STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
PLANS FOR PROPOSED NON-MOTOR FUEL TAX
SECTION 16-00160-00-BR
GRUNDY COUNTY
C.H. V16

ROAD CLASSIFICATION: LOCAL ROAD (0-250 A.D.T.)

TREE REMOVAL (6 TO 15 UNITS DIAMETER)
32" RT. STA. 29+48 = 12 UNIT
TOTAL = 12 UNIT

TREE REMOVAL (OVER 15 UNITS DIAMETER)
27" RT. STA. 29+20 = 20 UNIT
30" RT. STA. 29+45 = 16 UNIT
30" RT. STA. 29+46 = 16 UNIT
33" LT. STA. 30+45 = 30 UNIT
35" LT. STA. 30+78 = 30 UNIT
29" LT. STA. 30+95 = 30 UNIT
57" RT. STA. 31+03 = 30 UNIT
TOTAL = 178 UNIT

FULL SIZE PLAN SCALES
Plan & Profile
Ver. 1" = 50'
Ver. 1" = 5'

Cross Sections
Ver. 1" = 10'
Ver. 1" = 5'

SUMMARY OF QUANTITIES

GROSS LENGTH OF SECTION = 920.00 FEET = 0.174 MILES
NET LENGTH OF SECTION = 920.00 FEET = 0.174 MILES

HOT-MIX ASPHALT MIXTURE REQUIREMENTS

APPLICATION RATES USED IN QUANTITY CALCULATIONS

BITUMINOUS MATERIALS (PRIME COAT) 0.05#/SY FT-
BITUMINOUS MATERIALS (TACK COAT) 0.075#/SY FT-
HOT-MIX ASPHALT (BINDER & SURFACE COURSE) 112#/SY YD-
AGGREGATE SHOULDERS 2.00 TON/CU YD
AGGREGATE BASE COURSE 2.05 TON/CU YD

THE ABOVE NOTED APPLICATION RATES FOR BITUMINOUS MATERIALS ARE FOR QUANTITY CALCULATIONS ONLY. THE APPLICATION RATE TO BE APPLIED WILL BE DETERMINED BY THE ENGINEER AT THE TIME OF PLACEMENT.

Utilities
Note A:
The top surface of the beams shall be finished in accordance with the "Manual for Fabrication of Precast Prestressed Concrete Products" and the surface shall not be roughened by broaching.

RAIL POST SPACING PLAN

4½" MWA & WMS at Abut, Blk, Walls Top

1½" Expected Caster

2½" Mix, MWA & WMS of Weight

½" Thick Waterproofing Membrane System (WMS)

HOT MIX ASPHALT SURFACE PROFILE

HOT MIX ASPHALT SURFACE PROFILE

Note: After beams are in place, 3½" holes shall be drilled into the Substructure, and the dowels roughed in place and allowed to cure (min. 24 hrs.) prior to grouting shear keys.
**TYPICAL TRANSVERSE TIE ASSEMBLY**

Notes:
1. Connect beams in pairs with the Transverse tie configuration shown.
2. Prestressing steel shall be AASHTO M-276, Grade 1860. The nominal diameter shall be 2" and the nominal cross-sectional area shall be 0.153 sq. in.
3. The 2 1/2" rods in the Transverse tie assembly shall be tightened by a snug fit and the threads set. Pockets on exterior faces of bridge shall be filled with grout after prestress tie assembly is in place.
4. Two 1" Fabric equidistant from the edges of the beam shall be provided for each bearing pad location, 84' required.
5. A minimum 2 1/2" x 2" fitting pin shall be used to engage the string loops during handling. Corrosion Inhibitor, per Article 8201.05A(1)(A) and 8201.07 of the Standard Specifications, shall be used in the concrete for precast prestressed concrete deck beams.
6. Compressive strength of prestressed concrete, f_c, shall be 5000 psi.
7. Prestressing steel shall be uncoated type strength, low relaxation, 7-wire, stranded, Grade 1860.

**BILL OF MATERIAL**

- Prestressed Concrete Deck Beam (33")
  - Length: 2460
  - Product: 100% Concrete Deck Beams
  - Type: 2001.07
  - Corrosion Inhibitor: 8201.05A(A)
  - Compression: 5000 psi
  - Total Weight: 5940 lbs

**PLAN VIEW**

- Notes: Connect beams in pairs with the Transverse tie configuration shown.

**SECTION A-A**

- Notes: All bearing pads shall be 1" thick.

**LIFTING LOOP DETAIL**

- Notes: Connect beams in pairs with the Transverse tie configuration shown.
Note: After beams are in place and slab rolls grounded, the backwall and the portions of the wingwalls above the Bonded Construction Joint shall be placed.

**ELEVATION**

**SECTION THRU ABUT.**

**SECTION A-A**

**TWO ABUTMENTS**

**OIL OF MATERIAL**

**PILE DATA**

- Type & Size: Steel HP12x55
- No. Pcs.: 4
- Nominal Required Bearing: 340 kips
- Footing Resistance Available: 340 kips
- Exposed Length: 28 ft. (E. Abut.)
- Spt. (N. Abut.)

**Includes 1 Test Pile driven in a permanent location at the West Abutment.**

- Steel Pile HP12x55
- Concrete Encasement
- Post-Tensioning

**PLAN**

- **BAR (E)**
- **BAR (E)**
- **BAR (E)**

**REVISION LOG**

- Change: AR
- Drawn: MM
- Check: MM
- Date: 02/02/2007

**PROJECT: SECTION 16-00160-00-RR**

- S.H. 18 to O-Merry Road over Maquoketa Creek

**DESIGNER: ARS**

**COMPANY: Fehr Graham**

- Illinois
- Iowa
- Wisconsin

- Grundy County Hwy. Dept.
- 245 North Illinois Route #7
- Morris, IL 60450

- Veco, Arden, GA
- 1-800-880-0949

- Lewis, Chicago, IL
- 1-312-783-0550

- Fehr Graham
- 1-800-880-0949
- 1-312-783-0550
### Soil Boring Log

#### Location:
- **Cranes Crossing**, Station 20+45
- **Cranes Crossing**, Station 30+45

#### Description of Materials:

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Material Description</th>
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<tbody>
<tr>
<td>0.00-13.00</td>
<td>Very Silty Loam</td>
</tr>
<tr>
<td>13.00-14.00</td>
<td>Hard Clay</td>
</tr>
<tr>
<td>14.00-15.00</td>
<td>Sand</td>
</tr>
<tr>
<td>15.00-20.00</td>
<td>Sand</td>
</tr>
<tr>
<td>20.00-25.00</td>
<td>Sand</td>
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<tr>
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</tr>
<tr>
<td>40.00-45.00</td>
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</tr>
<tr>
<td>45.00-50.00</td>
<td>Sand</td>
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</tbody>
</table>

#### Remarks:
- Boring Terminated at 50 feet B.D.
- Soils are gravelly sand and silt.