATION MEETING BORROW TYPE 'A'	5,518 C.Y.
EXCAVATION MEETING BORROW TYPE 'F'	22,070 C.Y.
EXCAVATION MEETING TOPSOIL	1,495 C.Y.
EMBANKMENT REQUIREMENTS	
BORROW TYPE 'A' REQUIRED (INCLUDING UNDERCUT)	3,040 C.Y.
BORROW TYPE 'F' REQUIRED	422 C.Y.
TOPSOIL REQUIRED	2,683 C.Y.
MATERIAL BALANCE ("+"= EXCESS, "-"= NEED)	
BORROW TYPE 'A'	+2,478 C.Y.
BORROW TYPE 'F'	+21,648 C.Y.
TOPSOIL	+308 C.Y.
UNSUITABLE MATERIAL	0 C.Y.

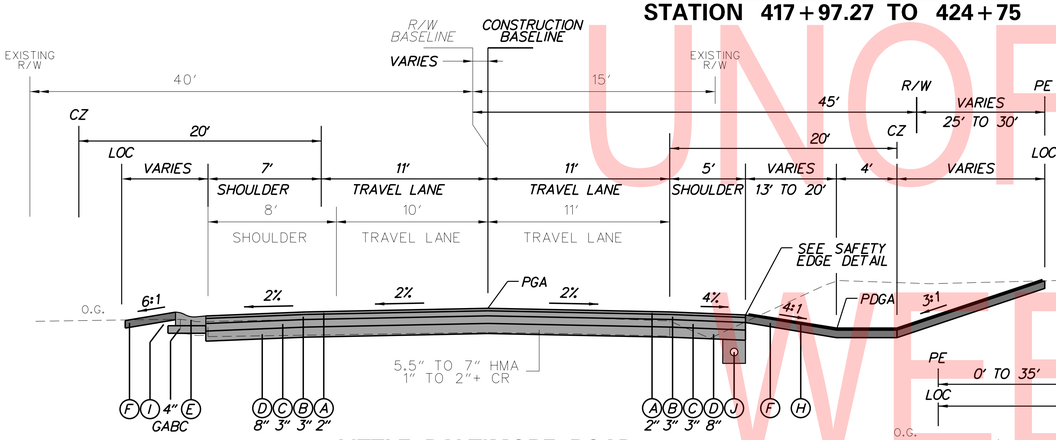
NOTES:
1) THE VALUES LISTED IN THE EARTHWORK SUMMARY ARE APPROXIMATE AND ARE NOT TO BE USED AS A BASIS OF PAYMENT. THE EARTHWORK SUMMARY IS CONSIDERED FOR INFORMATIONAL PURPOSES ONLY.

2) OTHER SOURCES OF EXCAVATION MAY INCLUDE PIPE TRENCH EXCAVATION, STRUCTURE EXCAVATION, UNDERCUT EXCAVATION, STORMWATER MANAGEMENT POND EXCAVATION, ENVIRONMENTAL SITE EXCAVATION, MAINTENANCE OF TRAFFIC EXCAVATION, ETC.

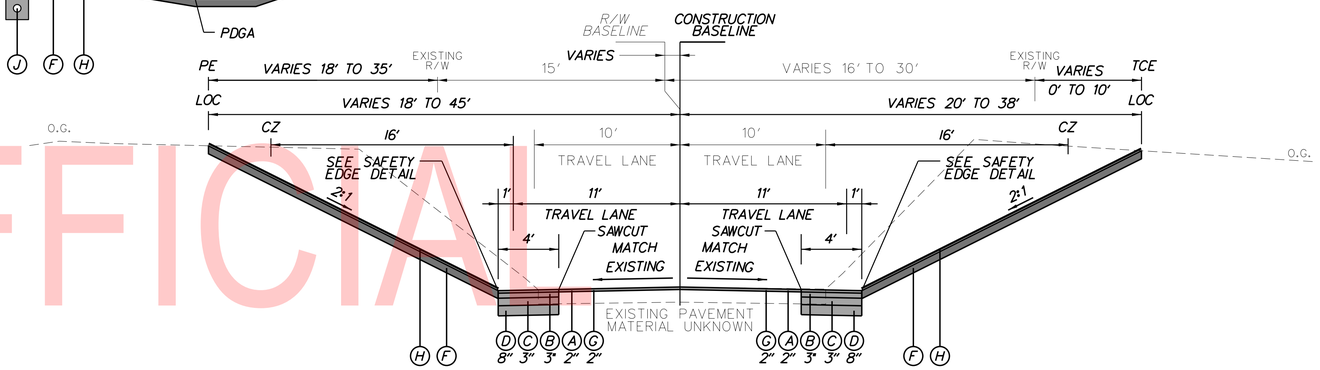
3) UNSUITABLE MATERIALS INCLUDE UNDERCUT SOILS, BITUMINOUS PAVEMENT, ETC.



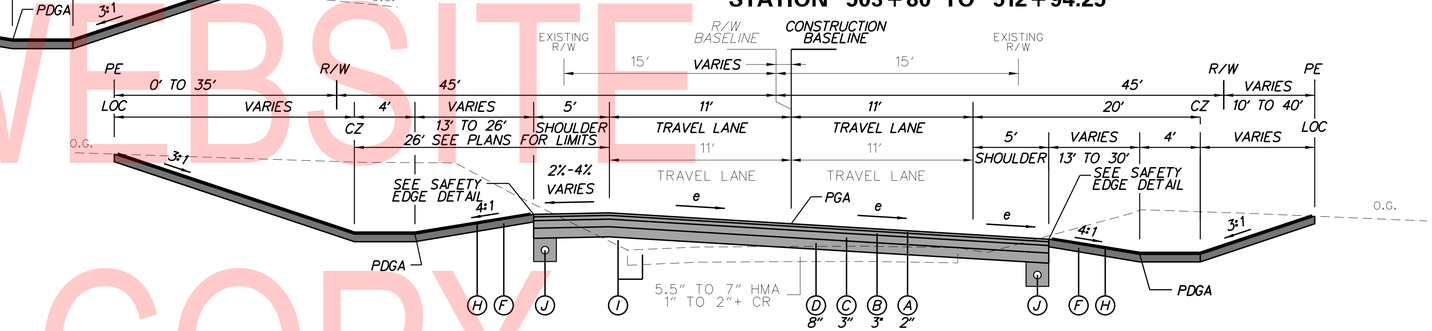
LITTLE BALTIMORE ROAD
STATION 417+97.27 TO 424+75



LITTLE BALTIMORE ROAD
STATION 409+50 TO 412+71.76

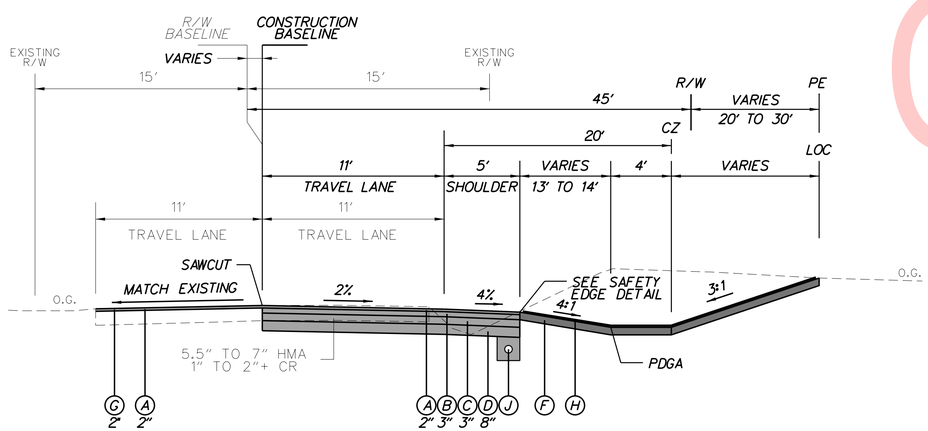


VALLEY ROAD
STATION 503+80 TO 512+94.25

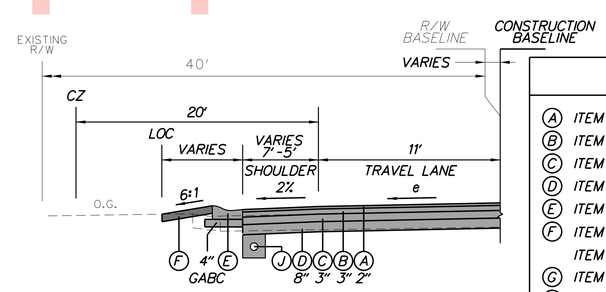


LITTLE BALTIMORE ROAD
STATION 412+71.76 TO 417+97.27
e_{max} = 0.06

MATERIAL	LIFT THICKNESS	
	MINIMUM	MAXIMUM
BITUMINOUS CONCRETE, TYPE 'C'	1.25"	2"
BITUMINOUS CONCRETE, TYPE 'B'	2.25"	4"
BITUMINOUS CONCRETE BASE COURSE	3"	6"
GRADED AGGREGATE BASE COURSE	4"	8"



LITTLE BALTIMORE ROAD
STATION 404+30 TO 409+50



LITTLE BALTIMORE ROAD
STATION 412+71.76 TO 413+50

LEGEND

- (A) ITEM 401005 - SUPERPAVE TYPE C, PG 64-22 (CARBONATE STONE)
- (B) ITEM 401014 - SUPERPAVE TYPE B, PG 64-22
- (C) ITEM 401021 - SUPERPAVE TYPE BCBC, PG 64-22
- (D) ITEM 301001 - GRADED AGGREGATE BASE COURSE, TYPE B
- (E) ITEM 701019 - I.P.C.C. CURB AND GUTTER, TYPE 2
- (F) ITEM 908010 - TOPSOILING, 6" DEPTH
  ITEM 908014 - PERMANENT GRASS SEEDING, DRY GROUND
- (G) ITEM 760010 - MILLING, HOT-MIX
- (H) ITEM 908020 - EROSION CONTROL BLANKET MULCH
- (I) ITEM 209001 - BORROW, TYPE A
- (J) ITEM 709001 - PERFORATED UNDERDRAIN, 6"

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ADDENDA / REVISIONS

NOT TO SCALE

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614	TYPICAL SECTIONS	SECTION
T201404101	DESIGNED BY: DCK			PD
COUNTY				SHEET NO.
NEW CASTLE	CHECKED BY: JKL			6

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HISTORICAL ALIGNMENT CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING
10200	100+00.00	0.0000	645034.9198	568229.3113
10201	101+37.67	0.0000	645030.1990	568366.9011
10202	105+54.92	0.0000	644998.0862	568782.9127
10206	123+95.56	0.0000	644560.7947	570542.3827
10300	200+00.00	0.0000	644559.5318	570541.2465
10301	204+15.25	0.0000	644384.0078	570917.5810
10302	206+36.30	0.0000	644290.5734	571117.9105
10400	303+72.63	0.0000	644836.5601	570790.4681
10401	310+00.00	0.0000	645302.0161	571211.1105
10500	0+00.00	0.0000	644564.9136	570523.0009
10501	3+79.55	0.0000	644188.5123	570474.2126
10505	-0+04.68	0.0000	644569.5539	570523.6024

HORIZONTAL / VERTICAL CONTROL DATA

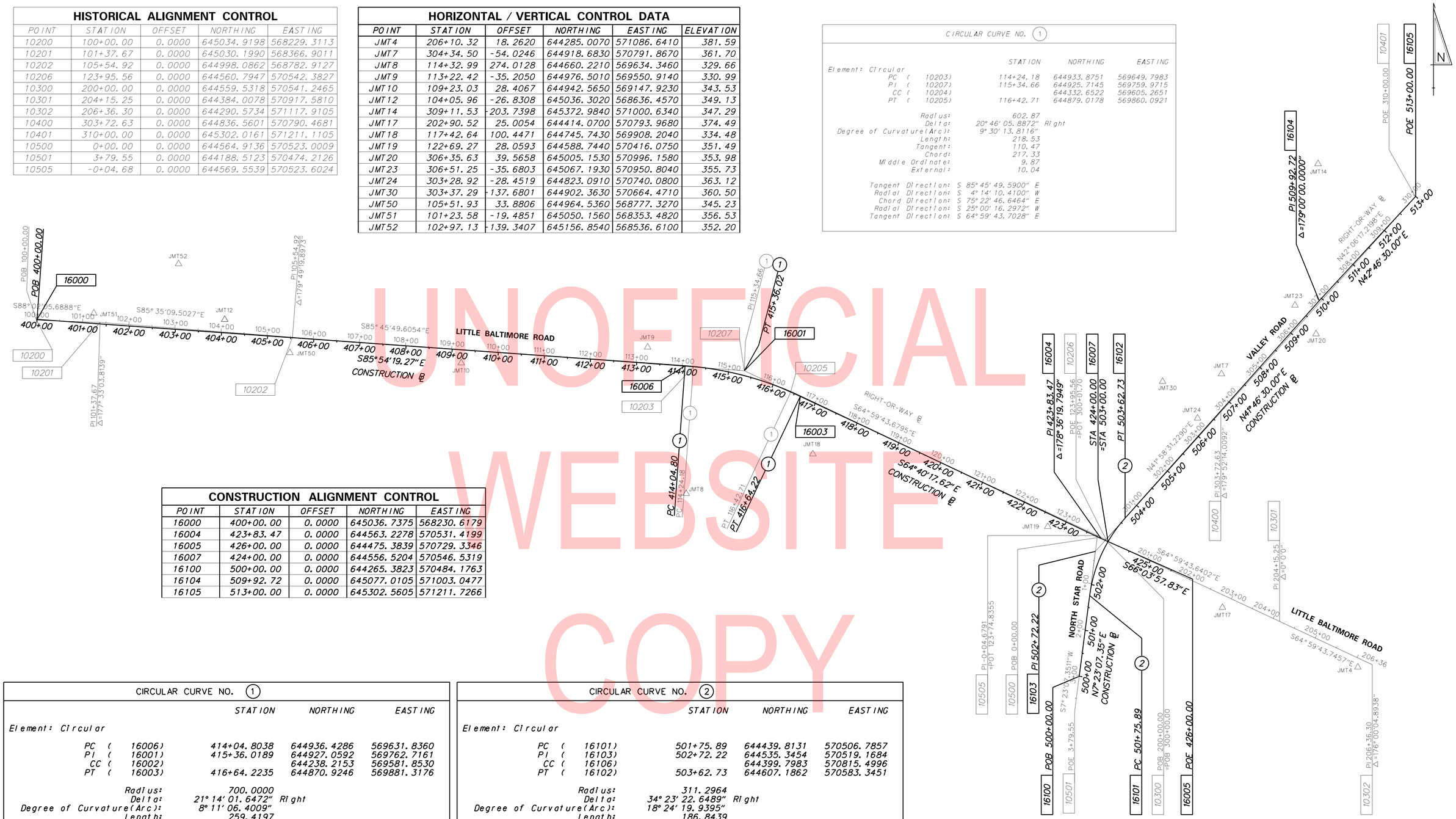
POINT	STATION	OFFSET	NORTHING	EASTING	ELEVATION
JMT4	206+10.32	18.2620	644285.0070	571086.6410	381.59
JMT7	304+34.50	-54.0246	644918.6830	570791.8670	361.70
JMT8	114+32.99	274.0128	644660.2210	569634.3460	329.66
JMT9	113+22.42	-35.2050	644976.5010	569550.9140	330.99
JMT10	109+23.03	28.4067	644942.5650	569147.9230	343.53
JMT12	104+05.96	-26.8308	645036.3020	568636.4570	349.13
JMT14	309+11.53	-203.7398	645372.9840	571000.6340	347.29
JMT17	202+90.52	25.0054	644414.0700	570793.9680	374.49
JMT18	117+42.64	100.4471	644745.7430	569908.2040	334.48
JMT19	122+69.27	28.0593	644588.7440	570416.0750	351.49
JMT20	306+35.63	39.5658	645005.1530	570996.1580	353.98
JMT23	306+51.25	-35.6803	645067.1930	570950.8040	355.73
JMT24	303+28.92	-28.4519	644823.0910	570740.0800	363.12
JMT30	303+37.29	-137.6801	644902.3630	570664.4710	360.50
JMT50	105+51.93	33.8806	644964.5360	568777.3270	345.23
JMT51	101+23.58	-19.4851	645050.1560	568353.4820	356.53
JMT52	102+97.13	-139.3407	645156.8540	568536.6100	352.20

CIRCULAR CURVE NO. 1

		STATION	NORTHING	EASTING
Element: Circular				
PC (	10203)	114+24.18	644933.8751	569649.7983
PI (	10207)	115+34.66	644925.7145	569759.9715
CC (	10204)		644332.6522	569605.2651
PT (	10205)	116+42.71	644879.0178	569860.0921

Radius: 602.87
Delta: 20° 46' 05.8872" Right
Degree of Curvature(Arc): 9° 30' 13.8116"
Length: 218.53
Tangent: 110.47
Chord: 217.33
Middle Ordinate: 9.87
External: 10.04

Tangent Direction: S 85° 45' 49.5900" E
Radial Direction: S 4° 14' 10.4100" W
Chord Direction: S 75° 22' 46.6464" E
Radial Direction: S 25° 00' 16.2972" W
Tangent Direction: S 64° 59' 43.7028" E



CONSTRUCTION ALIGNMENT CONTROL

POINT	STATION	OFFSET	NORTHING	EASTING
16000	400+00.00	0.0000	645036.7375	568230.6179
16004	423+83.47	0.0000	644563.2278	570531.4199
16005	426+00.00	0.0000	644475.3839	570729.3346
16007	424+00.00	0.0000	644556.5204	570546.5319
16100	500+00.00	0.0000	644265.3823	570484.1763
16104	509+92.72	0.0000	645077.0105	571003.0477
16105	513+00.00	0.0000	645302.5605	571211.7266

CIRCULAR CURVE NO. 1

		STATION	NORTHING	EASTING
Element: Circular				
PC (	16006)	414+04.8038	644936.4286	569631.8360
PI (	16001)	415+36.0189	644927.0592	569762.7161
CC (	16002)		644238.2153	569581.8530
PT (	16003)	416+64.2235	644870.9246	569881.3176

Radius: 700.0000
Delta: 21° 14' 01.6472" Right
Degree of Curvature(Arc): 8° 11' 06.4009"
Length: 259.4197
Tangent: 131.2151
Chord: 257.9377
Middle Ordinate: 11.9833
External: 12.1920

Tangent Direction: S 85° 54' 19.2695" E
Radial Direction: S 4° 05' 40.7305" W
Chord Direction: S 75° 17' 18.4458" E
Radial Direction: S 25° 19' 42.3778" W
Tangent Direction: S 64° 40' 17.6222" E

CIRCULAR CURVE NO. 2

		STATION	NORTHING	EASTING
Element: Circular				
PC (	16101)	501+75.89	644439.8131	570506.7857
PI (	16103)	502+72.22	644535.3454	570519.1684
CC (	16106)		644399.7983	570815.4996
PT (	16102)	503+62.73	644607.1862	570583.3451

Radius: 311.2964
Delta: 34° 23' 22.6489" Right
Degree of Curvature(Arc): 18° 24' 19.9395"
Length: 186.8439
Tangent: 96.3314
Chord: 184.0519
Middle Ordinate: 13.9134
External: 14.5643

Tangent Direction: N 7° 23' 07.3511" E
Radial Direction: S 82° 36' 52.6489" E
Chord Direction: N 24° 34' 48.6755" E
Radial Direction: S 48° 13' 30.0000" E
Tangent Direction: N 41° 46' 30.0000" E

DATUM REFERENCE:
HORIZONTAL - THIS PROJECT IS REFERENCED TO THE DELAWARE STATE PLANE COORDINATE SYSTEM NAD 83.

VERTICAL - THIS PROJECT IS REFERENCED TO NAVD 88.

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ADDENDA / REVISIONS

SCALE 0 100 200 300 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

HORIZONTAL AND VERTICAL CONTROL

SECTION: PD
SHEET NO. 7

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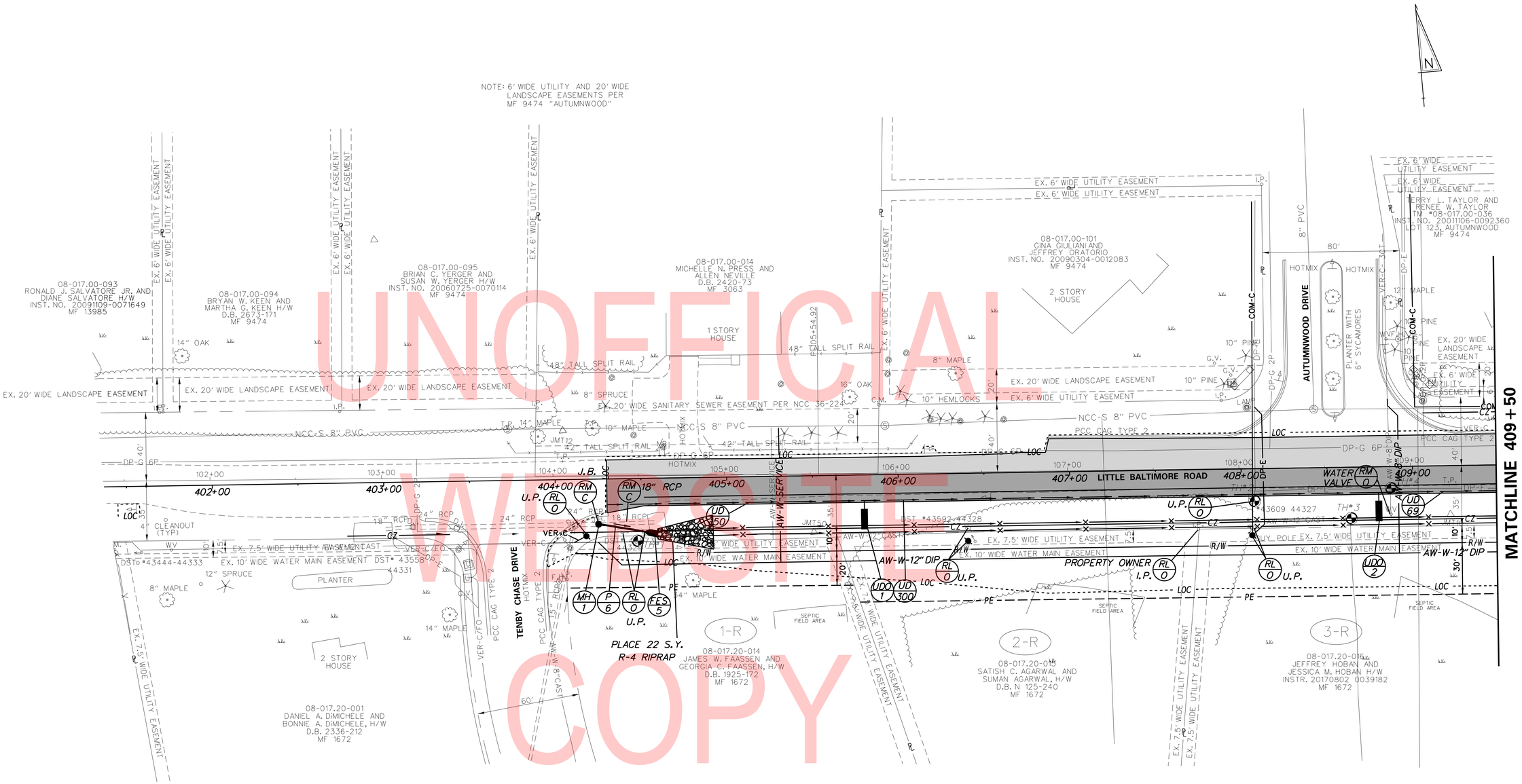

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DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
6	24" RCP	III	36'	0.0164	345.28	344.69

MANHOLE SCHEDULE					
NO.	STATION	OFFSET	TYPE/SIZE	T.G. EL.	INV. EL.
1	404+24.93	26.37	48"	348.79	345.28

FLARED END SECTION SCHEDULE			
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
5	24" RCP	0.0164	NO

UNDERDRAIN OUTLETS		
NO.	LENGTH	DIS. EL.
1	13.50'	342.76
2	13.50'	336.76

NOTE: 6' WIDE UTILITY AND 20' WIDE LANDSCAPE EASEMENTS PER MF 9474 "AUTUMNWOOD"

7.5' WIDE UTILITY AND 10' WIDE WATER MAIN EASEMENTS PER MF 1672 "TENBY CHASE"

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PLAN

CP-01

SECTION	SHEET NO.
PD	8

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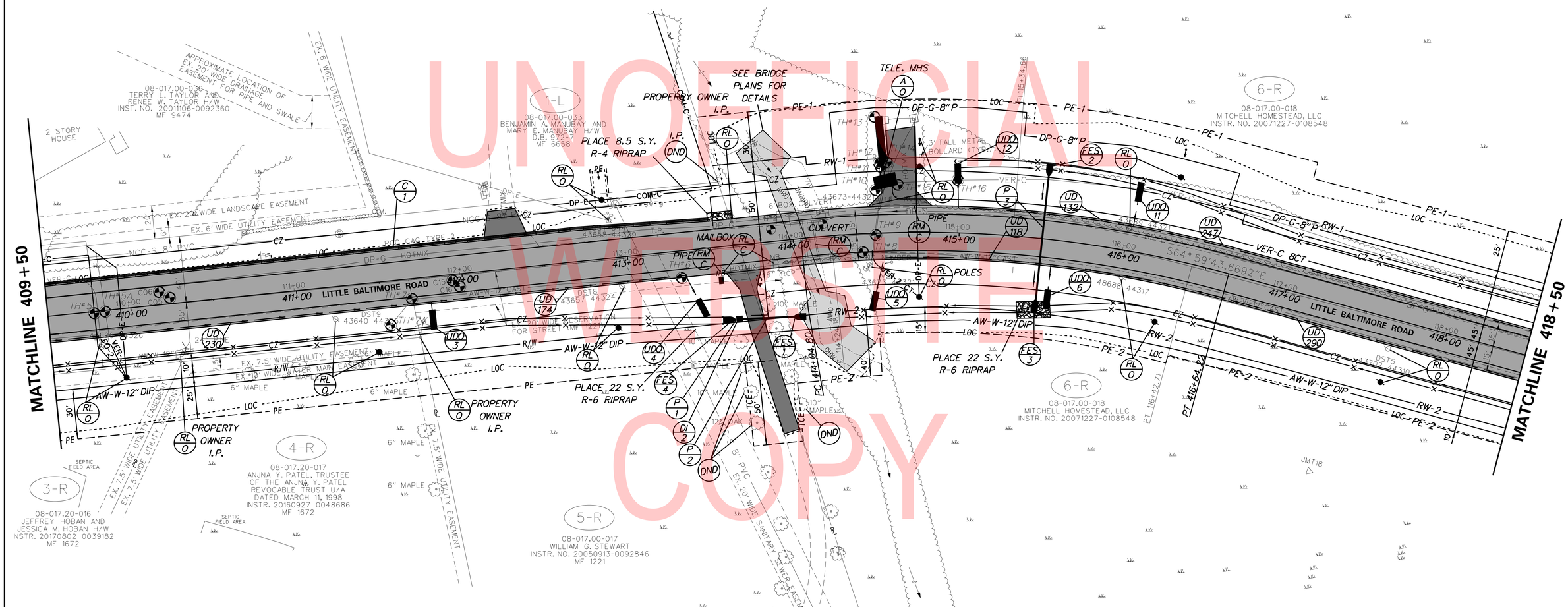
DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
1	48" RCP	III	8'	0.0145	325.10	325.05
2	48" RCP	III	38'	0.0016	324.40	324.34
3	48" RCP	III	88'	0.0145	326.68	325.40

DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
2	413+63.20	44.48'	72" x 48"	7	332.48	325.10

CURB SCHEDULE		
NO.	ITEM DESCRIPTION / TYPE	LENGTH
1	I.P.C.C. CURB AND GUTTER TYPE 2	400'

ROADWAY CORE SUMMARY			
NO.	STATION	OFFSET	DESCRIPTION
5	410+24	-4'	6" HMA, 1+ CR
6	410+18	-8'	5.5" HMA, 1+ CR
15	411+94	4'	7" HMA, 1+ CR
16	411+98	8'	6" HMA, 2+ CR

FLARED END SECTION SCHEDULE			
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
1	48" RCP	0.0200	NO
2	48" RCP	0.0366	NO
3	48" RCP	0.0150	NO
4	48" RCP	0.0063	NO



UNDERDRAIN OUTLETS		
NO.	LENGTH	DIS. EL.
3	15.00'	331.00
4	25.00'	327.45
5	30.00'	325.10
6	30.00'	326.70
11	25.00'	329.25
12	30.00'	328.10

NOTE: 6' WIDE UTILITY AND 20' WIDE LANDSCAPE EASEMENTS PER MF 9474 "AUTUMNWOOD"

7.5' WIDE UTILITY AND 10' WIDE WATER MAIN EASEMENTS PER MF 1672 "TENBY CHASE"

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ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PLAN

CP-02

SECTION	SHEET NO.
PD	9

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DRAINAGE PIPE SCHEDULE						
NO.	SIZE / TYPE	CLASS	LENGTH	SLOPE	INT. EL.	DIS. EL.
4	21" RCP	III	120'	0.0150	351.28	349.48
5	18" RCP	III	54'	0.0093	352.05	351.55

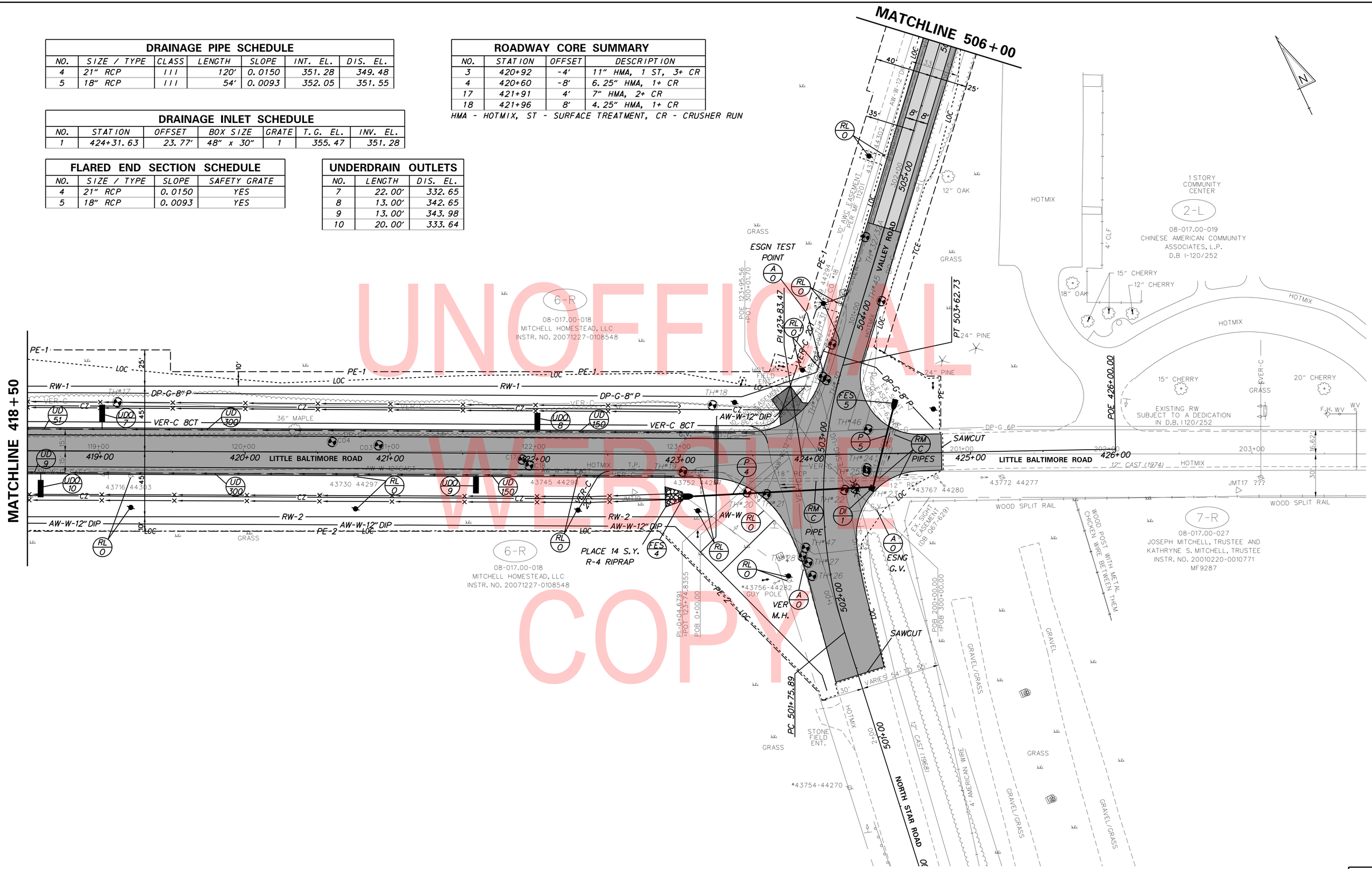
DRAINAGE INLET SCHEDULE						
NO.	STATION	OFFSET	BOX SIZE	GRATE	T.G. EL.	INV. EL.
1	424+31.63	23.77'	48" x 30"	1	355.47	351.28

FLARED END SECTION SCHEDULE			
NO.	SIZE / TYPE	SLOPE	SAFETY GRATE
4	21" RCP	0.0150	YES
5	18" RCP	0.0093	YES

UNDERDRAIN OUTLETS		
NO.	LENGTH	DIS. EL.
7	22.00'	332.65
8	13.00'	342.65
9	13.00'	343.98
10	20.00'	333.64

ROADWAY CORE SUMMARY			
NO.	STATION	OFFSET	DESCRIPTION
3	420+92	-4'	11" HMA, 1 ST, 3+ CR
4	420+60	-8'	6.25" HMA, 1+ CR
17	421+91	4'	7" HMA, 2+ CR
18	421+96	8'	4.25" HMA, 1+ CR

HMA - HOTMIX, ST - SURFACE TREATMENT, CR - CRUSHER RUN



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ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

CONSTRUCTION PLAN

CP-03
SECTION
PD
SHEET NO.
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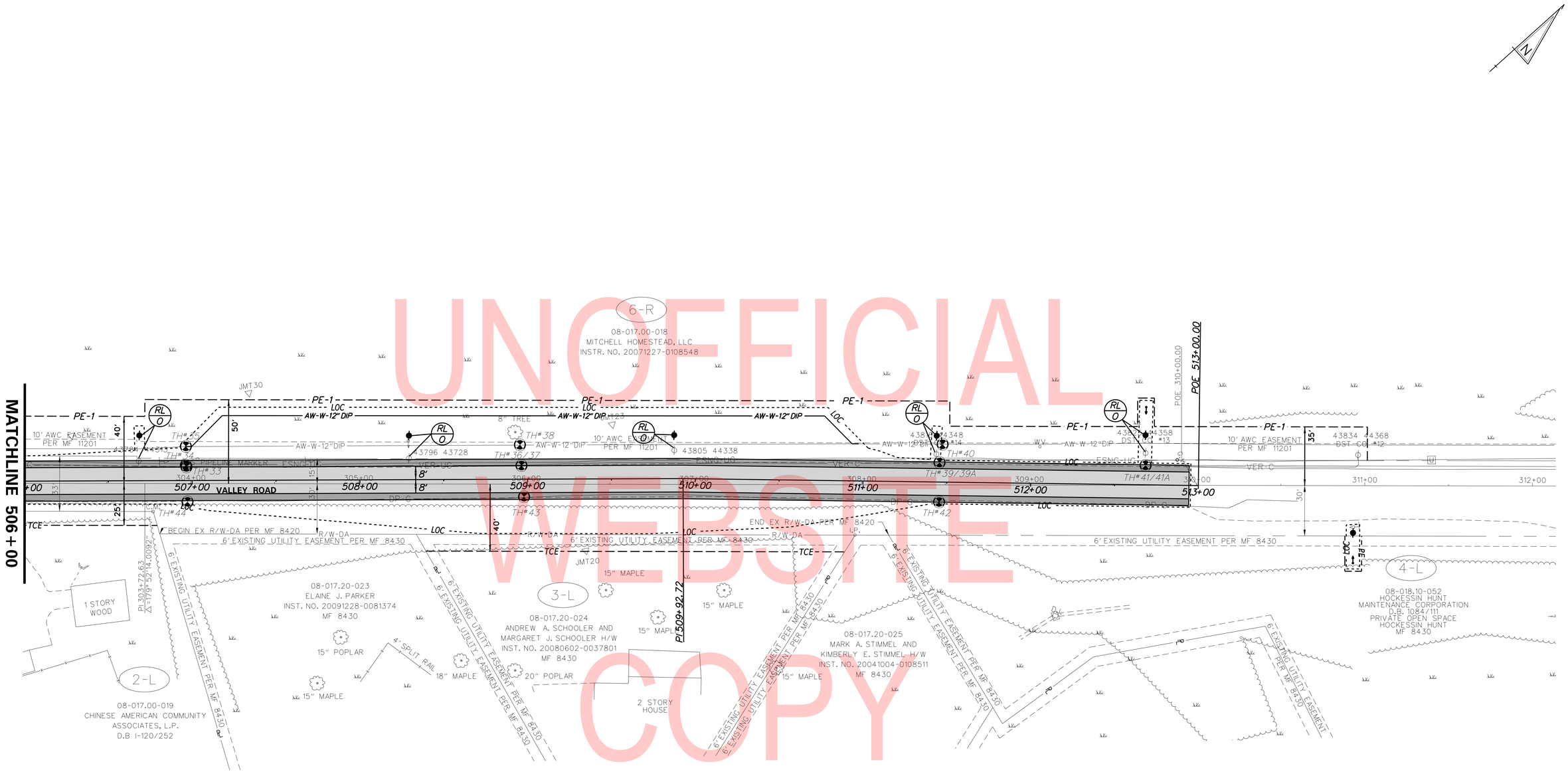

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ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PLAN

CP-04
SECTION
PD
SHEET NO.
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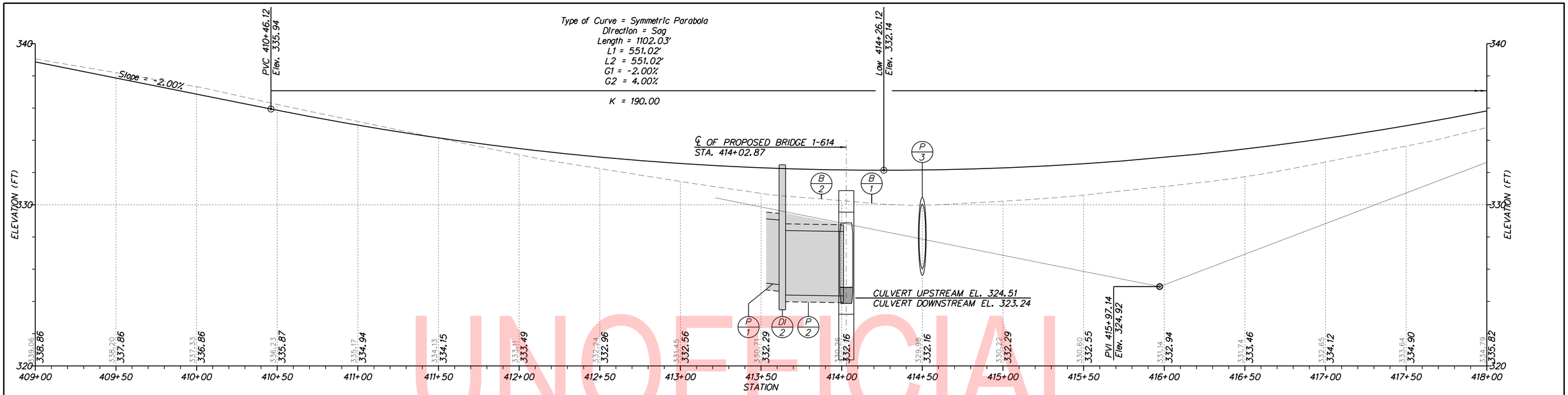

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ADDENDA / REVISIONS	SCALE 0 30 60 90 FEET	LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS	CONTRACT T201404101	BRIDGE NO. 1-614	PROFILES	SECTION PD
			COUNTY NEW CASTLE	DESIGNED BY: DCK		SHEET NO. 12
				CHECKED BY: JKL		

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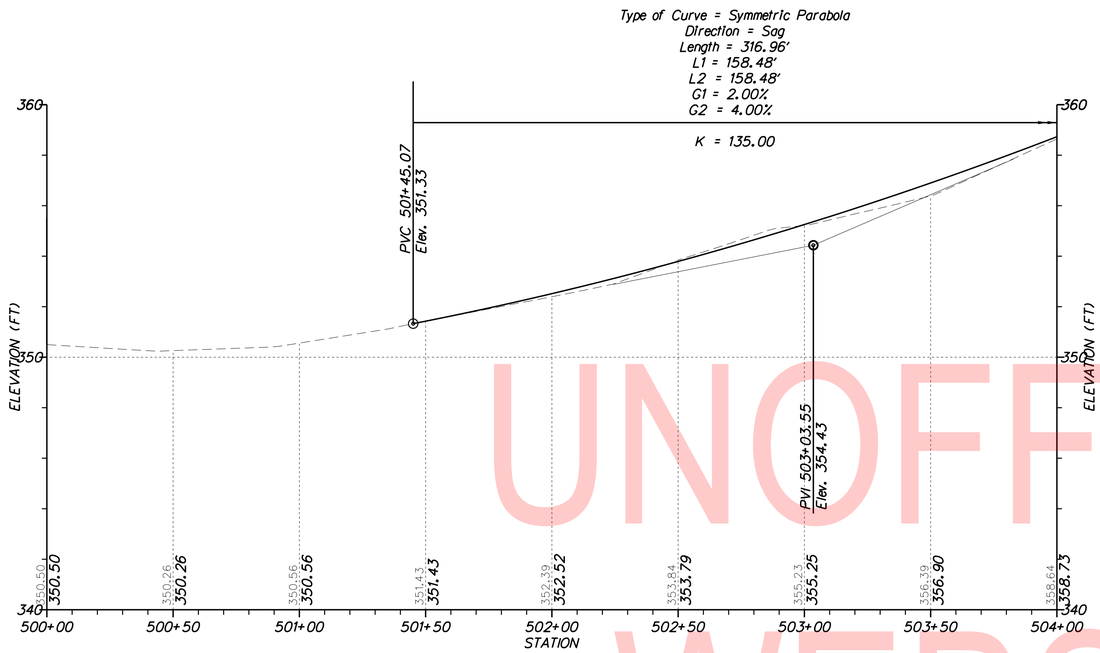
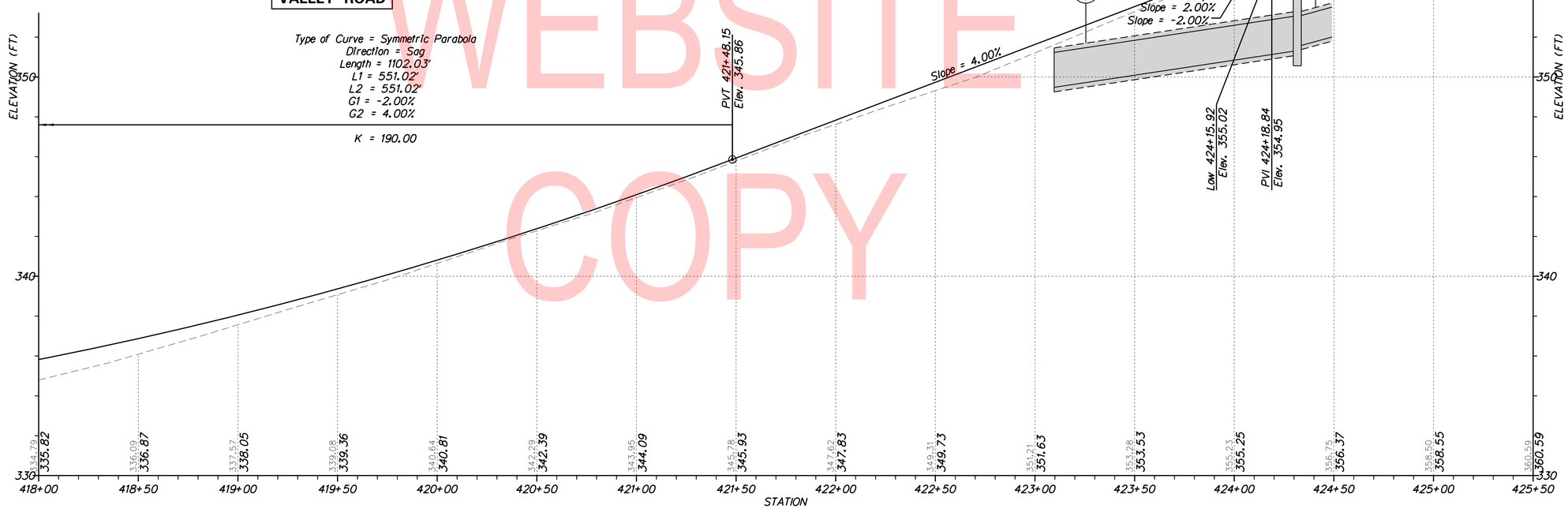
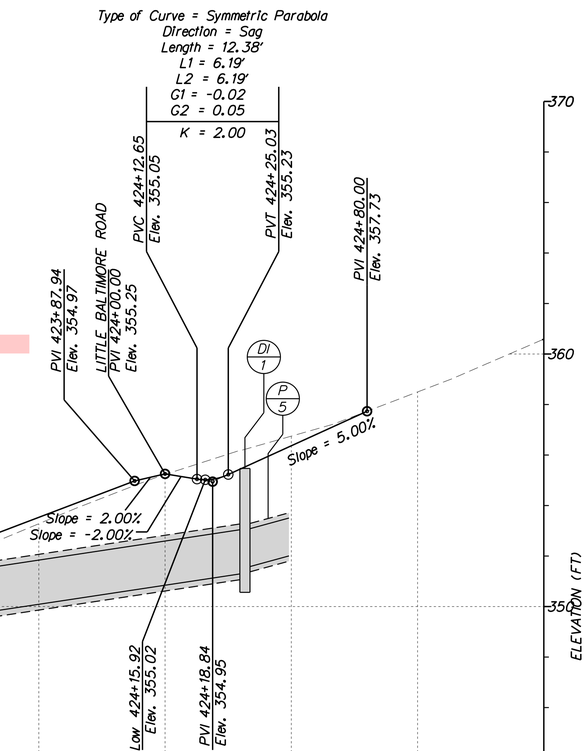
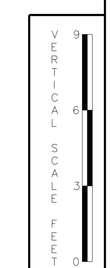


VALLEY ROAD



LITTLE BALTIMORE ROAD





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ADDENDA / REVISIONS							
		SCALE 0 30 60 90 FEET	LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS	CONTRACT T201404101	BRIDGE NO. 1-614	PROFILES	SECTION PD
				COUNTY NEW CASTLE	DESIGNED BY: DCK		SHEET NO. 13
					CHECKED BY: JKL		

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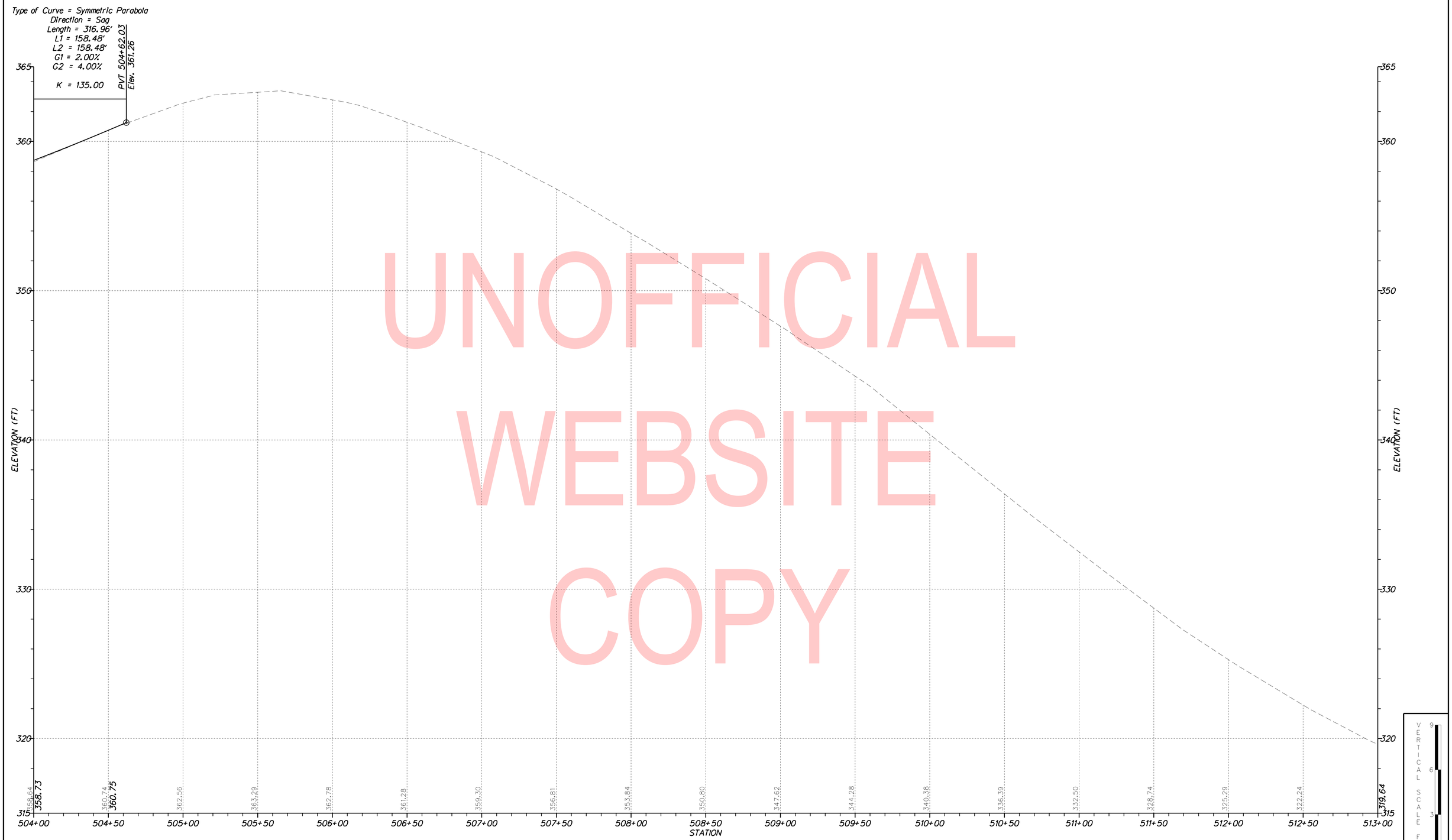

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ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

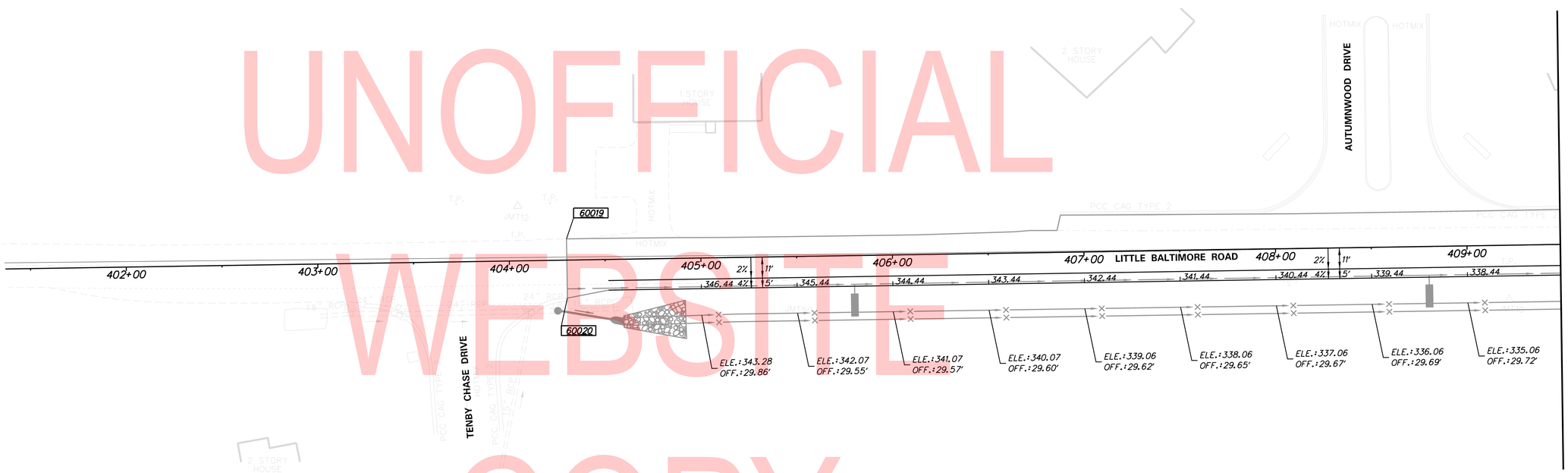
LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

PROFILES

SECTION
PD
SHEET NO.
14

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60019	404+30.0000	-11.0529	645017.0584	568660.3096
60020	404+30.0000	19.8148	644986.2695	568658.1055



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ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

