



South Carolina
Department of Transportation

DM0499

March 5, 1999

MEMORANDUM TO GROUP LEADERS & CONSULTANTS

SUBJECT: VALUE ENGINEERING PROPOSALS

The attached revised Bridge Design standard notes sheets should be used for bridge projects beginning with the May 1999 letting. The old "Alternates to Plan Details" note has been removed and a new "Value Engineering Proposals" note added in it's place.

This change is required to avoid conflict when road and bridge plans are let in the same contract. The attached new special provision entitled "Value Engineering Proposal" will be included in all bridge projects beginning with the May 1999 letting.

Plans that are complete and that will be let in May 1999 or later must be revised to include this revision. Your cooperation in this matter is appreciated.

Randy R. Cannon, P.E.
Bridge Design Engineer

Attachments:

cc: Assistant Bridge Design Engineers

File: PC/REL



(1) VALUE ENGINEERING PROPOSAL:

This value engineering specification is to provide an incentive to the Contractor to initiate, develop, and present to the Department of Transportation for consideration, any cost reduction proposals conceived by them involving changes in the drawings, designs, specifications, or other requirements of the contract. This specification does not apply unless the proposal submitted is specifically identified by the Contractor as being presented for consideration as a Value Engineering Proposal.

Value Engineering Proposals contemplated are those that would result in a net savings to the Department by providing a decrease in the total cost of construction or reduce the construction time without increasing the cost to construct the project. The affects the Proposal may have on the following items, but not limited to these items, will be considered by the Department when evaluating the proposal:

- | | |
|-------------------------|--------------------------|
| 1) Service Life | 5) Ease of Maintenance |
| 2) Safety | 6) Desired Aesthetics |
| 3) Reliability | 7) Design |
| 4) Economy of Operation | 8) Standardized Features |

The Department reserves the right to reject the Proposal or deduct from the savings identified in the Proposal to compensate for any adverse effects to these items which may result from implementation of the Proposal.

The Department reserves the right to reject at its discretion any Value Engineering Proposal submitted which would require additional right-of-way. Substitution of another design alternate, which is detailed in the contract plans, for the one on which the Contractor bid, will not be allowed. Plan errors which are identified by the Contractor and which result in a cost reduction will not qualify for submittal as a Value Engineering Proposal. Pending execution of a formal supplemental agreement, implementing an approved Value Engineering Proposal, the Contractor shall remain obligated to perform in accordance with the terms of the existing contract. No time extension will be granted due to the time required to review a Value Engineering Proposal.

The Contractor is encouraged to include this specification in contracts with subcontractors. The Contractor shall encourage submissions of Value Engineering Proposals from subcontractors, however, it is not mandatory that the Contractor accept or transmit to the Department Value Engineering Proposals proposed by the subcontractors. The Contractor may choose any arrangement for the subcontractor value engineering payments, provided that these payments shall not reduce the Department's share of the savings resulting from the Value Engineering Proposal.

Should the Contractor desire a preliminary review of a possible Value Engineering Proposal, prior to expending considerable time and expense in full development, a copy of the preliminary proposal shall be submitted to the Resident Engineer. The submittal shall state, Preliminary Value Engineering Proposal Review Request and must contain sufficient drawings, cost estimates and written information that can be clearly understood and interpreted. Also, include the identity of any Private Engineering Firms proposed by the Contractor to prepare designs or revisions to designs. The Department will review the preliminary submittal only to the extent necessary to determine if it has a possible merit as a Value Engineering Proposal. This review does not obligate the Department to approve the final proposal should a preliminary review indicate the proposal has possible merit. The Department is under no obligation to consider any Value Engineering Proposal (Preliminary or Final) that is submitted.

