

**NOTES:**

1. BACKFILL IS TO BE OF SELECTED EXCAVATED MATERIAL AND IS TO BE REPLACED IN LAYERS NOT EXCEEDING 150mm AND COMPACTED TO EQUAL ADJACENT UNDISTURBED MATERIAL
2. SAND IS TO BE CLEAN WASHED RIVER SAND PLACED IN LAYERS NOT EXCEEDING 150 mm AND COMPACTED TO EQUAL ADJACENT UNDISTURBED MATERIAL
3. BACKFILL MATERIAL PLACED WITHIN THE DUCTS OR CABLES SHALL BE FREE FROM BOULDERS OR ROCK AND ALL SIMILAR HARD MATERIAL GREATER THAN 50 mm IN SIZE
4. A 70 sq.mm BARE COPPER CONDUCTOR IS TO BE LAID IN A CONTINUOUS STRIP ALONG THE TOP OF THE TRENCH
5. POLYMERIC CABLE COVER IS TO HAVE A MINIMUM OF 600 mm OVERLAP WHEN JOINED
6. DUCTS ARE TO BE OF HEAVY DUTY RIGID UPVC CONDUITS TO AS2053
7. CONCRETE SLAB 800 X 400 X 50mm ARE TO BE USED AS CABLE COVER.
8. DUCTS ARE TO BE RIGIDLY JOINTED THE FULL LENGTH OF THE PROVIDED COUPLING WITH SUITABLE JOINTING COMPOUND IN SUCH A WAY AS TO EXCLUDE WATER ENTRY
9. ALL DUCT TERMINATIONS (OTHER THAN IN CONCRETE CABLE PITS) ARE TO BE SEALED WITH A NON-SETTING CALKING COMPOUND AND 3 METRES CABLE MARKER BALLS ARE TO BE PLACED AT THE TERMINATIONS. WHERE DUCTS ARE NOT IN USE THEY SHALL BE SEALED WITH PVC END CAPS.
10. GREAT CARE SHOULD BE TAKEN TO ENSURE NO DAMAGE OCCURS TO CABLES DURING INSTALLATION
11. SURFACE IS TO BE REINSTATED TO ORIGINAL CONDITION
12. CABLE MARKERS ARE TO BE PLACED IN NON U.R.D. AREAS AT EVERY CHANGE IN DIRECTION AND AT APPROXIMATELY 30 METRE INTERVALS
13. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH CABLE ROUTE PLANS
14. REFER TO DRAWINGS S02-04-01-01 TO S02-04-01-14 FOR CORRECT FOOTPATH ALLOCATION WITHIN THE ROAD RESERVE
15. WHERE FOOTPATH ALLOCATIONS AS SHOWN ON DRAWING S02-04-01-01 TO S02-04-01-14 CAN NOT BE FOLLOWED FOR REASONS OTHER THAN ROAD CROSSINGS OR CONSUMER SERVICE ENTRY (e.g. STREET LIGHTING IN MEDIAN STRIPS) THE ACTUAL ROUTE IS TO BE NEGOTIATED WITH THE RELEVANT AUTHORITY
16. WIDTH OF TRENCH IS DEPENDANT ON THE NUMBER, SIZE, AND CONFIGURATION OF CABLES AND/OR DUCTS REQUIRED
17. COMPACTION WITHIN THE HATCHED AREA OF DRAWING S02-02-06-01 IS TO BE TO THE REQUIREMENTS OF THE RELEVANT ROAD AUTHORITY
18. BOTH ENDS OF DUCTS ARE TO BE ACCESSIBLE WITHOUT DISTURBANCE TO OTHER SERVICES
19. ROAD CROSSINGS SHALL BE INDELIBLE MARKED ABOVE THE DUCT WITH EITHER:
  - A LETTER "E" ON THE FACE OF THE KERB ON BOTH SIDES OF THE ROAD. THE LETTER "E" SHALL BE AT LEAST 50 mm HIGH AND ENGRAVED OR IMPRESSED INTO THE KERB AND PAINTED RED, OR
  - A STAINLESS STEEL TAG AND PIN AS SHOWN IN S02-01-08-28
20. POLYMERIC CABLE COVERS SHALL BE PLACED ABOVE ALL CABLES THAT ARE OUTSIDE OF THE FOOTPATH ALLOCATION AND ABOVE ALL OPEN TRENCHED ROAD CROSSINGS. FOR POLYMERIC CABLE COVER REFER TO DRAWING S02-01-08-06. FOR THRUST BORING CONSTRUCTION, POLYMERIC CABLE COVERS ARE ONLY NEEDED AFTER THE DUCT CLEARS THE ROAD KERB AND ONE POLYMERIC CABLE COVER LAYER IS ACCEPTABLE.
21. IF CONDUIT DEPTH AT CENTRELINE OF THE ROADWAY EXCEEDS 1500mm AND IF THRUST BORING OPTION IS NOT POSSIBLE DUE TO STORM WATER PIPE INTERFERENCE REFER TO SHEETS 2 AND 3.

