

**GENERAL NOTES FOR UTILITY WORK IN PAVEMENTS**

Detail applies to open-cut installation of pipe and/or conduit up to 18 inches in diameter.

For larger pipe diameters, submit detailed drawings to Cedar Rapids Public Works Department-Engineering Division for review and approval.

Obtain Public Work Right-of-Way Permit.

Contractor's Equipment Identification

All vehicles and major construction equipment utilized on work within the City ROW, with the exception of personal vehicles and rented equipment bearing the name, address, and telephone number of the rental company, shall exhibit the Contractor's name in at least two locations on each piece of equipment. This identification can be either a decal or painted lettering of a type and size, and with a contrasting color, rendering it legible from a distance of no less than 50 feet.

Standards

Statewide Urban Design and Specifications (SUDAS) Standard Specifications and Cedar Rapids General Supplemental Specifications to SUDAS Standard Specifications, current edition.

Pavement Removal and Restoration

**A. Pavement Removal:**

1. Full depth saw-cut pavement at the initial pavement removal limits per details.  
Full depth saw-cut pavement at final pavement removal limits upon backfilling of trench.
2. Do not damage pavement that is to remain. Do not use heavy equipment adjacent to new concrete until the opening strength is achieved.
3. Keep equipment and construction vehicles at least three (3) feet from excavation limits. A trench box may be necessary to prevent sloughing of trench walls.
4. Construct new patch 2" thicker than existing pavement. If pavement has existing subbase material, place and compact new subbase material (min. 6" depth) as required to bring the subbase to a level 2 inches below the bottom of the existing pavement
5. If existing pavement is HMA over PCC, replace HMA over new PCC patch to match existing depth.

**B. Pavement Restoration**

1. Allowable concrete mixes:

Class C or M. Calcium chloride additive not permitted

2. HMA full-depth or surface (all courses) = Standard Traffic HMA (ST) 1/2-inch mix. PG58-28S binder

**C. PCC Repair:**

1. Provisions of SUDAS 7010 apply for concrete mix and placements

2. SUDAS 7010 3.04 applies for concrete placement during cold and hot temperatures and for weather protective measures. If temperature and weather conditions do not allow permanent pavement construction, temporary surfaces shall be constructed per page 7 of 8.

**D. HMA Repair:**

1. Provisions of SUDAS 7040 apply for placing HMA patches. HMA lifts shall not exceed 3 inches in thickness after compaction, with the top lift not exceeding 2 inches in thickness when compacted.

