



Pant Industrial Estate, Merthyr Tydfil

Civils Feasibility Report

Rev 01: March 2020

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Document Revision Control

Revisions	Date	Reason for Issue	By	Approved
00	Aug-19	First Issue	CC	GA
01	Mar-20	Second Issue	CC	GA

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1.0 Introduction

Harley Haddow Consulting Engineers were appointed to act as civil engineers for the proposed commercial and industrial development at Pant Industrial Estate, Merthyr Tydfil.

This report will outline the surface water management plan and drainage requirements of the development design proposal and the drainage strategies that are to be employed.

The calculations within this report will assess the existing development runoff and the proposed discharge rates to provide a betterment against the existing situation with the requirements of attenuation.

The proposed development is located within an Industrial Estate of an area of Merthyr Tydfil known as Pant. The development area is currently brownfield with the existing site being used as an ICI Chemical Plant, the site hosts several remnants of the building with brick walls and concrete slabs. The proposal is to remove obstructions and remains and construct 13 varying sized industrial units.



2.0 Preliminary Flood Risk Assessment

- 2.1 The development is located in the northern part of Merthyr Tydfil, Wales.
- 2.2 Review of the area indicates the nearest watercourse – Unnamed Waterbody – which is located circa 900m to the east of the development, the 2nd nearest watercourse – Taf Fechan – is located circa 1300m to the north of the development.
- 2.3 The Natural Resources Wales interactive flood maps indicates that there is no risk to river or coastal flooding from nearby watercourses. It has been identified that there is a high risk of pluvial flooding occurring within our site boundary, however as part of the proposed development we will look to design out any risk of ponding or low points within the levels design that do not have active SUDs Drainage.
- 2.4 There is no indication of flood risk from the existing Welsh Water network within the location of the development.
- 2.5 No other information has been found at this time to indicate that the development is at risk of flooding from any other sources.
- 2.6 Proposals for the development should remove low points wherever possible to reduce the risk of surface water ponding, and ensure that adequate drainage is incorporated in the design at any low points which remain.
- 2.7 Surface water discharge from the development should be minimised to greenfield runoff rates or 5.0l/s/ha, whichever is lowest, wherever possible to minimise impact to the Welsh Water Infrastructure.
- 2.8 Surface water drainage designs should also ensure that restricted surface water discharge from the development should be attenuated so that there is no exceedance of the system in storms up to the 1 in 200-year event including an allowance of 30% for the effects of climate change.

3.0 Drainage Strategy

3.1 Foul Drainage

- 3.1.1 The proposed development of 13No Industrial Units will propose to generate a peak foul discharge of approximately 0.52 litres per second as shown on the calculation within Appendix B, this is based on assumed employee numbers against area of units.
- 3.1.2 The foul network for development is proposed to be kept private and in the ownership of the developer and discharge into the nearby Combined sewer located on the access road to the north. However, please note that due to the level differences (circa 1.5-2.0m ground level difference) the foul drainage will be collected and fed into a private pumping station with 24-hour storage into a break pressure chamber at high level to allow a gravity connection into the foul network.
- 3.1.3 It should be noted that a Ground Penetration Radar has been carried out to identified services in and around the proposed site location, the foul network which has been shown on Welsh Water GIS drawings was not able to be located. This may be for a number of reasons: - 1) Not in the anticipated area; 2) Too deep to be identified by Radar Penetration. As part of the investigation works going forward, Harley Haddow have identified that the foul network is to be traced by Welsh Water or similar prior to submitting to Planning.

3.2 Surface Water Drainage

- 3.2.1 The existing brownfield discharge flows from the site area have been calculated as 0.00 litres per second. This is due to no existing surface water drainage existing on the site. Greenfield calculations have been included in Appendix C for reference.
- 3.2.2 Surface water discharge requires to be limited through the use of a vortex flow control device of not less than a 75mm dia opening.
- 3.2.3 Flows are restricted on the eastern development using a flow control device require to be attenuated for storms up to and including the 1 in 200-year storm event with a 30% allowance for climate change. This storage is anticipated to be provided by a private below ground attenuation system which will be online and only be required when a 1 in 30 and 1 in 200-year storm applies.
- 3.2.4 The volume of storage required including no exceedance of the system in storms up to the 1 in 200-year storm event with an allowance of 30% for climate change has been calculated as 281m³. This has been derived using a maximum discharge rate of 2.5 litres per second (Greenfield runoff). Refer to Appendix D for Micro-drainage calculations.
- 3.2.5 The surface water system is proposed to run separately from the foul system for their entirety. The surface water network will be kept at a shallower depth to the foul network where possible, in line with *Sewers for Adoption 7th Edition* requirements.
- 3.2.6 All surface water is anticipated to be distributed through the development by gravity sewers from at source to below ground attenuation prior to flow restriction and discharge to the Surface Water Infrastructure situated within site boundaries.

- 3.2.7 It should also be noted that as part of the investigation works pre-planning is to instruct Welsh Water to clear the blocked drains situated on our site boundary. This has been marked as public surface water sewers with the responsibility of Welsh Water.
- 3.2.8 Once cleared Harley Haddow recommend a CCTV survey to be carried out to ensure that there are no active discharge connections into the surface water line to allow our developer to carry out an abandonment of this sewer. If the sewer is found to have active connections then the site layout requires to be altered to accommodate, otherwise a diversion and 3rd party approval will be required to alter the route of this to a more preferred path.

4.0 SUDS Strategy

- 4.1 SUDS are a sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than “conventional” techniques.
- 4.2 The requirement for SUDS to account for the quantity and quality of surface water is an intrinsic part of the planning process and all new developments.
- 4.3 The SUDS proposal for this site involves conveying the surface water run-off from roofs and hardstanding through porous paving and filter strips to a gravity surface water drainage system within main access routes which will then convey the flows to the proposed discharge point only when the storm is a 1 in 200 year storm the flows will surcharge through the attenuation system and utilise this storage while discharging at a linear rate.
- 4.4 Carriageway runoff is proposed to be discharged from the carriageway directly through the porous asphalt material into a stone make-up below, as this is classified as an industrial area, we would recommend a petrol interceptor to be installed as a defence prior to the attenuation system.
- 4.5 SUDS proposals for this development have been designed in accordance with the SUDS Manual C753, utilising the Simple Index approach.
- 4.6 Pollution Hazard characteristic has been identified as Medium for the development carriageway, and Low for Industrial Unit roofs, using Table 26.2 within the SUDS Manual, with pollution indices as shown below.

Land Use	TTS (Total Suspended Solids)	Metals	Hydrocarbons
Carriageway (Medium Risk)	0.7	0.6	0.7
Industrial Roofs (Low Risk)	0.3	0.2	0.05

- 4.7 Suitable SUDS measures have therefore been chosen utilising the mitigation indices noted within table 26.3.
- 4.8 SUDS measures proposed for the development is Permeable Paving and filter strips, with mitigation indices as shown below.

Type of SUDS Component	TTS (Total Suspended Solids)	Metals	Hydrocarbons
Filter Strip	0.4	0.4	0.5
Permeable Paving	0.7	0.6	0.7
Petrol Interceptor	<i>Proprietary Treatment System</i>		

4.9 The Treatment train is therefore capable of providing combined adjusted treatments as follows:

Treatment Train	TTS (Total Suspended Solids)	Metals	Hydrocarbons
Roof (Filter Strip)	0.4	0.4	0.5
Carriageways (Permeable Paving)	0.7	0.6	0.7

The treatment levels above exceed the requirements for treatment based on the simple index approach and therefore are adequate based on the current development proposals.

4.10 All surface water flows from roof, carriageway and hardstanding areas are proposed to be conveyed to the flow control device at end of run by gravity surface water drainage system. During normal operations flows will be discharged to maintaining the static water level and providing adequate treatment, whilst heavier flows will be contained within pipework, attenuation systems and porous paving, ensuring adequate treatment for all flows.

5.0 Road Statement

5.1 Road Geometry Layout

With reference to Powell Dobson Architects drawing 19070 (SK) 02B - Proposed Site Plan.

This proposed general layout drawing indicates this development being served by an existing access running along the northern boundary. It can be noted that during the site visit there are no enforceable parking restrictions on the main ring road, therefore typical visibility splays required for this development are 2.5m x 40m at 1.05m high.

Given the confined site layout all the proposed footpath routes and private access paths will likely be of shared surface nature (perhaps different colour surface) serving each of the units. The access road gradients should be design within normal design parameters below the maximum 5.0% gradient for good design practise. This road gradient would also be serviceable by Refuse vehicle and large HGV delivery vehicles which can fall within the allowable maximum gradient of 8.0%.

5.2 Vehicle Tracking

Vehicle Tracking for a Refuse & Fire Appliance has been carried out for the proposed site, it identifies key areas where these vehicles can be utilised to their full potential. An articulated lorry has also been tracked for phase 1 with the potential of phase 2 of the development happening at a future date.

5.3 Traffic Calming

There is no requirement for traffic calming within the existing carriageway or within the proposed development.

5.4 Pavement Materials

Road surfacing materials on the main access road will be constructed in HGV specification asphalt due to the high loading traffic. The adjacent footpaths will also be provided with an asphalt wearing course. It should be noted that areas where deliveries are being carried out is recommended that a concrete hardstanding is constructed due to the manoeuvring of Multi-Axle HGV vehicles. All light vehicle parking is to be constructed of porous asphalt but will be to HGV loading specification.

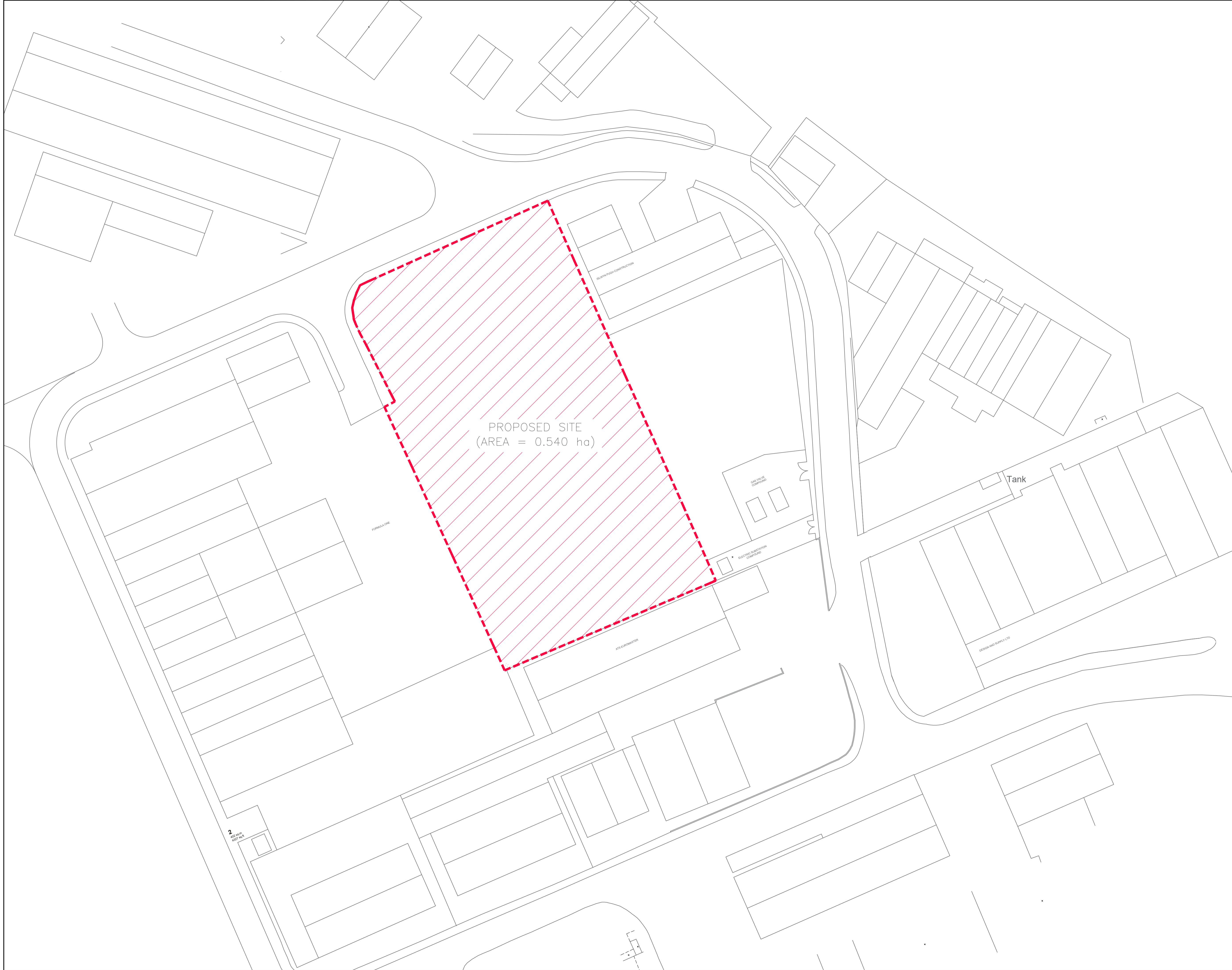
6.0 Review

6.1 This report and the drawings and calculations contained within the appendixes confirm that the design strategy as noted below:

- The development is at high risk of surface water flooding, however as part of the Drainage and SUDs design there will be a pre-construction overland flows drawing and post-construction overland flows drawing which should ascertain the betterment made to the site on how to control the surface water flooding concern.
- The development is not at risk from coastal or river flooding.
- Detailed levels and drainage designs should remove all low points subject to surface water ponding where possible and provide adequate surface drainage to remove any potential risk of surface water ponding.
- Control of surface water discharge rates to meet the criteria of a min. 75mm diameter vortex flow control device.
- Attenuation of surface water flows up to the 1 in 200-year storm event with a 30% allowance for climate change without resulting exceedance of the system
- SUDS provision in the form of pipework, manholes, porous paving, filter strips and below ground attenuation crate system in extreme cases where this be located below hardstanding areas of the proposed development, providing suitable levels of treatment for all surface water flows and providing attenuation requirements without exceedance.
- A provision of a Petrol Interceptor should be made due to the proposed use of the site, this will be pending the consultation with Welsh Water to confirm if one is required or if a treatment train of 3 aspects can be utilised (i.e. porous paving and 2No Separate Filter Strips).

Appendix A

Drawings



PROPOSED SITE
(AREA = 0.540 ha)

FORMERLY

ATF BROWNSHAW

ELECTRIC SUBSTATION
COMPARTMENT

Tank

DESIGN AND SUPPLY LTD

2
200m
200m

REV	DESCRIPTION	BY	CHK	APP	DATE

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Project: -
**Proposed Industrial Units
 Pant Industrial Estate
 Merthyr Tydfil, Wales**

Drawing Title:
Proposed Site Location Plan
 -
 -

Scale @	A1	Date	Engineer
1:200	February 2020	C.Connor	
Drawing No.	305056-001		Revision
			-



REV	DESCRIPTION	BY	CHK	APP	DATE
-	-	-	-	-	-

PLANNING







Project: -
Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales

Drawing Title:
Topographical Site Survey
 -
 -

Scale @ A1 1:200	Date February 2020	Engineer C.Connor	Revision -
Drawing No. 305056-002			

LEGEND

-  DENOTES EXTENT OF PROPOSED SITE BOUNDARY (5425m²)
-  DENOTES EXTENT OF EXISTING BUILDINGS (0m²)
-  DENOTES EXTENT OF EXISTING HARDSTANDING AREA (0m²)
-  DENOTES EXTENT OF EXISTING LANDSCAPE AREA (5425m²)

EXISTING SURFACE WATER DISCHARGE RATE:-

THE SITE HAS BEEN A GAP SITE FOR A SIGNIFICANT TIME AND THEREFORE HAS HAD NO ACTIVE SURFACE WATER MANAGEMENT IN PLACE DURING THIS TIME. AREAS OF EXISTING SITE HAVE SMALL AMOUNTS OF CONCRETE HARDSTANDING, HOWEVER THESE AREAS ARE THOUGHT TO BE REMAINS OF EXISTING FOUNDATIONS ARE NEGLIGIBLE ON PREDEVELOPMENT SURFACE WATER FLOWS.


CURRENTLY SURFACE WATER LANDS ON SOFT LANDSCAPE OF THE BROWNFIELD SITE AND PERCOLATES INTO THE GROUND OR SHEDS TO ADJACENT LAND.



REV	DESCRIPTION	BY	CHK	APP	DATE

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Project: -
**Proposed Industrial Units
 Pant Industrial Estate
 Merthyr Tydfil, Wales**

Drawing Title:
**Pre-Development Surface
 Water Run**

Scale @ A1	Date	Engineer
1:200	February 2020	C.Connor
Drawing No.	Revision	
305056-003	-	

LEGEND

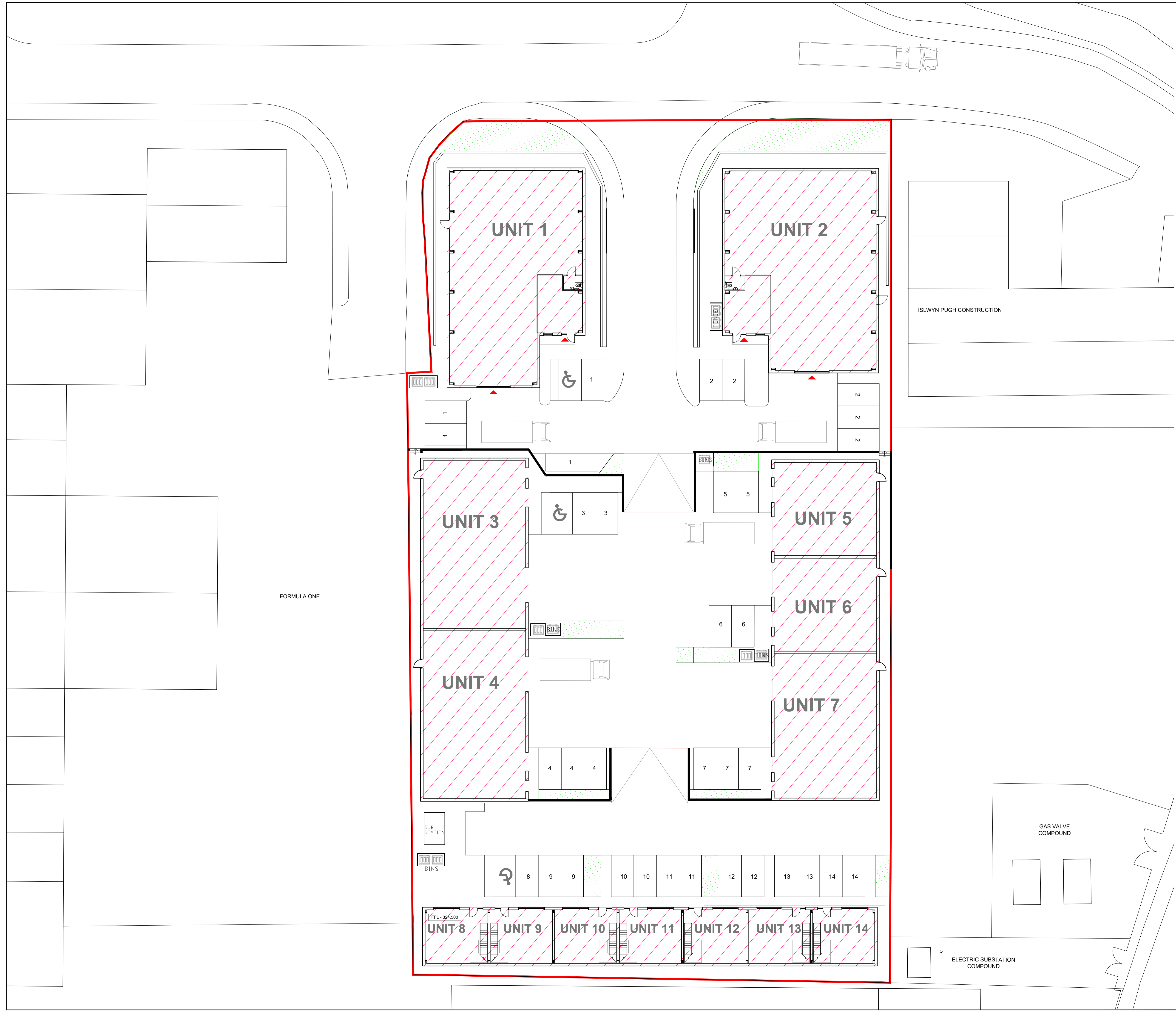
- DENOTES EXTENT OF PROPOSED SITE BOUNDARY (5425m²)
- DENOTES EXTENT OF PROPOSED BUILDING ROOF AREAS (2102m²)
- DENOTES EXTENT OF PROPOSED HARDSTANDING AREAS (3092m²)
- DENOTES EXTENT OF PROPOSED LANDSCAPE AREAS (231m²)

PROPOSED SURFACE WATER DISCHARGE RATE:-

THE MICRO DRAINAGE ICP SUDS MEAN ANNUAL FLOOD GREENFIELD RUNOFF FOR PROPOSED ROOF & HARDSTANDING AREAS ONLY:-

- QBAR: 2.9 Litres/Sec. (1in1 YEAR)
- QBAR: 3.3 Litres/Sec. (1in2 YEAR)
- QBAR: 6.2 Litres/Sec. (1in50 YEAR)
- QBAR: 8.6 Litres/Sec. (1in100 YEAR)
- QBAR: 9.8 Litres/Sec. (1in200 YEAR)

THE PROPOSED SURFACE WATER DISCHARGE WILL BE RESTRICTED TO THE GREENFIELD RUNOFF OF 3.0 Litres/Sec. DURING ALL FLOOD EVENTS UP TO AND INCLUDING A 200yr. STORM RETURN PLUS 30% CLIMATE CHANGE IN ACCORDANCE WITH SUD'S MANUAL C753.



FORMULA ONE

ISLWYN PUGH CONSTRUCTION

GAS VALVE COMPOUND

ELECTRIC SUBSTATION COMPOUND

REV	DESCRIPTION	BY	CHK	APP	DATE
A	Updated Site Layout		CC	CC	06.03.20

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Project: -
**Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales**

Drawing Title:
**Post Development Surface
Water Runoff**

Scale @ A1	Date	Engineer
1:200	February 2020	C.Connor
Drawing No.	Revision	
305056-004	A	



LEGEND

	ALARM CABLE
	CCTV / CABLE TELEVISION
	CHEMICAL PIPES
	COMBINED DRAINAGE
	COMMUNICATIONS CABLE
	COMPRESSED AIR
	DUCTING
	ELECTRIC CABLE
	END OF TRACE
	FUEL PIPE
	GAS PIPE
	GAUGE LINE
	HEATING
	PUMPING MAIN
	RADAR AREA ANOMALY
	SURFACE DRAINAGE
	SURVEY BOUNDARY
	TELECOM CABLE
	TRAFFIC LIGHTS
	UNDETECTED
	VAPOUR RECOVERY
	VENT PIPE
	WATER PIPE

REV	DESCRIPTION	BY	CHK	APP	DATE

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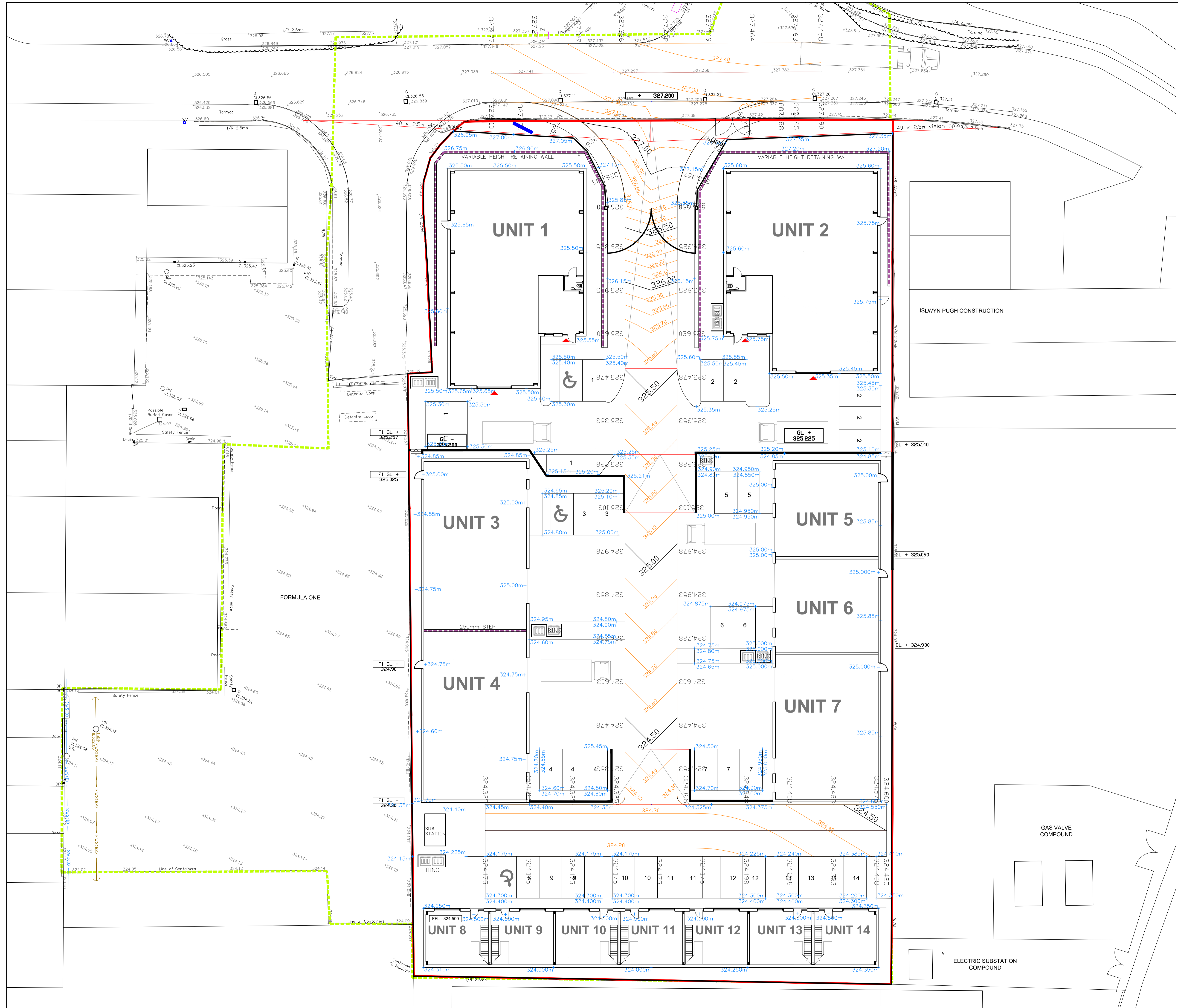
Drawing Title:
Existing Services Layout

Scale @ A1 Date Engineer
 1:200 February 2020 C.Connor

Drawing No. **305056-015** Revision -

LEGEND

- PROPOSED SITE BOUNDARY
- +325.00M PROPOSED LEVELS
- +325.00M EXISTING LEVELS
- PROPOSED EXTENTS OF RETAINING WALL
- FFL - 324.500 FINISHED FLOOR LEVELS



A	Updated Site Layout	CC	CC	CC	06.03.20
REV	DESCRIPTION	BY	CHK	APP	DATE

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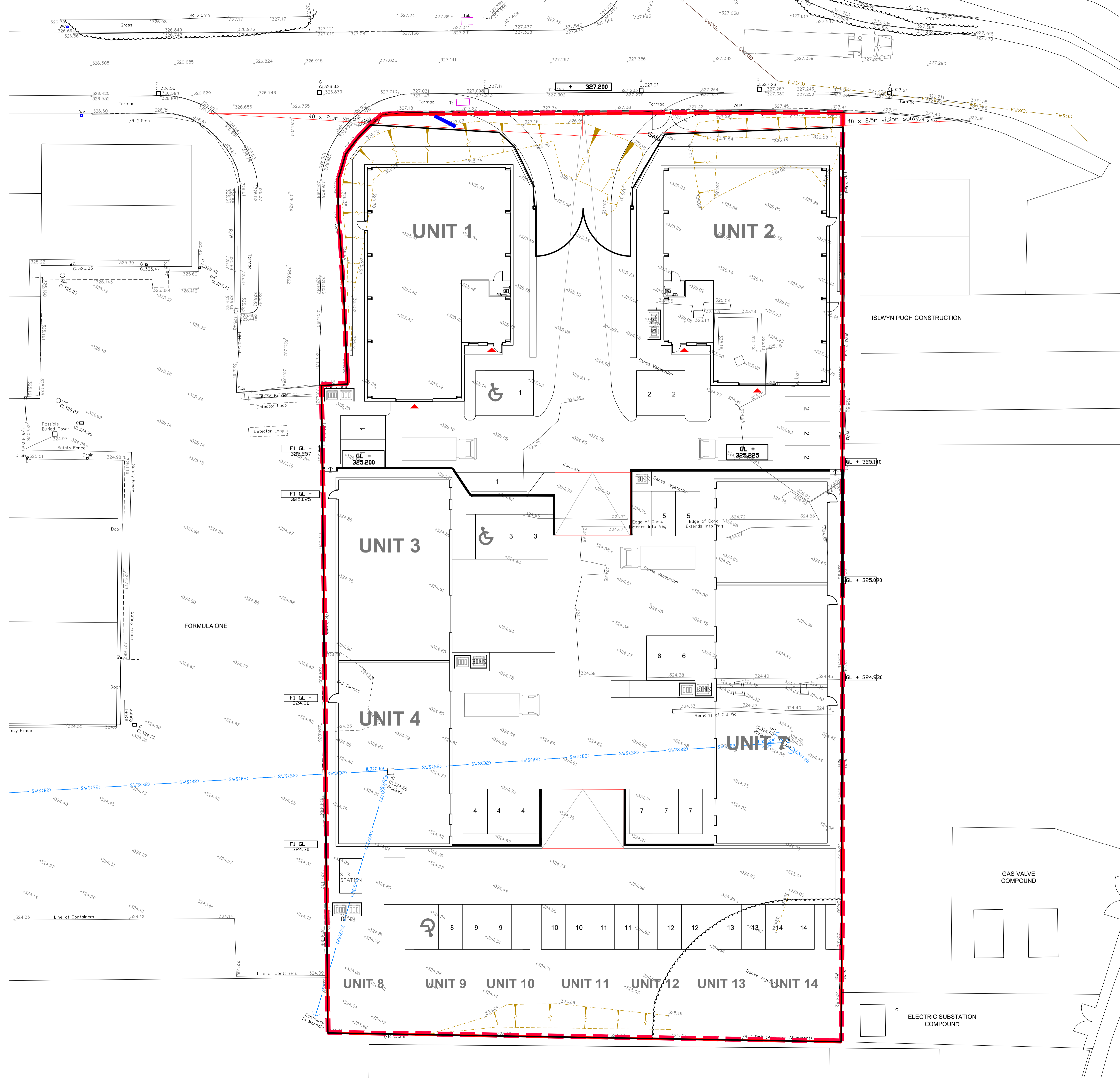
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**Proposed Industrial Units
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 Merthyr Tydfil, Wales**

Drawing Title:
Proposed External Levels Layout

Scale @ A1	Date	Engineer
1:200	February 2020	C.Connor
Drawing No.	Revision	
305056-020	A	



LEGEND

ALARM CABLE	ALARM CABLE
CCTV / CABLE TELEVISION	CCTV / CABLE TELEVISION
CHEMICAL PIPES	CHEMICAL PIPES
COMBINED DRAINAGE	COMBINED DRAINAGE
COMMUNICATIONS CABLE	COMMUNICATIONS CABLE
COMPRESSED AIR	COMPRESSED AIR
DUCTING	DUCTING
ELECTRIC CABLE	ELECTRIC CABLE
END OF TRACE	END OF TRACE
FUEL PIPE	FUEL PIPE
GAS PIPE	GAS PIPE
GAUGE LINE	GAUGE LINE
HEATING	HEATING
PUMPING MAIN	PUMPING MAIN
RADAR AREA ANOMALY	RADAR AREA ANOMALY
SURFACE DRAINAGE	SURFACE DRAINAGE
SURVEY BOUNDARY	SURVEY BOUNDARY
TELECOM CABLE	TELECOM CABLE
TRAFFIC LIGHTS	TRAFFIC LIGHTS
UNIDENTIFIED	UNIDENTIFIED
VAPOUR RECOVERY	VAPOUR RECOVERY
VENT PIPE	VENT PIPE
WATER PIPE	WATER PIPE

REV	DESCRIPTION	CC	CC	CC	CC	DATE
A	Updated Site Layout					06.03.20

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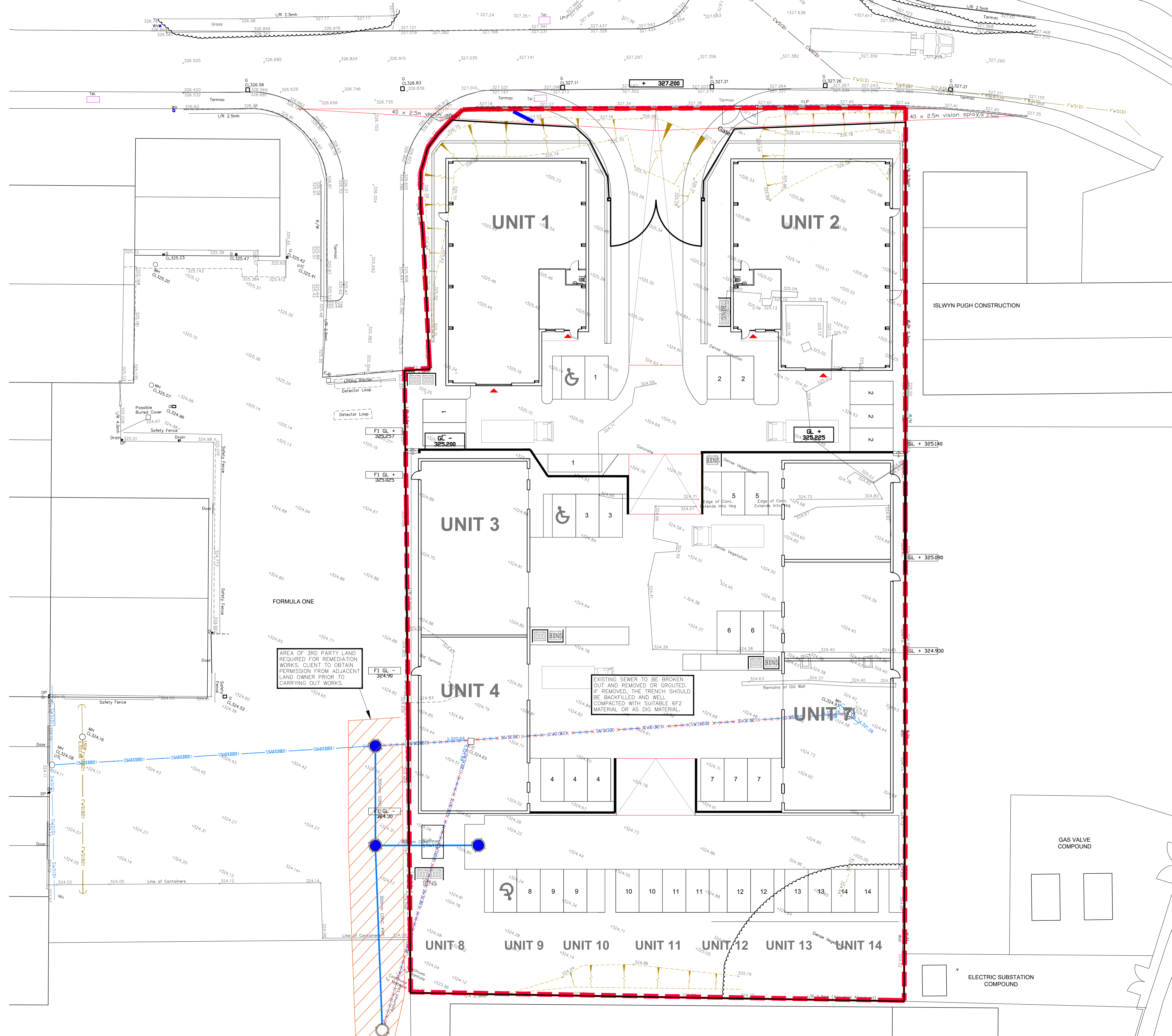
Project -
Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales

Drawing Title:
Existing Services Layout

Scale @ A1	Date	Engineer
1:200	February 2020	C.Connor
Drawing No.	Revision	
305056-015	A	

GENERAL DRAINAGE NOTES

- 1 ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT CODES OF PRACTICE, BRITISH STANDARDS AND THE APPROVAL OF WELSH WATER / LOCAL AUTHORITY.
- 2 ALL EXTERNAL BUILDING & CAR PARK DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH BS EN752-4 DRAINS AND SEWER SYSTEMS OUTSIDE BUILDINGS & PART M OF THE BUILDING REGULATIONS LAST EDITION.
- 3 THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS & SPECIALIST DRAWINGS AND SPECIFICATIONS.
- 4 ALL DIMENSIONS AND LEVELS ARE SHOWN IN METERS UNLESS NOTED OTHERWISE.
- 5 ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE SITE ENGINEER IMMEDIATELY.
- 6 PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION WORKS ON SITE, THE CONTRACTOR MUST VERIFY THE LOCATION AND LEVEL OF ALL EXISTING DRAINAGE AFFECTED BY THE NEW WORKS AND CONFIRM HIS ACCEPTANCE OR OTHERWISE THE INFORMATION SHOWN ON THE DRAWINGS.
- 7 EXISTING DRAINAGE ROUTES INDICATED ON THIS DRAWING ARE INDICATIVE ONLY, EXACT LOCATION TO BE DETERMINED ON SITE. UNCHARTED SERVICES MAY EXIST IN THIS AREA.
- 8 THE LOCATION & LEVEL OF EXISTING SERVICES ARE TO BE VERIFIED ON SITE, ALL EXCAVATION IN THE VICINITY OF EXISTING SERVICES TO BE HAND DIG.
- 9 THE SURVEY CO-ORDINATES SHOWN ARE RELATIVE TO A ORDINANCE DATUM, THE SURVEY INFORMATION IS ORIENTATED TO NORTH.
- 10 THE EXISTING PUBLIC DRAINAGE NETWORK INDICATED ON THIS DRAWING HAVE BEEN EXTRACTED FROM MALCOLM HUGHES UNDERGROUND SURVEY - AUGUST 2019.



AREA OF 3RD PARTY LAND REQUIRED FOR REMEDIATION WORKS. CLIENT TO OBTAIN PERMISSION FROM ADJACENT LAND OWNER PRIOR TO CARRYING OUT WORKS.

EXISTING SEWER TO BE BROKEN OUT AND REMOVED OR GROUTED. IF REMOVED, THE TRENCH SHOULD BE BACKFILLED AND WELL COMPACTED WITH SUITABLE 6F2 MATERIAL OR AS DIG MATERIAL.

REV	DESCRIPTION	CC	CC	CC	CC	CC	CC	CC	CC
A	Updated Site Layout								

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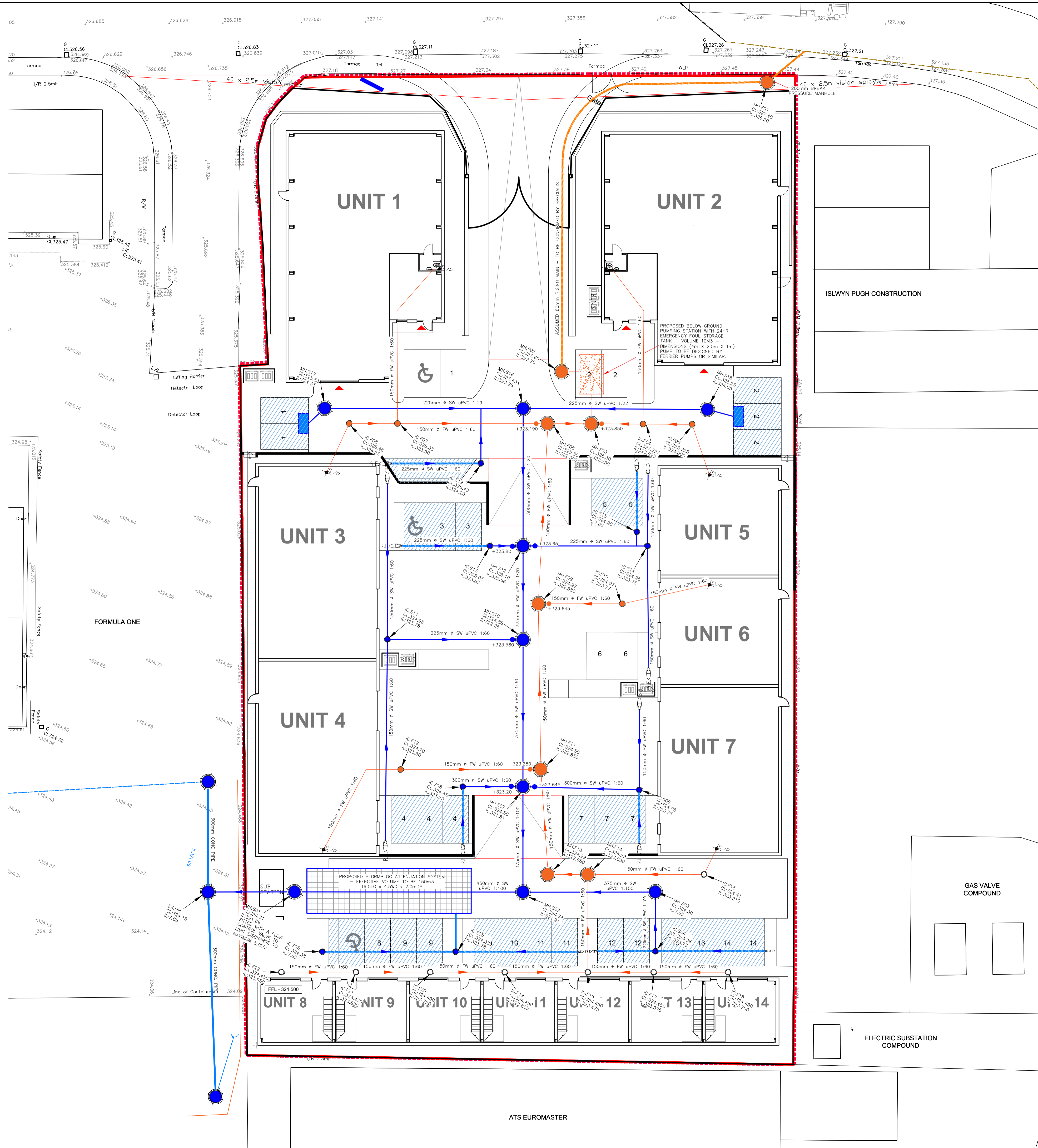
Project -

**Proposed Industrial Units
 Pant Industrial Estate
 Merthyr Tydfil, Wales**

Drawing Title:
**Existing Underground Drainage
 Remediation Works Layout**

Scale @ A1 Date Engineer
 1:200 February 2020 C.Connor

Drawing No. Revision
305056-031 A

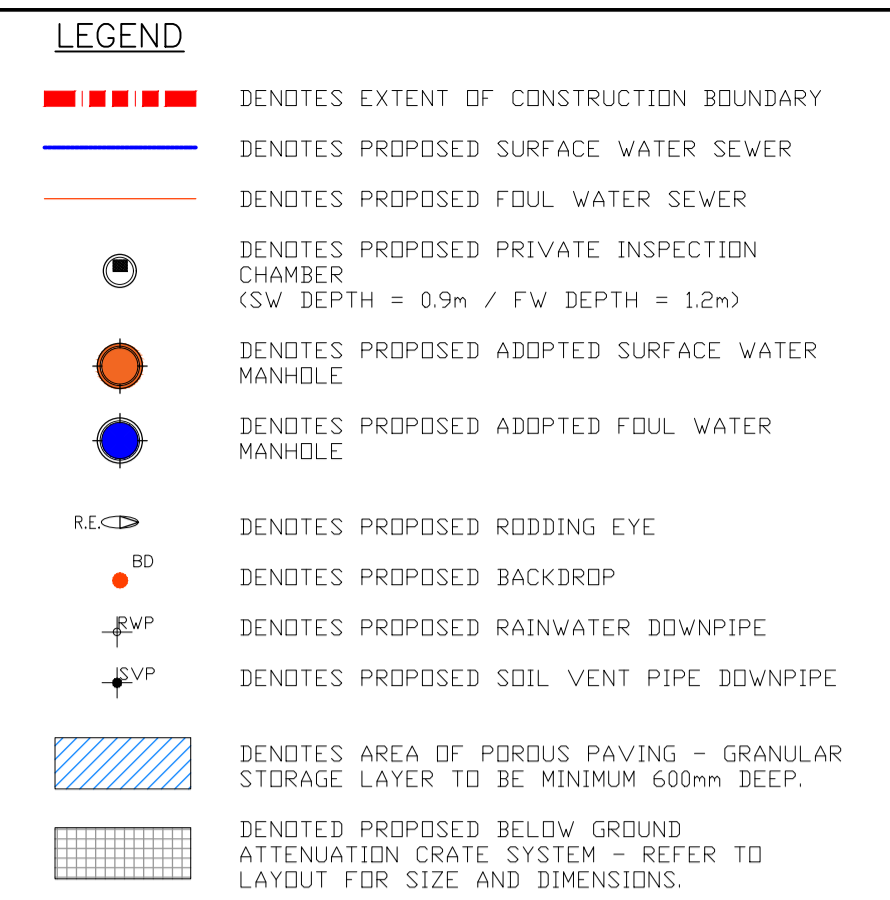


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- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS AND SPECIALIST SUBCONTRACTORS DRAWINGS, AND THE SPECIFICATION.
- ANY DISCREPANCIES IN DIMENSIONS, OR DETAILS, ON OR BETWEEN THESE DRAWINGS SHOULD BE BROUGHT TO THE ATTENTION OF THE ARCHITECT AND/OR THE ENGINEER IN WRITING FOR CLARIFICATION.
- ALL SWITCHED OFF, FROZEN, OR NOT SCHEDULED TO PRINT LAYERS WITHIN ELECTRONIC ISSUES OF THIS DRAWING SHOULD BE DISREGARDED.
- ALL DIMENSIONS ARE IN METRES, UNLESS NOTED OTHERWISE. ALL LEVELS ARE IN METRES.

