## Illinois Tollway Standard Drawing Revisions

### Section A  Roadway Pavement

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- New Sheet
- Retired Standard
**PROPOSED CONCRETE PAVEMENT FULL DEPTH REPAIR - TYPICAL ROADWAY PLAN**

**PAID AS CLASS B PATCH**

**SECTION A-A**

**REPAIR - FULL DEPTH, ONE LANE**

**SECTION B-B**

**REPAIR AT CONTRACTION JOINT**

**SECTION D-D**

**REPAIR - FULL DEPTH, ONE LANE**

**SECTION E-E**

**TRANSVERSE EXPANSION JOINT**

**SECTION F-F**

**REPAIR THROUGH LONGITUDINAL JOINT**

**LEGEND**

- **Existing Wavelite Paving**
- **Existing Pavement**
- **Proposed Concrete Pavement**
- **Repair - Full Depth**
- **Proposed Concrete Pavement Widening**
- **Concrete Pavement Thickness**

**GENERAL NOTES:**

1. The minimum overall dimensions of repairs shall be at least 30 feet by the lane width except for placement of decorative pavement edges adjacent to proposed widening. See Section F-F, repairs terminating at transverse contraction joints shall be extended one foot across the joint. When a repair extends within four feet of an existing transverse contraction joint, the repair shall be extended one foot beyond the joint.

2. Whenever a repair is constructed in two or more segments because of maintenance of traffic staging requirements, each segment shall be considered a separate patch with the 30-foot minimum dimension.

3. Unless otherwise noted, joints shall be cut and sealed to a depth equal to the thickness of the existing concrete using chemical adhesive as specified.

4. Unless otherwise noted, the bars shall be extended by their length into the existing concrete using chemical adhesive as specified.

5. Saw cutting and sealing of longitudinal joints in the repair area shall follow IDOT Standard S902. (Pavement joints where the bars are needed or detail B where bond spalled is used, see Note 6 to determine joint requirements). Joint sealing is not required for pavement being resurfaced.

6. For repair of asphalt overlay and PCC pavements, the minimum shall be 30 feet, the patch shall meet existing cross section materials thicknesses.

7. At locations of proposed pavement material, edge determination requiring full depth repair, all shall be removed by removal and replacement of a minimum of 12" of existing concrete by saw cutting and removal. All cuts and removal shall follow the requirements of the Illinois Tollway Standard Paving Specifications. When other materials are specified in the contract, the additional materials required shall be determined in accordance with the specifications. The additional material required shall be used and used in accordance with the Illinois Tollway Standard Paving Specifications.

8. All proposed transverse joints shall be cut from existing joints in adjacent pavement to the repair area. When proposed transverse joints are offset from existing joints in adjacent pavement, the repair area shall be extended one foot across the joint. When a repair extends within four feet of an existing transverse contraction joint, the repair shall be extended one foot beyond the joint.

9. Typical roadway plan for full depth repair is applicable to all pavements, lane widths and number of existing lanes.

10. The tile bar for the longitudinal same shall be 1" from the transverse contraction joint.

11. Only sealing of all joints in the repair area of pavement to be resurfaced.

12. The maximum length between transverse contraction joints in any patch shall be 30 feet.

13. Contractor will be responsible to obtain a destruction report of passing a smooth finish街 test using a steel rolling straight edge after partial is complete, diamond grinding may be used to restore the surface quality and is subject to the specifications unless otherwise specified in the plans.
SECTION F-F

EDGES ADJACENT TO PROPOSED WIDENING
REPLACEMENT OF DETERIORATED PAVEMENT
(PAID AS PART OF WIDENING)

EXISTING PAVEMENT TO REMAIN
SAWCUT

PAVEMENT EDGE OF EXISTING

EXISTING SLAB

PAVEMENT (TYP.)
ADJACENT EXISTING PCC
TRANSVERSE JOINTS IN THE
WIDENING SHALL ALIGN WITH THE
TRANSVERSE JOINT IN PROPOSED
PAVEMENT WIDENING

REPLACEMENT OF DETERIORATED PAVEMENT
EDGES ADJACENT TO PROPOSED WIDENING

TYPICAL |

P.C.C. PAVEMENT

SEE NOTE 7

1'-6" MIN

Fiberboard

3/4" MIN - 2" MAX

HOT Poured JOINT SEALER SEE NOTE 11

1/8" MIN. CLOSED CELL PLASTIC FOAM

BE SAWED JOINT TO DESIRABLE 10:1

JOINT SEALER
HOT POURED

CLOSED CELL PLASTIC FOAM
BACKER ROD. SIZED TO MANUFACTURE RECOMMENDATION

PRODUCT OR PATCH

JOINT SEALER
HOT POURED

PRODUCT OR PATCH

2" MIN. - 2" MAX

EPOXY COATED, #6 DEFORMED BARS 24" LONG AT 24" O.C.

