Illinois Tollway Base Sheet Revisions

Section M

Sheet: Sheet Drawings

Modification Summary Effective: 03-1-2020

- Added shoulder and flex lane super details and linework.
- Removed reference to Tollway Base Sheet Drawings from the Note A of "Slab Design".
- Added t(E) and w(E) bars in the Bill of Material.
- Modified the parapet joint call out to "1/2" CORK JT, TYP."
- Added Sleeper Slab at the end of Transition Slab at the longbound area of Section.
- Included designer note to increase 1/4" for grinding.
- Added sleeper slab details in the section F.
- Revised parapet bars and dimensions in section M&M.
- Added sleeper slab details in the section F.
- Included designer note to increase 1/4" for grinding.
- Included designer note to increase 1/4" for grinding.
- Included designer note to increase 1/4" for grinding.
- Added pay items for Bridge Deck Grooving, Protective Coat and Grinding & Smoothness.
- Included pay item for Sleeper Slab in the Bill of Material.
- Included designer note to increase 1/4" for grinding.
- Revised slab thickness dimensions.
- Included designer note to increase 1/4" for grinding.
- Revised slab thickness dimensions.
- Added pay items for Bridge Deck Grooving and Protective Coat. Revised pay item numbers.
- Added Sleeper slab at the end of Transition Slabs.
- Add notes to designers to clarify the limits to quantify grooving and grinding.
- Included designer note to increase 1/4" for grinding.
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- Included designer note to increase 1/4" for grinding.
- Added Sleeper Slab at the end of Transition Slabs.
- Revised slab thickness dimensions.
- Included designer note to increase 1/4" for grinding.
- Revised slab thickness dimensions.
- Revised pay items and removed Installation of Bridge Approach Slab Anchor Bolts from the Bill of Materials.
- Removed the pay item "PRECAST APPROACH SLAB DETAILS" from the bottom of the sheet.
- Revised slab thickness dimensions.
- Added Sleeper Slab at the end of Transition Slabs.
- Add notes to designers to clarify the limits to quantify grooving and grinding.
- Included designer note to increase 1/4" for grinding.
- Revised slab thickness dimensions.
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- Added Sleeper Slab at the end of Transition Slabs.
- Revised slab thickness dimensions.
- Included designer note to increase 1/4" for grinding.
- Revised slab thickness dimensions.
NOTES
REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING 024,
PIPE UNDERDRAIN, FOR PLACEMENT LOCATION.

NOTE TO DESIGNER
THIS PAGE SHOWS TYPICAL NEW CONSTRUCTION BUT IT
IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY
THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT.
REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING 024,
PIPE UNDERDRAIN, AND THE ILLINOIS TOLLWAY WEBSITE.
THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THE
REFERENCE ILLUSTRATIONS SHALL BE REMOVED PRIOR TO
INSERTION INTO A CONTRACT.
THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT
IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY
THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT.
REFERENCE ILLINOIS TOLLWAY STANDARD DRAWING 024,
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NOTES

1. SLOPE TOWARD GUTTER AT 6% WHEN IN CUT SECTION AND SLOPE AWAY FROM GUTTER AT 6% WHEN IN FILL SECTION.

2. AGGREGATE SHOULDER SLOPE SHALL NOT BE FLATTER THAN ADJACENT PAVED SHOULDER.
**NOTES:**

1. All slopes are expressed as units of vertical displacement to units of horizontal displacement (H:V).
2. Slope shall be 1:2 or flatter behind gutter without guardrail. In all other cases, the maximum slope shall be 1:4, if 1:4 slope is used, increase width based on clear zone requirements.
3. Fore-slope 2 steeper than 1:4 used for the lower slope on a barn-roof section requires a design deviation.
4. Fore-slopes steeper than 1:4 used when barn-roof section is not used and when fill height is less than 9' require a design deviation.
5. Back-slopes steeper than 1:5 from the shoulder point in a cut section require a design deviation.
6. Can be omitted when existing ground slopes away from R.O.W. line.
7. Minimum ditch depth shall follow drainage design manual. Designer shall meet criteria for design water surface on Table 6.1 and adequately drain subbase.

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**SIDESLOPES HIERARCHY (IN ORDER OF PREFERENCE FOR FILL SECTIONS)**

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<th>Fore-slope</th>
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<th>Back-slope</th>
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* Design deviation if fill height is less than 9'.
** Design deviation in all cases.

