

1. PROCEDURE OVERVIEW

- 1.1 This procedure provides guidance on how to restore Council assets such as; roads (sealed and unsealed) including shoulders, kerb and gutters, stormwater pits, GPT's, table drains, paved areas, and grassed areas to a satisfactory standard.

2. RELATED POLICY/IES

- 2.1 Development Control Plan – 2022

3. RELATED LEGISLATION

- 3.1 Local Government Act 1993
- 3.2 Roads Act 1993
- 3.3 WHS Act 2011
- 3.4 Protection of the Environment Operations Act 1997
- 3.5 AS 1742.3-2019 Manual of Uniform Traffic Control Devices Part 3
- 3.6 AS 2150-2005 Hot Mix Asphalt
- 3.7 AS 3600-2018 Concrete Structures
- 3.8 AustRoads Guide to Road Design Part 6 – Roadside Design, Safety and Barriers

4. GENERAL

- 4.1 In all instances, the holder of the Road Opening Permit or Utility Service Provider that work is being carried out for is responsible for all temporary & final restorations. All proposed work is to be consulted and approved by Councils Technical Officer or Engineer before any work commences.
- 4.2 This restoration procedure should be regarded as a guide to Officers of Utility Undertakings and Council carrying out their responsibilities in those areas of work where there is mutual interaction and mutual concern. It is not designed to determine the authority of either party which is set out in various Acts and the NSW Local Government Act and relevant regulations and by-laws under these Acts.
- 4.3 The overall infrastructure cost is of vital importance and should be carefully considered by each party when carrying out work which affects the other party's services.
- 4.4 No system of pro forma or periodical exchange of programs will be complete without the establishment and maintenance of good day to day contact between Officers of Utility Undertakings and Council. This will be recognised and encouraged at all supervisory levels by the convening of Liaison Committee meetings from time to time.

- 4.5 In all new subdivision areas, all work carried out by contractors on behalf of Developers or Residents are to be subjected to Council's Restoration Procedure. Prior to the release of linen plans, Council's Development Engineer is to ensure that all restoration work complies with Council's standards prior to the particular services being handed over to the relevant Service Utilities for future maintenance. Wherever the wording Utility Undertaking appears in this document, it shall mean the Developer/Contractor and shall apply to the Developer/Contractor. Council is to have all direct contact with the Developer/Contractor prior to the official hand over of the service to the Utility Undertaking. Once the service has been handed over the meaning of the word Utility Undertaking shall apply to the relevant Utility Undertaking.
- 4.6 All work carried out by contractors on behalf of Utility Undertakings shall be carried out subject to the conditions as detailed in the Restoration Procedure. All Utility undertakings are to provide copies of relevant sections of the protocol to all Contractors. Although actual work may be carried out by a contractor, the ultimate responsibility shall be with the Utility Undertaking who organised the work. This is expected to apply for routine maintenance type of work and/or enhancement work for existing Services.
- 4.7 The Restoration Procedure shall also apply to private contractors who carry out minor service connections to private residents. The existing practice is where the Council approves the application provided the relevant Service Authority has given permission for the work to proceed. A Road Opening fee is paid prior to commencement of any work. Council will deal directly with the contractor with respect to the extent of restoration work involved and all charges associated with the restoration work shall be paid by the contractor prior to commencement of work. No Restoration Order type arrangements shall apply.
- 4.8 The meaning of the words "Utility Undertaking" throughout this document is to be read in conjunction with clause 4.4 and clause 4.5.

5. ROADS & ROAD SHOULDERS

- 5.1 In all instances, under boring is to be used in preference to trenching.
- 5.2 The minimum standard for road restorations are outline in Attachment A. All proposed work is to be consulted and approved by Councils Technical Officer or Engineer before any work commences.
- 5.3 Where bituminous pavement is underlain by Asphaltic Concrete (AC), the pavement shall be restored in AC matching the total thickness of the existing pavements; or meet the minimum standards outlined in Attachment A. Small openings in sprayed bituminous pavements such as minor potholing can be restored using asphaltic concrete to a minimum thickness of 100mm.
- 5.4 In utility service excavations across sealed roadways, the bedding of pipes should be in accordance with the individual Utility Undertaking's specification and suitable bedding material is not to extend more than 200mm above or below the service. The remainder of the backfill material, sub-base course, is to be road base (DGB 20) or stabilised backfill 14:1 Sand/Cement with a minimum of 250mm road base (DGB 20), compacted by approved mechanical equipment in recommended layers no greater than 200mm to maximum dry density of 98% as determined by the modified Compaction Test. The sub-

base course is to be trimmed to a level 190mm lower than the surrounding undisturbed pavement and filled with 140mm AC base course and topped with a 50mm AC14 wearing course as outlined in Attachment A.