NO	DESCRIPTION	DRN	DATE	CKD	APPD
13	AMEND NOTE 21. AMEND SHEET 3	C.C.	OCT'21	B.V.	A.N.
12	PAGE 2 UPDATED & PAGE 3 INCLUDED	CWM	APR'20	BC	BV
11	TITLE BLOCK & NOTE 20 AMEND, ADDED NOTE 21 & TRENCH BOUNDARY MIN DISTANCE	IB	APR'18	BV	BC
10	EARTH CONDUCTOR RELOCATED, NOTE 5, 19 AMENDED, NOTE 20 ADDED	AT	04.11	BC	SC
9	MINIMUM CABLE COVER AMENDED	CM	03.10	BC	CF
8	CABLE COVER AND EARTH STUMP DISTANCE AMENDED	JC	11.08	BC	SC
7	NOTE ,4 REVISED; NOTE, 10 DELETED; LOGO CHANGED	CM	11.04	RC	CF
<b>AMENDMENTS</b>					



POWER STANDARD DRAWING			
DES	C.McLAREN	CIVIL	
DRN	R.C./C.FOO	ROAD CROSSING AND TRENCHING NOTES	
CKD		ALL AREAS (SHEET 1 OF 3)	
APPD			
SCALE	N.T.S.		
ISSUED	01.10.2004	A3	DRAWING NUMBER S02-02-06-01_1
ALL DIM. IN mm			
DRAFTING STANDARD TO A.S.1100			CAD PRODUCT - DO NOT AMEND MANUALLY



