

04-28-2023 LETTING ITEM 158

INDEX OF SHEETS

- 1. COVER
- 2. TYPICAL SECTION
- 3. PLAN & PROFILE
- 4. GENERAL PLAN & ELEVATION
- 5. SUPERSTRUCTURE
- 6. DECK BEAM DETAILS - 21"x48"
- 7. DECK BEAM DETAILS - 21"x48"
- 8. ABUTMENT DETAILS
- 9. STEEL RAILING DETAILS
- 10.-11. CROSS SECTIONS
- 12.-13. SWPPP

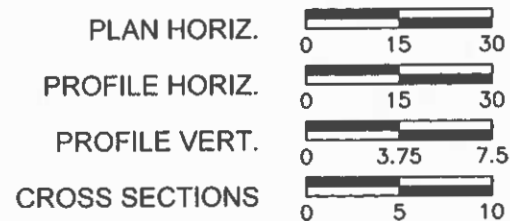
SUMMARY OF QUANTITIES

SEE SHEET NO. 2

STANDARDS

- 280001-07 TEMPORARY EROSION CONTROL
- 515001-04 NAME PLATE FOR BRIDGES
- 701901-08 TRAFFIC CONTROL DEVICES
- BLR 21-9 TRAFFIC CONTROL

SCALES



ALL EXISTING UTILITIES AND LOCATIONS TO BE CONFIRMED BY J.U.L.I.E. 800-892-0123

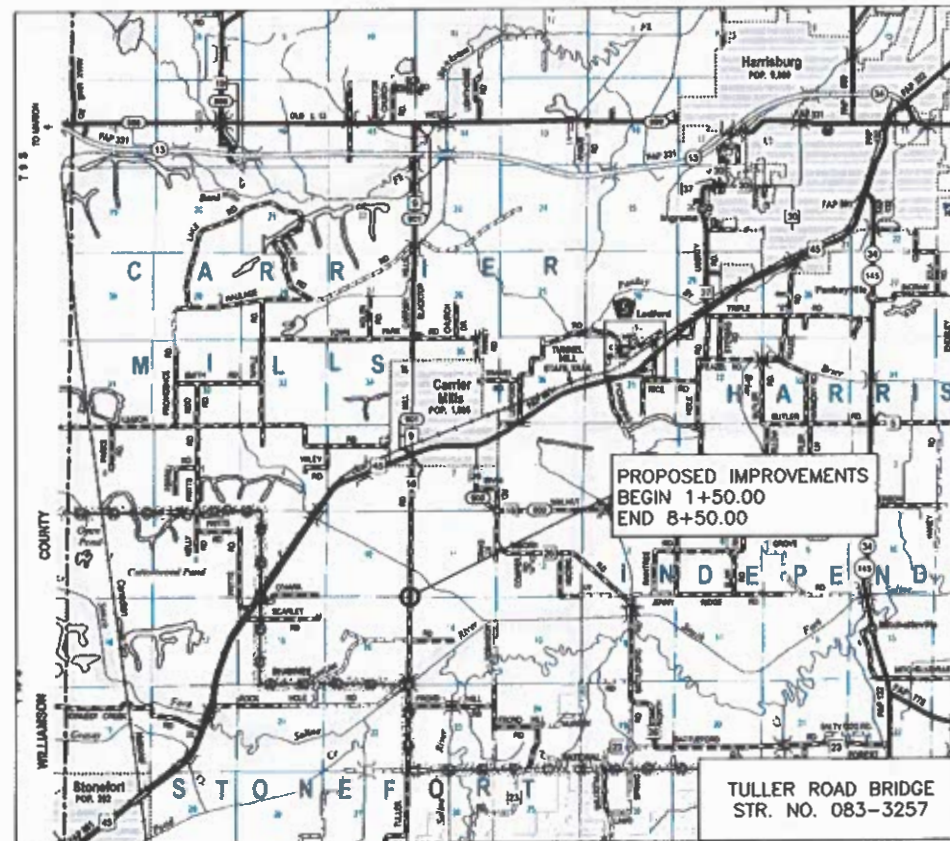
BROWN & ROBERTS, INC.
 CONSULTING ENGINEERS LAND SURVEYORS
 ONE WESTRIDGE ROAD HARRISBURG, IL 62946 (618) 252-8111

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

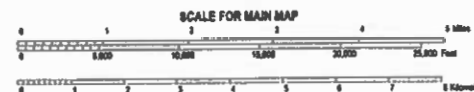
PLANS FOR PROPOSED

**TULLER ROAD BRIDGE REPLACEMENT
 COUNTY HIGHWAY 16**

SALINE COUNTY
 SECTION NO. 19-00163-00-BR
 PROJECT NO. ZPV4(580)
 JOB NO. C-99-002-20
 CONTRACT NO. 99681



R 5 E
 LOCATION MAP
 Length Of Improvements = 700 ft (0.13 mi)



BRI Job No. 20076

| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|----------------|----------------|--------------|-----------|
| CH 16 | 19-00163-00-BR | SALINE | 13 | 1 |
| TULLER RD | | CONTRACT 99681 | | |

FUNCTIONAL CLASS: LOCAL ROAD
 ADT (2020): 600
 DESIGN SPEED: 50 MPH



LOCATION OF SECTION INDICATED THIS: →



J.W. Brown 2/16/2023
 J.W. BROWN as President of Brown & Roberts, Inc. Date
 Illinois Professional Design Firm
 Land Survey & Prof. Eng. Corp
 Number 184-002518
 Expires April 30, 2023

STATE OF ILLINOIS
 DEPARTMENT OF TRANSPORTATION

APPROVED *[Signature]* 2/16/23
 LOCAL AGENCY REPRESENTATIVE

PASSED *[Signature]* 2/23/23
 DISTRICT 9 ENGINEER OF LOCAL ROADS & STREETS

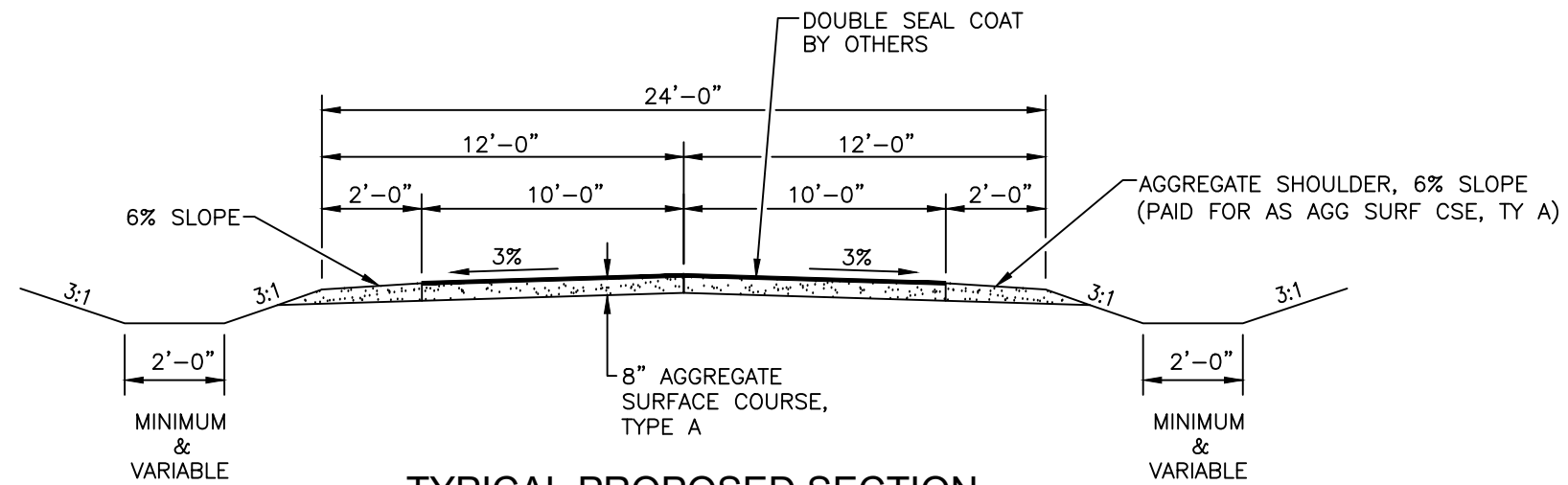
RELEASING FOR BID
 BASED ON LIMITED
 REVIEW *[Signature]* 2/23/23
 KIRK H. BROWN, P.E.
 REGION FIVE ENGINEER

| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-------------|----------------|----------------|--------------|-----------|
| CH 16 | 19-00163-00-BR | SALINE | 13 | 2 |
| TULLER ROAD | | CONTRACT 99681 | | |

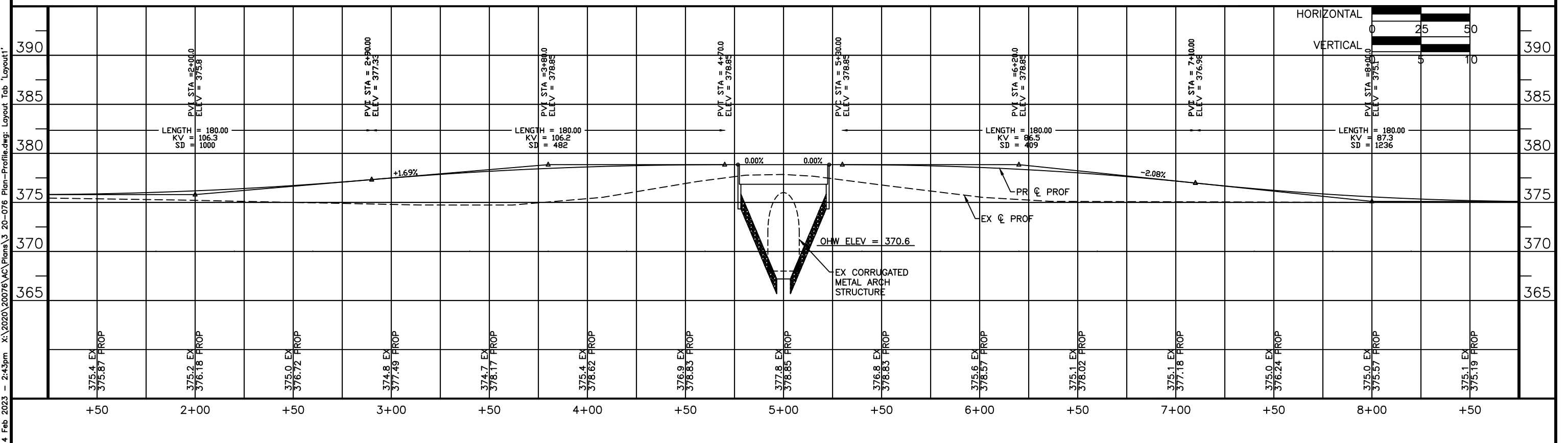
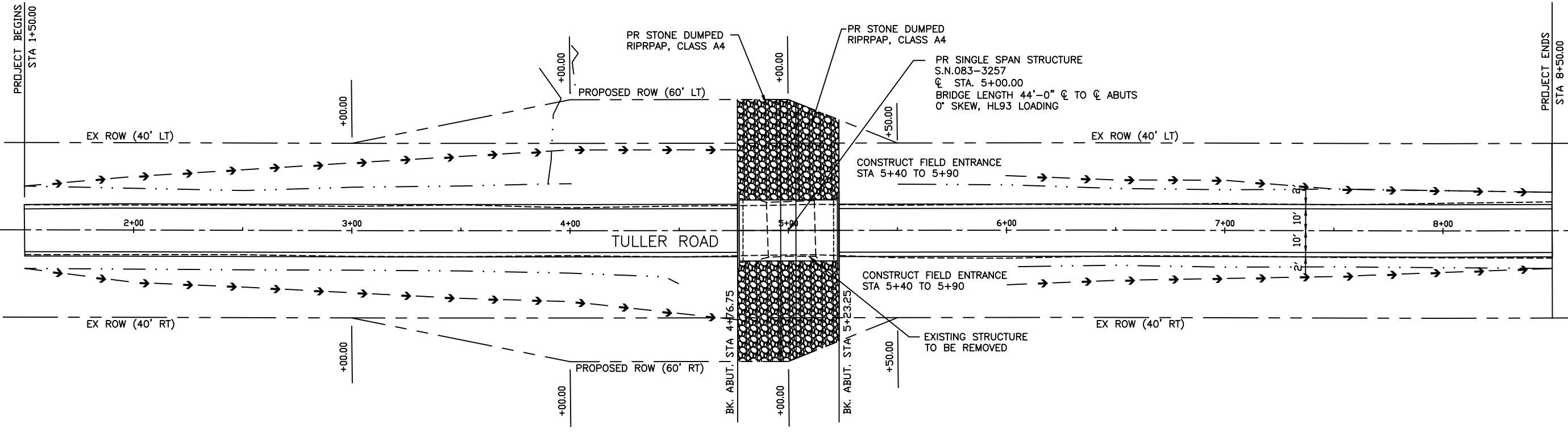
SUMMARY OF QUANTITIES

