

4 TRENCHING AND REINSTATEMENT WORKS

4.1 Introduction

The purpose of this section is to clearly outline Council's requirements for excavation, backfilling and reinstatement works within the road reserve and public property.

It is important to ensure that all excavation works are completed to a high standard with minimal disruption to the surrounding environment.

4.1.1 Objectives

Council must ensure that all trenching and excavation works meet the following objectives:

- a) The health and safety of the public, particularly the local community, has been ensured;
- b) The level of the service is as good as or better than the existing standard of service following the reinstatement of the new works;
- c) All practicable steps have been taken to minimise the level of disruption;
- d) A works Access Permit (WAP) and Traffic Management Plan (TMP) have been issued by Council for the works;
- e) Any affected or potentially affected persons have been notified in advance of the proposed works;
- f) Remediation and reinstatement works have been completed to the same or higher standard than prior to the initiation of works.

4.1.2 Key References

Table 4-1: Key References

Document	Reference	Comment
Tasman District Council Engineering Standards & Policies 2013	Liability for maintenance in the road reserve lies with the Road Controlling Authority.	Council's maintenance contractor carries out the work.
New Zealand Transport Agency	Code of Practice for Temporary Traffic Management	Means of compliance for traffic control measures
New Zealand Standards	NZS 4402:1986 NZS 4404:2010 NZS 4431:1989 NZS 6803:1999	Methods of Testing Soils for Civil Engineering Purposes Land Development & Subdivision Infrastructure Code of Practice for Earth Fill for Residential Development Acoustics – Construction Noise
Utilities Access Code	www.nzuag.org.nz	National COP for Utility Operators Access to the Transport Corridors 2011

4.2 Preparation for Excavation Works

4.2.1 Plans

All excavation and trenching works shall meet the following requirements

- a) Plans of the proposed work shall be submitted to the Council with the Corridor Access Request (CAR), in accordance with Section 4.2.2 of this document.
- b) The positioning of pipes/conduits will, wherever possible, be in accordance with TDC Drawings 608 and 609. Also refer to “Top of the South Maps” for Council assets. However, a site specific service locate will still be necessary.
- c) Variation from these alignments shall be by written agreement from the Corridor Manager following discussions with other affected service authorities.
- d) “As built” plans shall be made available on request to the Corridor Manager and no later than three months after the completion of works.

4.2.2 Notification

A CAR shall be lodged at the Council and shall meet the following requirements:

- a) Notice is required for each separate job or section of a continuing job which involves excavation or the lifting of the surface within a road reserve in the Tasman District.
- b) A minimum of fifteen (15) working days notice is to be given for planned excavations. Preliminary notification at the concept stage is advised for major works.
- c) The operator shall advise other affected service authorities of proposed construction works. Confirmation that other affected service authorities have been advised of planned works shall be indicated on the CAR.

4.2.3 Issue of Permit

- a) Providing that all required information has been supplied with the CAR, the Council shall issue a Works Access Permit (WAP) and advise of other activity in the locality and specify the general, special and local conditions related to the proposal.
- b) No works may commence in advance of the WAP being issued. The duration of the WAP will be specified and extensions of time applied for in writing. Council shall be notified a minimum of 48 hours prior to site establishment.
- c) A charge for each permit issued will be made in accordance with the rates that may be set by the Council from time-to-time. Fees and charges are accessible on the TDC website.

4.2.4 Disruption to Public

To minimise disruption to the public, the requirements as set out in Table 4-2 will be complied with:

Table 4-2: Requirements to Minimise Disruption to Public

Matter	Standard	Comment
Notice	Twenty four (24) hours notice to property owners.	The operator shall advise all affected parties, and provide a contact for further information and/or complaints.
Normal work hours	Between 0700 – 1800 hours, Monday to Saturday	Excluding public holidays.
Work hours on arterial roads	Between 0900 – 1600 hours	Other hours may be specified by Council.
Work hours CBD	On a case-by-case basis	Hours to be specified by Council and will depend on time of year and adjacent shop and residential/apartment locations.
Noise	AS/NZS1269:2005	

4.2.5 Temporary Traffic Control, Public Safety

The following standards and regulations apply to the temporary control of traffic where a road is affected by works disrupting normal traffic flows:

- a) All relevant matters in the NZTA 4th edition Code of Practice for Temporary Traffic Management;
- b) Obligations under the Health and Safety in Employment Act 1992.
- c) The operator shall be responsible for the supply, erection and maintenance of all necessary barricades, lights, warning notices, traffic control signs etc.
- d) Should the contractor wish to use any alternative methods of traffic control, the prior consultation with and approval of the Council shall be required.
- e) The carriageway shall be fully open to the traffic during hours of darkness and not more than half the carriageway shall be closed at any one time, except with the express permission in writing of the Council.
- f) Additional traffic control measures may be required at the request of Council, or the NZ Police (Traffic Safety).

