

STATE	PROJECT NO.	YEAR	SHEET NO.	TOTAL SHEETS
KANSAS	472-94071	2005	WCL1	

Alternate #/

ITEM	GRADE 4.0 (AE) CONCRETE	GRADE 4.0(AE) CONCRETE (SPECIAL)	CONCRETE MASONRY COATING
WALL	(CU. YDS.)	(CU. YDS.)	(SQ. YDS.)
2nd Street Wall (NE)	(9.7)	9.7	(23)
2nd Street Wall (SE)	(19.8)	19.8	(26)
1st Street Wall (NE)	(144.4)	144.4	(136)
1st Street Wall (SE)	(184.8)	184.8	(169)
Total C.I.P. Walls	(358.7)	358.7	(354)

***SUMMARY OF QUANTITIES: CAST-IN-PLACE RETAINING WALLS**

***Notes:**
 All of these quantities are additions or subtractions from the base bid quantities shown on Sheet W4.1. Negative quantities are denoted by the number surrounded by parentheses (xx). Negative quantities are subtractions from the base bid quantities, all other quantities are additions. The extension of the negative quantities on the official bid tab will reduce the overall cost of the Alternate. This project will be awarded to the Contractor with the lowest and best total base bid amount plus alternates selected by the City, the total of which is within the Owner's approved budget.

GENERAL NOTES

DESIGN SPECIFICATIONS:

AREMA Manual for Railway Engineering, 2002

CONSTRUCTION SPECIFICATIONS:

Kansas Department of Transportation, Standard Specifications for State Road and Bridge Construction, 1990, English Version, and Special Provisions.
 Applicable sections of the 2002 AREMA Manual for Railway Engineering including Chapter 8, "Concrete Structures and Foundations".
 The AREMA Manual for Railway Engineering can be obtained from the following address:

American Railway Engineering and Maintenance-of-Way Association (AREMA)
 8201 Corporate Drive, Suite 1125
 Landover, MD 20785-2230
 Telephone (301) 459-3200

DESIGN LOADING:

Earth & Other Loads -- As specified by AREMA.
 Track Loading Surcharge -- Cooper E80. Model as two line loads per track at 5'-0" axle spacing. Line loads are calculated to back of footing heel.
 Live Load Surcharge -- Use an equivalent height of earth due to the Track Loading Surcharge to calculate load.
 Equivalent Fluid Pressure -- 37 pcf

UNIT STRESSES:

Grade 4.0 Concrete	$f'c = 4,000$ psi	$f'c = 1,600$ psi
Grade 4.0 Concrete (AE) (Special)	$f'c = 4,000$ psi	$f'c = 1,600$ psi
Reinforcing Steel (Grade 60)	$f_y = 60,000$ psi	$f_s = 24,000$ psi

CONCRETE:
 Concrete in footings shall be Grade 4.0. Concrete in the walls shall be Grade 4.0 (AE) (Special). All exposed edges shall be beveled with a 3/4" triangular moulding unless otherwise noted. Exposed surfaces except recessed grooves, shall be given a light sandblasting finish once all phases of construction are complete.

REINFORCING STEEL:

Reinforcing Steel shall conform to the requirements of A.S.T.M. A615 Grade 60. Epoxy coat all reinforcing steel in the front face of all walls, except 2nd Street Wall (NE). All bar spacings are center to center unless otherwise shown.
 The clear distance from face of concrete to near edge or end of reinforcing bar shall be 2" unless otherwise noted.

EXCAVATION:

All excavation for the retaining walls shall be Class III Excavation. See Excavation Details for limits of pay excavation.

STRUCTURAL BACKFILL:

Compacted granular fill shall be used for all structural backfill. It shall meet the minimum soil parameters, gradation and other properties shown on the plans and in the specifications. See General Note 36 on Sheet G1.1. The Contractor is responsible for furnishing and placing compacted granular fill that meets the design and performance requirements of the project. Structural backfill shall be placed within the limits identified on the plans and in the specifications and shall be subsidiary to bid item "Class III Excavation."

BRIDGE BACKWALL PROTECTION SYSTEM:

Apply a Bridge Backwall Protection System to the back face of the retaining walls from the top of the footings to 1'-0" below the top of the final ground line or to the top of the asphalt in accordance with the KDOT Specifications and manufacturer's recommendations. Bridge Backwall Protection System shall extend full length of walls, stopping 1'-0" from each end of wall. Prior to backfilling, repair any damage done to the system at no extra cost to the City.

ABUTMENT STRIP DRAIN:

The contractor shall excavate to the limits shown on the Excavation Details, grade the bottom of the backfill area, place the strip drain, and place the perforated pipe and the backfill.
 Perforated pipe shall be placed next to the strip drain. Outside the limits of the strip drain, non-perforated pipe shall be used. Care shall be taken to enclose the perforated pipe with the extension of the filter fabric.
 Compaction shall be required. See Specifications.

The Abutment Strip Drain material shall meet the requirements of KDOT Specifications. Perforated pipe and non-perforated outlet pipe shall be corrugated polyethylene tubing and shall meet the requirements of KDOT Specifications. 4" round Perforated Pipe and 4" round Outlet Pipe are subsidiary to Strip Drain.
 The bottom of the backfilled area (on top of retaining wall footing heel) shall be graded to drain and backfilled with a cohesive type soil. The soil should be a silty clay or clay under the Kansas Classification System with a minimum plasticity index of 20. The material shall be compacted to conform to Type C standards.

