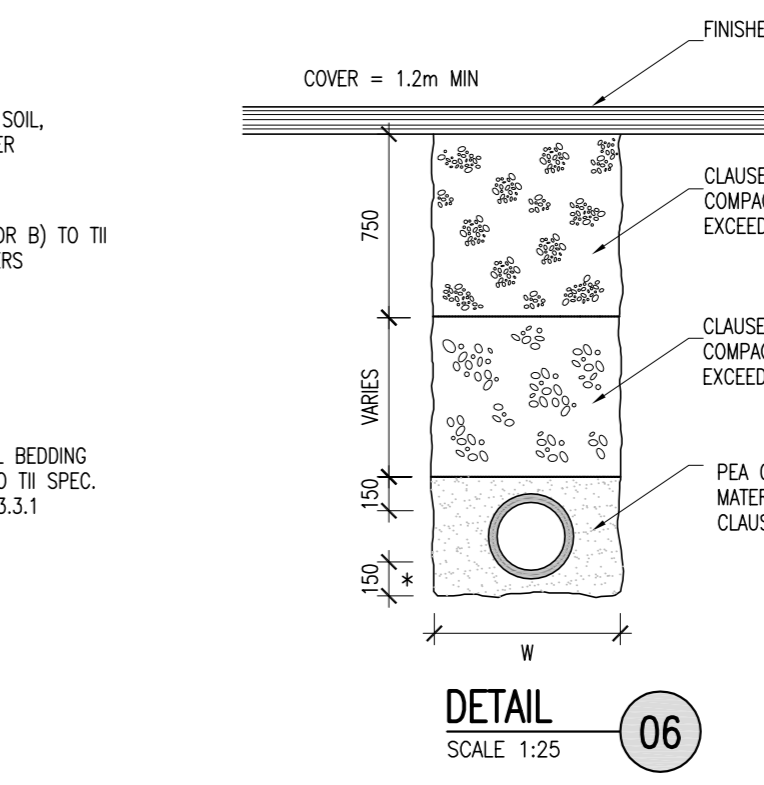
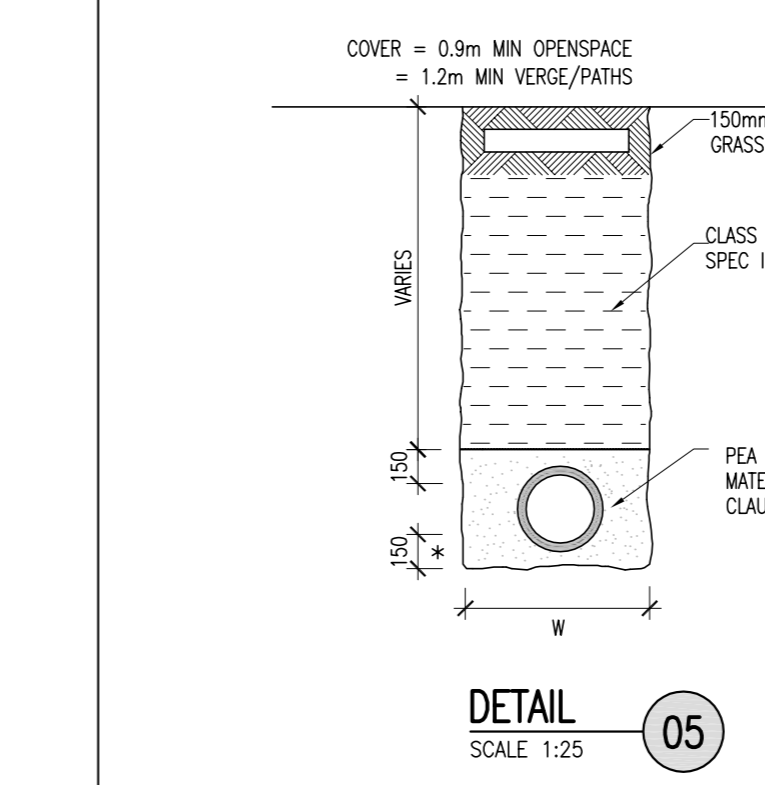
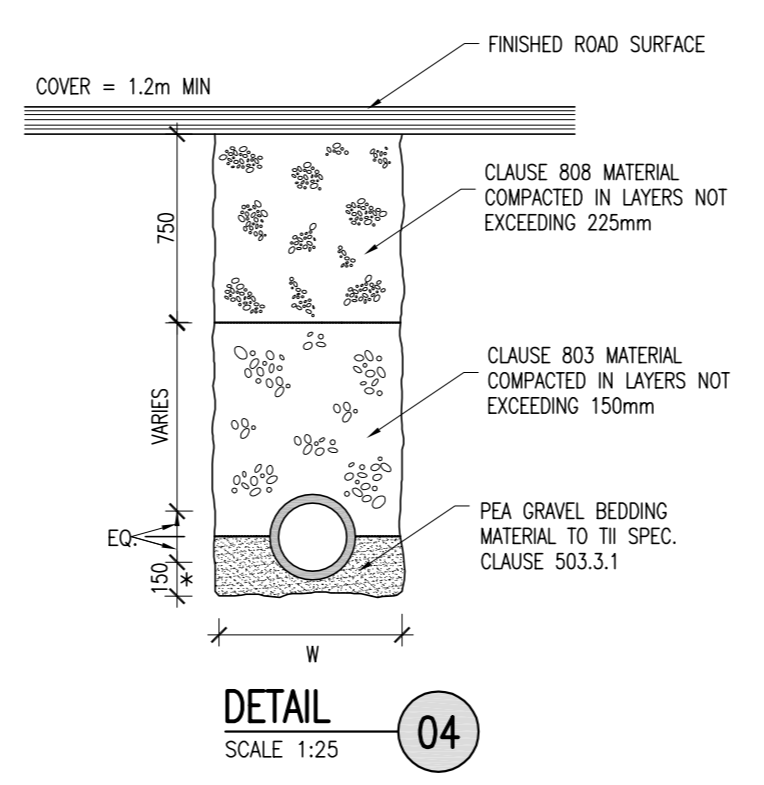
