


MALACHI CULLEN
CONSULTING ENGINEERS LTD

A4
DETAILS

ISSUE SHEET:

Date of Issue:

PP.PP.PP

 <small>8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH ph: 090 642 0364 info@mcullen.ie www.mcullen.ie</small>	Project: GORMANSTON CAMP - NEW OFFICES	
	Project Number: 26-009 - IS400	Project Stage: CONSTRUCTION

SHEET NO:	SHEET TITLE
002	COVER PAGE
A4 DETAILS	
SK-1001	SEWER BEDDING DETAIL
SK-1002	MANHOLE COVER & FRAME DETAILS
SK-1008	TYPICAL MANHOLE DETAILS
SK-1009	MANHOLE COVER & FRAME
SK-1014	FOOTPATH DETAIL (CONCRETE)
SK-1014a	FOOTPATH DETAIL (CONCRETE) + KERB
SK-1015	uP.V.C. PIPE DUCT DETAIL
SK-1019	PRE-CAST CONCRETE GULLY POT
SK-1034	PALISADE FENCING & GATE DETAIL
SK-1037	RAINWATER DOWN PIPE DETAILS
SK-1068	AJ & PIPE CONNECTIONS
MOVE TO GENERAL DETAILS	
SK-1062	RC WINDOW HEAD DETAIL

002	COVER PAGE
IRISH WATER (WASTE WATER DETAILS)	
STD-WW-10	PRE-CAST CONCRETE MANHOLE WITH CAST IN-SITU BASE
STD-WW-10A	PRE-CAST CONCRETE MANHOLE WITH PRE-CAST BASE
STD-WW-11	IN-SITU CONCRETE MANHOLE
MOVE TO GENERAL DETAILS	
SK-1062	RC WINDOW HEAD DETAIL

		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
		<input type="checkbox"/>	<input type="checkbox"/>
MAIN CONTRACTOR	-	<input type="checkbox"/>	<input type="checkbox"/>
BUILDING CONTROL	-	<input type="checkbox"/>	<input type="checkbox"/>
CLIENT	-	<input type="checkbox"/>	<input type="checkbox"/>
Distribution		<input type="checkbox"/>	<input type="checkbox"/>

Electronic Hardcopies

MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**

Client
 IRISH DEFENCE FORCES

Drawing Title:
SEWER BEDDING DETAIL

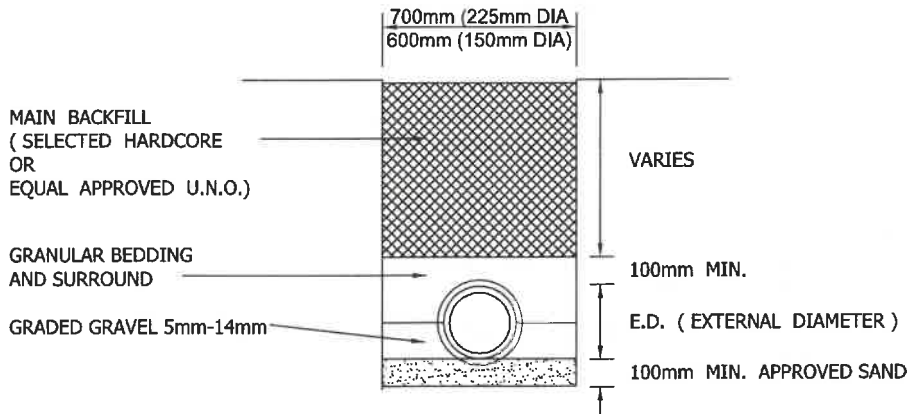
Project Number
26-009

Drawing Number: Rev:
SK-10010

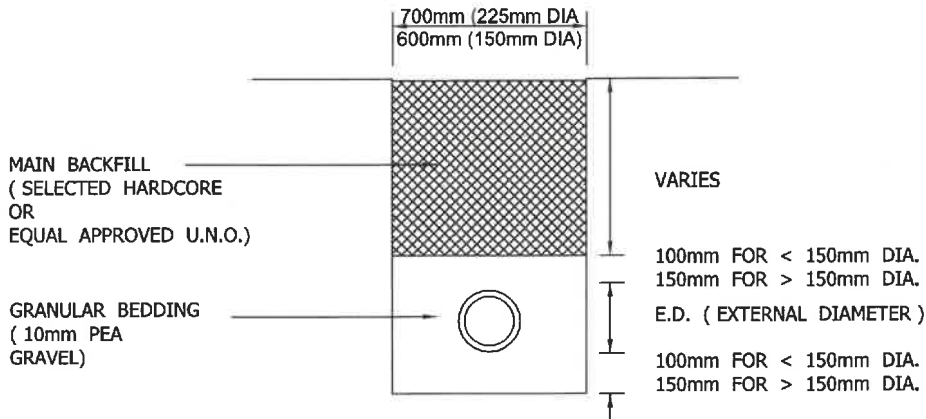
Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25

A4 DETAILS

Revision Schedule			
Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE




GRANULAR BEDDING FOR CONCRETE PIPES



GRANULAR BEDDING FOR uP.V.C. FLEXIBLE PIPES

NOTES

- (A) IN TRENCHES IN ROADS, MAIN BACKFILL SHALL BE GRANULAR MATERIAL. TO CLAUSE 804 M.O.T. SPECIFICATION AND SHALL BE COMPACTED IN LAYERS NOT EXCEEDING 150mm LOOSE DEPTH.
- (B) WHERE COVER IS LESS THAN ALLOWABLE, I.E. 1.20m IN ROADS AND 0.9m ELSEWHERE, A 150mm (20N MIX) CONCRETE SURROUND IS TO BE PLACED AROUND PIPE. THE CONCRETE SURROUND SHALL HAVE 25mm BREAKS EVERY 6.0m (uP.V.C.ONLY). THE BREAKS ARE TO BE FILLED WITH A COMPRESSIBLE MATERIAL.

 <p>8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH ph: 090 642 0364 info@mcullen.ie www.mcullen.ie</p>	Project: GORMANSTON CAMP - NEW OFFICES	Client IRISH DEFENCE FORCES	
	Drawing Title: MANHOLE COVER & FRAME DETAILS	Project Number 26-009	
	Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25	Drawing Number: SK-10020 Rev:	
A4 DETAILS	Revision Schedule		
	Rev.	Date	Description
	0	13-03-2026	ISSUED FOR CONSTRUCTION
			By MCCE

**MANHOLE COVERS, WATERMAIN CHAMBER COVERS, SERVICE CHAMBER COVERS,
GULLY FRAMES AND GRATINGS**

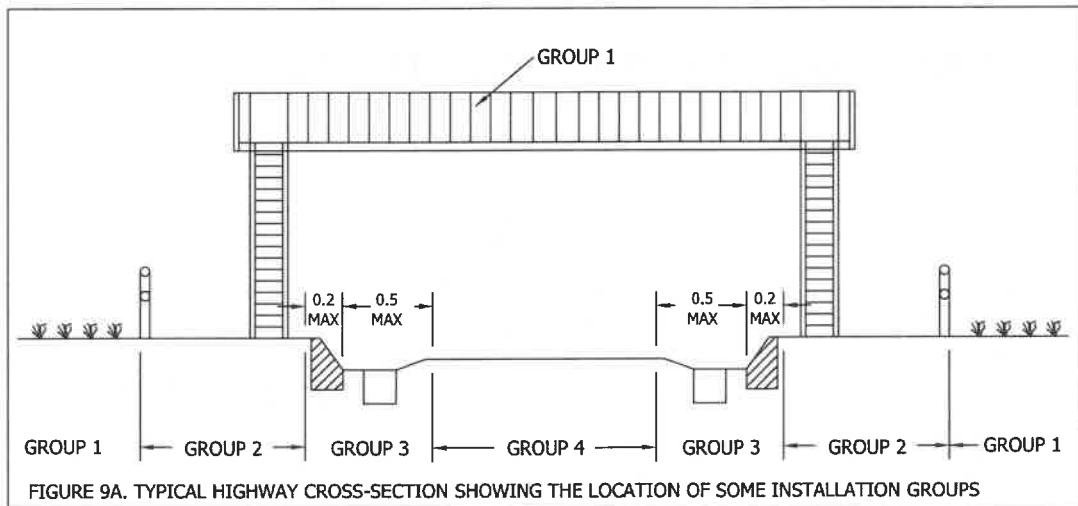
GENERAL

ALL FRAMES AND COVERS SHALL BE MANUFACTURED FROM DUCTILE IRON AND SHALL COMPLY WITH EUROPEAN STANDARD EN124, HAVE QUALITY ASSURANCE TO BS EN ISO 9001 AND HAVE THIRD PARTY CERTIFICATE TO BS EN 124.

CLASSIFICATION

GULLY TOPS AND MANHOLE TOPS ARE DIVIDED INTO THE FOLLOWING CLASSES ; A 15, B 125, C 250, D 400, E 600 AND F 900.

THE NUMERIC IN EACH CLASS I.E. 250 REPRESENTS THE TEST LOAD IN KN WHICH THE COVER SHALL WITHSTAND



PLACE OF INSTALLATION

THE APPROPRIATE CLASS OF MANHOLE TOP OR GULLY TO BE USED DEPENDS UPON THE PLACE OF INSTALLATION. THE VARIOUS PLACES OF INSTALLATION HAVE BEEN DIVIDED INTO GROUPS NUMBERED 1 TO 6, AS LISTED BELOW. FIGURE 9A SHOWS THE LOCATION OF SOME OF THESE GROUPS IN A HIGHWAY ENVIRONMENT. A GUIDE AS TO WHICH CLASS OF MANHOLE TOP OR GULLY TOP SHOULD BE USED IS SHOWN IN PARENTHESES FOR EACH GROUP. THE SELECTION OF THE APPROPRIATE CLASS IS THE RESPONSIBILITY OF THE DESIGNER. WHERE THERE IS ANY DOUBT, THE STRONGER CLASS SHOULD BE SELECTED.

