**Profiles for Driveway or Intersection Grade Exceeding 8%**

- **Fill Section:**
  - 1:3 slope for drives
  - 1:6 slope for intersections

- **Cut Section:**
  - 6" contour lines

- **Transition:**
  - 15 ft.

- **Edge of Pavement:**
  - TURF SHOULDER LINE

- **Clear Distance:**
  - LATERAL OBSTACLE

- **Pipe:**
  - 1'-0" in cut section

**Intersection or Driveway Without Special Ditch**

- **Section of Driveway with Pipe:**
  - 26'-0" pipe

**Intersection or Driveway With Special Ditch**

- **Section of Intersection with Pipe:**
  - 1:6 slope
  - 2:8 slope
Typical Cross Sections of Old Road Obliteration

CUT SECTION
(Old Road Away from New Construction)

FILL SECTION
(Old Road Away from New Construction)

HALF CUT SECTION & HALF FILL SECTION
(Old Road Away from New Construction)

CUT SECTION
(Old Road Near Cut Section, New Construction)

CUT SECTION
(Old Road Near Fill Section, New Construction)

CUT SECTION
(Old Road Near Cut Section, New Construction)

FILL SECTION
(Old Road Near Fill Section, New Construction)

FILL SECTION
(Old Road Near Cut Section, New Construction)
GRADING FOR GUARDRAIL END TREATMENTS

PLAN

SECTION A-A

SECTION B-B
NOTES:

- Full depth diamond saw cut.
- Thermo-setting polyurethane used to accommodate joint sealant.
- Thermo-setting polyurethane shall be used to accommodate joint sealant.
- Bond breaker material shall be used to accommodate joint sealant.
- Existing pavement.
- Joint sealant.
- Formed joint.
- Repair section.

LEGEND

- T Width of Panel
- L Length of Panel
- H Thickness of Concrete

NOTE: FOR JOINT REPAIR LOCATIONS, SEE SHEET C

CONCRETE PAVEMENT JOINT REPAIR, PARTIAL LANE

TOOLED LONGITUDINAL JOINT

NOTE: CONTRACTOR MAY CHOOSE TO SAW OR TOOL LONGITUDINAL JOINT FOR DIAMOND SAW PROJECTS.

REPAIR SECTION

- Thermo-setting polyurethane shall be used to accommodate joint sealant.
- Formed joint.
- Repair section.
- Existing pavement.
- Thermo-setting polyurethane used to accommodate joint sealant.

CONCRETE PAVEMENT JOINT REPAIR

- Full depth diamond saw cut.
- Thermo-setting polyurethane used to accommodate joint sealant.
- Bond breaker material shall be used to accommodate joint sealant.
- Existing pavement.
- Joint sealant.
- Formed joint.
- Repair section.
LONGITUDINAL JOINT SEALING DETAIL

(ASPHALT TO CONCRETE)

WIDTH CENTERED ON JOINT

3" MAXIMUM SQUEEGEE

(HOT POURED)

JOINT SEALANT

FILL WITH

MIN.

CONCRETE

ASPHALT

MIN.

NO OVERLAY TIES, DOWELS AND SEALING

APPROX. …"
NO OVERLAY PARTIAL DEPTH REPAIR

TOOLED LONGITUDINAL JOINT

NOTE: CONTRACTOR HAS OPTION TO SUN OR TOOL LONGITUDINAL JOINT ON DIAMOND GRINDING PROJECTS.

If partial depth repair is longer than 4'-0" longitudinally, TOOLED TRANSVERSE JOINTS SHALL BE MADE PERPENDICULAR TO CENTERLINE. THESE TOOLED JOINTS SHALL BE LOCATED TO COVER THE REPAIR INTO EQUAL SEGMENTS OF 2'-0" OR LESS LONGITUDINALLY.

CONCRETE REPAIR SECTIONS

TRANSVERSE JOINT

LONGITUDINAL JOINT

BOND BREAKER

TRANSVERSE JOINT

EXISTING CONCRETE PAVEMENT

INDICATES MATERIAL LEFT AT MARGINS OF MILED CUTS TO BE REMOVED WITH A 15# MAXIMUM CHIPPING HAMMER TO PROVIDE VERTICAL EDGES ALL AROUND.

TYPICAL SECTION OF PARTIAL DEPTH REPAIRS
NO OVERLAY CURB REPAIR

1. **CONTRACT JOINTS**
   - Existing concrete pavement to be cleaned and roughened as directed by the Engineer.
   - All tie bars will be epoxy coated.

