

**ADDENDUM #1 – July 22, 2015**

**WEST VIRGINIA PARKWAYS AUTHORITY**

**PLANS SPECIFICATIONS AND CONTRACT DOCUMENTS  
FOR**

**CONTRACT NO: WL-1-15  
BARRIER C WATERLINE REPLACEMENT**

**KANAWHA COUNTY, WV**

**REPLACE THE FOLLOWING SHEETS:**

- **Sheet 3 General Notes and Quantities** - Revised note #19 with updated phone number
- **Sheet 4 Temporary Traffic Control** - Added table showing sign locations for a lane closure, and Revised note #6 (explanation of payment for traffic control devices).
- **Sheet 5 Miscellaneous Details** - Revised note #1 to include a flow rate requirement.
- **Sheet 6 Miscellaneous Details** - Added note #1 providing direction on bridge support hardware and fastener material.

**ADD THE FOLLOWING SHEETS AS AN APPENDIX TO THE SPECIFICATIONS FOR CLARIFICATION ON THE LOCATION OF TRAFFIC CONTROL DEVICES NEAR TOLL BARRIER "C":**

- **Add Sheets 89-94.**

WEST VIRGINIA PARKWAYS AUTHORITY



Gregory C. Barr  
General Manager

Fiscal Year	County	Sheet No.	Total Sheets
2015	KANAWHA	3	14

**GENERAL**

THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, ADOPTED 2010 AND THE LATEST WEST VIRGINIA DEPARTMENT OF TRANSPORTATION SUPPLEMENTAL SPECIFICATIONS, THE CONTRACT DOCUMENTS, THE CONTRACT PLANS, AND THE SPECIAL PROVISIONS ARE THE GOVERNING PROVISIONS APPLICABLE TO THIS PROJECT. STANDARD DETAIL BOOK VOLUME 1 DATED JANUARY 1, 2000 AND VOLUME 2 DATED JANUARY 1, 1994 AND CURRENT REVISED DETAILS SHALL APPLY TO THIS PROJECT.

**WASTE MATERIAL**

ALL MATERIAL REMOVED AND NOT REUSED IN THE CONSTRUCTION OF THIS PROJECT SHALL BE REMOVED FROM THE PROJECT AND DISPOSED OF BY THE CONTRACTOR.

**CONSTRUCTION SCHEDULE**

ALL WORK UNDER THIS CONTRACT SHALL BE COMPLETED BY NOVEMBER 30, 2015.

**CONTRACTOR PERSONNEL**

THE AUTHORITY SHALL BE FURNISHED WITH THE NAMES AND 24-HOUR PHONE NUMBERS OF THE CONTRACTOR'S PERSONNEL AUTHORIZED TO IMMEDIATELY ELIMINATE HAZARDS RESULTING FROM THE OPERATIONS OF THE CONTRACTOR.

**EROSION AND SEDIMENT CONTROL**

DISTURBED AREAS SHALL BE SEEDED AND MULCHED IN A TIMELY MANNER AFTER GRADING IS COMPLETE.

**PERMITS**

THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS FOR CONSTRUCTION OF THIS PROJECT INCLUDING BUT NOT LIMITED TO ANY REQUIRED PERMIT FROM THE WV BUREAU OF PUBLIC HEALTH TO ESTABLISH A WATER SERVICE LINE.

THE CONTRACTOR SHALL COORDINATE WITH WEST VIRGINIA AMERICAN WATER REGARDING THE REQUIREMENTS FOR A TAP CONNECTION. THE CONTRACTOR SHALL ALSO SCHEDULE REQUIRED CONNECTION SERVICE BY WEST VIRGINIA AMERICAN WATER.

ALL COSTS FOR FILING AND OBTAINING PERMITS AND ALL TAP FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. NO ADDITIONAL PAYMENT WILL BE MADE.

**CONSTRUCTION NOTES**

1. THE CONTRACTOR SHALL EXPOSE THE EXISTING WATERLINES AT TAP AND CONNECTION LOCATIONS TO VERIFY LOCATION, DEPTH AND SIZE BEFORE STARTING CONSTRUCTION.
2. ANY EXISTING WATERLINES WHICH ARE TO BE ABANDONED WILL BE ABANDONED BY WV TURNPIKE PERSONNEL.
3. UNLESS OTHERWISE NOTED ON THE WATERLINE RELOCATION PROFILE, ALL WATERLINES SHALL HAVE A MINIMUM COVER OF 36 INCHES.
4. THE WATERLINE SHALL BE SUBJECTED TO A HYDROSTATIC TEST WITH THE TEST PRESSURE AS REQUIRED BY THE UTILITY PROVIDER AND THE APPLICABLE BUILDING CODES. COORDINATE FINAL TESTING WITH WV TURNPIKE AFTER WATERLINE INSTALLATION IS COMPLETE.
5. ALL WATERLINE RELOCATION WORK SHALL BE STAGED TO AVOID WATER SERVICE DISRUPTIONS.
6. WATERLINE PIPE ON THIS PROJECT SHALL BE DUCTILE IRON, CLASS 350. ALL FITTINGS SHALL BE MECHANICAL JOINT DUCTILE IRON WITH PRESSURE RATING OF 350 PSI OR GREATER, UNLESS OTHERWISE NOTED.
7. THE COST OF BORING THROUGH THE TUNNEL WALL, CONNECTING THE 4" DI TO 2" COPPER PIPE WITHIN THE TUNNEL AND SEALING AROUND THE WALL OPENING, SHALL BE INCLUDED IN THE UNIT BID PRICE FOR DUCTILE IRON PIPE. NO ADDITIONAL PAYMENT WILL BE MADE.
8. THE WATERLINE SHALL BE DISINFECTED BY THE CONTRACTOR AFTER SUCCESSFUL COMPLETION OF THE PRESSURE TEST AS DESCRIBED IN THE WVDOT STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES.
9. PAYMENT FOR BOOSTER PUMP, VAULT, 2" BYPASS, AND ALL VALVES AND FITTINGS WITHIN THE VAULT IS INCIDENTAL TO ITEM 670004. NO ADDITIONAL PAYMENT WILL BE MADE.
10. WATER LINE ABOVE GROUND (ON BRIDGE) SHALL BE INSULATED TO PREVENT FREEZING. TRICON SUB-ZERO INSULATED PIPING PRODUCTS OR AN APPROVED EQUAL SHALL BE USED. THE COST OF INSULATION AND BRIDGE ATTACHMENT HARDWARE IS INCIDENTAL TO ITEM 670004. NO ADDITIONAL PAYMENT WILL BE MADE. ALL INSULATION AND ATTACHMENT HARDWARE AND METHOD OF ATTACHMENT MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
11. VALVE LOCATION DELINEATORS WILL BE INSTALLED BY PARKWAYS AUTHORITY PERSONNEL UPON COMPLETION OF THE WATERLINE CONSTRUCTION.
12. THE PROPOSED YARD HYDRANT SHALL BE WOODFORD Y1 FREEZELESS YARD HYDRANT OR APPROVED EQUAL.
13. THE 1" YARD HYDRANT BRANCH PIPE SHALL BE EQUIPPED WITH AN ABOVE GROUND 1" REDUCED PRESSURE BACKFLOW ASSEMBLY, MEETING ASSE 1013 SPECIFICATIONS.
14. PAYMENT FOR THE YARD HYDRANT, 1" BACKFLOW PREVENTOR AND 1" GATE VALVE IS INCLUDED IN ITEM 670020.
15. AIR RELEASE VALVES SHALL BE 1" COMBINATION TYPE SINGLE BODY VALVES WITH STAINLESS STEEL FLOATS AND CAST IRON HOUSINGS, AND SHALL BE HOUSED IN VALVE BOXES. VALVES SHALL BE VALVEMATIC MODEL 201C.2 OR APPROVED EQUAL. 1" BRANCH LINE SHALL BE CONNECTED TO THE 4" SERVICE LINE WITH A TEE CONNECTION, AND SHALL HAVE A SHUTOFF VALVE PRIOR TO THE AIR RELEASE VALVE. PAYMENT FOR AIR RELEASE VALVES, VALVE BOXES, TEE FITTINGS FOR VALVES AND ASSOCIATED SHUT OFF VALVE AND 1" PIPE IS INCLUDED IN ITEM 670019.