GRADES AND GEOMETRICS

GG-01
SECTION
PD
SHEET NO.
15

22-AUG-2019
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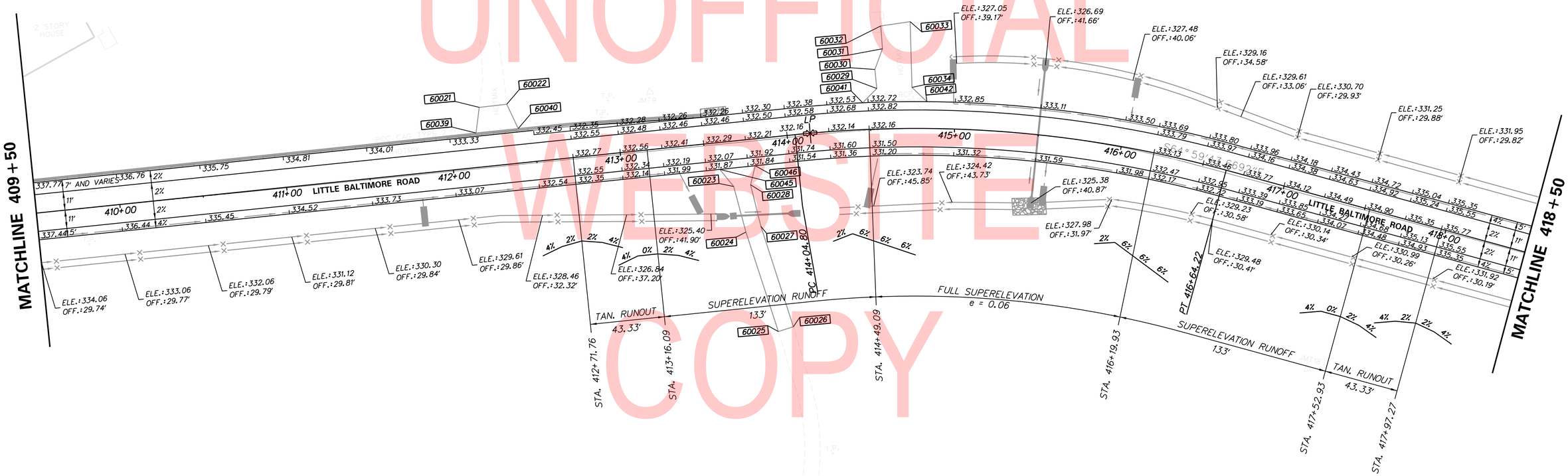
COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60021	412+19.1358	-35.5482	644985.1435	569449.1801
60022	412+35.6624	-35.7180	644984.1328	569465.6767
60023	413+65.1996	27.0000	644912.3254	569590.4049
60024	413+69.6544	54.7800	644884.2982	569592.8648
60025	413+82.7881	115.7846	644822.5115	569601.6089
60026	413+91.9901	113.8552	644823.7789	569610.9252
60027	413+78.8890	52.3133	644886.0992	569602.2519
60028	413+75.3119	27.0000	644911.6034	569600.4914
60029	414+54.4099	-24.1761	644955.0686	569684.5780
60030	414+53.6804	-35.5642	644966.4499	569685.4345
60031	414+58.2914	-47.7583	644977.8128	569692.0259
60032	414+57.7091	-61.3921	644991.3909	569693.4082
60033	414+73.8124	-63.6937	644990.8940	569711.0932
60034	414+74.6991	-24.4508	644952.0612	569705.3564
60039	412+15.6486	-20.5504	644970.4330	569444.6310
60040	412+40.9539	-20.5884	644968.6640	569469.8744
60041	414+45.9116	-16.0000	644948.1560	569674.8062
60042	414+83.3433	-16.0000	644942.1730	569712.6186
60045	413+57.9841	16.0000	644923.8126	569583.9933
60046	413+79.2201	16.0000	644922.2962	569605.1751



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ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

GRADES AND GEOMETRICS

GG-02
SECTION
PD
SHEET NO.
16

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60001	423+71.9531	46.7921	644525.8593	570500.9955
60000	423+19.5423	16.0000	644576.1131	570466.7959
60002	423+89.5893	98.7668	644470.4697	570496.9483
60003	423+19.5423	76.0000	644521.8809	570441.1275
60004	421+97.2503	144.1518	644512.5978	570301.4356
60005	423+48.1459	-16.0000	644592.8001	570506.3397
60006	503+49.1888	-12.3062	644604.6833	570565.0183
60007	423+48.1459	-66.0000	644637.9936	570527.7300
60008	503+70.6239	12.0000	644605.0758	570597.5507
60009	424+65.0102	-12.8227	644541.8670	570611.1540
60010	424+65.0102	-52.8227	644578.4275	570627.3813
60011	424+64.4617	12.4695	644518.9721	570600.3921
60012	424+20.4396	61.7432	644491.7944	570540.1657
60013	424+65.2355	57.4628	644477.5337	570582.8463
60014	424+80.0000	12.2023	644512.9128	570614.7027
60015	424+80.0000	-12.8227	644535.7859	570624.8549
60016	424+24.8759	91.6355	644462.6726	570532.0938
60035	423+68.0981	-30.6958	644597.5475	570530.6608
60036	423+62.6486	-38.0980	644606.5695	570528.9019
60037	423+75.5334	-47.5838	644609.6312	570544.6062
60038	423+84.8793	-36.0578	644595.6120	570547.3394
60043	423+69.0197	-20.5656	644587.9969	570527.1600
60044	423+88.9578	-35.7959	644593.7180	570550.9608

UNOFFICIAL WEBSITE COPY

ADDENDA / REVISIONS	

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

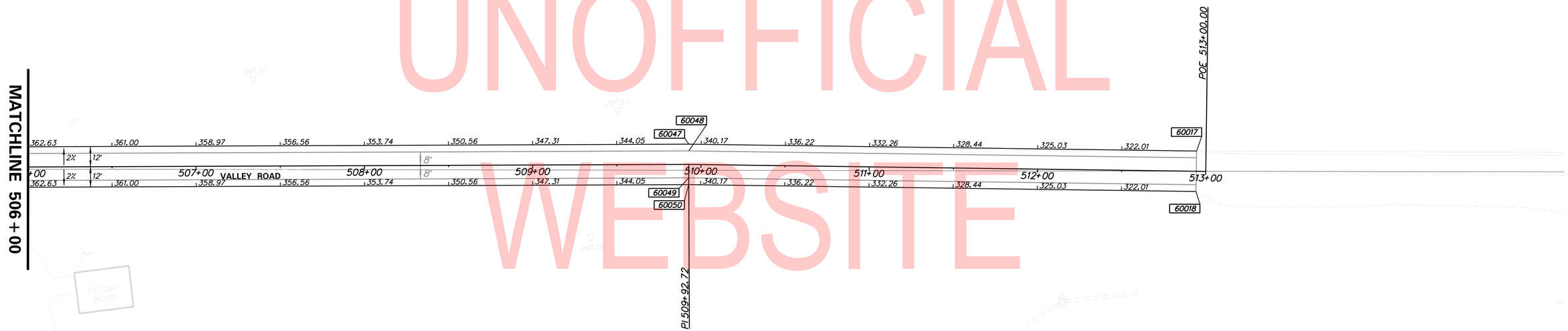
CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

GRADES AND GEOMETRICS

GG-03
SECTION
PD
SHEET NO.
17

22-AUG-2019
13:34
V:\NEWCASTL\294\road\T201404101\Plans\CP03.dgn

COORDINATE LIST				
POINT NO.	STATION	OFFSET	NORTHING	EASTING
60016	424+24.8759	91.6355	644462.6726	570532.0938
60017	512+94.4001	-12.0000	645306.5996	571199.1154
60047	512+92.7220	-12.0000	645085.0830	570994.1683
60048	512+92.7220	-8.0000	645082.3922	570997.1281
60049	509+92.7919	8.0000	645071.6287	571008.9673
60050	509+92.8268	12.0000	645068.9379	571011.9272



UNOFFICIAL WEBSITE COPY

22-AUG-2019
13:49
Y:\NEWCASTL\294\road\T201404101\Plans\CP04.dgn

ADDENDA / REVISIONS	

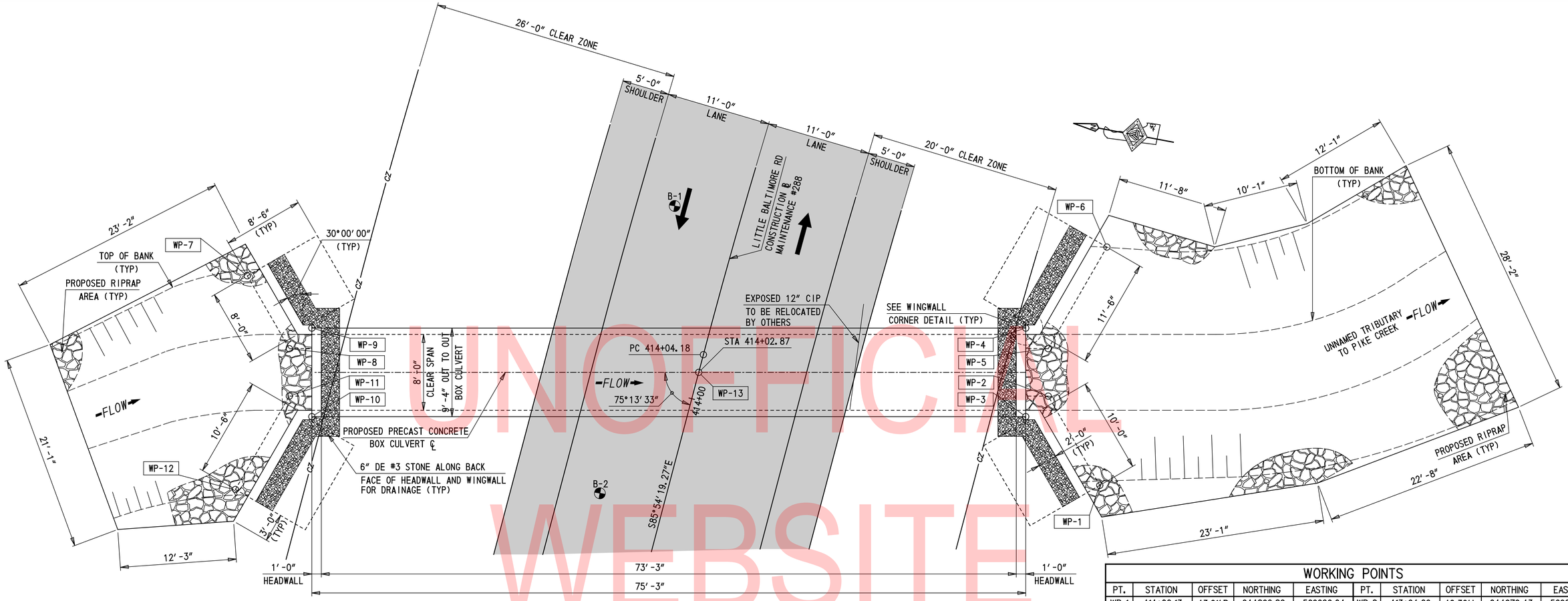
SCALE
0 30 60 90
FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

GRADES AND GEOMETRICS

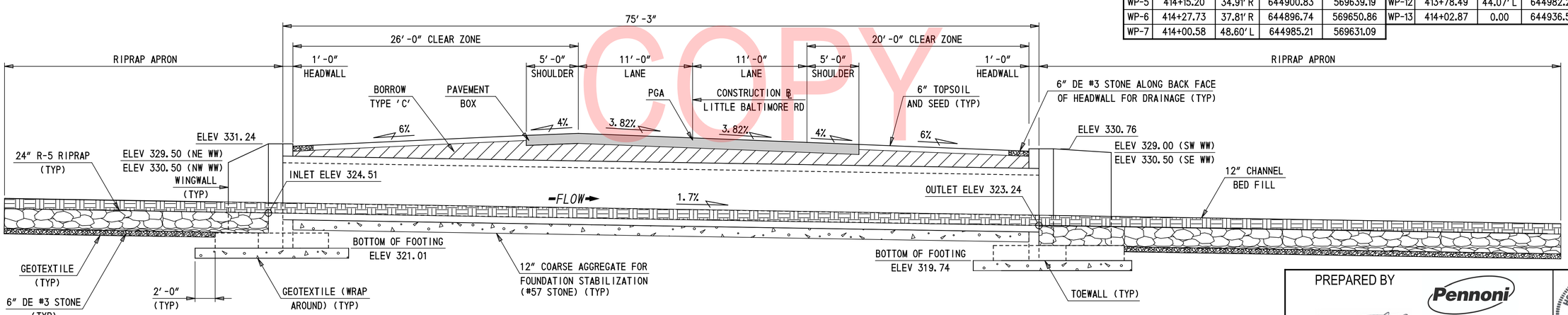
GG-04
SECTION
PD
SHEET NO.
18



BRIDGE PLAN

3/16″ = 1′-0″

WORKING POINTS									
PT.	STATION	OFFSET	NORTHING	EASTING	PT.	STATION	OFFSET	NORTHING	EASTING
WP-1	414+02.13	43.91′ R	644892.82	569626.04	WP-8	413+94.29	42.36′ L	644979.43	569624.37
WP-2	414+10.12	36.24′ R	644899.90	569634.28	WP-9	413+96.99	40.62′ L	644977.50	569626.94
WP-3	414+07.27	34.52′ R	644901.83	569631.71	WP-10	413+87.96	38.24′ L	644975.77	569617.77
WP-4	414+16.72	32.04′ R	644903.56	569640.88	WP-11	413+89.45	41.08′ L	644978.50	569619.46
WP-5	414+15.20	34.91′ R	644900.83	569639.19	WP-12	413+78.49	44.07′ L	644982.26	569608.73
WP-6	414+27.73	37.81′ R	644896.74	569650.86	WP-13	414+02.87	0.00	644936.57	569629.91
WP-7	414+00.58	48.60′ L	644985.21	569631.09					



BRIDGE SECTION ALONG STRUCTURE FLOW CENTERLINE

3/16″ = 1′-0″

PREPARED BY Pennoni

08/26/2019

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "PAI" SECTION DESIGNATION.

DATE

HOUSTON A. BROWN LICENSE No. 18197 DELAWARE PROFESSIONAL ENGINEER

SEAL

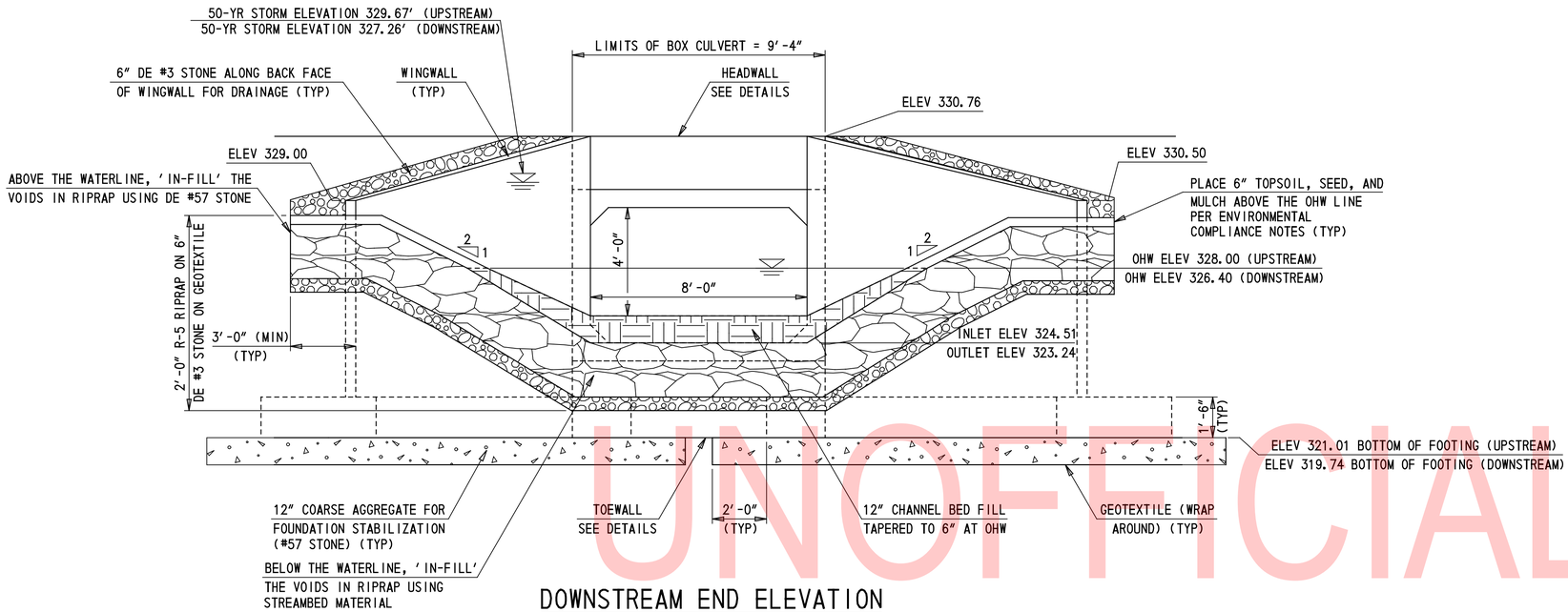
ADDENDA / REVISIONS

SCALE: AS NOTED

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614	BRIDGE PLAN AND ELEVATION	SECTION
T201404101	DESIGNED BY:	HAB		PAI
COUNTY				SHEET NO.
NEW CASTLE	CHECKED BY:	CWM		19

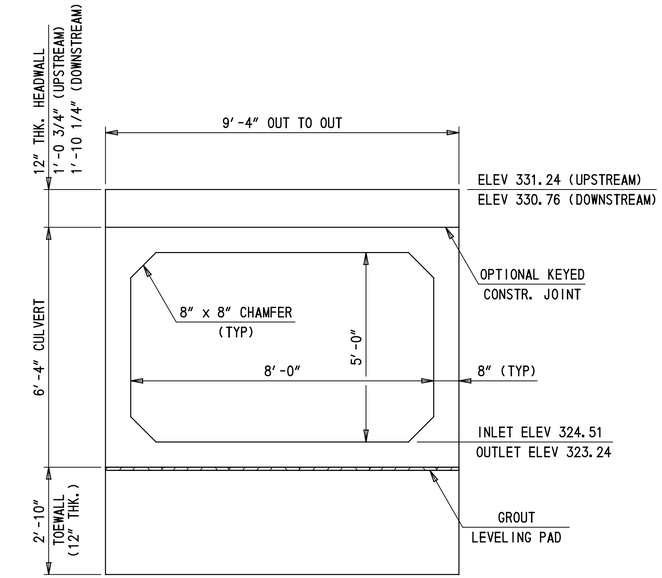
UNOFFICIAL WEBSITE COPY



DOWNSTREAM END ELEVATION

(UPSTREAM ELEVATION SIMILAR)

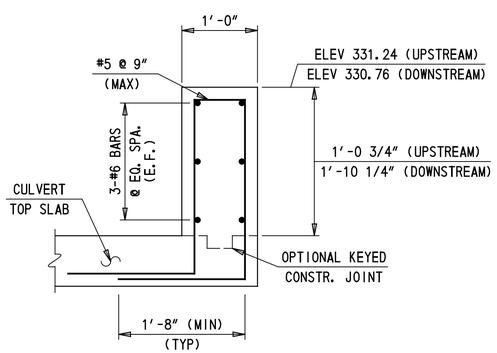
SCALE: 3/8" = 1'-0"



TYPICAL PRECAST CULVERT SECTION

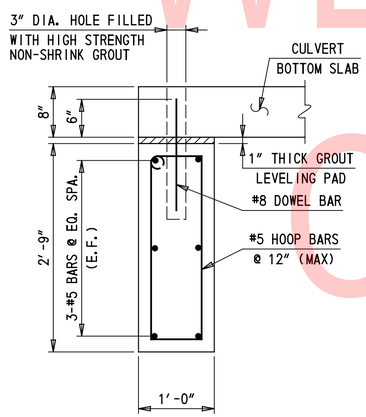
(SHOWING HEADWALL & TOEWALL)

SCALE: 1/2" = 1'-0"



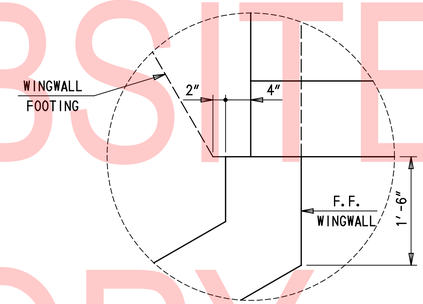
HEADWALL DETAIL

SCALE: 1" = 1'-0"



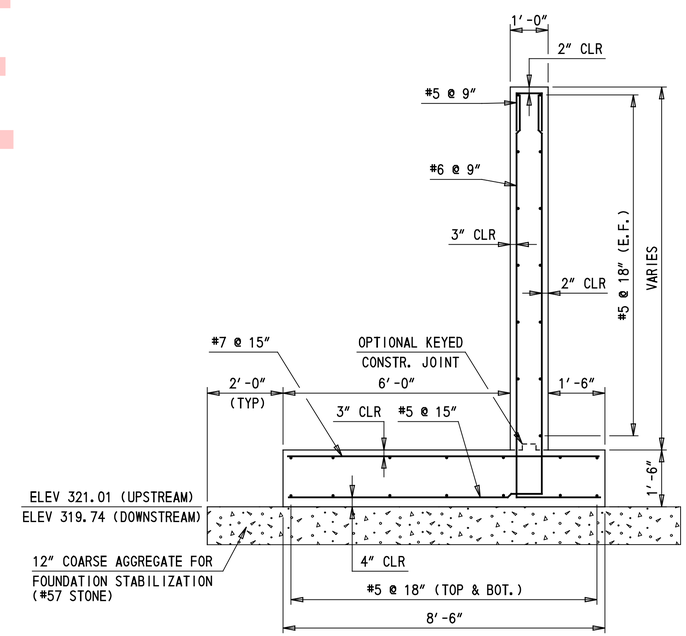
TOEWALL DETAIL

SCALE: 1" = 1'-0"



WINGWALL CORNER DETAIL

SCALE: 1" = 1'-0"



TYPICAL WINGWALL SECTION

SCALE: 1/2" = 1'-0"

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ADDENDA / REVISIONS	SCALE: AS NOTED	LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS	CONTRACT T201404101	BRIDGE NO. 1-614	BRIDGE SECTION AND CULVERT DETAIL	SECTION PAI
			COUNTY NEW CASTLE	DESIGNED BY: HAB		SHEET NO. 20
				CHECKED BY: CWM		

BORING: B-1			DATE DRILLED: 5/19/16		
STATION:		OFFSET:	ELEVATION:	NORTHING: 644942.622	EASTING: 569646.247
COMMENTS: N/A					

SAMPLE INFORMATION

NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0 0.3		MOIST GRAY SILTY FINE GRAVEL W/SOME FINE TO COARSE SAND.	A-1-B	*HOT-MIX 11" STONE 11"*
2	2.0 4.0	7 7 9 14	MOIST MEDIUM DENSE GRAY SILTY FINE GRAVEL W/SOME FINE TO COARSE SAND.	A-2-4(0)	
3	4.0 6.0	8 14 18 18	WET DENSE GRAY COARSE TO FINE SANDY FINE GRAVEL W/SOME SILT.	A-1-B	
4	6.0 8.0	11 14 8 7	WET MEDIUM DENSE GRAY FINE GRAVEL W/SOME COARSE TO FINE SAND, TRACE OF SILT.	A-1-A	
5	8.0 10.0	7 25 30 21	WET VERY DENSE GRAY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND AND SILT.	A-1-B	
6	10.0 12.0	19 40 25 21	WET VERY DENSE GRAY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND AND SILT.	A-1-B	
7	12.0 14.0	21 30 50/45	WET VERY DENSE GRAY FINE TO COARSE SAND AND FINE GRAVEL W/SOME SILT.	A-1-B	
8	14.0 16.0	6 14 21 50	WET DENSE GRAY FINE SANDY FINE GRAVEL W/SOME COARSE SAND AND SILT.	A-1-B	
9	16.0 18.0	50/4	WET VERY DENSE GRAY SILTY FINE TO COARSE SAND AND FINE GRAVEL.	A-2-4(0)	
10	18.0 20.0	50/5	WET VERY DENSE GRAY FINE SAND AND FINE GRAVEL W/SOME COARSE SAND AND SILT.	A-2-4(0)	
11	24.0 26.0	9 50/4	WET VERY DENSE GRAY SILTY FINE TO COARSE SAND W/SOME FINE GRAVEL.	A-2-4(0)	
R-1	26.0 31.0		ROCK GNEISS		*RECOVERY 57% RQD 38%*
R-2	31.0 36.0		ROCK GNEISS		*RECOVER 60% RQD 20%*
	36.0		END BORING		

BORING: B-2			DATE DRILLED: 5/18/16		
STATION:		OFFSET:	ELEVATION:	NORTHING: 644944.753	EASTING: 569615.021
COMMENTS: N/A					

SAMPLE INFORMATION

NO.	DEPTH	BLOWS /6"	DESCRIPTION	CLASS /G.I.	REMARKS
1	0.0 0.7		MOIST GRAY COARSE SANDY FINE GRAVEL W/SOME FINE SAND AND SILT.	A-1-B	*HOT-MIX 10" STONE 6"*
2	2.0 4.0	15 20 5 4	MOIST VERY STIFF GRAY FINE SANDY FINE GRAVELLY SILT W/SOME COARSE SAND.	A-4(0)	
3	4.0 6.0	15 12 23 26	MOIST DENSE GRAY SILTY COARSE SANDY FINE GRAVEL W/SOME FINE SAND.	A-1-B	
4	6.0 8.0	15 13 7 7	MOIST MEDIUM DENSE GRAY COARSE TO FINE SAND AND FINE GRAVEL W/SOME SILT.	A-1-B	
5	8.0 10.0	11 11 5 5	WET MEDIUM DENSE GRAY SILTY FINE TO COARSE SAND W/SOME FINE GRAVEL.	A-2-4(0)	
6	10.0 12.0	8 28 50/3	WET VERY DENSE GRAY FINE TO COARSE SAND W/SOME FINE GRAVEL AND SILT.	A-2-4(0)	
7	12.0 14.0	3 13 27 26	WET DENSE GRAY FINE TO COARSE SAND W/SOME SILT AND FINE GRAVEL.	A-2-4(0)	
8	14.0 16.0	10 40 30 50	WET VERY DENSE GRAY SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
9	16.0 18.0	23 50/3	WET VERY DENSE GRAY SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
10	18.0 21.5	4 6 7 8	WET MEDIUM DENSE GRAY SILTY FINE TO COARSE SAND W/TRACE FINE GRAVEL.	A-2-4(0)	
R-1	21.5 26.5		ROCK GNEISS		*RECOVERY 90% RQD 68%*
R-2	26.5 28.5		ROCK GNEISS		*RECOVERY 88% RQD 25%*
	28.5		END BORING		

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DELAWARE DEPARTMENT OF TRANSPORTATION

ADDENDUMS / REVISIONS	

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY: HAB	
COUNTY		
NEW CASTLE	CHECKED BY: LAA	

BORING LOG

SHEET NO.
21
TOTAL SHTS.
48

ENVIRONMENTAL COMPLIANCE NOTES

1. GENERAL NOTES:

A. THE PURPOSE OF THESE SHEETS IS TO IDENTIFY THOSE ITEMS ASSOCIATED WITH ENVIRONMENTAL COMPLIANCE. IMPACT CALCULATIONS ARE FOR THE AGENCY PERMIT REPORTING PURPOSES ONLY AND ARE NOT TO BE USED FOR BIDDING PURPOSES.

B. IF A DEPARTURE FROM THE APPROVED PLANS (WHICH WOULD AFFECT ANY OF THE NATURAL AND/OR CULTURAL RESOURCE ISSUES) IS NECESSARY, THE ENVIRONMENTAL STUDIES SECTION SHALL BE CONTACTED AT (302) 760-2264 TO ALLOW FOR COORDINATION WITH THE APPROPRIATE RESOURCE AGENCIES AND APPROVAL.

C. USE OF THESE SHEETS DOES NOT ALLEVIATE THE CONTRACTOR'S RESPONSIBILITY TO COMPLY WITH ALL CONDITIONS SET FORTH IN THE ENVIRONMENTAL STATEMENT AND PERMITS.

2. NATURAL RESOURCE ISSUES:

A. PERMIT REQUIREMENTS/APPROVALS*:

U.S. ARMY CORPS OF ENGINEERS (COE): NWP#23**
DNREC - WETLANDS & SUBAQUEOUS LANDS (WLSL): SUBAQUEOUS PERMIT**
DNREC - WATER QUALITY (WQC) & COASTAL ZONE CONSISTENCY (CZM): ISSUED
NATIONAL PARK SERVICE (NPS) - APPROVAL**
NCC DEPT. OF LAND USE - NONE (NOT USGS BLUE LINE OR FEMA MAPPED).