2. **EXISTING CONCRETE PAVEMENT**
   - Existing concrete pavement to be cleaned and roughened as directed by the Engineer.

3. **EXISTING CURB**
   - Existing curb to be cleaned and roughened as directed by the Engineer.

4. **ENTER VIEW OF TACK-ON CURB REPAIR**
   - No. 5 x 18" tie bars at 48" centers to be drilled and grouted into existing concrete pavement with approved grout, minimum of 2 tie bars per repair.
   - No. 4 horizontal tie bar shall be drilled, ground, and tied into existing curb.

5. **INTEGRAL CURB REPAIR**
   - All tie bars will be epoxy coated.

6. **INTEGRAL CONCRETE CURB REPAIR (BARRIER TYPE)**
   - No. 5 x 18" tie bars at 48" centers to be drilled and grouted into existing concrete pavement with approved grout, minimum of 2 tie bars per repair.

7. **CONCRETE TACK-ON CURB**
   - All tie bars will be epoxy coated.

8. **EXISTING 9"-6"-9" AND 9"-7"-9" REINFORCED CONCRETE PAVEMENT**
   - Epoxy coated all tie bars.
   - All tie bars to be drilled, ground, and tied into existing curb and gutter.

9. **EXISTING CURB**
   - Existing curb to be cleaned and roughened as directed by the Engineer.

10. **EXISTING CONCRETE PAVEMENT**
    - Existing concrete pavement to be cleaned and roughened as directed by the Engineer.

11. **REINFORCED CONCRETE PAVEMENT**
    - Welded steel wire fabric.

12. **NOTE:**
    - All tie bars will be epoxy coated.

13. **LOCATION OF EXISTING TRANSVERSE VERTICAL SIDES**
    - Transverse joint with joint sealant (not poured).
    - No. 6 x 16" tie bars to be drilled and grouted into existing curb and gutter on transverse vertical sides.

14. **FRONT VIEW OF TACK-ON CURB REPAIR**
    - No. 5 x 18" tie bars at 48" centers to be drilled and grouted into existing concrete pavement with approved grout, minimum of 2 tie bars per repair.

15. **CONSTRUCTION JOINTS**
    - No. 6 x 16" tie bars to be drilled and grouted into existing concrete pavement with approved grout, minimum of 2 tie bars per repair.

16. **NOTE:**
    - All tie bars will be epoxy coated.
TRANSVERSE JOINT

NEW DOWELED JOINT AND THE EXISTING TRANSVERSE JOINT WILL BE INSTALLED ON THE LONGITUDINAL JOINT BETWEEN THE TRANSVERSE JOINTS IN NEW PANEL.

DOWEL BARS SHALL BE INSTALLED 2'-0" BEYOND THE EXISTING TRANSVERSE JOINTS.

IN THE CASE OF PANEL REPLACEMENT, DOWEL BARS SHALL BE INSTALLED 2'-0" BEYOND THE EXISTING TRANSVERSE JOINTS.

MINIMUM 2-TIE BARS PER SIDE.

TIE BARS REQUIRED, MINIMUM 2-TIE BARS PER SIDE.

IN THE CASE OF MULTIPLE PANEL REPLACEMENTS, DOWEL BARS SHALL BE INSTALLED 2'-0" BEYOND THE EXISTING TRANSVERSE JOINTS.

POLYURETHANE OF CLOSED CELL COMPOSED OF A THERMO-SETTING LONGITUDINAL JOINT BOND BREAKER MAY BE SUBSTITUTED AT FULL DEPTH.

JOINT MUST BE SEALED.

BY THE ENGINEER.

LONGITUDINAL JOINT BOND BREAKER USED ACCORDING TO THE STANDARD SPECIFICATIONS, SUBSECTION 603.03.

NOTE: JOINT SHOULD NOT BE RE-ESTABLISHED IN THE EXISTING TRANSVERSE JOINT.

THE EXISTING TRANSVERSE JOINT NEAR THE EDGE OF PAVEMENT SHALL NOT BE RE-ESTABLISHED IN THE EXISTING TRANSVERSE JOINT.