16. VALVE BOXES SHALL BE 18" DIAMETER PRECAST CONCRETE PIPE SECTIONS OR APPROVED PRECAST VALVE BOX. VALVE BOXES SHALL HAVE CAST IRON METER BOX COVERS, OR APPROVED EQUAL, WITH A WATERTIGHT CONNECTION TO THE VALVE BOX.
17. THE CONTRACTOR IS RESPONSIBLE FOR IDENTIFYING ALL EXISTING UTILITIES AND DRAINAGE STRUCTURES IN THE AREA PRIOR TO CONSTRUCTION. ANY DAMAGE AND ASSOCIATED REPAIRS CAUSED BY CONSTRUCTION SHALL BE AT THE CONTRACTORS COST. THE WV TURNPIKE HAS UTILITIES IN THE AREA IN ADDITION TO OTHER UTILITY PROVIDERS.
18. THE CONTRACTOR SHALL STAKE THE PROPOSED LOCATION OF THE WATERLINE IN THE FIELD FOR APPROVAL BY THE ENGINEER PRIOR TO CONSTRUCTION.
19. THE CONTRACTOR SHALL CONTACT RICHARD PATTERSON WITH THE WEST VIRGINIA PARKWAYS AUTHORITY FOR COORDINATION AND MATERIAL SUBMITTALS AT PHONE NUMBERS (304)-256-6680 or (304)-254-3931.

SUMMARY OF QUANTITIES				
ITEM	ALT/PRIN	DESCRIPTION	UNITS	QUANTITY
204001-000		Mobilization	LS	1
636011-001		Traffic Control Device	UNIT	10,310
636012-010		Project Traffic Control Device Cleaning	EA	1
636013-001		Individual Traffic Control Device Cleaning	EA	60
636014-001		Flagger	HR	480
636014-002		Traffic Director	HR	240
636021-001		Electric Arrow	DAY	20
636022-001		Changeable Message Sign	DAY	20
636025-001		Warning Lights, Type B	DAY	2,960
636028-001		Shadow Vehicle	DAY	74
636030-001		Speed Monitoring Trailer	DAY	74
639001-001		Construction Layout Stake	LS	1
670004-182		4 Inch Ductile Iron Pipe, Type II, Class 350	LF	4,400
670019-120		4 Inch Special Valve, Air Release Valve with Valve Box	EA	4
670009-180		4 Inch Gate Valve and Valve Box	EA	1
670020-001		Special Structure, Yard Hydrant	EA	1

**LEGEND**

- ARV AIR RELEASE VALVE
- DI DUCTILE IRON PIPE
- GV GATE VALVE
- VB VALVE BOX
- MH MANHOLE
- MJ MECHANICAL JOINT
- WM WATER METER
- YH YARD HYDRANT
- ASSE AMERICAN SOCIETY OF SAFETY ENGINEERS
- AE AERIAL EASEMENT

**HNTB** HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT WL-1-15

**GENERAL NOTES & QUANTITIES**

1	3	REVISED NOTE 19	7/22/15	BMK
REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Wednesday, July 22, 2015

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Wednesday, July 22, 2015

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**TEMPORARY TRAFFIC CONTROL NOTES**

1. MAINTENANCE OF TRAFFIC SHALL BE IN ACCORDANCE WITH SECTION 636 OF THE WEST VIRGINIA DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD SPECIFICATIONS FOR ROADS AND BRIDGES, ADOPTED 2010 AND THE LATEST SUPPLEMENTAL SPECIFICATIONS, AND THE LATEST EDITION OF THE "MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS".

2. REFLECTIVE SHEETING FOR THE TEMPORARY TRAFFIC CONTROL DEVICES SHALL BE OF NEW CONDITION AT THE BEGINNING OF THE PROJECT. THIS IS TO ENSURE THAT NIGHT VISIBILITY AND LEGIBILITY ARE MAINTAINED.

3. THE CONTRACTOR SHALL COORDINATE HIS TRAFFIC CONTROL WITH ADJACENT CONSTRUCTION PROJECTS TO ENSURE THAT HIS LANE CLOSURES DO NOT CONFLICT WITH LANE CLOSURES ON ADJACENT PROJECTS.

4. DURING PERIODS OF INCLEMENT WEATHER, NO WORK OPERATIONS SHALL BE PERFORMED ON THIS PROJECT, UNLESS APPROVED BY THE ENGINEER.

5. WHENEVER THE CONTRACTOR'S OPERATIONS ENDANGER OR INTERFERE WITH VEHICULAR TRAFFIC, AS DETERMINED BY THE ENGINEER, THE CONTRACTOR SHALL FURNISH ALL ADDITIONAL TRAFFIC CONTROL DEVICES NECESSARY TO DIRECT TRAFFIC AND PROTECT HIS WORKMEN AT NO EXTRA COST TO THE AUTHORITY.

6. PAYMENT FOR TRAFFIC CONTROL DEVICE UNITS SHALL BE MADE ONLY ONCE. MOVEMENT OF TRAFFIC CONTROL DEVICES FOR THE CLOSINGS SHALL BE SHOWN AS A CONTINUOUS OPERATION AS DESCRIBED IN SECTION 636.23.6.

PAYMENT:  
 QUANTITIES HAVE BEEN PROVIDED FOR ONE LANE CLOSURE FOR THE NORTHBOUND RIGHT LANE FOR THE LENGTH OF THE PROJECT TO ALLOW WATERLINE CONSTRUCTION BETWEEN THE BRIDGES ON THE NORTH END OF THE PROJECT. QUANTITIES HAVE ALSO BEEN PROVIDED FOR A SHOULDER CLOSURE FOR THE REMAINDER OF THE PROJECT.

7. ELECTRIC ARROWS ARE MANDATORY ON TRANSITIONS AND SHALL HAVE A MINIMUM OF 1000 FEET SIGHT DISTANCE. UNLESS OTHERWISE NOTED, TRANSITION TAPERS SHALL BE 1000 FEET LONG.

8. FROM BEGINNING TO END OF TRAFFIC DISRUPTION, THE CONTRACTOR SHALL FURNISH, OPERATE, MAINTAIN AND MOVE ONE CHANGEABLE MESSAGE SIGN. THE CONTRACTOR SHALL COORDINATE THE PLACEMENT AND WORDING OF CHANGEABLE MESSAGE SIGNS WITH THE ENGINEER.

**9. WORK AREAS EXCEEDING ONE DAYLIGHT OPERATION:**

WORK ZONE SPEED LIMIT SIGNS (R2-1 MODIFIED) WITH THE MESSAGE "WORK ZONE, SPEED LIMIT 50, WHEN FLASHING" (POSTED SPEED LIMIT 60MPH) OR "WORK ZONE, SPEED LIMIT 55, WHEN FLASHING" (POSTED SPEED LIMIT 70MPH) SHALL BE INSTALLED 500' IN ADVANCE OF THE 1500 FT CONSTRUCTION SIGN. ANOTHER SIGN SHALL BE INSTALLED 500' AFTER THE BEGINNING OF THE FULL CLOSURE OR LANE SHIFT AND ONE EVERY ONE HALF MILE FOR THE FULL LENGTH OF THE CLOSURE OR LANE SHIFT. ALL EXISTING SPEED LIMIT SIGNS WITHIN THE WORK ZONE SHALL BE COVERED. ALL WORK ZONE SPEED LIMIT SIGNS WITHIN THE WORKZONE SHALL BE MOUNTED ON THE RIGHT SIDE OF THE OPEN LANE OR BOTH SIDES IF THERE IS A LANE SHIFT. EACH SIGN SHALL HAVE TWO(2) TYPE B FLASHING LIGHTS.

THESE SIGNS SHALL BE ACTIVE WHEN ONE OF THE FOLLOWING CONDITIONS CONTINUOUSLY EXIST:

- (A) A TRAVEL LANE IS CLOSED, OR
- (B) A TRAVEL LANE WIDTH IS PHYSICALLY REDUCED (EXAMPLE: WHEN DRUMS, CONES OR BARRICADES, OR TEMPORARY CONCRETE BARRIER IS LESS THAN 2 FT FROM THE TRAVELWAY), OR
- (C) THERE IS A DETOUR OF A TRAVEL LANE (EXAMPLE: LANESHIFT, Crossover).

WORK ZONE SPEED LIMIT SIGNS SHALL BE MADE EFFECTIVE WHEN ONE OF THE THREE ABOVE CONDITIONS EXIST AND THE FLASHERS ATTACHED ARE ACTIVATED.

MOVING AND MOBILE OPERATIONS SHALL BE ELIGIBLE FOR WORK ZONE SPEED LIMITS. EXAMPLE: (CENTER LINE PAINTING) IF THE SIGN AND FLASHERS ARE MOUNTED ON A TRUCK THAT MOVES AT THE SAME SPEED AS THE MOBILE OPERATION.

**WORK AREAS NOT EXCEEDING ONE DAYLIGHT OPERATION:**

THE ABOVE SHALL APPLY WITH THE EXCEPTION THAT FLASHING LIGHTS ARE NOT REQUIRED AND THE MESSAGE SHALL BE "WORK ZONE, SPEED LIMIT 50" (POSTED SPEED LIMIT 60 MPH) OR "WORK ZONE, SPEED LIMIT 55" (POSTED SPEED LIMIT 70 MPH). ALL SIGNS MUST BE REMOVED OR COVERED DURING NON-WORKING DAYLIGHT HOURS OR AT THE END OF THE DAYLIGHT OPERATION.

