Area under applicant's ownership, not included in this application.

Planning previously granted by Westmeath County Council - File reference no. 22515

Existing Tactile Paving to be Re-Instated & Re-Orientated as per Granted planning (Ref: 22515)

Proposed Temporary 'New Layout Ahead' sign. Works in existing road to be carried out by Local Authority or as alternatively agreed

As Permitted Under Construction

PUMPING STATION

Grasscrete Surface

KEEP LEFT Sign (RUS 001)

Proposed Site Notice

99.000

99.462

99.441

99.593

99.067

99.540

99.470

99.695

99.491

99.828

99.276

99.970

30km/h Speed Sign Entering Site
50km/h Speed Sign Existing Site (RUS 043)

Continuous Thermoplastic Line 100mm Thick (RRM 001) At All Stop Junctions

RUS 058: Shared Track for Pedal Cycles and Pedestrians

1600mm Thermoplastic STOP Marking (M 114) At All Stop Junctions

100.060

100.714

101.886

101.807

101.913

102.714

103.012

103.202

103.395

101.061

Proposed Site Notice

101.801

103.190

102.866

102.889

14m Stopping Sight Distance in accordance with DMURS Table 4.2 for 20kph speed on raised table

Continuous Thermoplastic Line 200mm Thick (RRM 017) At All Stop Junctions

750mm STOP Sign (RUS 027) At All Stop Junctions

RUS 058: Shared Track for Pedal Cycles and Pedestrians

101.948

102.756

103.988

14m Stopping Sight Distance in accordance with DMURS Table 4.2 for 20kph speed on raised table

Proposed Site Notice

103.570

103.054

Planning Approved Ref: 19/6121

See Landscape Drawing for Landscape Details.

RECEIVED: 24/08/2023

THE INFORMATION ON THIS DRAWING IS TO THE ORDNANCE SURVEY IRELAND ITM COORDINATE SYSTEM

LEGEND:
- Site Boundary
- Shared Surface & Ladder Tactile Paving
- Direction of Road Fall and Gradient
- Tactile Paving
- 25mm Dropped Kerb
- Drainage Kerb
- Traffic Sign & Post as per Traffic Sign Manual - Chapter 7
- Proposed Road Level
- Proposed Road Gully
- Reservation for 2 way cycle path for development by local authority if required in the future
- 75mm Kerb Separating Cycle Track from Carriageway as per National Cycle Manual Section 5.6
- 50mm Bevelled Kerb Separating Cycle Track from Pedestrian Path as per National Cycle Manual Section 5.6
- 50mm Standard Kerb
- 0-6mm Dropped Kerb
- Raised Junction

NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
P01	11.08.2023	Issued For Planning	NG	RB

Client: Marina Quarter Ltd.

Project: Residential Development at Rathgowan, Mullingar.

Title: Proposed Road Layout Sheet 2 of 2

Scale @ A1: 1:500 / @A3 1:1000

Prepared by:	Checked by:	Date:
NG	RB	August 2023

Drawing Status: Planning

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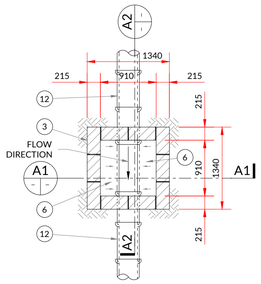
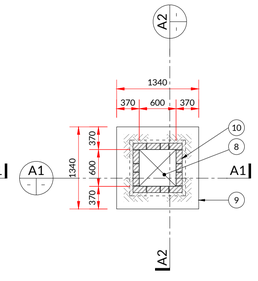
Drawing No.: 10906-2507

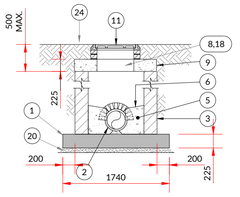
Revision: P01



PLAN
SCALE 1:50



ROOF PLAN
SCALE 1:50



A1 SECTION
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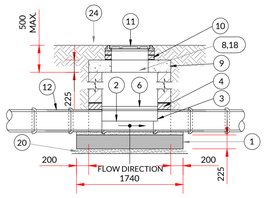
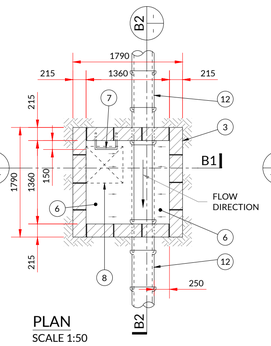
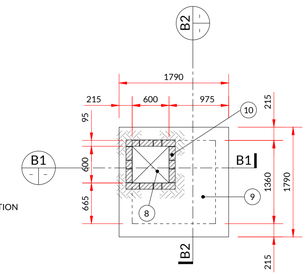


A2 SECTION
SCALE: 1:50

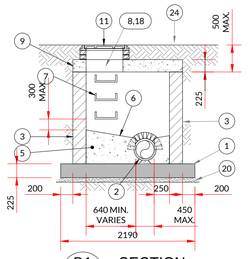
MANHOLE TYPE A
DEPTH TO INVERT < 1m



PLAN
SCALE 1:50



ROOF PLAN
SCALE 1:50



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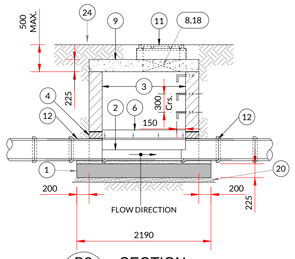
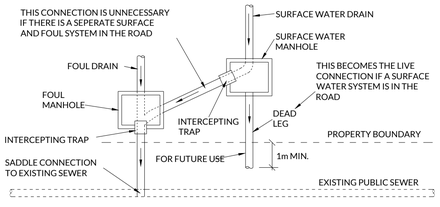
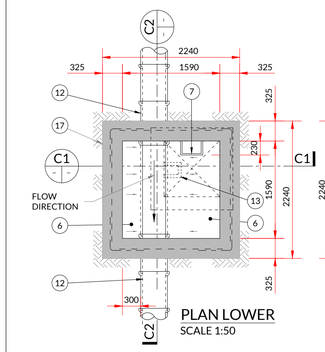


B2 SECTION
SCALE: 1:50

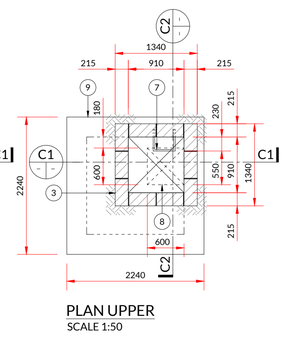
MANHOLE TYPE B
1m ≤ DEPTH TO INVERT < 3m



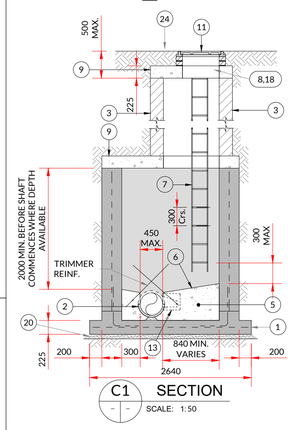
PLAN OF SEPARATE CONNECTION TO COMBINED SEWER N.T.S.



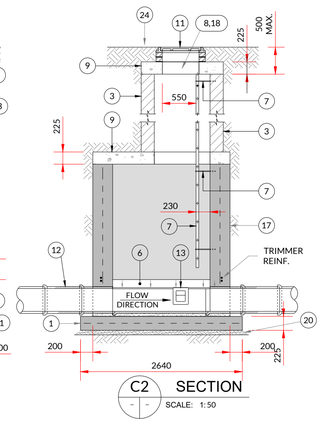
PLAN LOWER
SCALE 1:50



PLAN UPPER
SCALE 1:50

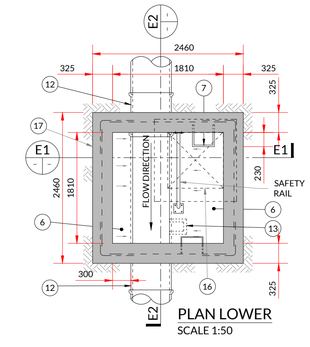


C1 SECTION
SCALE: 1:50

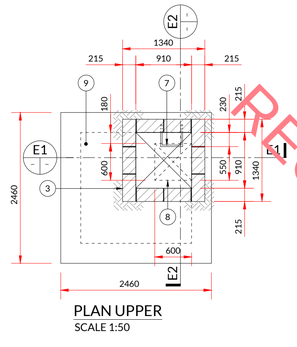


C2 SECTION
SCALE: 1:50

MANHOLE TYPE C
3m ≤ DEPTH TO INVERT < 6m



PLAN LOWER
SCALE 1:50



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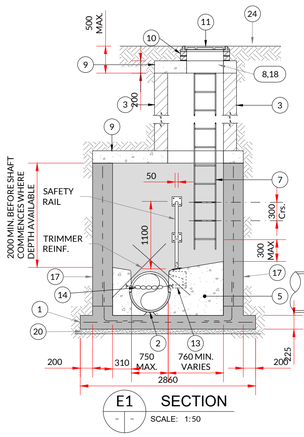
SCALE 1:50



E1 SECTION
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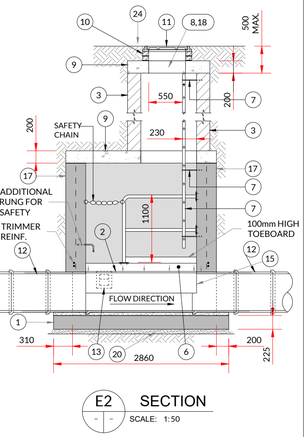


E2 SECTION
SCALE: 1:50

MANHOLE TYPE E
3m ≤ DEPTH TO INVERT < 6m

LEGEND:
1. 225mm REINFORCED CONCRETE BASE, GRADE 30/37.
2. PERFORMED HALF CIRCLE CHANNEL PIPES, THE PIPELINE MAY, WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE & THE CROWN CUT OUT TO HALF DIAMETER, PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM INNER FACE OF THE MANHOLE WALL.

