

27-MAY-2016 09:47  
457000.Walnut Street Bridge Br-dge V457000J17.Walnut Repair Plans 2016\DCN\Br-dge\003.Estimated Quant.dgn



ESTIMATED QUANTITIES				
ITEM NO.	DESCRIPTION	UNIT	CONTRACT QUANTITY	AS-BUILT QUANTITY
(1) 204-06.01	FLOWABLE FILL (GENERAL)	C.Y.	12.5	
(3) 209-99.91	EROSION CONTROL	LS	1	
(4) 601-10.10	TREATED TIMBER LAMINATED DECKING	MBFM	10.0	
(5) 601-10.11	TREATED TIMBER (SIDEWALK PLANKS AND CURBS)	MBFM	1.5	
(6) 601-10.12	TREATED TIMBER ABUTMENT REPAIRS	EACH	1	
(7) 601-11.01	BRIDGE DECK AND SIDEWALK POWER WASHING AND SEALING	LS	1	
(8) 602-10.02	PORTAL REPAIRS	LS	1	
(9) 602-10.12	BEARING DEVICE (REPAIR)	LS	1	
(10) 602-10.26	STRUCTURAL STEEL STRINGER REPAIRS	EACH	5	
(11) 602-10.51	STRUCTURAL STEEL REPAIR(PACK RUST REPAIR)	EACH	85	
(12) 602-10.52	STRUCTURAL STEEL REPAIR(STIFFENER REPAIR)	EACH	3	
(13) 602-10.53	STRUCTURAL STEEL REPAIR(SECTION LOSS REPAIR)	EACH	13	
(14) 602-10.54	STRUCTURAL STEEL REPAIR(REMOVE CORROSION AND REPAINT)	EACH	7	
(15) 602-10.55	STRUCTURAL STEEL REPAIR(ABUTMENT CAP REPAIR)	EACH	1	
(16) 602-10.70	STRUCTURAL STEEL CRACK REPAIR	EACH	4	
(17) 602-10.71	STRUCTURAL STEEL WELD REPAIR	EACH	4	
(18) 603-02.20	POST-TENSIONING STRAND EPOXY COATING	LS	1	
(19) 612-06.01	REPOINTING OF STONE MASONRY JOINTS (ABOVE WATER LINE)	L.F.	9000	
(20) 712-01.52	MAINTENANCE OF TRAFFIC	LS	1	
717-01	MOBILIZATION	LS	1	
722-01.01	FIELD OFFICE (TYPE 1)	LS	1	
(21) 735-20.05	MISC ELECTRICAL REPAIRS	LS	1	
801-03	WATER (SEEDING & SODDING)	M.G.	35	
(22) 803-01	SODDING (NEW SOD)	SY	3470	
(23) 920-10.04	FOUNDATION REPAIRS	EACH	56	

NOTE: ALL QUANTITIES SHALL BE BID WITH THE CONTINGENCY THAT THEY  
MAY BE INCREASED, DECREASED OR ELIMINATED AT THE  
DESCRETION OF THE ENGINEER.

**FOOTNOTES:**

- (1.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO ENCAPSULATE THE BENT FOUNDATIONS WITH FLOWABLE FILL AS IDENTIFIED AND DETAILED IN THE BURIED FOUNDATION REPAIR DETAIL ON SHEET 33.

(2.) DELETED

(3.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO INSTALL, MAINTAIN AND REMOVE ALL EROSION CONTROL MEASURES IDENTIFIED ON SHEET 4 TO INCLUDE SILT FENCE WITH WIRE BACKING, INLET PROTECTION, SEEDING, WATER AND OTHER MISCELLANEOUS EROSION CONTROL ITEMS AS IDENTIFIED AND DEEMED NECESSARY BY THE ENGINEER.

(4.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE TIMBER GLUE LAMINATED DECK PANEL REPAIRS AS IDENTIFIED AND DETAILED ON SHEETS 7 THRU 16.

(5.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO REPLACE IN-KIND THE SIDEWALK TIMBER PLANKS AS IDENTIFIED IN THE FIELD BY THE ENGINEER.

(6.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE SIDEWALK STRINGER TIMBER BEARING REPAIR AT THE NORTH ABUTMENT AS IDENTIFIED AND DETAILED ON SHEET 39.

(7.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE BRIDGE TIMBER DECK SEALING AS IDENTIFIED AND DETAILED ON SHEET 2.