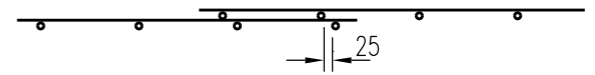
**GENERAL NOTES:**

- REFER TO PAGE 1 FOR ALL TRENCHING NOTES UNLESS NOTED OTHERWISE.
- REFER TO DRAWINGS S02-02-06-02 & S02-02-06-03 FOR COVER GREATER THAN OR EQUAL TO 1200
- THIS DRAWING TO BE READ IN CONJUNCTION WITH THE PWC SPECIFICATIONS AND NETWORK POLICY "NP001, DESIGN AND CONSTRUCTION OF NETWORK ASSETS".
- ALL ELECTRICAL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE STANDARDS AS SET OUT IN POWER AND WATER UNDERGROUND MANUAL AND STREET LIGHTING MANUAL.
- THE CONTRACTOR SHALL ENSURE THAT ALL WORK IS CARRIED OUT IN A SAFE MANNER AND THAT ALL STATUTORY SAFETY EQUIPMENT REQUIRED FOR THE EXECUTION OF THE CONTRACT IS UTILIZED ON SITE AT ALL TIMES. CONTRACTOR SHALL COMPLETE DBYD REQUEST AND LIAISE WITH RELEVANT AUTHORITIES AND PROVIDE ADVANCE NOTICE TO POWER AND WATER AND OTHER THIRD PARTY ASSET OWNERS BEFORE CARRYING OUT TRENCHING WORK.
- DUCTS ARE TO BE OF HEAVY DUTY RIGID UPVC CONDUITS TO AS2053 REFER TO DRAWING S02-01-09-02.
- DUCTS ARE TO BE RIGIDLY JOINTED THE FULL LENGTH OF THE PROVIDED COUPLING WITH SUITABLE JOINTING COMPOUND IN SUCH A WAY AS TO EXCLUDE WATER ENTRY.
- FILL MATERIAL TO BE COMPACTED TO A MINIMUM OF 95% M.M.D. UNLESS NOTED OTHERWISE. CONTRACTOR TO PROVIDE A MINIMUM OF THREE COMPACTION TESTS TO LOCAL GOVERNMENT AUTHORITY FOR APPROVAL.

- WHERE COMPACTING WITHIN THE VICINITY EXISTING PIPEWORK OR OTHER INFRASTRUCTURE CARE SHALL BE TAKEN TO ENSURE PROTECTION OF THE EXISTING PIPEWORK OR INFRASTRUCTURE AT ALL TIMES. IF NECESSARY COMPACTION IN THE AREA SHALL BE UNDERTAKEN USING HAND TAMPERING METHODS.
- THIS DESIGN SHALL BE USED ONLY FOR ROADS CLASSIFIED BY THE GOVERNING AUTHORITY AS 'LOCAL - RESIDENTIAL' ROADS AND WHERE EQUIVALENT STANDARD AXLES (ESAs) ARE LESS THAN 10<sup>6</sup> FOR ROAD DESIGN TRAFFIC VOLUME.
- THIS DESIGN ONLY TO BE USED WHERE STROMWATER PIPES CLASH WITH ELECTRICAL ROAD CROSSING CONDUITS. APPROVALS FOR CONSTRUCTION SHALL BE PROVIDED ON A CASE BY CASE BASIS AT PWC AND LOCAL GOVERNMENT AUTHORITY DISCRETION.
- FOR EXISTING BROWNFIELD SITES ROAD CROSSINGS AN ALTERNATIVE BACKFILL OPTION MAY BE CONSIDERED (TO THE ACCEPTANCE OF THE LOCAL AUTHORITY). THE ALTERNATIVE BACKFILL OPTION MAY BE USE IS 7 MPa SAND CEMENT SLURRY POURED FROM AN AGITATOR TRUCK UP TO TOP OF SUBGRADE. CONTRACTOR TO REINSTATE EXISTING PAVEMENT LAYERS TO MATCH EXISTING.