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**ACCEPTABLE CUT SECTION**

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**ACCEPTABLE FILL SECTION**

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**NOTE TO DESIGNER**

This base sheet shows typical S.C. construction but is not a standard sheet. It requires completion by the designer prior to submission to a contractor. The designer shall accept the responsibility of the design of the road section. The complete design shall be reviewed and approved by the consultant. The complete design shall be reviewed and approved by the consultant. The complete design shall be reviewed and approved by the consultant. The complete design shall be reviewed and approved by the consultant.
GENERAL NOTES:

1. The 1'-6" wide asphalt stabilized subbase may be reduced to 1'-0" when paving equipment utilized for construction of the PCC pavement will allow.

2. The stabilized work zone should account for the paver track and should be noted in the plans if minimums are not met.

3. Stabilized work zone may or may not be continuous to the asphalt stabilized base. Alternatives should be investigated to determine the best location.

NOTE TO DESIGNER

This base sheet shows typical new construction but is not a standard drawing. It requires completion of the detail drawings for the design sections. The designer shall accept the responsibility of the design of new construction and inspection into the project. This section should be removed prior to insertion of the sheet into the plan set.
NOT TO DESIGNER

NOTE:

AGG. SHOULDER

BREAKPOINT

JOINT FILLER

AGG. SHOULDER

BREAKPOINT

JOINT FILLER

NOTE:

All slopes are expressed as units of vertical displacement to units of horizontal displacement (V/H).
# EARTHWORK SCHEDULE OF QUANTITIES

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>EARTH EROSION</th>
<th>ROCK EROSION</th>
<th>UNSUITABLE MATERIAL</th>
<th>STRUCTURE EROSION</th>
<th>HAZARDOUS WASTE</th>
<th>ENVIRONMENTAL SOILS TYPE 1</th>
<th>ENVIRONMENTAL SOILS TYPE 2</th>
<th>ENVIRONMENTAL SOILS TYPE 3</th>
<th>ENVIRONMENTAL SOILS TYPE 4</th>
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<th>SOILS NOT APPROVED</th>
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### EARTHWORK VOLUMES (CY)

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### NOTE TO DESIGNER

1. **ADJUSTMENTS PERIOD** IS DETERMINED BASED ON THE DESIGNER'S RESPONSIBILITY ANALYSIS.
2. SS IS THE SHRINKAGE MULTIPLIER, SS=RATE OF SOIL INCREASED MULTIPLES USED TO DETERMINE THE CALIBRATION OF AVAILABLE SOIL.
3. ANY SOILS IDENTIFIED AS NON-SPECIAL WASTE CLASSIFICATION ARE DISPOSED OF BY EARTH EXCAVATION OR INCIDENTAL.
4. COLUMN **TOPSOIL STRIPPING** IS THE INCREASED SOILS APPROVED FOR THE ESTIMATED SOIL.
5. COLUMN **TOPSOIL PLACEMENT** IS THE INCREASED SOILS APPROVED FOR THE ESTIMATED SOIL.
6. **SOILS APPROPRIATE** ARE DETERMINED BASED ON WALL DESIGN.

### RAY ITEM NO. DESIGNATION | STAGE 1 | STAGE 2 | TOTAL | UNITS | CALCULATION NOTES:
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<td>CY</td>
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</table>

### NOTE TO DESIGNER

1. "SOILS NOT APPROVED" SHALL NOT BE USED ON THE ILLINOIS TOLLWAY ROW AND SHALL BE DISPOSED OF AS EARTH EXCAVATION OR NON-SPECIAL WASTE DEPENDING ON THE SOILS CLASSIFICATION.
2. **SOILS APPROVED WITH RESTRICTION** CAN BE DISPOSED IN MUNICIPALITIES WITH EPA APPROVED GROUNDWATER ORDINANCE.
3. **SOILS NOT APPROVED OR APPROVED WITH RESTRICTION** SHALL NOT BE DISPOSED OF OR USED FOR ESTIMATED SOILS APPLICABLE TO THE WALL DESIGN.
4. INCIDENTAL EXCAVATION IS OUTLINED IN SEPARATE TABLE WITH IDENTIFYING SOIL CLASSIFICATION AND IS NOT CONSIDERED IN CALCULATIONS AND IS FOR INFORMATION ONLY EXCEPT CURRENT SOILS.
5. PERFORMANCE BASED RETAINING WALLS EXCAVATION IS INCLUDED AS INCIDENTAL TO THE RETAINING WALL AND ASSUMED AS INCIDENTAL UNLESS OTHERWISE STATED BY THE DESIGNER. QUANTITIES MAY BE ADJUSTED BASED ON DESIGN.
6. WHEN THERE IS EXCESS SOIL APPROVED FOR REUSE, THE CONTRACTOR SHALL FIRST REUSE SOIL CLASSIFIED AS NON-SPECIAL WASTE TO MINIMIZE THE VOLUME OF MATERIAL DISPOSED AT CCDD OR OTHER FACILITIES.
### Earthwork Schedule of Incidental Quantities