A copy of the Final Value Engineering Proposal shall be submitted by the Contractor to the Resident Engineer. The proposal shall contain, as a minimum, the following:

- (1) A statement that the request for the modification is being made as a Value Engineering Proposal.
- (2) A description of the difference between the existing contract requirements and the proposed modifications, with the comparative advantages and disadvantages of each.
- (3) If applicable, a complete drawing of the details covering the proposed modifications and supporting design computations shall be included in the final submittal. The preparation of new

designs or revisions or modifications to the designs shown in the contract drawings shall be accomplished and sealed by a Professional Engineer registered in the State of South Carolina. Further, the Department may require a review, and possibly the redesign, be accomplished by the project's original designer, or an approved equal. The Department may contract with private engineering firms, when needed, for reviews requested by the Department. The Contractor shall contract with the original project designer, or an approved equal, when required by the Department, for any design work needed to completely and accurately prepare contract drawings. The Department may waive the requirements to have the preparation of contract drawings accomplished by a Professional Engineer or the project's original designer based on the extent, detail, and complexity of the design needed to implement the Value Engineering Proposal.

- (4) An itemized list of the contract requirements that would be modified and a recommendation of how to make each modification.
- (5) A detailed estimate of the cost of performing work under the proposed modification.
- (6) A statement of the time by which approval of the Value Engineering Proposal must be issued by the Department to obtain the total estimated cost reduction during the remainder of the contract, noting any effect on the contract completion or delivery schedule.

To facilitate the preparation of revisions to contract drawings, the Contractor may purchase reproducible copies of drawings for their use through the Department. The preparation of new design drawings by or for the Contractor shall be coordinated with the appropriate Department Branch. The Contractor shall provide, at no charge to the Department, one set of reproducible drawings of the approved design needed to implement the Value Engineering Proposal.

The Engineer will be the sole judge of the acceptability of a Value Engineering Proposal requested in accordance with these provisions and of the estimated net savings resulting from the approval of all or any part of the Proposal. The Contractor has the right to withdraw, in whole or in part, any Value Engineering Proposal not accepted by the Department within the period to be specified in the Proposal per Item (6) of the preceding paragraph.

If a Value Engineering Proposal is approved, the necessary changes will be effected by Supplemental Agreement. Included as a part of the Supplemental Agreement will be provisions for price adjustment giving the Contractor 50 percent of the net savings to the project resulting from the modifications.

The Department reserves the right to include in the Supplemental Agreement any conditions it deems appropriate for consideration, approval, and implementation of the proposal. Acceptance of the Supplemental Agreement by the Contractor shall constitute acceptance of such conditions.

The final net savings to be distributed will be the difference in cost between the existing contract cost for the involved bid items and the actual final cost occurring as a result of the modification. Only those unit bid items directly affected by the Supplemental Agreement will be considered in making the final determination of net savings. In determining the estimated net savings, the Department reserves the right to disregard the contract prices if, in the judgement of the Department, such prices do not represent a fair measure of the value of the work to be performed or to be deleted. Subsequent change documents affecting the modified unit bid items but not related to the Value Engineering Proposal will be excluded from such determination. The Department's review and administrative costs for Value Engineering Proposals will be borne by the Department. The Contractor's costs for designs and /or revisions to designs and the preparation of design drawings will be borne by the Contractor. The costs to either party will not be considered in determining the net saving obtained by implementing the Value Engineering Proposal. The Contractor's portion of the net savings shall constitute full compensation to them for effecting all changes pursuant to the agreement. The new savings will be prorated, 50 percent for the Contractor and 50 percent for the Department, for all accepted Value Engineering Proposals.

Upon execution of the Supplemental Agreement, the Department will thereafter have the right to use, duplicate or disclose in whole or in part any data necessary for utilization of the modification on other projects without obligation or compensation of any kind to the Contractor. Restrictions or conditions imposed by the Contractor for use of proposal on other projects shall not be valid.

Except as may otherwise precluded by this specification, the Contractor may submit a previously approved Value Engineering Proposal on another project.

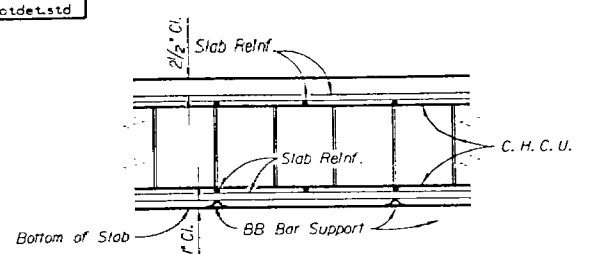
Unless and until a Supplemental Agreement is executed and issued by the Department, the Contractor shall remain obligated to perform the work in accordance with the terms of the existing contract.

