TRAFFIC SIGNAL NOTES

1. All signal heads shall be equipped with LED lenses 10 inches in diameter with 5-inch covered back plates and 2-inch retrofit reflective back plates.

2. All new signal heads shall be flown mounted to mast arms with astrobrackets.

3. The contractor shall meet all utility requirements for new service connections.

4. All splices will be made in the cabinets meeting manhole specifications.

5. The bottom of the housing of new signal faces shall be at least 15 feet but not more than 15 feet above the pavement grade at the center of the approach.

6. Two copies of the approved plans drawings, eg., prints and equipment manuals shall be kept in each of the contractor's cabinets.

7. The contractor is responsible for finding exact locations of utilities prior to construction. The contractor shall contact Osage and appropriate authorities prior to any surface activities.

8. Traffic signal improvements shall be completed in a manner and order that will cause the minimum disruption to traffic. Existing signal operations shall remain in service until the new signal controller is ready to go online.

9. The engineer shall have the right and authority to determine the acceptability of work and materials in progress of completion and shall have the right to reject any work on materials which do not conform to its sole opinion to the plans or specifications.

10. All signal and signal-stripping materials and placement shall conform to the manhole specific standard, supplemental specifications, standard details, and with the federal highway administration manual on uniform traffic control devices.

11. Any requests or adjustments of the utility facilities will be made by the respective utilities in coordination with the work of the contractor.

12. Contractor shall be responsible for obtaining any necessary operating permits.

13. Maintenance of traffic shall be per Missouri.

14. Driveway and pedestrian accesses shall be maintained at all times.

15. The contractor shall provide for the engineer and the town of Faulkworth with a schedule or work for constructing the traffic improvements prior to the plans being finalized.

16. All material schedules shown on the plans are for general information only. The contractor shall maintain material schedules for all materials delivered to the project. Review all schedules shall be verified in the field of the contractor prior to the plans being finalized.

17. All non-PAE areas disturbed during construction shall be loaded and seeded with method no. 1, unless otherwise directed by the owner and this shall be incidental to other work items. All PAE areas disturbed during construction shall be repaired by the contractor at his expense.

18. Controller equipment - All major components of the controller cabinet assembly shall be the same manufacturer's/cabins as indicated. Controller and cabinet power supply. The traffic control cabinets shall be Nacite Model FM 45 type 1 series I only, base mounted with a 4-inch expansion base.

19. Controller shall be Nacite Model E20 E type 1 series I only. Nacite controller shall not be used in any indoor heated environment. Any removed material shall not be used or stored in any indoor heated environment. Any removed material shall not be used or stored in an indoor heated environment.

20. Traffic signal equipment - Traffic control cabinets shall be compatible with the P2 port or the Nacite controller and with the Ch/Wall interface unit. The Nose Interface unit shall be Nacite Model 205 305 only.

21. Cabinet power supply shall be Nacite Model 201 301 only. The power supply shall be a 220-volt 60-Hz, 10-amp, 20-amp, 50-amp, or 100-amp power supply.

22. Both cabinets shall be designed and fabricated for advanced diagnostics. The frame and module device shall be at $5,000.

23. Detection equipment - All loops shall be quadruple loops.

24. Optical equipment - The detection equipment shall be fully compatible with town secure equipment. The detection equipment shall be compatible with the P2 port or the Nacite controller and with the Ch/Wall interface unit. The Optical processor (IOS) card shall be Nacite Model S00 Series only.

25. The optical detector shall be Nacite Model 2050-S1 or 3550-S1 only. The optical detector shall be Nacite Model 2040-S1 or 3540-S1 only. Truck Emitters shall be provided as part of this project.
NOTES:

1. ALL WORK TO CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND TRAFFIC SERVICES AND STANDARD DETAILS.

2. ALL PROPOSED WORK SHALL BE IN CONFORMANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS", AND "STANDARD HIGHWAY SIGNS", U.S.D.O.T., F.H.W.A. LATEST EDITION.

3. THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED MARKINGS INCIDENTAL TO 627 ITEMS.

4. STRIPING SHOWN ON THE PLANS IS FOR ESTIMATING PURPOSES ONLY. THE ACTUAL STRIPING SHALL BE DETERMINED IN THE FIELD, AS DIRECTED BY THE RESIDENT ENGINEER.

5. PASSING ZONES ARE TO BE DETERMINED BY THE RESIDENT ENGINEER.

6. HARDWARE AND INCIDENTALS NECESSARY TO RESET THE RECTANGULAR RAPID FLASHING BEACON SHALL BE COMPENSATED UNDER ITEM 645.116 REINSTALL REGULATORY, WARNING, CONFIRMATION AND ROUTE MARKER ASSEMBLY SIGN.

LEGEND

SWL (6") SOLID WHITE 6" LINE
SWL (12") SOLID WHITE 12" LINE
DWL (6") DASHED WHITE 6" LINE (2 LINE, 6" SPACE)
DWL (12") DASHED WHITE 12" LINE (2 LINE, 6" SPACE)
SL (6") STOP LINE 6"
DYL DOUBLE YELLOW 4" LINE
SYL SOLID YELLOW 4" LINE
DWL (6") DASHED WHITE 6" LINE (2 LINE, 6" SPACE)

DIRECTIONAL FLOW ARROW
RIGHT ARROW PAVEMENT MARKING
LEFT ARROW PAVEMENT MARKING
"ONLY" PAVEMENT MARKING
SHARED LANE MARKING

MATCH EXISTING PAVEMENT MARKINGS
MATCH EXISTING SIGNS
MATCH EXISTING SIGNS
MATCH EXISTING SIGN POST
MATCH EXISTING DOUBLE SIGN POST
MATCH EXISTING SINGLE SIGN POST
MATCH EXISTING DOUBLE SIGN POST
MATCH EXISTING SINGLE SIGN POST

PASSING ZONES ARE TO BE DETERMINED BY THE RESIDENT TRAFFIC ENGINEER.
IN THE FIELD, AS DIRECTED BY THE RESIDENT TRAFFIC ENGINEER.

THE ACTUAL STRIPING SHALL BE DETERMINED IN THE FIELD, AS DIRECTED BY THE RESIDENT ENGINEER.

627 ITEMS.

THE CONTRACTOR SHALL REMOVE ALL EXISTING PAVEMENT MARKINGS THAT CONFLICT WITH PROPOSED MARKINGS INCIDENTAL TO 627 ITEMS.

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1. ALL WORK TO CONFORM TO MAINE DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR HIGHWAYS AND TRAFFIC SERVICES AND STANDARD DETAILS.
### Sign Summary

**ITEM NUMBER** | **SIGN LOCATION NUMBER** | **UNIT OF SIGN** | **WIDTH** | **HEIGHT** | **TEXT** | **TEXT DIMENSIONS** | **COLOR** | **TYPE** | **SUPPORT** | **SUPPORT DIMENSIONS** | **SIGN ASSEMBLY** | **SIGN ASSEMBLY REMARKS** | **SIGN ASSEMBLY NUMBER** | **SIGN ASSEMBLY REMARKS** |
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<tbody>
<tr>
<td>645.292</td>
<td>D3-1(3)</td>
<td>24&quot;</td>
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<td>P</td>
<td>3</td>
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<td>MOUNT ON MAST POLE</td>
<td>645.292</td>
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**SIGN SUMMARY NOTES:**

1. **Sign Text** shall conform to MUTCD.
2. **Sign Type and Locations** shall be in accordance with MUTCD.
3. **All Signs** shall be breakaway in accordance with MUTCD.
4. **The cost of breakaway supports for Type II signs shall be incidental to this contract and pass on.**
5. **Sign Locations and Appurtenances** are approximate and to be verified in the field.
6. **All Mounting Hardware** shall be incidental to other signing items.
# Proposed Sign Summary

