Iowa Department of Transportation
Highway Division

PLANS OF PROPOSED IMPROVEMENTS ON THE SECONDARY ROAD SYSTEM
BUCHANAN COUNTY
IBRC-C010(58)---BE-10
BRIDGE REPLACEMENT - PPCB
186TH STREET OVER EAST BRANCH BUFFALO CREEK

Scales As Noted

The Iowa Department of Transportation Standard Specifications for Highway and Bridge Construction, Tar 2004, plus General Supplemental Specifications; and applicable Supplemental Specifications, Developmental Specifications, and Special Provisions shall apply to construction on this project.

DESIGN SPEED: 40 MPH

TRAFFIC CONTROL PLAN:
THIS ROAD SHALL BE CLOSED DURING CONSTRUCTION. ALL TRAFFIC CONTROL DEVICES, PROCEDURES, AND LAYOUTS WITHIN THE LIMITS OF THIS PROJECT SHALL CONFORM TO THE "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" AND HAWAII DEPARTMENT OF TRANSPORTATION (HDOOT) AS ADOPTED BY THE DEPARTMENT FOR THE MISOF THE IOWA ADMINISTRATIVE CODE (IAC) CHAPTER 717. CONTRACTOR SHALL PROVIDE TRAFFIC CONTROL, INCLUDING BARRIERS, AND SIGNS IN ACCORDANCE WITH THE IWD AND THE MSD. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL BOTTOM SAFETY. CONTRACTOR SHALL ENSURE TRAFFIC AND MAINTAIN ALL NECESSARY TRAFFIC CONTROL DEVICES ON A 24 HOUR BASIS DURING CONSTRUCTION PERIOD. CONTRACTOR TO PROVIDE 24-HOUR CALL NUMBER FOR REPAIR OF DEFICIENCIES.

EVTEN.

Ralph H. Kramer

Michael L. Tenuta

APPROVED
BOARD OF SUPERVISORS

COUNTY ENGINEER

SOUTH DAKOTA

APPROVED
COUNTY ENGINEER

BUCHANAN COUNTY

PROJECT NUMBER: IBRC-C010(58)---BE-10

MILEAGE SUMMARY

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>FT</th>
<th>M</th>
<th>MILES</th>
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<tr>
<td>10W STREET</td>
<td>40+30 to 53+15</td>
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<tr>
<td>TOTAL</td>
<td></td>
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<td>0.128</td>
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LOCATION MAP

B.R.O. STATION 54+30
IOWA HIGHWAY STRUCTURE NO. 083670

AADT 30 V.P.D. 2005
AADT 60 V.P.D. 2015

SOUTH DAKOTA
**STEEL BEAM GUARDRAIL AT BRIDGE END POST AND CONCRETE BARRIER**


### GENERAL NOTES

- All unpalatable material and rubble generated during this project shall be disposed of off the roadway right-of-way in a wholesale area provided by the contractor and approved by the County Engineer. The returned material must not create an unsightly condition when viewed from public highways. Removals and disposals shall be in accordance with Section 4.04.2 Specification. All excavated earth, unpalatable material, and rubble material for borrow shall become the property of the contractor and will be disposed of off-site. All borrow material shall be supplied by the contractor and approved by the County Engineer.

- There will be no extra payment allowed for cold weather protection during construction. Working days will be changed over the winter.

WHERE PUBLIC UTILITY FIXTURES ARE SHOWN AS EXISTING ON THE PLANS OR ENCOUNTERED WITHIN THE CONSTRUCTION AREA, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE OWNERS OF THESE UTILITIES PRIOR TO THE BEGINNING OF ANY CONSTRUCTION. THE CONTRACTOR SHALL AFFORD ACCESS TO THESE UTILITIES FOR NECESSARY MODIFICATION OF UTILITIES. UNDERGROUND FACILITIES, STRUCUTURES AND UTILITIES HAVE BEEN PLOTTED FROM AVAILABLE SURVEYS AND RECORDS, AND THEREFORE THEIR LOCATION MUST BE CONSIDERED APPROXIMATE ONLY. IF IT IS POSSIBLE THERE MAY BE OTHERS, THE EXISTENCE OF WHICH IS NOT KNOWN OR KNOWN, IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE THE SITE AND TO DETERMINE THEIR EXISTENCE AND EXACT LOCATION TO AVOID DAMAGE TO THEM. NO CLAIMS FOR ANY ACCIDENT, DELAY, COSTS AND ALL DAMAGES CAUSED BY SUCH WORK WILL BE GRANTED.