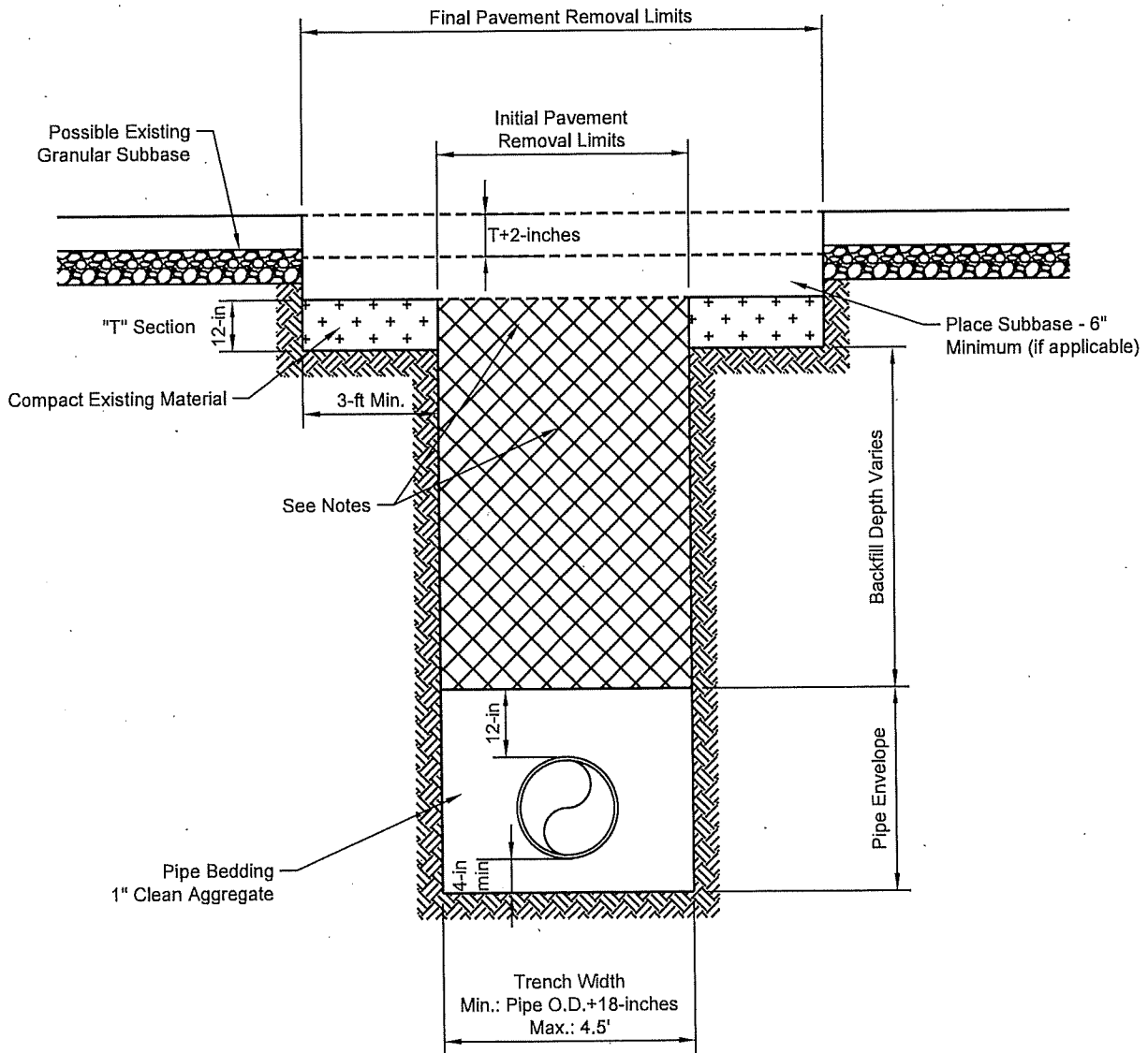
2. Compact each lift while hot by rolling or compacting with a vibratory compactor. Smooth the surface lift with a steel-tired finish roller to level or no more than 1/8 inch above the adjacent pavement.

**E. Brick Repair:**

1. Reused bricks removed for excavation.

2. If bricks are unsuitable for re-use, contact the Engineering Division.

APPROVAL DATE: April 1, 2019	<b>CEDAR RAPIDS PUBLIC WORKS DEPARTMENT</b>	
	<b>UTILITY INSTALLATION IN PAVED ROADWAYS</b>	<b>SHEET NO. 1 / 8</b>



If existing pavement has subbase, place and compact same thickness (min. 6") of granular subbase (Iowa DOT gradation No 12a or 12b) or modified subbase (Iowa DOT gradation No. 14) under new pavement.