NOTE: FORMED JOINTS ARE NOT REQUIRED FOR ACTUAL REPAIR DIMENSIONS SEE REPAIR TABLES (FULL DEPTH).
**SPECIFICATIONS, SUBSECTION 603.03.**
**USED ACCORDING TO THE STANDARD PLANS.**

**BASKETS SHALL BE INSTALLED AT 12" CENTERS, AS SHOWN IN**
**REPLACEMENTS, DOWEL BARS SHALL BE INSTALLED AT**
**IN THE CASE OF MULTIPLE PANEL**
**EXISTING TRANSVERSE JOINTS.**

**DOWEL BARS SHALL BE INSTALLED AT**
**IN THE CASE OF PANEL REPLACEMENT,**
**TIE BARS REQUIRED, MINIMUM 2-TIE BARS PER SIDE.**
**MINIMUM 2-TIE BARS PER SIDE.**
**JOINT NEAREST TO EXISTING TRANSVERSE**
**INSTALL DOWEL BARS AT NEW TRANSVERSE**
**TRANSVERSE JOINT).**

**NOT BE REQUIRED AT EXISTING**
**FULL DEPTH DIAMOND SAW CUT (MAY**
**PLACEMENT.**
**PROPER BOND BREAKER**
**JOINT SEALANT (HOT POURED)**
**THE SAME TIME AND FILL WITH**
**SAW JOINT WHEN BOTH SIDES OF**
**FORM JOINT WHILE REPAIR**

**NOTED:**
**FORMED JOINTS ARE NOT REQUIRED**
**ON DIAMOND GRINDING PROJECTS.**

**NOTE:  FOR PAVEMENT REPAIR LOCATIONS, SEE SHEET C**
**TYPICAL CROSS SECTIONS**

Longitudinal Joint Bond Breaker

- Located at a minimum of 600 mm (24”) from the nearest existing Transverse Joint.
- No. 5 – 18” Dowel Bars
- Support Dowel Bars at 24” centers
- D = Dowel Diameter
- 1” DIA. “T” = 10” or more
- 1” DIA. “T” = 8” to 9”

Transverse Joint Details

- Bond Breaker
- Tie Bars
- Dowel Bars
- Variable Width

Skewed Transverse Joint Details

- Bond Breaker
- Tie Bars
- Dowel Bars
- Variable Width

Note:

- All Dowel Bars will be epoxy coated (including protective coating)
- Grease this side only
- Concrete removal is required on lane width
- Support Dowel Bars in horizontal position
- Dowel Bars to be drilled and grouted into existing pavement
- Dowel Bars will be installed on the longitudinal joint between new doweled joint and the existing transverse joint.

Joint Details

- Cut-off tie bars flush with pavement in joint to greater than 1 1/2” from existing transverse joint
- Longitudinal Joint Bond Breaker Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

Joint Spacing

- Tie Bar Spacing
- Dowel Bar Spacing
- Tie Bar

Note:

- All tie bars will be epoxy coated
- Dowel bar spacing may vary depending on lane width
- Concrete removal is required on lane width
- Support Dowel Bars in horizontal position
- Dowel Bars to be drilled and grouted into existing pavement
- Dowel Bars will be installed on the longitudinal joint between new doweled joint and the existing transverse joint.

Detail A

- For existing concrete shoulders match bond breaker on opposite longitudinal joint.
- Install Dowel Bars at new Transverse Joint nearest to existing Transverse Joint.

Note:

- All Dowel Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Dowel Bars in Horizontal Position
- Dowel Bars to be Drilled and Grouted into Existing Pavement
- Dowel Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

Dowel Bar

- Dowel Bar Details
- Existing Pavement
- Repair Section
- No dowel bars will be epoxy coated

Note:

- All Dowel Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Dowel Bars in Horizontal Position
- Dowel Bars to be Drilled and Grouted into Existing Pavement
- Dowel Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

Tie Bar

- Tie Bar Details
- Existing Pavement
- Repair Section
- No tie bars will be epoxy coated

Note:

- All Tie Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Tie Bars in Horizontal Position
- Tie Bars to be Drilled and Grouted into Existing Pavement
- Tie Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

**Note:**

- Dowel Bar Details
- Existing Pavement
- Repair Section
- All Dowel Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Dowel Bars in Horizontal Position
- Dowel Bars to be Drilled and Grouted into Existing Pavement
- Dowel Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

**Details:**

- Dowel Bar Details
- Existing Pavement
- Repair Section
- All Dowel Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Dowel Bars in Horizontal Position
- Dowel Bars to be Drilled and Grouted into Existing Pavement
- Dowel Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

