












KEY:

-  FOUL WATER ACCESS JUNCTION
-  FOUL WATER RODDING EYE
-  FOUL WATER Ø600mm INSPECTION CHAMBER
-  SURFACE WATER ACCESS JUNCTION
-  SURFACE WATER Ø600mm INSPECTION CHAMBER
-  BACK INLET GULLY TRAP
-  FOUL WATER POP-UP
-  FOUL WATER POP-UP (LEVEL 1)
-  FOUL WATER POP-UP (LEVEL 2)
-  RAINWATER DOWNPIPE AND CONNECTION
-  ACO DRAIN AT ACCESS POINTS TO UNITS

Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

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2. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS AND LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE.
3. ALL DIMENSIONS AND LEVELS ARE IN METERS AND ARE RELATED TO ORDINANCE DATUM. CO-ORDINATES RELATE TO ITM.
4. ALL FOUL SEWERS, MANHOLES AND CONNECTIONS TO BE CONSTRUCTED IN ACCORDANCE WITH IRISH WATER CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND IRISH WATER WASTEWATER INFRASTRUCTURE STANDARD DETAILS.
5. ALL FOUL SEWER HOUSE CONNECTIONS TO BE MIN 100mmØ UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8KN/M2 IN ACCORDANCE WITH IRISH WATER SPECIFICATIONS.
6. ALL PUBLIC FOUL SEWERS TO BE MINIMUM 225mm DIAMETER CLASS H CONCRETE TO IS EN 1916 & IS 6 2004 OR UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8KN/M2, MIN. JETTING RESISTANCE OF 180 BAR IN ACCORDANCE WITH IRISH WATER SPECIFICATIONS.
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13. WHERE COVERS ARE LOCATED IN GRASS AREAS THEY SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 808 MATERIAL.

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN
STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

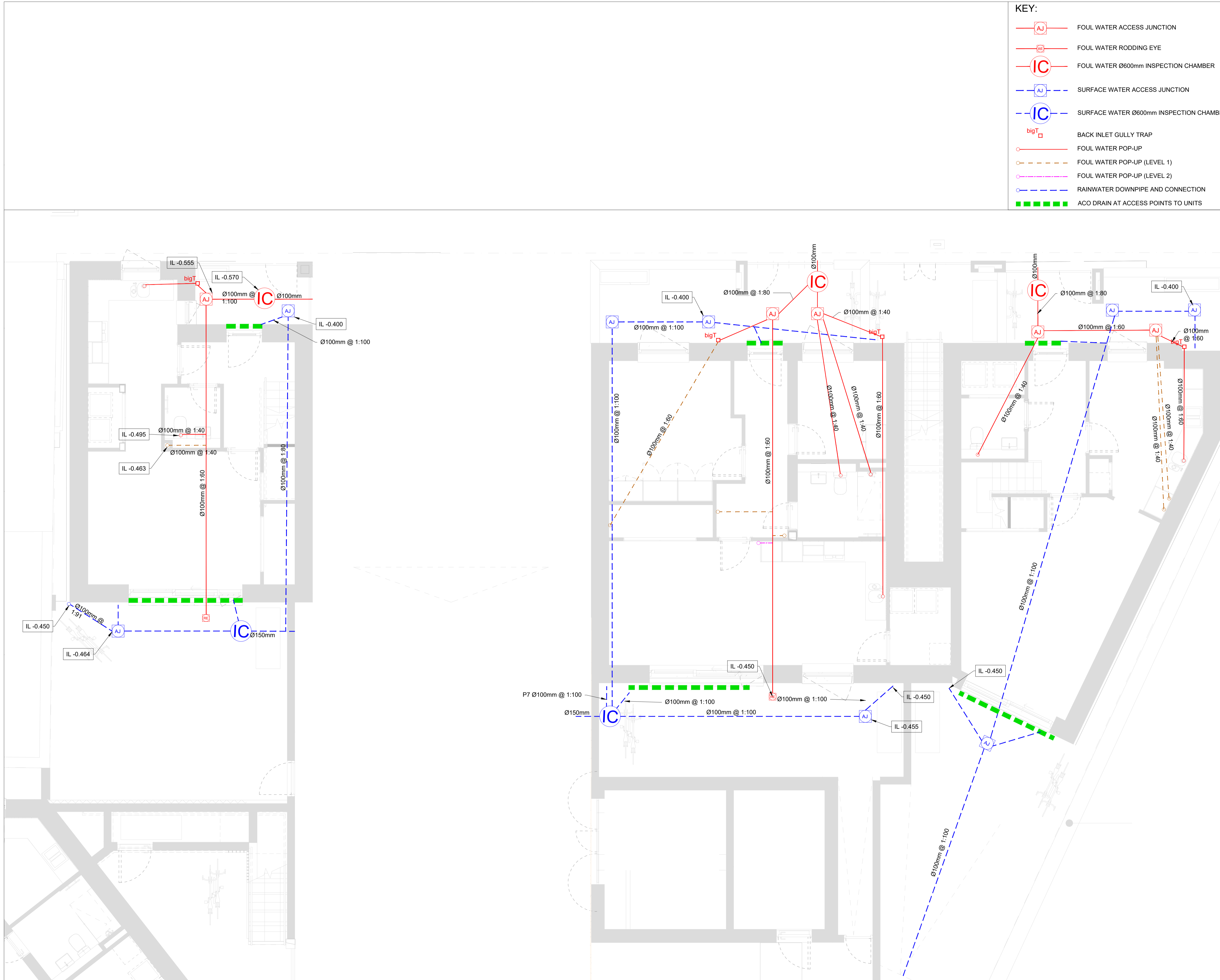
Title
PROPOSED ZONE A
UNDERSLAB DRAINAGE STRATEGY

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805 Scale 1:50

CUNDALL
2 Dawson Street,
Dublin 2
D02 VK75
Tel: +353 1513 7120
Website: www.cundall.com

Drawing No.
ATR-CDL-ZA-XX-D-C-14021














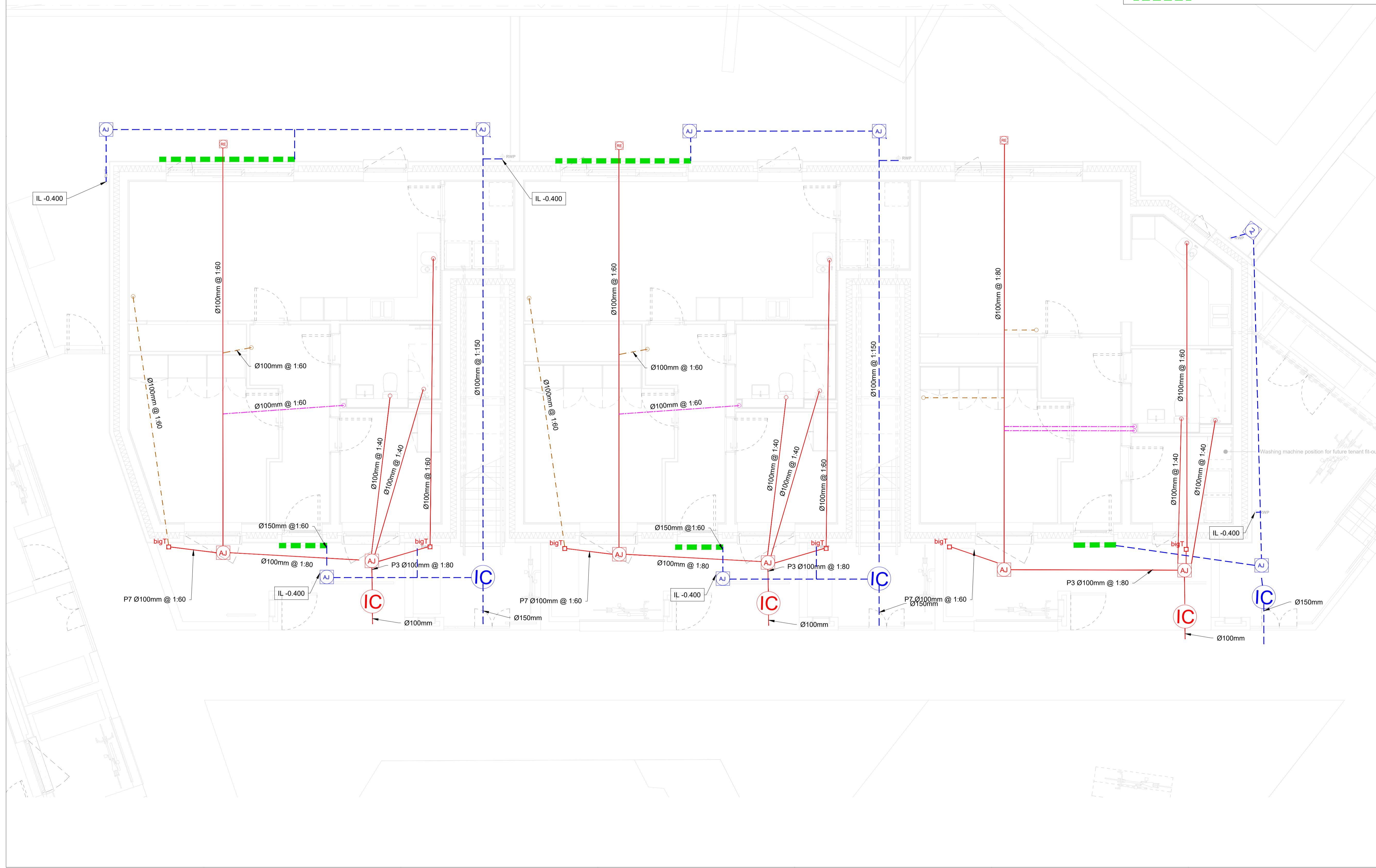
Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
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THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

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P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
**PROPOSED ZONE B
 UNDERSLAB DRAINAGE STRATEGY**

Drawing Status
S05 - ISSUED FOR PLANNING

Project No.	Scale
1040805	1:50

CUNDALL

2 Dawson Street,
 Dublin 2
 D02 VK75

Tel: +353 1513 7120
 Website: www.cundall.com

Drawing No.
ATR-CDL-ZB-XX-D-C-14022

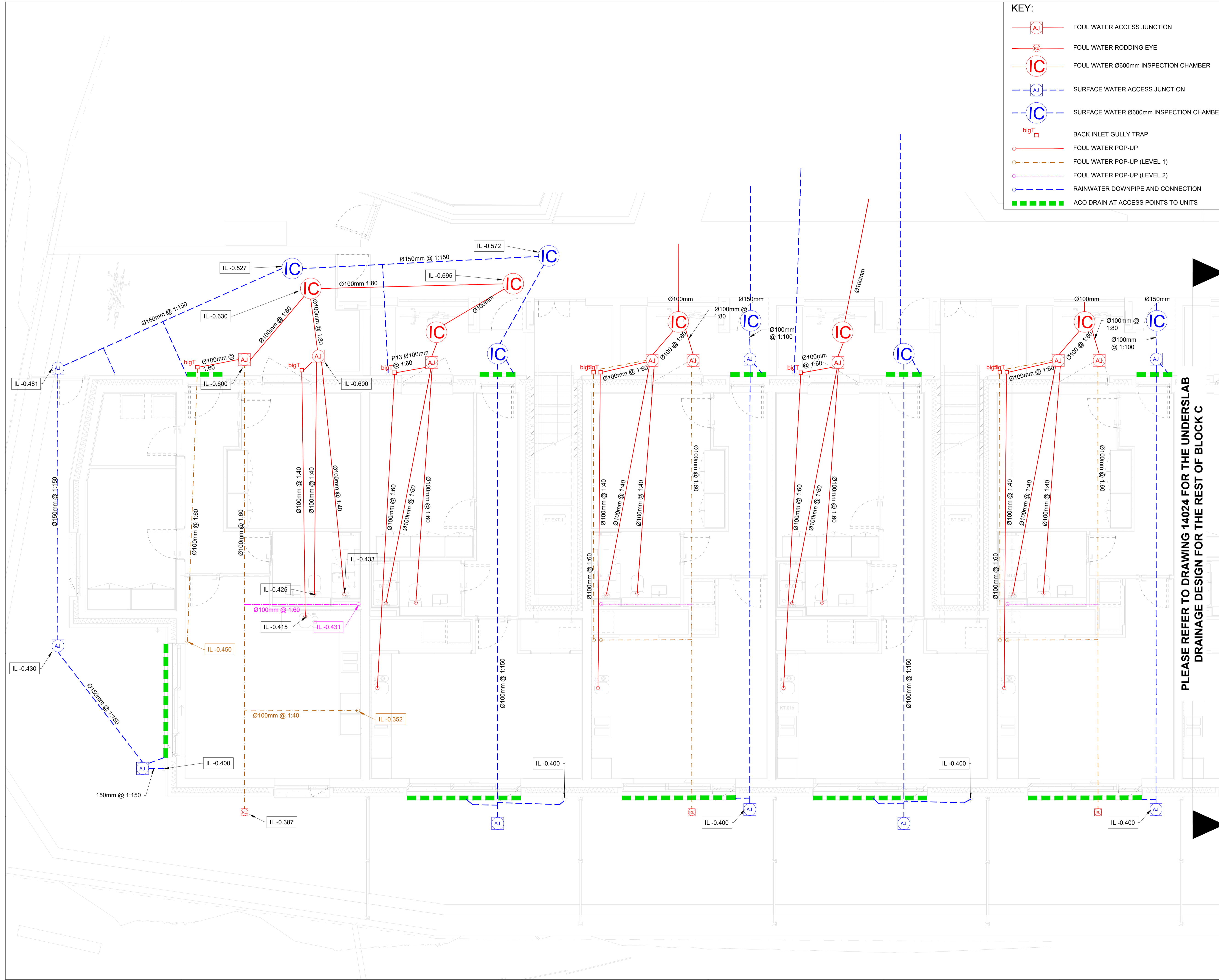
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Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
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PLEASE REFER TO DRAWING 14024 FOR THE UNDERSLAB DRAINAGE DESIGN FOR THE REST OF BLOCK C

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN
STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
PROPOSED ZONE C
UNDERSLAB DRAINAGE
SHEET 1 OF 2

Drawing Status
S05 - ISSUED FOR PLANNING

Project No.	Scale
1040805	1:50

CUNDALL

2 Dawson Street,
Dublin 2
D02 VK75

Tel: +353 1513 7120
Website: www.cundall.com

Drawing No.
ATR-CDL-ZC-XX-D-C-14023

Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

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P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
**PROPOSED ZONE C
 UNDERSLAB DRAINAGE
 SHEET 2 OF 2**

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805
 Scale 1:50

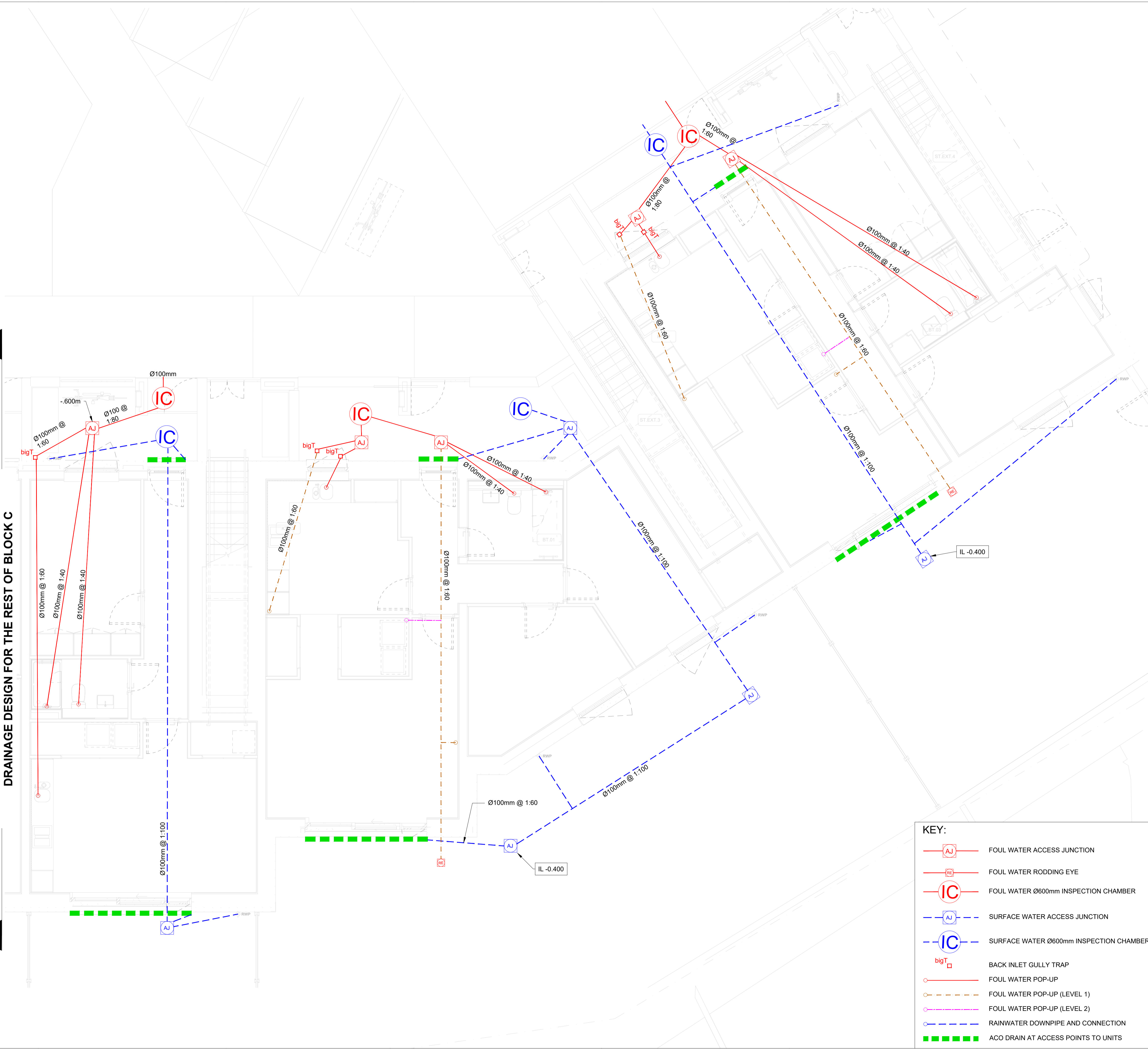
CUNDALL

2 Dawson Street,
 Dublin 2
 D02 VK75

Tel: +353 1513 7120
 Website: www.cundall.com

Drawing No.
KIL-CDL-ZC-XX-D-C-14024

PLEASE REFER TO DRAWING 14023 FOR THE UNDERSLAB DRAINAGE DESIGN FOR THE REST OF BLOCK C



KEY:

- FOUL WATER ACCESS JUNCTION
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- FOUL WATER POP-UP (LEVEL 1)
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- RAINWATER DOWNPIPE AND CONNECTION
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P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
**PROPOSED ZONE D
 UNDERSLAB DRAINAGE**

