PROJECT NO.	YEAR	SHEET NO.
32003-4221-04	2014	2

REVISIONS

NO.	DATE	BY	BRIEF DESCRIPTION
1	11/06/14	CDV	ADDED NOTE.

GENERAL NOTES

SPECIFICATIONS: STANDARD ROAD AND BRIDGE SPECIFICATIONS OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION (MARCH 1, 2006 EDITION)

CONCRETE: TO BE CLASS "A" (CAST IN PLACE), F'C = 3,000 P.S.I. EXCEPT AS NOTED OTHERWISE.

SPECIAL NOTE TO CONTRACTOR CONCERNING CONCRETE: (FOR AREAS OF DECK REPAIR & SUBSTRUCTURE REPAIRS) CONCRETE SHALL BE HIGH EARLY STRENGTH CONCRETE WITH A COMPRESSIVE STRENGTH OF F'C = 3,000 P.S.I. AT EIGHTEEN (18) HOURS. THE CONTRACTOR SHALL PROVIDE PROOF PRIOR TO BEGINNING WORK THAT THE PROPOSED CONCRETE MIX WILL OBTAIN THE REQUIRED PROPERTIES. PROOF SHALL BE PROVIDED BY AN INDEPENDENT TESTING COMPANY AND SUBMITTED TO THE MATERIALS AND TEST DIVISION OF THE TENNESSEE DEPARTMENT OF TRANSPORTATION FOR APPROVAL. TRAFFIC SHALL NOT BE PERMITTED ON ANY REPAIR AREA UNTIL TEST SPECIMENS ATTAIN A COMPRESSIVE STRENGTH OF 3,000 P.S.I. AND THE CONCRETE HAS BEEN IN PLACE A MINIMUM OF EIGHTEEN (18) HOURS.

BRIDGE DECK SURFACE FINISH: TO BE IN ACCORDANCE WITH NOTE C IN ARTICLE 604.22 OF THE STANDARD SPECIFICATIONS.

REINFORCING STEEL: SHALL BE ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE. SEE SECTION 604 AND 907 OF THE STANDARD SPECIFICATIONS.

GROUTED BARS IN DRILLED HOLES: HORIZONTALLY DRILLED HOLES SHALL BE DRILLED ½" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH NON-SHRINK GROUT AND THE BAR ROTATED (NOT DRIVEN) TO ITS SEAT. VERTICALLY DRILLED HOLES SHALL BE DRILLED ¼" IN DIAMETER LARGER THAN THE BAR, CLEANED, PACKED WITH EPOXY GROUT AND THE BAR SHALL BE DRIVEN TO ITS SEAT. ALL GROUTING MATERIAL SHALL BE APPROVED BY T.D.O.T. MATERIALS AND TESTS.

NOTE: THE CONTRACTOR SHALL PROVIDE 100% CONVENTIONAL FALL PROTECTION FOR WORKERS INSTALLING DECKING ABOVE 15 FEET.

FOUNDATION PREPARATION: SEE SECTION 204 OF THE STANDARD SPECIFICATIONS.

FINISHING CONCRETE SURFACES: CONCRETE FINISHING SHALL BE IN ACCORDANCE WITH SECTION 604.21 OF THE TENNESSEE STANDARD SPECIFICATIONS. A CLASS I FINISH FOLLOWED BY AN APPLIED TEXTURE FINISH SHALL BE USED IN LIEU OF A CLASS II FINISH. NO TEXTURE FINISH SHALL BE APPLIED PRIOR TO COMPLETION OF PAVING AND HAULING OPERATIONS AT THE BRIDGE SITE. THE APPLIED TEXTURE FINISH SHALL BE MEASURED AND PAID FOR UNDER ITEM NO. 604-04.02.

PATCHING MATERIAL: MATERIAL SHALL BE A POLYMER MODIFIED CEMENTITIOUS PATCHING MATERIAL ON VERTICAL AND OVERHEAD SURFACES. SEE THE QUALIFIED PRODUCTS LIST 13, SECTION B.6.

CONCRETE CURING: ALL CONCRETE IN REPAIR AREAS TO BE CURED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

CONCRETE AND PATCHING MATERIAL: NO CONCRETE OR PATCHING MATERIAL SHALL BE PLACED BY PNEUMATIC METHODS.

