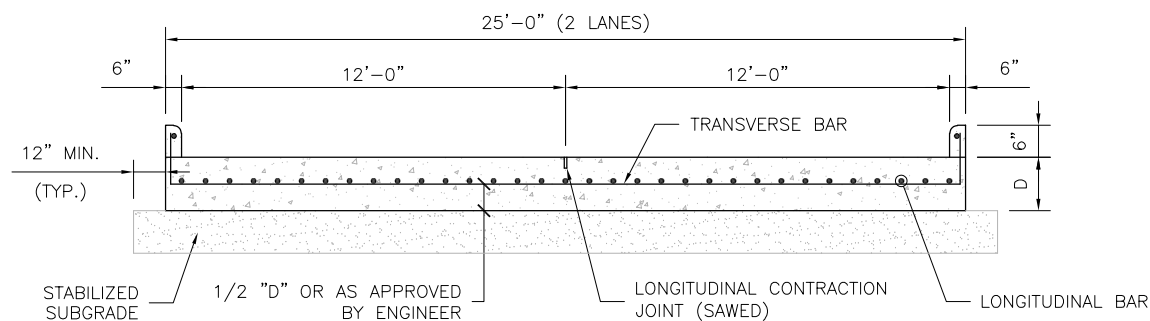
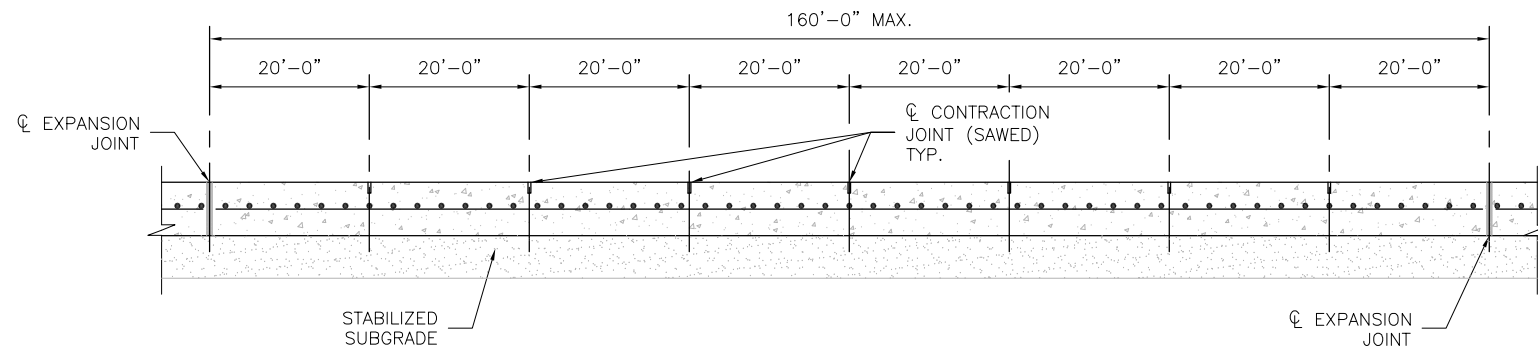