GROUP 1 (MIN. CLASS A 15)
AREAS WHICH CAN ONLY BE USED BY PEDESTRIANS AND PEDAL CYCLISTS.

GROUP 2 (MIN. CLASS B 125)
FOOTWAYS, PEDESTRIAN AREAS AND COMPARABLE AREAS ONLY.

GROUP 3 (MIN. CLASS C 250)
FOR GULLY TOPS INSTALLED IN THE AREA OF KERBSIDE CHANNELS OF ROADS (FIGURE 9A) WHICH WHEN MEASURED FROM KERB EDGE, EXTEND A MAXIMUM OF 0.5M INTO THE CARRIAGEWAY AND A MAXIMUM OF 0.2M INTO THE FOOTWAY.

GROUP 4 (MIN. CLASS D 400)
CARRIAGEWAYS OF ROADS (INCLUDING PEDESTRIANS STREETS), HARD SHOULDERS (FIGURE 9A) AND PARKING AREAS, FOR ALL TYPES OF ROAD VEHICLES.

GROUP 5 (MIN. CLASS E 600)
AREAS IMPOSING HIGH WHEEL LOADS, E.G. DOCKS, AIRCRAFT PAVEMENTS.

GROUP 6 (MIN. CLASS F 900)
AREAS IMPOSING PARTICULARLY HIGH WHEEL LOADS, E.G. AIRCRAFT PAVEMENTS.

MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**

Client
 IRISH DEFENCE FORCES

Drawing Title:
TYPICAL MANHOLE DETAILS

Project Number
26-009

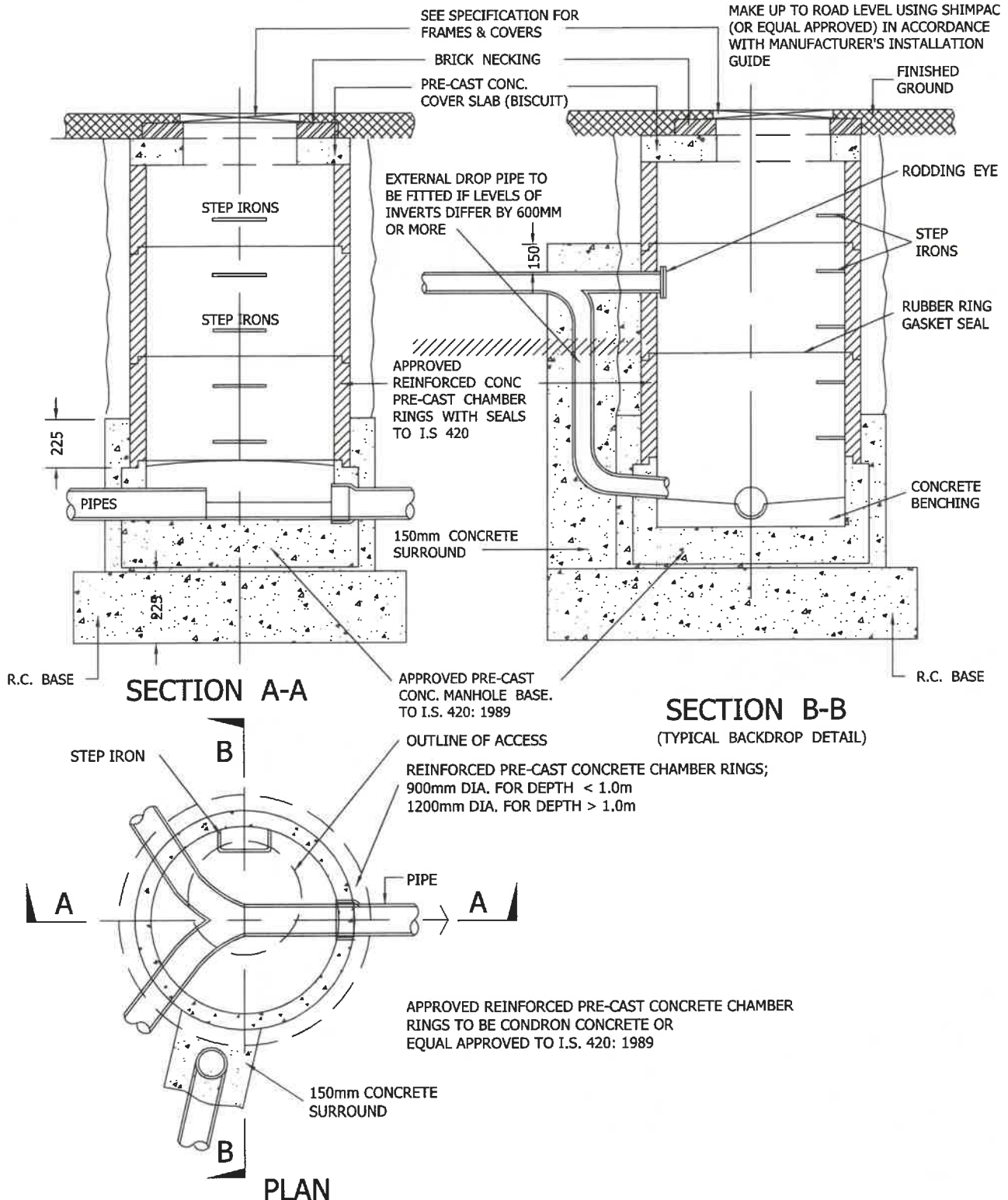
Drawing Number: Rev:
SK-10080

Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25

A4 DETAILS

Revision Schedule

Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE



MALACHI CULLEN
CONSULTING ENGINEERS LTD
8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**
Drawing Title: **MANHOLE COVER & FRAME**
Date: 13-03-2026 Dm: AT Chk: JD Scale: 1:25

Client: **IRISH DEFENCE FORCES**
Project Number: **26-009**
Drawing Number: **SK-10090** Rev:

A4 DETAILS

Revision Schedule			
Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE

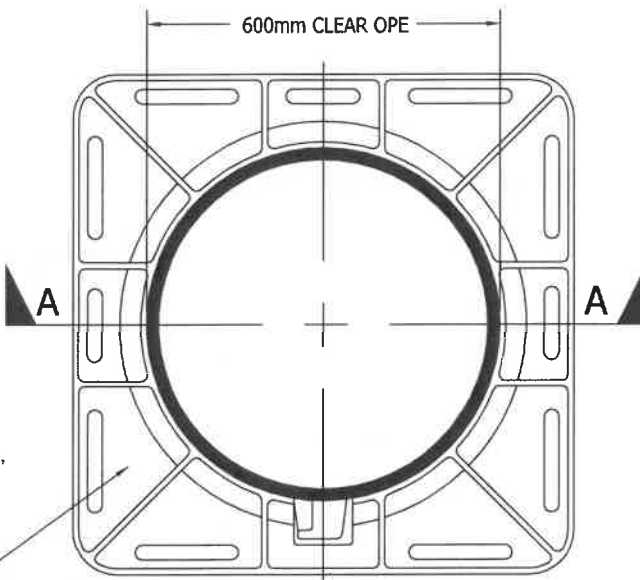
MANHOLE COVER & FRAMES

MANHOLE COVERS & FRAMES SHALL BE AS APPROVED AND UNLESS SPECIFIED OTHERWISE SHALL COMPLY WITH E N 124 THE MINIMUM OPENING DIMENSIONS SHALL BE 600mm x 600mm RECTANGULAR OR IF CIRCULAR 600mm DIAMETER. THE APPROPRIATE GRADE OF COVER AND FRAME WHICH SHALL BE USED IS GIVEN IN TABLE 1.

TABLE 1 MANHOLE COVERS & FRAMES

EN 124	LOCATION
D400, GROUP 4	CARRIAGEWAYS, FOOTPATHS, VERGES, VEHICULAR ACCESS.