10. DRUMS SHALL BE SPACED AT 50' CENTERS MAXIMUM. DRUM SPACING ON TAPERS SHALL BE PER THE WVDOH MANUAL ON TEMPORARY TRAFFIC CONTROL.

**11. ALL LANES SHALL BE OPEN TO TRAFFIC ON THE FOLLOWING DAYS:**

- A. ALL SATURDAYS AND SUNDAYS;
- B. ALL FRIDAYS DURING THE MONTHS OF JUNE, JULY AND AUGUST;
- C. WITHOUT EXCEPTION, ALL HOLIDAYS AND OTHER ADDITIONAL DAY RESTRICTIONS LISTED IN SECTION 636 - TRAFFIC RESTRICTIONS FOR HOLIDAYS IN THE CONTRACT SPECIAL PROVISIONS.

12. AN ITEM 636028-001, SHADOW VEHICLE, IS REQUIRED DURING ALL LANE AND SHOULDER CLOSURES.

13. ONLY FLAGGERS USED TO DIRECT OR CONTROL TRAFFIC THROUGH THE WORK AREA HAVE BEEN INCLUDED IN THIS PROJECT. FLAGGERS USED FOR THE CONVENIENCE OF THE CONTRACTOR DURING HIS CONSTRUCTION OPERATIONS SHALL BE AT HIS OWN EXPENSE.

- A. ALL FLAGGERS MUST HAVE A CURRENT AND VALID CERTIFICATION BY AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA) AT THE TIME OF WORK.
- B. TWO (2) FLAGGERS SHALL BE PROVIDED AT EACH END OF THE AREAS WHERE TRAFFIC IS BEING DELAYED OR STOPPED. ONE FLAGGER IS TO BE POSITIONED IN ACCORDANCE WITH THE MANUAL ON TEMPORARY TRAFFIC CONTROL FOR STREETS AND HIGHWAYS, WHILE THE OTHER IS TO CONTINUALLY MOVE WITH THE STOPPING TRAFFIC.
- C. IN ACCORDANCE WITH TITLE 23 CFR ALL WORKERS AT CONSTRUCTION SITES SHALL WEAR HIGH-VISIBILITY SAFETY APPAREL THAT MEETS THE PERFORMANCE CLASS 3 REQUIREMENTS OF THE ANSI/ISEA 107-2004 OR "EQUIVALENT REVISIONS" OF PUBLICATION ENTITLED "AMERICAN NATIONAL STANDARD FOR HIGH-VISIBILITY SAFETY APPAREL AND HEADWEAR." THIS APPAREL MAY BE IN THE FORM OF A SAFETY VEST, JACKET, COVERALLS, OR T-SHIRT AND THE APPROVED COLORS ARE CHARTREUSE (LIME-GREEN) OUTER MATERIAL WITH SILVER OR WHITE RETRO-REFLECTIVE STRIPING.
- D. LOCATIONS WHERE FLAGGERS ARE LOCATED SHALL BE ILLUMINATED IN SUCH A MANNER THAT THE FLAGGERS ARE VISIBLE AT ALL TIMES TO MOTORISTS.

14. WHEN COVERING EXISTING SIGNS, THE CONTRACTOR HAS THE OPTION OF USING:

- A. HEAVY DUTY BLACK OVERLAY (PLASTIC OR BURLAP TYPE)
- B. THIN WOOD OVERLAY (E.G. PLYWOOD)
- C. TAKING SIGN DOWN AND REINSTALLING WHEN APPROPRIATE.

ANY DAMAGES SHALL BE REPAIRED/REPLACED TO ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE. ALL ABOVE OPERATIONS BID INCIDENTAL TO ITEM 636011-001.

15. IN ADDITION TO THE ADVANCED WARNING SIGNS INDICATED BY THE VARIOUS TRAFFIC CONTROL CASES, THE FOLLOWING SIGNS ARE REQUIRED:

- A. ADD ONE (1) "STATE LAW-MAXIMUM FINES DOUBLED IN WORK AREA" SIGN. SEE SECTION 636.9 OF THE WVDOH SPECIFICATIONS FOR DETAILS AND LOCATION.
- B. ADD TWO (2) "ROAD WORK AHEAD" SIGNS WITH TYPE B LIGHTS. TWO SIGNS ARE REQUIRED WITH ONE SIGN INSTALLED ON EACH SIDE OF THE ROADWAY.
- C. ADD ONE "RIGHT OR LEFT LANE ENDS" SIGN 500' PRIOR TO THE START OF THE LANE CLOSURE TAPER.

THE "STATE LAW - MAXIMUM FINES DOUBLED IN WORK AREA" SIGNS SHALL BE MOUNTED ON PERMANENT POSTS AND SHALL REMAIN IN PLACE AND UNCOVERED AT ALL TIMES. THE TWO (2) "ROAD WORK AHEAD" SIGNS SHALL BE COVERED OR REMOVED WHEN WORK IS NOT IN PROGRESS.

16. WHEN WORK IS IN PROGRESS, A TRAFFIC DIRECTOR IS REQUIRED.

17. THE CONTRACTOR OR TRAFFIC CONTROL SUB-CONTRACTOR SHALL NOTIFY PARKWAY CONTROL AT (304) 926-1900 OR (304) 926-1908 IMMEDIATELY WHEN A TRAFFIC CLOSURE HAS BEEN SETUP OR REMOVED. PARKWAY CONTROL SHOULD ALSO BE NOTIFIED OF ANY CHANGES TO AN EXISTING CLOSURE.

18. GRABBER CONES MAY BE SUBSTITUTED FOR DRUMS. PAYMENT WILL BE MADE AT 40 UNITS EACH.

19. ALL CONES MUST BE 36" HIGH OR GREATER. CONES ARE NOT PERMITTED FOR MULTI-DAY OPERATIONS.

20. CONTRACTOR SHALL PROVIDE ONE SPEED MONITORING TRAILER IN ADVANCE OF THE ACTIVE WORK AREA. EXACT PLACEMENT SHALL BE AS DIRECTED BY THE ENGINEER.

**TRAFFIC OPERATIONS**

DAYTIME LANE CLOSURES ARE NOT PERMITTED. THE CONTRACTOR SHALL REMOVE ALL ITEMS RESTRICTING THE FREE FLOW OF TRAFFIC IN ALL LANES BY 6:00 AM EACH MORNING, AND IS PERMITTED TO SET A LANE CLOSURE AT 6 PM. THE CONTRACTOR SHALL MAINTAIN TWO LANES OPEN TO TRAFFIC FROM 6 AM TO 6 PM. WORK REQUIRING ONLY A SHOULDER CLOSURE MAY BE PERFORMED DURING DAYLIGHT HOURS.

TRAFFIC CONTROL DEVICES QUANTITIES				
DEVICE	DESCRIPTION	VALUE IN UNITS	EACH	UNITS
1	Signs on permanent mounts and barricades 16 S.F. or greater	180	14	2,520
2	Signs on permanent mounts and barricades less than 16 S.F. (End Rd. Work)	90	2	180
3	Signs on permanent posts (fines doubled signs) MOT Note #15	300	2	600
4	Signs on permanent posts (GEAB sign)	300	2	600
5	Signs on permanent posts (SPEED LIMIT signs) MOT Note #9	300	4	1,200
6	Signs on permanent posts (PVMT ELEV signs) MOT Note	300	0	0
7	Barricades - Type I	35	0	0
8	Barricades - Type II	60	0	0
9	Barricades - Type III	90	1	90
10	Drums / Grabber Cones	40	128	5,120
11	Cones	5	0	0
12	Vertical panels or ground mounted delimiters	10	0	0
13	Barrier or guardrail mounted delineators (to be bid incidental to the cost of the barrier or guardrail)	0	0	0
TOTAL ITEM 636011-001				10,310

MAINTENANCE OF TRAFFIC SUMMARY				
ITEM	DESCRIPTION	UNIT	QUANTITY	REMARKS
636011-001	Traffic Control Device	UNIT	10,310	
636012-010	Project Traffic Control Device Cleaning	EA	1	
636013-001	Individual Traffic Control Device Cleaning	EA	60	
636014-001	Flagger	HR	480	
636014-002	Traffic Director	HR	240	
636021-001	Electric Arrow	DAY	20	
636022-001	Changeable Message Sign	DAY	20	
636025-001	Warning Lights, Type B	DAY	2,960	
636028-001	Shadow Vehicle	DAY	74	
636030-001	Speed Monitoring Trailer	DAY	74	

LANE CLOSURE SIGN LOCATIONS	
LOCATION *	FEATURE
1755+00	"ROAD WORK AHEAD 1 MILE" SIGNS
1781+00	"RIGHT LANE CLOSED 1 / 2 MILE" SIGNS
1792+00	"RIGHT LANE CLOSED 1500 FT" SIGNS
1797+00	RIGHT LANE CLOSED TRANSITION SYMBOL SIGNS
1802+00	"RIGHT LANE ENDS" SIGN
1807+75	BARRIER "C" TOLL PLAZA
1813+00	ELECTRIC ARROW BOARD/BEGIN TAPER
1823+00	END TAPER