Acceptance of the modification and its implementation will not modify the completion date of the contract unless specifically provided for in the Supplemental Agreement.

The Contractor shall not be entitled to additional compensation for alterations in the plans or in the details of construction pursuant to the Value Engineering Proposal.

The Department will not be liable to the Contractor for failure to accept or act upon any Value Engineering Proposal submitted pursuant to this provision nor for any delays to the work attributable to any such proposal.

The Department reserves the right to negotiate desired changes with the Contractor under the provisions of the contract even though the changes are the result of a Value Engineering Proposal submitted on another contract. In this instance the savings will be prorated in accordance with the terms of the negotiated agreement.



BAR SUPPORT DETAIL
SECTION PARALLEL TO ROADWAY

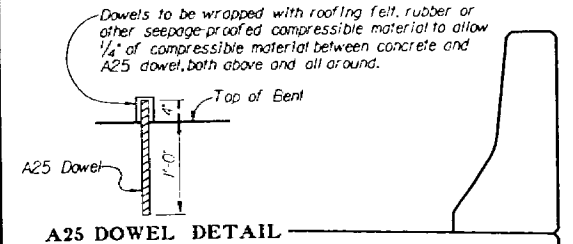
NOTE:
TERMS AND SYMBOLS USED BELOW REFER TO STANDARD TYPE BAR SUPPORTS AND CLASSES OF PROTECTION AS SPECIFIED IN C.R.S.I. MANUAL OF STANDARD PRACTICE, DATED 1997.

BAR SUPPORTS SHALL BE SPACED TO PROVIDE ADEQUATE SUPPORT FOR SLAB REINFORCING STEEL. THE LOWER LAYER OF SLAB STEEL SHALL BE SUPPORTED BY BEAM BOLSTERS (BB) BAR SUPPORTS WITH ONE ROW NEAR EACH END OF SPAN AND INTERIOR ROWS SPACED APPROXIMATELY 2'-0" ON CENTER. BB BAR SUPPORTS SHALL HAVE CLASS 1 MAXIMUM PROTECTION. TOP REINFORCING STEEL SHALL BE SUPPORTED BY CONTINUOUS HIGH CHAIRS UPPER (CHCU) AS SHOWN IN THE ABOVE DETAIL. SPACED 2'-6" ON CENTER MAXIMUM.

WEIGHT OF BAR SUPPORTS ARE NOT INCLUDED IN THE REINFORCING STEEL QUANTITIES. BAR SUPPORTS SHALL BE CONSIDERED INCIDENTAL TO THE REINFORCING STEEL AND ALL COSTS OF FURNISHING AND PLACING BAR SUPPORTS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REINFORCING STEEL.

- PLASTIC BAR SUPPORTS:**
PLASTIC BAR SUPPORTS MAY BE USED IN LIEU OF BB WIRE SUPPORTS.
- PLASTIC BAR SUPPORTS SHALL MEET THE FOLLOWING REQUIREMENTS:
1. CHAIRS AND BOLSTERS MUST BE OF ADEQUATE STRENGTH TO RESIST A 300 POUND CONCENTRATED LOAD WITHOUT PERMANENT DEFORMATION OR BREAKAGE.
 2. THE MATERIAL FROM WHICH PLASTIC BAR SUPPORTS ARE MANUFACTURED SHALL BE EITHER VIRGIN RESIN OR FIRST GENERATION RECYCLED THERMOPLASTIC RESIN, BE COLORED WHITE, GRAY, OR BLACK, AND BE CHEMICALLY INERT IN CONCRETE.
 3. PLASTIC REBAR SUPPORTS SHALL BE MOLDED IN A CONFIGURATION WHICH DOES NOT RESTRICT CONCRETE FLOW AND CONSOLIDATION AROUND AND UNDER THE REBAR SUPPORT.