**CONCRETE:**

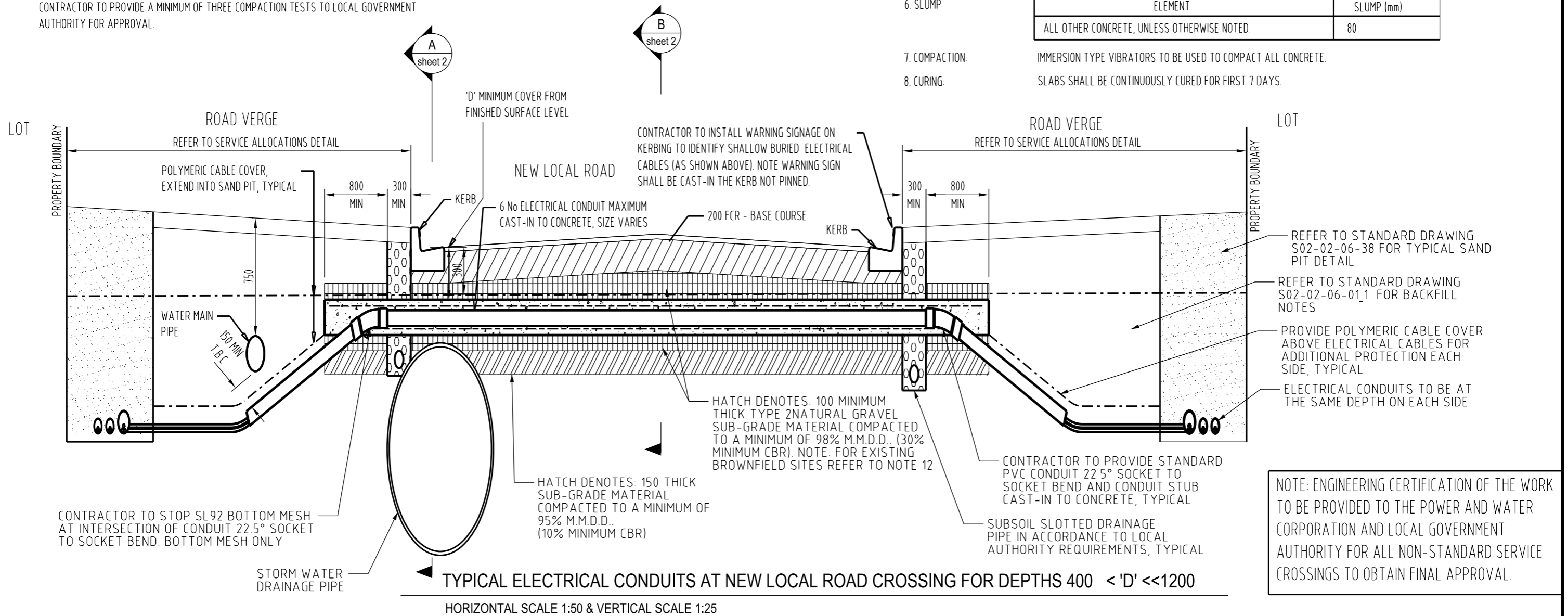
- STANDARD: ALL WORK TO BE IN ACCORDANCE WITH AS 3600.
- REINFORCEMENT: ALL REINFORCEMENT TO BE IN ACCORDANCE WITH AS 4671. N DENOTES D500N DEFORMED RIBBED 500 MPa NORMAL DUCTILITY. R DENOTES 250N ROUND 250 MPa NORMAL DUCTILITY. MESH TO BE D500L DEFORMED RIBBED 500 MPa LOW DUCTILITY.
- FABRIC LAPPING: FABRIC END AND SIDE LAPS ARE TO BE PLACED STRICTLY IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS TO ACHIEVE A FULL TENSILE LAP. FABRIC SHALL BE LAID SO THAT THERE IS A MAXIMUM OF 3 LAYERS AT ANY LOCATION.
- COVER: ALL CONCRETE
- STRENGTH (f'c): ALL CONCRETE
- SLUMP: ALL OTHER CONCRETE, UNLESS OTHERWISE NOTED.
- COMPACTION: IMMERSION TYPE VIBRATORS TO BE USED TO COMPACT ALL CONCRETE.
- CURING: SLABS SHALL BE CONTINUOUSLY CURED FOR FIRST 7 DAYS.



