

Utility Cut Repair Guidelines



Transportation Operational Planning
and Policy Unit (OP&P)

Utility Cut Issues

Pavement

Shortened Life Cycle
& Increased Mtce.



**Introduction of a
Pavement Degradation
Fee (PDF)**

Practice

Deteriorate Work:
Not keeping the
Promises



**Intensified
Enforcement/
Mitigation Measures**

Public Reaction

- Aesthetics
- Discomfort
- Noise



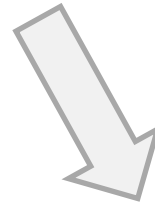
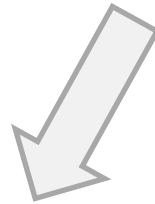
**Introduction of
Grind and Pave
Measure (G&P)**

Resolutions

Contents

- **Extent of Repairs**
- **Specifications**
- **MCR References**
- **General Procedures, Rules**

Extent of Repairs



**TS 4.60 & TS 4.70
standards,
specifications
and field operations
+
MCR requirements**

**Restoring:
Appearance,
Serviceability
&
Infrastructure
Integrity**

Cut & Restoration Specification

TS 4.60

- **Page 6 – Driveway repairs**
- **Page 9 – Backfilling in boulevards**
- **Page 10 – Extent of restoration**

Keyhole Specifications

TS 4.70

- **Coring and reinstatement of cores**
- **Acceptable as permanent repair**
- **Subject to PDF**

MCR Document

- **Chapter 4 – Fees**
- **Chapter 6 – Construction**
- **Chapter 7 – Deficiencies**
- **Appendix D – TS 4.60**
- **Appendix E – TS 4.70**

Restoring:

Appearance,

Serviceability,

&

Infrastructure

Integrity

Various Utility Cut Types

- **Longitudinal Trenches – single lane**
- **Longitudinal Trenches – multiple lanes**
- **Single Transverse cuts**
 - **single lane**
 - **multiple lanes**
- **Multiple Transverse cuts**
- **Key Holes**

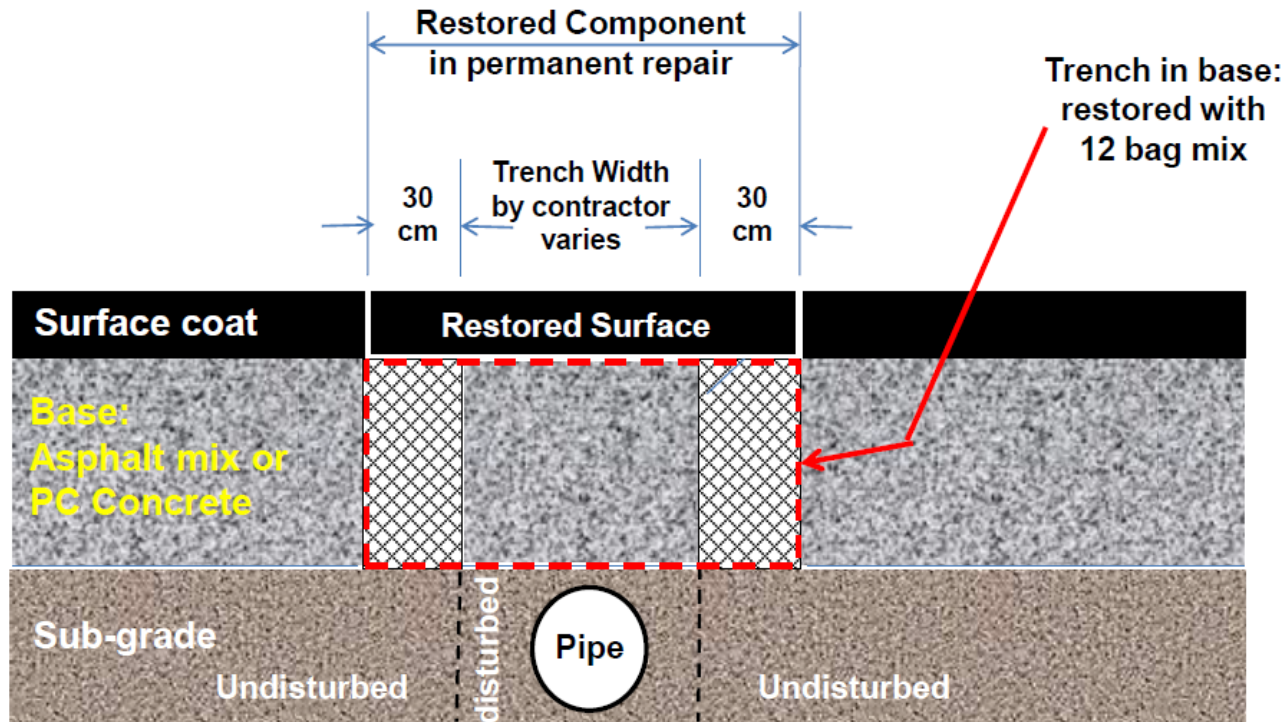
Of particular interest : TS 4.60 p. 11 (for cut repairs)
TS 4.70 p. 6 (for keyhole technology)

