## Information
### Table of Contents
September 1, 2021

<table>
<thead>
<tr>
<th>Plan No.</th>
<th>Title</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000-3-E-00</td>
<td>Superelevation Diagram</td>
<td></td>
</tr>
<tr>
<td>3010-3-E-00</td>
<td>Phasing for Concrete Island</td>
<td></td>
</tr>
<tr>
<td>4000-3-E-00</td>
<td>Minimum Backfill For Traffic</td>
<td></td>
</tr>
<tr>
<td>4300-3-E-01</td>
<td>4&quot; Pipe Underdrain</td>
<td>July 2020 - Revision</td>
</tr>
<tr>
<td>4310-3-E-00</td>
<td>Granular Sub-Drain Details</td>
<td></td>
</tr>
<tr>
<td>4335-3-E-03</td>
<td>Approach Slab Drainage Inlet</td>
<td>July 2020 - Revision</td>
</tr>
<tr>
<td>5000-3-E-00</td>
<td>Contour Cultivation</td>
<td></td>
</tr>
</tbody>
</table>
**GENERAL INFORMATION**

**PARAGRAPHS A, B, C, AND D OF SUBSECTION 605.03 ARE VOID AND SUPERCEDED BY THE FOLLOWING:**

**A.** THE SURFACE OF THE MOLDED CONCRETE SHALL BE FREE FROM LOOSE CONCRETE, SAND, AND OTHER DEBRIS AND SHALL BE WETTED WITH A CRY AND CLEAN CONDITION BEFORE APPLYING EPOXY.

**B.** THE CLEAN, WET SURFACE SHALL BE COATED WITH GRADE 2 EPOXY ADHESIVE FROM THE NDOT APPROVED PRODUCTS LIST JUST BEFORE PLACING THE NEW CONCRETE.

**C.** THE EPOXY ADHESIVE SHALL BE APPLIED TO THE VERTICAL AND HORIZONTAL FACES OF THE REPAIR WITH A BRUSH. TRANSVERSE AND LONGITUDINAL JOINTS AND CRACKS SHALL NOT BE COVERED WITH EPOXY.

**D.** THE EPOXY APPLICATION RATE SHALL BE LIMITED SO THE EPOXY ADHESIVE DOES NOT BECOME DRY BEFORE IT IS COVERED WITH NEW CONCRETE.

ONE INCH PREFORMED EXPANSION JOINT FILLER SHALL BE PLACED ACROSS THE FULL WIDTH OF THE MEDIAN SURFACING AT INTERVALS OF NOT MORE THAN 49'-0".

**G.** LONGITUDINAL JOINTS ONE INCH DEEP SHALL BE MADE IN ALL MEDIAN SURFACINGS WHEN SURFACING WIDTH IS 16'-0" OR GREATER.

**H.** TRANSVERSE JOINTS ONE INCH DEEP SHALL BE MADE IN ALL MEDIAN SURFACINGS AT INTERVALS OF NOT MORE THAN 8'-0".

**STEP III - BUILD CURVE, WITH #5 8" TIE BAR AT 5'-0" CENTERS TO BE DRILLED AND GROUTED AND #4 LONGITUDINAL BAR GAPPED AT CONTRACTION JOINT LOCATED 3'-0" MIN, 6'-0" MAX.**

**STEP IV - BUILD MEDIAN SURFACING ON EXISTING MEDIAN.**

**CONCRETE MEDIAN SURFACING**
EXISTING CONCRETE PAVEMENT IS TO BE REMOVED TO BUILD CONCRETE ISLAND NOSE.

NOTE:
EXISTING CONCRETE PAVEMENT IS TO BE REMOVED TO BUILD CONCRETE ISLAND NOSE.
NOTE:

REFER TO STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION
SECTION 702 FOR MORE INFORMATION.

* TO PROTECT THE PIPE AND BACKFILL DURING CONSTRUCTION, PROVIDE
A MINIMUM OF 36" OF COMPACTED FILL MATERIAL OVER THE TOP
OF THE PIPE BEFORE ALLOWING ANY HEAVY EQUIPMENT TO TRAVERSE
OVER THE PIPE. EXTREMELY HEAVY EQUIPMENT MAY REQUIRE LARGER
COVER AS DETERMINED BY THE CONTRACTOR.
### BUILD 4" PIPE UNDERDRAIN

<table>
<thead>
<tr>
<th>SHEET</th>
<th>ENGINEER</th>
<th>DWG</th>
<th>DESCRIPTION</th>
<th>PERFORATED</th>
<th>NONPERFORATED</th>
</tr>
</thead>
<tbody>
<tr>
<td>43003e01.dgn</td>
<td></td>
<td></td>
<td>PIPE UNDERDRAIN</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Plan View of Pipe Underdrain Outlet**

3'-0" Radius Min.

Granular Backfill Material

Edge of Pavement

Filter Area: 30" x 30" FT.