**Notes:**

- All Tie Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Tie Bars in Horizontal Position
- Tie Bars to be Drilled and Grouted into Existing Pavement
- Tie Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

**Details:**

- Dowel Bar Details
- Existing Pavement
- Repair Section
- All Dowel Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Dowel Bars in Horizontal Position
- Dowel Bars to be Drilled and Grouted into Existing Pavement
- Dowel Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

**Notes:**

- All Tie Bars Will Be Epoxy Coated
- Joint Spacing May Vary Depending on Lane Width
- Concrete Removal is Required on Lane Width
- Support Tie Bars in Horizontal Position
- Tie Bars to be Drilled and Grouted into Existing Pavement
- Tie Bars Will Be Installed on Opposite Longitudinal Joint
- Bond Breaker Will Be Installed on New Transverse Joint

**Specifications:**

- No. 5 – 18” Dowel Bars
- Support Dowel Bars at 24” centers
- D = Dowel Diameter
- 1” DIA. “T” = 10” or more
- 1” DIA. “T” = 8” to 9”

**Materials:**

- Dowel Bars
- Tie Bars
- Variable Width
- Bond Breaker

**Construction:**

- Drilling and Grouting
- Epoxy Coating
- Grease Application
- Concrete Removal
REPAIR SECTION
PROFILE SEALANT (HOT POURED)
STAGE AND FILL WITH CONCRETE IS IN PLASTIC FORM JOINT WHILE REPAIR TO TOOL LONGITUDINAL JOINT

APPROX. (JOINT OR PAVEMENT REPAIR)
FILL WITH JOINT SEALANT (HOT POURED)
EXISTING HARDENED CONCRETE AND IS IN PLASTIC STAGE, WHEN ADJOINING FORM JOINT WHILE REPAIR CONCRETE PAVEMENT
EXISTING
FORMED JOINT

REMOVED BOND BREAKER MATERIAL SHALL BE THERMO-SETTING POLYURETHANE OR CLOSED CELL STRUCTURE OR STYROFOAM.
2.5 LB. NON-PERFORATED SLACK FELT MAY BE SUBSTITUTED AT FULL DEPTH LONGITUDINAL JOINT WHEN APPLIED BY THE CONTRACTOR. JOINT MUST BE SEALED.

TOOLED LONGITUDINAL JOINT

CONCRETE PAVEMENT JOINT REPAIR

FORM JOINT MOLD REPAIR CONCRETE IS IN PLASTIC STAGE, WHEN ADJOINING EXISTING HARDENED CONCRETE AND FILL WITH JOINT SEALANT (HOT POURED) ELY OR PAVEMENT REPAIR

NOTES:
1. 4" DIAMOND SAW CUT
2. APPLY 4" WHEEL CUTTER SAW CUT 2" 2/3" INWARDS FROM DIAMOND SAW CUT IN EACH SIDE OF SECTION TO BE REPAIRED. A 4" MAXIMUM CHIPPING WIDTH SHALL BE USED TO CONSTRUCT THE CHIPPED FACE.
3. WHEEL CUTTER SAW CUT NOTE: CONTRACTOR MAY USE FULL DEPTH DIAMOND SAW CUT IN PLACE OF 4" WHEEL CUTTER SAW CUT OF 4" ELY FROM DIAMOND SAW CUT.
THE EXISTING TRANSVERSE JOINT SHALL NOT BE RE-ESTABLISHED IN THE JOINT REPAIR.

NOTES:
* IF THE LENGTH OF REPAIR IS 8'-0" OR LESS AND WIDTH OF REPAIR IS GREATER THAN 1'-0", CONSTRUCT A TOOL LONGITUDINAL JOINT AT THE MIDPOINT OF THE REPAIR (W/2). IF THE LENGTH OF REPAIR IS GREATER THAN 9'-0" OR 1'-0" AND WIDTH IS GREATER THAN 1'-0", CONSTRUCT A 2'-0" WIDTH TRANSVERSE JOINT THROUGH INTEGRAL CURB. THE NEW CURB SHALL BE CONSTRUCTED TO THE SAME DIMENSIONS AS THE EXISTING CURB.