(8.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL REPAIRS ON THE TRUSS PORTAL COMPONENTS AS IDENTIFIED ON SHEETS 17 THRU 22 AND DETAILED IN THE TRUSS END PORTAL HORIZONTAL STRUT REPAIR DETAIL ON SHEET 35.
- (9.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL BEARING REPAIRS AS IDENTIFIED ON SHEET 7 AND DETAILED IN THE TRUSS BEARING REPAIR DETAIL ON SHEET 37.

(10.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL STRINGER REPAIRS AS IDENTIFIED ON SHEETS 7 THRU 15 AND 23 THRU 28 AND DETAILED IN THE STRINGER END REPAIR DETAIL ON SHEET 34.

(11.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL PACK RUST REPAIRS AS IDENTIFIED ON SHEETS 17 THRU 32 AND DETAILED IN THE STEEL PACK RUST REPAIR DETAIL ON SHEET 37.

(12.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL FLOOR BEAM/CAP STIFFENER REPAIRS AS IDENTIFIED ON SHEETS 23 THRU 32 AND DETAILED IN THE STEEL FLOOR BEAM/CAP STIFFENER REPAIR DETAIL ON SHEET 34.

(13.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL SECTION LOSS REPAIRS AS IDENTIFIED ON SHEETS 7 THRU 32 AND DETAILED IN THE STEEL SECTION LOSS REPAIR DETAILS BY PAD WELDING ON SHEET 37.

(14.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL CORROSION REPAIRS AS IDENTIFIED ON SHEETS 17 THRU 32 AND DETAILED IN THE CLEANING AND PAINTING OF STEEL COMPONENTS REPAIR DETAIL ON SHEET 2.

(15.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE SOUTH ABUTMENT CAP REPAIRS AS IDENTIFIED ON SHEET 40 AND DETAILED IN THE STEEL SECTION LOSS REPAIR DETAILS BY PAD WELDING ON SHEET 37 AND BY REPLACING THE BOTTOM FLANGE IN-KIND.

(16.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL CRACK REPAIRS AS IDENTIFIED ON SHEETS 17 THRU 32 AND DETAILED IN THE STEEL CRACK REPAIR DETAILS ON SHEET 36.
- (17.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE STEEL WELD REPAIRS AS IDENTIFIED ON SHEETS 17 THRU 32 AND DETAILED IN THE STEEL CRACKED OR BROKEN WELD REPAIR DETAILS ON SHEET 36.

(18.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE POST TENSIONING CABLE REPAIRS AS IDENTIFIED ON SHEET 19 BY CLEANING CORROSION PER THE CLEANING AND PAINTING OF STEEL COMPONENTS REPAIR DETAIL ON SHEET 2 AND THE APPLYING A PROTECTIVE EPOXY COATING TO THE STRAND.

(19.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PERFORM THE PIER STONE MASONRY REPAIRS AND MORTAR JOINT REPAIRS AS IDENTIFIED AND DETAILED ON SHEET 38.

(20.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO PROVIDE A MAINTENANCE OF TRAFFIC PLAN, FOR APPROVAL BY THE ENGINEER, AND FULL IMPLEMENTATION FOR THE BRIDGE PEDESTRIAN TRAFFIC AS WELL AS THE PEDESTRIAN TRAFFIC IN COOLIGE PARK AND VEHICULAR TRAFFIC ON RIVER STREET UNDER THE BRIDGE AND SHALL BE IN ACCORDANCE WITH MAINTENANCE OF TRAFFIC NOTES ON SHEET 2. THIS IS TO INCLUDE ANY ADA COMPLIANT RAMPS, FENCING, BARRICADES, SIGNAGE, ETC. AS REQUIRED BY THE ENGINEER AND THE CITY.

(21.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO REPLACE THE ELECTRICAL JUNCTION BOX COVER AS IDENTIFIED AND DETAILED ON SHEET 28.

(22.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY TO INSTALL NEW SODDING IN COOLAGE PARK IN AREAS DISTURBED BY CONSTRUCTION OPERATIONS.

(23.) INCLUDES ALL LABOR, MATERIALS AND INCIDENTALS NECESSARY, EXCLUDING THE FLOWABLE FILL, TO PERFORM THE FOUNDATION REPAIRS AS IDENTIFIED AND DETAILED ON SHEET 33. SHALL ALSO INCLUDE REMOVAL OF EXCAVATED MATERIAL FROM THE PROJECT SITE.