Two General Rules

- 1. Permanent Repair of Trenches regarding requirements and dimensions**
- 2. Extent of G&P as a function of % damage to the road**

General Rule # 1

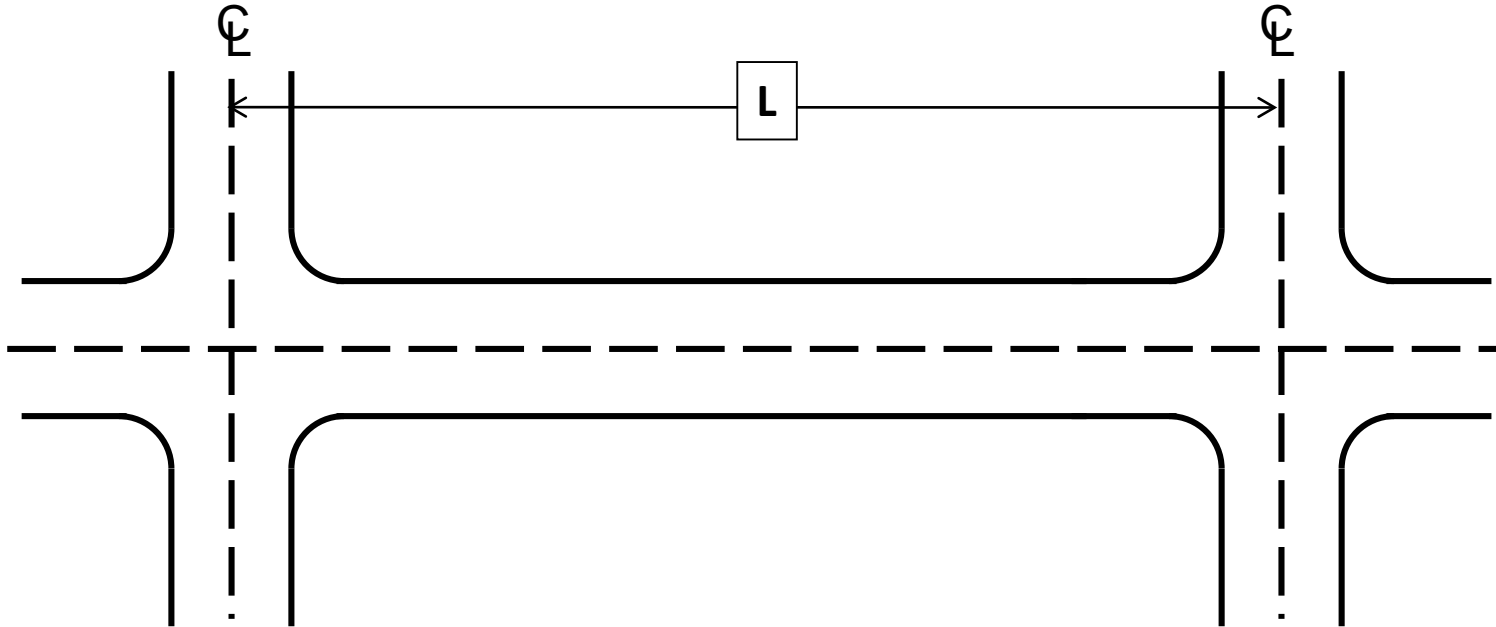
Permanent Repair of Trenches



The idea is to have the repaired trench sit on the undisturbed sub-grade

General Rule # 2

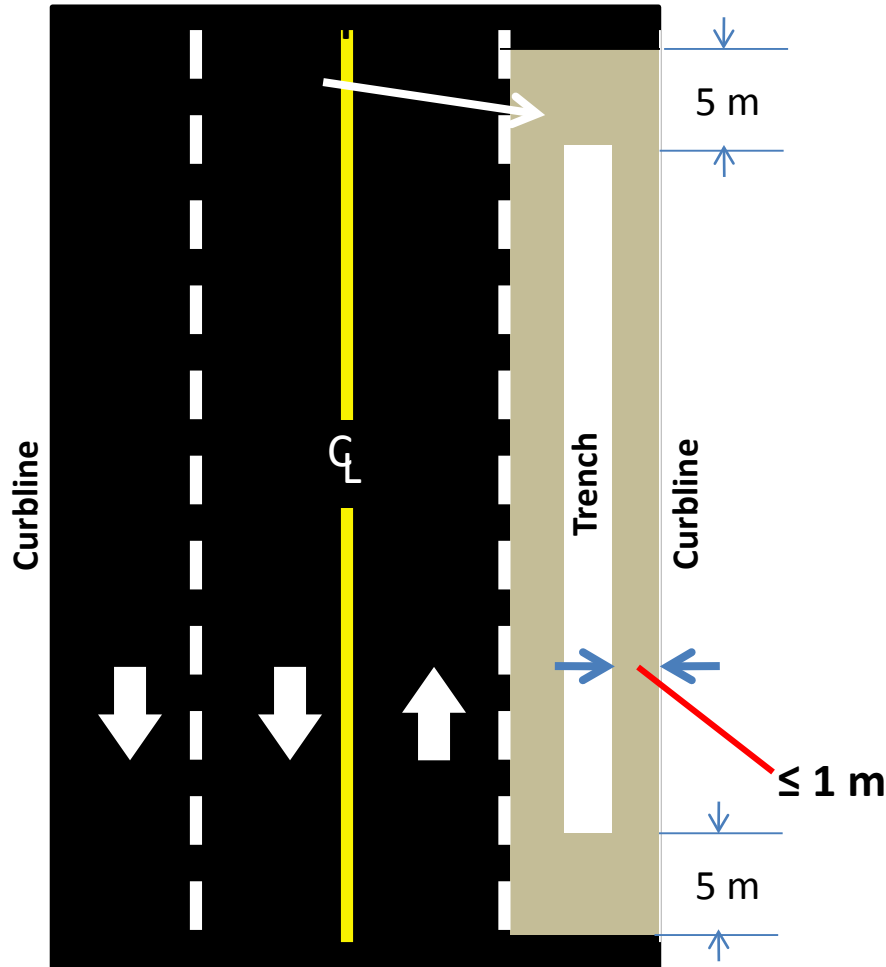
Longitudinal Trenches G&P



Block Length	Damage Extent	Outcome
$L > 250 \text{ m}$	$\geq 75\%$ Length trenched	Full G&P
