<table>
<thead>
<tr>
<th>Standard</th>
<th>Modification Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>D1</td>
<td>RIGHT-OF-WAY FENCE</td>
</tr>
<tr>
<td></td>
<td>Sheet 3</td>
</tr>
<tr>
<td></td>
<td>Added pedestrian gate to Installation Around Headwall detail.</td>
</tr>
<tr>
<td>D5</td>
<td>PERMANENT PAVEMENT MARKINGS</td>
</tr>
<tr>
<td></td>
<td>Revised edge line note in Plan view and Section A-A to show a 4” minimum width.</td>
</tr>
<tr>
<td></td>
<td>LANDSCAPE PLANTING DETAILS</td>
</tr>
<tr>
<td></td>
<td>The Landscape Planting Details standard has been moved from Section D to Section K</td>
</tr>
</tbody>
</table>

New Sheet | Retired Standard
### Electrical Grounding Details

#### Notes for Standard and Counterpoise Ground (Alternate)

1. The intervals for grounding continuous fencing shall not exceed 500 feet in urban areas and 1000 feet in rural areas. Fence adjacent to a gate shall be grounded a maximum distance of 75 feet from the edge of the gate.

2. Fence crossing under a power line shall be grounded. The crossing shall extend a minimum of 25 feet beyond the edge of the crossing.

3. Counterpoise grounds shall be used at locations where ground rods cannot be driven due to impervious materials.

4. The ground wires shall be connected to fence fabric and ground rod by stainless steel bolts and washers. The lower connection of the ground wire shall be made to the bottom tension wire.

#### Notes for Abutment Connection:

- Alternate driven line post anchorage is optional when roll formed section is used in lieu of pipe as end post.
- The post shall be bolted directly to the abutment wall with 3⁄8" × 5" bolts with standard washers meeting the approval of the engineer.

#### Alternate Driven Line Post Anchorage with or without Drive Anchors

- When roll formed section is used in lieu of pipe as end post, the post shall be bolted directly to the abutment wall with 3⁄8" × 5" bolts with standard washers meeting the approval of the engineer.

- Drive anchors shall be used. Types, shapes, dimensions, and coating requirements of drive anchors and collars for different types of posts shall be as recommended by the manufacturer.
FENCE INSTALLATION OVER DITCH

NOTES FOR INSTALLATION AROUND HEADWALL:

1. THE TYPE OF INSTALLATION IS TO BE USED ONLY WHEN SPECIFICALLY CALLED FOR IN THE CONTRACT PLANS.
2. WHEN THE WIDTH OF THE CULVERT MAKES IT NECESSARY TO ANCHOR A POST TO THE TOP OF THE CULVERT, A CAST IRON SHOE OR OTHER DEVICE APPROVED BY THE ENGINEER SHALL BE USED.

INSTALLATION AROUND HEADWALL

NOTE: "X" SHALL NOT EXCEED 20" WHEN "X" IS 0" TO 30"
"Y" SHALL BE SHORTENED AS REQUIRED, WHEN "X" EXCEEDS 10" "Y" SHALL BE DECREASED ACCORDINGLY.

Footing for Post When Rock Ledge is Encountered

CONCRETE FOOTING

GROUT AS DIRECTED BY THE ENGINEER

Plan at Headwall

Elevation

Notes for Installation Around Headwall:

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SURVEY AND ROADWAY ITEMS

EXISTING

PROPOSED

CONSTRUCTION JOINT W/DOWEL BARS
BENCHMARK
CANTILEVER SIGN STRUCTURE
BUTTERFLY SIGN STRUCTURE
DOUBLE COLUMN GROUND MOUNTED SIGN
SINGLE COLUMN GROUND MOUNTED SIGN
SPAN TYPE SIGN STRUCTURE
TRIPLE COLUMN GROUND MOUNTED SIGN

OOSOOOOS

DRAINAGE AND UTILITY ITEMS: ROADWAY LIGHTING AND SIGNS

EXISTING

PROPOSED

BOX CULVERT WITH HEADWALL
CABLE IN DUCT W/O GROUND
LOW POINT
OVERHEAD ELECTRICAL
OVERHEAD TELEPHONE
PIPE CULVERT
LAKE OR POND
QUARRY
STREAM
SWAMP
CABLE OR CONDUIT TAG
ELECTRICAL MANHOLE
LIGHT-DUTY BOX
ROADWAY LUMINAIRE
STEEL TOWER
TELEPHONE MANHOLE
UNDERPASS LUMINAIRE
WATER MAIN
WATER MAIN VALVE VAULT
WATER WELL
WOOD POLE