CITY OF CHATTANOOGA  
DEPARTMENT OF TRANSPORTATION  
CONTRACT #E-13-002-201  
WALNUT STREET PEDESTRIAN BRIDGE  
BRIDGE REPAIRS - PHASE I

JUSTIN C. HOLLAND, ADMINISTRATOR  
WILLIAM C. PAYNE, P.E., CITY ENGINEER

ESTIMATED  
QUANTITIES


2	DEL.	204-09.01	5/16	ASD
	DEL.	612-06.02		
1	REV.	612-06.01	5/16	ASD
	ADD.	612-06.02		

NO.	REVISION	DATE	SIG.
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SCALE NO SCALE  
DRAWN C. DIXON  
DESIGN A. DAVIDSON  
CHECKED T. MONTIEL

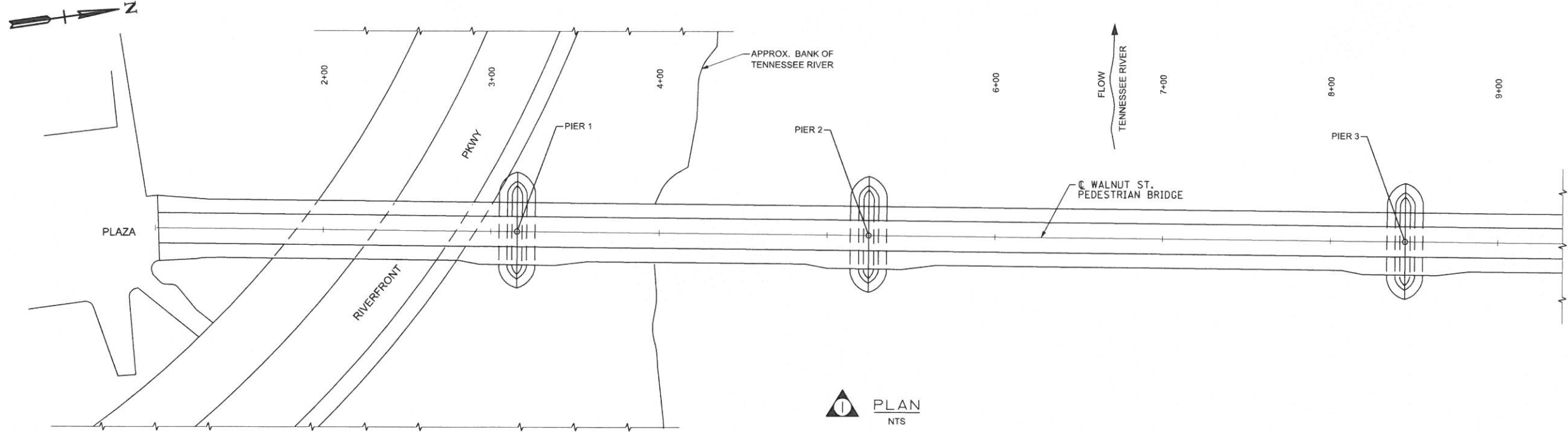
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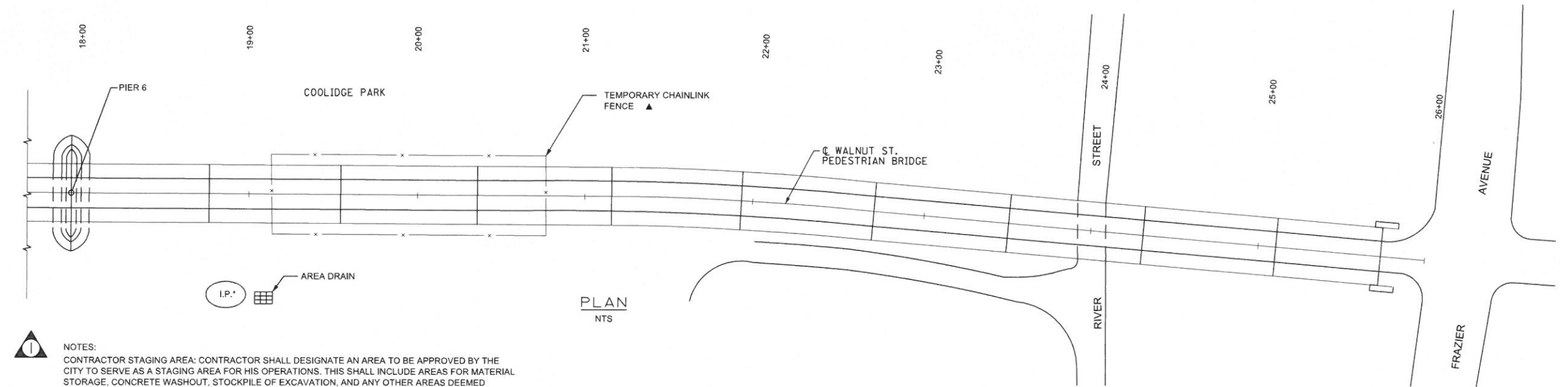
APPROVED