Drawing Status
S05 - ISSUED FOR PLANNING

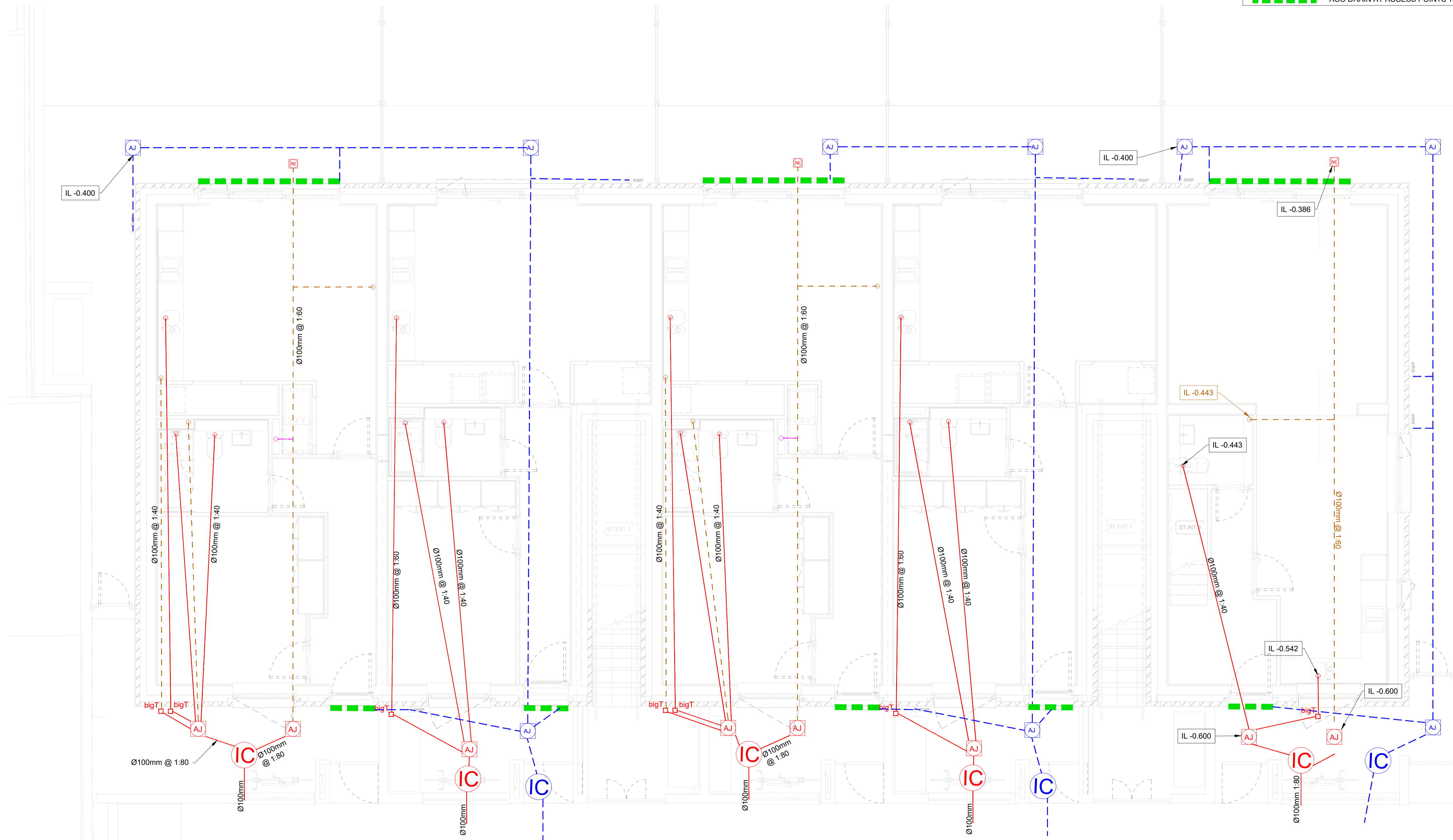
Project No. 1040805 Scale 1:50

CUNDALL

2 Dawson Street,
 Dublin 2
 D02 VK75

Tel: +353 1513 7120
 Website: www.cundall.com

Drawing No.
ATR-CDL-ZD-XX-D-C-14025



Based on:	Rev
Architect's Dwg No.	Rev
Structural Dwg No.	Rev
Survey Dwg No.	Rev
Other Dwg No.	Rev
Other Dwg No.	Rev

THIS DRAWING MAY INDICATE ELEMENTS RELATED TO FIRE SYSTEMS. THESE ARE INDICATIVE ONLY AND FINAL NUMBER, POSITIONING AND PERFORMANCE MUST BE ESTABLISHED AS PART OF THE CDP WORKS TO MAINTAIN THE INTENT OF THE DESIGN FIRE STRATEGY

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- ALL PLANT AND EQUIPMENT IS TO BE INSTALLED TO MANUFACTURERS' RECOMMENDATIONS, ALLOWING FULL ACCESS FOR COMMISSIONING, MAINTENANCE AND REMOVAL/REPLACEMENT.
- ALL DIMENSIONS IN mm UNLESS OTHERWISE STATED.
- UTILITY PROVIDER DRAWINGS TO TAKE PRECEDENCE OVER CUNDALL'S DRAWINGS. CUNDALL'S DRAWING IS ONLY GIVES INDICATIVE POSITIONS.

LEGEND:

- P852K-12-C1-NW-CB0890-33W LANTERN ON 4 m COLUMN
- P852K-12-F2-NW-CB0350-15W LANTERN ON 4 m COLUMN
- P852K-12-F2-NW-CB0300-13W LANTERN ON 4 m COLUMN
- 125MM DUCTING
- NEW LIGHTING MINI PILLAR

ABBREVIATIONS

- L1 BHC - BASE HINGED COLUMN
- LED LIGHT STRIP

P03	23/01/25	ISSUED FOR PLANNING	BK	DD	WD
P02	17/01/25	ISSUED FOR PLANNING	BK	DD	WD
P01	20/12/24	ISSUED FOR PLANNING	BK	DD	WD
FI01	13/11/24	ISSUED FOR INFORMATION	BK	DK	WD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANÁN, STATION ROAD
STATION ROAD KILDARE

Client
KILDARE COUNTY COUNCIL

Title
PUBLIC LIGHTING
SITE LAYOUT

Drawing Status
S2 - ISSUED FOR INFORMATION

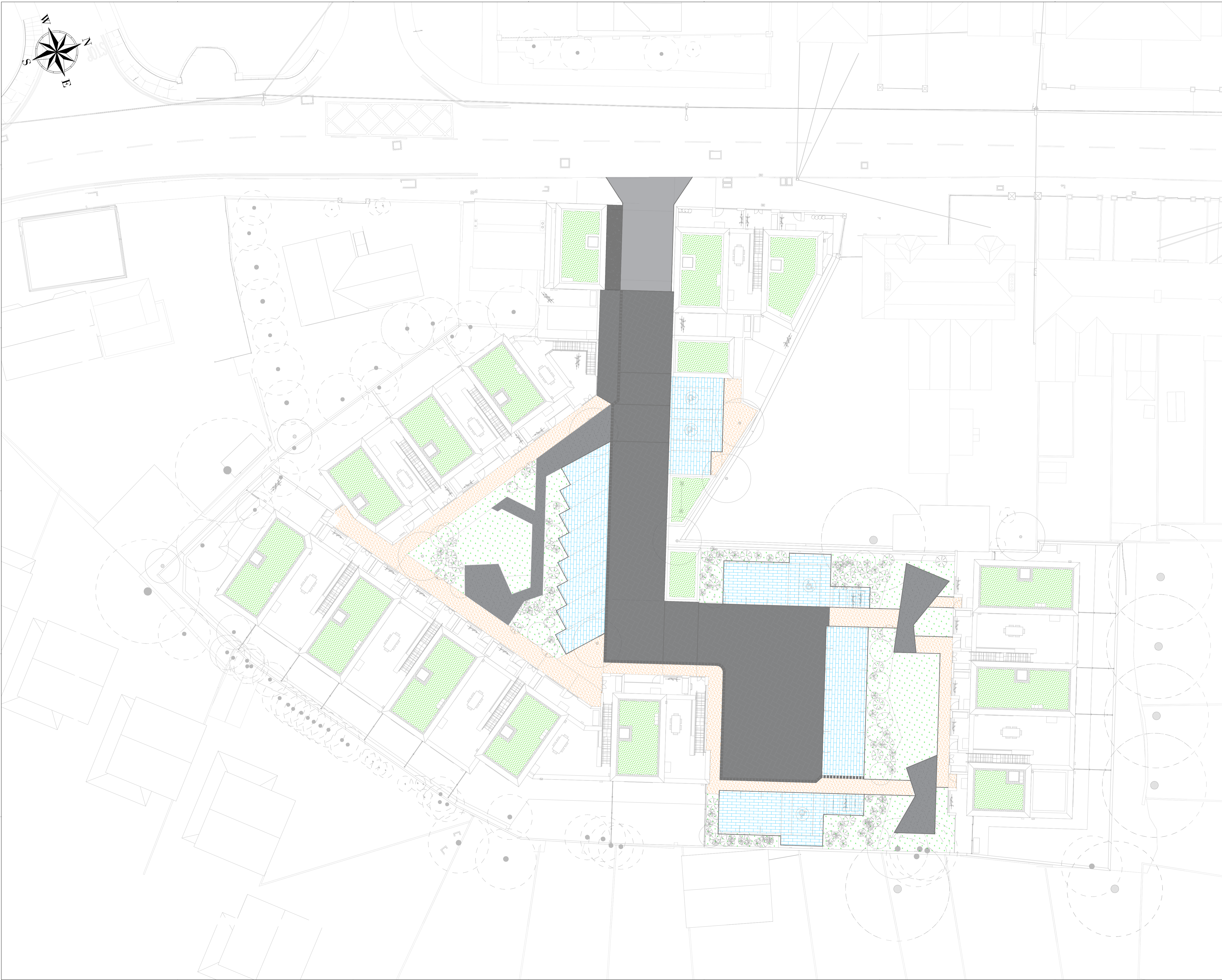
Project No. 1040805 Scale 1:50

CUNDALL

2 Dawson Street,
Dublin 2
D02 VK75
Tel: +353 1513 7120
Website: www.cundall.com

Drawing No.
ATR-CDL-ZZ-XX-DR-E-39001





Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
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 - ALL DIMENSIONS IN METRES UNLESS SPECIFIED OTHERWISE.
 - ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR.
 - ALL LEVELS ARE TO ORDNANCE DATUM (MALIN HEAD).
 - ALL TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT SHALL COMPLY FULLY WITH THE CONTRACT SPECIFICATION CLAUSE 117.
 - THE CONTRACTOR MUST LIAISE DIRECTLY WITH KILDARE COUNTY COUNCIL AND UISCE ÉIREANN AS DIRECTED IN THE WORKS REQUIREMENTS.
 - ALL VEHICULAR & OPERATIONAL ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT PLAN.
 - CONTRACTOR SHALL EMPLOY THE SERVICES OF AN APPROVED SURVEY COMPANY TO ESTABLISH THE GRID IDENTIFIED.
 - ALL AGGREGATES PROPOSED FOR USE ON THIS SCHEME SHALL MEET FULLY THE REQUIREMENTS OF THE CONTRACT SPECIFICATION AND IN ADDITION THE REQUIREMENTS STATED IN STANDARD RECOMMENDATION S.R. 21:2014 GUIDANCE ON THE USE OF I.S. EN 13242:2002 +A1:2007 – AGGREGATES FOR UNBOUND AND HYDRAULICALLY BOUND MATERIALS FOR USE IN CIVIL ENGINEERING WORK AND ROAD CONSTRUCTION.
 - KILDARE COUNTY COUNCIL SHALL AGREE ANY SURFACES FINISHES AND ENGINEER TO BE NOTIFIED.

KEY

	SURFACE TYPE 1 PERMEABLE SHARED SURFACE
	SURFACE TYPE 2 ASPHALT SURFACING
	SURFACE TYPE 3 PERMEABLE FOOTPATH
	SURFACE TYPE 4 PERMEABLE CAR PARKING
	PAVEMENT TYPE 5 SOFT LANDSCAPING
	SURFACE TYPE 6 RESIN BOUND SURFACING
	SURFACE TYPE 7 GREEN ROOF
	SURFACE TYPE 8 POLISHED AGGREGATE CONCRETE
	SURFACE TYPE 9 CONCRETE FOOTWAY

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	18.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
**PROPOSED GENERAL
 ARRANGEMENT LAYOUT**

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805	Scale 1:200
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CUNDALL

2 Dawson Street,
 Dublin 2
 D02 VK75

Tel: +353 1513 7120
 Website: www.cundall.com

Drawing No.
ATR-CDL-ZZ-XX-D-C-05001

Based on:
 Architects Drg No. Rev
 Structural Drg No. Rev
 Survey Drg No. Rev
 Other Drg No. Rev
 Other Drg No. Rev

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

1. TRAFFIC SIGNS AND ROAD MARKINGS TO BE IN ACCORDANCE WITH THE TRAFFIC SIGNS MANUAL.



RUS027

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
PROPOSED ROAD MARKING & SIGNAGE

Drawing Status
S5 - ISSUED FOR PLANNING

Project No. 1040805 Scale 1:200

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Drawing No.
ATR-CDL-ZZ-XX-D-C-05021



INDICATES PROPOSED
 TACTILE PAVING

STOP

STOP LINE (RRM 017)

WORDED STOP MARKING (M 114)

STOP SIGN (RUS 027)

CONTINUOUS CENTRE LINE (RRM 001)



Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

- GENERAL NOTES:
1. ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES.
 2. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS AND LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE.
 3. ALL DIMENSIONS AND LEVELS ARE IN METERS AND ARE RELATED TO ORDINANCE DATUM. CO-ORDINATES RELATE TO ITM.
 4. ALL FOUL SEWERS, MANHOLES AND CONNECTIONS TO BE CONSTRUCTED IN ACCORDANCE WITH UISCE ÉIREANN CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND UISCE ÉIREANN WASTEWATER INFRASTRUCTURE STANDARD DETAILS.
 5. ALL FOUL SEWER HOUSE CONNECTIONS TO BE MIN 100mmØ UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8kN/M2 IN ACCORDANCE WITH UISCE ÉIREANN SPECIFICATIONS.
 6. ALL PUBLIC FOUL SEWERS TO BE MINIMUM 225mm DIAMETER CLASS H CONCRETE TO IS EN 1916 & IS 6 2004 OR UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8kN/M2, MIN. JETTING RESISTANCE OF 180 BAR IN ACCORDANCE WITH UISCE ÉIREANN SPECIFICATIONS.
 7. ALL PUBLIC SURFACE WATER SEWERS TO BE MINIMUM 225 DIA CLASS H CONCRETE TO EN1916 & IS 6 2004 IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 8. ALL SURFACE WATER CONNECTIONS TO BE MINIMUM 150mmØ UPVC TO IS EN 1401 2009/2012 IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 9. LOCATION AND INVERT LEVELS OF EXISTING MANHOLES OR CUTFALL POINTS, WHERE APPLICABLE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF DRAINAGE WORKS.
 10. ALL COVER LEVELS TO MATCH FINISHED ROAD/VERGE/FOOTPATH/CYCLETRACK LEVELS UNLESS OTHERWISE STATED.
 11. CONTRACTOR TO INCLUDE FOR CCTV SURVEY OF ALL SEWERS UPON COMPLETION OF SAME.
 12. ALL FOUL SEWERS TO BE AIR TESTED IN ACCORDANCE WITH UISCE ÉIREANN SPECIFICATIONS.
 13. WHERE COVERS ARE LOCATED IN GRASS AREAS THEY SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 808 MATERIAL.
 14. DUE TO THE SITE CONSTRAINTS THE SURFACE WATER SEWERS AND CONNECTIONS WILL BE FULLY ENCASED IN CONCRETE.

KEY

- PROPOSED SURFACE WATER SEWER
- INSPECTION CHAMBER & CONNECTION
- EXISTING SURFACE WATER SEWER
- EXISTING SURFACE WATER SEWER TO BE REMOVED
- PROPOSED SURFACE WATER DIVERSION
- PROPOSED SURFACE WATER EXCEEDANCE DESIGN

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
PROPOSED SURFACE WATER LAYOUT

Drawing Status
S05 - ISSUED FOR PLANNING

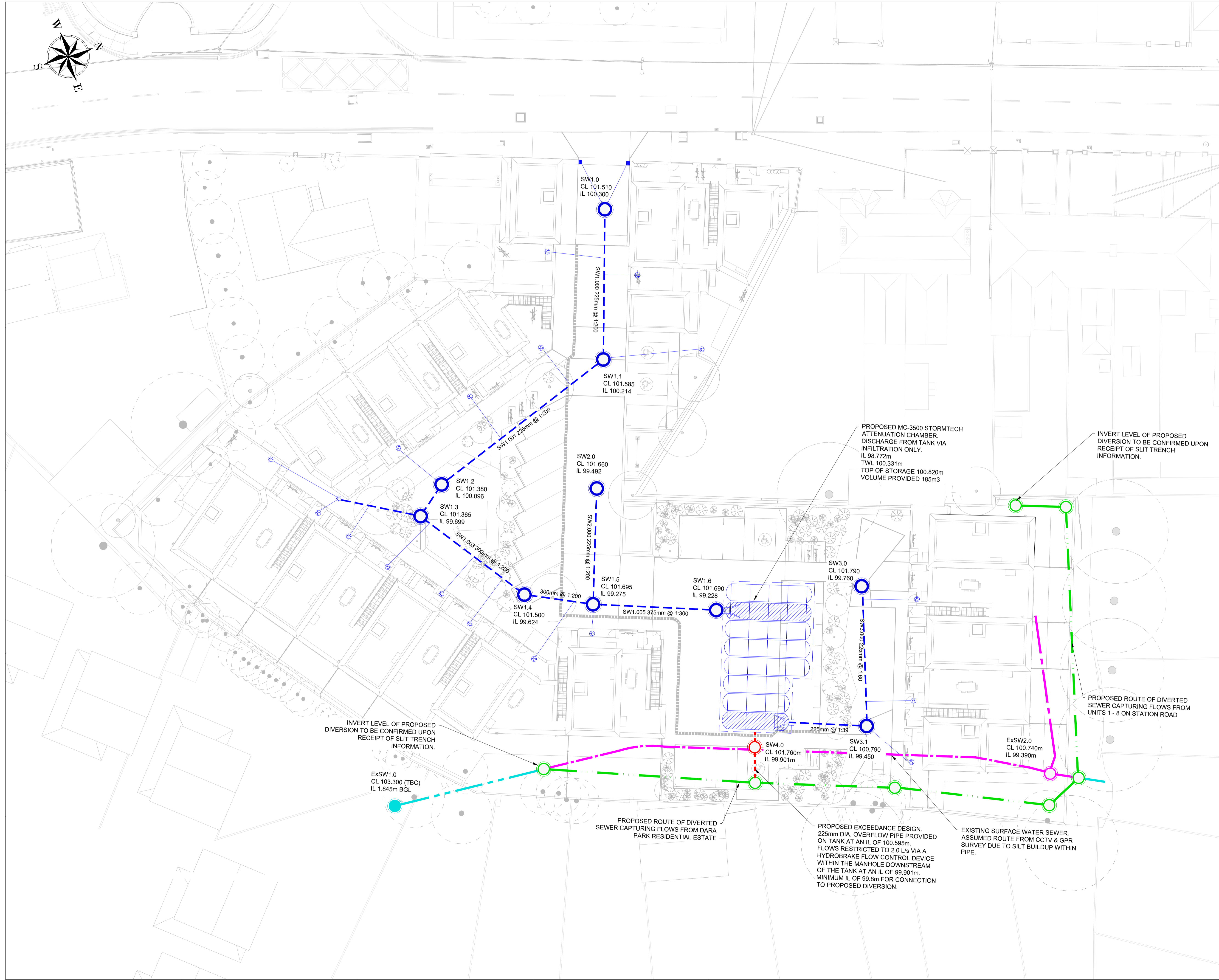
Project No.	Scale
1040805	1:200

CUNDALL

2 Dawson Street,
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Drawing No.
ATR-CDL-ZZ-XX-D-C-14001









Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

- GENERAL NOTES:
1. ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES.
 2. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS AND LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE.
 3. ALL DIMENSIONS AND LEVELS ARE IN METERS AND ARE RELATED TO ORDINANCE DATUM. CO-ORDINATES RELATE TO ITM.
 4. ALL FOUL SEWERS, MANHOLES AND CONNECTIONS TO BE CONSTRUCTED IN ACCORDANCE WITH USICE ÉIREANN CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND USICE ÉIREANN WASTEWATER INFRASTRUCTURE STANDARD DETAILS.
 5. ALL FOUL SEWER HOUSE CONNECTIONS TO BE MIN 100mmØ UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8kN/M2 IN ACCORDANCE WITH USICE ÉIREANN SPECIFICATIONS.
 6. ALL PUBLIC FOUL SEWERS TO BE MINIMUM 225mm DIAMETER CLASS H CONCRETE TO IS EN 1916 & IS 6 2004 OR UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8kN/M2, MIN. JETTING RESISTANCE OF 180 BAR IN ACCORDANCE WITH USICE ÉIREANN SPECIFICATIONS.
 7. ALL PUBLIC SURFACE WATER SEWERS TO BE MINIMUM 225 DIA. CLASS H CONCRETE TO EN1916 & IS 6 2004 IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 8. ALL SURFACE WATER CONNECTIONS TO BE MINIMUM 150mmØ UPVC TO IS EN 1401 2009/2012 IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 9. LOCATION AND INVERT LEVELS OF EXISTING MANHOLES OR CUTFALL POINTS, WHERE APPLICABLE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF DRAINAGE WORKS.
 10. ALL COVER LEVELS TO MATCH FINISHED ROAD/VERGE/FOOTPATH/CYCLETRACK LEVELS UNLESS OTHERWISE STATED.
 11. CONTRACTOR TO INCLUDE FOR CCTV SURVEY OF ALL SEWERS UPON COMPLETION OF SAME.
 12. ALL FOUL SEWERS TO BE AIR TESTED IN ACCORDANCE WITH USICE ÉIREANN SPECIFICATIONS.
 13. WHERE COVERS ARE LOCATED IN GRASS AREAS THEY SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 808 MATERIAL.
 14. DUE TO THE SITE CONSTRAINTS THE WASTEWATER SEWERS AND CONNECTIONS WILL BE FULLY ENCASED IN CONCRETE.