BUCHANAN COUNTY WILL PROVIDE THE CONSTRUCTION STAKING FOR USE BY THE CONTRACTOR.

- **SAMPLE**

A sample plan from this project (See Design Section E) to give an indication of the existence of the level, of total chamfer and total lead. Analyses of the total contour on the sample was 1200 parts per million (ppm). Analyses of the total contour on the sample was 1200 ppm. These analyses show the presence of the two toxic components, levels indicated by these tools could create conditions along the highway for health and safety problems. If other components are more toxic, the contractor should not rely on the Department's testing and should analyze for any other component, other than as an indication of the existence of these two toxic components.

- **ASBESTOS SAMPLING**

Sampling was conducted for this situation and none was detected.

If any materials are encountered during the construction, the work of location and environment (EOL) must be coordinated immediately. The contractor should provide a list of all materials encountered and their locations.

- **TESTING**

According to the existing internal regulations and state procedures, the contractor should also be noted that findings and recommendations for clearance for further testing cannot be considered. Further, consistency is required from the State Historic Preservation Officer, phone, office of location and environment (EOL) 115-1225 Dist. Local Systems (310) 464-1547.

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**Table: Steel Beam Guardrail**

<table>
<thead>
<tr>
<th>Location</th>
<th>Stainless Steel Guardrail</th>
<th>W Beam Guardrail</th>
<th>W Beam Guardrail</th>
<th>W Beam Guardrail</th>
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**Diagram:**

- **Design For**

112'-4" X 24'-6" O.S. SKEW 136th St. OVER E. BRANCH BUFFALO CRK. 30'-2" END SPANS (Concrete Slab) GENERAL NOTES AND TYPICAL SECTIONS 81 (ft)

- **Buchanan County**

Design Section No. 01-90-01-03, Design Sheet No. 01-008-01-03, Buchanan County, Part Dated Oct. 2007.
POLLLUTION PREVENTION PLAN

All contractors/subcontractors shall conduct their operations in a manner that minimizes erosion and prevents sediments from leaving the highway right-of-way. The prime contractor shall be responsible for compliance and implementation of the Pollution Prevention Plan (PPP) for their entire contract. This responsibility shall be further shared with subcontractors whose work is a source of potential pollution as defined in this PPP.

1. SITE DESCRIPTION

This Pollution Prevention Plan (PPP) is for the construction of 156th Street over East Branch Buffalo Creek.

This PPP covers approximately 1.27 acres with an estimated 1.27 acres being disturbed. The portion of the PPP covered by this contract has 1.27 acres disturbed.

The PPP is located in an area of soil association(s) Dohneem fine sandy loam, Claypan-Loam complex, Spilathassa-Loam complex. The estimated average NRCS runoff curve number for this PPP after completion will be 83.

Refer to the project plans for locations of typical slopes, ditch grades, and major structural or non-structural controls. A copy of this plan will be on file at the project engineer's office. Runoff from this work will flow into East Branch Buffalo Creek to Buffalo Creek to Wapipoose River to Mississippi River.

POTENTIAL SOURCES OF POLLUTION:

Site sources of pollution generated as a result of this work relate to soils and sediment which may be transported as a result of a storm event. However, this PPP provides conveyance for other (non-project related) operations. These other operations have storm water runoff, the regulation of which is beyond the control of this PPP. Potential runoff can contain various pollutants related to site-specific land uses. Examples are:

Rural Agricultural Activities:

Runoff from agricultural land use can potentially contain chemicals including herbicides, pesticides, fungicides and fertilizers.