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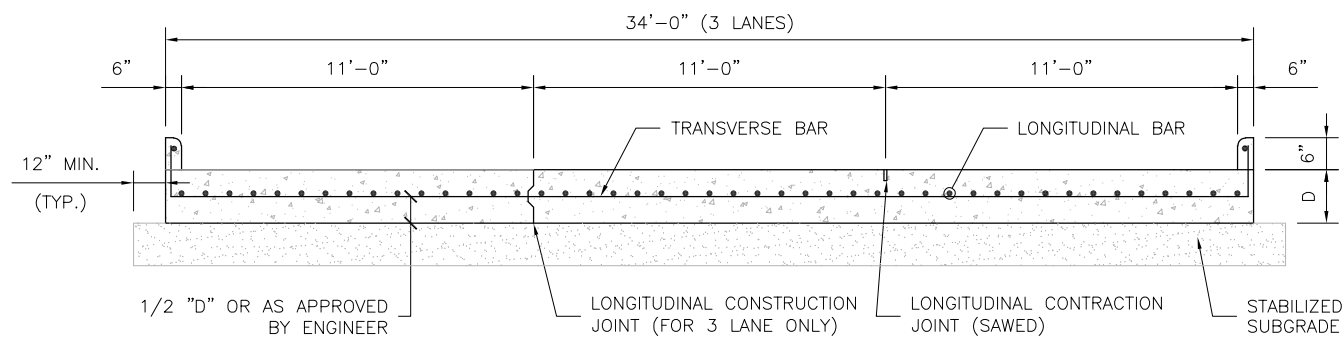
**SPACING OF LONGITUDINAL JOINT (2 LANES)
(NEW CONSTRUCTION)**

HORIZONTAL SCALE: 1" = 3'-0"
VERTICAL SCALE: 1" = 1'-6"



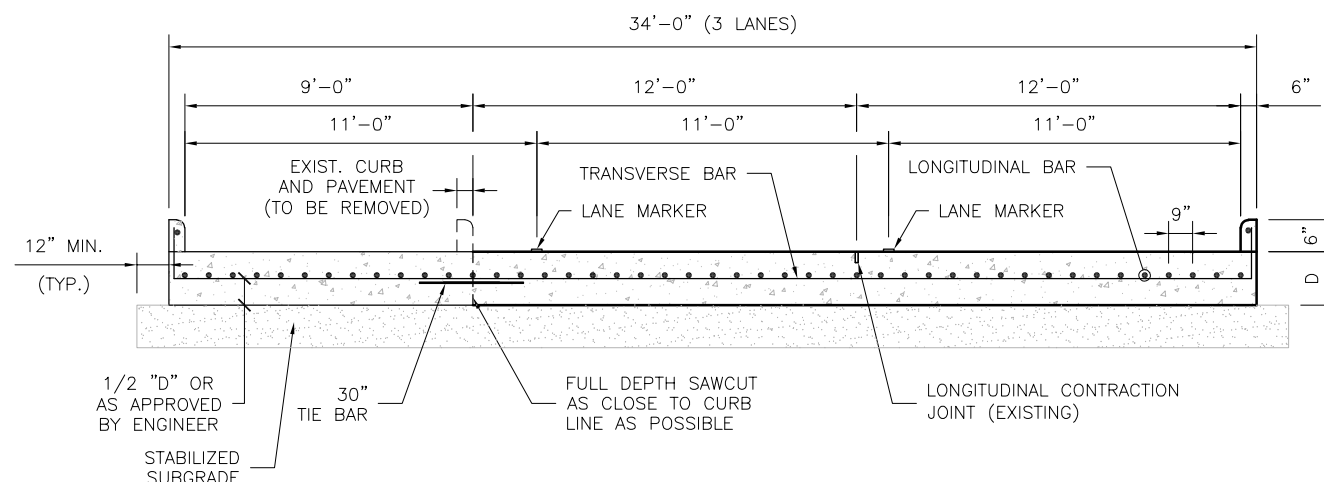
**SPACING OF TRANSVERSE
EXPANSION AND CONTRACTION JOINTS**

HORIZONTAL SCALE: 1" = 12'-0"
VERTICAL SCALE: 1" = 1'-6"



**SPACING OF LONGITUDINAL JOINTS (3 LANES)
(NEW CONSTRUCTION)**

HORIZONTAL SCALE: 1" = 3'-0"
VERTICAL SCALE: 1" = 1'-6"