- 5.5 The joint between new and existing asphalt shall be vertical and cut by diamond saw or milling machine. The vertical face of the old asphalt shall be treated by bituminous tack coating.
- 5.6 In the case of the road being bituminous spray seal, the seal shall be restored to match existing surfaces. The thickness and aggregate of the bituminous aggregate size shall match the existing pavement. In suburban areas and roads subject to fast traffic in rural areas, the final 150 mm of backfill is to be stabilised with min. 3% cement by volume. Final restorations are required to be sealed to Council Design Specification D2-16.

Note: If stabilised road base is utilised, the pavement is to be sealed with a bituminous spray seal within 24 hours of placement.

- 5.7 Carriageway pavements and pathways shall be restored in a continuous manner to a condition equivalent to that existing at the commencement of the Works, or to Council design specifications (D2-16, D2-17, D2-19). All temporary and final restorations in carriageways and pathways shall be of sufficient quality to ensure the safety of the site for pedestrian and vehicular traffic.
- 5.8 Unsealed roads shall only be reinstated with natural certified road base material with suitable plasticity and compacted in accordance with industry standards. Crushed concrete or roadbases containing man made materials are not permitted.
- 5.9 The road shoulder is defined as the portion of carriageway beyond the traffic lanes & contiguous and flush with the surface of the pavement. In excavation across the road shoulder, the bedding of pipes should be in accordance with the individual Utility Undertaking's specification and suitable bedding material is not to extend more than 200 mm above or below the service. The remainder of the backfill material is to be road base (DGB 20) or stabilised backfill 14:1 Sand/Cement with a minimum of 250mm road base (DGB 20), compacted by approved mechanical equipment in recommended layers no greater than 200mm to maximum dry density of 98% as determined by the modified Compaction.
- 5.10 When removing sections of bicycle lanes, a minimum length for removal in concrete or asphalt. Bicycle lanes will be equal to the width of the footpath (1 to 1 ratio width of path to length of section to be removed) with cuts or joins to be located at the nearest construction joints. Final restoration will be undertaken as soon as practicable. Bicycle pathways, and other public areas, shall be restored with materials consistent with the existing surface before commencement of the Works, or as directed by Council.

6. KERB & GUTTERS

- 6.1 The minimum standard for Kerb & Gutter restorations are outline in Attachment B. All proposed work is to be consulted and approved by Councils Technical Officer or Engineer before any work commences.

- 6.2 The minimum length of the kerb to be replaced is 1.2 metres. The road edge should be neatly cut and removed to a minimum width of 300mm to allow room for formboards and must be filled with AC14 and suitably finished/compacted at completion of works, dowel bars with a minimum diameter of 12mm are to be drilled in place in existing kerb to allow the area being restored to tie into existing. Refer to Wollondilly Shire Council Standard drawing WSC.D1.12 for specifications on kerb profiles
- 6.3 Property stormwater pipes discharging into the road reserve are to be functional and maintained whilst restoration works are being conducted. If damage is caused by the Contractor's activities, the contractor must repair or replace damaged pipes to the satisfaction of the Council Officer. Costs of such rectification works to be borne by the Contractor.

7. STORMWATER PITS, GPT'S & TABLE DRAINS

- 7.1 No modification, alteration or removal of stormwater pits is permissible without a detailed engineered approved plan having been submitted to Council for review prior to any works commencing. Construction or restoration of pits are to meet Wollondilly Council standard drawings WSC.D5.3, WSC.D5.5, WSC.D5.6 & WSC.D5.11.

Note: If a lintel is damaged, the applicant/contractor must replace the damaged lintel with a new lintel of same size and class grade. Replacing the lintel with one of smaller length is not acceptable as is replacing a lintel with butterfly style grates.

- 7.2 If a stormwater pit lintel is required to be removed during works, they are to be stored safely and reinstated as soon as practicable. Positioning of the lintel should be the same as prior to works. A minimum of 500mm of kerb is to be removed either side of lintel to allow tying in of the lintel to the kerb. The lintel should have concrete placed along the back to edge to a thickness of 100mm to prevent movement and to leave adequate room for backfill material to be placed.
- 7.3 Any work on/around a Gross Pollutant Trap (GPT) requires detailed engineering plans to be submitted before Council approval. Any damage to a GPT will require it to be restored to previous working condition, or as per directed by Council's Civil Maintenance Coordinator or Engineers.