Failure by the contractor to provide adequate safety measures may result in a stop work notice being issued by the Council, until such time as adequate control is provided.

4.2.6 Closure of Roads

The following standards apply to the closure of roads:

- a) No road may be closed to any traffic without the specific written approval of Council.
- b) The closure of any road requires public notification. This notification will be carried out by the Council, at the applicant's expense. Up to seventy-two (72) days notification is required for road closures.

- c) Approval for road closure may be granted, but only after all other options have been considered.
- d) Where work is to take place within 50.0m of traffic signals, the operator shall consult with Council.
- e) Special conditions may be imposed by Council to protect the detector loops and the operation of the signals.

4.3 Excavation

4.3.1 General

The follow general standards apply to excavation works:

- a) Where excavation is required through any cement concrete, asphaltic concrete or chip seal surface, the edges of the excavation or trench shall be cut with a power saw prior to the excavation of the trench.
- b) The cut is to extend through the full thickness of the surface layer in a clean straight vertical line. The cut shall be 150mm beyond (50mm in footpaths) and parallel to the edge of the trench or to a line outside any pavement damage, whichever is greater.
- c) Within footpaths all saw cuts shall be parallel to or at right angles to the centre line of the footpath.
- d) Only wet cutting shall be permitted in urban areas or where directed by Council, to minimise the problems caused by dust.
- e) All excavated material shall be removed from the site immediately as excavation proceeds.
- f) Areas adjacent to the excavation will not be undercut. If slumping of material from the sides of the excavation causes depressed areas adjacent to the excavation or if the edges of the pavement are lifted during excavation, additional saw cutting outside of the original line of the excavation and outside the area of damage shall be required before reinstatement is permitted.
- g) Trench widths will be kept to the minimum necessary to lay the service and correctly compact the backfill (through use of trench shields).

4.3.2 Thrusting/Mole Tunnelling

The following standards apply to thrusting or mole tunnelling:

- a) Unless impractical or unsafe, thrusting/drilling/mole tunnelling will be required.
- b) Specific approval is required for “open” trenching in the road reserve.
- c) Water jetting will not be permitted.

4.3.3 Open Trenches

The following conditions apply to the use of open trenches:

- a) The maximum permitted length of open trench at any one time shall be 100m unless approval for a greater length has been authorised by Council.
- b) The operator will not exceed any length that is not capable of being backfilled and opened to traffic in the same day, nor shall it interfere with two-way traffic flow.
- c) Open trenches will not be permitted overnight without the prior authority of Council.
- d) All open trenches will be maintained in a dewatered condition and water logged material removed to the satisfaction of Council.
- e) Water from any excavation will be disposed of so as not to cause any damage, nuisance or contamination/sediment discharge;
- f) A discharge consent may be required for (e) above.

4.3.4 Backfilling

Backfilling works shall be consistent with the following:

- a) Undertaken in accordance with TDC Drawing 400 using imported fill material. Excavated material may be permitted following prior approval by Council.
- b) Basecourse used in the pavement section of the backfill shall be to New Zealand Transport Agency M/4 or TDC Drawings 400 to 402 standard.
- c) The material used for bedding underneath and around the service or service duct shall be as required by the service authority. In no case shall it be less than 100mm above the top of the service, unless specific coverage is required by a reticulation pipe laying specification.

4.4 Reinstatement and Repair

4.4.1 General

- a) As work proceeds the operator shall progressively carry out all restoration and tidying up work. If regular tidying up and restoration is not done, Council may require and instruct the operator concerned to carry out this work immediately.
- b) Arrangements shall be made to dampen down work areas and excavated material as may be required from time-to-time, to eliminate any dust nuisance.
- c) On completion of the work, the operator shall remove all plant, materials and other things that may have been brought upon the site in aid of the works, and generally clear away all rubbish and leave the site in a similar or better condition to that which existed before the work commenced. A Works Completion Notice shall be provided to Council.