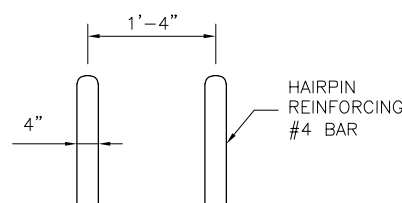


**SPACING OF LONGITUDINAL JOINTS
(WIDENING)**

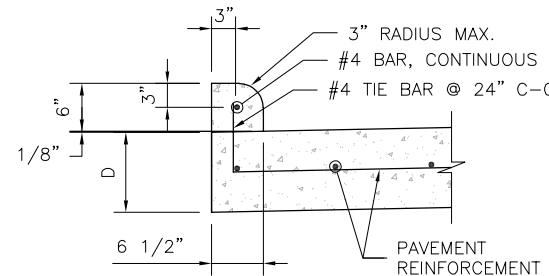
HORIZONTAL SCALE: 1" = 3'-0"
VERTICAL SCALE: 1" = 1'-6"

SUBGRADE AND PAVEMENT NOTES:

1. TYPICAL STABILIZED SUBGRADE THICKNESS IS 8 INCHES.
2. TYPICAL PAVEMENT THICKNESS (D) IS 10 INCHES.
3. TYPICAL REINFORCING STEEL BAR SIZE AND SPACING ARE:
 - a. LONGITUDINAL: #5 BARS @ 9 INCH SPACING
 - b. TRANSVERSE: #5 BARS @ 36 INCH SPACING
4. REINFORCEMENT SHALL NOT BE PLACED WITHIN 3 INCHES FROM THE EDGE OF PAVEMENT.
5. FOR HEAVY INDUSTRIAL TRAFFIC, PAVEMENT THICKNESS (D) AND REINFORCING STEEL BAR SIZE AND SPACING WILL BE AS PER GEOTECHNICAL RECOMMENDATION.
6. ALL REINFORCING STEEL BARS SHALL BE GRADE 60 STEEL UNLESS OTHERWISE SPECIFIED.



**ALTERNATE VERTICAL
REINFORCEMENT**
SCALE: 1" = 1'-6"



**TYPICAL CONCRETE CURB
REINFORCING DETAILS**
SCALE: 1" = 1'-0"

GENERAL NOTES:

1. FOR FURTHER INFORMATION REGARDING THE PLACEMENT OF CONCRETE AND STEEL REINFORCEMENT, REFER TO THE GOVERNING SPECIFICATION ITEM 360 "CONCRETE PAVEMENT."
2. CONCRETE SHALL BE CLASS P, 4,000 PSI @ 28 DAYS IN ACCORDANCE WITH SPECIFICATION ITEM 421 "HYDRAULIC CEMENT CONCRETE."
3. THE CHAIRS TO SUPPORT THE BAR MATS SHALL BE OF SUFFICIENT STRUCTURAL QUALITY AND NUMBER TO HOLD THE MAT WITHIN THE PLACEMENT HEIGHT, AND SHALL BE OF A TYPE APPROVED BY THE ENGINEER. SPACING OF BAR SUPPORT CHAIRS SHALL BE 3'-0" MAXIMUM.
4. SAWED CONTRACTION JOINTS SHALL BE USED FOR LONGITUDINAL JOINTS WHEREVER MORE THAN ONE LANE WIDTH IS PLACED IN A SINGLE POUR. KEYED CONSTRUCTION JOINTS SHALL BE USED AT ALL OTHER JOINTS.
5. ALL SAW CUTTING SHOWN ON THIS DETAIL SHALL BE INCIDENTAL TO SPECIFICATION ITEM 360 "CONCRETE PAVEMENT."
6. D = THICKNESS OF CONCRETE PAVEMENT.
 - FOR DEVELOPMENT PROJECTS SEE "REGULATIONS OF HARRIS COUNTY, TEXAS FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE."
 - FOR PUBLIC PROJECTS SEE HCD 1988 DESIGN GUIDELINES.
7. JOINT SEALANT SHALL CONFORM TO THE REQUIREMENTS OF SPECIFICATION ITEM 360 "CONCRETE PAVEMENT."