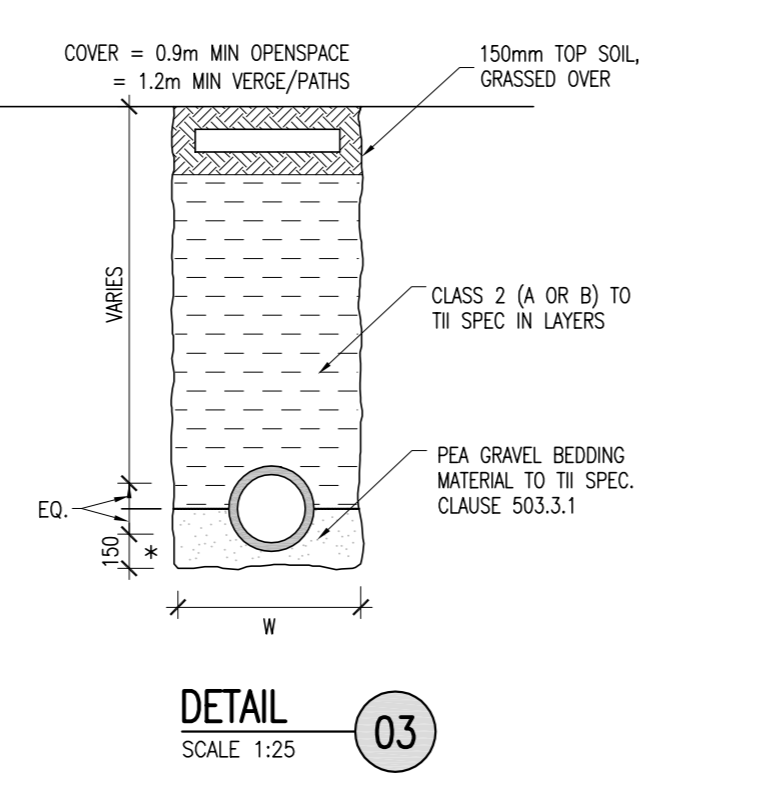
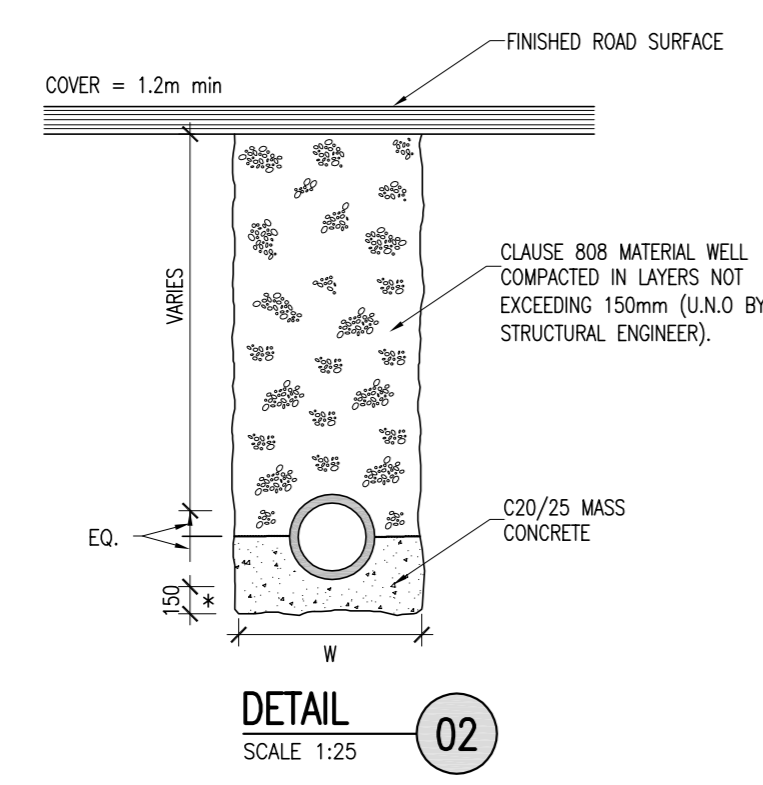
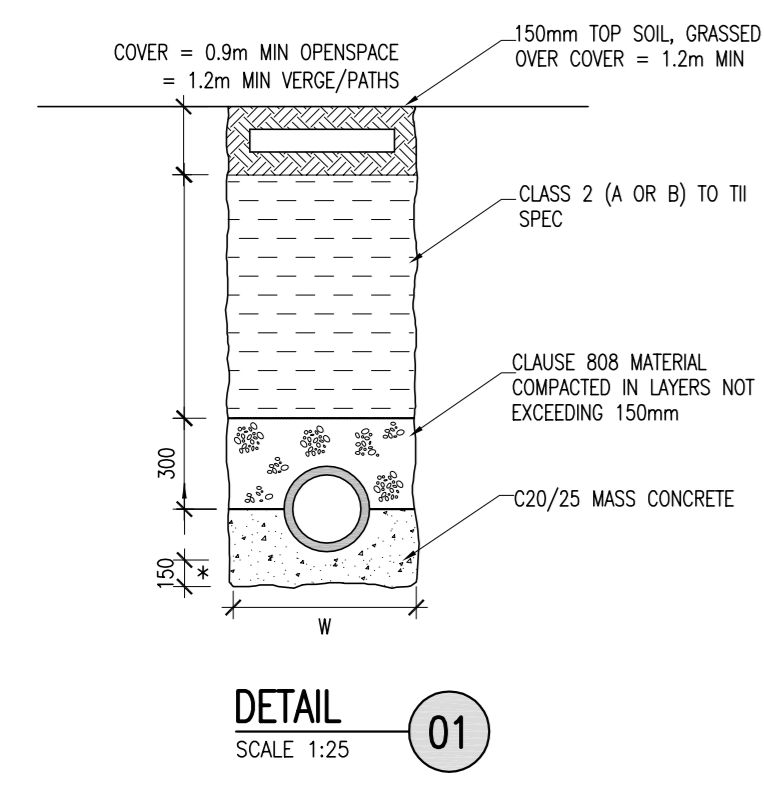