LEGEND
"T" THICKNESS OF CONCRETE
"L" LENGTH OF PANEL
"W" WIDTH OF PANEL
3" WIDTH OF PANEL
5" THICKNESS OF CONCRETE
NOTE: FOR JOINT REPAIR LOCATIONS, SEE SHEET C
**Typical Cross Sections**

**Legend**
- **Concrete Removal (Full Lane Width)**
- **Concrete Removal (Partial Lane Width)**
- **Existing Transverse Joint**
- **Thickness of Concrete** ("T")
- **Length of Panel** ("L")
- **Width of Panel** ("W")

**Figure A**

- 1" x 2" Diamond Saw Cut
- Approx. 4" Wheel Cutter Saw Cut 2" x 4"H from diamond saw cut on transverse sides of section to be removed. A 10" maximum chipping hammer shall be used to construct the chipped face, may not be removed at existing transverse joint, if adequate sloped face exists.
- 4" Wheel Cutter Saw Cut
- See Repair Tables: Full Depth

**Figure B**

- Saw cut may be full depth diamond saw cut in place of 4" wheel cutter saw cut, 12" x 2"H, as per diamond saw cut.
- If repair extends through existing transverse joint, see joint repair detail for proper bond breaker placement.

**Notes**
- For pavement repair locations, see Sheet C.
DOWELED CONCRETE PAVEMENT REPAIR

1. Construct transverse joint to match joint in adjoining lane.
2. Concrete transverse joint from existing curb to transverse joint.
3. The new curb shall be constructed to the same conditions as the existing curb.
4. See repair tables for actual repair conditions.
5. Variable length of Repair Section.
OVERLAY ONLY JOINT REPAIR

FULL DEPTH DIAMOND SAW CUTOFF OF EXISTING CONCRETE IS IN PLASTIC FORM JOINT WHILE REPAIR IS OVERLAID.

INSTALL Tie bars at new transverse joint nearest to existing transverse joint.

LONGITUDINAL JOINT BOND BREAKER COMPOSED OF A THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

3) BOND BREAKER WILL BE INSTALLED ON THE LONGITUDINAL JOINT BETWEEN THE NEW DOWELED TRANSVERSE JOINT AND THE EXISTING TRANSVERSE JOINT.

NOTES:

1. If the length of repair is 5'-0" or less and the width of repair is greater than 8'-0", construct a toolled longitudinal joint at the midpoint of the repair zone.
   Construction may be done by saw or tool longitudinal joint on diamond grinding projects.
   OR
   2. If the width of repair (W) was previously widened, construct a toolled longitudinal joint to match the longitudinal joints of the adjoining panels.

3. If the pavement repair extends through integral curb, the new curb shall be constructed to the same dimensions as the existing curb.

LEGEND

"W" Width of Panel
"L" Length of Panel
"T" Thickness of Concrete

NOTE: FOR JOINT REPAIR LOCATIONS, SEE SHEET C

NOTES:

1. All dowel bars and tie bars shall be epoxy coated.
   The existing transverse joint shall not be re-established in the joint repair.

2. Bond breaker material shall be a THERMO-SETTING POLYURETHANE of CLOSED CELL STRUCTURE APPROXIMATELY 0.5" in width for the full depth of the existing concrete

3. Full depth diamond saw cut (4'-0" MIN. TO 9'-0" MAX.) VARIABLE LENGTH

4. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

5. Bond breaker will be installed on the longitudinal joint between the new doweled transverse joint and the existing transverse joint.

NOTES:

1. All dowel bars and tie bars shall be epoxy coated.
   The existing transverse joint shall not be re-established in the joint repair.

2. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

3. Full depth diamond saw cut (4'-0" MIN. TO 9'-0" MAX.) VARIABLE LENGTH

4. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

5. Bond breaker will be installed on the longitudinal joint between the new doweled transverse joint and the existing transverse joint.

NOTES:

1. All dowel bars and tie bars shall be epoxy coated.
   The existing transverse joint shall not be re-established in the joint repair.

2. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

3. Full depth diamond saw cut (4'-0" MIN. TO 9'-0" MAX.) VARIABLE LENGTH

4. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

5. Bond breaker will be installed on the longitudinal joint between the new doweled transverse joint and the existing transverse joint.

NOTES:

1. All dowel bars and tie bars shall be epoxy coated.
   The existing transverse joint shall not be re-established in the joint repair.

2. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.