$L \leq 250 \text{ m}$	$\geq 60\%$ Length trenched	Full G&P

Longitudinal Trenches – Single Lane

Scenario #1: Trench located 1 m or less from curb line or construction joint



Action

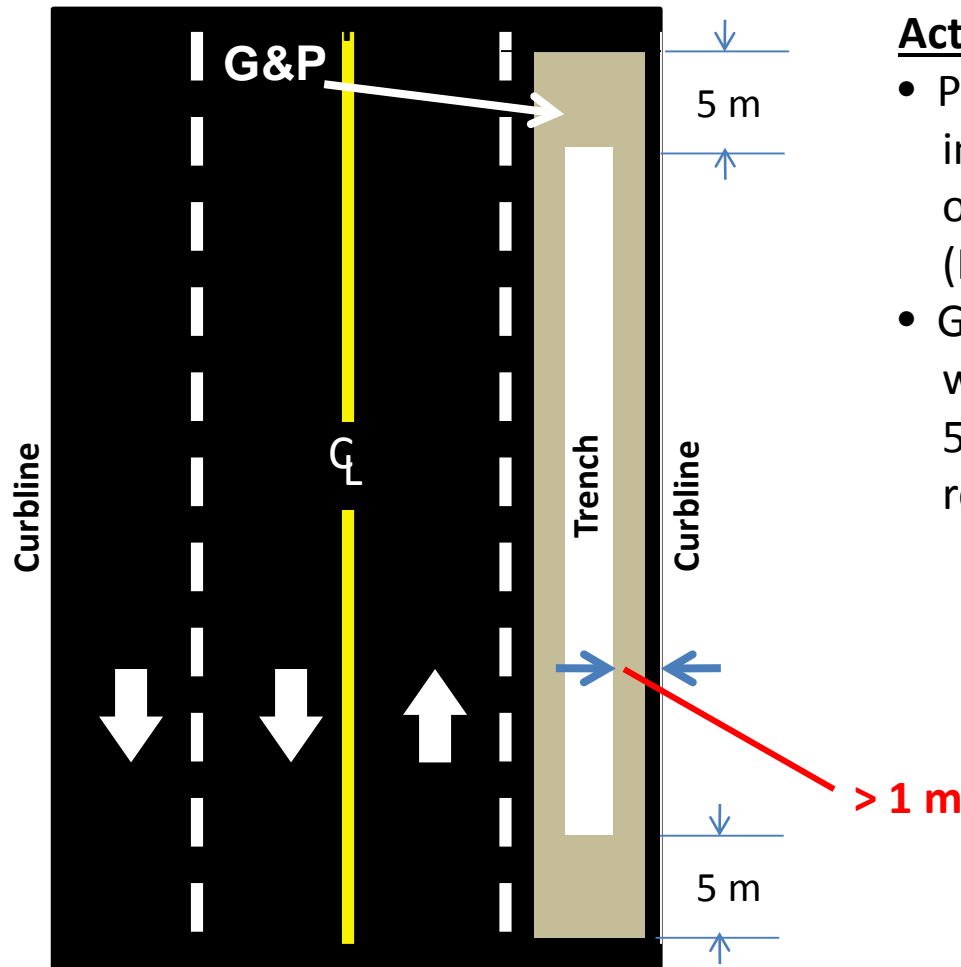
- Permanent repair of utility cut will include removal and repair of portion of pavement between trench and curb or construction joint
- Permanent repair of utility cut that is close to the wheel path shall include the wheel path as well
- G&P lane width, allowing 5 m on each end of permanently repaired trench, as shown

