GENERAL NOTES:

THE DECK, ABUTMENTS AND PIER OF THIS BRIDGE ARE DESIGNED FOR HS20-44 LOADING, PLUS 20 LBS. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.

PRETENSIONED PRESTRESSED BULB TEE CONCRETE BEAMS OF THIS BRIDGE ARE DESIGNED FOR HL-93, PLUS 20 LBS. PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE.

THE CITY AND UTILITY COMPANIES WHOSE FACILITIES ARE SHOWN ON THE "SITUATION PLAN" OR KNOWN TO BE WITHIN THE CONSTRUCTION LIMITS SHALL BE NOTIFIED BY THE BRIDGE CONTRACTOR OF THE CONSTRUCTION STARTING DATE.

THE BRIDGE CONTRACTOR SHALL PREBORE HOLES FOR ABUTMENT PILES. HOLES SHALL BE BORED TO THE ELEVATIONS SHOWN ON THE "LONGITUDINAL SECTION ALONG CENTERLINE ROADWAY" ON THE SITUATION PLAN. PILES SHALL BE DRIVEN THROUGH THE HOLES TO AT LEAST THE SPECIFIED DESIGN BEARING.

THE APPROACH FILLS ARE NOT A PART OF THIS CONTRACT, BUT ARE TO BE IN PLACE BEFORE ABUTMENT PILES ARE DRIVEN. THE BRIDGE CONTRACTOR IS TO LEVEL OFF AND SHAPE THE BERMS TO THE ELEVATIONS AND DIMENSIONS SHOWN. DRESSING OF SLOPES OUTSIDE THE BRIDGE AREA NOT DISTURBED BY THE BRIDGE CONTRACTOR SHALL BE PAID FOR AS EXTRA WORK.

IT SHALL BE THE BRIDGE CONTRACTOR'S RESPONSIBILITY TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHAUL WILL BE ALLOWED FOR MATERIAL HAULED TO THESE SITES.

ROADWAY EXCAVATION IS TO BE DONE BY OTHERS AND IS NOT A PART OF THIS CONTRACT. EXCAVATION QUANTITIES ARE BASED ON THE ASSUMPTION THAT ROADWAY EXCAVATION WILL HAVE BEEN COMPLETED AND ABUTMENT FILLS ARE IN PLACE PRIOR TO STARTING CONSTRUCTION.

GUARDRAIL IS TO BE PLACED BY OTHERS.

THE ROAD WILL BE CLOSED TO TRAFFIC DURING CONSTRUCTION. SEE ROAD PLAN FOR TRAFFIC CONTROL PLAN NOTE.

SEE ROAD PLAN FOR POLLUTION PREVENTION PLAN.

THE BRIDGE CONTRACTOR IS ENCOURAGED TO TAKE FULL ADVANTAGE OF SPECIFICATION 1105.15 -- VALUE ENGINEERING INCENTIVE PROPOSAL. A PAMPHLET AND CONCEPTUAL PROPOSAL FORM WILL BE AVAILABLE AT THE PRECONSTRUCTION CONFERENCE.

ALL CONCRETE CURING COMPOUNDS USED ON SURFACES TO BE SEALED, INCLUDING THE SLIP FORM CONCRETE BARRIER RAIL SHALL BE IN ACCORDANCE WITH THE "DEVELOPMENTAL SPECIFICATION FOR COLORED SEALER COATING FOR STRUCTURAL CONCETE".

IF NECESSARY TO PREVENT DAMAGE TO THE END OF THE BRIDGE DECK OR BACKWALL FROM CONSTRUCTION EQUIPMENT, AN APPROPRIATE METHOD OF PROTECTION APPROVED BY THE ENGINEER SHALL BE PROVIDED BY THE BRIDGE CONTRACTOR AT NO EXTRA COST TO THE STATE.

GENERAL CONSIDERATIONS:

THE BT30 BRIDGE STANDARDS, WHEN USED IN COMBINATION WITH A PROPERLY COMPLETED SITUATION PLAN AND FOUR (4) WORKING SHEETS, WILL PROVIDE STRUCTURAL PLANS FOR A TWO SPAN CONTINUOUS OVERHEAD BRIDGE. THE WORKING SHEETS ARE THE FOLLOWING: "SLAB ELEVATIONS", "GENERAL ELEVATION DATA", "BEAM LINE HAUNCH DATA", AND "ESTIMATED PROJECT QUANTITIES".

THE BT30 BRIDGE STANDARDS APPLY TO 30'-0 ROADWAY, PRETENSIONED PRESTRESSED BULB TEE CONCRETE BEAM BRIDGES WITH LENGTHS (CENTERLINE TO CENTERLINE OF ABUTMENT BEARINGS) OF 222'-0, 232'-0, 242'-0, 252'-0, 262'-0. ALL THE BRIDGE LENGTHS MAY BE BUILT ON A 0°, 5°, 10° OR 15° SKEW.

DUE TO THE NUMEROUS GRADE POSSIBILITIES, IT WILL BE NECESSARY TO COMPLETE ALL THE DIMENSIONS AND ELEVATIONS ON THE WORKING SHEETS.

ALL OF THE SPAN AND BRIDGE LENGTH DIMENSIONS ON THE PLANS ARE MEASURED ALONG GRADE.

THESE PLANS SHOW THE BRIDGES SKEWED IN ONE DIRECTION, BUT ALL DIMENSIONS AND DETAILS WOULD BE THE SAME FOR THE OPPOSITE SKEW.