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

B. CONSTRUCTION RESTRICTIONS:
FISHERIES - NO IN WATER WORK CAN OCCUR FROM MARCH 1 TO JUNE 30 (INCLUSIVE)
ENDANGERED SPECIES - NONE
MIGRATORY BIRDS - NONE

3. CULTURAL RESOURCE ISSUES:

A. THIS PROJECT HAS BEEN COORDINATED WITH THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) AND THE DELAWARE STATE HISTORIC PRESERVATION OFFICE (SHPO) FOR SECTION 106 COMPLIANCE NEEDS. A FINDING OF NO HISTORIC PROPERTIES AFFECTED WAS SUBMITTED TO SHPO ON 12/8/2017. THE CONTRACTOR SHALL BE MADE AWARE THAT THE PROJECT IS LOCATED ADJACENT TO PROPERTIES ELIGIBLE FOR LISTING IN THE NATIONAL REGISTER OF HISTORIC PLACES (5-R, PARCEL NO. 08-017.00-017 AND 7-R, PARCEL NO. 08-017.00-027). AS SUCH, NO FURTHER WORK ON EITHER PROPERTY SHOULD BE UNDERTAKEN OTHER THAN THE NECESSARY PLANS AND SCOPE, AS INDICATED. ANY PLAN MODIFICATION SIGNIFICANT IN NATURE OR NEW INFORMATION NOT INITIALLY KNOWN THAT ALTERS PLANS AND DESIGNS WILL BE COORDINATED WITH DELDOT ENVIRONMENTAL STUDIES OFFICE (ALEX TARANTINO ALEX.TARANTINO@DELAWARE.GOV 302-760-4887). THEY WILL COORDINATE WITH THE DELAWARE SHPO AND FHWA OR ANY OTHER INTERESTED PARTY BEFORE ANY ACTION IS IMPLEMENTED. PROPOSED OR NECESSARY MODIFICATIONS AND CHANGES WILL BE REVIEWED TO ENSURE PROPER TREATMENT AND CONSIDERATIONS TO HISTORIC PROPERTIES.

B. IF UNFORESEEN DAMAGE OCCURS (AS A DIRECT RESULT OF THE UNDERTAKING) TO THE NRHP-ELIGIBLE PROPERTIES (5-R, PARCEL NO. 08-017.00-017 AND 7-R, PARCEL NO. 08-017.00-027), DELDOT'S ENVIRONMENTAL PERSONNEL MUST BE CONTACTED TO ENSURE THAT THE SHPO, FHWA, OR OTHERS ARE CONSULTED ON WAYS TO REPAIR THE DAMAGE CONSISTENT WITH THE SECRETARY OF THE INTERIOR'S STANDARDS.

C. ANY STAGING AND STOCKPILE AREA(S) OUTSIDE THE PROJECT'S LOC THAT INDIVIDUALLY OR CUMULATIVELY ARE LARGER THAN 10,000 SQUARE FEET MUST BE APPROVED BY DELDOT'S ARCHAEOLOGIST. CONTACT THE AREA ENGINEER WHO WILL COORDINATE WITH DELDOT'S ARCHAEOLOGIST. WITHIN 30 DAYS, DELDOT WILL (1) APPROVE THE USE OF THE PROPOSED STAGING AND STOCKPILE AREA(S) (2) REJECT THE REQUEST; OR (3) PERFORM AN ARCHAEOLOGICAL SURVEY TO DETERMINE WHETHER TO APPROVE OR REJECT THE REQUEST, WHICH MAY TAKE UP TO 3 MONTHS. IF AN ARCHAEOLOGICAL SURVEY IS NECESSARY, DELDOT OR A CONSULTANT ON ITS BEHALF WILL UNDERTAKE THE SURVEY.

4. STREAM RESTORATION AND RIPRAP TREATMENTS:

A. FOLLOW THE SPECIAL PROVISION FOR ITEM 707500 - CHANNEL BED FILL IN REGARDS TO THE SALVAGING OF ON-SITE NATURAL STREAM BOTTOM MATERIAL OR THE FURNISHING OF OFFSITE MATERIAL. IF SUFFICIENT SOURCES FOR CHANNEL BED FILL DO NOT EXIST ON-SITE, ANY NEW MATERIAL MUST CONFORM TO THE REQUIREMENTS OF ITEM 707500 - CHANNEL BED FILL. RECESS ALL RIPRAP IN THE CHANNEL BOTTOM (I.E. BELOW THE WATER LINE) ONE FOOT BELOW STREAM BED ELEVATION AND CHOKE WITH BORROW TYPE 'B' SO THAT ALL OF THE VOIDS IN THE RIPRAP ARE FILLED WITH SPECIFIED MATERIAL. PAYMENT UNDER ITEM 209002 - BORROW, TYPE B. COVER THE RIPRAP WITH A MINIMUM OF 12" CHANNEL BED FILL. MATCH THE FINAL CHANNEL ELEVATIONS WITH EXISTING ELEVATIONS AT THE UPSTREAM AND DOWNSTREAM PROJECT LIMITS. THROUGH THE STRUCTURE, ELEVATIONS WILL BE AS NOTED ON THE PLANS. PAYMENT UNDER ITEM 707500 - CHANNEL BED FILL.

B. RESTORE OTHER AREAS OF THE CHANNEL BOTTOM AFFECTED BY CONSTRUCTION (INCLUDING, BUT NOT LIMITED TO, THE LOCATION OF SUMP PITS, STABILIZED OUTFALLS, TEMPORARY PIPES AND/OR SANDBAG DIKES AND DIVERSIONS) TO EXISTING CONDITIONS. FILL ANY CAVITIES OR SCOUR HOLES RESULTING FROM CONSTRUCTION ACTIVITIES WITH CHANNEL BED FILL. PAYMENT UNDER ITEM 707500 - CHANNEL BED FILL.

C. WHEN ALL EROSION AND SEDIMENT CONTROL MEASURES ARE REMOVED AND THE STREAM RETURNS TO ITS NATURAL FLOW CONDITIONS, THE FLOW MUST REMAIN ABOVE GROUND AND ABOVE THE RIPRAP (I.E. THE FLOW CANNOT BE "LOST" IN THE RIPRAP OR BENEATH THE STRUCTURE). IF THIS IS NOT ACHIEVED, THE CONTRACTOR WILL BE REQUIRED TO TAKE CORRECTIVE ACTION AT THE CONTRACTOR'S EXPENSE.

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

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

5. PROTECTION OF RESOURCES:

A. CLEARING IN WETLAND AREAS SHALL BE KEPT TO A MINIMUM ABSOLUTELY NECESSARY FOR CONSTRUCTION ACCESS. IN 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 WETLAND AREAS SHALL BE RESTORED TO GRADE AND SEEDED WITH TEMPORARY GRASS SEEDING DRY GROUND (PAYMENT UNDER ITEM 908017).

B. USE SILT FENCE OR CONSTRUCTION SAFETY FENCE ALONG THE LIMITS OF CONSTRUCTION IN ANY AREA WHERE WATER/WETLANDS EXIST WITHIN 20 FEET OF THE LIMIT OF CONSTRUCTION (AS SHOWN ON CONSTRUCTION PLAN SHEETS). ANY CONTRACTOR ACCESS BEYOND THE LIMIT OF CONSTRUCTION IS STRICTLY PROHIBITED.

C. USE SANDBAGS OR COMPOST FILTER LOG (CFL) TO SECURE SILT FENCE AT AREAS ADJACENT TO WOODED UPLANDS/ ALL WETLANDS IN LIEU OF TRENCHING UNLESS PROPER EROSION AND SEDIMENT CONTROL CANNOT BE MAINTAINED. SANDBAGS AND CFL'S (AND CONTENTS) MUST BE REMOVED IN THEIR ENTIRETY WHEN NO LONGER NEEDED. SANDBAGS/CFL USED TO SECURE THE SILT FENCE IS INCIDENTAL TO ITEM 905001 - SILT FENCE. THE ENVIRONMENTAL STUDIES SECTION (TREVOR MCCOLLEY, 302-760-2278) CAN PROVIDE FURTHER GUIDANCE REGARDING THIS METHOD OF INSTALLATION.

D. ALL TREES TO BE REMOVED SHALL BE CLEARLY MARKED WITH PAINT PRIOR TO THE E&S SEDIMENT CONTROL/ENVIRONMENTAL MEETING.

6. PLANTING GUIDANCE (INFORMATIONAL ONLY, WORK TO BE DONE BY OTHERS. THERE SHALL BE NO PAYMENT FOR PLANTING ON THIS CONTRACT.): UPON FINAL ACCEPTANCE OF THE CONTRACT, THE ENVIRONMENTAL STUDIES SECTION (VAN ADAMS) AND ROADSIDE ENVIRONMENTAL SHALL BE NOTIFIED OF COMPLETION. APPROPRIATE TREES AND/OR SHRUBS SHALL BE PLANTED IN A NATURALIZED PATTERN (MINIMUM 8', MAXIMUM 12' CENTERS) WITHIN THE FOOTPRINT OF PERMENANT EASEMENTS ADJACENT TO THE CULVERT, AS FIELD CONDITIONS ALLOW. FINAL PLANT COUNTS WILL BE BASED ON FIELD CONDITIONS AND DETERMINED BY THE ROADSIDE ENVIRONMENTAL ADMINISTRATOR OR HIS DESIGNEE. SPECIFIC PLANT SELECTION IS ALSO AT HIS DISCRETION BUT SHALL BE A NATIVE SPECIES APPROVED BY THE DELAWARE DEPARTMENT OF NATURAL RESOURCES. ON THIS PROJECT, DNREC WSLS REQUIRES THAT A PLANTING PLAN BE SUBMITTED TO THEM FOR APPROVAL PRIOR TO ACTUAL WORK.

PROJECT AREA DELINEATED BY CENTURY ENGINEERING IN APRIL OF 2017 IN ACCORDANCE WITH THE CORPS OF ENGINEERS WETLAND DELINEATION MANUAL (1987) AND THE ATLANTIC AND GULF COAST REGIONAL SUPPLEMENT (VERSION 2.0).

SHEETS PREPARED BY DCK ON 06/01/2017

SHEETS LAST UPDATED 06/17/2019

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LEGEND

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

XX / ?X — IMPACT AREA TYPE ID. (SEE BELOW) / IMPACT AREA ID. AND/OR NUMBER

·O = OPEN WATER IMPACT ·W = WETLAND IMPACT

·T = TEMPORARY IMPACT ·C = CREATION AREA

PERMANENT OPEN WATER IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
2-01	RIPRAP	139.36	0.0032	2.58	USACE/DNREC
2-02	ROADWAY / GRADING	342.22	0.0079	6.34	USACE/DNREC
2-03	RIPRAP	404.46	0.0093	7.49	USACE/DNREC
TOTAL FOR THIS SHEET		886.04	0.0204	16.41	

PERMANENT WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
2-W1	RIPRAP	135.53	0.0031	2.51	USACE
2-W2	ROADWAY / GRADING	354.37	0.0081	6.56	USACE
TOTAL FOR THIS SHEET		489.90	0.0112	9.07	

TEMPORARY OPEN WATER IMPACT AREA SCHEDULE

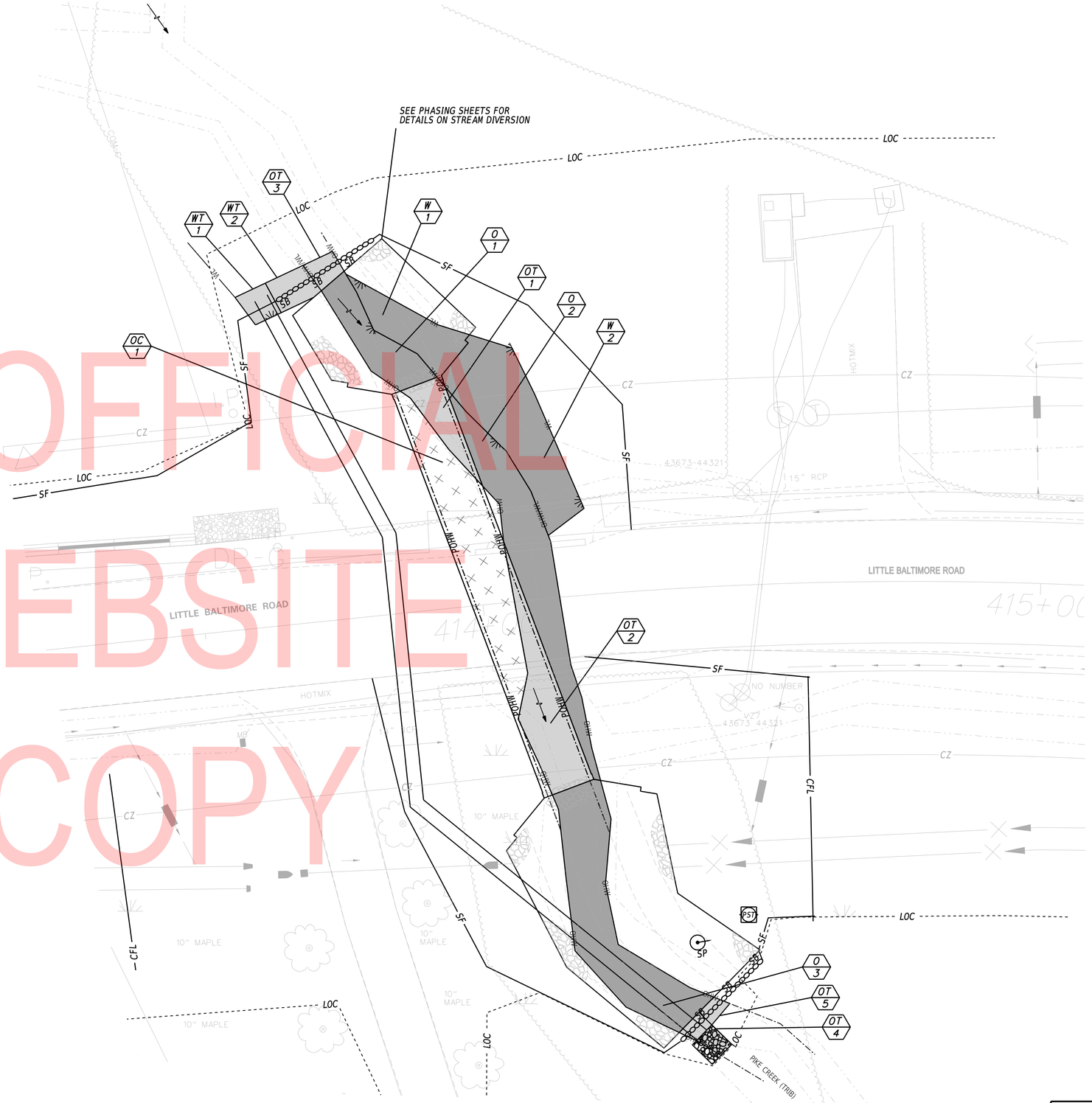
ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
2-OT1	CULVERT REPLACEMENT	80.53	0.0018	1.49	USACE/DNREC
2-OT2	CULVERT REPLACEMENT	219.69	0.0051	4.07	USACE/DNREC
2-OT3	SANDBAG DIKES	27.00	0.0006	1.5	USACE/DNREC
2-OT4	SANDBAG DIKES	13.46	0.0003	0.75	USACE/DNREC
2-OT5	TEMPORARY PIPE	32.28	0.0007	1.79	USACE/DNREC
TOTAL FOR THIS SHEET		372.96	0.0085	9.35	

OPEN WATER CREATION AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
2-OC1	CULVERT	420.23	0.0096	7.78	USACE/DNREC
TOTAL FOR THIS SHEET		420.23	0.0096	7.78	

TEMPORARY WETLAND IMPACT AREA SCHEDULE

ID	IMPACT DESCRIPTION	AREA (SF)	AREA (AC)	VOLUME (CY)	JURISDICTION
2-WT1	TEMPORARY PIPE	33.29	0.0008	1.85	USACE/DNREC
2-WT2	SANDBAG DIKES	46.71	0.0011	2.96	USACE/DNREC
TOTAL FOR THIS SHEET		80.00	0.0019	4.81	



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ADDENDA / REVISIONS

SCALE 0 10 20 30 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

ENVIRONMENTAL COMPLIANCE PLAN

EC-02

SECTION PD

SHEET NO. 23

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PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
PROJECT DEVELOPMENT

08/27/2019
DATE

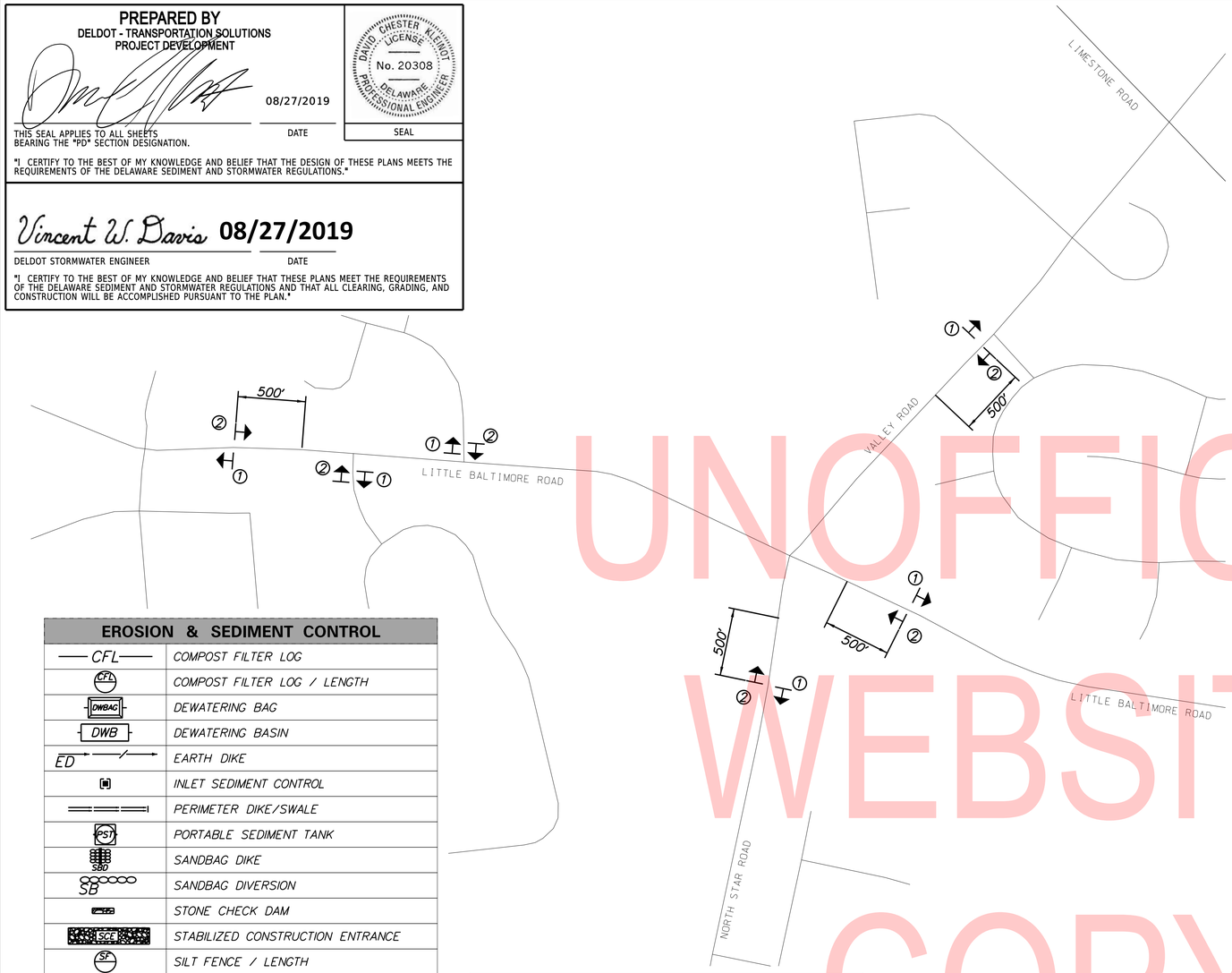
DAVID CHESTER KLEINO — LICENSE No. 20308 — DELAWARE PROFESSIONAL ENGINEER
SEAL

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "PD" SECTION DESIGNATION.

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN OF THESE PLANS MEETS THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS."

Vincent W. Davis **08/27/2019**
DELDOT STORMWATER ENGINEER — DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THESE PLANS MEET THE REQUIREMENTS OF THE DELAWARE SEDIMENT AND STORMWATER REGULATIONS AND THAT ALL CLEARING, GRADING, AND CONSTRUCTION WILL BE ACCOMPLISHED PURSUANT TO THE PLAN."



GENERAL NOTES:

1. MAINTENANCE OF TRAFFIC DURING LANE CLOSURES SHALL CONFORM TO TYPICAL APPLICATION 10 OF THE DELAWARE MUTCD. ALL LANE SHIFTS AND DIVERSIONS SHALL CONFORM TO TYPICAL APPLICATION 11B OF THE DELAWARE MUTCD. GUARDRAIL AND ALL OTHER SHOULDER WORK SHALL CONFORM TO TYPICAL APPLICATION 3 OF THE DELAWARE MUTCD. MOBILE STRIPING OPERATIONS SHALL CONFORM TO TYPICAL APPLICATION 17A OF THE DELAWARE MUTCD.

2 THE USE OF MILLINGS AND GABC IN THE TRAVEL WAY, TEMPORARY TRAVEL WAY, HIGH VOLUME ENTRANCES AND ACCESS RAMP FOR THE PURPOSE OF PROVIDING A TEMPORARY ROADWAY SURFACE, POTHOLE REPAIR, TAPERED EDGE FOR UTILITIES, BUTT JOINTS, AND LONGITUDINAL DROP-OFFS (MILLING AND PAVING OPERATIONS) IS PROHIBITED UNLESS IT IS OTHERWISE DESIGNATED TO BE USED IN THE CONTRACT PLANS. USE COLD PATCH, BITUMINOUS CONCRETE, BITUMINOUS CONCRETE WEDGE, OR TAPER MILL, AS NOTED IN THE CONTRACT DOCUMENTS OR APPROVED BY THE ENGINEER. PAYMENT FOR COLD PATCH, BITUMINOUS CONCRETE, OR BITUMINOUS CONCRETE WEDGE SHALL BE PAID AS NOTED IN THE CONTRACT DOCUMENTS. TAPER MILL BITUMINOUS CONCRETE SHALL BE PAID UNDER THE BITUMINOUS CONCRETE MILLING ITEM.

3 MILLINGS OR GABC SHALL BE USED AT THE FOLLOWING LOCATIONS WHERE ACCESS TO A BUSINESS, RESIDENCE, OR EDGE DROP OFF NEEDS TO BE MAINTAINED UNLESS OTHERWISE NOTED IN THE PLANS OR DIRECTED BY THE ENGINEER TO USE BITUMINOUS CONCRETE OR COLD PATCH. ALL MILLINGS AND GABC WILL BE ROLLED AND COMPACTED TO HELP PREVENT THE MATERIAL FROM UNRAVELLING:
   A. DRIVEWAYS
   B. ENTRANCES
   C. LOW VOLUME ACCESS RAMPS (IDENTIFIED IN THE CONTRACT DOCUMENTS)
   D. EDGE DROP-OFF'S ADJACENT TO LIVE ROADWAY(LANE, SHOULDER, OR TURN LANE) AND THE PROPOSED ROAD CONSTRUCTION
   E. EDGE OF ROADWAY DROPOFF

GRADING AND MAINTAINING BASE COURSE THAT IS BEING USED FOR ROADWAY WEDGE/FILLET BETWEEN TRAVEL LANES AND PAVEMENT BOX, EDGE OF TRAVELWAY, DRIVEWAY OR ENTRANCE ACCESS SHALL BE INCIDENTAL TO ITEM NO. 743000 - MAINTENANCE OF TRAFFIC. THE BASE COURSE MATERIAL SHALL BE PLACED AT NO GREATER THAN THE SLOPE SPECIFIED IN TABLE 6G-1 AND SHALL BE COMPACTED. EXCESS BASE COURSE MATERIAL SHALL BE PUSHED AHEAD AND USED IN THE NEXT SEGMENT AND SHALL BE INCIDENTAL TO THE PARTICULAR BASE COURSE PAY ITEM. NO SEPARATE PAYMENT SHALL BE MADE FOR MILLINGS OR GABC TEMPORARY ROADWAY MATERIAL (TRM) USED TO PROTECT EDGE DROP-OFFS, UNLESS THE MATERIAL IS EVENTUALLY UTILIZED AS PART OF A PERMANENT ROADWAY AT WHICH TIME THE MATERIAL WOULD BE PAID FOR UNDER THE RESPECTIVE CONTRACT MATERIAL ITEM.

5. NEW PLAQUES, ADDED LANE SIGN (W4-3) AND ADVANCED INTERSECTION LANE CONTROL (R3-8B) SHALL BE REMOVED BY DELDOT FORCES 30-180 DAYS AFTER INSTALLATION AND THE PROJECT CONTRACTOR SHALL CALL DELDOT TRAFFIC SIGNING SECTION INFORMING THEM OF WHEN THE SIGNS WERE INSTALLED.

6. NO LANE CLOSURES FROM 6AM TO 8AM AND 4PM TO 7PM, OTHERWISE LANE CLOSURES ARE PERMITTED.

7.

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

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

( )	THE CONTRACTOR SHALL NOT BE REQUIRED TO HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT.
(X)	THE CONTRACTOR SHALL HAVE AN ATSSA SUPERVISOR ASSIGNED TO THIS PROJECT. THE CONTRACTOR'S GENERAL SUPERINTENDENT FOR THIS PROJECT OR ANOTHER ATSSA CERTIFIED MEMBER OF THE CONTRACTOR'S PROJECT STAFF MAY BE THE ATSSA SUPERVISOR. PAYMENT FOR ATSSA SUPERVISOR IS INCIDENTAL TO ITEM 801000.

