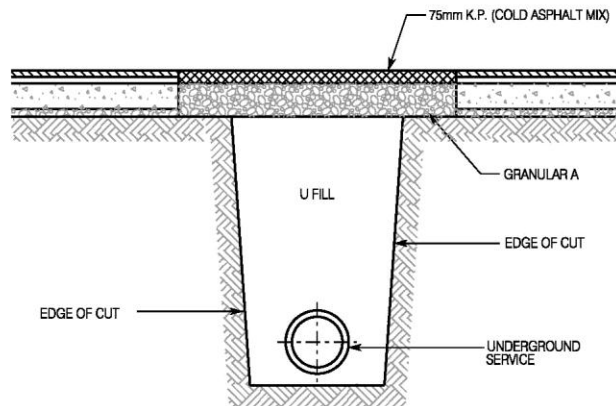
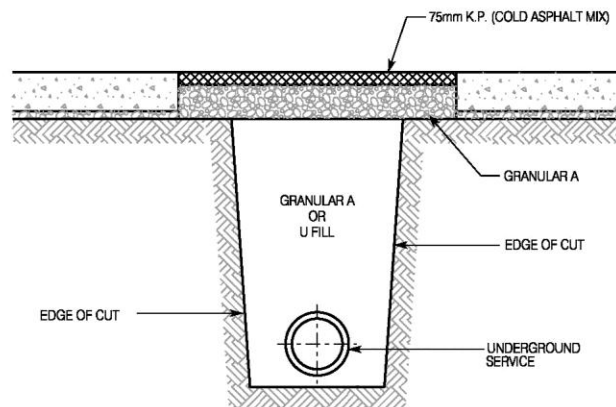


Appendix D

Temporary Backfill Restoration



CROSS SECTION FOR TEMPORARY RE-INSTATEMENT THROUGH AN ARTERIAL ROAD



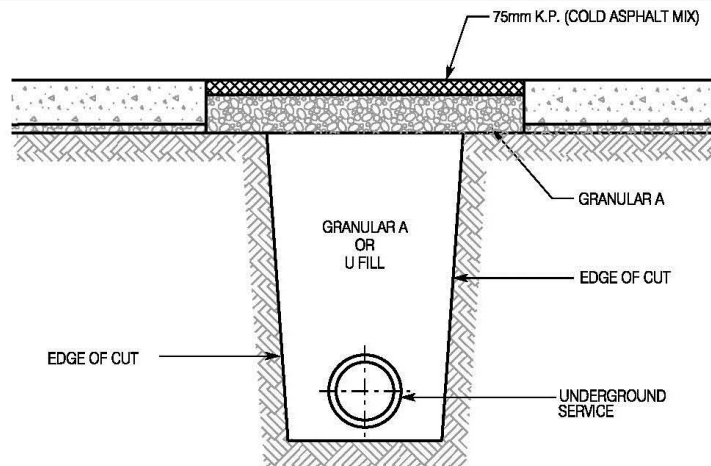
CROSS SECTION FOR TEMPORARY RE-INSTATEMENT THROUGH A LOCAL ROAD

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section

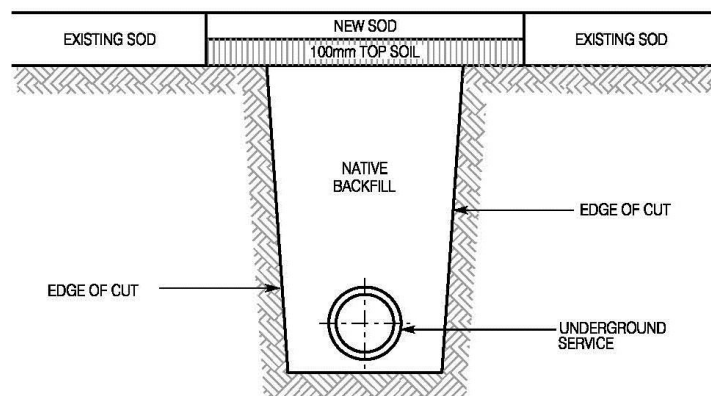
City of Hamilton
Public Works Department

TEMPORARY RE-INSTATEMENT OVER UTILITY CUTS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2013	REV No	FORMERLY:	HAMILTON STD No	D1
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**CROSS SECTION FOR TEMPORARY RE-INSTALEMENT
THROUGH A SIDEWALK OR CONC. ALLEYWAY**



**CROSS SECTION FOR TEMPORARY RE-INSTALEMENT
THROUGH A SODDED AREA**

Exemptions from the minimum clearance may be granted, at the discretion of the affected plant owners and the approval of the City of Hamilton's Corridor Management Section

City of Hamilton
Public Works Department

TEMPORARY RE-INSTALEMENT OVER UTILITY CUTS

DIMENSIONS SHOWN ARE IN MILLIMETRES UNLESS OTHERWISE NOTED (N.T.S.)	DATE June 2013	REV No	FORMERLY:	HAMILTON STD No	D2
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Appendix D

Standard Compaction Requirements

Material	Location / Use	Minimum Specified Compaction	Specification Reference
Hot Mix Asphalt	Pavement Structures on Roads and Paved Parking Areas	97% MARSHALL DENSITY	OPSS 310
Granular "A" Base Course	Road, Curb, Sidewalk, and Bike Path Construction	100% SPMDD	OPSS 501
Granular "B" Sub-Base	Road Construction	100% SPMDD	OPSS 501
Granular Backfill Form 600	Trench Backfill for Sewers, Watermains, Utilities, Catchbasins, Manholes, Valve Chambers	95% SPMDD	OPSS 514 OPSS 516
Earth, Soils, and/or Native Materials	Trench Backfill for Sewers, Watermains, Utilities, Catchbasins, Manholes, Valve Chambers	95% SPMDD	OPSS 514 OPSS 516
	Embarkment Fill and Subgrade Material for Pavements, Sidewalks, and Bike Paths	95% SPMDD	OPSS 501
	General Fill for Landscaped Areas	90% SPMDD	See Contract Documents
Granular Backfill around Structures	Fill next to Footings, Bridge Abutments, and behind Retaining Walls	100% SPMDD	OPSS 514
Granular Bedding	Pipe Bedding for Watermains and Sewers	95% SPMDD	FORM 600 OPSS 701

- Notes:**
- 1) Unless otherwise directed, compaction will be assessed using a nuclear density gauge, as per ASTM D2922 and D3017.
 - 2) SPMDD refers to **Standard Proctor Maximum Dry Density** as determined by MTO laboratory test method LS-706.

Compaction Methods

All contract references to % compaction or maximum compacted densities by whatever method specified, shall be interpreted as being “the maximum dry density as determined by current City procedures”.

Current City procedures shall mean the method described in the current Standards:

- D.698-70 Moisture – Density Relations of Soils Using 5.5 lb Hammer and 12” Drop
- D.2922-71 Determining the Density of Soil and Soil-Aggregate in Place by Nuclear Methods
(Shallow Depth)
- D.2950-71T Density of Bituminous Concrete in Place by Nuclear Methods

As an expedient, the City may determine the (degree of compaction) maximum dry density by “the constant dry weight methods” as set out in D.H.O. Research Report No. 141, together with such variations of the above methods as the City may from time to time introduce.

Any such deviation between current City procedures and methods formerly specified or any modifications to current City procedures which may be introduced shall be for the purpose of increasing the reliability of the test result and speed in field testing and will result in no increase in the compactive effort required.

All backfill materials shall be placed in layers not exceeding 300 mm (12”) in depth and compacted to a minimum of 95% Standard Proctor Dry Density – see chart on previous page.