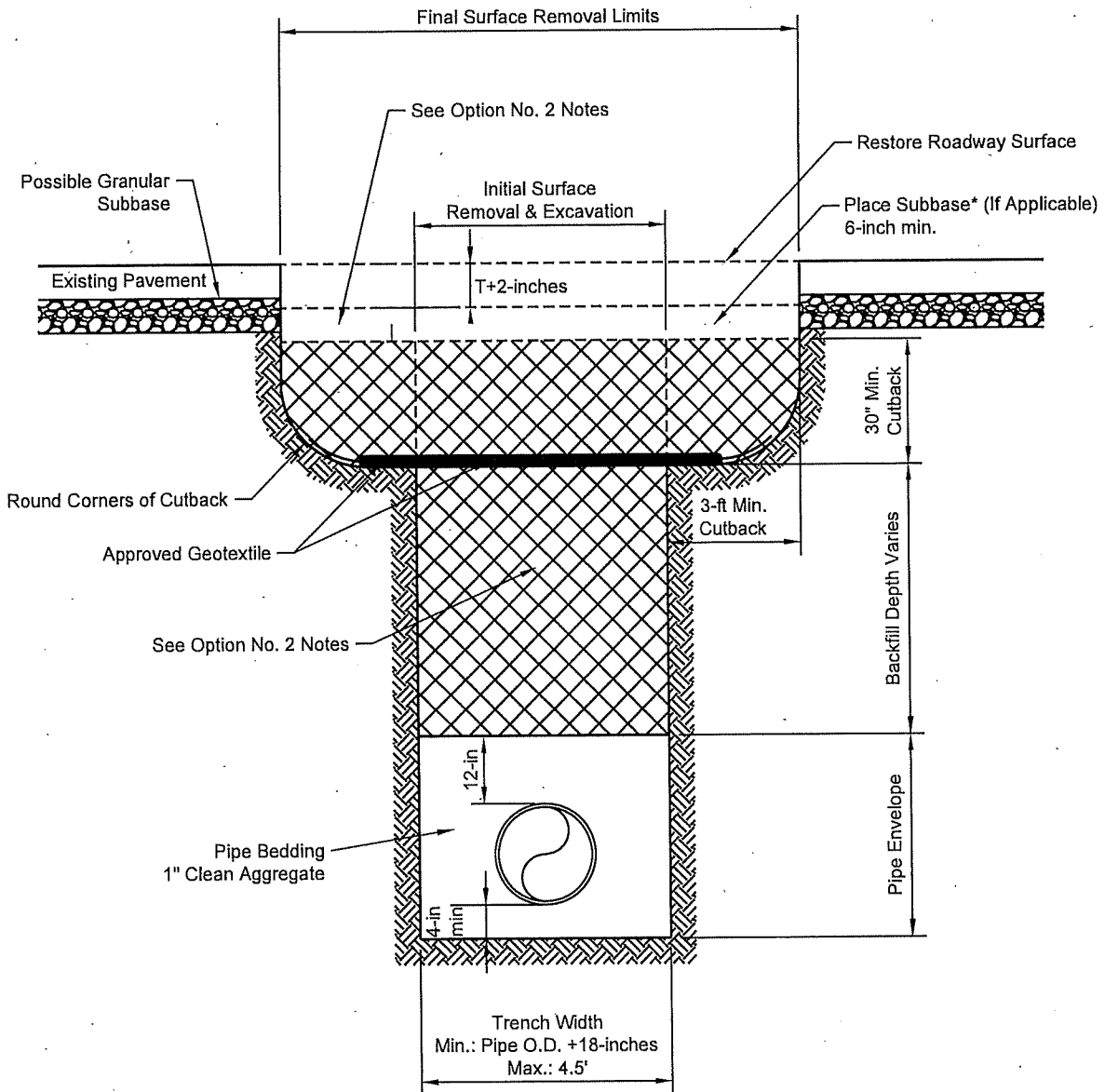
If existing pavement does not have subbase material, place and compact trench backfill to bottom of new pavement.

Backfill shall be one of the following:  
 -Crushed rock conforming to Iowa DOT gradation No. 11. Place and compact in 8-inches lifts.  
 - Approved flowable mortar

Refer to Sheet 4-6 for typical pavement removal and replacement details.

**OPTION No. 1 - VERTICAL TRENCH WALLS WITH "T" SECTION**  
 NO SCALE

CEDAR RAPIDS PUBLIC WORKS DEPARTMENT	
APPROVAL DATE: April 1, 2019	UTILITY INSTALLATION IN PAVED ROADWAYS
	SHEET NO 2 / 8



If existing pavement has subbase place and compact same thickness (min. 6") of granular subbase (Iowa DOT Gradation No. 12a or 12b) or modified subbase (Iowa DOT Gradation No. 14) under new pavement.

