

Index Of Sheets

SEE SHEET 1A

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
BUREAU OF ENGINEERING

GRAINGER COUNTY

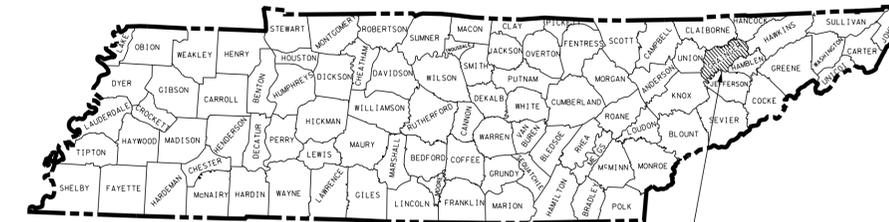
SR-1, INTERSECTION AT BROADWAY DRIVE

CONSTRUCTION

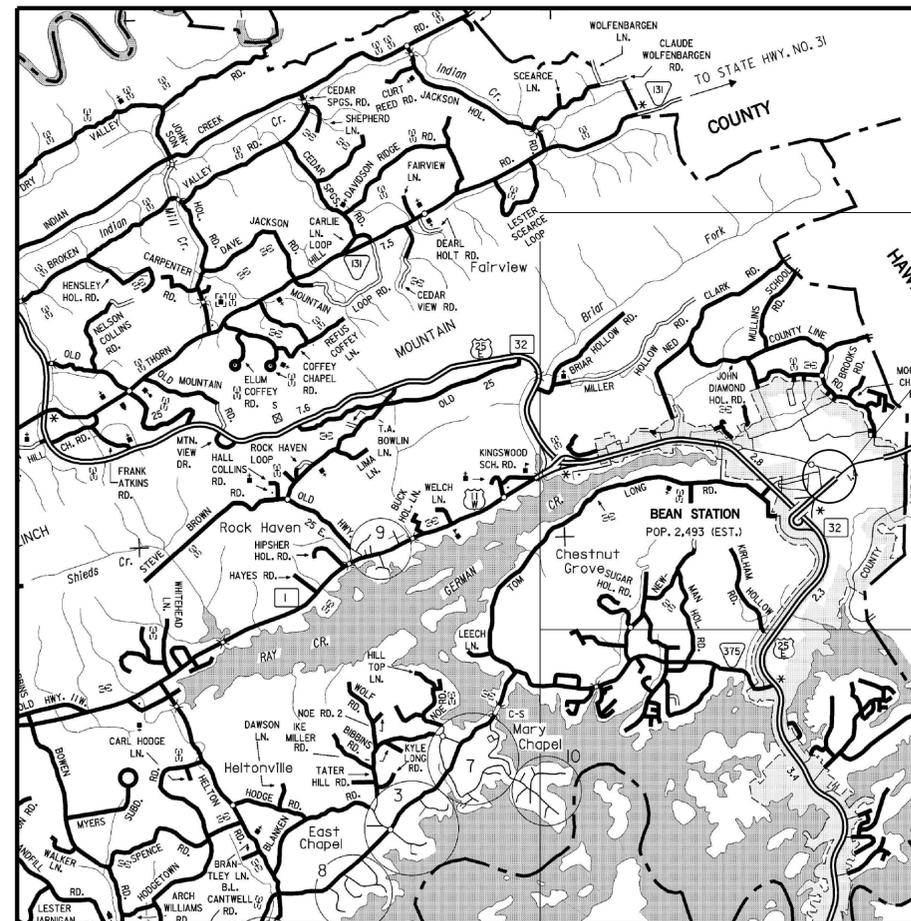
STATE HIGHWAY NO. 1 F.A.H.S. NO. 1

TENN.	YEAR	SHEET NO.
	2014	1
FED. AID PROJ. NO.	PHSIP-1(331)	
STATE PROJ. NO.	29002-3243-94	

REV. 06-30-14: CHANGED PROJECT YEAR.



PROJECT LOCATION



PROJECT LOCATION

**UNOFFICIAL
SET
NOT FOR
BIDDING**

SEALED BY

APPROVED: *Paul D. Degges*
PAUL D. DEGGES, CHIEF ENGINEER

DATE: _____

APPROVED: *John Schroer*
JOHN SCHROER, COMMISSIONER

**NO EXCLUSIONS
NO EQUATIONS**

TRAFFIC DATA	
ADT (2014)	7770
ADT (2019)	7960
DHV (2019)	813
D	60 - 40
T (ADT)	12 %
T (DHV)	8 %
V	45 MPH

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

APPROVED: _____
DIVISION ADMINISTRATOR DATE

SPECIAL NOTES

PROPOSALS MAY BE REJECTED BY THE COMMISSIONER IF ANY OF THE UNIT PRICES CONTAINED THEREIN ARE OBVIOUSLY UNBALANCED, EITHER EXCESSIVE OR BELOW THE REASONABLE COST ANALYSIS VALUE.

THIS PROJECT TO BE CONSTRUCTED UNDER THE STANDARD SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION DATED MARCH 1, 2006 AND ADDITIONAL SPECIFICATIONS AND SPECIAL PROVISIONS CONTAINED IN THE PLANS AND IN THE PROPOSAL CONTRACT.