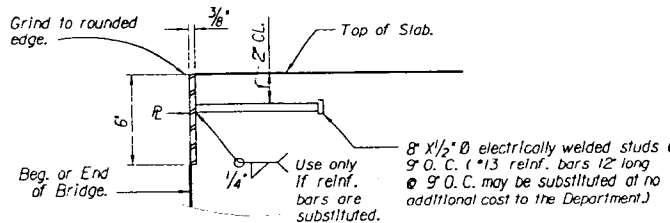
INDEX PILES:
NOTE:
THE PILE LENGTHS GIVEN ARE FOR BID ESTIMATION PURPOSES ONLY. ONE 18-IN. SQUARE PRESTRESSED INDEX PILE 41 FT. LONG SHALL BE DRIVEN AT AN INTERIOR BENT AS DIRECTED BY THE ENGINEER. THE DEPARTMENT RESERVES THE RIGHT TO ADD, DELETE, OR SHIFT INDEX PILING. ANY ADDITIONAL INDEX PILES WILL BE PAID FOR AS PRESTRESSED INDEX PILE (18-IN. SQ.). THE REMAINDER OF THE PILES SHALL NOT BE CAST UNTIL ALL INDEX PILES FOR THAT BRIDGE HAVE BEEN DRIVEN AND PILE LENGTHS APPROVED BY THE ENGINEER. ALL COSTS OF MATERIAL, EQUIPMENT, AND LABOR NECESSARY TO INSTALL THE INDEX PILES SHALL BE INCLUDED IN THE UNIT PRICE BID FOR PRESTRESSED INDEX PILING (18-IN. SQ.). THE ENGINEERING MAY REQUIRE THE CONTRACTOR TO PRE-DRILL OR SPUD IN ORDER TO OBTAIN THE NECESSARY PENETRATION. ALL COST FOR PRE-DRILLING OF SPUD-DING WILL BE INCLUDED IN THE PRICE BID FOR PRESTRESSED CONCRETE PILING (18-IN. SQ.).



A25 DOWEL DETAIL

Note:
Conduits necessary for utilities to be furnished by the utility company and placed at no expense to the department. Use Slip Coupling on Conduits at Expansion Joints.

DETAIL SHOWING CONDUIT PLACEMENT



ARMOR PLATE DETAIL

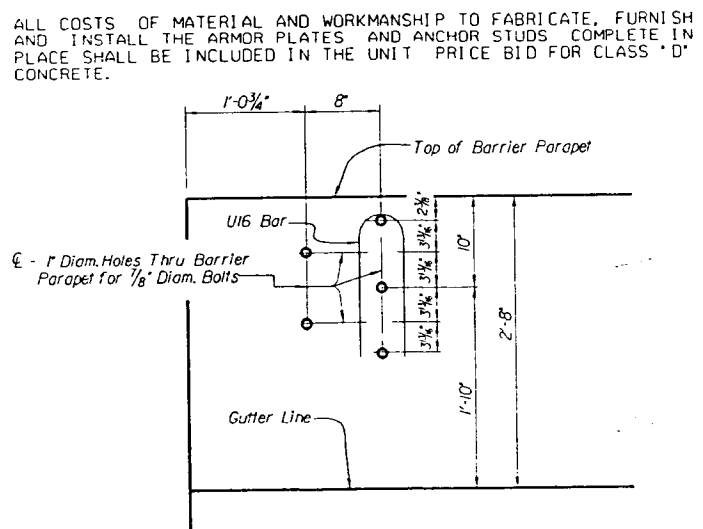
NOTE:
THE 3/8" THICK PLATES WILL BE REQUIRED AT THE BEGINNING AND END OF THE BRIDGE.

STEEL FOR THE ARMOR PLATES SHALL CONFORM TO THE LATEST AASHTO M270 GRADE 50W (ASTM A709 GR. 50W) STEEL AND NEITHER THE PLATES NOR THE ANCHOR STUDS NEED BE PAINTED.

THE FABRICATED PLATES SHALL CONFORM TO THE CROWN AND GRADE OF THE ROADWAY AND SHALL EXTEND FROM GUTTER LINE TO GUTTER LINE. THE PLATES MAY BE FABRICATED IN REASONABLE LENGTHS AND CONNECTED AT THE JOB SITE WITH FULL PENETRATION BUTT WELDS GROUND FLUSH ALONG THE TOP FACE OF CONNECTED PLATES.

IF NECESSARY, LONGITUDINAL REINFORCING BARS OF THE SLAB MAY BE SHIFTED LATERALLY TO CLEAR ANCHOR STUDS.