G&P

Minimum width	3.0 m
Minimum milling	40 mm

Longitudinal Trenches – Single Lane

Scenario #2: Trench located > 1 m from curb line or construction joint



Action

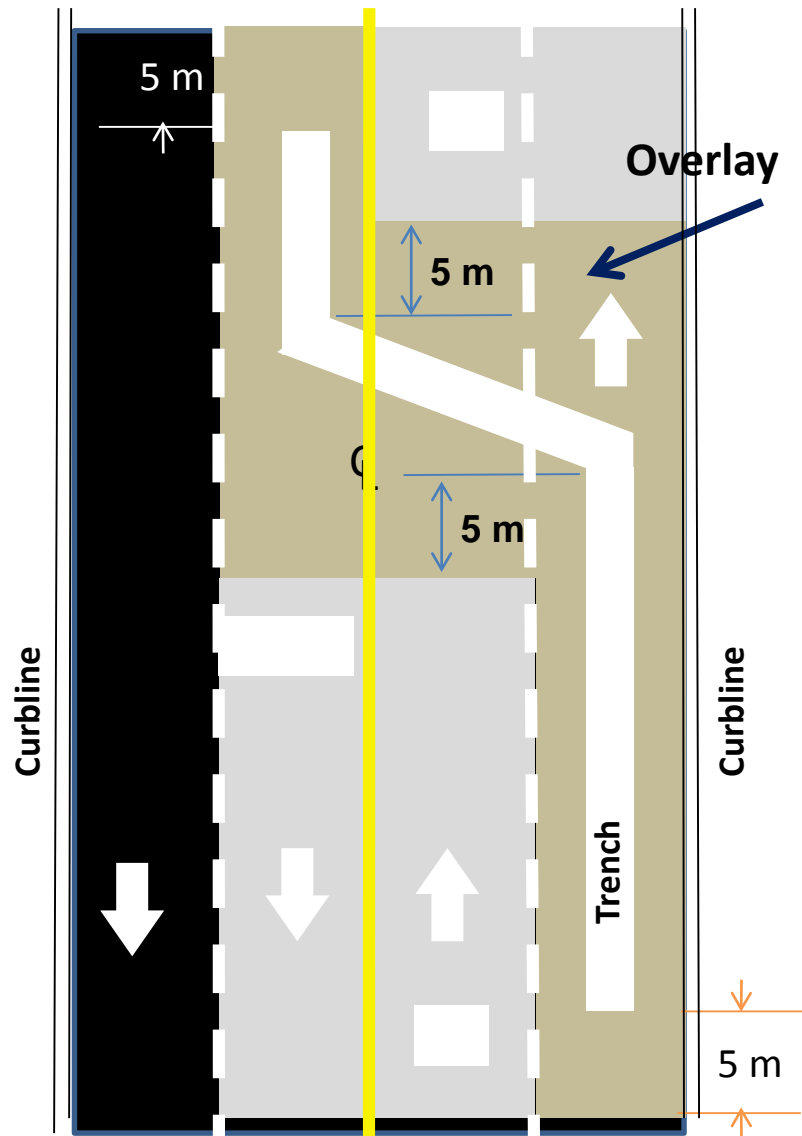
- Permanent repair of utility cut will include removal and repair of portion of pavement affected by the cut (Refer to MCR & TS 4.60)
- G&P the lane width, or at least 3 m wide strip within the lane, allowing 5 m on each end of permanently repaired trench