ELEMENT	COVER (mm)
ALL CONCRETE	40 ALL AROUND

ELEMENT	STRENGTH (f'c)
ALL CONCRETE	N40

ELEMENT	SLUMP (mm)
ALL OTHER CONCRETE, UNLESS OTHERWISE NOTED.	80



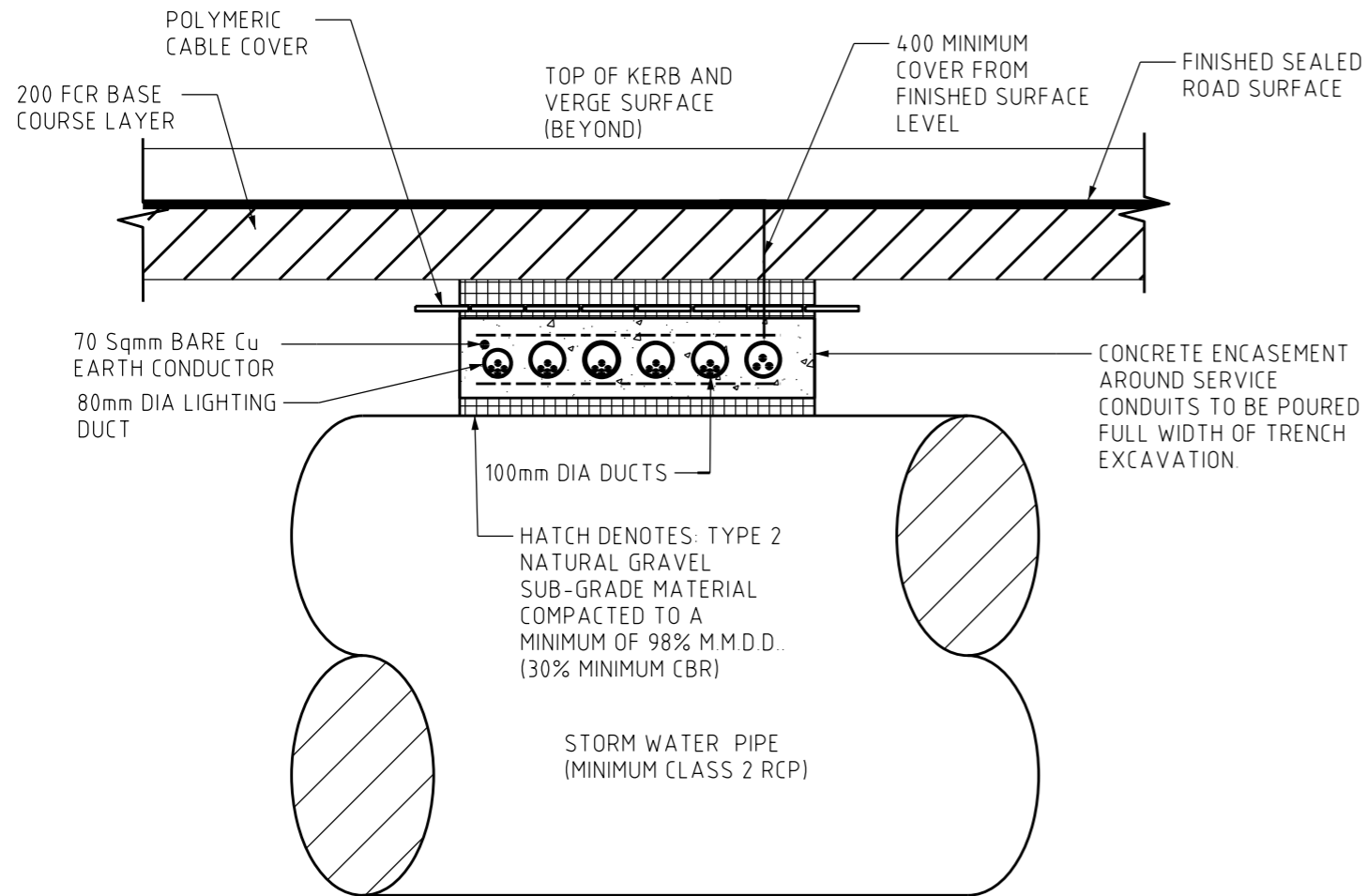
NOTE: ENGINEERING CERTIFICATION OF THE WORK TO BE PROVIDED TO THE POWER AND WATER CORPORATION AND LOCAL GOVERNMENT AUTHORITY FOR ALL NON-STANDARD SERVICE CROSSINGS TO OBTAIN FINAL APPROVAL.