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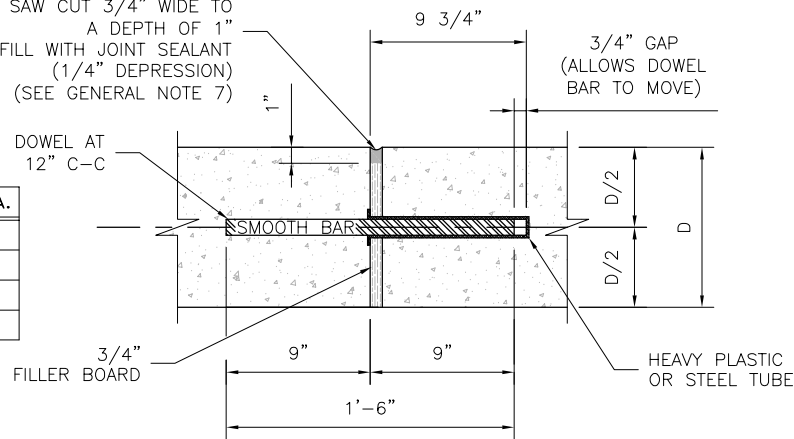
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PROJECT TITLE:		CIVIL STANDARD
SHEET DESCRIPTION: CONCRETE PAVEMENT DETAILS		CP-13
DRAWN BY: JDZ	PRECINCT 1 & 3 (1 OF 3)	DATE: 10/10/23
CK'D BY: PDG	SCALE: AS NOTED	SHEET NO: /

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STEP 1: PLACE CONCRETE OVER TOP OF FILLER BOARD
 STEP 2: SAW CUT 3/4" WIDE TO A DEPTH OF 1"
 STEP 3: FILL WITH JOINT SEALANT (1/4" DEPRESSION) (SEE GENERAL NOTE 7)

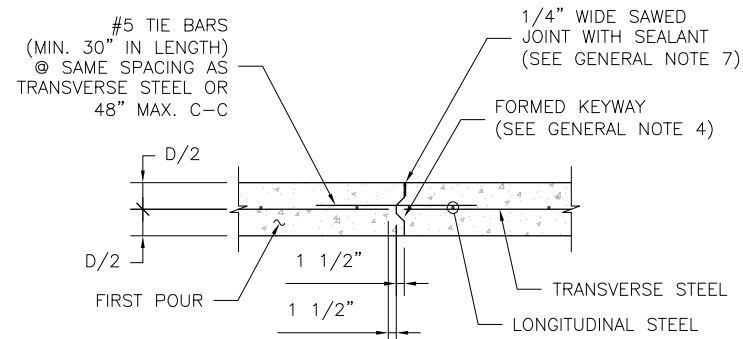
EXPANSION JOINT DOWELS	
PAVEMENT THICKNESS (D)	DOWEL DIA.
6"	3/4"
7"	1"
8"	1"
9" & 10"	1 1/4"



DOWEL TYPE EXPANSION JOINT
 SCALE: 1" = 3"

NOTES FOR DOWEL EXPANSION JOINT:

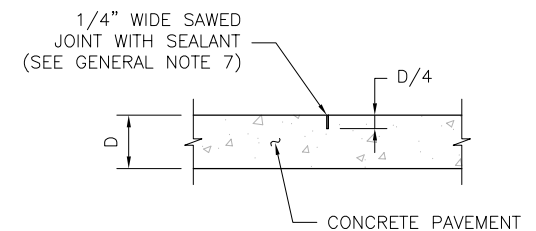
1. EXPANSION JOINT SHALL BE PLACED AT THE END OF EACH CURB RADIUS AND SPACED AT A MAXIMUM DISTANCE OF 160 FEET.
2. CENTER DOWEL HORIZONTALLY ON JOINT.
3. EXPANSION JOINT BARS SHALL BE HELD PARALLEL TO THE FINISHED CONCRETE SURFACE.