If existing pavement does not have subbase place and compact backfill to bottom of new pavement.

Backfill of trench and cutback shall be one of the following:  
 -Crushed rock conforming to Iowa DOT Gradation No. 11. Place and compact in 8-inch thick lifts.  
 -Approved flowable mortar

Refer to Sheet 4-6 for typical pavement removal and replacement details.

**OPTION No. 2 - CUTBACK TRENCH**

NO SCALE

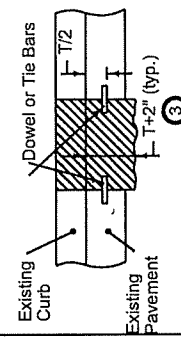
<b>CEDAR RAPIDS PUBLIC WORKS DEPARTMENT</b>	
APPROVAL DATE: April 1, 2019	<b>UTILITY INSTALLATION IN PAVED ROADWAYS</b>
	SHEET NO 3 / 8

① Patches on roadways with quarter point jointing will be similar to third point jointing details.

② Minimum distance between existing joint and patch is 6 feet. If distance is less than 6 feet, extend patch to existing joint.

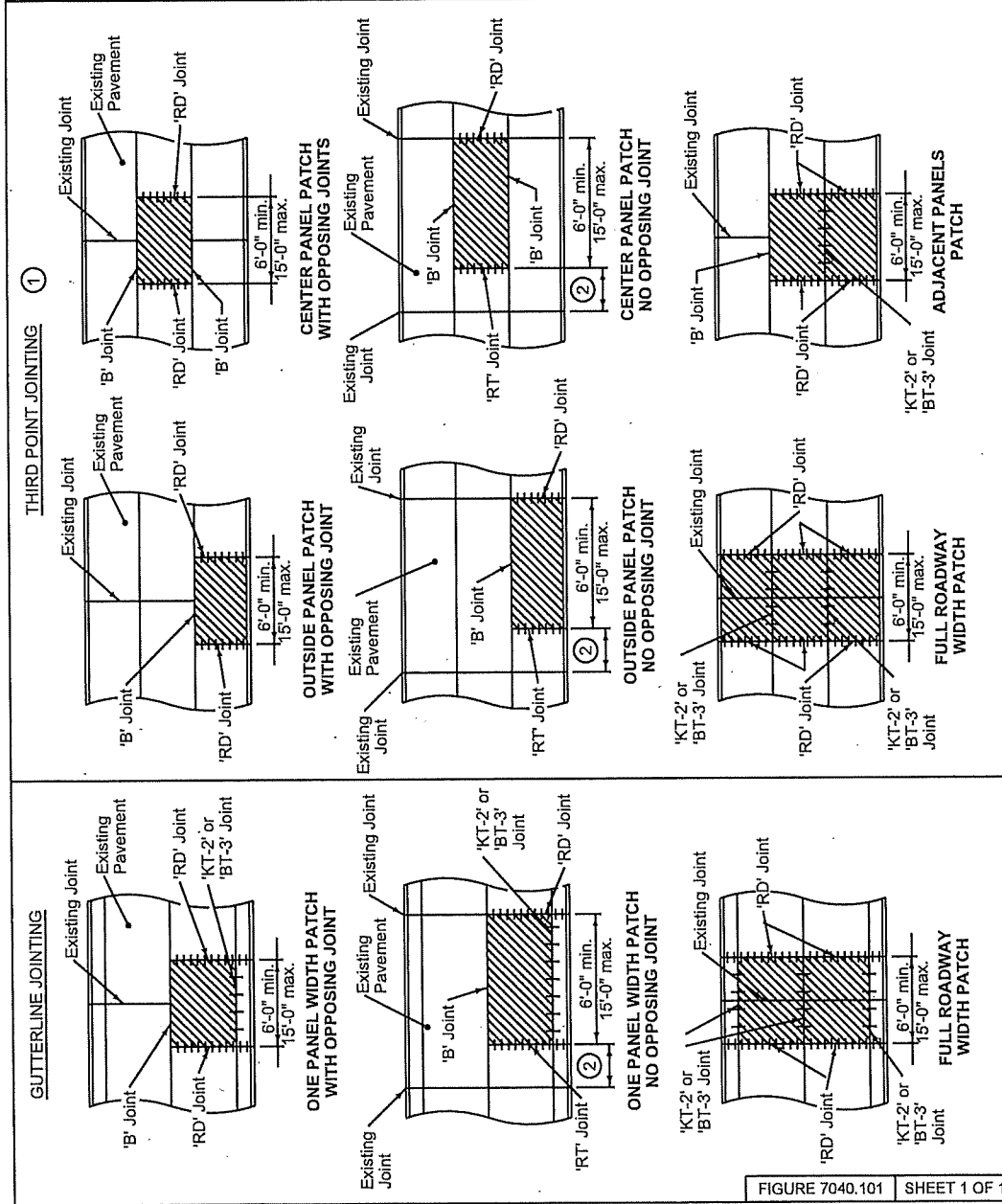
③ If subgrade or subbase material is required below patch, bring material to a level 2 inches below bottom of existing pavement.