Pipe Screen: (Removable Drain Cover)

Pipe Underdrain (Rigid)

4" Non-Perforated Pipe Underdrain (Rigid)

Perforated Pipe Underdrain

Plan View of Pipe Underdrain Outlet

**Notes:**
- Backfill material extends with foreslope.
- Granular prior to intersection.
- Filter fabric ends 1 ft. prior to intersection.
- Gravel backfill material extends to pipe outlet.

**General Information:**

THIS PLAN IS DRAWN AT 100 SCALE.
PIPE UNDERDRAIN DETAIL

BOTTOM OF PAVEMENT

12" MINIMUM FROM

THIS PLAN IS DRAWN AT 100 SCALE. (use in rural areas)
DETAILS OF PIPE UNDERDRAIN PLACEMENT

THIS PLAN IS DRAWN AT 100 SCALE. (use in interstate)
PIPE UNDERDRAIN DETAIL

BACK OF CURB

FABRIC 12"
OVERLAP FILTER 12"

SECTION A-A

UNDERDRAIN TRENCH

FLOW LINE MATCHES PIPE PLAN (SAG CONDITION)

DETAIL OF PIPE UNDERDRAIN AT INLET PLAN (ON GRADE)

OR CAP
REMOVABLE PLUG
WATER TIGHT (REMOVABLE DRAIN COVER)
PIPE SCREEN

THIS PLAN IS DRAWN AT 100 SCALE. (use in urban areas)
**CONSTRUCTION NOTES:**

- **Gravel SubDrain Details:** The gravel subdrain shall be installed with positive drainage. The gravel subdrain shall be installed after the subgrade work is completed and prior to seeding.
- **Preparation of Foundation Course & Subgrade:** The subgrade shall be constructed at intervals of 200' on grades under 1%. The subgrade shall be installed after all the foundation course is completed.
- **Gravel Drainage:** The gravel subdrain shall be installed after all the foundation course is completed. The gravel subdrain shall be installed at intervals of 200' on grades under 1% and at intervals of 100' on grades under 1%.

**SECTION A-A**

**LEGEND**

- **1.** Surcharge Preparation
- **2.** Foundation Course
- **3.** Gravel Backfill Material (Subgrade)

**Table:**

<table>
<thead>
<tr>
<th>Station</th>
<th>Surfaced Shoulder</th>
<th>Traveled Way</th>
<th>Granular Sub-Drain</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**View 1 - NEW CONSTRUCTION**

**THIS PLAN IS DRAWN AT 100 SCALE.**
GRANULAR SUB-DRAIN DETAILS

1. Subgrade Preparation
2. Foundation Course
3. Gravel Backfill Material (Subgrade)

Construction Notes:

The granular sub-drain shall be constructed with positive drainage. Gravel sub-drains shall be installed after all shoulders are completed and prior to seeding. Gravel sub-drains shall be constructed at intervals of 200 ft. on grades under 1%. Gravel sub-drains shall be built perpendicular to the centerline.

View 2 - RETROFIT

This plan is drawn at 100 scale.
BRIDGE INLET BEHIND GUARDRAIL FOR CREST CONDITION

SECTION A-A

SUBGRADE PREPARATION
2%

EXISTING PAVING SECTION
4%

2'-0"

4" SLOPING CONCRETE CURB

1'-0"

1'-6"

5'-4"

3"

9"

3" ASPHALT CURB

2'-0"

FLOW HEADING AWAY FROM STRUCTURE

ROADWAY PROFILE IN CREST WITH
4" SLOPING CONCRETE CURB

IMPACT GUARDRAIL POSTS

CENTER CROSS PIPE TO NOT
IMPACT GUARDRAIL POSTS -

8" MIN. FROM BACK OF POST

GRAVING LINE

CUT-OFF PIPE

CROSS PIPE SPACING

CUT-OFF PIPE
Bridge inlet behind guardrail for sag condition

Approach slab drainage inlets

**Subgrade Preparation**
- 2%
- Under guardrail
- 5" min. surfacing

**Existing Paving Section**
- 4%
- 1'-0"
- 1'-2"
- 5'-0"
- 3"
- 9"

**3" Asphalt Curb**

**4" Sloping Concrete Curb**

**2'-0" Grading Line**

**Cross Pipe Spacing**

**Grill**

**Center Cross Pipe to Not Impact Guardrail Post**

**Typical 21'-0" Grate**

**Impact Guardrail Posts**

**Center Cross Pipe to Not Impact Guardrail Post**

**2'-0" Grading Line**

**Concrete**

**Asphalt**

**Flow**

**Flow**
**Contour Cultivation**

NOTES:

A field cultivator shall be used to produce parallel on the contour. 6' to 12' wide cultivation strips. These areas shall be tilled to a depth of three (3) to four (4) inches deep.

The cultivated strips shall be done on a spacing of 25' on center and as shown on the plans by the Engineer.

This work shall be done as soon as the finish grade is established for any slope slated to be cultivated. It can be done on rough graded slopes that will sit and wait for the finish grading for several weeks.

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