Note: Council undertakes inspections of the GPT's 3-4 times per year.

- 7.4 Services passing under table drains are required to be min. 750mm below the invert of the drain. Where practicability and economics allow, service installation by boring methods is to be utilised for all cases involving excessive overburden, passing established trees and paved areas, including driveways.

8. PAVED AREAS - FOOTPATHS, CARPARKS & PROPERTY ENTRANCES

- 8.1 The minimum standard for paved area restorations are outline in Attachment C. All proposed work is to be consulted and approved by Councils Technical Officer or Engineer before any work commences.
- 8.2 When removing a section of footpath, a minimum length for removal will be equal to the width of the footpath (1 to 1 ratio width of path to length of section to be removed) with

cuts or joins to be located at the nearest construction joints. Final restoration will be undertaken as soon as practicable. Pathways, and other public areas, shall be restored with materials consistent with the existing surface before commencement of the Works, or as directed by Council (see council drawing for footpath construction re: dowel/construction joints).

- 8.3 For any work within a Council carparking area, restoration works are to comply with Attachment A of this document. Any delineation devices (RRPM's etc.) that are damaged or removed are to be replaced with new device. Any line-marking damaged or removed must be replaced as per AS1742 & RMS standards & Wollondilly Councils Standard drawing WSC.D1.14. The surface must be restored to key into or suit existing & surrounding surface levels.

Gravel surfaces must have sufficient compaction so that it will not subside below existing surface levels. In the case of the carparking area being bituminous spray seal, the seal shall be restored to match existing surfaces with a minimum of two coats to be applied.

Asphalt surface must be cut & removed neatly providing a clean edge for restoration work to butt up against, any base material is to be left 50mm lower than surrounding surface levels & a minimum of 50mm AC10 to be placed and compacted to match existing finished surface levels.

- 8.4 Property Entrances and driveways are to be constructed/restored as per Councils Construction Standards to the satisfaction of Councils Technical Officer. Details of Councils construction specifications can be found on Councils website,

<https://www.wollondilly.nsw.gov.au/assets/Uploads/Wollondilly-Council-Design-Specifications-WithButtons2.pdf>

9. ROAD SIGNS, LINEMARKING & GUARDRAILS

- 9.1 Road signs and/or delineation devices shall be removed and stored unless damaged or directed by Council to be replaced. Road signs are to be reinstated at the locations from where they were removed unless directed otherwise. Installation must meet AS1742 & RMS standards & Wollondilly Councils Standard drawing WSC.D1.14.
- 9.2 Where linemarking is removed in the course of works, it is to be replaced as soon as practicable to the completion of final pavement restoration works. All linemarking must meet AS1742 & RMS standards and Wollondilly Shire Council restoration standards. Restoration will include reinstating RRPM's.

Note: Thermoplastic linemarking is to be used on all asphalt surfaces, speed stamps and transverse lines on gravel spray sealed road. Waterborne linemarking is to be used on longitudinal lines on gravel spray sealed roads and gravel spray sealed carparks.

- 9.3 All guardrail repairs are to be carried out by suitably qualified contractors to RMS standards as soon as practicable by the contractor undertaking works. During construction any area that has required the removal of guard rail must be made safe with the use of temporary barriers (water-filled/concrete) suitable for the corresponding speed limit as per AUSTRROADS Guide to road design Part 6- section 5.

- 9.4 Street furniture including signage, seats, litter bins, etc, that are likely to be interfered with or be damaged during work are being undertaken shall be removed and stored for re-use/installation once works are completed. If street furniture is damaged or in poor condition at completion of works it must be replaced with new equivalent at the cost of the contractor undertaking works.

10. GRASSED AREAS - PARKS, GARDENS & NATURE STRIPS

- 10.1 A bed of topsoil, minimum thickness 50mm, shall be placed on the subgrade prior to restoration of turfed verges. Turfs shall be hard butted against each other in rows and the seams top dressed with topsoil. Turf shall be rolled and watered to ensure direct and uniform contact with the topsoil. Any turf required to fully restore grassed verges shall be supplied by the contractor and shall be the same type as the existing grass. In areas of non-maintained grassed areas, soil should be reinstated to existing levels and topped with topsoil. Any trenches should be compacted to ensure there will be no subsidence or trip hazards. Utility Service surface pits, access chamber frames and lids etc. shall be set as such that carriageway pavements and footpaths and surrounding areas can be restored to existing levels.