<p>2 SHEET 1 &amp; 3 AMENDED.</p> <p>1 SHEET 2 UPDATED</p> <p>0 ISSUED FOR CONSTRUCTION</p>						<p>C.C. OCT'21 B.V. A.N.</p> <p>C.W.M. APR'20 BC BV</p> <p>C.C. SEP'19 B.C. B.C.</p>						<p>DES PWC</p> <p>DRN CWM</p> <p>CKD BC</p> <p>APPD BV</p> <p>SCALE AS SHOWN</p> <p>ISSUED APRIL 2020</p> <p>ALL DIM. IN mm</p> <p>DRAFTING STANDARD TO A.S.1100</p>						<p>POWER STANDARD DRAWING</p> <p>CIVIL PROPOSED NEW SUBDIVISION</p> <p>NON-STANDARD STORMWATER / LOCAL ROAD</p> <p>CROSSING NOTES AND DETAILS</p> <p>(SHEET 2 OF 3)</p>					
<p>NO DESCRIPTION</p>						<p>DRN DATE CKD APPD</p>						<p>A3 DRAWING NUMBER S02-02-06-01_2</p>											
<p>AMENDMENTS</p>						<p>AMDT</p>						<p>CAD PRODUCT - DO NOT AMEND MANUALLY</p>											