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<thead>
<tr>
<th>Item Number</th>
<th>Identification Number</th>
<th>Size of Sign (W x H)</th>
<th>Text</th>
<th>Text Dimensions</th>
<th>Color</th>
<th>Type</th>
<th>Support</th>
<th>Remarks</th>
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## Field Changes

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<tr>
<td>Rev. 4</td>
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## Highways Plans

- State of Maine Department of Transportation

### Design Details

- Date: 2/21/2011
- Signature: ****
- P. E. Number: 206
- File Name: ****
- Username: ****
- Date: 2/21/2011

## Proposed Assemblies

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<th>Assembly</th>
<th>Type</th>
<th>Route</th>
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<td>3</td>
<td></td>
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</tr>
</tbody>
</table>

**Notes:**

- Use yellow arrow head on traffic signal plans.
- Specify arrow head size as per standards.
- Avoid making arrows too large.
- Arrow heads must be used onainterstate signs.
- Use embossed yellow letters on signage.

**Legend:**

- RRFB: Reflective Roadway Signage
- U Channel: Unfinished Channel
- M: Mounting Bracket
- W: Wood Post

## Sign Summary

<table>
<thead>
<tr>
<th>Highway</th>
<th>Route</th>
<th>Length</th>
</tr>
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<tr>
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**Notes:**

- Use yellow arrow head on traffic signal plans.
- Specify arrow head size as per standards.
- Avoid making arrows too large.
- Arrow heads must be used onainterstate signs.
- Use embossed yellow letters on signage.
ADJUST EXISTING DRAINAGE AND SURF TO FINISH GRADE. REMOVE EXISTING CAPS/PLUGS ON STUBS. TRIM STUBS AND PROVIDE RINGS/FIXTURES TO CONNECT 10" PVC SEWER TO EXISTING STUBS AT EXISTING SMH. MAINTAIN EXISTING FLOW.

10" PVC SEWER

EXISTING 8" PVC SEWER

CONSTRUCT SEWER MINIMUM OF 10 FT HIGH WATER

EXISTING 10" PVC SEWER

ROUTE 100/26

SCALE OF FEET

PLAN

PROFILE HORIZONTAL

PROFILE VERTICAL

SEWER PIPE INSULATION

SEWER PIPE

SEWER SERVICE LINING

SEWER SERVICE WITH CHIMNEY

SEWER SERVICE

WATER SERVICE LINE

EXISTING GROUND

PROPOSED PROJECTIONS

PROPOSED SMH-7 (4' DIA.)

B 10-02

WITH CHIMNEY

WATER SERVICE LINE

10 LF 8" PVC SDR 35

P.L.

155+00

3 + 00

10" PVC SEWER, S = 0.04, L = 192'

APPROX. INV. EL. 55.88

AT STA. 7+99.12

SEWER PIPE INSULATION

SEWER PIPE

SEWER SERVICE LINING

SEWER SERVICE WITH CHIMNEY

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APPROX. INV. EL. 55.88

AT STA. 7+99.12

SEWER PIPE INSULATION

SEWER PIPE
PROPOSED SMH-12 (4' DIA.)
STA. 29+00
RIM = 84.09
INV. IN = 77.01 (8") SOUTH
INV. OUT = 76.91 (8")

CAP END
S = 0.005
2 LF 8" PVC SDR35

EXISTING GROUND
GRADE
PROFILE
PROPOSED

PROPOSED SMH-11 (4' DIA.)
STA. 48+13.00
RIM = 67.46
INV. IN = 60.53
INV. OUT = 60.43

CAP END
S = 0.005
SDR35
2 LF 8" PVC
PELICAN CROSSING DETAIL

NOTE: Supervision by Inspector, Inspect structural recommendations.

