

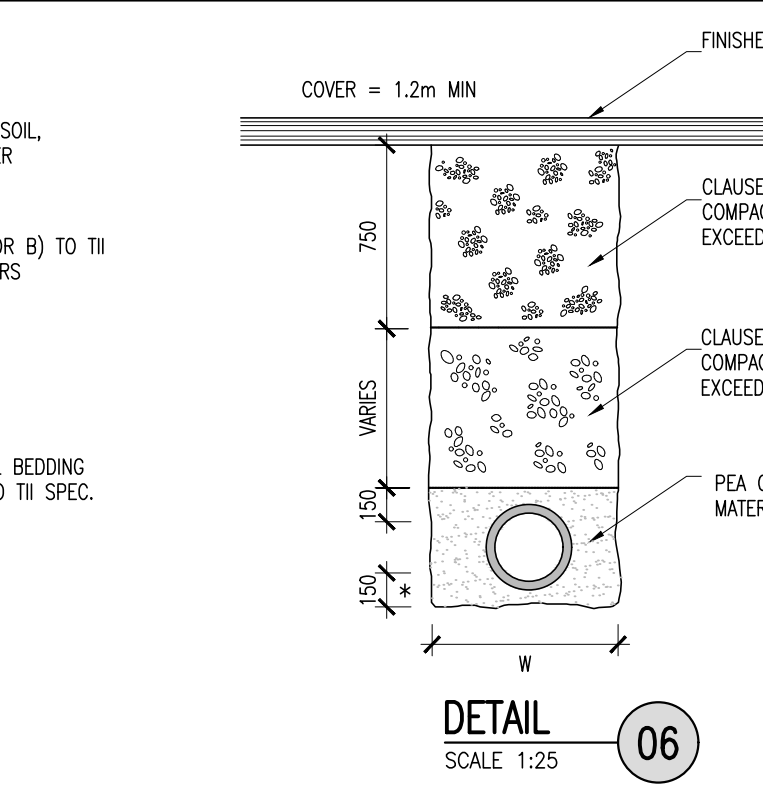
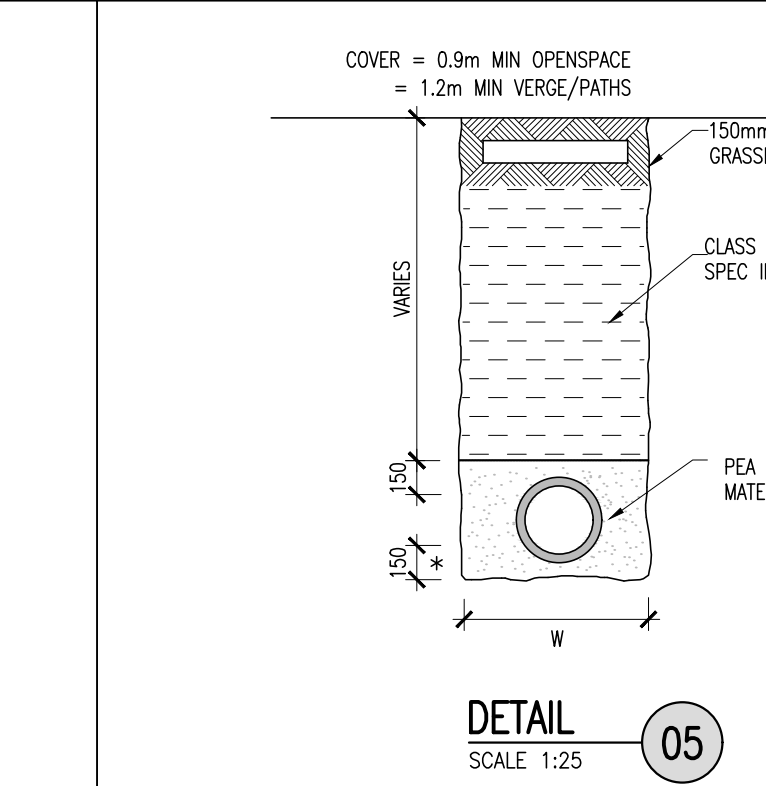
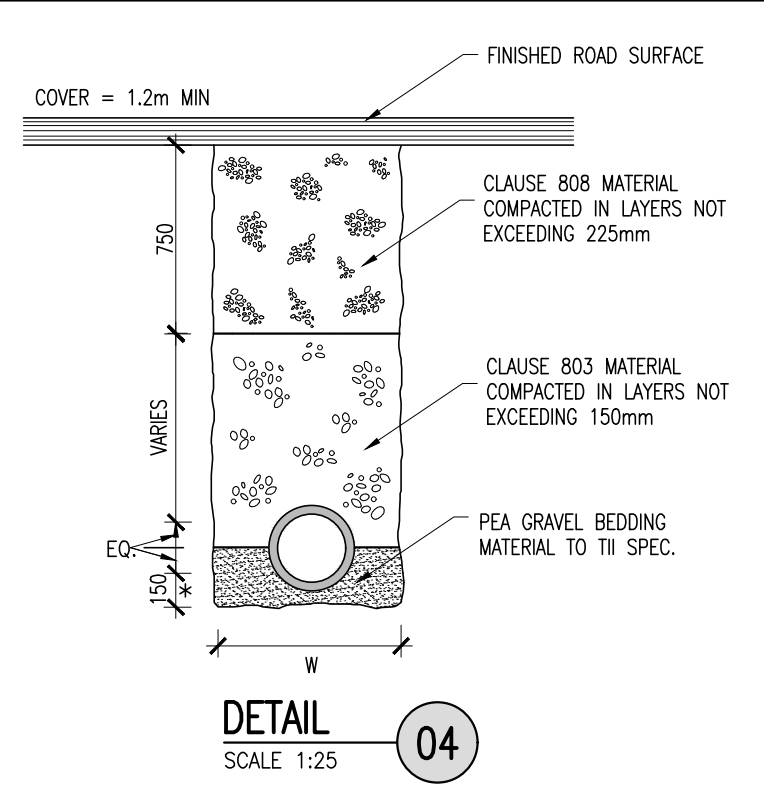
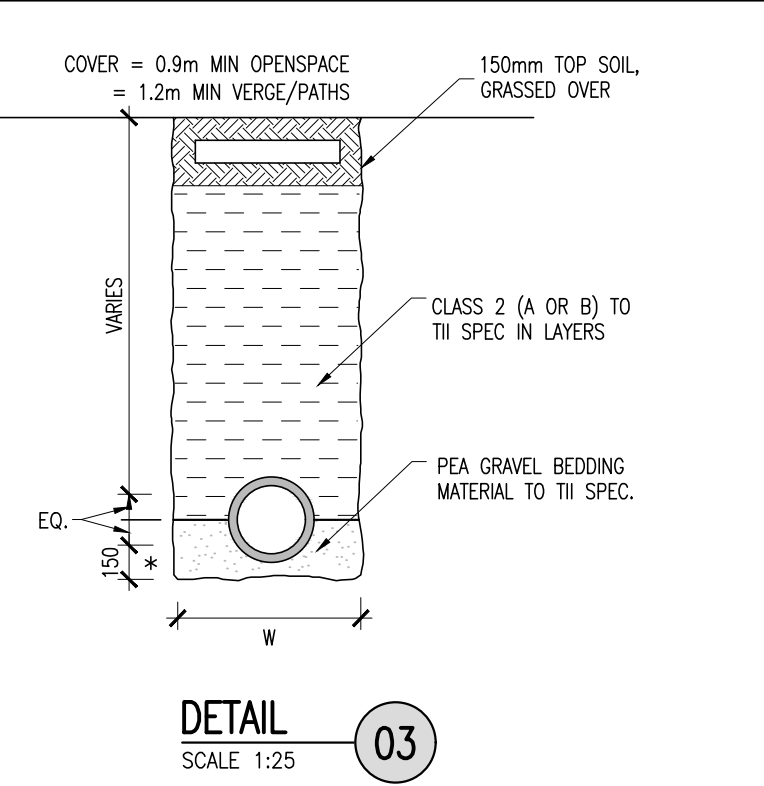