KEY

-  PROPOSED FOUL WATER SEWER
-  INSPECTION CHAMBER & CONNECTION
-  EXISTING FOUL WATER SEWER
-  EXISTING FOUL WATER SEWER TO BE REMOVED
-  PROPOSED FOUL WATER DIVERSION
-  PROPOSED FOUL WATER SEWER UPGRADE

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN
STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
PROPOSED WASTEWATER LAYOUT

Drawing Status
S05 - ISSUED FOR PLANNING

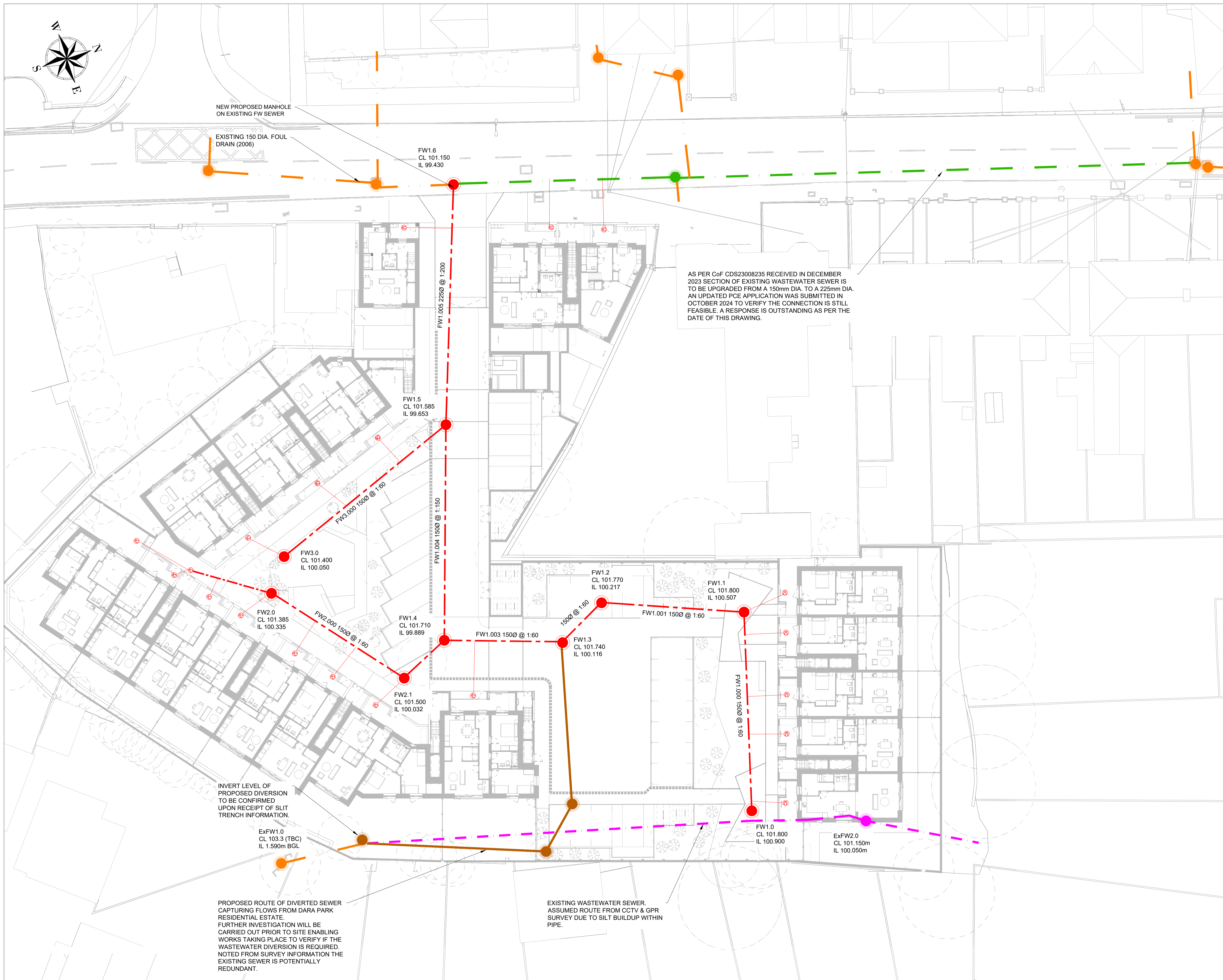
Project No.	Scale
1040805	1:200

CUNDALL

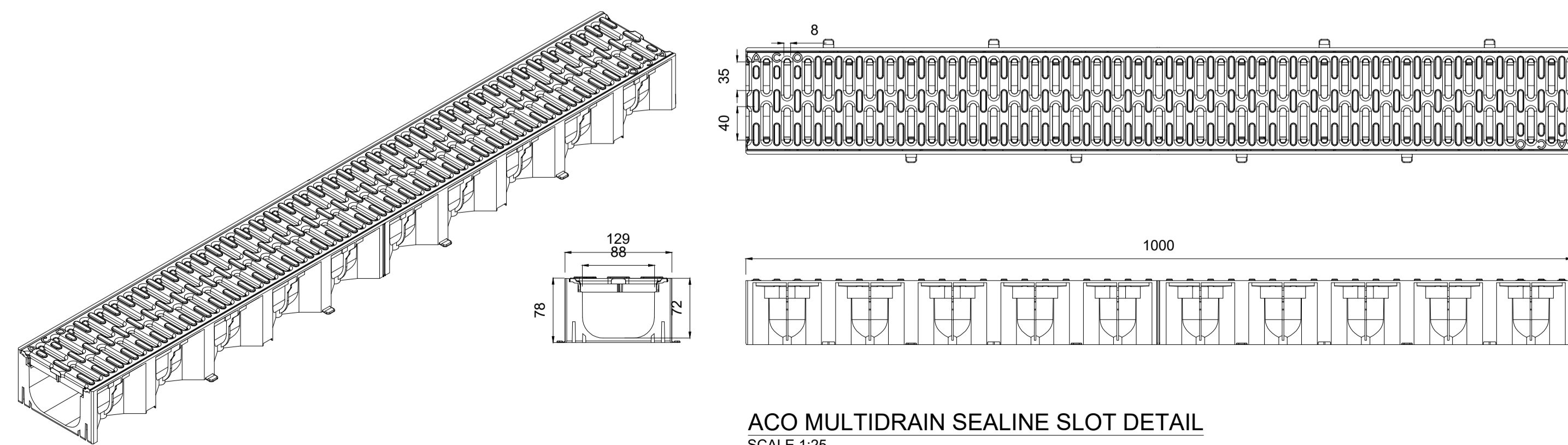
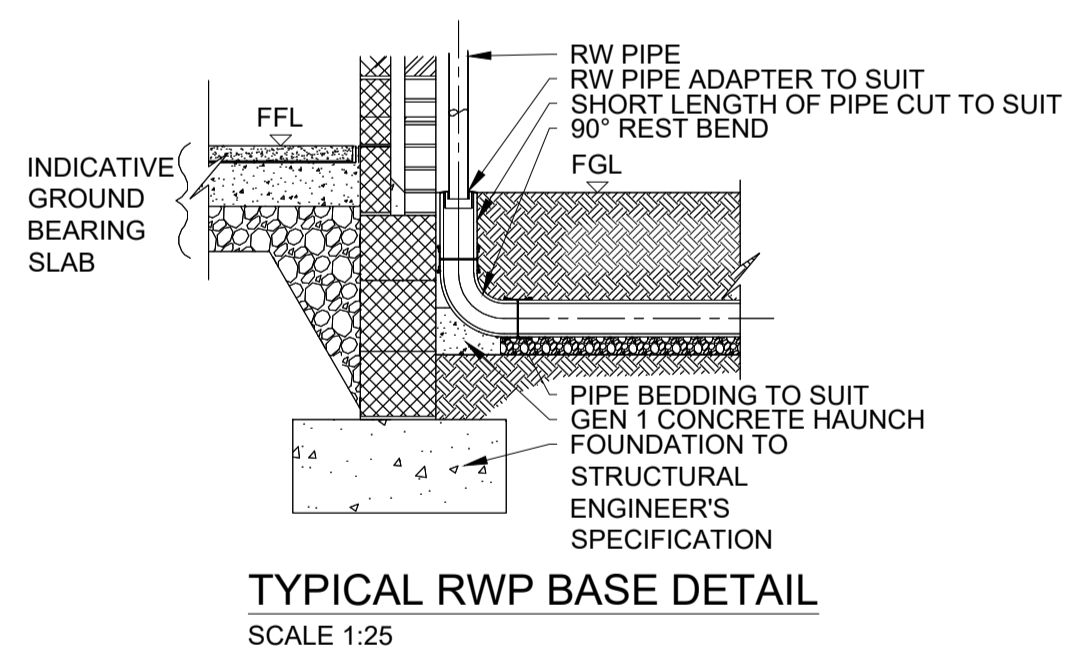
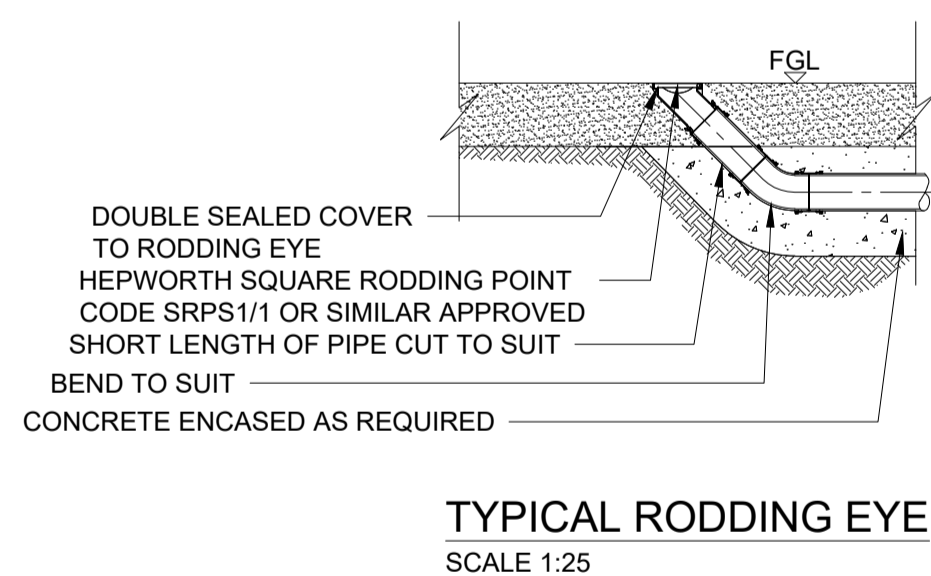
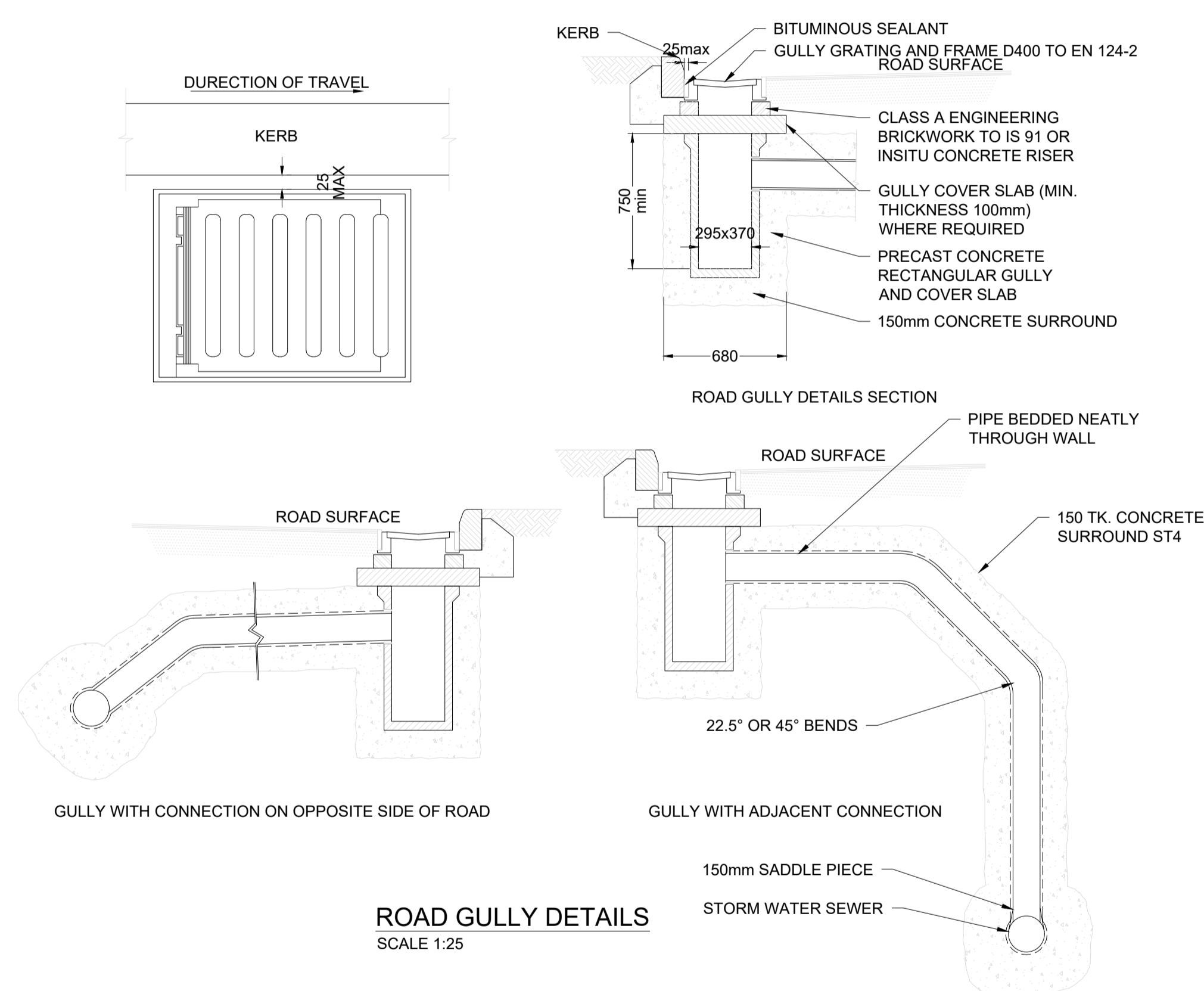
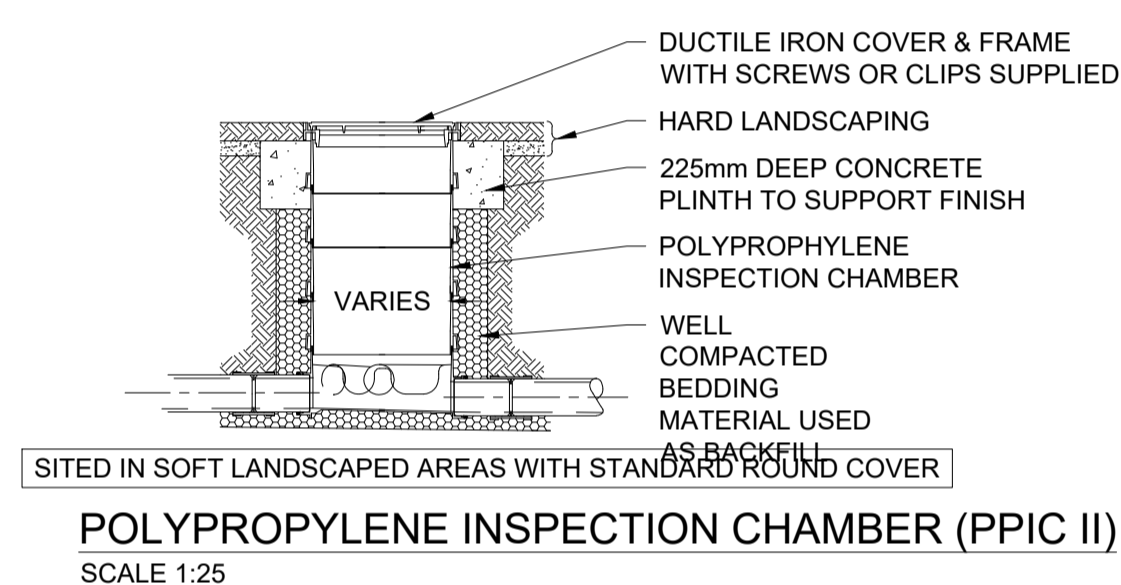
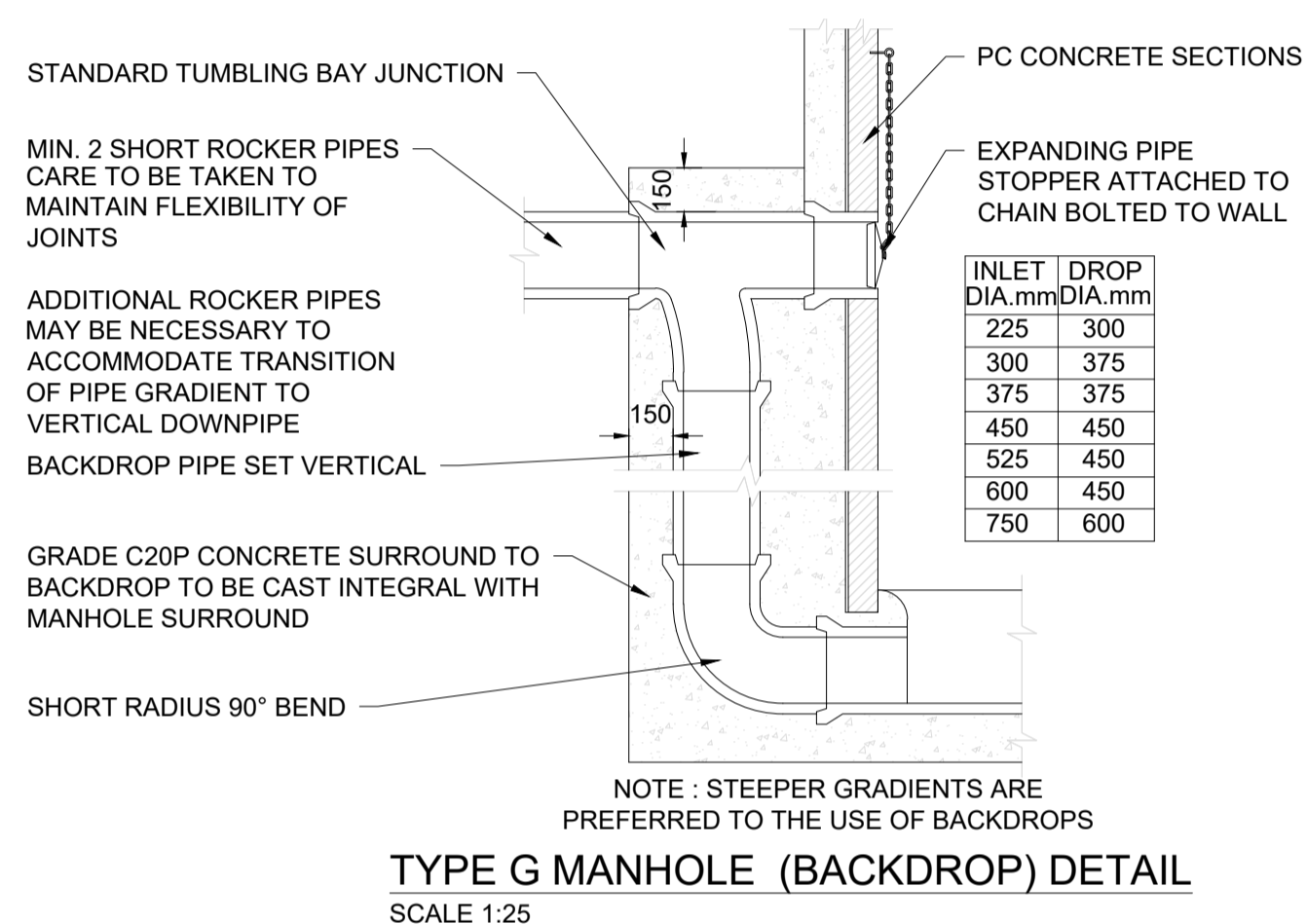
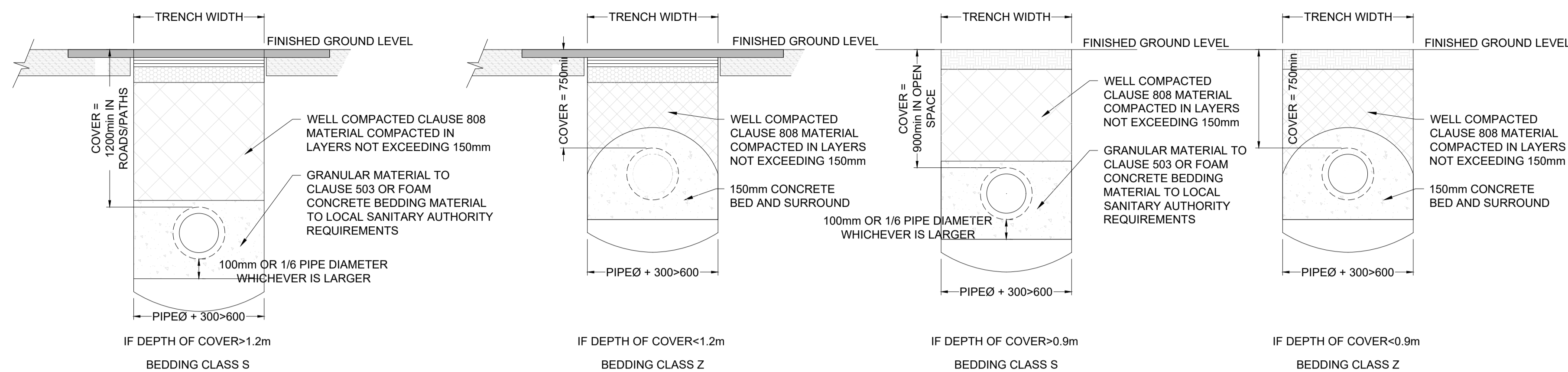
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Drawing No.
ATR-CDL-ZZ-XX-D-C-14011