Commercial and Industrial Activities:

Runoff from commercial and industrial land use may contain constituents associated with the specific operation. Such operations are subject to potential leaks and spills which could be conveyed with run-off from the facility. Pollutants associated with commercial and industrial activities are not readily available since they are typically proprietary.

2. CONTROLS

At locations where runoff can move offsite, silt fence shall be placed along the perimeter of the areas to be disturbed prior to beginning grading, excavation or clearing and grubbing operations. Vegetation in areas not needed for construction shall be preserved. As areas reach their final grade, additional silt fences, silt basins, intercepting ditches, soil slopes, sediments, bridge and drain structures, and earth dikes shall be installed as specified in the plans and/or as required by the project engineer. This will include using silt fence as ditch checks and to protect dikes. Temporary stabilizing seeding shall be completed as the disturbed areas are constructed. If construction activity is not planned to occur in a disturbed area for at least 21 days, the area shall be stabilized by temporary seeding or mulching within 14 days. Other stabilizing methods shall be used outside the seeding time period.

This work shall be done in accordance with Section 2602 of the Standard Specifications. If the work involved is not applicable to any contract areas, the work shall be paid for according to Article 1109-03 paragraph B.

As the work progresses, additional erosion control items may be required as determined by the engineer after field investigations. These may be items such as bi-levy structures, and stabilization means and other appropriate measures shall be installed by contractor, as directed by the engineer. The contractor will complete the construction with the establishment of permanent permanent vegetation of all disturbed areas.

3. OTHER CONTROLS

Contractor disposal of unused construction materials and construction material wastes shall comply with applicable state and local waste disposal, sanitary sewer, or septic system regulations. In the event of a conflict with other governmental laws, rules and regulations, the more restrictive laws, rules or regulations shall apply.

APPROVED STATE OR LOCAL PLANS

During the course of this construction, it is possible that situations will arise where unknown materials will be encountered. When such situations are encountered, they will be handled according to all federal, state, and local regulations in effect at the time.

4. MAINTENANCE

The contractor is required to maintain all temporary erosion control measures in proper working order, including cleaning, repairing, or replacing them throughout the contract period. Cleaning of silt control devices shall begin when the features have lost 50% of their capacity.

5. INSPECTIONS

Inspections shall be made jointly by the contractor and the contracting authority every seven calendar days and after each rain event that is one half inch or greater. The contractor shall immediately begin corrective actions on all deficiencies found. The findings of this inspection shall be recorded in the project diary. This PPP may be revised based on the findings of the inspection. The contractor shall implement all corrective actions. All corrective actions shall be completed within 3 calendar days of the inspection.

6. NON-STORM DISCHARGES

This includes subsurface drains (i.e. longitudinal and standard subdrains), slope drains and bridge end drains. The velocity of the discharge from these features may be controlled by the use of patio blocks, Class A stone or erosion stone.
ESTIMATED BRIDGE QUANTITIES

<table>
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<tr>
<th>ITEM NO.</th>
<th>ITEM CODE</th>
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<td>4</td>
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GENERAL NOTES (Cont):

THE CONTRACTOR SHALL VISIT THE SITE AND BE FAMILIAR WITH THE EXISTING CONDITIONS OF THE PROJECT. UTILITY LOCATIONS ARE APPROXIMATE ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATIONS OF UTILITIES PRIOR TO CONSTRUCTION. THE CONTRACTOR SHALL BE LIABLE TO ANY DAMAGE WHICH MIGHT OCCUR DUE TO HIS FAILURE TO LOCATE AND PROTECT UNDERGROUND UTILITIES.

ACCESS SHALL BE MAINTAINED TO INDIVIDUAL PROPERTIES DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE WHICH MIGHT OCCUR DUE TO HIS FAILURE TO LOCATE AND PROTECT UNDERGROUND UTILITIES.

ALL STRUCTURAL CONCRETE FOR BRIDGE DECK IS TO BE CLASS "B", SUBSTITUTE OF CLASS "D" CONCRETE IS NOT ALLOWED.