- NOTES:
- RIGID PIPES SHALL MEAN CAST OR SPUN IRON, CONCRETE OR CLAY.
 - FLEXIBLE PIPES SHALL MEAN PIPES OF STEEL, PVC, OTHER PLASTIC OR DUCTILE IRON.
 - CONCRETE C20/25 TO HAVE COVER = 50mm MIN. WITH A MINIMUM CEMENT CONTENT OF 260 kg/m³, MAXIMUM W/C RATIO OF 0.65 AND SLUMP CLASS S2.
 - C25/30 CONCRETE TO HAVE A MINIMUM CEMENT CONTENT OF 280kg/m³, MAXIMUM WATER/CEMENT RATIO OF 0.65 AND SLUMP CLASS S2.
 - FOR DETAILS OF TRENCH REINSTATEMENT TO PIPES IN THE VICINITY OF BUILDINGS, WALLS & FOUNDATION, REFER TO STRUCTURAL DRAWINGS.
 - ALL PIPES WITH LESS THAN 1.2m COVER UNDER GRASSED AREAS AND FOOTPATHS TO BE SURROUNDED IN 150mm MINIMUM OF C20/25 CONCRETE.
 - LEAN-MIX BACKFILL TO TRENCHES IN EXISTING ROADS, WHERE REQUIRED BY THE LOCAL AUTHORITY TO BE GRADE C20/25 CONCRETE.
 - TRENCH DETAILS ARE REFERENCED FROM:
 - GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 - TII ROAD CONSTRUCTION DETAILS
 - DOE RECOMMENDATIONS FOR SITE DEVELOPMENT WORKS
 - BUILDING REGULATIONS
 - WHERE ROCKS OR OTHER HARD TRENCH BOTTOM IS ENCOUNTERED, THE FIGURE DENOTED BY * IS TO BE DOUBLED.
 - GRANULAR BACKFILL MATERIAL SHALL BE IN COMPLIANCE WITH CLAUSE 808 (GRANULAR MATERIAL TYPE B) OF THE TII SPECIFICATION FOR ROAD WORKS. GRANULAR BACKFILL SHOULD BE PLACED UNIFORMLY ON EITHER SIDE OF THE PIPE IN LAYERS NOT EXCEEDING 100mm. EACH LAYER BEING COMPACTED BY HAND TAMPING UNTIL THE PIPE HAS A MINIMUM OF 300mm COMPACTED COVER. CARE SHOULD BE TAKEN THAT THE PROCESS OF COMPACTION DOES NOT DISPLACE THE PIPE FROM ITS CORRECT LINE AND LEVEL. SUBSEQUENT LAYERS OF GRANULAR FILL TO BE WELL COMPACTED IN 150mm THICK LAYERS TO THE LOCAL AUTHORITY ROAD DIVISION SPECIFICATION. MECHANICAL COMPACTION EQUIPMENT SHOULD NOT BE USED UNLESS THERE IS A MINIMUM OF 450mm COMPACTED COVER OVER THE CROWN OF THE PIPE.
 - SELECTED FILL SHOULD BE FREE FROM STONES LARGER THAN 37mm, LUMPS OF CLAY OVER 75mm, TIMBER, FROZEN MATERIAL AND VEGETABLE OR FOREIGN MATTER. SELECTED FILL SHOULD BE PLACED UNIFORMLY ON EITHER SIDE OF THE PIPE IN LAYERS NOT EXCEEDING 100mm. EACH LAYER BEING COMPACTED BY HAND TAMPING UNTIL THE PIPE HAS A MINIMUM OF 150mm COMPACTED COVER. CARE SHOULD BE TAKEN THAT THE PROCESS OF COMPACTION DOES NOT DISPLACE THE PIPE FROM ITS CORRECT LINE AND LEVEL. SUBSEQUENT SELECTED FILL CAN BE PLACED AND COMPACTED IN 150mm THICK LAYERS.
 - GENERAL BACKFILL MATERIAL SUITABLE FOR BACKFILL ABOVE SELECTED FILL MATERIAL SHOULD BE FREE FROM BOULDERS, LUMPS OF CONCRETE, TIMBER AND VEGETABLE OR FOREIGN / CONTAMINATED MATTER. GENERAL BACKFILL SHOULD BE PLACED IN LAYERS NOT EXCEEDING 300mm, EACH LAYER BEING WELL COMPACTED. MECHANICAL COMPACTION EQUIPMENT SHOULD NOT BE USED UNLESS THERE IS A MINIMUM OF 450mm COMPACTED COVER OVER THE CROWN OF THE PIPE.