DRAINAGE NOTES

- ALL DRAINAGE WHICH IS TO BE ADOPTED BY "SCOTTISH WATER" IS TO BE CONSTRUCTED IN ACCORDANCE WITH "SEWERS FOR SCOTLAND 3rd EDITION" AND ALL SUPPLEMENTARY SCOTTISH WATER DETAILS.
- ALL PRIVATE DRAINAGE TO BE IN ACCORDANCE WITH BS EN 12056, BS EN 752, AND RELEVANT SECTIONS OF "APPROVED DOCUMENT H" OF THE BUILDING REGULATIONS WHERE THERE ARE ANY CONCERNS REGARDING DRAINAGE NOT BEING ABLE TO MEET THESE REQUIREMENTS (E INVERTS AND LEVELS, THE ENGINEER SHOULD BE INFORMED IMMEDIATELY. DRAINAGE ALSO TO COMPLY WITH ANY "BUILDING STANDARDS" REQUIREMENTS).
- EXISTING DRAINAGE INFORMATION HAS BEEN COLLATED USING ALL AVAILABLE INFORMATION, AND IN SOME CASES CONDUCTED USING THIRD PARTY INFORMATION. WHILE EVERY CARE HAS BEEN TAKEN IN THE ACCURACY OF ALL ROUTING AND LEVELS, IT SHOULD BE TREATED AS INDICATIVE UNTIL CHECKED & CONFIRMED ON SITE.
- THE CONTRACTOR IS TO CHECK THE EXISTING DRAINAGE LEVELS, GEOMETRY CONNECTION & AVAILABILITY, AND CONFIRM THAT THE NETWORK IS RUNNING FREELY WITH NO DEFECTS PRIOR TO ANY DRAINAGE WORKS COMMENCING.
- ANY EXISTING SERVICES DISCOVERED DURING EXCAVATIONS TO BE REPORTED TO THE RELEVANT BODY IMMEDIATELY.
- THE CONTRACTOR IS TO ENSURE THAT PROTECTIVE MEASURES ARE TAKEN TO ENSURE THAT ALL DRAINAGE NETWORK, AND FITTINGS, ARE NOT DAMAGED BY THE SITE TRAFFIC PRIOR TO OVER SITE FILLING OPERATIONS BEING COMPLETED AROUND BUILDINGS.
- ALL PLAN CHAMBER SIZES DRAIN ARE INDICATIVE. FOR CORRECT SIZING AND SPECIFICATION OF CHAMBERS REFER TO THE ASSOCIATED DRAINAGE SCHEDULES/SECTIONS.
- ALL PLAN CHAMBER LEVELS SHOWN ARE FOR QUICK REFERENCE PURPOSES ONLY AND SHOULD NOT BE USED FOR CHAIRING OUT WORKS. CHAMBER INVERT LEVELS GIVEN ARE THE PIPE INVERT LEVELS. THEREFORE NOT NECESSARILY THE CHAMBER BASE LEVEL. THE ASSOCIATED DRAINAGE SCHEDULES/SECTIONS SHOULD BE USED TO DETERMINE ALL CHAMBER LEVELS.
- ALL CHAMBERS SHOULD BE LOCATED FULLY ON EITHER SOFT OR HARD LANDSCAPING. THE CONTRACTOR SHOULD STRING OUT HARD LANDSCAPING AND DRAINAGE PRIOR TO CONSTRUCTION IN ORDER TO ENSURE NO OVERLAPPING OF SURFACES AND/OR KERBS INTERSECTING OCCURS. WHERE UNAVOIDABLE OVERLAPPING OCCURS, CHAMBERS SHOULD, WHERE POSSIBLE, BE CONSTRUCTED IN SUCH A WAY THAT COVERS DO NOT OVERLAP OFFERING SURFACES OR INTERSECT KERBS. PARTICULAR ATTENTION SHOULD BE GIVEN WHERE RECESSED COVERS ARE PROPOSED.
- CHAMBER COVERS WITHIN AREAS OF BLOCK PAVING (BOTH STANDARD NON-PERMEABLE AND PERMEABLE) SHOULD BE LAD SQUARE TO THE LAYING PATTERN OF THE BLOCK PAVORS.
- CHAMBER PIPE CONNECTIONS ARE TO BE MADE SOFFIT TO SOFFIT WHERE DOWNSTREAM PIPE IS LARGER THAN THE UPSTREAM PIPE, UNLESS NOTED OTHERWISE.
- NO PRIVATE AREAS ARE TO DRAIN ONTO AREAS FOR ADOPTION.
- PIPE TYPES
PIPE DIA. UP TO AND INCLUDING 300mm ARE TO BE UPVC PIPES TO BS 4602/2000 AND BS EN 1401-1. PIPE DIA. GREATER THAN 300mm ARE TO BE CONCRETE TO BS 5911 OR VITRIFIED UPVC TO BS EN 295, AND BS 65 (STORM WATER SEWERS ONLY).
- PIPE PROTECTION
ALL ADAPTABLE PIPEWORK WITH LESS THAN 1200mm OF EFFECTIVE COVER IN BOTH VEHICULAR/HARD AREAS AND LANDSCAPED/SOFT AREAS, TO INCORPORATE CONCRETE PROTECTION TO THE PIPE (REFER TO RELEVANT DETAIL). FLEXIBLE JOINTS ARE TO BE PROVIDED AT ALL PIPE CONNECTIONS.
- ALL PRIVATE PIPEWORK WITH LESS THAN 900mm OF EFFECTIVE COVER TO VEHICULAR/HARD AREAS, AND LESS THAN 600mm COVER TO LANDSCAPED/SOFT AREAS, TO INCORPORATE CONCRETE PROTECTION TO THE PIPE (REFER TO RELEVANT DETAIL). FLEXIBLE JOINTS ARE TO BE PROVIDED AT ALL PIPE CONNECTIONS.
- WHERE PIPELINES CROSS WITHIN 300mm OF EACH OTHER, BOTH PIPES TO INCORPORATE CONCRETE PROTECTION (REFER TO RELEVANT DETAIL).
- DISCONNECTING CHAMBER TAILS
DISCONNECTING CHAMBER TAILS ARE PROPOSED FOR ADOPTION THEREFORE SHOULD ADHERE TO ADAPTABLE PIPE CRITERIA (E MINIMUM DIA. OF 150mm, CONCRETE PROTECTION REQUIRED WHERE COVER DEPTH <1.2m).
- DISCONNECTING CHAMBER TAILS TO BE LAD AT A MINIMUM INVERT OF 1:80 AND 1:10 PREFERRED MAXIMUM. WHERE TAILS FALL STEEPER THAN 1:10 THE ENGINEER SHOULD BE NOTIFIED AS SPECIFIC READING WILL BE REQUIRED.
- GULLY TAILS
ALL GULLY TAILS TO BE 150mm DIA., SUITABLY ENCASED IN CONCRETE.
- ALL DRAINAGE DESIGN SHOWN IS ONLY RELEVANT TO AREAS FALLING UNDER HARLEY HADDOW REMIT. FOR ALL OTHER AREAS REFER TO THE RELEVANT PARTY.



REV	DESCRIPTION	CC	CC	CC	CC	06.03.20
A	Updated Site Layout					

PLANNING

The Multi-disciplinary Engineering Consultancy

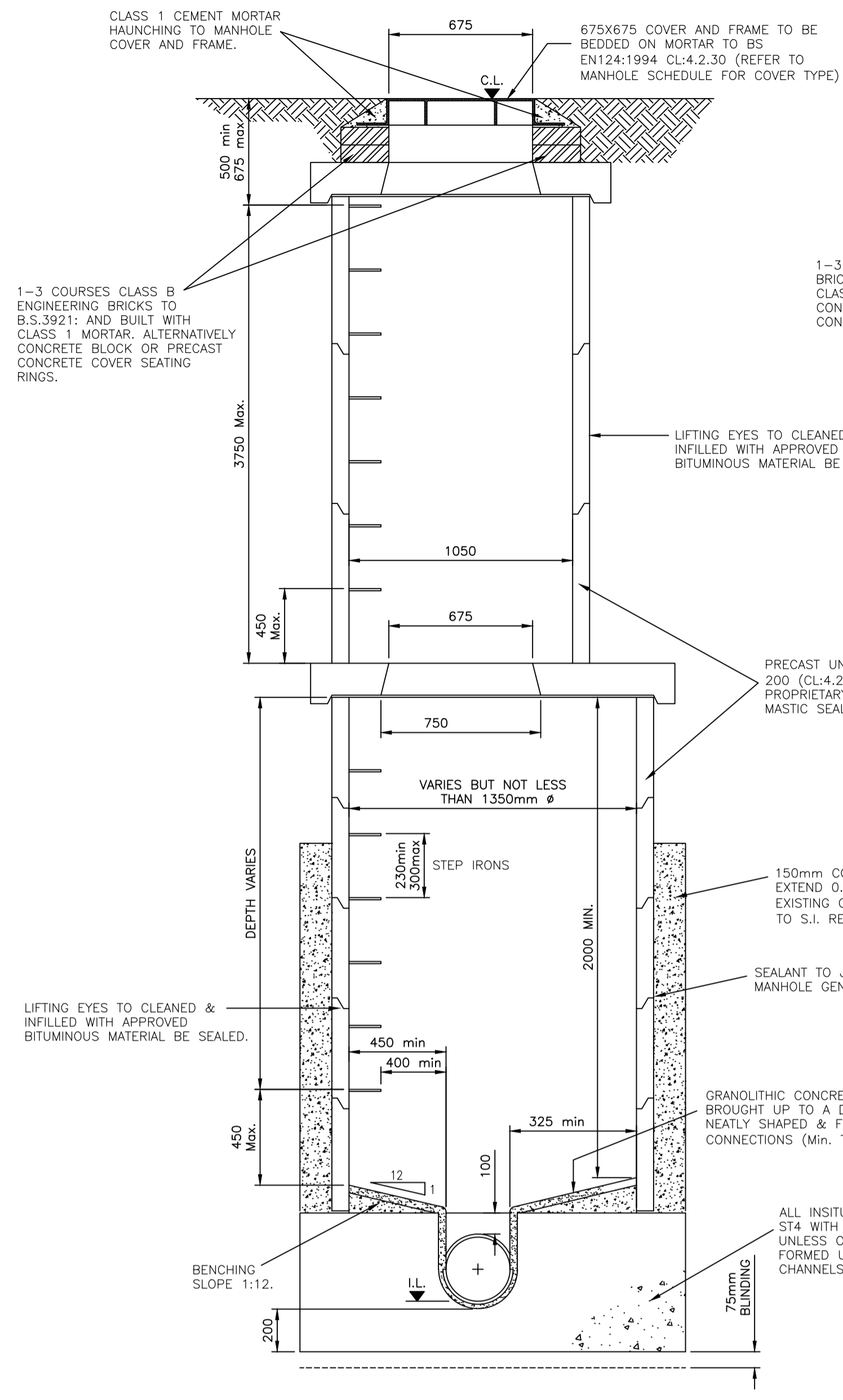
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Project: -
Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales

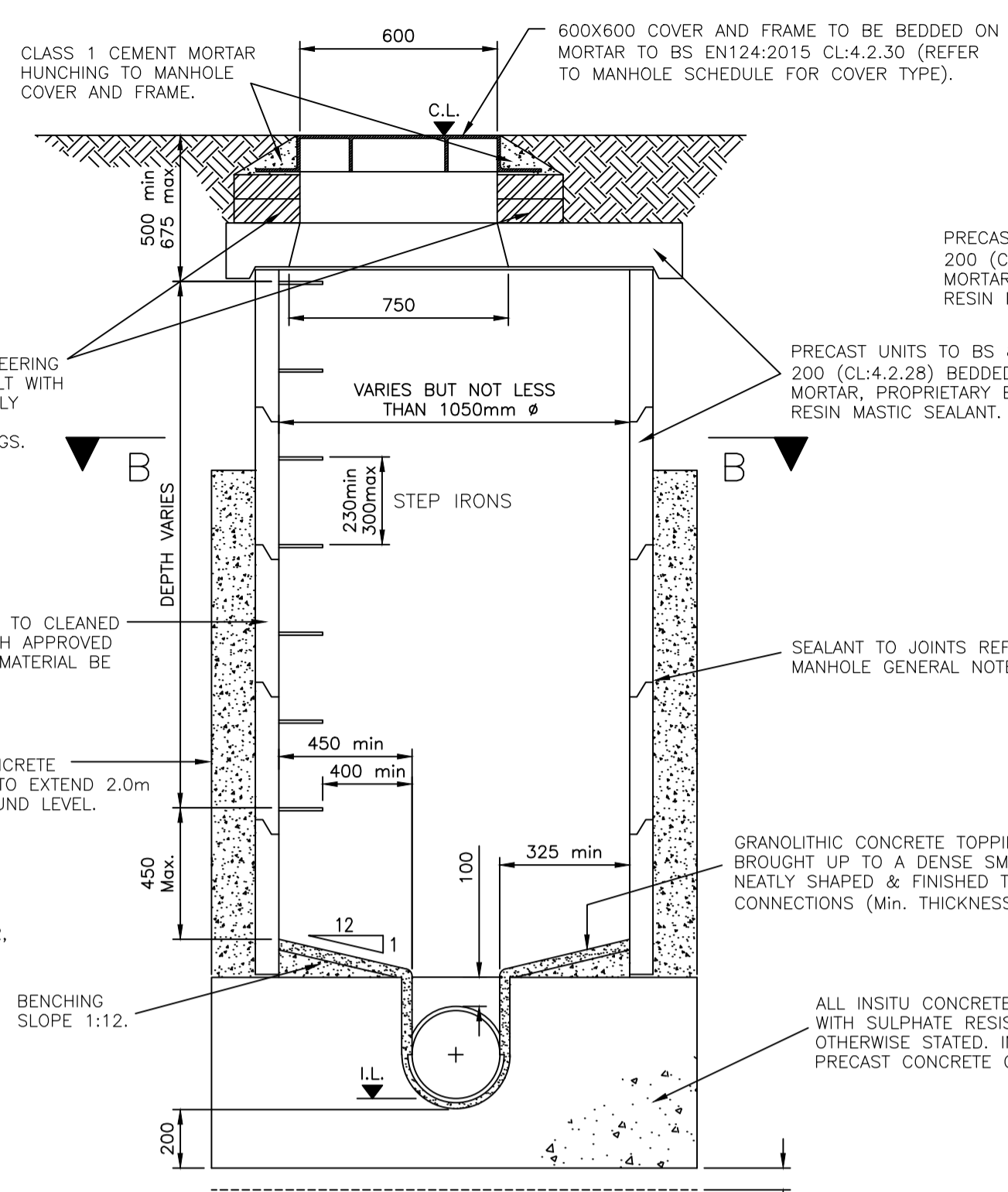
Drawing Title:
Proposed Underground Drainage
Layout

Scale @ A1 Date Engineer
1:200 February 2020 C.Connor

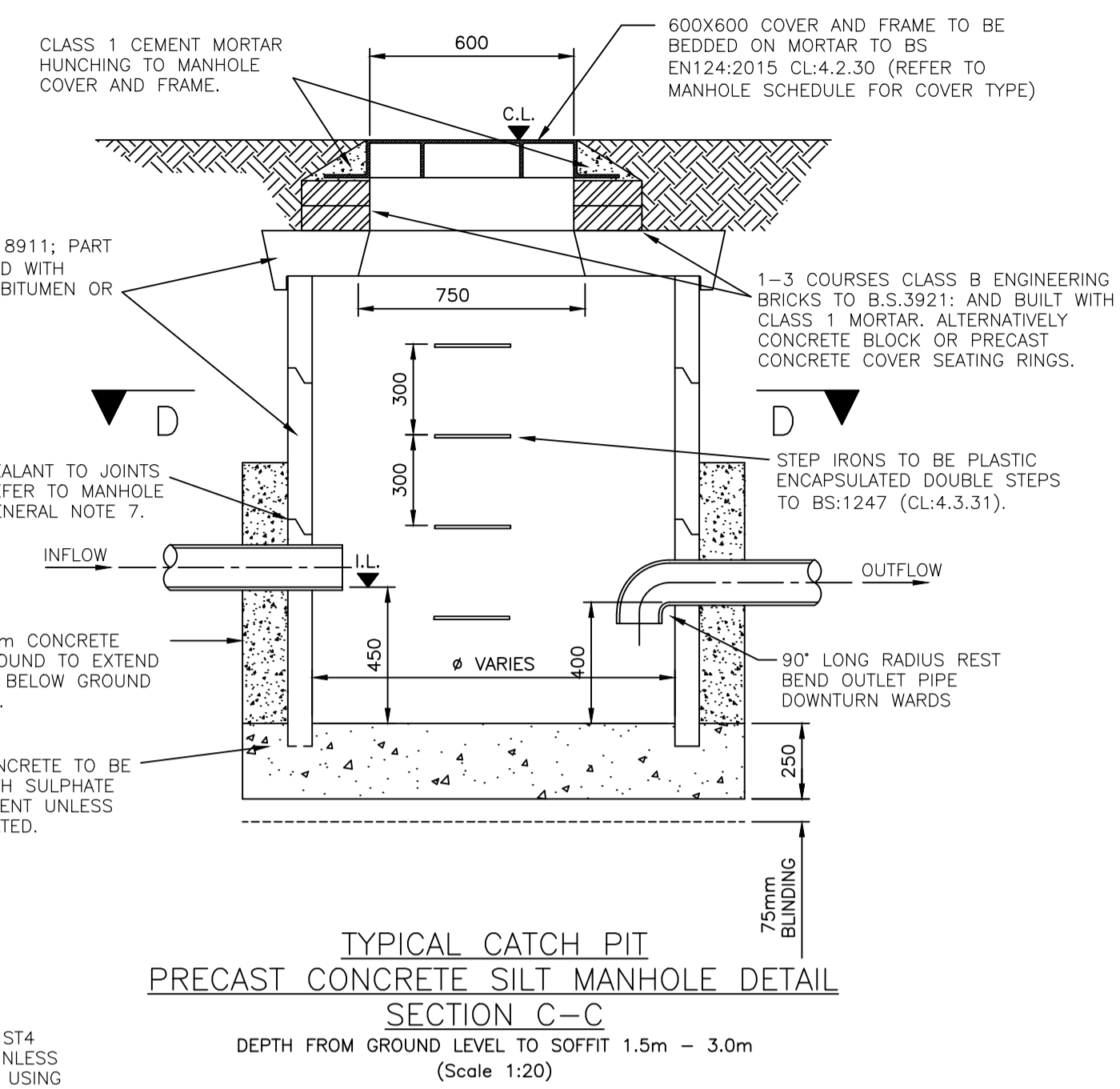
Drawing No. Revision
305056-032 A



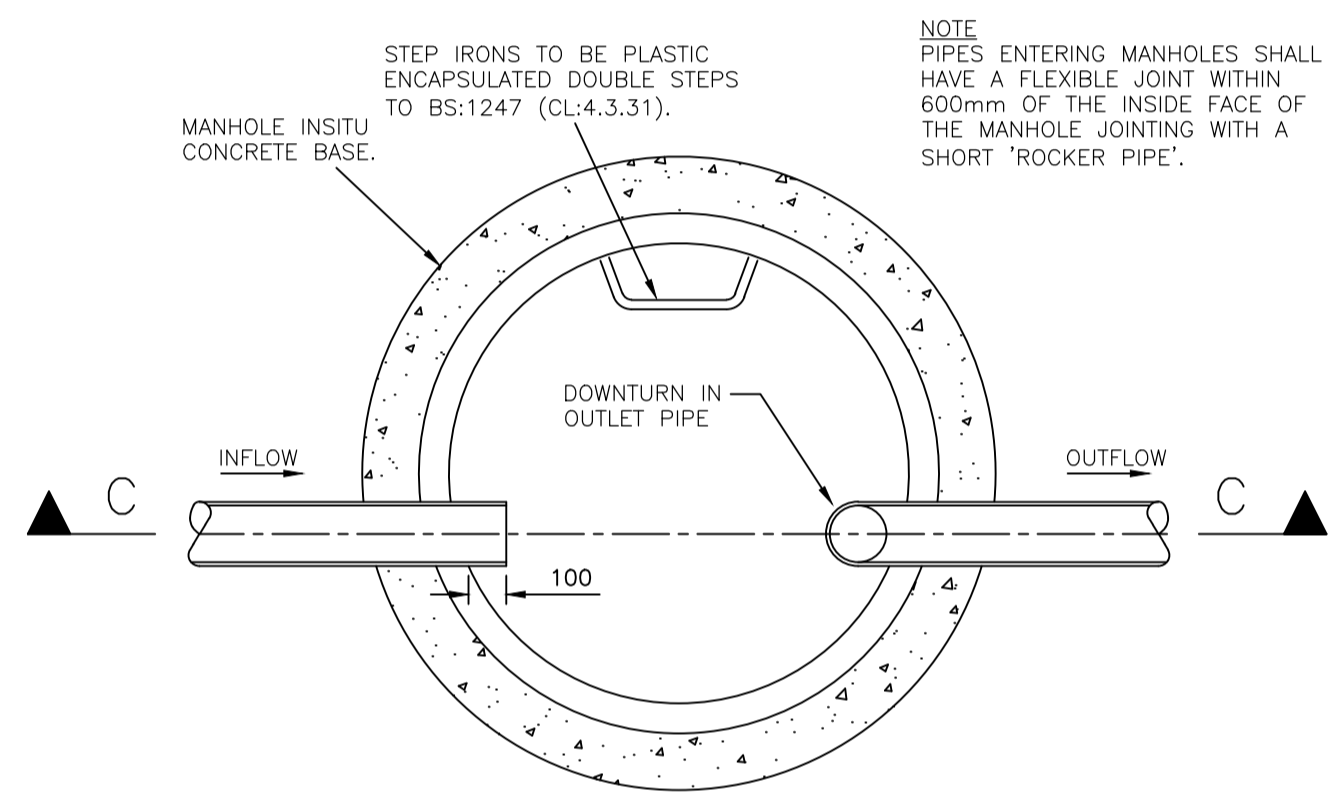
TYPICAL TYPE A PRECAST CONCRETE MANHOLE
(DEPTH FROM GROUND LEVEL TO SOFFIT 3.0m+)



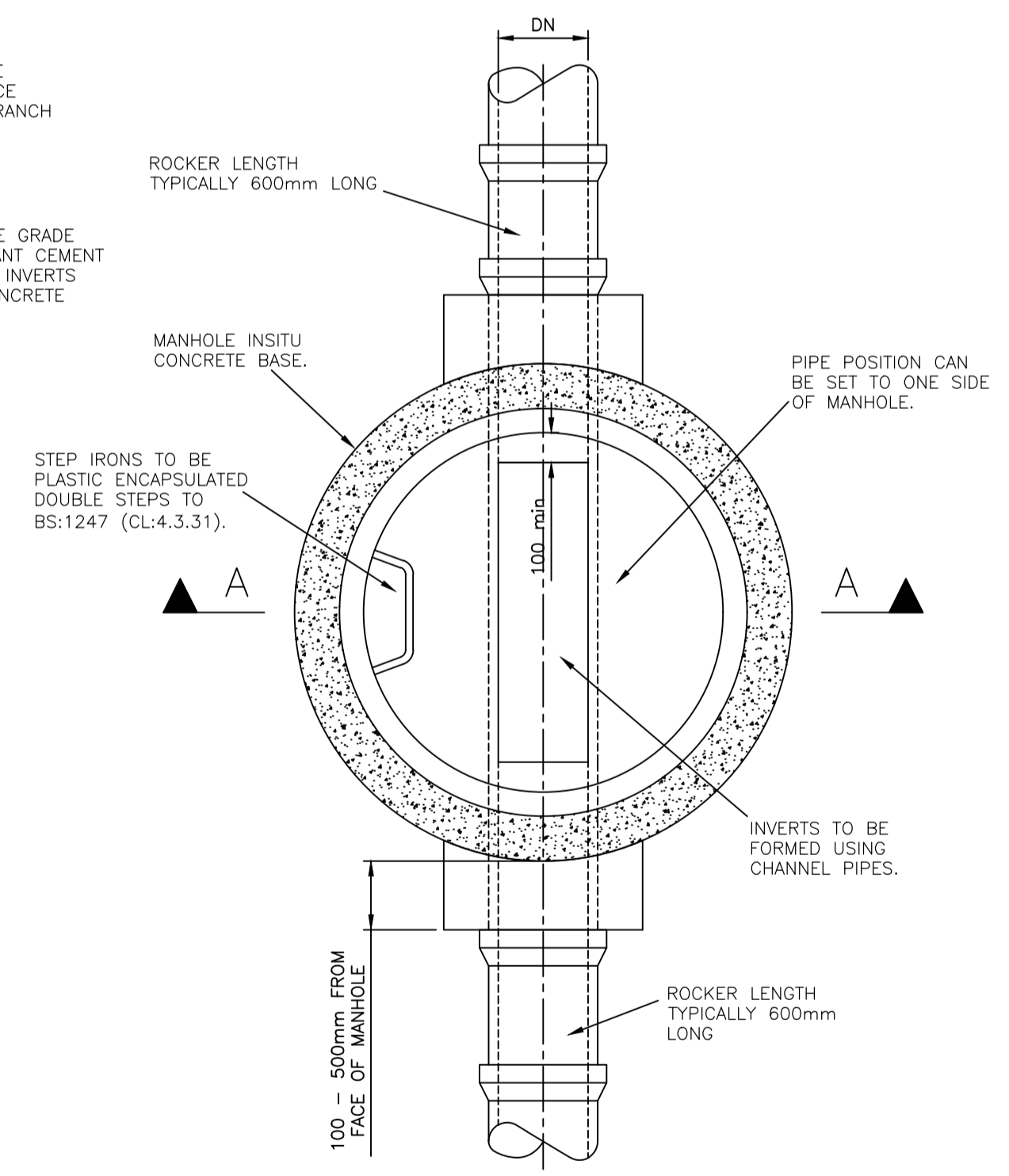
TYPICAL TYPE 'B' PRECAST CONCRETE MANHOLE DETAIL SECTION A-A
DEPTH FROM GROUND LEVEL TO SOFFIT 1.5m - 3.0m
(Scale 1:20)



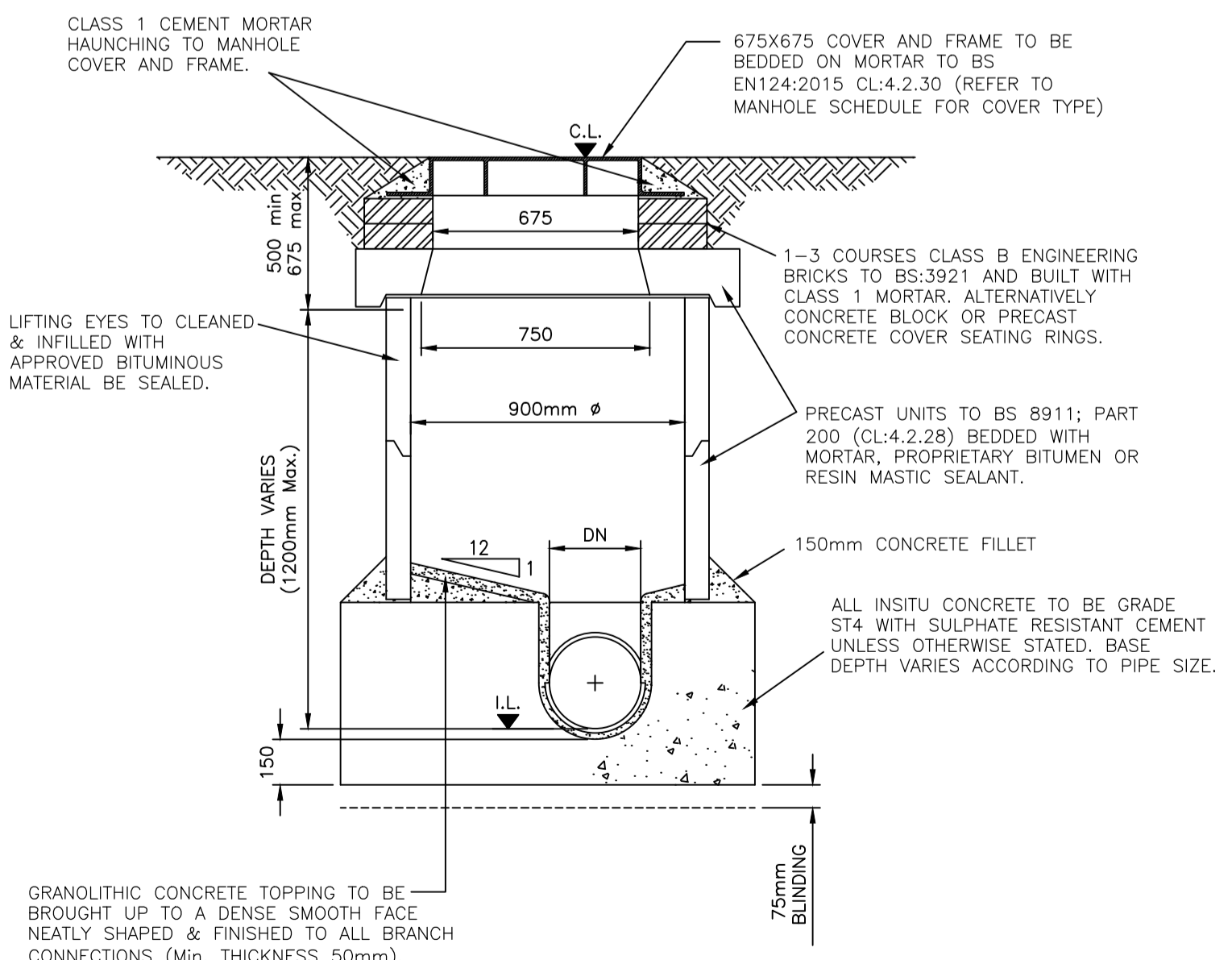
TYPICAL CATCH PIT PRECAST CONCRETE SILT MANHOLE DETAIL SECTION C-C
DEPTH FROM GROUND LEVEL TO SOFFIT 1.5m - 3.0m
(Scale 1:20)



TYPICAL CATCH PIT PRECAST CONCRETE MANHOLE DETAIL PLAN SECTION D-D
DEPTH FROM GROUND LEVEL TO SOFFIT 1.5m - 3.0m
(Scale 1:20)



TYPICAL TYPE 'B' PRECAST CONCRETE MANHOLE DETAIL PLAN SECTION B-B
DEPTH FROM GROUND LEVEL TO SOFFIT 1.5m - 3.0m
(Scale 1:20)



TYPICAL PRECAST MANHOLE INSPECTION CHAMBER
DEPTH FROM GROUND LEVEL TO SOFFIT 1.2m - 1.5m
(Scale 1:20)

GENERAL MANHOLE NOTES

- 1 ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH RELEVANT CODES OF PRACTICE AND WELSH BUILDING STANDARDS TO THE APPROVAL OF THE LOCAL AUTHORITIES INSPECTOR.
- 2 ALL DIMENSIONS ARE IN MILLIMETERS AND ALL LEVELS ARE IN METERS.
- 3 MANHOLE COVERS WITHIN TRAFFICKED AREAS TO BE SAINT-GOBAIN, INTER-AX D400-N, HEAVY DUTY, DOUBLE TRIANGULAR, DUCTILE IRON TO BS:EN 124, 600x600 CLEAR OPENING, NON ROCK, LOCKABLE COVER OR EQUAL APPROVED.
- 4 MANHOLE COVERS IN AREAS ACCESSIBLE TO PEDESTRIANS ONLY TO BE SAINT-GOBAIN, TROJAN MEDIUM DUTY B125, SINGLE PIECE, DUCTILE IRON TO BS:EN 124, 600x600 CLEAR OPENING, SCREW DOWN COVER OR EQUAL APPROVED.
- 5 ALL MANHOLE & ACCESS COVERS WITHIN BUILDING FOOTPRINT TO BE DOUBLED SEALED. COVERS IN OPEN SPACE TO BE VENTILATED. REFER TO MANHOLE SCHEDULE FOR TYPE AND LOCATION.
- 6 FIRST FLEXIBLE JOINTS IN PIPES ADJACENT TO A MANHOLE SHALL BE A MAXIMUM OF 600mm FROM INSIDE FACE OF MANHOLE, CONNECTING TO ROCKER PIPE. REFER TO MANHOLE DIMENSIONS TABLE FOR ROCKER PIPE LENGTH.
- 7 MANHOLE CHAMBERS RINGS SHALL BE PRECAST UNITS TO BS:8911:PART 200 (CL:4.2.28) BEDDED WITH MORTAR, PROPRIETARY BITUMEN OR RESIN MASTIC SEALANT OR OTHER SIMILAR APPROVED MATERIAL APPLIED IN ACCORDANCE WITH THE MANUFACTURERS INSTRUCTIONS.
- 8 THE LOWEST CHAMBER RING BEARING ON THE FOUNDATION AND THE HIGHEST CHAMBER RING RECEIVING THE COVER SLAB SHALL HAVE PLAIN ENDS AND BE BEDDED IN MORTAR.
- 9 MANHOLE ACCESS HOLE AND STEP IRON POSITIONS TO BE LOCATED TO GIVE GREATEST FREE AREAS OF BENCHING IMMEDIATELY BELOW.
- 10 STEP IRONS NOT TO PROTRUDE INTO 675 SQUARE ACCESS OPENING SHAFT COVER SLAB. STEP IRONS TO BE PLASTIC ENCAPSULATED DOUBLE STEPS TO BS:1247 (CL:4.3.31).
- 11 TOP STEP IRON TO BE LOCATED NOT LESS THAN 500 AND NOT GREATER THAN 675 FROM THE FINISHED MANHOLE COVER LEVEL.
- 12 CONCRETE FOUNDATION TO BE SCRABBLED BEFORE PLACING BENCHING.
- 13 WHERE OUTLET PIPE DIAMETER IS GREATER THAN INLET, PIPE SOFFIT TO BE THE SAME LEVEL UNLESS NOTED OTHERWISE. A MINIMUM FALL OF 50mm SHOULD BE ACHIEVED ACROSS MANHOLE IN DIRECTION OF FLOW.
- 14 GRANOLITHIC CONCRETE TOPPING TO BE BROUGHT UP TO A DENSE SMOOTH FACE NEATLY SHAPED & FINISHED TO ALL BRANCH CONNECTIONS (Min. THICKNESS 50mm).
- 15 BENCHING SHALL BE TROWEL SMOOTH AND SLOPED TOWARDS THE CHANNEL AT 1 IN 12.
- 16 SELF CLEANING TOE HOLES TO BE PROVIDED WHERE CHANNELS EXCEED 600mm WIDE.
- 17 BRANCH BENDS AND BENCHING TO BE CURVED IN THE DIRECTION OF FLOW AND FORMED FROM GRANOLITHIC CONCRETE, HIGH STRENGTH CONCRETE TOPPING OR WITH GRADE ST3 CONCRETE TOWELED SMOOTH MONOLITHICALLY WITH THE BASE SLAB.
- 18 MANHOLES WITH OUTGOING PIPES GREATER THAN 450mm DIAMETER SHALL BE FITTED WITH GUARD BARS, SAFETY CHAINS OR OTHER SAFETY DEVICES.
- 19 ALL PRECAST CONCRETE PRODUCTS (i.e. PIPES, MANHOLE RINGS etc.) SHALL BE TO DESIGN SULPHATE CLASS DS-2 AND CHEMICAL DESIGN DC-3, IN ACCORDANCE WITH BRE SPECIAL DIGEST 1 AND BS:5911.
- 20 REFER TO SITE INVESTIGATION REPORT OR STRUCTURAL FOUNDATION DRAWINGS FOR IN-STU CONCRETE SULPHATE CLASSIFICATION.

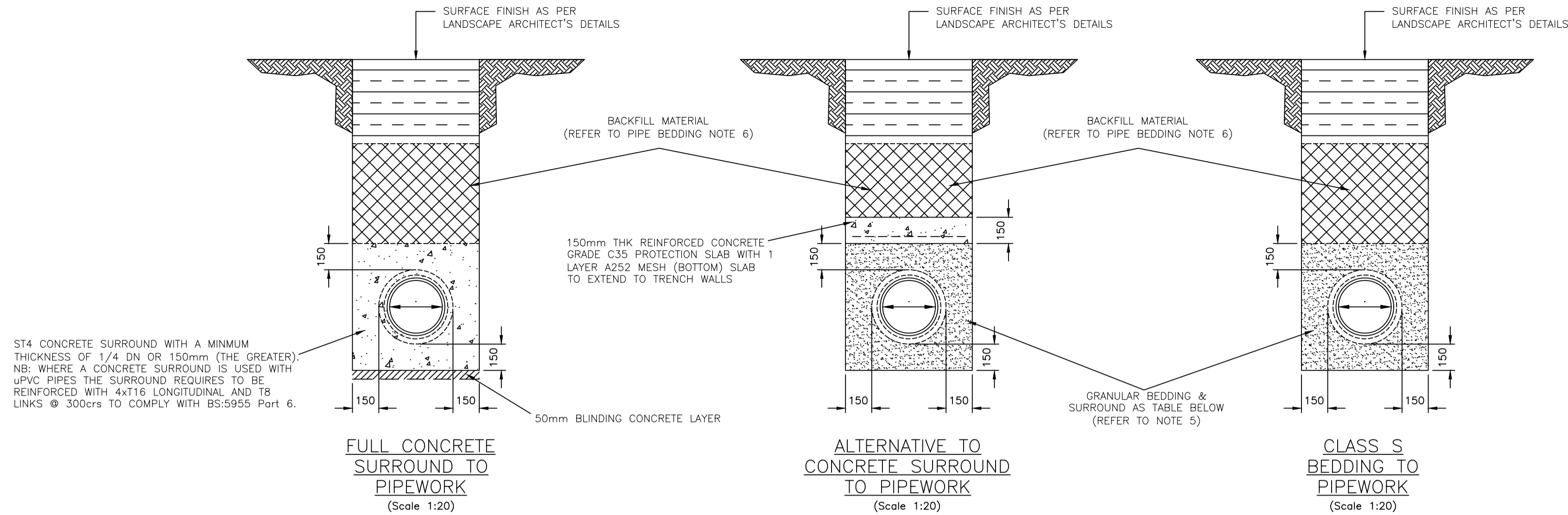
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REV	DESCRIPTION	BY	CHK	DATE

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Project:
Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales

Drawing Title:
Proposed Drainage
Construction Details
Sheet 01

Scale @ A1	Date	Engineer
1:20	February 2020	C.Connor
Drawing No.	305056-040	Revision
		-



ST4 CONCRETE SURROUND WITH A MINIMUM THICKNESS OF 1/4 DN OR 150mm (THE GREATER). NB: WHERE A CONCRETE SURROUND IS USED WITH uPVC PIPES THE SURROUND REQUIRES TO BE REINFORCED WITH 4xT16 LONGITUDINAL AND T8 LINKS @ 300cs TO COMPLY WITH BS:5955 Part 6.