EXISTING SLAB PATCH

EMBEDDED A MINIMUM OF 8" INTO 24" CTRS.,

MANUFACTURE RECOMMENDATION

ADJACENT LANE OR PATCH IN EXISTING SLAB PATCH

(TRANSVERSE EXPANSION JOINT)

DETAIL C

(TRANSVERSE JOINT)

DETAIL A

(LONGITUDINAL JOINT)

DETAIL B

ADJACENT LANE OR PATCH IN EXISTING SLAB PATCH

1'-6" MIN

P.C.C. PAVEMENT

SEE NOTE 6

TRAFFIC

TRAFFIC

SEE NOTE 5

AND SEALED

DATE 5-1-2009

APPROVED

CHIEF ENGINEERING OFFICER
PROPOSED ASPHALT OVERLAY REPAIR
TYPICAL ROADWAY PLAN

SECTION A-A & B-B

ASPHALT OVERLAY REPAIR

NOTES: TYPICAL ASPHALT OVERLAY REPAIR
1. LOCATION OF ALL OVERLAY REPAIR AREAS SHALL BE DETERMINED BY THE ENGINEER.
2. MINIMUM DIMENSIONS SHALL BE AS SHOWN IN TYPICAL ROADWAY PLAN.
3. ALL ASPHALT OVERLAY SHALL BE REMOVED TO THE TOP OF THE P.C.C. PAVEMENT.
4. SAWCUT MAY BE ELIMINATED IF MILLING EQUIPMENT IS USED AND VERTICAL AND STRAIGHT SIDES ARE OBTAINED; TRANSVERSE SAWCUTS ARE ALWAYS REQUIRED.

LEGEND

EXISTING OR PROPOSED ASPHALT OVERLAY
PROPOSED PAVEMENT REPAIR

DATE
REVISIONS
STANDARD A2-07
DETAIL OF BUTT JOINT, TYPE 1

NOTES FOR BUTT JOINT, TYPE 1
1. The above work will be performed at the ends of all asphalt resurfacing.

2. Only approved scarifying or milling equipment shall be used to scarify the concrete pavement.

3. Regardless of type of surface mix used, number or thickness of courses or layers, the overlay thickness transition length shall be based on 1"/20 and the minimum surface layer thickness shall be 1/2".

4. Refer to the contract documents for the required binder and surface course materials. "t" is the thickness of the surface course specified in the contract, "T" is the thickness of the binder course specified in the contract.

5. Scarification may be eliminated if milling equipment is used and vertical and straight sides are obtained.

6. Regardless of type of surface mix used, number or thickness of courses or layers, the overlay thickness transition length shall be based on 1"/20 and the minimum surface layer thickness shall be 1/2".

DETAIL OF BUTT JOINT, TYPE 2

NOTES FOR BUTT JOINT, TYPE 2
1. The above work will be performed at the ends of all asphalt resurfacing where butt joints exist.

2. Refer to the contract documents for the required binder and surface course materials. "t" is the thickness of the surface course specified in the contact. "T" is the thickness of the binder course specified in the contact.

3. Scarification may be eliminated if milling equipment is used and vertical and straight sides are obtained.

4. Regardless of type of surface mix used, number or thickness of courses or layers, the overlay thickness transition length shall be based on 1"/20 and the minimum surface layer thickness shall be 1/2".
PAVEMENT CROSS SECTION (2 LANES)

GENERAL NOTES:

1. DOWEL BASKET ASSEMBLIES, WHERE USED, SHALL BE SUPPORTED AND ANCHORED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS AND CONCRETE SPECIAL PROVISION.

2. MATERIALS ARE PROJECT SPECIFIC. REFER TO PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS.

3. CONSTRUCTION OF THE PCC PAVEMENT WILL ALLOW. MATERIALS MAY BE SUBSTITUTED FOR ASPHALT PAVEMENT DESIGNS ARE PROJECT SPECIFIC, OTHER MATERIALS ARE PROJECT SPECIFIC. REFER TO PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS.

4. PAVEMENT DESIGNS ARE PROJECT SPECIFIC. OTHER MATERIALS MAY BE SUBSTITUTED FOR ASPHALT STABILIZED SUBBASE AND SUBGRADE AGGREGATE. REFER TO PROJECT PLANS FOR DETAILS AND MATERIAL SPECIFICATIONS.