TDOT C.E. MANAGER 1 PETE FALKENBERG, P.E.
DESIGNED BY SAIN ASSOCIATES, INC.
DESIGNER BRANDON DENNY, E.I. CHECKED BY JEFFREY D. STEPHENSON, P.E., PTOE
P.E. NO. 97029-1209-04
PIN NO. 117206.01

ROADWAY LENGTH . . . MILES
BRIDGE LENGTH . . . MILES
BOX BRIDGE LENGTH . . . MILES
PROJECT LENGTH . . . MILES

SCALE: 1" = 1 MILE

8/13/2014 9:55:24 AM P:\2013\130108\Sain\Tras\structure\Cad\Drawn\001.sht

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	PHSIP-1(331)	1A

INDEX

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UTILITIES INDEX, UTILITY OWNERS, AND UTILITY SHEETS	U1-1
NO PROJECT COMMITMENTS SHEET INCLUDED IN THIS SET OF PLANS	

STANDARD ROADWAY DRAWINGS

DWG. NO	REV.	DESCRIPTION
ROADWAY DESIGN STANDARDS		
RD-A-1	12-18-99	STANDARD ABBREVIATIONS
RD-L-1	10-26-94	STANDARD LEGEND
RD-L-2	09-05-01	STANDARD LEGEND FOR UTILITY INSTALLATIONS
RD-L-3	04-15-04	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-4	04-15-04	STANDARD LEGEND FOR SIGNALIZATION AND LIGHTING
RD-L-5	05-01-08	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-6	03-30-10	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
RD-L-7	05-24-12	STANDARD LEGEND FOR EROSION PREVENTION AND SEDIMENT CONTROL
TRAFFIC CONTROL APPURTENANCES		
T-FAB-1	05-27-97	FLASHING YELLOW ARROW BOARD
T-M-4	11-01-11	STANDARD INTERSECTION PAVEMENT MARKINGS
T-S-9	11-01-11	STANDARD LAYOUT GROUND MOUNTED SIGNS
T-S-10	04-04-12	STANDARD MOUNTING DETAILS FLAT SHEET SIGNS ALUMINUM-STEEL DESIGN
T-S-16	11-01-11	GROUND MOUNTED ROADSIDE SIGN AND DETAILS
T-S-17	10-26-96	STANDARD GROUND MOUNTED SIGN USING PERFORATED/KNOCKOUT SQUARE TUBE
T-S-19	07-19-13	STANDARD STEEL SIGN SUPPORTS
T-S-20	11-01-11	SIGN DETAILS
T-SG-2	07-29-04	LOOP LEAD-INS, CONDUIT AND PULL BOXES
T-SG-3	11-11-04	STANDARD NOTES AND DETAILS OF INDUCTIVE LOOPS
T-SG-5	12-04-13	CONTROLLER CABINET DETAILS
T-SG-7	11-01-11	SIGNAL HEAD ASSEMBLIES AND PEDESTRIAN PUSH BUTTON SIGNS
T-SG-7A	11-01-11	TYPICAL SIGNAL HEAD PLACEMENT
T-SG-9	12-04-13	DETAILS OF CANTILEVER SIGNAL SUPPORT
T-SG-9A	12-04-13	MISCELLANEOUS SIGNAL DETAILS
T-SG-10	12-04-13	MAST ARM POLE AND STRAIN POLES FOUNDATION DETAILS
T-SG-12	11-01-11	TYPICAL WIRING FOR SIGNAL HEADS AND DETECTION LOOPS
T-WZ-40	04-02-12	RIGHT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-41	04-02-12	LEFT LANE CLOSURES AT NEAR SIDE OF INTERSECTIONS
T-WZ-53	04-02-12	TRAFFIC CONTROL FOR SIGNALS ONLY PROJECTS ON 4 OR MORE LANE DIVIDED MAJOR ROUTES
EROSION PREVENTION AND SEDIMENT CONTROL		
EC-STR-3B	08-01-12	SILT FENCE
EC-STR-3E	04-01-08	SILT FENCE FABRIC JOINING DETAILS

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**INDEX
AND
STANDARD
DRAWINGS**

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	PHSIP-1(331)	2

ESTIMATED ROADWAY QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	QUANTITY	
	209-05	SEDIMENT REMOVAL	C.Y.	38
1.	209-08.03	TEMPORARY SILT FENCE (WITHOUT BACKING)	L.F.	1000
	712-01	TRAFFIC CONTROL	LS	1
2.	712-04.01	FLEXIBLE DRUMS (CHANNELIZING)	EACH	50
	712-06	SIGNS (CONSTRUCTION)	S.F.	338
	712-08.03	ARROW BOARD (TYPE C)	EACH	2
	713-02.21	SIGN POST DELINEATION ENHANCEMENT	L.F.	20
3.	713-16.20	SIGNS (R1-2, 36"X36")	EACH	1
	713-16.21	SIGNS (R10-12, LEFT TURN YIELD ON GREEN BALL)	EACH	2
4. 5.	716-02.05	PLASTIC PAVEMENT MARKING (STOP LINE)	L.F.	126
4. 5.	716-02.06	PLASTIC PAVEMENT MARKING (TURN LANE ARROW)	EACH	1
4. 5.	716-04.01	PLASTIC PAVEMENT MARKING (STRAIGHT-TURN ARROW)	EACH	1
4. 5.	716-04.12	PLASTIC PAVEMENT MARKING (YIELD LINE)	S.F.	39
	717-01	MOBILIZATION	LS	1
	730-01.02	REMOVAL OF SIGNAL EQUIPMENT	EACH	1
6.	730-02.09	SIGNAL HEAD ASSEMBLY (130 WITH BACKPLATE)	EACH	6
6.	730-02.13	SIGNAL HEAD ASSEMBLY (140 A1-LEFT TURN)	EACH	2
6.	730-02.30	SIGNAL HEAD ASSEMBLY (150A2-LEFT WITH BACKPLATE)	EACH	2
	730-03.20	INSTALL PULL BOX (TYPE A)	EACH	5
	730-03.21	INSTALL PULL BOX (TYPE B)	EACH	10
7.	730-05.01	ELECTRICAL SERVICE CONNECTION	EACH	1
	730-08.03	SIGNAL CABLE - 7 CONDUCTOR	L.F.	1510
	730-11.01	STEEL CONDUIT RISER ASSEMBLY	EACH	1
	730-12.01	CONDUIT 1" DIAMETER (PVC)	L.F.	710
8.	730-12.02	CONDUIT 2" DIAMETER (PVC)	L.F.	360
	730-12.07	CONDUIT 1" DIAMETER (RGS)	L.F.	35
	730-12.14	CONDUIT 3" DIAMETER (JACK AND BORE)	L.F.	295
	730-13.01	VEHICLE LOOP DETECTOR (SHELF MOUNT)	EACH	8
	730-14.01	SHIELDED DETECTOR CABLE	L.F.	2440
	730-14.02	SAW SLOT	L.F.	1039
9.	730-14.03	LOOP WIRE	L.F.	2670
	730-15.32	CABINET (EIGHT PHASE BASE MOUNTED)	EACH	1
10.	730-16.02	EIGHT PHASE ACTUATED CONTROLLER	EACH	1
	730-23.96	CANTILEVER SIGNAL SUPPORT (1 ARM @ 50')	EACH	1
	730-23.97	CANTILEVER SIGNAL SUPPORT (1 ARM @ 55')	EACH	1
	730-23.98	CANTILEVER SIGNAL SUPPORT (1 ARM @ 65')	EACH	1
	730-23.99	CANTILEVER SIGNAL SUPPORT (1 ARM @ 70')	EACH	1
	801-03	WATER (SEEDING & SODDING)	M.G.	0.05
11.	803-01	SODDING (NEW SOD)	S.Y.	55