PERMANENT	TEMPORARY
60mm DBM WEARING COURSE ON 75mm DBM BASE-COURSE ON 50mm CLAUSE 808 BLINDING	50mm DBM BASE-COURSE ON 50mm CLAUSE 808 BLINDING ON 150mm CLAUSE 808



- THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.
- NOTES:
- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN CODE OF PRACTICE FOR DRAINAGE WORKS.
 - ALL DIMENSIONS IN METRES UNLESS SPECIFIED OTHERWISE.
 - ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR.
 - ALL LEVELS ARE TO ORDNANCE DATUM (MALIN HEAD).
 - ALL TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT SHALL COMPLY FULLY WITH THE CONTRACT SPECIFICATION CLAUSE 117.
 - THE CONTRACTOR MUST LIAISE DIRECTLY WITH KILDARE COUNTY COUNCIL AND UISCE ÉIREANN AS DIRECTED IN THE WORKS REQUIREMENTS.
 - ALL VEHICULAR & OPERATIONAL ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT PLAN.
 - CONTRACTOR SHALL EMPLOY THE SERVICES OF AN APPROVED SURVEY COMPANY TO ESTABLISH THE GRID IDENTIFIED.
 - ALL AGGREGATES PROPOSED FOR USE ON THIS SCHEME SHALL MEET FULLY THE REQUIREMENTS OF THE CONTRACT SPECIFICATION AND IN ADDITION THE REQUIREMENTS STATED IN STANDARD RECOMMENDATION S.R. 21:2014 GUIDANCE ON THE USE OF I.S. EN 13242:2002 +A1:2007 - AGGREGATES FOR UNBOUND AND HYDRAULICALLY BOUND MATERIALS FOR USE IN CIVIL ENGINEERING WORK AND ROAD CONSTRUCTION.
 - ALL FOUL MANHOLES TO BE SEALED WATERTIGHT.

Issue	Date	Description	By	Chkd	Verfd
P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD

Project
AN TRIANTÁN STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
DRAINAGE DETAILS SHEET 1

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. **1040805** Scale **AS SHOWN**

CUNDALL

2 Dawson Street, Dublin 2, D02 VK75

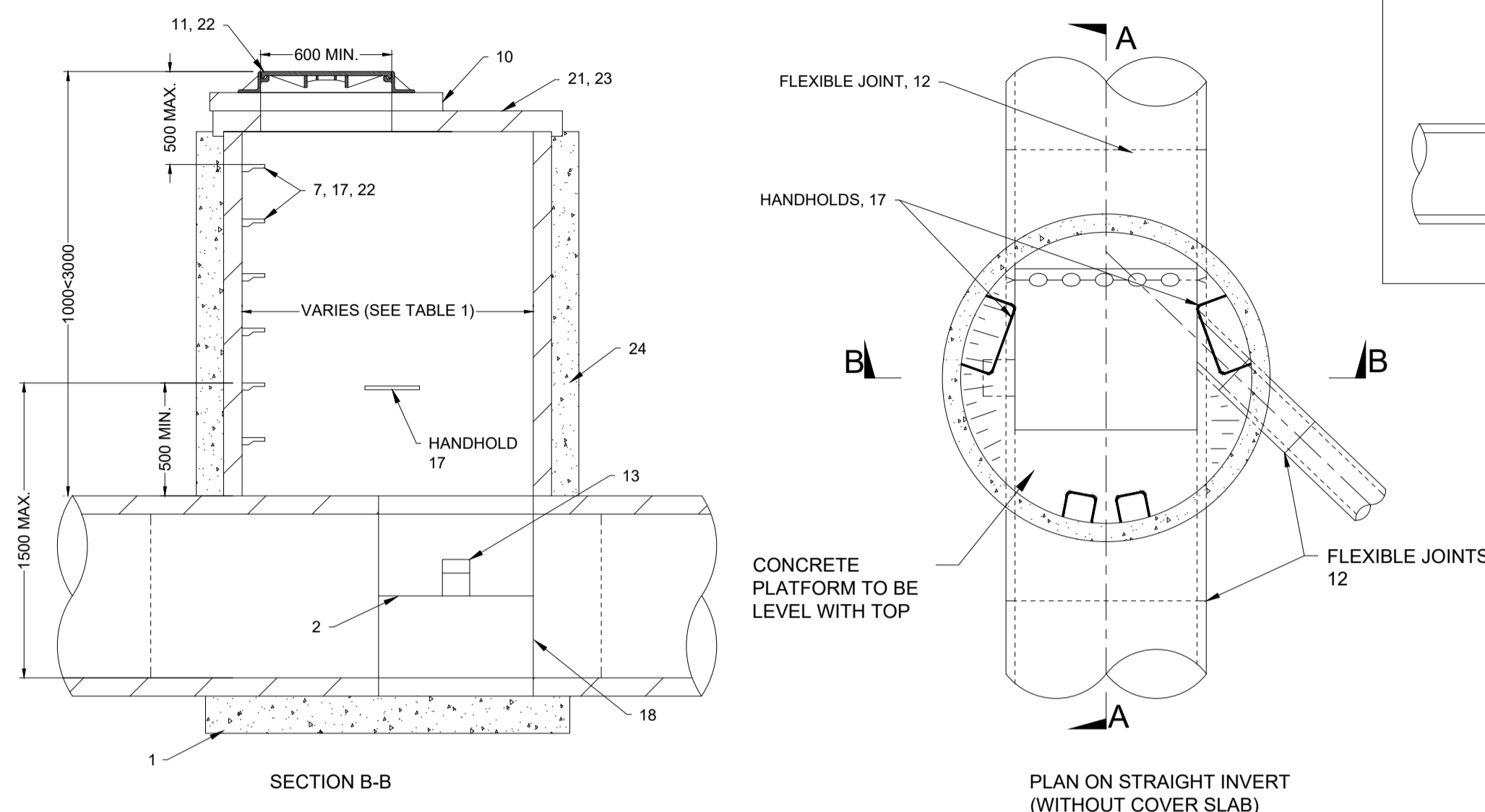
Tel: +353 1513 7120
 Website: www.cundall.com

Drawing No.
ATR-CDL-ZZ-XX-D-C-16001

Based on:	
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

- NOTES:**
- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN CODE OF PRACTICE FOR DRAINAGE WORKS.
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 - ALL FOUL MANHOLES TO BE SEALED WATERTIGHT.
 - ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B
 - FOR PIPE DIAMETER >750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE = PIPE SIZE + 1 METRE + 300mm
 - DIST. FROM TOP RUNG OF THE LADDER TO GROUND LEVEL MUST BE A MAXIMUM OF 500mm



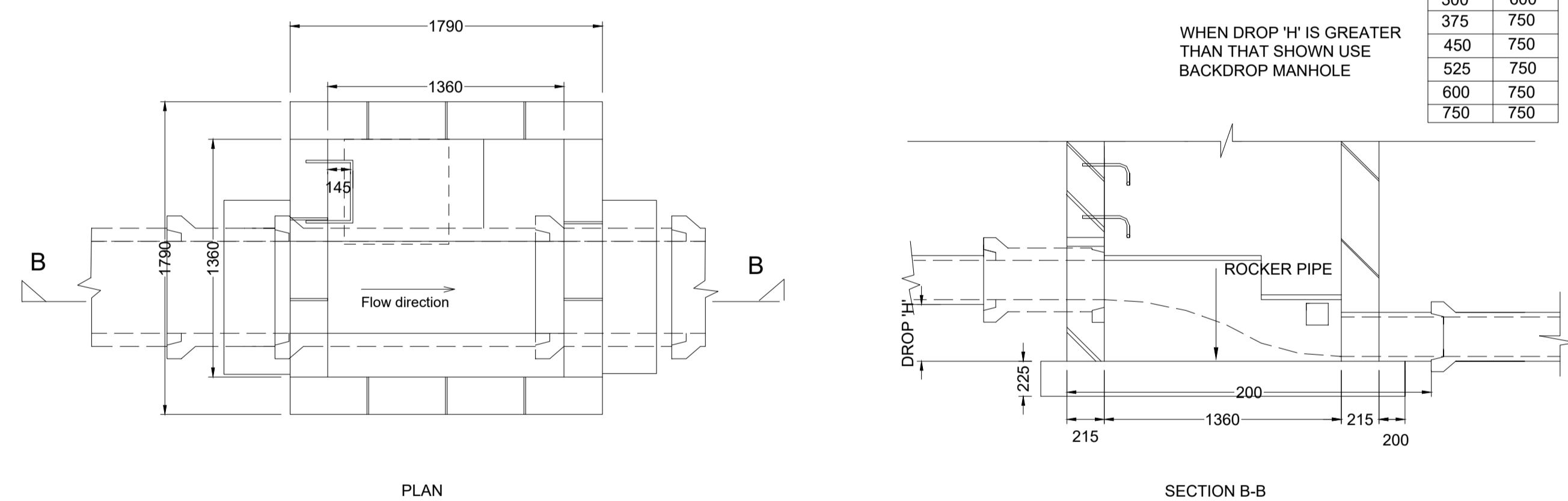
MAXIMUM PIPE DIAMETER	CHAMBER INTERNAL DIAMETER
A	B
225	1200
300	1200
375	1200
450	1200
525	1200
600	1200
675	1350
750	1500
1050	2100
1200	2100

TABLE 1:

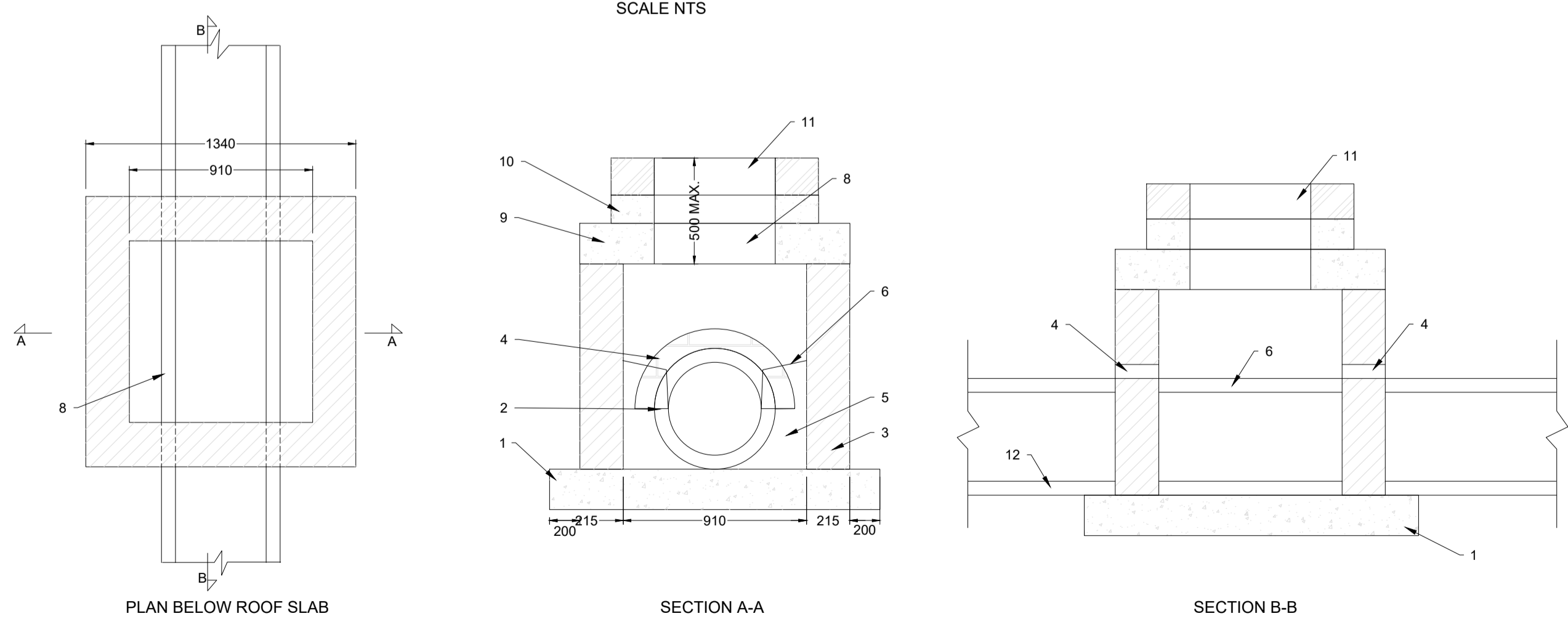
TYPICAL MANHOLE DETAIL - TYPE J
 MAX DEPTH FROM GROUND LEVEL TO SOFFIT OF PIPE FROM 1.00m TO 3.00m
 SCALE NTS