| ITEM NO. | PAY ITEM | UNIT | QUANTITY |
|-----------|---|---------|----------|
| X2501000 | SEEDING, CLASS 2 (SPECIAL) | ACRE | 0.94 |
| 20200100 | EARTH EXCAVATION | CU YD | 1300 |
| 20400100 | BORROW EXCAVATION | CU YD | 1200 |
| 28000250 | TEMPORARY EROSION CONTROL SEEDING | POUND | 50 |
| 28000305 | TEMPORARY DITCH CHECKS | FOOT | 40 |
| 28000400 | PERIMETER EROSION BARRIER | FOOT | 200 |
| 28100807 | STONE DUMPED RIPRAP, CLASS A4 | TON | 275 |
| 40200100 | AGGREGATE SURFACE COURSE, TYPE A | TON | 830 |
| 50100100 | REMOVAL OF EXISTING STRUCTURES | EACH | 1 |
| 50300225 | CONCRETE STRUCTURES | CU YD | 19.8 |
| 50300280 | CONCRETE ENCASEMENT | CU YD | 3.5 |
| 50400405 | PRECAST PRESTRESSED CONCRETE DECK BEAMS (21" DEPTH) | SQ FT | 1260 |
| 50800105 | REINFORCEMENT BARS | POUND | 2520 |
| *50900205 | STEEL RAILING, TYPE S1 | FOOT | 90 |
| 51201400 | FURNISH STEEL PILES HP10X42 | FOOT | 820 |
| 51202305 | DRIVING PILES | FOOT | 820 |
| 51500100 | NAME PLATES | EACH | 1 |
| *72501000 | TERMINAL MARKER - DIRECT APPLIED | EACH | 4 |
| 67100100 | MOBILIZATION | L SUM | 1 |
| 70107025 | CHANGEABLE MESSAGE SIGN | CAL DAY | 14 |

*SPECIALTY ITEMS



| | | | | |
|-------------|----------------|----------------|--------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CH 16 | 19-00163-00-BR | SALINE | 13 | 3 |
| TULLER ROAD | | CONTRACT 99681 | | |



14 Feb 2023 - 2:43pm X:\2020\20076\AC\Plans\3 20-076 Plan-Profile.dwg: Layout Tab 'Layout1'

GENERAL NOTES

- Concrete Structures shall be used throughout except in the deck beams.
- The Contractor shall drive \varnothing test piles, as specified, in a permanent location, as directed by the Engineer, before ordering the remaining piles.
- See Special Provisions for Boring Logs.
- BenchMark - Station 2+91, 50'RT - RR Spike in Utility Pole - Elevation 373.10
- ** Channel Excavation shall be measured and paid for as Earth Excavation.

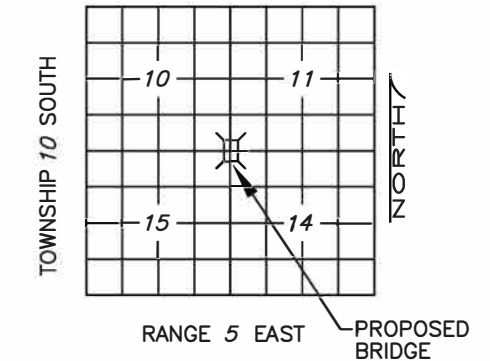
LETTERING FOR NAME PLATE

SEC. 19-00163-00-BR
STR. NO. 083-3257
BUILT 2023
SALINE COUNTY
LOADING HL93

LOCATE NAME PLATE AT
SOUTHWEST CORNER OF BRIDGE

| Route | Section | County | Total Sheets | Sheet No. |
|-------------|----------------|--------|----------------|-----------|
| CH 16 | 19-00163-00-BR | Saline | 13 | 4 |
| TULLER ROAD | | | CONTRACT 99681 | |

LOCATION SKETCH



WATERWAY INFORMATION

| Drainage Area = 2.3 Sq. Mi. | | | | Low Grade Elev. = 374.4 | | | | | |
|-----------------------------|--------------|---------|-----------------|-------------------------|-----------|-------|----------------|-------|-------|
| Flood | Freq. (year) | Q (cfs) | Opening (sq ft) | | Head (ft) | | Headwater Elev | | |
| | | | Exist | Prop | HWE | Exist | Prop | Exist | Prop |
| Design | 20 | 770 | 123 | 209 | 375.84 | 0.0 | 0.06 | 375.8 | 375.9 |
| Base | 100 | 1180 | 137 | 214 | 376.09 | 0.8 | 0.05 | 376.1 | 376.2 |
| Overtopping | - | - | - | - | - | - | - | - | - |
| Max. Calc. | 500 | 3233 | 137 | 296 | 374.1 | 0.00 | 0.03 | 376.5 | 376.5 |

TOTAL BILL OF MATERIAL

| ITEM | Unit | Super. | Substructure | | Total |
|--------------------------------|-------|--------|--------------|--------|-------|
| | | | Piers | Abuts. | |
| Removal of Existing Structures | Each | 1 | | | 1 |
| Concrete Structures | Cu Yd | | | 19.8 | 19.8 |
| P.P. Con. Dk. Bm. 21" Dp. | Sq Ft | 1260 | | | 1260 |
| Steel Railing, Type S1 | Foot | 90 | | | 90 |
| Reinforcement Bars | Pound | | | 2520 | 2520 |
| Furnish Steel Piles HP 10x42 | Foot | | | 820 | 820 |
| Drive Steel Piles | Foot | | | 820 | 820 |
| Name Plate | Each | | | 1 | 1 |
| Class SI Conc. Encasement | Cu Yd | | | 3.5 | 3.5 |
| Channel Excavation ** | Cu Yd | | | | 260 |

DESIGN SPECIFICATIONS

2020 LRFD Specification - 9th ed.

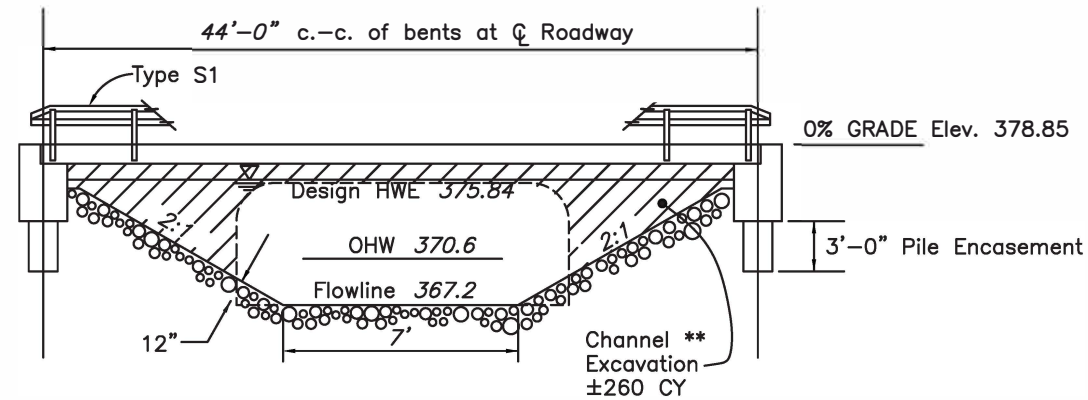
SEISMIC DATA

Seismic Performance Zone (SPZ) = 4
Design Spectral Acceleration at 1.0 sec. (S_{D1}) = 0.543
Design Spectral Acceleration at 0.2 sec (S_{D5}) = 0.907
Site Soil Class = E

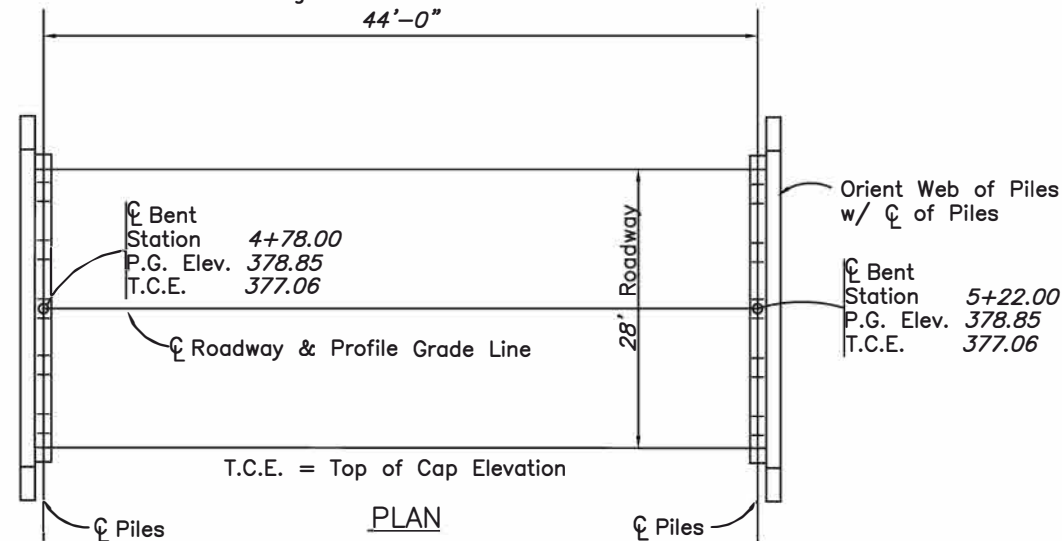
PILE DATA (2-ABUTS.)