- d) Any trees or branches cut down or tree stumps uprooted during the work shall be removed. Branches that require removal should be cut by saw and not broken by machinery. Supervision by an arborist may be required.
- e) The operator shall, at their own expense, clean out all sumps and repair or reinstate all road surfaces, fencing, walls, floors, lawns, gardens, paths, inclusive of transplanting trees, shrubs etc and make good all damage which may have been caused through this operation to at least as good as the “as found condition” in connection with the work.
- f) Where existing services are damaged as a result of the construction work, the operator shall immediately advise the owner of the damaged services (public or private).
- g) The cost of repair or reinstatement of any disturbances or damage shall be borne by the operator. The standard of reinstatement shall be to the satisfaction of the Corridor Manager.
- h) The repair and reinstatement shall include damage to:
 - water pipes;
 - wastewater sewer or stormwater drains, and any other underground services or structures;
 - existing kerb and channel or swales, signs/road markings;
 - survey marks within the vicinity of their work; and
 - trees, shrubs or ornamental gardens within the road reserve.

4.4.2 Surface Reinstatement

Reinstatement shall be in accordance with Section 5 of the National Code of Practice for Utilities Access to Transport Corridors. The following standards apply to the reinstatement of surfaces following any excavation works:

- a) For works within the CBD or arterial roads, surface reinstatement shall be completed within twenty-four (24) hours of the trench being backfilled. Any extension of time ie, rain/adverse weather conditions shall be approved by the Corridor Manager.
- b) Surface reinstatement outside the areas listed in a) shall be completed within five (5) days of the trench being backfilled or such other period as directed by the Council.
- c) Failure to complete reinstatement within the specified period may result in Council arranged reinstatement at the operator’s expense.
- d) All excavations will be backfilled as detailed on TDC Drawings 400, 401 and 402 to the underside of the proposed wearing surface, or to the finished level if permanent reinstatement is not being undertaken immediately. This temporary over-filling will be removed when permanent reinstatement is carried out.
- e) No backfilled site shall be opened to traffic until temporary or permanent surfacing is in place. Permanent surfacing shall be completed within seven days of temporary surfacing.

- f) Trenching and reinstatement shall be subject to a two year maintenance period from the approval of the Works Completion Notice.
- g) If plant mix is not available, a temporary seal of sprayed emulsion and Grade 6 chip may be substituted with the approval of Council.
- h) In addition to the above conditions, the standards in Table 4-3 shall also be met in relation to the particular surface being reinstated.

Table 4-3: Surface Reinstatement Requirements

	Standard or Reference	Clarification and Additional Requirements
Within carriageways	<p>Consistency with TDC Drawing 400;</p> <p>Finished wearing surface flush with or no more than 5mm above the existing surface;</p> <p>Unsealed surfaces, backfilling shall be as for chip sealed carriageways with 50mm of top course being placed as the final reinstatement</p> <p>Appropriate “polymer modified bandage” 100mm x 1.5mm thick, shall be laid over the finished saw cut/joint.</p> <p>(For State Highways refer to the New Zealand Transport Agency).</p>	<p>All parts of the surface damaged during or as a result of the work shall be reinstated to maintain the cross-fall slope.</p> <p>Finished levels shall be compatible with the existing pavement.</p> <p>Surface boxes, eg water hydrant boxes, manholes etc shall be installed in their final location during trench compaction and their finished level shall be within 5mm to 10mm above the reinstated pavement surface.</p> <p>The “1 metre rule” will apply, ie if there is a defined crack or joint within one metre of the completed works then that work shall extend to and include that crack on the joint.</p>
Within footpaths and vehicle crossings	<p>TDC Drawings 616 and 617.</p> <p>Finished surface matching the adjacent existing surface and finishing flush with the existing surface;</p> <p>Reinstatement of damaged footpaths shall be across the full width of the footpath as shown on TDC Drawing 403 and to the next construction joint;</p> <p>Concrete footpaths shall match the existing with a minimum thickness of 100mm and the concrete shall attain a minimum compressive strength of 28 MPa after 28 days;</p> <p>Construction joints shall be formed at 6.0m centres and the line and level of the finished surface shall match the crossfall and level of the adjacent undamaged surface;</p>	<p>In asphaltic concrete and chip-sealed footpaths, the depth of basecourse at vehicle crossings shall match the depth of the existing basecourse, or a minimum depth of 200mm for commercial crossings, 300mm for industrial crossings and 150mm for residential crossings – whichever is the greater.</p> <p>Vehicle crossings which are affected by the work shall be reinstated to the same material and texture as per the adjoining footpath, while industrial crossings are to match existing with a minimum standard as for commercial crossings.</p> <p>Surface boxes etc shall be finished to either the berm level or footpath level.</p> <p>The “1 metre rule” will apply, ie if there is a defined crack or joint within one</p>