G&P

Minimum width	3.0 m
Minimum milling	40 mm

Longitudinal Trenches, Multiple Lanes

Scenario # 3: Trench located > 1 m from curb line or construction joint



Action

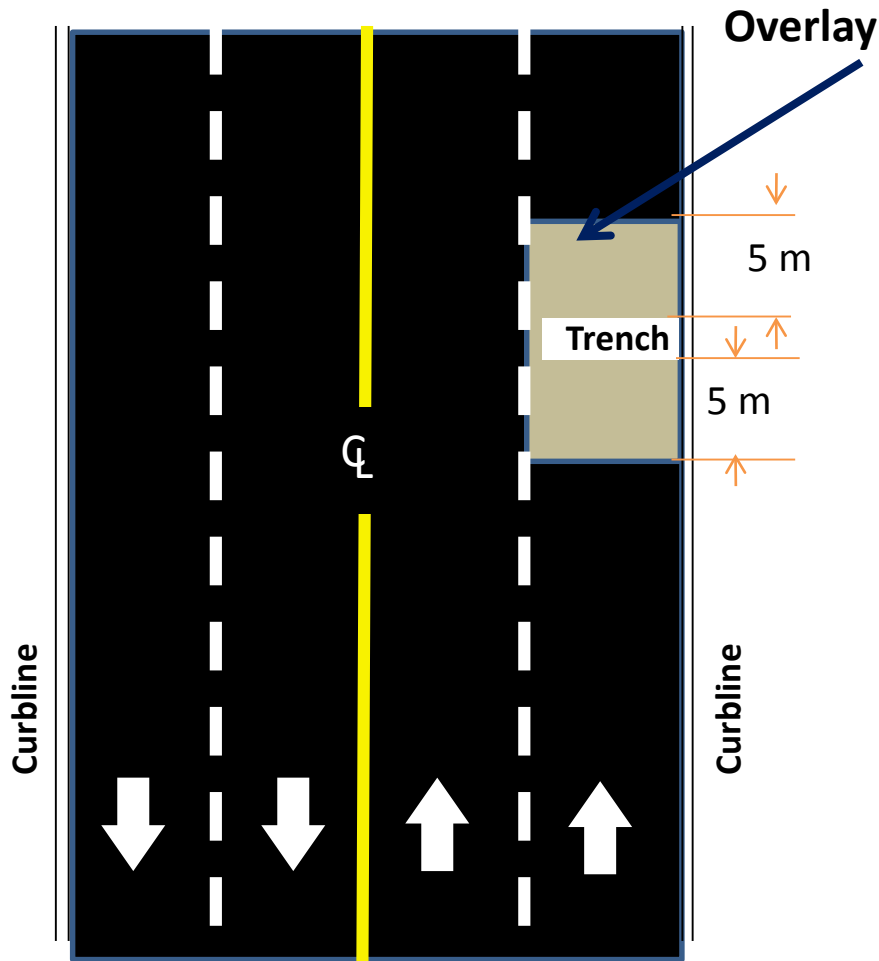
- G&P shown as taupe coloured area will be undertaken and expensed to utility owner
- If in the opinion of the utility cut examiner, the pavement area highlighted in grey has sufficient deterioration that warrants G&P, then it will be funded through PDF Reserves.

G&P

Minimum width	3.0 m
Minimum milling	40 mm

Single Transverse Cuts – Single Lane

Scenario # 4: A single transverse cut contained within one lane



Action

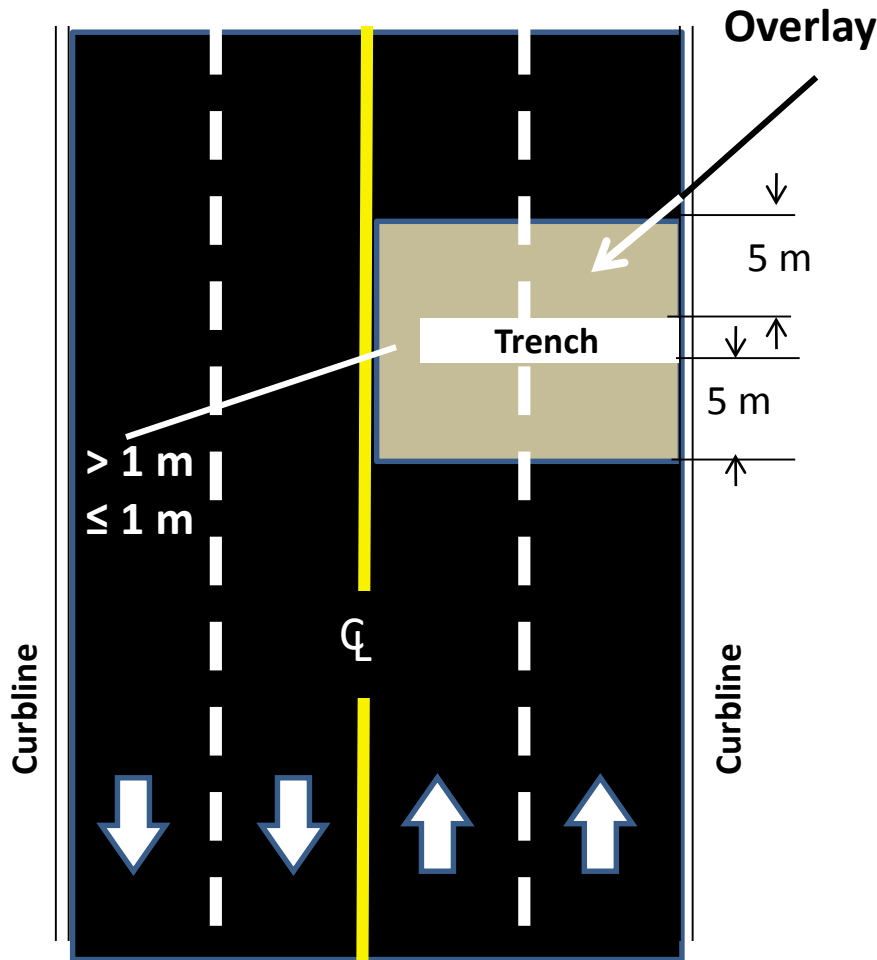
- Permanent repair of utility cut will include removal and repair of portion of pavement affected by the cut
- G&P 3 m wide strip within the lane, allowing 5 m on each end of permanently repaired trench