5. THE TIE BAR FOR THE LONGITUDINAL SAWED JOINT SHALL BE AT LEAST 15" FROM THE TRANSVERSE CONTRACTION JOINT.

6. THE 3'-6" WIDE ASPHALT STABILIZED SUBBASE MAY BE REDUCED TO 1'-6" WHEN PAVING EQUIPMENT UTILIZED FOR CONSTRUCTION OF THE PCC PAVEMENT WILL ALLOW.

7. THE 1'-6" WIDE TRANSVERSE JOINT SPACING SPECIFICATION SHALL BE ADJUSTED TO 3'-0" WHEN 1'-6" WIDE PLACED ADJACENT TO EXISTING PCC PAVEMENT STRUCTURE SO THAT THE JOINTS ARE IN PROLONGATION. REDUCE THE 1'-6" SPACING TO MAINTAIN A CLEARANCE OF 0'-0" FROM DOWEL BARS.

8. CONCRETE PAVEMENT THICKNESS.

9. PROFILE GRADE LINE.

10. SHEET 1 OF 2
**SLEEPER SLAB NOTES**

1. Additional thickness of pavement shall be included in the cost of the pay item for the pavement type.
2. Polyethylene sheet and aggregate supporting the sleeper slab shall be included in the cost of sleeper slab.

**SLEEPER SLAB SECTION NOTES**

1. #111 bars shall be placed at 12" cts.
2. #111 number and length depends on width of roadway.
3. Use 2'-8" min lap for #4 bars, use 4'-0" min lap for #5 bars.

**Bar No.** | **Size** | **Length**
--- | --- | ---
#4 | XX | XX
#5 | XX | XX

**SECTION A-A**

**PAVEMENT TRANSITION**

**SECTION A-A**

**ASPHALT OVERLAY**
GENERAL NOTES:
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SHOWN.
2. $t =$ PAVEMENT THICKNESS.
3. A $\frac{3}{8}$" SAW CUT SHALL BE PROVIDED FOR PAVEMENT CRACK CONTROL.
NOTES:


2. JOINTS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

3. 6' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

4. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.

5. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS ON THE RAMP PAVEMENT SHALL BE INFLUENCED.

6. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

STANDARD A12-01

APPROVED DATE: 3-1-2019

REVISIONS DATE: 3-1-2020

UPDATED DIMENSIONS
NOTES:
1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWINGS AT AND BODY HIGHWAY STANDARD 420001, EXCEPT EXPANSION JOINTS.
2. SEE PROJECT PLAN AND CONTRACT DOCUMENTS FOR DETAILS OF PAVEMENT REINFORCEMENT.
3. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.
4. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 30' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 15' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE PROVIDE.
5. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.
JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

NOTES:
1. JOINT LINE IS PARALLEL TO RAMP BASELINE.
2. JOINT LINE IS PARALLEL TO RAMP BASELINE.
3. JOINT LINE IS PARALLEL TO RAMP BASELINE.
4. JOINT LINE IS PARALLEL TO RAMP BASELINE.
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10. JOINT LINE IS PARALLEL TO RAMP BASELINE.

JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

DATE
10
REVISIONS
STANDARD A13-03

JOINTING PLAN
EXIT RAMP TERMINAL
WITH AUXILIARY LANE

ILLINOIS TOLLWAY

DIMENSIONS OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

STANDARD A13-03

WHEEL PATH SHALL BE MINIMIZED.

10' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15'.

MAINLINE TRANSVERSE JOINT. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

DETAILED AS SHOWN ON IDOT HIGHWAY STANDARD 420001. ALL OTHER PAVEMENT JOINTS SHALL BE DETAIED AS SHOWN ON ILLINOIS TOLLWAY STANDARD A7. ALL TRANSVERSE CONSTRUCTION AND EXPANSION PAVEMENT JOINTS SHALL BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.


P.C. JOINING PLAN
EXIT RAMP TERMINAL
WITH AUXILIARY LANE

JOINTING PLAN
EXIT RAMP TERMINAL
WITH AUXILIARY LANE

ILLINOIS TOLLWAY

DIMENSIONS OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

STANDARD A13-03

WHEEL PATH SHALL BE MINIMIZED.

10' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15'.

MAINLINE TRANSVERSE JOINT. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

DETAILED AS SHOWN ON IDOT HIGHWAY STANDARD 420001. ALL OTHER PAVEMENT JOINTS SHALL BE DETAIED AS SHOWN ON ILLINOIS TOLLWAY STANDARD A7. ALL TRANSVERSE CONSTRUCTION AND EXPANSION PAVEMENT JOINTS SHALL BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.