DEMOLITION: THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PROTECT ANY PARTS OF THE STRUCTURE THAT ARE NOT TO BE REMOVED SPECIFICALLY. THE CONTRACTOR IS NOT ALLOWED TO USE A HYDRAULIC RAM MOUNTED ON A BACKHOE (COMMONLY CALLED A HOE RAM) OR OTHER SIMILARLY HEAVY EQUIPMENT FOR CONCRETE REMOVAL. PNEUMATIC HAMMERS MAY BE USED TO REMOVE UNSOUND CONCRETE. FOR FULL DEPTH CONCRETE REMOVAL THE MAXIMUM HAMMER SIZE IS 60 POUND CLASS. SAWING OR CUTTING OF THE CONCRETE IS ACCEPTABLE SO LONG AS ANY SPECIFIED PROJECTION OF THE EXISTING REINFORCING STEEL IS MAINTAINED. ALL DEVICES PROPOSED FOR CONCRETE DEMOLITION SHALL MEET THE APPROVAL OF THE ENGINEER.

FORMS AND FALSEWORK: ALL CONCRETE FORMS AND FALSEWORK SHALL BE REMOVED AFTER REPAIRS ARE COMPLETED. COST OF REMOVAL SHALL BE INCLUDED IN ITEMS BID ON. THIS WORK SHALL BE COMPLETED BEFORE FINAL PAYMENT IS APPROVED.

THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE STABILITY OF THE STRUCTURE DURING REPAIRS AND CONSTRUCTION.

ANY AREA THAT IS DISTURBED OUTSIDE THE LIMITS OF THE CONSTRUCTION DURING THE LIFE OF THE PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT HIS EXPENSE.

SEASONAL LIMITATIONS NOTE: NO DISTURBANCE OF CLIFF AND BARN SWALLOW NESTS, EGGS, OR BIRDS (YOUNG OR ADULTS) IS PERMITTED DURING APRIL 15 THROUGH JULY 31. NEST REMOVAL OR DESTRUCTION AND THE IMPLEMENTATION OF MEASURES PREVENTING FUTURE NEST BUILDING (E.G. OBSTRUCTING A STRUCTURE USING NETTING) ARE PERMITTED DURING AUGUST 1 THROUGH APRIL 14. EXCEPTIONS ARE AS FOLLOWS:

1. TDOT MAY REMOVE OR DESTROY NESTS AND PREVENT NEST BUILDING PROVIDED NO EGGS ARE PRESENT PRIOR TO APRIL 15. ABSENCE OF EGGS MUST BE DOCUMENTED USING APPROPRIATE MEANS FOR DETERMINATION, INCLUDING SITE VISITS AND PHOTOGRAPHS.

2. TDOT MAY REMOVE OR DESTROY NESTS PROVIDED NO BIRDS (YOUNG OR ADULTS) ARE PRESENT IN ANY NESTS PRIOR TO JULY 31. ABSENCE OF BIRDS MUST BE DOCUMENTED USING APPROPRIATE MEANS FOR DETERMINATION, INCLUDING SITE VISITS, PHOTOGRAPHS, AND OBSERVATIONS OF NO BIRDS USING NESTS.

1 AN ASBESTOS CONTAINING MATERIAL SURVEY WAS COMPLETED ON BRIDGE NUMBERS 32SR0324003 (32-SR032-06.98R) AND 32SR0324004 (32-SR032-06.97L). LOW CONCENTRATIONS OF ASBESTOS (LESS THAN 1%) WERE DETECTED IN ALL COATINGS ON THE BRIDGES. THE NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS DOES NOT REQUIRE ABATEMENT OF THIS MATERIAL PRIOR TO DEMOLITION. LANDFILLS GENERALLY ACCEPT THESE NON-REGULATED MATERIALS AS CLASS IV, REGULAR CONSTRUCTION AND DEMOLITION WASTE. PLEASE NOTE THAT OSHA CONSIDERS MATERIALS WITH ANY AMOUNT OF ASBESTOS AS A POTENTIAL EXPOSURE HAZARD. CONTRACTORS SHOULD BE MADE AWARE THAT TRACE AMOUNTS OF ASBESTOS ARE PRESENT AND THAT THEY SHOULD EMPLOY PROPER DEMOLITION METHODS PURSUANT TO THE ASBESTOS IN CONSTRUCTION STANDARD (29 CFR 1910.1001) AND 29 CFR 1926.1101 TO CONTROL DUST AND KEEP FIBER COUNTS WITHIN OSHA PERMISSIBLE EXPOSURE LIMITS.