Type STEEL HP 10X42
Estimated Length 82 Feet
Number Required 10
Nominal Required Bearing 335 KIPS
Allowable Resistance Available 184 KIPS

ELEVATION

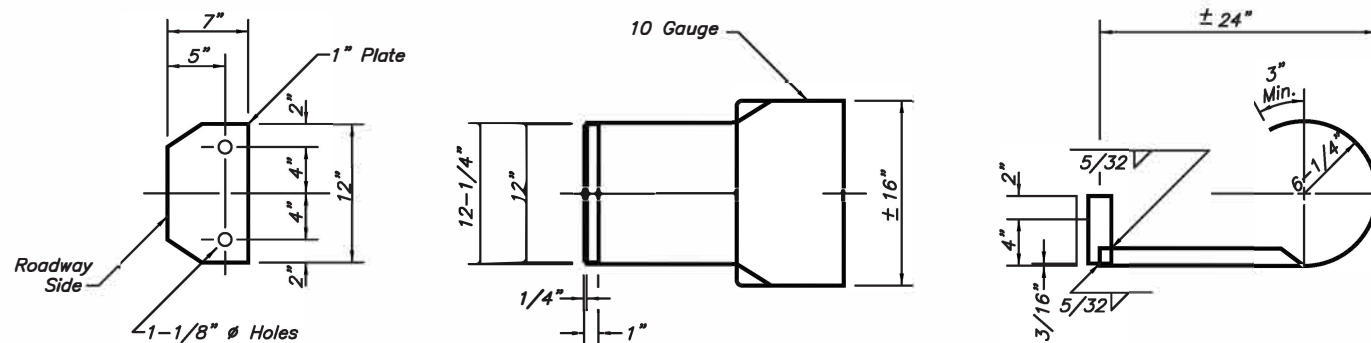


Skew Angle 'D' = 0° Left Forward
44'-0"



T.C.E. = Top of Cap Elevation

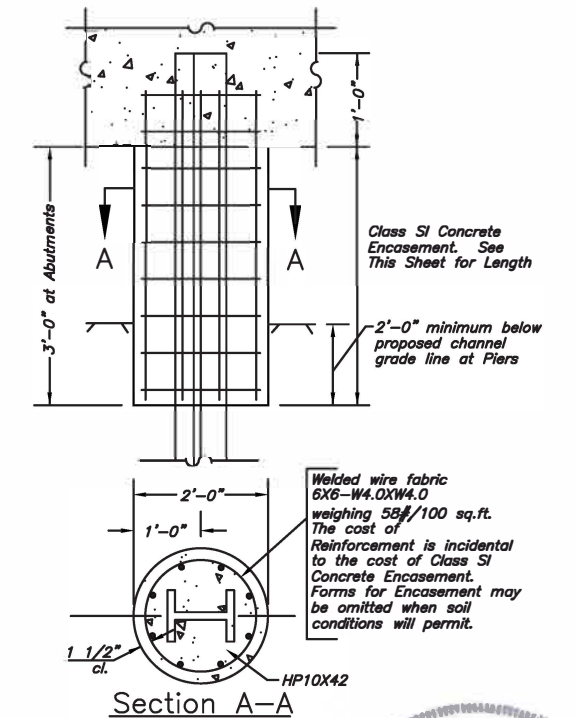
PLAN



CURLED END SECTION DETAILS

Note: Curled End Sections Shall Be Incidental To The Contract Price. (4 Total)

DETAIL OF HP PILE ENCASEMENT



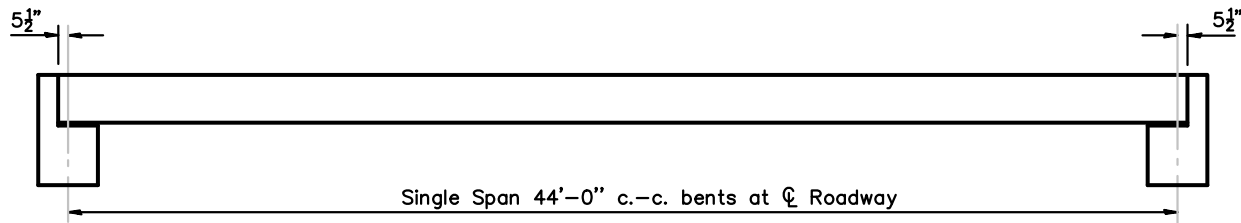
I certify that to the best of knowledge, information and belief, this bridge/box culvert design is structurally adequate for the design loading shown on the plans. The design is an economical one for the style of structure and complies with requirements of the current AASHTO Standard Specifications for Highway Bridges.

Illinois Structural No. 4745
Expires 11/30/2024

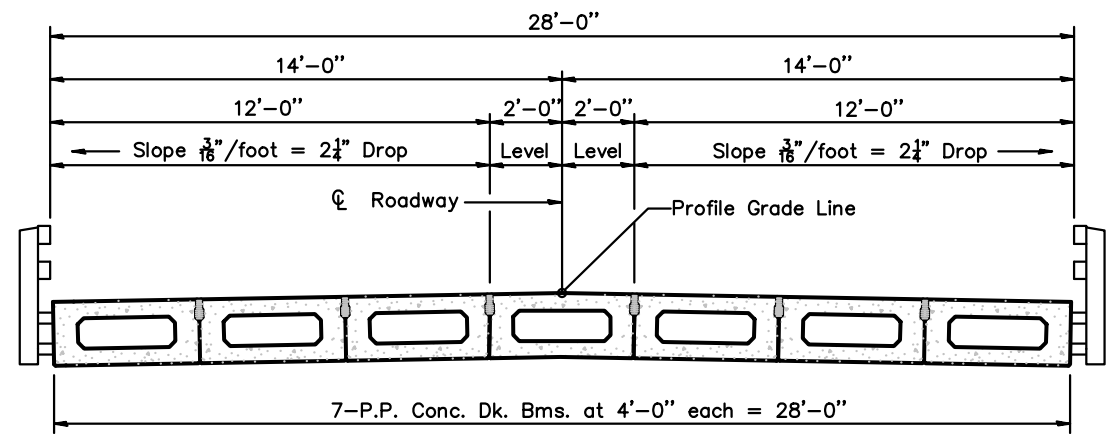
GENERAL PLAN & ELEVATION

COUNTY HIGHWAY 16 - TULLER ROAD
SALINE COUNTY - CARRIER MILLS TOWNSHIP
SECTION 19-00163-00-BR
STATION 5+00

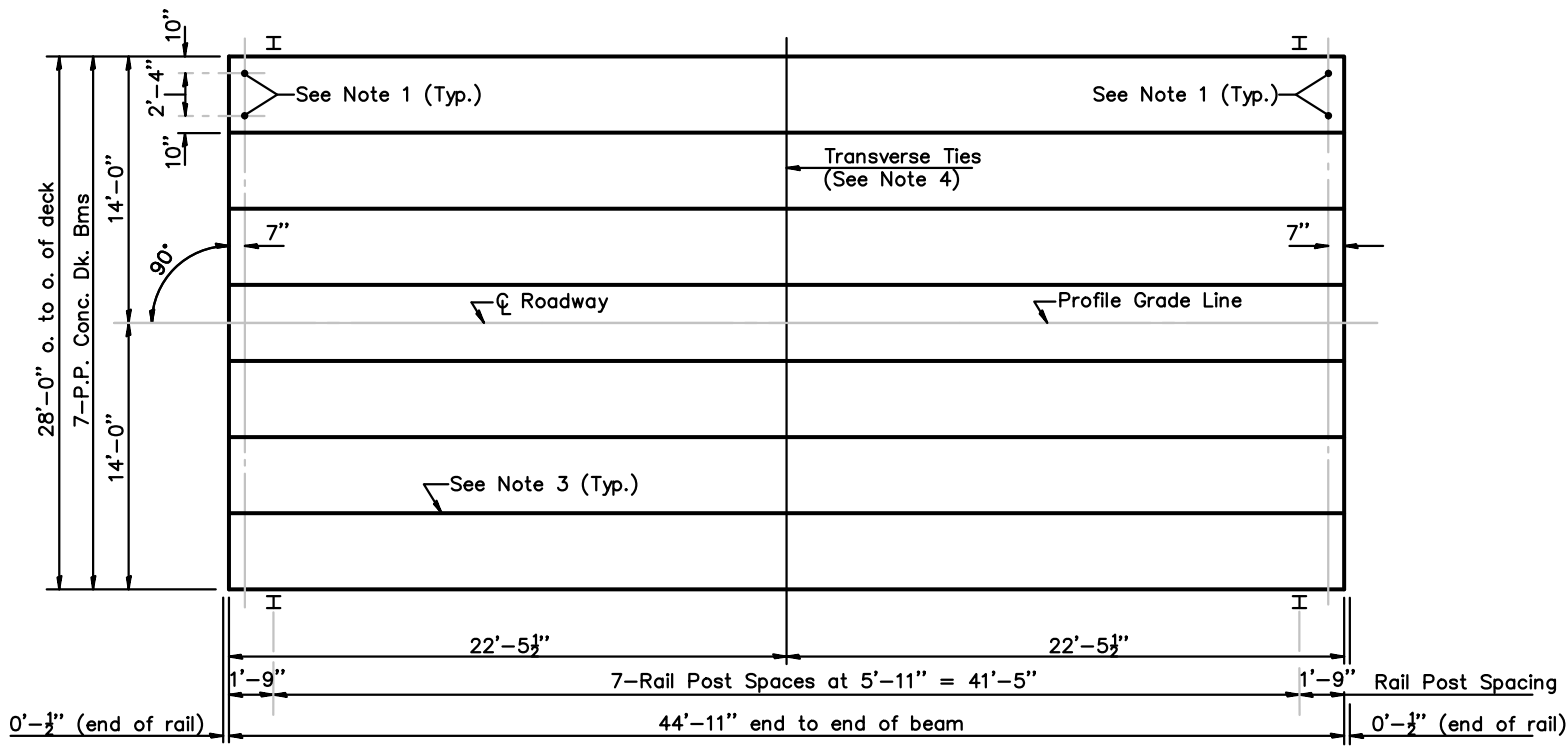
| | | | | |
|-------------|----------------|----------------|--------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CH 16 | 19-00163-00-BR | SALINE | 13 | 5 |
| TULLER ROAD | | CONTRACT 99681 | | |



TYPICAL ELEVATIONS



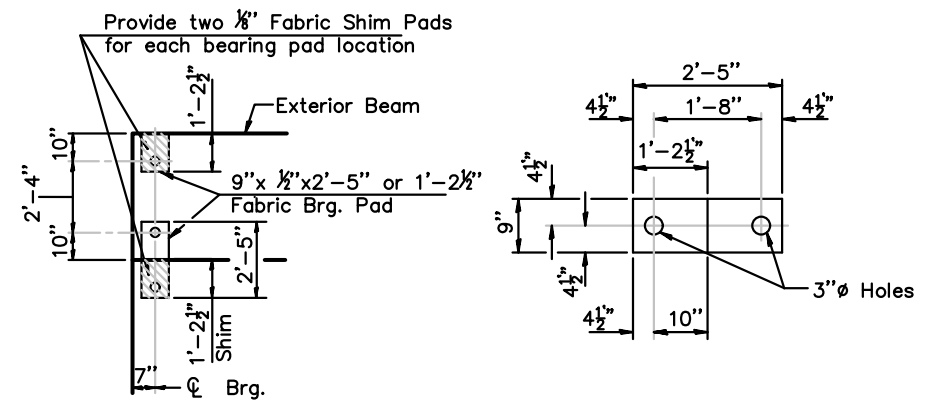
CROSS SECTION



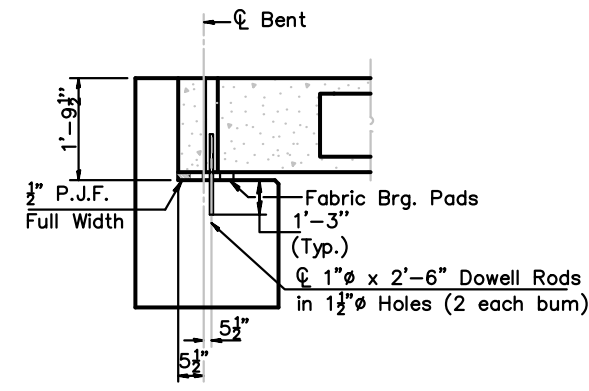
PLAN

NOTES

1. After beams have been erected, holes shall be drilled into substructure and anchor dowels placed. Dowel holes shall be filled with non-shrink grout to top of beam and allowed to cure min. 24 hrs. prior to grouting the shear keys.
2. Nominal 1" joint at ϕ Pier shall be filled with non-shrink grout.
3. Longitudinal keys shall be grouted.
4. The 1" ϕ rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets that receive transverse tie bar outside shall be filled with grout after transverse tie assembly is in place.