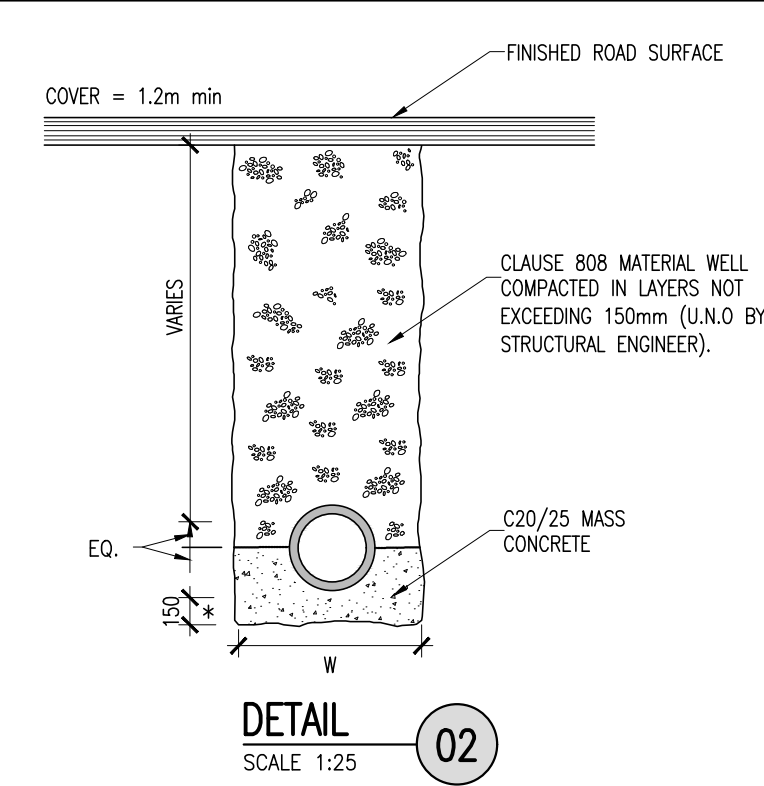
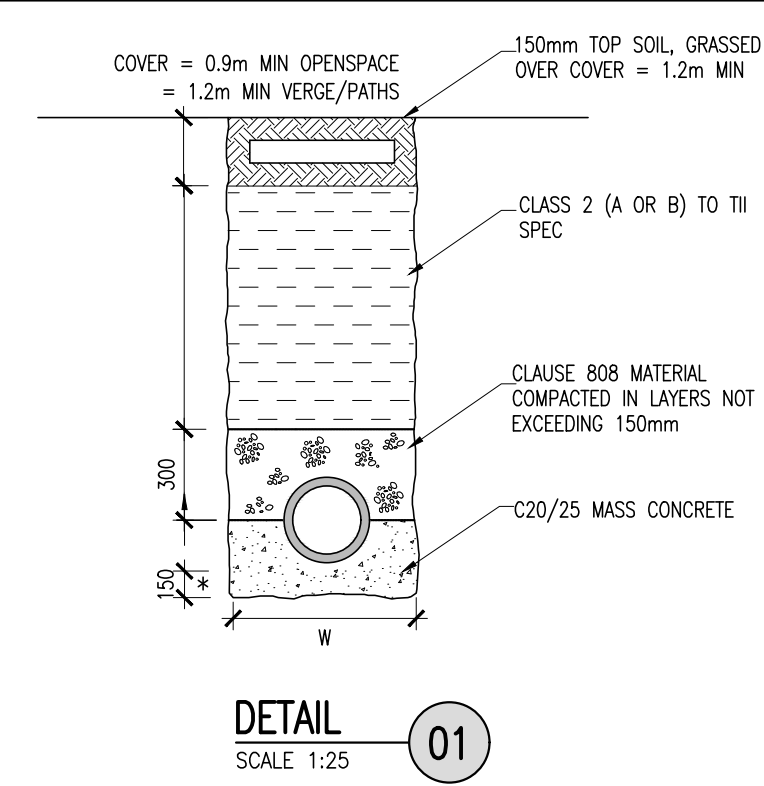
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NOTES:

- C20/25 CONCRETE TO HAVE A MINIMUM CEMENT CONTENT OF 260kg/m<sup>3</sup> MAXIMUM WATER/CEMENT RATIO OF 0.65 AND SLUMP CLASS S2.
- C25/30 CONCRETE TO HAVE A MINIMUM CEMENT CONTENT OF 280kg/m<sup>3</sup> MAXIMUM WATER/CEMENT RATIO OF 0.65 AND SLUMP CLASS S2.
- C40/50 CONCRETE TO HAVE A MINIMUM CEMENT CONTENT OF 400kg/m<sup>3</sup> MAXIMUM WATER/CEMENT RATIO OF 0.45 AND SLUMP CLASS S3.
- WHERE CLASS 6F1/6F2 CAPPING MATERIAL IS PROPOSED WITHIN 500mm OF CONCRETE OR STEEL, CLASS 6N TO BE USED INSTEAD.
- WHERE FOOTPATHS ARE LOCATED ADJACENT TO ROADS, C40/50 CONCRETE TO BE USED. ALTERNATIVELY, FOOTPATHS LOCATED BEHIND VERGES C25/30 CONCRETE MAY BE USED.

**NOTE:**  
 ALL WORKS & SPECIFICATIONS TO BE UNDERTAKEN IN ACCORDANCE WITH  
 • TI SPECIFICATION FOR ROADWORKS  
 • GREATER DUBLIN CODE OF PRACTICE FOR DRAINAGE WORKS  
 • RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS



DETAIL 01 SCALE 1:25  
 BEDDING DETAIL ACROSS OPEN SPACE/VERGES/PATHS (SIMILAR)