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

DETAIL 02 SCALE 1:25
BEDDING DETAIL ACROSS ROADWAY

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

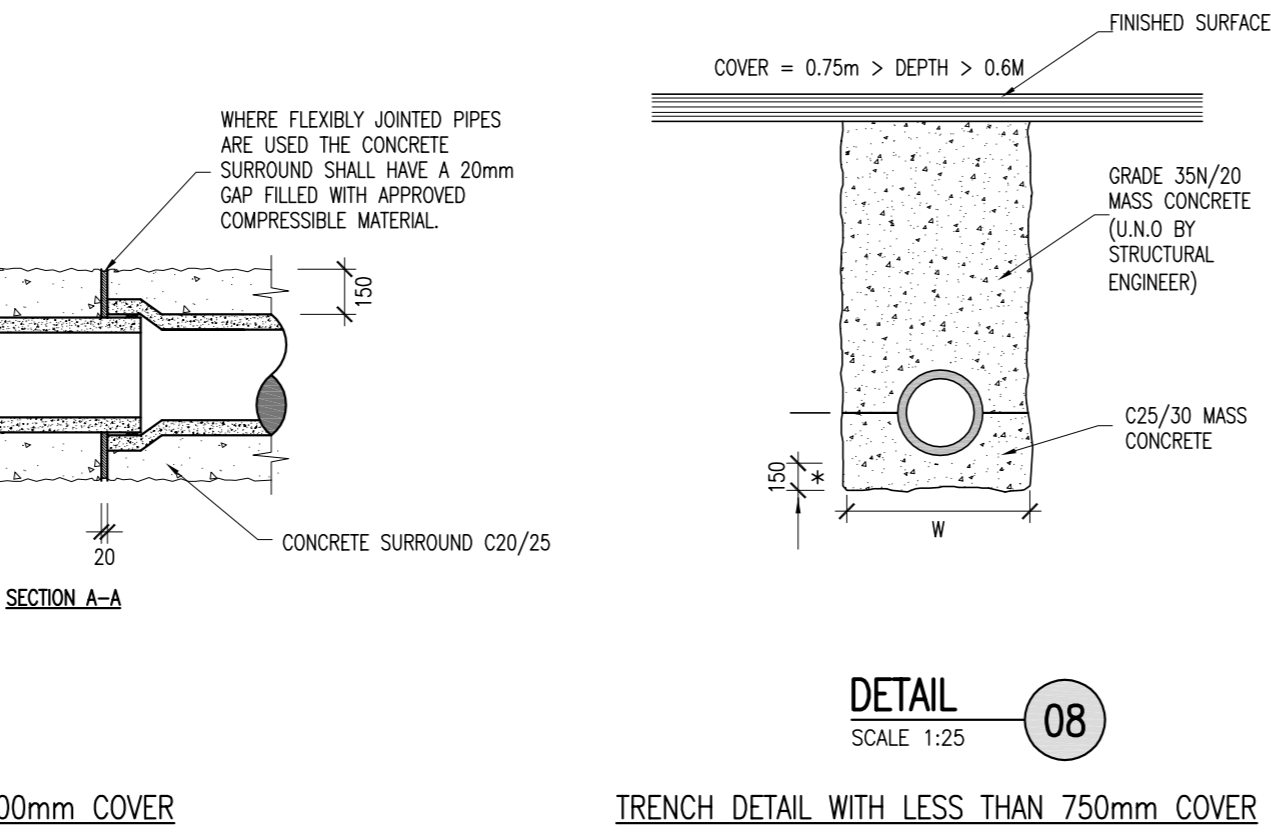
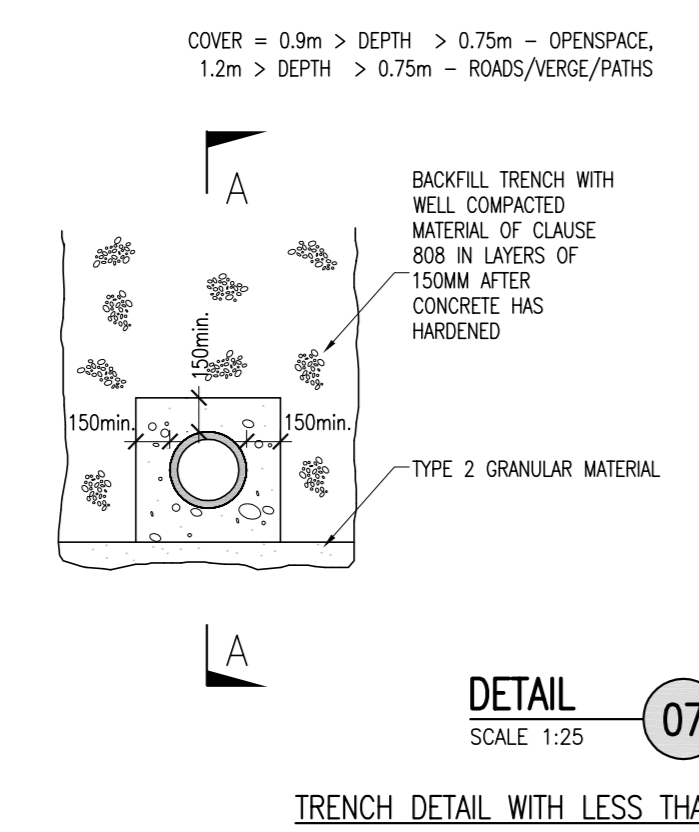
DETAIL 05 SCALE 1:25
BEDDING DETAIL ACROSS OPEN SPACE/VERGES/PATHS (SIMILAR) - CLASS S