NOTE: WHERE PIPE DIAMETER CHANGES A MANHOLE, PIPE TO LINE UP

MANHOLE CONSTRUCTION:

a) BLOCK WORK MANHOLE:
- SOLID BLOCK WORK TO BE OF HIGH STRENGTH (20N/mm²) TO IS EN 771.
- MAXIMUM DEPTH IS 1.20m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW)
- WALLS TO BE FLUSH AND NOT PLASTERED INTERNALLY. INTERNAL LINING OF ENGINEERING BRICK TO IS EN 771-1 TO A HEIGHT OF 1.0m ABOVE BENCHING. ENGINEERING BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND.
- BLOCK WORK SHALL BE EMBEDDED & JOINTED USING MORTAR TO IS EN 998. BEDS & VERTICAL JOINTS TO BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID.

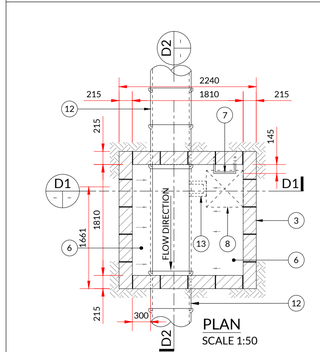
b) PRE-CAST CONCRETE MANHOLE:
- THE UNITS ARE TO COMPLY WITH REQUIREMENTS OF IS EN 1917:2002 AND BS 5911-PART 3.
- THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3.0m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
- APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH BS 5911-4:2002 IN CONJUNCTION WITH IS EN 1917:2002.

c) IN-SITU CONCRETE MANHOLE:
- TO HAVE A MINIMUM WALL AND FLOOR THICKNESS OF 225mm FOR MANHOLE DEPTHS UP TO 3.0m AND 300mm OR MORE WHEN THE MANHOLE DEPTHS EXCEEDS 3.0m.

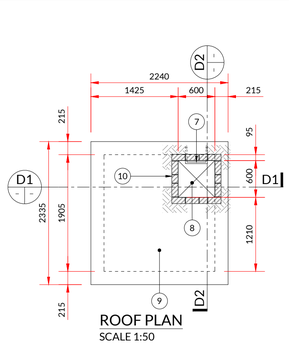
4. RELIEVING ARCH FORMED BY 215x103x65 SOLID ENGINEERING BRICK CLASS A OR B . (RELIEVING ARCHES ARE USED IN BRICK OR BLOCK WORK MANHOLES EXTENDED OVER FULL THICKNESS OF WALLS). A DOUBLE ARCH TO BE FORMED FOR PIPE DIAMETER GREATER THAN 600mm.
5. BENCHING AND PIPE SURROUND - C30/37 CONCRETE.
6. 1:3 CEMENT: SAND MORTAR WITH STEEL TROWEL FINISH AT SLOPE OF 1:30 TOWARDS THE CHANNEL
7. MANHOLE STEPS TO COMPLY WITH IS EN 13101, TYPE D, CLASS 1. GALVANIZED MILD STEEL STEP RUNGS, 20mm DIAMETER, SHALL BE PROVIDED WITH PLASTIC ENCAPSULATED FINISH. STEP RUNGS ARE TO BE PROVIDED IN MANHOLES WHERE THE DEPTH FROM GROUND TO THE SOFFIT OF THE PIPE IS UP TO 3.0m. FIXED LADDERS ARE REQUIRED IN MANHOLES WHERE THE DEPTH FROM GROUND TO THE SOFFIT OF THE PIPE EXCEEDS A DEPTH OF 3.0m AND UP TO 6.0m, AND SHALL COMPLY WITH IS EN 14396. ALL LADDER RUNGS, HANDRAILS, SAFETY CHAINS ETC. TO COMPLY WITH BS EN ISO 1461:2009 OR EQUIVALENT.
8. 600mm SQUARE OPE IN ROOF.
9. MANHOLE ROOFS SHALL CONSIST OF REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE 30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH BS 5911 PART 4:2002, IN CONJUNCTION WITH IS EN 1979:2002 AND IS 420:2004.
10. 1 TO 3 MAX. COURSES OF CLASS B ENGINEERING BRICKS TO IS EN 771:2011 SET IN C 50/60 MORTAR.
11. MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm). MIN. OPE 600x600mm. COVER TO BE SET IN C 50/60 MORTAR.
12. SHORT LENGTH PIPE & PIPE JOINT EXTERNAL TO MAHOLES SHALL NOT EXCEED 600mm FROM THE INNER FACE OF THE MANHOLE WALL.
13. TOE HOLES OF 230mm MINIMUM DEPTH & GALVANIZED SAFETY REILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525mm Ø & DEPTH TO INVERT> 3.0m FOR ACCESS TO INVERT.
14. STAINLESS STEEL CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEEDED 450mm Ø, COMPLYING WITH BS4942 PART 2 OR EQUIVALENT.
15. PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALLS SO THAT CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE.
16. POSITION OF 910 SQUARE OPE IN INTERMEDIATE ROOF SLABS:
    a. ALL MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER.
    b. FORMWORK TO REINFORCED CONCRETE & MASS CONCRETE SHALL COMPLY WITH IS EN 1992-1-1.
    c. FINISH TO THE TOP OF SLAB SHALL COMPLY WITH TYPE A SECTION 6.2.7, BS 8110 PART 1:1997.
    d. PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450x225x100. FORT PIPE DIAMETER OF > 750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE = PIPE SIZE +1.0m +300mm.
    e. MANHOLES ARE DESIGNED TO BS EN 752:2017 & WALL THICKNESS TO IS EN 1996-1-1, BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE & H.B. SURCHARGE.
    f. REINFORCEMENTS TO SLABS TO ENGINEERS DETAILS.
17. FOR MANHOLES > 3m DEPTH TO INVERT USE C30/37 IN-SITU CONCRETE, REINFORCING MESH REF. A393 TO BE FIXED AT MID POINT OF WALL. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
18. PRECAST MANHOLES, CHAMBER WALLS & COVER SLAB TO BE CONSTRUCTED TO IS EN 1917 & IS 420:2004.
19. MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS-ACCESS TO BE POSITIONED TO ALLOW VIEWING OF INCOMING TRAFFIC.
20. FOR BEDDING AND CEILING OF CHAMBER RINGS, THE TOP RING (TO PRECAST OVER SLAB) & BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS. JOINTS TO BE SEALED WITH APPROVED PREFORMED JOINTING STRAP.
21. PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C16/20 CONCRETE.
22. 225mm GRADE C 25/30 CONCRETE SURROUND.
23. 75mm GRADE C 12/15 BLINDING CONCRETE.
24. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS, NEW ROAD CONSTRUCTION AND SURFACE FINISH TO BE ROAD AUTHORITY'S REQUIREMENTS. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINE FOR MANAGING OPENINGS IN PUBLLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
25. PRECAST CONCRETE MANHOLE RINGS TO IS 420 IN CONJUNCTION WITH EN 1917:2004.

NOTE:
ALL FOUL MANHOLES TO COMPLY WITH REQUIREMENTS OF IRISH WATER STD-WW-09 TO 13.

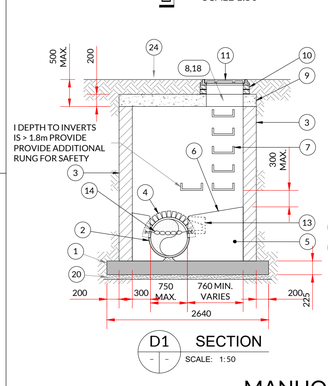
NOTES:
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD
6. MANHOLE DETAILS FOR FOUL SEWER TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS AND CODE OF PRACTICE - IRISH WATER DETAILS & REQUIREMENTS WILL TAKE PRECEDENCE



PLAN
SCALE 1:50



ROOF PLAN
SCALE 1:50



D1 SECTION
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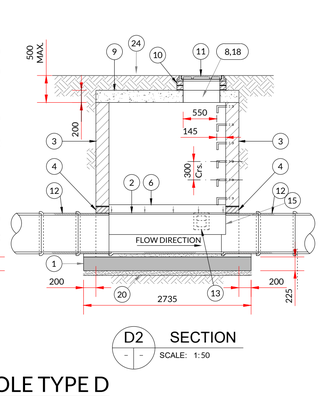
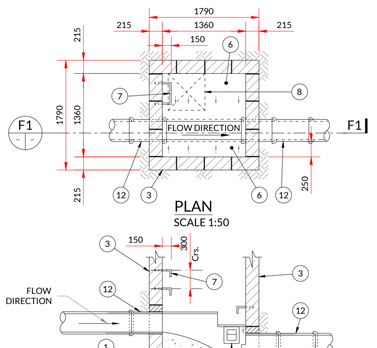
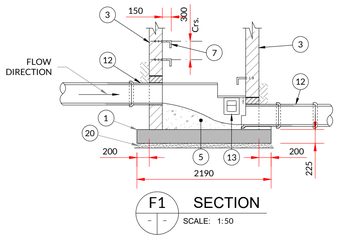


D2 SECTION
SCALE: 1:50

MANHOLE TYPE D
1m ≤ DEPTH TO INVERT < 3m



PLAN
SCALE 1:50

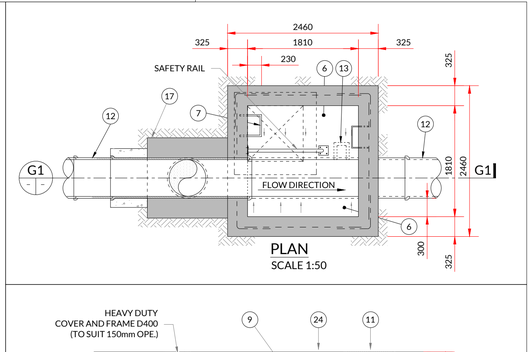


F1 SECTION
SCALE: 1:50

TABLE F	
INLET Ø mm A	DEPTH (max) mm H
225	600
300	600
375	750
450	750
525	750
600	750
750	750

WHEN THE DROP 'H' IS GREATER THAN THE MAX VALUE SHOWN USE BACKDROP MANHOLE

MANHOLE TYPE F
RAMP MANHOLE



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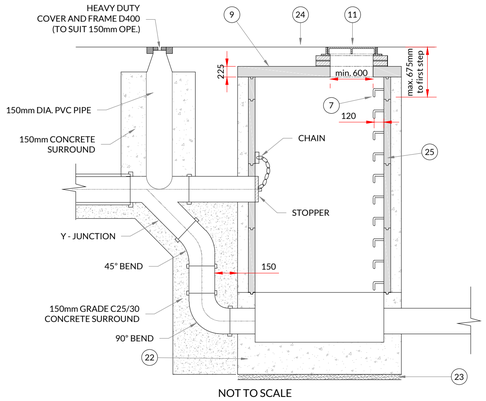

NOT TO SCALE

BACKDROP MAHOLE TYPE G.1
150mm - 450mm DIA. (INCL.) DROP GREATER THAN 1700mm
500mm - 900mm DIA. (INCL.) DROP GREATER THAN 2300mm

Rev	Date	Description	By	Chkd.
P01	11.08.2023	Issued For Planning	NG	RB

RECEIVED 11/08/2023

Client: Marina Quarter Ltd.