9. THE TOTAL DISTURBED AREA FOR THIS PROJECT IS 4.95 ACRES.

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

ALLOWABLE LANE CLOSURES TIMES - Little Baltimore Road, North Star Road/Valley Road

	12:00 AM	1:00 AM	2:00 AM	3:00 AM	4:00 AM	5:00 AM	6:00 AM	7:00 AM	8:00 AM	9:00 AM	10:00 AM	11:00 AM	12:00 PM	1:00 PM	2:00 PM	3:00 PM	4:00 PM	5:00 PM	6:00 PM	7:00 PM	8:00 PM	9:00 PM	10:00 PM	11:00 PM
SUNDAY	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
MONDAY	■	■	■	■	■	■	□	□	■	■	■	■	■	■	■	■	□	□	□	■	■	■	■	■
TUESDAY	■	■	■	■	■	■	□	□	■	■	■	■	■	■	■	■	□	□	□	■	■	■	■	■
WEDNESDAY	■	■	■	■	■	■	□	□	■	■	■	■	■	■	■	■	□	□	□	■	■	■	■	■
THURSDAY	■	■	■	■	■	■	□	□	■	■	■	■	■	■	■	■	□	□	□	■	■	■	■	■
FRIDAY	■	■	■	■	■	■	□	□	■	■	■	■	■	■	■	■	□	□	□	■	■	■	■	■
SATURDAY	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■

■ ONE THROUGH LANE AND/OR TURN LANE PERMITTED TO BE CLOSED
□ NO TRAVEL OR TURN LANE CLOSURES PERMITTED

EROSION & SEDIMENT CONTROL

—CFL—	COMPOST FILTER LOG
CFL	COMPOST FILTER LOG / LENGTH
DWBAG	DEWATERING BAG
DWB	DEWATERING BASIN
ED	EARTH DIKE
	INLET SEDIMENT CONTROL
	PERIMETER DIKE/SWALE
PST	PORTABLE SEDIMENT TANK
SBD	SANDBAG DIKE
SB	SANDBAG DIVERSION
SCD	STONE CHECK DAM
SCE	STABILIZED CONSTRUCTION ENTRANCE
SF	SILT FENCE / LENGTH
—SF—	SILT FENCE
RSF	REINFORCED SILT FENCE / LENGTH
—RSF—	REINFORCED SILT FENCE
SSF	SUPER SILT FENCE / LENGTH
—SSF—	SUPER SILT FENCE
SP	SUMP PIT
ST	SEDIMENT TRAP / NUMBER
ST	SEDIMENT TRAP
ST	SEDIMENT TRAP WITH INLET AS OUTLET
ST	SEDIMENT TRAP PIPE OUTLET
SW	STILLING WELL
	TEMPORARY SWALE
TSD	TEMPORARY SLOPE DRAIN
T XXX	TURBIDITY CURTAIN / LENGTH
—T—	TURBIDITY CURTAIN

CONSTRUCTION PHASING & M.O.T

	BARRICADE, TYPE 3
	CONCRETE SAFETY BARRIER - PORTABLE
CSF XXX	CONSTRUCTION SAFETY FENCE / LENGTH
—CSF—	CONSTRUCTION SAFETY FENCE
	CONSTRUCTION WARNING SIGN LOCATION
END ROAD WORK	CONSTRUCTION WARNING SIGN
	CRASH CUSHION ARRAY
	DRUM - TRAFFIC CONTROL
	FLAGGER LOCATION
	PHASING TRAFFIC FLOW ARROW
	TEMPORARY CONSTRUCTION
	TEMPORARY PAVEMENT MARKING ARROW
	TRUCK WITH MOUNTED ATTENUATOR
	WORK AREA - ACTIVE PHASE

WARNING SIGN LEGEND

ROAD WORK AHEAD
W20-01F
48" x48"
①

END ROAD WORK
G20-02
48" x24"
②

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ADDENDA / REVISIONS

SCALE 0 300 600 900 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY	CHECKED BY:	JKL
NEW CASTLE		

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN

SECTION PD
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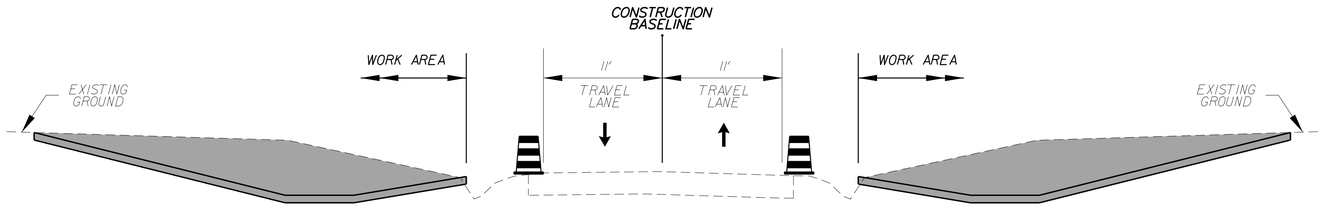
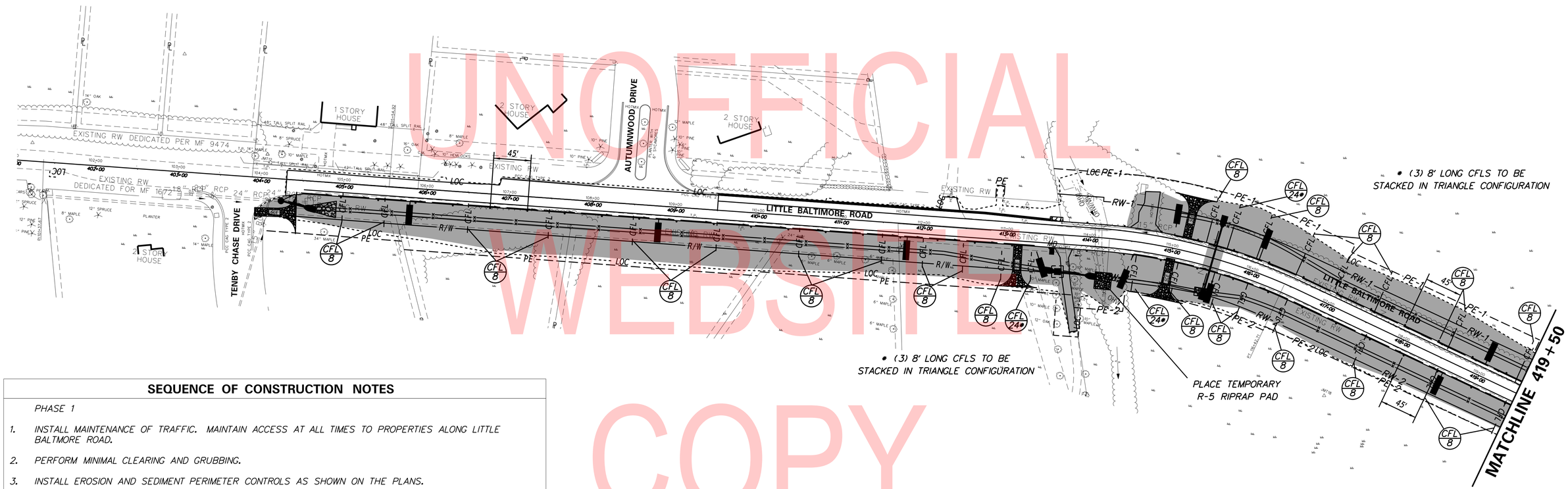


LITTLE BALTIMORE ROAD – PHASE 1
STATION 414+75 TO 408+50

LITTLE BALTIMORE ROAD – PHASE 1
STATION 404+30 TO 423+75



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SEQUENCE OF CONSTRUCTION NOTES

PHASE 1

1. INSTALL MAINTENANCE OF TRAFFIC. MAINTAIN ACCESS AT ALL TIMES TO PROPERTIES ALONG LITTLE BALTMORE ROAD.
2. PERFORM MINIMAL CLEARING AND GRUBBING.
3. INSTALL EROSION AND SEDIMENT PERIMETER CONTROLS AS SHOWN ON THE PLANS.

   PLACE TEMPORARY R-5 RIPRAP PAD AT DRAINAGE OUTLET IN LOCATION SHOWN ON PLANS. THIS WILL BE THE SAME MATERIAL USED IN PHASE 2A FOR THE CULVERT DISCHARGE.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCES AS SHOWN ON THE PLANS.
5. PERFORM REMAINING CLEARING AND GRUBBING AS SHOWN ON THE PLANS.
6. PERFORM GRADING FOR ROAD WIDENING AND ROADSIDE SWALES AND INSTALL DRAININAGE PIPES AND STRUCTURES WHILE MAINTAINING THE EXISTING ROAD SURFACE.

   INSTALLATION OF CROSS ROAD PIPES SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD.
7. STABILIZE ALL DISTURBED AREAS.

ADDENDA / REVISIONS	

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1

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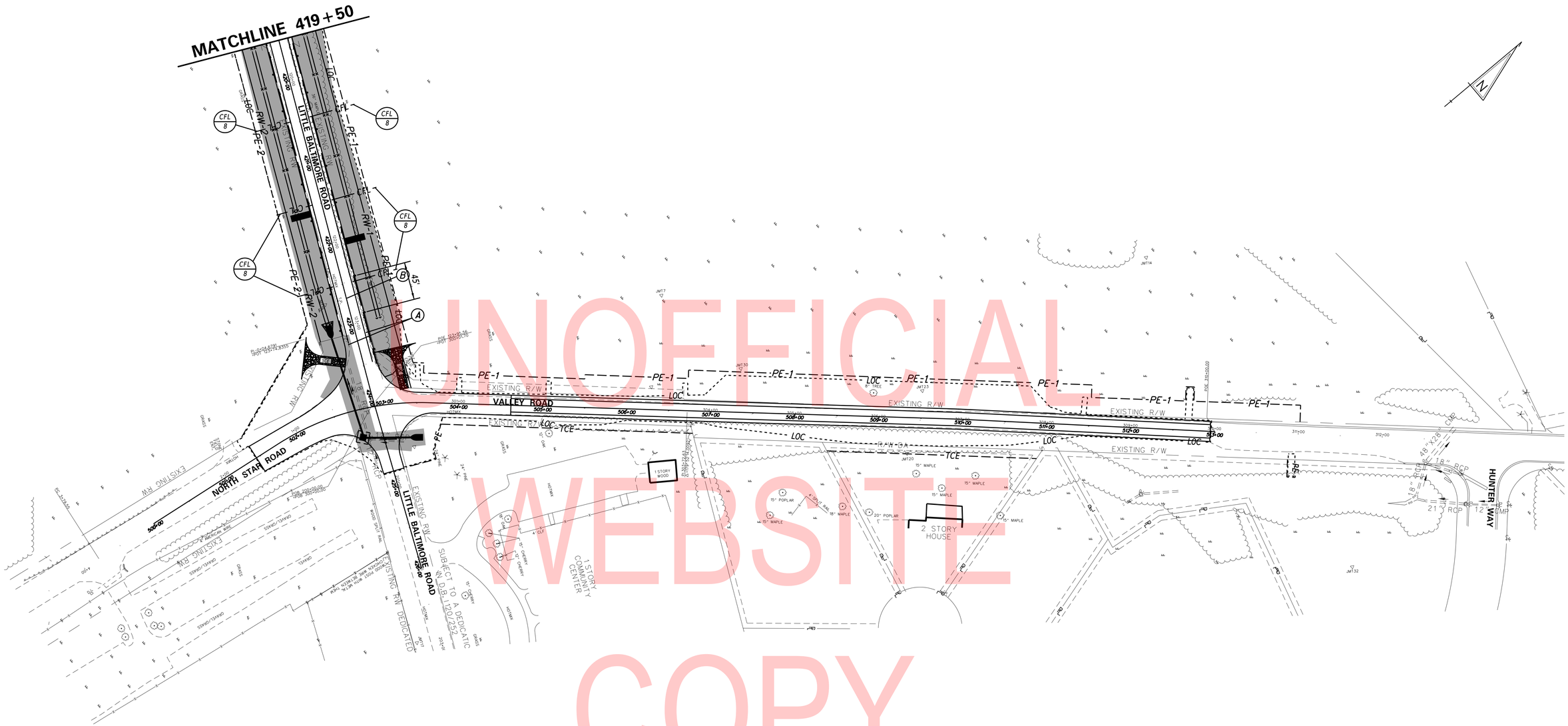

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ADDENDA / REVISIONS	

SCALE
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LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 1

SECTION
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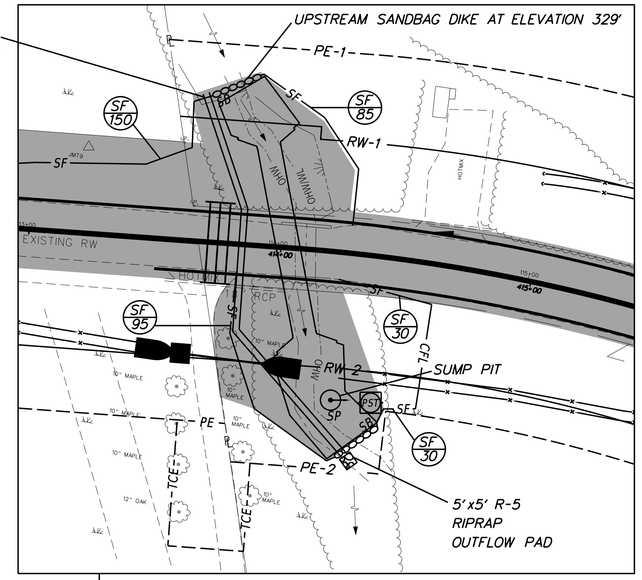

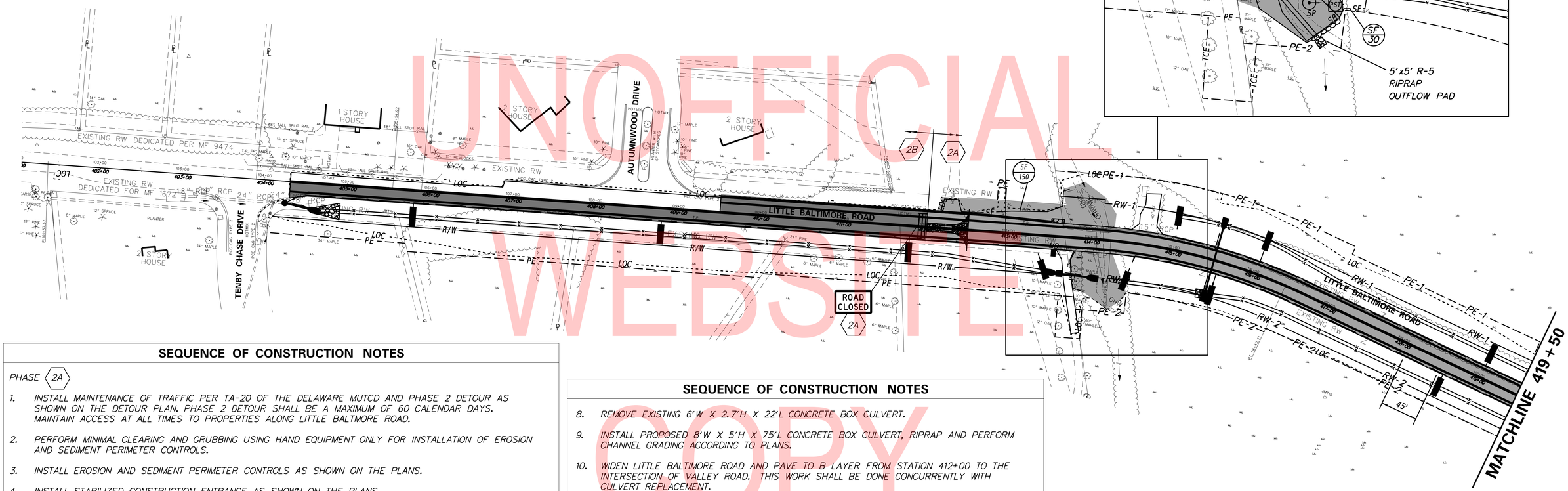

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SEQUENCE OF CONSTRUCTION NOTES

PHASE 2A

1. INSTALL MAINTENANCE OF TRAFFIC PER TA-20 OF THE DELAWARE MUTCD AND PHASE 2 DETOUR AS SHOWN ON THE DETOUR PLAN. PHASE 2 DETOUR SHALL BE A MAXIMUM OF 60 CALENDAR DAYS. MAINTAIN ACCESS AT ALL TIMES TO PROPERTIES ALONG LITTLE BALTIMORE ROAD.
2. PERFORM MINIMAL CLEARING AND GRUBBING USING HAND EQUIPMENT ONLY FOR INSTALLATION OF EROSION AND SEDIMENT PERIMETER CONTROLS.
3. INSTALL EROSION AND SEDIMENT PERIMETER CONTROLS AS SHOWN ON THE PLANS.
4. INSTALL STABILIZED CONSTRUCTION ENTRANCE AS SHOWN ON THE PLANS.
5. PERFORM REMAINING CLEARING AND GRUBBING AS SHOWN ON THE PHASE 1 CONSTRUCTION PHASING PLANS.
6. STABILIZE THE PROPOSED DISCHARGE AREA WITH A 5' X 5' AREA OF R-5 RIPRAP (ITEM 909005). INSTALL 2'- 6" TEMPORARY DIVERSION PIPE (ITEM 909005) AT LOCATION SHOWN. PLACE THE UPSTREAM END OF THE PIPE TO MATCH EXISTING STREAM BOTTOM USING PIPE WITH WATER-TIGHT JOINTS. SECURE THE PIPE TO MINIMIZE MOVEMENT UNDER USE TO PREVENT LEAKAGE INTO THE WORK AREA. CONSTRUCT THE SANDBAG DIKES, AT THE LOCATIONS SHOWN, WITH TOP EL. OF 329.00 OR 6 INCHES BELOW TOP OF STREAM BANK (WHICHEVER IS LOWER). DEPRESS TOP OF UPSTREAM SANDBIKE DIKE 1' AT CENTERLINE OF STREAM TO DIRECT STORMFLOW CENTRALLY IN CHANNEL. UPSTREAM SANDBAG DIKES SHALL BE CONSTRUCTED BEFORE THE DOWNSTREAM SANDBAG DIKES. ELEVATION OF THE DOWNSTREAM SANDBAG DIKES SHALL NOT BE HIGHER THAN THE LOWEST ELEVATION OF THE UPSTREAM SANDBAG DIKES. CONNECT SILT FENCE TO SANDBAG DIKES TO COMPLETELY ENCLOSE THE WORK AREA. THIS DIVERSION HAS BEEN DESIGNED FOR 25% OF THE 2-YEAR FLOW WHICH EQUATES TO 23 CFS.

   TEMPORARY 30" HDPE DIVERSION PIPE TO BE INSTALLED VIA TRENCH ACROSS EXISTING ROAD.
7. INSTALL SUMP PIT (ITEM 906003) AND PORTABLE SEDIMENT TANK (ITEM 906001) AS A SEDIMENT TRAPPING DEVICE. DEWATER THE WORK AREA IN ACCORDANCE WITH SECTION 902 OF THE STANDARD SPECIFICATIONS. DISCHARGE CLEAN EFFLUENT FROM THE APPROVED SEDIMENT TRAPPING DEVICE AT THE STABILIZED OUTLET OF THE TEMPORARY DRAINAGE PIPE OR ON OTHER STABLE OUTLET AS APPROVED BY THE ENGINEER.

SEQUENCE OF CONSTRUCTION NOTES

8. REMOVE EXISTING 6'W X 2.7'H X 22'L CONCRETE BOX CULVERT.
9. INSTALL PROPOSED 8'W X 5'H X 75'L CONCRETE BOX CULVERT, RIPRAP AND PERFORM CHANNEL GRADING ACCORDING TO PLANS.
10. WIDEN LITTLE BALTIMORE ROAD AND PAVE TO B LAYER FROM STATION 412+00 TO THE INTERSECTION OF VALLEY ROAD. THIS WORK SHALL BE DONE CONCURRENTLY WITH CULVERT REPLACEMENT.
11. REMOVE EXISTING PIPES AND INSTALL CROSS ROAD PIPES AT INTERSECTION. WORK SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD.

PHASE 2B

1. INSTALL MAINTENANCE OF TRAFFIC AS SHOWN ON THE PLANS.
2. WIDEN LITTLE BALTIMORE ROAD AND PAVE TO B LAYER FROM ENTRANCE OF TENBY CHASE TO 412+00. LITTLE BALTIMORE ROAD MUST BE OPEN TO TWO-WAY TRAFFIC AT THE END OF THE DAY. PHASE 2B SHALL BE A MAXIMUM OF 21 DAYS. ACCESS TO AUTUMNWOOD DRIVE MUST BE MAINTAINED AT ALL TIMES.
3. STABILIZE ALL DISTURBED AREAS. ALL DISTURBED AREAS SHALL BE ADEQUATELY STABILIZED PRIOR TO PROCEEDING TO PHASE 3.
4. AFTER ALL DISTURBED AREAS ARE FULLY STABILIZED, REMOVE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES, RESTORE STREAM CHANNEL FLOW THROUGH PROPOSED CULVERT, AND STABILIZE REMAINING AREAS WHERE EROSION AND SEDIMENT CONTROLS WERE REMOVED.
5. REMOVE MAINTENANCE OF TRAFFIC AND PHASE 2 DETOUR.

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
A	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	2,520 LF
B	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	3,040 LF
C	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2

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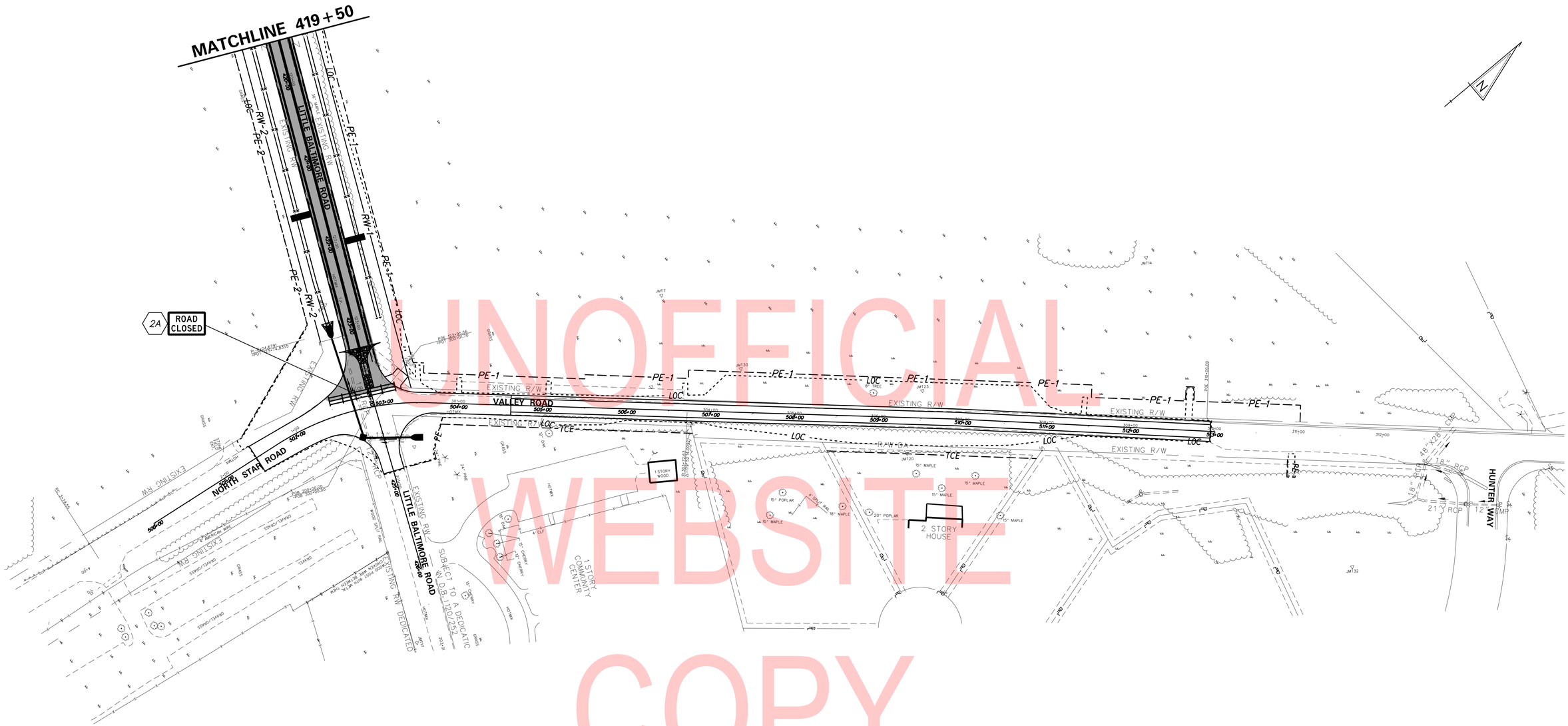

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TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	768 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	768 LF
(C)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	12 LF

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 2

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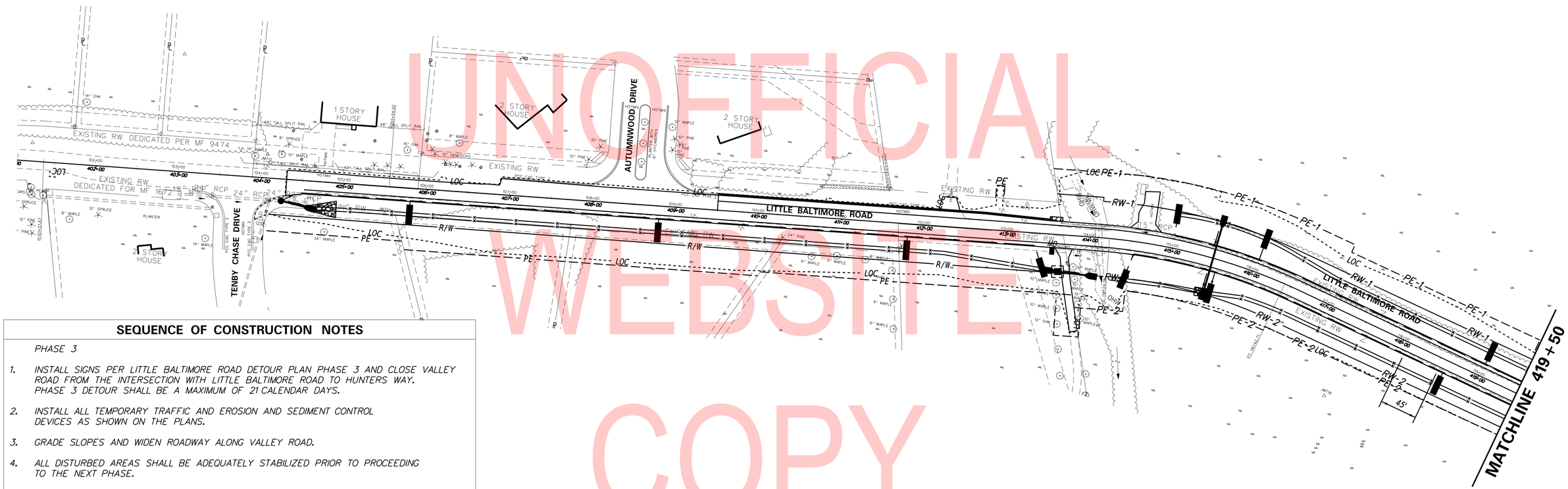

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SEQUENCE OF CONSTRUCTION NOTES

PHASE 3

1. INSTALL SIGNS PER LITTLE BALTIMORE ROAD DETOUR PLAN PHASE 3 AND CLOSE VALLEY ROAD FROM THE INTERSECTION WITH LITTLE BALTIMORE ROAD TO HUNTERS WAY. PHASE 3 DETOUR SHALL BE A MAXIMUM OF 21 CALENDAR DAYS.
2. INSTALL ALL TEMPORARY TRAFFIC AND EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS.
3. GRADE SLOPES AND WIDEN ROADWAY ALONG VALLEY ROAD.
4. ALL DISTURBED AREAS SHALL BE ADEQUATELY STABILIZED PRIOR TO PROCEEDING TO THE NEXT PHASE.