THE BEAMS AND SLAB FOR THE CENTER SPAN ARE AN EXTREME HIGH STRENGTH CONCRETE CALLED "PORTAL", MANUFACTURED BY LAFARGE NORTH AMERICA, WINNIPEG, CANADA. THE BEAMS ARE BEING PURCHASED AND SHIPPED TO THE JOB SITE UNDER A SEPARATE CONTRACT BETWEEN BUCHANAN COUNTY AND LAFARGE NORTH AMERICA. THE CONTRACTOR SHALL CONTACT THE MANUFACTURER'S OFFICE AT (515) 964-0877 OR THEIR HEAD OFFICE AT 8540 OLD CENTER ROAD, MEXICO, MO 65265. THE CONTRACTOR SHALL BE ALLOCATED TO A TIME TO HAVE THE BEAMS SHIPPED TO THE JOB SITE.

UPON DELIVERY TO THE JOB SITE EACH BEAM SHALL BE JOINTLY INSPECTED BY THE BUCHANAN COUNTY ENGINEER, LAFARGE NORTH AMERICA, AND THE CONTRACTOR FOR STRUCTURAL INTEGRITY AND ANY DAMAGE THAT MAY HAVE BEEN CAUSED DURING SHIPMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACEMENT OR REPAIR OF ANY BEAMS DAMAGES DURING THE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LIFTING, PLACEMENT AND PLACEMNT ON THE BRIDGE SEATS.

GENERAL NOTES:

THIS DESIGN IS FOR THE REPLACEMENT OF THE EXISTING 60 FT. STEEL TRUSS BRIDGE. THE EXISTING BRIDGE SUPERSTRUCTURE CONSISTS OF STEEL TRUSS, STEEL FLOOR BEAMS, AND TIMBER DECKING. THE REPLACED BRIDGE SHALL BE A THREE SPAN IN 1 FT 4 IN WITH CONCRETE SLAB END SPANS AND A PRECAST ULTRA HIGH PERFORMANCE FIBER BEAM FOR THE CENTER SPAN.

THIS BRIDGE SUPERSTRUCTURE IS DESIGNED FOR 16.95 LOADING PLUS 20 LBS PER SQUARE FOOT OF ROADWAY FOR FUTURE WEARING SURFACE. THE BRIDGE SUBSTRUCTURE IS DESIGNED FOR 16-20 LOADING PLUS 20 LBS PER SQUARE FOOT OF ROADWAY.

THESE BEAM PLATES SHALL BE ALL REINFORCING STEEL WITH 3% NOMINATION (5/8" IN DIAMETER BAR). EXCESS REINFORCING STEEL RECEIVED IN THE FIELD MAY BE USED AS THE FOLLOWING PATTERN OF Q-CONCRETE. THE "BEAM DESIGNATION" IS THE STAMPED DESIGNATION ON THE REINFORCING BARS, AND IS EQUIVALENT TO THE BAR DESIGNATION IN MILLIMETERS.

ENGLISH SIZE | BAR DESIGNATION
---|---
3 | 10
4 | 13
5 | 16
6 | 19
7 | 22
8 | 25
9 | 29
10 | 32
11 | 36

ALL COARSE AGGREGATE FOR STRUCTURAL CONCRETE SHALL BE CRUSHED LIMESTONE.

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SITES FOR EXCESS EXCAVATED MATERIAL. NO PAYMENT FOR OVERHaul WILL BE ALLOWED FOR MATERIAL MULLED TO THESE SITES.

SPECIFICATIONS:


DESIGN STRESSES:

DESIGN STRESSES FOR THE FOLLOWING MATERIALS ARE IN ACCORDANCE WITH THE ASHOKA STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES SERIES OF 2002 AND ASHOKA HIGH BRIDGE DESIGN SPECIFICATIONS SERIES OF 2007. REINFORCING STEEL IN ACCORDANCE WITH STANDARD ASHOKA SECTION 8 AND LRFD ASHOKA SECTION 8, SERIES 400. CONCRETE IN ACCORDANCE WITH STANDARD ASHOKA SECTION 8, AND LRFD ASHOKA SERIES 8, PC - 3500 PSI.