	Standard or Reference	Clarification and Additional Requirements
	Crossings affected by the work shall be reinstated as per TDC Drawings 616 and 617.	metre of the completed works then that work shall extend to and include that crack on the joint.
Interlocking pavement block surfaces	The work shall be completed to give a true surface in accordance with NZS3116.	Blocks removed during excavation, or new blocks of identical shape, thickness and colour shall be replaced on a sub-grade similar to that in adjoining undisturbed areas. Council may require a nominated contractor to complete reinstatement.
Within Grassed Berms, Shoulders and Lawns	<p>TDC Drawing 401.</p> <p>Berms are the responsibility of adjacent owners to maintain.</p> <p>The final 100mm shall consist of topsoil which shall be raked level with surrounding areas and shall be free of all stones.</p> <p>The reinstated area shall be sown with the following grass seed mixture at a rate of 1kg to 40 square metres and raked into the soil:</p> <ul style="list-style-type: none"> • 1.0kg chewing fescue • 4.5kg dwarf rye grass • 0.5kg browntop <p>Turfs may be cut from the berm 75mm in thickness and 50mm wider than the trench and stacked for re-use.</p> <p>Surface boxes etc shall be finished to the berm level.</p>	<p>A dressing of superphosphate shall be applied at the rate of 30 grams per square metre. Alternative fertiliser and application rates may be used subject to prior consultation and agreement with the Engineering Manager. After two months, a dressing of Sulphate of Ammonia applied at a rate of 30g per square metre shall be applied.</p> <p>Full reinstatement shall be achieved within 48 hours with screened topsoil being raked into all cut joints, with all turfs being adequately watered immediately following completion of reinstatement.</p>
Alternatives to grass berms	Various surface dressings may be used with the Corridor Manager's approval subject to mitigation of risks.	<p>Risk to Council</p> <ul style="list-style-type: none"> - acceptability to local residents; - services below ground; - permeability of cover; - safety of pedestrians – tripping; - debris dispersal; - vandalism; - no cost to Council for reinstatement; and - locality to traffic volumes, pedestrian volumes and use.