G&P

Minimum width 3.0 m
Minimum milling 40 mm

Single Transverse Cuts – Multiple Lanes

Scenario # 5: A single transverse cut extending to more than one lane



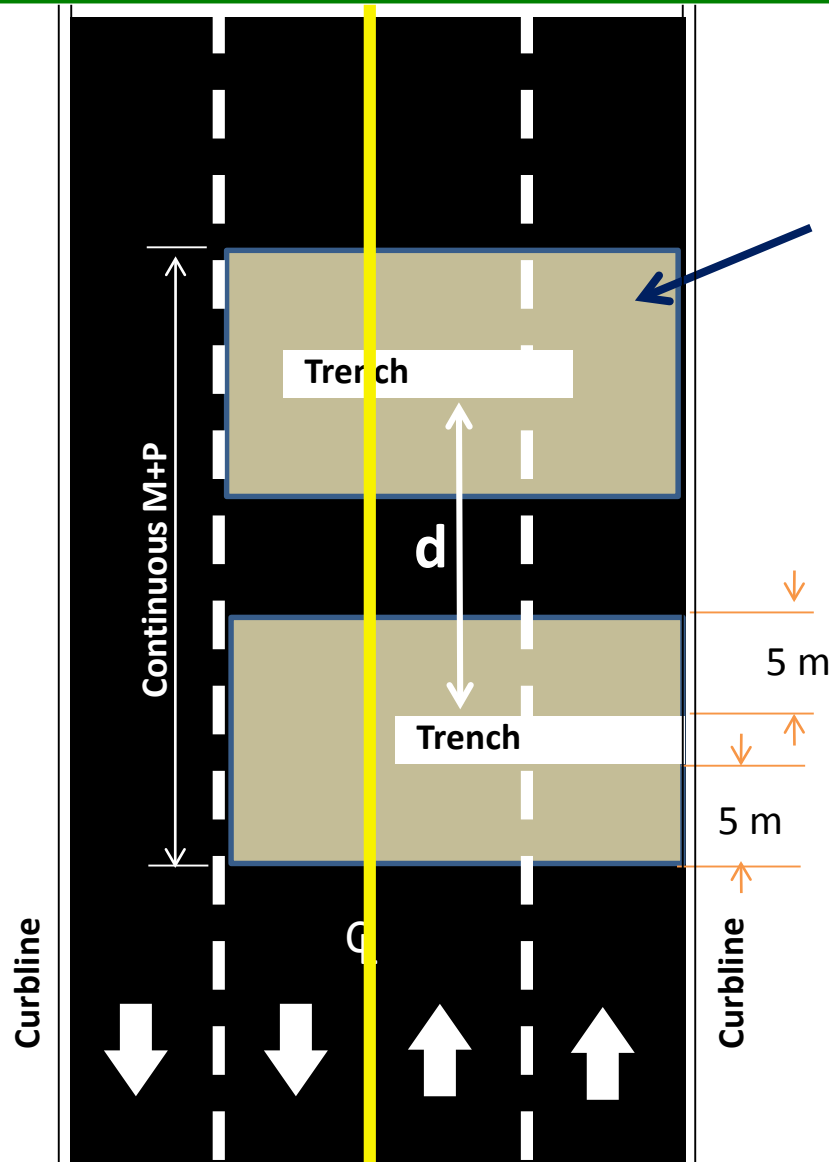
Action

- Permanent repair of utility cut will include removal and repair of portion of pavement affected by the cut as long as the trench is > 1 m from a construction joint; otherwise (i.e., distance ≤ 1 m), the trench will be repaired from curb to joint
- If the transverse cut extends into a second lane, both lanes will be G&P, allowing 5 m on each side