Erosion & Sediment Control, Landscaping Items

EXISTING

PROPOSED

CLEANING & GRADING LIMITS
LIMITS OF CONSTRUCTION
DIVERSION DYE
DRAWING DIVIDE
DRAINAGE DIVIDE
DRAINAGE PATH

OVER SEEDING CLASS A1
OVER SEEDING CLASS A2
OVER SEEDING CLASS A3
OVER SEEDING CLASS A4
OVER SEEDING CLASS A5
OVER SEEDING CLASS A6

SEEDING CLASS A1
SEEDING CLASS A2
SEEDING CLASS A3
SEEDING CLASS A4
SEEDING CLASS A5
SEEDING CLASS A6
SEEDING ISALT TOLERANT
SEEDING CLASS D1

SODDING (SALT TOLERANT)

SEEDING CLASS A2
SEEDING CLASS D1
SEEDING CLASS A3
SEEDING CLASS A4
SEEDING CLASS A5
SEEDING CLASS A6
SEEDING ISALT TOLERANT

TURF REINFORCEMENT MAT

Erosion Control Blanket
OVER SEEDING
SEEDING CLASS A1
SEEDING CLASS A2
SEEDING CLASS A3
SEEDING CLASS A4
SEEDING CLASS A5
SEEDING CLASS A6
SEEDING ISALT TOLERANT

TURF REINFORCEMENT MAT
ELECTRICAL AND MECHANICAL ITEMS

NOTE:
ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.

SYMBOLS AND PATTERNS

STANDBY GENERATOR

COMPRESSED AIR (AI)

ACID RESISTANT WASTE OR DRAIN

ACID RESISTANT VENT

STORM SEWER (DOWNSPOUT)

GAS LINE

HOT GAS BYPASS LINE (HGB)

HEATING HOT WATER RETURN (HHWR)

HEATING HOT WATER SUPPLY (HHWS)

REFRIGERANT DISCHARGE LINE (RD)

REFRIGERANT SUCTION LINE (RS)

TRANSFORMER

MOTOR

TRANSFORMER

JUNCTION BOX

DISCONNECT SWITCH

CIRCUIT BREAKER

MANUAL TRANSFER SWITCH

SELF CONTAINED UTILITY METERING

GROUND ROD

HOME RUN TO PANEL AS NOTED

INDICATES CIRCUIT TURNING DOWN

INDICATES CIRCUIT TURNING UP

GROUND ROD

GROUNDING THING

TRANSFORMER

DUPLEX RECEPTACLE

STANDARD D2-04

NOTE:
ALL SYMBOLS AND PATTERNS ON THIS DRAWING ARE PROPOSED UNLESS OTHERWISE NOTED.
APPROVED DATE

CHIEF ENGINEER 7-1-2009

STANDARD D2-04

NOTE:

ARE PROPOSED UNLESS OTHERWISE NOTED.

ALL SYMBOLS AND PATTERNS ON THIS DRAWING
### Permanent Delineation Spacing

<table>
<thead>
<tr>
<th>Reflector</th>
<th>Tangent</th>
<th>Curve</th>
<th>Ramp</th>
<th>Curve</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guardrail</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
</tr>
<tr>
<td>Barrier Wall (Double Face)</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
</tr>
<tr>
<td>Barrier Wall (Single Face)</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
</tr>
<tr>
<td>Shoulder Narrowing</td>
<td>3 @ 15'</td>
<td>3 @ 15'</td>
<td>3 @ 15'</td>
<td>3 @ 15'</td>
</tr>
<tr>
<td>Bridge Approaches</td>
<td>3 @ 15'</td>
<td>3 @ 15'</td>
<td>3 @ 15'</td>
<td>3 @ 15'</td>
</tr>
<tr>
<td>Bridge Parapet</td>
<td>50'</td>
<td>50'</td>
<td>50'</td>
<td>50'</td>
</tr>
<tr>
<td>Noise Abatement Wall (Crash Worthy)</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
<td>100'</td>
</tr>
</tbody>
</table>