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

BEDDING FOR RIGID PIPES

BEDDING FOR FLEXIBLE PIPES

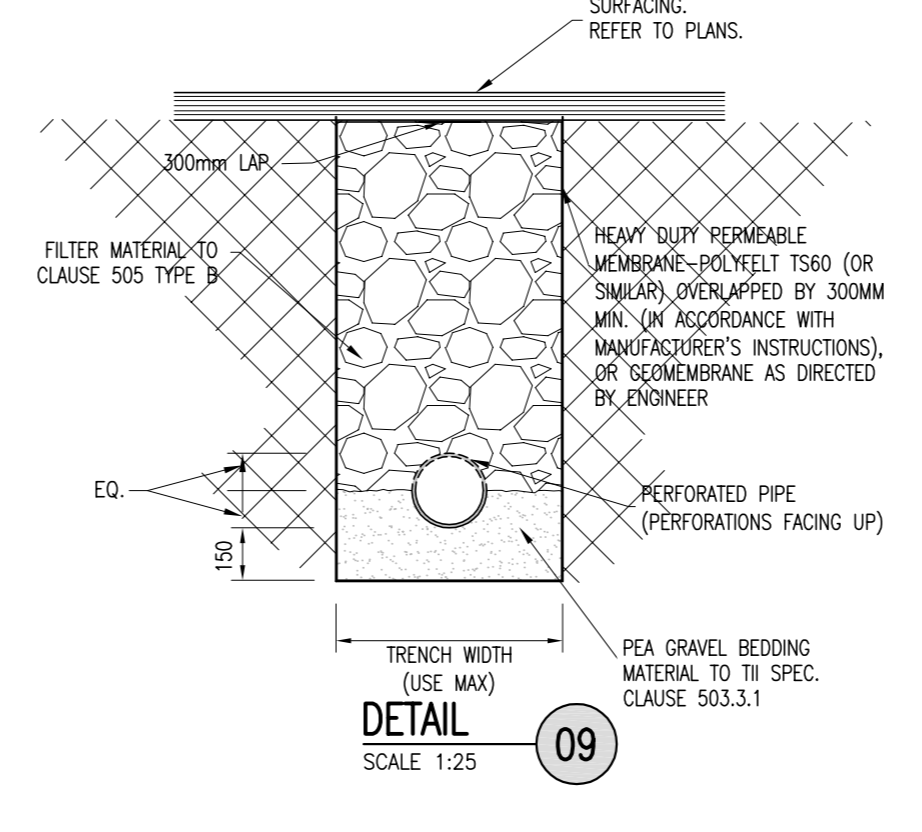
| TABLE 1: TRENCH WIDTH LIMITS (W) | | |
|----------------------------------|------------------------------|-------------------------------|
| NOMINAL INTERNAL Ø (mm) | MINIMUM TRENCH WIDTH mm | MAXIMUM TRENCH WIDTH mm |
| 100 | 450 | 650 |
| 150 | 500 | 700 |
| 225 | 600 | 800 |
| 300 | 700 | 900 |
| 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 Ø OF PIPE PLUS 800mm | OUTSIDE Ø OF PIPE PLUS 1000mm |