3. Full depth diamond saw cut (4'-0" MIN. TO 9'-0" MAX.) VARIABLE LENGTH

4. Bond breaker material shall be a POLYURETHANE BOND BREAKER THERMO-SETTING POLYURETHANE OF CLOSED CELL STRUCTURE OR STYROFOAM.
INTEGRAL CURB REPAIR
NOTE: ALL TIE BARS WILL BE EPOXY COATED

TIE BARS TO BE DRILLED AND GROUTED INTO EXISTING NO. 5 X 18" TIE BARS AT 48" CENTERS

NOTE: ALL TIE BARS WILL BE EPOXY COATED

CONCRETE TACK-ON CURB

OVERLAY ONLY CURB REPAIR

FRONT VIEW OF TACK-ON CURB REPAIR
JOINT
JOINT NEAREST TO EXISTING TRANSVERSE
INSTALL DOWEL BARS AT NEW TRANSVERSE
MINIMUM 2-TIE BARS PER SIDE.
JOINT OPPOSITE OF DOWEL BARS.
INSTALL TIE BARS AT NEW TRANSVERSE

SPECIFICATIONS, SUBSECTION 603.03.
USED ACCORDING TO THE STANDARD
THE STANDARD PLANS. BASKETS SHALL BE
INSTALLED AT 12" CENTERS, AS SHOWN IN

REPLACEMENTS, DOWEL BARS SHALL BE
INSTALLED 2'-0" FROM THE EXISTING TRANSVERSE JOINT
IN THE CASE OF PANEL REPLACEMENT,
THE LONGITUDINAL JOINT BETWEEN THE NEW DOWELED JOINT AND THE EXISTING
TRANSVERSE JOINT MAY BE SUBSTITUTED AT FULL DEPTH.
30 LB. NON-PERFORATED BLACK FELT
STRUCTURE OR STYROFOAM.
POLYURETHANE OF CLOSED CELL
COMPOSED OF A THERMO-SETTING
LONGITUDINAL JOINT BOND BREAKER
TRANVERSE JOINT.
NEW DOWELED JOINT AND THE EXISTING
TRANSVERSE JOINT.
THE LONGITUDINAL JOINT BETWEEN THE
LONGITUDINAL JOINT AT THE MIDPOINT OF THE REPAIR (W/2).
IF THE LENGTH OF REPAIR IS 9'-0" OR LESS AND WIDTH
OF REPAIR IS GREATER THAN 6'-0", CONSTRUCT A TOOLED
LONGITUDINAL JOINT IN ADJOINING LANE
TO MATCH JOINT IN ADJOINING LANE
CONSTRUCT TRANSVERSE JOINT TO
MATCH JOINT IN ADJOINING LANE

TOOLED LONGITUDINAL JOINT

NOTE: FOR ACTUAL REPAIR DIMENSIONS
SEE REPAIR TABLES (FULL DEPTH)
SEE FIGURE A
SEE FIGURE B

NOTE:  FOR PAVEMENT REPAIR LOCATIONS, SEE SHEET C
TOOLED LONGITUDINAL JOINT

STAGE

CONCRETE IS IN PLASTIC FORM JOINT WHILE REPAIR

REPAIR SECTION

NOTES:

1. FOR PAVEMENT REPAIR LOCATIONS, SEE SHEET C

LEGEND

- CONCRETE REMOVAL (FULL LANE WIDTH)
- CONCRETE REMOVAL (PARTIAL LANE WIDTH)
- EXISTING TRANSVERSE JOINT
- THICKNESS OF CONCRETE "T"
- LENGTH OF PANEL "L"
- WIDTH OF PANEL "W"

PLAIN CONCRETE PAVEMENT REPAIR

DIMENSIONS AS THE EXISTING CURB SHALL BE CONSTRUCTED TO THE SAME THROUGH INTEGRAL CURB, THE NEW CURB IF PAVEMENT REPAIR SHOULD EXTEND

NOTE:

TOOLED LONGITUDINAL JOINT

LONGITUDINAL JOINT AT THE MIDPOINT OF THE REPAIR (W/2).

OF REPAIR IS GREATER THAN 6'-0", CONSTRUCT A TOOLED

LONGITUDINAL JOINT TO MATCH THE

OF THE ADJOINING PANELS. SEE JOINT

CONSTRUCT A TOOLED LONGITUDINAL JOINT TO MATCH JOINT IN ADJOINING LANE

IF THE WIDTH OF PANEL ("W") WAS PREVIOUSLY WIDENED, CONSTRUCT A TOOLED CONDITIOANL JOINT TO MATCH JOINTS OF THE ADJOINING PANELS. SEE JOINT DETAIL FOR TOOLED LONGITUDINAL JOINT.