FULL CONCRETE SURROUND TO PIPEWORK
(Scale 1:20)

ALTERNATIVE TO CONCRETE SURROUND TO PIPEWORK
(Scale 1:20)

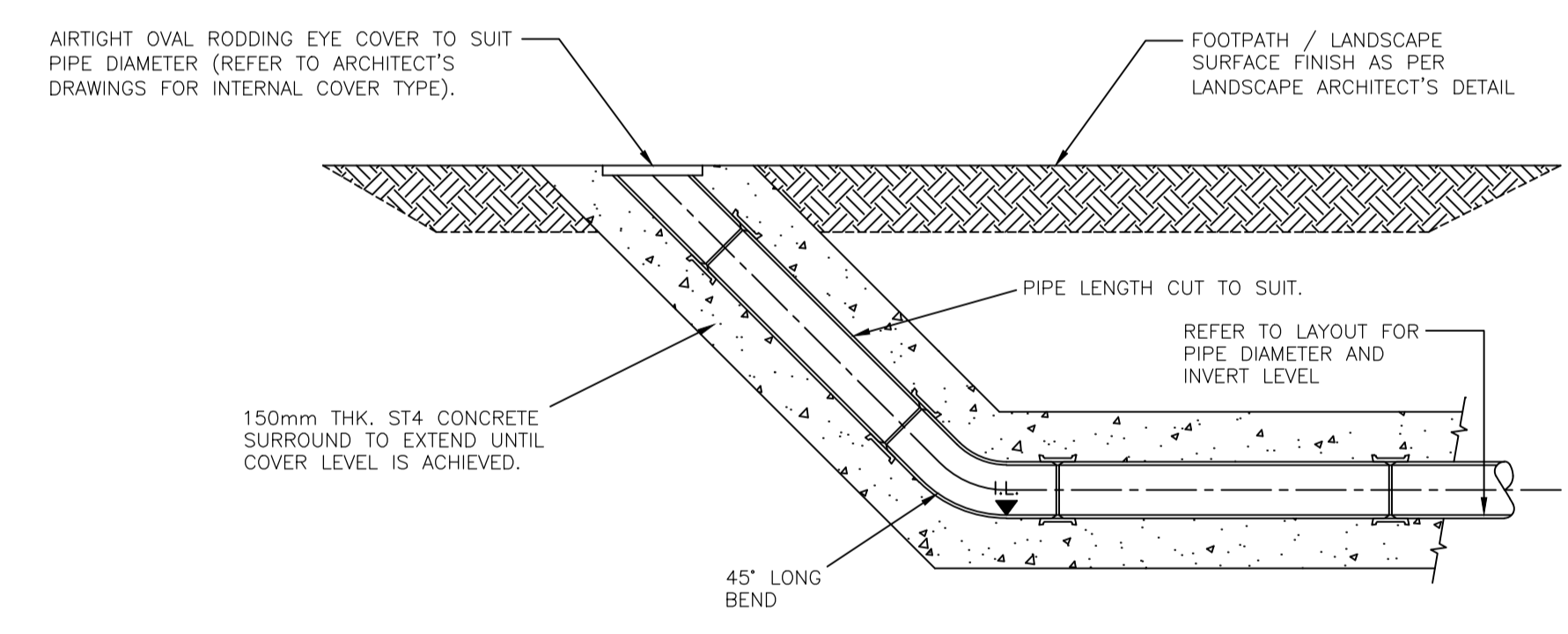
CLASS S BEDDING TO PIPEWORK
(Scale 1:20)

PIPE BEDDING SPECIFICATION TABLE (THIS TABLE TO BE READ IN CONJUNCTION WITH W.I.S. No. 4-08-02A:2008)					
PIPE NOMINAL BORE	CLASS OF BEDDING	NOMINAL MAXIMUM PARTICLE SIZE	Max. CF VALUE NON-PRESSURE PIPE	Max. CF VALUE PRESSURE PIPE	MATERIALS SPECIFIED IN BRITISH STANDARDS
100mm	's'	10mm	0.15 0.30	0.30	10mm NOMINAL SINGLE SIZE
100 - 150mm	's'	15mm	0.15 0.30	0.30	10 OR 14mm NOMINAL SINGLE SIZE OR 14mm TO 5mm GRADED
150 - 300mm	's'	20mm	0.15 0.30	0.30	10, 14 OR 20mm NOMINAL SINGLE SIZE OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED
300 - 550mm	's'	20mm	0.15 0.30	0.30	14 OR 20mm NOMINAL SINGLE SIZE OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED
<550mm	's'	40mm	0.15 0.30	0.30	14, 20 OR 40mm NOMINAL SINGLE SIZE OR 14mm TO 5mm GRADED OR 20mm TO 5mm GRADED OR 40mm TO 5mm GRADED

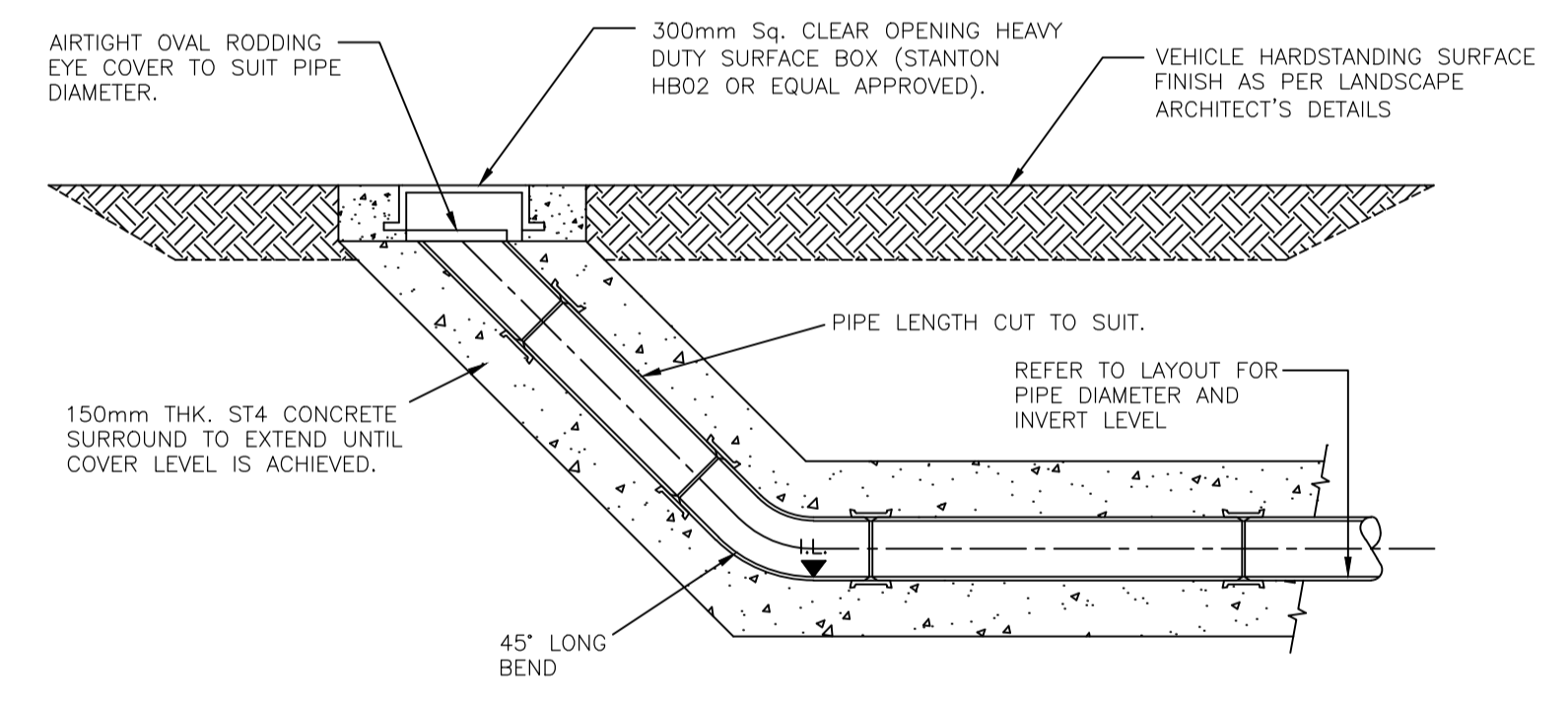
PIPE BEDDING REQUIREMENT		
LOCATION	COVER TO PIPE SOFFIT	BEDDING TYPE
ROADS (ADOPTED SEWERS)	>1.2m	CLASS 'S' GRANULAR BED & SURROUND
	<1.2m	CONCRETE SURROUND
UNDER BUILDING SLAB	>0.45m	CLASS 'B' GRANULAR BED & SURROUND
	<0.45m	CONCRETE SURROUND

PIPE TYPE & BEDDING NOTES

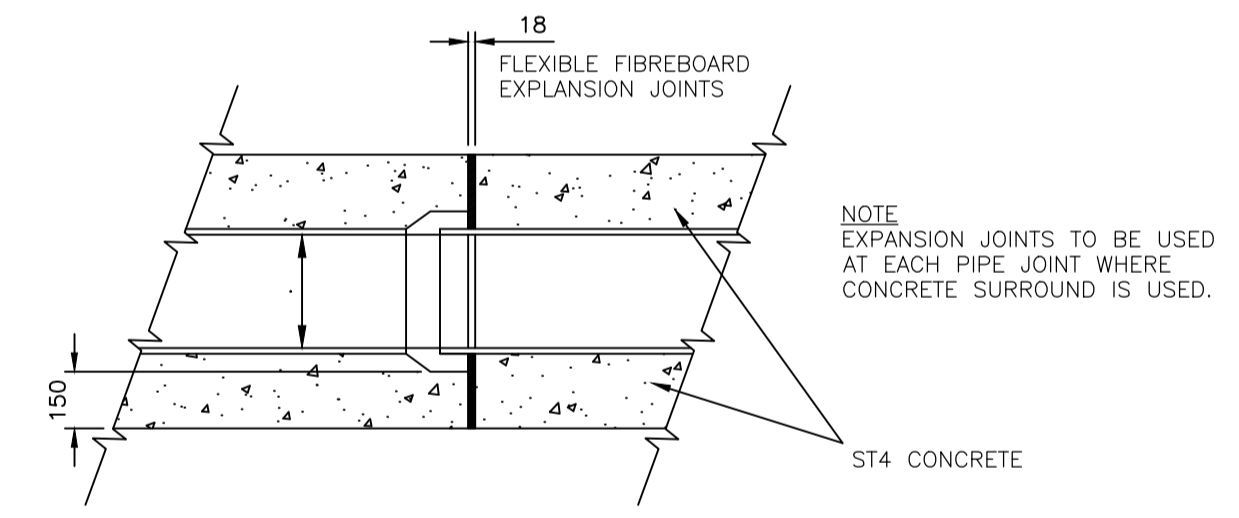
- THE FOLLOWING PIPE STRENGTHS SHALL BE ADOPTED UNLESS NOTED OTHERWISE:-
uPVC SHALL BE DOUBLE STRUCTURED WALL SEWER PIPE SHALL COMPLY WITH THE RELEVANT PROVISIONS OF WIS-4-35-01 IN ACCORDANCE WITH BS EN1401 PE 1 2009.
uPVC JOINTS & FITTINGS FOR GRAVITY SEWERS SHALL COMPLY WITH THE RELEVANT PROVISIONS OF BS:4346 Part 3, AND BS:4660:2000, SOLVENT CEMENT MAY ALTERNATIVELY COMPLY WITH BS:6209.
PIPES UP TO AND INCLUDING 300mm Ø TO BE UNPLASTICISED PVC DOUBLE STRUCTURED WALL UNLESS NOTED OTHERWISE.
PIPES ABOVE 300mm Ø TO BE CLASS M CONCRETE UNLESS NOTED OTHERWISE.
- REFER TO LAYOUT PLAN FOR PIPEWORK TYPE & LOCATION.
- WHERE COVER IS LESS THAN 1.2m Dp BELOW TRAFFICKED AREA OR 0.9m DP BELOW LANDSCAPE AREAS SHALL BE PROVIDED WITH CONCRETE SURROUND TO COMPLY WITH BS:5955 Part 6 REQUIREMENT OR THE ALTERNATIVE CONCRETE SURROUND DETAIL SHOULD BE ADOPTED.
- ALL WORK AND MATERIAL TO COMPLY WITH THE SEWERS FOR SCOTLAND 3rd EDITION.
- SPECIFICATION FOR BEDDING AND SIDEWALL MATERIALS TO BE WATER INDUSTRY SPECIFICATION (WIS) 4-08-02A:2008
- BACKFILL SHALL BE UNIFORM READILY COMPATIBLE MATERIAL FREE FROM VEGETABLE MATTER, BUILDING RUBBISH, FROZEN SOIL, MATERIAL SUSCEPTIBLE TO SPONTANEOUS COMBUSTION & CLAY LUMPS & STONE RETAINED ON 75mm SIEVE & 37.5mm SIEVE RESPECTIVELY.
- ALL PIPE RUNS TO BE LAID WITH FLEXI-JOINTS.
- ALL PIPE BENDS TO SUIT DIRECTION OF FLOW.
- FOR DETAILS OF GROUND CONDITIONS REFER TO GROUND INVESTIGATION REPORT.



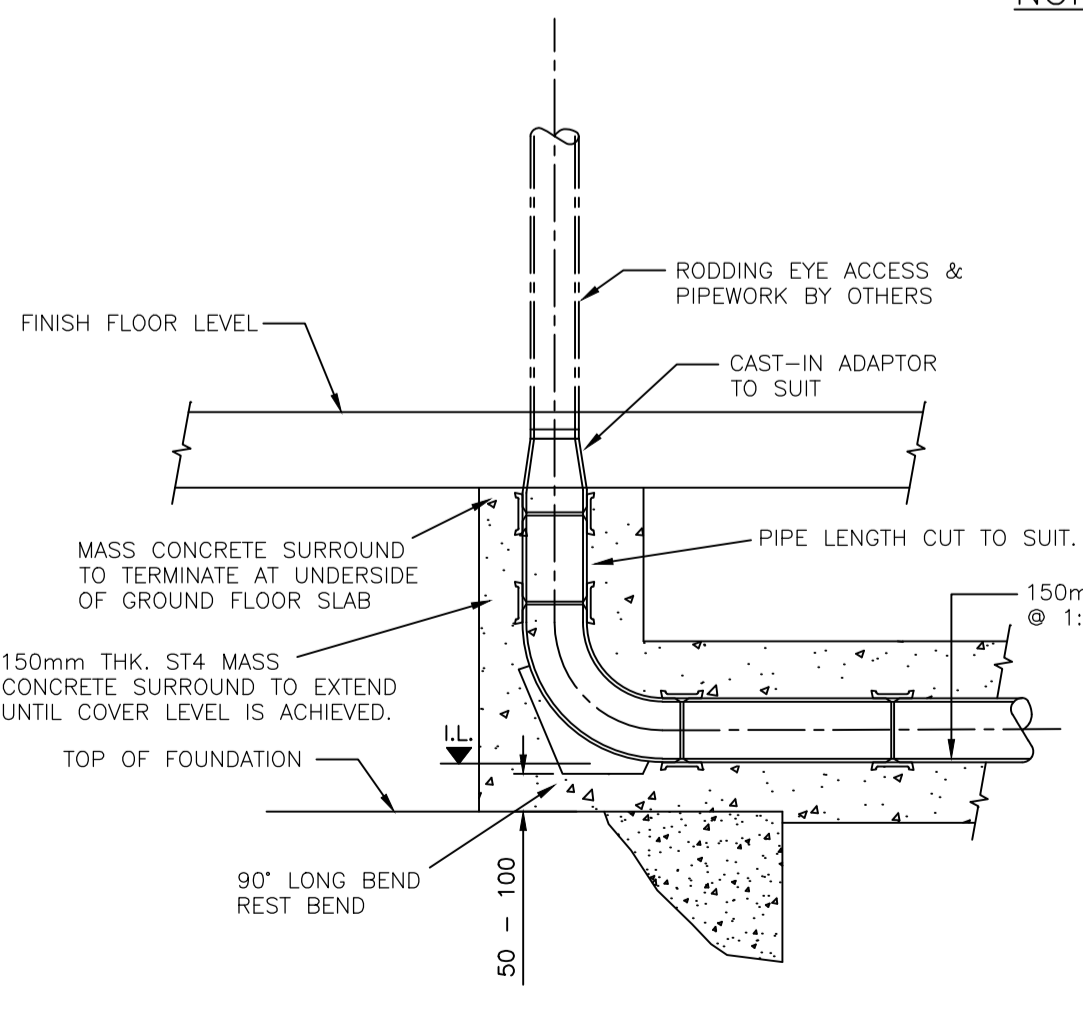
TYPICAL RODDING EYE DETAIL NON-TRAFFICKED AREAS
(Scale 1:20)



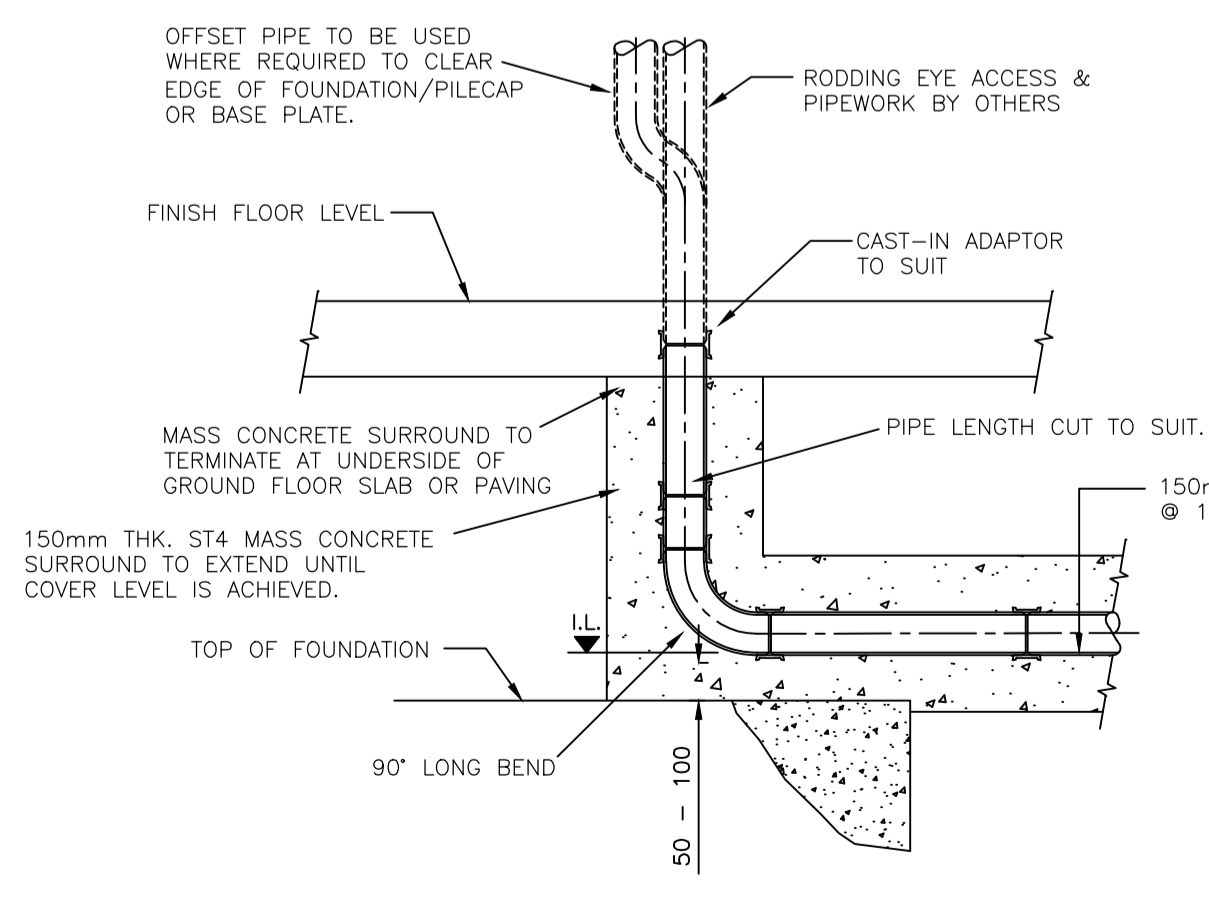
TYPICAL RODDING EYE DETAIL TRAFFICKED AREAS
(Scale 1:20)



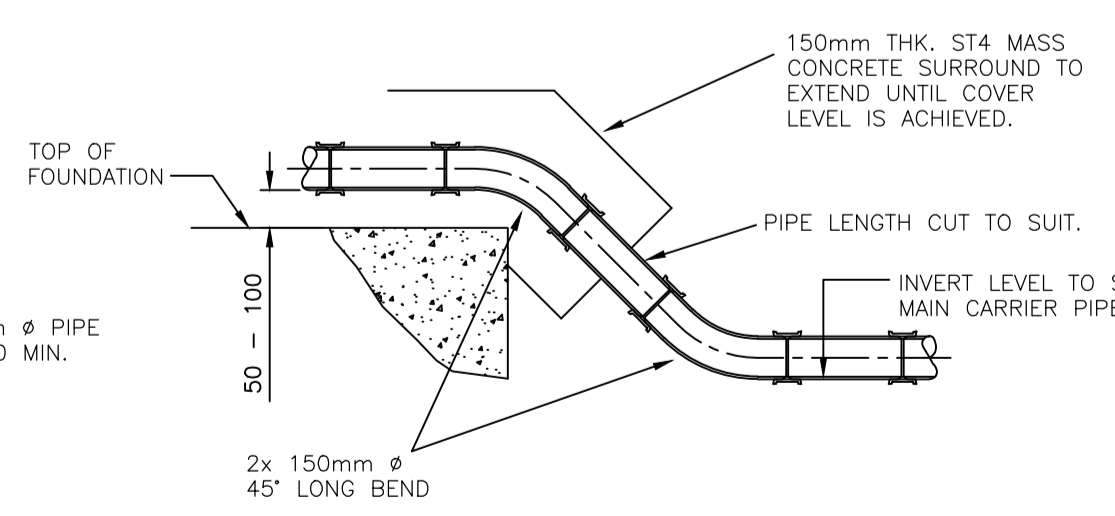
SECTION THRO' EXPANSION JOINT IN CONCRETE SURROUND
(SCALE 1:20)



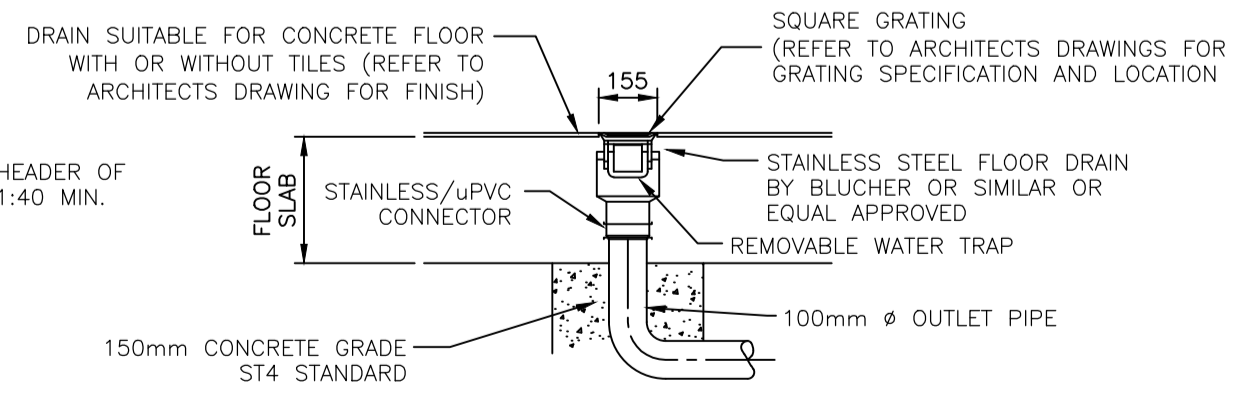
TYPICAL SOIL VENT PIPE OUTLET DETAIL
(Scale 1:20)



TYPICAL RAINWATER DOWNPIPE OUTLET DETAIL
(Scale 1:20)



TYPICAL PIPE DETAIL OVER FOUNDATION
(Scale 1:20)



FLOOR GULLY
(Scale: 1:20)

PLANNING			
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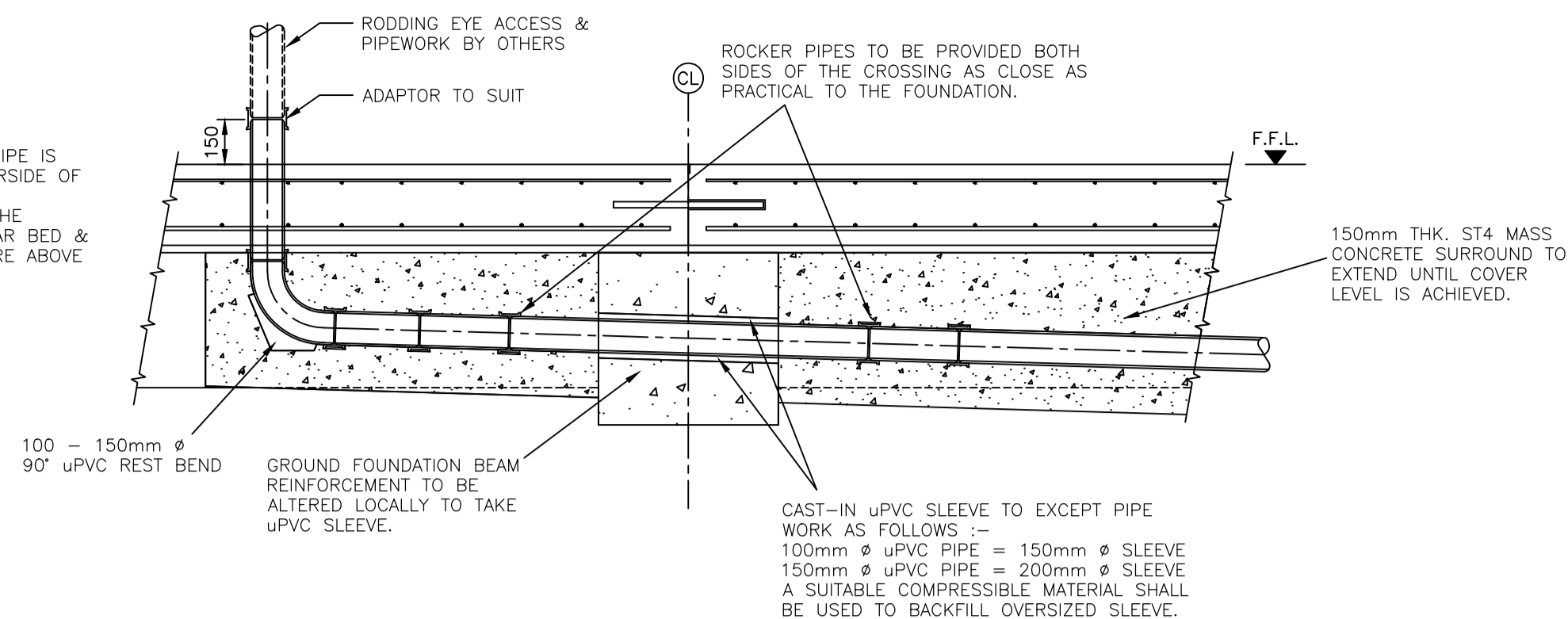
Project:
Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales

Drawing Title:
Proposed Drainage
Construction Details
Sheet 02

Scale @ A1	Date	Engineer
1:20	February 2020	C.Connor

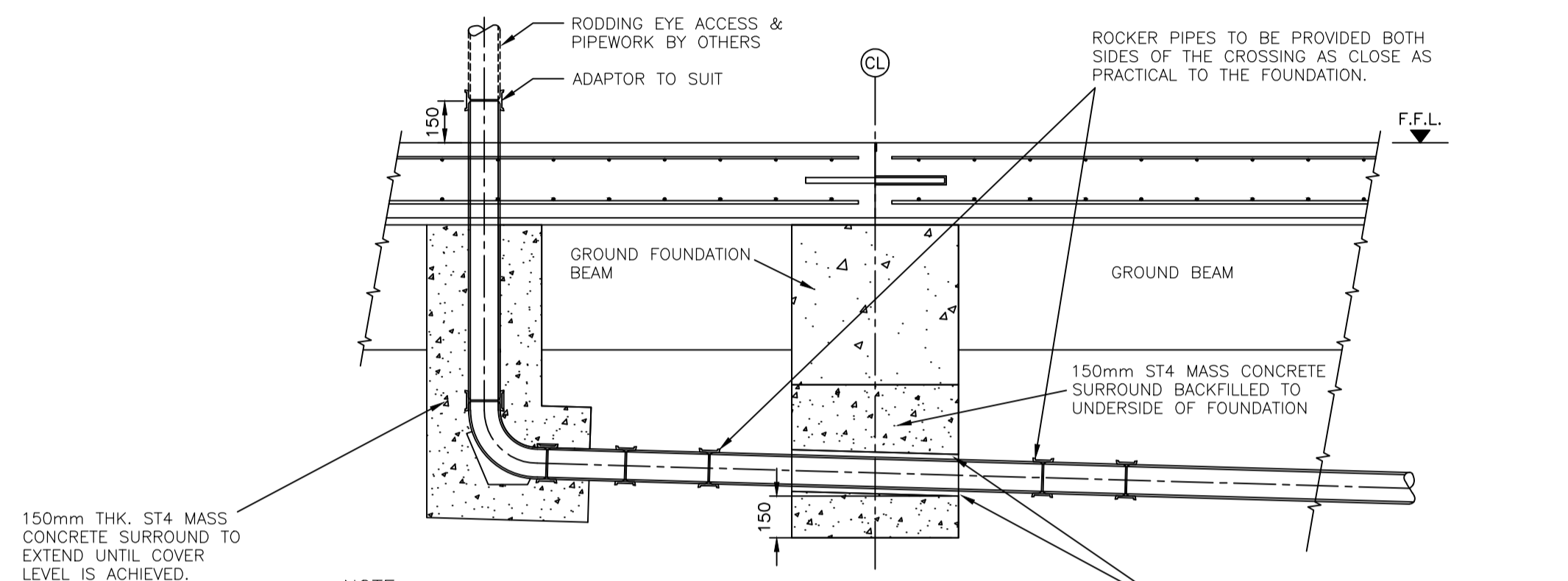
Drawing No. **305056-041** Revision **-**

NOTE
WHERE THE CROWN OF THE PIPE IS WITHIN 450mm OF THE UNDERSIDE OF THE SLAB, 150mm CONCRETE ENCASEMENT TO EXTEND TO THE UNDERSIDE OF SLAB GRANULAR BED & SURROUND TO BE USED WHERE ABOVE CONDITION EXCEEDS 450mm.



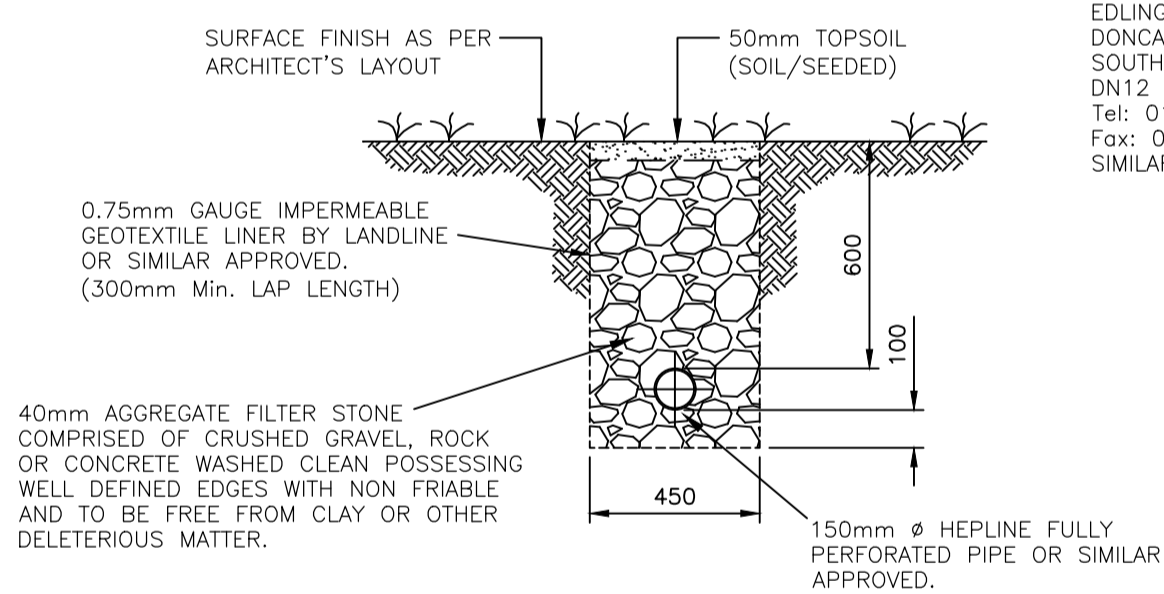
TYPICAL THRO BEAM CROSSING
DETAIL INTERNAL / EXTERNAL

(Scale 1:20)

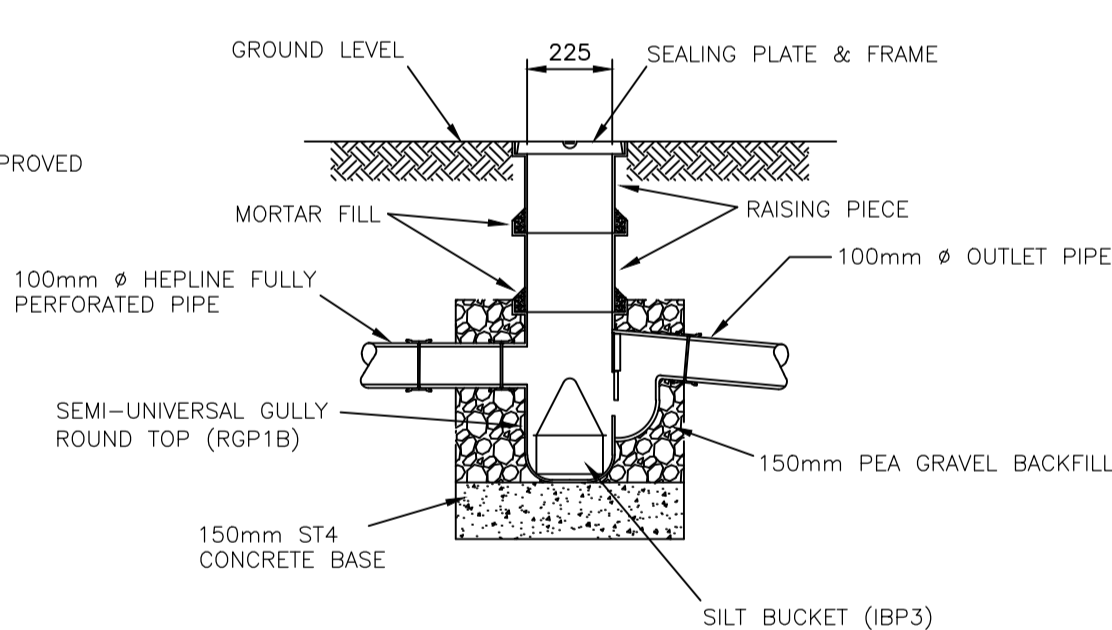


TYPICAL BELOW BEAM CROSSING
DETAIL INTERNAL / EXTERNAL

(Scale 1:20)

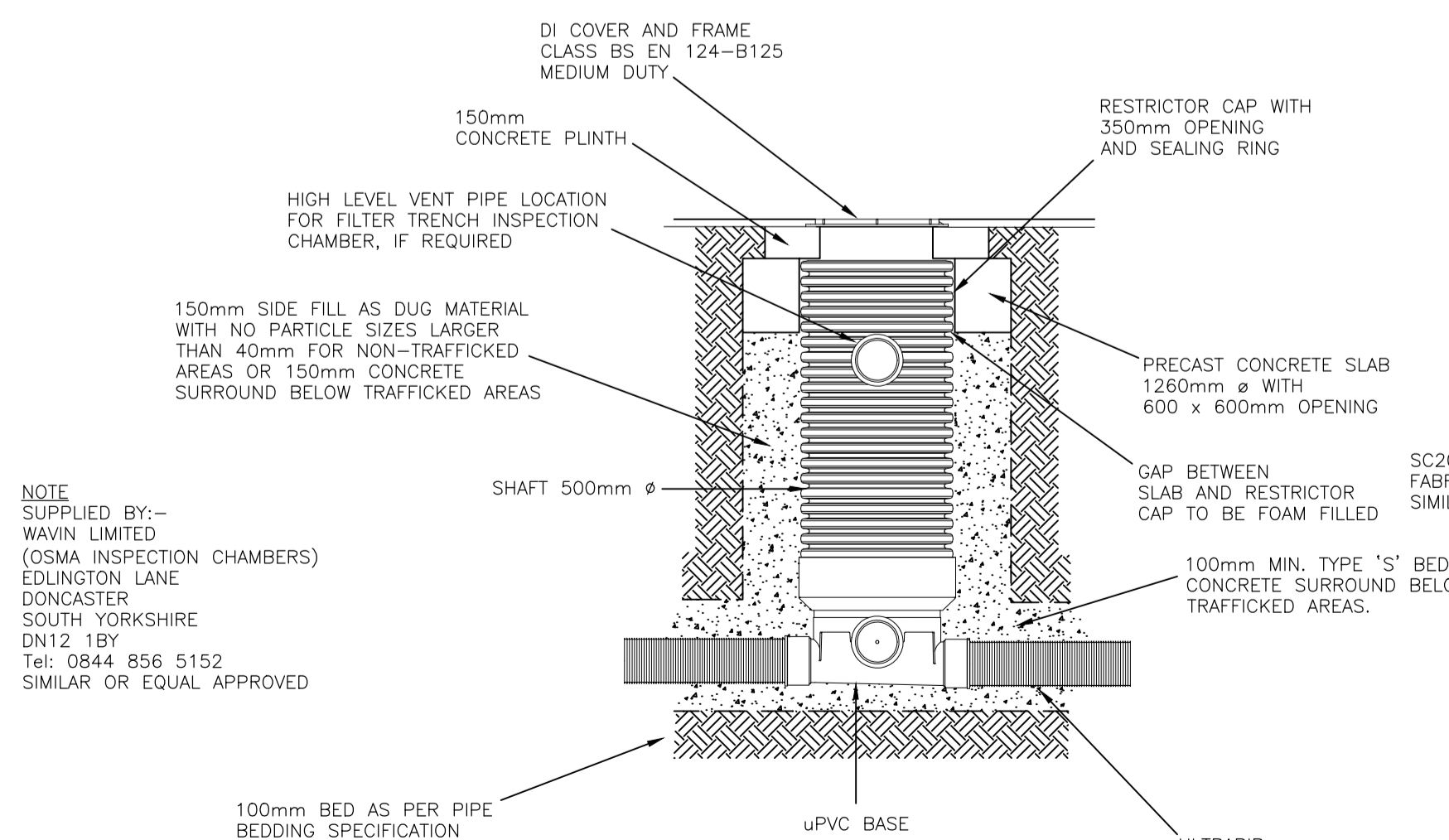


FIELD DRAIN
(Scale 1:20)



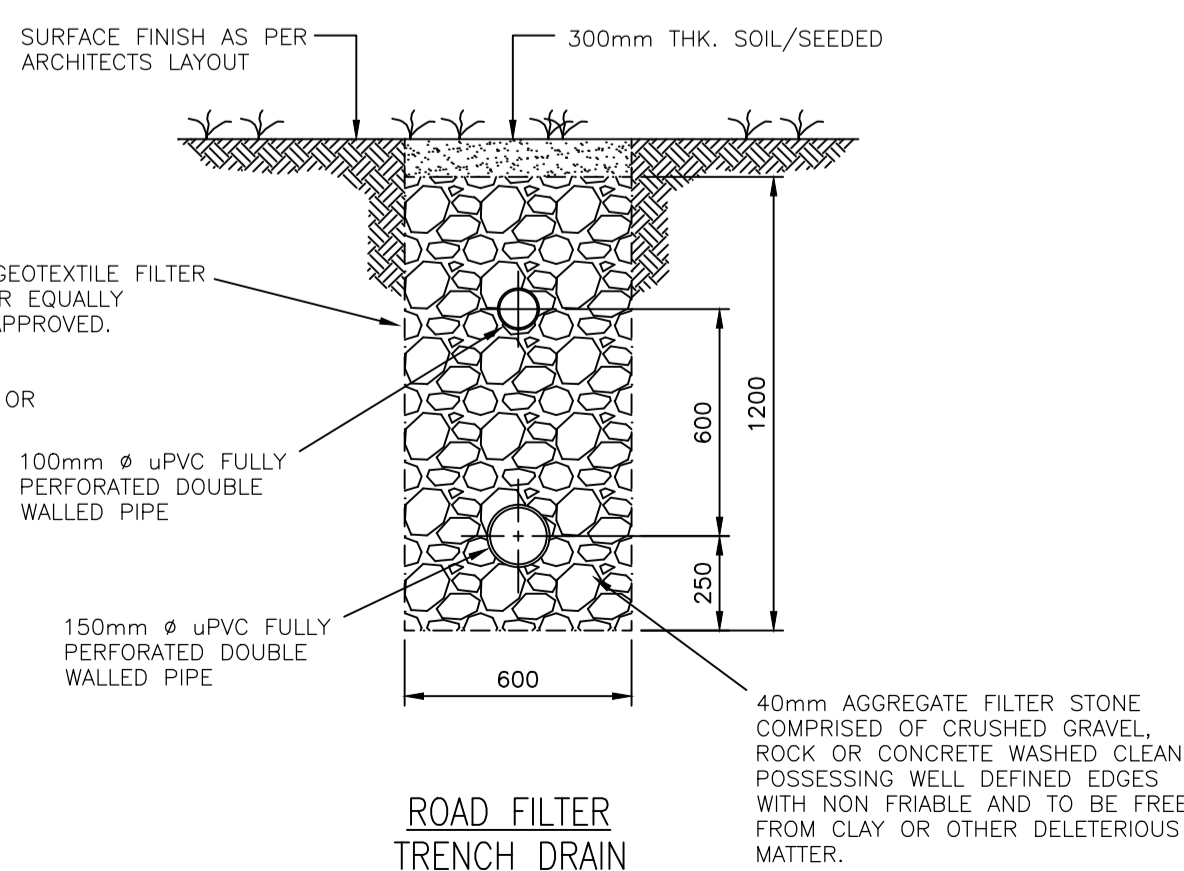
ROAD FILTER TRENCH
SILT TRAP

(Scale 1:20)



TYPICAL uPVC MANHOLE
INSPECTION CHAMBER

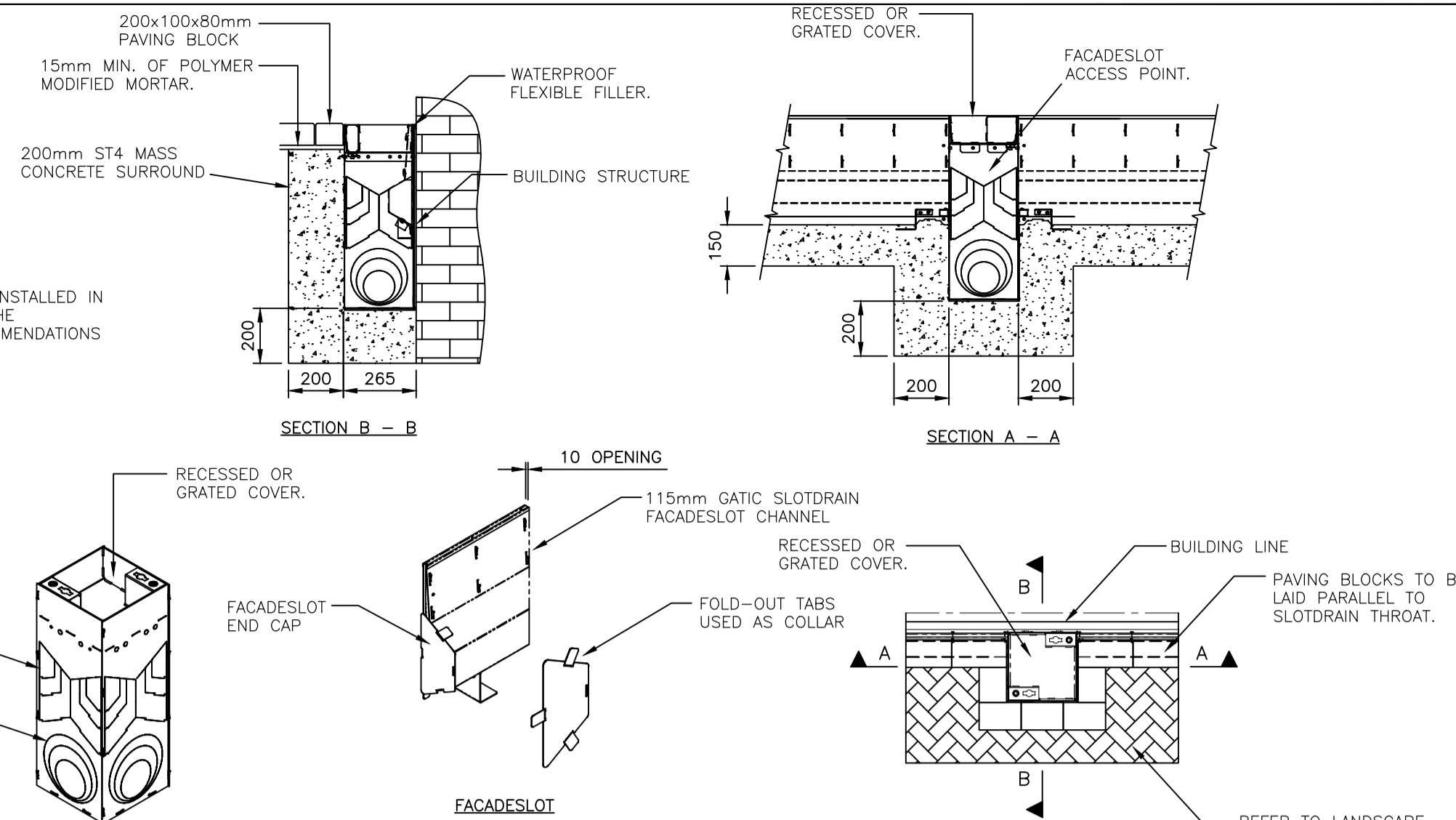
DEPTH FROM GROUND LEVEL TO SOFFIT 0.75m - 1.2m
(Scale 1:20)



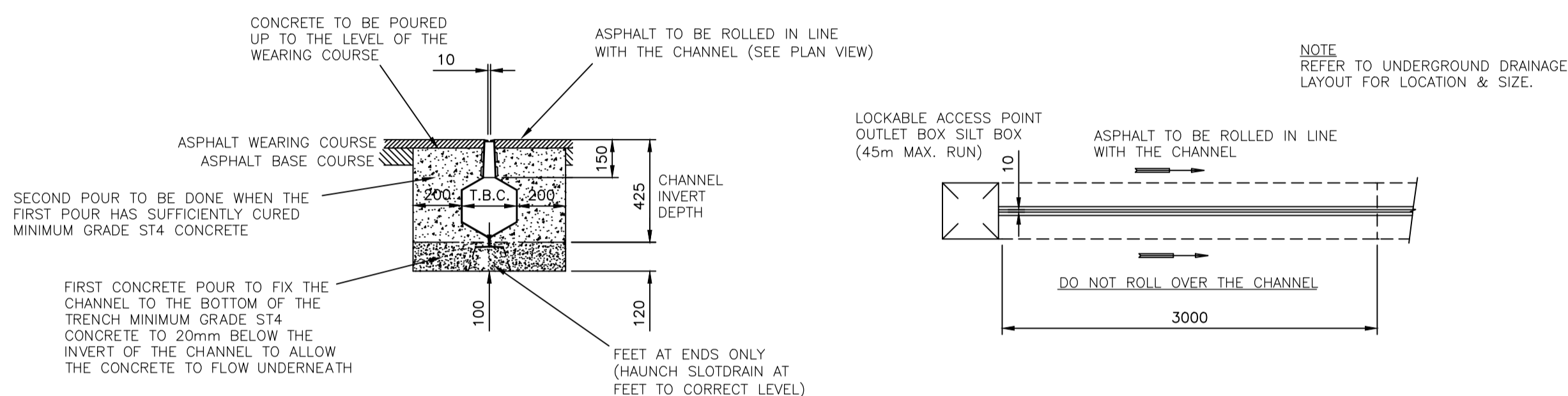
ROAD FILTER
TRENCH DRAIN

(Scale 1:20)