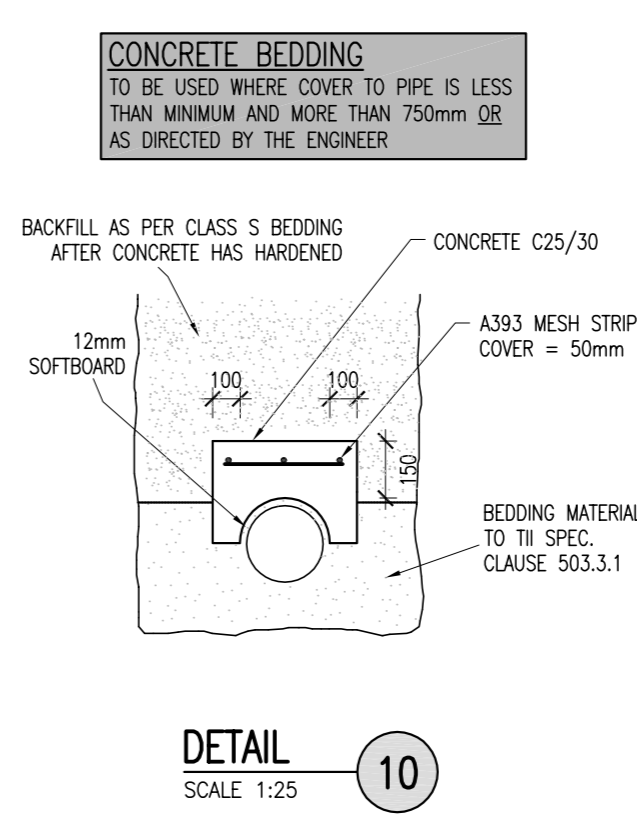
DETAIL 07 SCALE 1:25
TRENCH DETAIL WITH LESS THAN 900mm COVER

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

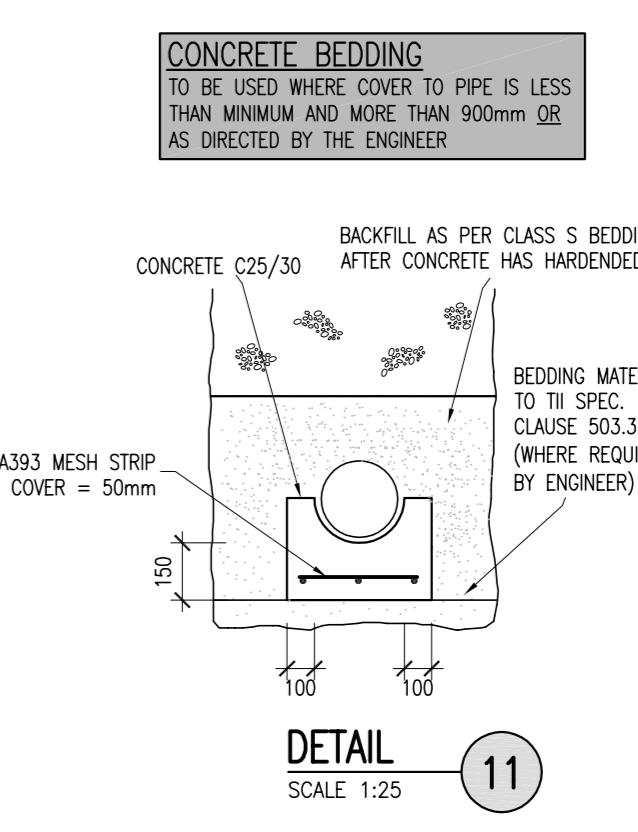
BEDDING FOR RIGID AND FLEXIBLE PIPES WITH LIMITED COVER



DETAIL 09 SCALE 1:25
TYPICAL FILTER DRAIN DETAIL

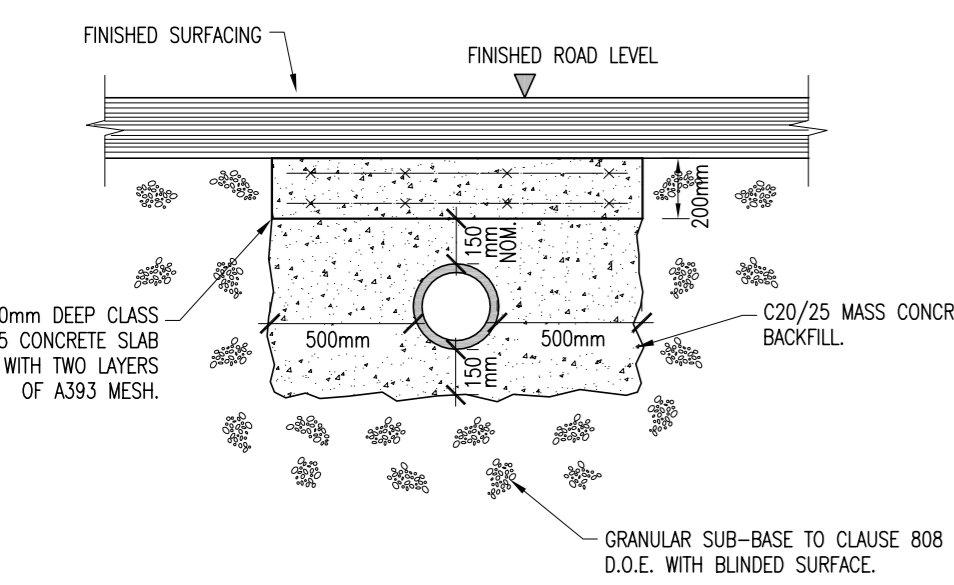


DETAIL 10 SCALE 1:25
FLEXIBLE PIPES : ARCH

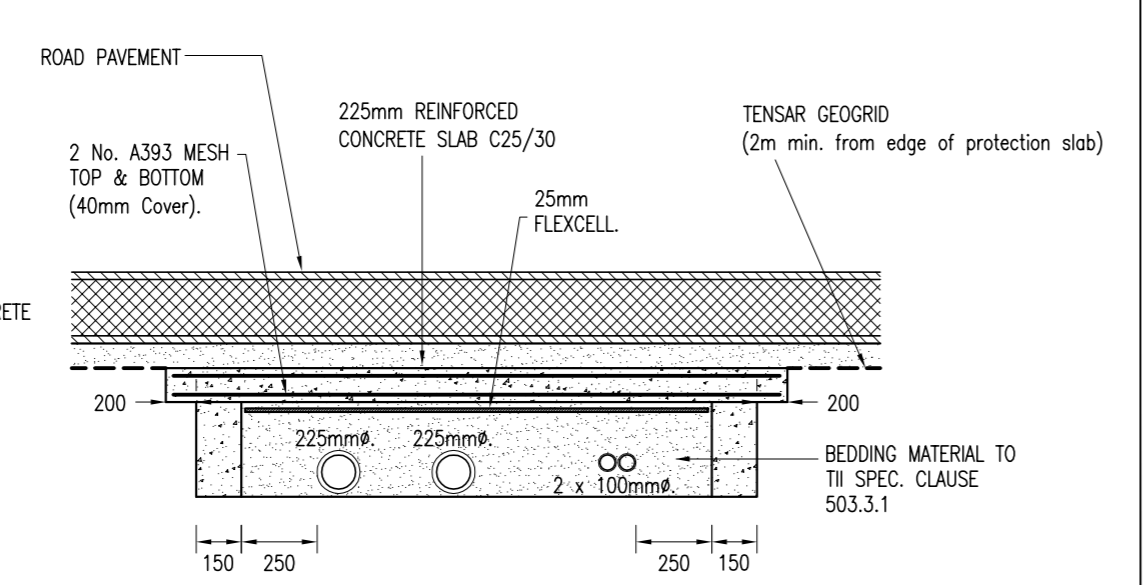


DETAIL 11 SCALE 1:25
FLEXIBLE PIPES : CRADLE

ALTERNATIVE BEDDING

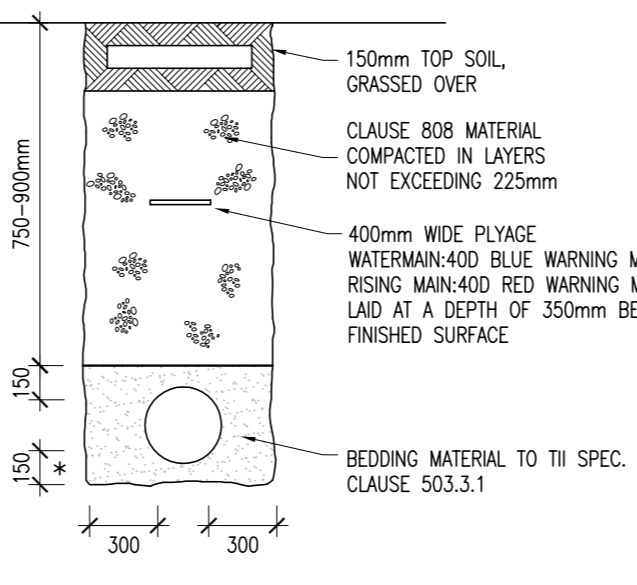


DETAIL 12 SCALE 1:25
TYPE 1 (600mm COVER TO PIPE & BELOW)