\* 1-77 STATIONING

**HNTB** HNTB CORPORATION  
 ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
 CONTRACT WL-1-15  
**TEMPORARY TRAFFIC CONTROL**

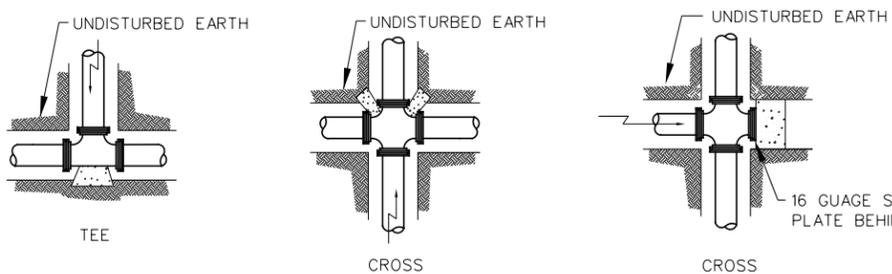
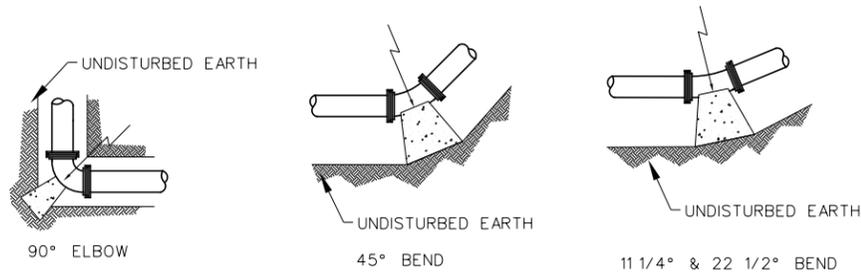
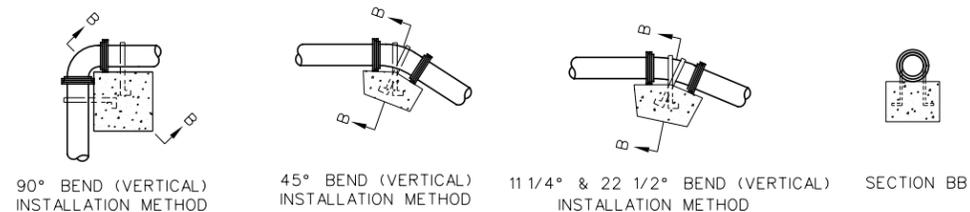
1	4	REVISED NOTE 6/ADDED TABLE	7/22/15	BMK
REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Friday, July 24, 2015

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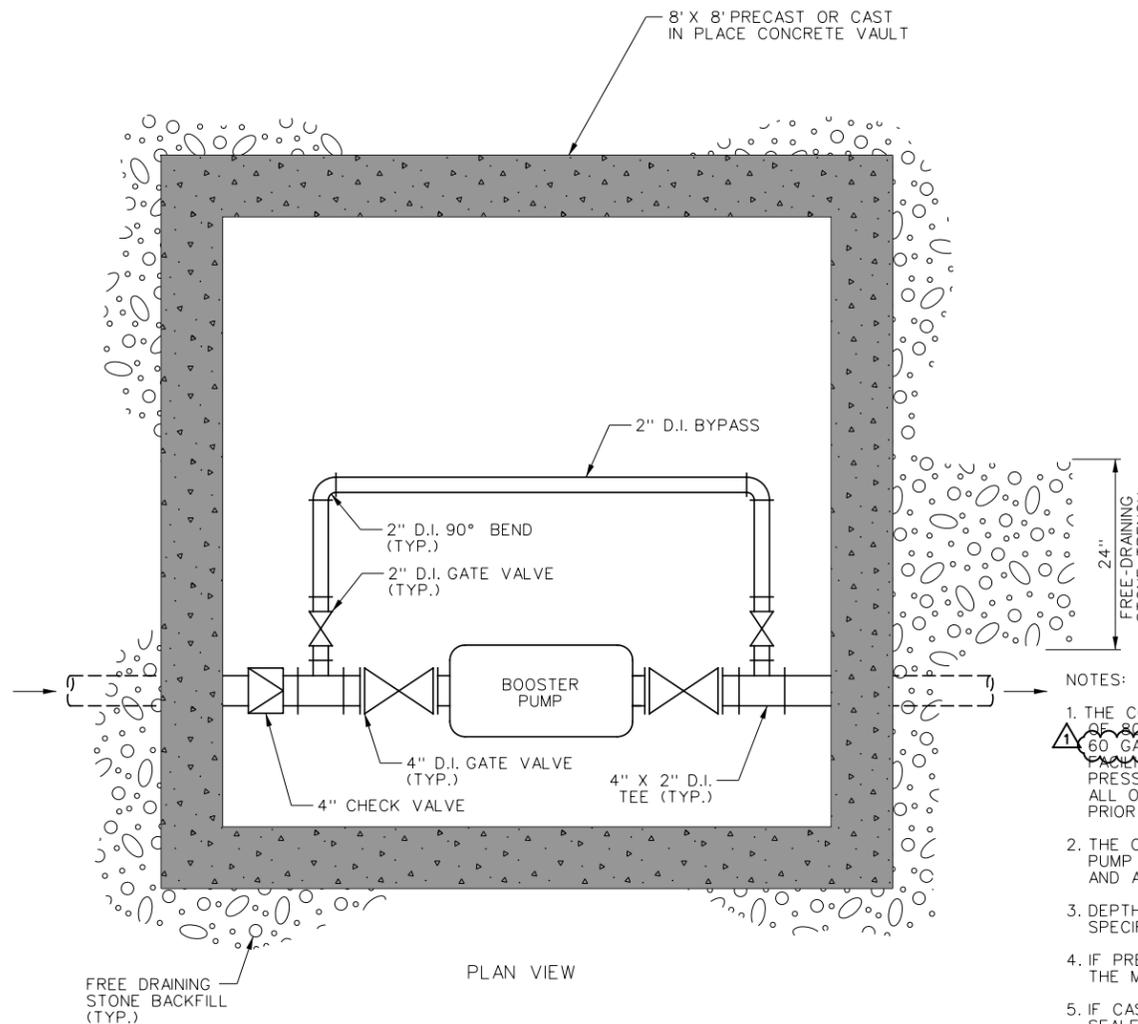
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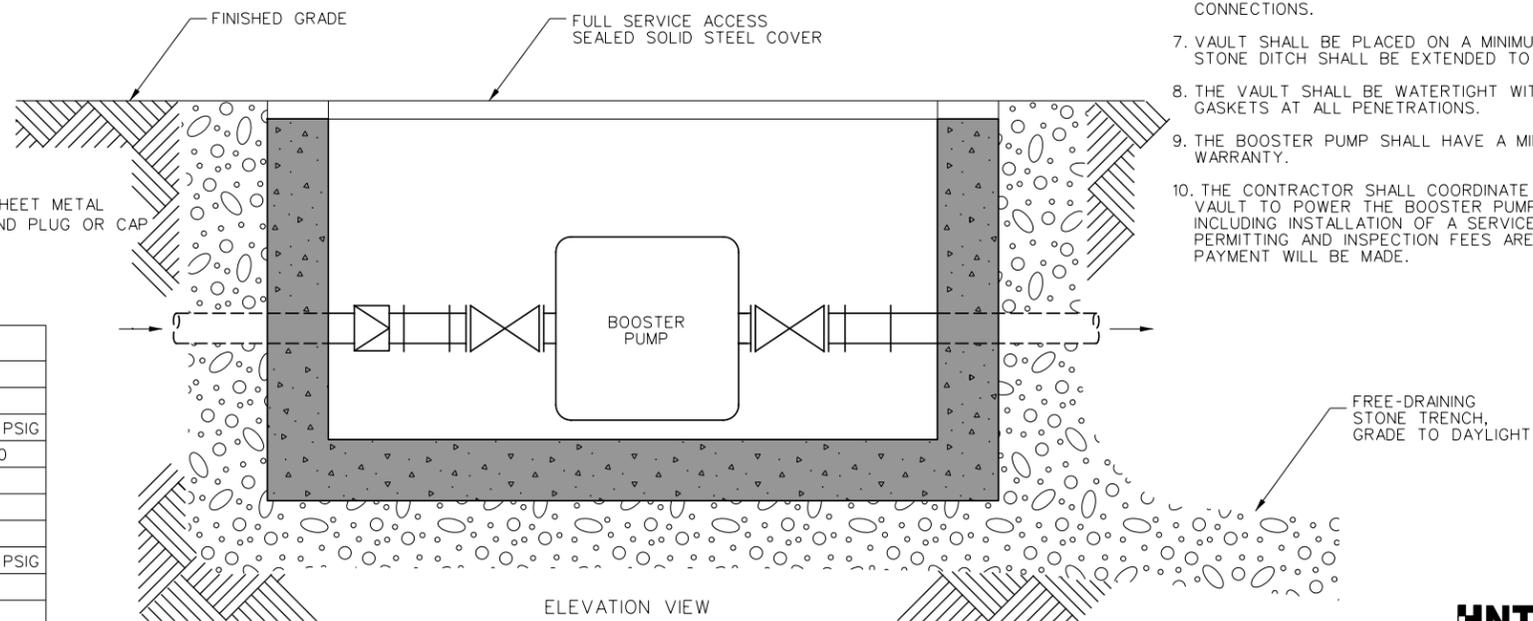
S.F. OF UNDISTURBED SOIL BEARING AREA REQUIRED IF S <sub>a</sub> = 2000 P.S.I.									
PIPE SIZE INCHES	DESIGN PRESSURE (MAXIMUM OPERATING + TEST)								
	11 1/4°			22 1/2°			45°		
	100 PSIG	150 PSIG	200 PSIG	100 PSIG	150 PSIG	200 PSIG	100 PSIG	150 PSIG	200 PSIG
4	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	90°			TEE			DEAD END		
	100 PSIG	150 PSIG	200 PSIG	100 PSIG	150 PSIG	200 PSIG	100 PSIG	150 PSIG	200 PSIG
4	1.0	1.4	1.8	1	1	1	1	1	2