G&P

Minimum width	3.0 m
Minimum milling	40 mm

Multiple Transverse Cuts



Scenario # 6

Overlay

Action

If **d** is ≤ 12 m, continuous M+P

If **d** is > 12 m, separate M+P

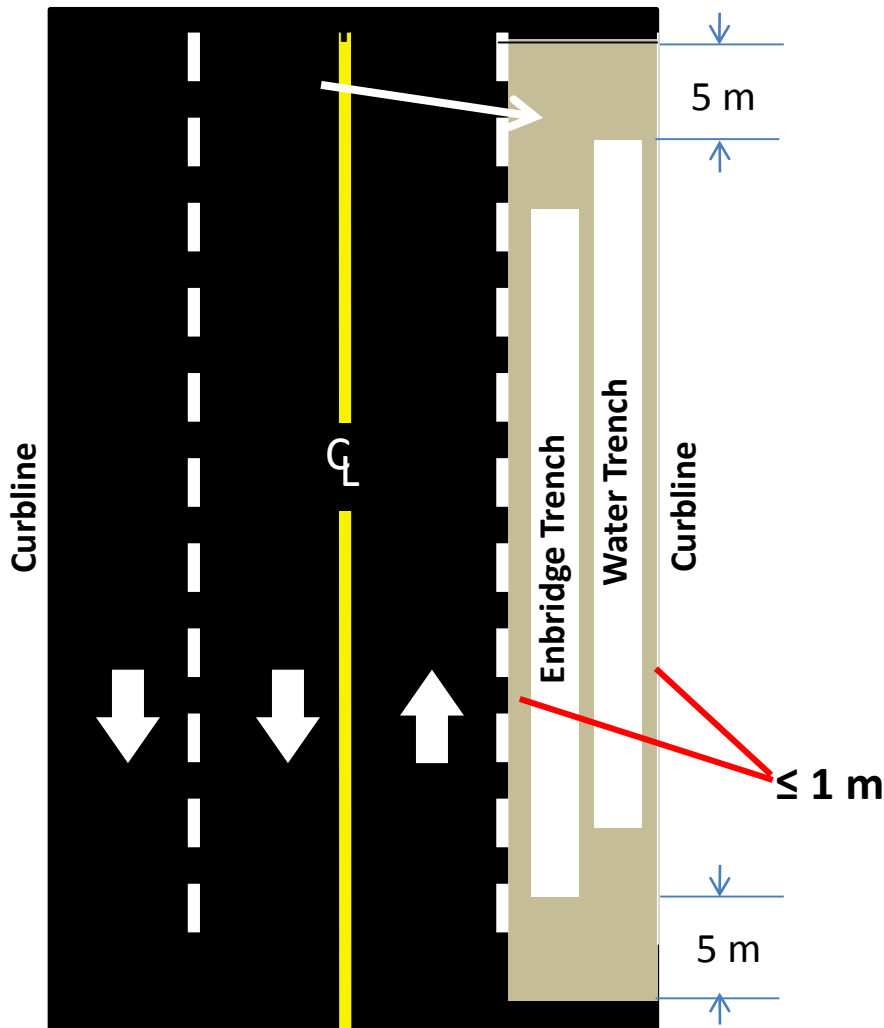
In both situations, allow for 5 m on either side as shown

G&P

Minimum width	3.0 m
Minimum milling	40 mm

Multiple Cuts in One Lane

Scenario #7:



Action

$S \leq 1\text{ m}$, necessitates repair of base on both sides of the trench i.e., curb to centreline