APPROVED LOCKABLE DUCTILE IRON COVER AND FRAME TO E N 124 CLASS D400, GROUP 4



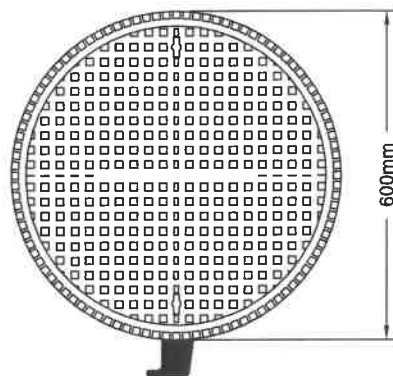
MANHOLE FRAME PLAN



SECTION A-A
MANHOLE FRAME & COVER

TABLE 2 SLUICE VALVE & STOPCOCK BOXES

EN 124,	LOCATION
CLASS B124, GROUP 2	FOOTPATHS, PEDESTRIAN AREAS, CAR PARKS



MANHOLE COVER

INDICATOR PLATES & MARKER POSTS

HYDRANTS, AIR VALVES AND SLUICE VALVES SHALL BE LOCATED BY INDICATOR PLATES POSITIONED TO THE APPROVAL OF THE LOCAL AUTHORITY. 200mm X 175mm HIGH ALUMINUM HYDRANT INDICATOR PLATES PAINTED YELLOW WITH RAISED BLACK LETTERING AND EDGE COMPLYING WITH B.S. 3251. AIR VALVE AND SLUICE VALVE INDICATOR PLATES SHALL COMPLY WITH THE SPECIFICATION FOR SINGLE HYDRANT INDICATOR PLATES WITH FIXED LETTERS IN B.S. 3251 EXCEPT THAT THEY SHALL BE COLORED WHITE AND INSTEAD OF THE LETTER H SHALL BEAR THE LETTERS AV AND SV RESPECTIVELY AS APPROVED. WHERE MARKER POSTS ARE USED THEY SHALL BE CONCRETE COMPLYING WITH I.S. 162

MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 9 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 050 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**

Client
 IRISH DEFENCE FORCES

Drawing Title:
FOOTPATH DETAIL (CONCRETE)

Project Number
26-009

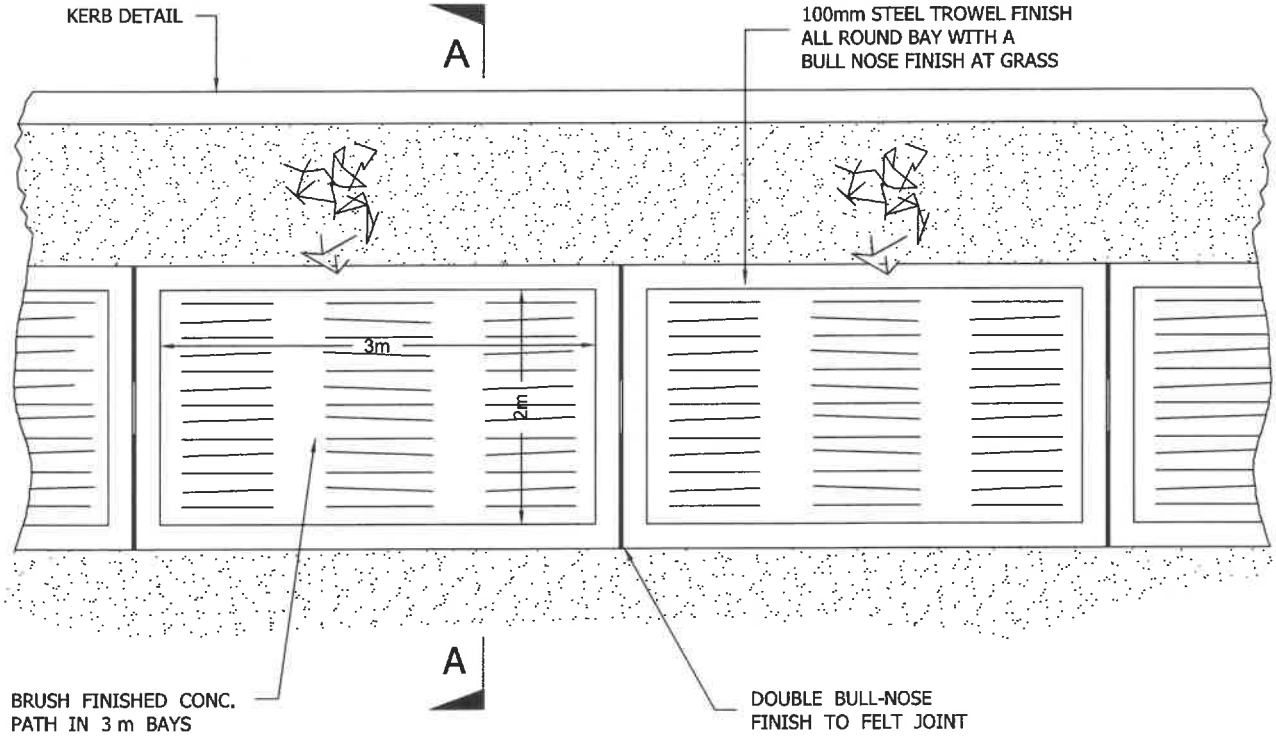
Drawing Number: Rev:
SK-10140

Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25

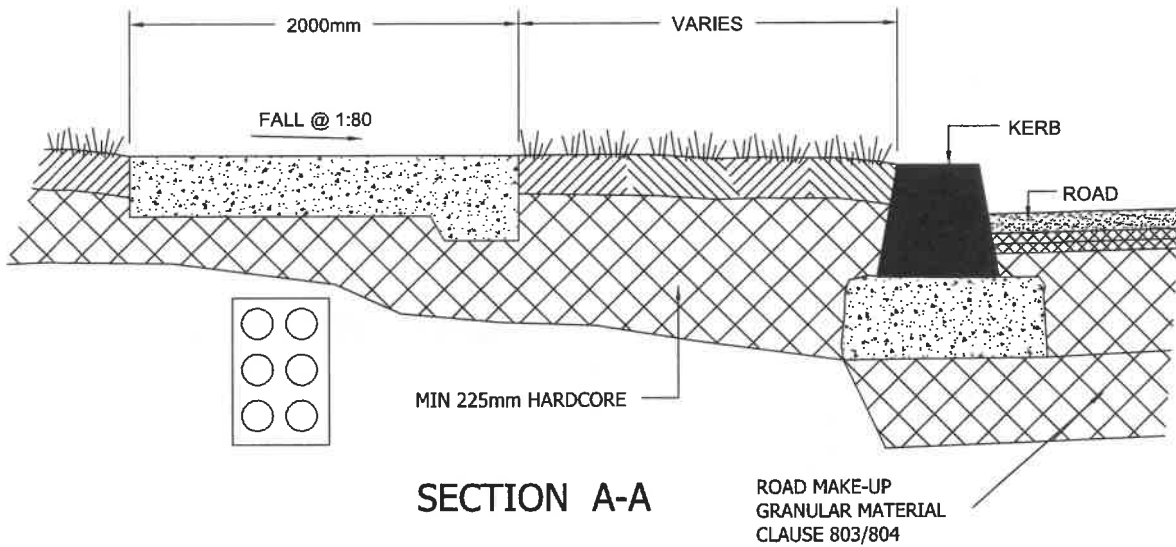
A4 DETAILS


Revision Schedule

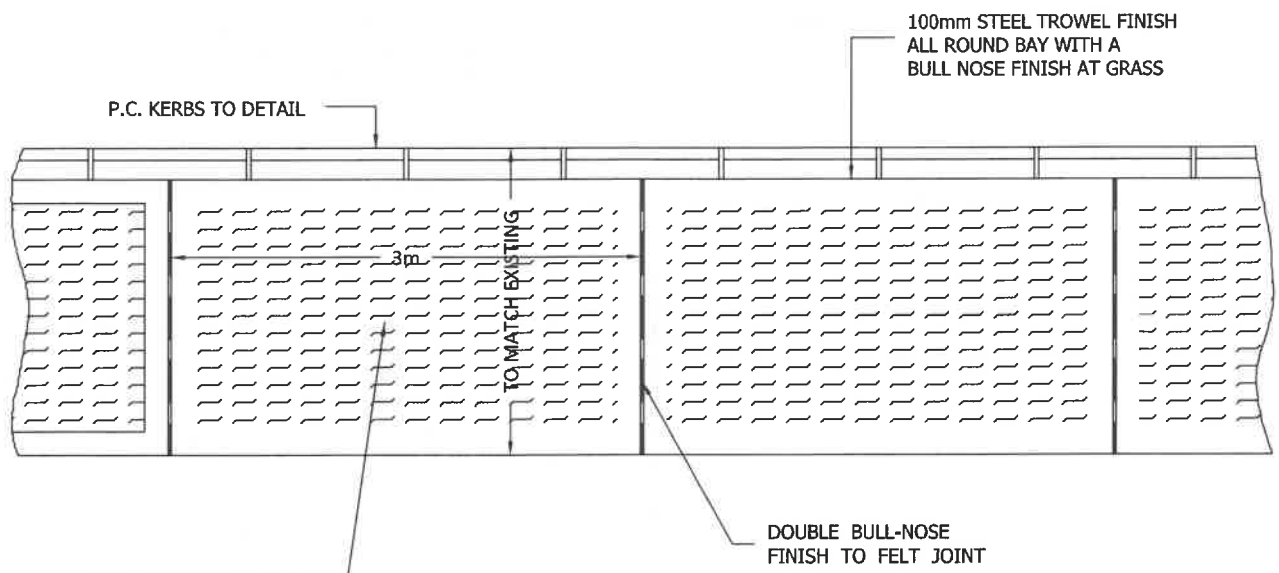
Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE



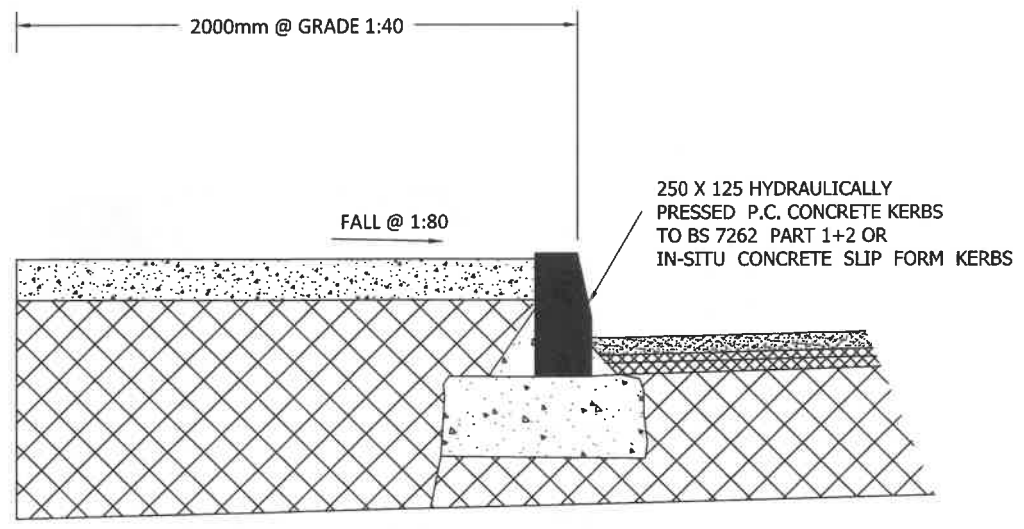
TYPICAL FOOTPATH - PLAN



 <p style="font-size: small;">8 CENTRE COURT, BLVRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH ph. 090 642 0364 info@mcullen.ie www.mcullen.ie</p>	Project: GORMANSTON CAMP - NEW OFFICES	Client: IRISH DEFENCE FORCES								
	Drawing Title: FOOTPATH DETAIL (CONCRETE) + KERB	Project Number: 26-009								
	Date: 13-03-2026 Dm: AT Chk: JD Scale: 1:25	Drawing Number: SK-1014 Rev:								
A4 DETAILS	Revision Schedule									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Rev.</th> <th style="width: 15%;">Date</th> <th style="width: 70%;">Description</th> <th style="width: 5%;">By</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">13-03-2026</td> <td>ISSUED FOR CONSTRUCTION</td> <td style="text-align: center;">MCCE</td> </tr> </tbody> </table>	Rev.	Date	Description	By	0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE		
Rev.	Date	Description	By							
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE							



TYPICAL FOOTPATH - PLAN



SECTION

MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**

Client
 IRISH DEFENCE FORCES

Drawing Title:
uP.V.C. PIPE DUCT DETAIL

Project Number
26-009

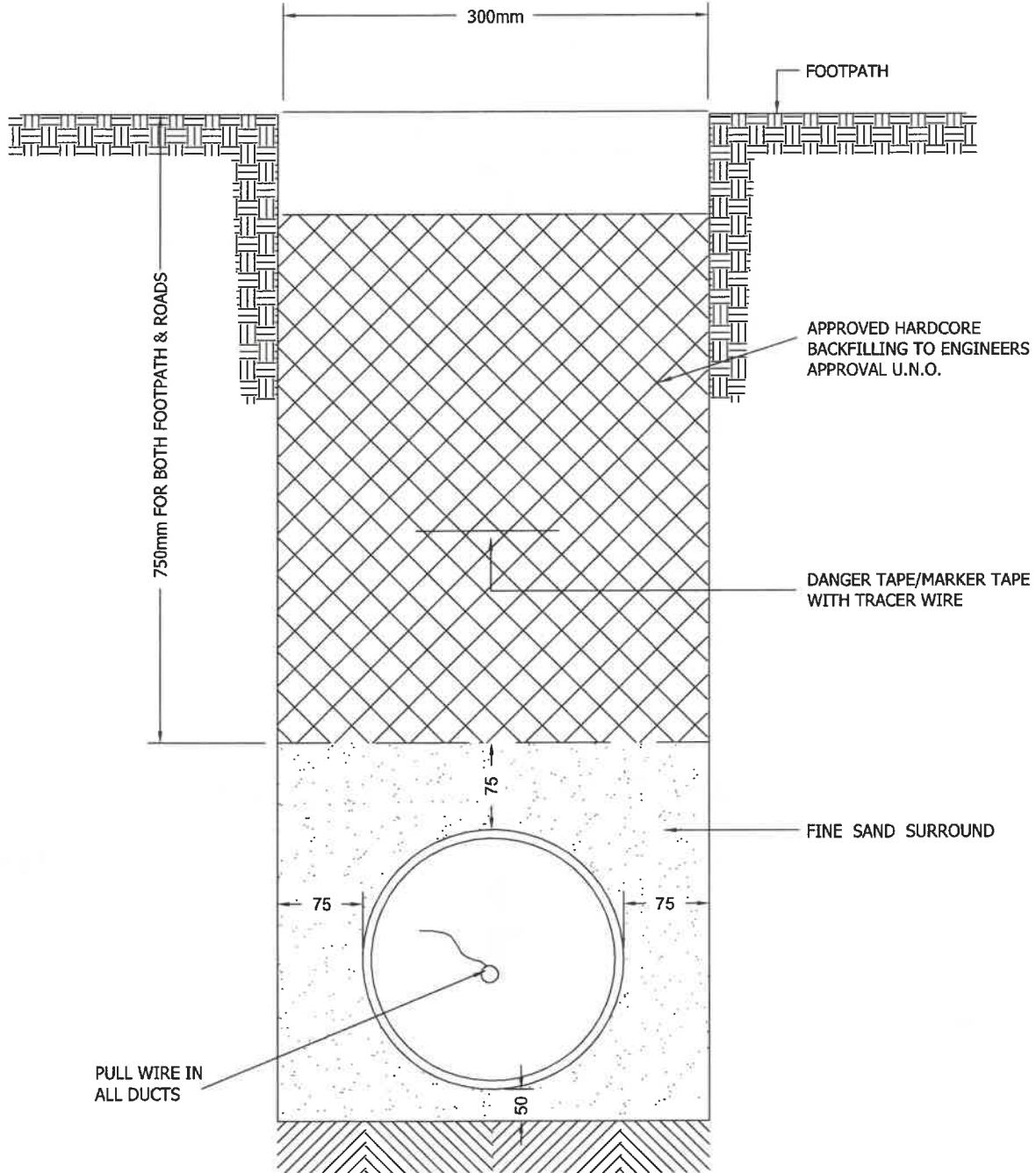
Drawing Number: Rev:
SK-10150

Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25


A4 DETAILS

Revision Schedule

Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE

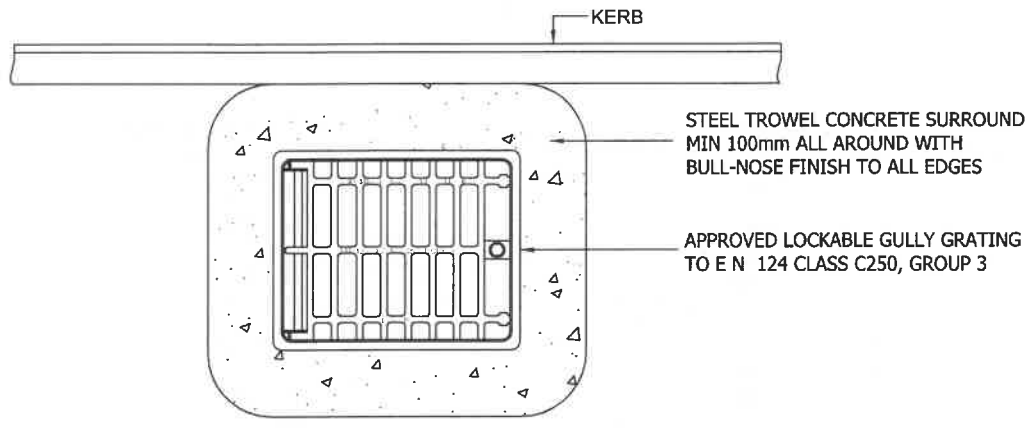


100mm Ø u.P.V.C. DUCT PIPE
 (FOR UNDER GROUND TELECOM, E.S.B. CABLES ETC)
 TELICO (110mm Ø u.P.V.C. DUCT)
 E.S.B. PUBLIC LIGHTING (50mm Ø u.P.V.C. DUCT)
 E.S.B. UNDERGROUND CABLE (125mm Ø u.P.V.C. DUCT)

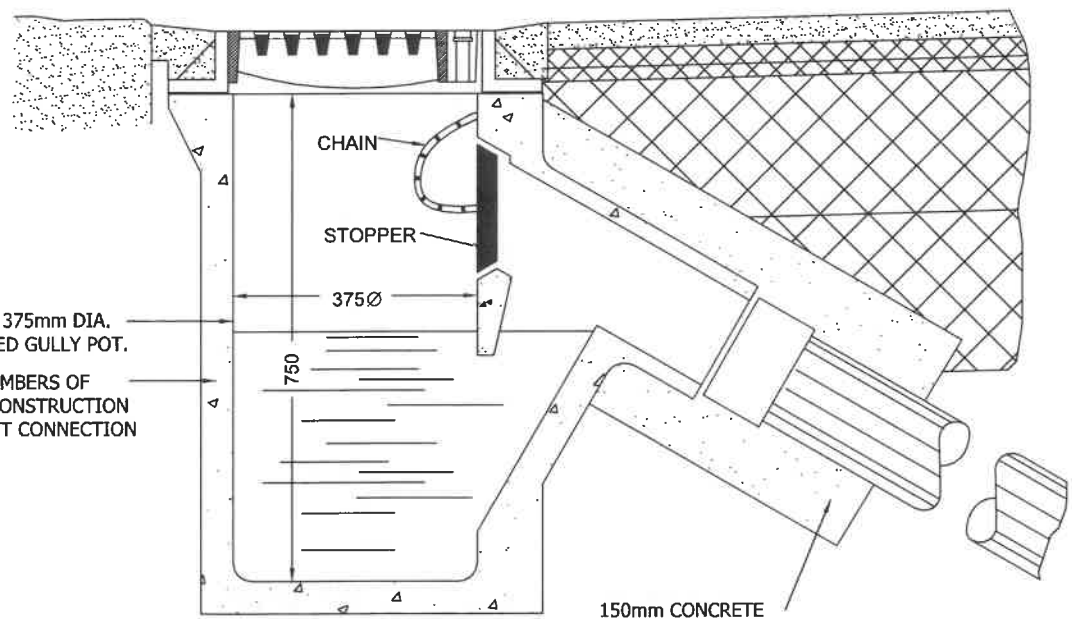
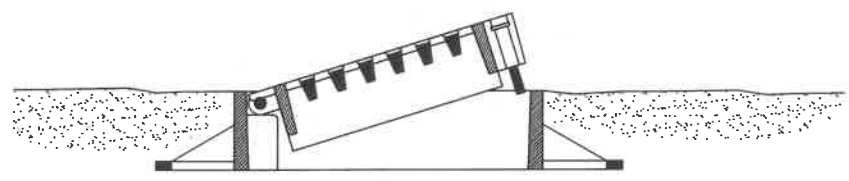
 <p style="font-size: small;">8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH ph: 090 642 0364 info@mcullen.ie www.mcullen.ie</p>	Project: GORMANSTON CAMP - NEW OFFICES	Client: IRISH DEFENCE FORCES
	Drawing Title: PRE-CAST CONCRETE GULLY POT	Project Number: 26-009
	Date: 13-03-2026 Dm: AT Chk: JD Scale: 1:25	Drawing Number: SK-10190 Rev:

A4 DETAILS

Revision Schedule			
Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE



GULLY GRATING



GULLY POT & FRAME - 375mm DIA. x 750mm DEEP TRAPPED GULLY POT.
 APPROVED GULLY CHAMBERS OF PRECAST CONCRETE CONSTRUCTION WITH TRAPPED OUTLET CONNECTION TO EXISTING DRAIN

TRAPPED GULLY POT

MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**

Client
 IRISH DEFENCE FORCES

Drawing Title:
PALISADE FENCING & GATE DETAIL

Project Number
26-009

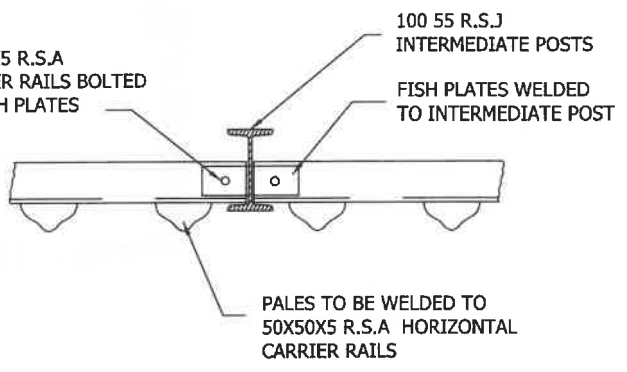
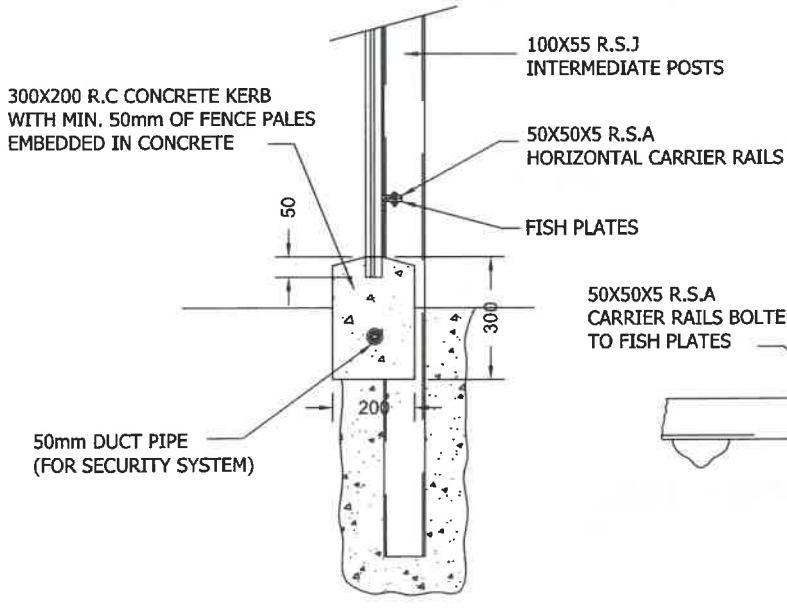
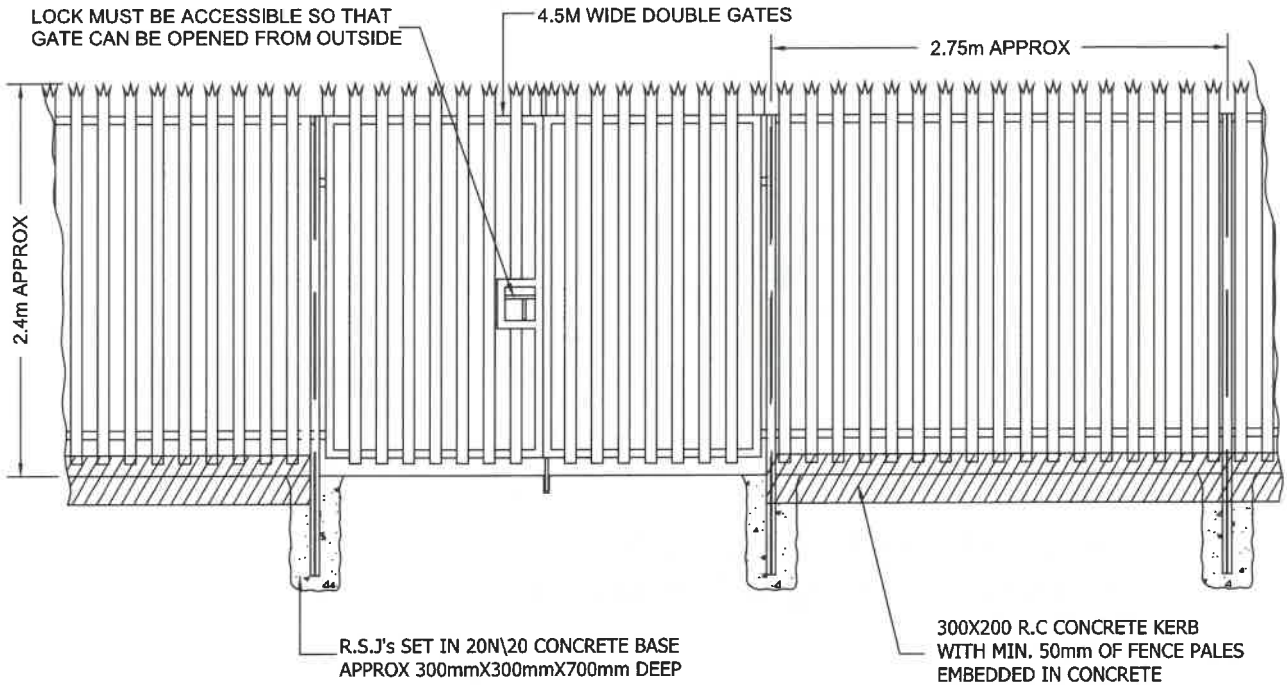
Drawing Number: Rev:
SK-10340

Date: 13-03-2026 Dwn: AT Chk: JD Scale: 1 : 25

A4 DETAILS

Revision Schedule

Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE



R.C KERB DETAIL

CONNECTION DETAIL

SEE SITE BOUNDARY DRAWINGS FOR DETAILS OF PALISADE ERECTED ON TOP OF R.C. WALLS

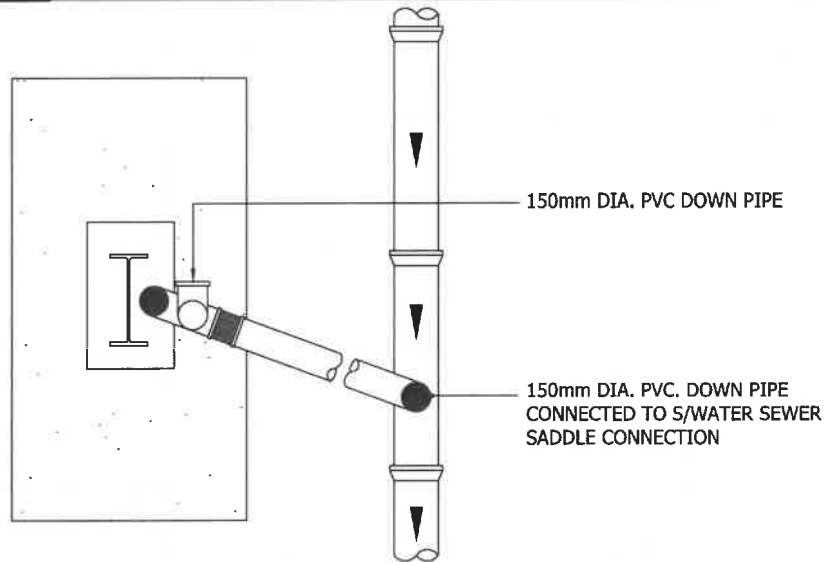
MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**
 Drawing Title: **RAINWATER DOWN PIPE DETAILS**
 Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25