PIPE FITTING RESTRAINTS  
(COSTS INCIDENTAL TO ITEM 670004)



NOTES:

1. THE CONTRACTOR SHALL SIZE THE BOOSTER PUMP SO THAT A MINIMUM OF 80 PSI WORKING PRESSURE IS ACHIEVED WITH A FLOW RATE OF 60 GALLONS PER MINUTE AT THE POINT OF CONNECTION TO THE TOLL PLAZA. THE SUPPLIER MUST PROVIDE CERTIFICATION THAT THE PUMP PRESSURE MEETS THE PRESSURE REQUIREMENTS, THE PUMP, VAULT, AND ALL OTHER ASSOCIATED FEATURES MUST BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION.
2. THE CONTRACTOR SHALL SUPPLY AND INSTALL AN AMPERAGE DETECTION PUMP PROTECTION SYSTEM, AS RECOMMENDED BY THE PUMP MANUFACTURER AND AS APPROVED BY THE ENGINEER.
3. DEPTH OF VAULT WILL BE AS REQUIRED BY BOOSTER PUMP CLEARANCE SPECIFICATIONS PER MANUFACTURER.
4. IF PRECAST CONCRETE VAULT IS SELECTED, IT SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS AND UPON APPROVAL OF THE ENGINEER.
5. IF CAST IN PLACE CONCRETE VAULT IS SELECTED, THE DESIGN SHALL BE SEALED BY AN ENGINEER AND SUBMITTED FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
6. ALL PIPE CONNECTIONS AND FITTINGS INSIDE THE VAULT SHALL BE FLANGE TYPE CONNECTIONS.
7. VAULT SHALL BE PLACED ON A MINIMUM OF 12" OF FREE-DRAINING STONE, AND STONE DITCH SHALL BE EXTENDED TO DAYLIGHT.
8. THE VAULT SHALL BE WATERTIGHT WITH APPROVED SEALANT AT ALL JOINTS AND GASKETS AT ALL PENETRATIONS.
9. THE BOOSTER PUMP SHALL HAVE A MINIMUM OF A 4 YEAR MANUFACTURER'S WARRANTY.
10. THE CONTRACTOR SHALL COORDINATE AND PROVIDE ELECTRICAL SERVICE TO THE VAULT TO POWER THE BOOSTER PUMP. PAYMENT FOR THE ELECTRICAL SERVICE LINE, INCLUDING INSTALLATION OF A SERVICE LINE, CONNECTION HARDWARE, AND ELECTRICAL PERMITTING AND INSPECTION FEES ARE INCLUDED IN BID ITEM 670004. NO ADDITIONAL PAYMENT WILL BE MADE.



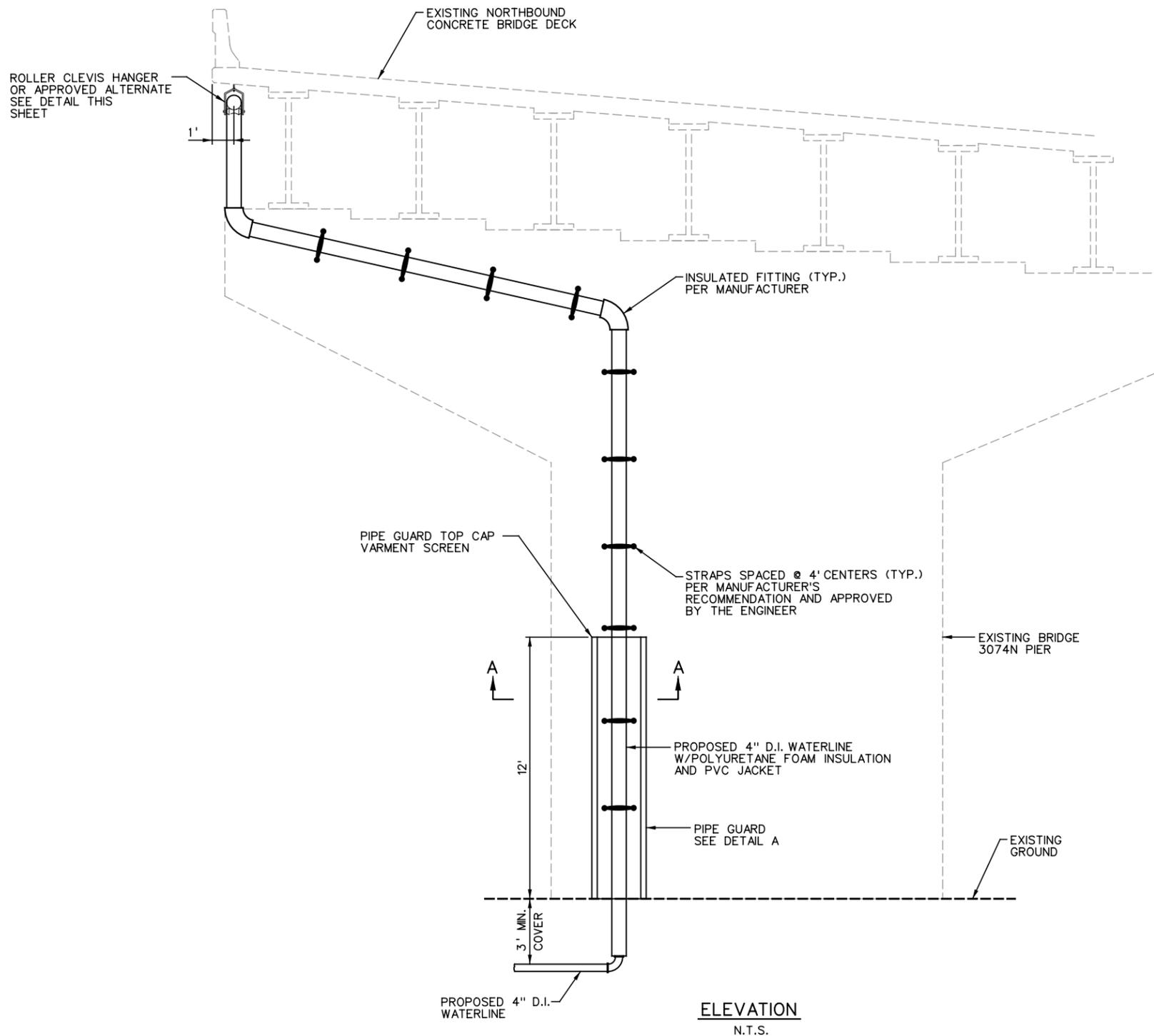
BOOSTER PUMP VAULT DETAIL  
NOT TO SCALE

1	5	REVISED NOTE 1	7/22/15	BMK
REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

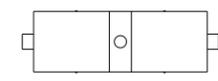
**HNTB** HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT WL-1-15  
**MISCELLANEOUS DETAILS**

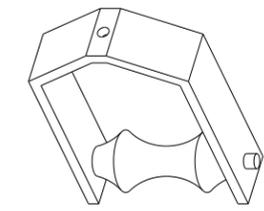
Fiscal Year	County	Sheet No.	Total Sheets
2015	KANAWHA	6	14



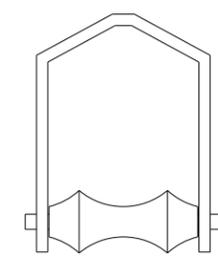
**ELEVATION**  
N.T.S.