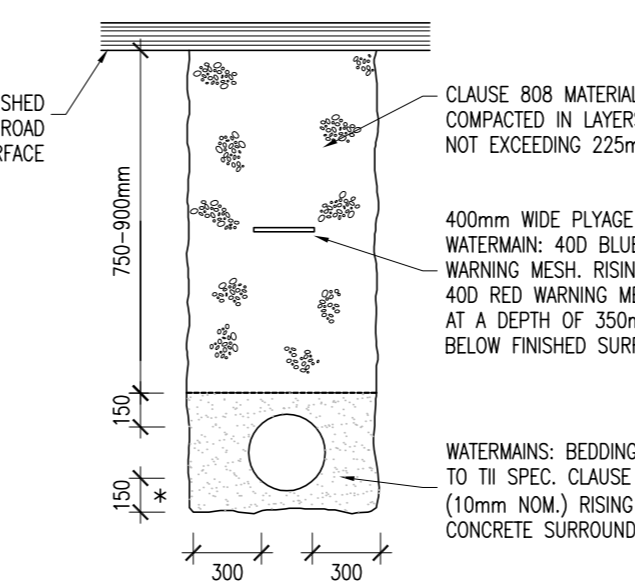


DETAIL 13 SCALE 1:25
TYPE 2 (600mm COVER TO PIPE & BELOW)

TYPICAL SERVICES PROTECTION DETAIL



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

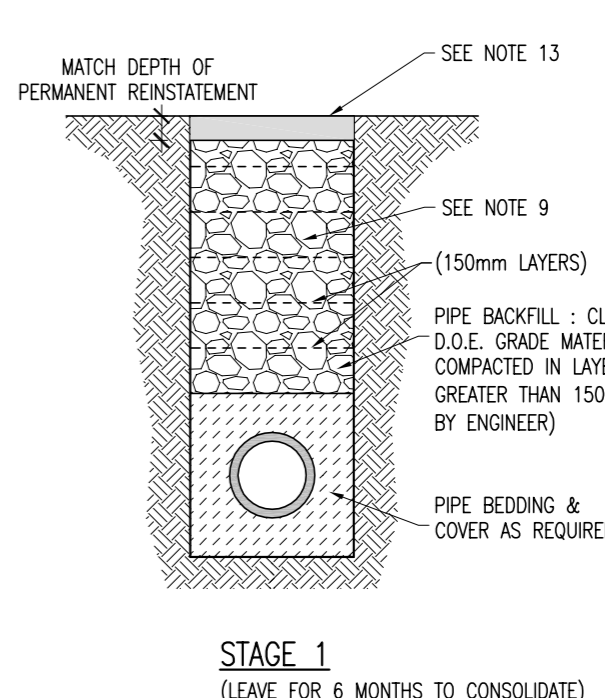


DETAIL 15 SCALE 1:25
(B) BEDDING DETAIL ACROSS ROADS

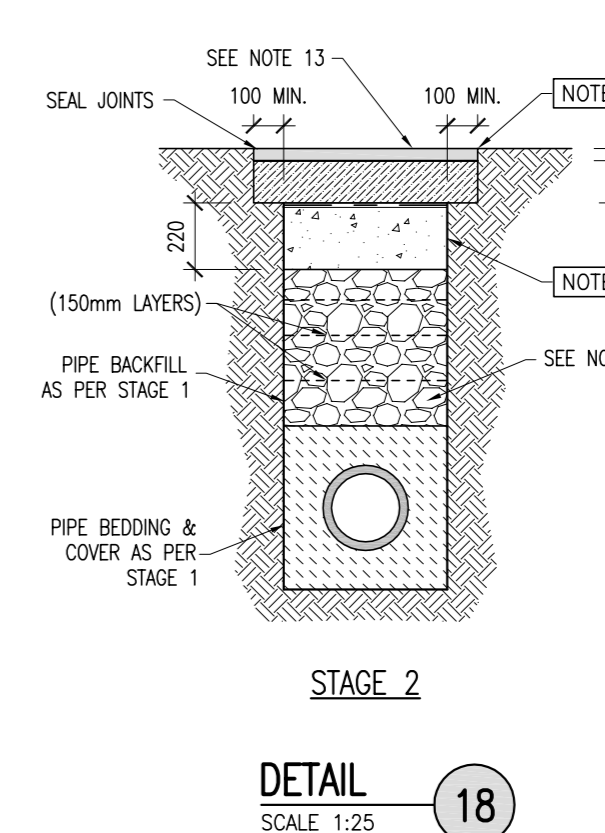
WATERMAIN/RISING MAIN BEDDING

- 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 220 LAYER OF LEAN-MIX CONCRETE.
 - LEAN-MIX SURFACE TO BE SPRAYED PER CLAUSE 920 (TII 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)