DETAIL 02 SCALE 1:25  
 BEDDING DETAIL ACROSS OPEN SPACE/VERGES/PATHS (SIMILAR) - CLASS B

DETAIL 03 SCALE 1:25  
 BEDDING DETAIL ACROSS OPEN SPACE/VERGES/PATHS (SIMILAR) - CLASS B

DETAIL 04 SCALE 1:25  
 BEDDING DETAIL ACROSS ROADWAY - CLASS B

DETAIL 05 SCALE 1:25  
 BEDDING DETAIL ACROSS OPEN SPACE/VERGES/PATHS (SIMILAR) - CLASS S

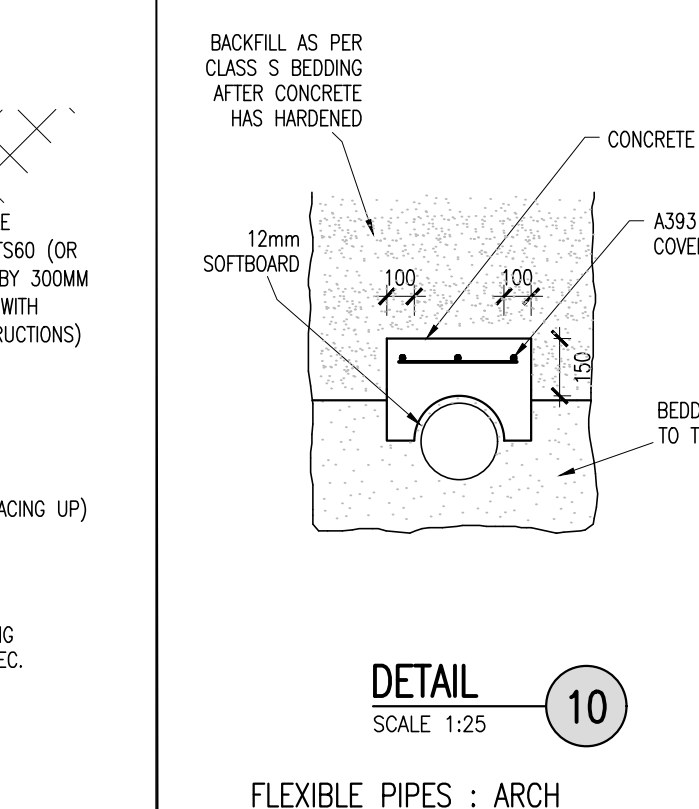
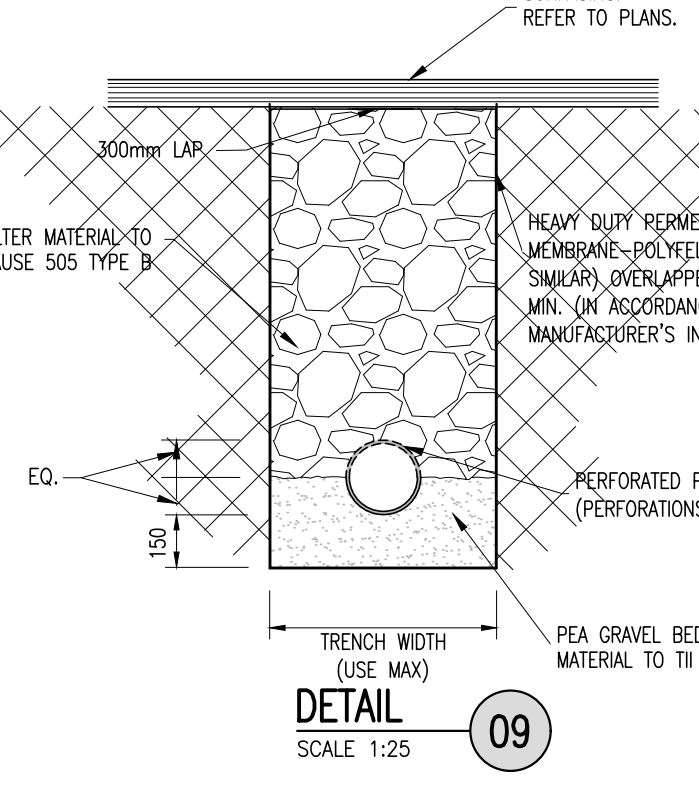
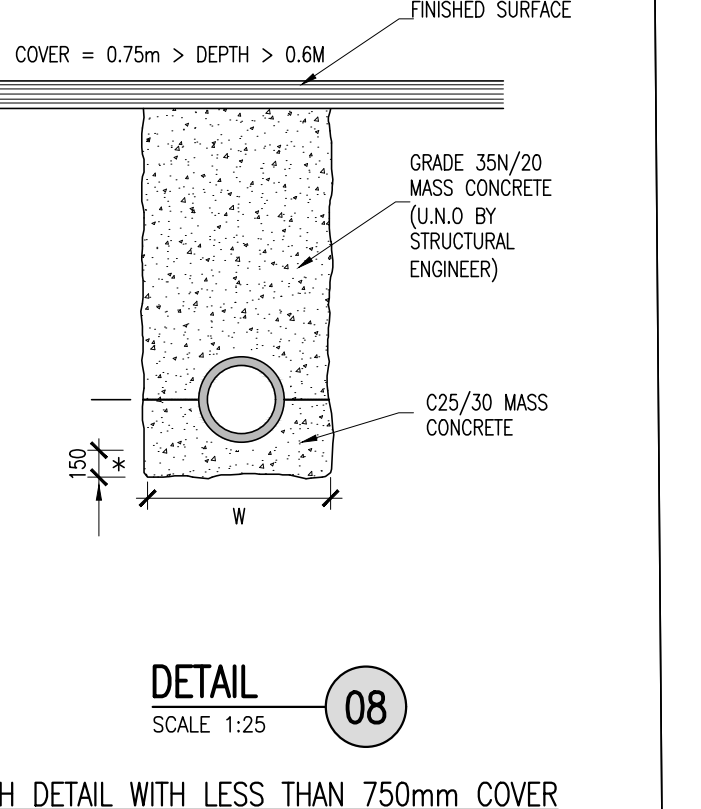
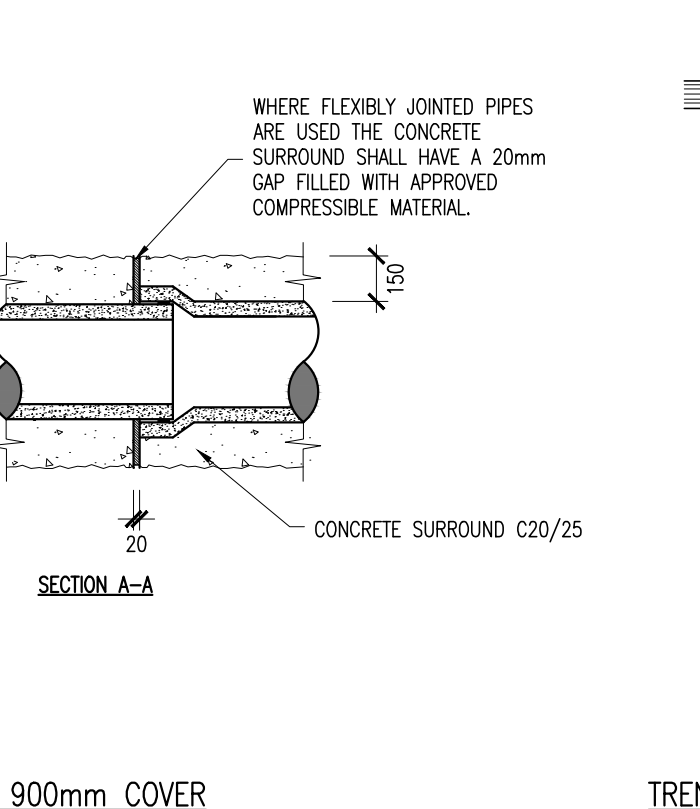
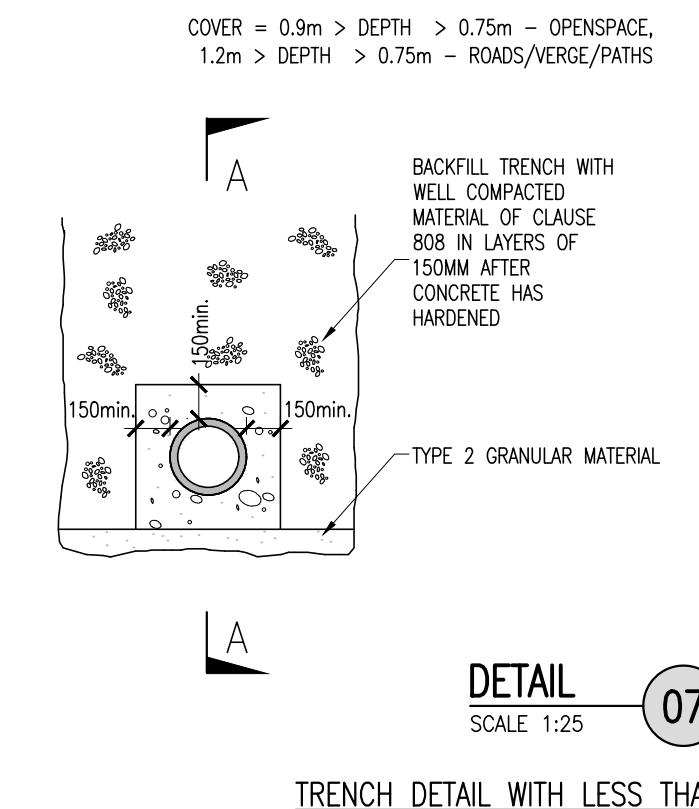
DETAIL 06 SCALE 1:25  
 BEDDING DETAIL ACROSS ROADWAYS - CLASS S

**BEDDING FOR RIGID PIPES**

**BEDDING FOR FLEXIBLE PIPES**

**TABLE 1: TRENCH WIDTH LIMITS (W)**

NOMINAL INTERNAL $\phi$ (mm)	MINIMUM TRENCH WIDTH mm	MAXIMUM TRENCH WIDTH mm
100	450	650
150	500	700
225	600	800
300	700	900
375	950	1150
450	1050	1250
525	1150	1350
600	1250	1450
675	1350	1550
750	1400	1600
825	1500	1700
900	1950	2150
1050	2100	2300
1200	2300	2500
ABOVE 1200	OUTSIDE $\phi$ OF PIPE PLUS 800mm	OUTSIDE $\phi$ OF PIPE PLUS 1000mm