**TOP VIEW**



**ISOMETRIC VIEW**



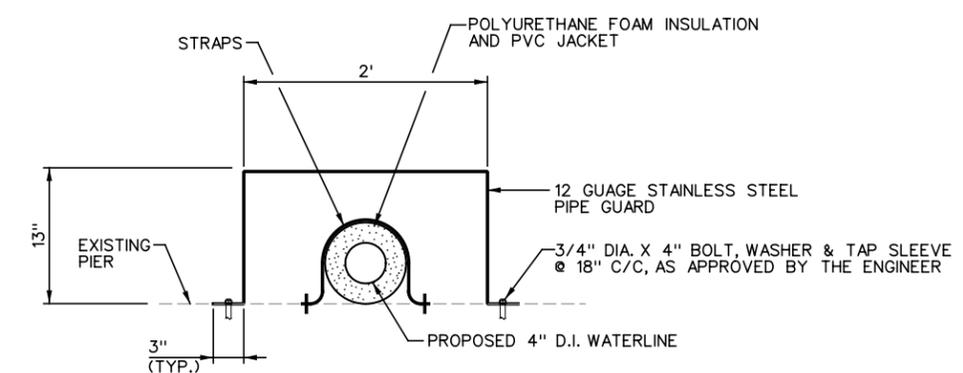
**ELEVATION VIEW**



**RIGHT-SIDE VIEW**

**ROLLER CLEVIS HANGER DETAIL**  
N.T.S.

NOTE: HANGER SPACING AND HARDWARE FOR HANGER ATTACHMENT SHALL BE PER MANUFACTURER'S RECOMMENDATIONS, AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.



**PIPE GUARD - DETAIL A**  
N.T.S.

- NOTES:**
1. ALL PIPE SUPPORT STRAPS, BOLTS, AND HANGER MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
  2. COST OF PIPE GUARD, HARDWARE, AND VARMENT SCREEN SHALL BE INCIDENTAL TO ITEM 670004.

1	6	ADDED NOTE 1	7/22/15	BMK
REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

**HNTB** HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT WL-1-15

**MISCELLANEOUS DETAILS**

Wednesday, July 22, 2015

IP\_PWP.dwg(110823)06 - rdw.pier- details, WL-1-15.dwg

Wednesday, July 22, 2015 IP\_PWP.dwg(110823)06 - rdw.pier- details, WL-1-15.dwg

Fiscal Year	County	Sheet No.	Total Sheets
2014	KANAWHA	89	154

CONTRACT 1A-98  
ASPHALT OVERLAY SB

CONTRACT 3A-11  
MILL AND INLAY NB

CONTRACT 1A-08  
MILL AND INLAY NB AND SB

EXIT 79  
Sharon  
Cabin Creek Rd.  
2 Miles

1752+50  
I-BEAM 3 EA.

815

518

Station 1755+00  
"Road Work 1 Mile" Sign

PAY TOLL  
1 MILE  
CARS \$ 2.00

LANES MARKED  
E-Z PASS ONLY  
NO CASH  
TRANSPONDERS  
ONLY

WATCH  
FOR  
ICE  
ON  
BRIDGE

**HNTB** HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT RECORD DRAWINGS  
**SECTION 3**  
STA. 1750+00 TO STA. 1765+00