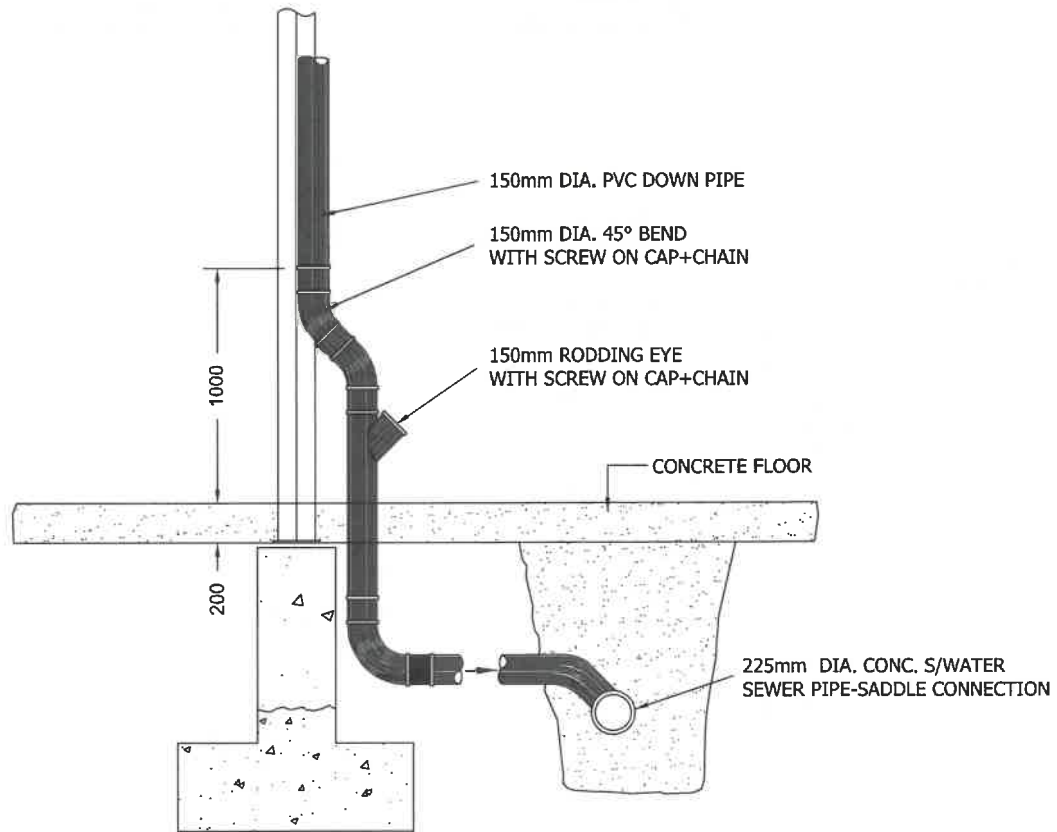
Client: **IRISH DEFENCE FORCES**
 Project Number: **26-009**
 Drawing Number: **SK-10370** Rev:

A4 DETAILS

Revision Schedule			
Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE



PLAN-TYPICAL R.W.P OUTLET CONNECTION TO S/WATER SEWER



TYPICAL SECTION

MALACHI CULLEN
 CONSULTING ENGINEERS LTD
 8 CENTRE COURT, BLVRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
 ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**

Client
 IRISH DEFENCE FORCES

Drawing Title:
RC WINDOW HEAD DETAIL

Project Number
26-009

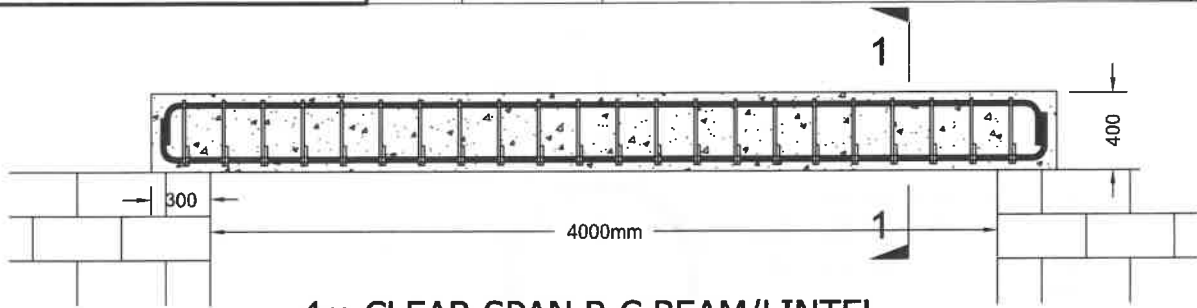
Drawing Number: Rev:
SK-1062

Date: 13-03-2026 Dm: Author Chk: Checker Scale: 1 : 25

MOVE TO GENERAL DETAILS

Revision Schedule

Rev.	Date	Description	By

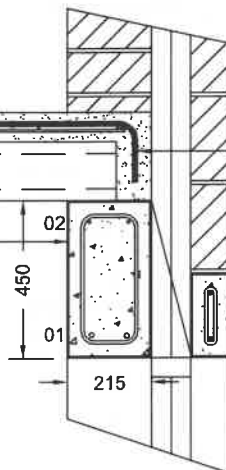


4m CLEAR SPAN R.C.BEAM/LINTEL

CONCRETE SCREED AND PRE-CAST FLOOR SLABS WITH MESH REINFORCEMENT AND PERIPHERAL TIE BARS

215x400 PRE CAST CONCRETE LINTEL

T8 DIA LINK BARS AT 200mm CTRS
 2 No T16mm DIA BARS TOP
 2 No T25mm DIA BARS BOTTOM
 CONCRETE GRAD 35N/20



T12 DIA BAR WITH T12 DIA BOB BARS @400 CTRS

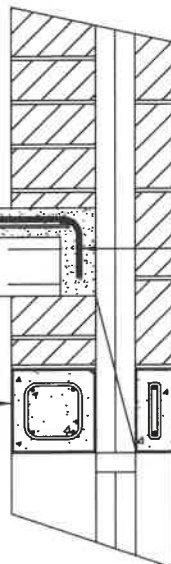
215x100 PRE CAST CONCRETE LINTEL

SECTION 1-1 (R.C. BEAM)

CONCRETE SCREED AND PRE-CAST FLOOR SLABS WITH MESH REINFORCEMENT AND PERIPHERAL TIE BARS

215x215 PRE CAST CONCRETE LINTEL

T8 DIA LINK BARS AT 150mm CTRS
 2 No T12mm DIA BARS TOP
 2 No T16mm DIA BARS BOTTOM
 CONCRETE GRAD 35N/20



T12 DIA BAR WITH T12 DIA BOB BARS @400 CTRS

215x100 PRE CAST CONCRETE LINTEL

100mm SOAP BAR + BRICK

NOTE:
 CONCRETE TO BE GRAD 35N/20
 35mm COVER TO REINFORCEMENT
 THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS DRAWINGS

PRE-CAST CONCRETE LINTEL-2m CLEAR SPAN OPE

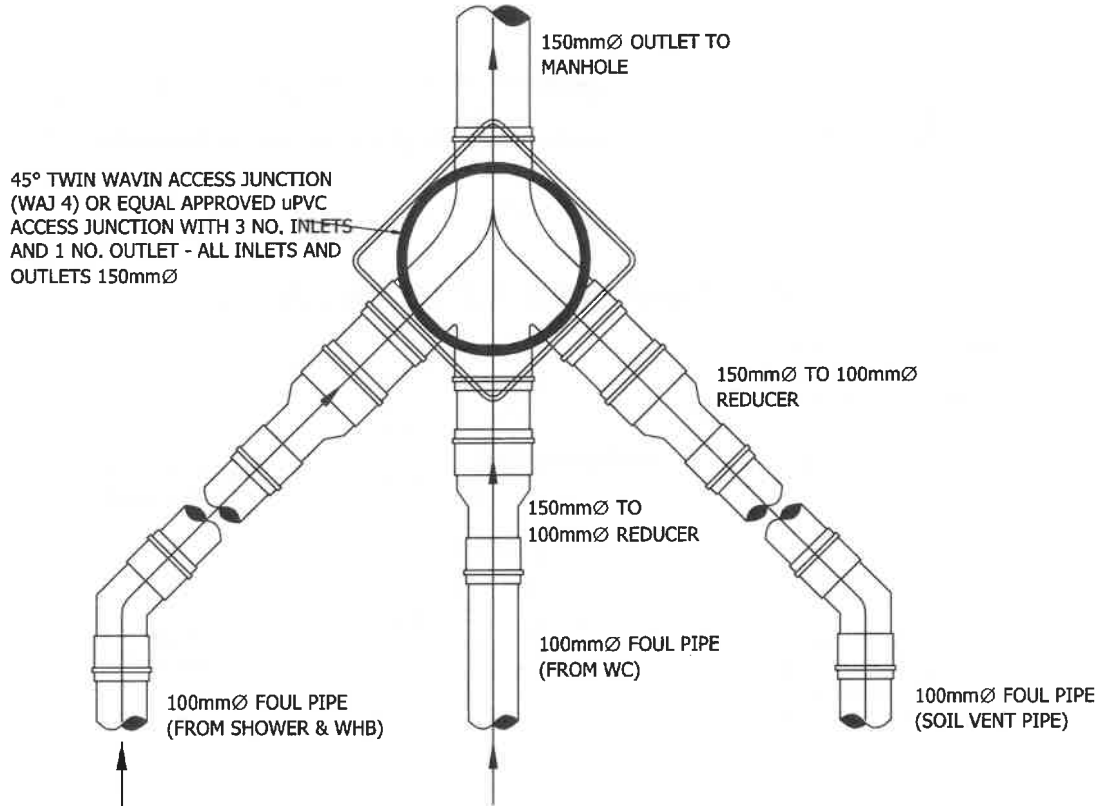
MALACHI CULLEN
CONSULTING ENGINEERS LTD
8 CENTRE COURT, BLYRY BUSINESS & COMMERCIAL PARK, ATHLONE, CO. WESTMEATH
ph: 090 642 0364 info@mcullen.ie www.mcullen.ie