11. RELATED PROCEDURES

- 11.1 Nil

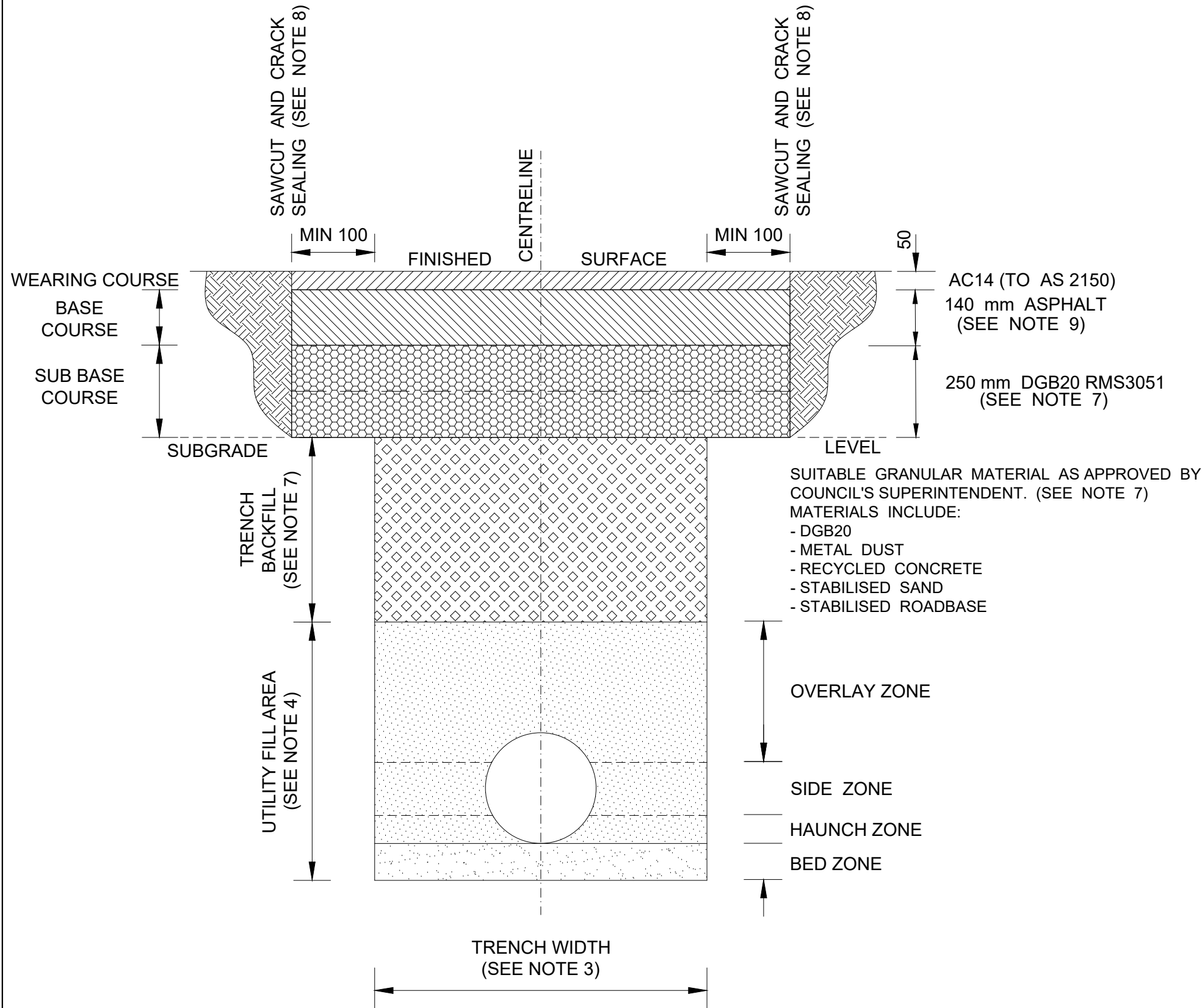
12. ATTACHMENTS

- 12.1 Attachment A – Backfilling and Compaction – Roadway
12.2 Attachment B – Backfilling and Compaction – Kerb & Gutter
12.3 Attachment C – Backfilling and Compaction – Pathway/Cycleway