NOTE
GATIC DRAIN TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURE RECOMMENDATIONS



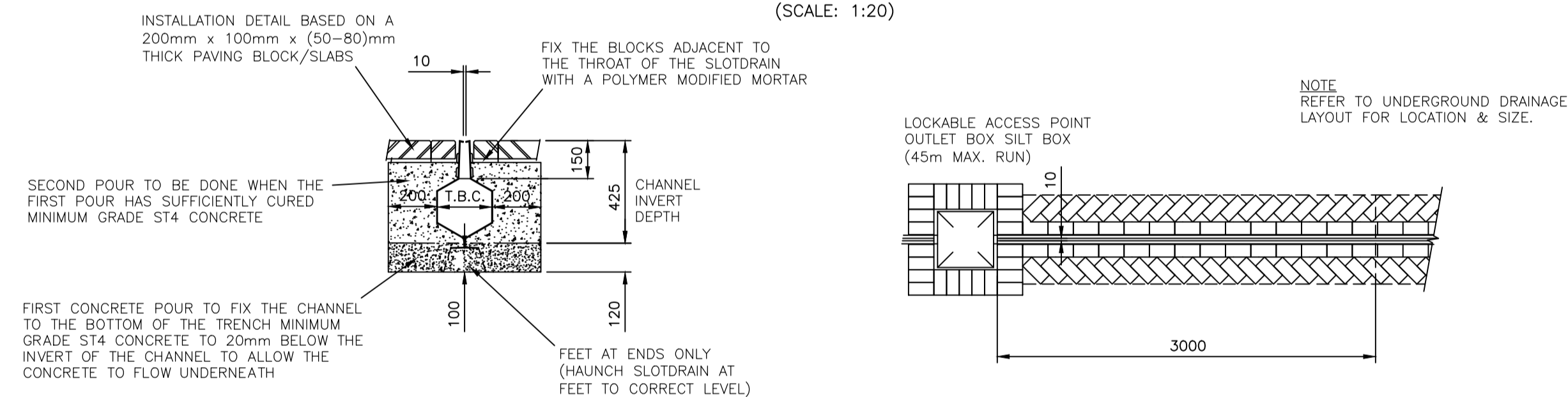
TYPICAL GATIC FACADE DETAILS
(SCALE 1:20)



SECTION DETAIL
(SCALE: 1:20)

GATIC SLOT DRAIN
ASPHALT INSTALLATION
(SCALE: 1:20)

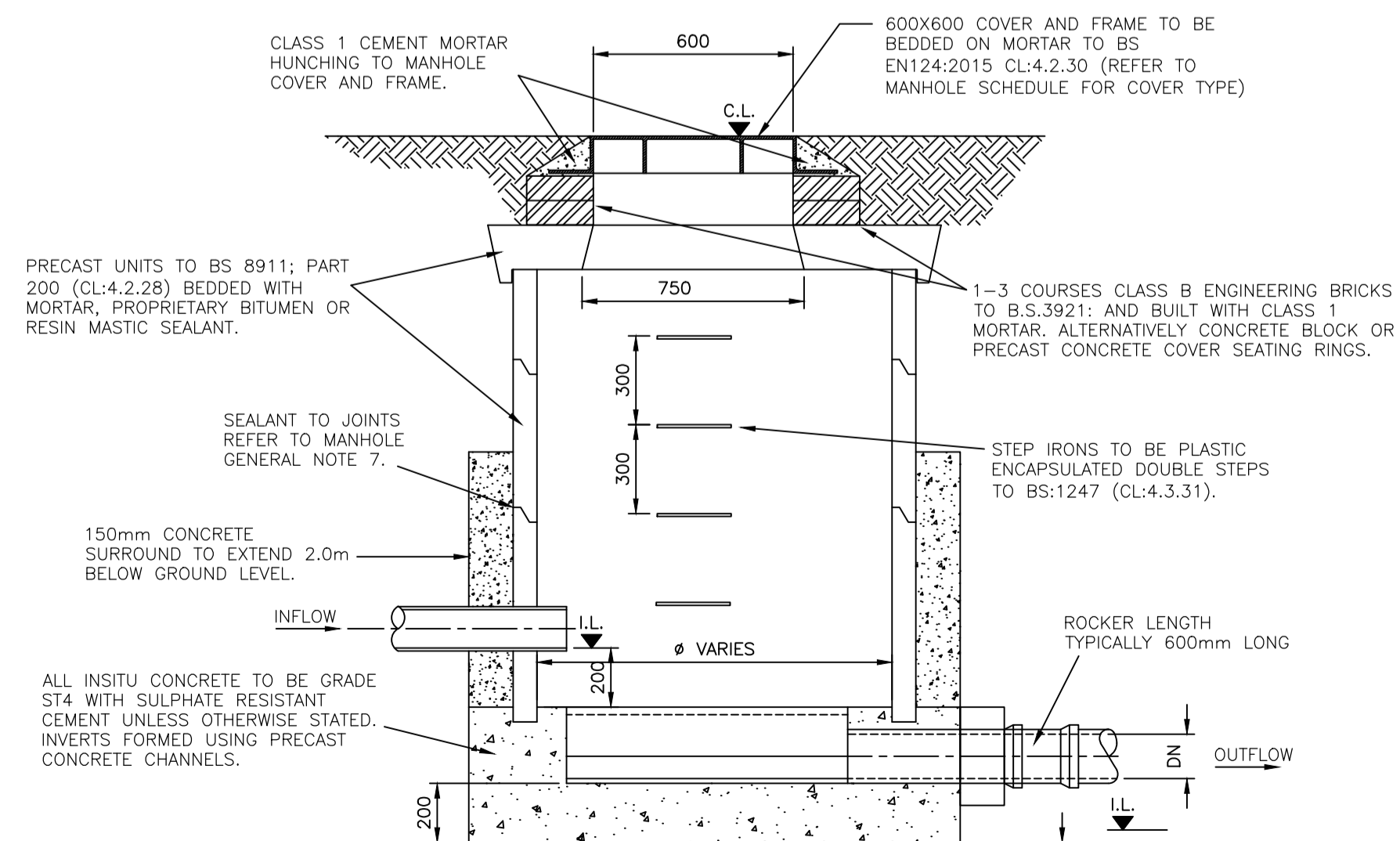
PLAN DETAIL
(SCALE: 1:20)



SECTION DETAIL
(SCALE: 1:20)

GATIC SLOT DRAIN
BLOCK/SLABS INSTALLATION
(SCALE: 1:20)

PLAN DETAIL
(SCALE: 1:20)



TYPICAL SEPA INSPECTION CHAMBER
CONCRETE MANHOLE DETAIL

DEPTH FROM GROUND LEVEL TO SOFFIT 1.2m - 3.0m
(Scale 1:20)

GENERAL NOTES

- ALL WORKS UNLESS NOTED OTHERWISE TO BE CARRIED OUT IN ACCORDANCE RELEVANT CODES OF PRACTICE AND WELSH BUILDING STANDARDS.
- PRIVATE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH BS:EN:752 - DRAIN & SEWER SYSTEMS OUT SIDE BUILDINGS TO THE APPROVAL OF THE BUILDING CONTROL OFFICER.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS & SPECIALIST DRAWINGS AND SPECIFICATIONS.
- ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METERS UNLESS NOTED OTHERWISE.
- ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
- THE CONTRACTOR MUST VERIFY THE LOCATION AND LEVEL OF THE EXISTING DRAINAGE AFFECTED BY THE NEW WORKS AND CONFIRM HIS ACCEPTANCE OR OTHERWISE OF THE INFORMATION SHOWN ON THE DRAWINGS PRIOR TO

PLANNING

REV	DESCRIPTION	BY	CHK	APP	DATE

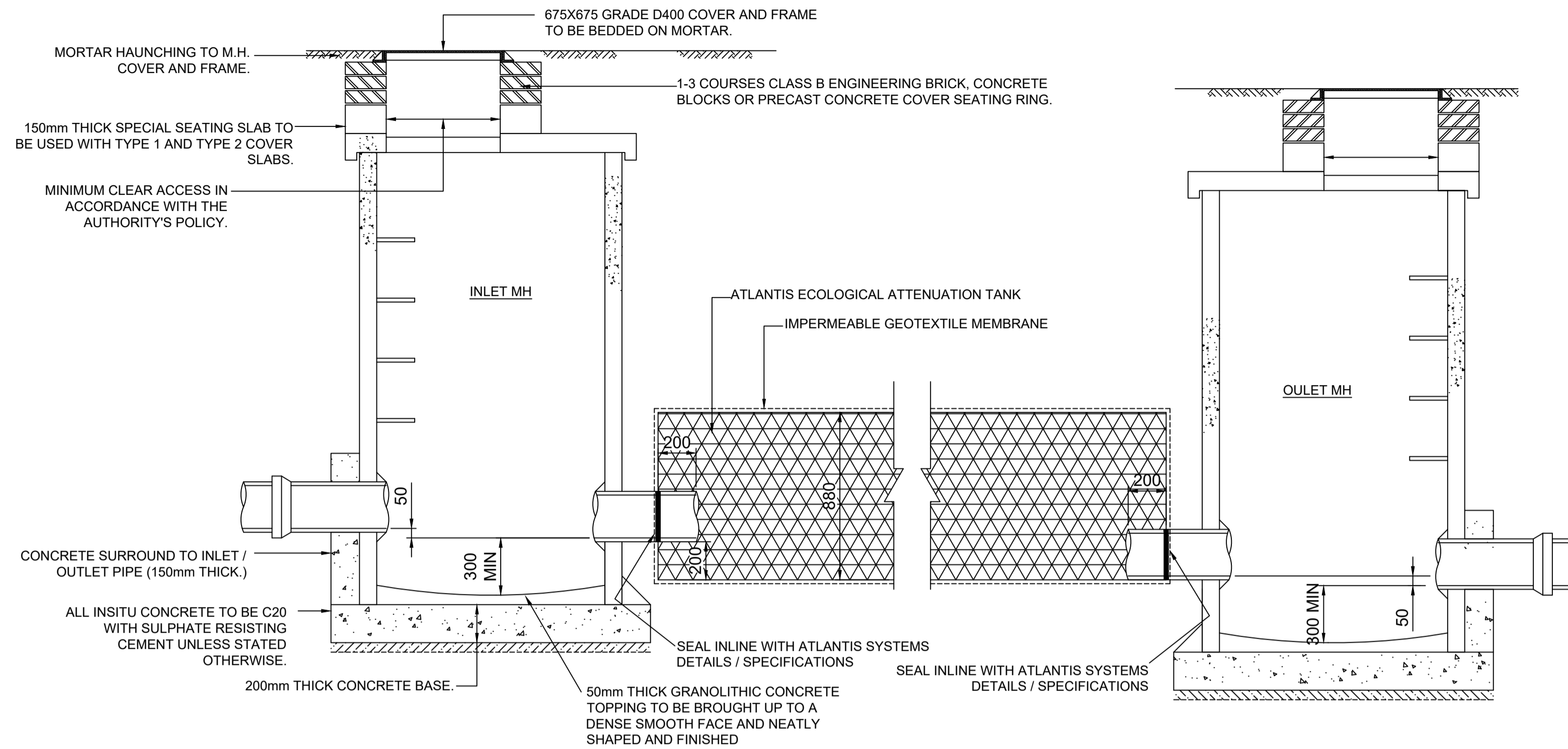
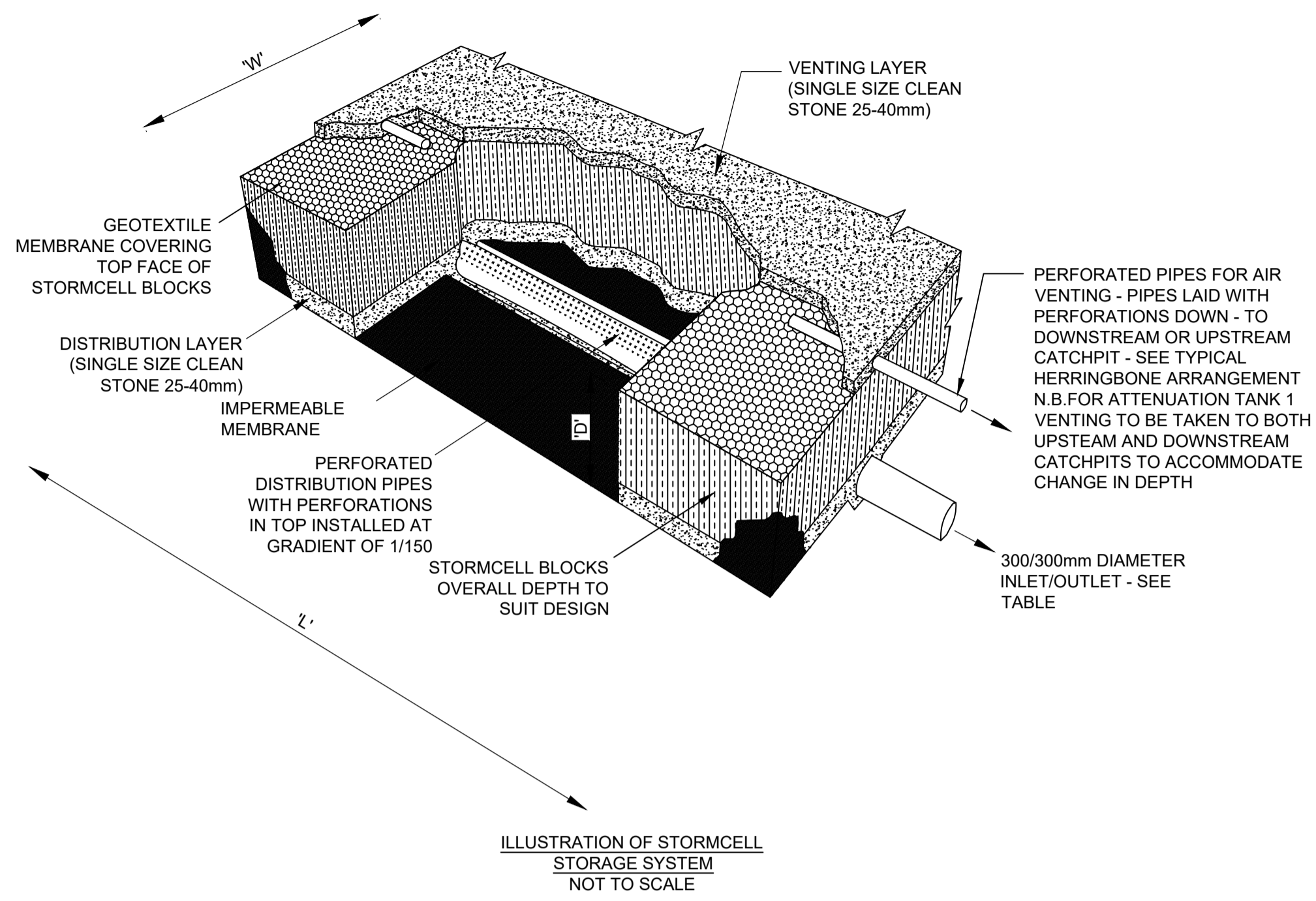
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Pant Industrial Estate
Merthyr Tydfil, Wales

Drawing Title:
Proposed Drainage
Construction Details
Sheet 03

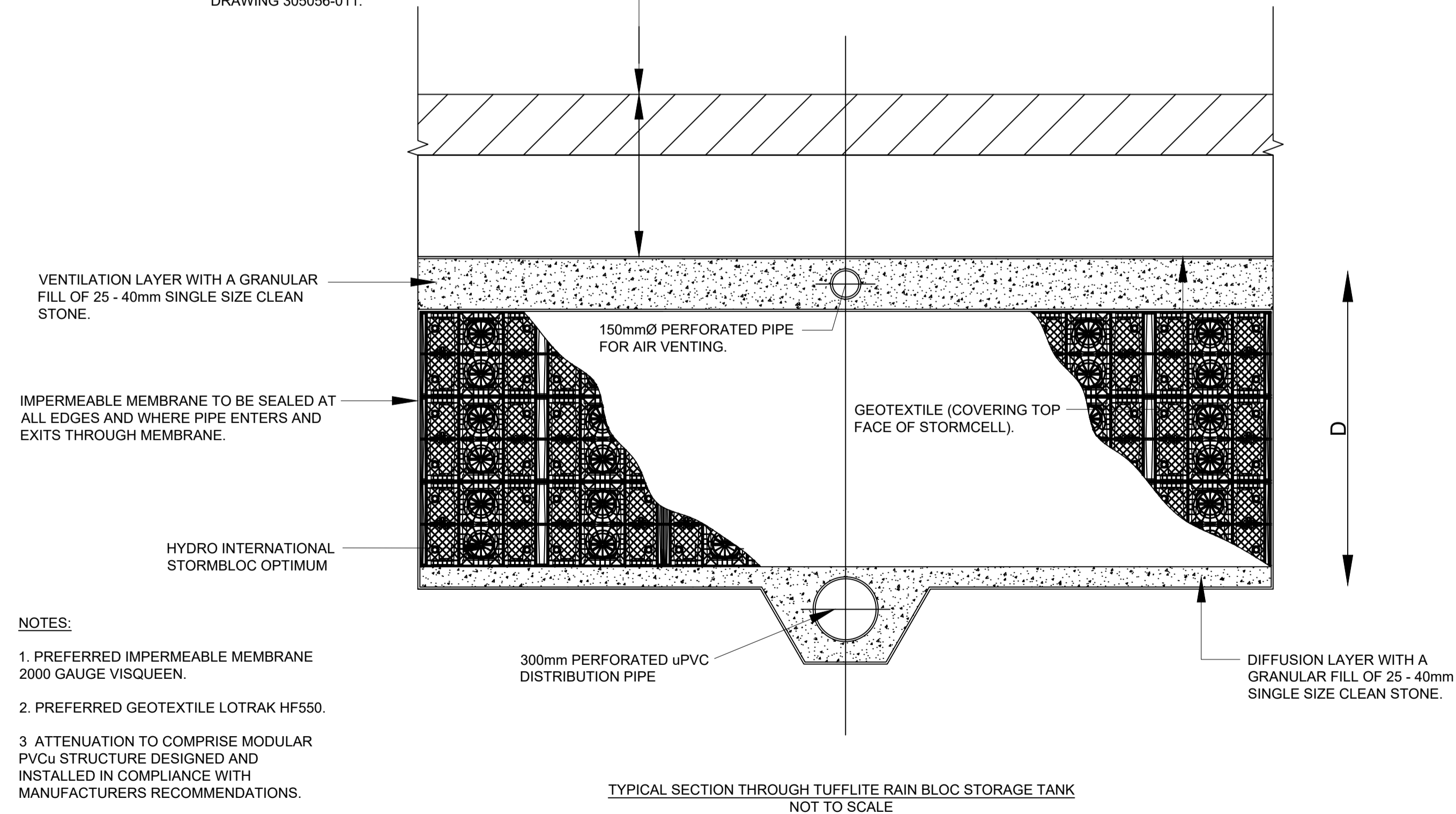
Scale @ A1 Date Engineer
 1:20 February 2020 C.Connor

Drawing No. 305056-042 Revision -



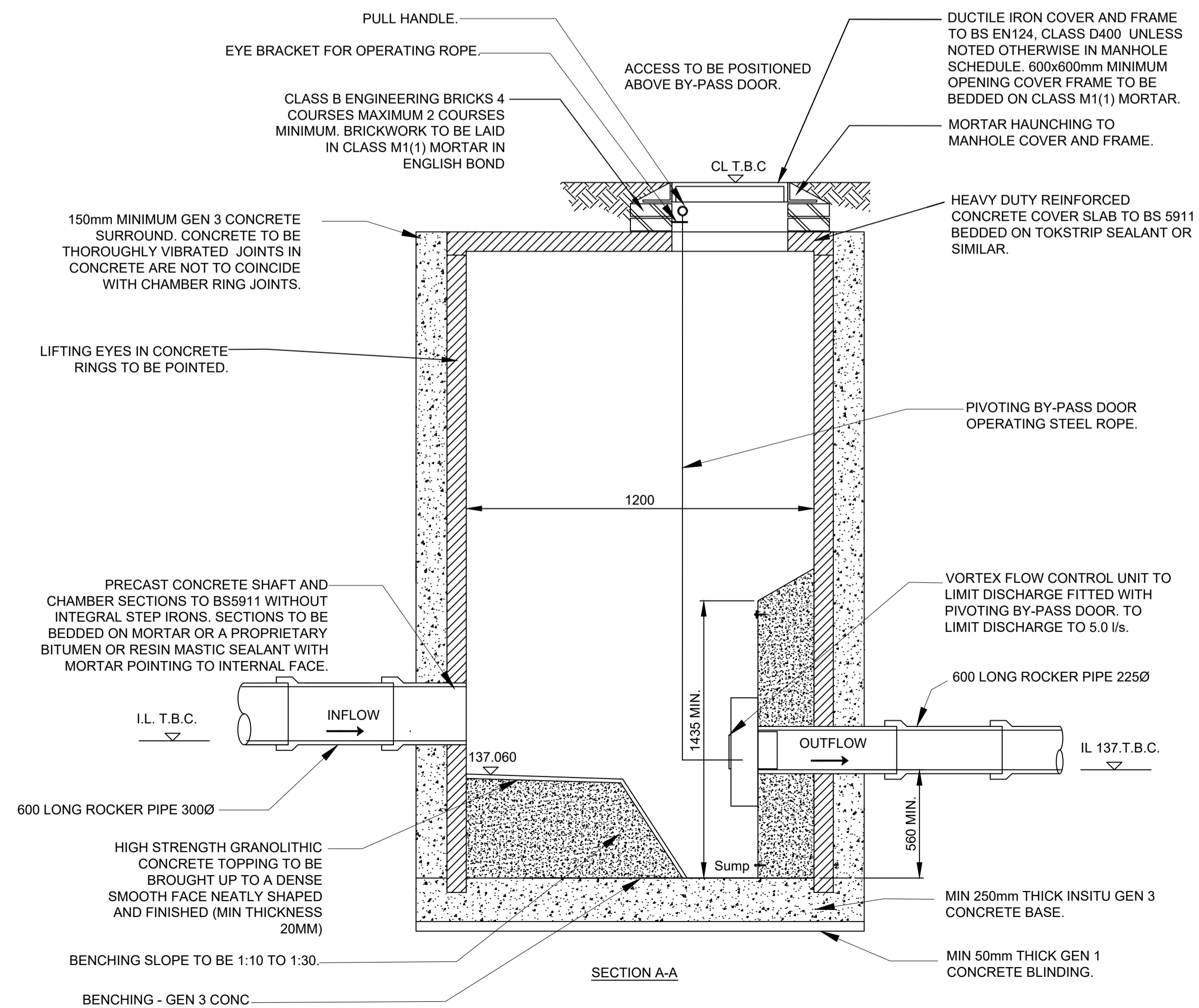
TYPICAL SECTION THROUGH ATLANTIS TANK ATTENUATION SYSTEM (NON ADOPTED SECTION OF ROAD)

MAKE-UP TO BE CONFIRMED BY ARCHITECT, THIS SHOULD BE IN CONJUNCTION WITH DRAWING 305056-011.



NOTES:

1. PREFERRED IMPERMEABLE MEMBRANE 2000 GAUGE VISQUEEN.
2. PREFERRED GEOTEXTILE LOTRAK HF550.
3. ATTENUATION TO COMPRISE MODULAR PVCu STRUCTURE DESIGNED AND INSTALLED IN COMPLIANCE WITH MANUFACTURERS RECOMMENDATIONS.



GENERAL NOTES

1. ALL WORKS UNLESS NOTED OTHERWISE TO BE CARRIED OUT IN ACCORDANCE RELEVANT CODES OF PRACTICE AND WELSH BUILDING STANDARDS.
2. PRIVATE DRAINAGE TO BE CONSTRUCTED IN ACCORDANCE WITH BS:EN:752 - DRAIN & SEWER SYSTEMS OUT SIDE BUILDINGS TO THE APPROVAL OF THE BUILDING CONTROL OFFICER.
2. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS & SPECIALIST DRAWINGS AND SPECIFICATIONS.
3. ALL DIMENSIONS IN MILLIMETRES AND ALL LEVELS IN METERS UNLESS NOTED OTHERWISE.
4. ANY DISCREPANCIES NOTED ON SITE ARE TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
5. THE CONTRACTOR MUST VERIFY THE LOCATION AND LEVEL OF THE EXISTING DRAINAGE AFFECTED BY THE NEW WORKS AND CONFIRM HIS ACCEPTANCE OR OTHERWISE OF THE INFORMATION SHOWN ON THE DRAWINGS PRIOR TO