DRAWING SPECIFIC NOTES

- 225mm thick Cl. 20N/20mm Mass Concrete Foundations.
- Preformed half circle channel pipes. The pipeline may, where practicable, be laid through the manhole and the crown cut out to full diameter, provided flexible joints are situated on each side no further than 600mm from the inner face of manhole wall.
- Manhole construction.
 - For Surface Water Manholes high-density blocks to Cl.S10 of IS.20 Part 1:1987 or Cl. 30N/20mm insitu concrete.
 - Block work shall be bedded and jointed using mortar to IS406. Beds and vertical joints shall be completely filled with mortar as the blocks are laid.
 - Joints shall be flush pointed as the work proceeds.
 - All Foul Manholes must be faced in solid Engineering Brick (min. class A or B), or insitu concrete for 1 metre above Benching Level.
 - Brick to be bonded to block work using English Garden Wall Bond.
- Relieving arch formed by 215x103x65 solid engineering brick Class A or B as per drawing. Relieving arches used in brick or block work manholes extend over full thickness of wall. A Double Arch is to be formed for pipe diameters greater than 600mm.
- Benching and pipe channel pipe surround - Cl. 20/20 concrete.
- Benching finished in 2:1 sand-cement mortar with a smooth trowel finish, at 1 in 30 slope towards channel.
- Standard rungs at 300c/c vertically and galvanized to the latest version of B.S. 729 or equivalent. Note: Steps Irons are not acceptable.
- 600mm square open in roof slab.
- Precast R.C. Roof Slab shall be 200mm thick in Class 30N/20mm, with 40mm cover to steel.
- 1 to 2 courses of solid engineering bricks Cl.B to I.S.91:1983 set in 1:3 (cement and mortar).
- Class D400 or E600 manhole cover and frame to IS/EN 124. 150mm deep frame for roads and 100mm deep for footpaths and green areas. Non-rock design, closed keyways, manufactured from spheroidal graphite cast iron (ductile cast iron), 600 x 600 (600diam.) clear opening, cover and frame coated in bitumen or other approved material, cover to have a minimum mass of 140kg/m², frame bearing area shall be 80,000mm² min, frames shall be designed to prevent covers falling into manhole. Frames shall be bedded on approved mortar to manufactures instructions.
- Short length pipe and pipe joint external to manhole shall not exceed 600mm from the inner face of manhole wall.
- Toe holes of 230mm minimum depth and galvanized steel safety railings to be provided in benching of sewers greater than 525mm diameter and depth to invert >3m for access to invert.
- A safety chain is to be provided on pipes that exceed 450mm in diameter. Mild safety chain shall be 10mm nominal size grade M(H) non-calibrated chain, type 1, complying with B.S.4942 Part 2 or equivalent.
- When depth of manholes to invert is greater than 3.0m ladders shall be used instead of rungs to B.S.4211 or equivalent except that stringers should be not less than 65 x 12mm in section and rungs 25mm in diameter. Fixed ladders should meet the dimensional requirements of B.S.4211 or equivalent.
- Ladder stringers should be adequately supported from the manhole wall at intervals of not more than 2.0m stringers should be bolted to cleats to facilitate renewal.
- All ladders, rungs, handrails, safety chains etc shall be hot dip galvanized to B.S.729 or equivalent.
- Pipe should be cut flush with the inside surface of the manhole wall so that the channel extends the full length of the manhole (except for precast manholes).
- Position of 910 square open in intermediate roof slab.
 - All manholes shall be watertight to the satisfaction of the Engineer.
 - Formwork to Reinforced Concrete and Mass Concrete shall comply with Class 2, Section 6.2.7, B.S.8110: Part 1: 1997.
 - Finish to the top of slabs shall comply with Type A, Section 6.2.7, B.S.8110: Part 1:1997.
 - Plan dimensions of manholes are based on block work having a coordinating size of 450 x 225 x 100.
 - Manholes are designed to B.S.8005 and wall thickness to L.S.325 block work design code taking granular fill pressure and H.B. surcharge.
 - Reinforcement to slabs to Engineers details.
- For manholes >3m depth to invert use 30N/20mm insitu concrete. Reinforcing mesh ref. A393 @ 6.16kg/m to be fixed at midpoint of wall. Additional reinforcement to be supplied over pipe crown.
- For Precast Manholes, Chamber walls and cover slab to be constructed to IS EN 1917 and IS 420 2004
- Manhole Openings to be situated furthest from the nearest Carriageway. Manhole steps / access to be positioned to allow viewing of oncoming traffic.
- For bedding and sealing of Chamber rings, the top ring (to Precast cover slab) and bottom ring to be bedded with cement mortar. For intermediate rings, joints to be sealed with approved pre-formed jointing strip.
- Precast Manholes to be surrounded with a minimum of 150mm thick Grade C20/40 concrete



TYPE F MANHOLE (RAMP)
 SCALE NTS



TYPICAL MANHOLE DETAIL - TYPE A
 MAX DEPTH FROM GROUND LEVEL TO SOFFIT LESS THAN 1.0m
 SCALE NTS

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
DRAINAGE DETAILS SHEET 2

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805 Scale AS SHOWN

CUNDALL

2 Dawson Street, Dublin 2, D02 VK75

Tel: +353 1513 7120 Website: www.cundall.com

Drawing No. **ATR-CDL-ZZ-XX-D-C-16002**

ACCEPTABLE FILL MATERIALS: STORMTECH MC-3500 CHAMBER SYSTEMS

A	B	C	D	E	
1	MATERIAL LOCATION		DESCRIPTION	AASHTO MATERIAL CLASSIFICATIONS	COMPACTION / DENSITY REQUIREMENT
2	D	FINAL FILL: FILL MATERIAL FOR LAYER 'D' STARTS FROM THE TOP OF THE 'C' LAYER TO THE BOTTOM OF FLEXIBLE PAVEMENT OR UNPAVED FINISHED GRADE ABOVE. NOTE THAT PAVEMENT SUBBASE MAY BE PART OF THE 'D' LAYER	ANY SOIL/ROCK MATERIALS, NATIVE SOILS, OR PER ENGINEER'S PLANS. CHECK PLANS FOR PAVEMENT SUBGRADE REQUIREMENTS.	N/A	PREPARE PER SITE DESIGN ENGINEER'S PLANS. PAVED INSTALLATIONS MAY HAVE STRINGENT MATERIAL AND PREPARATION REQUIREMENTS.
3	C	INITIAL FILL: FILL MATERIAL FOR LAYER 'C' STARTS FROM THE TOP OF THE EMBEDMENT STONE (B' LAYER) TO 24" (600 mm) ABOVE THE TOP OF THE CHAMBER. NOTE THAT PAVEMENT SUBBASE MAY BE A PART OF THE 'C' LAYER.	GRANULAR WELL-GRADED SOIL/AGGREGATE MIXTURES, <35% FINES OR PROCESSED AGGREGATE. MOST PAVEMENT SUBBASE MATERIALS CAN BE USED IN LIEU OF THIS LAYER.	AASHTO M145* A-1, A-2-4, A-3 OR AASHTO M43* 3, 357, 4, 467, 5, 56, 57, 6, 67, 68, 7, 78, 8, 89, 9, 10	BEGIN COMPACTIONS AFTER 24" (600 mm) OF MATERIAL OVER THE CHAMBERS IS REACHED. COMPACT ADDITIONAL LAYERS IN 12" (300 mm) MAX LIFTS TO A MIN. 95% PROCTOR DENSITY FOR WELL GRADED MATERIAL AND 95% RELATIVE DENSITY FOR PROCESSED AGGREGATE MATERIALS.
4	B	EMBEDMENT STONE: FILL SURROUNDING THE CHAMBERS FROM THE FOUNDATION STONE (A' LAYER) TO THE 'C' LAYER ABOVE.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE*	AASHTO M43* 3, 357, 4, 467, 5, 56, 57	NO COMPACTION REQUIRED.
5	A	FOUNDATION STONE: FILL BELOW CHAMBERS FROM THE SUBGRADE UP TO THE FOOT (BOTTOM) OF THE CHAMBER.	CLEAN, CRUSHED, ANGULAR STONE OR RECYCLED CONCRETE*	AASHTO M43* 3, 357, 4, 467, 5, 56, 57	PLATE COMPACT OR ROLL TO ACHIEVE A FLAT SURFACE.2,3

PLEASE NOTE:

- THE LISTED AASHTO DESIGNATIONS ARE FOR GRADATIONS ONLY. THE STONE MUST ALSO BE CLEAN, CRUSHED, ANGULAR. FOR EXAMPLE, A SPECIFICATION FOR #4 STONE WOULD STATE: "CLEAN, CRUSHED, ANGULAR NO. 4 (AASHTO M43) STONE".
- STORMTECH COMPACTION REQUIREMENTS ARE MET FOR 'A' LOCATION MATERIALS WHEN PLACED AND COMPACTED IN 9" (230 mm) (MAX) LIFTS USING TWO FULL COVERAGES WITH A VIBRATORY COMPACTOR.
- WHERE INFILTRATION SURFACES MAY BE COMPROMISED BY COMPACTION, FOR STANDARD DESIGN LOAD CONDITIONS, A FLAT SURFACE MAY BE ACHIEVED BY RAKING OR DRAGGING WITHOUT COMPACTION EQUIPMENT. FOR SPECIAL LOAD DESIGNS, CONTACT STORMTECH FOR COMPACTION REQUIREMENTS.
- ONCE LAYER 'C' IS PLACED, ANY SOIL/MATERIAL CAN BE PLACED IN LAYER 'D' UP TO THE FINISHED GRADE. MOST PAVEMENT SUBBASE SOILS CAN BE USED TO REPLACE THE MATERIAL REQUIREMENTS OF LAYER 'C' OR 'D' AT THE SITE DESIGN ENGINEER'S DISCRETION.
- WHERE RECYCLED CONCRETE AGGREGATE IS USED IN LAYERS 'A' OR 'B' THE MATERIAL SHOULD ALSO MEET THE ACCEPTABILITY CRITERIA OUTLINED IN TECHNICAL NOTE 6.20 "RECYCLED CONCRETE STRUCTURAL BACKFILL".

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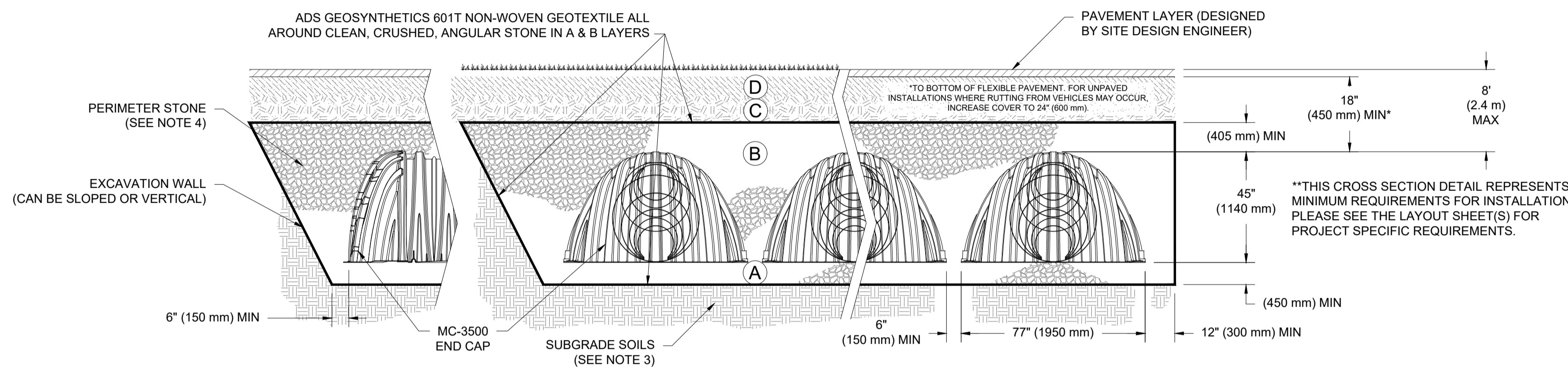
A1

Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

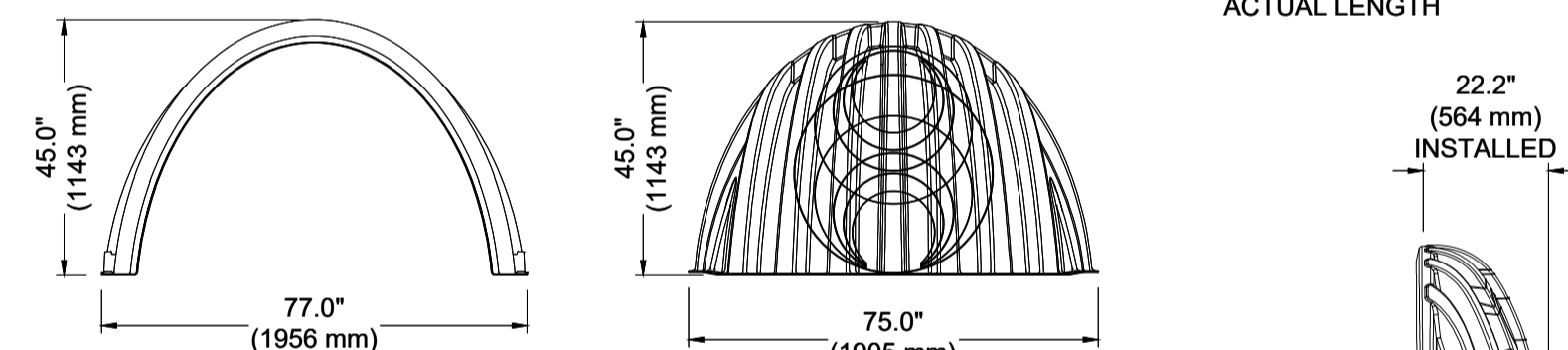
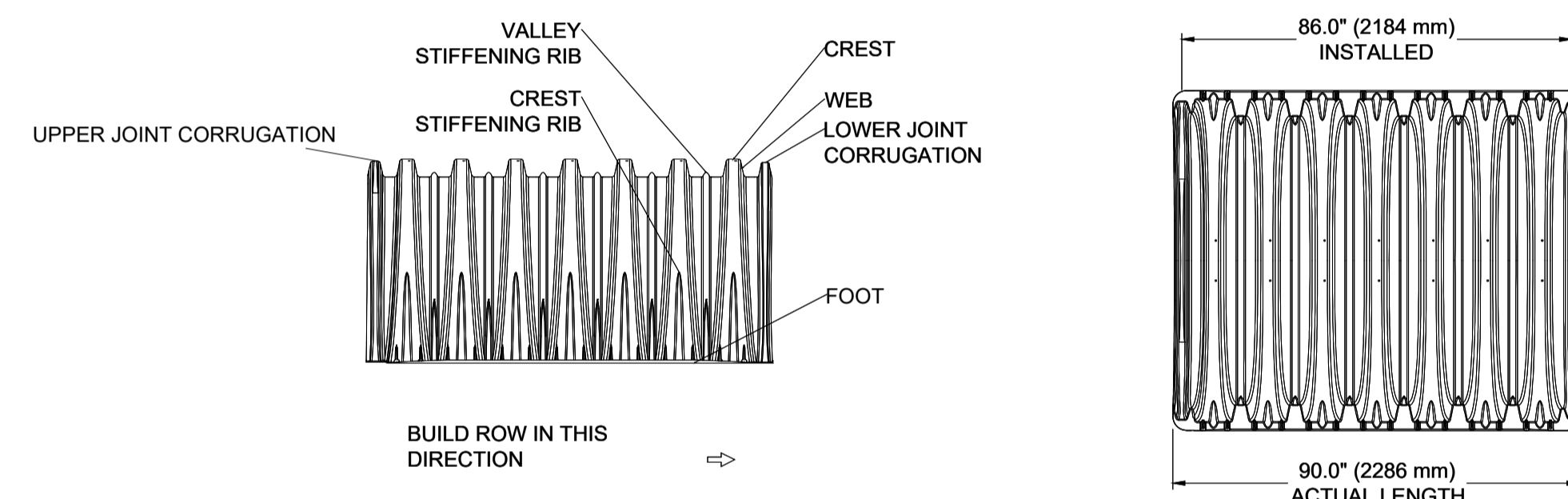
THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE GREATER DUBLIN CODE OF PRACTICE FOR DRAINAGE WORKS.
- ALL DIMENSIONS IN METRES UNLESS SPECIFIED OTHERWISE.
- ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR.
- ALL LEVELS ARE TO ORDINANCE DATUM (MALIN HEAD).
- ALL TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT SHALL COMPLY FULLY WITH THE CONTRACT SPECIFICATION CLAUSE 117.
- THE CONTRACTOR MUST LIAISE DIRECTLY WITH KILDARE COUNTY COUNCIL AND UISCE ÉIREANN AS DIRECTED IN THE WORKS REQUIREMENTS.
- ALL VEHICULAR & OPERATIONAL ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT PLAN.
- CONTRACTOR SHALL EMPLOY THE SERVICES OF AN APPROVED SURVEY COMPANY TO ESTABLISH THE GRID IDENTIFIED.
- ALL AGGREGATES PROPOSED FOR USE ON THIS SCHEME SHALL MEET FULLY THE REQUIREMENTS OF THE CONTRACT SPECIFICATION AND IN ADDITION THE REQUIREMENTS STATED IN STANDARD RECOMMENDATION S.R. 21-2014 GUIDANCE ON THE USE OF I.S. EN 13242:2002 +A1:2007 - AGGREGATES FOR UNBOUND AND HYDRAULICALLY BOUND MATERIALS FOR USE IN CIVIL ENGINEERING WORK AND ROAD CONSTRUCTION.
- ALL FOUL MANHOLES TO BE SEALED WATERTIGHT.
- ALL BRICK TO BE SOLID ENGINEERING BRICK CLASS A OR B
- FOR PIPE DIAMETER >750mm USE MANHOLE WITH INTERNAL DIAMETER SIZE = PIPE SIZE + 1 METRE + 300mm
- DIST. FROM TOP RUNG OF THE LADDER TO GROUND LEVEL MUST BE A MAXIMUM OF 500mm



- CHAMBERS SHALL MEET THE REQUIREMENTS OF ASTM F2418, "STANDARD SPECIFICATION FOR POLYPROPYLENE (PP) CORRUGATED WALL STORMWATER COLLECTION CHAMBERS" CHAMBER CLASSIFICATION 45x76 DESIGNATION SS.
- MC-3500 CHAMBERS SHALL BE DESIGNED IN ACCORDANCE WITH ASTM F2787 "STANDARD PRACTICE FOR STRUCTURAL DESIGN OF THERMOPLASTIC CORRUGATED WALL STORMWATER COLLECTION CHAMBERS".
- THE SITE DESIGN ENGINEER IS RESPONSIBLE FOR ASSESSING THE BEARING RESISTANCE (ALLOWABLE BEARING CAPACITY) OF THE SUBGRADE SOILS AND THE DEPTH OF FOUNDATION STONE WITH CONSIDERATION FOR THE RANGE OF EXPECTED SOIL MOISTURE CONDITIONS.
- PERIMETER STONE MUST BE EXTENDED HORIZONTALLY TO THE EXCAVATION WALL FOR BOTH VERTICAL AND SLOPED EXCAVATION WALLS.
- REQUIREMENTS FOR HANDLING AND INSTALLATION:
 - TO MAINTAIN THE WIDTH OF CHAMBERS DURING SHIPPING AND HANDLING, CHAMBERS SHALL HAVE INTEGRAL, INTERLOCKING STACKING LUGS.
 - TO ENSURE A SECURE JOINT DURING INSTALLATION AND BACKFILL, THE HEIGHT OF THE CHAMBER JOINT SHALL NOT BE LESS THAN 3".
 - TO ENSURE THE INTEGRITY OF THE ARCH SHAPE DURING INSTALLATION, a) THE ARCH STIFFNESS CONSTANT SHALL BE GREATER THAN OR EQUAL TO 450 LBS/FT²%. THE ASC IS DEFINED IN SECTION 6.2.8 OF ASTM F2418. AND b) TO RESIST CHAMBER DEFORMATION DURING INSTALLATION AT ELEVATED TEMPERATURES (ABOVE 73° F / 23° C), CHAMBERS SHALL BE PRODUCED FROM REFLECTIVE GOLD OR YELLOW COLORS.