**LONGITUDINAL SECTION  
THRU PCC PATCH**



REVISION  
2 10-17-17  
**7040.101**  
SHEET 1 of 1

FULL DEPTH PCC PATCHES  
LESS THAN OR EQUAL TO 15' LONG

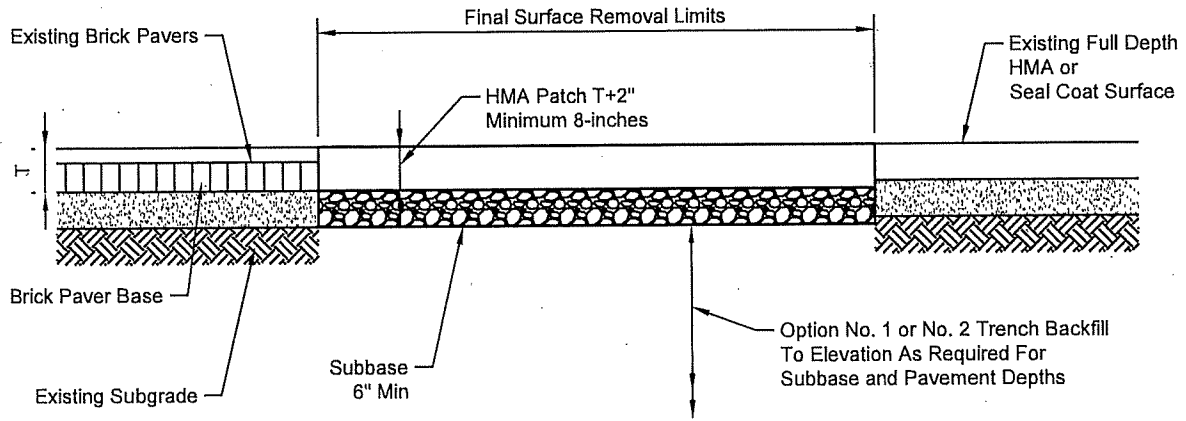


APPROVAL DATE: April 1, 2019

**CEDAR RAPIDS PUBLIC WORKS DEPARTMENT**

**UTILITY INSTALLATION IN PAVED ROADWAYS**

SHEET NO.  
4 / 8



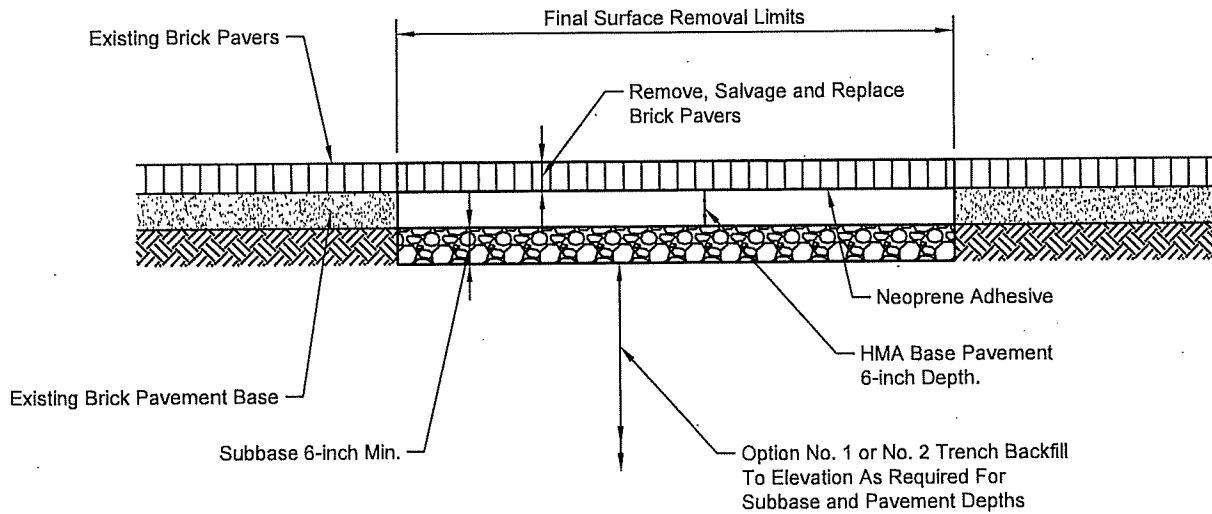
Place and compact granular subbase ( Iowa DOT Gradation No. 12a or 12b) on modified subbase (Iowa DOT Gradation No. 14).

**FULL DEPTH HMA REPAIR**

(Applies for full depth HMA, sealcoat and/or overlaid brick pavements)

NO SCALE

APPROVAL DATE: April 1, 2019	<b>CEDAR RAPIDS PUBLIC WORKS DEPARTMENT</b>	