PLANNING

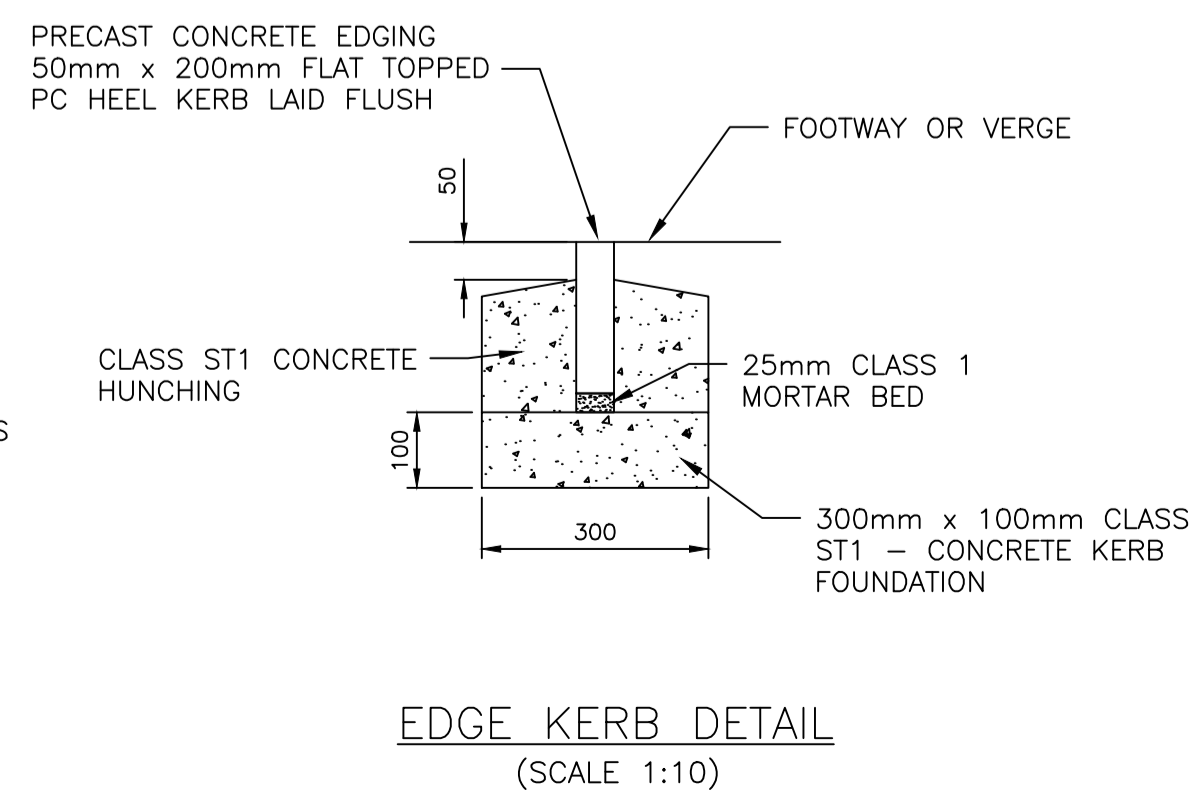
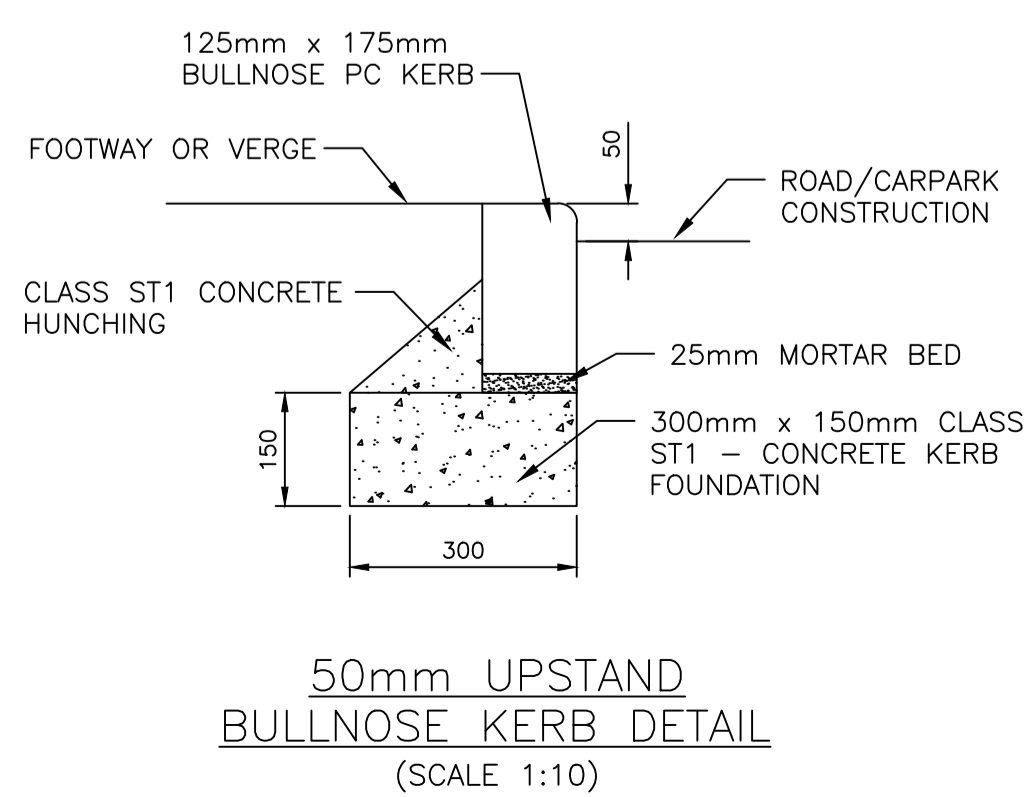
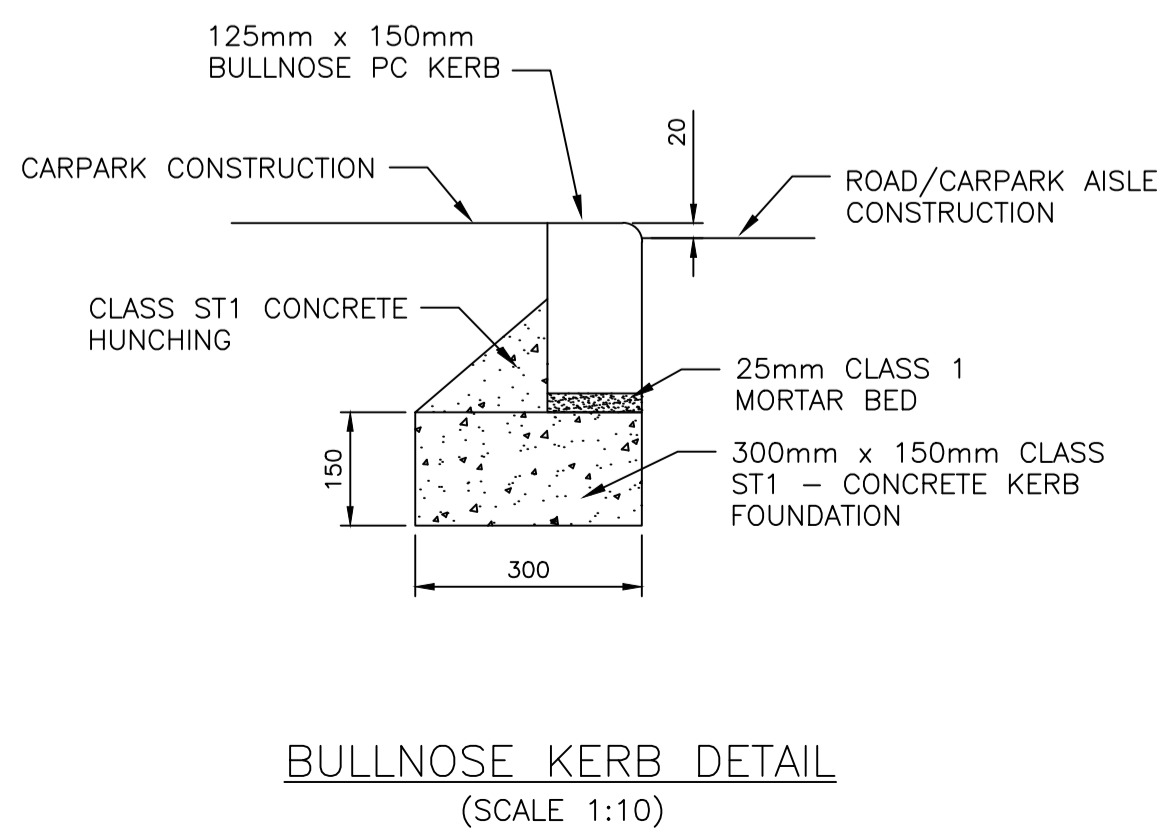
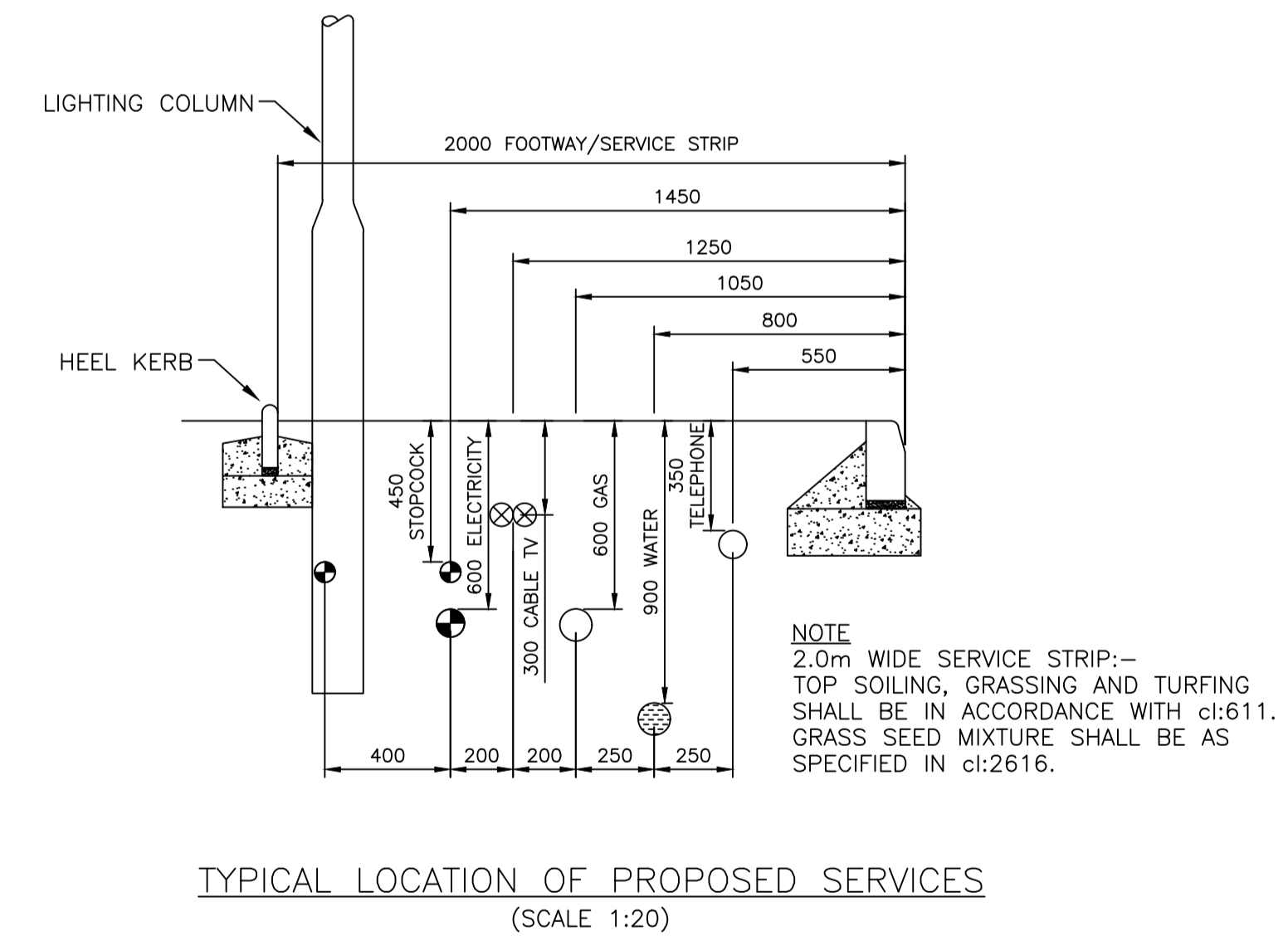
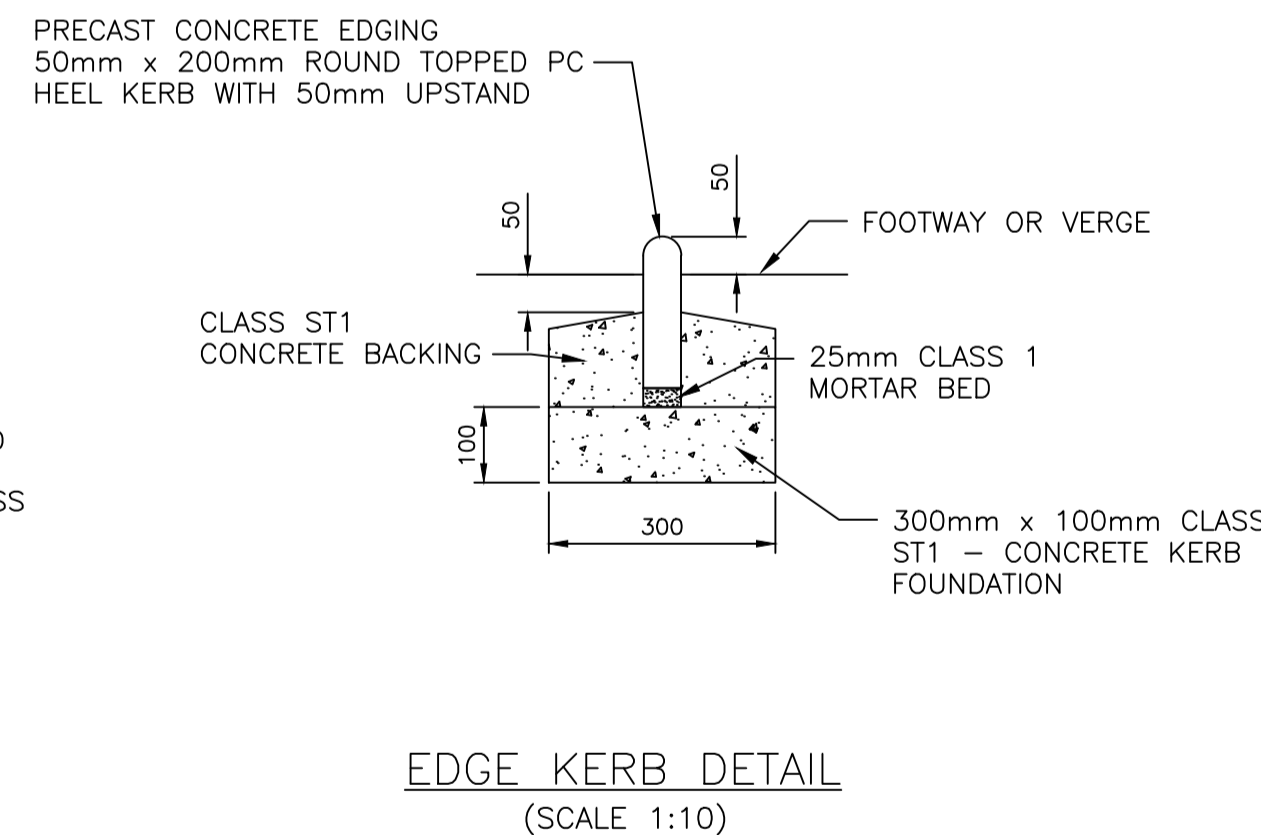
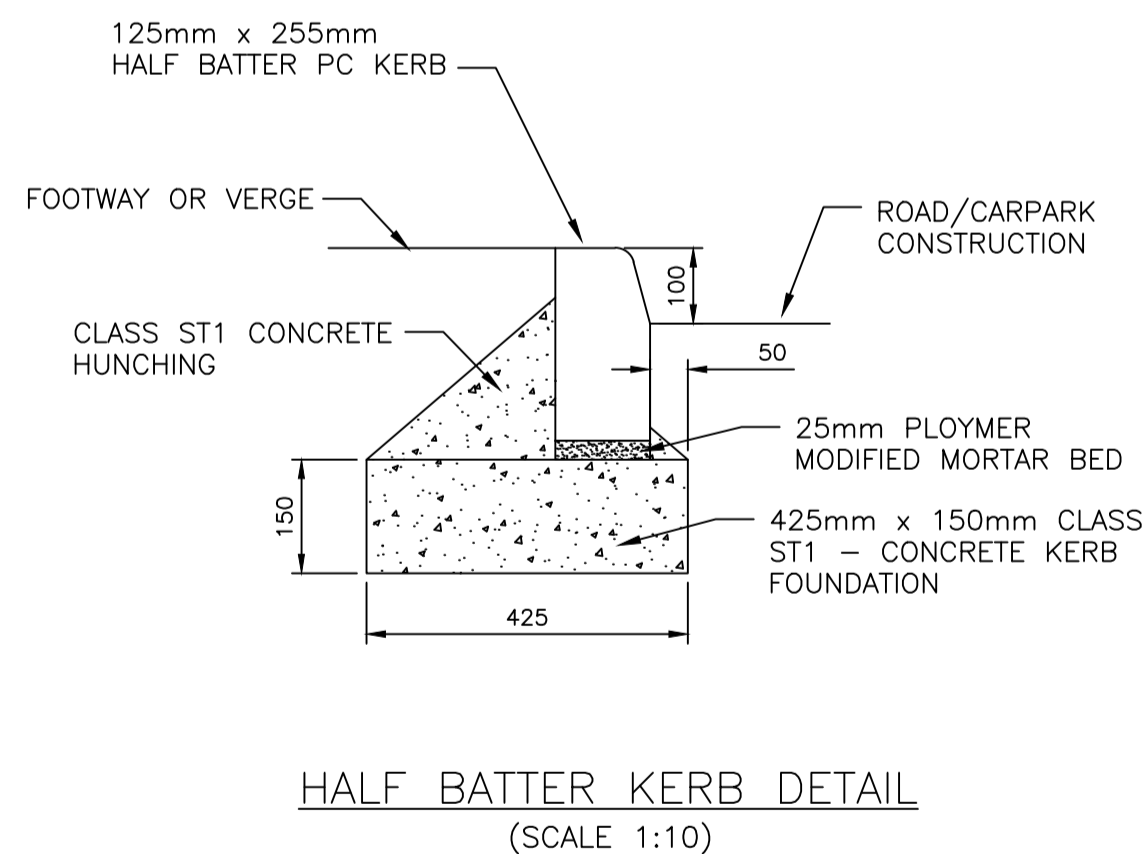
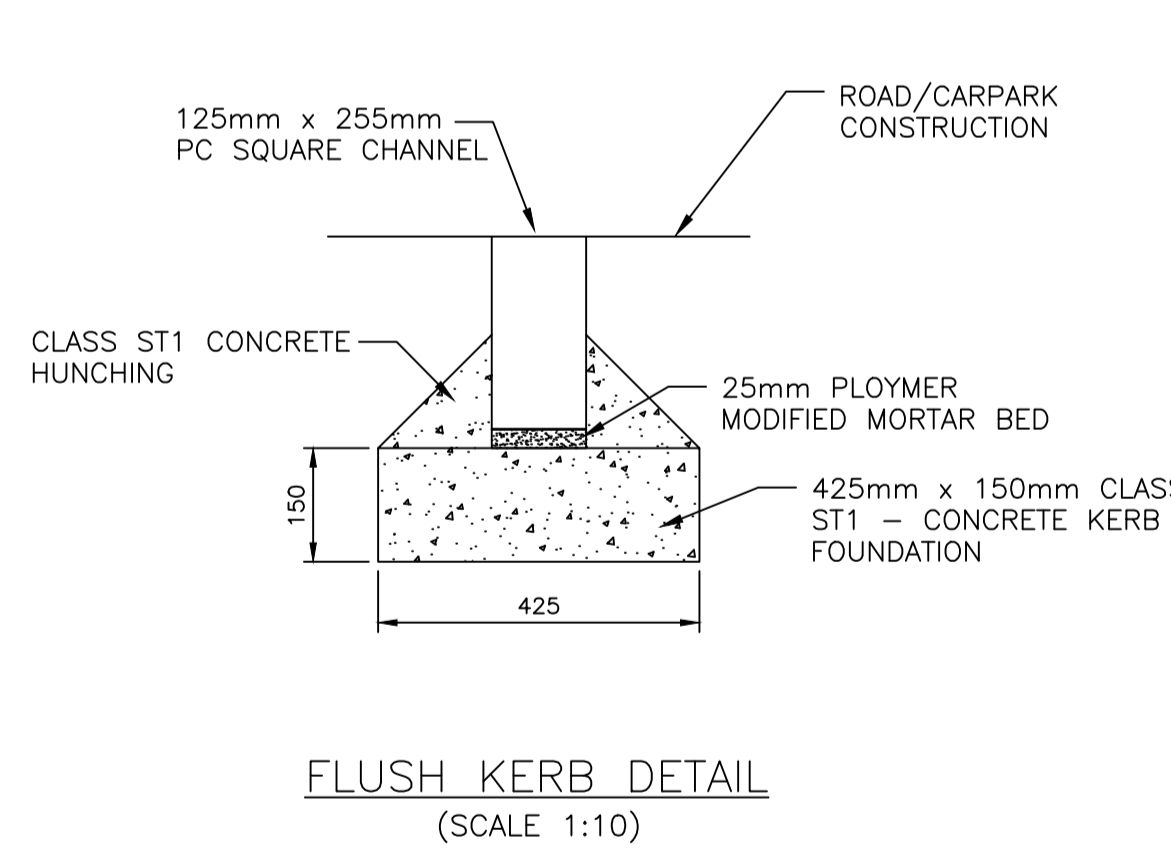
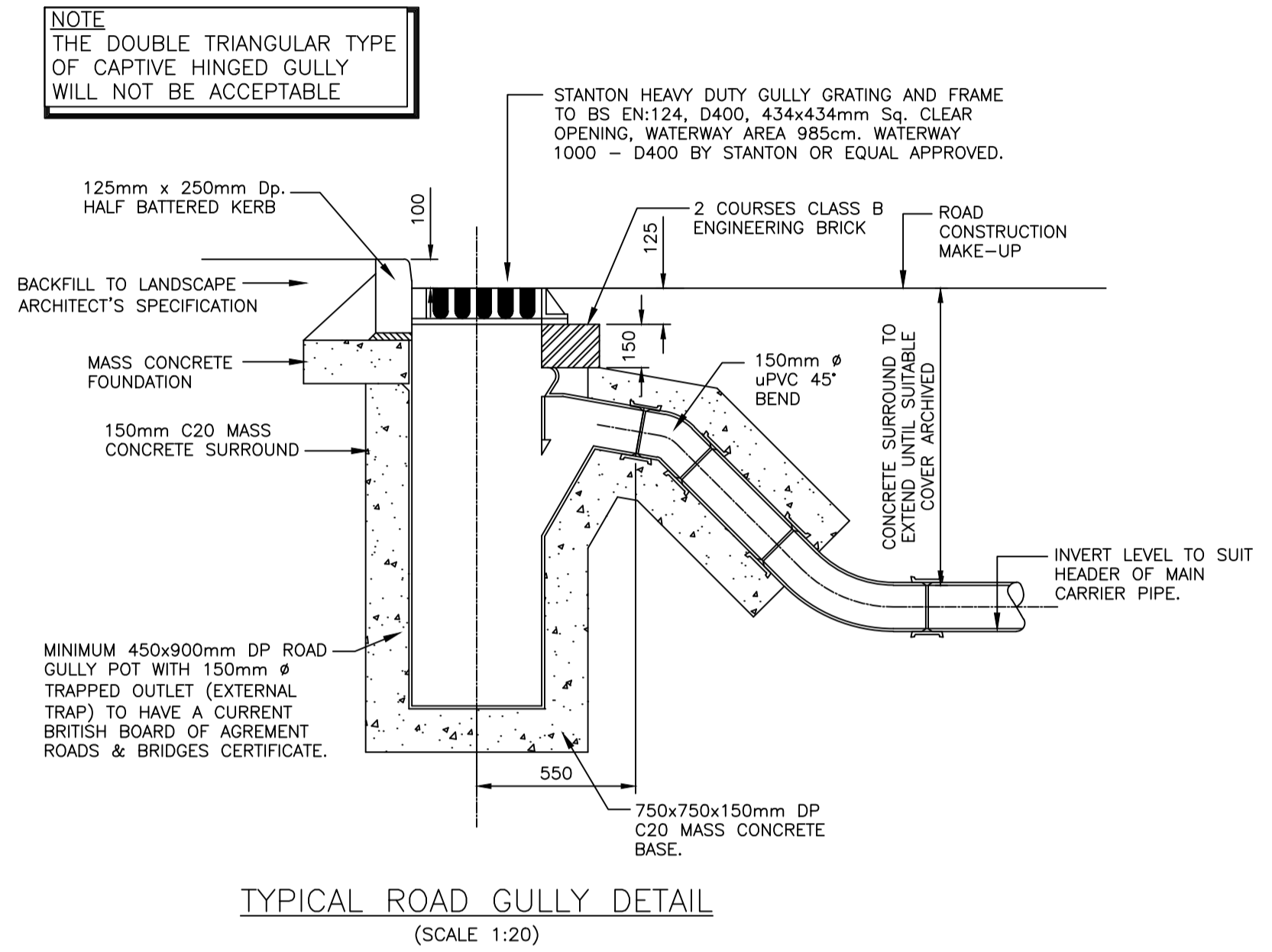
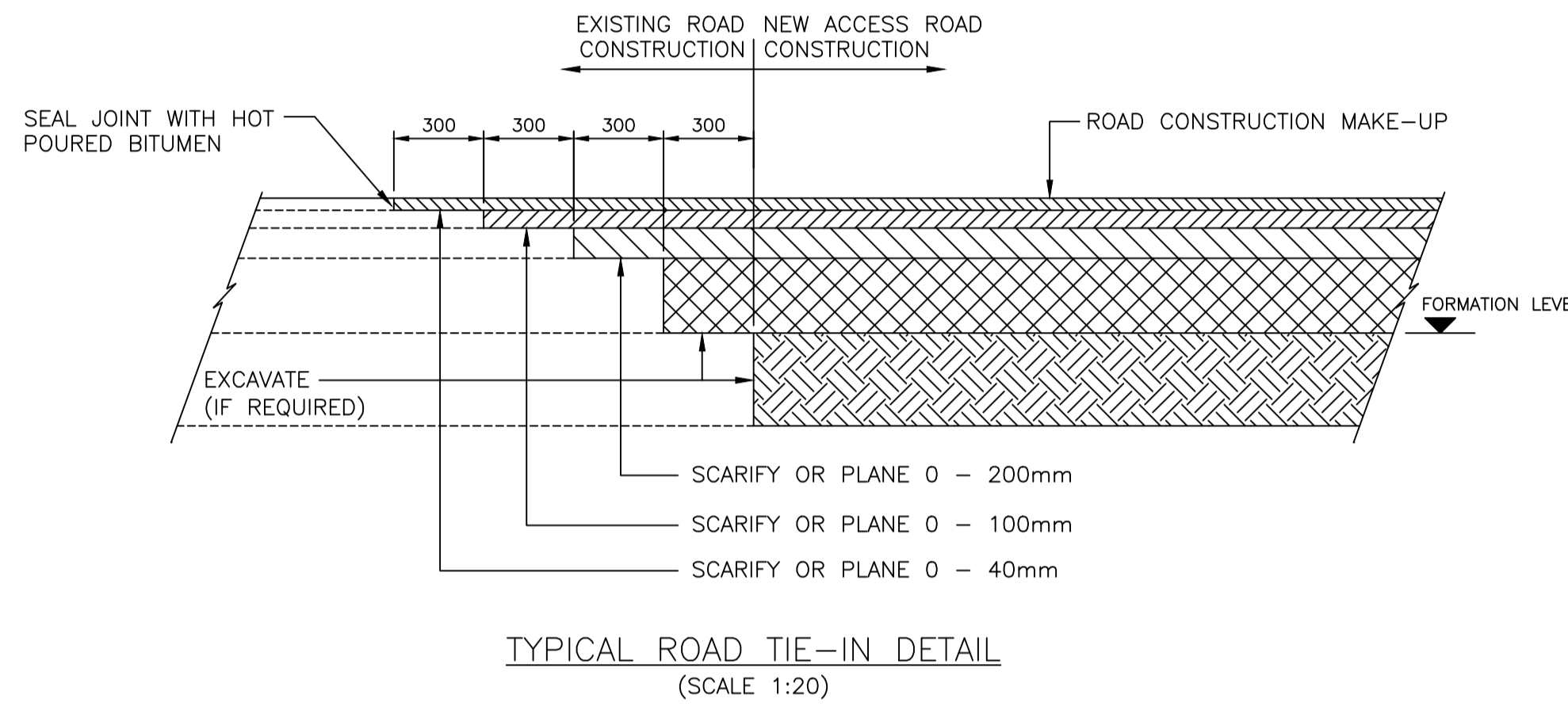
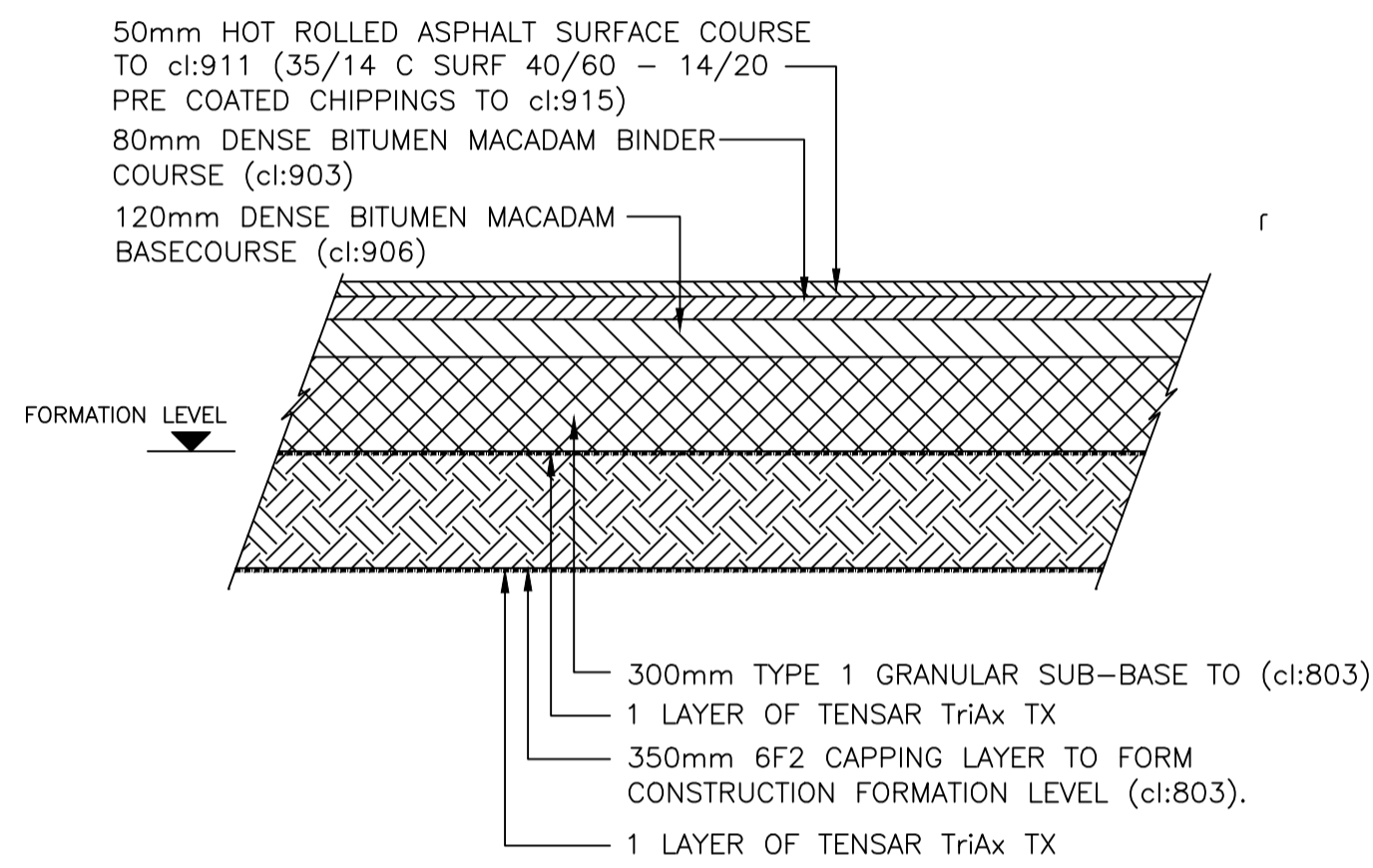
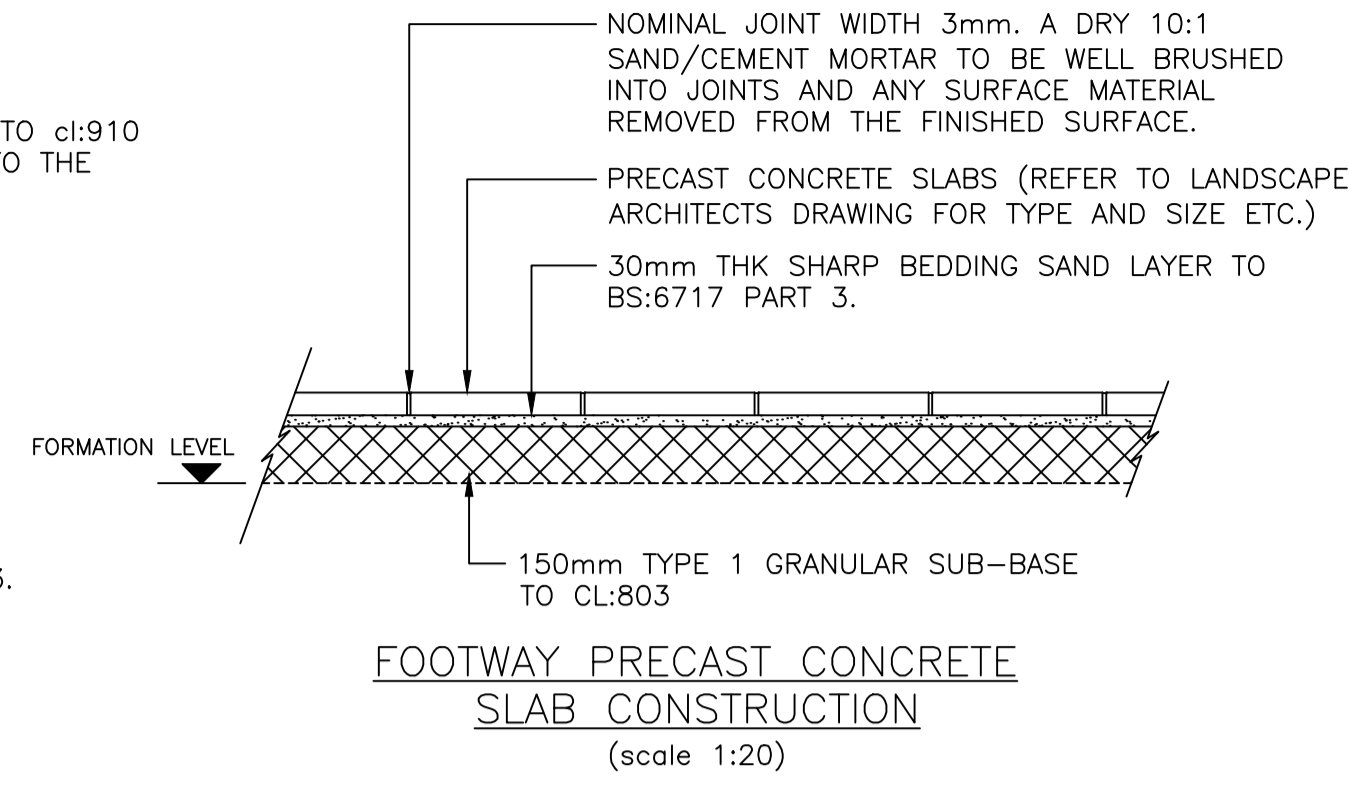
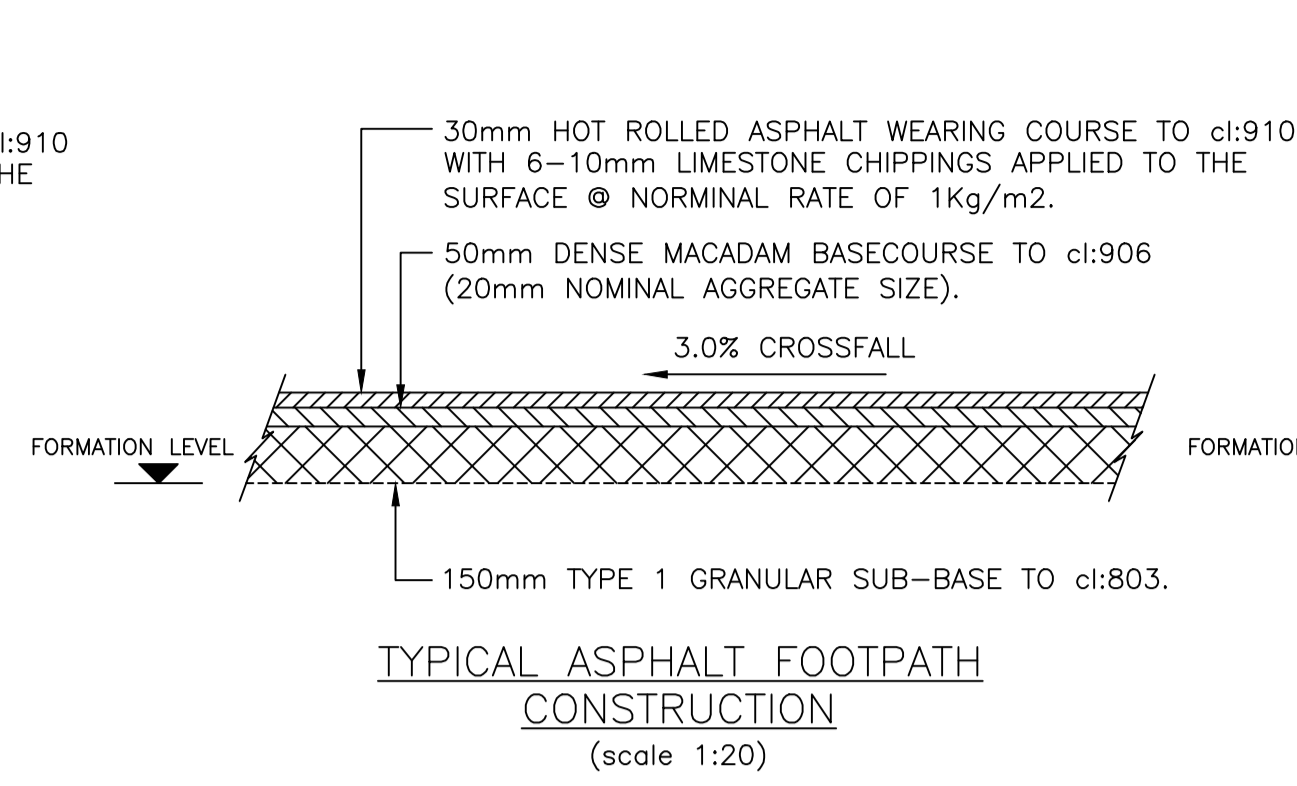
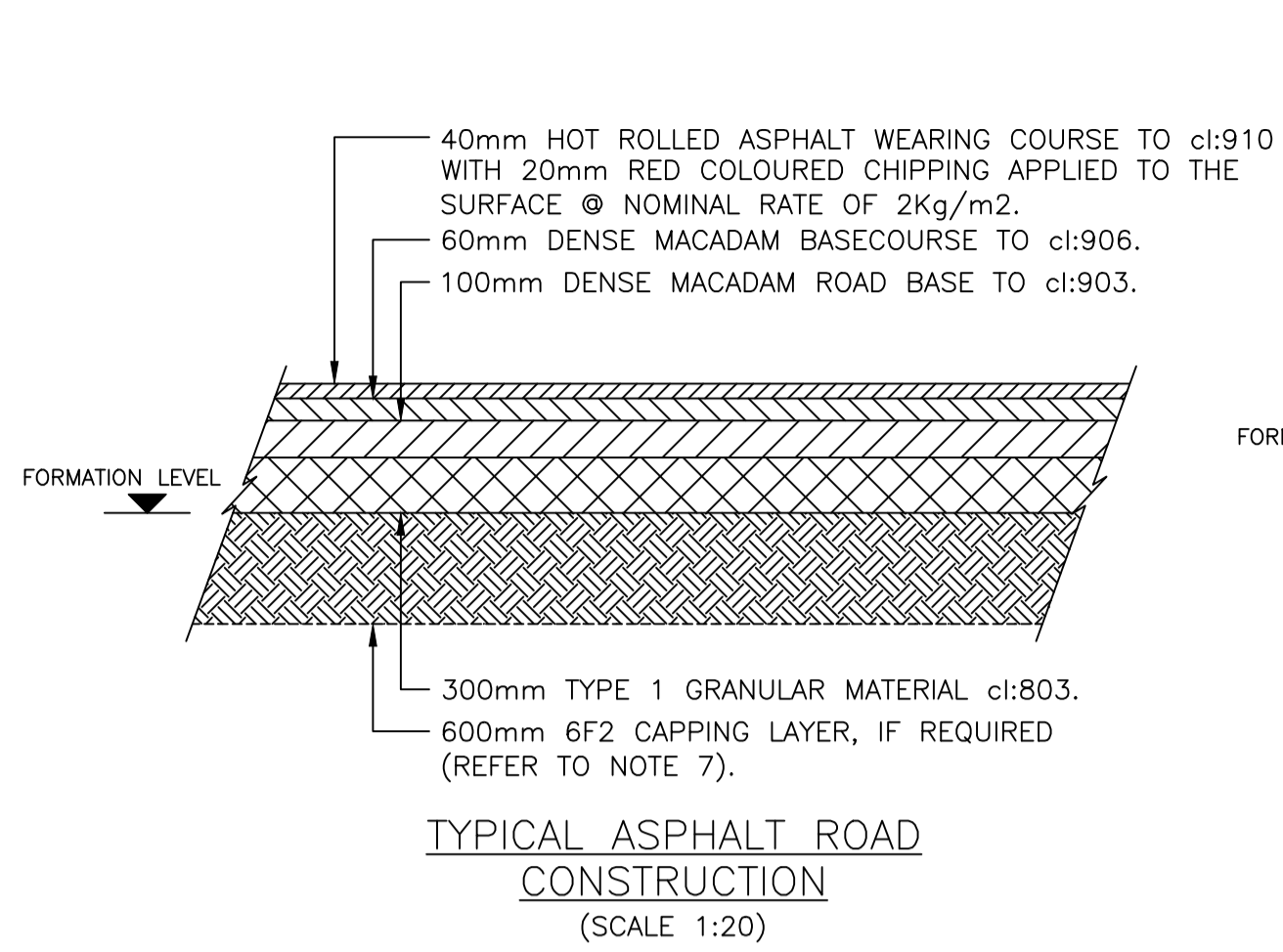
REV	DESCRIPTION	BY	CHK	APP	DATE

HARLEY HADDOW CONSULTING ENGINEERS
 Suite 4/3, The SkyPark, 8 Elliot Place, Glasgow, G3 8EP
 T: +44 (0) 141 332 3031
 Email: gh@harleyhaddow.com
 www.harleyhaddow.com
 Association of Consulting Engineers Member Firm
 Edinburgh | Glasgow | London | Dubai

Project:
**Proposed Industrial Units
 Pant Industrial Estate
 Merthyr Tydfil, Wales**

Drawing Title:
**Proposed Drainage
 Construction Details
 Sheet 04**

Scale @ A1	Date	Engineer
1:20	February 2020	C.Connor
Drawing No.	Revision	
305056-043	-	



- GENERAL NOTES**
- ALL ROAD WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE SPECIFICATION FOR HIGHWAY WORKS TO THE APPROVAL OF NORTH-AYRSHIRE COUNCIL.
 - CLAUSE NUMBERS SHOWN REFER TO THE SPECIFICATION FOR HIGHWAY WORKS.
 - NO FROST SUSCEPTIBLE MATERIAL TO BE USED WITHIN 450mm OF THE FINISHED SURFACE.
 - ALL KERBS TO BE LAID WITH DRY BUTT JOINTS.
 - THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEERS DRAWINGS AND SPECIFICATION.
 - FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.
 - CAPPING LAYER THICKNESS DEPENDENT UPON THE CBR TEST RESULTS. WHERE CBR IS SIGNIFICANTLY BELOW 2% THICKNESS MAY REQUIRE TO BE INCREASED DEPENDING UPON SITE AND WEATHER CONDITIONS AT THE TIME OF CONSTRUCTION. ADDITIONAL MATERIAL MAY REQUIRE TO BE REMOVED AND REPLACED WITH MORE SUITABLE MATERIAL. CAPPING LAYER REQUIREMENT AS FOLLOWS:-
- | CBR (%) | DEPTH OF CAPPING (mm) | DEPTH OF SUB BASE (mm) |
|-----------|-----------------------|------------------------|
| CBR <2% | 600mm | 150mm |
| CBR 2%<5% | 350mm | 150mm |
| CBR >5% | 0mm | DESIGN DEPTH |
- CBR TESTS SHOULD BE CARRIED OUT ON NATURAL SOILS AT THE PROPOSED ROAD FORMATION LEVEL.
 - IN AREAS OF MADE GROUND A FULL DEPTH CAPPING LAYER WILL BE REQUIRED.
 - IF HARD CORE MATERIAL IS USED, THE MATERIAL SHOULD CONSIST OF HARD, BROKEN BRICK, BROKEN CONCRETE & CRUSHED ROCK. IT SHOULD BE SPREAD TO EVEN PROFILE AS POSSIBLE AND COMPACTED BY A DEADWEIGHT ROLLER WEIGHING NOT LESS THAN 6 TONNES OR A VIBRATING ROLLER OF SIMILAR COMPACTIVE EFFORT. THE UPPER SURFACE SHOULD BE BLINDED WITH SMALL GAUGE MATERIAL (6mm TO DUST), PREFERABLY OF SIMILAR CHARACTER TO THE HARD CORE, AND COMPACTED TO THE REQUIRED LEVELS AND CONTOURS BY THE SAME TYPE OF ROLLER. ALL DEBRIS TO BE FREE OFF WOOD, METAL AND PLASTER FROM DEMOLISHED BUILDINGS. SUB-BASE THICKNESS TO REMAIN AS SPECIFIED. ALL MATERIAL MUST BE APPROVED BY THE ENGINEER.

PLANNING

REV	DESCRIPTION	BY	CHK	APP	DATE

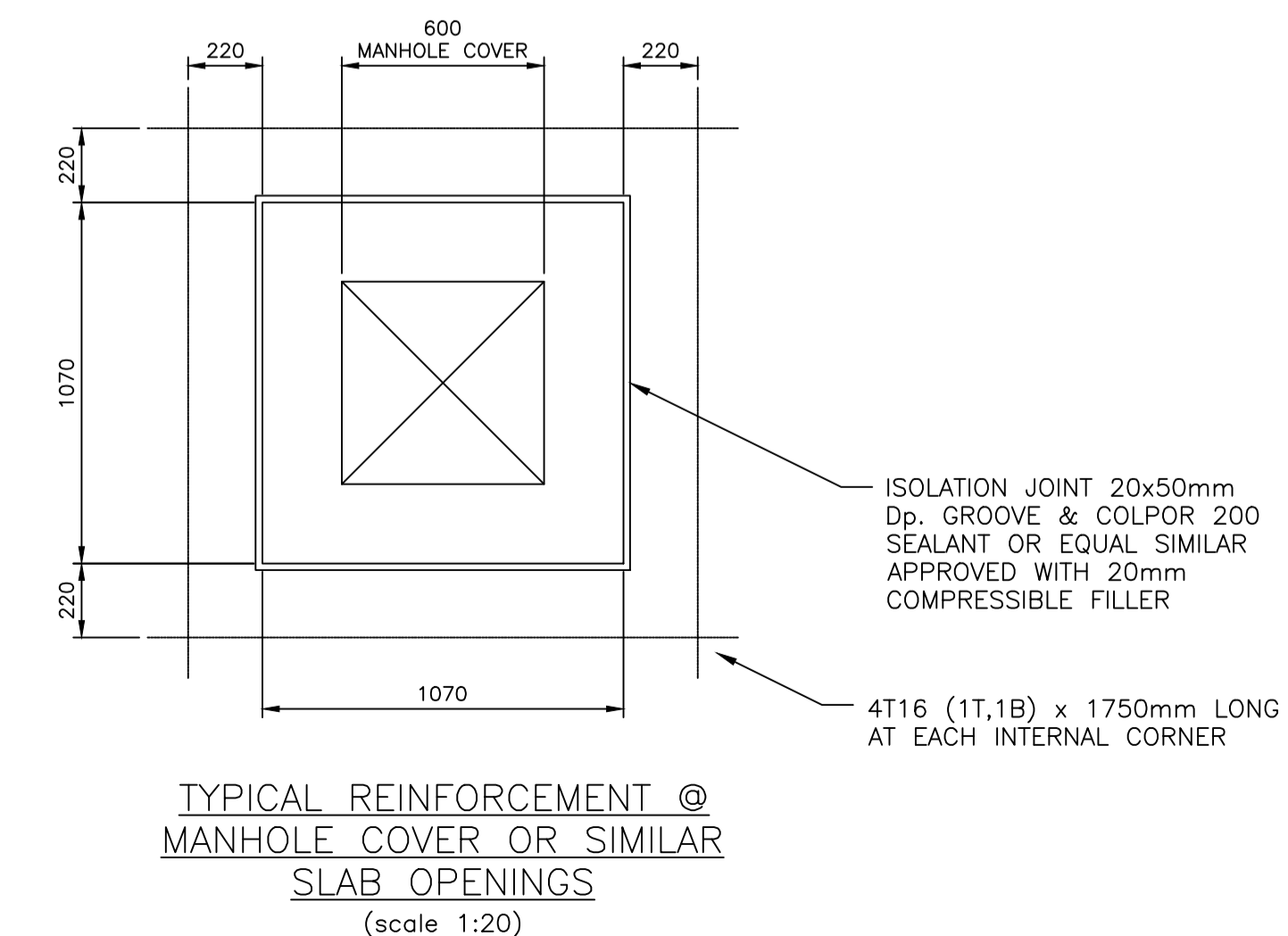
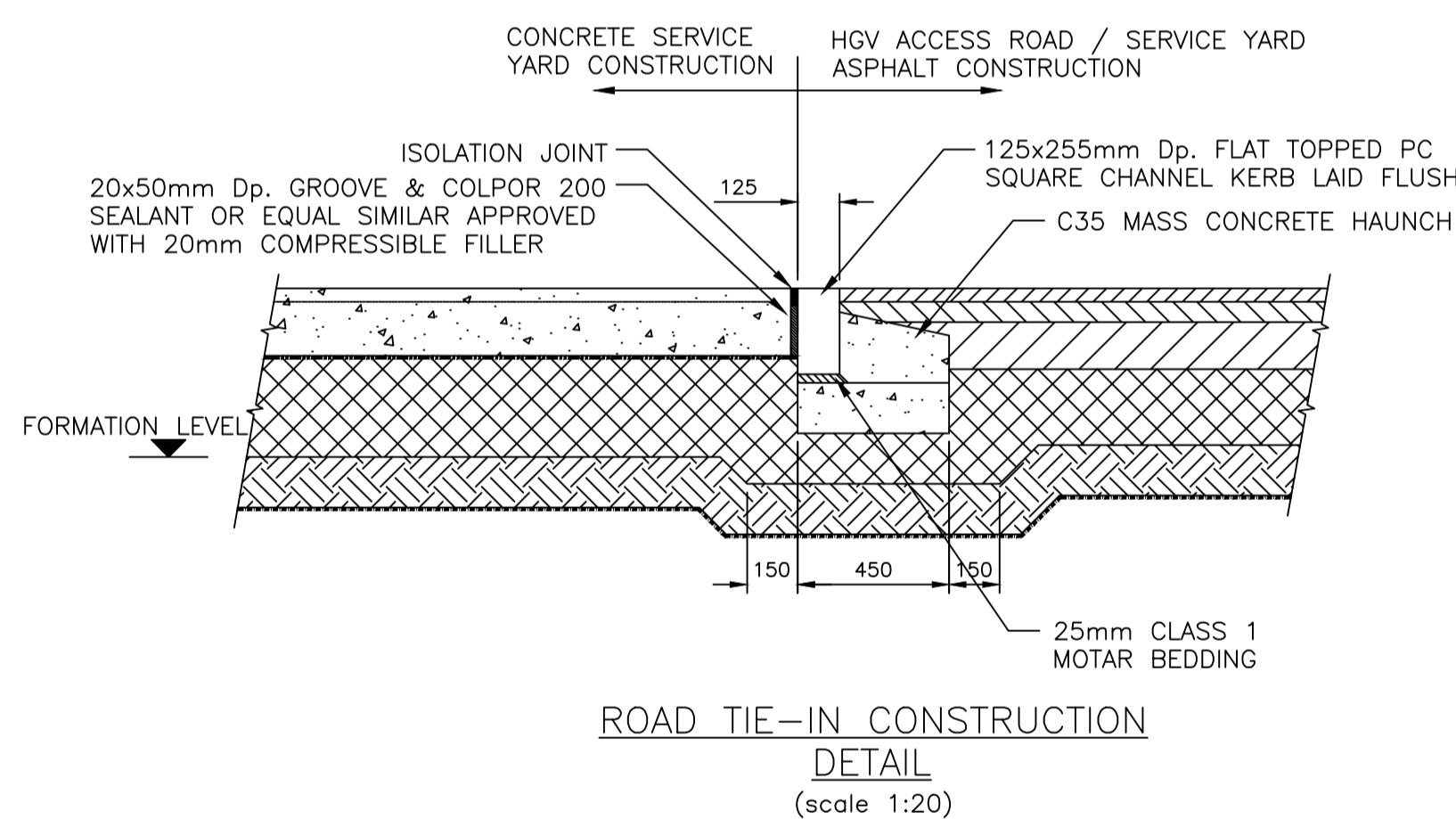
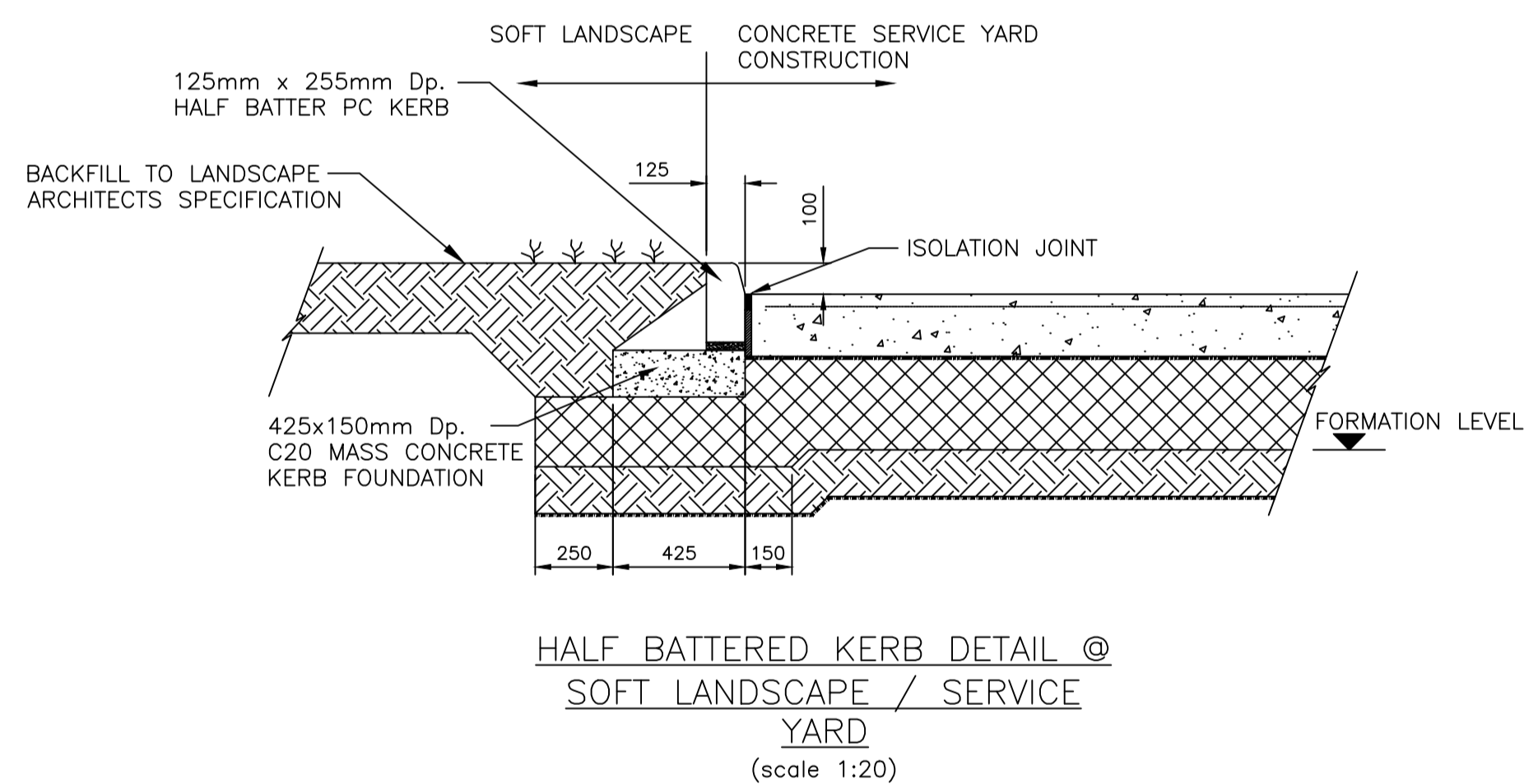
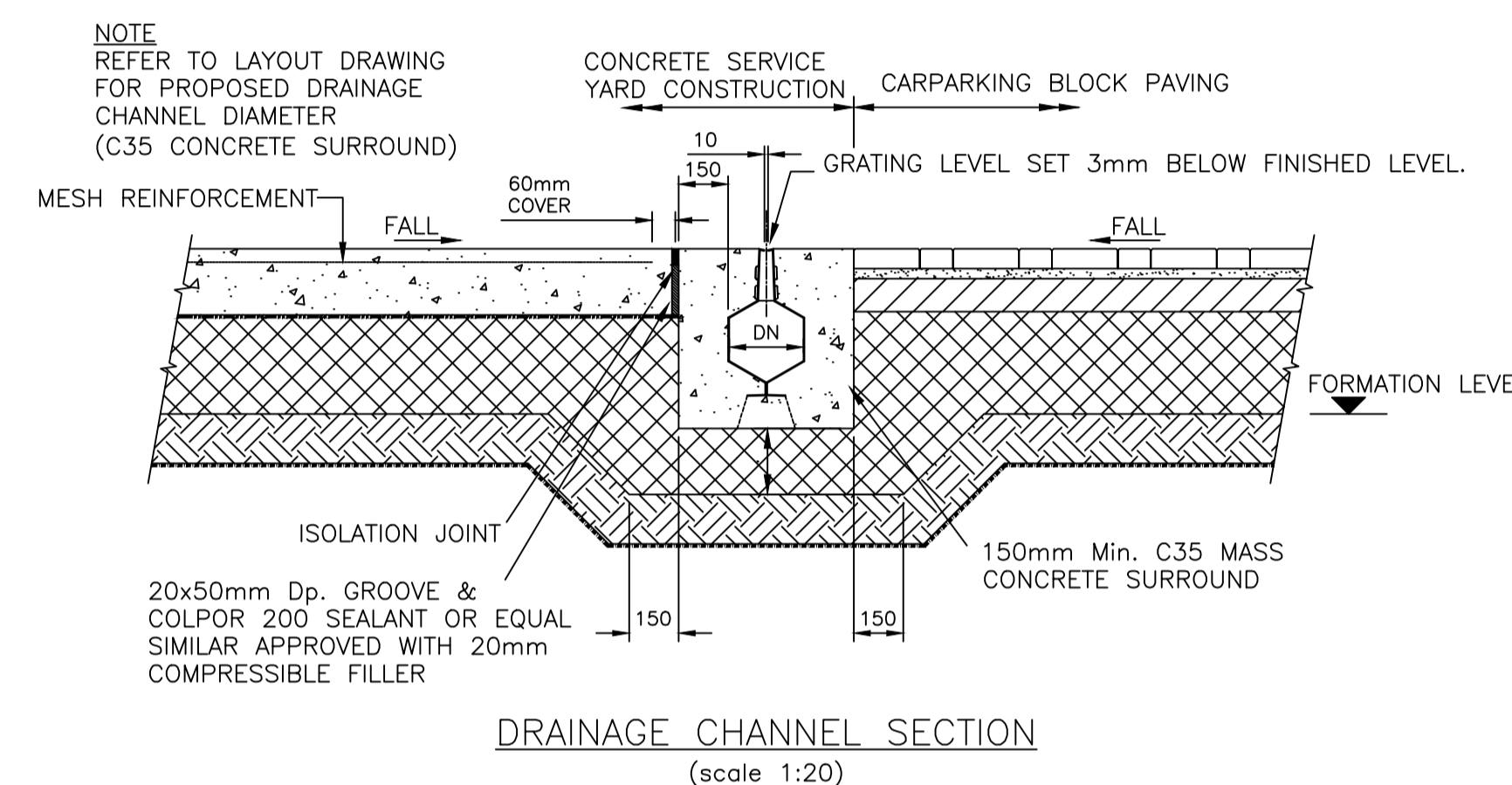
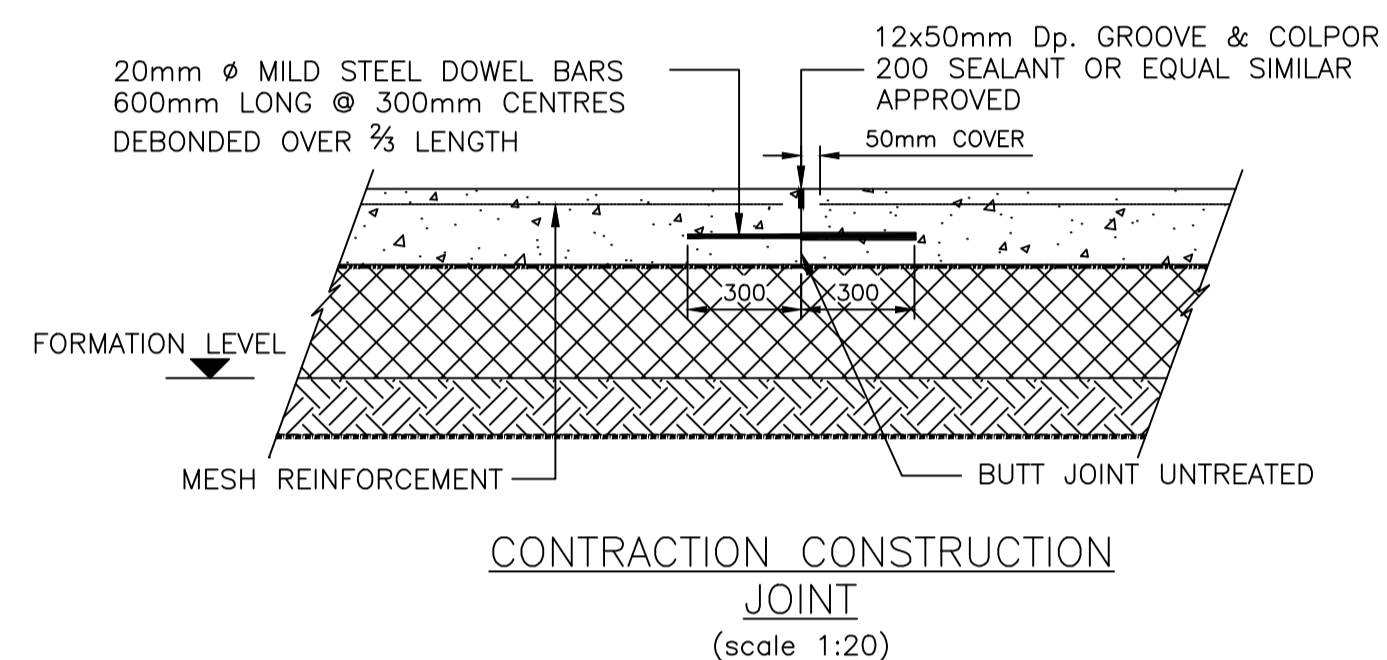
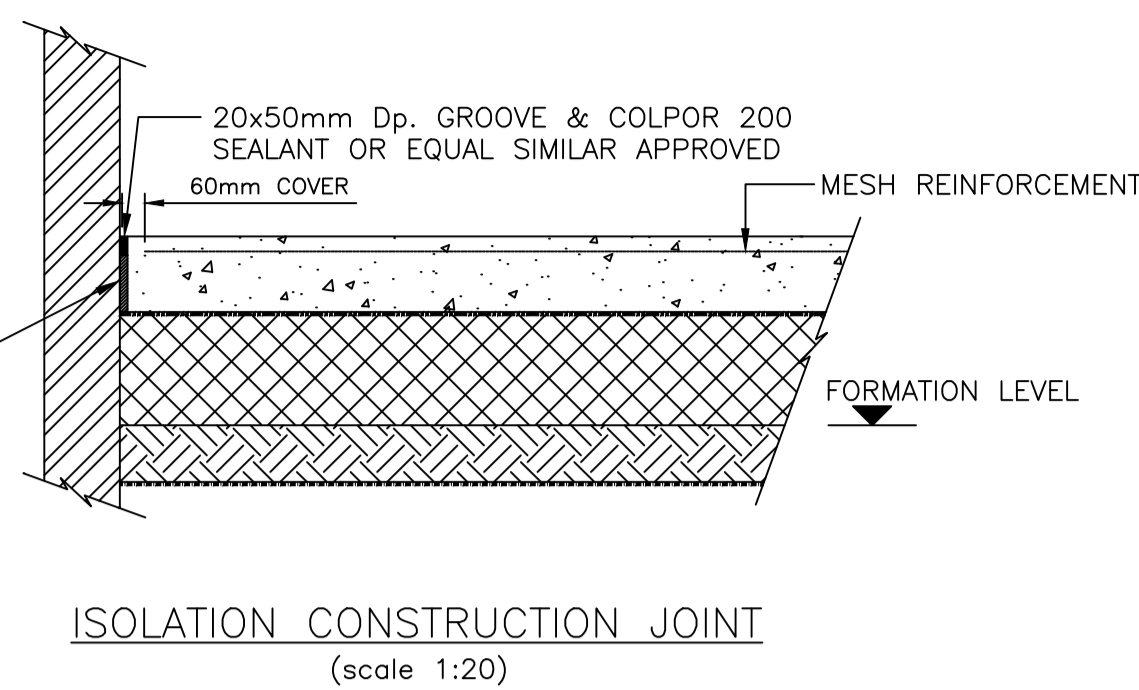
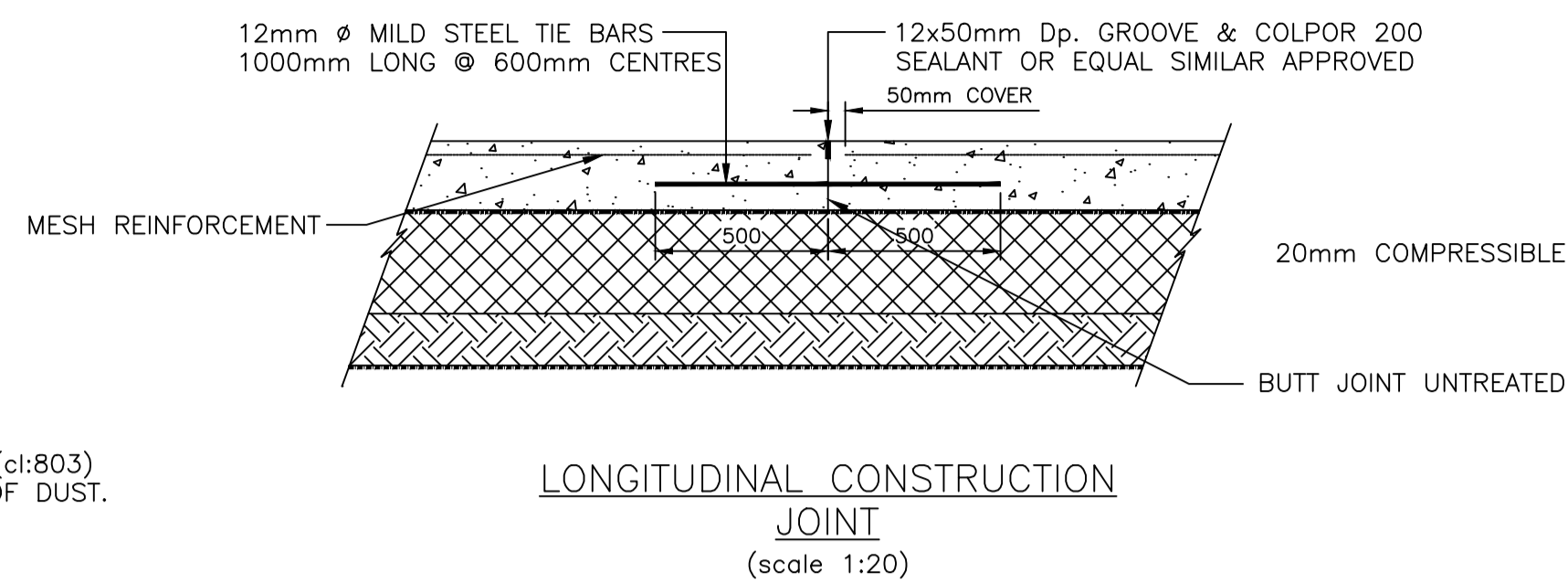
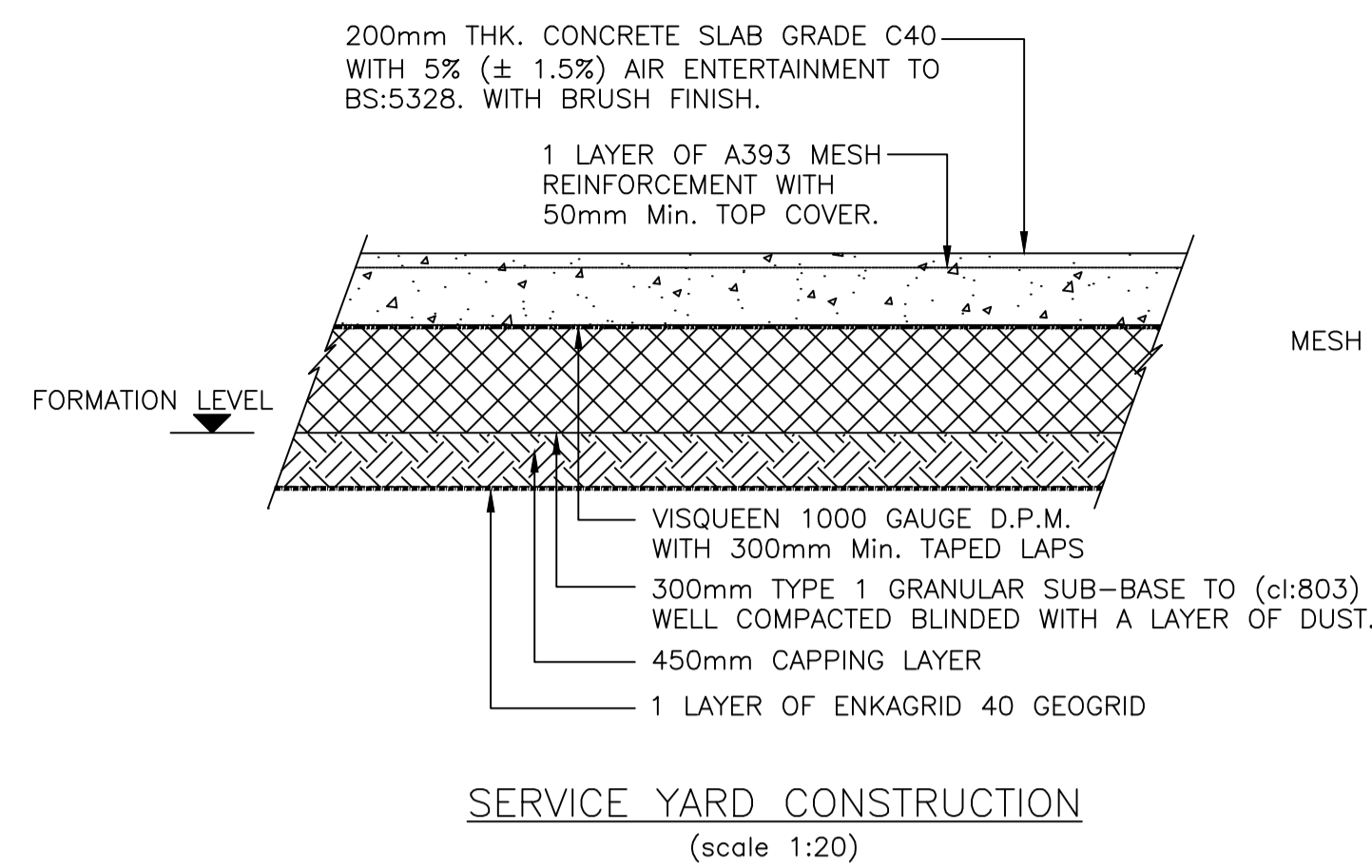
HARLEY HADDOW CONSULTING ENGINEERS
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Project:
Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales

Drawing Title:
Proposed Road Construction Details
Sheet 01

Scale @	Date	Engineer
A1	February 2020	C.Connor

Drawing No. **305056-045** Revision **-**



SERVICE YARD CONSTRUCTION GENERAL NOTES

- ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH SPECIFICATION FOR HIGHWAY WORKS 1998 INCLUDING LATEST AMENDMENTS AS PUBLISHED BY H.M.S.O.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTS, ENGINEERS & SPECIALIST DRAWINGS AND SPECIFICATIONS.
- THE CONTRACTOR MUST ADVISE THE ARCHITECT AND THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE CONTRACT DRAWINGS AND EXISTING SITE DIMENSIONS.
- ALL DIMENSIONS AND LEVELS ARE SHOWN IN METERS UNLESS NOTED OTHERWISE.
- REVISION NOTES ARE FOR GUIDANCE ONLY. FOR SPECIFIC DETAILS REFER TO THE DRAWING.
- CLAUSE NUMBERS REFER TO SPECIFICATION FOR HIGHWAY WORKS 1998 EDITION (INCLUDING ANY CURRENT SUPPLEMENTS).
- FORMATION LEVEL TO BE PROOF ROLLED AND SOFT SPOTS TO BE REMOVED AND FILLED WITH #2 CAPPING MATERIAL OR OTHER MATERIAL AS DIRECTED BY THE ENGINEER.
- ANY MATERIAL WITHIN 450mm OF THE SURFACE TO BE NON-FROST SUSCEPTIBLE. THE CONTRACTOR SHALL FORWARD A BAY LAYOUT TO THE ENGINEER FOR COMMENT ON AN APPROPRIATE ARCHITECT'S LAYOUT PLAN TO INCLUDE ALL TYPES OF JOINTS, WITH SPECIAL CONSIDERATIONS TO ENSURE THAT ISOLATION JOINTS ARE PLACED AROUND MANHOLE COVERS AND GULLIES AND TIE INTO OTHER JOINTS WHEREVER PRACTICABLE.
- LONGITUDINAL JOINTS TO BE AT 4.5 - 6.0m CENTRES AND WITH EVERY FOURTH JOINT THE DOWEL BARS ARE TO BE DEBONDED.
- CONTRACTION JOINTS TO BE AT 16.5m CENTRES WITH EVERY THIRD JOINT BEING REPLACED BY AN EXPANSION JOINT.
- IF AN ALTERNATIVE SEALANT IS PROPOSED BY THE CONTRACTOR THE DEPTH OF SEALANT MAY VARY TO MANUFACTURERS REQUIREMENT.
- CONCRETE TO BE C40 WITH 5% (± 1.5%) AIR ENTERTAINMENT TO BS:5328. WITH BRUSH FINISH.
- MESH REINFORCEMENT TO BE ONE LAYER A393 WITH 50mm TOP COVER.
- MINIMUM CEMENT CONTENT - 340kg/m³
- DESIGN CHEMICAL CLASS - DC-1
- ACID CLASS - A1
- EXPOSURE CLASS - XF4/XD3/XC3/4

TO BE CONFIRMED ONCE SITE INVESTIGATION HAS BEEN RECEIVED.

PLANNING

REV	DESCRIPTION	BY	CHK	APP	DATE

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Association of Consulting Engineers Member Firm
Edinburgh | Glasgow | London | Dubai

Project:
**Proposed Industrial Units
Pant Industrial Estate
Merthyr Tydfil, Wales**

Drawing Title:
**Proposed Road
Construction Details
Sheet 02**

Scale @	A1	Date	February 2020	Engineer	C.Connor
Drawing No.	305056-046			Revision	-

Appendix B

Foul Water Calculations

Project Pant Industrial Estate, Dowlais				Job Ref 305056	
Calculation: Foul Water Flows				Calc. Sheet no. rev. / /	
Drawing Ref.		Calc. By CC	Date 19.08.19	Check by	Date
Ref.	Calculations				Output
	<p>The site is currently a Brownfield, however the existing buildings have been demolished since 1980s. Therefore Pre-Development flows have not been calculated.</p> <ul style="list-style-type: none"> <u>Pre-Development Discharge</u> <p style="text-align: right;"><u>Average Foul Flow =</u> <u>0.00 l/sec</u></p> <p style="text-align: right;"><u>Peak Foul Flow =</u> <u>0.00 l/sec</u></p> <ul style="list-style-type: none"> <u>Post Development Discharge</u> <p>Based on Flows and Loads 4, it is anticipated that there will be circa 200 staff working in this development.</p> <p>Unit 1 and 2 to have 50 employees each Unit 3 to 6 to have approx. 20 employees each Unit 7-16 to have approx. 3 employees each</p> <p>200 Employees * 90 litres per day = 18000 Litres per day 18000 / (24 * 60 * 60) = 0.21 litres per second</p> <p style="text-align: right;"><u>Average Foul Flow =</u> <u>0.21 l/sec</u></p> <p><u>Peak foul discharge</u></p> <p>Peak is calculated by multiplying the average by 2.5.</p> <p>0.21 l/sec * 2.5</p> <p style="text-align: right;"><u>Peak Foul Flow =</u> <u>0.52 l/sec</u></p>				

Appendix C

Water Demand Calculations

Project Pant Industrial Estate, Dowlais				Job Ref 305056	
Calculation: Water Demand Calcs				Calc. Sheet no. rev. / /	
Drawing Ref.		Calc. By CC	Date 19.08.19	Check by	Date
Ref.	calculations				Output
	<u>Pre Development Water Demand</u>				
			<u>Post development peak water demand =</u>		<u>0.00 l/sec</u>
			<u>Post development average water demand =</u>		<u>0.00 l/sec</u>
	<u>Post Development Water Demand</u>				
	<ul style="list-style-type: none"> 25% increase from the stated foul flows Stated post development foul flows: 				
	<ul style="list-style-type: none"> Peak 0.52 l/sec Average 0.21 l/sec 				
	Post development peak water demand				
	$0.52 \times 125\% = 0.65 \text{ l/sec}$				
			<u>Post development peak water demand =</u>		<u>0.65 l/sec</u>
	Post development average water demand				
	$0.21 \times 125\% = 0.27 \text{ l/sec}$				
			<u>Post development average water demand =</u>		<u>0.27 l/sec</u>

Appendix D

Greenfield Runoff

Project Pant Industrial Estate, Dowlais				Job Ref 305056	
Calculation: Surface Water Flows				Calc. Sheet no. rev. / /	
Drawing Ref.		Calc. By CC	Date 19.08.19	Check by Date	
Ref.	Calculations				Output
	<p>The site is currently a Brownfield, however the existing buildings have been demolished since 1980s. Therefore Pre-Development flows have not been calculated.</p> <ul style="list-style-type: none"> <u>Pre Development Surface Water Discharge</u> <p style="text-align: right;"><u>0.00 l/sec</u></p> <ul style="list-style-type: none"> <u>Post Development Surface Water Discharge</u> <p>It is proposed to treat and attenuate surface water runoff from the site prior to connection into the existing surface water sewer network located at the rear of the development.</p> <p>Surface water flow = greenfield runoff at 4.5 l/s/Ha Site area = 0.55 Ha</p> <p>$4.5 \times 0.55 = 2.48 \text{ l/sec}$</p> <p><i>Therefore,</i></p> <p style="text-align: right;"><u>Total Surface Water Flow = 2.48 l/sec</u></p> <p><u>Post Development Pre-Attenuated Surface Water Discharge</u> Assume 40mm/h intensity rainfall Site Hard Standing = 0.53Ha = 5300m²</p> <p>$40 \times 5300 / 3600 \text{ (60mins/60secs)} = 58.89 \text{ l/s}$</p> <p style="text-align: right;"><u>Total Surface Water Discharge = 58.89 l/sec</u></p>				

Appendix E

Storage Calculation

Quick Storage Estimate

Micro Drainage

Variables

FEH Rainfall

Return Period (years) 200

Version 2013 Catchment ...

Site GB 231700 639300 NS 31700 39300

Cv (Summer) 0.750

Cv (Winter) 0.840

Impemeable Area (ha) 0.40

Maximum Allowable Discharge (l/s) 4.9

Infiltration Coefficient (m/hr) 0.00000

Safety Factor 2.0

Climate Change (%) 30

Analyse OK Cancel Help

Enter Area between 0.000 and 999.999

Quick Storage Estimate

Micro Drainage

Results

Global Variables require approximate storage of between 179 m³ and 281 m³.

These values are estimates only and should not be used for design purposes.

Analyse OK Cancel Help






Enter Area between 0.000 and 999.999

Appendix F




Existing Service Information

Utilities Report

Utility Type

	Electricity	AFFECTED
	Gas	AFFECTED
	Water and Sewerage	AFFECTED
	Telecoms	AFFECTED
	Other	AFFECTED

Report Information

	Works Description: Legal Conveyancing
	This is Batch A - Responses Enclosed
	Complete - Please see 'Understanding This Report'

This report is issued for the site described as:

Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

Report Reference:

181873060_1

National Grid Reference:

306060,208760

Customer Reference:

LM / 69681

Report Date:

30 October 2018

CONTACT DETAILS

 If you require any assistance please contact our customer services team on:

0844 844 9966

 or by email at:

helpdesk@landmark.co.uk

Utilities Report



Understanding This Report

We have asked a comprehensive list of Utility companies whether they have any apparatus or underground services in the vicinity of the site.

Location Map

This shows the plan that was dispatched to the Utility companies. The companies have been asked to return information on the area outlined, which will encompass your chosen site.

Request Status Report

This will confirm the current status of the information requests. We list which responses we have received and whether the company is affected. The Status Report will be divided into the following sections.

Affected Utilities - We have received plans/information

No response received - We are still awaiting a full response

Not affected utilities - We have received a not affected/no plant present response

Responses

Affected responses are listed by company.

Any responses from companies confirming they are not affected are provided at the back of the report for your records.



'Awaiting Further Responses' or 'Pack Complete'?

We do not include Local Authority requests when indicating if the pack is 'Complete' or 'Awaiting Further Responses' as Local Authorities are not obliged to reply to these enquiries.

The local authority for the area is contacted to see if they have any council owned property that may be affected by works. In general, these plant enquiries go to the highways department for responses regarding street lighting and drainage. However, the responses we receive can vary each time depending on resources available at the council and we often don't receive replies from local authorities at all.

Response Times

We endeavour to obtain as much of the information as possible within the timescale of this report. Unfortunately, there are occasions when the response times of the utility companies mean we do not receive all information within the chosen timescale.

In these scenarios we will send all the information that is available as a first report. When we receive any remaining responses, the report will be re-issued in full incorporating the new information. This will continue until the report is complete. The front page of the report will confirm the batch (e.g. A, B or C) and whether responses are outstanding.

Terms and Conditions

Full Terms and Conditions can be found on the following link: <http://www.landmarkinfo.co.uk/Terms/Show/515>

Please note that Utility reports have a validity of 3 months from the date of purchase.

If you experience difficulties accessing our Terms and Conditions, please copy and paste the link directly into your browser, you will then be able to access our Terms and Conditions from there. Should you still experience difficulties, please telephone our Customer Service Team on 0844 844 9966.

Next Steps:

For any queries regarding the report content, or help with the report, contact your Landmark Customer Services team.

Utilities Report



Landmark Utilities Report Service PAS 128 Statement

Prepared for: **Landmark Information Group Ltd**

Practitioner: Atkins

Order Number: 69681

Site Name: Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

Date of Order: 03 October 2018

Date of Issue: 30 October 2018

Thank you for using our Utility Report Service.

This report has been completed in accordance with the standards defined under Survey Category D of PAS128, a Publicly Available Specification for underground utility detection, verification and location published by the British Standards Institution.

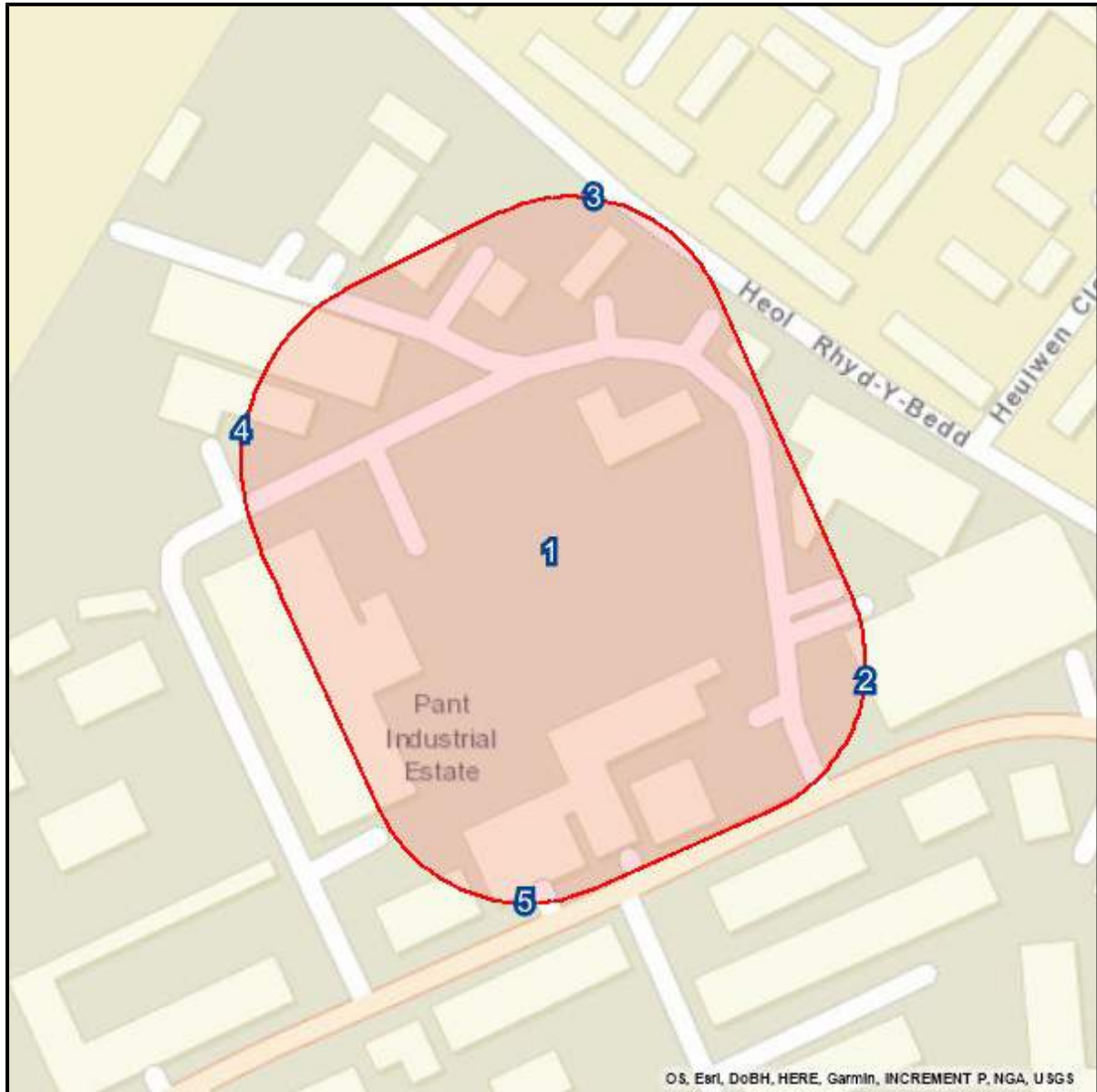
Positional accuracy of plant is not guaranteed from information presented in a desktop search alone and the location of underground utilities should be verified through other means prior to breaking ground.

Information relating to the presence of Radio Frequency Identification Devices (RFIDs) has been requested from relevant utility companies or taken from mapping systems where available.

Utility companies who have not responded to enquiries are referenced on the enclosed Status Report accordingly. Their response will be chased and forwarded on for a period of up to four working weeks. Whilst we cannot guarantee that a utility company will respond to our enquiries, we endeavour to obtain responses from those that have not responded.

Any responses contained within this report have been obtained between the start date of the order and the date of issue.

If you want to discuss your report further with us please contact Landmark Customer Services.



Overview of Site

Please ensure that the search data covers the COMPLETE AREA within the boundary lines on this map. (marked by: ---)

Landmark will not be held responsible for any incident or accident arising from the use of the information associated with this particular Utility Search Report. The details provided are given in good faith, but no liability whatsoever can be accepted in respect thereof.

REFERENCE: 69681

SITE: Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

POST CODES:

1) CF48 2DR; 2) CF48 2DS; 3) CF48 2TD;

SITE SIZE: 3.04 ha

MAP SCALE: 1:2000

COORDINATES:

1) E: 306060, N: 208758; 2) E: 306158, N: 208718; 3) E: 306073, N: 208869; 4) E: 305964, N: 208796; 5) E: 306052, N: 208649;

Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

CF48 2SR

OSGR: 306060,208760

Date Requested: 03 October 2018

Client Reference:

181873060_1

Affected Utilities We have received plans/information from the following companies. Please see the enclosed response.

Utility	Category	Date Issued	Late Response Issue Date	Notes
Dŵr Cymru Welsh Water	Water, Sewerage	30 October 2018		
LinesearchbeforeUdig	Pipeline	30 October 2018		Western Power Distribution - Identified as affected. See separate response.
Natural Resources Wales	Environmental Agency	30 October 2018		See response.
Openreach - [British Telecommunications]	Telecom	30 October 2018		
Utility Assets	Electric	30 October 2018		See response.
Wales and West Utilities	Gas	30 October 2018		
Western Power Distribution	Electric	30 October 2018		

No Response Received We are still awaiting a full response from the following companies.

Utility	Category	Date Issued	Late Response Issue Date	Notes
Merthyr Tydfil County Borough Council	Council			

Not Affected Utilities We have received a not affected/no plant present response from the following companies.

Utility	Category	Date Issued	Late Response Issue Date	Notes
C.A. Telecom UK - [Colt Technology Services]	Telecom	30 October 2018		
CityFibre	Telecom	30 October 2018		Website used.
Energetics	Gas, Electric, Water	30 October 2018		
GTC	Telecom, Gas, Electric, Water, Pipeline	30 October 2018		
GTT - Vtesse	Telecom	30 October 2018		
Instalcom - [CenturyLink, Global Crossing, Fibernet & Fiberspan]	Telecom	30 October 2018		
Network Rail	Rail	30 October 2018		
Plancast - [Interoute]	Telecom	30 October 2018		
SKY Telecommunications Services	Telecom	30 October 2018		
SSE	Telecom, Gas, Electric	30 October 2018		Website used.
Trafficmaster	Other	30 October 2018		Website used.
Verizon	Telecom	30 October 2018		
Virgin Media	Telecom	30 October 2018		
Vodafone	Telecom	30 October 2018		

Checked and Validated By KW



Date 30 October 2018

Definition of Terms

Affected - Utility supplier is expected to be affected by any work carried out in the area searched as their records indicate their plant is in or close to the area searched. It is recommended to anybody carrying out works in the area that they should consult with the utility company as soon as possible and in any event prior to carrying out any works.

No Response Received - At the date of sending the report no response has been received from the utility supplier.

Not Affected - Utility supplier is not expected to be affected by any work carried out in the area searched as their records indicate their plant is not in or close to the area searched.

Utilities Report













Affected Utilities

Dŵr Cymru Welsh Water

















LEGEND

Clean Water

-  Sluice Val
-  Air Val, SINGLE
-  Tap
-  Pressure Reducing Valve
-  Meter
-  BULK Meter
-  FH
-  Cap
-  Existing Main
-  NON COMPANY

Sewerage External

-  Foul
-  Surface Water
-  Combined
-  Rising Main
-  Private
-  Treatment Works
-  Pumping Station
-  Special Purpose
-  Unknown End
-  Change, Combined Overflow
-  Outfall, FOUL
-  Lamp Hole, Foul
-  Private Sewer Transfer
-  Lateral Drain
-  Inspection Chamber

306090,208746

Dwr Cymru Cyfyngedig ('the Company') gives this information as to the position of its underground apparatus by way of general guidance only and on the strict understanding that it is based on the best information available and no warranty as to its correctness is relied upon in the event of excavations or other works made in the vicinity of the company's apparatus and any onus of locating the apparatus before carrying out any excavations rests entirely on you. The information which is supplied hereby by the company, is done so in accordance with statutory requirements of sections 198 and 199 of the Water Industry Act 1991 based upon the best information available and in particular, but without prejudice to the generality of the foregoing, it should be noted that the records that are available to the Company may not disclose the existence of a drain sewer or disposal main laid before 1 September 1989, or if they do, the particulars thereof including their position underground may not be accurate. It must be understood that the furnishing of this information is entirely without prejudice to the provision of the New Roads and Street Works Act 1991 and the company's right to be compensated for any damage to its apparatus.

EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE











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Whilst every reasonable effort has been taken to correctly record the pipe material of DCWW assets, there is a possibility that in some cases pipe material (other than Asbestos Cement or Pitch Fibre) may be found to be Asbestos Cement (AC) or Pitch Fibre (PF). It is therefore advisable that the possible presence of AC or PF pipes be anticipated and considered as part of any risk assessment prior to excavation.



LEGEND

Clean Water

-  Sluice Val
-  Air Val, SINGLE
-  Tap
-  Pressure Reducing Valve
-  Meter
-  BULK Meter
-  FH
-  Cap
-  Existing Main
-  NON COMPANY

Sewerage External

-  Foul
-  Surface Water
-  Combined
-  Rising Main
-  Private
-  Treatment Works
-  Pumping Station
-  Special Purpose
-  Unknown End
-  Change, Combined Overflow
-  Outfall, FOUL
-  Lamp Hole, Foul
-  Private Sewer Transfer
-  Lateral Drain
-  Inspection Chamber

306090,208746ESS

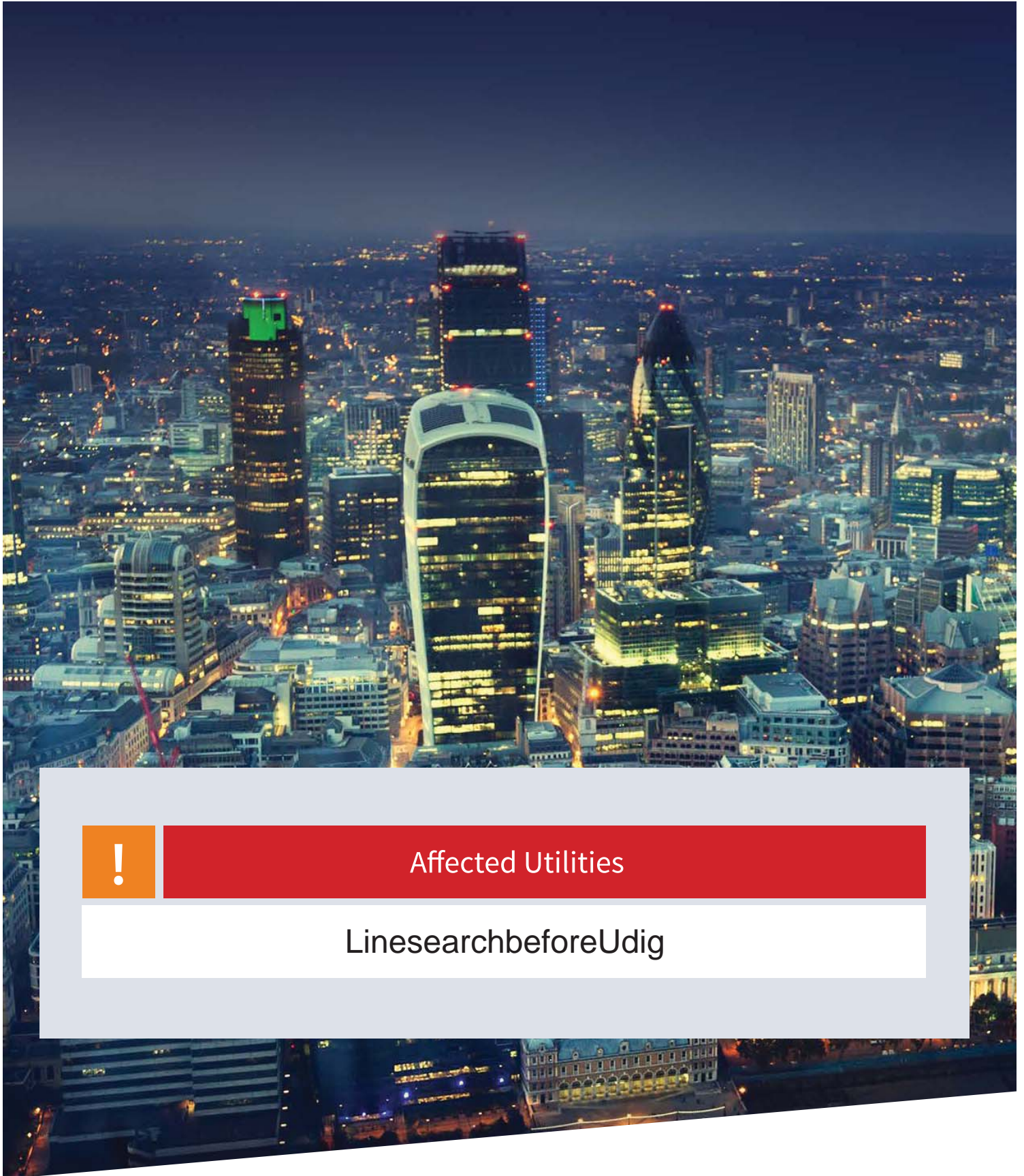
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EXACT LOCATION OF ALL APPARATUS TO BE DETERMINED ON SITE

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Utilities Report



Affected Utilities

LinesearchbeforeUdig

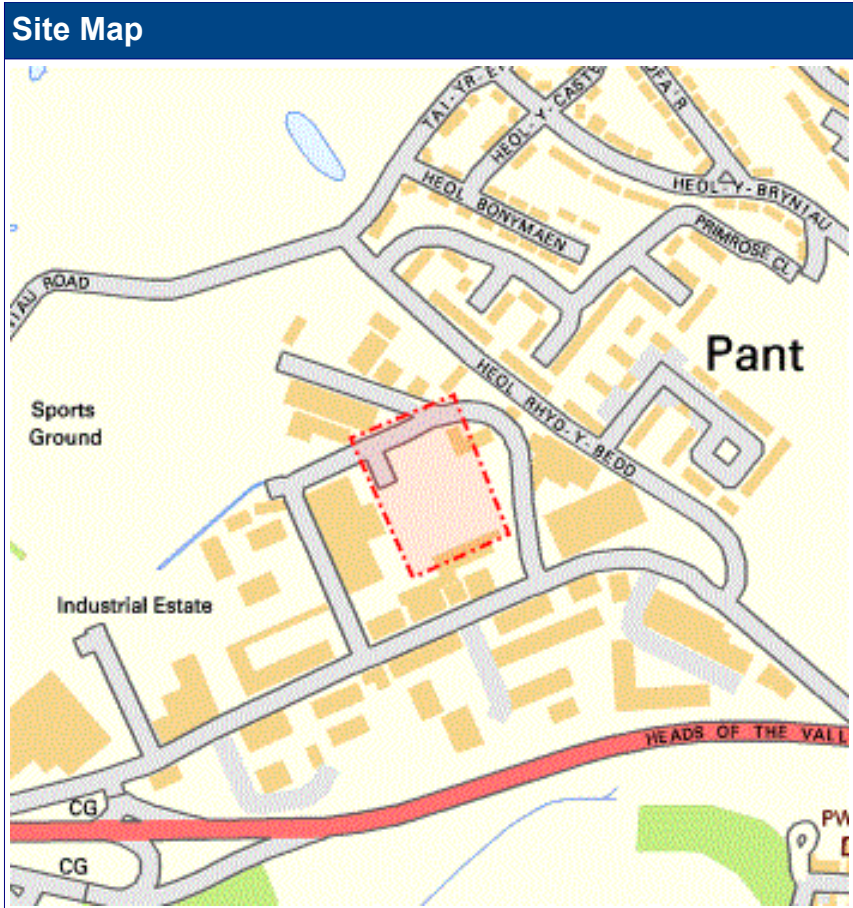
Enquirer

Name	Ms Christina Elliott	Phone	01454 662397
Company	Atkins	Mobile	Not Supplied
Address	500 Park Avenue Aztec West Almondsbury Bristol BS32 4RZ		
Email	stat.enquiries@atkinglobal.com		

Enquiry Details

Scheme/Reference	LM 69681/ShG		
Enquiry type	Initial Enquiry	Work category	Utility Works
Start date	24/10/2018	Work type	Single excavation site
End date	24/01/2019	Site size	11440 metres square
Searched location	XY= 306060, 208758	Work type buffer*	25 metres
Confirmed location	306057 208760		
Site Contact Name	Not Supplied	Site Phone No	Not Supplied
Description of Works	Not Supplied		

* The WORK TYPE BUFFER is a distance added to your search area based on the Work type you have chosen.



LSBUD Members who have assets registered on the LSBUD service within the vicinity of your search area.

List of affected LSBUD members

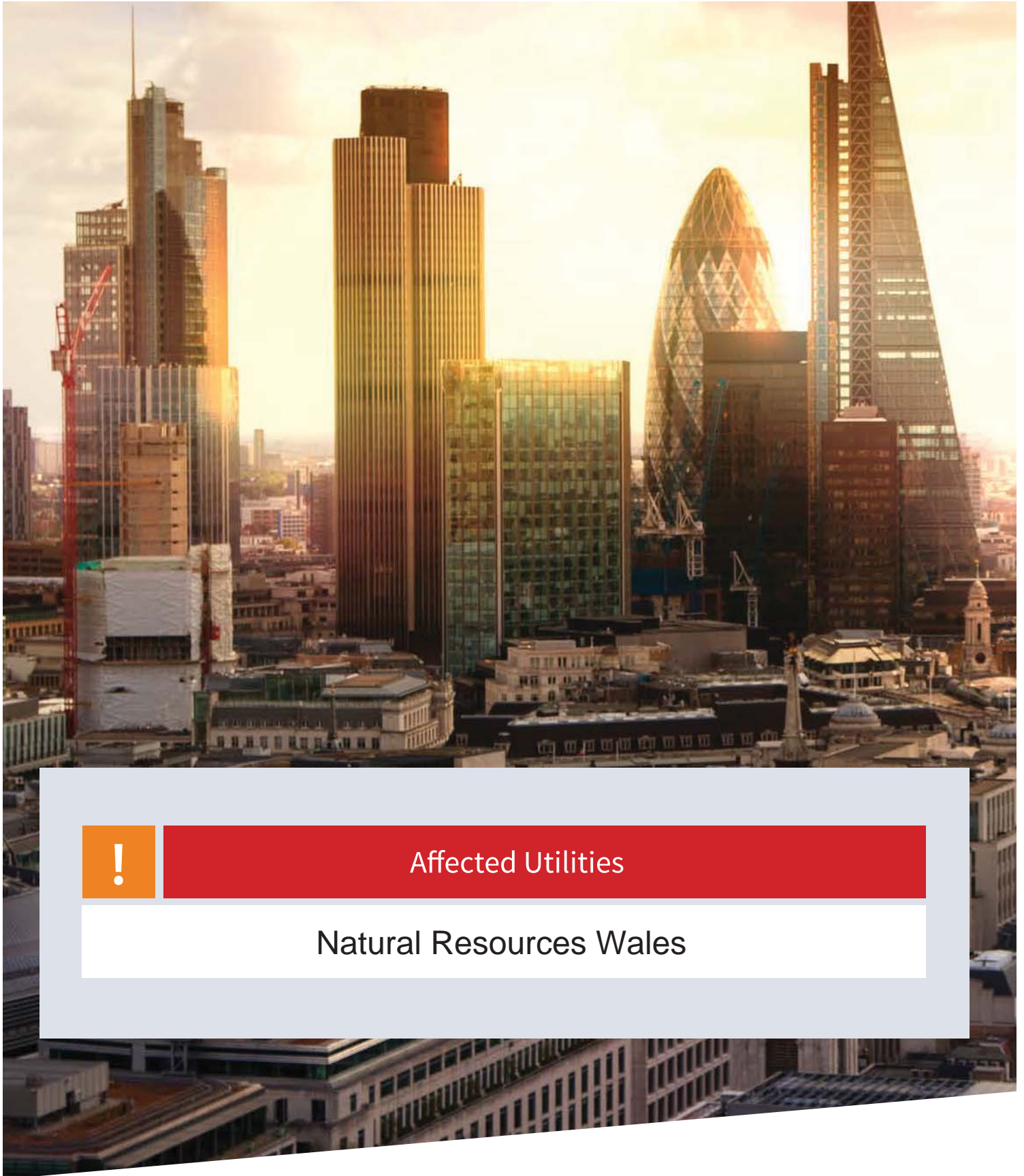
Asset Owner	Phone/Email	Emergency Only	Status
Western Power Distribution	08000963080	08006783105	Await response

LSBUD Members who do not have assets registered on the LSBUD service within the vicinity of your search area. Please be aware that LSBUD Members make regular changes to their assets and this list may vary for new enquiries in the same area.

List of not affected LSBUD members

AWE Pipeline	BOC Limited (A Member of the Linde Group)	BP Exploration Operating Company Limited
BPA	Carrington Gas Pipeline	CATS Pipeline c/o Wood Group PSN
Cemex	Centrica Storage Ltd	CLH Pipeline System Ltd
Concept Solutions People Ltd	ConocoPhillips (UK) Ltd	DIO (MOD Abandoned Pipelines)
E.ON UK CHP Limited	EirGrid	Electricity North West Limited
ENI & Himor c/o Penspen Ltd	EnQuest NNS Limited	EP Langage Limited
ESP Utilities Group	ESSAR	Esso Petroleum Company Limited
Fulcrum Pipelines Limited	Gamma	Gateshead Energy Company
Gigaclear PLC	Gtt	Hafren Dyfrdwy
Humbly Grove Energy	IGas Energy	INEOS FPS Pipelines
INEOS Manufacturing (Scotland and TSEP)	INOVYN Enterprises Limited	Intergen (Coryton Energy or Spalding Energy)
Mainline Pipelines Limited	Manchester Jetline Limited	Manx Cable Company
Marchwood Power Ltd (Gas Pipeline)	Melbourn Solar Limited	National Grid Gas (Above 7 bar), National Grid Gas Distribution Limited (Above 2 bar) and National Grid Electricity Transmission
Northumbrian Water Group	NPower CHP Pipelines	Oikos Storage Limited
Ørsted	Perenco UK Limited (Purbeck Southampton Pipeline)	Petroineos
Phillips 66	Premier Transmission Ltd (SNIP)	Prysmian Cables & Systems Ltd (c/o Western Link)
Redundant Pipelines - LPDA	RWEnpower (Little Barford and South Haven)	SABIC UK Petrochemicals
Scottish Power Generation	Seabank Power Ltd	Severn Trent (Chester area only)
SGN	Shell (St Fergus to Mossmorran)	Shell Pipelines
SSE (Peterhead Power Station)	Tata Communications (c/o JSM Construction Ltd)	Total (Colnbrook & Colwick Pipelines)
Total Finaline Pipelines	Transmission Capital	UK Power Networks
Uniper UK Ltd	Vattenfall	Veolia ES SELCHP Limited
Westminster City Council	Wingas Storage UK Ltd	Zayo Group UK Ltd c/o JSM Group Ltd

Utilities Report



Affected Utilities

Natural Resources Wales

To: atkinsstatutory.enquiries@atkinsglobal.com

Dear Sir / Madam,

The process by which Natural Resources Wales responds to plant / asset enquiries has changed since August 2016.