DETAIL 07 SCALE 1:25  
 TRENCH DETAIL WITH LESS THAN 900mm COVER

DETAIL 08 SCALE 1:25  
 TRENCH DETAIL WITH LESS THAN 750mm COVER

DETAIL 09 SCALE 1:25  
 TYPICAL FILTER DRAIN DETAIL

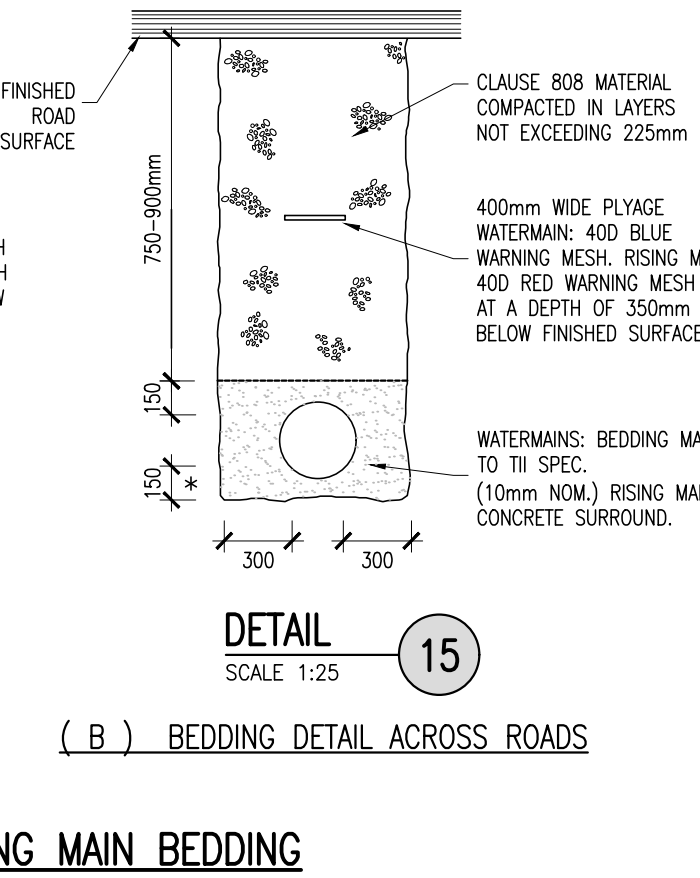
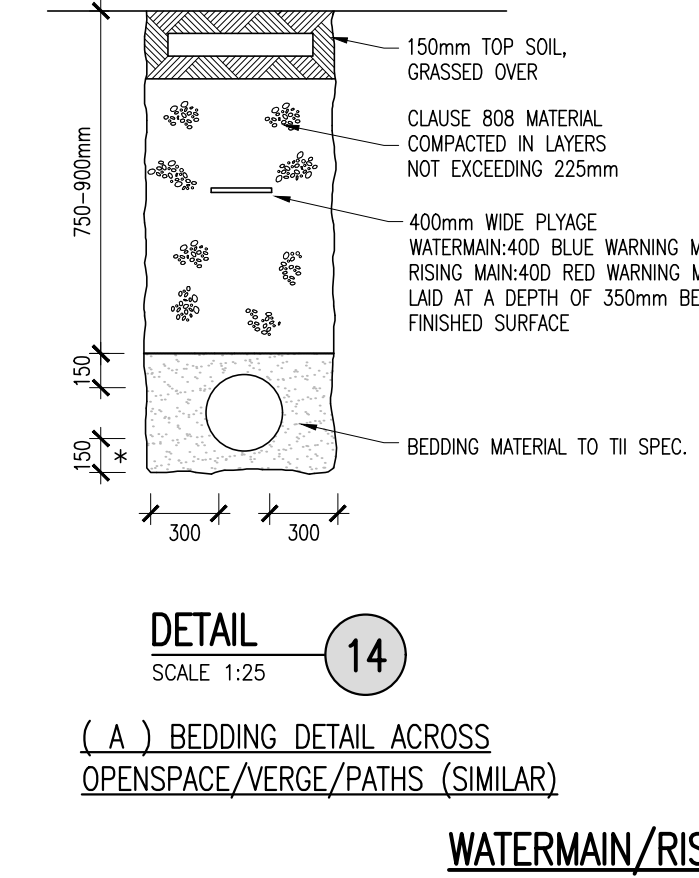
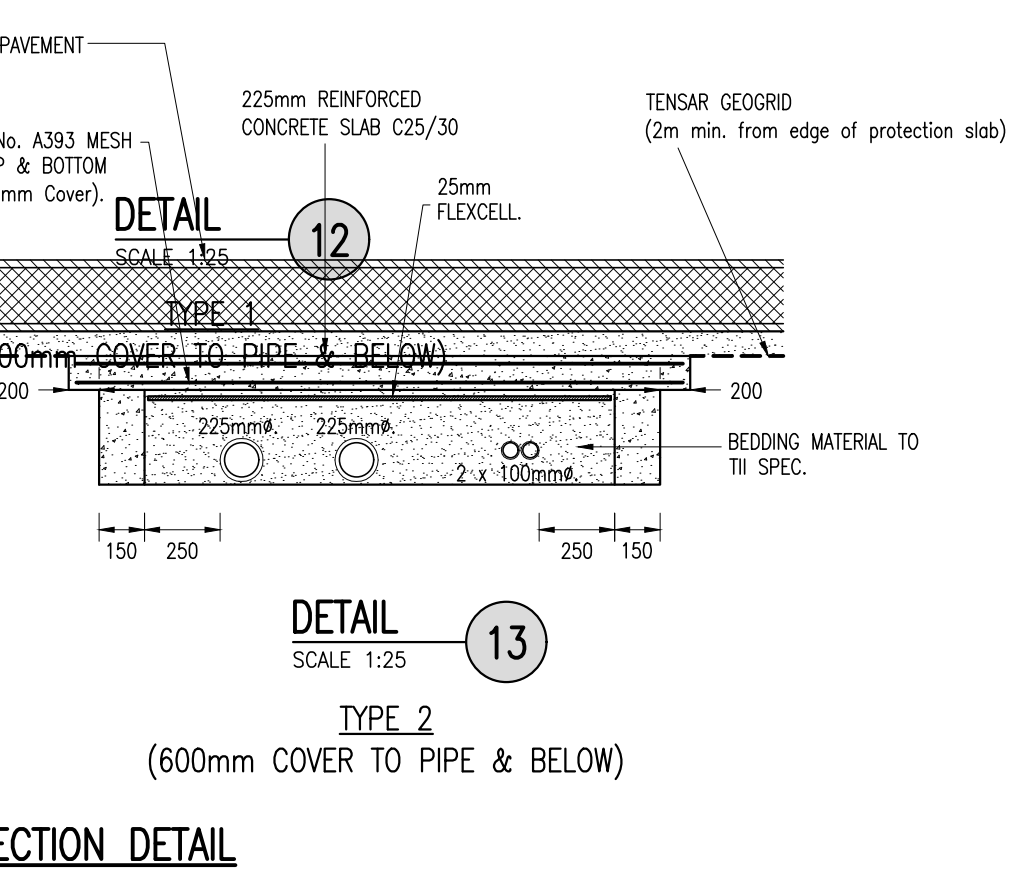
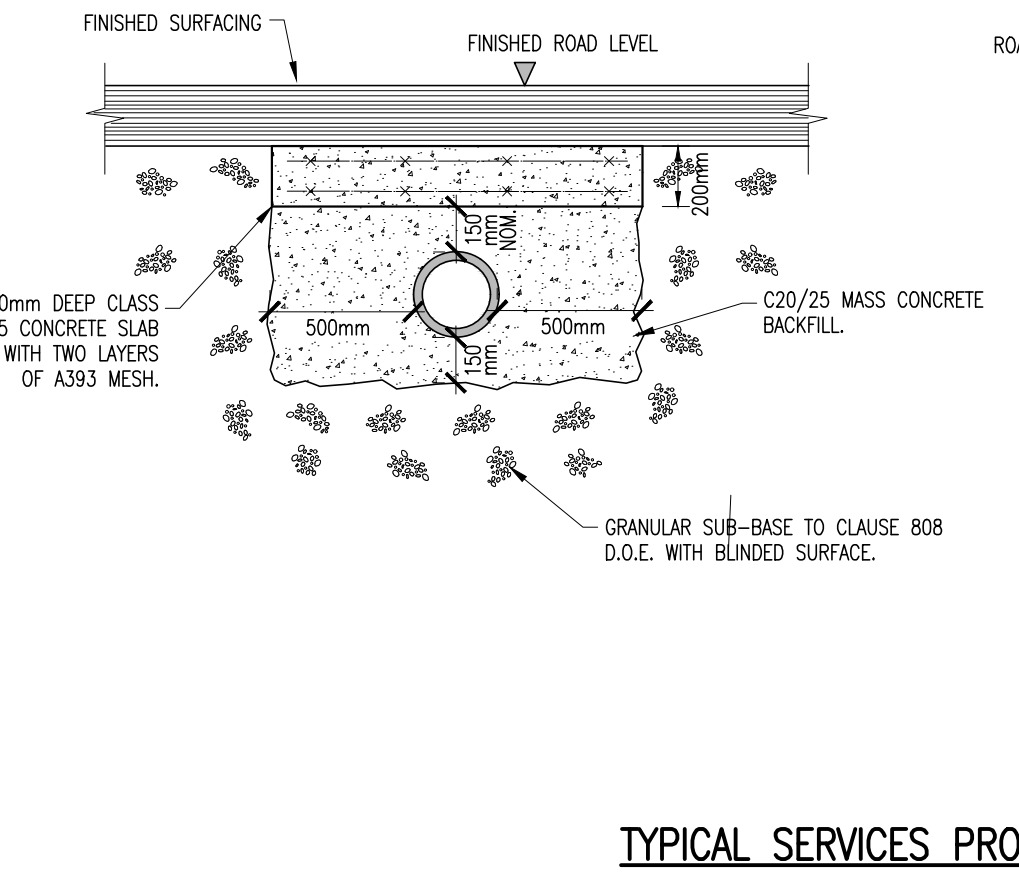
DETAIL 10 SCALE 1:25  
 FLEXIBLE PIPES : ARCH