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>Storm/Sewer Trench</th>
<th>Its Excavation</th>
<th>Incidental Excavation (Fill in Type)</th>
<th>Incidental Excavation (Fill in Type)</th>
<th>Hazardous Waste</th>
<th>Environmental Soils Type 1 Approved</th>
<th>Environmental Soils Type 2 Approved</th>
<th>Environmental Soils Type 3 Approved</th>
<th>Environmental Soils Type 4 Approved</th>
<th>Soils Not Approved (Type 1)</th>
<th>Soils Not Approved (Type 2)*</th>
<th>Soils Not Approved (Type 3)</th>
<th>Soils Not Approved (Type 4)</th>
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### Earthwork Schedule of Performance Based Retaining Walls Quantities

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**NOTE TO DESIGNER**

1. **Incidental earthwork should be shown when quantities are over 5,000 cubic yards or when the designer determines otherwise.**

2. **Designers shall document in a note their basis for calculating volumetric excavation limits. These limits should include trenching or piping for incidental items, and the designer should indicate their limits or amount calculated by the designer.**

3. **This excavation is not paid for separately but included in the cost of the associated work item.**

***Excavation for performance based retaining walls is not paid for separately but included in the cost of the wall. See structural ex for other walls unless otherwise specified.***
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<th>GUARDRAIL TYPE</th>
<th>DEPARTURE TERMINAL</th>
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| TOTAL        | 2          | 1      | 850.0            | 137.5           | 75.0             | 75.0             | 112.5            | 25.0             | 1        | 3        | 1        |

**Guardsrail Schedule**

**DATE:** 3-01-2020

**Illinois Tollway**
FABRICATION GENERAL NOTES

MATERIALS:
- Precast concrete slabs used shall comply with ASTM C150.
- The concrete used shall be designed in accordance with ACI 318M or ACI 318-1914.
- The compressive strength of the concrete shall be determined in accordance with ACI 318M.
- The slump of the concrete shall be in accordance with ASTM C143.
- The slump values shall be determined in accordance with ASTM C143.
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NOTE TO DESIGNER

**  BAR d(E) IS CAST IN PRECAST APPROACH SLAB
PLACE AFTER PRECAST SLABS ARE SET.

BRIDGE PARAPET SHALL BE CAST IN

SINGLE FACE BARRIER SO THAT APPROACH ROADWAY
SHOULDER WIDTH +1'-0" FOR GUARDRAIL OR +2'-0" FOR

DIMENSIONS SHALL CONFORM WITH APPROACH ROADWAY.

**  PAY LIMITS FOR
CIP BARRIER

CONSTRUCTION JOINT

(MANDATORY)

NOTE TO DESIGNER

THE TOP LAYER OF BARS IN A FANNED ARRANGEMENT.

45 DEGREE, PROVIDE 5 #6 BARS, 11'-8" LONG DIRECTLY UNDER
FOR PRECAST SLAB CORNERS WITH SKEW ANGLE GREATER THAN
SKEWED, EXCEPT FOR EDGE BARS AS SHOWN.

SHALL BE LAID OUT IN A PERPENDICULAR GRID PATTERN, NOT
USE 2'-0" MIN. LAP FOR #4 BARS. USE 2-6" MIN. LAP FOR
TILT HOOK OF #9 BARS FOR MINIMUM 3" CLEARANCE.

THE THICKNESSES OF STABILIZED SUBBASE, SUBGRADE
AND ITS PLANS. CONDUIT SHALL BE PLACED TO MISS
COORDINATE NEED FOR 2" PVC CONDUIT WITH ELECTRICAL
TRANSITION APPROACH SLAB AS DEFINED IN THE ROADWAY
THE DIMENSION t IS THE FINAL THICKNESS OF THE CIP

SEE SHEET 1 OF THIS SERIES FOR GENERAL NOTES.