### Temporary Delineation Spacing

<table>
<thead>
<tr>
<th>Reflector</th>
<th>Tangent</th>
<th>Reverse Curve</th>
<th>Shift</th>
<th>Taper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Temporary Concrete Barrier</td>
<td>50'</td>
<td>25'</td>
<td>25'</td>
<td>25'</td>
</tr>
</tbody>
</table>

### Notes for Roadway Delineators, Post Mounted Installation:
1. **A.** Temporary delineator units shall be placed continuously on the right and single amber reflector units shall be placed on the left on main-line sections without barrier wall.
2. **B.** Ramp-single reflector units shall be placed on the outside of all curved sections of ramps, single white shall be placed on the right side and amber on the left side. The delineators shall be overlapped for a short distance to clearly indicate where delineation on one side of the ramp ends and delineation on the other side appears.
3. **C.** Double white reflector units shall be placed on the right at all acceleration and deceleration lanes.

### Notes for Guardrail and Barrier Wall Reflectors:
1. Reflectors shall be mounted on supports such that the top of reflectors is four feet above the roadway edge and two feet outside the outer edge of the paved shoulder or two feet minimum and six feet maximum outside the backs of curbs or gutters.
2. In all cases, the color of the reflectors shall be the same as the adjacent edge line except as specified in general notes.
3. Post mounted reflectors shall be placed continuously as noted above in conjunction with guardrail installed.
4. Placement of roadway delineator "circular reflectors" shall be used for all minor projects which have a length of less than 5 miles. The placement of roadway delineator "rectangular reflectors" shall be used for all major projects which have a length greater than 5 miles. All roadway delineators within a roadway segment shall be of the same type.
CROSS-SECTION
TEMPORARY CONCRETE BARRIER

PLAN

SECTION A-A

SECTION B-B

SECTION C-C

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

REFLECTOR INSTALLATION ON GUARDRAIL
AT BRIDGE APPROACHES
ALSO SEE SHEET 1 IN THIS SERIES
FOR ADDITIONAL INFORMATION

REFLECTOR, TYPE C

REFLECTOR, TYPE B

BARREIR WALL REFLECTORS, TYPE C

GUARDRAIL BARRIER REFLECTORS, TYPE B

GUARDRAIL BARRIER REFLECTORS, TYPE B

PAVED SHOULDER

PAVED SHOULDER

REFOCTOR, TYPE C

CONCRETE BARRIER WALL

REFLECTOR INSTALLATION
BARRIER OR PARAPET

NOTE:
SEE SHEET 1 OF THIS SERIES FOR NOTES.

ROADWAY DELINEATORS AND REFLECTORS
STANDARD D4-07

SURFACE HIGHWAY

E D G E  O F  S H O U L D E R

E D G E  O F  S H O U L D E R

FOR ADDITIONAL INFORMATION
GENERAL NOTES:
1. Diagonal shoulder striping required where the shoulder width is less than standard.

2. Roadway marking materials to be used on finished concrete surface and asphalt. Surface shall be as shown on the plans.

3. Where the guardrail encroaches on the shoulder, the diagonal markings shall extend as close to the face of the rail as possible.

4. All permanent lane lines and edge lines shall be grooved, on roadway surfaces, unless otherwise noted.

5. Diagonal striping shall be surface applied.

6. Gore striping (chevron) shall be surface applied.

7. All lane lines and edge lines shall be surface applied on bridges.

8. Pavement markings shall not be grooved at the cash side of mainline toll plazas or the open road tolling (ORT), 100' continuously reinforced concrete (CRC) pavement section of mainline under moisture.

SECTION A-A
ROADWAY AND SHOULDER STRIPING - NEW CONSTRUCTION
RAISED PAVEMENT LANE MARKER DETAILS

NOTES:

1. Use of raised pavement lane markers shall be in accordance with the IL Tollway, roadway signing and pavement marking guidelines.

2. For collector-distributor (C-D) roadways, place one-way crystal marker, 2 each at 100' centers, use detail A.

3. For multi lane directional ramps, place one-way crystal marker, 1 each at 50' centers, use detail B.

4. For auxiliary lanes, place one-way crystal marker, 1 each at 48' centers, use detail C.

* Marker to be installed when lengths of auxiliary lanes are greater than 1000'.