DETAIL 11 SCALE 1:25  
 FLEXIBLE PIPES : CRADLE

**BEDDING FOR RIGID AND FLEXIBLE PIPES WITH LIMITED COVER**

**TYPICAL FILTER DRAIN DETAIL**

**ALTERNATIVE BEDDING**



DETAIL 12 SCALE 1:25  
 TYPE 2 (600mm COVER TO PIPE & BELOW)

DETAIL 13 SCALE 1:25  
 TYPE 2 (600mm COVER TO PIPE & BELOW)

DETAIL 14 SCALE 1:25  
 (A) BEDDING DETAIL ACROSS OPENSACE/VERGE/PATHS (SIMILAR)

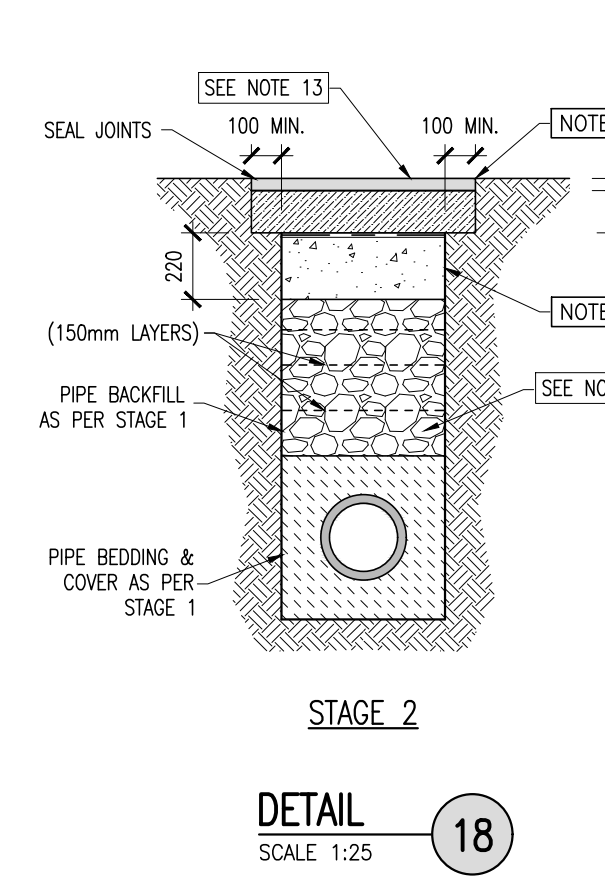
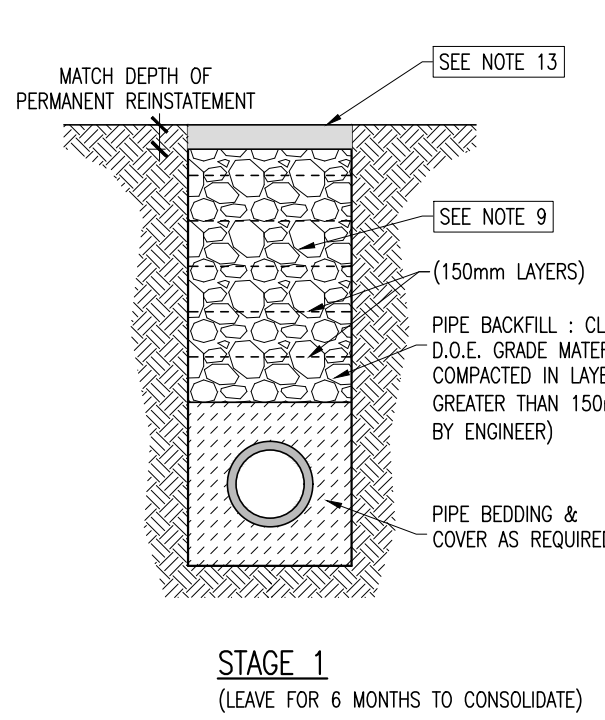
DETAIL 15 SCALE 1:25  
 (B) BEDDING DETAIL ACROSS ROADS