NOMINAL CHAMBER SPECIFICATIONS	SIZE (W X H X INSTALLED LENGTH)	77.0" X 45.0" X 86.0"	(1956 mm X 1143 mm X 2184 mm)
CHAMBER STORAGE		109.9 CUBIC FEET	(3.11 m ³)
MINIMUM INSTALLED STORAGE*		175.0 CUBIC FEET	(4.96 m ³)
WEIGHT		134 lbs.	(60.8 kg)

NOMINAL END CAP SPECIFICATIONS	SIZE (W X H X INSTALLED LENGTH)	75.0" X 45.0" X 22.2"	(1905 mm X 1143 mm X 564 mm)
END CAP STORAGE		14.9 CUBIC FEET	(0.42 m ³)
MINIMUM INSTALLED STORAGE*		45.1 CUBIC FEET	(1.28 m ³)
WEIGHT		49 lbs.	(22.2 kg)

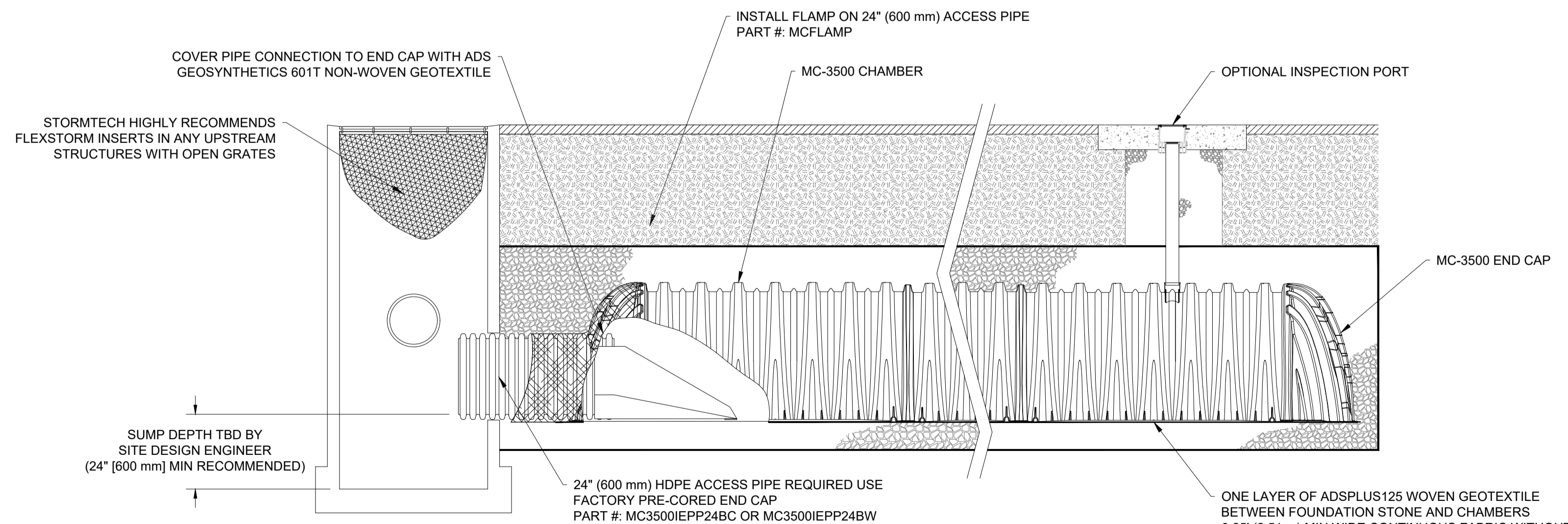
*ASSUMES 12" (305 mm) STONE ABOVE, 9" (229 mm) STONE FOUNDATION, 6" SPACING BETWEEN CHAMBERS, 6" (152 mm) STONE PERIMETER IN FRONT OF END CAPS AND 40% STONE POROSITY

STUBS AT BOTTOM OF END CAP FOR PART NUMBERS ENDING WITH "B"
STUBS AT TOP OF END CAP FOR PART NUMBERS ENDING WITH "T"
END CAPS WITH A WELDED CROWN PLATE END WITH "C"
END CAPS WITH A PREFABRICATED WELDED STUB END WITH "W"

PART #	STUB	B	C
MC3500IEPP06T	6" (150 mm)	33.21" (844 mm)	---
MC3500IEPP06B	---	---	0.66" (17 mm)
MC3500IEPP08T	8" (200 mm)	31.16" (791 mm)	---
MC3500IEPP08B	---	---	0.81" (21 mm)
MC3500IEPP10T	10" (250 mm)	29.04" (738 mm)	---
MC3500IEPP10B	---	---	0.93" (24 mm)
MC3500IEPP12T	12" (300 mm)	26.36" (670 mm)	---
MC3500IEPP12B	---	---	1.35" (34 mm)
MC3500IEPP15T	15" (375 mm)	23.39" (594 mm)	---
MC3500IEPP15B	---	---	1.50" (38 mm)
MC3500IEPP18TC	---	20.03" (509 mm)	---
MC3500IEPP18TW	---	---	---
MC3500IEPP18BC	18" (450 mm)	---	1.77" (45 mm)
MC3500IEPP18BW	---	---	---
MC3500IEPP24TC	---	14.48" (368 mm)	---
MC3500IEPP24TW	24" (600 mm)	---	---
MC3500IEPP24BC	---	---	2.06" (52 mm)
MC3500IEPP24BW	---	---	---
MC3500IEPP30BC	30" (750 mm)	---	2.75" (70 mm)

NOTE: ALL DIMENSIONS ARE NOMINAL

MC-3500 TECHNICAL SPECIFICATION NTS



MC-3500 ISOLATOR ROW PLUS DETAIL NTS

CUSTOM PRECORED INVERTS ARE AVAILABLE UPON REQUEST. INVENTORIED MANIFOLDS INCLUDE 12-24" (300-600 mm) SIZE ON SIZE AND 15-48" (375-1200 mm) ECCENTRIC MANIFOLDS. CUSTOM INVERT LOCATIONS ON THE MC-3500 END CAP CUT IN THE FIELD ARE NOT RECOMMENDED FOR PIPE SIZES GREATER THAN 10" (250 mm). THE INVERT LOCATION IN COLUMN 'B' ARE THE HIGHEST POSSIBLE FOR THE PIPE SIZE.

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
DRAINAGE DETAILS SHEET 3

Drawing Status
S05 - ISSUED FOR PLANNING

Project No.
1040805

Scale
AS SHOWN

CUNDALL
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Drawing No.
ATR-CDL-ZZ-XX-D-C-16003

Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

- DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
- FOR MORE INFORMATION ON INTERNAL LAYOUTS REFER TO ARCHITECTS DRAWINGS.
- ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES.
- THE CONTRACTOR SHALL SATISFY THEMSELVES AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS AND LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE.
- ALL DIMENSIONS AND LEVELS ARE IN METERS AND ARE RELATED TO ORDINANCE DATUM. CO-ORDINATES RELATE TO IRISH NATIONAL GRID.
- ALL WATERMANS VALVES AND FITTINGS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE UISCE ÉIREANN STANDARD DETAILS AND UISCE ÉIREANN CODE OF PRACTICE FOR WATER INFRASTRUCTURE.
- ALL WATERMANS SHALL BE HDPE, PE100, SDR17 TO IS EN 12201 PART 2:2011 AND IS EN12201-3:2011.
- CONNECTION BETWEEN EXISTING AND PROPOSED WATERMANS TO BE CARRIED OUT IN ACCORDANCE WITH UISCE ÉIREANN STANDARD DETAILS STD-W-03 TO STD-W-10.
- ANCHOR BLOCKS TO BE POSITIONED AT DEAD ENDS, TEES, BENDS AND AT EACH SIDE OF HYDRANTS AND VALVES IN ACCORDANCE WITH THE REQUIREMENTS OF UISCE ÉIREANN STANDARD DETAIL STD-W-28 (WATER MAIN THRUST AND SUPPORT BLOCKS. DISMANTLING JOINTS TO BE INSTALLED AT EACH SLUICE VALVE AS PER UISCE ÉIREANN STANDARD DETAIL STD-W-15.
- CONNECTION TO INDIVIDUAL HOUSES IN ACCORDANCE WITH UISCE ÉIREANN STD-W-03.
- INSTALLATION OF SLUICE VALVES, AIR VALVES AND HYDRANTS SHALL BE IN ACCORDANCE WITH UISCE ÉIREANN'S STANDARD DETAILS STD-W-14 TO STD-W-23.
- MARKER POSTS AND PLATES ARE TO BE PROVIDED IN ACCORDANCE WITH UISCE ÉIREANN STANDARD DETAIL STD-W-27.
- CONNECTION TO EXISTING WATERMANS TO BE COORDINATED BY THE CONTRACTOR WITH UISCE ÉIREANN AND/OR THE LOCAL AUTHORITY.
- CONTRACTOR TO LIASE WITH UISCE ÉIREANN AND/OR THE LOCAL AUTHORITY AS REQUIRED REGARDING TESTING, CLEANSING AND STERILISATION OF WATERMANS.
- WATERMANS TO BE PRESSURE TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF UISCE ÉIREANN AND IGN 4-01-03. GUIDE TO TESTING OF PRESSURE PIPES AND FITTINGS FOR USE BY PUBLIC WATER SUPPLIERS, OCTOBER 2015. A FORMAL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER DETAILING THE TEST CARRIED OUT.
- METERS FOR APARTMENTS OR SIMILAR PROPERTIES WILL BE INSTALLED INTERNALLY WITHIN THE PREMISES IN ACCORDANCE WITH THE BUILDING CONTROLS AUTHORITY REQUIREMENTS AND SUBJECT TO REVIEW BY UISCE ÉIREANN.

AS PER CoF CDS23008235 RECEIVED IN DECEMBER 2023 CONNECTION FROM EXISTING WATERMAIN IS FEASIBLE WITHOUT ANY INFRASTRUCTURE UPGRADES. AN UPDATED PCE APPLICATION WAS SUBMITTED IN OCTOBER 2024 TO VERIFY THE CONNECTION IS STILL FEASIBLE. A RESPONSE IS OUTSTANDING AS PER THE DATE OF THIS DRAWING.

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
PROPOSED WATERMAIN LAYOUT

Drawing Status
S05 - ISSUED FOR PLANNING

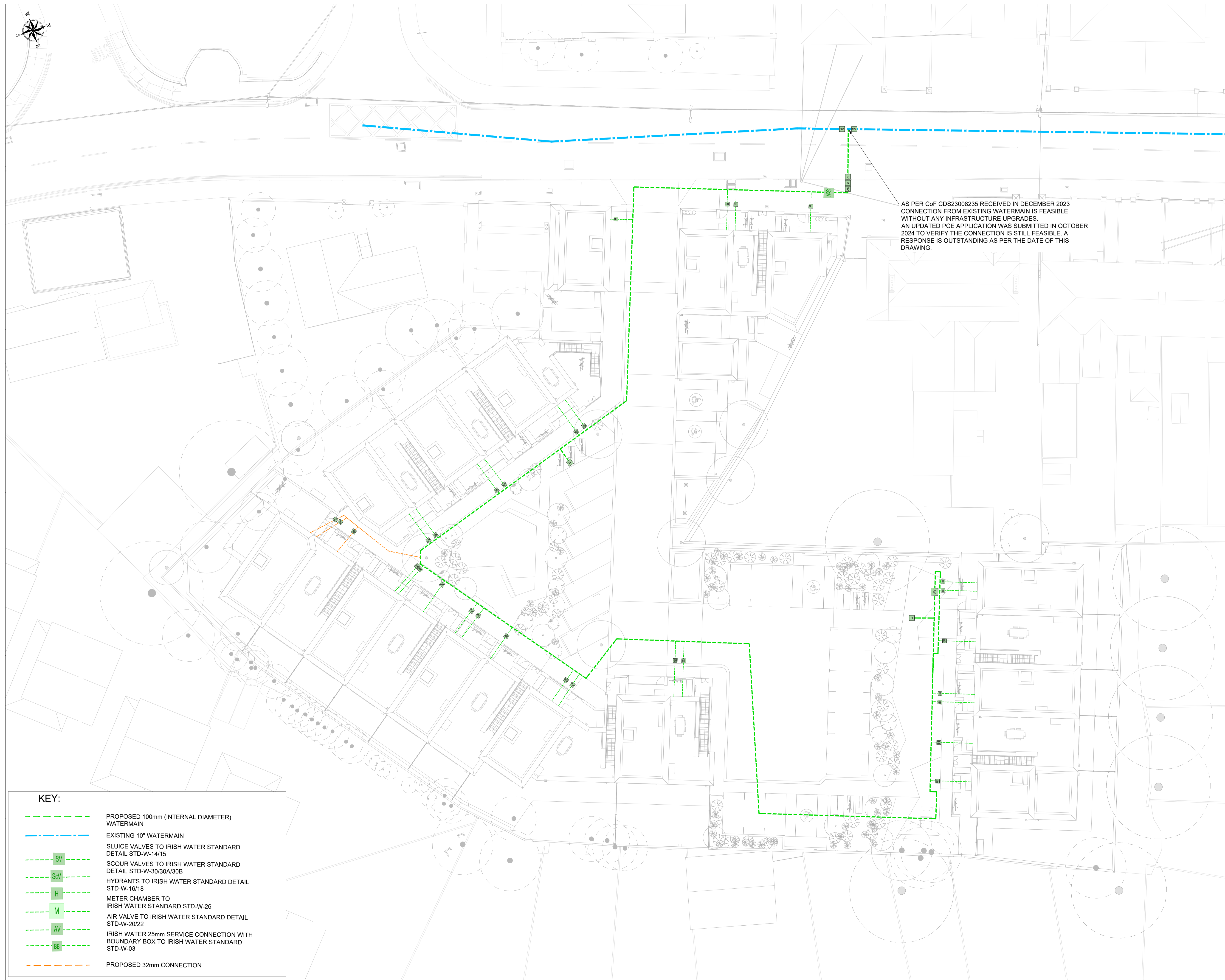
Project No.	Scale
1040805	1:200

CUNDALL

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Drawing No.
ATR-CDL-ZZ-XX-D-C-20001



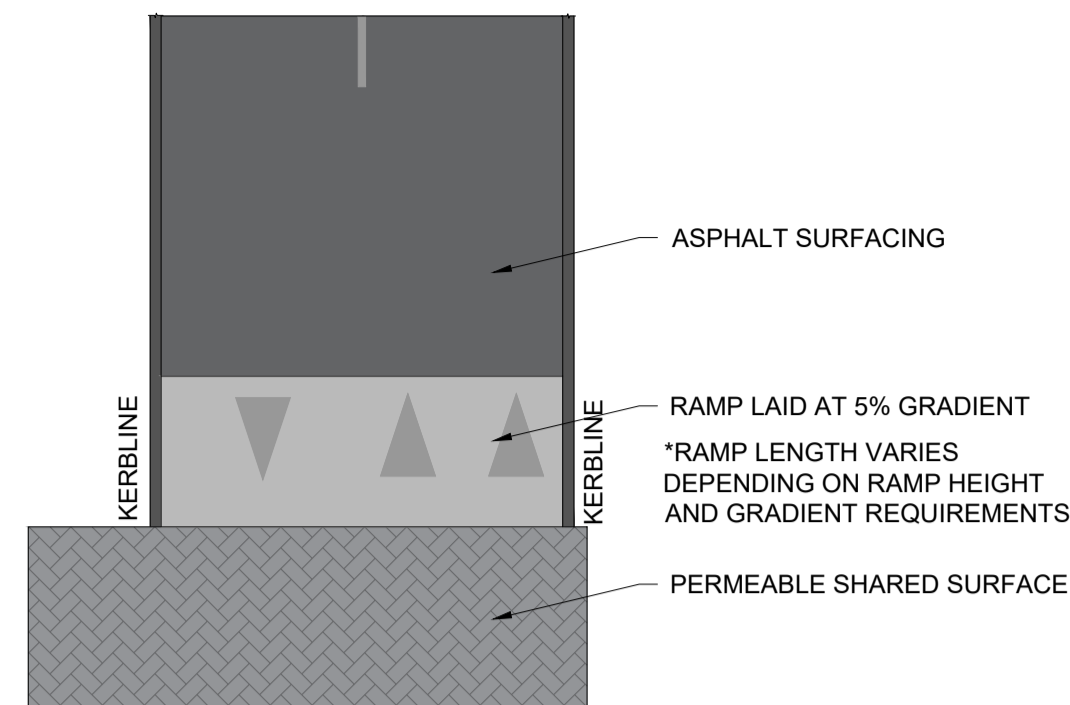
KEY:

- PROPOSED 100mm (INTERNAL DIAMETER) WATERMAIN
- EXISTING 10" WATERMAIN
- SV SLUICE VALVES TO IRISH WATER STANDARD DETAIL STD-W-14/15
- ScV SCOUR VALVES TO IRISH WATER STANDARD DETAIL STD-W-30/30A/30B
- H HYDRANTS TO IRISH WATER STANDARD DETAIL STD-W-16/18
- M METER CHAMBER TO IRISH WATER STANDARD STD-W-26
- AV AIR VALVE TO IRISH WATER STANDARD DETAIL STD-W-20/22
- BB IRISH WATER 25mm SERVICE CONNECTION WITH BOUNDARY BOX TO IRISH WATER STANDARD STD-W-03
- PROPOSED 32mm CONNECTION

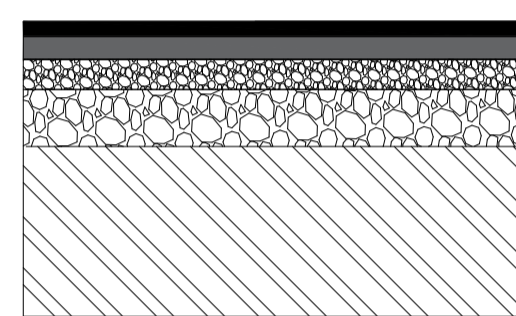
Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

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- NOTES:**
- DRAWING TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
 - CONSTRUCTION BUILD-UP DESIGN SUBJECT TO THE APPROVAL OF KILDARE COUNTY COUNCIL.
 - ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE D.O.T. SPECIFICATION FOR HIGHWAY WORK LATEST VERSION.
 - SUB-BASE DEPTH IS BASED UPON AN ASSUMED CBR TO THE SUB-GRADE OF 3%. IF THE ACTUAL FIGURE FALLS BELOW THIS, ADDITIONAL SUB-BASE WILL HAVE TO BE PROVIDED.
 - TECHNICAL APPROVAL REQUIRED BY KILDARE COUNTY COUNCIL HIGHWAYS DEPARTMENT.