LONGITUDINAL CONSTRUCTION JOINT
 SCALE: 1" = 1'-6"

NOTES FOR CONSTRUCTION JOINT:

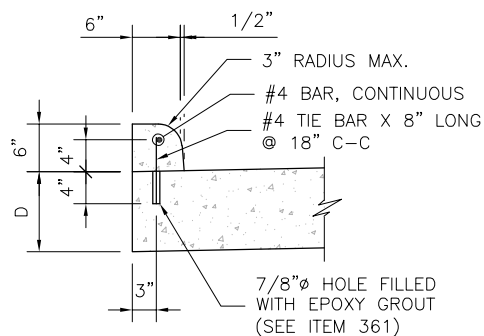
1. SAWED JOINTS SHALL BE CLEANED IN ACCORDANCE WITH SPECIFICATION ITEM 438 "JOINT SEALANTS."
2. JOINT SEALANT SHALL FILL THE JOINT FROM BOTTOM TO 1/4" BELOW CONCRETE PAVEMENT SURFACE.



CONTRACTION JOINT (SAWED)
 SCALE: 1" = 1'-6"

NOTES FOR CONTRACTION JOINT:

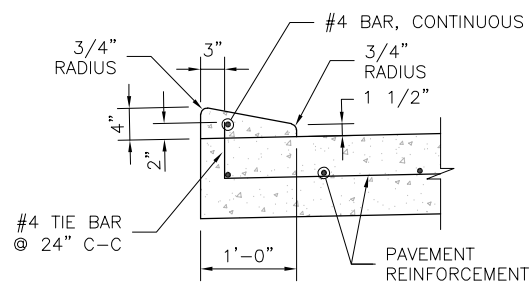
1. 20'-0" MAXIMUM SPACING BETWEEN TRANSVERSE CONTRACTION JOINTS.
2. SAWED JOINTS SHALL BE CLEANED IN ACCORDANCE WITH SPECIFICATION ITEM 438 "JOINT SEALANTS."
3. JOINT SEALANT SHALL FILL THE JOINT FROM BOTTOM TO 1/4" BELOW CONCRETE PAVEMENT SURFACE.



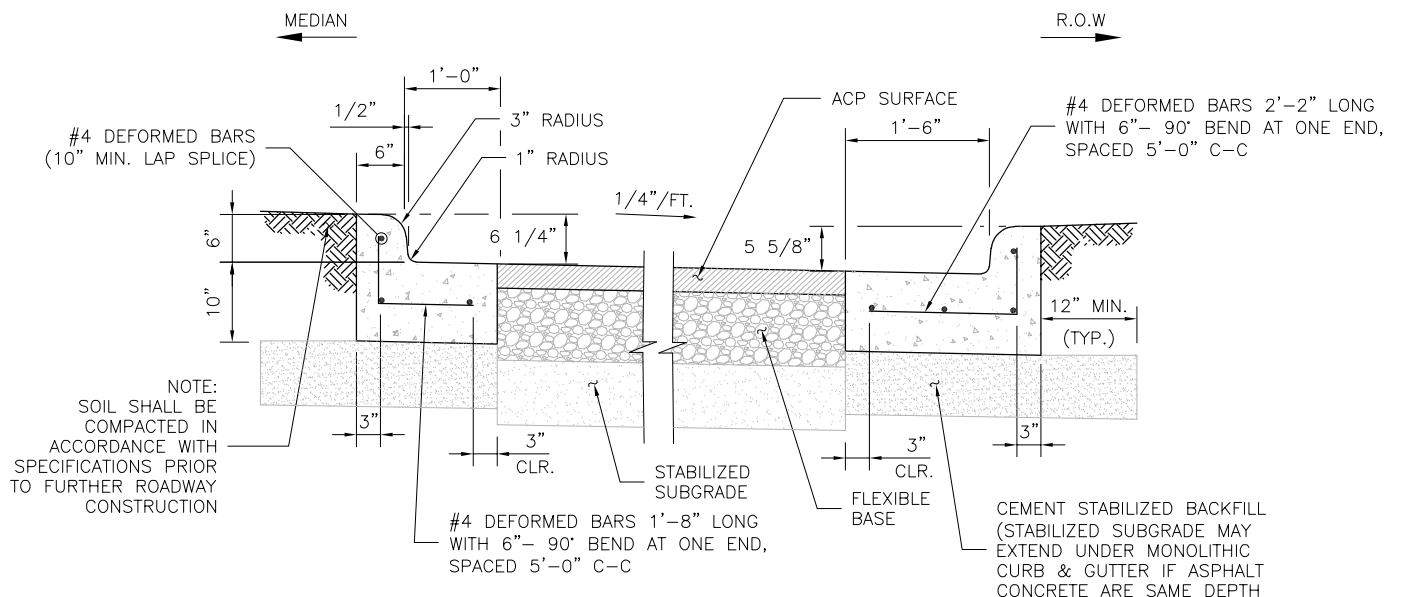
DRILLED-IN CONCRETE CURB FOR CONCRETE PAVEMENT
 SCALE: 1" = 1'-0"