DESIGN FOR 6" DECK

112' 4" x 24" 6" CONCRETE BRIDGE

50'-2" END SPANS 50'-0" INTERIOR SPAN 24" CONCRETE PLATE 6" FIBER BEAM

BUCHANAN COUNTY 11/1/10

BUCHANAN COUNTY PROJECT NUMBER: WRC-1000-8-03-10 SHEET NUMBER 9
ABUTMENT PILE PLAN

TABLE OF ABUTMENT ELEVATIONS

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<th>LOCATION</th>
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<td>1ST. FLOOR</td>
<td>10' O.C.</td>
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COMPACTED GRAVEL BASE fill BETWEEN WINGS SEE "SUBSURFACE DETAIL"

SUSPENSE ELEV.

Porous BACKfill SEE "SUBSURFACE DETAIL"

ABUTMENT EXCAVATION DETAILS

SECTION NORMAL TO ABUTMENT AT 

SECTION NORMAL TO ABUTMENT AT RAIL

ABUTMENT NOTES:

THE MINIMUM CLEARANCE FROM THE FACE OF THE CONCRETE TO NEAR REINFORCING BAR IS TO BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

THE DESIGN BEARING FOR THE ABUTMENT PILES IS 55 TONS.

DETAIL "A"

112'-4" X 24'-6" CONCRETE BRIDGE

30'-2" END SPANS
52'-0" INTERIOR SPAN
CONCRETE SLABS

BUCHANAN COUNTY
MARCH 2006

BUCHANAN COUNTY
DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN TEAM

DESIGN FOR 6% SKEW

5/25/2006 10:10

sheet

10

PROJECT NUMBER IBE1-009-06-10

BÜCHNER-SPINDEL-SP"GRAF"
**SUPERSTRUCTURE NOTES:**

THIS BRIDGE IS DESIGNED FOR H-13 Loading Plus an Allowance of 20 Pounds per Square Foot of Roadway for Future Weaving Surface.

THE END SPAN SLABS AS SHOWN INCLUDES A 2" INCH INTEGRAL WEARING SURFACE.

THE MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR BAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN. ALL REINFORCING STEEL IS TO BE SECURELY MATED IN PLACE. SEE YOUR CHAIR AND MEET ALL REINFORCING SHALL BE GRADE 60.

**BAR CHAIR NOTE:**

END SPANS

TOP MAT OR REINFORCING STEEL IS TO BE SUPPORTED BY INDIVIDUAL METAL BAR CHAIRS SPACED AT NOT MORE THAN 3'-0 APART LONGITUDINALLY AND TRANSVERSELY. THE minimum 3'-0 centers of metal bar chairs are spaced at NOT MORE THAN 3'-0 CENTERS LONGITUDINALLY AND TRANSVERSALLY, OR BY CONTINUOUS ROWS OF METAL HIGH CHAIRS ON SLAB EMBEDS SPACED 4'-0 APART.

**DETAIL B**

PART PLAN AT WING

TRAIL NOT SHOWN

**SECTION A-A**

NOTES 6"x6" SHOULDER BARS ARE INCLUDED IN SUPERSTRUCTURE BAR LIST.

**112'-4" x 24'-6" CONCRETE BRIDGE**

30'-2" END SPANS

52'-0" INTERIOR SPAN

CONCRETE SLAB

SUPERSTRUCTURE DETAILS

BUCHANAN COUNTY

DESIGN FOR 0'D SKIRT.

BUCHANAN COUNTY PROJECT NUMBER IR-121-O4-06-00 MARCH 2008

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION

DESIGN SHEET NO. 14 SHEET NUMBER 14
GENERAL NOTES:

THIS DETAIL SHEET SHOWS THE CONSTRUCTION DETAILS FOR SERVICE LEVEL I BRIDGE DECK AND THE CONNECTING STEEL BEAM GUARDRAIL FOR USE ON THE SECONDARY ROAD SYSTEM.