SCALE : 0 50 FT

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Friday, September 12, 2014

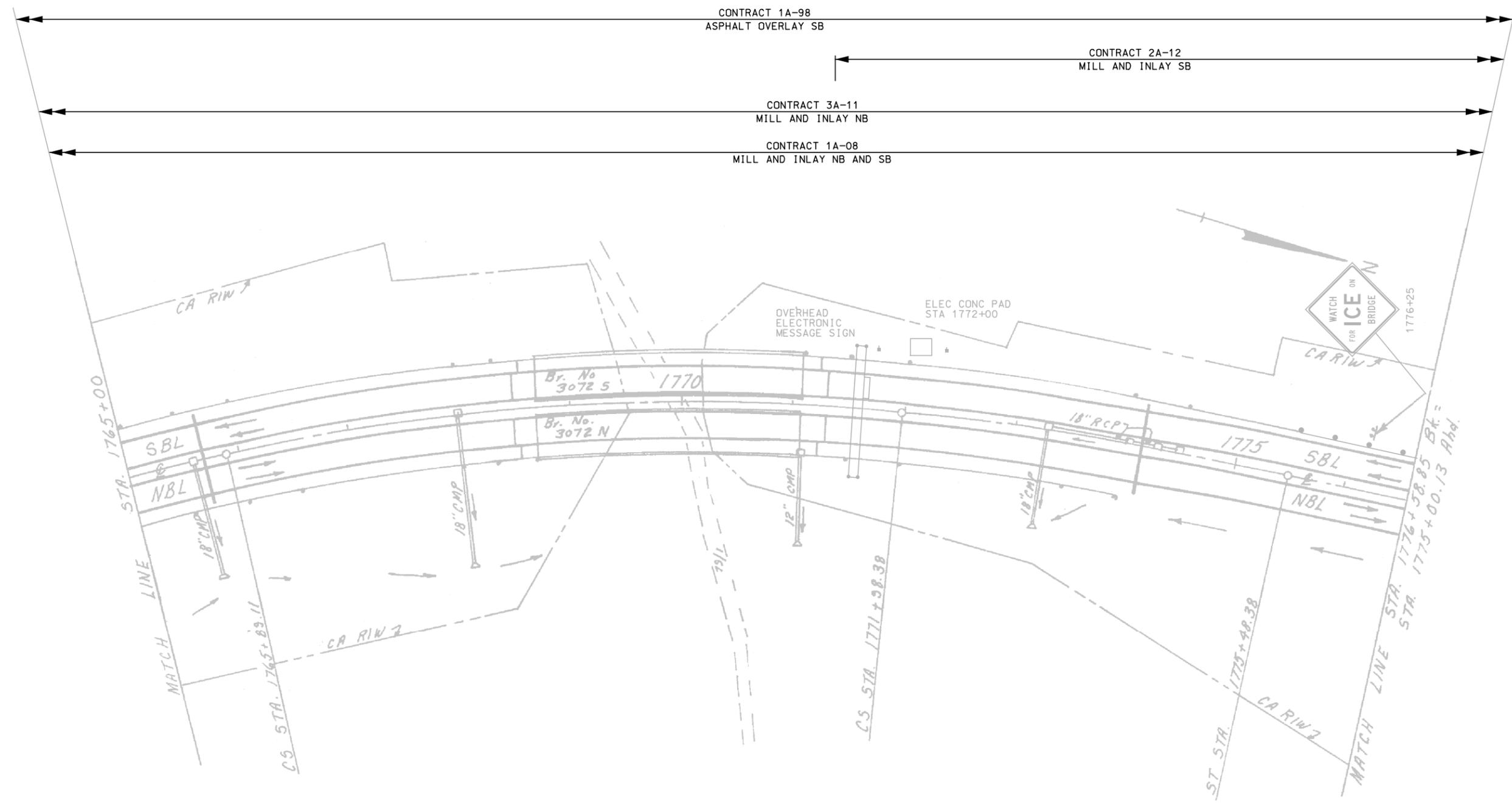
IP\_PWP:0102268\89 - sta.1750.dwg

Friday, September 12, 2014

IP\_PWP:0102268\89 - sta.1750.dwg

Fiscal Year	County	Sheet No.	Total Sheets
2014	KANAWHA	90	154

IP\_PWP\0100268\90 - sta.1765.dgn Friday, September 12, 2014



**HNTB** HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

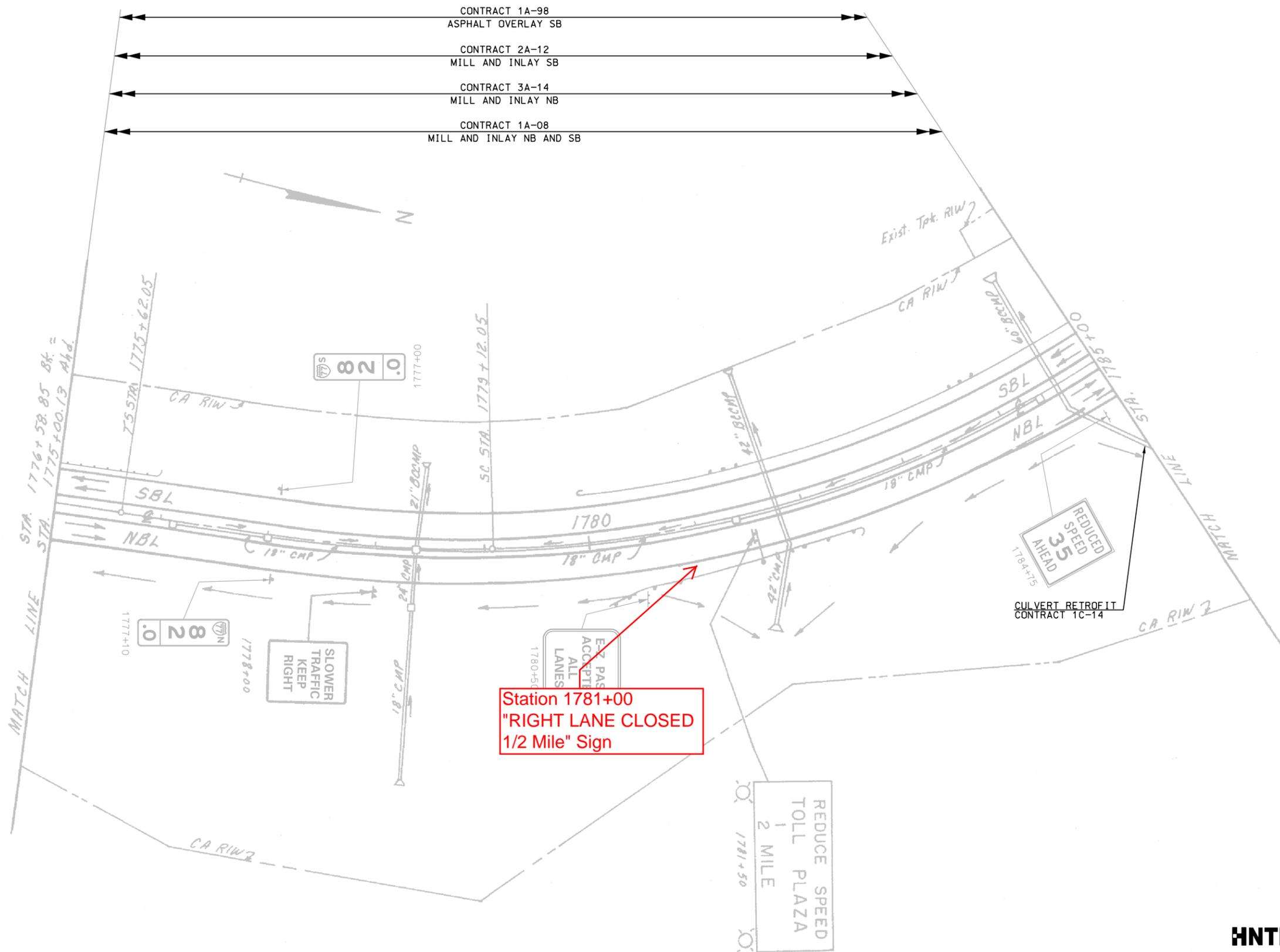
**WEST VIRGINIA TURNPIKE**  
CONTRACT RECORD DRAWINGS  
**SECTION 3**  
**STA. 1765+00 TO STA. 1776+58.85**

SCALE : 0 50 FT

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

IP\_PWP\0100268\90 - sta.1765.dgn Friday, September 12, 2014

Fiscal Year	County	Sheet No.	Total Sheets
2014	KANAWHA	91	154



Station 1781+00  
"RIGHT LANE CLOSED  
1/2 Mile" Sign

**HNTB** HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT RECORD DRAWINGS  
**SECTION 3**  
STA. 1776+58.85 TO STA. 1785+00

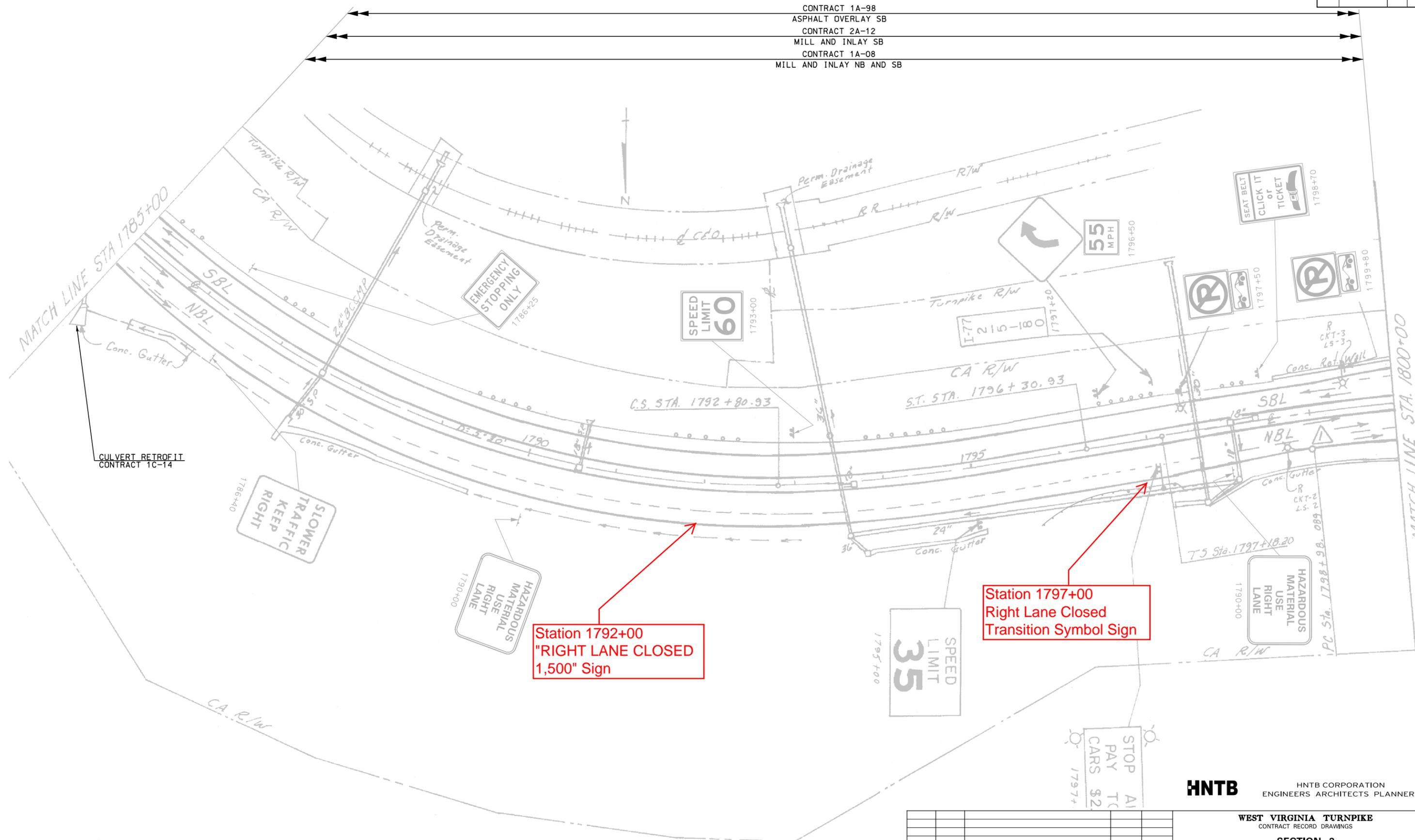
SCALE : 0 50 FT

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

IP\_PWP:0102268A.91 - sta1776.dgn Friday, September 12, 2014

IP\_PWP:0102268A.91 - sta1776.dgn Friday, September 12, 2014

CONTRACT 1A-98  
 ASPHALT OVERLAY SB  
 CONTRACT 2A-12  
 MILL AND INLAY SB  
 CONTRACT 1A-08  
 MILL AND INLAY NB AND SB



Station 1797+00  
 Right Lane Closed  
 Transition Symbol Sign

SCALE : 0 50 FT

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

**HNTB** HNTB CORPORATION  
 ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
 CONTRACT RECORD DRAWINGS  
**SECTION 3**  
 STA. 1785+00 TO STA. 1800+00