NOTES FOR CURB:

1. AT EACH PAVEMENT CONTRACTION JOINT, PROVIDE A 1/4" THICK PRE-MOLDED EXPANSION JOINT AT THE FULL WIDTH AND HEIGHT OF THE CURB.
2. FOR EACH PAVEMENT EXPANSION JOINT, THE PRE-MOLDED EXPANSION JOINT FILLER MATERIAL SHALL BE THE FULL WIDTH AND HEIGHT OF THE CURB.



4" X 12" CURB
 SCALE: 1" = 1'-0"



6" COMBINED CURB AND GUTTER
 SCALE: 1" = 1'-0"

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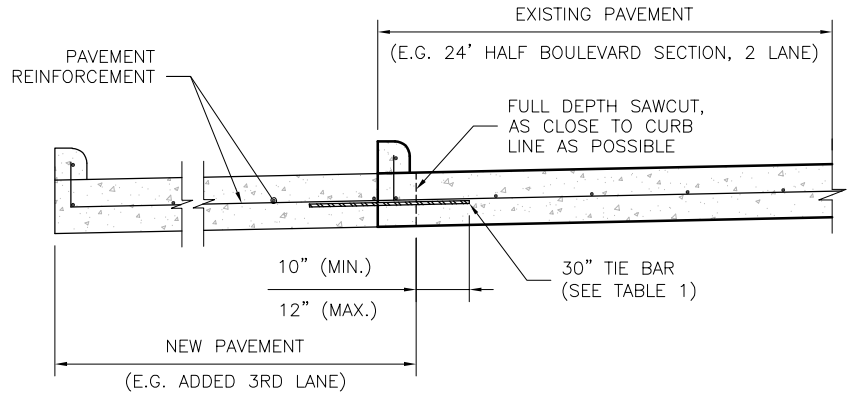
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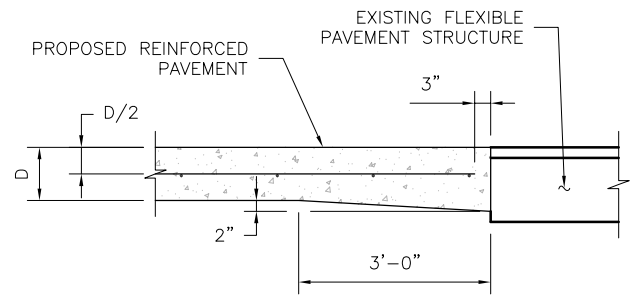


TYPICAL CONCRETE ROADWAY WIDENING DETAIL
SCALE: 1" = 1'-0"

**TABLE 1
(CONSTRUCTION JOINT TIE BARS)**

TIE BAR SIZE	PAVEMENT DEPTH
#5 BAR	7" AND LESS
#6 BAR	GREATER THAN 7"