JOB NO.  
457001.17  
DATE 2/29/16  
SHEET 3  
FILE NO.

27-MAY-2016 09:56  
457000.Walnut Street Bridge 457000.LT.Walnut Repair Plans 2016.DGN\Bridges\004.EPSC.dgn



PLAN  
NTS



PLAN  
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NOTES:

CONTRACTOR STAGING AREA: CONTRACTOR SHALL DESIGNATE AN AREA TO BE APPROVED BY THE CITY TO SERVE AS A STAGING AREA FOR HIS OPERATIONS. THIS SHALL INCLUDE AREAS FOR MATERIAL STORAGE, CONCRETE WASHOUT, STOCKPILE OF EXCAVATION, AND ANY OTHER AREAS DEEMED NECESSARY BY THE CONTRACTOR. THIS AREA SHALL BE DELINEATED FROM THE GENERAL PUBLIC BY USE OF A CHAIN LINK FENCE. ALL COSTS ASSOCIATED WITH SET UP AND MAINTAINANCE OF THE STAGING AREA SHALL BE INCLUDED IN THE COST OF ITEMS 209-99.91 AND 712-01.52 AS APPROPRIATE.

WASH DOWN OR WASTE DISCHARGE OF CONCRETE TRUCKS WILL NOT BE PERMITTED ON-SITE UNLESS PROPER SETTLEMENT AREAS HAVE BEEN PROVIDED IN ACCORDANCE WITH BOTH STATE AND FEDERAL REGULATIONS. CONTRACTORS WILL PROVIDE DESIGNATED TRUCK WASHOUT AREAS ON SITE. THESE AREAS MUST BE SELF CONTAINED AND NOT CONNECTED TO ANY STORMWATER OUTLET OF THE SITE. UPON COMPLETION OF CONSTRUCTION WASHOUT AREAS WILL BE PROPERLY STABILIZED.

▲ SEE MAINTENANCE OF TRAFFIC NOTES ON SHEET 2.



I.P.\*

\* INLET PROTECTION SHALL BE SILT-SAVERS, SILTSACK, GUTTERBUDDY, AS DIRECTED BY THE CITY OF CHATTANOOGA STORM WATER DEPT.



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WILLIAM C. PAYNE, P.E., CITY ENGINEER