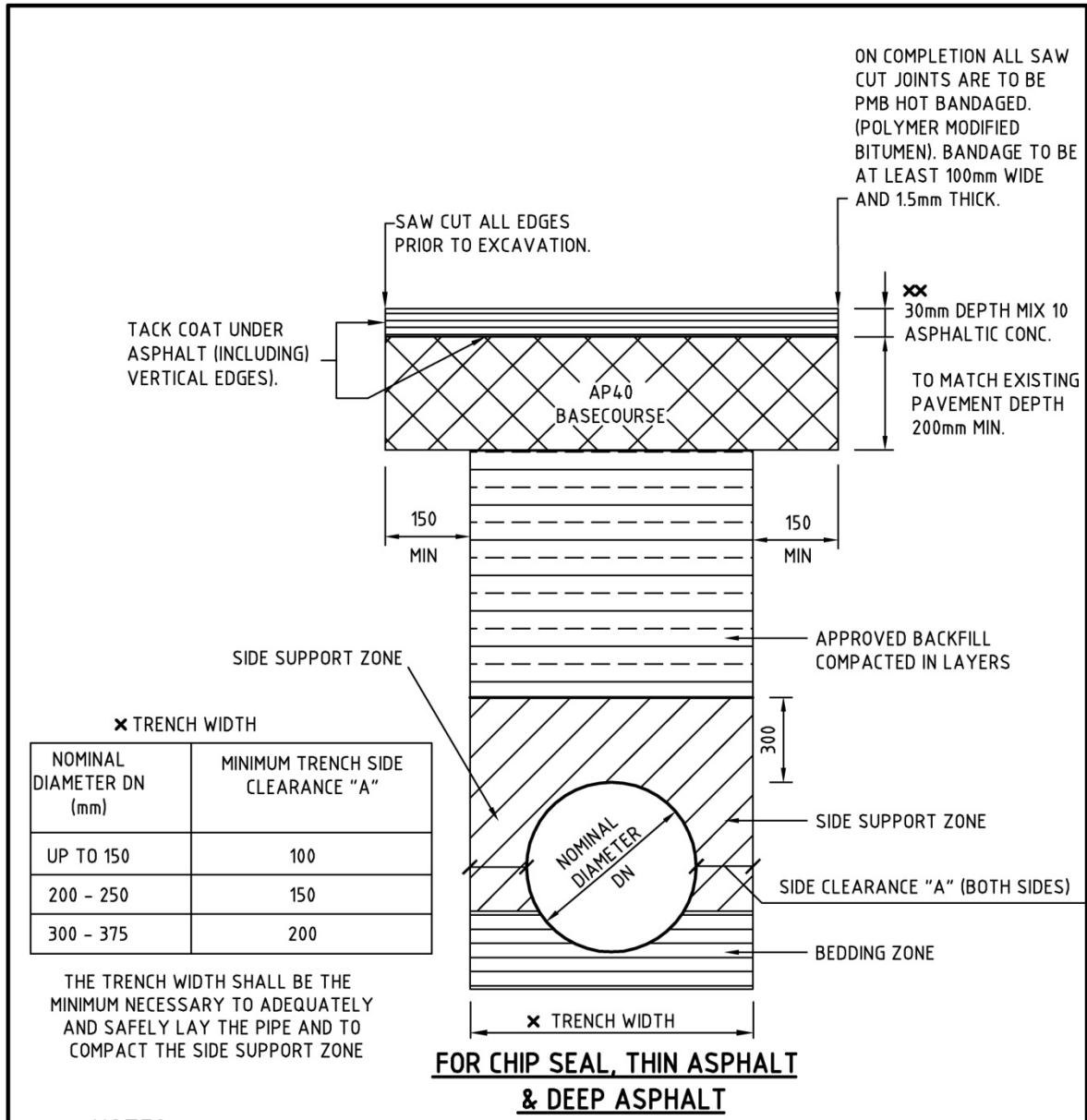
4.4.3 Inspections

Within 15 working days of the completion of all works included in the WAP, a Works Completion Notice (WCN) shall be submitted to Council.

The WCN shall include:

- (a) Any amendments to information supplied in the CAR application necessary to accurately describe the location and extent of the work.
- (b) Quality assurance records or certification.
- (c) A written statement confirming that the completed works fully comply with the WAP conditions.
- (d) As built information.