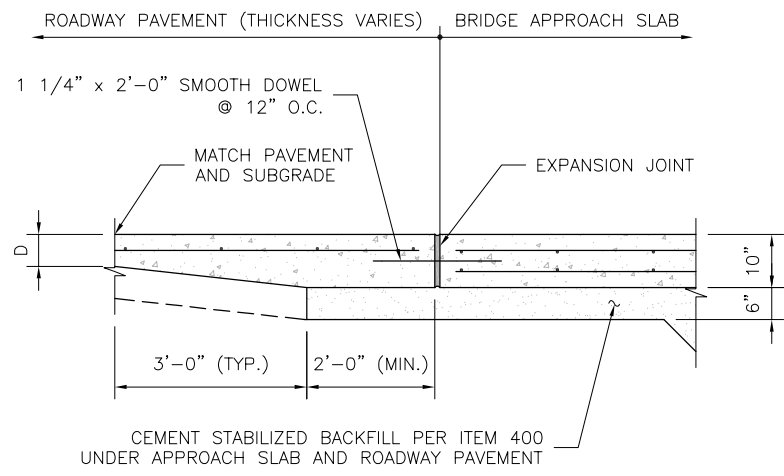
TIE BAR SHALL BE DRILLED INTO EXISTING PAVEMENT (MIN. 10", MAX. 12") AND EPOXIED. (SEE ITEM 361)



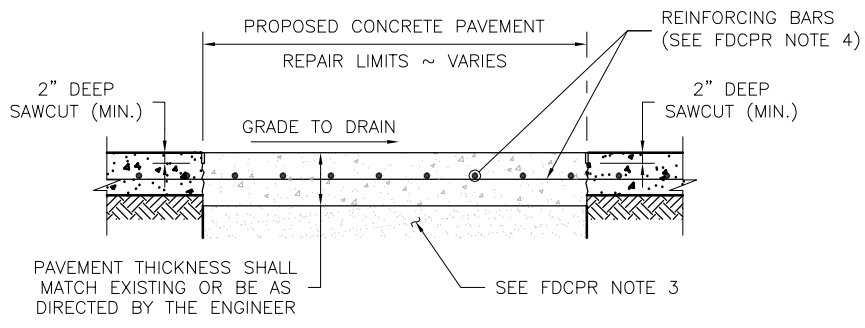
TYPICAL PAVING HEADER
SCALE: 1" = 1'-6"

NOTES FOR PAVING HEADER:

- ADDITIONAL CONCRETE FOR PAVING HEADER SHALL BE CONSIDERED INCIDENTAL TO VARIOUS PAVING BID ITEMS.
- DISTURBED MATERIAL IN THE FLEXIBLE PAVEMENT WILL BE BACKFILLED WITH ASPHALT CONCRETE PAVEMENT (ACP). THE ACP WILL BE CONSIDERED INCIDENTAL TO VARIOUS PAVING BID ITEMS.



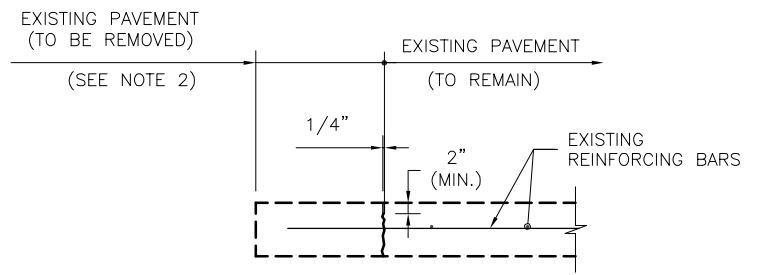
TYPICAL SECTION PAVING TIE-IN TO BRIDGE APPROACH SLAB
SCALE: 1" = 1'-6"