EROSION AND  
SEDIMENT CONTROL  
PLAN

NO.	REVISION	DATE	SIG.
1	DEL. NOTES, TBL, COF. DAM, TURB. CURT.	5/16	ASD

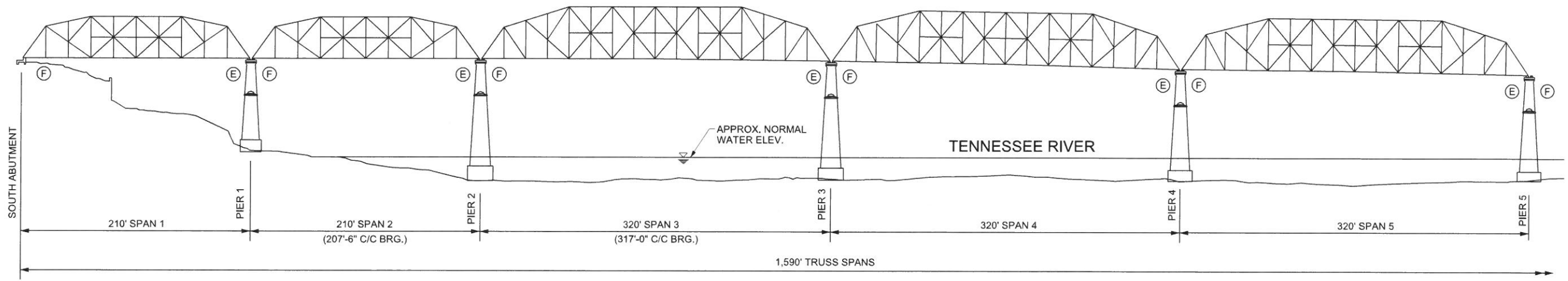
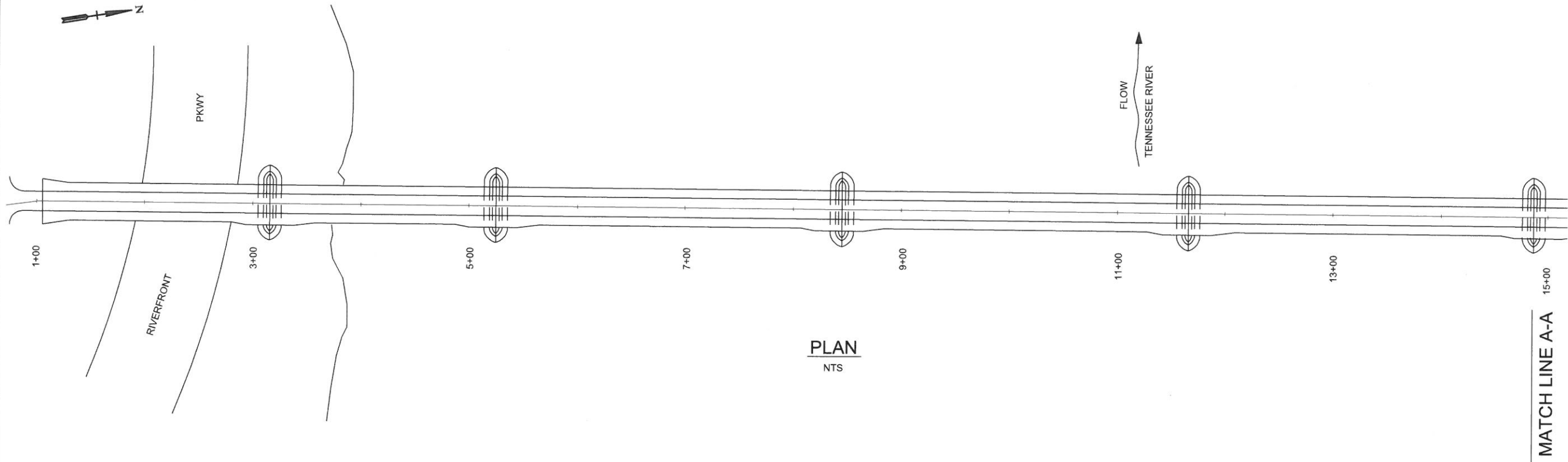
SCALE NO SCALE  
DRAWN D. HOWARD  
DESIGN A. DAVIDSON  
CHECKED T. MONTIEL

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APPROVED  
JOB NO. 457001.17  
DATE 2/29/16  
SHEET 4  
FILE NO.

27-MAY-2016 09:56  
457000\_Walnut Street Bridge 457001.17\_Walnut Repair Plans 2016.DGN\Bridges\005.GP&E 10.dgn



**SCOPE OF WORK**

1. MISCELLANEOUS DECK SURFACE REPAIRS.
2. MISCELLANEOUS BELOW DECK TRUSS REPAIR.
3. MISCELLANEOUS ABOVE DECK TRUSS REPAIR.
4. MISCELLANEOUS NORTH VIADUCT BELOW DECK REPAIRS.
5. MISCELLANEOUS PIER REPAIRS.
6. MISCELLANEOUS ABUTMENT REPAIRS.
7. APPLY WEATHER SEALANT TO ALL DECK AND SIDEWALKS.

**ELEVATION**  
NTS

- (E) DENOTES EXPANSION JOINT  
(F) DENOTES FIXED JOINT



**CITY OF CHATTANOOGA**  
DEPARTMENT OF TRANSPORTATION  
**CONTRACT #E-13-002-201**  
WALNUT STREET PEDESTRIAN BRIDGE  
BRIDGE REPAIRS - PHASE I  
JUSTIN C. HOLLAND, ADMINISTRATOR  
WILLIAM C. PAYNE, P.E., CITY ENGINEER

PLAN &  
ELEVATION (1)

1	DEL. COF. DAM	5/16	ASD
NO.	REVISION	DATE	SIG.

SCALE NO SCALE  
DRAWN D. HOWARD  
DESIGN A. DAVIDSON  
CHECKED T. MONTIEL

**VOLKERT**



APPROVED  
JOB NO. 457001.17  
DATE 2/29/16  
SHEET 5  
FILE NO.