Project: Proposed Residential Development at Rathgowan, Mullingar.

Title: Standard Manhole Details Sheet 1 of 2

Scale @ A1: As Shown

Prepared by: NG | Checked by: RB | Date: August 2023

Drawing Status: Planning

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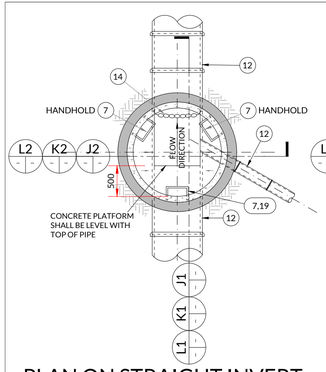
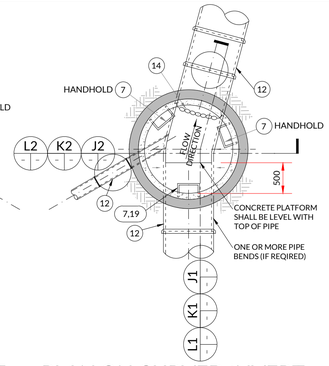
www.tobin.ie

Drawing No.: 10906-2519

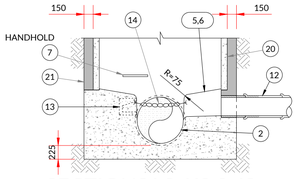
Revision: P01



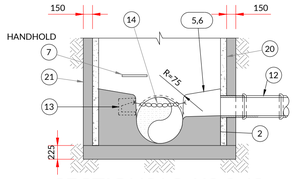
PLAN ON STRAIGHT INVERT
(WITHOUT COVER SLAB)



PLAN ON CURVED INVERT
(WITHOUT COVER SLAB)



SECTIONS L2, K2 & J2 THRO' PRECAST BASE 1:50



SECTIONS L2, K2 & J2 THRO' INSITU BASE 1:50

COMMON DETAILS

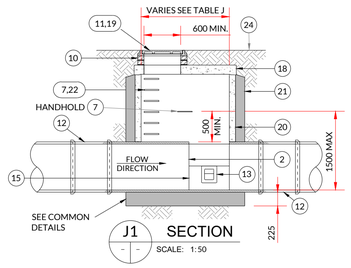
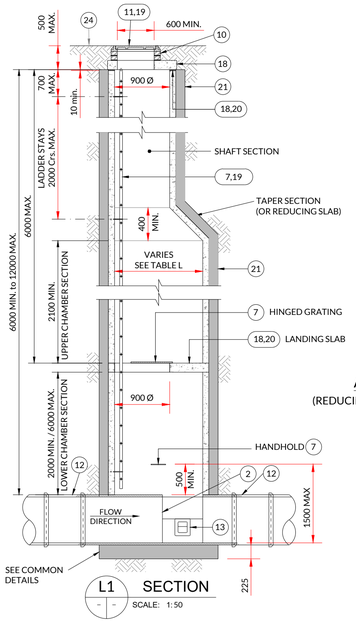


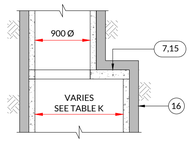
TABLE J	
MAXIMUM PIPE DIAMETER A	CHAMBER INTERNAL DIAMETER B
LESS THAN 375	1200
375 TO 450	1350
500 TO 750	1500

MANHOLE TYPE J
1m < DEPTH TO CROWN < 3m

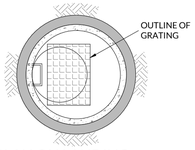


MANHOLE TYPE L
6m < DEPTH TO INVERT < 12m

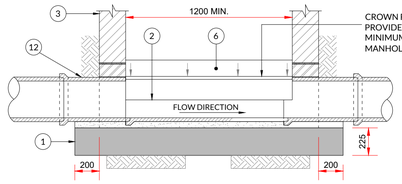
TABLE L	
MANHOLE PIPE DIAMETER A	CHAMBER INTERNAL DIAMETER B
225 - 900	1500
1050 - 1200	2100



ALTERNATIVE DETAIL
(REDUCING SLAB INSTEAD OF TAPER SECTION)



PLAN ON LANDING



CROWN REMOVED BY CUTTING TO HALF DIAMETER PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH A MINIMUM OF 600mm FROM EXTERNAL FACE OF MANHOLE WALLS (SEE NOTE 2).

ALTERNATIVE METHOD OF FORMING CHANNEL THROUGH MANHOLE
SCALE 1:25

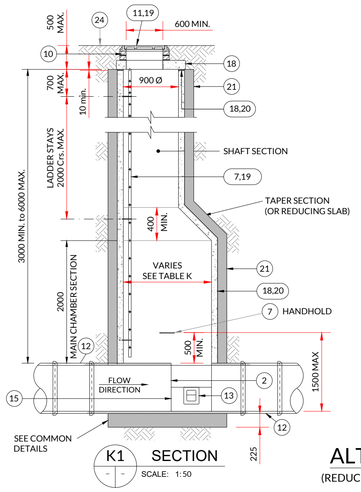
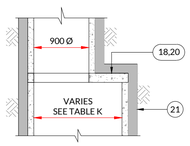
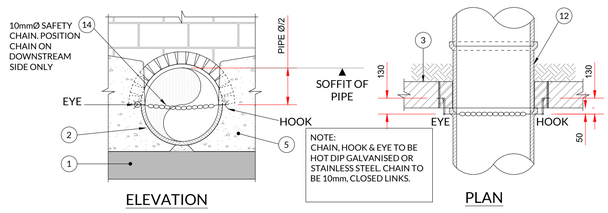


TABLE K	
MANHOLE PIPE Ø A	CHAMBER INTERNAL Ø B
LESS THAN 375	1200
375 TO 450	1350
500 TO 750	1500
900	1500
1050	2100
1200	2100

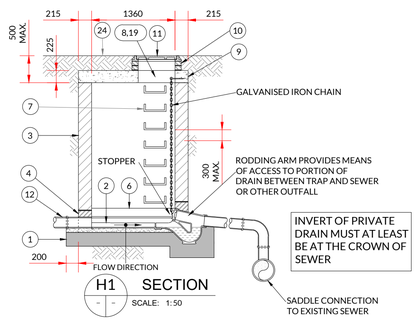


ALTERNATIVE DETAIL
(REDUCING SLAB INSTEAD OF TAPER SECTION)

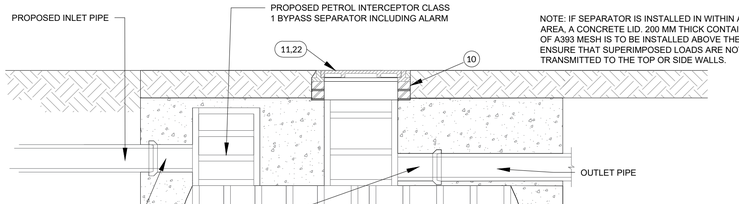
MANHOLE TYPE K
3m ≤ DEPTH TO INVERT < 6m



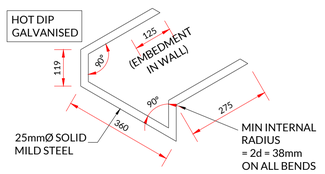
SAFETY CHAIN, HOOK & EYE DETAIL N.T.S.



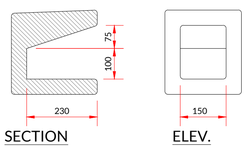
MANHOLE TYPE H
INTERCEPTOR TRAP DETAILS
FOR OUTFALL MANHOLES AT SITE BOUNDARY PRIOR TO CONNECTING TO PUBLIC SYSTEM



TYPICAL PETROL INTERCEPTOR DETAIL
SCALE 1:25



STANDARD RUNG
(IRON STEPS NOT PERMITTED) SCALE 1:10



DETAILS OF TOE HOLD
SCALE 1:10

LEGEND:

1. 225mm REINFORCED CONCRETE BASE, GRADE 30/37.
2. PERFORMED HALF CIRCLE CHANNEL PIPES, THE PIPELINE MAY, WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE & THE CROWN CUT OUT TO HALF DIAMETER, PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM INNER FACE OF THE MANHOLE WALL.