SUMMARY OF QUANTITIES - ITEM NO. 712-06				
M.U.T.C.D. NO.	DESCRIPTION	QUANTITY	SIZE	AREA (S.F.)
G20-2	END ROAD WORK	4	36"x18"	18
W4-2R	Lane Ends	1	48"x48"	16
W4-2L	Lane Ends	1	48"x48"	16
W20-1	ROAD WORK AHEAD	2	48"x48"	32
W20-1	ROAD WORK 500 FT	4	48"x48"	64
W20-1	ROAD WORK 1000 FT	4	48"x48"	64
W20-1	ROAD WORK 1/2 MILE	4	48"x48"	64
W20-5R	RIGHT LANE CLOSED 1000 FT	1	48"x48"	16
W20-5L	LEFT LANE CLOSED 1000 FT	1	48"x48"	16
W20-7a	FLAGGER AHEAD	2	48"x48"	32
				338

ITEM 712-06 SIGNS (CONSTRUCTION) INCLUDES SIGNS SHOWN AND IS CONSIDERED A MINIMUM. ADDITIONAL SIGNS MAY BE REQUIRED BY THE ENGINEER AND WILL BE PAID FOR AT THE UNIT PRICE BID FOR ITEM 712-06.

SIGNS SHALL BE LOCATED BY THE CONTRACTOR WITH THE APPROVAL OF THE ENGINEER.

CONSTRUCTION SIGNING AND TRAFFIC CONTROL SHALL CONFORM TO PART VI OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND SECTION 712 OF THE TENNESSEE "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION."

CONTRACTOR IS NOT RELIEVED OF ANY RESPONSIBILITY TO PROVIDE ADEQUATE AND SAFE TRAFFIC CONTROL MEASURES BY THE ABOVE.

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DEPARTMENT OF TRANSPORTATION

**ESTIMATED
ROADWAY
QUANTITIES**

FOOTNOTES:

- SEE SUBSECTION 209.07 OF THE STANDARD SPECIFICATIONS FOR MAINTENANCE REPLACEMENT.
- LANE CLOSURES FOR DAYTIME OPERATIONS CAN BE ACCOMPLISHED WITH CONES.
- INCLUDES THE COST OF TYPE P3 SIGN POSTS.
- EXISTING STRIPING THAT CONFLICTS WITH PROPOSED STRIPING TO BE REMOVED BY GRINDING AND IS A SUBSIDIARY COST OF PROPOSED PAVEMENT MARKINGS.
- THE CONTRACTOR MAY ELECT TO SUBSTITUTE PREFORMED PLASTIC FOR THERMOPLASTIC. PREFORMED PLASTIC SHALL BE PAID FOR AT THE SAME UNIT PRICE AS BID FOR THERMOPLASTIC.
- ALL SIGNAL INDICATIONS SHALL BE LED TYPE AS SHOWN AND AS NOTED ON THE PLANS.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR CONTACTING THE LOCAL UTILITY TO OBTAIN THE ESTIMATE FOR ANY CHARGES BY THE UTILITY FOR PROVIDING ELECTRICAL SERVICE TO THE SIGNAL CONTROLLER. THESE CHARGES SHALL BE INCLUDED IN THE PRICE BID FOR ITEM NO. 730-05.01 FOR PAYMENT BY THE CONTRACTOR. INCLUDES A 50 AMP, 2 POLE WEATHERPROOF EXTERNAL DISCONNECT. ENCLOSURE SHALL BE METALLIC WITH A 50 AMP SINGLE POLE CIRCUIT BREAKER.
- INCLUDES 1" (RGS) CONDUIT FROM THE UTILITY POLE TO CONTROLLER FOR AC SERVICE.
- DETECTOR LOOPS SHALL BE INSTALLED IN ACCORDANCE WITH T.D.O.T. STANDARD DRAWING T-SG-3 UNLESS OTHERWISE NOTED. LOOP SHALL BE SEALED WITH APPROVED LOOP SEALANT AND INSTALLED WITHOUT FLEXIBLE TUBE OR BACKER ROD.
- THE TRAFFIC CONTROLLER FURNISHED BY THE CONTRACTOR SHALL BE COMPLETE WITH ALL INCIDENTAL AND AUXILIARY EQUIPMENT (CONFLICT MONITOR AND HARDWARE) NECESSARY FOR INSTALLATION AND OPERATION EITHER AS A REMOTE LOCATION OR AS PART OF A SYSTEM ON INTERSECTIONS. ALL WIRING AND EQUIPMENT NECESSARY TO ACTIVATE THE SIGNAL HEADS AND OPERATE THE TRAFFIC SIGNAL AS SPECIFIED SHALL BE PROVIDED AND INSTALLED BY THE CONTRACTOR.
- NEW SODDING TO BE PLACED AT LOCATIONS DISTURBED BY CONDUIT, POLE, AND CABINET PLACEMENT.