13. PROCEDURE HISTORY

Last Review Date: August 2023
Implementation Date: August 2023
Next Review Due: August 2026
TRIM Number: 480-3#10507
Procedure Owner: Infrastructure Operations – Technical Officer

ATTACHMENT A

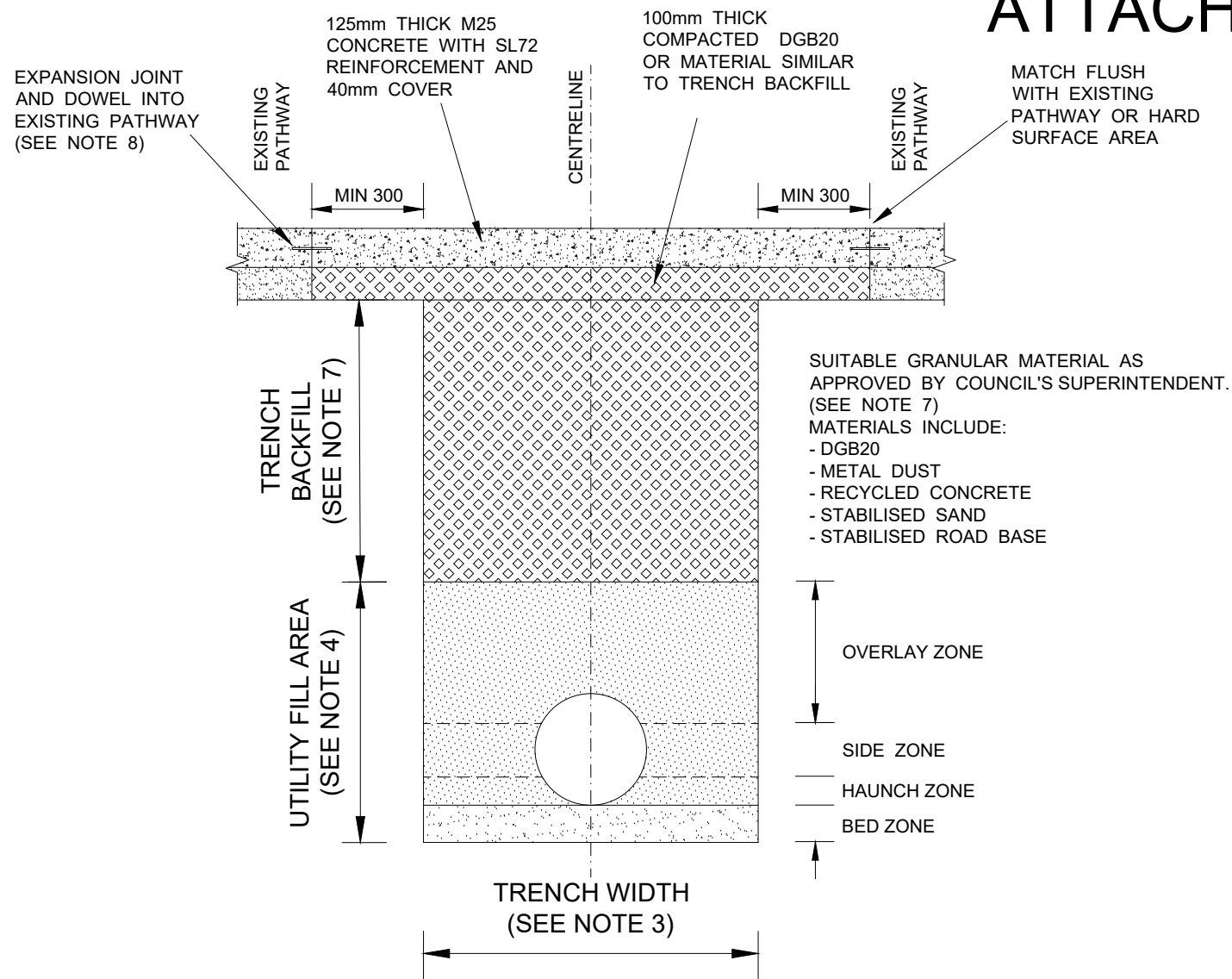


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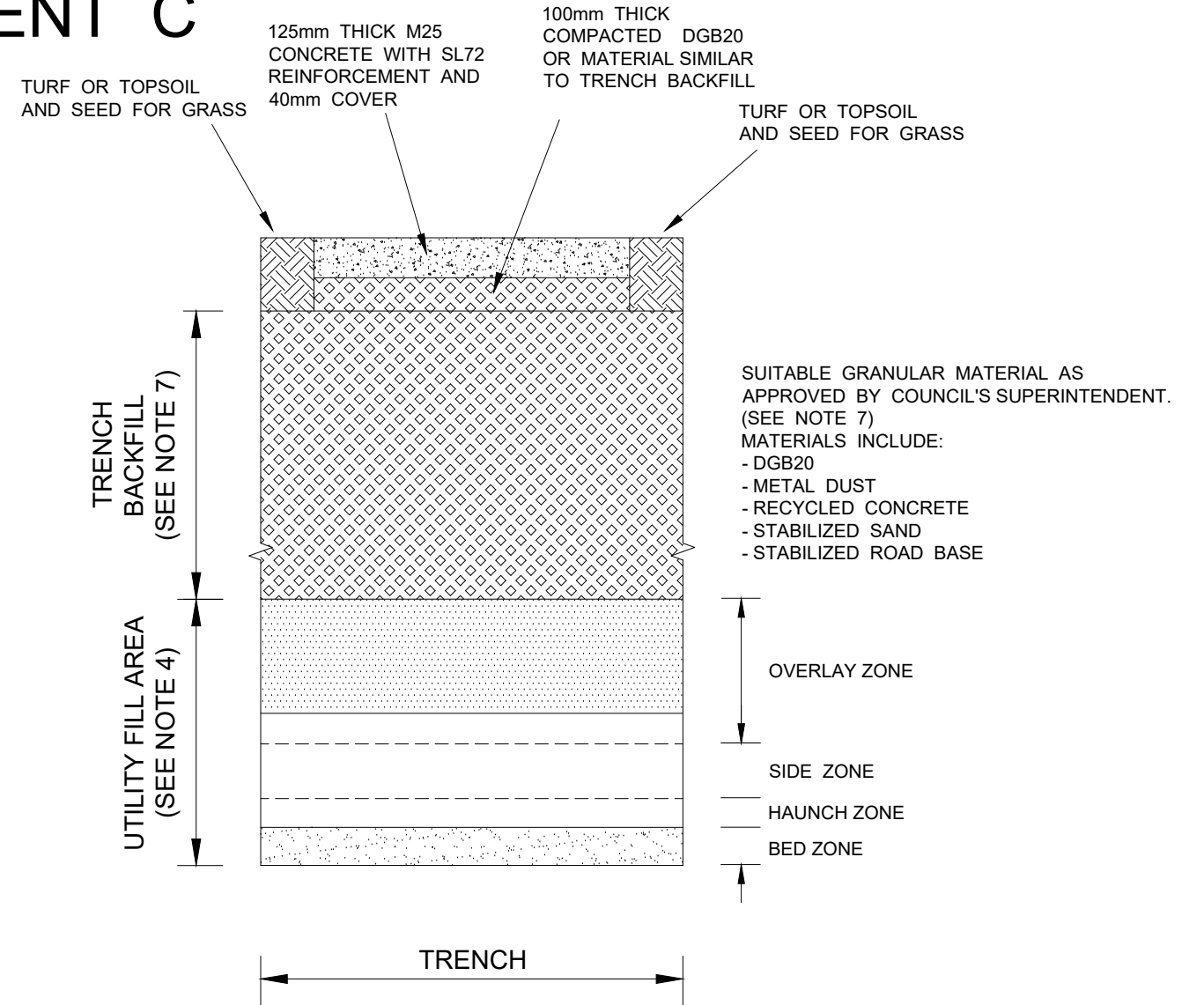
1. THIS PLAN MUST BE READ IN CONJUNCTION WITH AUS-SPEC SPECIFICATION 1151 - ROAD OPENINGS & RESTORATIONS OR 1152 ROAD OPENINGS & RESTORATIONS (UTILITIES).
2. IN UNDERTAKING TRENCH EXCAVATION, THE CONTRACTOR SHALL PROVIDE ANY SHORING, SHEET PILING OR OTHER STABILIZATION OF THE TRENCH NECESSARY TO COMPLY WITH STATUTORY REQUIREMENTS. THE SIDES ARE NOT TO BE LOADED & SHALL BE KEPT CLEAR OF LOOSE MATERIAL ETC. SAFE ACCESS & EGRESS SHALL BE PROVIDED AT ALL TIMES.
3. TRENCH WIDTH MUST BE MINIMUM 300mm FOR SERVICE CONDUITS UP TO 80mm DIAMETER. FOR SERVICE CONDUITS GREATER THAN 80mm THE TRENCH WIDTH WILL BE DETERMINED BY THE EXTERNAL DIAMETER OF CONDUIT PLUS 300mm.
4. BEDDING MATERIAL FOR THE BED, HAUNCH, SIDE & OVERLAY ZONE SHALL BE IN ACCORDANCE WITH THE SPECIFICATION FOR THE PARTICULAR UTILITY BEING INSTALLED.