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF
(C)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF

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ADDENDA / REVISIONS

SCALE
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FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 3

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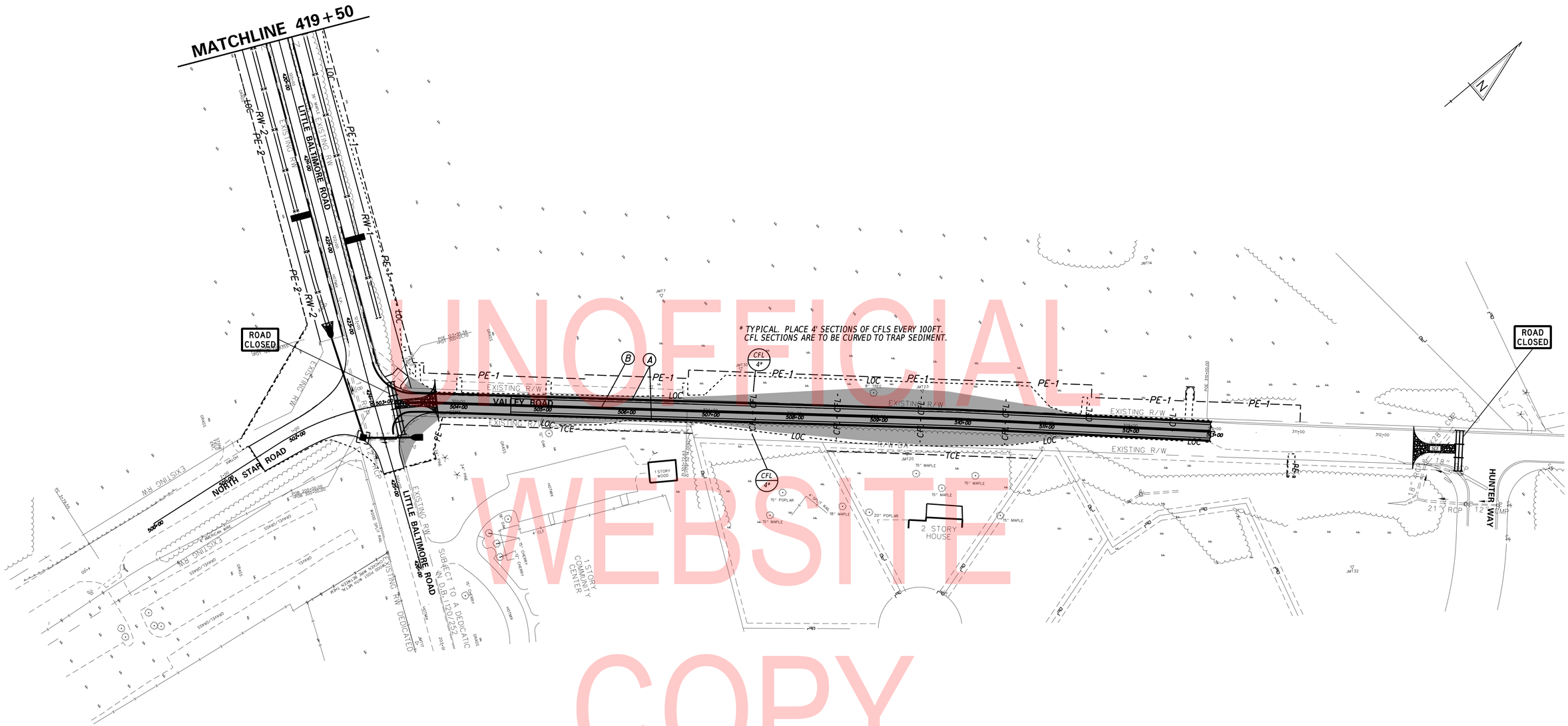

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TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	2,005 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	1,911 LF
(C)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 3

SECTION
PD
SHEET NO.
30

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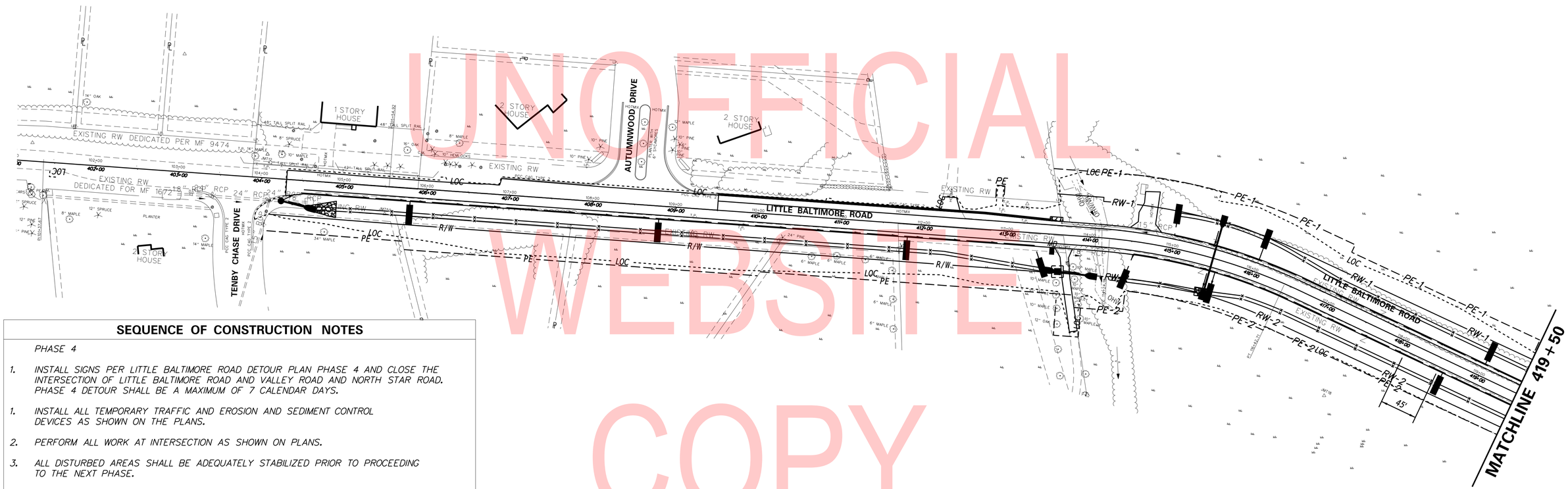

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SEQUENCE OF CONSTRUCTION NOTES

PHASE 4

1. INSTALL SIGNS PER LITTLE BALTIMORE ROAD DETOUR PLAN PHASE 4 AND CLOSE THE INTERSECTION OF LITTLE BALTIMORE ROAD AND VALLEY ROAD AND NORTH STAR ROAD. PHASE 4 DETOUR SHALL BE A MAXIMUM OF 7 CALENDAR DAYS.

1. INSTALL ALL TEMPORARY TRAFFIC AND EROSION AND SEDIMENT CONTROL DEVICES AS SHOWN ON THE PLANS.

2. PERFORM ALL WORK AT INTERSECTION AS SHOWN ON PLANS.

3. ALL DISTURBED AREAS SHALL BE ADEQUATELY STABILIZED PRIOR TO PROCEEDING TO THE NEXT PHASE.

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF
(B)	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF
(C)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF

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ADDENDA / REVISIONS

SCALE
0 60 120 180
FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 4

SECTION
PD
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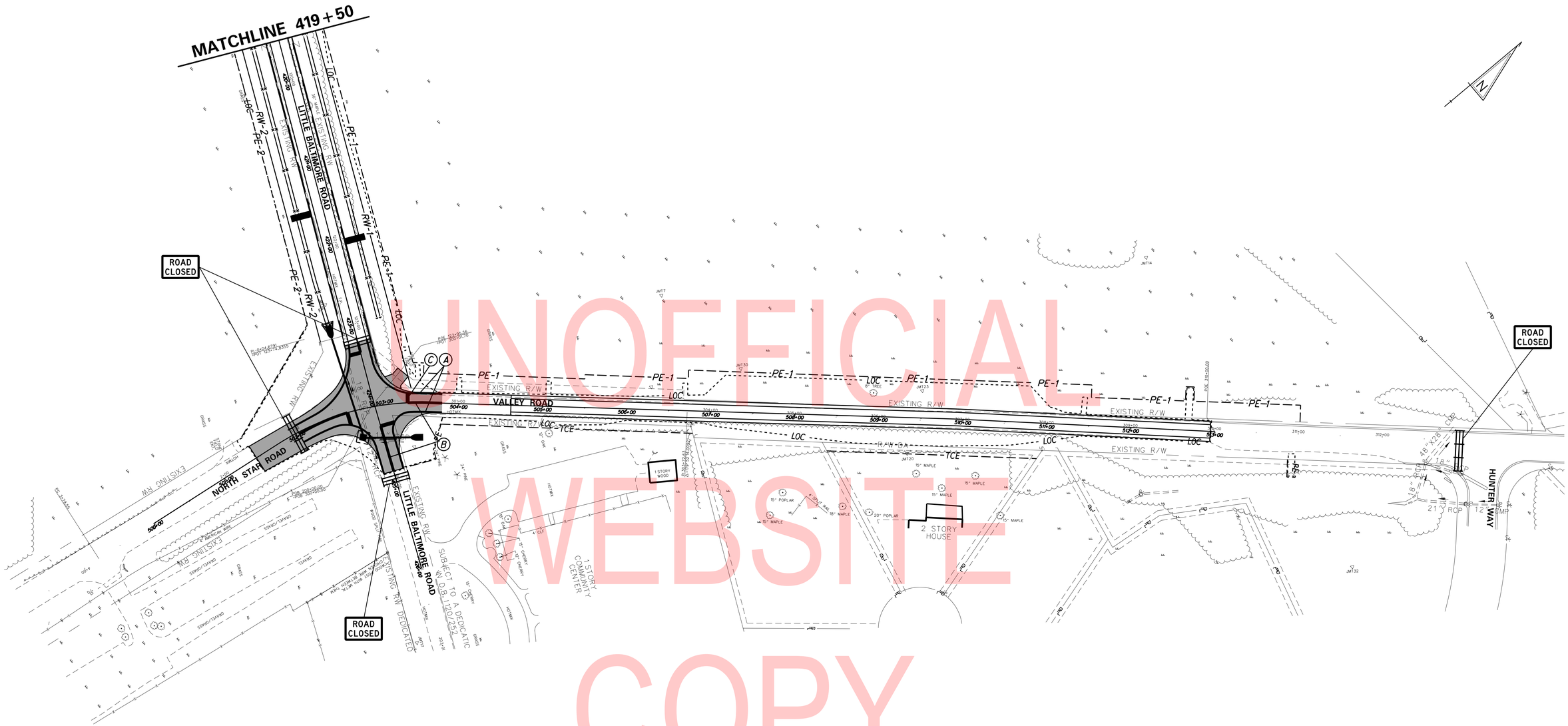
31



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TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
A	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	506 LF
B	4" SOLID YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	343 LF
C	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	58 LF

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 4

SECTION PD

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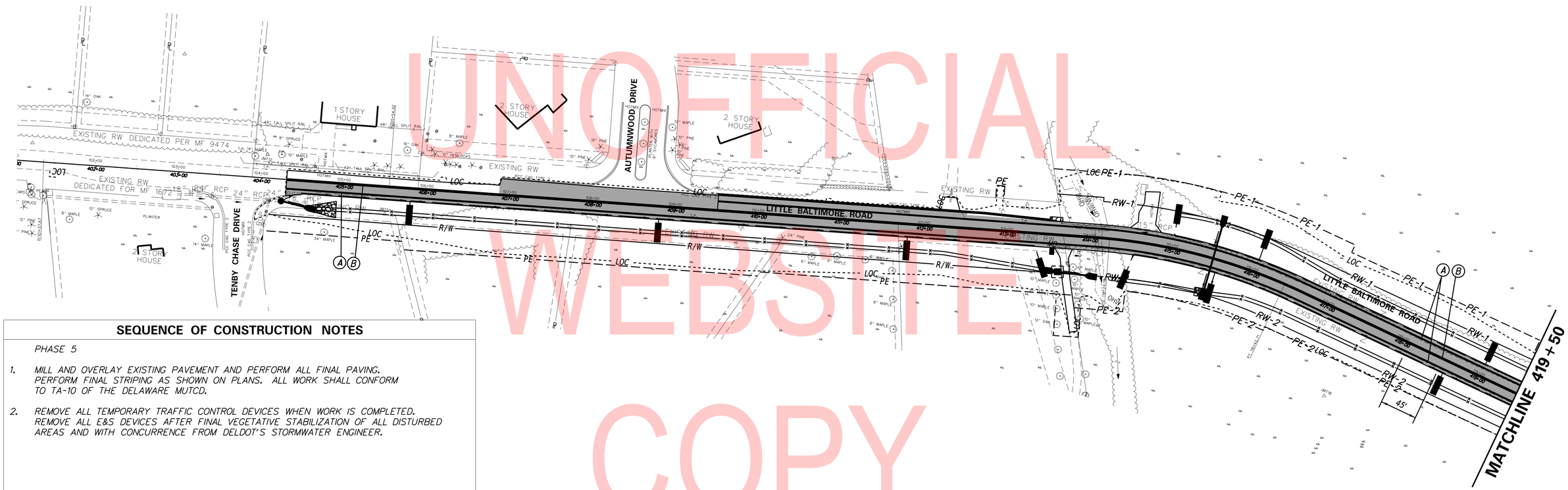

UNOFFICIAL WEBSITE COPY

SEQUENCE OF CONSTRUCTION NOTES

PHASE 5

1. MILL AND OVERLAY EXISTING PAVEMENT AND PERFORM ALL FINAL PAVING. PERFORM FINAL STRIPING AS SHOWN ON PLANS. ALL WORK SHALL CONFORM TO TA-10 OF THE DELAWARE MUTCD.

2. REMOVE ALL TEMPORARY TRAFFIC CONTROL DEVICES WHEN WORK IS COMPLETED. REMOVE ALL E&S DEVICES AFTER FINAL VEGETATIVE STABILIZATION OF ALL DISTURBED AREAS AND WITH CONCURRENCE FROM DELDOT'S STORMWATER ENGINEER.

TEMPORARY PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	2,520 LF
Ⓑ	4" SOLID DOUBLE YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	3,040 LF
Ⓒ	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	0 LF

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 5

SECTION: PD

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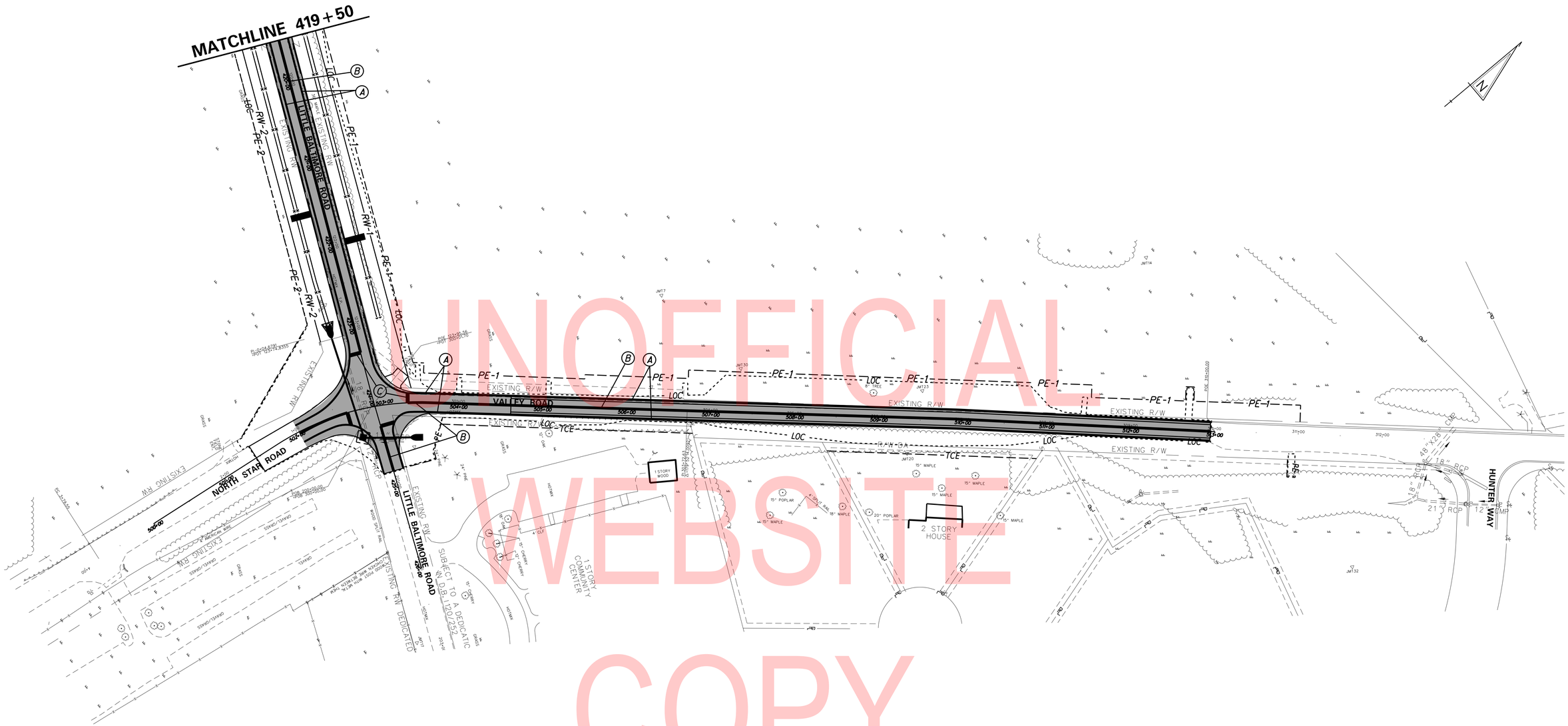

UNOFFICIAL WEBSITE COPY

TEMPORARY PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	4" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	3,077 LF
(B)	4" SOLID DOUBLE YELLOW TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	2,914 LF
(C)	16" SOLID WHITE TEMPORARY PAINT PAVEMENT STRIPING (ITEM 817003)	58 LF

ADDENDA / REVISIONS

SCALE 0 60 120 180 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

CONSTRUCTION PHASING, M.O.T., AND EROSION CONTROL PLAN - PHASE 5

SECTION PD

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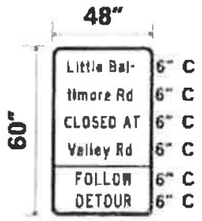
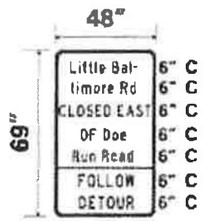
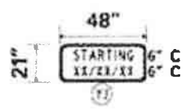
SPECIAL SIGNS



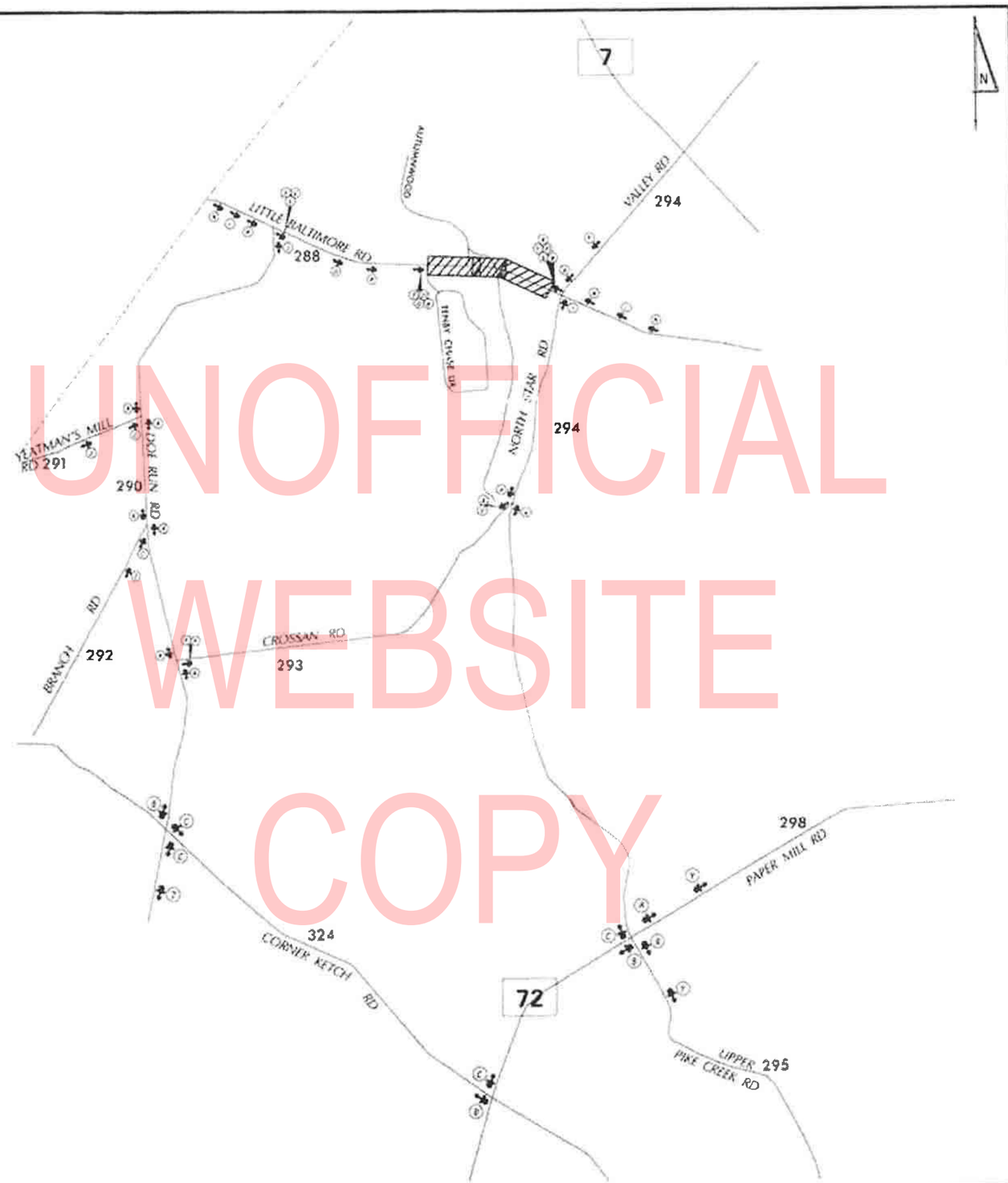




NOTES

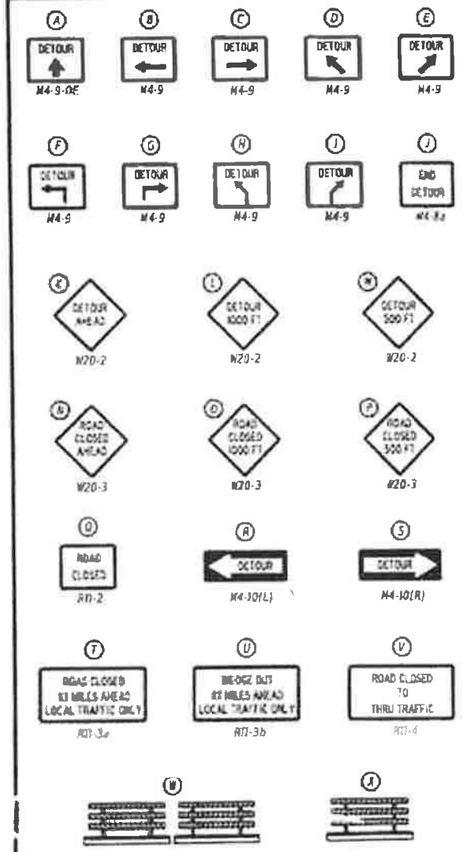
*DISPLAY (Y) & (Z), ALONG WITH THE (YI) PLAQUE, FOR 10 DAYS PRIOR TO THE IMPLEMENTATION OF DETOUR. (YI) PLAQUE TO COMPLETELY COVER "FOLLOW DETOUR" LEGEND ON (Y) & (Z) SIGNS. UPON IMPLEMENTATION OF DETOUR, REMOVE (YI) PLAQUE FROM (Y) & (Z) SIGNS AND RELOCATE (Y) & (Z) TO A LOCATION OUTSIDE OF CLOSURE AREA.

*D/G RETROREFLECTIVE ORANGE BACKGROUND; BLACK LEGEND



UNOFFICIAL WEBSITE COPY

LEGEND



GENERAL NOTES

1. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.
2. SIGNS "N" THROUGH "O" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.
3. "W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.
4. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

2/6/2020
TRAFFIC SAFETY ENGINEER TO THIS DETOUR SHEET — DATE

DONALD D. WEBER — LICENSE No. 9176 — STATE OF DELAWARE — PROFESSIONAL ENGINEER

2-7-20
GADE REVIEWED — DATE

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."

CONCURRENCE FOR IMPLEMENTATION

2-6-20
TRAFFIC SAFETY — DATE

ADDENDA / REVISIONS

NOT TO SCALE

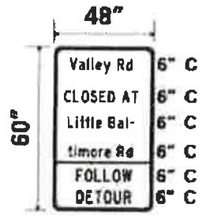
LITTLE BALTIMORE ROAD
DRAINAGE IMPROVEMENTS

CONTRACT	PERMIT NO	X	
T201904001	DESIGNED BY:	DBW	
COUNTY			
NEW CASTLE	CHECKED BY:	GMB	

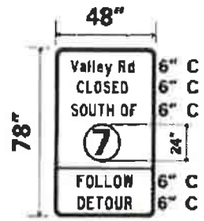
DETOUR PLAN - VEHICULAR
LITTLE BALTIMORE ROAD
PHASE 2

SECTION: TS
SHEET NO: 35

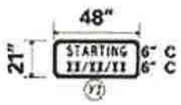
SPECIAL SIGNS



(Y)



(Z)



(YI)

NOTES

*DISPLAY (Y) & (Z), ALONG WITH THE (YI) PLAQUE, FOR 10 DAYS PRIOR TO THE IMPLEMENTATION OF DETOUR. (YI) PLAQUE TO COMPLETELY COVER "FOLLOW DETOUR" LEGEND ON (Y) & (Z) SIGNS. UPON IMPLEMENTATION OF DETOUR, REMOVE (YI) PLAQUE FROM (Y) & (Z) SIGNS AND RELOCATE (Y) & (Z) TO A LOCATION OUTSIDE OF CLOSURE AREA.

*D/G RETROREFLECTIVE ORANGE BACKGROUND; BLACK LEGEND

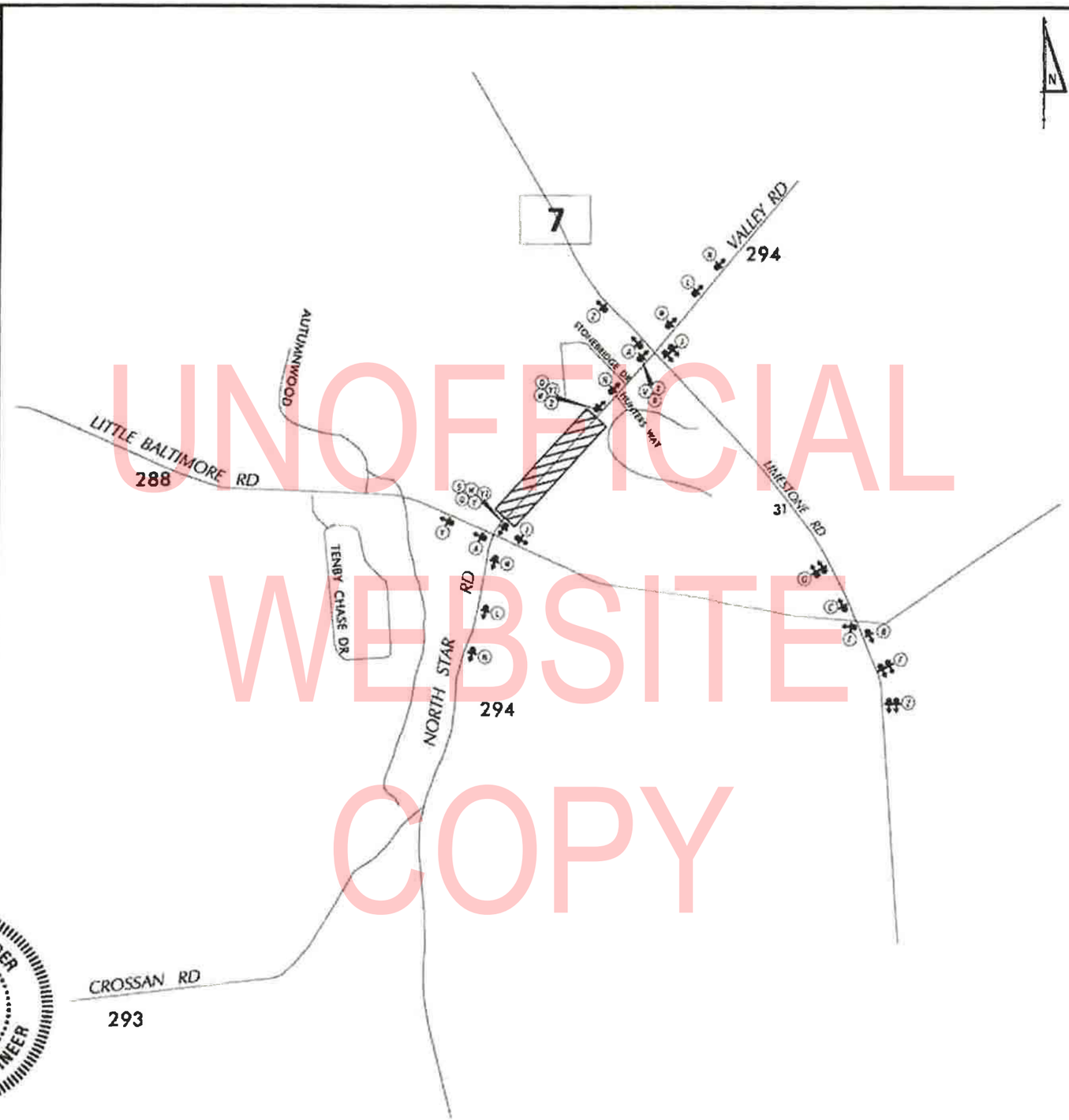
PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

THIS SEAL ONLY APPLIES TO THIS DETOUR SHEET — DATE 2/6/2020

DONALD D. WEBER — LICENSE No. 9176 — DELAWARE — PROFESSIONAL ENGINEER

QA/QC REVIEWER — DATE 2.7.20

"I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THIS DETOUR PLAN HAS BEEN PREPARED IN ACCORDANCE WITH THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES."