TYPE	YEAR	PROJECT NO.	SHEET NO.
CONST.	2014	PHSIP-1(331)	2A

GENERAL NOTES

SEEDING AND SODDING

- (1) SOD SHALL BE PLACED AT LOCATIONS SHOWN ON THE PLANS TO PREVENT DAMAGE TO ADJACENT FACILITIES AND PROPERTY DUE TO EROSION ON ALL NEWLY GRADED CUT AND FILL SLOPES AS WORK PROGRESSES.

UTILITIES

- (1) THE LOCATIONS OF UTILITIES SHOWN WITHIN THESE PLANS ARE APPROXIMATE ONLY. EXACT LOCATIONS SHALL BE DETERMINED IN THE FIELD BY CONTACTING THE UTILITY COMPANIES INVOLVED. NOTIFICATION BY CALLING THE TENNESSEE ONE CALL SYSTEM, INC., AT 1-800-351-1111 AS REQUIRED BY TCA 65-31-106 WILL BE REQUIRED.
- (2) UNLESS OTHERWISE NOTED, ALL UTILITY ADJUSTMENTS WILL BE PERFORMED BY THE UTILITY OR IT'S REPRESENTATIVE. THE CONTRACTOR AND UTILITY OWNERS WILL BE REQUIRED TO COOPERATE WITH EACH OTHER IN ORDER TO EXPEDITE THE WORK REQUIRED BY THIS CONTRACT. ON CONTRACTS WHERE CONSTRUCTION STAKES, LINES, AND GRADES ARE CONTRACT ITEMS, THE CONTRACTOR WILL BE REQUIRED TO PROVIDE RIGHT-OF-WAY OR SLOPE STAKES, DITCH OR STREAM BED GRADES, OR OTHER ESSENTIAL SURVEY STAKING TO PREVENT CONFLICTS WITH THE HIGHWAY CONSTRUCTION. FREQUENTLY, THIS WILL BE REQUIRED AS THE FIRST ITEM OF WORK AND AT ANY LOCATION ON THE PROJECT DIRECTED BY THE ENGINEER.
- (3) THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR WILL BE REQUIRED TO FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT WILL BE INCLUDED IN THE PRICE BID FOR OTHER ITEMS OF CONSTRUCTION.
- (4) PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR CONTACTING OWNERS OF ALL AFFECTED UTILITIES IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENTS WILL HAVE UPON THE SCHEDULE OF WORK FOR THE PROJECT. WHILE SOME WORK MAY BE REQUIRED 'AROUND' UTILITY FACILITIES THAT WILL REMAIN IN PLACE, OTHER UTILITY FACILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTOR'S OPERATIONS. ADVANCE CLEAR CUTTING MAY BE REQUIRED BY THE ENGINEER AT ANY LOCATION WHERE CLEARING IS CALLED FOR IN THE SPECIFICATIONS AND CLEAR CUTTING IS NECESSARY FOR A UTILITY RELOCATION. ANY ADDITIONAL COST WILL BE INCLUDED IN THE UNIT PRICE BID FOR THE CLEARING ITEM SPECIFIED IN THE PLANS.
- (5) THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS PLAN OF OPERATION IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THEM TO PROPERLY LOCATE THEIR RESPECTIVE UTILITY ON THE GROUND. THIS NOTIFICATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY IN ACCORDANCE WITH TCA 65-31-106.

MISCELLANEOUS

- (1) NOTHING IN THE GENERAL NOTES OR SPECIAL PROVISIONS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC AND THE RESIDENTS ALONG THE PROPOSED CONSTRUCTION AREA

SIGNING

- (1) THE TOP OF THE SIGN FOOTINGS SHALL BE PLACED LEVEL WITH THE GROUND LINE.
- (2) AFTER THE SIGN LOCATIONS HAVE BEEN STAKED, BUT PRIOR TO ORDERING ANY MATERIAL FOR THE SUPPORTS, THERE SHALL BE A FIELD INSPECTION AND APPROVAL BY THE REGIONAL CONSTRUCTION OFFICE.
- (3) THE LETTERS, DIGITS, ARROWS, BORDERS, AND ALPHABET ACCESSORIES ON ALL FLAT SHEET SIGNS SHALL BE APPLIED BY SILK SCREENING PROCESS.

SIGNALIZATION

- (1) EQUIPMENT AND INSTALLATION OF TRAFFIC SIGNALS SHALL COMPLY WITH TDOT STANDARD SPECIFICATIONS, SECTION 730.
- (2) ANY SIGNAL HEADS, WHEN VISIBLE TO DRIVERS BUT NOT OPERATIONAL, SHALL BE COMPLETELY COVERED.

- (3) SIGNAL HEADS SHALL FLASH A MINIMUM OF SEVEN (7) DAYS PRIOR TO ACTIVATION OF THE SIGNAL.

CONSTRUCTION WORK ZONE & TRAFFIC CONTROL

- (1) ADVANCED WARNING SIGNS SHALL NOT BE DISPLAYED MORE THAN FORTY-EIGHT (48) HOURS BEFORE PHYSICAL CONSTRUCTION BEGINS. SIGNS MAY BE ERRECTED UP TO ONE WEEK BEFORE NEEDED, IF THE SIGN FACE IS FULLY COVERED.
- (2) IF THE CONTRACTOR MOVES OFF THE PROJECT, HE SHALL COVER OR REMOVE ALL UNNEEDED SIGNS AS DIRECTED BY THE ENGINEER. COSTS OF REMOVAL, COVERING, AND REINSTALLING SIGNS SHALL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT ALL COSTS SHALL BE INCLUDED IN THE ORIGINAL UNIT PRICE BID FOR ITEM NO 712-06, SIGNS (CONSTRUCTION) PER SQUARE FOOT.
- (3) A LONG TERM BUT SPORADIC USE WARNING SIGN, SUCH AS A FLAGGER SIGN, MAY REMAIN IN PLACE WHEN NOT REQUIRED PROVIDED THE SIGN FACE IS FULLY COVERED.
- (4) TRAFFIC CONTROL DEVICES SHALL NOT BE DISPLAYED OR ERRECTED UNLESS RELATED CONDITIONS ARE PRESENT NECESSITATING WARNING.