NOTE: WHERE PIPE DIAMETER CHANGES A MANHOLE, PIPE TO LINE UP

MANHOLE CONSTRUCTION:

a) BLOCK WORK MANHOLE:
- SOLID BLOCK WORK TO BE OF HIGH STRENGTH (20N/mm²) TO IS EN 771.
- MAXIMUM DEPTH IS 1.20m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW)
- WALLS TO BE FLUSH AND NOT PLASTERED INTERNALLY. INTERNAL LINING OF ENGINEERING BRICK TO IS EN 771-1 TO A HEIGHT OF 1.0m ABOVE BENCHING. ENGINEERING BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND.
- BLOCK WORK SHALL BE EMBEDDED & JOINTED USING MORTAR TO EN 998. BEDS & VERTICAL JOINTS TO BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID.

b) PRE-CAST CONCRETE MANHOLE:
- THE UNITS ARE TO COMPLY WITH REQUIREMENTS OF IS EN 1917:2002 AND BS 5911-PART 3.
- THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3.0m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
- APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH BS 5911-4:2002 IN CONJUNCTION WITH IS EN 1917:2002.

c) IN-SITU CONCRETE MANHOLE:
- TO HAVE A MINIMUM WALL AND FLOOR THICKNESS OF 225mm FOR MANHOLE DEPTHS UP TO 3.0m AND 300mm OR MORE WHEN THE MANHOLE DEPTHS EXCEEDS 3.0m

4. RELIEVING ARCH FORMED BY 215x103x65 SOLID ENGINEERING BRICK CLASS A OR B . (RELIEVING ARCHES ARE USED IN BRICK OR BLOCK WORK MANHOLES EXTENDED OVER FULL THICKNESS OF WALLS). A DOUBLE ARCH TO BE FORMED FOR PIPE DIAMETER GREATER THAN 600mm.
5. BENCHING AND PIPE SURROUND - C30/37 CONCRETE.
6. 1:3 CEMENT: SAND MORTAR WITH STEEL TROWEL FINISH AT SLOPE OF 1:30 TOWARDS THE CHANNEL
7. MANHOLE STEPS TO COMPLY WITH IS EN 13101, TYPE D, CLASS 1. GALVANIZED MILD STEEL STEP RUNGS, 20mm DIAMETER, SHALL BE PROVIDED WITH PLASTIC ENCAPSULATED FINISH. STEP RUNGS ARE TO BE PROVIDED IN MANHOLES WHERE THE DEPTH FROM GROUND TO THE SOFFIT OF THE PIPE IS UP TO 3.0m. FIXED LADDERS ARE REQUIRED IN MANHOLES WHERE THE DEPTH FROM GROUND TO THE SOFFIT OF THE PIPE EXCEEDS A DEPTH OF 3.0m AND UP TO 6.0m, AND SHALL COMPLY WITH IS EN 14396. ALL LADDER RUNGS, HANDRAILS, SAFETY CHAINS ETC. TO COMPLY WITH BS EN ISO 1461:2009 OR EQUIVALENT.
8. 600mm SQUARE OPE IN ROOF.
9. MANHOLE ROOFS SHALL CONSIST OF REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE 30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH BS 5911 PART 4:2002, IN CONJUNCTION WITH IS EN 1979:2002 AND IS 420:2004.
10. 1 TO 3 MAX. COURSES OF CLASS B ENGINEERING BRICKS TO IS EN 771:2011 SET IN C 50/60 MORTAR.
11. MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm). MIN. OPE 600x600mm. COVER TO BE SET IN C 50/60 MORTAR.
12. SHORT LENGTH PIPE & PIPE JOINT EXTERNAL TO MAHOLES SHALL NOT EXCEED 600mm FROM THE INNER FACE OF THE MANHOLE WALL.
13. TOE HOLES OF 230mm MINIMUM DEPTH & GALVANIZED SAFETY REILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525mm Ø & DEPTH TO INVERT> 3.0m FOR ACCESS TO INVERT.
14. STAINLESS STEEL CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEEDED 450mm Ø, COMPLYING WITH BS4942 PART 2 OR EQUIVALENT.
15. PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALLS SO THAT CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE.
16. POSITION OF 910 SQUARE OPE IN INTERMEDIATE ROOF SLABS:
    a. ALL MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER.
    b. FORMWORK TO REINFORCED CONCRETE & MASS CONCRETE SHALL COMPLY WITH IS EN 1992-1-1.
    c. FINISH TO THE TOP OF SLAB SHALL COMPLY WITH TYPE A SECTION 6.2.7, BS 8110 PART 1:1997.
    d. PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450x225x100. FORT PIPE DIAMETER OF > 750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE = PIPE SIZE +1.0m +300mm.
    e. MANHOLES ARE DESIGNED TO BS EN 752:2017 & WALL THICKNESS TO IS EN 1996-1-1, BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE & H.B. SURCHARGE.
    f. REINFORCEMENTS TO SLABS TO ENGINEERS DETAILS.
17. FOR MANHOLES > 3m DEPTH TO INVERT USE C30/37 IN-SITU CONCRETE, REINFORCING MESH REF. A393 TO BE FIXED AT MID POINT OF WALL. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
18. PRECAST MANHOLES, CHAMBER WALLS & COVER SLAB TO BE CONSTRUCTED TO IS EN 1917 & IS 420:2004.
19. MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS-ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
20. FOR BEDDING AND CEILING OF CHAMBER RINGS, THE TOP RING (TO PRECAST OVER SLAB) & BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS. JOINTS TO BE SEALED WITH APPROVED PREFORMED JOINTING STRAP.
21. PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C16/20 CONCRETE.
22. 225mm GRADE C 25/30 CONCRETE SURROUND.
23. 75mm GRADE C 12/15 BLINDING CONCRETE.
24. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS, NEW ROAD CONSTRUCTION AND SURFACE FINISH TO BE ROAD AUTHORITY'S REQUIREMENTS. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINE FOR MANAGING OPENINGS IN PUBLLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
25. PRECAST CONCRETE MANHOLE RINGS TO IS 420 IN CONJUNCTION WITH EN 1917:2004.

NOTE:

ALL FOUL MANHOLES TO COMPLY WITH REQUIREMENTS OF IRISH WATER STD-WW-09 TO 13.

NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD
6. MANHOLE DETAILS FOR FOUL SEWER TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS AND CODE OF PRACTICE - IRISH WATER DETAILS & REQUIREMENTS WILL TAKE PRECEDENCE

Rev	Date	Description	By	Chkd.
P01	11.08.2023	Issued For Planning	NG	RB

Client: Marina Quarter Ltd.

Project: Proposed Residential Development at Rathgowan, Mullingar.

Title: Standard Manhole Details Sheet 2 of 2

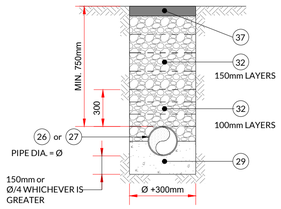
Scale @ A1: As Shown

Prepared by: NG | Checked by: RB | Date: August 2023

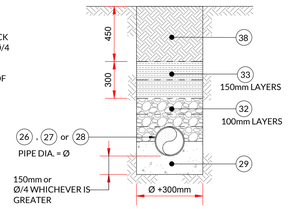
Drawing Status: Planning

TOBIN CONSULTING ENGINEERS
Tel: +353 (0)91 565 211
Email: info@tobin.ie
www.tobin.ie

Drawing No.: 10906-2520 | Revision: P01



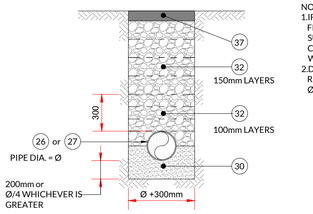
NOTE:
1.IF COVER IS LESS THAN THESE FIGURES PIPE TO BE FULLY SURROUNDED IN 150mm THICK CONCRETE AS PER DETAIL QØ/4 WHICHEVER IS GREATER.
2.APPLIES WHERE EDGE OF TRENCH IS WITHIN 1000mm OF ROAD EDGE.



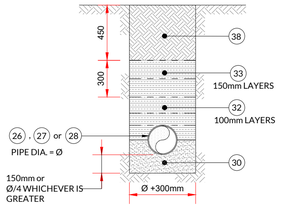
UNDER ROADS/HARDSTANDINGS/FOOTPATHS
COVER > 1.2m

UNDER LANDSCAPED AREAS
COVER > 0.9 m

M - DETAIL: CONCRETE BEDDING
SCALE 1:25



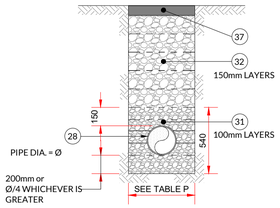
NOTE:
1.IF COVER IS LESS THAN THESE FIGURES PIPE TO BE FULLY SURROUNDED IN 150mm THICK CONCRETE AS PER DETAIL QØ/4 WHICHEVER IS GREATER.
2.DEPTH OF BEDDING CAN BE REDUCED TO 100mm FOR 100mm Ø PIPES.



UNDER ROADS/HARDSTANDINGS/FOOTPATHS
COVER > 1.2m

UNDER LANDSCAPED AREAS
COVER > 0.9m

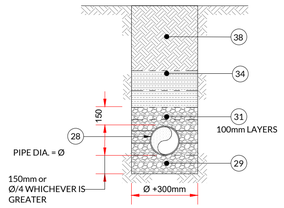
N - DETAIL: GRANULAR BEDDING
SCALE 1:25



NOTE:
1.IF COVER IS LESS THAN THESE FIGURES PIPE TO BE FULLY SURROUNDED IN 150mm THICK CONCRETE AS PER DETAIL

2.DEPTH OF BEDDING CAN BE REDUCED TO 100mm FOR100mmØ PIPES

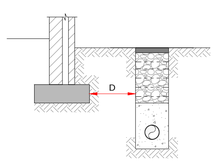
TABLE P		
PIPE SIZE (mm)	WIDTH OF TRENCH (mm)	
110	450	600
160	450	600
200-250	600	700
315	700	850
355	750	900
400	800	950
450	850	1000



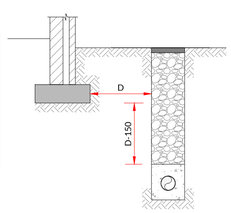
UNDER ROADS/HARDSTANDINGS/FOOTPATHS
COVER > 1.2m

UNDER LANDSCAPED AREAS
COVER > 1.2m

P - DETAIL: UPVC PIPES BEDDING
SCALE 1:25



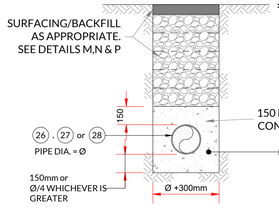
NOTE: TRENCHES FOR PIPES NEAR FOUNDATIONS TO BE EXCAVATED IN SHORT SECTIONS TO AVOID UNDERMINING OF FOUNDATIONS. EXCAVATION, PIPELAYING AND CONCRETE BACKFILL TO BE CARRIED OUT ON THE SAME DAY. CONTRACTOR TO SUBMIT METHOD STATEMENT FOR REVIEW BY THE ENGINEER PRIOR TO EXCAVATION BEING CARRIED OUT.