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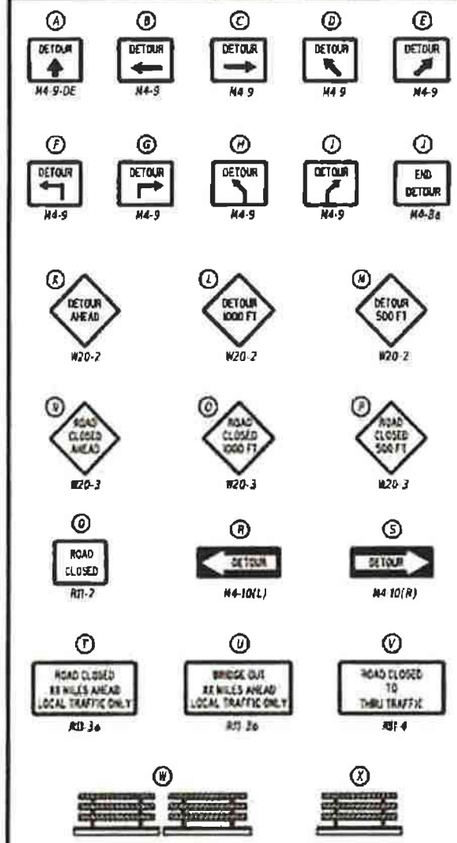
LEGEND



GENERAL NOTES

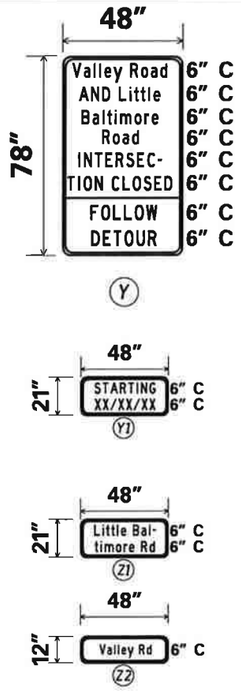
1. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.
2. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "AR XING" OR "BRIDGE" WHERE APPLICABLE.
3. "W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.
4. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

CONCURRENCE FOR IMPLEMENTATION

TRAFFIC SAFETY — DATE 2-6-20

ADDITIONS / REVISIONS	NOT TO SCALE	LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS	CONTRACT NUMBER / COUNTY: NEW CASTLE	PLANS BY: X; DESIGNED BY: DBW; CHECKED BY: GAH	DETOUR PLAN - VEHICULAR LITTLE BALTIMORE ROAD PHASE 3	SECTION: TS; SHEET NO: 36

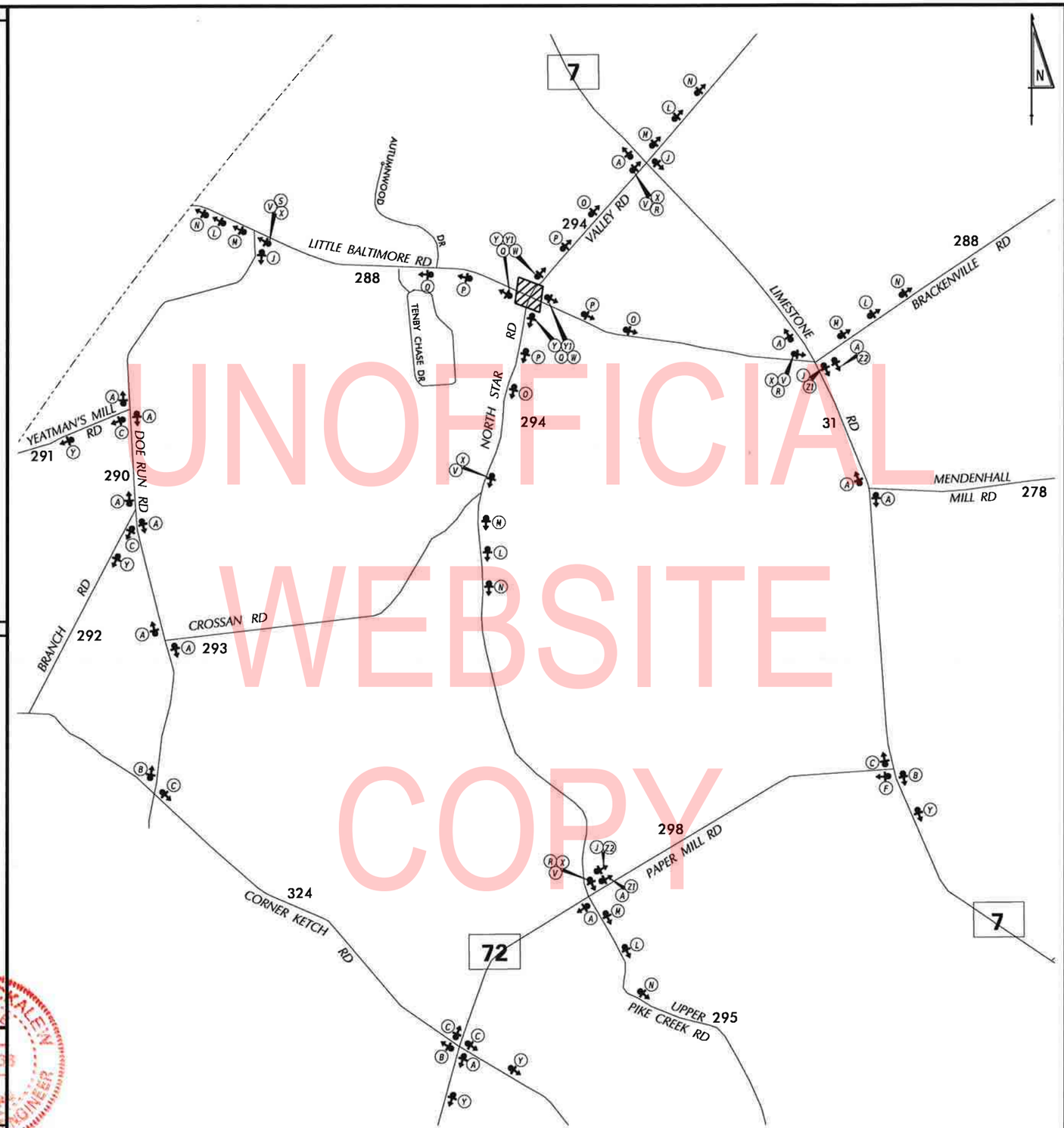
SPECIAL SIGNS



NOTES

*DISPLAY (Y), ALONG WITH THE (Y1) PLAQUE, FOR 10 DAYS PRIOR TO THE IMPLEMENTATION OF DETOUR. (Y1) PLAQUE TO COMPLETELY COVER "FOLLOW DETOUR" LEGEND ON (Y) SIGN. UPON IMPLEMENTATION OF DETOUR, REMOVE (Y1) PLAQUE FROM (Y) SIGNS AND RELOCATE (Y) TO A LOCATION OUTSIDE OF CLOSURE AREA.

*D/G RETROREFLECTIVE ORANGE BACKGROUND; BLACK LEGEND



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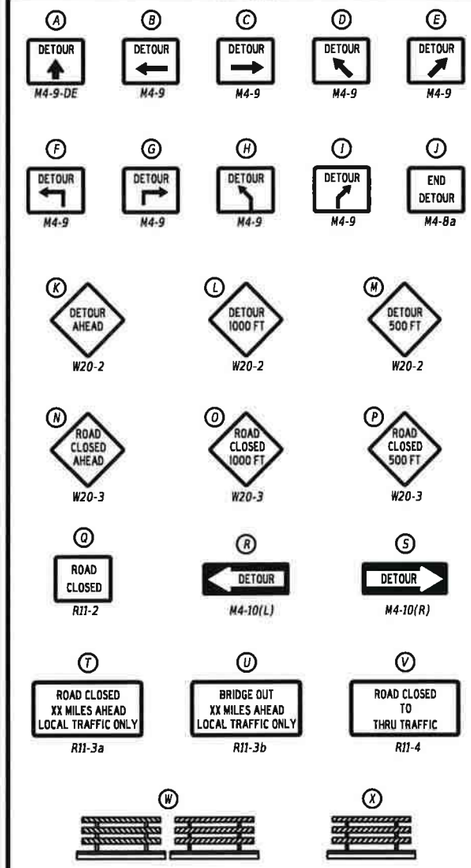
LEGEND



GENERAL NOTES

1. ALL TEMPORARY TRAFFIC CONTROL DEVICES ARE TO BE SUPPLIED AND MAINTAINED BY THE GENERAL CONTRACTOR AND SHALL BE IN COMPLIANCE WITH THIS PLAN AND THE DELAWARE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (DE MUTCD) LATEST EDITION.
2. SIGNS "N" THROUGH "Q" AND "T" AND "V", THE WORD "ROAD" SHALL BE CHANGED TO "RAMP", "RR XING" OR "BRIDGE" WHERE APPLICABLE.
3. "W" TYPE 3 BARRICADES AT A ROAD CLOSURE SHALL BE PLACED COMPLETELY ACROSS THE ROADWAY, FROM CURB TO CURB, OR FROM EDGE OF ROAD TO EDGE OF ROAD, WITH THE STRIPES POSITIONED DOWNWARD TOWARD THE CENTER OF THE ROADWAY.
4. BARRICADES SHALL BE A MINIMUM OF 6 FEET WIDE UNLESS DIRECTED BY THE ENGINEER.

PREPARED BY
DELDOT - TRANSPORTATION SOLUTIONS
TRAFFIC SAFETY

8/19/18
DATE

THIS SEAL APPLIES TO ALL SHEETS BEARING THE "TS" SECTION DESIGNATION.

MARK S. BUCKALEW LICENSE No. 16735 DELAWARE PROFESSIONAL ENGINEER
SEAL

CONCURRENCE FOR IMPLEMENTATION
TRAFFIC SAFETY — DATE 8-19-18

ADDENDA / REVISIONS

NOT TO SCALE

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT T201404101	PERMIT NO.	X	DETOUR PLAN - VEHICULAR LITTLE BALTIMORE ROAD PHASE 4
COUNTY NEW CASTLE	DESIGNED BY: DBW		SECTION TS
	CHECKED BY: MSB		SHEET NO. 37

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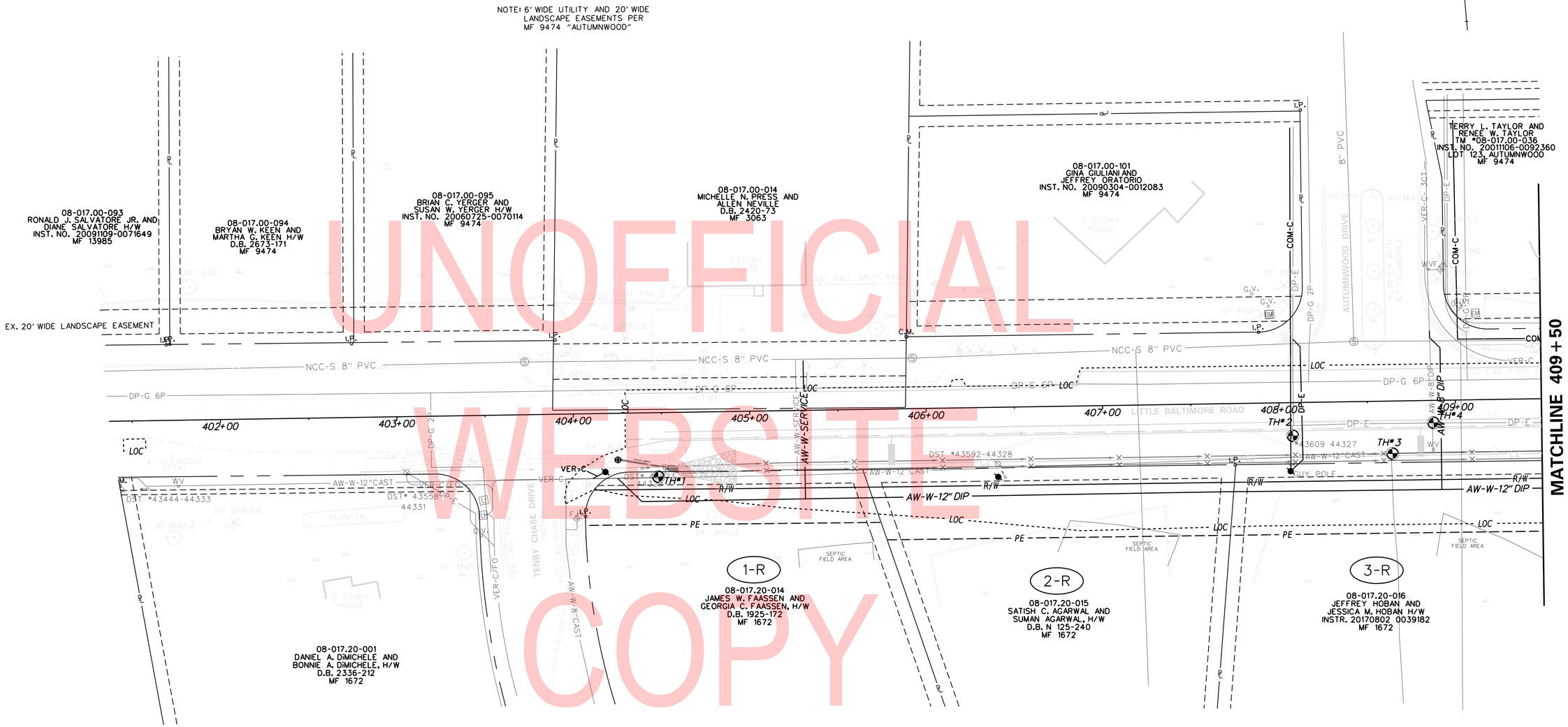
UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND. EL.	COVER	O.D. & MATERIAL
1	VERIZON	404+47.6769	36.3868	347.76	1.86	3" DIRECT BURIED CABLE - TELEPHONE
1	ARTESIAN	404+47.6769	36.3868	347.76	11.70	12" METAL PIPE - WATER
2	DELMARVA	408+07.6097	18.8474	340.47	2.62	(2) 4" GRAY PLASTIC CONDUITS ELECTRIC
3	ARTESIAN	408+63.9075	29.8012	345.60	3.90	12" BLACK METAL WATER PIPE
4	ARTESIAN	408+87.4035	12.6484	339.26	5.12	8" BLACK METAL WATER PIPE



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NOTE: 6' WIDE UTILITY AND 20' WIDE LANDSCAPE EASEMENTS PER MF 9474 "AUTUMNWOOD"

7.5' WIDE UTILITY AND 10' WIDE WATER MAIN EASEMENTS PER MF 1672 "TENBY CHASE"

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614	UTILITY RELOCATION PLAN	SECTION
T201404101	DESIGNED BY:	DCK		PD
COUNTY				SHEET NO.
NEW CASTLE	CHECKED BY:	JKL		40

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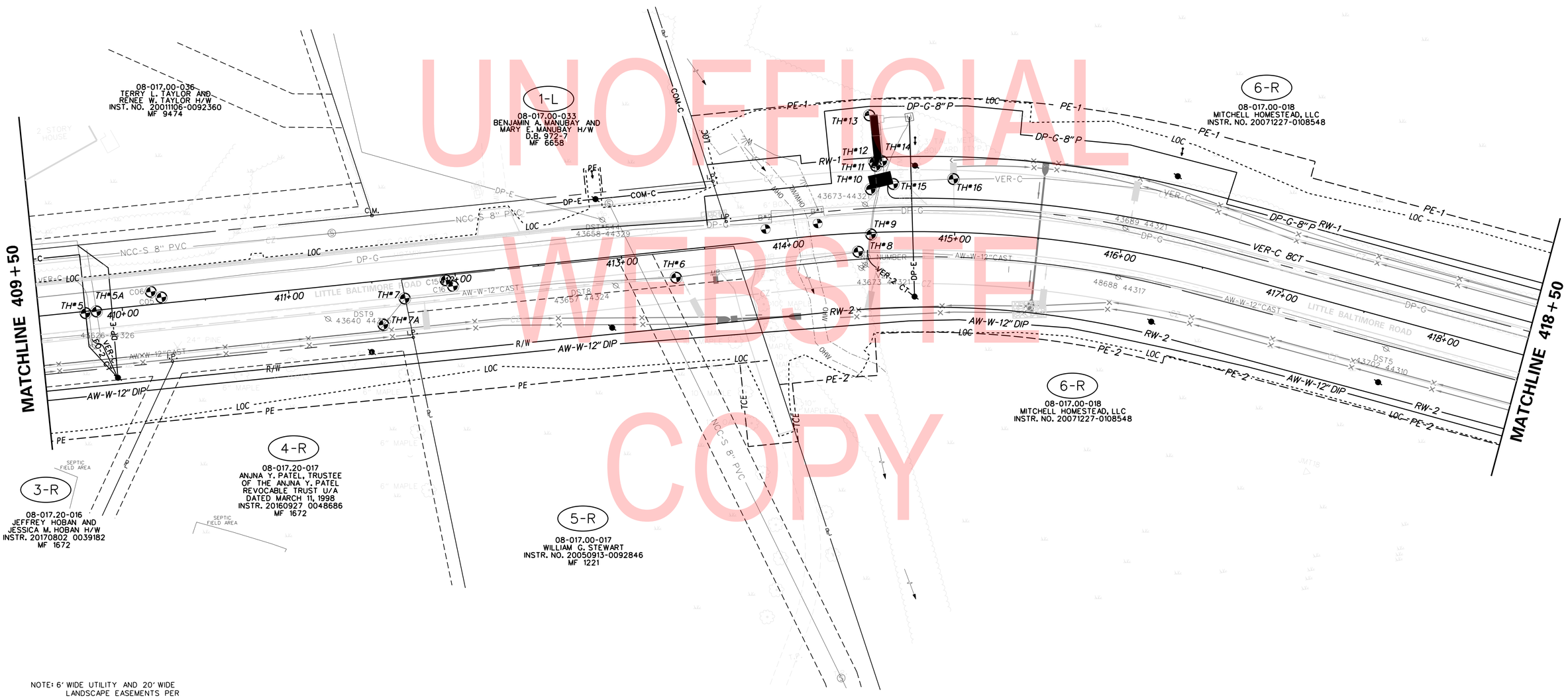
UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND. EL.	COVER	O.D. & MATERIAL
5	DELMARVA	409+77.9214	1.0498	337.72	4.00	4" GRAY ELECTRIC CONDUIT
5A	VERIZON	409+84.5119	0.7423	337.61	3.50	4" GRAY COMMUNICATIONS CONDUIT
6	ARTESIAN	413+31.1794	16.2997	328.38	1.45	12" BLACK METAL WATER PIPE
7	ARTESIAN	411+68.5822	12.0220	333.78	2.84	CONCRETE COVER OVER WATER PIPE
7A	ARTESIAN	411+54.2869	26.2332	335.96	3.13	CONCRETE COVER OVER WATER PIPE
8	ARTESIAN	414+41.7265	11.1505	329.41	3.60	12" BLACK METAL WATER PIPE
9	DELMARVA VZ	414+49.9499	1.1354	329.94	2.23	3" AND (2) 5"ELECTRIC AND COMM CONDUITS
10	VERIZON	414+50.7701	-25.8162	330.18	2.02	TOP OF CONCRETE COMMUNICATION VAULT
11	VERIZON	414+54.1653	-39.6492	329.84	2.56	(6) 4" WHITE COMMUNICATION CONDUITS
12	VERIZON	414+53.2244	-41.9093	329.92	1.35	TOP OF CONCRETE COMMUNICATION VAULT
13	VERIZON	414+51.5209	-69.7826	330.70	0.50	BOTTOM OF CONCRETE COMMUNICATION PAD
14	VERIZON	414+57.8197	-42.3127	330.03	1.40	TOP OF CONCRETE COMMUNICATION VAULT
15	VERIZON	414+63.8046	-28.5841	330.26	1.96	TOP OF CONCRETE COMMUNICATION VAULT
16	VERIZON	414+98.2384	-31.7349	331.04	4.63	(2) 4" WHITE COMMUNICATION CONDUITS



UNOFFICIAL WEBSITE COPY

NOTE: 6' WIDE UTILITY AND 20' WIDE LANDSCAPE EASEMENTS PER MF 9474 "AUTUMNWOOD"

7.5' WIDE UTILITY AND 10' WIDE WATER MAIN EASEMENTS PER MF 1672 "TENBY CHASE"

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

UTILITY RELOCATION PLAN

SECTION
PD
SHEET NO.
41

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UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND. EL.	COVER	O.D. & MATERIAL
17	VERIZON	419+11.8820	-33.6086	341.40	5.80	(2) 4" WHITE COMMUNICATION CONDUITS
18	VERIZON	423+22.0140	-33.9991	355.71	6.10	(2) 4" GRAY COMMUNICATION CONDUITS
19	ARTESIAN	423+01.9104	11.9379	351.03	3.95	12" BLACK METAL WATER PIPE
19	VERIZON	423+01.9104	11.9379	351.03	3.95	(2) 4" GRAY PLS COMMUNICATION CONDUIT
20	ARTESIAN	423+46.2951	25.8837	353.51	5.22	12" BLACK METAL WATER PIPE
21	ARTESIAN	423+59.6858	27.2577	353.06	4.95	12" BLACK METAL WATER PIPE
22	ESNG	502+75.7951	14.5317	355.31	5.15	12" METAL GAS PIPE (CASING)
23	ARTESIAN	502+76.9361	21.8270	355.51	5.33	12" BLACK METAL WATER PIPE
24	VERIZON	502+92.5318	29.1236	356.05	4.20	(6) 4" PLASTIC COMMUNICATION CONDUITS
25	ARTESIANS	502+90.1385	29.3412	356.02	5.65	12' BLACK METAL WATER PIPE
26	VERIZON	502+18.2209	-12.4986	352.59	2.56	CORNER OF CONCRETE COMM VAULT
27	VERIZON	502+27.2991	-13.7030	352.76	2.50	CORNER OF CONCRETE COMM VAULT
28	VERIZON	502+31.8679	-17.0425	352.79	2.91	(2) 4" COMM CONDUITS (3) 4" COMM CONDUITS
29	ESNG	503+51.6070	-11.1384	356.62	5.13	12" METAL GAS PIPE (CASING)
30	VERIZON	503+50.2073	-7.9693	356.16	4.08	(8) 4" PLASTIC COMMUNICATION CONDUITS
31	ESNG	503+74.4840	-11.1090	357.59	5.10	12" METAL GAS PIPE CCASINGI
32	VERIZON	504+52.0348	-10.5129	361.12	2.56	2" COMMUNICATION CABLE
32A	ESNG	504+52.0348	-10.5129	361.12	4.25	10" METAL GAS PIPE
45	DELMARVA	504+12.8656	12.8275	359.05	2.76	6" ORANGE PLASTIC GAS PIPE
46	DELMARVA	503+21.8103	26.9797	356.13	3.40	6" METAL GAS PIPE
47	ARTESIAN	502+37.1853	-14.3387	353.08	5.17	12" BLACK METAL WATER PIPE

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ADDENDA / REVISIONS	

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

UTILITY RELOCATION PLAN

SECTION
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SHEET NO.
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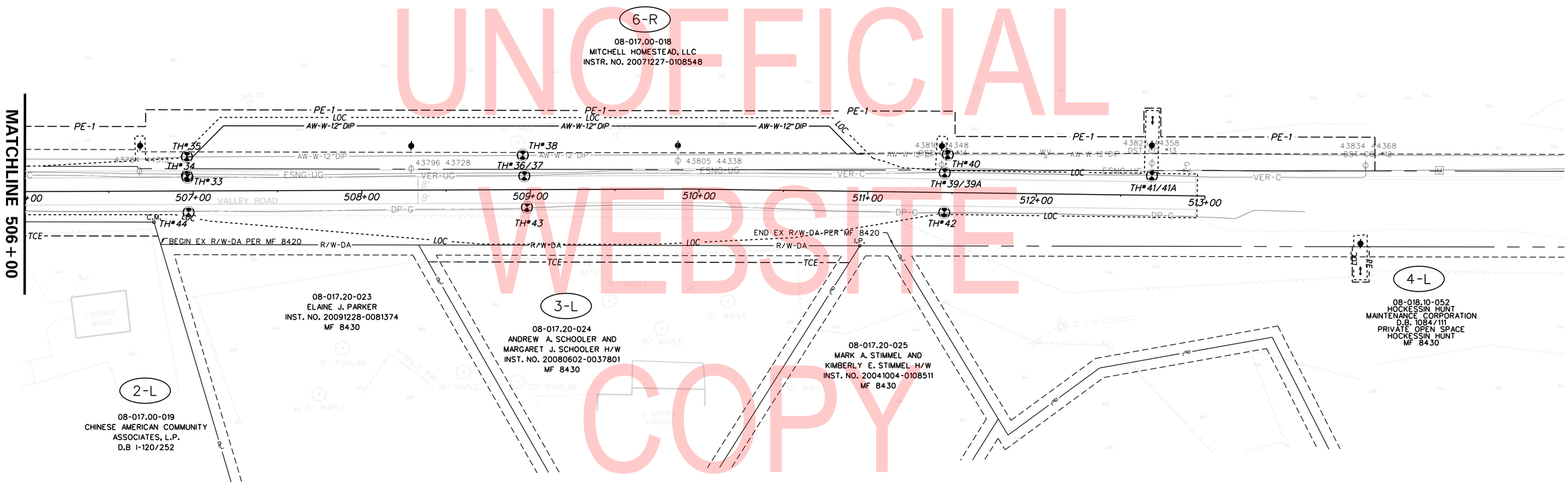
UTILITY TEST HOLE SCHEDULE