IF DESIRED BY THE CONTRACTOR, 9/16" Ø HOLES SPACED APPROXIMATELY 2'-0" O.C., MAY BE PROVIDED IN LOWER PORTION OF THE PLATES TO BOLT THE PLATES TO THE FORMS.



THREE BEAM GUARD RAIL ATTACHMENT TO PARAPET

NOTE:
THE 1" DIAM. HOLES MAY BE FORMED WITH PLASTIC OR PVC PIPE HAVING AN I.D. OF 1" (+ 1/8") OR 1" I.D. GALVANIZED STANDARD WEIGHT STEEL PIPE.

ALL COST OF PIPE AND INSTALLATION SHALL BE INCLUDED IN THE PRICE BID FOR REINFORCING STEEL.

ALL PIPE TO REMAIN IN PLACE WHEN FORMS ARE REMOVED.

THE RESIDENT ENGINEER SHALL CHECK THE LOCATION OF THE HOLES TO INSURE THAT THE GUARDRAIL SHOE WILL FIT PROPERLY WHEN INSTALLED.

ALL GUARDRAIL AND BOLTS TO BE FURNISHED AND INSTALLED BY CONTRACTOR.

WORKING DRAWINGS
WHEN REQUIRED BY THE PLANS, SPECIFICATIONS OR SPECIAL PROVISIONS, THE CONTRACTOR SHALL SUBMIT SHOP PLANS, ERECTION PLANS, FALSEWORK PLANS, COFFERDAM PLANS OR ANY OTHER SUPPLEMENTARY PLANS TO THE ENGINEER FOR REVIEW. THESE PLANS, ALONG WITH ANY ASSOCIATED DESIGN CALCULATIONS, SHALL BEAR THE SEAL AND SIGNATURE OF A SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER WITH THE FOLLOWING EXCEPTIONS:
A) SHOP PLANS FOR ARMOR PLATES LOCATED AT BRIDGE ENDS OR APPROACH SLAB ENDS
B) SHOP PLANS FOR PRESTRESSED CONCRETE PILING THAT ARE FABRICATED IN ACCORDANCE WITH THE DETAILS SHOWN IN THE PLANS.

ALL COSTS FOR THE PREPARATION AND FURNISHING OF THE WORKING DRAWINGS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE VARIOUS PAY ITEMS OF WORK.

CONCRETE
THE CLASS OF CONCRETE SHALL BE AS NOTED ON OTHER SHEETS OF THESE PLANS.

BUILD-UPS ON BENT CAPS SHALL BE CAST MONOLITHIC WITH CAP UNLESS INDICATED OTHERWISE IN THESE PLANS. THE TOP OF EACH BUILD-UP SHALL BE LEVEL.

PAYMENT FOR CONCRETE IN SLAB WILL BE BASED ON THEORETICAL PLAN QUANTITY. ANY NECESSARY ADJUSTMENT IN QUANTITY DUE TO VARIATION IN CAMBER SHALL BE AT THE CONTRACTOR'S EXPENSE.

ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" UNLESS OTHERWISE NOTED.

THE MINIMUM ACCEPTABLE CONCRETE COVER FOR REINFORCING STEEL MAY BE ONE HALF INCH LESS THAN THE PLAN DIMENSIONS WHEN REQUIRED BY REINFORCING BAR FABRICATION TOLERANCES.

THE TOP ONE FOURTH INCH OF ALL CONCRETE SLABS SHALL BE CONSIDERED AS A WEARING SURFACE AND SHALL NOT BE INCLUDED IN THE SLAB DEPTH USED FOR THE CALCULATION OF SECTION PROPERTIES.

VALUE ENGINEERING PROPOSALS:
THE CONTRACTOR MAY INITIATE, DEVELOP, AND PRESENT TO THE DEPARTMENT OF TRANSPORTATION FOR CONSIDERATION, ANY COST REDUCTION PROPOSALS CONCEIVED BY THEM INVOLVING CHANGES IN THE DRAWINGS, DESIGNS, SPECIFICATIONS, OR OTHER REQUIREMENTS OF THE CONTRACT. ALL VALUE ENGINEERING PROPOSALS SHALL COMPLY WITH THE REQUIREMENTS OF THE SPECIAL PROVISIONS.