NOTE:

FOR PAVEMENT REPAIR LOCATIONS, SEE SHEET C
TOOLED LONGITUDINAL JOINT

CONCRETE PAVEMENT JOINT REPAIR

NOTE:
* IF THE LENGTH OF REPAIR IS 3'-0" OR LESS AND WIDTH OF REPAIR IS GREATER THAN 6'-0", CONSTRUCT A TOOLED LONGITUDINAL JOINT AT THE MIDPOINT OF THE REPAIR (W/2).
* IF THE LENGTH OF REPAIR EXTENDS THROUGH THE TRANSVERSE CURB, THE NEW CURB SHALL BE CONSTRUCTED TO THE SAME DIMENSIONS AS THE EXISTING CURB.

THE EXISTING TRANSVERSE CURB SHALL NOT BE RETAINED IN THE JOINT REPAIR.

NOTE: FOR JOINT REPAIR LOCATIONS, SEE SHEET C

LEGEND

"W" LENGTH OF PANEL
"T" THICKNESS OF CONCRETE
"L" WIDTH OF PANEL

NOTES:
* Contractual maybe use full depth diamond saw cut in place of 4" wheel cutter saw cut.
* Contractor may use full depth diamond saw cut instead of 4" wheel cutter saw cut.
* Contractor may use full depth diamond saw cut instead of 4" wheel cutter saw cut.

THICKNESS OF CONCRETE "T"
LENGTH OF PANEL "L"
WIDTH OF PANEL "W"

LEGEND

"T" THICKNESS OF CONCRETE
"L" LENGTH OF PANEL
"W" WIDTH OF PANEL

NOTE: FOR JOINT REPAIR LOCATIONS, SEE SHEET C
**Typical Cross Sections**

1. 1" 4" Diamond Saw Cut
2. Approve 4" Wheel Cutter Saw Cut
3. 2" 4" Inspect from Diamond Saw Cut on Transverse Joints of Section to be Removed. A 1" Minimum Chipping Hammer Shall Be Used to Construct the Chipped Face. May Not Be Required at Existing Transverse Joint, if Moderate Sloped Face Exists.
4. 4" Wheel Cutter Saw Cut
5. The Saw Required, Minimum 2-Tie Bars Per Side.
6. Full Depth Diamond Saw Cut.

**NOTE:**
- Contractor May Use Full Depth Saw Cut on Transverse Sides of Approx. 4" Wheel Cutter Saw Cut. Diamond Saw Cut in Place of 4" Band Saw Cut.
- If Repair Extends through Existing Transverse Joint, See Concrete Pavement Joint Repair, Bond Breaker Placement.
- See Detail A

**Legend**
- **"T"** Thickness of Concrete
- **"L"** Length of Panel
- **"W"** Width of Panel

**Repair Section**
- Existing Transverse Joint
- Broken Panel
- Chipped Face
- Saw Cut Not Required

**Plain Concrete Pavement Repair**
- See Repair Tables (Full Depth for Actual Repair Dimensions)

**Figure A**
- See Figure A
- Form Joint While Repair Concrete is in Plastic Stage
- Repair Section

**Figure B**
- See Detail A
- Variable Length of Repair Section

**Detail A**
- Variable Length of Repair Section
- See Figure A
- Repair Section

**Transverse Joints**
- Saw Joint along both sides of joint location are placed at the same time

**Note:**
- Pavement Repair Should Extend through Integral Curb. The New Curb Shall Be Constructed at the Same Dimensions as the Exisiting Curb.

**Figure C**
- See Figure C

**Note:**
- For Pavement Repair Locations, See Sheet C
TYPICAL SECTION OF PARTIAL DEPTH REPAIRS

HAMMER TO PROVIDE VERTICAL EDGES ALL AROUND
CUTS TO BE REMOVED WITH A 15# MAXIMUM CHIPPING INDIQUES MATERIAL LEFT AT MARGINS OF MILLED EXISTING CONCRETE PAVEMENT
DIAMOND SAW CUT MIN. 1" BOND BREAKER 2'-0" (MIN.) TRANSVERSE OR LONGITUDINAL JOINT OR CRACK

* IF PARTIAL DEPTH REPAIR IS LONGER THAN 4'-0" LONGITUDINALLY, TOOLED TRANSVERSE JOINTS SHALL BE MADE PERPENDICULAR TO CRACKS, THESE TOOLED JOINTS SHALL BE LOCATED TO DIVIDE THE REPAIR INTO EQUAL SEGMENTS OF 4'-0" OR LESS DEEPLY TREATED JOINT ON DIAMOND GRINDING PROJECTS.