	<b>UTILITY INSTALLATION IN PAVED ROADWAYS</b>	<b>SHEET NO 5 / 8</b>



Place and compact granular subbase (Iowa DOT Gradation 12a or 12b) or modified subbase (Iowa DOT Gradation No. 14)

Apply approved Neoprene-modified asphalt adhesive for brick installation per manufacturer's instructions.

Full depth saw-cut at final surface removal limits or remove whole brick to nearest joint to surface removal limits. Exercise caution during brick removal to prevent damage to brick pavers.

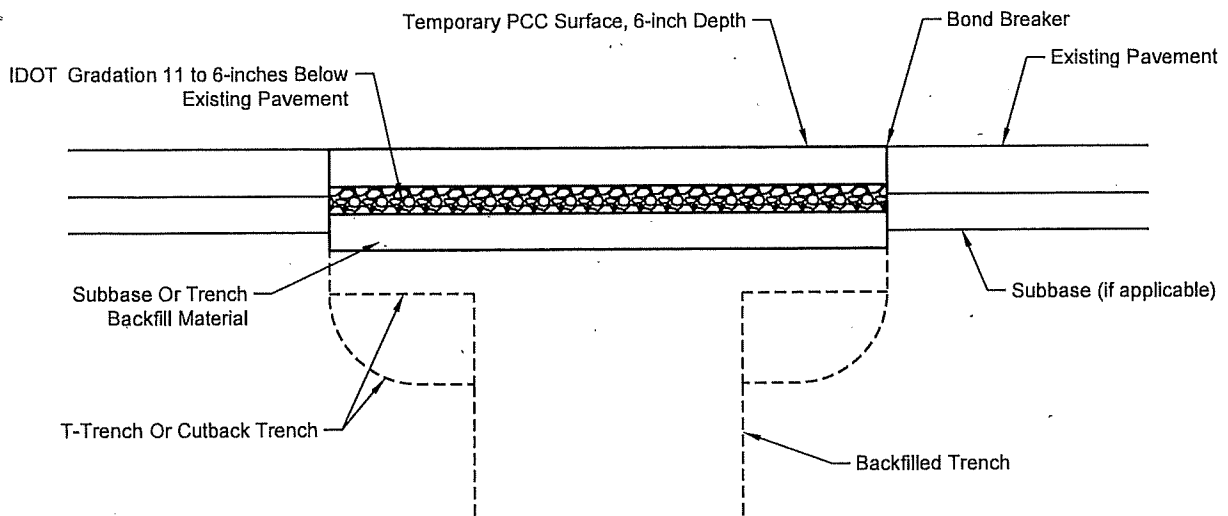
Place bricks hand-tight in same pattern as existing adjacent brick pavers. Use only full and half brick unless otherwise approved.