Drawing No. 400 – Trench reinstatement in carriageway



x TRENCH WIDTH

NOMINAL DIAMETER DN (mm)	MINIMUM TRENCH SIDE CLEARANCE "A"
UP TO 150	100
200 - 250	150
300 - 375	200

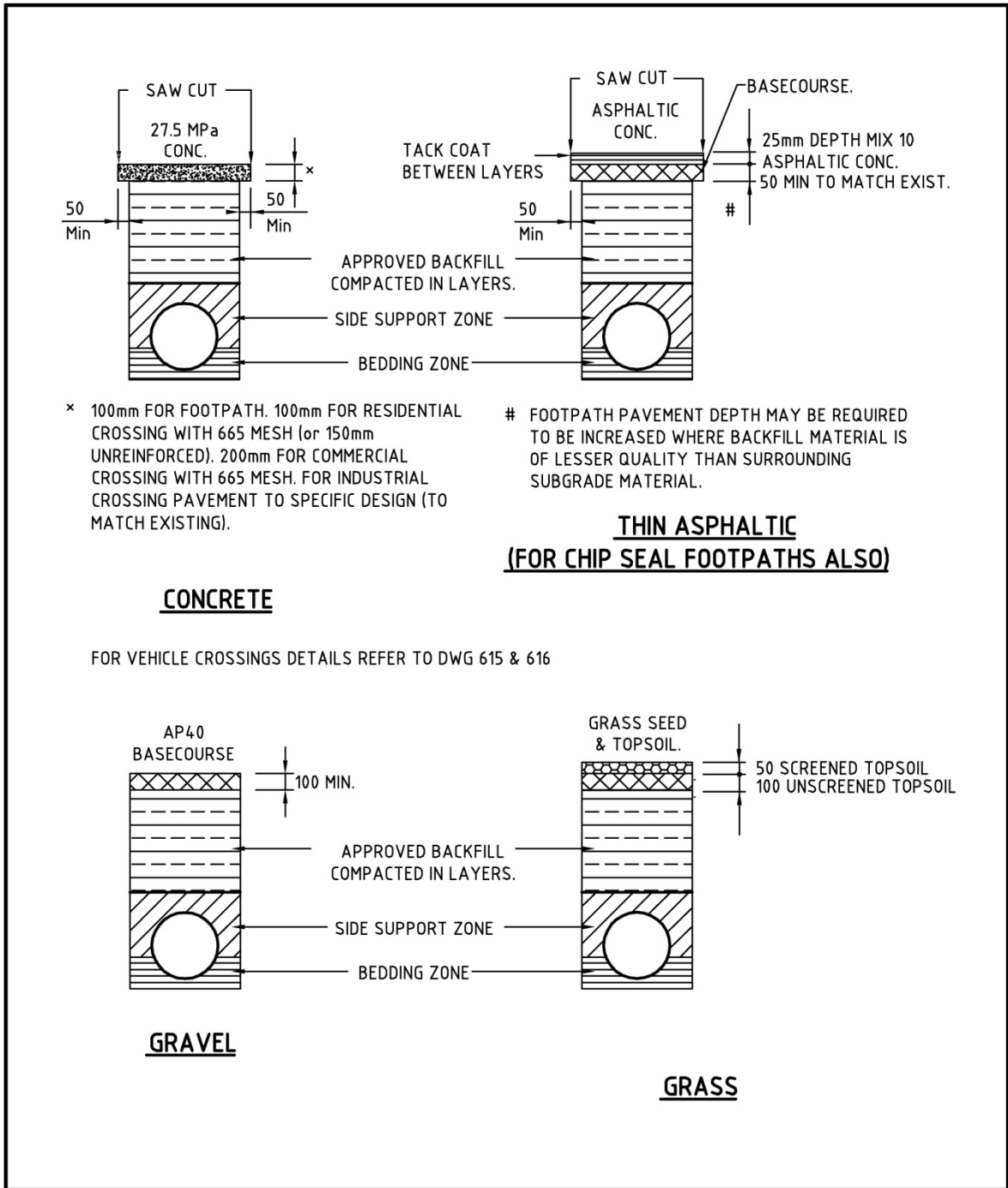
THE TRENCH WIDTH SHALL BE THE MINIMUM NECESSARY TO ADEQUATELY AND SAFELY LAY THE PIPE AND TO COMPACT THE SIDE SUPPORT ZONE

NOTES

- UNSEALED ROADS & SHOULDERS. REINSTATEMENT TO BE 150mm DEPTH OF 40mm BASECOURSE TOPPED OFF WITH 50mm DEPTH OF 20mm BASECOURSE.
- FOR FINISHED SEAL LEVEL TOLERANCE SEE SECTION 6.
- x DEPTH TO MATCH EXISTING BITUMINOUS LAYER DEPTH, WHERE DEPTH IS GREATER THAN 80mm. THE CORRIDOR MANAGER MAY SPECIFY M16 FOR SPECIFIC LOCATIONS.

	TRENCH REINSTATEMENT IN CARRIAGEWAY	
	ASSET MANAGEMENT ENGINEERING APPROVED ENGINEERING MANAGER	NOVEMBER 2013 DATE
		DRAWING No. 400