RAILROAD NOTES

THE CONTRACTOR SHALL CONDUCT HIS WORK SO AS TO PROTECT THE RAILROAD'S TRACKS AND PROPERTIES FROM ANY DAMAGE. THE WORK SHALL BE DONE IN ACCORDANCE WITH REGULATIONS STIPULATED BY EACH INDIVIDUAL RAILROAD BEING AFFECTED BY THIS PROJECT AT THE PRECONSTRUCTION MEETING SO AS TO MAINTAIN CLEARANCE AND NOT INTERRUPT TRAFFIC IN ANY MANNER.

THE CONTRACTOR SHALL BE REQUIRED TO SUBMIT A DETAILED AND COMPREHENSIVE PLAN AND PROCEDURE FOR REVIEW AND APPROVAL BY THE PUBLIC PROJECT ENGINEERS/MANAGERS/CONSULTANTS FOR EACH INDIVIDUAL RAILROAD BEING AFFECTED BY THIS PROJECT FOR THE FOLLOWING TASKS IN THE RAILROAD'S RIGHT-OF-WAY:

A) FULL DEPTH CONCRETE DECK REMOVAL OR REPAIR.

B) TEXTURE COAT OR SEALANT OF EXPOSED CONCRETE.

C) SUBSTRUCTURE CONCRETE REPAIR.

D) UNDER BRIDGE VEGETATION REMOVAL.

FOR FULL DEPTH DECK REPAIR IN THE RAILROAD OPERATING SPAN, THE CONTRACTOR SHALL USE EXTREME CARE AND TAKE ANY MEASURE NECESSARY TO PREVENT DEBRIS FROM FALLING ONTO THE RAILROAD'S RIGHT-OF-WAY. THIS SHALL BE ACCOMPLISHED BY USE OF BASKETS, NETTING, WRAPPING SHIELD, OR SIMILARLY EFFECTIVE MEANS THAT WILL NOT INFRINGE ON THE VERTICAL AND/OR HORIZONTAL CLEARANCES IN THESE PLANS. THE TEMPORARY MINIMUM VERTICAL AND HORIZONTAL CONSTRUCTION CLEARANCES THAT THE CONTRACTOR MUST MEET AT ALL TIMES ARE LISTED IN SECTION II OF THE NORFOLK SOUTHERN CORP CRITERIA FOR OVERHEAD BRIDGES, WHICH CRITERIA ARE INCLUDED IN THE RAILROAD SPECIFICATIONS SECTION OF THE STATE CONTRACT PROPOSAL. NORFOLK SOUTHERN CORP WILL NOT ALLOW TRACK OR TRACKS TO BE OBSTRUCTED WITH AT GRADE CRANE MAT PROTECTION. COMPLETE AND FULL ENCLOSURE OF STRUCTURE DEMOLITION WITHIN ALLOWABLE CLEARANCES WILL BE REQUIRED. THE COST OF REMOVING AND DISPOSING OF DEBRIS, AND THE COMPLETE AND FULL PROTECTION OF THE CONTRACTOR'S WORK AREA FOR DEMOLITION SHALL BE INCLUDED IN UNIT ITEMS BID ON.