P.C. JOINING PLAN
EXIT RAMP TERMINAL
WITH AUXILIARY LANE

JOINTING PLAN
EXIT RAMP TERMINAL
WITH AUXILIARY LANE

ILLINOIS TOLLWAY

DIMENSIONS OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

STANDARD A13-03

WHEEL PATH SHALL BE MINIMIZED.
NOTES:

1. ALL TRANSVERSE CONSTRUCTION AND EXPANSION PAVEMENT JOINTS SHALL BE DETAIL AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING AT ALL OTHER PAVEMENT JOINTS SHALL BE DETAIL AS SHOWN ON IDOT HIGHWAY STANDARD 420001.

2. STUBS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

3. 7' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

4. TYPICAL PCC PAVEMENT JOINT SPACING SHALL BE 15'.

5. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATION IN THE WHEEL PATH SHALL BE MINIMIZED.

6. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLAN.
NOTES:

1. All pavement joints shall be detailed as shown on Illinois Tollway Standard 420001, except expansion joint seals shall be as described in the Illinois Tollway Special Provision, Bonded Preformed Joint Seal. See project plans and contract documents for details of pavement reinforcement.

2. Typical PCC pavement joint spacing shall be 15' long by 12' wide. Typical joint locations in the wheel path shall be maximized.

3. Additional ramp lanes are added, the maximum joint spacing shall be 15' long by 12' wide. Typical joint locations in the wheel path shall be minimized.

4. Dimensions of lane 1 shall be as shown on the plans.

5. Jointing plan entrance ramp terminal joints in the wheel path shall be minimized.
NOTES:

1. All transverse construction and expansion pavement joints shall be detailed as shown on Illinois Tollway Standard DRAWING A4, all other pavement joints shall be detailed as shown on IDOT Highway Standard 420001.

2. Stub shall be the minimum dimension as shown and aligned with a mainline transverse joint.

3. Nose location shall be adjusted to be aligned with a mainline transverse joint.

4. Typical PCC pavement joint spacing shall be 15'.

5. As additional ramp lanes are added, the maximum joint spacing shall be 15'-long by 24'-wide. Typical spacing is 15'-long by 12'-wide. Longitudinal joint locations in the wheel path shall be minimized.

6. Dimensions of lane 1 shall be as shown on the plans.

DETAIL A

- Joints shall be aligned with mainline pavement joints.
- Longitudinal construction joint with No. 6 tie bars 24'-long at 24" centers, epoxy coated.
- Joint line is parallel to ramp baseline.
- Edge of mainline pavement.
- 4' Min. stub (See Note 2).
- 6' Nominal.
- 35:1 taper rate.
- Core and recovery taper pavement type and thickness to match mainline.

DETAIL B

- Edge of mainline pavement.
- 20:1 taper rate.
- Ramp baseline.
- 660' Min.
- 240' Nominal.
- 315' Nominal.
- 2' Min. stub (See Note 2).
- 4' Min. stub (See Note 2).
- 35:1 taper rate.
- Ramp baseline.
- Asphalt shoulder (Typ.)

DETAIL C

- Edge of mainline pavement.
- 40' Min.
- Ramp baseline.
- 20:1 taper rate.
- Joint line is parallel to ramp baseline.

LONGITUDINAL SAWED JOINT OR LONGITUDINAL CONSTRUCTION joint with No. 6 tie bars 24'-long at 24" centers, epoxy coated. Joint line is parallel to ramp baseline.

JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT
NOTES:

1. ALL PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWINGS AND NOT TOLLWAY STANDARD A2200. OTHER EXPANSION JOINT SEALMENTS SHALL BE AS DESCRIBED IN THE ILLINOIS TOLLWAY SPECIAL PROVISION, BONDED PREFORMED JOINT SEAL.

2. PAVEMENT JOINT SPACING SHALL BE 15'.

3. PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON THE PLANS.

4. AS ADDITIONAL RAMP LAKES ARE ADDED, THE MAXIMUM SPACING SHALL BE 15' LONG BY 15' WIDE. TYPICAL SPACING IS 15' LONG BY 15' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE SWELL PATH SHALL BE MINIMIZED.

5. DIMENSIONS OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.
NOTES:

1. ALL PAVEMENT JOINTS SHALL BE DETAILLED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING AT AND BELOW MAINLINE EDGE OF PAVEMENT. TRANSVERSE JOINTS SHALL BE AS DESCRIBED IN THE ILLINOIS TOLLWAY SPECIAL PROVISIONS, BONDED PREFORMED JOINT SEAL.