1/2" FABRIC BRG. PAD DETAILS



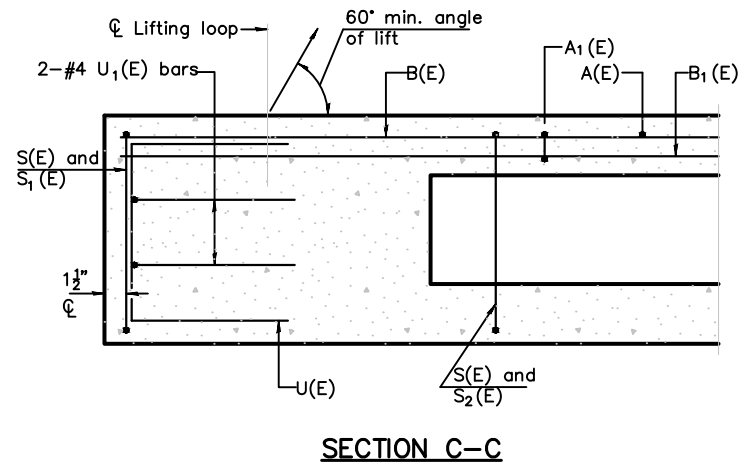
SECTION AT ABUTS.
(Along ϕ Beams)

QUANTITIES FOR ONE SPAN

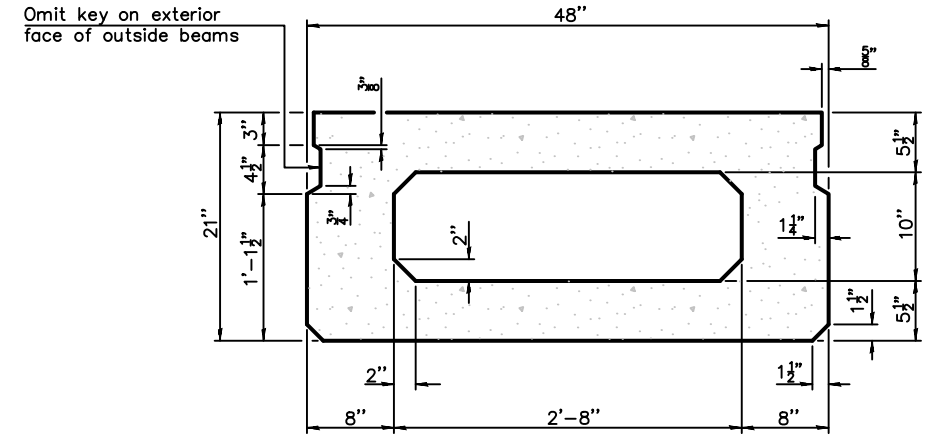
| | |
|----------------------------|--------------|
| P.P. Conc. Dk. Bm. 21" Dp. | 1260 Sq. Ft. |
| Steel Railing | 90 Ft. |

| | | | |
|---------------------------------|----------|----------|---------|
| P.P.C. DECK BEAM SUPERSTRUCTURE | | | |
| 28' RDWY. | 21" BMS. | 45' SPAN | 0° SKEW |

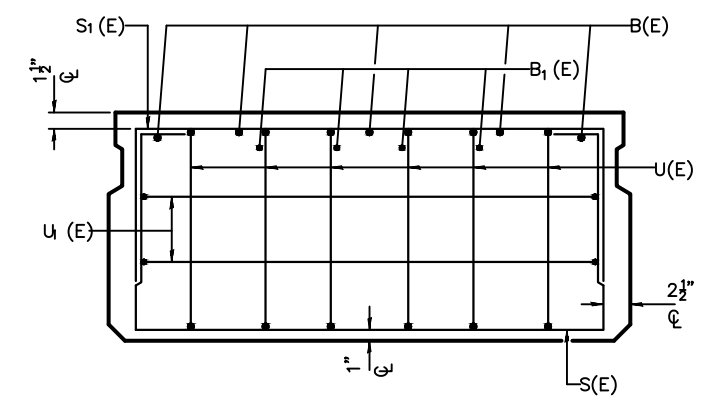
| | | | | |
|-------------|----------------|----------------|--------------|-----------|
| Route | Section | County | Total Sheets | Sheet No. |
| CH 16 | 19-00163-00-BR | Saline | 13 | 6 |
| TULLER ROAD | | CONTRACT 99681 | | |



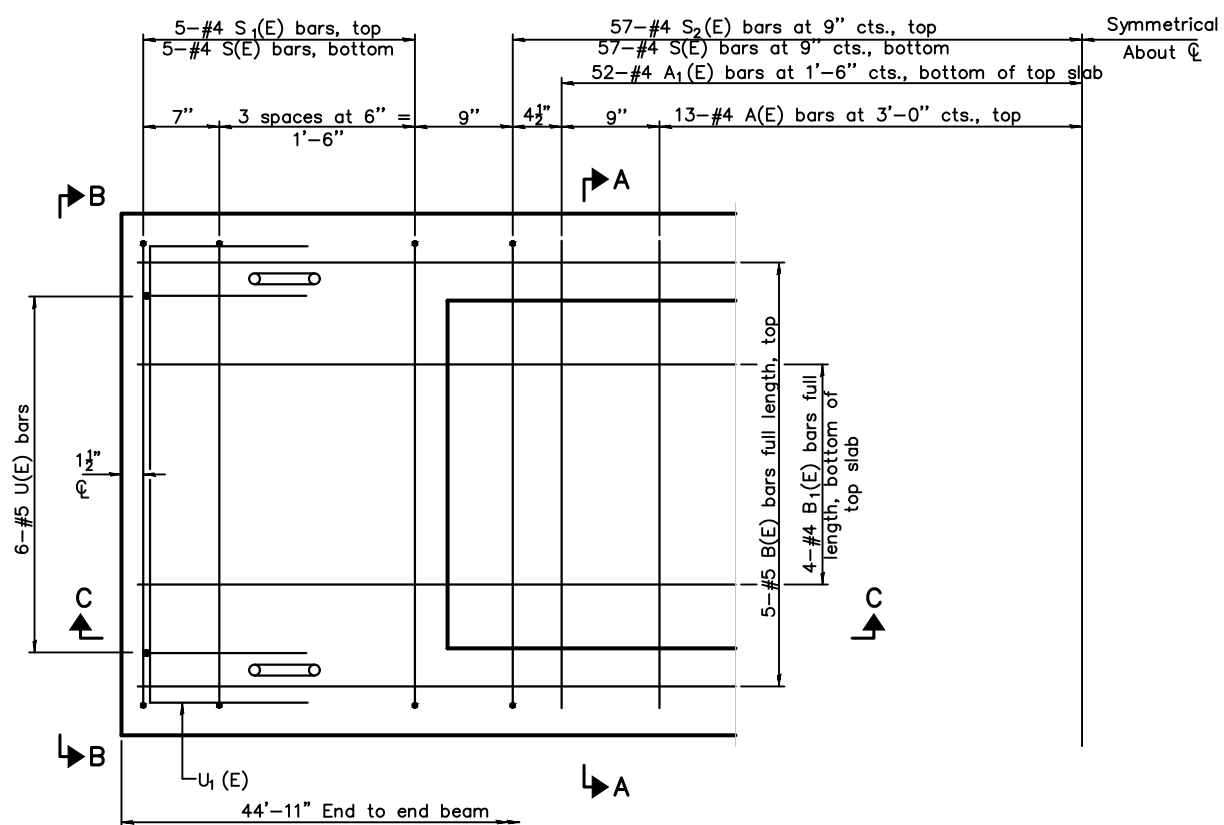
SECTION C-C



SECTION A-A
(Showing dimensions)

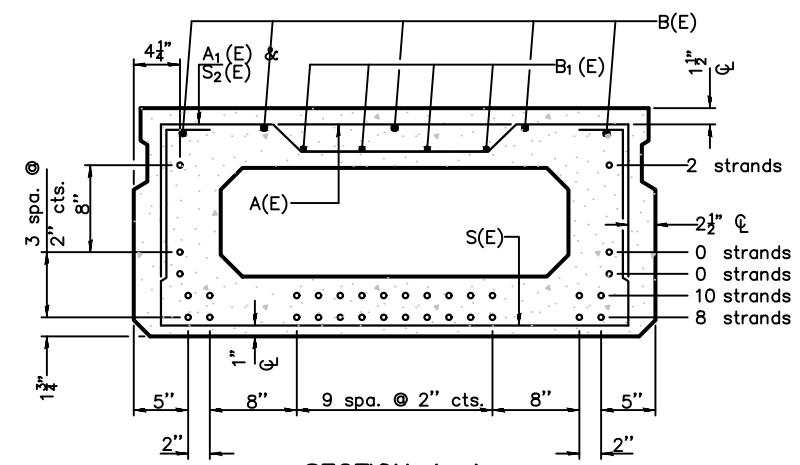


VIEW B-B



PLAN VIEW

Note: Spacing of S(E) and S₂(E) bars may be adjusted up to 4" in the immediate area of the transverse tie diaphragms to miss the block outs for the transverse ties.



SECTION A-A
(Showing reinforcement and permissible strand locations)
Note: Place the number of strands specified in each row symmetrically about the centerline of beam in the permissible strand locations shown.

BAR LIST
ONE BEAM ONLY
(For Information Only)

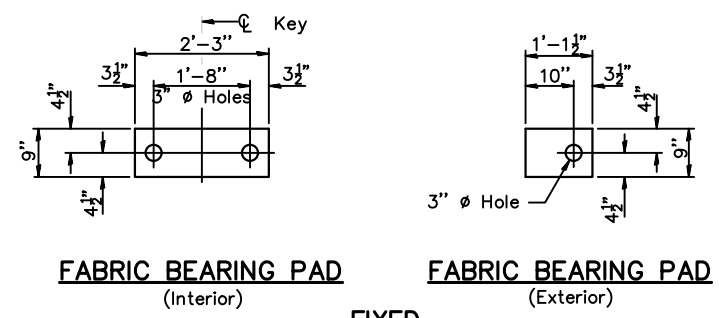
| Bar | No. | Size | Length | Shape |
|--------------------|-----|------|--------|-------|
| A(E) | 13 | #4 | 3'-7" | — |
| A ₁ (E) | 52 | #4 | 3'-10" | — |
| B(E) | 5 | #5 | 44'-9" | — |
| B ₁ (E) | 4 | #4 | 44'-9" | — |
| S(E) | 67 | #4 | 7'-5" | □ |
| S ₁ (E) | 10 | #4 | 5'-11" | □ |
| S ₂ (E) | 57 | #4 | 6'-2" | □ |
| U(E) | 12 | #5 | 4'-0" | □ |
| U ₁ (E) | 4 | #4 | 6'-0" | □ |

Note: See sheet of for additional details and Bill of Material.

21" X 48" PPC DECK BEAM
STRUCTURE NO. 083-3257

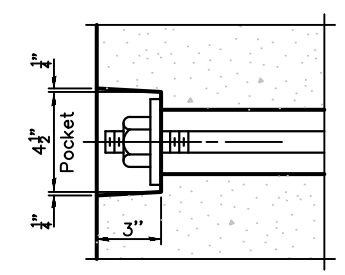
21" X 48" PPC DECK BEAM
CH 16 OVER TRIBUTARY
TO SOUTH FORK SALINE RIVER
SECTION 19-00163-00-BR
SALINE COUNTY
STATION 5+00.00

| | | | | |
|-------------|----------------|----------------|--------------|-----------|
| Route | Section | County | Total Sheets | Sheet No. |
| CH 16 | 19-00163-00-BR | Saline | 13 | 7 |
| TULLER ROAD | | CONTRACT 99681 | | |

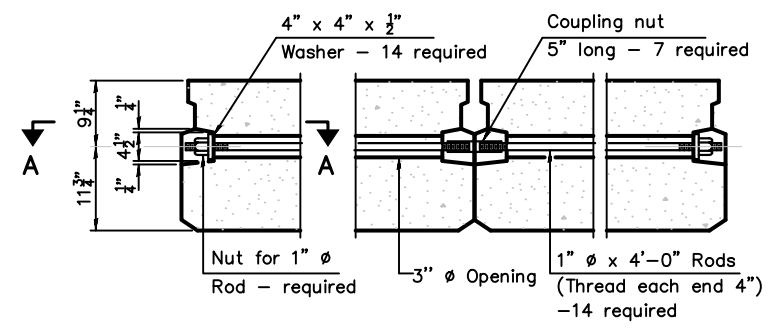


FABRIC BEARING PAD (Interior)
FABRIC BEARING PAD (Exterior)

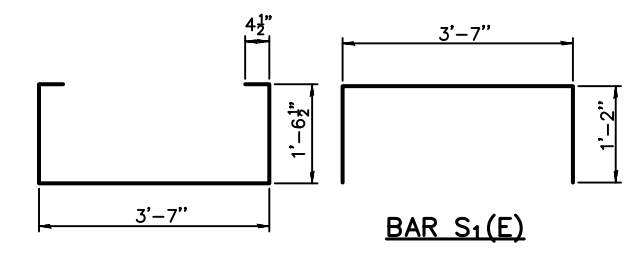
FIXED
 Note: Omit holes when using expansion bearings.