EROSION PREVENTION AND SEDIMENT CONTROL DISTURBED AREA

- (1) AREAS TO BE UNDISTURBED SHALL BE CLEARLY MARKED IN THE FIELD BEFORE CONSTRUCTION ACTIVITIES BEGIN.
- (2) PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE DESTROYED, REMOVED OR DISTURBED (I.E. CLEARING AND GRUBBING INITIATED) MORE THAN 15 CALENDAR DAYS PRIOR TO GRADING OR EARTH MOVING ACTIVITIES UNLESS THE AREA IS MULCHED, SEEDED WITH MULCH, OR OTHER TEMPORARY COVER IS INSTALLED.
- (3) CLEARING, GRUBBING, AND OTHER DISTURBANCE TO RIPARIAN VEGETATION SHALL BE LIMITED TO THE MINIMUM NECESSARY FOR SLOPE CONSTRUCTION AND EQUIPMENT OPERATIONS. EXISTING VEGETATION SHOULD BE PRESERVED TO THE MAXIMUM EXTENT POSSIBLE. UNNECESSARY VEGETATION REMOVAL IS PROHIBITED.
- (4) ALL DISTURBED AREAS SHALL BE PROPERLY STABILIZED AS SOON AS PRACTICABLE. PRIORITY SHALL BE GIVEN TO FINISHING OPERATIONS AND PERMANENT EPSC MEASURES OVER TEMPORARY EPSC MEASURES ON ALL PROJECTS.
- (5) CONSTRUCTION SHALL BE SEQUENCED AND STAGED TO MINIMIZE THE EXPOSURE TIME OF GRADED OR DENUDED SOIL AREAS, PRESERVE TOPSOIL, AND MINIMIZE SOIL COMPACTION.

SEDIMENT CONTROL

- (6) EPSC MEASURES SHALL BE INSTALLED AND FUNCTIONAL PRIOR TO ANY EARTH MOVING OPERATIONS, AND SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD.
- (7) TEMPORARY EPSC MEASURES MAY BE REMOVED AT THE BEGINNING OF THE WORKDAY, BUT MUST BE REPLACED AT THE END OF THE WORKDAY.

INSPECTION, MAINTENANCE, REPAIR

- (8) EPSC CONTROLS WILL BE MAINTAINED IN ACCORDANCE WITH TDOT STANDARD DRAWINGS AND GOOD ENGINEERING PRACTICES.
- (9) INSPECTION, REPAIR, AND MAINTENANCE OF EPSC MEASURES/STRUCTURES IS TO BE PERFORMED ON A REGULAR BASIS. SEDIMENT SHALL BE REMOVED FROM SEDIMENT CONTROL STRUCTURES WHEN THE DESIGN CAPACITY HAS BEEN REDUCED BY FIFTY PERCENT (50%). DURING SEDIMENT REMOVAL, THE CONTRACTOR SHALL TAKE CARE TO ENSURE THAT STRUCTURAL COMPONENTS OF EPSC MEASURES ARE NOT DAMAGED AND THUS MADE INEFFECTIVE. IF DAMAGE DOES OCCUR, THE CONTRACTOR SHALL REPAIR THE STRUCTURES AT THE CONTRACTOR'S OWN EXPENSE.
- (10) SEDIMENT REMOVED FROM SEDIMENT CONTROL STRUCTURES SHALL BE PLACED AND BE TREATED IN A MANNER SO THAT THE SEDIMENT IS CONTAINED WITHIN THE PROJECT LIMITS AND DOES NOT MIGRATE INTO WATERS OF THE STATE/U.S. COST FOR THIS TREATMENT IS TO BE INCLUDED IN PRICE BID FOR ITEM NO. 209-05 SEDIMENT REMOVAL, C.Y.

MATERIALS

- (11) WASTE AND BORROW AREAS SHALL BE LOCATED IN NON-WETLAND AREAS AND ABOVE THE 100-YEAR, FEDERAL EMERGENCY MANAGEMENT AGENCY

FLOODPLAIN. BORROW AND WASTE DISPOSAL AREAS SHALL NOT AFFECT ANY WATERS OF THE STATE/U.S. UNLESS THESE AREAS ARE SPECIFICALLY COVERED BY AN ARAP, 404, OR NPDES PERMIT, OBTAINED SOLELY BY THE CONTRACTOR.

LITTER, DEBRIS, WASTE, PETROLEUM

- (12) THE CONTRACTOR SHALL ESTABLISH AND MAINTAIN A PROACTIVE METHOD TO PREVENT LITTER, CONSTRUCTION DEBRIS, AND CONSTRUCTION WASTES FROM ENTERING WATERS OF THE STATE/U.S. THESE MATERIALS WILL BE PICKED UP AND REMOVED FROM STORMWATER EXPOSURE PRIOR TO ANTICIPATED STORM EVENTS. AFTER USE, MATERIALS USED FOR EPSC WILL BE REMOVED FROM THE SITE.
- (13) THE CONTRACTOR SHALL TAKE APPROPRIATE STEPS TO ENSURE THAT PETROLEUM PRODUCTS OR OTHER CHEMICAL POLLUTANTS ARE PREVENTED FROM ENTERING WATERS OF THE STATE/U.S. ALL EQUIPMENT REFUELING, SERVICING, AND STAGING AREAS SHALL COMPLY WITH ALL LOCAL, STATE, AND FEDERAL LAWS, RULES, REGULATIONS, AND ORDINANCES, INCLUDING THOSE OF THE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA). APPROPRIATE CONTAINMENT MEASURES FOR THESE AREAS SHALL BE USED. ALL SPILLS MUST BE REPORTED TO THE APPROPRIATE AGENCY, AND MEASURES SHALL BE TAKEN IMMEDIATELY TO PREVENT THE POLLUTION OF WATERS OF THE STATE/U.S., INCLUDING GROUNDWATER, SHOULD A SPILL OCCUR.