G&P will be applied 5 m from both ends of either trenches

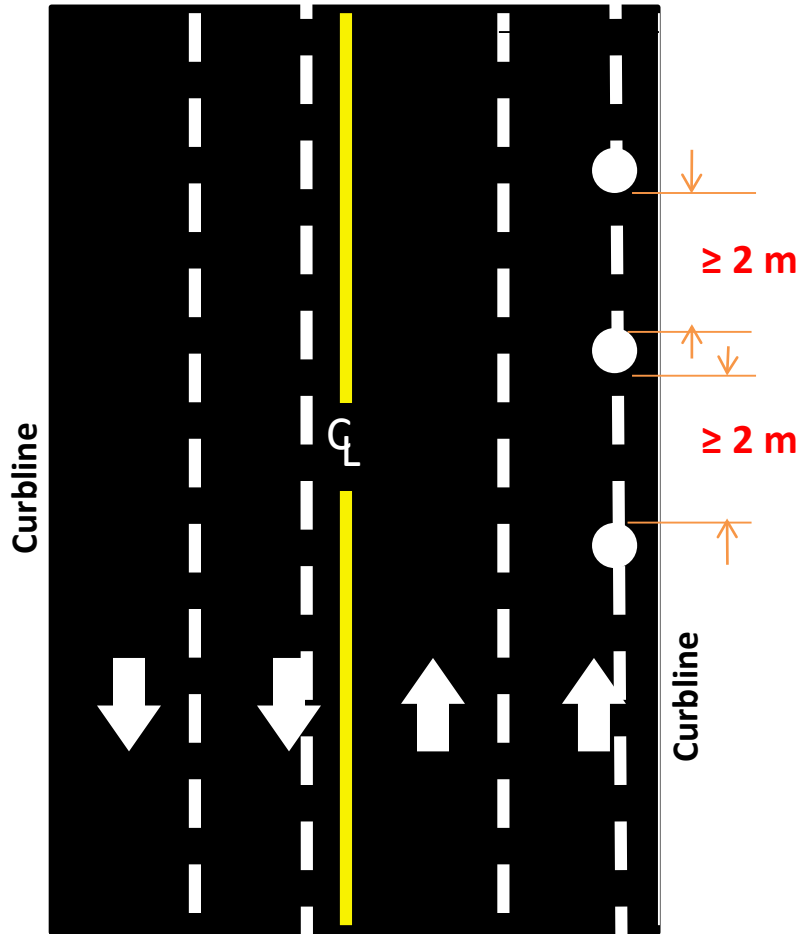
Cost will be proportioned between the two utility owners

G&P

Minimum width	3.0 m
Minimum milling	40 mm

Key Hole Cores Sparsely Situated

Scenario # 8: Keyhole Cores are > 2 m apart, edge to edge

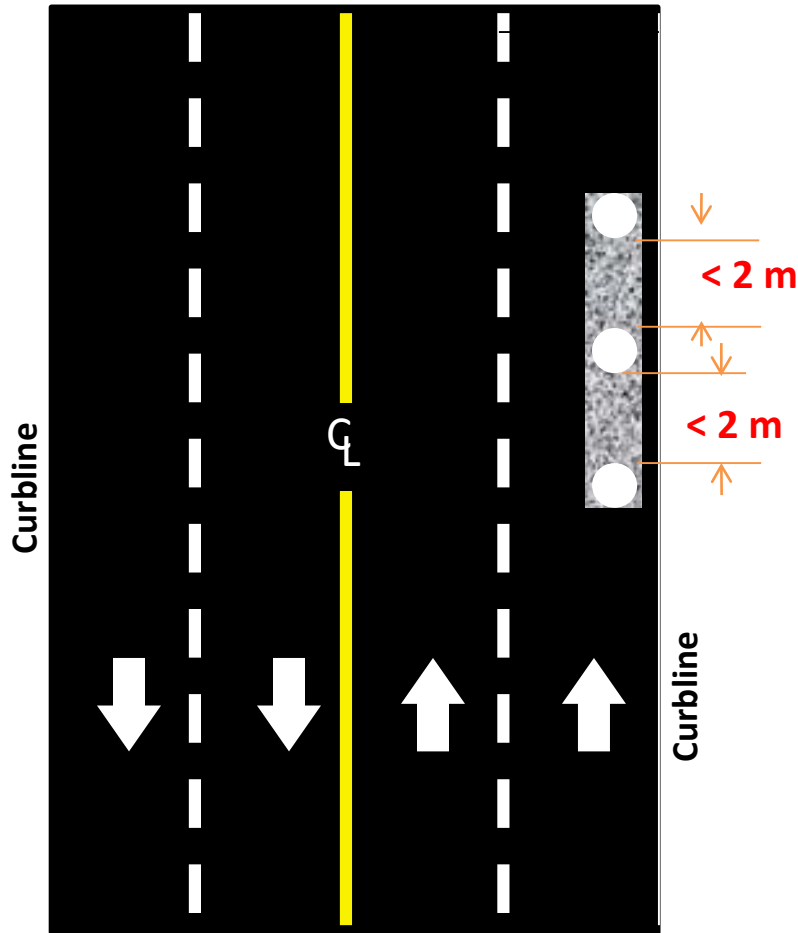


Action

- Since keyhole cores are sparsely separated, treat them as separate entities; PDF is charged according to the area of each
- If some keyhole cores are showing signs of distress, then treat them as needing permanent repairs; refer to TS 4.70 for guidance

Key Hole Cores Densely Situated

Scenario # 9: Keyhole Cores are ≤ 2 m apart, edge to edge



Action

- Since keyhole cores are densely located, treat them as a trench in both repairs and PDF charges
- In permanent repair, excavate a trench enveloping all the keyholes and fix according to the rules and guidelines for trench repair discussed earlier.

G&P

Minimum width 3.0 m
Minimum milling 40 mm

Poor workmanship is not acceptable!

Keyhole tech is not for exploration



Cutting with a saw is the right way!



Mill & Pave both lanes needed,