IP\_PWP:0102268A.92 - sta.1785.dgn  
 Friday, September 12, 2014

Fiscal Year	County	Sheet No.	Total Sheets
2014	KANAWHA	93	154

CONTRACT 1A-98  
ASPHALT OVERLAY SB

CONTRACT 2A-12  
MILL AND INLAY SB

CONTRACT 1A-08  
MILL AND INLAY NB AND SB

CONTRACT 4A-93  
MILL AND OVERLAY NB

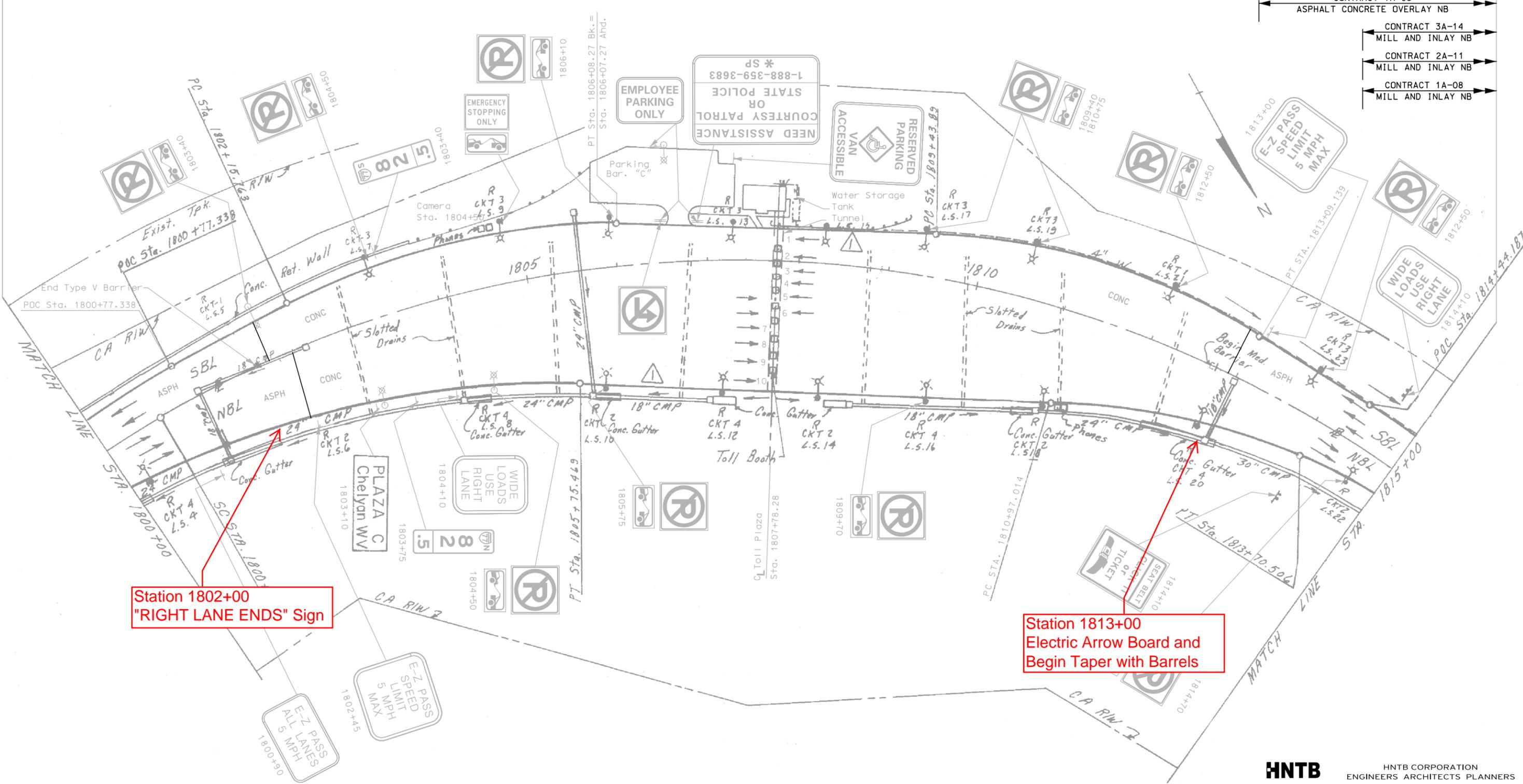
CONTRACT 3A-15  
MILL AND INLAY SB

CONTRACT 1A-05  
ASPHALT CONCRETE OVERLAY NB

CONTRACT 3A-14  
MILL AND INLAY NB

CONTRACT 2A-11  
MILL AND INLAY NB

CONTRACT 1A-08  
MILL AND INLAY NB



Station 1802+00  
"RIGHT LANE ENDS" Sign

Station 1813+00  
Electric Arrow Board and  
Begin Taper with Barrels

SCALE : 0 50 FT

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

**HNTB**  
HNTB CORPORATION  
ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT RECORD DRAWINGS  
**SECTION 3**  
**STA. 1800+00 TO STA. 1815+00**

IP\_PWP\_0102268A\_93 - sta1800.dgn

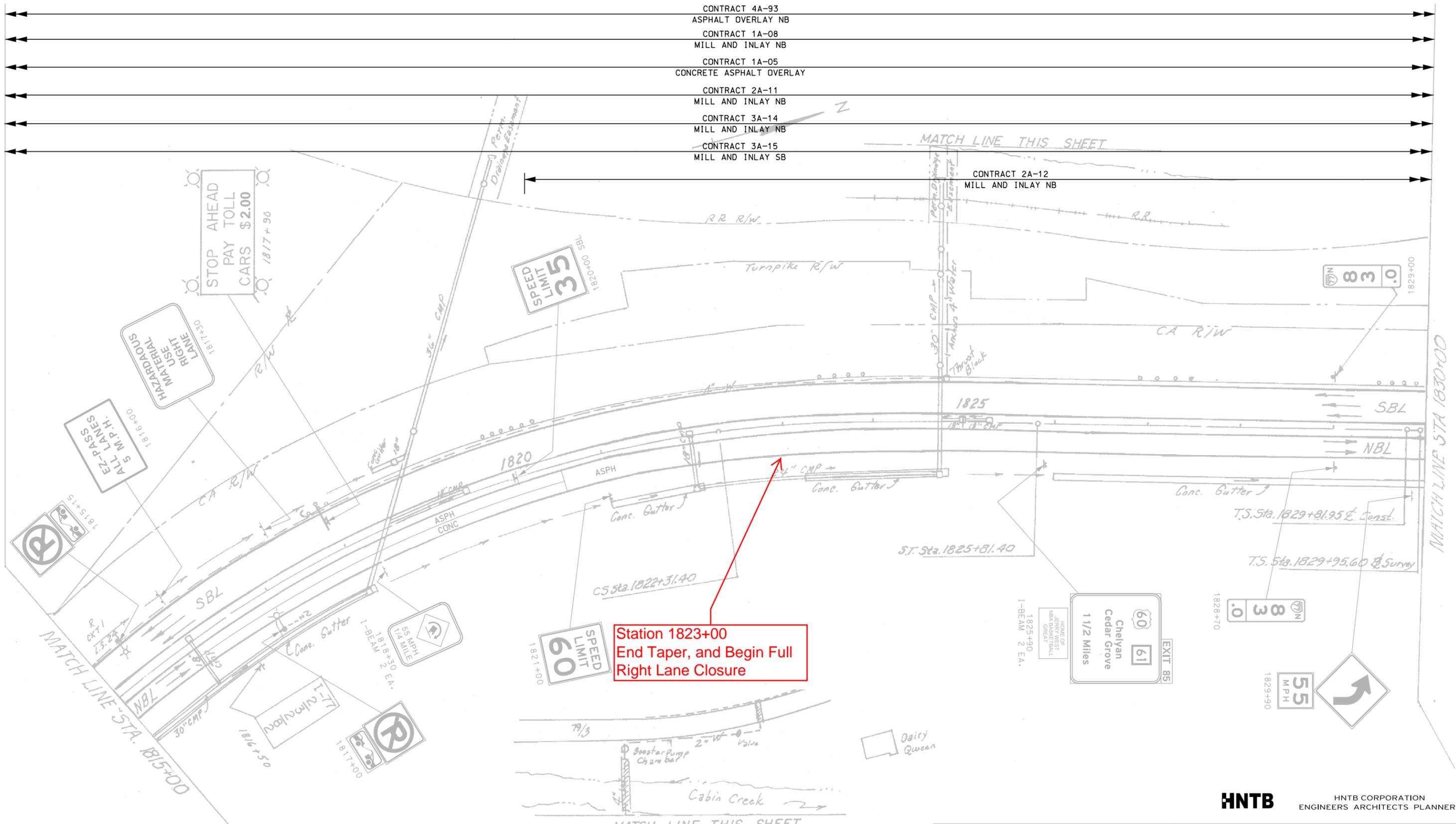
Friday, September 12, 2014

- CONTRACT 4A-93  
ASPHALT OVERLAY NB
- CONTRACT 1A-08  
MILL AND INLAY NB
- CONTRACT 1A-05  
CONCRETE ASPHALT OVERLAY
- CONTRACT 2A-11  
MILL AND INLAY NB
- CONTRACT 3A-14  
MILL AND INLAY NB
- CONTRACT 3A-15  
MILL AND INLAY SB

CONTRACT 2A-12  
MILL AND INLAY NB

Friday, September 12, 2014

IP\_PWP:u0102268\94 - sta1815.dgn



Station 1823+00  
End Taper, and Begin Full  
Right Lane Closure

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ENGINEERS ARCHITECTS PLANNERS

**WEST VIRGINIA TURNPIKE**  
CONTRACT RECORD DRAWINGS  
**SECTION 3**  
**STA. 1815+00 TO STA. 1830+00**

SCALE : 0 50 FT

REVISION NUMBER	SHEET NUMBER	REVISION	DATE	BY

Friday, September 12, 2014