WHERE 'D' IS LESS THAN 1m
CONCRETE FILL TO LEVEL OF FOUNDATION BOTTOM)

WHERE 'D' IS 1m OR MORE
CONCRETE FILL TO WITHIN D-150mm OF LEVEL OF FOUNDATION BOTTOM

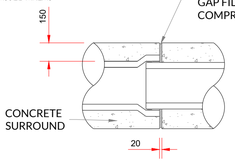
T - DETAIL: CONCRETE PIPE LAID NEAR FOUNDATIONS
SCALE 1:50



* NOTE: PIPE ENCASEMENT WHERE COVER TO PIPES : < 1.2m IN ROADS / HARDSTANDING / FOOTPATHS & < 0.9m IN GARDENS / GRASSED AREAS

NOTE: PIPE DIA. = Ø

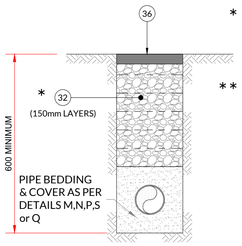
CONCRETE PIPE ENCASEMENT DETAIL



WHERE FLEXIBLY JOINTED PIPES ARE USED THE CONCRETE SURROUND SHALL HAVE A 20mm GAP FILLED WITH APPROVED COMPRESSIBLE MATERIAL.

JOINT IN CONCRETE SURROUND

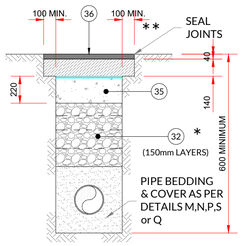
Q - DETAIL: CONCRETE ENCASEMENT
SCALE 1:25



* NOTE:

TO AVOID STAGE 2 REPLACE CL808 32 WITH LEAN MIX CONCRETE 35

STAGE 1
LEAVE FOR 6 MONTHS TO CONSOLIDATE

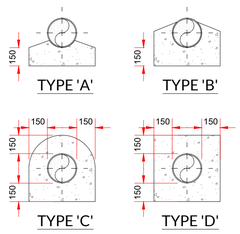


STAGE 2
DIG OUT SURFACING & TOP 220mm OF CL808 MATERIAL 32 & REPLACE WITH NEW WIDER SURFACING ON 220mm LAYER OF LEAN-MIX CONCRETE 36

** NOTE:

1. 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.
2. LEAN-MIX SURFACE TO BE SPRAYED AS PER CLAUSE 920 (NRA SPEC.) PRIOR TO APPLICATION OF BINDER COURSE MACADAM.
3. 100ºC HOT BITUMEN BINDER 50 PEN OR COLD THIXOTROPIC BITUMEN 50 - 70 PEN TO BE APPLIED TO ALL VERTICAL CUTS IN ACCORDANCE WITH IS EN 13108-4 PRIOR TO APPLICATION OF BITUMINOUS MATERIAL.
4. 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.

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



S - DETAIL
SCALE 1:25

GENERAL NOTES

1. IN SOFT GROUND CONDITIONS (CBR < 5) THE MATERIAL SHOULD BE EXCAVATED AND DISPOSED OF IN ACCORDANCE WITH THE WASTE MANAGEMENT ACT AND CLAUSE 804/808 MATERIAL IN ACCORDANCE WITH THE NATIONAL ROADS AUTHORITY SPECIFICATION FOR ROAD WORKS SHALL REPLACE THE EXCAVATED MATERIAL, WRAPPED IN GEO-TEXTILE WRAPPING. ALTERNATIVELY, SPECIAL PIPE SUPPORT ARRANGEMENTS, INCLUDING PILING ETC. MAY BE REQUIRED WHERE THE DEPTH OF SOFT MATERIAL IS EXCESSIVE. SUCH ARRANGEMENTS SHALL BE SUBJECT TO ASSESSMENT BY IRISH WATER BEFORE ADVANCING WITH THE WORK.
2. PIPES SHALL NOT BE SUPPORTED ON STONES, ROCKS OR AND HARD OBJECT AT ANY POINT ALONG THE TRENCH. ROCK SHALL BE EXCAVATED TO A DEPTH OF 150mm BELOW THE ACTUAL DEPTH OF THE TRENCH WITH THE VOID FILLED WITH CLAUSE 804 MATERIAL IN ACCORDANCE WITH THE NRA SPECIFICATION FOR ROAD WORKS. THE GRANULAR MATERIAL SHALL BE LAID ABOVE THIS VOID BACKFILL MATERIAL.
3. NON DEGRADABLE MARKER TAPE SHOULD BE INSTALLED AT TOP OF PIPE BEDDING LAYER. IN CASE OF NON METAL PIPE MATERIAL THE MARKER SHOULD INCORPORATE A TRACE WIRE WHICH IS LINKED TO THE FITTINGS AND AND TERMINATED AT THE PLUMBING STATION AND DISCHARGE MANHOLE.
4. TRENCH WIDTHS FOR PIPE SIZES 80mm AND LESS MAY BE <500mm SUBJECT TO CONSIDERATION BEING GIVEN TO THE TRENCH DEPTH, H&S, CONSTRUCTION ACCESS REQUIREMENTS.
5. THE HAUNCHES AND SURROUNDS TO BE FORMED USING FORM WORK AND PROVIDE A ROUGH CAST.
6. EXPANSION JOINTS IN THE CONCRETE SHALL BE PROVIDED AT ALL PIPE JOINTS TO ALLOW FOR PIPE FLEXIBILITY, COMPRESSIBLE FILLER BOARD TO BE IN ACCORDANCE WITH BS EN 622-1 AND BS EN 622-4 AND TO BE 18mm THICK.
7. POLYETHYLENE PIPES SHALL BE WRAPPED IN PLASTIC SHEETING HAVING A COMPOSITION IN ACCORDANCE WITH BS 6076 BEFORE BEING CAST INTO CONCRETE.
8. BITUMINOUS MATERIAL SHALL NOT BE PUT IN CONTACT WITH PE OR PVC PIPES.

NOTES:

1. 225mm REINFORCED CONCRETE BASE, GRADE 30/37.
2. PERFORMED HALF CIRCLE CHANNEL PIPES, THE PIPELINE MAY, WHERE PRACTICABLE, BE LAID THROUGH THE MANHOLE & THE CROWN CUT OUT TO HALF DIAMETER, PROVIDED FLEXIBLE JOINTS ARE SITUATED ON EACH SIDE NO FURTHER THAN 600mm FROM INNER FACE OF THE MANHOLE WALL.