1. THE SHEET IS THE FINAL THICKNESS OF THE CIP
PRECAST APPROACH SLAB AS SHOWN ON THE ROADWAY
PLANS.

COORDINATE NEED FOR #9 BARS WITH ELECTRICAL
AND #5 BARS, CONCRETE SHALL BE PLACED WITHIN
RECOMMENDATIONS IN THE ROADWAY PLAN.

THE THICKNESSES OF STABILIZED SUBBASE, SUBGRADE
AND ITS PLANS. CONDUIT SHALL BE PLACED TO MISS
COORDINATE NEED FOR 2" PVC CONDUIT WITH ELECTRICAL
TRANSITION APPROACH SLAB AS DEFINED IN THE ROADWAY
THE DIMENSION t IS THE FINAL THICKNESS OF THE CIP

THE THICKNESSES OF STABILIZED SUBBASE, SUBGRADE
AND ITS PLANS. CONDUIT SHALL BE PLACED TO MISS
COORDINATE NEED FOR 2" PVC CONDUIT WITH ELECTRICAL
TRANSITION APPROACH SLAB AS DEFINED IN THE ROADWAY

NOTE TO DESIGNER

THE TOP LAYER OF BARS IN A FANNED ARRANGEMENT.

45 DEGREE, PROVIDE 5 #6 BARS, 11'-8" LONG DIRECTLY UNDER
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SKEWED, EXCEPT FOR EDGE BARS AS SHOWN.

SHALL BE LAID OUT IN A PERPENDICULAR GRID PATTERN, NOT
USE 2'-0" MIN. LAP FOR #4 BARS. USE 2-6" MIN. LAP FOR
TILT HOOK OF #9 BARS FOR MINIMUM 3" CLEARANCE.

THE THICKNESSES OF STABILIZED SUBBASE, SUBGRADE
AND ITS PLANS. CONDUIT SHALL BE PLACED TO MISS
COORDINATE NEED FOR 2" PVC CONDUIT WITH ELECTRICAL
TRANSITION APPROACH SLAB AS DEFINED IN THE ROADWAY
THE DIMENSION t IS THE FINAL THICKNESS OF THE CIP

SEE SHEET 1 OF THIS SERIES FOR GENERAL NOTES.
EDGES OF TRAFFIC

NOTE 3

1. See Sheet 2 of this series for Sections A-A through E-E.
2. The notes shown for concrete barriers and concrete barrier base are duplicated for the opposing traffic direction.
3. Concrete barriers shall be pinned to barrier base by pairs of 12" tie bars at 30" centers in the last 30' of the concrete barrier.

NOTE TO DESIGNER

1. The impact attenuation and concrete pad length shall be selected by the contractor, provided in design, a minimum of 21' impact attenuation and pad.
2. Concrete barriers shall be selected by the designer and incorporated into the design.
3. Concrete barriers shall be designed to the standards of the Illinois Tollway, and the designer shall ensure compliance with all applicable standards.

NOTE TO DESIGNER

1. This sheet shows typical new construction, but it is not a standard drawing. It is subject to change.
2. The designer shall ensure compliance with the guidelines of this sheet. The designer shall accept responsibility for the design of this sheet and its incorporation into a contract. The designer shall ensure compliance with all applicable standards.

EMERGENCY TURNAROUND

MEDIAN WIDTH > 35FT
**NOTE TO DESIGNER:**

This base sheet shows typical section for new construction but it does not represent a standard drawing. It requires completion by the designer or engineer of record. The designer or engineer of record who will complete the drawings shall accept the responsibility of the design and preparation for a complete set. This base sheet shall not be utilized as a standard drawing guide.

**CONCRETE BARRIER DOUBLE FACE, VARIABLE HEIGHT, 2' TO 2.5'**

**SECTION A-A**

**SECTION B-B**

**SECTION C-C**

**SECTION D-D**

**SECTION E-E**

**EMERGENCY TURNAROUND**

**DATE:** 3-01-2020

**SHEET 2 OF 4**
NOTES:

1. SEE SHEET 4 OF THIS SERIES FOR SECTIONS F-F THROUGH H-H.

2. THE WATER SHOWN FOR THE CONCRETE BARRIER AND CONCRETE BARRIER BASE IS SYMBOLIC FOR THE OPPOSITE TRAFFIC DIRECTION.

3. CONCRETE BARRIER SHALL BE PINNED TO BARRIER BASE BY PAIRS OF 12" TIE BARS AT 30" CENTERS IN THE LAST 30' OF THE CONCRETE BARRIER.