Project: **GORMANSTON CAMP - NEW OFFICES**
Drawing Title: **AJ & PIPE CONNECTIONS**
Date: 13-03-2026 Dm: AT Chk: JD Scale: 1 : 25

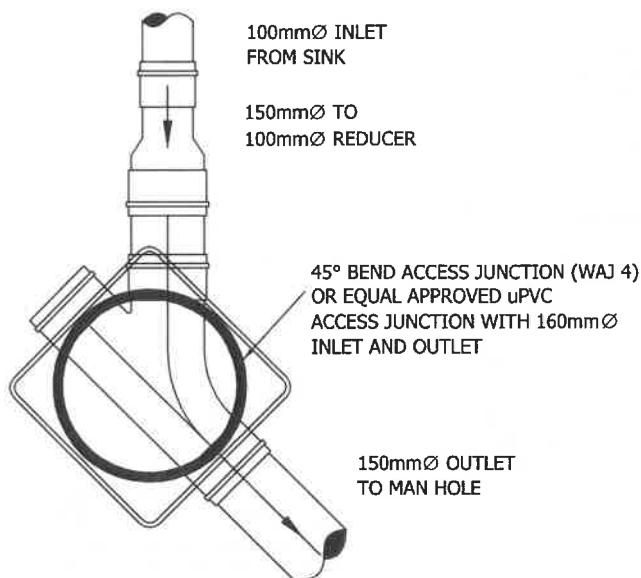
Client: **IRISH DEFENCE FORCES**
Project Number: **26-009**
Drawing Number: **SK-10680** Rev:

A4 DETAILS

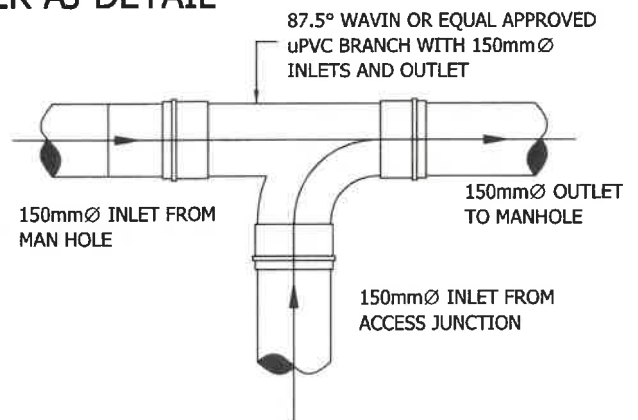
Revision Schedule			
Rev.	Date	Description	By
0	13-03-2026	ISSUED FOR CONSTRUCTION	MCCE



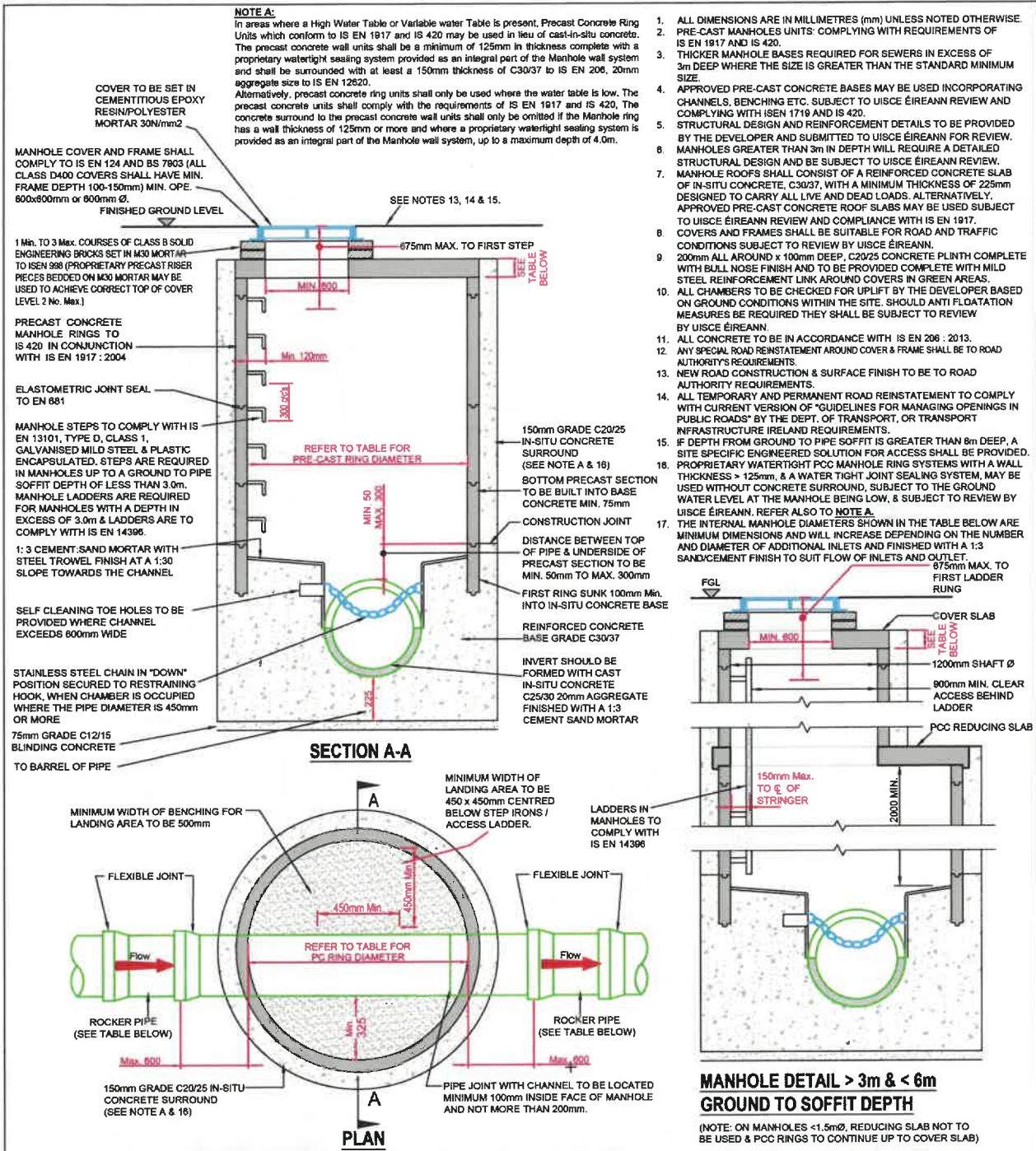
150mm DIAMETER AJ DETAIL



150mm DIAMETER AJ CONNECTION



150mm DIAMETER SADDLE



DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)	MIN. PRECAST ROOF SLAB EFFECTIVE THICKNESS (mm)	MIN. IN-SITU ROOF SLAB THICKNESS (mm)
LESS THAN 375	1200	160	225
375 TO 450	1350	160	225
500 TO 750 *	1500	170	225

PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)
150 TO 600	600
GREATER THAN 600 TO 750 *	1000
GREATER THAN 750 *	1250

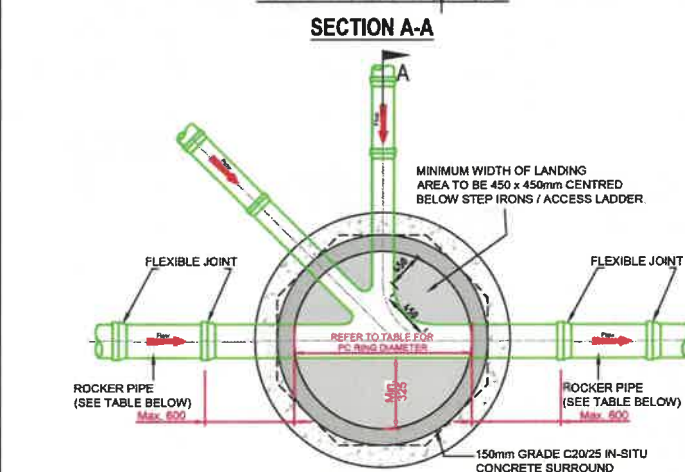
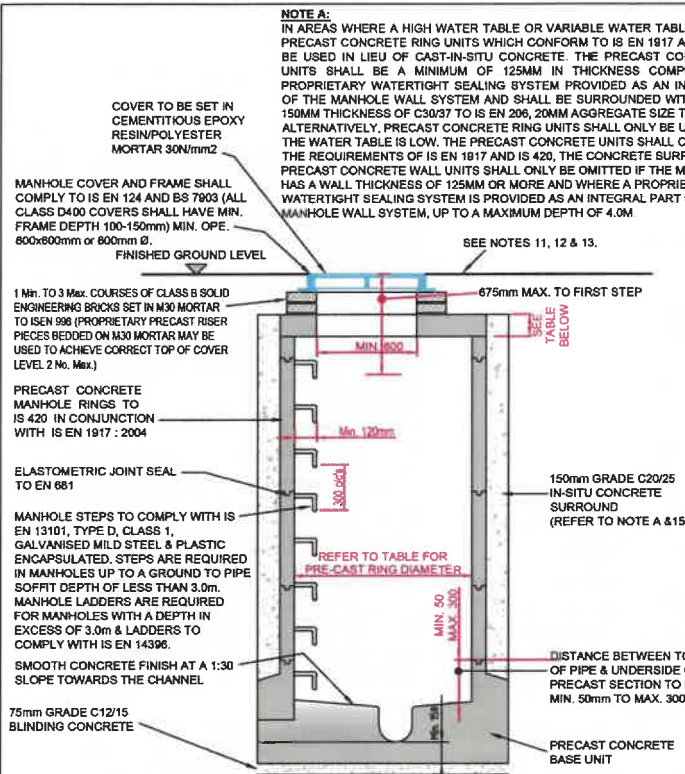
* SEWERS GREATER THAN 450mm Ø ARE OUTSIDE THE SCOPE OF THE STANDARD DETAILS. MANHOLE SIZE OF THESE CHAMBERS MAY BE REQUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE.