**TYPICAL SERVICES PROTECTION DETAIL**

**WATERMAIN/RISING MAIN BEDDING**

- NOTES: [FOR PERMANENT REINSTATEMENT]**
- FORM A SAW CUT 100mm DEEP AT A MIN. OF 100mm FROM SIDES OF EXCAVATION PRIOR TO PERMANENT REINSTATEMENT. WHERE ANY TRIM LINES ARE WITHIN 400mm OF ROAD EDGE, JOINT, OTHER REINSTATEMENT, OR IRONWORK, THE TRIM LINE SHOULD BE EXTENDED TO THE INTERFACE OF SUCH SITUATIONS.
  - DIG OUT SURFACING & TOP 220mm OF CL808 MATERIAL & REPLACE WITH NEW WIDER SURFACING ON 220mm LAYER OF LEAN-MIX CONCRETE.
  - LEAN-MIX SURFACE TO BE SPRAYED PER CLAUSE 920 (NRA SPEC.) PRIOR TO APPLICATION OF BINDER COURSE MACADAM.
  - 100°C HOT BITUMEN BINDER 50 PEN OR COLD THIXOTROPIC BITUMEN 50 - 70 PEN TO BE APPLIED TO ALL VERTICAL CUTS IN ACCORDANCE WITH B.S.594 PRIOR TO APPLICATION OF BITUMINOUS MATERIAL.
  - JOINTS SEALED WITH HOT BITUMEN AND TOPPED WITH FINE SAND / GRIT TO GET A MINIMUM 55 SKID RESISTANCE VALUE AS DETERMINED BY THE PORTABLE SKID RESISTANCE PENDULUM USED IN ACCORDANCE WITH ROAD NOTE 27 AND SHALL NOT EXCEED 3mm THICKNESS AND 25mm WIDTH.

**TEMPORARY & PERMANENT REINSTATEMENT**



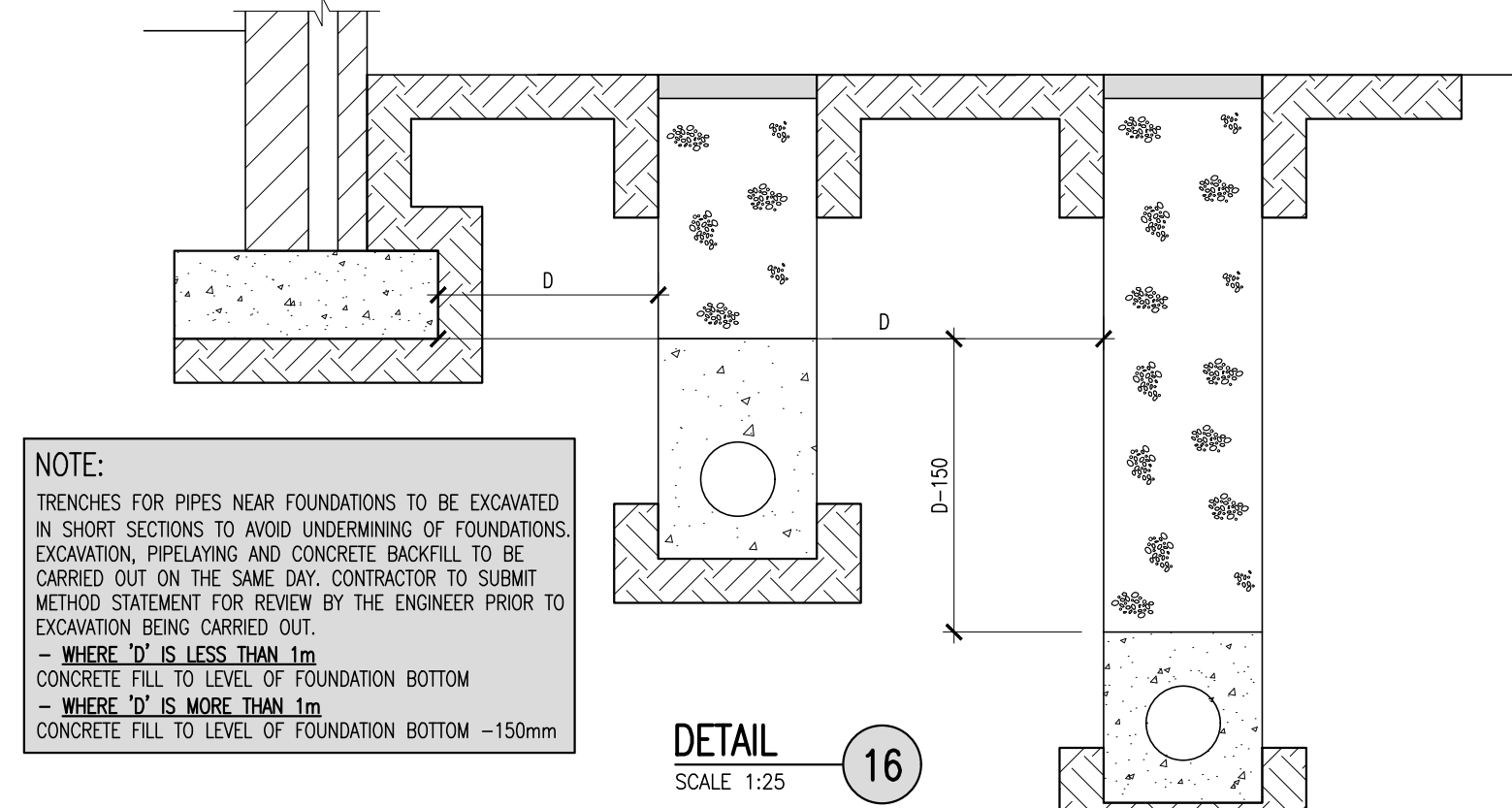
STAGE 1 (LEAVE FOR 6 MONTHS TO CONSOLIDATE)