2. TYPICAL P.C.C. PAVEMENT JOINT SPACING SHALL BE 15'.

3. RAMP NARROWS FROM 21' TO 18' IN 150'.

4. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 12' WIDE. TYPICAL SPACING IS 15' LONG BY 12' WIDE. TRANSVERSE JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.

5. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

6. SEE PROJECT PLANS AND CONTRACT DOCUMENTS FOR DETAILS OF PAVEMENT REINFORCEMENT.
NOTES:

1. LONGITUDINAL SAWED JOINT OR LONGITUDINAL CONSTRUCTION JOINT WITH NO. 6 TIE BARS 24" LONG AT 24" CENTERS, EPOXY COATED.

2. JOINTS SHALL BE THE MINIMUM DIMENSION AS SHOWN AND ALIGNED WITH MAINLINE TRANSVERSE JOINT.

3. 6' NOSE LOCATION SHALL BE ADJUSTED TO BE ALIGNED WITH A MAINLINE TRANSVERSE JOINT.

4. TYPICAL PCC Pavement Joint Spacing Shall Be 15'.

5. RAMP NARROWS FROM 18' TO 16'.

6. AS ADDITIONAL RAMP LANES ARE ADDED, THE MAXIMUM JOINT SPACING SHALL BE 15' LONG BY 12' WIDE. LONGITUDINAL JOINT LOCATIONS IN THE WHEEL PATH SHALL BE MINIMIZED.

7. DIMENSION OF LANE 1 SHALL BE AS SHOWN ON THE PLANS.

DETAIL A

JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

DATE: 3-11-2015

APPROVED: 1-31-2015

REVISIONS:

UPDATED NOTES & CALL-OUTS

1. MODIFIED JOINT SPACING

2. 250' TAPER (25:1 RATE)

3. JOINTED PCC RAMP ADJACENT TO JOINTED PCC MAINLINE PAVEMENT

4. TRANVERSE CONSTRUCTION JOINT WITH NO. 6 TIE BARS 24" LONG AT 24" CENTERS, EPOXY COATED

5. PCC PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON ILLINOIS TOLLWAY STANDARD DRAWING A7. ALL OTHER PAVEMENT JOINTS SHALL BE DETAILED AS SHOWN ON IDOT HIGHWAY STANDARD 420001.

6. JOINTING PLAN PARALLEL TRANSVERSE EXPANSION JOINT

7. EXPANSION JOINT TRANSVERSE
NOTES:

1. All pavement joints shall be detailed as shown on Illinois Tollway Standard Drawings at and both Highway Standard 420001, except expansion joint seals shall be as described in the Illinois Tollway Special Provision, bonded prefomed joint seal.

2. See Project Plans and Contract Documents for details of pavement reinforcement.

3. Typical PCC pavement joint spacing shall be 15'.

4. Ramp Pavers from 18' to 24'.

5. As additional ramp lanes are added, the maximum joint spacing shall be 15' long by 15' wide, typical spacing is 15' long at 12' wide, longitudinal joint locations in the wheel path shall be increased.

6. Dimension of lane 1 shall be as shown on the Plans.

JOINTED PCC RAMP ADJACENT TO C.S.C. MAINLINE PAVEMENT
PRECAST PAVEMENT SLABS

TYPICAL REINFORCEMENT DETAIL FOR STANDARD SLABS

Reinforcement Section A-A

Two ways of reinforcement shall be for application to all custom slabs greater than 6 ft. Longitudinal length to be opened to traffic before grouting is completed. All bars are trimmed to fit #5 bar. Saw cuts off longitudinal edges shall be no more than 6” off the edges.

Reinforcement Section B-B

Two ways of reinforcement shall be for application to all custom slabs greater than 6 ft. Longitudinal length to be opened to traffic before grouting is completed. All bars are trimmed to fit #5 bar. Saw cuts off longitudinal edges shall be no more than 6” off the edges.

NOTE:

All clearance for top reinforcement shall be adjusted for slight bars to fit inside frames or rebar blocking.
**TYPICAL REINFORCEMENT DETAIL FOR CUSTOM SLABS**

**REINFORCEMENT SECTION A-A**

Two mats of reinforcement shall be for application to all custom slabs greater than 6 ft. longitudinal length to be opened to traffic before grouting is completed. All mats are trimmed to fit #5 bar.