CONNECTIONS AND DEVELOPER SERVICES

STANDARD DETAILS - WASTEWATER

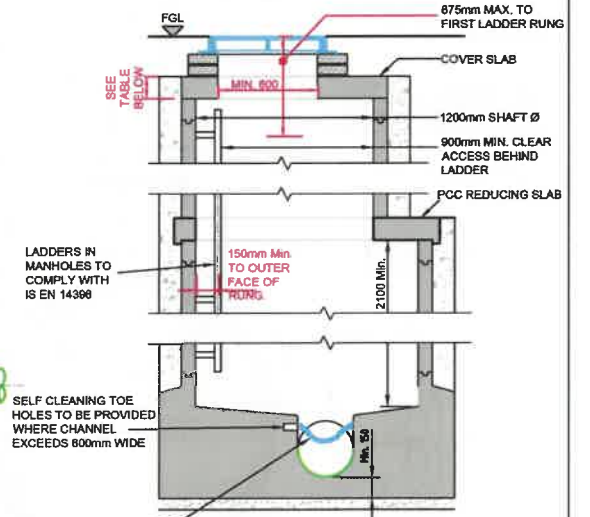
TITLE: **PRE-CAST CONCRETE MANHOLE WITH CAST IN-SITU BASE**

	<table border="1"> <thead> <tr> <th>No.</th> <th>Date</th> <th>Drn</th> <th>Crk</th> <th>Description</th> <th>App</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>08/25</td> <td>RH</td> <td>MAG</td> <td>Revisions to notes Landing Area Defined</td> <td>DP</td> </tr> <tr> <td>3</td> <td>07/20</td> <td>RH</td> <td>TOC</td> <td>Notes Updated</td> <td>MOD</td> </tr> <tr> <td>2</td> <td>11/17</td> <td>JMC</td> <td>TOC</td> <td>Added rocker pipe table, deep manhole detail, added & updated notes</td> <td>MOD</td> </tr> <tr> <td>1</td> <td>08/16</td> <td>JMC</td> <td>TOC</td> <td>Added steps & revised access ope & cover notes</td> <td>MOD</td> </tr> <tr> <td>0</td> <td>09/15</td> <td>JMC</td> <td>TOC</td> <td>Initial Issue</td> <td>SL</td> </tr> </tbody> </table>	No.	Date	Drn	Crk	Description	App	4	08/25	RH	MAG	Revisions to notes Landing Area Defined	DP	3	07/20	RH	TOC	Notes Updated	MOD	2	11/17	JMC	TOC	Added rocker pipe table, deep manhole detail, added & updated notes	MOD	1	08/16	JMC	TOC	Added steps & revised access ope & cover notes	MOD	0	09/15	JMC	TOC	Initial Issue	SL	<table border="1"> <thead> <tr> <th>SCALE</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>NOT TO SCALE</td> <td>SEPT. 2015</td> </tr> </tbody> </table>	SCALE	DATE	NOT TO SCALE	SEPT. 2015
No.	Date	Drn	Crk	Description	App																																					
4	08/25	RH	MAG	Revisions to notes Landing Area Defined	DP																																					
3	07/20	RH	TOC	Notes Updated	MOD																																					
2	11/17	JMC	TOC	Added rocker pipe table, deep manhole detail, added & updated notes	MOD																																					
1	08/16	JMC	TOC	Added steps & revised access ope & cover notes	MOD																																					
0	09/15	JMC	TOC	Initial Issue	SL																																					
SCALE	DATE																																									
NOT TO SCALE	SEPT. 2015																																									
		<table border="1"> <thead> <tr> <th>DRAWING No.</th> <th>REV</th> </tr> </thead> <tbody> <tr> <td>STD-WW-10</td> <td>4</td> </tr> </tbody> </table>	DRAWING No.	REV	STD-WW-10	4																																				
DRAWING No.	REV																																									
STD-WW-10	4																																									



NOTE: IF FLEXIBLE PIPES ARE BEING USED, ROCKER PIPES ARE NOT REQUIRED.

- ALL DIMENSIONS ARE IN MILLIMETRES (mm) UNLESS NOTED OTHERWISE.
- PRE-CAST MANHOLES UNITS: COMPLYING WITH REQUIREMENTS OF IS EN 1917 AND IS 420.
- PRE-CAST CONCRETE BASE INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO UISCE ÉIREANN REVIEW AND COMPLYING WITH IS EN 1917 & IS 420.
- IN SITUATIONS WHERE P.C.C. MANHOLE BASES HAVE REDUNDANT CHANNELS, THESE SHALL BE PLUGGED AND FILLED BY SCABBLING, AND INFILLED WITH GRADE C20/25 CONCRETE TO MATCH EXISTING BASE AND BENCHED TO SUIT FLOW WITHIN THE MANHOLE BASE.
- MANHOLES GREATER THAN 3m IN DEPTH WILL REQUIRE A DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO UISCE ÉIREANN REVIEW.
- PRE-CAST CONCRETE ROOF SLABS TO BE USED SUBJECT TO UISCE ÉIREANN REVIEW AND COMPLIANCE WITH IS 420.
- COVERS AND FRAMES SHALL BE SUITABLE FOR ROAD AND TRAFFIC CONDITIONS SUBJECT TO REVIEW BY UISCE ÉIREANN.
- 200mm ALL AROUND x 100mm DEEP, C20/25 CONCRETE PLINTH COMPLETE WITH BULL NOSE FINISH AND TO BE PROVIDED COMPLETE WITH MILD STEEL REINFORCEMENT LINK AROUND COVERS IN GREEN AREAS.
- ALL CHAMBERS TO BE CHECKED FOR UPLIFT BY THE DEVELOPER BASED ON GROUND CONDITIONS WITHIN THE SITE. SHOULD ANTI FLOATION MEASURES BE REQUIRED THEY SHALL BE SUBJECT TO REVIEW BY UISCE ÉIREANN.
- ALL CONCRETE TO BE IN ACCORDANCE WITH IS EN 206 : 2013.
- ANY SPECIAL ROAD REINSTATEMENT AROUND COVER & FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS.
- NEW ROAD CONSTRUCTION & SURFACE FINISH TO BE TO ROAD AUTHORITY REQUIREMENTS.
- ALL TEMPORARY AND PERMANENT ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINES FOR MANAGING OPENINGS IN PUBLIC ROADS" BY THE DEPT. OF TRANSPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
- IF DEPTH FROM GROUND TO PIPE SOFFIT IS GREATER THAN 8m DEEP, A SITE SPECIFIC ENGINEERED SOLUTION FOR ACCESS SHALL BE PROVIDED.
- PROPRIETARY WATERTIGHT PCC MANHOLE RING SYSTEMS WITH A WALL THICKNESS > 125mm, & A WATER TIGHT JOINT SEALING SYSTEM, MAY BE USED WITHOUT CONCRETE SURROUND, SUBJECT TO THE GROUND WATER LEVEL AT THE MANHOLE BEING LOW, & SUBJECT TO REVIEW BY UISCE ÉIREANN. REFER ALSO TO NOTE A.
- THE INTERNAL MANHOLE DIAMETERS SHOWN IN THE TABLE BELOW ARE MINIMUM DIMENSIONS AND WILL INCREASE DEPENDING ON THE NUMBER AND DIAMETER OF ADDITIONAL INLETS AND FINISHED WITH A 1:3 SAND/CEMENT FINISH TO SUIT FLOW OF INLETS AND OUTLET.



MANHOLE DETAIL > 3m & < 6m GROUND TO SOFFIT DEPTH
 (NOTE: ON MANHOLES < 1.5m Ø, REDUCING SLAB NOT TO BE USED & PCC RINGS TO CONTINUE UP TO COVER SLAB)

MINIMUM MANHOLE DIAMETERS			
DIAMETER OF LARGEST PIPE IN MANHOLE (mm)	INTERNAL DIAMETER OF MANHOLE (mm)	MIN. PRECAST ROOF SLAB EFFECTIVE THICKNESS (mm)	MIN. IN-SITU ROOF SLAB THICKNESS (mm)
LESS THAN 375	1200	160	225
375 TO 450	1350	160	225
500 TO 750	1500	170	225

ROCKER PIPE LENGTH	
PIPE DIAMETER (mm)	ROCKER PIPE LENGTH (mm)
150 TO 600	600
GREATER THAN 600 TO 750	1000
GREATER THAN 750	1250

* SEWERS GREATER THAN 450mm Ø ARE OUTSIDE THE SCOPE OF THE STANDARD DETAILS. MANHOLE SIZE OF THESE CHAMBERS MAY BE REQUIRED DUE TO MULTIPLE PIPES WITHIN MANHOLE.

CONNECTIONS AND DEVELOPER SERVICES

STANDARD DETAILS - WASTEWATER

						TITLE	SCALE NOT TO SCALE	DATE SEPT. 2015
	1	08/25	RH	M	1165	Revisions to notes Redundant Channel Removed	DP	DRAWING No.
0	07/20	RH	TDC	Initial Issue	MOD	PRE-CAST CONCRETE MANHOLE WITH PRECAST BASE.	STD-WW-10A	REV 1
No	Date	Drm	Clk	Description	App			