## STONE PIER MASONRY REPAIR

STONE MASONRY BLOCKS IN THE DIRECT VICINITY OF THE MORTAR JOINT REPAIR LOCATIONS SHOULD BE SOUNDED FOR SPALLS AND DELAMINATIONS. IN ADDITION, STONE MASONRY BLOCKS ELSEWHERE IN THE PIER WITH VISIBLE SIGNS OF DETERIORATION SHOULD BE SOUNDED. ANY UNSOUND MATERIAL DISCOVERED SHALL BE REMOVED UNTIL SOUND MATERIAL IS REACHED. LIMITS OF REMOVAL SHALL BE MINIMIZED TO AVOID REMOVING SOUND MATERIAL. STONE BLOCK DETERIORATION REMOVAL AREAS AND LIMITS TO BE APPROVED BY THE FIELD ENGINEER AND MAY BE INCREASED OR DECREASED AT HIS DISCRETION. NOTIFY THE FIELD ENGINEER IMMEDIATELY IF THE DETERIORATION EXCEEDS A DEPTH OF 6 INCHES. COST OF THIS REPAIR TO BE INCLUDED IN THE UNIT BID PRICE OF THE MORTAR JOINT REPAIR.

STONE PIER MASONRY MORTAR JOINT REPAIR \*

1. IN GENERAL, THE REPAIRS SHOULD BE UNDERTAKEN USING THE LEAST OBTUSIVE MEANS POSSIBLE, WITH A PLAN TO DISTURB THE LEAST AMOUNT OF ORIGINAL MATERIAL. UNNECESSARY REPAIRS AND REPLACEMENTS SHOULD BE AVOIDED.
2. THE REPAIR SHOULD ADDRESS ONLY THOSE AREAS OF THE BRIDGE PIER WHERE DETERIORATION IS PRESENT. SOUND MORTAR THAT IS WELL BONDED TO THE ADJACENT MASONRY SHOULD NOT BE REMOVED.
3. REPAIR MORTAR (REPOINT) ONLY WHEN THERE IS EVIDENCE OF DETERIORATION SUCH AS DISINTEGRATING MORTAR, CRACKS IN MORTAR JOINTS, GAPS AT THE MORTAR/STONE INTERFACE, LOOSE STONES, OR DAMP WALLS. THESE AREAS ARE TO BE DESIGNATED BY THE FIELD ENGINEER PRIOR TO THE START OF THE REPAIR WORK.
4. ALL REPAIR WORK SHOULD BE SUPERVISED BY A MASON EXPERIENCED IN STONE WORK AND IN THE USE AND MIXTURE OF MORTAR, PER REQUIREMENTS DETAILED BELOW.
5. REPAIR WITH CONCRETE OR GUNITE/SHOTCRETE IS NOT PERMITTED.