NOTE TO DESIGNER:

2. CONCRETE BARRIER AND CONCRETE BARRIER BASE WILL BE SELECTED BY THE CONTRACTOR. PROVIDE IN DESIGN THE CORRECT IMPACT ATTENUATOR AND PAD.

3. CONCRETE BARRIER CONCRETE PADS ARE A MODIFICATION OF THE ILLINOIS TOLLWAY DESIGN. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF IMPACT ATTENUATOR AND PAD OF CONCRETE BARRIER CONCRETE PADS. PROVIDE IN DESIGN THE CORRECT IMPACT ATTENUATOR AND PAD FOR INCLUSION IN THE DESIGN.

NOTE TO DESIGNER:

1. THIS SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION OF THE IMPACT ATTENUATOR AND CONCRETE BARRIER BASE IN SHEET 5 TO COMPLETE THE DESIGNED ATTENUATOR. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF IMPACT ATTENUATOR AND PAD OF THE LAST 30' OF THE EDGE OF PAVEMENT.

NOTE TO DESIGNER:

THE TAPER SHOWN FOR THE CONCRETE BARRIER AND CONCRETE BARRIER BASE IS DUPLICATED FOR THE OPPOSITE TRAFFIC DIRECTION.

SEE SHEET 4 OF THIS SERIES FOR SECTIONS F-F THROUGH H-H.
NOTE TO DESIGNER

This base sheet shows typical new construction but it is not a standard drawing. It requires completion of drawing sheets to fully represent the project. The designer shall accept the responsibility of the design of any sheet upon its completion and inspection even if a note states otherwise. The designer shall be responsible for any errors prior to insertion of the sheet into the plan set.
NOTE TO DESIGNER

THE UNDERDRAIN CAN BE LOCATED ON EITHER SIDE OF THE MEDIAN. DESIGNER TO DETERMINE WHICH SIDE BASED ON CONSTRUCTION STAGING AND PROJECT SPECIFIC NEEDS.

NOTE TO DESIGNER

IN CASES WHERE 1.5% SUBGRADE CROSS SLOPE AND 3" MIN. SUBGRADE CANNOT BE MET, AN UNDERDRAIN OR ALTERNATIVE DESIGN NEEDS TO BE EVALUATED.

NOTE TO DESIGNER

THIS BASE SHEET SHOWS TYPICAL NEW CONSTRUCTION BUT IT IS NOT A STANDARD DRAWING. IT REQUIRES COMPLETION BY THE DESIGNER PRIOR TO INSERTION INTO A CONTRACT. MICROSTATION FILES AND "CAD STANDARDS MANUAL" ARE AVAILABLE ON THE ILLINOIS TOLLWAY WEBSITE. THE DESIGNER SHALL ACCEPT THE RESPONSIBILITY OF THE DESIGN OF THIS SHEET UPON ITS COMPLETION AND INSERTION INTO A CONTRACT. ALL "NOTE TO DESIGNER" BOXES SHALL BE REMOVED BY THE DESIGNER PRIOR TO INSERTION INTO THE PLAN SET.

SUBGRADE SLOPES AND PIPE UNDERDRAIN LOCATION
(SUPERELEVATED SECTION, CURVE TO THE RIGHT)

SUBGRADE SLOPES AND PIPE UNDERDRAIN LOCATION
(SUPERELEVATED SECTION, CURVE TO THE LEFT)

SUBGRADE SLOPES
(NORMAL CROWN SECTION)
NOTE TO DESIGNER
This base sheet shows typical new construction but it is not a standard drawing. It represents construction at the design prior to insertion into a contract, and the designer has the responsibility of the design of any items not shown. The designer shall accept the responsibility of the design of any items not shown prior to insertion of the sheet into the plan set.

NOTE TO DESIGNER
This base sheet shows typical longitudinal grooving at the toll plaza pavement, but it is not a standard drawing. It requires completion by the designer with appropriate geometry (lane configuration and roadway shoulder widths, etc.) and construction details prior to insertion into a contract. The designer shall accept the responsibility of the design of this sheet upon its completion and insertion into a contract.

ILLINOIS TOLLWAY
BASE SHEET M-RDY-413

DIAMOND GRINDING
OF PLAZA

PLAZA PAVEMENT - 100' CRC PAVEMENT AND SHOULDERS (SPECIAL) * DIAMOND GRINDING

PLAZA NO. XXX

DATE 3-1-2020