THE REPAIR INTO EQUAL SEGMENTS OF 4'-0" OR LESS LONGITUDINALLY. CENTERLINE. THESE TOOLED JOINTS SHALL BE LOCATED TO DIVIDE THE REPAIR INTO EQUAL SEGMENTS OF 4'-0" OR LESS LONGITUDINALLY.

NOTE: CONTRACTOR HAS OPTION TO SAW OR TOOL LONGITUDINAL JOINT ON DIAMOND GRINDING PROJECTS.

CONCRETE REPAIR SECTIONS TRANSVERSE OR LONGITUDINAL JOINT OR CRACK

THE INTEGRAL CURB, IT SHALL BE RECONSTRUCTED TO THE SAME DIMENSIONS OF THE EXISTING CURB WHERE REPAIR EXTENDS THROUGH DIMENSIONS OF THE EXISTING CURB

NOTE:
OVERLAY ONLY PARTIAL DEPTH REPAIR

NOTE:
CONCRETE IS IN PLASTIC STAGE FORM JOINT WHERE REPAIR

== ROADWAY ==

CONCRETE PAVEMENT REPAIR, TYPE "A", TYPE "B" AND TYPE "C", PARTIAL DEPTH

NOTE:
FOR CONCRETE PAVEMENT REPAIR (PARTIAL DEPTH LOCATIONS, SEE SHEET C.}

TYPICAL CROSS SECTIONS
OVERLAY ONLY DOWELED CONCRETE PAVEMENT REPAIR

TRANSVERSE JOINTS

NOTE: THE EXISTING TRANSVERSE JOINT SHALL NOT BE RE-ESTABLISHED IN THE PAVEMENT REPAIR.

NOTE: FOR PAVEMENT REPAIR LOCATIONS, SEE SHEET C

LEGEND
- "A" LENGTH OF PANEL
- "W" WIDTH OF PANEL
- "T" THICKNESS OF CONCRETE
- CONCRETE REMOVAL (FULL LANE WIDTH)
- CONCRETE REMOVAL (PARTIAL LANE WIDTH)
- CONCRETE IS IN PLASTIC STAGE
- CONCRETE PAVEMENT
- OLD TRANSVERSE JOINT
- NEW TRANSVERSE JOINT
- OLD DOWELED JOINT
- NEW DOWELED JOINT
- EXISTING BOND BREAKER
- BOND BREAKER
- "T" TRANSVERSE JOINT
- "L" LONGITUDINAL JOINT
- "M" TRANSVERSE CRACK
- "W" VARIABLE LENGTH OF REPAIR SECTION
- "IN" TOOLED LONGITUDINAL JOINT

DOWELED CONCRETE PAVEMENT REPAIR

NOTE: FOR ACTUAL REPAIR DIMENSIONS SEE REPAIR TABLES (FULL DEPTH)
LONGITUDINAL JOINT

AT 6" CTRS.

24-NO. 6 GAUGE WIRES

PAVEMENT
EXISTING

PAVEMENT
EXISTING

WIRE FABRIC
WELDED STEEL

EDGE OF PAVEMENT

REINFORCED PAVEMENT
EXISTING 9"-6"-9" AND 9"-7"-9"

TRANSVERSE JOINT

GREASE THIS SIDE ONLY

TREATED FOUNDATION COURSE
EXISTING PORTLAND CEMENT

NOTE: ALL DOWEL BARS WILL BE EPOXY COATED

POSITION UNTIL GROUT DRIES.

DISK. SUPPORT DOWEL BARS IN HORIZONTAL

INTO EXISTING PAVEMENT. PLACE GROUT RETENTION

DOWEL BARS TO BE DRILLED AND GROUTED

(TRANSVERSE JOINT) TO BE DRILLED

(LONGITUDINAL JOINT) AND 24" CTRS.

NO. 5 " 18" TIE BARS AT 33" CTRS.

LONGITUDINAL JOINTS AND 24" CTRS.

TRANSVERSE JOINTS TO BE DRILLED

AND GROUTED INTO EXISTING PAVEMENT

NOTE: ALL TIE BARS WILL BE EPOXY COATED