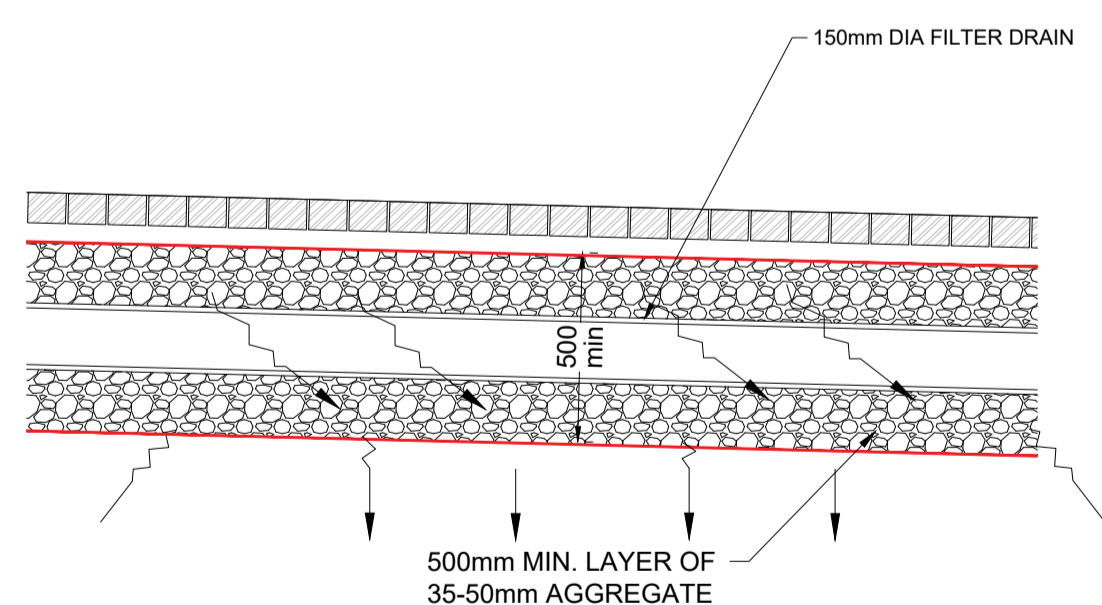


RAISED TABLE DETAIL - PLAN VIEW
SCALE NTS



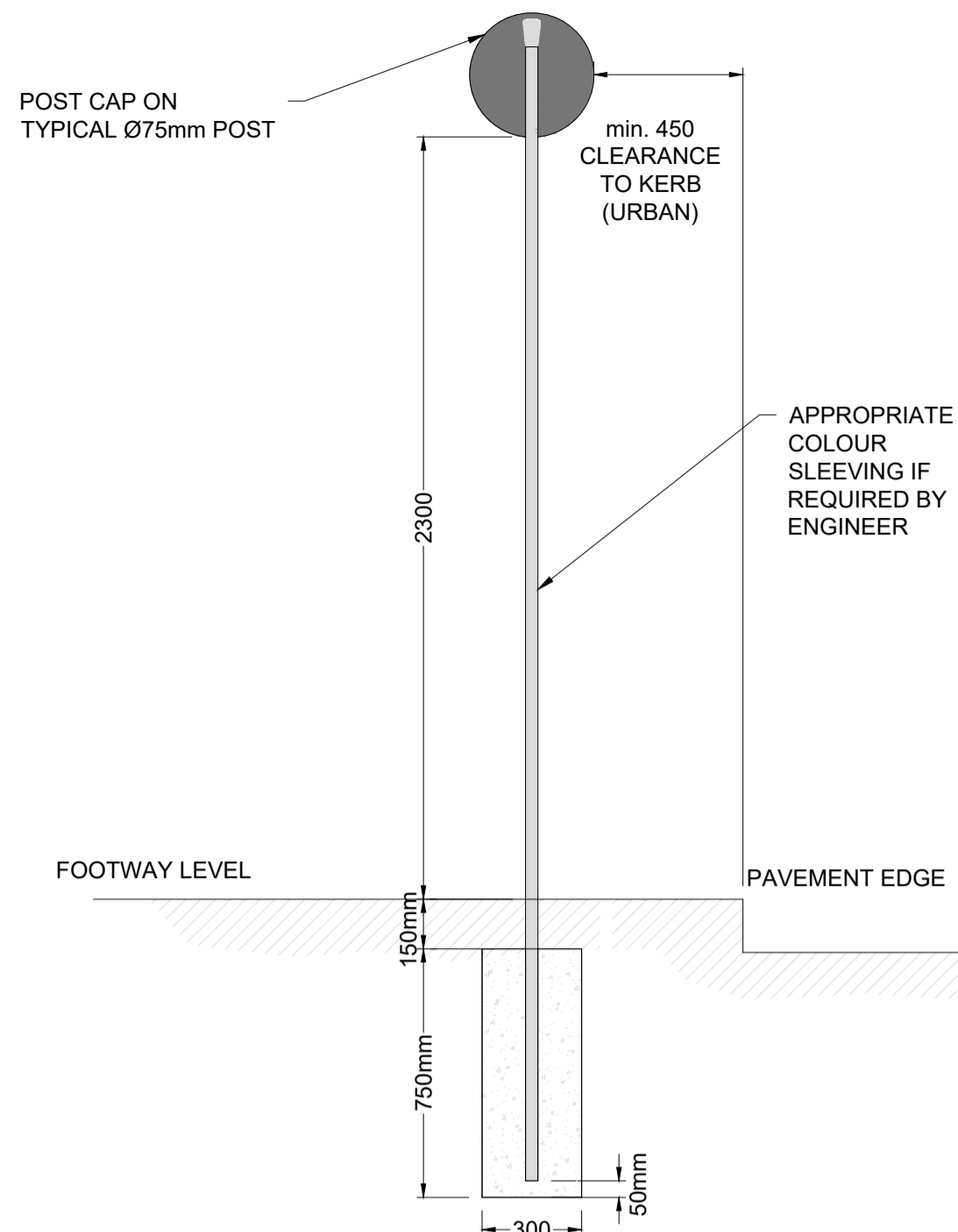
- SURFACE COURSE**
SMA SURF TO IS EN 13108-5 OR HRA TO IS EN 13108-4, 40mm MIN. COMPACTED THICKNESS, 10mm OR 14mm CHIP SIZE
- BINDER COURSE**
AC 20 DENSE BIN TO IS 13108-5, 100mm MIN. COMPACTED THICKNESS, 20mm CHIP SIZE
- BASE COURSE**
AC 32 DENSE BASE TO IS EN 13108-1, 80mm MIN. COMPACTED THICKNESS, 32mm CHIP SIZE
- SUB-BASE**
GRANULAR SUB-BASE MATERIAL TO CLAUSE 808, 150mm MIN. COMPACTED THICKNESS
- CAPPING LAYER**
450mm CLASS 6F2 CAPPING STONE

TYPICAL ASPHALT SURFACING DETAIL
SCALE 1:20

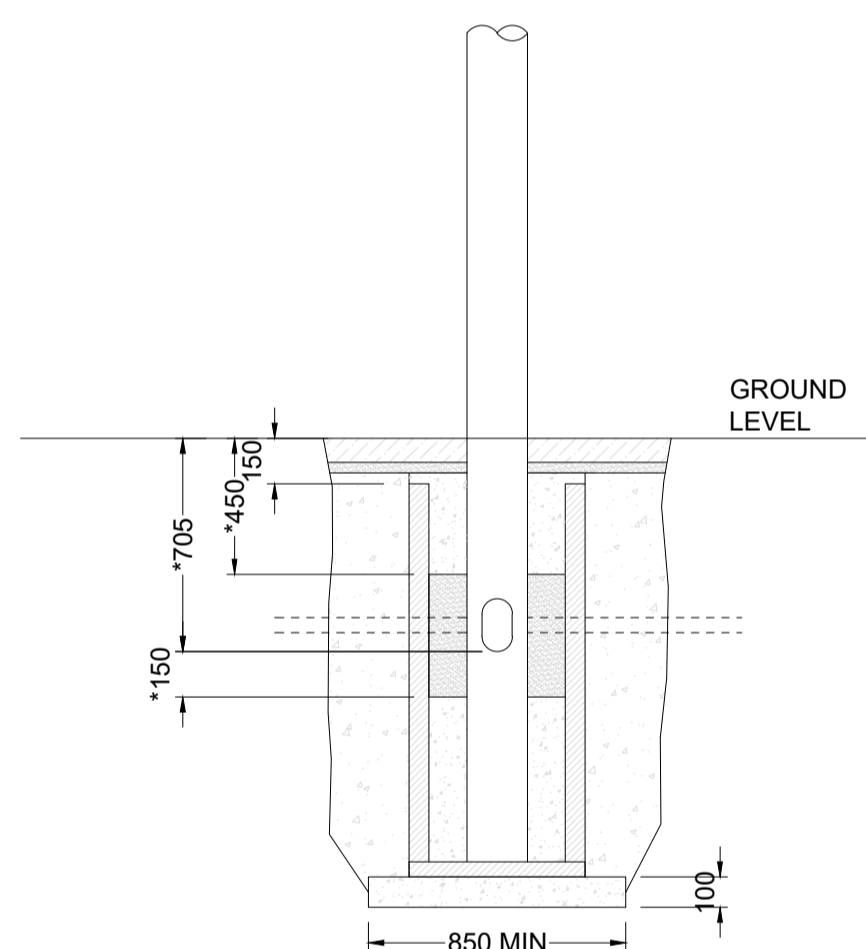


- SURFACE COURSE**
KILSAREN CLIMAPAVE NEWGRANGE OR SIMILAR APPROVED SURFACE MATERIAL TO LANDSCAPE ARCHITECTS SPECIFICATION, APPROVAL & LAYING PATTERN
- BINDER COURSE**
50mm LAYING MATERIAL JOINTING TO MANUFACTURERS SPECIFICATION
- SUB-BASE**
150mm ROAD BASE COURSE CEMENT STABILISED COARSE GRADED AGGREGATE AS CBGM B TO TIL CL 822 OR GRANULAR SUB-BASE MATERIAL TO CLAUSE 808, 150mm MIN. COMPACTED THICKNESS
- CAPPING LAYER**
MIN. 450mm SUB-BASE LAYER 4mm TO 20mm COARSE GRADE CLEAR CRUSHED ROCK TO I.S. EN 13242:2002 (SEE NOTE ON PARTICLE SIZE DISTRIBUTION) ON GEOTEXTILE LAYER TO CLAUSE 609 OR 450mm CLASS 6F2 CAPPING STONE (SUBJECT TO CONSTRUCTION STAGE TESTING) ON TOP OF GEOTEXTILE TO CLAUSE 609.

TYPICAL PERMEABLE SURFACE DETAIL
SCALE 1:20



ROAD SIGN (SINGLE POST)
SCALE 1:20



- NOTE:**
- CONTRACTOR TO AGREE DIMENSIONS AND SETTING OUT WITH EMPLOYERS AGENT
 - *DEPENDANT ON LIGHTING COLUMN SUPPLIED AND MUST BE AGREED WITH THE EMPLOYER'S REPRESENTATIVE.

TYPICAL LAMP FOUNDATION DETAIL
SCALE 1:25

COLUMN HEIGHT	6.0m	8.0m	10.0m	12.0m
FOUNDATION DEPTH (A)	1.5m	1.8m	2.1m	2.4m

SURFACE COURSE
10MM AGGREGATE FORUMALTION MIN. 24mm

BINDER COURSE
40mm DEPTH OF POROUS ASPHALT CONCRETE

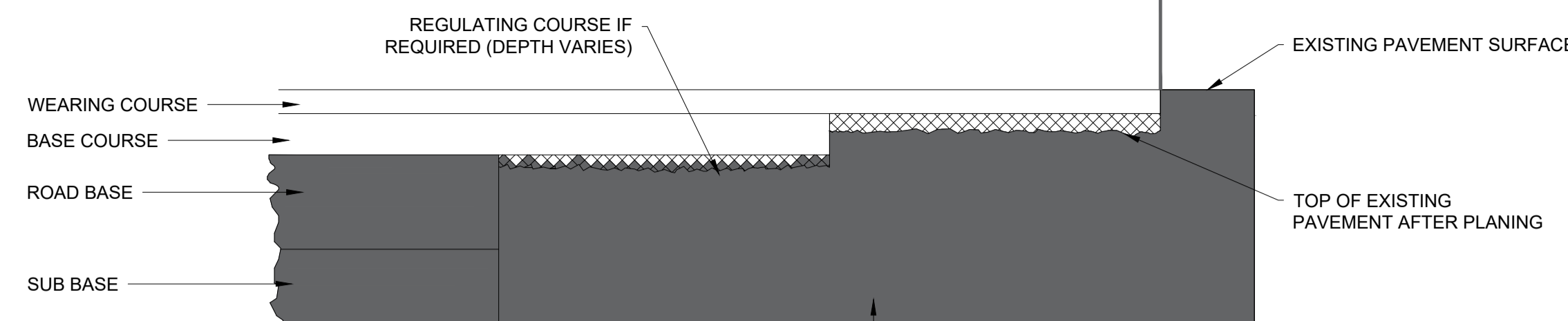
ROAD BASE
100mm MINIMUM DEPTH OF AC32 DENSE BASE 40/60 AND SHALL COMPLY WITH IS EN 13108-7

SUB-BASE
300-500mm DEPTH OF WELL COMPACTED, NON-FROST SUSCEPTIBLE TYPE 3 GRANULAR SUB-BASE MATERIAL 4/20mm GRADED CRUSHED ROCK AGGREGATE THAT COMPLY WITH MANUFACTURERS STANDARDS

GEOTEXTILE MEMBRANE
TERRAN 1000 OR SIMILAR APPROVED

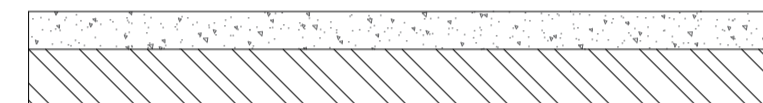
CAPPING LAYER
AS REQUIRED

RESIN BOUND SURFACING DETAIL
SCALE 1:20



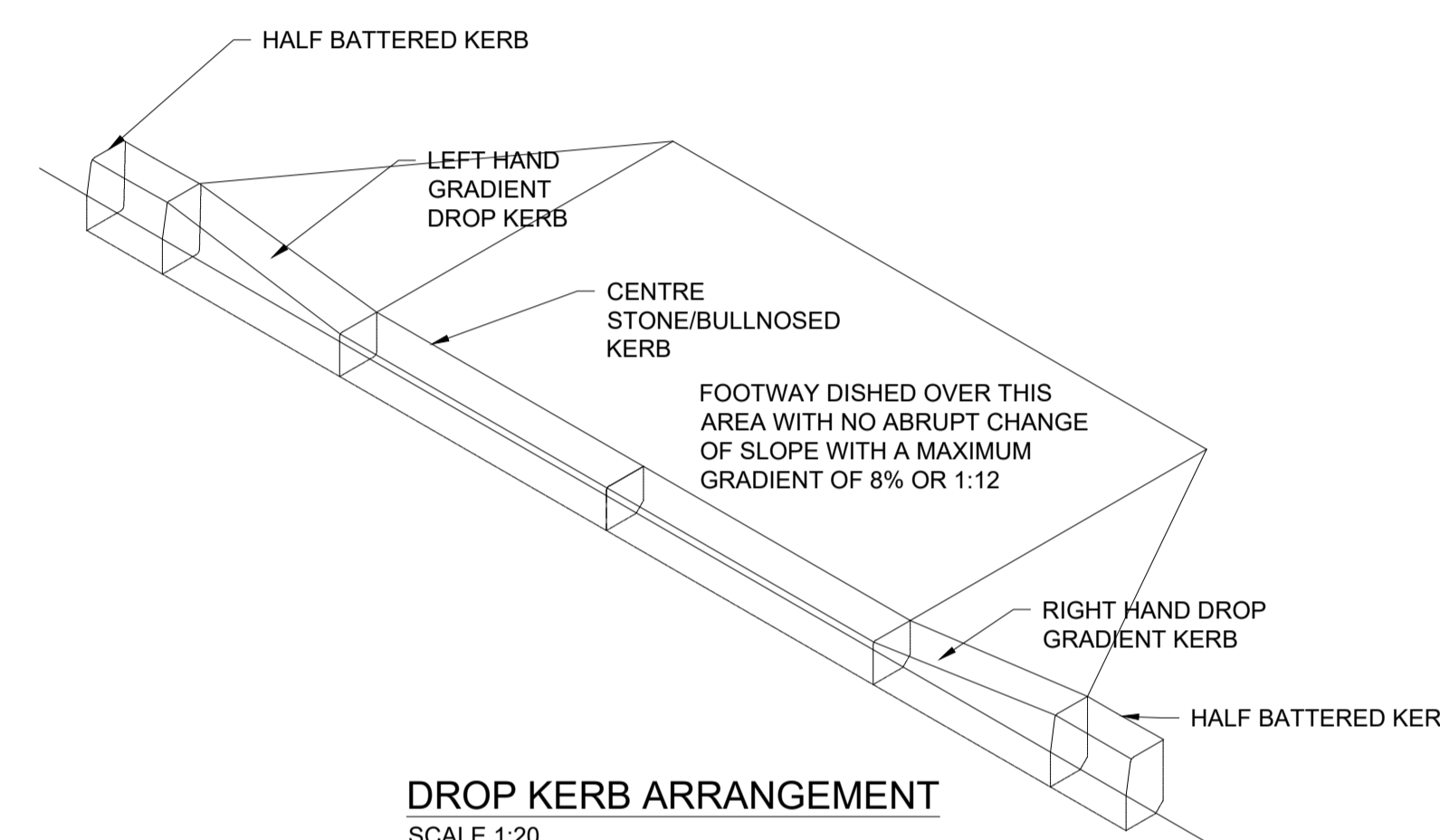
TYPICAL PAVEMENT JOINT DETAIL BETWEEN NEW CONSTRUCTION AND EXISTING ROAD
SCALE NTS

- NOTES:**
- EDGES OF EXISTING CARRIAGEWAY TO BE CUT BACK WITH A ROTARY SAW TO FORM A VERTICAL FACE AND PRIMED WITH BITUMEN PAINT
 - WHERE THE BASECOURSE IS TO BE LAID IN TWO LAYERS, THE UPPER LAYER OF BASE COURSE SHOULD BE STEPPED INTO THE EXISTING PAVEMENT BY 1m MIN. WITH THE BINDER COURSE AND SURFACE COURSE TO BE EACH STEPPED IN A FURTHER 1m MIN. RESPECTIVELY.
 - DRAWING DETAILS TO BE READ IN CONJUNCTION WITH ALL RELEVANT PAVEMENT DRAWINGS AND DETAILS.