1. THE CONTRACTOR IS RESPONSIBLE TO SUBMIT A MASON DESIGNED POINTING MORTAR MIX, COMPLIANT WITH THESE GUIDELINES, FOR APPROVAL BY THE ENGINEER.
2. THE REPOINTING MORTAR USED FOR THE JOINT REPAIR SHALL BE COMPATIBLE WITH THE HISTORIC MORTAR AND WHICH MATCHES THE HISTORIC MORTAR COLOR, TEXTURE, AND FINISH. THE EXACT PHYSICAL CONDITIONS AND CHEMICAL PROPERTIES OF THE HISTORIC MORTAR ARE NOT OF MAJOR SIGNIFICANCE AS LONG AS THE REPAIR MORTAR CAN COEXIST WITH THE HISTORIC MORTAR IN A SYMPATHETIC AND SUPPORTIVE CAPACITY AND IT IS COMPATIBLE WITH THE TYPE OF STONE USED IN THE BRIDGE PIER, THE CURRENT SITE CONDITIONS AND THE CHARACTERISTICS OF THE HISTORIC MORTAR.
3. TO DETERMINE THE PROPER MORTAR MIX, IT MAY BE NECESSARY TO ANALYZE THE COMPOSITION OF THE EXISTING HISTORIC POINTING MORTAR BY MEANS OF PETROGRAPHIC EXAMINATION OF SAMPLES OF THE EXISTING POINTING MORTAR.
4. MORTAR MIXES WITH HIGH PORTLAND CEMENT RATIOS ARE NOT PERMITTED.
5. MORTAR MIXES MUST HAVE A LOWER COMPRESSIVE STRENGTH AND GREATER VAPOR PERMEABILITY THAN THE EXISTING MASONRY UNITS OF THE BRIDGE PIER.
6. MEASURE AND MIX MORTAR COMPONENTS CAREFULLY TO ASSURE UNIFORMITY OF VISUAL AND PHYSICAL CHARACTERISTICS. MEASURE DRY INGREDIENTS BY VOLUME AND THOROUGHLY MIX THEM BEFORE ADDING WATER. AFTER DRY MIXING, ADD HALF THE NEEDED WATER AND MIX FOR APPROXIMATELY FIVE MINUTES. THEN ADD THE REMAINING WATER IN SMALL PORTIONS UNTIL THE DESIRED CONSISTENCY IS REACHED.
7. MORTAR SHOULD BE STIFF TO LIMIT SHRINKAGE AND OF THE CONSISTENCY THAT IF SQUEEZED BY HAND, IT DOES NOT RUN OUT.
8. MORTAR SHOULD NOT BE ALLOWED TO DRY OUT DURING USE AND SHOULD BE REWORKED AT INTERVALS BEFORE BEING PLACED IN JOINTS. RETEMPERING, OR ADDING MORE WATER, SHALL NOT BE PERMITTED.