DETAIL 18 SCALE 1:25  
 REINSTATEMENT OF PIPE TRENCH IN EXISTING ROAD

**TABLE 2**

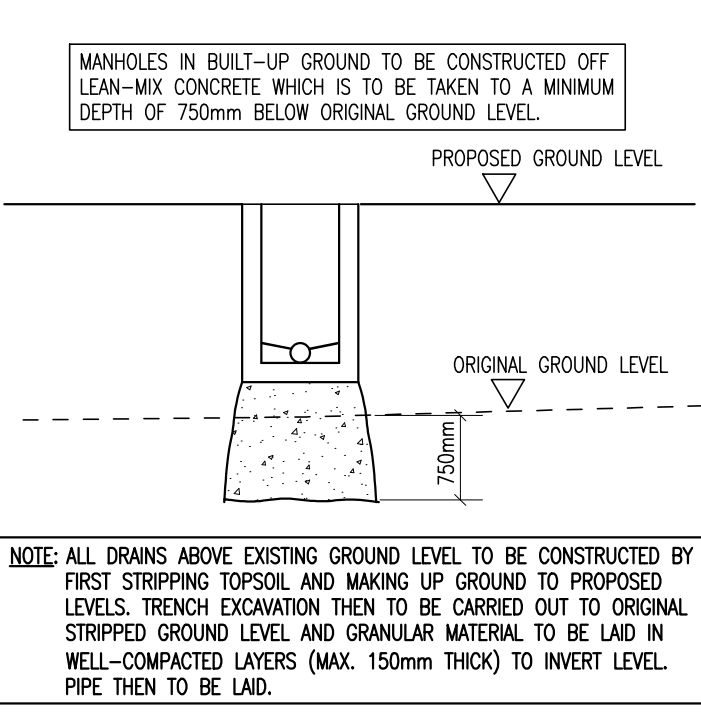
	LANDSCAPED AREAS	ROADWAYS/ FOOTPATHS	NOTES
CONCRETE PIPE (>1.2m COVER)	1,3	2,4	A, DETAIL 4 NOT ACCEPTABLE IN DCC AREA
CONCRETE PIPE (1.2m > D > 0.9m)	1,3	7	A
CONCRETE PIPE (0.9m > D > 0.75m)	7	7	A
CONCRETE PIPE (0.75m > D > 0.60m)	8	8	A
CONCRETE PIPE (0.6m > D > 0.45m)	12,13	12,13	C
FLEXIBLE PIPE (>1.2m COVER)	5	6	B
FLEXIBLE PIPE (1.2m > D > 0.9m)	5	7	B
FLEXIBLE PIPE (0.9m > D > 0.75m)	7	7	B
FLEXIBLE PIPE (0.75m > D > 0.6m)	8	8	B
FLEXIBLE PIPE (0.6m > D > 0.45m)	12,13	12,13	B, C
WATERMANS (D > 0.75m)	14	15	A
RISING MAIN (D > 0.75m)	14	15	A
REINSTATEMENT OF PIPES IN EXISTING ROADS.	N/A	18	A

NOTES:  
 A. APPLIES THROUGHOUT GDSDS AUTHORITY REGIONS  
 B. APPLIES THROUGHOUT GDSDS AUTHORITY REGIONS EXCEPT DCC  
 C. AGREEMENT FROM AUTHORITY REQUIRED



**NOTE:**  
 TRENCHES FOR PIPES NEAR FOUNDATIONS TO BE EXCAVATED IN SHORT SECTIONS TO AVOID UNDERMINING OF FOUNDATIONS. EXCAVATION, PIPELAYING AND CONCRETE BACKFILL TO BE CARRIED OUT ON THE SAME DAY. CONTRACTOR TO SUBMIT METHOD STATEMENT FOR REVIEW BY THE ENGINEER PRIOR TO EXCAVATION BEING CARRIED OUT.  
 - WHERE 'D' IS LESS THAN 1m  
 CONCRETE FILL TO LEVEL OF FOUNDATION BOTTOM  
 - WHERE 'D' IS MORE THAN 1m  
 CONCRETE FILL TO LEVEL OF FOUNDATION BOTTOM -150mm

DETAIL 16 SCALE 1:25  
 CONCRETE PIPE LAID NEAR FOUNDATIONS



**NOTE:**  
 ALL DRAINS ABOVE EXISTING GROUND LEVEL TO BE CONSTRUCTED BY FIRST STRIPPING TOPSOIL AND MAKING UP GROUND TO PROPOSED LEVELS. TRENCH EXCAVATION THEN TO BE CARRIED OUT TO ORIGINAL STRIPPED GROUND LEVEL AND GRANULAR MATERIAL TO BE LAID IN WELL-COMPACTED LAYERS (MAX. 150mm THICK) TO INVERT LEVEL. PIPE THEN TO BE LAID.

DETAIL 17 SCALE NTS  
 DRAINS IN BUILT-UP GROUND

0	10-06-22	ISSUED FOR PLANNING	CDC	LMCL
rev	date	description	by	chkd.
STATUS CODES				
purpose	acceptance			
P3 - PLANNING PERMISSION	S - ISSUED			
DUBLIN OFFICE: Ormond House, Upper Ormond Quay, Dublin 7, D07 W0X4 PHONE: +353 1 400 4000 CORK OFFICE: 14 South Mall, Cork, T12 CT91 PHONE: +353 21 2024538 WATERFORD OFFICE: 54a-56 The Arcade, Malinbeg, Co. Wick, W91 W028 PHONE: +353 51 309 500				
project ref.				
MIXED USE DEVELOPMENT-CHADWICKS. SWORDS ROAD, SANTRY.				
drawing title				
SURFACE WATER DETAILS SHEET 3 OF 6				
client				
Dwyer Nolan Developments				
designed by	author	scale	sheet size	
LMCL	DCH	AS SHOWN	A1	
drawing no.	revision			
200060-X-91-X-XXX-DR-DBFL-CE-5003	0			