ALTERNATE 1 - WHITE CONCRETE

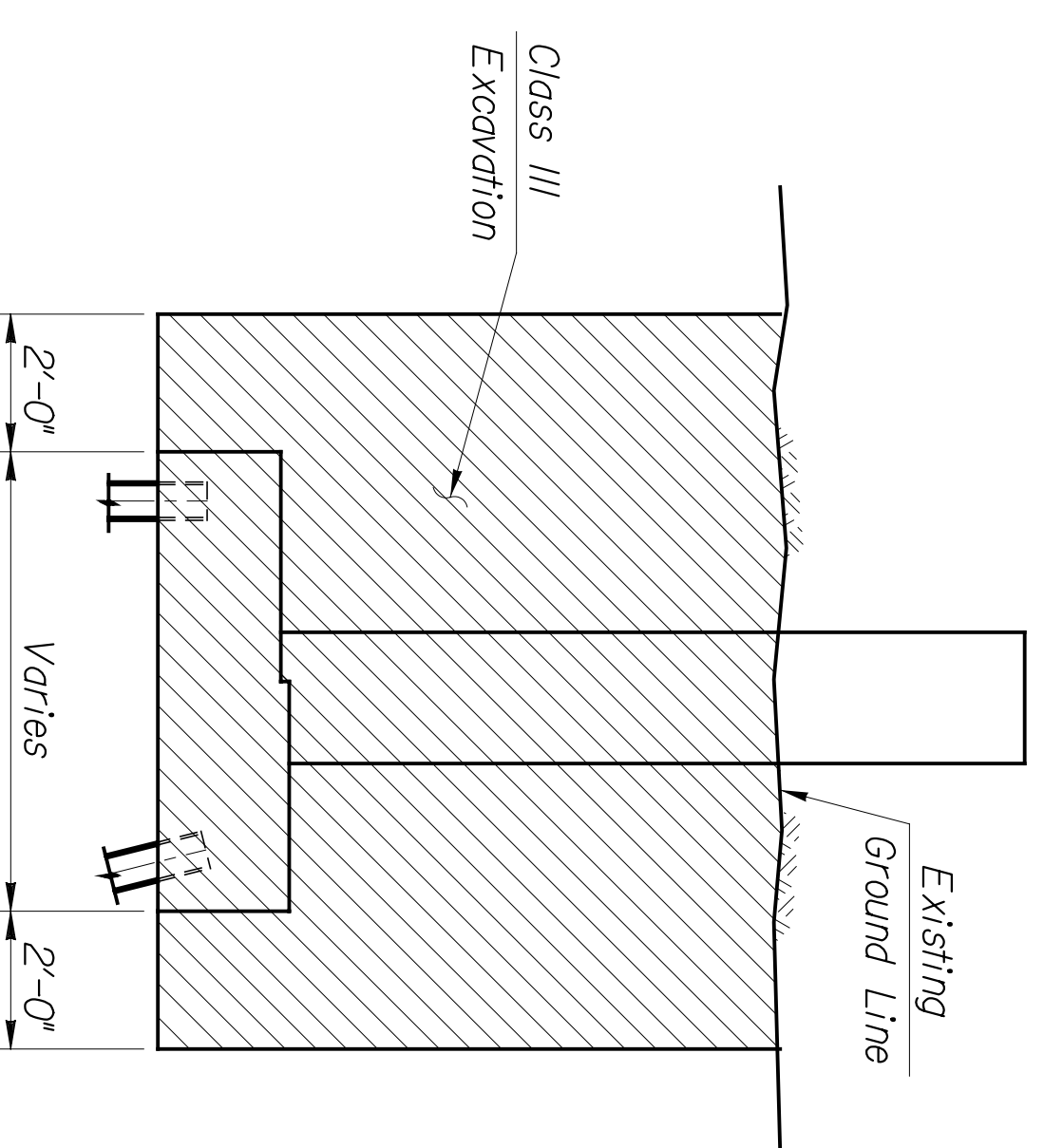
Alternate 1 replaces Concrete Grade 4.0 (AE) with Concrete Grade 4.0 (AE) (Special). This alternate provides an integrally colored white cement concrete for the four cast-in-place retaining walls.
 Sheet WCL.1 replaces sheet W4.1 in Volume 2. For other cast-in-place retaining wall details, see sheets W4.7 through W4.24 in Volume 2.

CONCRETE SEALER AND GRAFFITI PROTECTION SYSTEM:

Concrete sealer and graffiti protection system shall be applied to the exposed face of the cast-in-place retaining walls. Apply concrete sealer from the top of wall to the top of footing. Apply graffiti protection system from the top of wall to 1'-6" above the top of footing. See Special Provisions.

TEMPORARY SHORING:

Temporary shoring, to the approximate limits shown in the plans, will be required to retain cut during construction of the 1st Street Wall (SE). Payment shall be at the lump sum price bid for "Temporary Shoring". See Special Provisions.



EXCAVATION DETAILS

Note: Class III Excavation shall be computed on the basis of the cross-hatched area and shall extend 2'-0" beyond each end of retaining wall, except where adjacent to existing abutment or wall.

NO.	DATE	REVISIONS	BY	APP'D.
2				
1				

CITY OF WICHITA

WICHITA CENTRAL CORRIDOR
 ALTERNATE 1
 CAST-IN-PLACE RETAINING WALLS
 SUMMARY OF QUANTITIES AND GENERAL NOTES

SHEET NO.	OF	SCALE	APP'D.	TRACED
DESIGNED	DET.	DET.	DESIGNED	DESIGNED
DESIGN CK.	DET.	DET.	DESIGNED	DESIGNED

This sheet designed by:



ARCHITECTS ENGINEERS PLANNERS

DATE	BY