1. REMOVE ALL DETERIORATED AND LOOSE MORTAR, AS DIRECTED BY THE FIELD ENGINEER, TO A MINIMUM DEPTH OF 2 TO 2 1/2 TIMES THE WIDTH OF THE JOINT TO ENSURE AN ADEQUATE BOND. REMOVAL TO A GREATER DEPTH MAY BE REQUIRED TO REACH SOUND MORTAR. SAW CUTTING OR GRINDING OF THE MORTAR JOINTS IS NOT A PERMITTED METHOD FOR MORTAR JOINT REMOVAL DUE TO RISK OF DAMAGING EXISTING STONE. ADDITIONALLY, REMOVING NON-DETERIORATED MORTAR FROM SOUND JOINTS IS NOT PERMITTED.
2. CLEAN MORTAR JOINTS USING HAND TOOLS SUCH AS A TROWEL, HAND CHISEL, AND HAMMER OR A SMALL PNEUMATIC CHISEL. REMOVE MORTAR CLEANLY, MAKING EVERY EFFORT TO LEAVE SQUARE CUTS AT THE REAR OF THE JOINT.
3. RAKE OUT LOOSE MATERIAL USING NATURAL BRISTLE, NYLON BRUSH, OR LOW-PRESSURE COMPRESSED AIR (40-60 PSI). LOW PRESSURE WATER (MAXIMUM PRESSURE 400PSI) MAY ALSO BE USED, ALTHOUGH CARE SHOULD BE TAKEN NOT TO SCOUR ADDITIONAL SOUND BEDDING MORTAR OUT OF THE JOINTS. USING METAL SCRAPERS OR BRUSHES OR ACID AND ALKALI CLEANING AGENTS ARE NOT PERMITTED.
4. ANY LOOSE STONES ENCOUNTERED SHOULD BE CAREFULLY REMOVED TO AVOID DAMAGE TO THE ADJOINING MASONRY. REMOVE ALL LOOSE MORTAR, THOROUGHLY CLEAN THE STONE AND THE RECEIVING SURFACE USING LOW WATER PRESSURE (MAXIMUM PRESSURE 400 PSI), APPLY A LINING OF BEDDING MORTAR TO THE SURFACE OF THE HOLE TO BE FILLED, CAREFULLY RESET THE EXISTING STONE IN ITS ORIGINAL POSITION SO THAT THE NATURAL STRATIFICATION IS PARALLEL TO THE BEDDING PLANE, ENSURE IT IS WELL-BEDDED AND EXISTING IN PLACE MASONRY IS NOT JARRED.
5. STONES ADJACENT TO JOINTS TO BE REPOINTED, SHOULD BE THOROUGHLY SATURATED WITH CLEAN WATER PRIOR TO BEGINNING REPOINTING WORK TO PREVENT THE STONE FROM DRAWING OUT THE MOISTURE IN THE NEW MORTAR JOINT AND CAUSING IT TO DRY OUT AND CRACK. HOWEVER, NO STANDING WATER SHOULD BE PRESENT AT THE TIME OF REPOINTING.
6. REPOINT ONLY WHEN THE AMBIENT TEMPERATURE IS BETWEEN 41 AND 86 DEGREES F, AND EXPECTED TO REMAIN ABOVE 41 DEGREES FOR SEVERAL DAYS FOLLOWING REPOINTING. IN ADDITION, THE STONE SHOULD BE FREE OF FROST.
7. REPOINT USING A MORTAR PER REQUIREMENTS DETAILED IN THE PREVIOUS SECTION OF THIS REPAIR PROCEDURE.
8. BEFORE PLACING THE REPOINTING MORTAR, DAMPEN THE REMAINING PORTION OF THE EXISTING SOUND MORTAR JOINT WITH A SPRAY BOTTLE TO CONTROL SUCTION AND EVAPORATION. NO STANDING WATER SHOULD BE PRESENT IN THE JOINT TO BE REPOINTED.
9. PLACE NEW MORTAR TO WITHIN 1/8" OF THE FACE OF THE STONE. MORTAR SHOULD BE COMPACTED IN SUCCESSIVE LAYERS, WITH EACH LAYER PERMITTED TO REACH THUMB-PRINT HARDNESS BEFORE THE NEXT LAYER IS APPLIED. DURING THIS STEP, HAND POINTING IS THE PREFERRED METHOD, HOWEVER A PRESSURE GUN MAY BE USED BY EXPERIENCED OPERATORS.
10. FINISH POINTING THE REMAINING 1/2" OF THE JOINT. FINISH POINTING SHOULD NOT BE DONE BY HAND, BUT RATHER WITH A HAND POINTING TOOL. FOR THE OUTER 3/4", INSTALL MORTAR IN 1/4" LIFTS, COMPACTING EACH LAYER. PERMIT EACH LAYER TO REACH THUMBPRINT HARDNESS BEFORE THE NEXT LAYER IS APPLIED. UPON COMPLETION, THE NEW POINTING SHOULD MATCH THE HISTORIC FINISH AND TOOLING AS THE REST OF THE BRIDGE PIER. THE FINISH SHOULD MATCH THE STONE FACE OR BE SLIGHTLY CONCAVE, TO CHANNEL WATER OUT OF THE WALL AND TO AVOID WATER POOLING. THE REPOINTED MORTAR JOINTS SHOULD MATCH THE WIDTH OF THE HISTORIC MORTAR JOINTS THROUGHOUT THE REST OF THE EXISTING BRIDGE PIER.
11. IMMEDIATELY AFTER REPOINTING, CLEAN EXCESS MORTAR FROM ADJACENT MASONRY, TAKING CARE NOT TO DAMAGE NEWLY POINTED JOINTS. USE ONLY NATURAL BRISTLE OR NYLON BRUSHES AND WOOD OR PLASTIC TOOLS TO REMOVE EXCESS MORTAR.
12. AFTER MORTAR HAS BEGUN HARDENING (ABOUT 12 HOURS), TAMP BACK WITH A STIFF BRUSH TO FURTHER COMPACT THE MATERIAL.
13. PROTECT THE FINISHED WORK FROM DIRECT SUN AND RAIN UNTIL THE FACE HAS CURED AND HARDENED, APPROXIMATELY 48 HOURS.
14. AFTER MORTAR HAS BEEN ALLOWED TO CURE FOR 7 TO 14 DAYS, CLEAN EXPOSED MASONRY SURFACES USING STIFF NYLON OR NATURAL BRISTLE BRUSHES AND CLEAN WATER SPRAYED AT LOW PRESSURE (MAXIMUM PRESSURE 400 PSI).

•AS ADOPTED FROM THE PENNDOT HISTORIC STONE ARCH BRIDGE MAINTENANCE MANUAL, OCTOBER 2007



WILLIAM C. PAYNE, P.E., CITY ENGINEER

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JUSTIN C. HOLLAND, ADMINISTRATOR

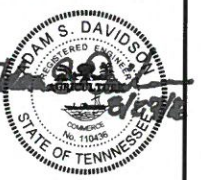
## STONE PIER REPAIR DETAILS

[illegible]

1	DEL. NOTE	5/16	ASD
NO.	REVISION	DATE	SIG.

DESIGN A. DAVIDSON

VOLKERT



FILE NO.