SPECIAL NOTES

SIGNALIZATION

- (1) THE DESIGN OF TRAFFIC SIGNAL SUPPORT POLES, MAST ARMS, STRAIN POLES, ETC. SHALL BE IN CONFORMANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS, CURRENT EDITION. OVERHEAD CANTILEVERED TRAFFIC SIGNAL STRUCTURES SHALL BE DESIGNED FOR FATIGUE CATEGORY 1.
- (2) ALL CIRCULAR AND ARROW INDICATIONS WITHIN ALL VEHICULAR SIGNAL HEADS PROPOSED FOR THIS PROJECT SHALL CONSIST OF AN LED (LIGHT EMITTING DIODE) SIGNAL MODULE UNLESS OTHERWISE NOTED IN THE PLANS.
- (3) CIRCULAR INDICATIONS SHALL MEET "ITE VTC SH-LED CIRCULAR SIGNAL SUPPLEMENT" FOR EXPANDED/EXTENDED VIEW.
- (4) ARROW INDICATIONS SHALL MEET "ITE VTC SH-LED ARROW SPECIFICATION" FOR EXPANDED/EXTENDED VIEW.
- (5) INCANDESCENT OR SCREW-IN MODULES ARE NOT ACCEPTABLE.
- (6) COMPATABILITY WITH CONFLICT MONITORS AND LOAD SWITCHES SHALL BE TESTED AND CONFIRMED.
- (7) DETECTION ZONE LOCATIONS SHALL BE IN ACCORDANCE WITH SECTION 730 OF THE STANDARD SPECIFICATIONS.

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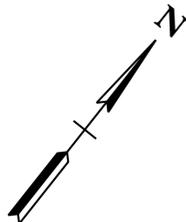
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**GENERAL NOTES
AND
SPECIAL NOTES**

TYPE	YEAR	PROJECT NO.	SHEET NO.
UTIL.	2014	NHTSA-HE-1(314)	2
CONST.	2014	PHSIP-1(331)	3

REV. 06-30-14: CHANGED STRAIN POLES TO MAST ARM POLES. CHANGED POLE LOCATIONS.



455

460

SR1 STA. 457+63.37 =
 OLD SR32 STA. 20+00.00
 N 741276.7586
 E 2768942.3136

GRAINGER
 COUNTY

MAX OSCAR DELIAS AND WIFE,

453+00.00
 165.52'

456+24.68
 140.05'

N 88° 9' 19" E
 118.30'
 N 7° 12' 15" W
 PRES. R.O.W.
 S 7° 12' 15" E
 24.22'
 N 51° 38' 26" E
 151.64'

METER
 BUDGET INN SIGN
 N 51° 37' 05" E
 885.74'

N 67° 5' 20" E
 207.48'
 PRES. R.O.W.

454+99.51
 110.00'
 N 38° 3' 50" E
 128.72'

457+76.32
 139.86'
 P/T
 MAST ARM POLE #4
 CP-S100

459+07.66
 125.10'
 P/T
 ELECTRIC BOX
 SIGNAL BOX

SR1 STA. 453+00.00
 N 740988.7261
 E 2768579.3411

SR1 STA. 462+33.37
 N 741568.9123
 E 2769310.4796

96' ASPHALT
 S.R. 1 (US 11W) (NEW LEE HIGHWAY)

48' ASPHALT

24' ASPHALT

**UNOFFICIAL
 SET
 NOT FOR
 BIDDING**



FIREWORKS
 FIREWORKS

GRASS
 N 46° 49' 8" E
 142.96'
 456+27.17
 111.97'
 FIREWORKS

MAST ARM POLE #2

MAST ARM POLE #1

GRASS

INV-1128.46
 FILLED IN

454+02.44
 130.64'
 N 46° 49' 8" E
 82.55'

GRASS
 N 46° 49' 8" E
 82.55'
 FIREWORKS SERVICE
 PRES. R.O.W.

457+40.38
 154.97'
 CP-S101

6" W
 C/A
 PRES. R.O.W.
 6" W
 6" W
 PVC
 N 51° 35' 24" E
 459.18'

DISTURBED
 20" W
 34'

ROGER L COFFEY, JR.
 AND WIFE, GAIL COFFEY

453+56.63
 187.77'

454+84.70
 123.80'
 GRAVEL
 ROCKET
 FIREWORKS

457+40.38
 154.97'
 CP-S101

6" W
 C/A
 PRES. R.O.W.
 6" W
 6" W
 PVC
 N 51° 35' 24" E
 459.18'

WOODPOST

453+56.63
 187.77'

454+84.70
 123.80'
 GRAVEL
 ROCKET
 FIREWORKS

457+40.38
 154.97'
 CP-S101

6" W
 C/A
 PRES. R.O.W.
 6" W
 6" W
 PVC
 N 51° 35' 24" E
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457+40.38
 154.97'
 CP-S101

6" W
 C/A
 PRES. R.O.W.
 6" W
 6" W
 PVC
 N 51° 35' 24" E
 459.18'