NO SCAFFOLDING OR OTHER TEMPORARY FRAMEWORK WILL BE ALLOWED THAT INFRINGE ON THE TEMPORARY MINIMUM HORIZONTAL AND/OR VERTICAL CONSTRUCTION CLEARANCES LISTED IN THE NORFOLK SOUTHERN CORP CRITERIA FOR OVERHEAD BRIDGES AS DESCRIBED ABOVE WITHOUT THE PRESENCE AND PERMISSION OF THE AUTHORIZED NORFOLK SOUTHERN CORP RAILROAD FLAGGER. IT IS ANTICIPATED THAT FULL TIME RAILROAD FLAGGING SERVICES WILL BE REQUIRED FOR ANY ASPECT OF THE CONTRACTOR'S WORK ON THE BRIDGE BENTS, PARAPETS, DECK CANTILEVERS, AND FASCIA BEAMS ADJACENT TO OR OVER THE RAILROAD'S RIGHT-OF-WAY AND ALL OTHER WORK IN THE RAILROAD ADJACENT SPANS THAT HAS THE POTENTIAL TO ENCROACH ON VERTICAL AND HORIZONTAL CLEARANCES AND OBSTRUCT TRAIN MOVEMENTS.

SEE AGREEMENT/STATE CONTRACT SPECIAL PROVISION 105C FOR INSURANCE AND RAILROAD FLAGGING SERVICES REQUIREMENTS.

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NORFOLK SOUTHERN CORPORATION
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ESTIMATED QUANTITIES

	ITEM NO.	DESCRIPTION	UNIT	LEFT	RIGHT	TOTAL
	604-03.01	CLASS A CONCRETE (BRIDGES)	C.Y.	23	55	78
	604-03.02	STEEL BAR REINFORCEMENT (BRIDGES)	LB.	1162	2753	3915
	604-03.04	PAVEMENT AT BRIDGE ENDS	S.Y.	259	259	518
1	604-04.02	APPLIED TEXTURE FINISH (EXISTING STRUCTURES)	S.Y.	4705	4598	9303
	604-04.03	BRIDGE END DRAINS (2'X8')	EACH	2	2	4
	604-10.05	CONCRETE	S.F.	15.5	20.5	36
2	604-10.14	REMOVE EXISTING WEARING SURFACE	L.S.	0.5	0.5	1
	604-10.22	CONCRETE PARAPET REPAIR	L.F.	1163	1102	2265
	604-10.30	BRIDGE DECK REPAIRS (FULL DEPTH OF SLAB)	S.Y.	10	-	10
	604-10.50	BRIDGE DECK REPAIRS (PARTIAL DEPTH OF SLAB)	S.Y.	200	200	400
	604-10.54	CONCRETE REPAIRS	S.F.	15.5	20.5	36
	604-10.55	CONCRETE (FOUNDATION REPAIRS)	C.Y.	-	1	1
	604-10.58	EPOXY INJECTION (INJECTION)	GAL.	2.5	1.5	4
	604-10.62	EPOXY INJECTION REPAIR (COMPLETE AND IN PLACE)	L.F.	24	13	37
	707-07.01	CHAIN-LINK FENCE (BRIDGES)	S.F.	894	640	1534

1 INCLUDES ALL COSTS ASSOCIATED WITH APPLYING TEXTURE FINISH TO INDICATED AREAS. SEE DETAILS IN PLANS. ALSO INCLUDES SURFACE PREPARATION USING A HIGH PRESSURE WATER WASH TO REMOVE ALL LOOSE COATINGS, DEBRIS, ETC. AS DIRECTED BY THE ENGINEER.

2 INCLUDES COST OF ALL LABOR AND MATERIALS REQUIRED TO REMOVE AND DISPOSE OF THE EXISTING ASPHALT WEARING SURFACE (APPROX. DEPTH = 5 INCHES +/-) WITHIN THE LIMITS OF THE BRIDGE AND PABE.

G. SCOTT WILSON
REGISTERED ENGINEER
AGRICULTURE
11/07/2013
NO. 106589
STATE OF TENNESSEE

STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION

GENERAL NOTES AND
ESTIMATED QUANTITIES
BRIDGE NO. BR-32-SR32-06.97 (LEFT) &
BRIDGE NO. BR-32-SR32-06.98 (RIGHT)
S.R. 32 OVER S.R. 34 &
NORFOLK SOUTHERN RAILWAY
HAMBLEN COUNTY
2014

Palmer ENGINEERING

DESIGNED BY	G.S. WILSON	DATE	11/2011
DRAWN BY	C.D. VICTORY	DATE	11/2011
SUPERVISED BY	G.S. WILSON	DATE	11/2011
CHECKED BY	G.S. WILSON	DATE	11/2011

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