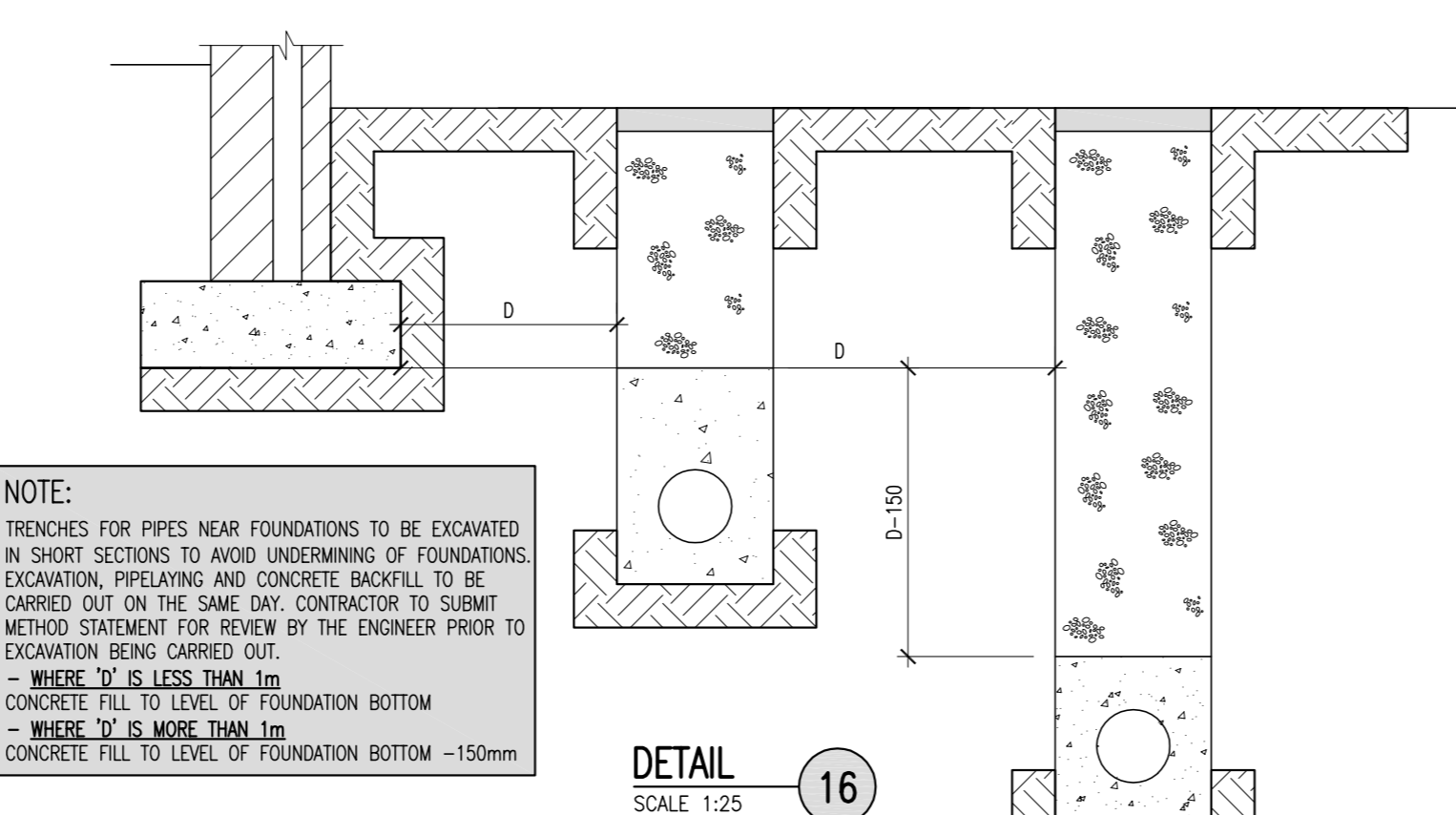


STAGE 2

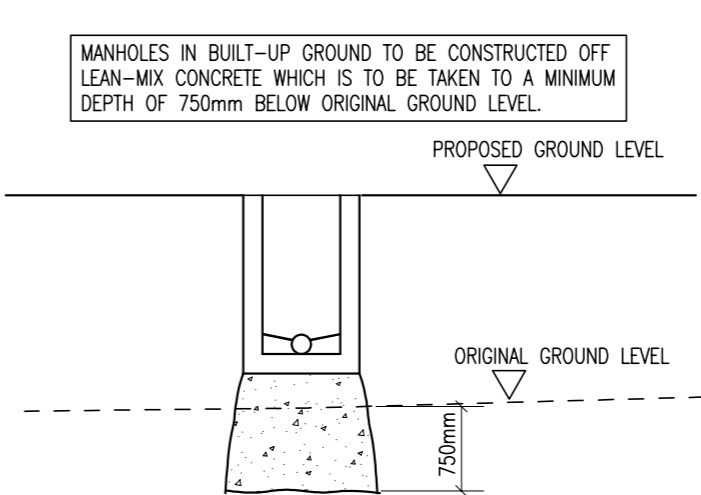
DETAIL 18 SCALE 1:25
REINSTATEMENT OF PIPE TRENCH IN EXISTING ROAD

| 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



DETAIL 16 SCALE 1:25
CONCRETE PIPE LAID NEAR FOUNDATIONS



DETAIL 17 SCALE NTS
DRAINS IN BUILT-UP GROUND

| | | | | |
|-----|----------|----------------------|-------|-------|
| REV | DATE | DESCRIPTION | BY | CHKD. |
| A | 14/06/19 | REVISED FOR PLANNING | KAL'E | SVC |

| PLANNING | | | | |
|----------|----------|----------|-------|--|
| DESIGNED | SVC | PREPARED | KAL'E | |
| DATE | JUN 2019 | CHECKED | PMF | |

DBFL CONSULTING ENGINEERS
 Dublin Office: Ormond House, Upper Ormond Quay, Dublin 7, Ireland. Phone: +353 1 400 4000
 Waterford Office: Unit 2, The Chandery, 1-2 O'Connell Street, Waterford, Ireland. Phone: +353 51 908 500
 Email: info@dbfl.ie www.dbfl.ie

PROJECT
PROPOSED RESIDENTIAL DEVELOPMENT AT CHURCH ROAD, KILLINEY, CO. DUBLIN

DRG. TITLE
STANDARD DETAILS SHEET 1 OF 4

ARCHITECT
OMAHONY PIKE ARCHITECTS

| | | | |
|----------|-------------|-----------|-------------|
| SCALE | 1:25 @A1 | FILE REF. | 180153-3021 |
| DRG. NO. | 180153-3021 | | A |