We no longer carry out any checks on the sites in question, either on our mapping system or with internal teams. We ask that in the first instance organisations make their own checks via various links. These are as follows:

If you want to carry out works in, over, under or near a main river or flood defence (including a sea defence), or within a flood plain you will need to apply for Flood Risk Activity Permit. (This was previously called a Flood Defence Consent.) For further advice please visit our website <http://naturalresources.wales/apply-for-a-permit/flood-risk-activities/?lang=en>
Contact details for the relevant office are also included within the application forms.

For locations of main rivers, flood defences and flood plains, you can view our Risk of Flooding maps online at this link <https://naturalresources.wales/our-evidence-and-reports/maps/flood-risk-map/?lang=en>

You can download GIS data on the locations of designated sites from the Lle web portal <http://lle.wales.gov.uk/catalogue?lang=en>

Further information about these sites can also be found on our website <http://naturalresources.wales/conservation-biodiversity-and-wildlife/find-protected-areas-of-land-and-seas/designated-sites-search/?lang=en>

Please note - although Natural Resources Wales is classed as a statutory undertaker, we do not generally have plant equipment or pipelines situated in the public highway.

To confirm: **Natural Resources Wales has not conducted a specific search of our records.** After checking the above links, if you have reason to think that your proposal will affect land or equipment which we own, please submit your enquiry to datadistribution@naturalresourceswales.gov.uk with details of the specific areas affected.

Yours sincerely

Tim Cysylltiadau Allanol / **External Relations Team**
Cyfoeth Naturiol Cymru / **Natural Resources Wales**

Standard Notice

(not for use with Special Data, Personal Data or unlicensed 3rd party rights)

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-  ensure that your use of the Information does not breach the Data Protection Act 1998 or the Privacy and Electronic Communications (EC Directive) Regulations 2003

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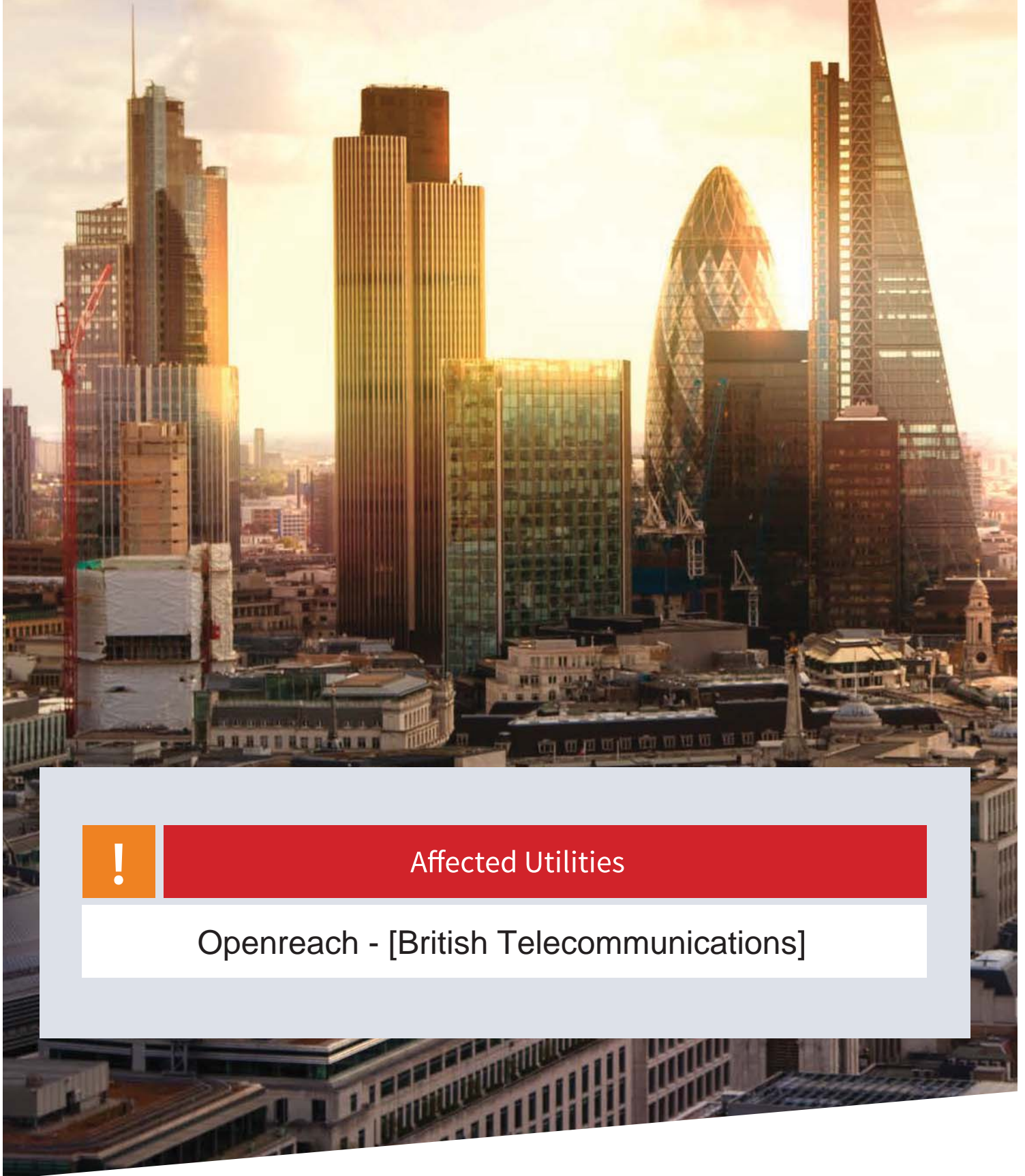
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-  internal use for any purpose, or offering a product or service based on the Information for indirect commercial advantage, by an organisation that is primarily engaged in trade, commerce or a profession.

Utilities Report



Affected Utilities

Openreach - [British Telecommunications]

CHECKED

openreach

Our Ref: Ref shown on map

Date of issue: shown on map

email: nnhc@openreach.co.uk

Dear Customer,

NR & SW ACT 1991 – PROPOSED WORKS AT: **SITE LOCATION**

Prior to commencement of work: For free onsite guidance and accurate up to date location of BT Apparatus please contact our Plant Protection Service by the following methods:-

Email the Click Before You Dig Team CBYD@openreach.co.uk

Visit the Click Before You Dig Website www.openreach.co.uk/cbyd

Thank you for your request of **/**/** describing the above proposals.

Enclosed are copies of our drawings marked up to show the approximate locations of BT apparatus in the immediate vicinity of your works. It is intended for general guidance only. No guarantee is given of its accuracy.

The drawings are valid for 90 days from the date of issue and should not be relied upon after this time period has expired.

When planning excavation work or other works near to BT apparatus, please be mindful our apparatus may exist at various depths and may deviate from the marked route.

To avoid damage it is recommended that mechanical excavators or borers are not used within 600mm of BT apparatus. If scaffolding is erected, please ensure that our equipment is not enclosed, blocked, covered or otherwise obstructed by the scaffolding.

In the event of BT apparatus being in the area of your works we recommend that your plant/vehicle crossing is either resited, or apply for a budget estimate by submitting detailed plans to our Network Relocation Team at <https://www.ournetwork.openreach.co.uk/altering-our-network.aspx>

Yours faithfully,

Jason Carrington
NNHC & MBE Manager

Maps by email Plant Information Reply



IMPORTANT WARNING

Information regarding the location of BT apparatus is given for your assistance and is intended for general guidance only. No guarantee is given of its accuracy.

It should not be relied upon in the event of excavations or other works being made near to BT apparatus which may exist at various depths and may deviate from the marked route.



openreach

CLICK BEFORE YOU DIG

FOR PROFESSIONAL FREE ON SITE ASSISTANCE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS INCLUDING LOCATE AND MARKING SERVICE

email cbyd@openreach.co.uk

ADVANCE NOTICE REQUIRED
(Office hours: Monday - Friday 08.00 to 17.00)
www.openreach.co.uk/cbyd

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KEY TO BT SYMBOLS

			Change Of State	+	Hatchings	
	<i>Planned</i>	<i>Live</i>	Split Coupling	×	Built	
PCP			Duct Tee	▲	Planned	
Pole			Building		Inferred	
Box			Kiosk		Duct	
Manhole			Other proposed plant is shown using dashed lines. BT Symbols not listed above may be disregarded.			
Cabinet			Existing BT Plant may not be recorded. Information valid at time of preparation. Maps are only valid for 90 days after the date of publication.			
	<i>Pending Add</i>	<i>In Place</i>	<i>Pending Remove</i>	<i>Not In Use</i>		
Power Cable						
Power Duct				N/A		

BT Ref : TVF11511Y

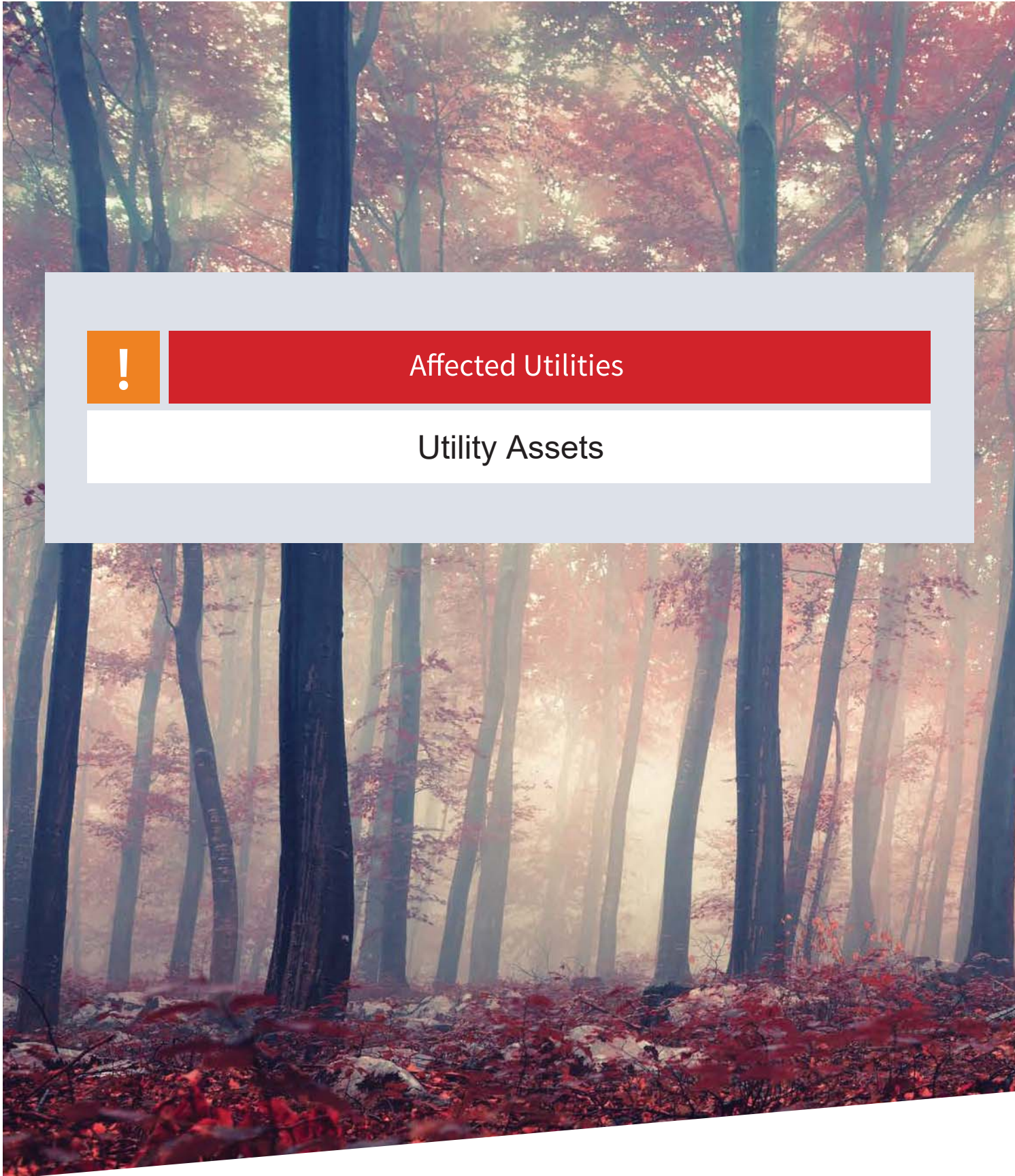
Map Reference : (centre) S00606008758

Easting/Northing : (centre) 306060,208758

Issued : 23/10/2018 11:52:10

WARNING: IF PLANNED WORKS FALL INSIDE HATCHED AREA IT IS ESSENTIAL BEFORE PROCEEDING THAT YOU CONTACT THE NATIONAL NOTICE HANDLING CENTRE. PLEASE SEND E-MAIL TO: nnhc@openreach.co.uk

Utilities Report



Affected Utilities

Utility Assets

ADVISORY NOTICE

SUPPLIER UPDATE: Utility Assets

On 08/10/2018, an enquiry was sent to Utility Assets' plant record department. As of the date of issue of this Utilities Report, we have not received a formal response from Utility Assets in regards to owning any equipment on this site. Utility Assets have however advised the following:

“Thank you for recently contacting Utility Assets plant record department. We will check whether we have any plant present at your site and contact you within 5 - 7 working days ONLY if we own any plant in the vicinity.

If we do not reply, we do not have any apparatus in the area of your works. However, PLEASE TAKE CARE when excavating around electricity cables in the event that not all cables present may be accurately shown. We recommend you use detecting equipment to map the site before excavating and fully comply with HSG47. DO NOT assume that a cable is dead if you don't have a record of its presence. The cable must be treated as live unless PROVEN DEAD by the cable owner. In case of emergency please contact your local electricity distribution company.

This is an automated reply from our dedicated asset records email address. If you receive further correspondence from us it will be from asset.manager@utilityassets.co.uk quoting a site reference number.

Asset Manager - Utility Assets Ltd”

If a formal response is received within 3 months of the date of this search it will be forwarded onto you as per our usual service. However, without formal communication from Utility Assets it remains unconfirmed that your site will not be affected by their network. Utility Assets will not acknowledge receipt of this enquiry, or any subsequent chases, unless their network will be affected.

Terms and Conditions Full Terms and Conditions can be found on the following URL:

<http://www.landmarkinfo.co.uk/Terms/Show/515>

Please note that Utilities Reports have a validity of 3 months from the date of purchase.

If you experience difficulties accessing our Terms and Conditions, please telephone our Customer Service Team on 0844 844 9966.

Utilities Report

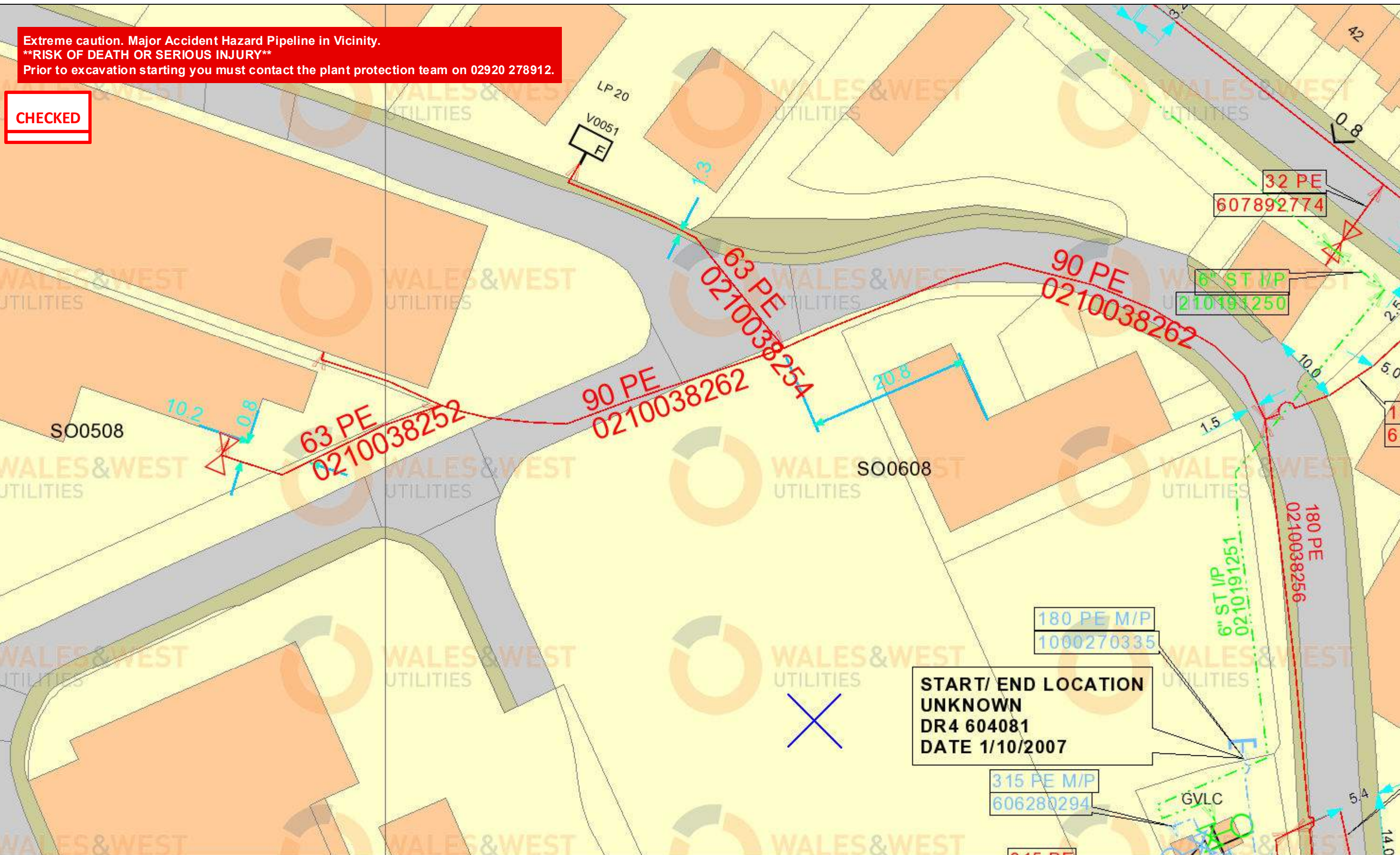


Affected Utilities

Wales and West Utilities

Extreme caution. Major Accident Hazard Pipeline in Vicinity.
****RISK OF DEATH OR SERIOUS INJURY****
 Prior to excavation starting you must contact the plant protection team on 02920 278912.

CHECKED



START/ END LOCATION UNKNOWN
DR4 604081
DATE 1/10/2007

Scale	1 : 500@A3
User ID	adam.bushnell@atkins
Date	23/10/2018
Grid Ref.	Easting: 306044 Northing: 208799

Low Pressure	Design Pipes
Medium Pressure	Abandoned
Intermediate Pressure	
High Pressure	

Some examples of Plant Items:
 Valve Depth of Cover Syphon Diameter Change Material Change

0 12.5 25 Meters

TITLE:

The plan shows those pipes owned by Wales & West Utilities (WU) in its role as a Licensed Gas Transporter (GT). The information shown on this plan is derived from historic information and may have involved re-scaling plans, and the accuracy of it cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. may not be shown but their presence should be anticipated. No warranties are therefore given in respect of it. WU its employees and contractors do not accept any liability for any inaccuracy or incompleteness in it.

You must use safe digging practices, in accordance with HS(G)47, to establish the actual position of mains, pipes, services and other apparatus on site before any mechanical plant is used. It is your responsibility to ensure that this information is provided to all persons (either direct labour or contractors) working for you or near gas apparatus. The information shown on this plan should not be used beyond 28 days from the date of issue of this plan as it is subject to updating.

The plan also provides indications of gas pipes owned by other GTs, or otherwise privately owned, which may be present in this area. This information is not information of WU and WU is unable to verify this information or to confirm whether it is accurate or complete. It is supplied voluntarily to assist the user in determining whether to make contact with other GTs or others. The user must obtain such information from the other GT or person concerned. WU, its employees and contractors do not accept any liability for this information or any inaccuracy or incompleteness in it.

WALES&WEST UTILITIES

Wales and West Utilities Ltd., Wales and West House, Spooner Close, Celtic Springs, Coedkemeu, Newport, NP10 8FZ

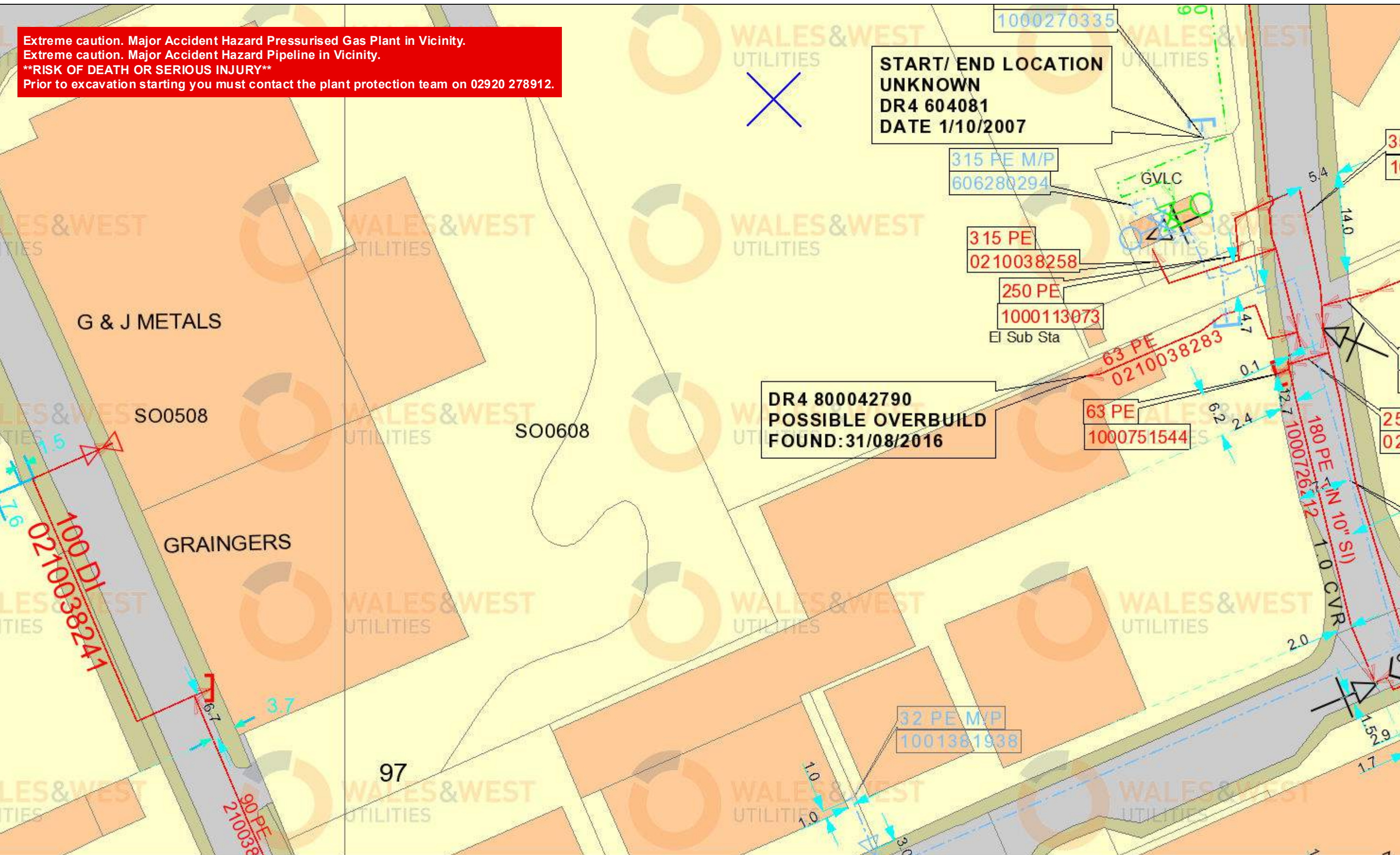
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Internal Use Only

Extreme caution. Major Accident Hazard Pressurised Gas Plant in Vicinity.
Extreme caution. Major Accident Hazard Pipeline in Vicinity.
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912.

START/ END LOCATION UNKNOWN
DR4 604081
DATE 1/10/2007

DR4 800042790
POSSIBLE OVERBUILD
FOUND: 31/08/2016



Scale	1 : 500@A3
User ID	adam.bushnell@atkins
Date	23/10/2018
Grid Ref.	Easting: 306050 Northing: 208711
Internal Use Only	

Low Pressure	Design Pipes
Medium Pressure	Abandoned
Intermediate Pressure	Syphon
High Pressure	Diameter Change
Valve	Depth of Cover
Material Change	

Some examples of Plant Items:

0 12.5 25 Meters

TITLE:

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WALES & WEST UTILITIES

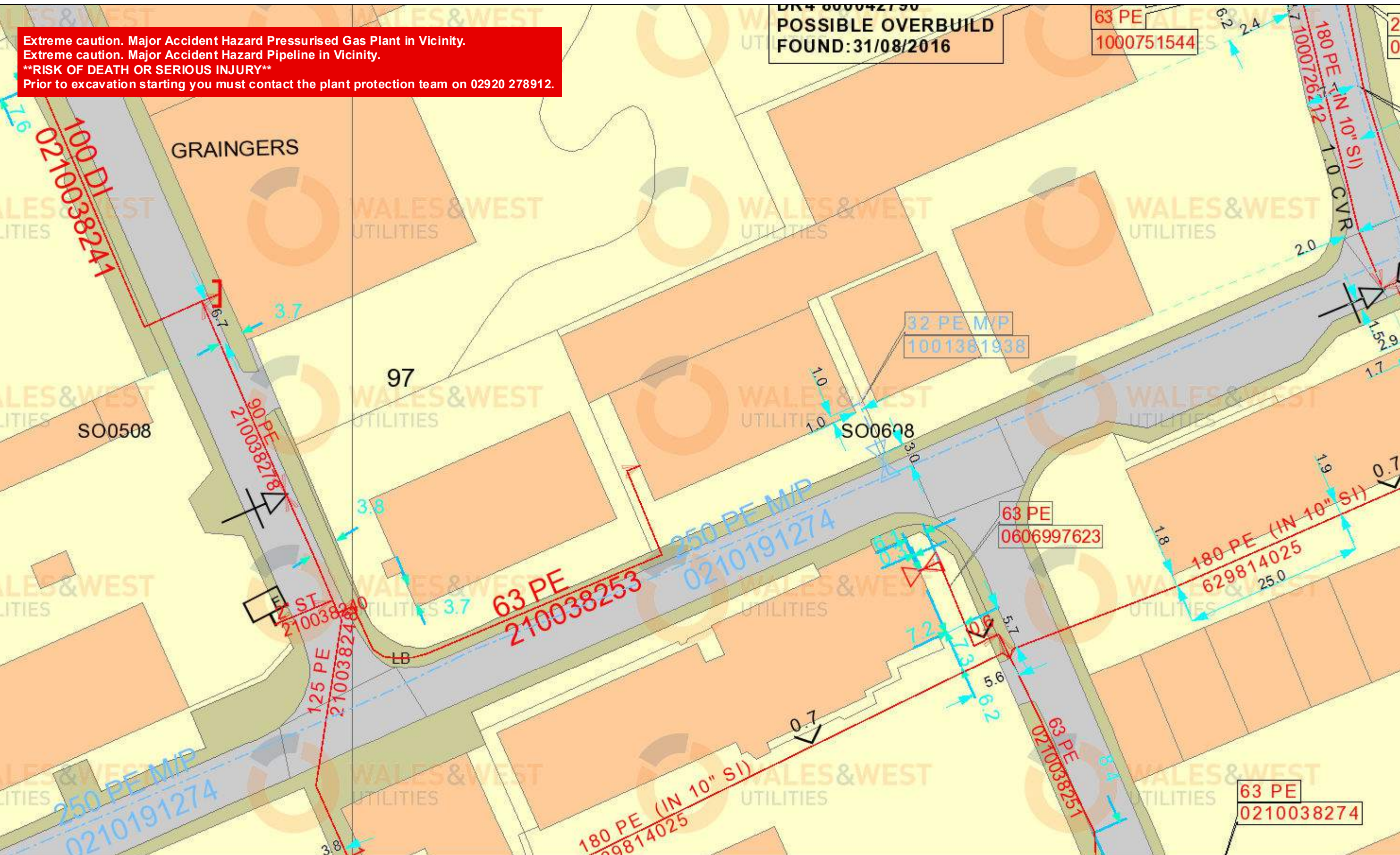
Wales and West Utilities Ltd., Wales and West House, Spooner Close, Celtic Springs, Coedkemeu, Newport, NP10 8FZ

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Extreme caution. Major Accident Hazard Pressurised Gas Plant in Vicinity.
Extreme caution. Major Accident Hazard Pipeline in Vicinity.
****RISK OF DEATH OR SERIOUS INJURY****
Prior to excavation starting you must contact the plant protection team on 02920 278912.

DR4 800042750
POSSIBLE OVERBUILD
FOUND: 31/08/2016

63 PE
 1000751544



Scale	1 : 500@A3
User ID	adam.bushnell@atkins
Date	23/10/2018
Grid Ref.	Easting: 306049 Northing: 208656
Internal Use Only	

Low Pressure	Design Pipes
Medium Pressure	Abandoned
Intermediate Pressure	
High Pressure	

Valve	Depth of Cover	Syphon	Diameter Change	Material Change

0 12.5 25
 Meters

TITLE:

The plan shows those pipes owned by Wales & West Utilities (WU) in its role as a Licensed Gas Transporter (GT). The information shown on this plan is derived from historic information and may have involved re-scaling plans, and the accuracy of it cannot be guaranteed. Service pipes, valves, syphons, stub connections, etc. may not be shown but their presence should be anticipated. No warranties are therefore given in respect of it. WU its employees and contractors do not accept any liability for any inaccuracy or incompleteness in it.

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WALES & WEST UTILITIES

Wales and West Utilities Ltd., Wales and West House, Spooner Close, Celtic Springs, Coedkernew, Newport, NP10 8FZ

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Utilities Report



Affected Utilities

Western Power Distribution



Our Ref: 13903597 Your Ref: LM 69681/ShG

Monday, 08 October 2018

Christina Elliott
500 Park Avenue Aztec West
Almondsbury
Bristol
BS32 4RZ

Western Power Distribution,
Mapping Centre
Toll End Road
Tipton
West Midlands
United Kingdom
DY4 0HH
www.westernpower.co.uk

Dear Christina Elliott

Thank you for your enquiry dated Monday, 08 October 2018

I now enclose a copy of our plan showing existing Western Power Distribution (WPD) Electricity / WPD Surf Telecom apparatus in the vicinity of your proposed works. This information is given as a general guide only and its accuracy cannot be guaranteed. Please note that all WPD equipment on site should be assumed to be LIVE until WPD prove otherwise and provide you with confirmation to this effect in writing. Recent additions to our network, or service connections between the main cable and a building or street lamp may not be shown.

Map Response
T 0121 623 9780
WPDMapResponse
@westernpower.co.uk

LinesearchbeforeUdig
Help Desk 0845 437 7365

Damage to underground cables and contact with overhead lines can cause severe injury or may prove fatal. If you are excavating on site in the vicinity of either WPD Electrical apparatus or WPD Surf Telecom apparatus you must comply with the requirements of the following:-

Health & Safety Executive guidance HS(G)47, Avoiding Danger from underground services.

Work taking place in the vicinity of our plant is also regulated under the:-

Electricity at Work Regulations 1989, Health and Safety Act 1974, CDM Regulations 2015.

Safe working procedures should be defined and practiced

Please ensure that the use of mechanical excavators in the vicinity of our plant is kept to a minimum. WPD Surf Telecom ducts contain fibre cables, which are expensive to repair. Therefore, extreme care must be taken whilst working in the vicinity of these ducts, hand digging methods being used to determine their precise position.

If there are overhead lines crossing your site and your proposal involves building works which may infringe the clearance to our overhead system then you should call the relevant general enquiries number (see page 2 of this letter) for advice. Where overhead lines cross your site you must comply with the requirements of Health & Safety Executive guidance as laid down in GS6, Avoidance of Danger from Overhead Electric Lines.

Western Power Distribution PLC
South West - 02366894
South Wales - 02366985
East Midlands - 02366923
West Midlands - 03600574

Where diversions to WPD apparatus are needed to allow change to occur on site, the cost of these alterations may be charged to the persons responsible for the works.

If you require advice in connection with your proposals please contact the relevant general enquiries number (see page 2 of this letter)

Registered in
England and Wales

Following consultation the local Western Power Distribution team will where necessary prepare detailed proposals and provide a quotation for any necessary alterations and/or development of our equipment on the site.

Registered Office:
Avonbank
Feeder Road
Bristol
BS2 0TB

Yours sincerely
WPD Map Response Team

Contact Us

Emergency or Power Supply issues

In an emergency call 0800 6783 105, 24 hours a day.

Mapping Enquiries

If you have an enquiry relating to this letter or the attached map plan, please contact us using the following information:

Telephone 0121 623 9780

Email WPDMapResponse@westernpower.co.uk

General Enquiries

If you have a general enquiry, please call us on the following telephone number:

All areas 0800 096 3080

LinesearchbeforeUdig

If you have an enquiry relating to the use of the LinesearchbeforeUdig website please contact LinesearchbeforeUdig using the following information:

Telephone 0845 437 7365

Email enquiries@linesearchbeforeudig.co.uk

Website www.linesearchbeforeudig.co.uk

Steps to help keep you safe

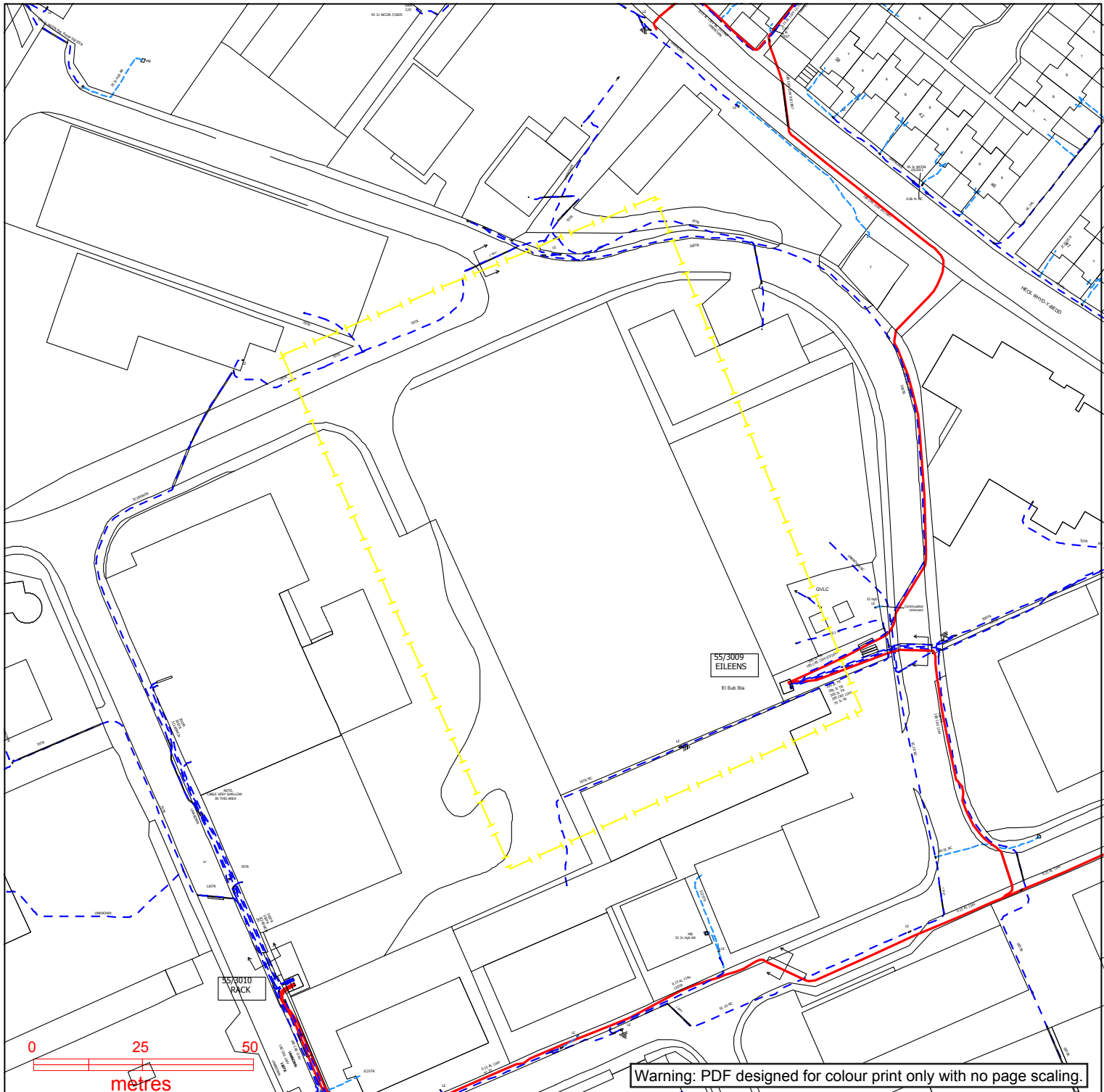
- **If you are working within 10 metres of our 33kV, 66kV, 132kV underground electricity cables or within 10 metres of an overhead electricity line you should call the relevant General Enquiries for free safety advice.**

Safety Documents – please download our informative safety documents to help ensure that you, your staff and the public are kept safe whilst working in the vicinity of electricity.

<http://www.westernpower.co.uk/Health-and-Safety/Public-Safety>

- **Make sure you have up to date plans** - remember that recent additions to our network or service connections between the main cable and a building or street lamp may not be shown.
- **Look for signs of service cables** - an electricity meter box or nearby streetlamp may give you an indication that service cables are present in your area of work.
- **Non WPD Network** - electricity cables, lines and equipment owned by others may also be present in addition to WPD network. They are unlikely to be shown on our plans.
- **Use a cable locator** - trace electricity cables and mark the position of them using paint or other waterproof marking on the ground.
- **Hand dig trial holes** - to confirm the position of cables in close proximity to your area of your work and use spades and shovels rather than picks, pins or forks.
- **Have an emergency plan** - so that everyone working on site understands what to do in the event of an underground electricity cable being damaged or contact being made with an overhead electricity line.
- **If you are working within 10 metres** of an overhead electricity line then it may be necessary for you to erect warning signs and markers, or height restriction goal posts. Ensure that you comply with the requirements of Health & Safety Executive guidance laid down in GS6, Avoidance of Danger from Overhead Electric Lines.
- **If you are erecting a structure** that could allow anyone standing on it, or its access device (ladder, scaffold, MEWP), to come within 3m of any overhead electric line then **you must inform us**. This is your duty and a legal requirement under the Electricity Safety, Quality & Continuity Regulations 2002.
- **If you cannot work safely** around the underground electricity cable or overhead electricity line, then you may need to get it moved to allow your works to go ahead. Call the general enquiry numbers above for guidance.
- **It is possible that cables or pipes may be embedded in concrete** - electricity cables embedded in concrete MUST be made 'dead' by Western Power Distribution or the cable owner before the concrete is broken out. Alternatively, another safe way of working should be agreed.

Cables are sometimes covered by tiles or a marker tape - these can be concrete, polythene or earthenware and are a useful early warning of the presence of cables; you should avoid disturbing any tiles or tape to expose the cable. Not all cables have these warning indicators.



WESTERN POWER DISTRIBUTION
Serving the Midlands, South West and Wales

Contact Us
Mapping Enquiries:
 All areas 0121 623 9780
General Enquiries:
 All areas 0800 096 3080

Date Requested: 08/10/2018
 Job Reference: 13903597
 Site Location: 306056 208760
 Requested by:
 Ms Christina Elliott
 Your Scheme/Reference:
 LM 69681/ShG

Exact Scales:
 1:1250 Area or Circle dig site
 1:500 Line dig site

Link Box	Overhead Line	Underground Cable	SURF Telecoms	Pilot Cables
●	○ PL ○ Service ○ LV (11kV) ○ HV (33kV) ○ HV (66kV) ⊠ HV (132kV)	— — — — — -	— S — S — PME Earth Underground Earth	— P — P — Pole Mounted Transformer Ground Mounted Transformer

IMPORTANT NOTICES

- This information is given as a guide only and its accuracy cannot be guaranteed. Services or recent additions to the network may not be shown.
- Cables, overhead lines & substations owned by other electricity network owners or private companies may be present and may not be shown.
- You should always verify exact locations of cables using a cable locator and by careful use of hand tools in accordance with HSE guidance note HSG47.
- When working within 10m of any overhead electric line you should follow the requirements of HSE Guidance Note GS6.
- For further advice on working near our electricity cables or lines, call our General Enquiries number.
- Advice should be sought from the Western Power Distribution General Enquiries team for any work that is to take place in proximity to 132kV underground cables and 132kV overhead lines.

Report damage immediately – KEEP EVERYONE AWAY FROM THE AREA
0800 6783 105

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Avoidance of Danger from Electricity Overhead Lines and Underground Cables

Avoidance of Danger from Electricity Overhead Lines and Underground Cables

Introduction

In the UK on average, 20 people are killed and 400 people are injured as a result of coming into contact (or close proximity) with electricity overhead lines and underground cables.

Although electric shock is the first thing that people associate with coming into contact with our network, those who have witnessed the effects of damage to our system are shocked by the amounts of heat, light and noise that are the result of an electrical flashover.

In the Midlands, South West and South Wales, Western Power Distribution (WPD) have had to attend to incidents where people have accidentally made contact with one of our live electricity overhead lines or damaged an underground cable and become seriously injured.

A significant number of these accidents occurred whilst people were working in the vicinity of overhead and underground electrical apparatus and this booklet has been produced to provide general guidance on how you and your employees can avoid becoming one of these statistics.

Our Operational Area



PLANNING YOUR WORK.

It makes sense to consider your safety while in the vicinity of our equipment as early in your planning process as possible.

One of the first things you should do whenever you are planning your work is to check whether there is any of our equipment in the immediate vicinity. You should do this whether your work is taking place on public (e.g. highways and footpaths) or on private land.

For instance, take a good look around your site to see if there are any visible overhead lines. You should also bear in mind that we have a very extensive network of underground cables, and we are always happy to supply a plan from our Map Response Team who can be contacted via the following;

Tel: 0121 623 9780

Fax: 0121 623 9223

WPDMapResponse@westernpower.co.uk

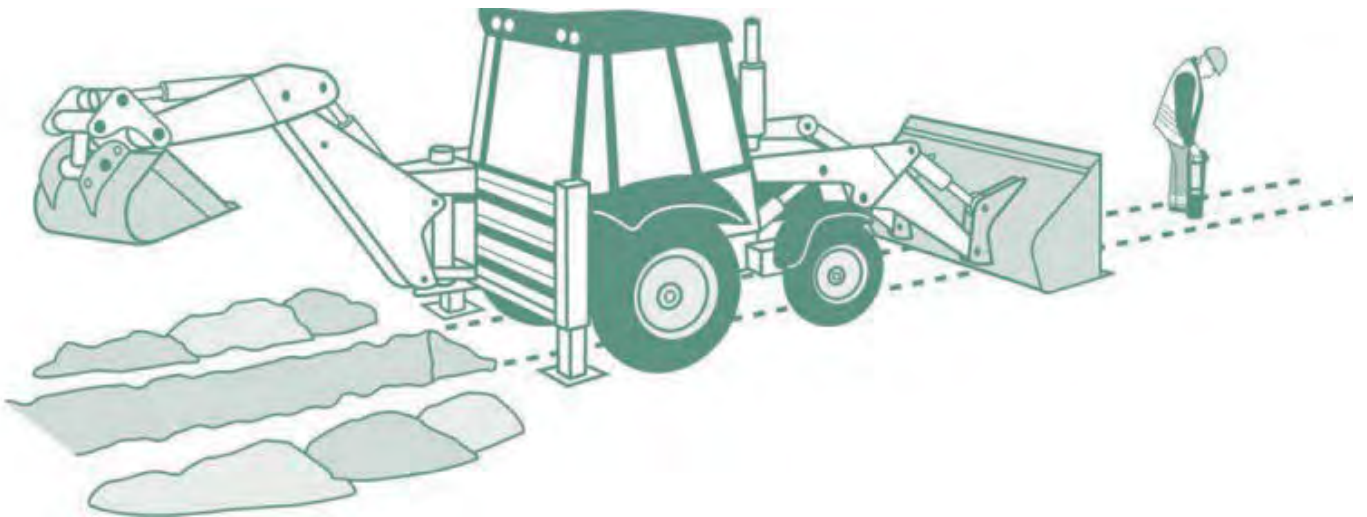
An online mapping service is available at
www.westernpower.co.uk/locationplans

It is always safer to assume that there are underground cables present in the ground until you have proven otherwise.