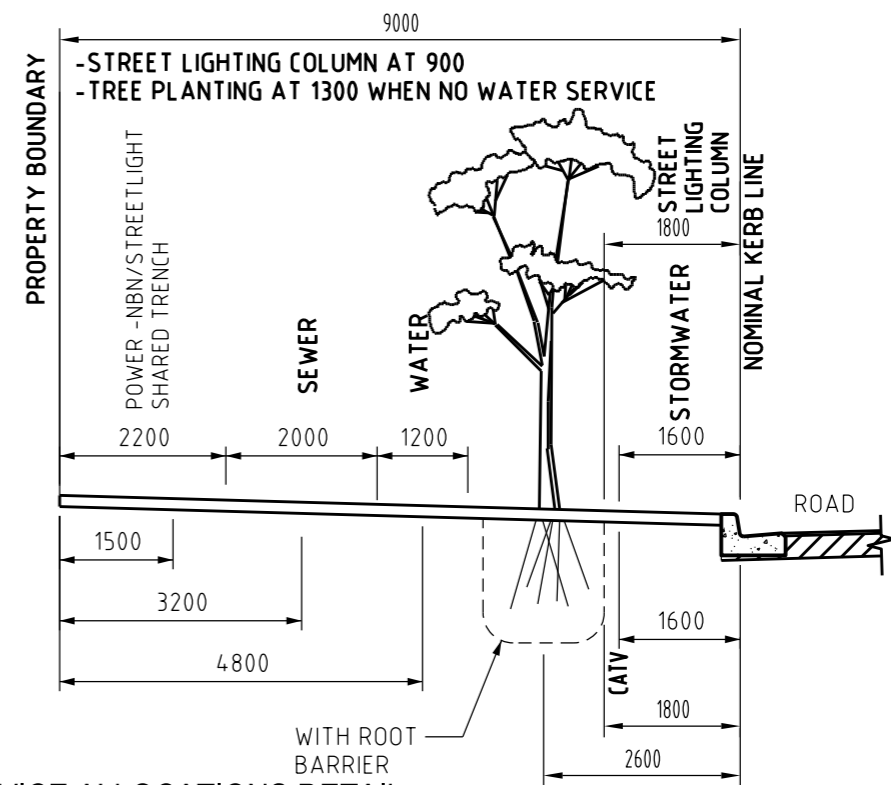
**NOTES:**

1. REFER TO DRAWINGS S02-02-06-44\_1 FOR GENERAL NOTES



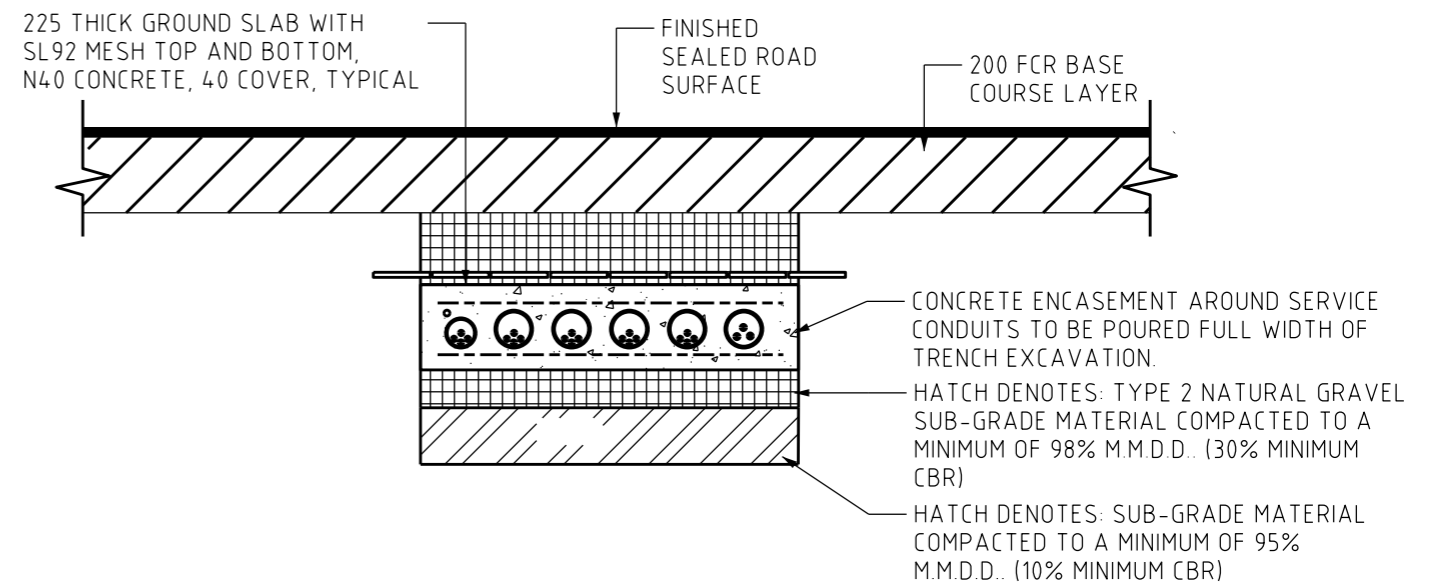
NOTE: 6 ELECTRICAL CONDUITS MAXIMUM CAST-IN TO CONCRETE, TYPICAL

**A SECTION**  
SHEET 1 SCALE 1:20



**SERVICE ALLOCATIONS DETAIL**

SCALE 1:50



**B SECTION**  
SHEET 1 SCALE 1:20

NO	DESCRIPTION	DRN	DATE	CKD	APPD
1	AMEND REFERENCE FROM TELSTRA TO NBN & STREETLIGHTS	C.C.	OCT'21	B.V.	A.N.
0	SHEET 3 ADDED	C.C.	SEP'19	B.C.	B.C.
<b>AMENDMENTS</b>					



DES		PWC		POWER STANDARD DRAWING	
DRN	P.H.	CIVIL			
CKD	B.C.	PROPOSED NEW SUBDIVISION			
APPD	B.C.	NON-STANDARD STORMWATER / LOCAL ROAD			
SCALE		AS SHOWN			
ISSUED		FEBRUARY 2018		A3	DRAWING NUMBER
ALL DIM. IN mm					S02-02-06-01_3
DRAFTING STANDARD TO A.S.1100		CAD PRODUCT - DO NOT AMEND MANUALLY		AMDT	