1. Provide a minimum of 6" space between the bottom of the existing pipe and the top of the trench.
2. If the proposed trench cannot be made, the existing pipe shall be covered with materials and approved by the Engineer. The Contractor shall be responsible for any structural damage.
3. Deep enough to preclude the top of the trench from setting on and breaking of the water main.
4. Before backfilling, ensure that the joint is settled and broken.

TYPICAL TRENCH DETAIL FOR SEWER PIPE

NOTE: All dimensions are approximate.

1. A trench, located on the roadway, shall be made by the Contractor using a trencher.
2. Backfilling of trench necessary during excavation shall be the responsibility of the Contractor. The Contractor shall be responsible for any structural damage.
3. The Contractor shall ensure that the joint is settled and broken.
4. No excavation shall be made on the roadway, and any items shall be placed as directed by the Engineer.

SOFT SOIL PIPE TRENCH DETAIL

NOTE: All excavation must meet City Standards.

1. Backfill the trench with materials as specified by the Contractor.
2. Backfilling of trench necessary during excavation shall be the responsibility of the Contractor. The Contractor shall be responsible for any structural damage.
3. Before backfilling, ensure that the joint is settled and broken.
4. See specifications for bedding and backfill requirements.
CONTINGENCY DETAIL FOR SEWER CONNECTION RELOCATION

ABOVE PROPOSED DRAIN

CONTINGENCY DETAIL FOR SEWER CONNECTION RELOCATION

BELOW PROPOSED DRAIN

MIN. 2% SLOPE

CONC. CRADLE HEIGHT = 6" + SEWER DIAMETER

6" MIN.

ADAPTER AND BEND AS REQUIRED (TYP.)

EXIST. SEWER CONNECTION
SAWCUT AND REMOVE

AS REQUIRED

PVC BEND

SAWCUT AND REMOVE

STONE AROUND 3/4" CRUSHED

SPRINGLINE

DRAIN TO

SPRINGLINE

DRAIN PIPE TO

STONE AROUND 3/4" CRUSHED

PVC BEND

CONNECTION (DIA. VARIES)

PROP. PVC SEWER
NOTES ON MANHOLE CONSTRUCTION

1) ALL MANHOLES SHALL BE FACTORY WATERPROOFED WITH TWO COATS OF BITUMINOUS MATERIAL.
2) COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE MANHOLE.
3) SEWER MANHOLE DIAMETER SHALL BE AS INDICATED ON THE PLANS.
4) ALL LOW PRESSURE FLUSHING MANHOLES. A 30-INCH CLEAR OPENING SHALL BE PROVIDED FOR ALL GASKETS AND SEALANTS SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING.
5) PIPE TO MANHOLE JOINTS (OR ACCEPTABLE SUBSTITUTE) WITH STEEL REINFORCEMENT AND ADEQUATE JOINTING. THE COMPLETE STRUCTURE SHALL BE 1" ABOVE CROWN.
6) ALL SEWER MANHOLE FRAMES AND COVERS SHALL BE OF HEAVY DUTY MATERIAL. 3-INCH (MINIMUM HEIGHT) LETTERS WITH THE WORD "SEWER" SHALL BE PLAINLY CAST INTO THE CENTER OF EACH MANHOLE COVER.
7) ALL MANHOLES SHALL BE FACTORY WATERPROOFED WITH TWO COATS OF BITUMINOUS MATERIAL.
8) PRESSURE FLUSHING MANHOLES. A 30-INCH CLEAR OPENING SHALL BE PROVIDED FOR ALL GASKETS AND SEALANTS SHALL BE OF SUCH MATERIAL AND QUALITY AS TO WITHSTAND HS-20-44 LOADING.
9) COPOLYMER MANHOLE STEPS SHALL BE INSTALLED AT 12" O.C. FOR THE FULL DEPTH OF THE MANHOLE.
10) SHELVES SHALL BE ADJUSTED TO GRADE WITH MORTAR, ETC... SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURERS' WRITTEN INSTRUCTIONS.