UNLESS OTHERWISE NOTED BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 AND NUTS TO THE REQUIREMENTS OF ASTM A563 GRADE A OR BETTER. OTHER BOLTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A325 AND NUTS TO REQUIREMENTS OF ASTM A563 GRADE C OR BETTER. ALL NUTS, BOLTS AND WASHERS SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153.

DECK ANCHORAGE OF THE POST ASSEMBLY SHALL BE PROVIDED BY APPLYING A 100 LB. UPLIFT FORCE TO THE POST AT 20 INCHES CENTER TO CENTER OF ADJACENT REINFORCEMENT. (AS PER THE LATEST AASHTO BRIDGE SPECIFICATIONS).

STEEL SHALL CONFORM TO THE REQUIREMENTS OF ASTM A36, OR EQUIVALENT, AND BE GALVANIZED ACCORDING TO ASTM A123. POST ELEMENTS SHALL CONFORM TO THE REQUIREMENTS OF ASTM GRADE B OR ASTM 500 LB AND SHALL BE GALVANIZED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM A123.

GUARDRAIL SHALL BE LAPPED TOWARDS THE OBSTRUCTING LANE.

PRICE BID FOR CONTRACT ITEMS SHALL DE CONSIDERED FULL COMPENSATION FOR FURNISHING ALL MATERIALS AND CONSTRUCTING THE PROJECT AS PER THE REQUIREMENTS OF THE SPECIFICATIONS. (CONTRACT ITEMS FOR GUARDRAIL, CONSTRUCTION ARE)

INSTALLATION OF GUARDRAIL IN LINEAR FEET
BEAM GUARDRAIL, TERMINAL, BE-76:

1. SEE STANDARD ROAD PLAN RE-76
2. SEE STANDARD ROAD PLAN RE-218
3. SEE STANDARD ROAD PLAN RE-120

DESIGN FOR 0° SKIN
112'-4" x 24'-6" CONCRETE BRIDGE
30'-2" END SPANS
52'-0" INTERIOR SPAN
CONCRETE (SLAB)
0° BEAMS

SERVICE LEVEL I BRIDGE RAIL DETAILS
STA.10+00
MARCH, 2008
BUCHANAN COUNTY

IOWA DEPARTMENT OF TRANSPORTATION - HIGHWAY DIVISION
DESIGN DRAWING NO. 37, P. 11, REV. NO. 1
Buchanan County

SECTION: 6-3
MINIMUM APPROACH RAILING

BOLTED STEEL POSTS SPACING (19 POSTS)
18 SPACES AT 6'-3" X 112'-6"
8' x 8' WOOD POSTS
WITH SPACE BLOCKS
END TERMINAL
P=6'-3"
8 X 8" WOOD POSTS
WITH SPACE BLOCKS

PLAN VIEW

-TRANSITION SECTION
INSTALLATION OF GUARDRAIL GIRDER LENGTH VARIABLE, AS PER PLAN
THREE BEAM GUARDRAIL
6" X 3" STEEL POST
32'-6"
50'-0" NE CORNER
32'-6" SW CORNER

TYPICAL SECTION AT BRIDGE

TS 6" X 3" X .025" X 3'-6"
WASHER
1-1/2" BOLT WITH SQUARE WASHER
12 GA. THREE BEAM
CAST IN 30'-2" END SPANS
1'-1/2" BOLT WITH 34° CLEAVAGE AND 1'-1/2" EXTENSION ON BEND WITH 1'-2" EXTENSION.
CAST IN 30'-2" END SPANS

STEEL BEARING PLATE

#6 BOLT (#6)
W/ WASHER
W/ SPACER
(STainless-304)
STEEL BASE PLATE

2'-6" BOLT W/ WASHER
END VIEW

TYPICAL BRIDGE RAILING

SIDE VIEW

BUCHANAN COUNTY: PROJECT NUMBER: 1802-CORR-01-B-B-RE-100
SHEET NUMBER: 19

BUCHANAN COUNTY: PROJECT NUMBER: 1802-CORR-01-B-B-RE-100
SHEET NUMBER: 19