NO.	UTILITY	STATION	OFFSET	GRND. EL.	COVER	O.D. & MATERIAL
33	VERIZON	506+96.6403	-8.1056	359.50	2.50	2" COMMUNICATION CABLE
34	ESNG	506+96.3010	-9.0821	359.98	4.28	10" METAL GAS PIPE
35	ARTESIAN	506+96.3296	-20.3690	362.76	2.52	12" METAL WATER PIPE
36	VERIZON	508+96.4027	-8.1439	347.65	1.98	2" COMMUNICATION CABLE (DIRECT BURY)
37	ESNG	508+96.4027	-8.1439	347.65	2.92	10" METAL GAS PIPE
38	ARTESIAN	508+95.5090	-20.4978	358.79	3.64	12" METAL WATER PIPE
39	VERIZON	511+45.4830	-11.6213	328.74	2.59	2" COMMUNICATION CABLE
39A	ESNG	511+45.4830	-11.6213	328.74	3.68	10" METAL GAS PIPE
40	ARTESIAN	511+47.1883	-22.5261	330.64	3.58	12" METAL WATER PIPE
41	ESNG	512+68.3578	-11.5829	321.40	3.95	10" METAL GAS PIPE
41A	VERIZON	512+68.3578	-11.5829	321.40	2.91	2" COMMUNICATION CABLE
42	DELMARVA	511+45.5381	11.8834	328.82	4.70	6" ORANGE PLASTIC GAS PIPE
43	DELMARVA	508+97.8642	10.4554	347.59	4.20	6" ORANGE PLASTIC GAS PIPE
44	DELMARVA	506+97.2286	12.7593	359.47	3.40	6" ORANGE PLASTIC GAS PIPE



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ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

UTILITY RELOCATION PLAN

SECTION
PD
SHEET NO.
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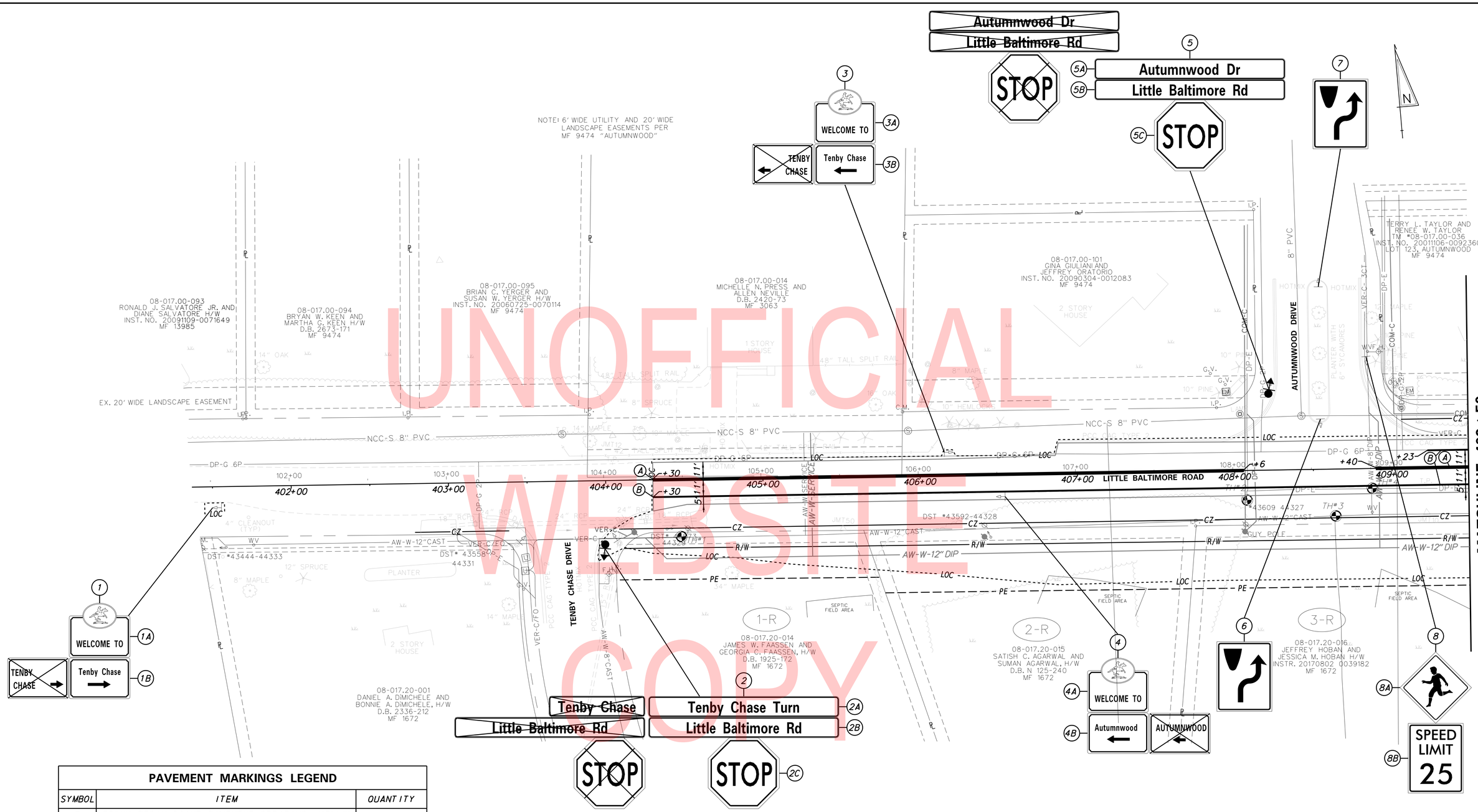

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PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	870 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	545 LF
C	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO. 1-614
T201404101	DESIGNED BY: DCK
COUNTY	
NEW CASTLE	CHECKED BY: JKL

SIGNING, STRIPING AND CONDUIT PLAN

SS-01
SECTION PD
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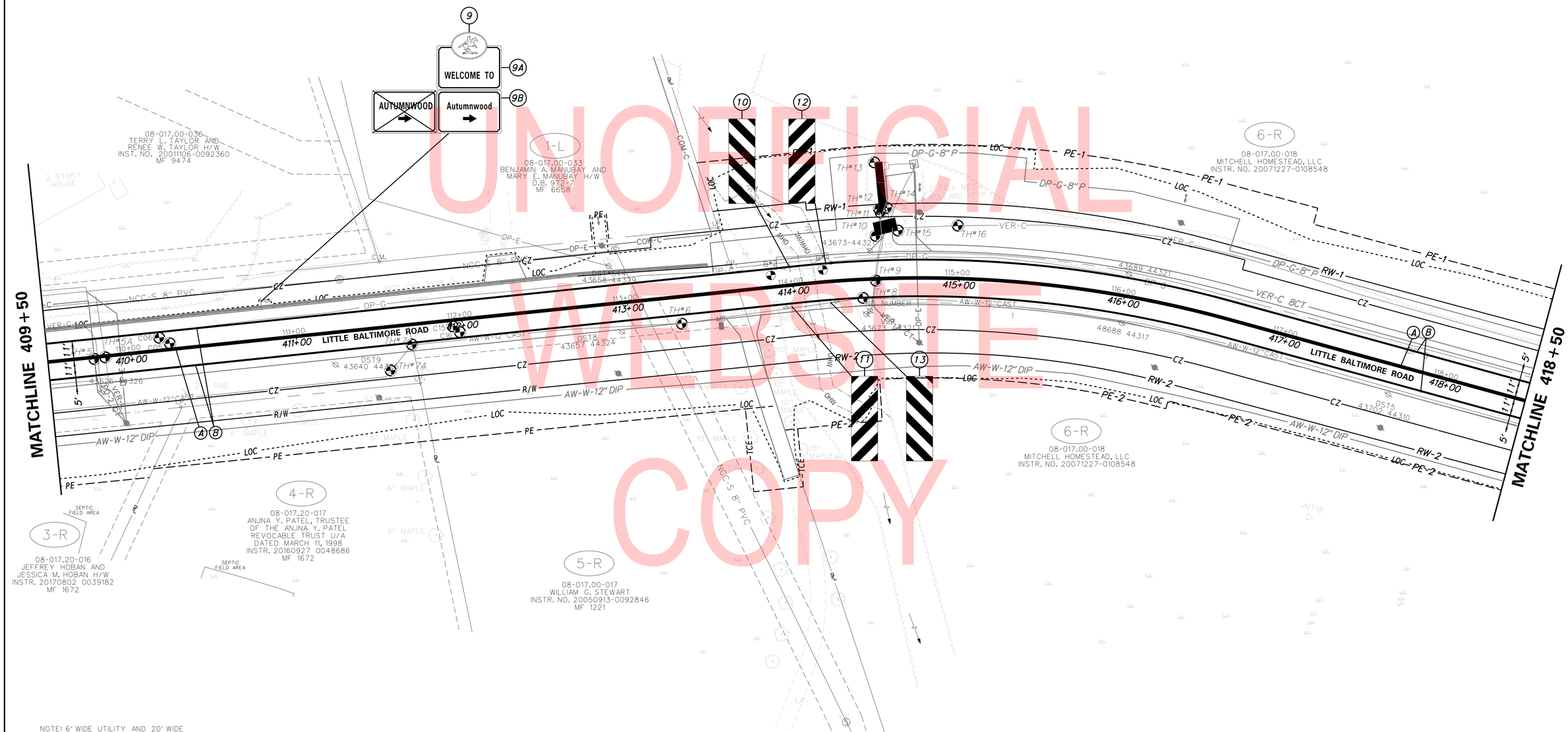
PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
(A)	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,798 LF
(B)	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,798 LF
(C)	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF



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ADDENDA / REVISIONS	

SCALE
0 30 60 90
FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

SIGNING, STRIPING AND CONDUIT PLAN

SS-02
SECTION
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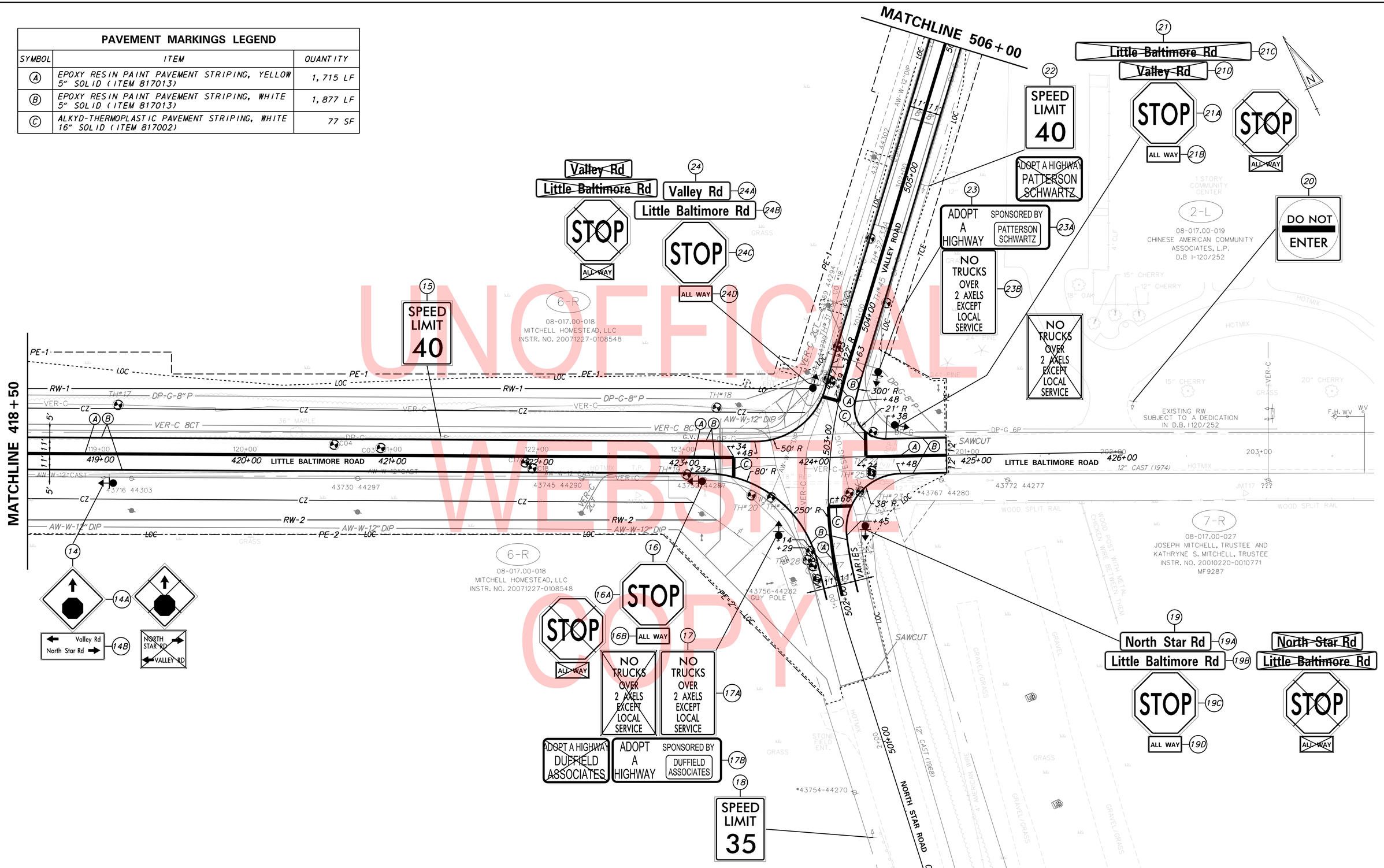
PAVEMENT MARKINGS LEGEND		
SYMBOL	ITEM	QUANTITY
A	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,715 LF
B	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,877 LF
C	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	77 SF



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ADDENDA / REVISIONS	

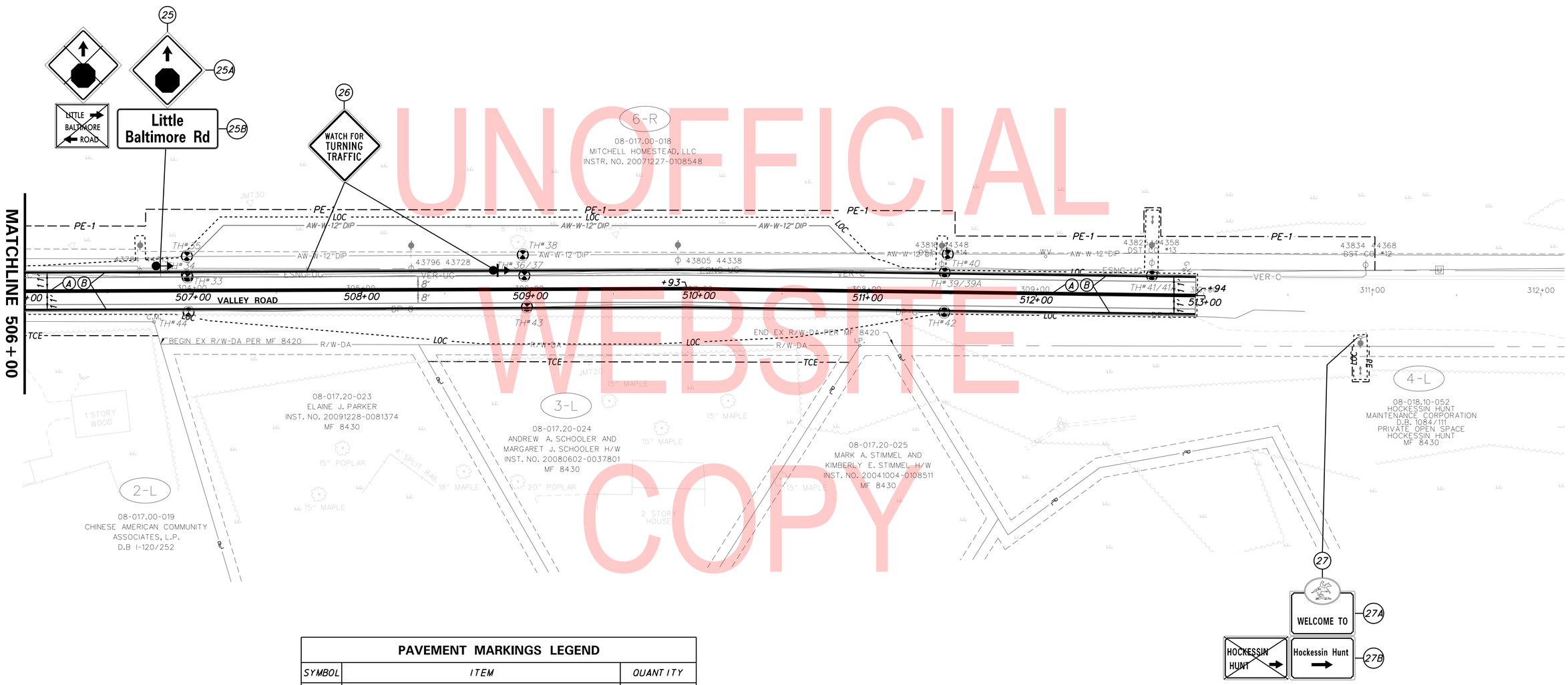
SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

SIGNING, STRIPING AND CONDUIT PLAN

SS-03
SECTION
PD
SHEET NO.
46



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PAVEMENT MARKINGS LEGEND

SYMBOL	ITEM	QUANTITY
Ⓐ	EPOXY RESIN PAINT PAVEMENT STRIPING, YELLOW 5" SOLID (ITEM 817013)	1,388 LF
Ⓑ	EPOXY RESIN PAINT PAVEMENT STRIPING, WHITE 5" SOLID (ITEM 817013)	1,388 LF
Ⓒ	ALKYD-THERMOPLASTIC PAVEMENT STRIPING, WHITE 16" SOLID (ITEM 817002)	0 SF

ADDENDA / REVISIONS

SCALE 0 30 60 90 FEET

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

SIGNING, STRIPING AND CONDUIT PLAN

SS-04
SECTION
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SHEET NO.
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PERMANENT SIGN SCHEDULE

SHEET NO.	PLAN IDENTIFIER	CODE	QTY.	DESCRIPTION	SIGN WIDTH (IN)	SIGN HEIGHT (IN)	SIGN AREA (SF)	ITEM 819018 SINGLE POST (EACH)			ITEM 819019 INSTALLATION OR REMOVAL OF TRAFFIC SIGN(S) ON MULTIPLE SIGN POSTS (SF)			POST INSTALLATION TYPE	Code X11 12' Post (W/ Basepost) (EACH)	ITEM 819016 4" HOLE, 0-6" (EACH)	ITEM 819017 4" HOLE, >6" (EACH)	REMARKS
								SIGN DISPOSITION	REMOVE	INSTALL	SIGN DISPOSITION	REMOVE	INSTALL					
SS_01	1-A	D3-2-DE1	1	WELCOME TO	36	32		REMAIN										
SS_01		D3-2-DE3	1	DEVELOPMENT NAME	36	32		REMOVE	1									
SS_01	1-B	D3-2-DE3	1	DEVELOPMENT NAME	36	32	8.0	RENEW		1								"Tenby Chase" (to right arrow)
SS_01		D3-1(12)	2	STREET NAME (1 Line)	36	8		REMOVE	2									
SS_01	2-A	D3-1(12)	2	STREET NAME (1 Line)	42	12	7.0	NEW		2								Tenby Chase Dr
SS_01		D3-1(12)	2	STREET NAME (1 Line)	36	8		REMOVE	2									
SS_01	2-B	D3-1(12)	2	STREET NAME (1 Line)	48	12	8.0	NEW		2								Little Baltimore Rd
SS_01	2-C	R1-1(36)	1	STOP	36	36	7.5	NEW		1				SOIL	1			
SS_01	3-A	D3-2-DE1	1	WELCOME TO	36	32		REMAIN										
SS_01		D3-2-DE3	1	DEVELOPMENT NAME	36	32		REMOVE	1									
SS_01	3-B	D3-2-DE3	1	DEVELOPMENT NAME	36	32	8.0	ADD TO ASSEMBLY		1								Tenby Chase (to left arrow)
SS_01	4-A	D3-2-DE1	1	WELCOME TO	36	32		REMAIN										
SS_01		D3-2-DE3	1	DEVELOPMENT NAME	36	32		REMOVE	1									
SS_01	4-B	D3-2-DE3	1	DEVELOPMENT NAME	36	32	8.0	ADD TO ASSEMBLY		1								Autumnwood (to left arrow)
SS_01	5-A	D3-1(12)	2	STREET NAME (1 Line)	42	12	7.0	NEW		2								Autumnwood Dr
SS_01		D3-1(12)	2	STREET NAME (1 Line)	36	8		REMOVE	2									
SS_01	5-B	D3-1(12)	2	STREET NAME (1 Line)	48	12	8.0	NEW		2								Little Baltimore Rd
SS_01		D3-1(12)	2	STREET NAME (1 Line)	36	8		REMOVE	2									
		R1-1(36)	1	STOP	36	36		REMOVE	1									
SS_01	5-C	R1-1(36)	1	STOP	36	36	7.5	RENEW		1				SOIL	1			
SS_01	6	R4-7(12)	1	KEEP RIGHT (Symbol) - 12x18	12	18		REMAIN										
SS_01	7	R4-7(12)	1	KEEP RIGHT (Symbol) - 12x18	12	18		REMAIN										
SS_01	8-A	W21-11-DE	1	WATCH CHILDREN (Symbol)	30	30		REMAIN										
SS_01	8-B	R2-1-25(24)	1	SPEED LIMIT (25 MPH - 24x30)	24	30		REMAIN										25-MPH
SS_02	9-A	D3-2-DE1	1	WELCOME TO	36	32		REMAIN										
SS_02		D3-2-DE2	1	DEVELOPMENT NAME	36	32		REMOVE	1									
SS_02	9-B	D3-2-DE2	1	DEVELOPMENT NAME	36	32	8.0	ADD TO ASSEMBLY		1								Autumnwood (to right arrow)
SS_02	10	OM3-L	1	TYPE 3 OBJECT MARKER	12	36		REMAIN										
SS_02	11	OM3-R	1	TYPE 3 OBJECT MARKER	12	36		REMAIN										
SS_02	12	OM3-R	1	TYPE 3 OBJECT MARKER	12	36		REMAIN										
SS_02	13	OM3-L	1	TYPE 3 OBJECT MARKER	12	36		REMAIN										
SS_03		W3-1(30)	1	STOP AHEAD (Symbol) - 30x30	30	30		REMOVE	1									
SS_03	14-A	W3-1(30)	1	STOP AHEAD (Symbol) - 30x30	36	36	6.3	NEW		1				SOIL	1			
SS_03		W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	18	36		REMOVE	1									(left arrow) Valley Rd
SS_03	14-B	W16-8aP	1	ADVANCE STREET NAME (2 - line plaque)	18	42	5.3	NEW		1								North Star Rd (right arrow)
SS_03	15	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24	30		REMAIN										40-MPH
SS_03		R1-1(36)	1	STOP	36	36		REMOVE	1									
SS_03	16-A	R1-1(36)	1	STOP	36	36	7.5	NEW		1				SOIL	1			
SS_03		R1-3P(18)	1	ALL WAY(plaque)	18	6		REMOVE	1									
SS_03	16-B	R1-3P(18)	1	ALL WAY(plaque)	18	6	0.8	NEW		1								
SS_03		R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24	36		REMOVE	1									
SS_03	17-A	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24	36	6.0	RENEW		1				SOIL	1			
SS_03		D14-3-DE	1	ADOPT A HIGHWAY	24	36		REMOVE	1									
SS_03	17-B	D14-3(42)	1	ACKNOWLEDGEMENT - 42x24	42	24	7.0	NEW		1								ADOPT A HIGHWAY SPONSORED BY "DUFFIELD ASSOCIATES"
SS_03	18	R2-1-35(24)	3	SPEED LIMIT (35 MPH - 24x30)	24	30		REMAIN										35-MPH
SS_03		D3-1(12)	2	STREET NAME (1 Line)	36	8		REMOVE	2									
SS_03	19-A	D3-1(12)	2	STREET NAME (1 Line)	42	12	7.0	NEW		2								North Star Rd
SS_03		D3-1(12)	2	STREET NAME (1 Line)	36	8		REMOVE	2									
SS_03	19-B	D3-1(12)	2	STREET NAME (1 Line)	48	12	8.0	NEW		2								Little Baltimore Rd
SS_03	19-C	R1-1(36)	1	STOP	36	36		REMOVE	1									
SS_03		R1-1(36)	1	STOP	36	36	9.0	NEW		1				SOIL	1			
SS_03	19-D	R1-3P(18)	1	ALL WAY(plaque)	18	6	0.8	NEW	1	1								
SS_03	20	R5-1(30)	1	DO NOT ENTER - 30x30	30	30		REMAIN										
SS_03		R1-1(36)	1	STOP	36	36		REMOVE	1									
SS_03	21-A	R1-1(36)	1	STOP	36	36	7.5	NEW		1				SOIL	1			
SS_03		R1-3P(18)	1	ALL WAY(plaque)	18	6		REMOVE	1									
SS_03	21-B	R1-3P(18)	1	ALL WAY(plaque)	18	6	0.8	NEW		1								
SS_03	21-C	D3-1(12)	1	STREET NAME (1 Line)	36	8		REMOVE	1									
SS_03	21-D	D3-1(12)	1	STREET NAME (1 Line)	36	8		REMOVE	1									
SS_03	22	R2-1-40(24)	1	SPEED LIMIT (40 MPH - 24x30)	24	30		REMAIN										
SS_03	23-A	D14-3(42)	1	ACKNOWLEDGEMENT - 42x24	42	24	7.0	NEW		1				SOIL	1			ADOPT A HIGHWAY SPONSORED BY "PATTERSON SCHWARTZ"
SS_03		R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24	36		REMOVE	1									
SS_03	23-B	R12-3-DE	1	NO TRUCKS OVER 2 AXLES EXCEPT LOCAL SERVICES	24	36	6.0	NEW		1								
SS_03	24-A	D3-1(12)	2	STREET NAME (1 Line)	36	12	6.0	NEW		2								Valley Rd
SS_03	24-B	D3-1(12)	2	STREET NAME (1 Line)	48	12	8.0	NEW		2								Little Baltimore Rd
SS_03		R1-1(36)	1	STOP	36	36		REMOVE	1									
SS_03	24-C	R1-1(36)	1	STOP	36	36	9.0	NEW		1				SOIL	1			
SS_03	24-D	R1-3P(18)	1	ALL WAY(plaque)	18	6	0.8	RENEW	1	1								
SS_04		W3-1(30)	1	STOP AHEAD (Symbol) - 30x30	30	30		REMOVE	1									
SS_04	25-A	W3-1(30)	1	STOP AHEAD (Symbol) - 30x30	36	36	6.3	NEW		1				SOIL	1			
SS_04		W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	12	36		REMOVE	1									
SS_04	25-B	W16-8P	1	ADVANCE STREET NAME (1 - line plaque)	18	30	3.8	NEW		1								Little Baltimore Rd (two lines)
SS_04	26	W21-9-DE(36)	1	WATCH FOR TURNING TRAFFIC - 36x36	36	36		REPOSITION	1	1				SOIL	1			
SS_04	27-A	D3-2-DE1	1	WELCOME TO	36	32		REMAIN										
SS_04		D3-2-DE3	1	DEVELOPMENT NAME	36	32		REMOVE	1									
SS_04	27-B	D3-2-DE3	1	DEVELOPMENT NAME	36	32	8.0	ADD TO ASSEMBLY		1								Hockessin Hunt (to right arrow)
PAGE TOTALS							95		17	21		0	0		6	0	0	

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ADDENDA / REVISIONS

NOT TO SCALE

LITTLE BALTIMORE ROAD DRAINAGE IMPROVEMENTS

CONTRACT	BRIDGE NO.	1-614
T201404101	DESIGNED BY:	DCK
COUNTY		
NEW CASTLE	CHECKED BY:	JKL

SIGNING, STRIPING AND CONDUIT PLAN

SECTION PD

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