5. ALL WORKS ARE TO BE CONDUCTED IN A SAFE MANNER WITH THE LEAST POSSIBLE OBSTRUCTION TO BOTH VEHICULAR & PEDESTRIAN TRAFFIC. A TCP SHALL BE SUBMITTED TO COUNCIL INDICATING ALL ACTIVITIES FOR CONTROLLING BOTH VEHICULAR & PEDESTRIAN MOVEMENTS & SHALL BE IN ACCORDANCE WITH AS1742.3 & THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES.
6. THE CONTRACTOR SHALL ENSURE THAT ALL NECESSARY SEDIMENT, NOISE & DUST CONTROL MEASURES ARE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES. ALL SEDIMENT & EROSION CONTROLS SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF WORKS, INCLUDING REPAIR AND OR REPLACEMENT OF DAMAGED SECTIONS. INSPECTIONS ARE TO BE MADE PERIODICALLY & AFTER STORM EVENTS FOR DAMAGE.
7. MATERIALS TO BE COMPACTED IN LAYERS NO GREATER THAN 200mm THICKNESS, AND 98% MODIFIED COMPACTION.
8. WHERE TRENCH IS PARALLEL TO DIRECTION OF TRAFFIC, EVERY EFFORT IS TO BE MADE TO NOT HAVE SAWCUT AND CRACK SEALING IN THE VEHICULAR WHEEL PATH.
9. BASE COURSE TO BE 140mm THICK OF EITHER AC28 COMPACTED IN ONE LAYER OR AC20 COMPACTED IN TWO LAYERS. SUB BASE COURSE TO BE 250mm DGB20 RMS 3051 COMPACTED IN TWO LAYER.
10. ALL LINEMARKING & SIGNPOSTING AFFECTED BY WORKS IS TO BE REPLACED IN ACCORDANCE WITH AS 1742.