UTILITY OWNERS

ELECTRIC
 APPALACHIAN ELECTRIC CO-OP
 P.O. BOX 400
 NEW MARKET, TN 37820
 JOSEPH McCARTER
 PHONE: 865-475-2032

WATER
 BEAN STATION UTILITY DISTRICT
 P.O. BOX 52
 BEAN STATION, TN 37708
 TERESA PERRIN
 PHONE: 865-993-2326

TELEPHONE
 AT&T
 9733 PARKSIDE DRIVE
 KNOXVILLE, TN 37922
 DAVID OVERMEN
 PHONE: 865-539-8534

CABLE
 CHARTER COMMUNICATIONS
 10417 WALLACE ALLEY STREET
 KINGSFORD, TN 37663
 MIKE ROBERTS
 PHONE: 423-791-3816

SEALED BY

COORDINATES ARE NAD(83)(995),
 ARE DATUM ADJUSTED BY THE
 FACTOR OF 1.00006 AND TIED TO
 THE TGRN. ALL ELEVATIONS ARE
 REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

**PRESENT
 LAYOUT**
 SR-1 @ BROADWAY DR.
 SCALE: 1"=30'

BARNARDS GROVE BAPTIST

POINT	NORTH	EAST	ELEV.	STATION	OFFSET
S100	741342.5720	2768884.3470	1142.39	457+58.87	87.59' (LT)
S101	741179.0260	2769036.6240	1151.67	457+76.50	135.18' (RT)

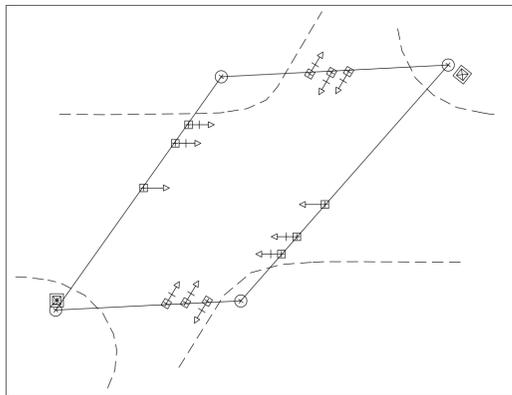
*STATIONS & OFFSETS ARE REFERENCED TO S.R. 1.

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TYPE	YEAR	PROJECT NO.	SHEET NO.
UTIL.	2014	NHTSA-HE-1(314)	3
CONST.	2014	PHSIP-1(331)	4

REV. 06-30-14: CHANGED STRAIN POLES TO MAST ARM POLES. CHANGED POLE LOCATIONS. ADDED RELATED CONDUIT.

REMOVAL DIAGRAM

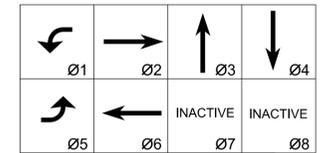


SIGNAL SUPPORT POLE DATA

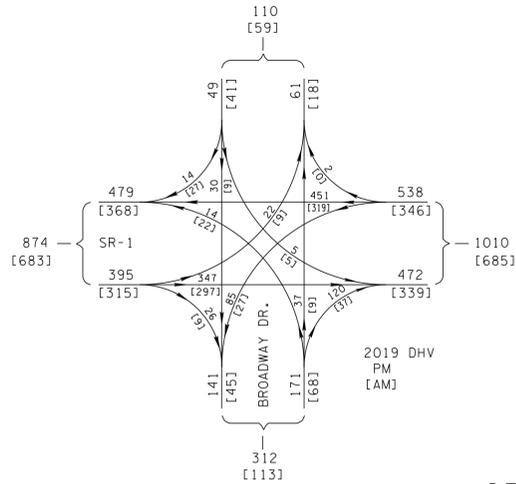
POLE NO.	STATION	OFFSET	NORTHING	EASTING	GROUND ELEV. @ POLE	ARM ELEV.	ARM LENGTH	FOOTING DEPTH
1	457+61	R 67.5'	741222.67	2768982.81	1141.66	1161.66	50'	15'
2	458+07	R 67.5'	741250.73	2769018.17	1141.42	1161.42	65'	15'
3	457+27	L 66.8'	741306.05	2768872.00	1141.34	1161.34	70'	15'
4	457+69	L 83.5'	741345.68	2768894.92	1140.89	1160.89	55'	15'