SECTION A-A

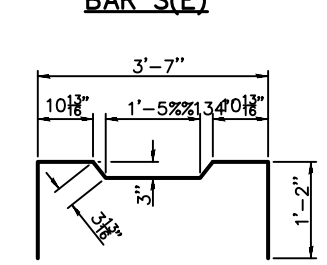


TYPICAL TRANSVERSE TIE ASSEMBLY

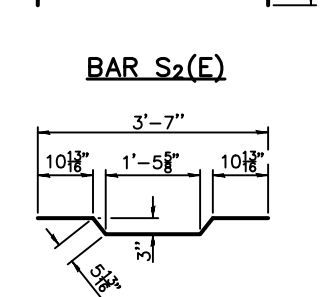


BAR S(E)

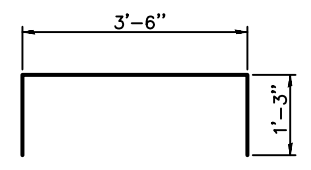
BAR S1(E)



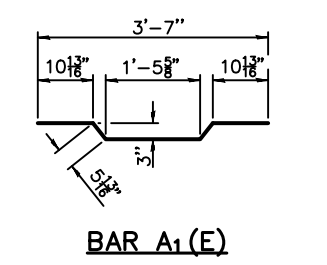
BAR U(E)



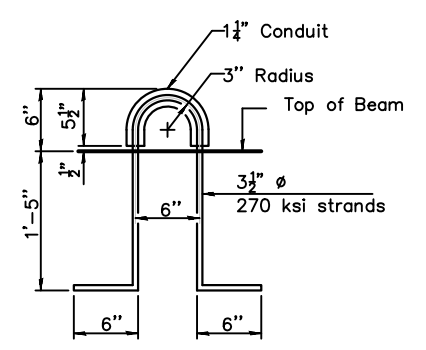
BAR S2(E)



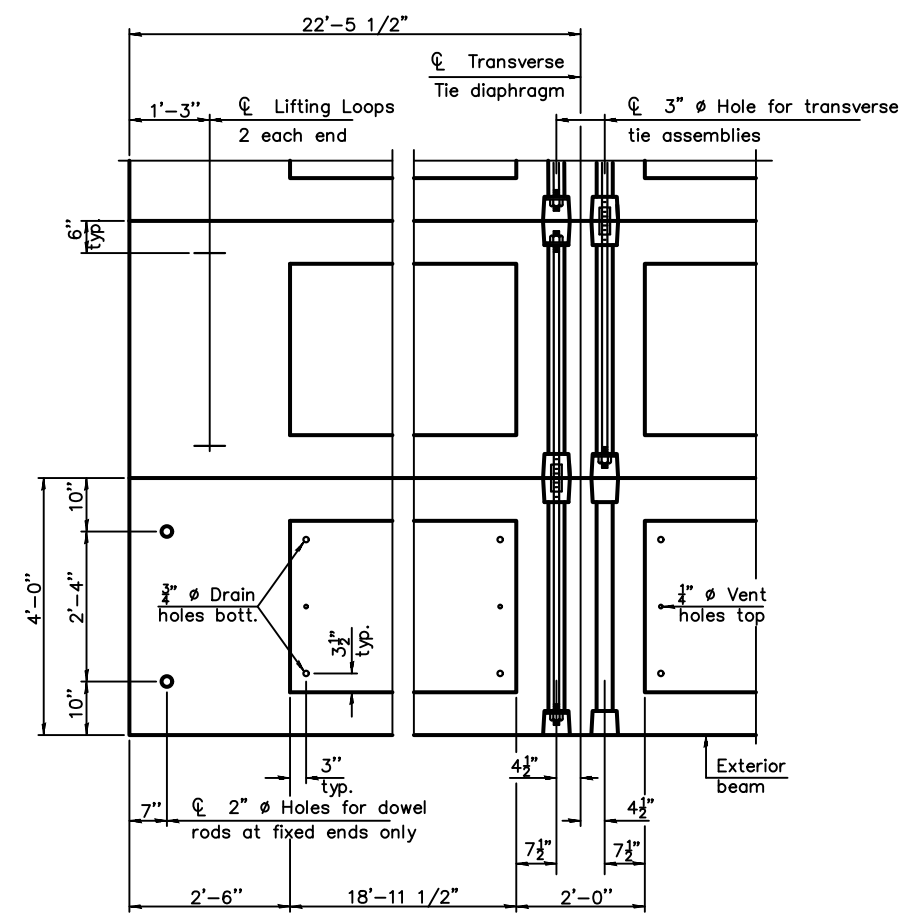
BAR U1(E)



BAR A1(E)



LIFTING LOOP DETAIL



PLAN VIEW

Note: Connect beams in pairs with the transverse tie configuration shown.

BILL OF MATERIAL

| | |
|---|--------------|
| Precast Prestressed Conc. Deck Bms. (21" depth) | Sq. Ft. 1260 |
|---|--------------|

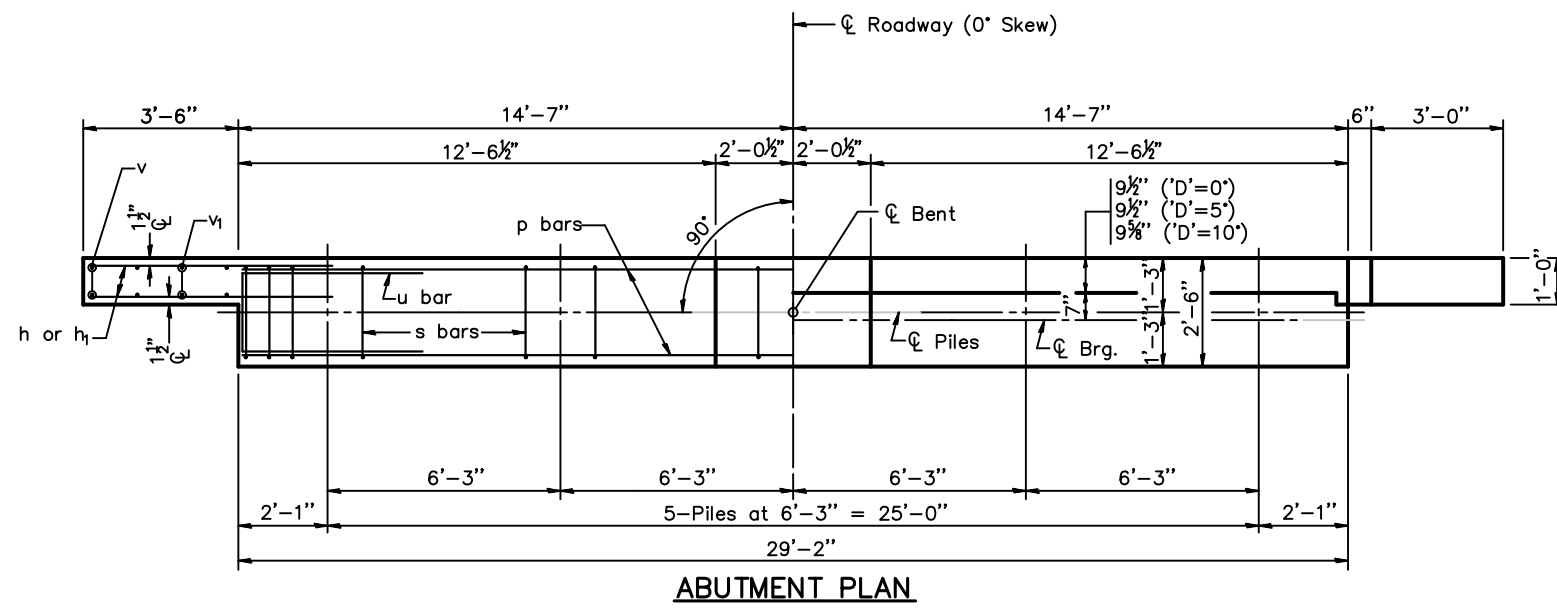
**21" X 48" PPC DECK BEAM DETAILS
 STRUCTURE NO. 083-3257**

NOTES

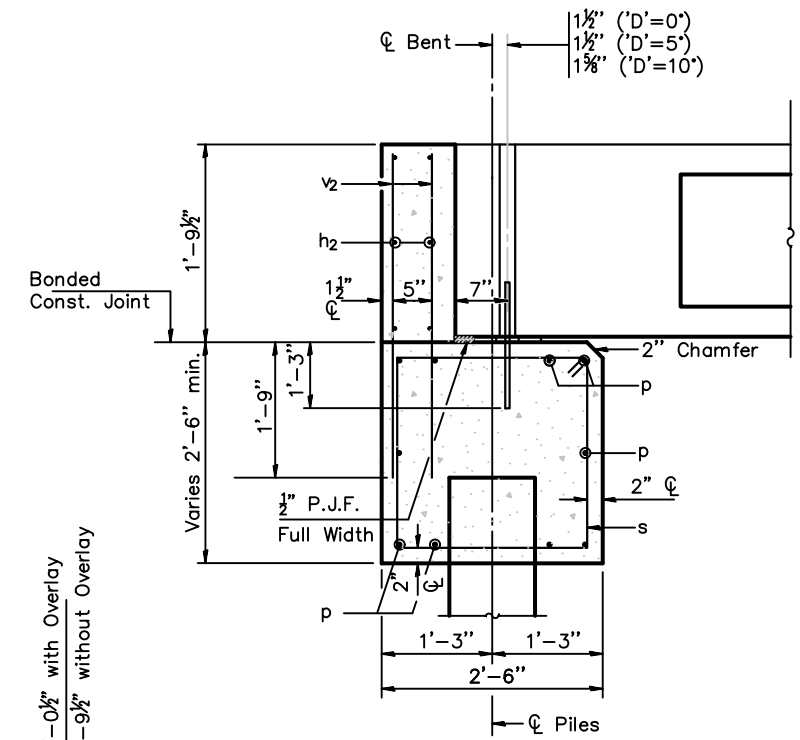
- Prestressing steel shall be uncoated high strength, low relaxation 7-wire strand, Grade 270. The nominal diameter shall be 5/8" and the nominal cross-sectional area shall be 0.153 sq. in.
- The 1" rods in the transverse tie assembly shall be tightened to a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after transverse tie assembly is in place.
- Reinforcement bars shall conform to ASTM A 706, Grade 60. (See Special Provisions).
- Two 1/8" fabric adjusting shims of the dimensions of the exterior bearing pad shall be provided for each bearing pad location.
- A minimum 2 1/2" lifting pin shall be used to engage the lifting loops during handling.
- Corrosion Inhibitor, per Article 1020.05(b)(12) and 1021.06 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
- Compressive strength of prestressed concrete, f'c, shall be 6000 psi.
- Compressive strength of prestressed concrete at release, f'ci, shall be 5000 psi.