UTILITIES		LEGEND		D	SHEETS 2 AND 3 ADDED	GC	TD	30/3/21	REDUCTION RATIOS	SURVEY	THESE DRAWINGS HAVE BEEN TAKEN TO THE SITE OF THE WORK, COMPARED WITH THE SITUATION AND ARE RECOMMENDED.	TRIM FILE No. 1030#577 & 1030#620	WOLLONDILLY SHIRE COUNCIL		PLAN No. R2771
WATERMAIN	---W---	o W	KERB AND GUTTER	C	CRACK SEALING ADDED, DGS40 REMOVED	GC	PD	23/7/20	PLAN NOT TO SCALE	DESIGNED	DATUM -	ROAD OPENING & RESTORATION BACKFILL & COMPACTION ROADWAY		SHEET No. 1 of 3	
UNDERGROUND TELEPHONE CABLES	---T---	• T	TABLE DRAIN	B	WIDTH TO SAWCUT REDUCED	GC	DW	20/8/14	LONG SECT. NOT TO SCALE	DRAWN T WADLING	DATE 25/8/10				
POWER CABLES	---V---	• V	ROAD CENTRELINE	A	ORIGINAL ISSUE	TW	DW	25/8/10	CROSS SECT. NOT TO SCALE	CHECKED					
GAS LINES	---G---	• G	PEGGED LINE	No	REVISION DETAILS	DRAWN	APPROVED	DATE							
SEWERAGE LINES	---S---	o S	PIPE DRAIN												
TELSTRA PITS	---P---	o P	GULLY PIT												
INTEGRAL POLES	---I---	o I	JUNCTION PIT												