REINFORCING STEEL
GRADE 420 REINFORCING STEEL CONFORMING TO ASTM A 615M-96a WILL BE USED ON THIS PROJECT. UNLESS SHOWN OTHERWISE, ALL TIES & STIRRUPS SHALL HAVE 135° HOOKS WITH EXTENSIONS NOT LESS THAN THE LARGER OF TEN BAR DIAMETERS OR 6 INCHES.

REINFORCING BAR FABRICATION SHALL CONFORM TO THE CURRENT C.R.S.I. MANUAL OF STANDARD PRACTICE EXCEPT AS NOTED ABOVE.

THE CONTRACTOR MAY ELECT TO SUBSTITUTE MECHANICAL REINFORCING COUPLERS FOR THE LAP SPLICES DETAILED IN THE PLANS. ALL MECHANICAL REINFORCING COUPLERS SHALL COMPLY WITH THE SPECIAL PROVISIONS.

ALL COSTS FOR FURNISHING AND INSTALLING COUPLERS SHALL BE CONSIDERED INCIDENTAL TO PLACING REINFORCING STEEL. PAYMENT FOR MECHANICAL REINFORCING COUPLERS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR REINFORCING STEEL.

WHEN APPROVED BY THE ENGINEER, WELDED LAP SPLICES SHALL BE MADE WITH LOW HYDROGEN TYPE ELECTRODES AND SHALL CONFORM WITH REQUIREMENTS OF AWS D1.4 STRUCTURAL WELDING CODE.

THE WELDING PROCEDURE AND TWO TEST SAMPLES SHALL BE SUBMITTED FOR APPROVAL BY THE DEPARTMENT PRIOR TO BEGINNING THE FABRICATION OF THE SPLICES.

LAP SPLICES IN COLUMN AND SHAFT REINFORCING STEEL SHALL NOT BE ALLOWED.

ALLOWANCE FOR DEAD LOAD DEFLECTION AND SETTLEMENT

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK AND LONG-TIME DEFLECTION SUCH THAT ON REMOVAL OF FALSEWORK THE TOP OF THE STRUCTURE SHALL CONFORM TO THEORETICAL FINISH GRADE PLUS THE ALLOWANCE FOR LONG-TIME DEFLECTION.

FOR CONCRETE FLAT SLAB SPANS TWENTY TO THIRTY FEET IN LENGTH, SUBSECTION 702.27 OF THE STANDARD SPECIFICATION IS AMENDED IN PART TO REQUIRE 1/8" OF CAMBER FOR DEAD LOAD AND LONG-TIME DEFLECTION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

COMPLETION DATES

THE CONTRACTOR SHALL PLACE YEAR OF COMPLETION ON INSIDE FACE OF RIGHT SIDE BARRIER PARAPET/RAIL AT BEGINNING OF BRIDGE AND ON LEFT SIDE BARRIER PARAPET/RAIL AT END OF BRIDGE. NUMBERS ARE TO BE RECESSED IN THE CONCRETE USING NUMBERS THAT ARE FABRICATED FROM REUSABLE/DURABLE MATERIAL AND APPROVED BY THE ENGINEER. THE CONTRACTOR WILL BE RESPONSIBLE FOR SUPPLYING THE NUMBERS WITH THE DIMENSIONS SHOWN ON STANDARD DRAWING NUMBERS STD FOUND ON SCOOT INTERNET FTP SITE AT FTP.DOT.STATE.SC.US LOCON AS ANONYMOUS. LOCATED IN DIR-PUB/BR CONSULTANT/ESTANDARD OR A COPY CAN BE OBTAINED FROM THE RESIDENT ENGINEER.

EXCAVATION FOR END BENT
ALL COST OF EXCAVATION NECESSARY TO CONSTRUCT END BENTS AND TO REMOVE MATERIAL UNDER SUPERSTRUCTURE TO AN ELEVATION 1'-0" BELOW TOPS OF END BENT CAPS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS 'D' CONCRETE.