NOTE: WHERE PIPE DIAMETER CHANGES A MANHOLE, PIPE TO LINE UP

3. MANHOLE CONSTRUCTION:
   a) BLOCK WORK MANHOLE:
      - SOLID BLOCK WORK TO BE OF HIGH STRENGTH (20N/mm²) TO IS EN 771.
      - MAXIMUM DEPTH IS 1.20m (THE USE OF BLOCK WORK IN DEEPER MANHOLES WILL BE CONSIDERED BUT SUCH USE WILL REQUIRE DETAILED STRUCTURAL DESIGN AND BE SUBJECT TO IRISH WATER REVIEW)
      - WALLS TO BE FLUSH AND NOT PLASTERED INTERNALLY, INTERNAL LINING OF ENGINEERING BRICK TO IS EN 771-1 TO A HEIGHT OF 1.0m ABOVE BENCHING. ENGINEERING BRICK TO BE BONDED TO BLOCK WORK USING ENGLISH GARDEN WALL BOND.
      - BLOCK WORK SHALL BE EMBEDDED & JOINTED USING MORTAR TO IS 326. BEDS & VERTICAL JOINTS TO BE COMPLETELY FILLED WITH MORTAR AS THE BLOCKS ARE LAID.
   b) PRE-CAST CONCRETE MANHOLE:
      - THE UNITS ARE TO COMPLY WITH REQUIREMENTS OF IS EN 1917 AND BS 5911- PART 3.
      - THICKER MANHOLE BASES REQUIRED FOR SEWERS IN EXCESS OF 3.0m DEEP WHERE THE SIZE IS GREATER THAN THE STANDARD MINIMUM SIZE.
      - APPROVED PRE-CAST CONCRETE BASES MAY BE USED INCORPORATING CHANNELS, BENCHING ETC. SUBJECT TO IRISH WATER REVIEW AND COMPLYING WITH BS 5911- PART 4 2002.
   c) IN-SITU CONCRETE MANHOLE:
      - TO HAVE A MINIMUM WALL AND FLOOR THICKNESS OF 225mm FOR MANHOLE DEPTHS UP TO 3.0m AND 300mm OR MORE WHEN THE MANHOLE DEPTHS EXCEEDS 3.0m
4. RELIEVING ARCH FORMED BY 215x103x65 SOLID ENGINEERING BRICK CLASS A OR B (RELIEVING ARCHES ARE USED IN BRICK OR BLOCK WORK MANHOLES EXTENDED OVER FULL THICKNESS OF WALLS). A DOUBLE ARCH TO BE FORMED FOR PIPE DIAMETER GREATER THAN 600mm.
5. BENCHING AND PIPE SURROUND - C30/37 CONCRETE.
6. 1:3 CEMENT: SAND MORTAR WITH STEEL TROWEL FINISH AT SLOPE OF 1:30 TOWARDS THE CHANNEL.
7. MANHOLE STEPS TO COMPLY WITH IS EN 13101, TYPE D, CLASS 1. GALVANIZED MILD STEEL STEP RUNGS, 20mm DIAMETER, SHALL BE PROVIDED WITH PLASTIC ENCAPSULATED FINISH. STEP RUNGS ARE TO BE PROVIDED IN MANHOLES WHERE THE DEPTH FROM GROUND TO THE SOFFIT OF THE PIPE IS UP TO 3.0m. FIXED LADDERS ARE REQUIRED IN MANHOLES WHERE THE DEPTH FROM GROUND TO THE SOFFIT OF THE PIPE EXCEEDS A DEPTH OF 3.0m AND UP TO 6.0m, AND SHALL COMPLY WITH IS EN 14396. ALL LADDER RUNGS, HANDRAILS, SAFETY CHAINS ETC. TO COMPLY WITH BS 729 OR EQUIVALENT.
8. 600mm SQUARE OPE IN ROOF.
9. MANHOLE ROOFS SHALL CONSIST OF REINFORCED CONCRETE SLAB OF IN-SITU CONCRETE 30/37, WITH A MINIMUM THICKNESS OF 225mm DESIGNED TO CARRY ALL LIVE AND DEAD LOADS. ALTERNATIVELY, APPROVED PRE-CAST CONCRETE ROOF SLABS MAY BE USED SUBJECT TO IRISH WATER REVIEW AND COMPLIANCE WITH BS 5911 PART 4:2002, IN CONJUNCTION WITH IS EN 1979:2002 AND IS 420:2004.
10. 1 TO 3 MAX. COURSES OF CLASS B ENGINEERING BRICKS TO IS 91:1983 SE IN C 50/60 MORTAR.
11. MANHOLE COVER AND FRAME SHALL COMPLY TO IS EN 124 AND BS 7903 (ALL CLASS D400 COVERS SHALL HAVE MIN. FRAME DEPTH 100-150mm). MIN. OPE 600x600mm. COVER TO BE SE IN C 50/60 MORTAR.
12. SHORT LENGTH PIPE & PIPE JOINT EXTERNAL TO MAHOLES SHALL NOT EXCEED 600mm FROM THE INNER FACE OF THE MANHOLE WALL.
13. TOE HOLES OF 230mm MINIMUM DEPTH & GALVANIZED SAFETY REILINGS TO BE PROVIDED IN BENCHING OF SEWERS GREATER THAN 525mm Ø & DEPTH TO INVERT> 3.0m FOR ACCESS TO INVERT.
14. STAINLESS STEEL CHAIN IS TO BE PROVIDED ON PIPES THAT EXCEEDED 450mm Ø, COMPLYING WITH BS4942 PART 2 OR EQUIVALENT.
15. PIPE SHOULD BE CUT FLUSH WITH THE INSIDE SURFACE OF THE MANHOLE WALLS SO THAT CHANNEL EXTENDS THE FULL LENGTH OF THE MANHOLE.
16. POSITION OF 910 SQUARE OPE IN INTERMEDIATE ROOF SLABS:
    a. ALL MANHOLES SHALL BE WATERTIGHT TO THE SATISFACTION OF THE ENGINEER.
    b. FORMWORK TO REINFORCED CONCRETE & MASS CONCRETE SHALL COMPLY WITH CLASS 2 SECTION 6.2.7, BS 8110 Part 1:1997.
    c. FINISH TO THE TOP OF SLAB SHALL COMPLY WITH TYPE A SECTION 6.2.7, BS 8110 PART 1:1997.
    d. PLAN DIMENSIONS OF MANHOLES ARE BASED ON BLOCK WORK HAVING A CO-ORDINATING SIZE OF 450x225x100. FORT PIPE DIAMETER OF > 750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE = PIPE SIZE +1.0m +300mm.
    e. MANHOLES ARE DESIGNED TO BS 8005 & WALL THICKNESS TO IS 325, BLOCK WORK DESIGN CODE TAKING GRANULAR FILL PRESSURE & H.B. SURCHARGE.
    f. REINFORCEMENTS TO SLABS TO ENGINEERS DETAILS.
17. FOR MANHOLES > 3m DEPTH TO INVERT USE C30/37 IN-SITU CONCRETE, REINFORCING MESH REF. A393 TO BE FIXED AT MID POINT OF WALL. ADDITIONAL REINFORCEMENT TO BE SUPPLIED OVER PIPE CROWN.
18. PRECAST MANHOLES, CHAMBER WALLS & COVER SLAB TO BE CONSTRUCTED TO IS EN 1917 & IS 420:2004.
19. MANHOLE OPENINGS TO BE SITUATED FURTHEST FROM THE NEAREST CARRIAGEWAY. MANHOLE STEPS-ACCESS TO BE POSITIONED TO ALLOW VIEWING OF ONCOMING TRAFFIC.
20. FOR BEDDING AND CEILING OF CHAMBER RINGS, THE TOP RING (TO PRECAST OVER SLAB) & BOTTOM RING TO BE BEDDED WITH CEMENT MORTAR. FOR INTERMEDIATE RINGS. JOINTS TO BE SEALED WITH APPROVED PREFORMED JOINTING STRAP.
21. PRECAST MANHOLES TO BE SURROUNDED WITH A MINIMUM OF 150mm THICK GRADE C16/20 CONCRETE.
22. 225mm GRADE C 25/30 CONCRETE SURROUND.
23. 75mm GRADE C 12/15 BLINDING CONCRETE.
24. ANY SPECIAL ROAD REINSTATEMENT AROUND COVER AND FRAME SHALL BE TO ROAD AUTHORITY'S REQUIREMENTS. NEW ROAD CONSTRUCTION AND SURFACE FINISH TO BE ROAD AUTHORITY'S REQUIREMENTS. EXISTING ROAD REINSTATEMENT TO COMPLY WITH CURRENT VERSION OF "GUIDELINE FOR MANAGING OPENINGS IN PUBLLIC ROADS" BY THE DEPT. OF TRANSPORT, TOURISM & SPORT, OR TRANSPORT INFRASTRUCTURE IRELAND REQUIREMENTS.
25. PRECAST CONCRETE MANHOLE RINGS TO IS 420 IN CONJUNCTION WITH EN 1917:2004.
26. CONCRETE SEWER PIPES WITH SPIGOT & SOCKET JOINTS & RUBBER FITTINGS TO COMPLY WITH IS EN 1916 & IS 6:2004 OR EQUIVALENT STANDARD CLASS OR CLASS H.
27. VITRIFIED CLAY PIPES AND FITTINGS COMPLYING WITH THE REQUIREMENTS OF IS EN 295-1/2/3: 1992 OR EQUIVALENT STANDARD CLASS 160 OR CLASS 200.
28. UNPLASTICIZED POLYVINYL CHLORIDE (UPVC) PIPES & FITTINGS IN ACCORDANCE WITH THE REQUIREMENTS OF IS 424.
29. CONCRETE BED & SURROUND MUST BE A MINIMUM 150mm THICK IN-SITU CONCRETE C16/20 & HAUNCHED HALFWAY UP THE BARREL OF THE PIPE.
30. GRANULAR BED AND SURROUND OF RIGID PIPES TO BE EITHER:
    a) 14mm TO 5mm GRADED AGGREGATE OR
    b) 10mm SINGLE SIZE AGGREGATE.
31. GRANULAR BED, SURROUND & COVER FOR UPVC TO BE
    a) 14mm TO 5mm GRADED AGGREGATE 315mm + PIPE DIAMETER
    b) 10mm SINGLE SIZE AGGREGATE PIPE DIAMETER < 315mm

ALL COMPLYING WITH THE REQUIREMENTS OF IS EN 12620:2002 & SHOULD HAVE A COMPACTION FACTOR VALUE OF NOT GREATER THAN 0.2 WHEN MEASURED IN ACCORDANCE WITH BS EN 752:2017. GRANULAR SIDE FILL & COVER TO 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 COMPACTED COVER OF 150mm.

32. GRANULAR BACKFILL MATERIAL SHALL BE IN COMPLIANCE WITH CLAUSE 804 (GRANULAR MATERIAL TYPE B) OF THE NRA SPECIFICATION FOR ROAD WORKS. GRANULAR FILL SHOULD BE PLACED ON EITHER SIDE OF THE FILL IN UNIFORM LAYERS NOT EXCEEDING 100mm. EACH LAYER BEING COMPACTED BY HAND & UNDERGOING TAMPING UNTIL IT HAS A MINIMUM LAYER OF 300mm COMPACTED OVER. CARE SHOULD BE TAKEN SO THAT THE TAMPING DOES NOT DISPLACE THE PIPE FROM ITS CORRECT LINE AND LEVEL. SUBSEQUENT LAYER OF GRANULAR MATERIAL TO BE COMPACTED IN 150mm THICK LAYERS TO THE LOCAL AUTHORITY ROAD DIVISION SPECIFICATION. MECHANICAL COMPACTING EQUIPMENT SHOULD NOT BE USED UNTIL THERE IS A MINIMUM 450mm THICK COMPACTED COVER OVER THE CROWN OF THE PIPE.
33. SELECTED FILL SHOULD BE FREE FROM STONES LARGER THAN 37mm, LUMPS OF CLAY OVER 75mm, TIMBER, FROZEN MATERIAL & VEGETABLE OR FOREIGN MATTER. SELECTED FILL ON EITHER SIDE OF THE PIPE SHOULD BE LAID IN 100mm THICK LAYERS. EACH LAYER BEING COMPACTED BY HAND & UNDERGOING TAMPING UNTIL IT HAS A MINIMUM LAYER OF 450mm COMPACTED OVER. CARE SHOULD BE TAKEN SO THAT THE TAMPING DOES NOT DISPLACE THE PIPE FROM ITS CORRECT LINE AND LEVEL & COMPACTED IN 150mm LAYERS.
34. GENERAL BACKFILL MATERIAL SUITABLE FOR BACKFILL ABOVE SELECTED FILL MATERIAL SHOULD BE FREE FROM BOULDERS, LUMPS OF CONCRETE, TIMBER & VEGETABLE OR FOREIGN / CONTAMINATED MATTER. GENERAL BACK FILL SHOULD BE PLACED IN LAYERS NOT EXCEEDING 300mm. EACH LAYER BEING WELL COMPACTED. MECHANICAL COMPACTION EQUIPMENT SHOULD NOT BE USED UNTIL THERE IS MINIMUM OF 450mm COMPACTED COVER OVER THE CROWN OF THE PIPE.
35. PIPES WITH INADEQUATE COVE TO BE SURROUNDED IN 150mm THICK C 16/20 CONCRETE.
36. LEAN MIX BACKFILL IN EXISTING ROADS. WHERE REQUIRED BY THE LOCAL AUTHORITY TO BE GRADE 20N/20mm CONCRETE.
37. PAVING TO BE IN ACCORDANCE WITH THE ROAD SPECIFICATION & IF APPROPRIATE, THE LOCAL AUTHORITY REQUIREMENTS.
38. GOOD QUALITY TOPSOIL 450mm MINIMUM THICKNESS, TO BE PLACE OVER BACKFILL IN ACCORDANCE WITH PARKS DEPARTMENTS/LANDSCAPE ARCHITECTS.
39. AJ's (ARMSTRONG JUNCTIONS)
    a) TO BE USED FOR PIPE DEPTHS UP TO 600mm
    b) INTERNAL AJ's IF REQUIRED TO HAVE DOUBLE SEALED COVERS
    c) EXTERNAL AJ's TYPICALLY TO BE PROPRIETARY UPVC WITH 35kN COVER
    d) EXTERNAL AJ's IN AREAS SUBJECT TO TRAFFIC TO BE SURROUNDED IN 150mm C20 CONCRETE & TO HAVE CLASS D COVER AND FRAME SUPPORTED OF THE CONCRETE SURROUND.