ATTACHMENT C



**SECTION - PARALLEL WITH PATHWAY,
CYCLEWAY OR SHARED PATHWAY**



SECTION - PARALLEL WITH TRENCH

NOTES

- THIS PLAN MUST BE READ IN CONJUNCTION WITH AUS-SPEC SPECIFICATION 1151 - ROAD OPENINGS & RESTORATIONS OR 1152 ROAD OPENINGS & RESTORATIONS (UTILITIES).
- IN UNDERTAKING TRENCH EXCAVATION, THE CONTRACTOR SHALL PROVIDE ANY SHORING, SHEET PILING OR OTHER STABILIZATION OF THE TRENCH NECESSARY TO COMPLY WITH STATUTORY REQUIREMENTS. THE SIDES ARE NOT TO BE LOADED & SHALL BE KEPT CLEAR OF LOOSE MATERIAL ETC. SAFE ACCESS & EGRESS SHALL BE PROVIDED AT ALL TIMES, IN ACCORDANCE WITH THE NSW CODE OF PRACTICE - EXCAVATION WORK.
- TRENCH WIDTH MUST BE MINIMUM 300mm FOR SERVICE CONDUITS UP TO 80mm DIAMETER. FOR SERVICE CONDUITS GREATER THAN 80mm THE TRENCH WIDTH WILL BE DETERMINED BY THE EXTERNAL DIAMETER OF CONDUIT PLUS 300mm.
- BEDDING MATERIAL FOR THE BED, HAUNCH, SIDE & OVERLAY ZONE SHALL BE IN ACCORDANCE WITH THE SPECIFICATION FOR THE PARTICULAR UTILITY BEING INSTALLED.
- ALL WORKS ARE TO BE CONDUCTED IN A SAFE MANNER WITH THE LEAST POSSIBLE OBSTRUCTION TO BOTH VEHICULAR AND PEDESTRIAN TRAFFIC. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO COUNCIL INDICATING ALL ACTIVITIES FOR CONTROLLING BOTH VEHICULAR AND PEDESTRIAN MOVEMENTS AND SHALL BE IN ACCORDANCE WITH AS1742.3 AND THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES.
- THE CONTRACTOR SHALL ENSURE THAT ALL NECESSARY SEDIMENT, NOISE & DUST CONTROL MEASURES ARE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES. ALL SEDIMENT AND EROSION CONTROLS SHALL BE MAINTAINED THROUGHOUT THE PERIOD OF WORKS, INCLUDING REPAIR AND OR REPLACEMENT OF DAMAGED SECTIONS. INSPECTIONS ARE TO BE MADE PERIODICALLY AND AFTER STORM EVENTS FOR DAMAGE.
- MATERIALS TO BE COMPACTED IN LAYERS NO GREATER THAN 200mm THICKNESS.
- DOWELS TO BE MIN. 12mm DIAMETER AND AT A MAXIMUM OF 400mm CENTRES. LENGTH OF DOWELS TO BE TWICE THE THICKNESS OF THE CONCRETE. EXPANSION JOINTS TO BE INSTALLED AT ALL TIMES BETWEEN THE EXISTING AND NEW CONCRETE PANELS.
- CONCRETE FINISH IS TO BE NATURAL COLOUR WITH LIGHT BROOM FINISH, IN ACCORDANCE WITH WSC.D9.1.
- ALL LINEMARKING & SIGNPOSTING AFFECTED BY WORKS IS TO BE REPLACED IN ACCORDANCE WITH AS 1742.

UTILITIES		LEGEND		REDUCTION RATIOS			SURVEY		TRIM FILE No.		WOLLONDILLY SHIRE COUNCIL		PLAN No.
PLAN	SECT	EXISTING	PROPOSED	PLAN	NOT TO SCALE	DESIGNED	DATE	DATE	DATE	ROAD OPENING AND RESTORATION BACKFILL AND COMPACTION DETAIL PATHWAY / CYCLEWAY		R2771	
WATERMAIN	o W	o W	o W	B	NOTES CHANGED	GC	TD	30/6/23	1030#577 & 1030#620				
UNDERGROUND TELEPHONE CABLES	o T	o T	o T	A	ORIGINAL ISSUE	GC	TD	9/4/21					
POWER CABLES	o V	o V	o V	No	REVISION DETAILS	DRAWN	APPROVED	DATE	25/8/10			SHEET No.	
GAS LINES	o G	o G	o G									3 of 3	
SEWERAGE LINES	o S	o S	o S										
TELSTRA PITS	o P	o P	o P										
INTEGRAL POLES	o I	o I	o I										