After placing brick, sweep concrete sand over brick to fill gaps between pavers.

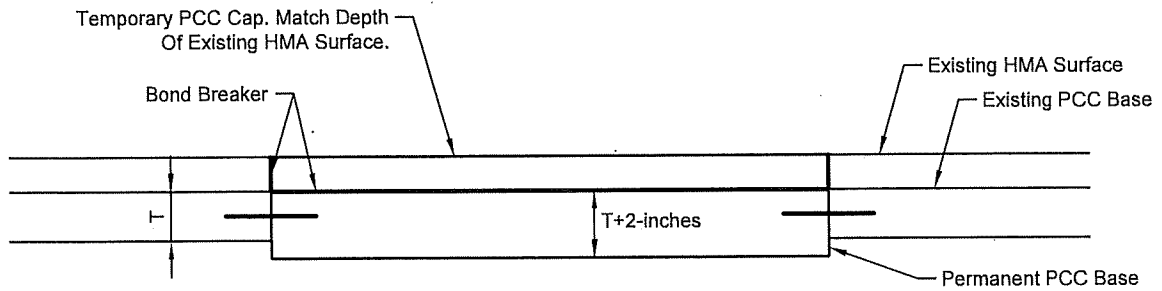
**REPAIR OF BRICK PAVEMENT**

NO SCALE

CEDAR RAPIDS PUBLIC WORKS DEPARTMENT	
APPROVAL DATE: April 1, 2019	UTILITY INSTALLATION IN PAVED ROADWAYS
	SHEET NO 6 / 8