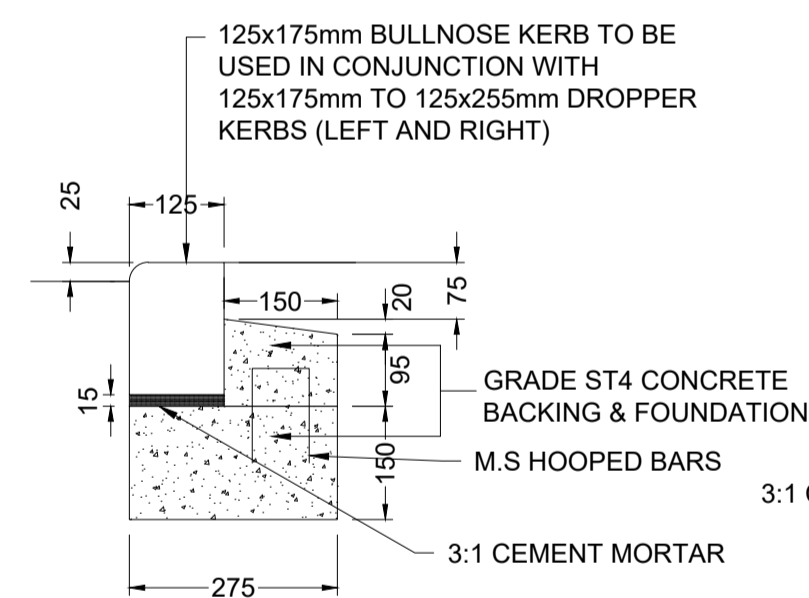


- SURFACE COURSE**
CONCRETE TO CLAUSE 1106, 100mm STANDARD DEPTH INCREASED TO 150mm AT VEHICLE CROSSINGS
- SUB-BASE**
SUB-BASE MATERIAL TO CLAUSE 808, 150mm DEPTH

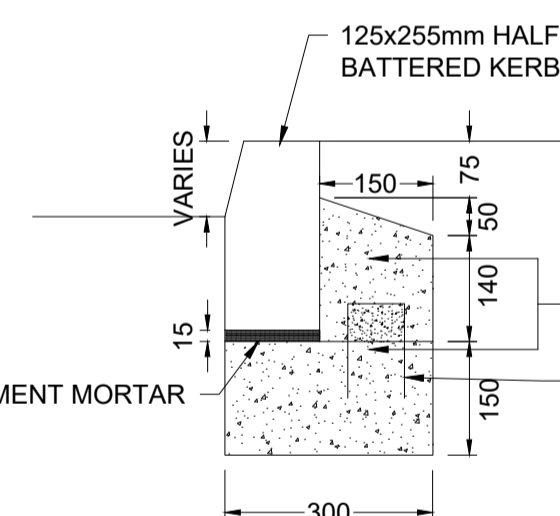
TYPICAL CONCRETE FOOTPATH DETAIL
SCALE 1:20



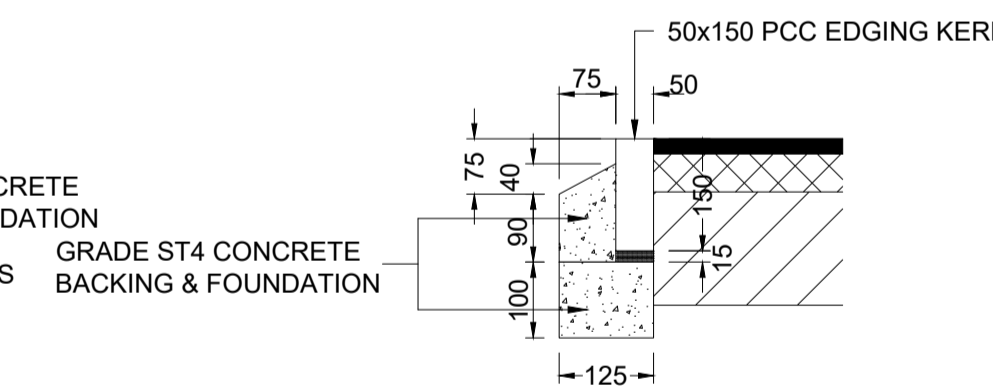
DROP KERB ARRANGEMENT
SCALE 1:20



TYPICAL BULLNOSE KERB DETAIL (BN)
SCALE 1:10

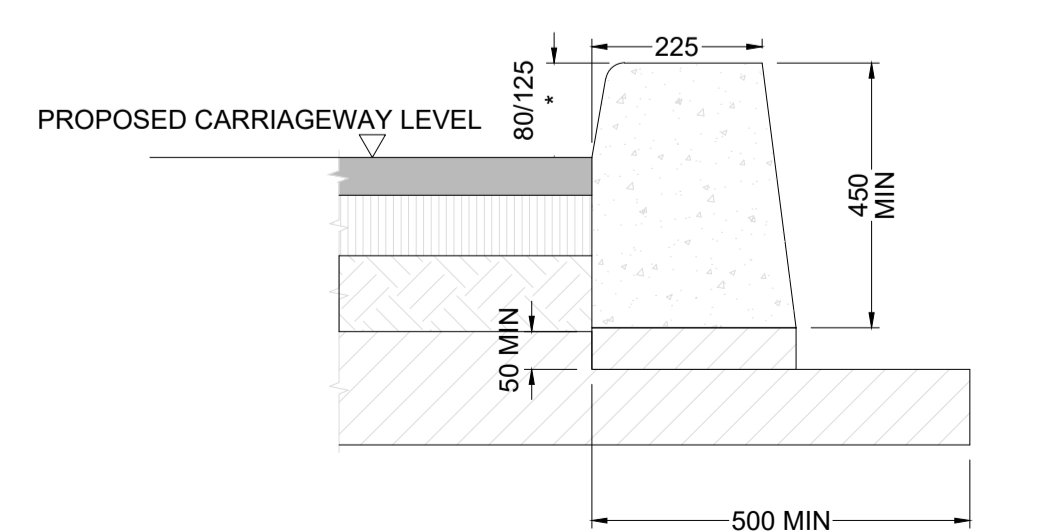


TYPICAL HALF BATTERED KERB DETAIL (BN)
SCALE 1:10



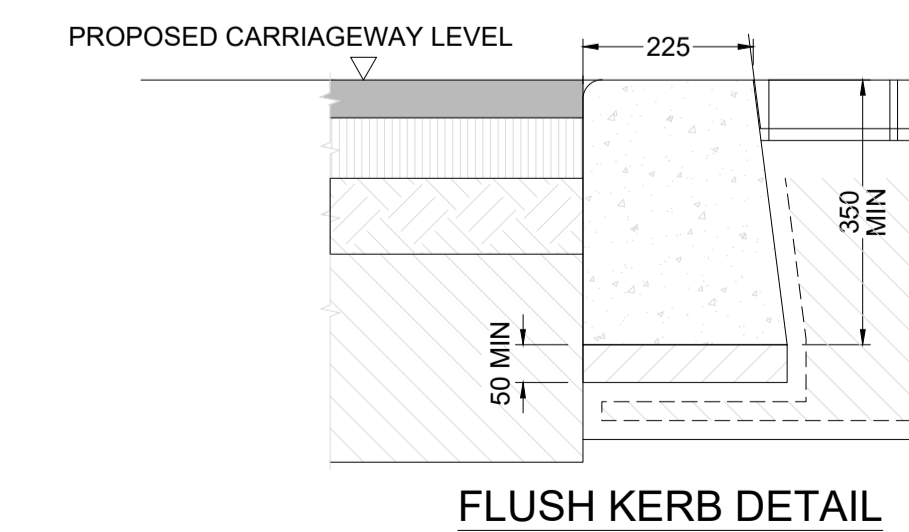
PIN KERB (EF)
SCALE 1:10

- NOTES**
- IN SITU CONCRETE KERBS SHALL COMPLY WITH THE RECOMMENDATIONS OF BS 5931
 - KERBS SHALL BE PROTECTED FROM THE EFFECTS OF ADVERSE WEATHER UNTIL CURED
- *CHECK HEIGHT TO BE 25mm AT VEHICLE ENTRANCES AND 0-6mm AT PEDESTRIAN ENTRANCES
- *PLEASE REFER TO KERBLING LAYOUT FOR KERB UPSTAND HEIGHT



INSITU CONCRETE KERB DETAIL
SCALE 1:10

- NOTES**
- IN SITU CONCRETE KERBS SHALL COMPLY WITH THE RECOMMENDATIONS OF BS 5931
 - KERBS SHALL BE PROTECTED FROM THE EFFECTS OF ADVERSE WEATHER UNTIL CURED



FLUSH KERB DETAIL
SCALE 1:10

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	19/12/24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
AN TRIANTÁN STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
PROPOSED EXTERNAL WORKS DETAILS

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805
Scale AS SHOWN

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Drawing No.
KIL-CDL-ZZ-XX-D-C-55001

Based on:	
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
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Other Drg No.	Rev

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NOTES:

- ALL WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE TII SPECIFICATION FOR ROADWORKS AND KILDARE COUNTY COUNCIL TAKING IN CHARGE STANDARDS.
- ALL DIMENSIONS IN METRES UNLESS SPECIFIED OTHERWISE.
- ALL CO-ORDINATES ARE TO IRISH TRANSVERSE MERCATOR.
- ALL LEVELS ARE TO ORDNANCE DATUM (MALIN HEAD).
- ALL TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT SHALL COMPLY FULLY WITH THE CONTRACT SPECIFICATION CLAUSE 117.
- THE CONTRACTOR MUST LIAISE DIRECTLY WITH KILDARE COUNTY COUNCIL AND UISCE ÉIREANN AS DIRECTED IN THE WORKS REQUIREMENTS.
- ALL VEHICULAR & OPERATIONAL ROUTES WITHIN AND SURROUNDING THE WORKS EXTENTS MUST BE MAINTAINED THROUGHOUT THE WORKS IN ACCORDANCE WITH THE CONTRACTORS APPROVED TEMPORARY TRAFFIC & OPERATIONS MANAGEMENT PLAN.
- CONTRACTOR MUST EMPLOY THE SERVICES OF AN APPROVED SURVEY COMPANY TO ESTABLISH THE GRID IDENTIFIED.
- ALL AGGREGATES PROPOSED FOR USE ON THIS SCHEME SHALL MEET FULLY THE REQUIREMENTS OF THE CONTRACT SPECIFICATION AND IN ADDITION THE REQUIREMENTS STATED IN STANDARD RECOMMENDATION S.R. 21:2014 GUIDANCE ON THE USE OF I.S. EN 13242:2002 +A1:2007 - AGGREGATES FOR UNBOUND AND HYDRAULICALLY BOUND MATERIALS FOR USE IN CIVIL ENGINEERING WORK AND ROAD CONSTRUCTION.
- KILDARE COUNTY COUNCIL SHALL AGREE ALL AND ANY SURFACES FINISHES AND ENGINEER TO BE NOTIFIED.

KEY

- 101.282m PROPOSED LEVELS
- ROAD CENTRE LINE
- 125mm UPSTAND KERB
- 75mm UPSTAND KERB
- 15mm FLUSH KERB
- 15mm FLUSH KERB 400mm WIDE
- TRANSITION KERB

P02	23.01.25	ISSUED FOR PLANNING	CH	LR	GD
P01	18.12.24	PART 8 ISSUE	CH	JC	GD
Issue	Date	Description	By	Chkd	Verfd

Project
**AN TRIANTÁN
 STATION ROAD HOUSING, KILDARE**

Client
KILDARE COUNTY COUNCIL

Title
**PROPOSED SITE LEVELS
 & KERB LAYOUT**

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805 Scale 1:200

CUNDALL

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Drawing No.
ATR-CDL-ZZ-XX-D-C-62001



Based on:	Rev
Architects Drg No.	Rev
Structural Drg No.	Rev
Survey Drg No.	Rev
Other Drg No.	Rev
Other Drg No.	Rev

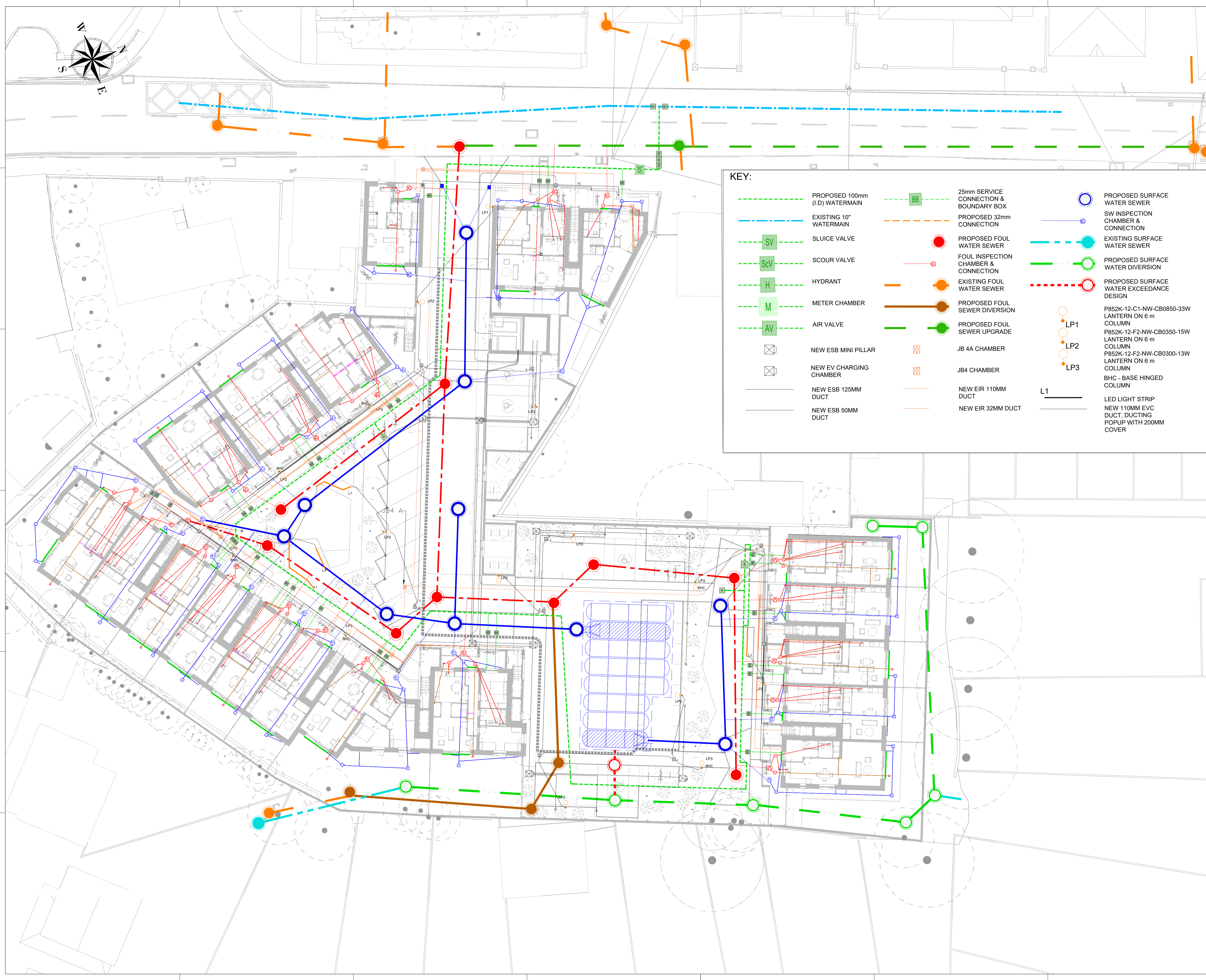
THIS DRAWING SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL AND ENGINEERING SERVICES DRAWINGS, SPECIFICATIONS, SCHEDULES AND PROJECT SPECIFIC DOCUMENTS.

NOTES:

- GENERAL NOTES:
1. ALL DRAWINGS TO BE CHECKED BY CONTRACTOR ON SITE AND ENGINEER INFORMED OF DISCREPANCIES BEFORE WORK COMMENCES.
 2. THE CONTRACTOR SHALL SATISFY HIMSELF AS TO THE ACCURACY OF EXISTING DRAINAGE LEVELS AND LOCATION OF EXISTING SERVICES ON SITE PRIOR TO COMMENCEMENT OF WORKS ON SITE.
 3. ALL DIMENSIONS AND LEVELS ARE IN METERS AND ARE RELATED TO ORDINANCE DATUM. CO-ORDINATES RELATE TO ITM.
 4. ALL FOUL SEWERS, MANHOLES AND CONNECTIONS TO BE CONSTRUCTED IN ACCORDANCE WITH UIJCE ÉIREANN CODE OF PRACTICE FOR WASTEWATER INFRASTRUCTURE AND UIJCE ÉIREANN WASTEWATER INFRASTRUCTURE STANDARD DETAILS.
 5. ALL FOUL SEWER HOUSE CONNECTIONS TO BE MIN 100mmØ UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8kNm/2, MIN. JETTING RESISTANCE OF 180 BAR IN ACCORDANCE WITH UIJCE ÉIREANN SPECIFICATIONS.
 6. ALL PUBLIC FOUL SEWERS TO BE MINIMUM 225mm DIAMETER CLASS H CONCRETE TO IS EN 1916 & IS 6 2004 OR UPVC TO IS EN 1401 2009/2012, STIFFNESS CLASS 8kNm/2, MIN. JETTING RESISTANCE OF 180 BAR IN ACCORDANCE WITH UIJCE ÉIREANN SPECIFICATIONS.
 7. ALL PUBLIC SURFACE WATER SEWERS TO BE MINIMUM 225 DIA. CLASS H CONCRETE TO EN1916 & IS 6 2004 IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 8. ALL SURFACE WATER CONNECTIONS TO BE MINIMUM 150mmØ UPVC TO IS EN 1401 2009/2012 IN ACCORDANCE WITH THE GREATER DUBLIN REGIONAL CODE OF PRACTICE FOR DRAINAGE WORKS.
 9. LOCATION AND INVERT LEVELS OF EXISTING MANHOLES OR OUTFALL POINTS, WHERE APPLICABLE TO BE VERIFIED BY CONTRACTOR PRIOR TO COMMENCEMENT OF DRAINAGE WORKS.
 10. ALL COVER LEVELS TO MATCH FINISHED ROAD/VERGE/FOOTPATH/BICYCLETRACK LEVELS UNLESS OTHERWISE STATED.
 11. CONTRACTOR TO INCLUDE FOR CCTV SURVEY OF ALL SEWERS UPON COMPLETION OF SAME.
 12. ALL FOUL SEWERS TO BE AIR TESTED IN ACCORDANCE WITH UIJCE ÉIREANN SPECIFICATIONS.
 13. WHERE COVERS ARE LOCATED IN GRASS AREAS THEY SHALL BE SURROUNDED BY A CONCRETE PLINTH, 200MM ALL ROUND AND 100MM DEEP FORMED WITH C20/25 CONCRETE, 20MM AGGREGATE SIZE, BEDDED IN CLAUSE 808 MATERIAL.

KEY:

	PROPOSED 100mm (I.D) WATERMAIN		25mm SERVICE CONNECTION & BOUNDARY BOX		PROPOSED SURFACE WATER SEWER
	EXISTING 10" WATERMAIN		PROPOSED 32mm CONNECTION		SW INSPECTION CHAMBER & CONNECTION
	SLUICE VALVE		PROPOSED FOUL WATER SEWER		EXISTING SURFACE WATER SEWER
	SCOUR VALVE		FOUL INSPECTION CHAMBER & CONNECTION		PROPOSED SURFACE WATER DIVERSION
	HYDRANT		EXISTING FOUL WATER SEWER		PROPOSED SURFACE WATER EXCEEDANCE DESIGN
	METER CHAMBER		PROPOSED FOUL SEWER DIVERSION		P852K-12-C1-NW-CB0850-33W LANTERN ON 6 m COLUMN
	AIR VALVE		PROPOSED FOUL SEWER UPGRADE		P852K-12-F2-NW-CB0350-15W LANTERN ON 6 m COLUMN
	NEW ESB MINI PILLAR		JB 4A CHAMBER		P852K-12-F2-NW-CB0300-13W LANTERN ON 6 m COLUMN
	NEW EV CHARGING CHAMBER		JB4 CHAMBER		BHC - BASE HINGED COLUMN
	NEW ESB 125MM DUCT		NEW EIR 110MM DUCT		LED LIGHT STRIP
	NEW ESB 50MM DUCT		NEW EIR 32MM DUCT		NEW 110MM EVC DUCT, DUCTING POPUP WITH 200MM COVER



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Project
AN TRIANTÁN STATION ROAD HOUSING, KILDARE

Client
KILDARE COUNTY COUNCIL

Title
CIVIL SERVICES COORDINATION LAYOUT

Drawing Status
S05 - ISSUED FOR PLANNING

Project No. 1040805 Scale 1:200

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Drawing No.
ATR-CDL-ZZ-XX-D-C-95001