**21" X 48" PPC DECK BEAM
 CH 16 OVER TRIBUTARY TO
 S FORK SALINE RIVER
 SECTION 19-00163-00-BR
 SALINE COUNTY
 STATION 5+00**

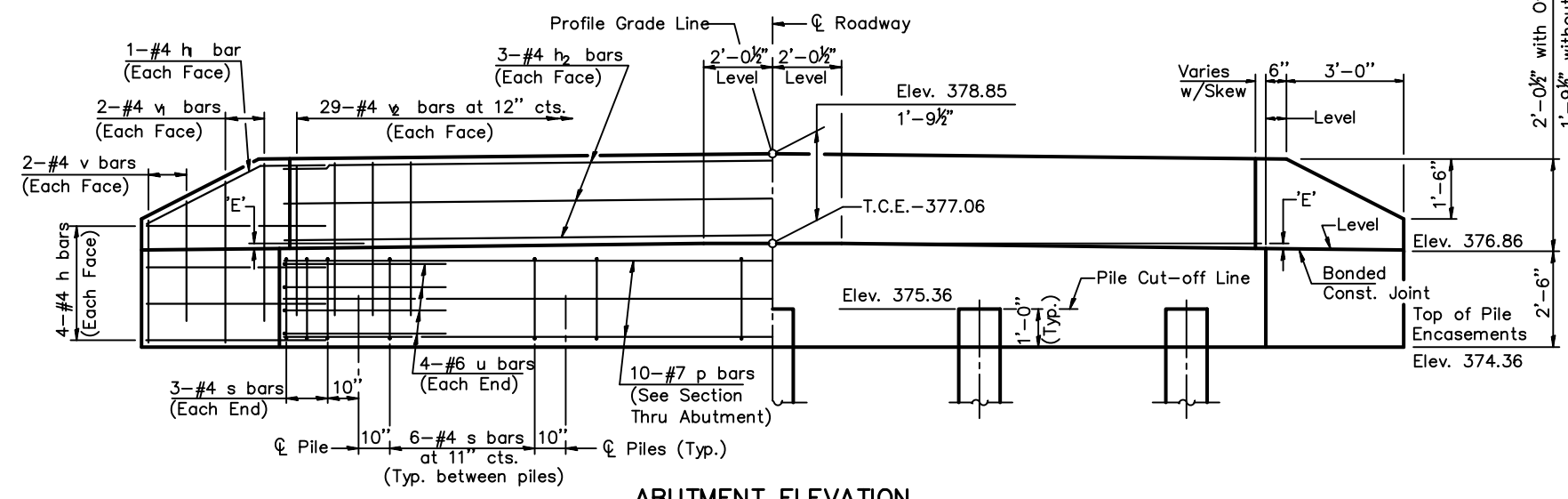
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|-------------|----------------|----------------|--------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CH 16 | 19-00163-00-BR | SALINE | 13 | 8 |
| TULLER ROAD | | CONTRACT 99681 | | |



ABUTMENT PLAN



SECTION THRU ABUTMENT
(At Right Angles)



ABUTMENT ELEVATION

MAXIMUM PILE LOADS

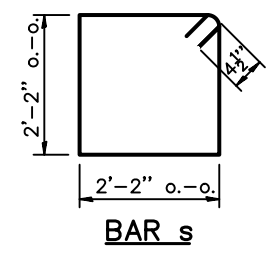
| SPAN | TONS |
|------|------|
| 30' | 25 |
| 35' | 27 |
| 40' | 29 |
| 45' | 31 |

DESIGN STRESSES

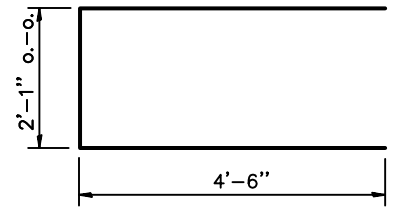
$f'_c = 3,500$ psi
 $f_y = 60,000$ psi

NOTES

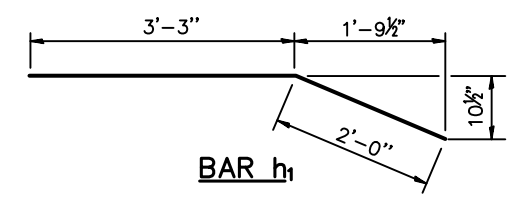
- The Backwall and the portion of the Wingwalls above the bonded construction joint shall be cast against the in-place beam.
- Reinforcement bars shall conform to the requirements of A.A.S.H.T.O. M-31 or M-322, Grade 60.
- Space reinforcement in cap to miss anchor bolts.



BAR s



BAR u



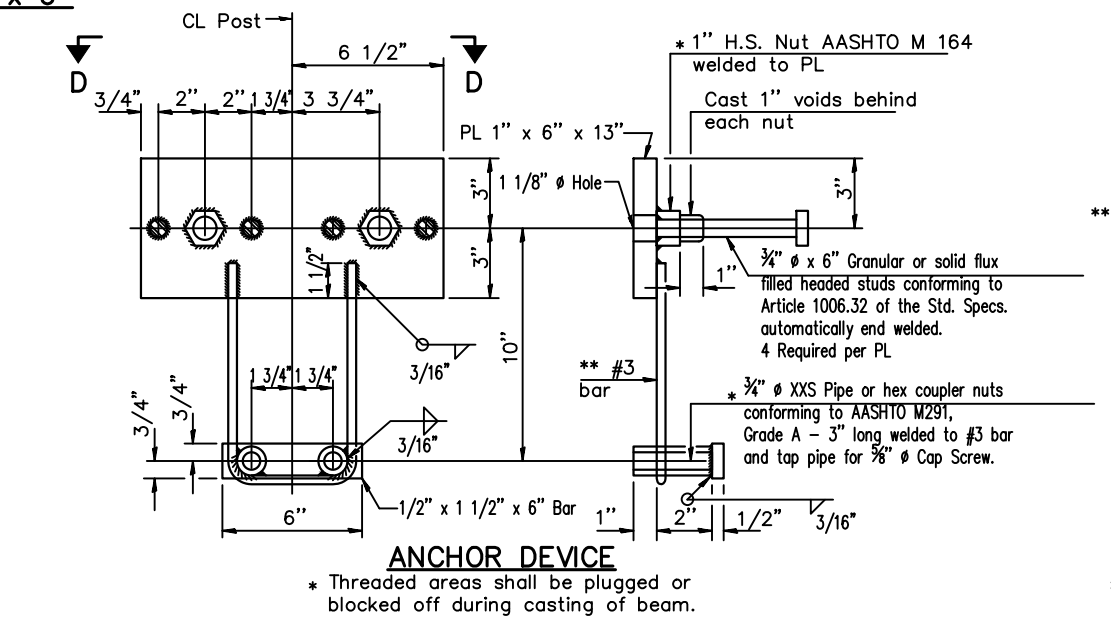
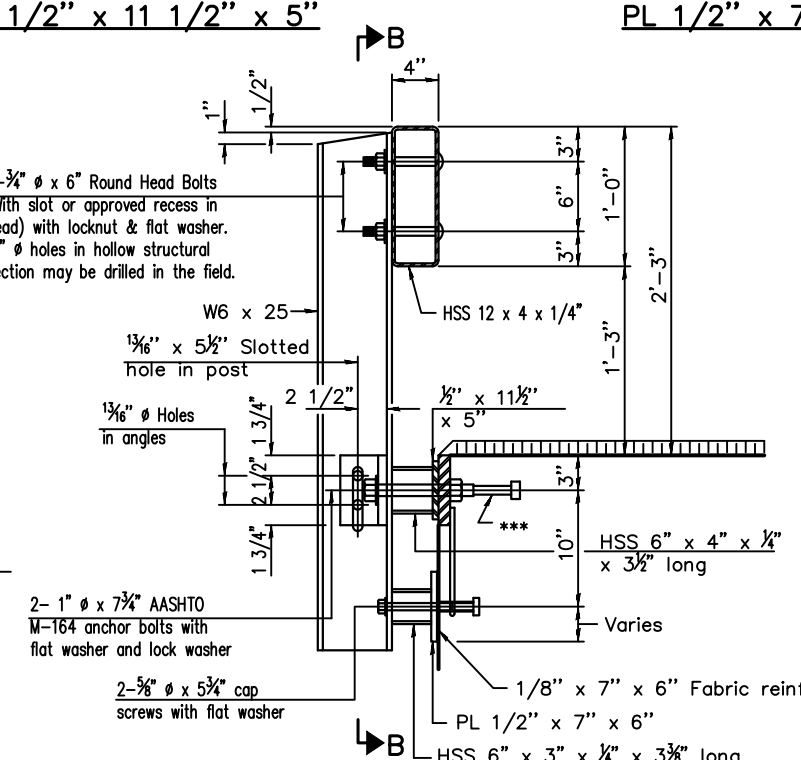
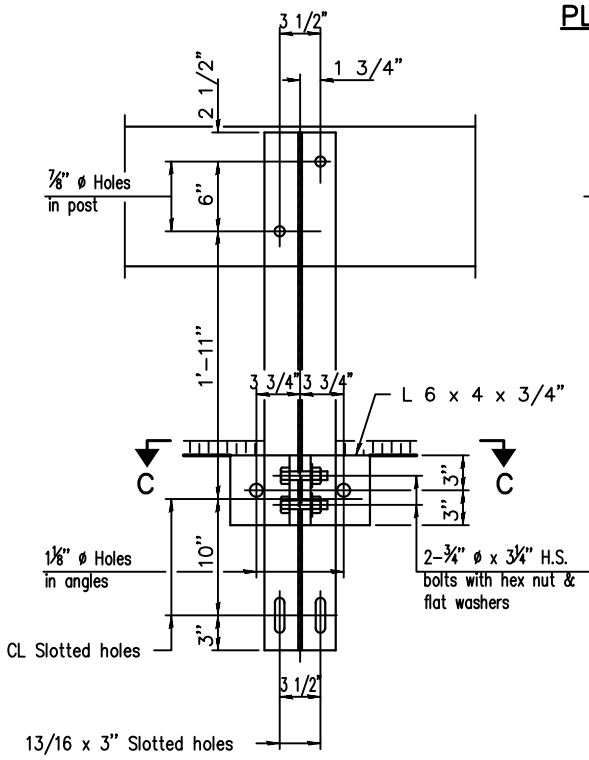
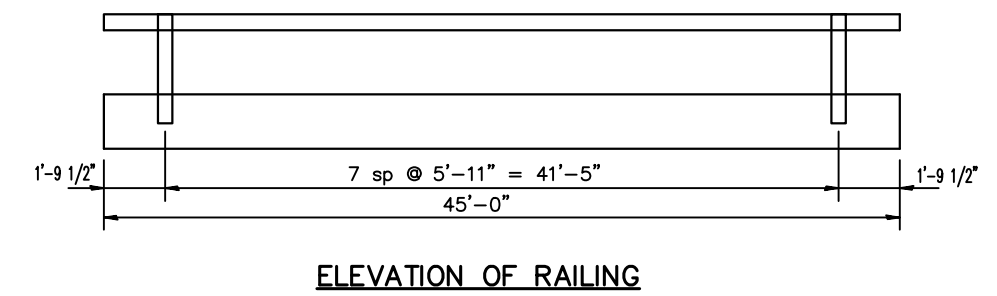
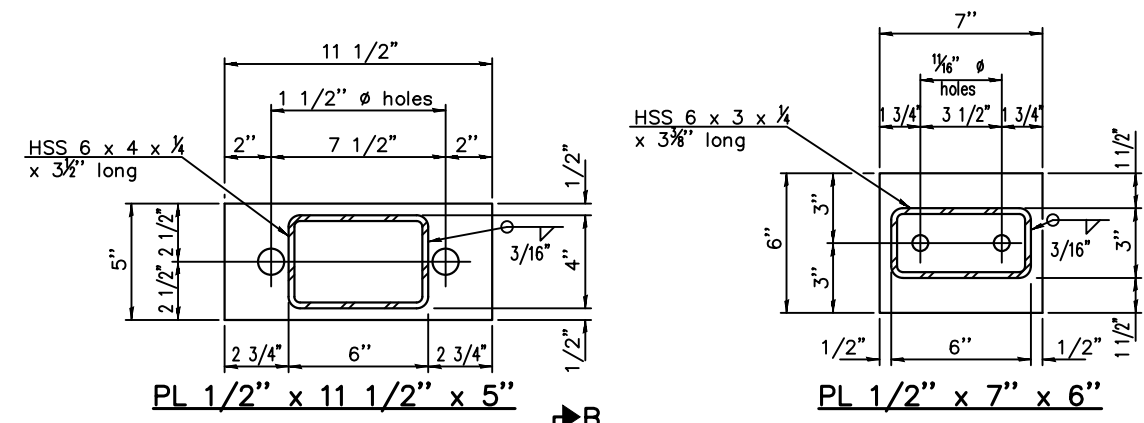
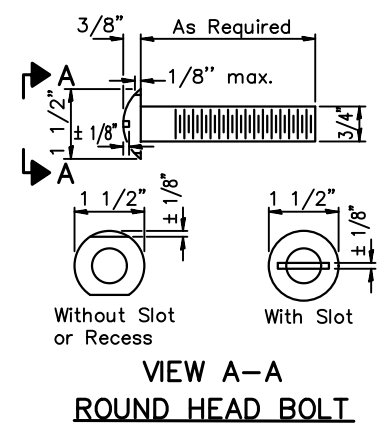
BAR h1