**ALTERNATIVE No. 1 - UNDOWELED PCC**



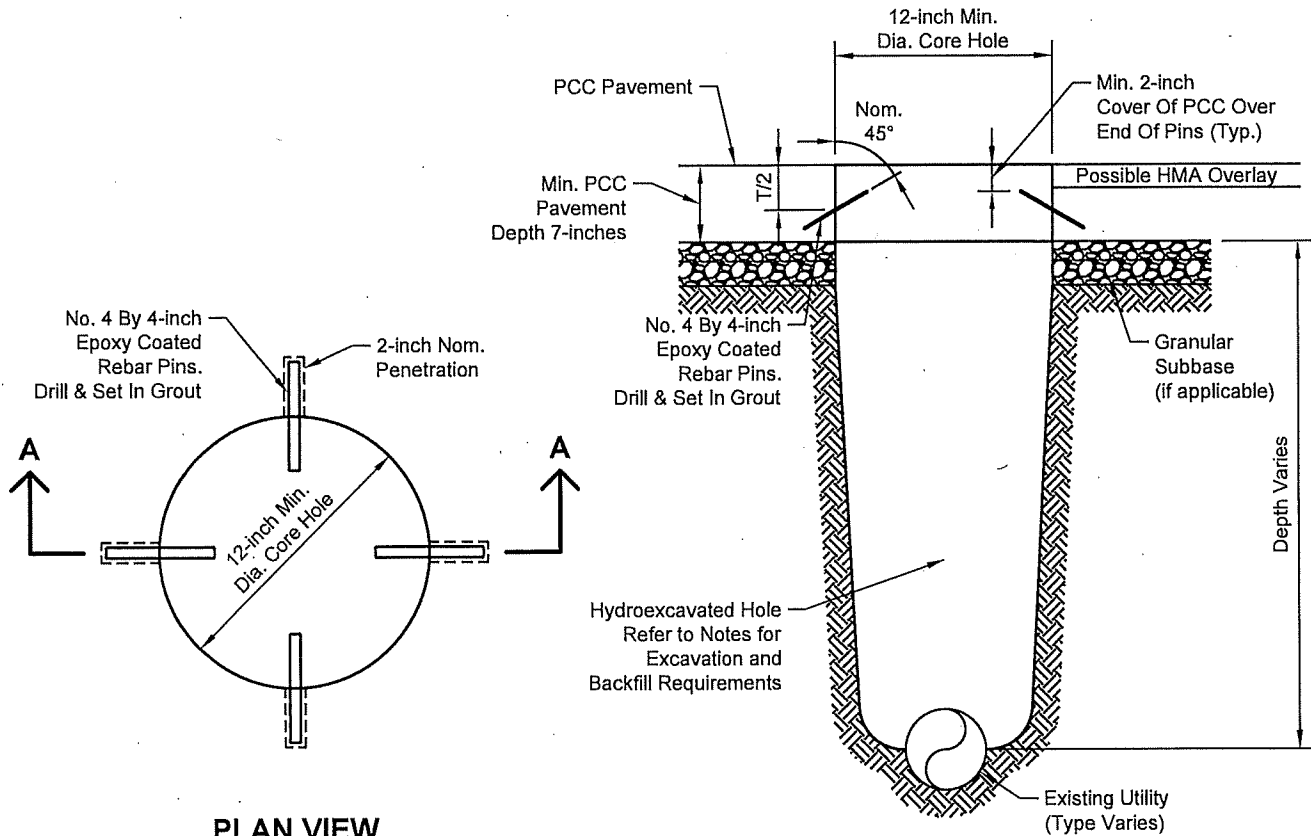
Use of this option subject to Engineer approval. Use will be allowed only if weather and subgrade conditions permit trench backfill and compaction, preparation of subgrade and subbase, and construction of permanent PCC base in accordance with requirements of this detail. Permanent base will not be placed on frozen subgrade.

**ALTERNATIVE No. 2 - TEMPORARY PCC CAP ON PERMANENT PCC BASE**

**APPROVED TEMPORARY SURFACE ALTERNATIVES**

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CEDAR RAPIDS PUBLIC WORKS DEPARTMENT	
APPROVAL DATE: April 1, 2019	UTILITY INSTALLATION IN PAVED ROADWAYS
	SHEET NO 7 / 8



**NOTES:**

1. Obtain permit to work in City right-of-way prior to commencing work.
2. Minimize excavation size. Do not allow remaining pavement to be undermined. Notify inspector if undermining occurs.
3. Backfill excavation with crushed rock per IDOT Gradation 11. Place and compact in 12-inch maximum lifts to bottom of pavement. In lieu of crushed rock use approved flowable mortar per SUDAS 3010 2.06.
4. After setting rebar pins in PCC roadway surface or base pavement, place Class C or M concrete to match existing surface, including HMA overlay.
5. In full depth HMA pavements, sealcoat, and brick streets with HMA surface, fill core holes with HMA Standard Traffic Surface, 1/2-inch mix, PG 58-28S. Compact in 3-inch lifts. Match existing depth plus 2-inches.
6. Contact Engineering Division prior to cutting core holes in brick roadway surfaces to obtain location-specific restoration requirements.
7. If more than one core hole is made within a single panel, pavement repair shall be a minimum of 6' x 6' per page 4.

**HYDROEXCAVATING CORE HOLE IN PCC ROADWAY**

NO SCALE

<b>CEDAR RAPIDS PUBLIC WORKS DEPARTMENT</b>	
APPROVAL DATE: April 1, 2019	<b>UTILITY INSTALLATION IN PAVED ROADWAYS</b>
	<b>SHEET NO 8 / 8</b>