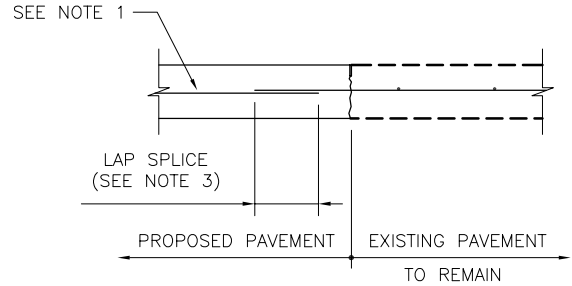
FULL DEPTH CONCRETE PAVEMENT REPAIR
HORIZONTAL SCALE: 1" = 3'-0"
VERTICAL SCALE: 1" = 1'-6"

FULL DEPTH CONCRETE PAVEMENT REPAIR (FDCPR) NOTES:

- SAWCUT LIMITS SHALL BE AS DIRECTED BY ENGINEER.
- EXISTING CONCRETE VERTICAL FACES SHALL BE CLEANED OF ALL DELETERIOUS LOOSE MATERIAL PRIOR TO CONCRETE PLACEMENT.
- FOR REPAIR/REPLACE AREAS, A 6 INCH DEPTH BASE SHALL BE REMOVED AND REPLACED WITH CEMENT STABILIZED BEDDING AND BACKFILL PER ITEM 400.
- REINFORCEMENT FOR PAVEMENT 7" THICK AND LESS SHALL BE NO. 4 BARS AT 18" SPACING IN EACH DIRECTION. REINFORCEMENT FOR PAVEMENT GREATER THAN 7" THICK SHALL BE NO. 5 BARS AT 18" IN EACH DIRECTION.
- ALTERNATIVELY, THE CONTRACTOR MAY CHOOSE TO USE FULL DEPTH SAWCUT WITH DRILLED IN TIE BARS (AS SHOWN ON THE "TYPICAL CONCRETE ROADWAY WIDENING DETAIL" DRAWING). IF THE CONTRACTOR SO CHOOSES, THE SAWCUTTING AND TIE BARS WILL BE AT HIS OWN EXPENSE (THESE ITEMS WILL ONLY BE PAID FOR IF HARRIS COUNTY REQUIRES THE FULL DEPTH SAWCUT AND TIE BARS).



STEP 1 DEMOLITION OF EXISTING PAVEMENT



STEP 2 CONSTRUCTION OF NEW PAVEMENT

CONCRETE TO CONCRETE STANDARD PAVEMENT TIE-IN
SCALE: 1" = 1'-6"

NOTES FOR STANDARD PAVEMENT TIE-IN:

- REINFORCING CENTERED IN PROPOSED PAVEMENT, 3" CLEAR AT EDGES.
- SAWCUT 2" DEEP MINIMUM AND REMOVE 2'-0" EXISTING PAVEMENT OR PAVEMENT WITH CURB. EXPOSE AND CLEAN EXISTING REINFORCING.
- 24 BAR DIAMETER LAP SPLICE OR WELD, IF DIRECTED.
- IF NO EXPOSED REINFORCING STEEL EXISTS, HORIZONTAL TIE BARS SHALL BE GRADE 60, 30" LONG DRILLED AND EMBEDDED 15" INTO THE CENTER OF THE EXISTING CONCRETE SLAB WITH EPOXY OR APPROVED EQUAL. SIZE OF TIE BARS SHALL CONFORM TO TABLE 1. TIE BARS SHALL BE PLACED 24" CENTER TO CENTER.
- ALTERNATIVELY, THE CONTRACTOR MAY CHOOSE TO USE FULL DEPTH SAWCUT WITH DRILLED IN TIE BARS (AS SHOWN IN THE "TYPICAL CONCRETE ROADWAY WIDENING DETAIL" ON THIS SHEET. IF THE CONTRACTOR SO CHOOSES, THE SAWCUTTING AND TIE BARS WILL BE AT HIS OWN EXPENSE (THESE ITEMS WILL ONLY BE PAID FOR IF HARRIS COUNTY REQUIRES THE FULL DEPTH SAWCUT AND TIE BARS).

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