BILL OF MATERIAL FOR ONE ABUTMENT

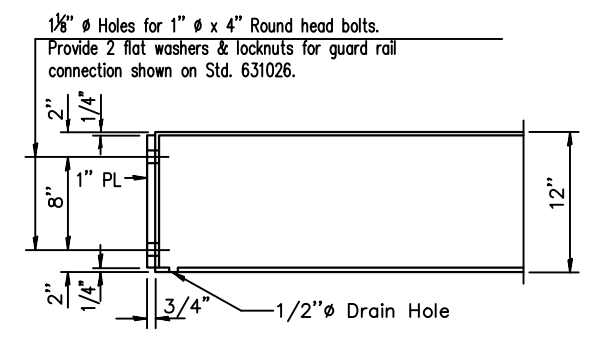
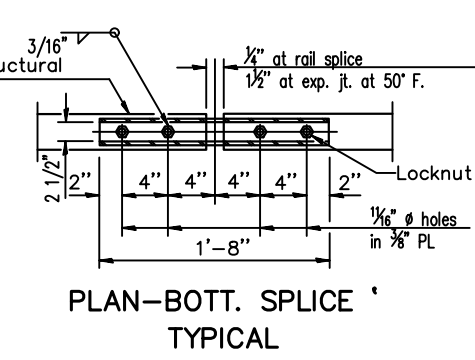
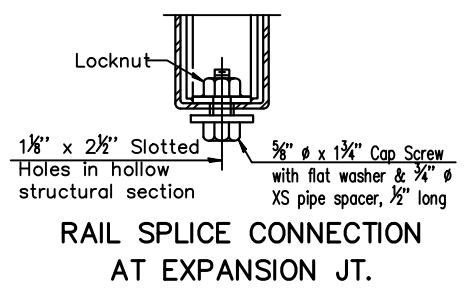
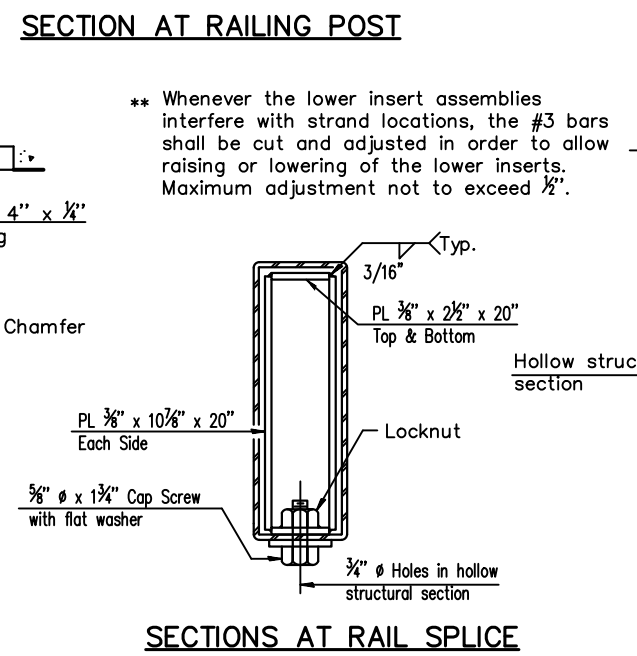
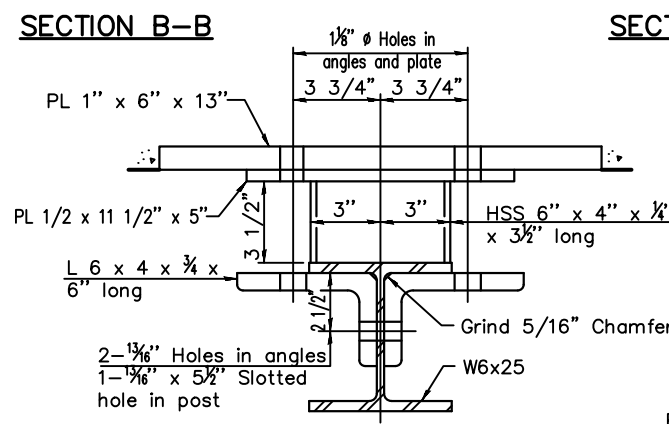
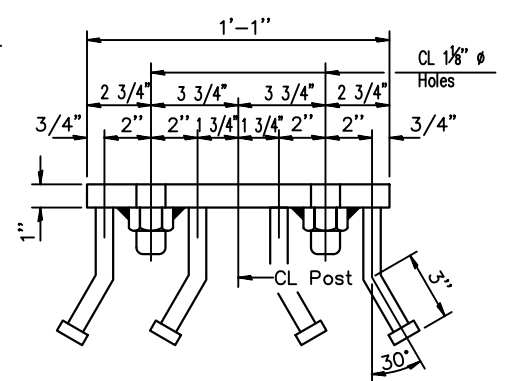
| Bar | No. | Size | Length | Shape |
|---------------------|-----|------|--------------|-------|
| h | 16 | #4 | 5'-0" | — |
| h1 | 4 | #4 | 5'-3" | — |
| h2 | 6 | #4 | 28'-10" | — |
| p | 10 | #7 | 28'-10" | — |
| s | 30 | #4 | 9'-5" | □ |
| u | 8 | #6 | 11'-1" | □ |
| v | 8 | #4 | 2'-8" | — |
| v1 | 8 | #4 | 3'-8" | — |
| v2 | 58 | #4 | 3'-5" | — |
| Concrete Structures | | | 9.9 Cu. Yds. | |
| Reinforcement Bars | | | 1260 Lb. | |

| | | |
|---|----------|--------|
| ABUTMENT DETAILS | | |
| CH 16 OVER TRIBUTARY TO S FORK SALINE RIVER | | |
| SECTION 19-00163-BR | | |
| SALINE COUNTY | | |
| 28' RDWY. | 21" BMS. | 'D'=0' |

| | | | | |
|-------------|----------------|----------------|--------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CH 16 | 19-00163-00-BR | SALINE | 13 | 9 |
| TULLER ROAD | | CONTRACT 99681 | | |



Notes:
 All field drilled holes shall be coated with an approved zinc rich paint before erection.
 For multi-span bridges, sufficient 1/4" x 6" x 1'-2" galvanized steel shims shall be provided to align rail between adjacent spans. Cost included with Steel Railing, Type S-1.
 All steel rail elements shall be galvanized according to Article 509.05 of the Standard Specifications.
 *** The studs of the anchor devices shall be placed below the top reinforcement bars and the outermost longitudinal reinforcement bar shall be placed directly above the studs of the rail post anchor device.