IF A CONCRETE FOOTING IS USED FOR THE END BENT, THE EXCAVATION BELOW THAT INCLUDED FOR THE CAP AND BERM IN THE ABOVE PARAGRAPH WILL BE PAID FOR AT THE UNIT PRICE BID FOR EXCAVATION. EXCAVATION ABOVE THIS SHALL BE INCLUDED IN THE UNIT PRICE BID FOR CLASS 'D' CONCRETE.

BEARINGS
FOR CONCRETE SLABS BEARING ON CONCRETE, THE TOP OF CAPS UNDER BEARING AREAS SHALL RECEIVE A SUITABLE TROWEL FINISH TO INSURE A SMOOTH AND LEVEL BEARING SURFACE. SEE STANDARD SPECIFICATIONS PARAGRAPH 702.26.

DRIVING PILES THROUGH FILL
WHERE PILES OCCUR IN FILL EXCEEDING 10 FEET IN HEIGHT, THE FILL SHALL BE IN PLACE BEFORE PILES ARE DRIVEN.

TIMBER OR PRESTRESSED CONCRETE PILES WHICH ARE TO BE DRIVEN THROUGH FILL, SHALL BE INSTALLED IN PRE-BORED HOLES EXTENDING TO THE ORIGINAL GROUND.

HOLES FOR TIMBER PILES SHALL HAVE A 14" MINIMUM DIAMETER. HOLES FOR SQUARE PRESTRESSED CONCRETE PILES SHALL HAVE A MINIMUM DIAMETER OF 1.25 TIMES THE NOMINAL PILE SIZE. ALL COST OF PRE-BORED FILLS FOR PILE INSTALLATION SHALL BE INCLUDED IN THE UNIT PRICE BID FOR THE PILES.

REMOVAL OF FALSEWORK AND FORMS
SECTION 702.18 OF THE STANDARD SPECIFICATIONS IS AMENDED IN PART TO THE EXTENT THAT UNDER URGENT CONDITIONS AND WITH THE WRITTEN APPROVAL OF THE ENGINEER, ADDITIONAL STRENGTH CONTROL CYLINDERS MAY BE MADE AND THE FALSEWORK AS THE CONCRETE IN THE STRUCTURE, DEVELOP A UNIT STRENGTH OF 3,200 PSI. HOWEVER, SUCH CONCRETE SHALL NOT BE SUBJECT TO A SUPERIMPOSED LOAD UNTIL THE COMPRESSIVE STRENGTH IS AT LEAST 4,000 PSI.

SPECIFICATIONS:
AASHTO 1996 STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, AND INTERIMS.
ANSI/AASHTO/AWS D1.5 BRIDGE WELDING CODE (LATEST EDITION) WITH ADDITIONS AND REVISIONS AS STATED IN THE SPECIAL PROVISIONS.

LIVE LOAD:
AASHTO HS25-44 LOADING OR AN ALTERNATE MILITARY LOADING OF 2 AXLES 4 FEET APART WITH EACH AXLE WEIGHING 24,000 POUNDS, WHICHEVER PRODUCES THE GREATEST STRESS.

DESIGN DATA:
STRENGTH DESIGN METHOD (LOAD FACTOR DESIGN)
CONCRETE: CLASS 'D' . f'c = 4,000 P.S.I.

SPECIAL NOTE:
GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES ON THIS SHEET AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE STANDARD SPECIFICATIONS SEC. 105.04.

MATERIAL AND WORKMANSHIP
EXCEPT AS MAY OTHERWISE BE SPECIFIED ON THE PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE SOUTH CAROLINA DEPARTMENT OF HIGHWAYS AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, 1986 EDITION.

NOTE:
LEFT AND RIGHT SIDES, WHERE REFERRED TO IN THESE PLANS, ARE IN RELATION TO DIRECTION OF STATIONING.

REV.	REJ	JAR	3-99	SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION BRIDGE DESIGN COLUMBIA, S.C.			
	VALUE	ENG. PRO.					
REV.	REJ	JAR	11-98				
	COMPL.	DATE					
REV.	REJ	JAR	11-98	STANDARD NOTES AND DETAILS FOR FLAT SLABS			
	WORK	DWGS.					
REVIEWED							
QUAN.							
DR.	REJ	HDJ	7-98				
DES.				FILE NO.	ROUTE	COUNTY	DRAWING NO. 702-2A
BY	CHK	DATE					