**NOTE:**

*All custom slabs of specified shapes, reinforcement shall be laid out in a perpendicular grid pattern, not skewed.*

*Top clearance for top reinforcement shall be adjusted for plastic slab to fit precise frames on intended machines.*

**TYPICAL REINFORCEMENT DETAIL FOR CUSTOM SLABS**

**REINFORCEMENT SECTION A-A**

One mat of reinforcement shall be for application to all standard slabs and any custom slabs greater than 6 ft. longitudinal length to be opened to traffic only after grouting is completed. All bars are trimmed to fit #5 bar.

**NOTE:**

*ورياديتل بنيت عنصر النشرة في جميع القطع المعينة، يجب أن تكون الرسومات مصورة بشكل متوازن بناءً على الأفق.*

*لا يمكن أن تتجاوز القيمة القصوى للهياكل البلاستيكية.*

*يجب أن يتم ضبط التجهيزات في الحزام العلوي للittance السفلية.*

PRECAST PAVEMENT SLABS

STANDARD A18-05
NOTES:

1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS ±1/4".

2. FOR MULTI-LANE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 11'-6" IN WIDTH, THE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PREVERSUED BY THE CONTRACTOR AND THE SLAB FabRICATED AS A CUSTOM SLAB.

3. SLAB THICKNESS SHALL BE 11'-1/2".

4. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS DESPITE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVELED WITH FLOWABLE FILL.

5. SEE SHEET 6 FOR SECTION DETAILS.

6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EMBEDDED DOWEL BARS OR PREFORMED SLOTS AS SHOWN ON THESE DRAWINGS WITH FULLY RETROFITTED DOWEL BARS FIELD INSTALLED IN ACCORDANCE WITH THE "DETAIL C" OF SHEET 11. THE CONTRACTOR SHALL USE AN APPROVED TEMPLATE TO LOCATE THE SAW CUTS REQUIRED FOR PROPER SPACING AND RETROFITTING OF THE DOWEL BARS IN ACCORDANCE WITH THESE DRAWINGS. DEFERRED BLOOD GROOVED BARS SHALL BE USED TO MAKE SAW CUTS PERPENDICULAR TO THE TRANVERSE INDOVERTED JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.

7. SEE PRECAST REPLACEMENT OF CONCRETE PAVEMENT SLABS ILLINOIS TOLLWAY SPECIAL PROVISION FOR LOCATION RECESSIVE GROUT HOLE.

STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT

WITH EMBEDDED DOWELS FOR PRECUT WIDE MOUTH

SLOTS IN ADJACENT PAVEMENT

STANDARD 12'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT

* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS TO BE USED TO FIT THE SLABS AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PREVERSUED BY THE CONTRACTOR AND THE SLAB FabRICATED AS A CUSTOM SLAB.

* FULLY RETROFITTED DOWEL BARS WITH SAWCUT SLOTS, ALL PREFORMED SLOTS MUST BE FILLED BEFORE BEING OPENED TO TRAFFIC.

NOTE 1: 6'-0" MIN.

NOTE 2: 1'-3" MIN.

NOTE 3: 4'-0" MIN.

NOTE 4: PERIMETER BACKER ROD

NOTE 5: BEDDING GROUT

NOTE 7: PORT (TYP.)

APPROVED DATE

5-1-2009

CHIEF ENGINEERING OFFICER

STANDARD A18-05

SHEET 3 OF 12

PRECAST PAVEMENT SLABS

ILLINOIS TOLLWAY

STANDARD A18-05
STANDARD 13'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH EMBEDDED DOWELS FOR PRECUT WIDE MOUTH SLOTS IN ADJACENT PAVEMENT.

NOTES:
1. THE WIDTH AND LENGTH OF PRODUCED SLABS SHALL BE THE INDICATED DIMENSIONS ±1/2".
2. FOR MIDDLE LANE SLAB OPENINGS/PATCHES LESS THAN 13'-6" IN WIDTH AND GREATER THAN 13'-4" IN WIDTH, THE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESCRIBED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. SLAB THICKNESS SHALL BE 11/2" ± 1/16".
5. SEE SHEET 6 FOR SECTION DETAILS.
6. IT SHALL BE THE CONTRACTOR'S OPTION TO REPLACE ANY EXCLUDED DOWEL BARS OR PREFORMED SLOTS AS SHOWN ON THESE DRAWINGS WITH FULLY RETROFITTED DOWEL BARS FIELD INSTALLED IN ACCORDANCE WITH NOTE 13 OF SHEET 4. THE CONTRACTOR SHALL USE AN APPROVED TEMPLATE TO LOCATE THE BAR CUTS REQUIRED FOR PROPER SPACING AND RETROFITTING OF THE DOWEL BARS IN ACCORDANCE WITH THESE DRAWINGS. DOWEL BARS MADE FROM SAW CUTS PERPENDICULAR TO THE TRANSVERSE NONREINFORCED JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.
7. SEE PRECAST REPLACEMENT OF CONCRETE PAVEMENT SLABS "ILLINOIS TOLIWAY SPECIAL PROVISION FOR LOCATING BEDDING GROUT PORTS."