NOTES:

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5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD
6. PIPE BEDDING FOR FOUL SEWER TO BE IN ACCORDANCE WITH IRISH WATER STANDARD DETAILS AND CODE OF PRACTICE - IRISH WATER DETAILS & REQUIREMENTS WILL TAKE PRECEDENCE

Rev	Date	Description	By	Chkd.
P01	11.08.2023	Issued For Planning	NG	RB

Client: Marina Quarter Ltd.

Project: Proposed Residential Development at Rathgowan, Mullingar.

Title: Standard Pipe Bedding Details Sheet 2 of 2

Scale @ A1: As Shown

Prepared by:	Checked by:	Date:
NG	RB	August 2023

Drawing Status: Planning

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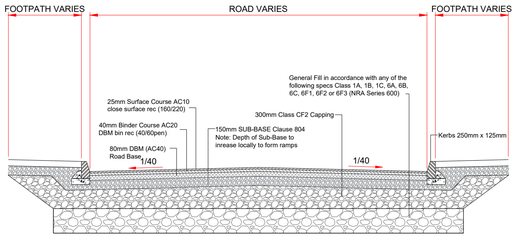
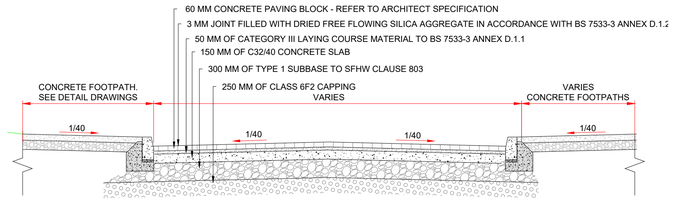
Drawing No.: 10906-2521

Revision: P01



TYPICAL ROAD CROSS SECTION

SCALE 1:50



TYPICAL 'SHARED SURFACE' ROAD CROSS SECTION

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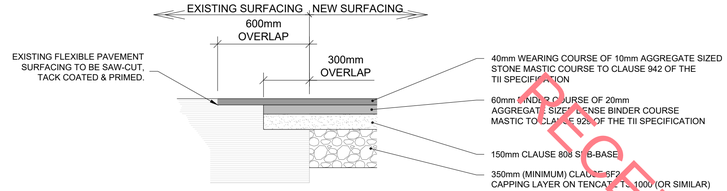
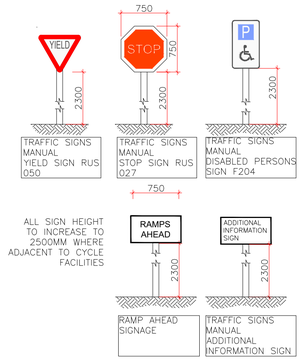


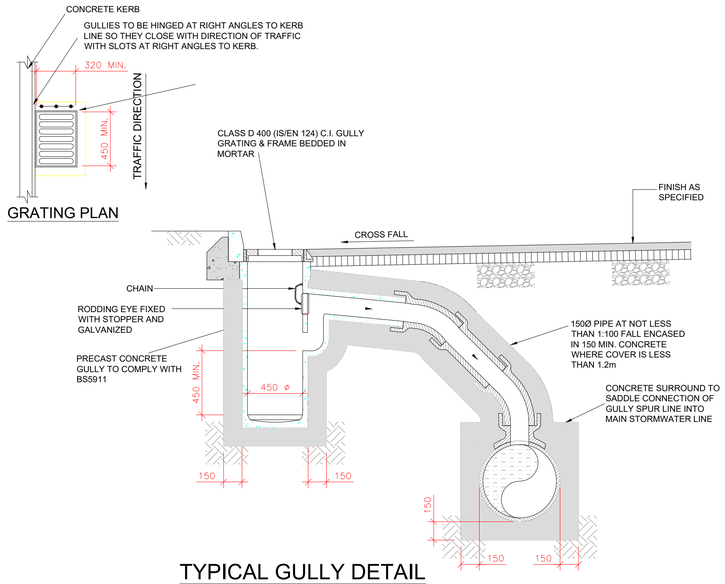
SURFACING INTERFACE DETAIL, EXISTING / PROPOSED ASPHALT

SCALE 1:20



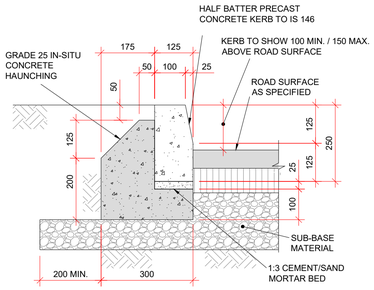
TYPICAL ROAD SIGNS

SCALE 1:50



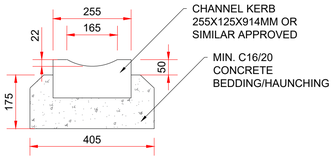
TYPICAL GULLY DETAIL

SCALE 1:25



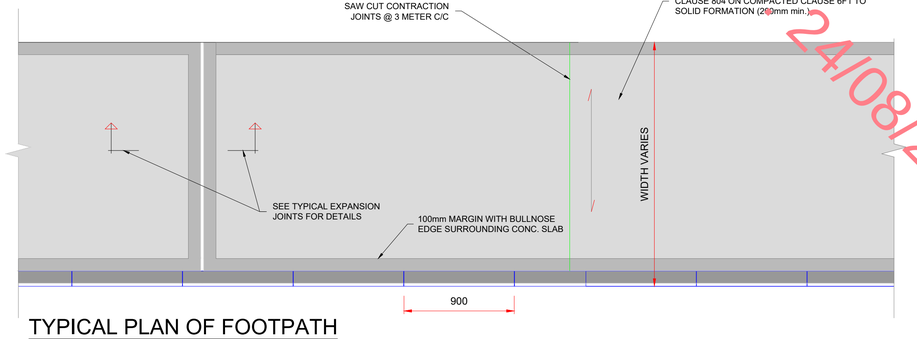
TYPICAL KERB DETAIL

SCALE 1:10



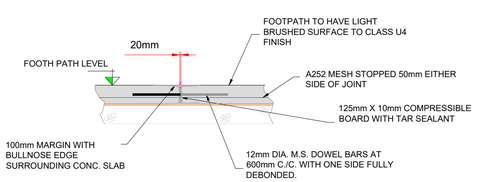
TYPICAL DRAINAGE CHANNEL KERB DETAILS

SCALE 1:10



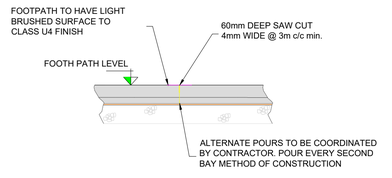
TYPICAL PLAN OF FOOTPATH

SCALE 1:25



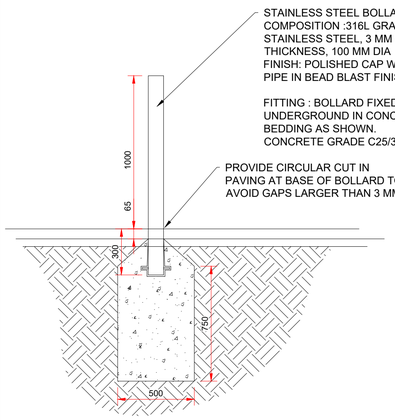
TYPICAL FOOTPATH EXPANSION JOINT - MIN. @ 24m CTRS

SCALE 1:25



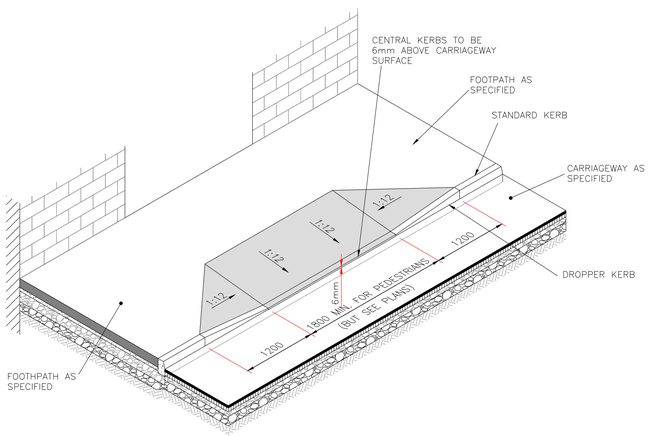
TYPICAL FOOTPATH COUNSTRUCTION/ CONSTRUCTION JOINT - MIN. 3m CTRS

SCALE 1:25



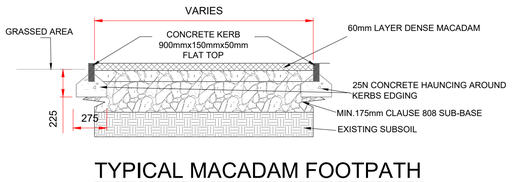
BOLLARD FOUNDATION DETAIL

Scale 1:20



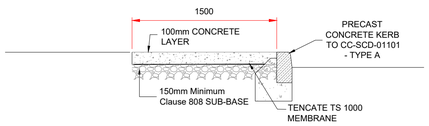
TYPICAL DROPPED KERB GEOMETRY

SCALE 1:50



TYPICAL MACADAM FOOTPATH

SCALE 1:25



TYPICAL CONCRETE FOOTPATH

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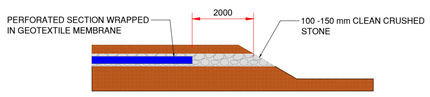
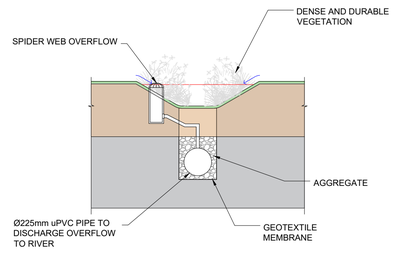


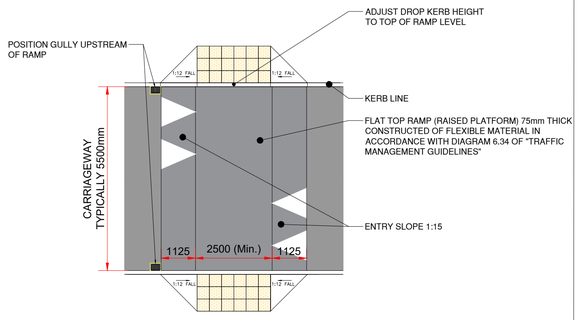
STORM WATER BASIN AND SWALE INLET DETAIL

SCALE 1:100



TYPICAL SWALE CROSS SECTION

SCALE 1:25



COMBINED RAMP AND PEDESTRIAN CROSSING

SCALE 1:100

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5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
P01	11.08.2023	Issued For Planning	DT	RB

RECEIVED 24/08/2023

Client: Marina Quarter Ltd.