DETAIL "A" - PIPE TO MANHOLE JOINTS

DETAIL "B" - HORIZONTAL JOINTS
NOTES
1. SUPPORT CURB BOX ON CONCRETE CURB BLOCKS.
2. ALL SEWER SERVICE SHAL BE AT LEVE OR SMALL DEM.
   CURB BOX MUST BE Trenched TO MIN. 12" MAX. FRAME TO COVER ELEVATION. 2 RED CLAY BRICKS (CONFORMING TO
   SEE SEWER MANHOLE DETAIL AND NOTES FOR GENERAL REQUIREMENTS
   CONSTRUCTION.

LOW PRESSURE SEWER TRENCH
12"X12"X6" SUMP

12" HDPE-CTS LOW PRESSURE FORCE MAIN SHALL BE SAND MEETING MATERIAL SPECIFICATION 705.02
BEDDING FOR 2" AND 1 1/4" HDPE-CTS SERVICES SHALL BE LAY LEVEL OR SHALL SLOPE 4 1/4" PER FOOT.
THE OUTSIDE DIA. OF THE WALLS SHALL PROJECT INSIDE TRENCH LIMITS.
HDPE AND PVC TRANSITION COUPLING
WATERPROOFED
THE OUTSIDE DIA. OF THE WALLS SHOULD BE H-20-44 LOADING
ALL SEWER MANHOLE FRAMES AND COVERS SHALL BE H-20-44 LOADING
RIGID INSULATION
REINFORCED CONCRETE SLAB COVER
WATERTIGHT JOINT USING AN APPROVED MASTIC-TYPE SEALANT OR "O" RING
CONCRETE BASE SUPPORT CURB BOX ON CONCRETE GRADE BLOCKS.
HDPE-CTS SERVICES SHALL BE LAY LEVEL OR SHALL SLOPE 4 1/4" PER FOOT.
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1. Deciduous Tree Planting & Staking

2. Tree & Root Protection Detail

3. Cobblestone Band on Center Islands

4. Trunk Protection

5. Perennial or Groundcover Planting

6. Shrubs Planting
BIOFILTER PLANT LIST

<table>
<thead>
<tr>
<th>COMMON NAME</th>
<th>KEY</th>
<th>QTY</th>
<th>PROP. SIZE</th>
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</thead>
<tbody>
<tr>
<td>CAPE BREEZE SWITCH GRASS</td>
<td>PC</td>
<td>96</td>
<td>2 GAL. MIN.</td>
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<tr>
<td>CHEYENNE SKY SWITCH GRASS</td>
<td>PV</td>
<td>96</td>
<td>2 GAL. MIN.</td>
</tr>
<tr>
<td>LITTLE BLUESTEM</td>
<td>SS</td>
<td>69</td>
<td>2 GAL. MIN.</td>
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STORM WATER BIOFILTER 5

NOT TO SCALE

DETAIL D

STORM WATER BIOFILTER 5
SEE DETAIL D THIS SHEET

SCALE OF FEET

PLAN 25 0 25 50 PROFILE HORIZONTAL

PROFILE VERTICAL
LANDSCAPED MEDIAN, STA. 135+75 TO 137+50

**Legend - Center Islands Plant List**

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<tr>
<th>KEY</th>
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<th>PROP. SIZE</th>
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<tbody>
<tr>
<td>PERENNIALS</td>
<td>RA</td>
<td>RHUS AROMATICA 'GRO-LOW'</td>
<td>FRAGRANT SUMAC</td>
<td>1 GAL.</td>
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<tr>
<td>SHRUBS</td>
<td>HS</td>
<td>NEPETA FAASSENII 'WALKERS LOW'</td>
<td>WALKERS LOW CATMINT</td>
<td>1 GAL.</td>
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</table>

**Notes:**
- Landscaped median, STA. 137+50 TO 140+17
- GRANITE COBBLESTONES
- SLOPED GRANITE CURB
- APPROXIMATE LAWN AREA AND PLANTING
- APPROXIMATE PAVEMENT SIDEWALK AREA