STANDARD 13'-6" WIDE PANEL LAYOUT FOR CONSECUTIVE PLACEMENT

* FOR INTERNAL CONSECUTIVE SLABS, PREFORMED SLOTS IN ACCORDANCE WITH SECTION 13-2 OF SHEET 4 MAY BE USED IN PLACE OF EMBEDDED DOWEL OR PRE-PLACED RETROFITTED DOWEL BARS WITH SAWCUT SLOTS. ALL PREFORMED SLOTS MUST BE FILLED BEFORE BEING OPENED TO TRAFFIC.
PRECAST PAVEMENT SLABS

PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

STANDARD 12'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

NOTES:
2. FOR MIDDLE LINE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 12'-6" IN WIDTH, THE 12'-6" WIDE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
3. FOR MIDDLE LINE SLAB OPENINGS/PATCHES LESS THAN 12'-6" IN WIDTH AND GREATER THAN 12'-6" IN WIDTH, THE 13'-6" WIDE STANDARD PRECAST SLAB CAN BE SAW CUT ON-SITE TO FIT THE OPENING AND TO MAINTAIN ALIGNMENT WITH EXISTING LONGITUDINAL JOINTS. OTHERWISE, THE SLAB PATCH LOCATION MUST BE PRESURVEYED BY THE CONTRACTOR AND THE SLAB FABRICATED AS A CUSTOM SLAB.
4. SLAB THICKNESS SHALL BE 11 3/4" ± 1/8.*
5. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE PERIMETER OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE SLAB BACKER ROD SHALL NOT BE REQUIRED WHEN ANY SLAB IS LEVEL WITH FLOWABLE FILL.
6. SEE SHEET 6 FOR SECTION DETAILS.
7. SEE PRECAST REPLACEMENT OF CONCRETE PAVEMENT SLABS, ILLINOIS TOLLWAY SPECIAL PROVISION FOR LOCATING BEDDING GROUT Ports.

PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

STANDARD 13'-6" WIDE PANEL LAYOUT FOR ISOLATED PLACEMENT WITH NARROW MOUTH PREFORMED DOWEL SLOTS TO ALIGN WITH PREDRILLED HOLES IN ADJACENT PAVEMENT.

SEE SHEET 6 FOR SECTION DETAILS.
NOTES:

1. A FOAM BACKER ROD SHALL BE PLACED AROUND THE OUTSIDE DIMENSIONS OF THE SLAB AT THE BOTTOM OF THE JOINTS BEFORE THE SLAB HAS BEEN SET AND BEFORE BEDDING GROUT OR POLYURETHANE LEVELING FILL IS APPLIED. THE BACKER ROD SHALL NOT BE REMOVED WHEN ANY SLAB IS LEVELED WITH A FLOWABLE FILL.

2. EITHER SINGLE DIAMOND BLADED SAWS OR CHAINING BLADED GANG SAWS SHALL BE USED TO MAKE THE SAW CUTS PERPENDICULAR TO THE TRANSVERSE NONSKEWED JOINT LINE TO ALLOW FOR DOWEL BAR PLACEMENTS WITHIN THE SPECIFIED TOLERANCES.

3. SEE "PRECAST REPLACEMENT OF CONCRETE PAYMENT SLABS" FOR LOADING BEARING GROUT PORTS.

4. SEE SHEET 6 FOR SECTION DETAILS.
INSTALLATION OF ISOLATED STANDARD PRECAST SLABS

NOTE:
- For transverse joints of any precast slab
  cannot be aligned with transverse joints
  or adjacent lane, a minimum 2'-0" offset
  between joints shall be provided.
- For dowel bars to be fully retrofitted in
  the field, refer to detail G on sheet 10.
- For dowel bars to be slid into pre-drilled
  holes in the field, refer to detail G on sheet 10.