Project: Proposed Residential Development at Rathgowan, Mullingar.

Title: Typical Site Work Details

Scale @ A1: As Shown

Prepared by: NG | Checked by: RB | Date: August 2023

Drawing Status: Planning

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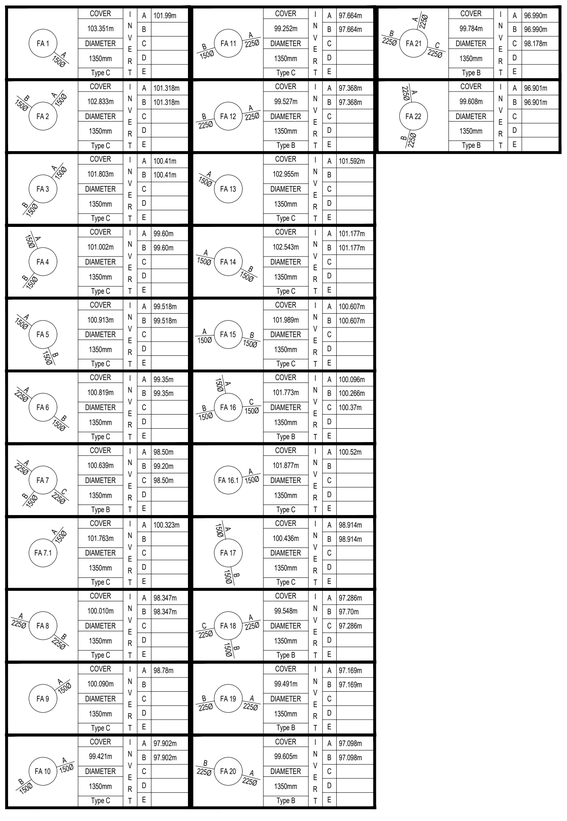
Drawing No.: 10906-2523

Revision: P01

FOUL NETWORK A MANHOLE SCHEDULE

MH No.	MANHOLE DIAMETER (mm)	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
FA 1	1350	103.351	101.990	1.211	642656.301	753498.146
FA 2	1350	102.883	101.318	1.365	642688.133	753473.431
FA 3	1350	101.803	100.410	1.243	642704.444	753494.447
FA 4	1350	101.002	99.600	1.252	642723.971	753519.649
FA 5	1350	100.913	99.518	1.244	642722.645	753522.977
FA 6	1350	100.819	99.350	1.244	642709.363	753533.316
FA 7	1350	100.639	98.500	1.914	642685.348	753552.214
FA 8	1350	100.010	98.347	1.439	642661.160	753571.055
FA 9	1350	100.090	98.780	1.160	642457.946	753538.548
FA 10	1350	99.421	97.902	1.368	642501.001	753568.867
FA 11	1350	99.252	97.664	1.364	642514.666	753573.127
FA 12	1350	99.527	97.368	1.934	642558.228	753581.277
FA 13	1350	102.955	101.592	1.212	642641.733	753509.451
FA 14	1350	102.543	101.177	1.217	642623.415	753519.277
FA 15	1350	101.989	100.607	1.232	642595.637	753525.255
FA 16	1350	101.773	100.096	1.527	642581.446	753524.550
FA 17	1350	100.436	98.914	1.372	642575.962	753553.584
FA 18	1350	99.548	97.286	2.037	642570.329	753583.411
FA 19	1350	99.491	97.169	2.097	642593.378	753587.474
FA 20	1350	99.605	97.098	2.281	642607.366	753585.131
FA 21	1350	99.784	96.990	2.569	642628.458	753579.634
FA 22	1350	99.608	96.901	2.482	642632.769	753596.782
FA 16.1	1350	101.877	100.520	1.207	642566.504	753521.445
FA 7.1	1350	101.763	100.323	1.290	642668.066	753530.099

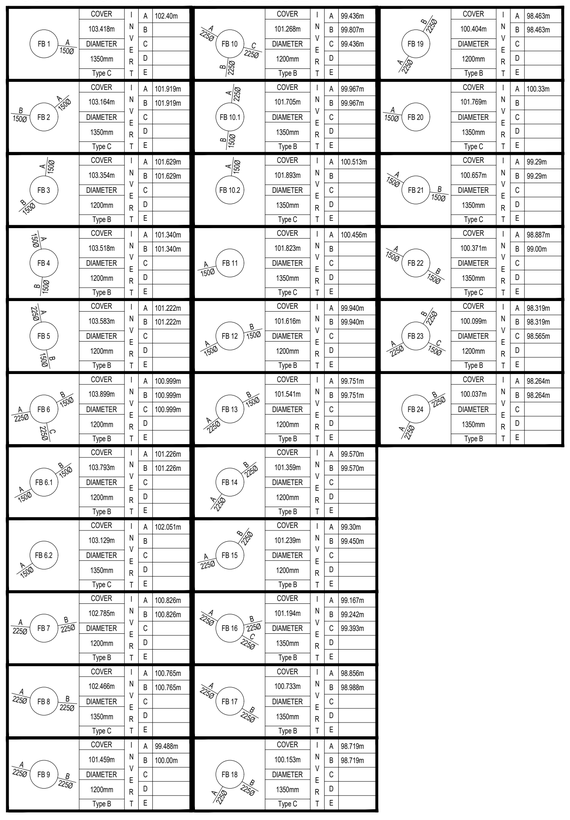
FOUL NETWORK A DRAINAGE SCHEDULE



FOUL NETWORK B MANHOLE SCHEDULE

MH No.	MANHOLE DIAMETER (mm)	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
FB 1	1350	103.418	102.400	0.868	642553.563	753395.675
FB 2	1350	103.164	101.919	1.095	642582.264	753392.595
FB 3	1200	103.354	101.629	1.575	642595.395	753403.988
FB 4	1200	103.518	101.340	2.027	642597.312	753421.208
FB 5	1200	103.583	101.222	2.137	642596.008	753428.203
FB 6	1200	103.899	100.999	2.675	642589.763	753461.101
FB 7	1200	102.785	100.826	1.734	642555.839	753454.831
FB 8	1350	102.466	100.765	1.476	642543.617	753455.734
FB 9	1200	101.459	99.488	1.746	642495.441	753467.825
FB 10	1200	101.268	99.436	1.607	642485.394	753470.347
FB 11	1350	101.823	100.456	1.217	642558.537	753519.927
FB 12	1200	101.616	99.940	1.526	642528.333	753513.106
FB 13	1200	101.541	99.751	1.564	642518.300	753507.867
FB 14	1200	101.359	99.570	1.564	642496.623	753491.325
FB 15	1200	101.239	99.300	1.714	642486.335	753476.646
FB 16	1350	101.194	99.167	1.802	642477.926	753474.722
FB 17	1350	100.733	98.856	1.652	642454.745	753488.302
FB 18	1350	100.153	98.719	1.209	642431.118	753502.372
FB 19	1200	100.404	98.463	1.716	642405.008	753458.258
FB 20	1350	101.769	100.330	1.289	642458.956	753413.423
FB 21	1350	100.657	99.290	1.217	642417.282	753419.219
FB 22	1350	100.371	98.887	1.334	642407.467	753424.934
FB 23	1200	100.099	98.319	1.555	642390.168	753433.571
FB 24	1350	100.037	98.264	1.548	642380.619	753428.490
FB 10.1	1350	101.705	99.967	1.513	642482.473	753446.416
FB 10.2	1350	101.893	100.513	1.231	642478.897	753413.895
FB 6.1	1200	103.793	101.226	2.418	642601.809	753467.471
FB 6.2	1350	103.129	102.051	0.928	642642.412	753495.768

FOUL NETWORK B DRAINAGE SCHEDULE



PROPOSED FOUL MANHOLE SCHEDULE AS PER GRANTED PLANNING REF: 22515

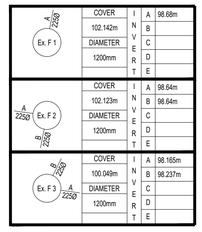
MH No.	MANHOLE DIAMETER (mm)	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
ABF 2	1200	98.709	95.968	2.511	642601.118	753652.115
ABF 3	1200	99.053	95.785	3.043	642617.602	753619.484
ABF 4	1200	99.550	95.663	3.662	642631.172	753608.470

PROPOSED FOUL DRAINAGE SCHEDULE AS PER GRANTED PLANNING REF: 22515

EXISTING UISCE EIREANN FOUL MANHOLE SCHEDULE

MH No.	MANHOLE DIAMETER (mm)	COVER LEVEL (m)	INVERT LEVEL (m)	DEPTH TO SOFFIT (m)	EASTING (m)	NORTHING (m)
Ex. F 1	1200	102.142	98.680	3.237	642486.119	753390.791
Ex. F 2	1200	102.123	98.640	3.258	642489.460	753407.963
Ex. F 3	1200	100.049	98.165	1.659	642378.189	753423.475

EXISTING UISCE EIREANN FOUL NETWORK DRAINAGE SCHEDULE



NOTES:

1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING.
2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE.
3. ENGINEER/EMPLOYERS REPRESENTATIVE, AS APPROPRIATE, TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES.
4. THE CONTRACTOR SHALL UNDERTAKE A THOROUGH CHECK FOR THE ACTUAL LOCATION OF ALL SERVICES/UTILITIES, ABOVE AND BELOW GROUND, BEFORE ANY WORK COMMENCES.
5. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD.

Rev	Date	Description	By	Chkd.
P01	11.08.2023	Issued For Planning	NG	RB

Client: Marina Quarter Ltd.

Project: Residential Development at Rathgowan, Mullingar.

Title: Proposed Foul Manhole & Drainage Schedule

Scale @ A1: N/A

Prepared by: NG | Checked by: RB | Date: August 2023

Drawing Status: Planning

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Drawing No.: 10906-2525

Revision: P01