Drawing No. 401 – Trench reinstatement in footpath



TRENCH REINSTATEMENT IN FOOTPATH



ASSET MANAGEMENT ENGINEERING

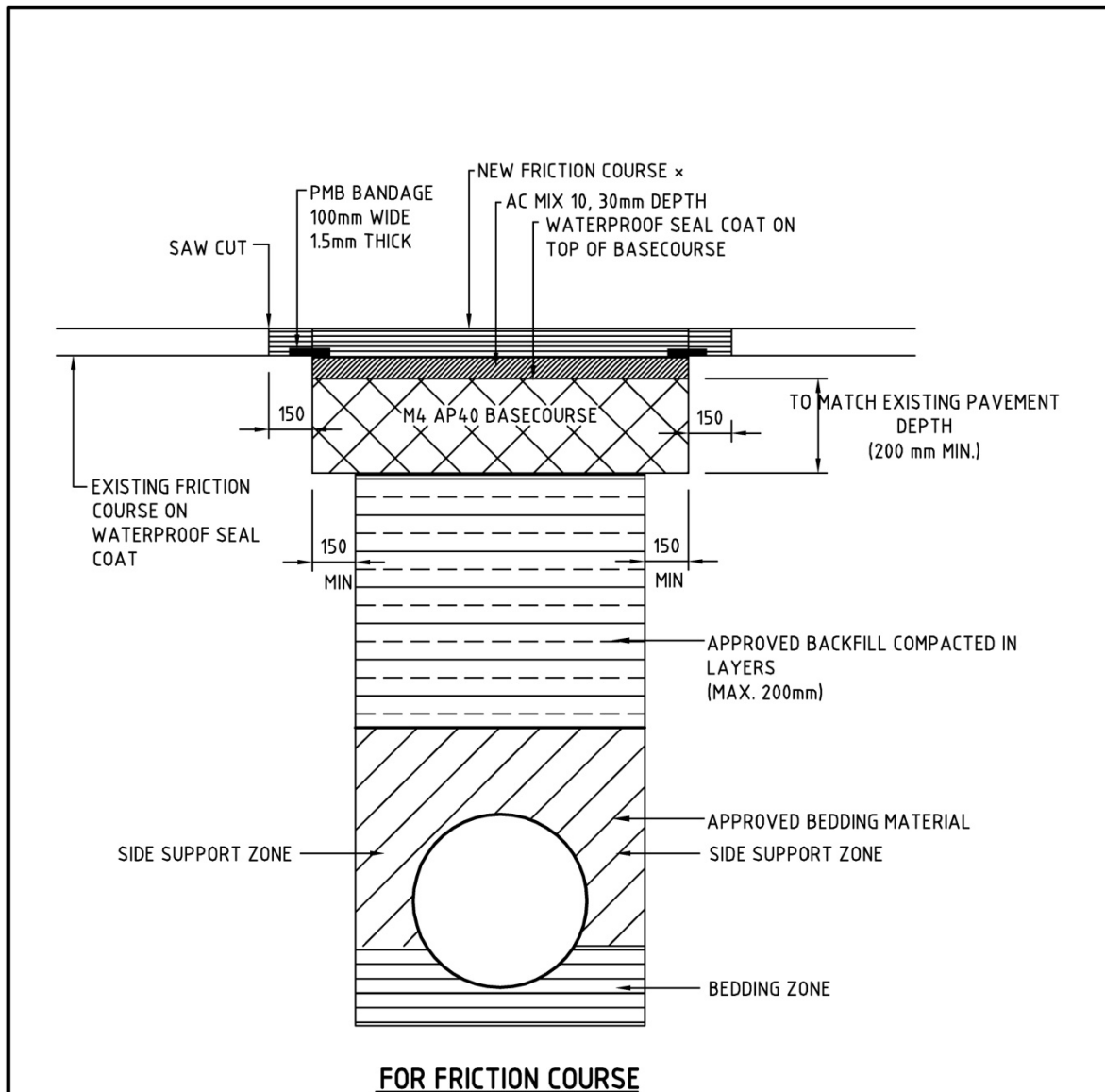
DRAWING No.

APPROVED
[Signature]
ENGINEERING MANAGER

NOVEMBER 2013
DATE

401


Drawing No. 402 – Trench reinstatement in carriageway (friction course)



FOR FRICTION COURSE

NOTES

1. FOR FINISHED SEAL LEVEL TOLERANCES SEE SECTION 7.
2. xDEPTH TO MATCH EXISTING BITUMINOUS LAYER DEPTH, WHERE DEPTH IS GREATER THAN 50mm. CONSULT WITH COUNCIL FOR DEPTHS >50mm. M16 AC MAY BE SPECIFIED FOR SPECIFIC LOCATIONS.

	<p>TRENCH REINSTATEMENT IN CARRIAGEWAY (FRICTION COURSE)</p>	
	<p>ASSET MANAGEMENT ENGINEERING</p> <p>APPROVED <i>[Signature]</i> ENGINEERING MANAGER</p>	<p>NOVEMBER 2013 DATE</p>
		<p>DRAWING No.</p> <p>402</p>

Drawing No. 403 – Footpath reinstatement concrete or asphaltic concrete