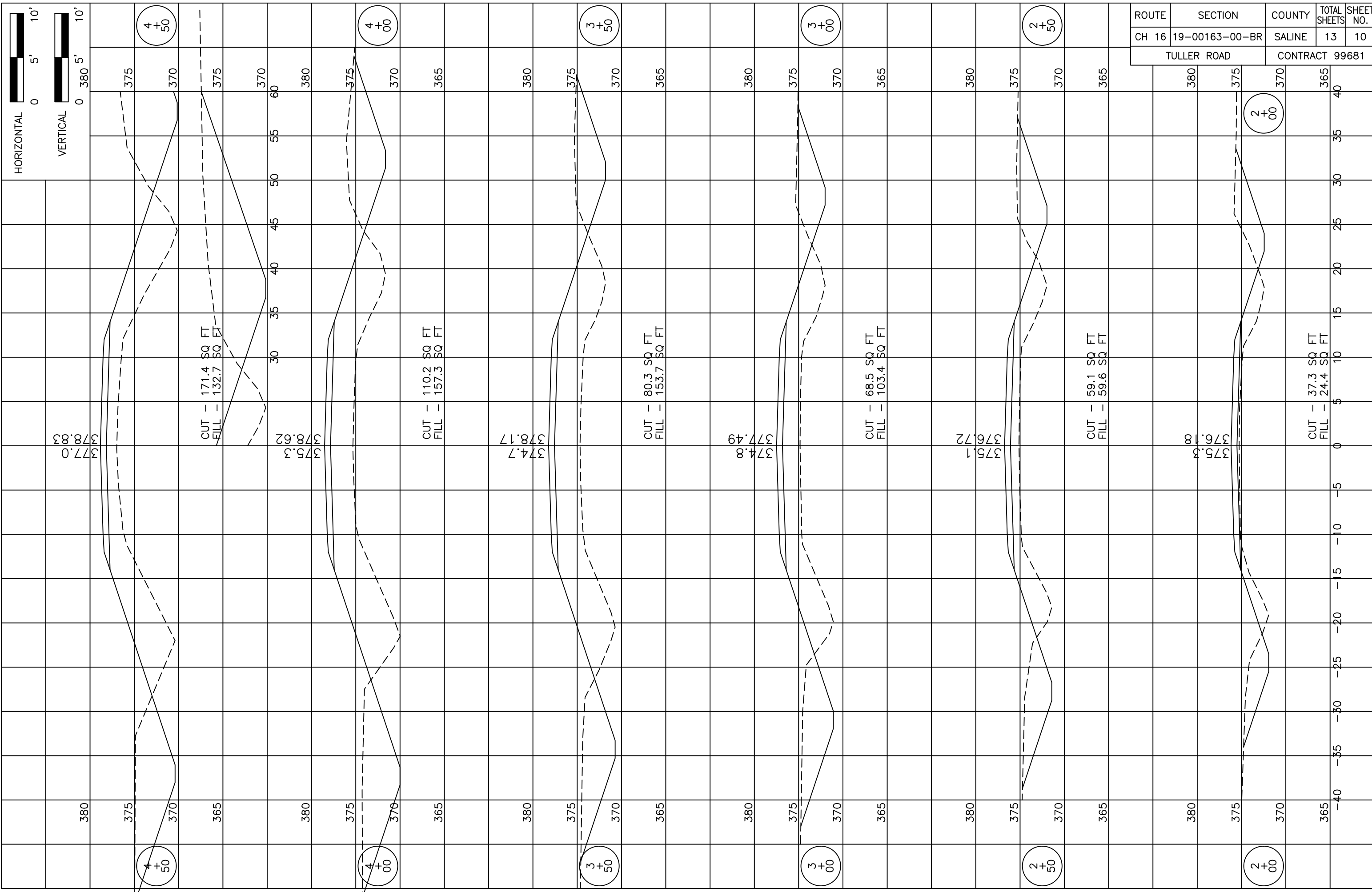


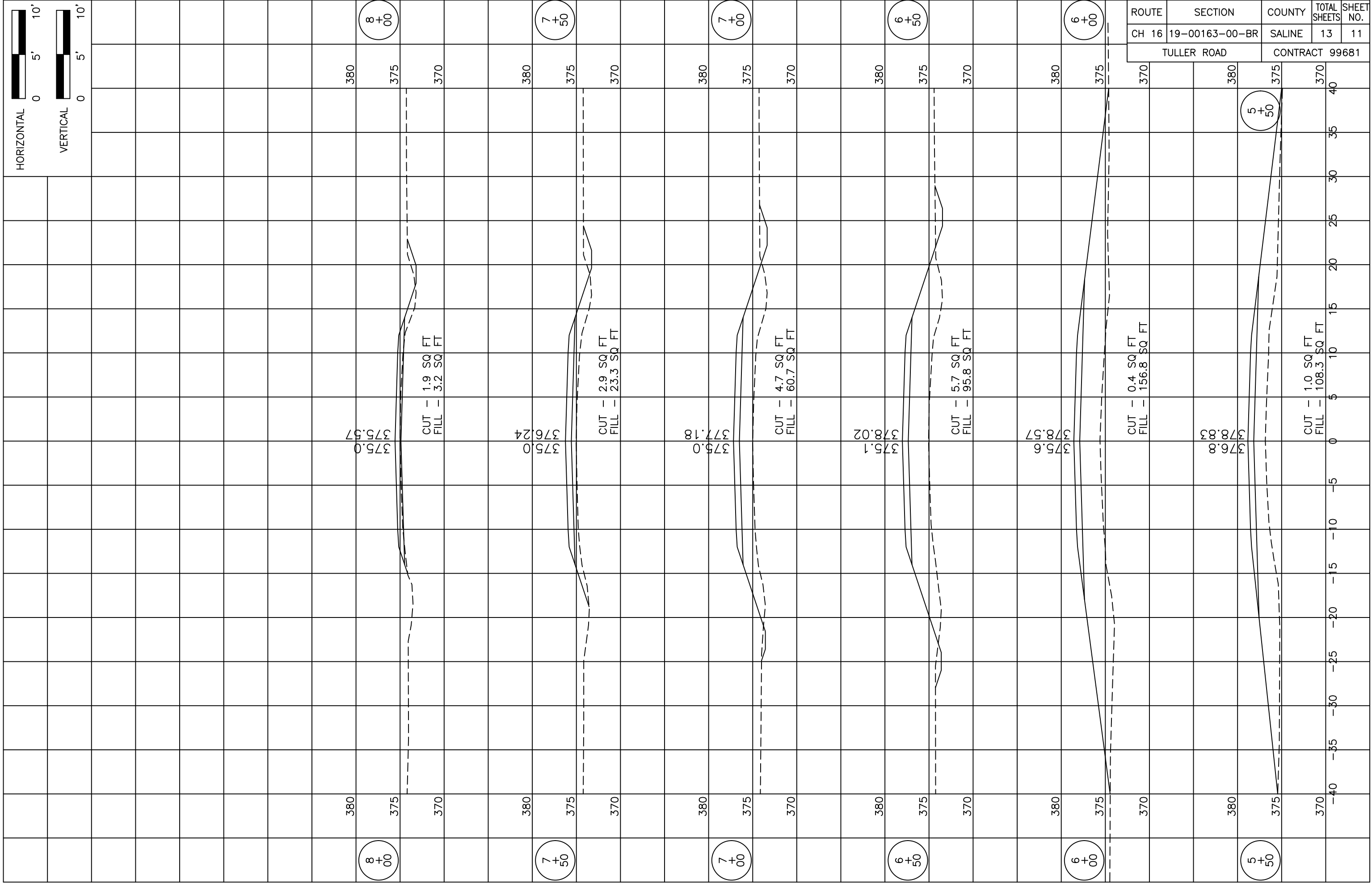
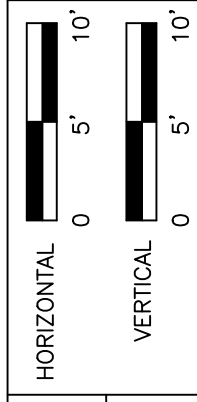
BILL OF MATERIAL

| Item | Unit | Quantity |
|-------------------------|------|----------|
| Steel Railing, Type S-1 | Foot | 90 |

STEEL RAILING, TYPE S-1
 CH 16 OVER TRIBUTARY TO S FORK SALINE RIVER
 SECTION 19-00163-00-BR
 SALINE COUNTY
 STATION 5+00.00

(10'-9" Maximum Post Spacing)





| | | | | |
|-------------|----------------|----------------|--------------|-----------|
| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
| CH 16 | 19-00163-00-BR | SALINE | 13 | 11 |
| TULLER ROAD | | CONTRACT 99681 | | |

STORM WATER POLLUTION PREVENTION PLAN

The following Plan is established and incorporated in the project to direct the Contractor in the placement of temporary erosion control systems and to provide a storm water pollution prevention plan for compliance under NPDES.

The purpose of this plan is to minimize erosion within the construction site and to limit sediments leaving the construction site by utilizing proper temporary erosion control systems and providing ground cover within a reasonable amount of time.

Certain erosion control facilities shall be installed by the Contractor at the beginning of construction. Other items shall be installed as directed by the Engineer on a case by case situation depending on the Contractor's sequence of activities, time of year and expected weather conditions.

The Contractor shall construct permanent erosion control systems and seeding within a time frame specified herein and as directed by the Engineer, therefore minimizing the amount of area susceptible to erosion and reducing the amount of temporary seeding. The engineer will determine if any temporary erosion control systems shown in the plans can be deleted and if any additional temporary erosion control systems, which are not included in the plans, shall be added. The contractor shall perform all work as directed by the Engineer and as shown in STANDARD 280001.

Section 280, Temporary Erosion Control, of the Standard Specifications additionally supplements this plan.

DESCRIPTION OF CONSTRUCTION ACTIVITIES

1. Temporary ditch checks shall be located at every 1.5 feet of fall/rise in ditch grade.

INTENDED SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES

1. Brush removal. Trees to remain will be protected against damage.
2. Remove Existing Structure.
3. Construct Abutments.
4. Place new Riprap.
5. Construct New Bridge Deck.
6. Construct Earth and Borrow Excavation.
7. Placement of Aggregate Surface Course.
8. Seeding and permanent erosion control systems.

AREA OF CONSTRUCTION SITE

1. The total area of the construction site is estimated to be 2.08 Acres of which approximately 1.3 Acres will be disturbed.

OTHER REPORTS, STUDIES AND PLANS WHICH AID IN THE DEVELOPMENT OF THE SWPPP AS REFERENCED DOCUMENTS.

1. Information of the terrain was obtained from topographic maps.
2. Project plan documents, specifications and special provisions and plan drawings indicating the drainage patterns and location of existing drainage features were utilized in the preparation of the proposed placement of temporary erosion control systems.

DRAINAGE TRIBUTARIES AND SENSITIVE AREAS RECEIVING RUNOFF


1. Proposed culvert outlets are tributary to existing roadside ditches. No new discharge points will be constructed.

CONTROLS - EROSION CONTROLS AND SEDIMENT CONTROLS

1. Existing vegetation will be preserved where attainable and disturbed portions of the site will be stabilized. Stabilization practices will include temporary seeding, permanent seeding, mulching, protection of trees, preservation of mature vegetation and other appropriate measures as directed by the Engineer. Stabilization measures shall be initiated as soon as practical in those areas of the site where construction activities have ceased, but in no case more than 7 days after the construction activity for an area has temporarily or permanently ceased.
2. Areas outside the construction limits shall be protected from construction activities.
3. Dead, diseased or unsuitable vegetation within the site shall be removed as directed by the Engineer.
4. As soon as is reasonable, the temporary erosion control system shall be installed as indicated in the plans or as directed by the engineer.

This plan has been prepared with the intent to comply with the provisions of the NPDES Permit Number ILR10, issued by the Illinois Environmental Protection Agency for storm water discharges from construction site activities.

I certify under penalty of law that this plan was prepared at my direction in accordance with a system that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.


CHAD MASTERSON, COUNTY ENGINEER

2/16/23
DATE:

| ROUTE | SECTION | COUNTY | TOTAL SHEETS | SHEET NO. |
|-----------|----------------|--------|----------------|-----------|
| CH 16 | 19-00163-00-BR | SALINE | 13 | 12 |
| TULLER RD | | | CONTRACT 99681 | |

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DESCRIPTION OF STABILIZATION PRACTICES
DURING CONSTRUCTION

1. During construction, areas outside the construction limits shall be protected.
2. Within the construction limits, areas which may be susceptible to erosion as determined by the Engineer shall remain undisturbed until full scale construction is underway.
3. Earth stockpiles shall be temporary seeded if they are to remain unused for more than 14 days.
4. As soon as construction proceeds, the contractor shall institute the following as directed by the Engineer:
 - A) Place temporary erosion control facilities at locations shown in the plans.
 - B) Temporarily seed erodable bare earth on a weekly basis to minimize the amount of erodable surface area within the contract limits.
 - C) Construct roadside ditches and provide temporary erosion control systems.
 - D) Temporarily divert water around proposed culvert locations.
5. Excavated areas shall be permanently seeded immediately after final grading. If not, they shall be temporarily seeded if no construction in the area is planned for 7 days.
6. All necessary measures shall be taken by the contractor to contain any fuel or pollutant in accordance with EPA water quality regulations. Leaking equipment or supplies shall be immediately repaired or removed from the site.
7. The Resident Engineer shall inspect the project daily during construction activities. Inspection shall also be done weekly and after rains of 0.5 inches or greater or equivalent snowfall and during any winter shutdown period.
8. Sediment collected during the construction by the various temporary erosion control systems shall be disposed of on site on a regular basis as directed by the Resident Engineer. The cost of this maintenance shall be considered incidental to the erosion control system.
9. The temporary erosion control systems shall be removed as directed by the Engineer after use is no longer needed or no longer functioning. The cost of removal shall be included in the unit bid price for various temporary erosion control pay items.

DESCRIPTION OF STRUCTURAL PRACTICES
AFTER FINAL GRADING

1. Temporary seeding shall be left in place with proper maintenance until permanent erosion control and all proposed turf areas seeded and established.
2. Once permanent erosion control systems as proposed in the plans are functional and established, temporary items shall be removed, cleaned up and disturbed turf areas reseeded.

MAINTENANCE AFTER CONSTRUCTION

1. Construction is complete after FINAL acceptance by I.D.O.T. final inspection. Maintenance up to this date will be by the contractor.

MISCELLANEOUS

1. Temporary ditch checks shall be located at every 1.5 feet of fall/rise in ditch grade.
2. Temporary erosion control seeding shall be applied at the rate of 100 lbs/acre.
3. Straw bales, hay bales, perimeter erosion control barrier and silt fences will not be permitted for temporary or permanent ditch checks. Ditch checks shall be composed of aggregate, silt panels, rolled excelsior, urethane foam geotextile (silt wedges) and/or other material approved by the erosion and sediment control coordinator.
4. All erosion control products furnished shall be specifically recommended by the manufacturer for the use specified in the erosion control plan. Prior to the approval and use of the product, the contractor shall submit to the Engineer a notarized certification by the producer stating the intended use of the product and the physical properties required for this application are met or exceeded. The contractor shall provide manufacturer installation procedures to facilitate the Engineer in construction inspection.
5. All items shall be constructed as shown on STANDARD 280001 and as directed by the Engineer. Maintenance and cleaning of erosion control items shall be considered part of the respective erosion control pay item.

EROSION CONTROL SCHEDULE

| <u>LOCATION</u> | <u>TEMP DITCH CHECKS</u> | <u>PERIMETER EROS BARRIER</u> |
|------------------------|--------------------------|-------------------------------|
| STA 4+50 RT & LT | 40' FOOT (10' each) | |
| STA 8+50 RT to 4+50 RT | | 200 FOOT |

| <u>ROUTE</u> | <u>SECTION</u> | <u>COUNTY</u> | <u>TOTAL SHEETS</u> | <u>SHEET NO.</u> |
|--------------|----------------|----------------|---------------------|------------------|
| CH 16 | 19-00163-00-BR | SALINE | 13 | 13 |
| TULLER RD | | CONTRACT 99681 | | |