460

SIGNAL PHASING DIAGRAM



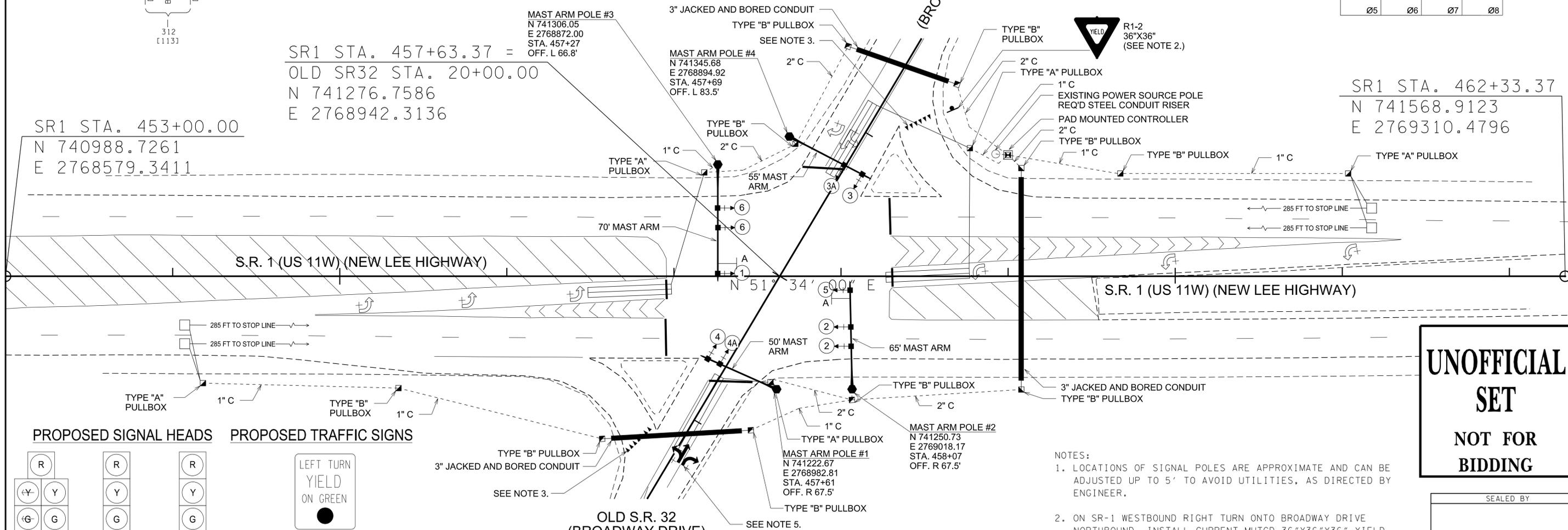
455



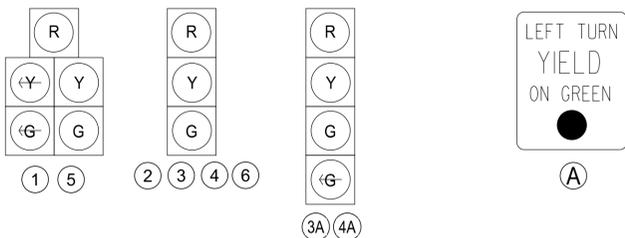
SR1 STA. 457+63.37 =
 OLD SR32 STA. 20+00.00
 N 741276.7586
 E 2768942.3136

SR1 STA. 453+00.00
 N 740988.7261
 E 2768579.3411

SR1 STA. 462+33.37
 N 741568.9123
 E 2769310.4796



PROPOSED SIGNAL HEADS PROPOSED TRAFFIC SIGNS



**UNOFFICIAL SET
 NOT FOR BIDDING**

NOTES:

- LOCATIONS OF SIGNAL POLES ARE APPROXIMATE AND CAN BE ADJUSTED UP TO 5' TO AVOID UTILITIES, AS DIRECTED BY ENGINEER.
- ON SR-1 WESTBOUND RIGHT TURN ONTO BROADWAY DRIVE NORTHBOUND, INSTALL CURRENT MUTCD 36"X36"X36" YIELD SIGN (R1-2). INSTALL SIGN POST DELINEATION ENHANCEMENT ON YIELD SIGN POST. ALSO INSTALL SIGN POST DELINEATION ENHANCEMENT ON EXISTING YIELD SIGN POST ON EASTBOUND SR-1 RIGHT TURN ONTO SOUTHBOUND BROADWAY DR.
- INSTALL THERMOPLASTIC YIELD LINES ON BOTH RIGHT TURNS ONTO BROADWAY DR.
- RESTRIPE ALL THERMOPLASTIC STOP LINES AT THE INTERSECTION OF SR-1 AND BROADWAY DR.
- REMOVE EXISTING THROUGH/RIGHT AND LEFT TURN ARROWS ON BROADWAY DR. NORTHBOUND AND INSTALL NEW THERMOPLASTIC THROUGH/LEFT AND RIGHT TURN ARROWS.

SEALED BY

COORDINATES ARE NAD/83(1995), ARE DATUM ADJUSTED BY THE FACTOR OF 1.00006 AND TIED TO THE TGRN. ALL ELEVATIONS ARE REFERENCED TO THE NAVD 1988.

STATE OF TENNESSEE
 DEPARTMENT OF TRANSPORTATION

PROPOSED LAYOUT
 SR-1 @ BROADWAY DR.
 SCALE: 1"=30'

BASIC OR SEMI-ACTUATED TIMINGS (SECONDS)

PHASE	MINIMUM GREEN	PASSAGE TIME	MAX 1	CLEARANCE		RECALL TO	MEMORY POSITION (1)	LEFT TURN OPERATION (2)
				YELLOW	ALL RED			
1	6.0	3.0	15	4.0	2.0		NL	P/P
3	6.0	3.0	15	4.0	2.0		NL	PROT
4	6.0	3.0	10	4.0	2.0		NL	PROT
5	6.0	3.0	10	4.0	2.0		NL	P/P

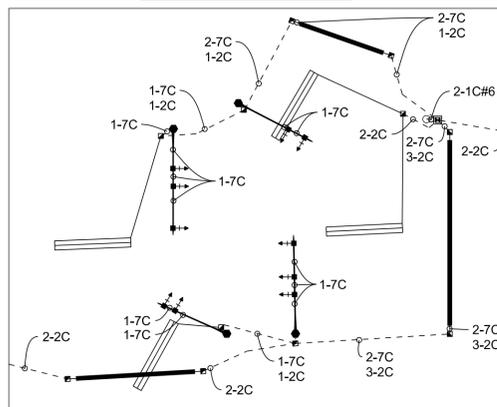
(1) NL = NON LOCK
 L = LOCK
 (2) PERM = PERMITTED
 PROT = PROTECTED
 P/P = PROT/PERM

THESE TIMINGS ARE INITIAL AND MAY BE ADJUSTED BY THE CONTRACTOR BASED ON FIELD OBSERVATIONS TO PROVIDE EFFICIENT OPERATION.

VOLUME - DENSITY TIMING (SECONDS)

PHASE	MINIMUM INITIAL	MAXIMUM INITIAL	ADDED INITIAL	INITIAL GAP	TIME BEFORE REDUCTION	TIME TO REDUCE	MINIMUM GAP	MAX 1	CLEARANCE		RECALL TO	MEMORY POSITION (1)
									YELLOW	ALL RED		
2	15	26	2.3	4.3	20.0	20.0	2.0	60	4.0	2.0	MIN	NL
6	15	26	2.3	4.3	20.0	20.0	2.0	60	4.0	2.0	MIN	NL

WIRING DIAGRAM



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