FOR STANDARD PRECAST PANELS

REFERENCE:
- PRECAST REPLACEMENT OF CONCRETE PAVEMENT SLABS
  ILLINOIS TOLLWAY SPECIAL PROVISION
- REFER TO "PRECAST REPLACEMENT OF CONCRETE PAVEMENT SLABS"
  ILLINOIS TOLLWAY SPECIAL PROVISION

DATE: 5-1-2009
CHIEF ENGINEERING OFFICER
INSTALLATION OF CONSECUTIVE STANDARD PRECAST SLABS

NOTE:
- FLOW
- TRAFFIC

SEE SHEET 10
DETAIL G

SEE SHEET 12
DETAIL H

ON SHEET 10
SEE DETAIL C

OFFSET AS NEEDED
SEE SPECIAL PROVISIONS

* FOR DOWEL BARS FULLY RETROFITTED IN THE FIELD, REFER TO DETAIL C ON SHEET 10.

MIN. 2'-0''
PLACEMENT DETAIL FOR ISOLATED PRECAST PANELS

DETAIL G - NARROW MOUTH DOWEL BAR

NOTES:
1. PLACE FOAM CORE BOARDS TO THE TOP OF HOLLOW DOWEL BAR.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.

SECTION L-L

SECTION M-M

CLAMP DETAIL FOR SLIDING DOWEL BAR SLOTS
MATERIAL TYPE MAY BE DETERMINED FROM A STRING DIAMETER MELTED TO THE THREADED ROD. AT LEAST ONE CLAMP WILL BE NEEDED FOR EACH INSETTED DOWEL BAR TO MAINTAIN ALIGNMENT.
**NOTES:**

1. No stitching of deformed tie bars is required when precast slab is placed adjacent to main shoulder or plaza island.

2. Tie bar stitching shall be required when the repair area length exceeds 20 ft. or when more than 3 precast slabs are placed in sequence.

3. Shop drawings shall be required for all custom plaza slabs.

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**LEGEND**

- **RD= FIELD RETROFITTED DOWEL BARS**
- **ST= SLOT OR HOLE FOR STITCHED TIE BAR**
- **DS= DOWEL SLOT**
- **DB= DOWEL BAR EMBEDDED**

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**DIAGRAM:**

- "PLAZA" in this column indicates plaza lane.
- "IN" in this column indicates inside lane.
- "MID" in this column indicates middle lane.
- "OUT" in this column indicates outside lane.

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**TABLE:**

<table>
<thead>
<tr>
<th>Component</th>
<th>System Number</th>
<th>Mainline Lane No.</th>
<th>Ramp Lane No.</th>
<th>Plaza Lane No.</th>
<th>Mark No.</th>
<th>Line No.</th>
<th>Lane Typ.</th>
<th>AC No.</th>
<th>BC No.</th>
<th>CO No.</th>
<th>Area</th>
<th>Volume</th>
<th>Weight</th>
</tr>
</thead>
</table>

**INSTALLATION DETAIL FOR CUSTOM SLABS**
NOTES FOR TIE BAR STITCHING:

1. Drill holes that are oriented at 40° | 5° angle to the pavement surface so they intersect the longitudinal crack or joint at about mid-depth. It is important to start drilling the hole at a consistent distance from the joint, in order to consistently cross at the mid-depth of the slab.

2. Holes centerlines are perpendicular to the joint (on plan view) at each location being drilled.

3. Select a drill that minimizes damage to the concrete surface, such as a handheld powered drill. Select a drill diameter no more than 0.25 in. larger than the tie bar diameter. Choose a larger-diameter drill if higher productivity is needed.

4. Drill holes with no less than a 24 inch bar spacing. Adjacent holes are drilled in opposite directions across the joint. The holes and inserted tie bar shall be no less than 24 inches from any existing transverse joint or any precast or repair transfer joint.

5. Holes bottoming are no more than 1 inch from the slab bottom.

6. Air blow the holes to remove dust and debris after drilling.

7. Inject adhesive into the hole, leaving some volume for the tie bar to occupy the hole. The adhesive is acceptable for small quantities.

8. Insert No. 6 epoxy coated tie bar into the hole, leaving about 1 in. from the top of slab to the pavement surface. Epoxy coated bars shall be epoxy coated.

9. Remove excess adhesive and finish flush with the pavement surface.
DETAIL C - WIDE MOUTH DOWEL BAR PLACEMENT DETAIL FOR
ALL CUSTOM MADE PRECAST PANELS AND OPTIONAL
FOR STANDARD SLABS

NOTES:
1. PLACE FOAM CORE BOARDS TO THE TOP OF PAVEMENT.
2. UPON COMPLETION, THE FINISHED SURFACE OF THE CONCRETE BACKFILL MATERIAL SHALL NOT BE BELOW EXISTING CONCRETE SURFACE.