THE ABUTMENTS FOR THESE BRIDGES ARE BUILT INTEGRAL WITH THE SUPERSTRUCTURE. THEREFORE, IT IS IMPORTANT THAT A PROPER JOINT FOR EXPANSION BE PROVIDED BETWEEN THE BRIDGE AND THE APPROACH PAVING, WHEN APPROACH PAVING IS NEEDED. SEE ROAD PLAN FOR APPROACH DETAILS.

PREBORED HOLES QUANTITY IS BASED ON A STANDARD DEPTH OF 10'-0.

COLUMN HEIGHTS ARE BASED ON A MINIMUM VERTICAL CLEARANCE OF 16'-6 AND MINIMUM FOOTING EARTH COVER OF 1'-6.

STEEL PILE POINTS MAY BE REQUIRED FOR THE STEEL H-PILES TO PENETRATE A LAYER OF BOULDERS OR ANCHOR INTO STEEPLY INCLINED BEDROCK. THE USE OF STEEL PILE POINTS SHALL BE BASED ON A RECOMMENDATION FROM A GEOTECHNICAL ENGINEER.

STRUCTURAL CONCRETE DECK QUANTITY DOES NOT INCLUDE HAUNCH QUANTITIES. THESE QUANTITIES SHALL BE CALCULATED BY THE DESIGNER.

STRUCTURAL CONCRETE ABUTMENT AND PIER QUANTITIES INCLUDE 2" STEPS. ADJUSTMENT IN THE QUANTITY IS NOT NECESSARY DUE TO GRADE.

CLASS 20 EXCAVATION WILL BE REQUIRED TO CONSTRUCT THE ABUTMENTS AND PIER. THE QUANTITY FOR CLASS 20 EXCAVATION AT THE ABUTMENTS HAS BEEN CALCULATED AND IS INCLUDED IN THE PLANS. THE QUANTITY FOR CLASS 20 EXCAVATION AT THE PIER IS NOT INCLUDED ON THESE SHEETS, BUT SHALL BE CALCULATED AND INCLUDED IN THE FINAL PLANS.

DECK DRAINS AND LIGHTING ARE NOT REQUIRED IN THESE PLANS.

THE DESIGN CRITERIA UTILIZED ON THESE BRIDGES RESTRICTS THEIR USE IN THE FOLLOWING MANNER:

1.) ALL SPANS SHALL USE HP 10x57 STEEL PILES AT THE ABUTMENTS AND PIER. THE PILES ARE DESIGNED WITH A MAXIMUM CAPACITY OF 50 TONS.

2.) THE ABUTMENT PILING FOR THE BRIDGE ARE TO BE DRIVEN THROUGH OVERSIZE HOLES PREBORED TO A MINIMUM OF 10 FEET BELOW THE BOTTOM OF FOOTING. THE PREBORED HOLES SHALL BE IN ACCORDANCE WITH SECTION 2501.19 OF THE STANDARD SPECIFICATIONS. THE ELEVATION OF THE BOTTOM OF THE PREBORED HOLE SHALL BE SHOWN ON THE "SITUATION PLAN".

3.) WING LENGTHS, MACADAM STONE QUANTITIES AND CLASS 20 ABUTMENT EXCAVATION ARE BASED ON $2\frac{1}{2}$:1 BERM SLOPE.

4.) SEE "BEAM DETAILS" SHEETS FOR BEAM DESIGN CRITERIA.

SPECIFICATIONS:

DESIGN:

DECK AND SUBSTRUCTURE:
AASHTO SERIES OF 2002 PLUS CURRENT INTERIM SPECIFICATIONS.

PRESTRESSED BEAM:
AASHTO LRFD, SERIES OF 1998, INCLUDING 1999, 2000 AND 2001 INTERIMS, WITH MINOR MODIFICATIONS.

CONSTRUCTION:
IOWA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAY AND BRIDGE CONSTRUCTION, SERIES 2001, PLUS APPLICABLE GENERAL SUPPLEMENTAL SPECIFICATIONS, DEVELOPMENTAL SPECIFICATIONS, SUPPLEMENTAL SPECIFICATIONS AND SPECIAL PROVISIONS INCLUDING DEVELOPMENTAL SPECIFICATIONS FOR "COLORED SEALER COATING FOR STRUCTURAL CONCRETE" SHALL APPLY TO CONSTUCTION WORK ON THIS PROJECT.

DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES, SERIES OF 2002, PLUS CURRENT INTERIM SPECIFICATIONS.

DECK CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 4,000 psi

SUBSTRUCTURE CONCRETE IN ACCORDANCE WITH SECTION 8, f'c = 3,500 psi

REINFORCING STEEL IN ACCORDANCE WITH SECTION 8, GRADE 60

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE AASHTO LRFD BRIDGE DESIGN SPECIFICATIONS, SERIES OF 1998.

PRESTRESSED CONCRETE BEAMS - SEE "BEAM DETAILS" SHEETS.

LATEST REVISION DATE

APPROVED BY BRIDGE ENGINEER

Iowa Department of Transportation
Highway Division

STANDARD DESIGN - 30' ROADWAY, 2 SPAN BRIDGES

PRETENSIONED PRESTRESSED
BULB TEE CONCRETE BEAM BRIDGES

ALL SPANS — JULY, 2004

GENERAL NOTES — BT30-GD2-04