WORKING IN THE VICINITY OF UNDERGROUND CABLES

Having obtained copies of our network maps, it is important to recognise that in most cases there will be no surface indication of the presence of our underground cables. We therefore advise that you take the following actions:

- Make sure that you have up-to-date copies of our cable record plans ON SITE - not back in the office.
- Don't assume that these plans are to scale if they have been faxed or copied.
- Make sure that a competent person using a Cable Avoidance Tool (CAT) locates all of the cables shown on these plans.
- Mark the locations of cables on the ground surface with waterproof road paint or other permanent marker.
- Always assume that our cables are live unless we have informed you, in writing, otherwise.



- By hand, dig trial holes to locate the exact position of all cables. Always use a spade or shovel – never use a pick, fork or power tool – push the spade or shovel into the ground applying foot pressure.

- Look out for ducts, marker tape or tiles but do not rely on these. Even if a cable route was originally laid in a duct or with a marker tape, these may have been removed during other excavations at a later date along all or part of the cable route.
- Brief all people working in the vicinity of the presence and location of all underground cables.

UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO WORK ON, OR INTERFERE WITH, ANY OF OUR UNDERGROUND CABLES.

The only people qualified to work on this equipment are our operatives; who have been specifically trained and are authorised in writing to do so.

Please also be aware that:

- Cable record plans are not guaranteed to be completely accurate. Kerb lines, roads and buildings may have been moved or altered since the cables were laid.
- Cables should ordinarily be at least 450mm deep but don't assume this to be the case where you are working – ground levels could have changed.
- Not all service cables are shown on record plans, so look for cables running down poles and bear in mind that all buildings, street lights and street furniture are likely to have cables running to them. Cables feeding street furniture may be relatively shallow near to the furniture.
- Cables do not run in straight lines. They often “snake” through the ground avoiding surface and buried obstacles that may not be visible to you.
- Cables are flexible and can change direction and depth abruptly – for this reason never use mechanical excavators within 0.5m of any underground electricity cable even if you have located it with trial holes.

- **No attempt should be made to break out concrete surrounding a cable. Please contact us immediately on our general enquiries number and we will discuss the options for safe working which may include making the cable dead or you moving your work site if possible. If we need to make the cable dead we may need to provide our customers with two weeks notice of the power interruption.**
- Our cables and joints are not designed to act as steps or to be left unsupported. If you remove support from any cable, you will need to support it using temporary hangers at not more than 0.5m intervals.
- When backfilling, please consolidate the ground under the cables, cover the cable with soil free of stones or with stone dust and replace any cable marker tiles, ducts and tape.

IF YOU DAMAGE AN UNDERGROUND CABLE

you must immediately clear the area of personnel, because the cable could still be live, or become live again.

If a machine is still in contact with the cable, instruct the driver to JUMP clear. Do not touch any part of the machine.

Please contact us on our emergency number immediately and tell us what has happened. Please be ready to provide us with a contact telephone number and an accurate location or set of directions – this will help us in getting our staff to site quickly to minimise any danger and lessen the disruption to your work.

Please report any damage to a cable, however superficial it might seem. The cable may not fail at the time of damage, but it could fail later, causing danger to our staff and other contractors, disruption to our customers' supplies, and also – if we trace the damage back to you – a very much larger repair bill.

WORKING IN THE VICINITY OF OVERHEAD LINES

UNDER NO CIRCUMSTANCES SHOULD YOU ATTEMPT TO WORK ON, OR INTERFERE WITH ANY OF OUR OVERHEAD LINE EQUIPMENT OR SERVICE WIRES.

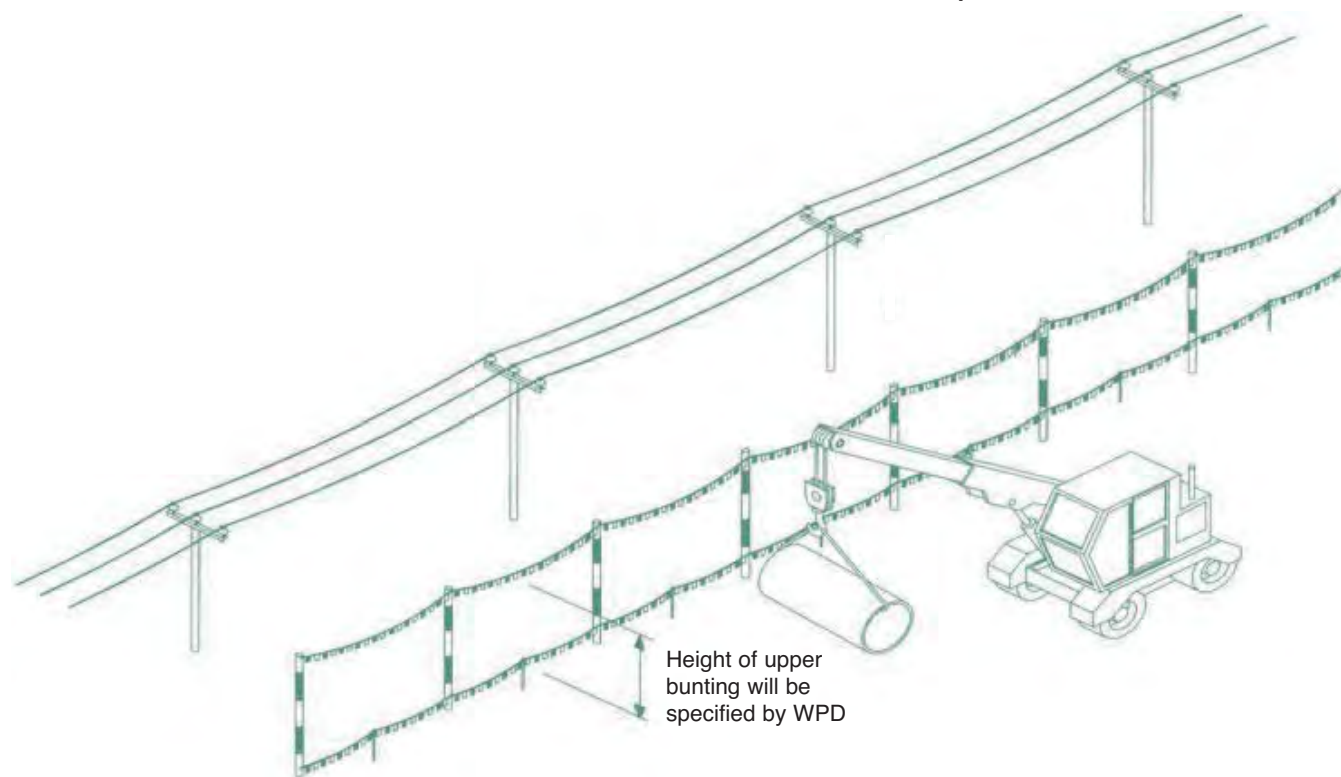
The only people qualified to work on this equipment are our operatives; who have been specifically trained and are authorised in writing to do so.

Overhead lines have the advantage that, unlike underground cables, they can easily be seen.

- Always assume that our overhead lines are live unless we have informed you otherwise in writing.
- We will be able to advise you about the type and voltage of the overhead lines in question and provide you with information about the clearances that you must adhere to during your work. Please ring our regional general enquiries number for further advice.
- If you are in any doubt about whether the overhead lines in question are power or telephone (this is a very common mistake) – please ask us.
- In some circumstances, we may be able to temporarily shroud low voltage overhead lines and services running to buildings if you need to work in the vicinity e.g. for scaffolding erection, fascia repairs and painting work on domestic properties. We don't normally charge for the shrouding of overhead lines, but please give us as much notice as possible.
- If you think that you will be working close to our overhead lines and they need shrouding – please don't start work until we have agreed what needs to be done and all safety precautions are in place.
- Please note that it is not technically possible to shroud high voltage lines, so if you cannot avoid working near to our high voltage lines, contact us and we will be happy to meet with you to discuss safe alternatives.

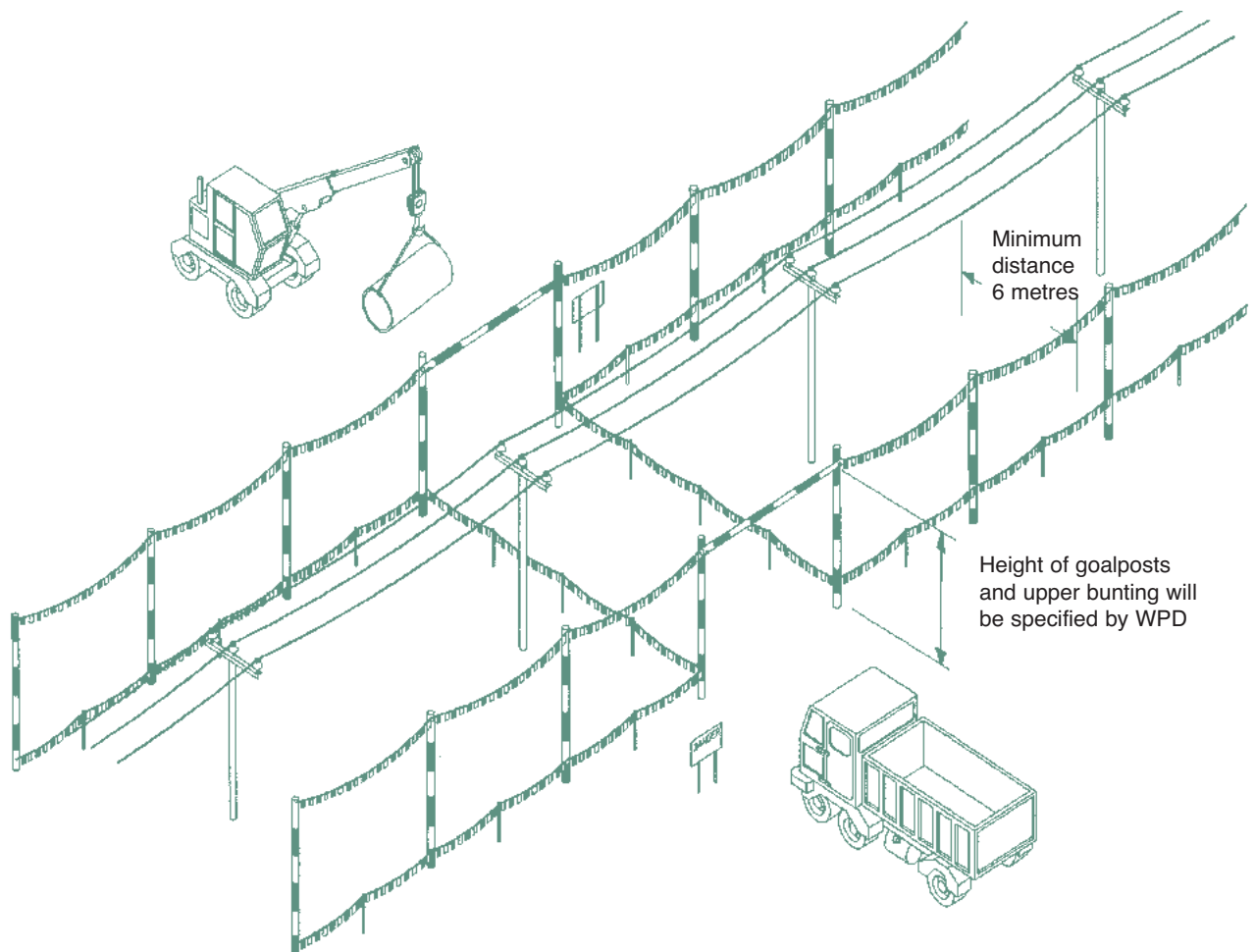
- If it is decided that work can go ahead in the vicinity of our overhead lines but there is a risk of you infringing the safety clearances from the overhead lines, you have a responsibility to erect safety barriers to segregate your works from the area around the overhead lines. The detailed requirements for these barriers are provided in the HSE document GS6 'Avoidance of Danger from Overhead Lines'. As a summary they should consist of:

- Red and white coloured posts erected at 6m intervals, with coloured bunting stretched between their tops, supplemented by low level bunting erected at 1m above ground level, supported at 3m intervals on red and white coloured posts. This is shown below.



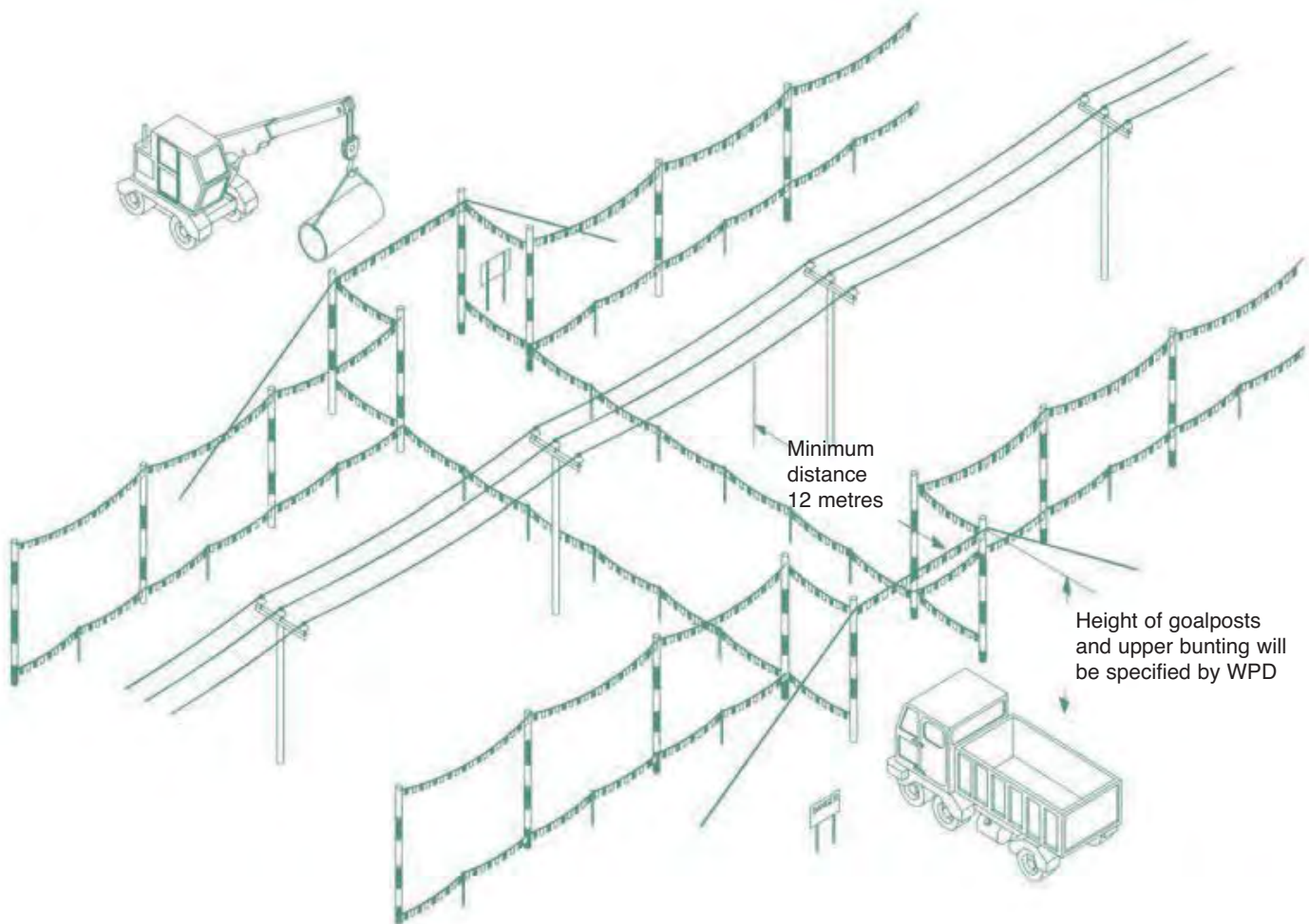
- We are able to advise you on the height of the barriers and any additional clearances necessary if you are using large plant on your site.
- Any bunting, ropes and lanyards used should be made from an insulating material.
- These barriers should be erected parallel to the overhead line at a minimum distance of 6m horizontally from the outermost conductor of the overhead line.

- The supports may be supported by rubble or concrete filled barrels or buried directly in the ground.
- Danger Notices should be fixed to all of your high level supports.
- The ground enclosed within these barriers is best regarded as “dead ground” in which all foot and vehicular traffic is forbidden, in all circumstances, for the duration of your work.
- Where it is necessary for foot and vehicular traffic to pass under the line, you will need to form a marked access way between the barriers as shown below.



- This access way should comprise of bunting erected 1m above ground, supplemented by high level “goal-posts” erected at either end.
- The goal post cross bars should be rigid, made of insulating material and positioned in a location and at a height specified by us.

- The access route should be as narrow as possible and should not normally exceed 10m in width.
- If it is necessary to make the access route wider than this, you may find it impractical to use rigid cross bars, so you may use a tensioned rope and bunting instead. If you use rope and bunting as a cross bar, you should move the entrance to the access route out to a minimum distance of 12m from the outermost conductor of the line. This is to allow for any stretching of the rope if pulled by your plant.



- If you decide to use steel wire rope to support the barrier, this must be effectively connected to earth at both ends.
- You should also install Danger Notices at all probable directions of approach and clearly display the cross bar height.
- If you are working at night, or in conditions of poor visibility, you should ensure the area is well lit and that the overhead lines are clearly visible.
- Whatever measures you take, you should ensure that everyone working in the vicinity of overhead lines is briefed about the risks and what safety measures are in place. Do not permit anyone to carry long objects, especially scaffold poles, ladders and irrigation pipes in the vicinity of overhead lines.
- You should ensure that all shrouding, barriers and signs are regularly inspected and maintained so that they remain effective.
- Overhead lines are not normally insulated and electricity at high voltages may jump, so a dangerous situation can arise just from a close approach.
- Cranes and excavators working near overhead lines are at increased risk because of the possibility of the jib/arm slewing or being raised into the overhead line, or the load swinging into the overhead line. You may therefore also need to fit plant and vehicles with restricting chains etc. to physically restrain their operation – we can advise on this if you wish.
- If you are planning to carry out tree cutting or arboriculture work in the vicinity of our overhead lines, you need to be aware that this is a complex, high risk activity and we recommend that you employ a competent tree surgeon, who complies with all of the requirements of Forestry industry Safety Accord (FISA) publication FISA 804 - Electricity at work: Forestry.

If contact is made with an overhead line

you must immediately clear the area and suspend all work within 50m of the damage because the line could still be live, or become live again.

The operator of a machine that is in contact with an overhead line should:

- **if the machine is still operable and the operator is still in the cab:**

provided that you do not risk breaking the overhead line or dragging it to the ground, immediately lower the raised parts of the machine USING ONLY THE CONTROLS IN THE CAB and/or drive the vehicle clear of the overhead line.

contact us immediately on our emergency number so that we can check the overhead lines.

instruct other people in the vicinity not to approach the vehicle.

- **if the machine is not operable, cannot be driven clear of the overhead line or there is a risk that doing so will break the line or drag it to the ground:**

stay in the cab.

contact your site manager or us immediately on our emergency number by radio or mobile phone or as soon as possible by any other method.

instruct everyone outside the vehicle not to approach it.

do not exit the cab until given confirmation BY WPD PERSONNEL that it is safe to do so.

- **if the machine is inoperable or cannot be driven free and there is risk of fire or other immediate hazard:**

JUMP clear of the vehicle, avoiding simultaneous contact with any part of the machine and the ground.

try to land with your feet as close together as possible.

where possible, continue to move away from the vehicle using “bunny hops” with your feet together until at least 15m from the vehicle.

instruct other people in the vicinity not to approach the vehicle.

contact us immediately on our emergency number.

do not return to the vehicle until given confirmation by WPD PERSONNEL that it is safe to do so.

Whatever the circumstances please contact us on our emergency number immediately and tell us what has happened. Please be ready to provide us with a contact telephone number and an accurate location or set of directions – this will help us in getting our staff to site quickly to minimise any danger and lessen any disruption to your work.

Please report any damage or contact no matter how minor they may seem to you at the time. The damage may not cause a serious problem at the time of damage, but it could fail later, causing danger to our staff and members of the public, disruption to our customers' supplies, and – if we trace the damage back to you – a large repair bill.

MORE INFORMATION

For your information, we are legally obliged to report all contact with our system to the Health & Safety Executive (HSE), and, if you are an employer, you may be obliged to report incidents involving your staff or contractors to the HSE. Even if no one is hurt, you could be prosecuted for failing to report such an incident.

More detailed general information on this subject is available in the following publications from the HSE:

HSG(47) – Avoiding Danger from Underground Services

GS6 – Avoidance of Danger from Overhead Lines

Along with Forestry Industry Safety Accord (FISA) publication FISA 804 – Electricity at Work: Forestry

If you require more site-specific information relating to our equipment at your location please contact us on our regional general enquiries numbers.

Our general enquiries numbers are;

Midlands 0845 724 0240

General Enquiries

South Wales 0845 601 3341

General Enquiries

South West 0845 601 2989

General Enquiries

FINALLY...

Please, always remember that electricity cables and overhead lines can be very dangerous – the general rule is **STAY AWAY** and stay safe.

NOTES



This booklet is issued by the Safety Team

Western Power Distribution (East Midlands) plc. Registered in England and Wales No. 2366923

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Western Power Distribution (South Wales) plc. Registered in England and Wales No. 2366985

Western Power Distribution (South West) plc. Registered in England and Wales No. 2366894

Registered Office: Avonbank, Feeder Road, Bristol BS2 0TB

Printed on material sourced from sustainable forests and TCF. Printed using vegetable/mineral oil based environmentally friendly inks.

2014, 4th issue

Our emergency number is:
0800 6783 105

Calling from a mobile?

East Midlands

0330 123 5009

West Midlands

0330 123 5008

South Wales

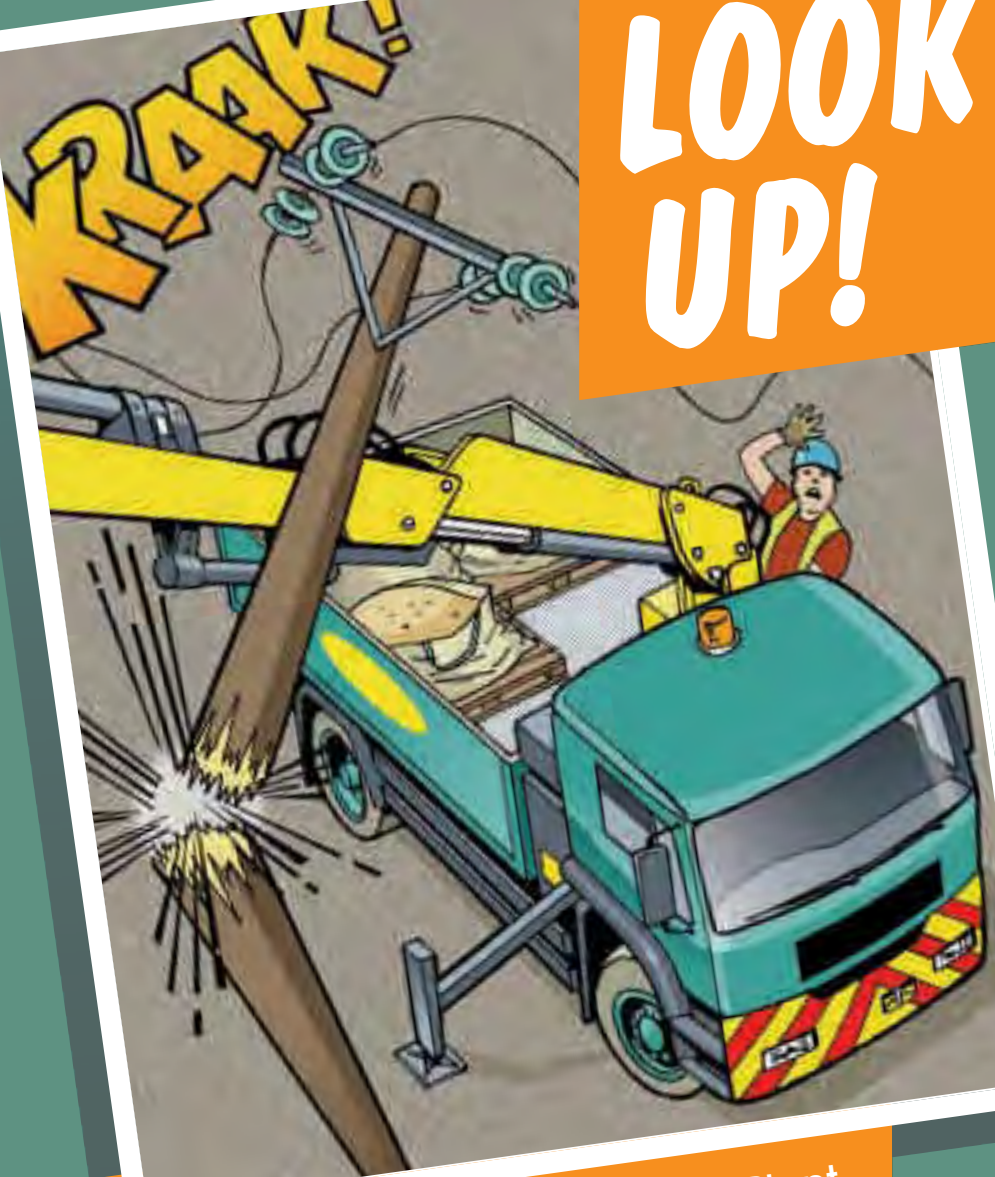
0330 123 5002

South West

0330 123 5001

LOOK OUT.

LOOK UP!



A Guide to the Safe Use of Mechanical Plant
in the Vicinity of Electricity Overhead Lines

The Safe Use of Mechanical Plant in the Vicinity of Electricity Overhead Lines

Introduction

Every year in the UK on average, two people are killed and many more are injured when mechanical plant and machinery comes into contact or close proximity to overhead electricity lines.

This booklet has been produced for anyone who uses mobile plant, (such as Hiabs, MEWPs, Tipper Lorries and Trailers, Grab Lorries, Concrete Conveyors and Excavators) for short duration work and provides general guidance on how to avoid becoming part of these statistics.



1 BEFORE STARTING WORK

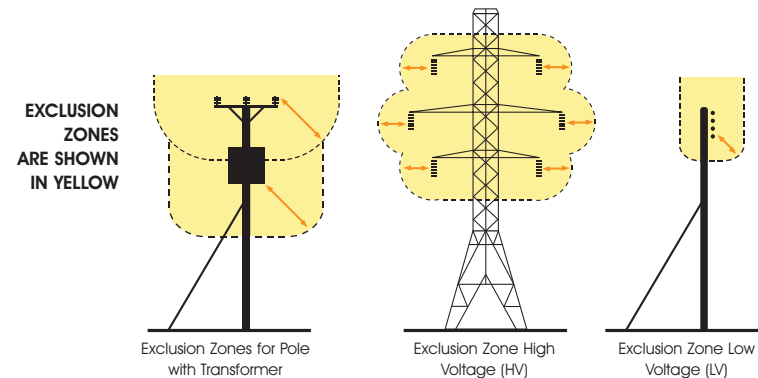
- Overhead lines have the advantage that they can easily be seen, so before you set up your vehicle or plant always:

STOP AND LOOK UP!

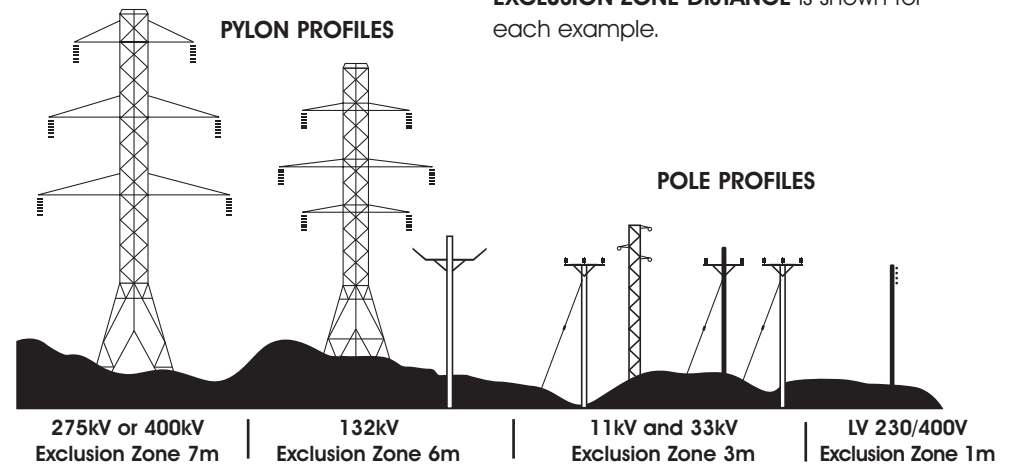
- If you are working at night, or in conditions of poor visibility, you should use spotlights or a torch to carefully check that there are no overhead lines within your vehicle's reach.
- Always assume that our lines are live unless we have informed you otherwise in writing.
- If you are in any doubt about whether the lines in question are power or telephone (this is a very common mistake) – always assume that they are power lines and are live.
- It is not normally practical for electricity companies to shroud high voltage conductors and even when low voltage conductors are shrouded, the shrouding is not designed to protect against contact by mechanical plant – again, always assume the lines are live.

2 EXCLUSION ZONES

- Overhead power lines are not normally insulated and so any contact can result in serious or fatal injuries.
- Electricity at high voltages can also jump gaps with no warning whatsoever, so it is also dangerous to let your plant approach too close to a line.
- The distance that electricity can jump depends on the voltage of the line. The higher the voltage, the further you must stay away from the line and any other equipment that may be fitted to the pole or pylon. This distance is called the **EXCLUSION ZONE**. Examples of this are shown highlighted in the diagram below.



- You must not allow any part of your plant to enter the **EXCLUSION ZONE**.
- The diagram below shows typical types of overhead lines and provides a guide to help you assess the line voltage of lines on wooden poles or steel pylons. The minimum **EXCLUSION ZONE DISTANCE** is shown for each example.

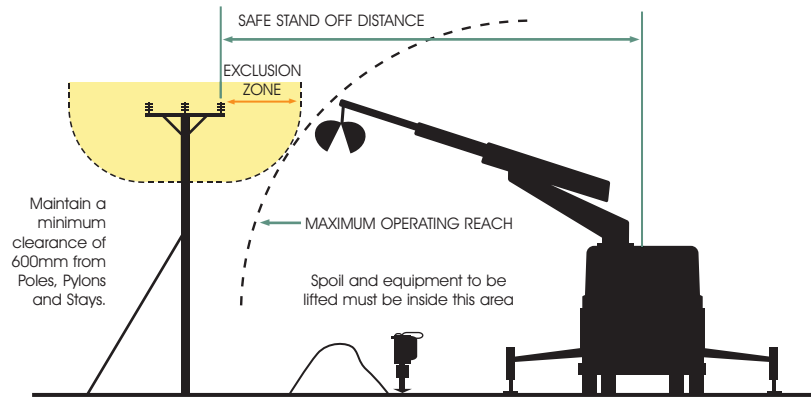


- Please note that these are absolute minimum distances that should under no circumstances be infringed. **If you do – it could prove fatal.**

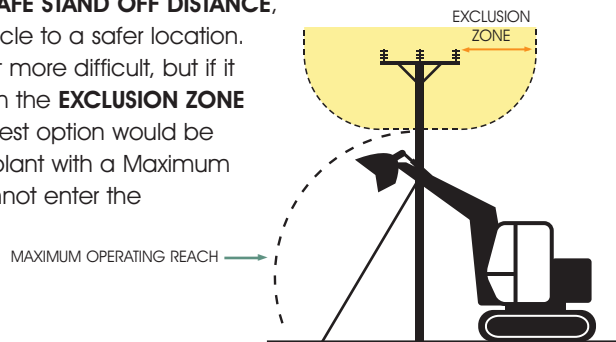
- As well as staying away from the lines or equipment, you should also stay at least 600mm away from any part of poles, pylons and stay wires.
- Please remember that is for guidance only, and if you are in any doubt, please call us for advice before setting up your plant or starting work.

3 STAND OFF DISTANCES

- If there are power lines in the vicinity of your work the best way to make sure you stay out of the **EXCLUSION ZONE** is to position your vehicle at a **SAFE STAND OFF DISTANCE** so that, even when fully extended, no part of it can accidentally reach inside the **EXCLUSION ZONE**.
- This **SAFE STAND OFF DISTANCE** can be calculated by adding the **EXCLUSION ZONE** distance for the appropriate voltage of the line to the Maximum Operating Reach of your vehicle. This is shown in the diagram below.



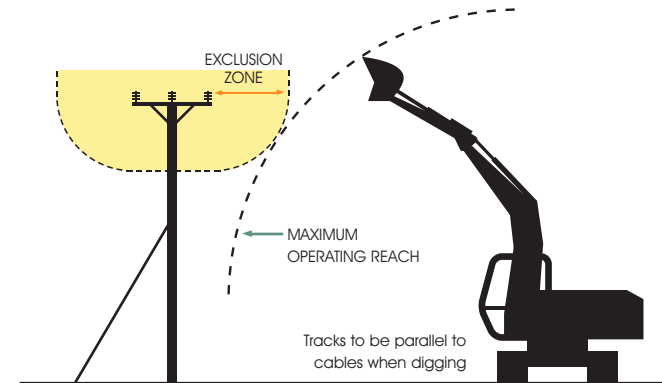
- If you position your vehicle outside of the **SAFE STAND OFF DISTANCE**, there is no risk of accidental contact with the lines and no danger of electricity jumping from the line to your vehicle.
- If you cannot achieve a **SAFE STAND OFF DISTANCE**, consider moving your vehicle to a safer location. It may make your job a bit more difficult, but if it means you stay away from the **EXCLUSION ZONE** - it will be safer. The next best option would be to consider using smaller plant with a Maximum Operating Reach that cannot enter the **EXCLUSION ZONE**.



- You may not be able to achieve either of these options, so, as a last resort, if you cannot avoid operating large items of plant in the vicinity of lines, you **MUST** make sure that the plant is fitted with restraints to ensure that the **EXCLUSION ZONE** cannot be entered. These restraints may be electrical or hydraulic systems fitted to the plant, or mechanical devices such as chains.

Please seek advice from the plant manufacturer for more information on choices available for your particular item of plant.

- If you are using a mechanical excavator to dig parallel to the line, it is good practice to position the excavator with the tracks or wheels parallel to the line, so as you move along the excavation the **SAFE STAND OFF DISTANCE** is easily maintained.



- Care must also be taken to avoid non-mechanical equipment, (e.g. scaffold poles, ladders and long loads such as lengths of steel or timber) from entering the **EXCLUSION ZONE**.
- Always maintain at least 600mm clearance from your plant to any of our poles, stay wires or pylons. Any contact with these by your plant could cause the line to break and fall to the ground.

4 EMERGENCY PROCEDURES

If contact is made with an overhead line, you must immediately clear the area and suspend all work within 50m of the damage because the line could still be live, or become live again.

The operator of a machine that is in contact with an overhead line should take the following steps:

- **If the machine is still operable:**
 - lower any raised parts that are controlled from the driving position and/or drive the vehicle clear of the line, as long as neither of these actions risk breaking the line or dragging it to the ground.

● **If the machine is not operable or cannot be driven clear of the line:**

- stay in the cab.
- contact your site manager or us immediately by radio or mobile phone or as soon as possible by any other method.
- instruct everyone outside the vehicle not to approach it.
- do not exit the cab until given confirmation BY WPD PERSONNEL that it is safe to do so.

● **If the machine is inoperable or cannot be driven free and there is risk of fire or other immediate hazard:**

- jump clear of the vehicle, avoiding simultaneous contact with any part of the machine and the ground.
- try to land with your feet as close together as possible.
- where possible, continue to move away from the vehicle using “bunny hops” with your feet together until at least 15m from the vehicle.
- instruct other people in the vicinity not to approach the vehicle.
- do not return to the vehicle until given confirmation BY WPD PERSONNEL that it is safe to do so.

Whatever the circumstances please contact us on our emergency number immediately and tell us what has happened.

Please be ready to provide us with a contact telephone number and an accurate location or set of directions – this will help us in getting our staff to site quickly to minimise any danger and to reduce any disruption to your work.

Our emergency number is:

105 or 0800 6783 105

Please report any damage or contact no matter how minor they may seem to you at the time. Whilst the damage may not cause a serious problem at the time of contact it could fail later, causing danger to our staff and members of the public, disruption to our customer's supplies, and – if we trace the damage back to you – a larger repair bill!

5 MORE INFORMATION

- Proximity Warning Systems (such as Wire Watcher – see wirewatcher.co.uk for information) may be fitted to your vehicle. Never turn these devices off or disable them in any way.
- Take note of any warnings these proximity warning systems may provide but do not use the presence of such devices as a reason not to follow the advice provided in this leaflet.
- For your information, we are legally obliged to report all contact with our system to the Department of Trade and Industry (DTI), and, if you are an employer, you may be obliged to report incidents involving your staff or contractors to the Health & Safety Executive (HSE). Even if no one is hurt, you could still find yourself being prosecuted for causing a dangerous occurrence.

6 FURTHER READING

For advice related to signing and guarding at longer term work sites please also refer to WPD booklet “Avoidance of Danger from Electricity Overhead Lines and Underground Cables”

More detailed information is also published in the following documents available from the HSE.

GS6 – Avoidance of Danger from Overhead Lines.

HS(G) 47 – Avoiding Danger from Underground Services.

Along with Forestry Industry Safety Accord (FISA) publication **FISA 804 - Electricity at Work: Forestry.**

If you require more site-specific information relating to our equipment at your location please contact us on the relevant **GENERAL ENQUIRIES NUMBER:**

0800 096 3080

FINALLY.... Please, always remember that electricity overhead lines can be very dangerous – **the general rule is STAY AWAY and STAY SAFE!**

For the Safe Use of Mechanical Plant in the Vicinity of Electricity Overhead Lines ALWAYS FOLLOW THESE SIMPLE RULES – THEY COULD SAVE YOUR LIFE!

- **Treat all overhead lines as live and dangerous**
- **Any contact may be fatal or cause very serious injuries**
- **Electricity can jump gaps**
- **Before you set up or use plant near to lines – STOP and LOOK UP**
- **Take special care and use lights in the dark or poor light conditions**
- **If there are lines in the vicinity of your work – stay well away**
- **Set up your plant with care to reduce the chance of contact**
- **If you are unsure or need advice**
 - please ask us before starting work

Our emergency number is: **105 or 0800 6783 105**

You can also call 105 if you spot damage to electricity power lines, poles and substations which could put you or someone else in danger.

If there's a serious immediate risk, you should also call the emergency services.

This booklet is issued by the Safety Team: wpdsafetyhelpline@westernpower.co.uk



Western Power Distribution (East Midlands) plc. Registered in England and Wales No. 2366923
Western Power Distribution (West Midlands) plc. Registered in England and Wales No. 3600574
Western Power Distribution (South Wales) plc. Registered in England and Wales No. 2366985
Western Power Distribution (South West) plc. Registered in England and Wales No. 2366894
Registered Office: Avonbank, Feeder Road, Bristol BS2 0TB

Utilities Report



Not Affected Utilities

Some Utility Companies have replied to confirm they would not be affected by work on, or close to, the search area. Their responses are enclosed in the following pages for your records.

From: Plantenquiries <plantenquiries@catelecomuk.com>
Sent: 15 October 2018 14:34
To: Utility Solutions GDC Requests
Subject: RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Please Note: Our search criteria has changed. We previously searched for Colt Network which was within 200 metres, this has now changed to 50 metres. The negative response will be for all enquiries that the network is 50 metres or more away from the place of enquiry.

Dear Sir/Madam,

Thank you for your enquiry for the above reference.

We can confirm that Colt Technology Services do not have apparatus near the above location as presented on your submitted plan, if any development or scheme amendments fall outside the 50 metre perimeter new plans must be submitted for review.

Search is based on Overseeing Organisation Agent data supplied; we do not accept responsibility for O.O. Agent inaccurate data.

If we can be of any further assistance please do not hesitate to contact us.

Kind regards,

Plant Enquiry Team



Please consider the environment before printing this email.

This e-mail and any files transmitted with it are confidential and are intended solely for the use of the intended recipient(s). If you are not the intended recipient, you must not copy, distribute or take any action based on this communication. If you have received this communication in error please contact plantenquiries@catelecomuk.com and delete this communication and any copies of it. Any views or opinions presented are solely those of the author and do not necessarily represent those of C A Telecom LTD. C A Telecom LTD monitors e-mails to ensure that its systems operate effectively and to minimise the risk of viruses.

From: Utility Solutions GDC Requests [mailto:requests.utilitysolutions@atkinglobal.com]
Sent: 08 October 2018 11:57
To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk;



We have checked CityFibre's website and in this instance your area is not affected.

From: Plant Enquiries <plantenquiries@energetics-uk.com>
Sent: 09 October 2018 19:02
To: Utility Solutions GDC Requests
Subject: RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Dear Sir/Madam,

Thank you for submitting your recent plant enquiry.

Based on the information provided, I can confirm that Energetics **does not** have any plant within the area(s) specified in your request.

If you require further assistance with outstanding enquiries, please call 03300 587 443.

Please ensure all plant enquiries are sent to plantenquiries@energetics-uk.com

Regards



Plant Enquiries

|
e: plantenquiries@energetics-uk.com | w: www.energetics-uk.com
a: Fenick House, Lister Way, Hamilton International Technol



From: Utility Solutions GDC Requests <requests.utilitysolutions@atkinglobal.com>

Sent: 08 October 2018 11:57

To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk; darren.chaffe@merthyr.gov.uk; carwyn.morris@merthyr.gov.uk; plantenquiries@catelecomuk.com; Plant Enquiries <plantenquiries@energetics-uk.com>; plantenquiries@instalcom.co.uk; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; nrswa@sky.uk; assetrecords@utilityassets.co.uk; osp-team@uk.verizon.com; National Plant Enquiry's <OSM.enquiries@atkinglobal.com>

Subject: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Our Reference: 69681

Site Name: Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

Works Description: Development Appraisal

Site Grid References: 306058 208759,306108 208724,306014 208785,306066 208819,306052 208699

To whom it may concern,

Please find enclosed a plant enquiry for your attention.

We request plans showing the location of your company's affected plant in relation to the entire site area shown within the boundary on the attached map. Grid references and postcodes relative to the site boundary are provided on the attached map to help you locate the site.

From: plantenquiryservice@gtc-uk.co.uk
Sent: 08 October 2018 16:30
To: Utility Solutions GDC Requests
Subject: GTC Plant Enquiry - Ref- 800988
Attachments: 800988.png

GTC Apparatus Not Found In Search Area

Our Plant Enquiry Service Ref: 800988
Your Enquiry Ref: LM 69681/ShG

Dear Chrissy,

Thank you for your enquiry concerning apparatus in the vicinity of your proposed work. GTC can confirm that we have no apparatus in the vicinity but please note that other asset owners may have and ensure all utility owners have been consulted. For your records, the search area is shown in the attached map.

Please note our assets now include those owned and operated by:

- GTC Pipelines Limited
- Independent Pipelines Limited
- Quadrant Pipelines Limited
- Electricity Network Company Limited
- Independent Power Networks Limited
- Independent Water Networks Limited
- Independent Fibre Networks Limited
- Independent Community Heating Limited

If you have any queries or require any further information please do not hesitate to contact us.

Your sincerely,

GTC Plant Enquiry Service.

GTC
Energy House
Woolpit Business Park
Woolpit
Bury St Edmunds
Suffolk, IP30 9UP
Tel: 01359 240363
plant.enquiries@gtc-uk.co.uk

NOTE:

This E-Mail originates from GTC, Energy House, Woolpit Business Park, Woolpit, Bury St Edmunds, Suffolk, IP30 9UP
VAT Number: GB688 8971 40. Registered No: 029431.



Par

HEOL RHYD-Y-BEDD

800988

Industrial Estate



On 10/10/2018 GTT - Vtesse (formerly Interoute Vtesse) plant information system was checked to ascertain if your area of interest is affected by GTT - Vtesse plant. In this instance your area of interest was shown to be 'not affected' by GTT - Vtesse plant.

No liability of any kind whatsoever is accepted by Landmark Information Group, for any error or omission in respect of information contained on the information provided. The underground services must be verified and established on site before any excavation is carried out.

From: Plantenquiries <Plantenquiries@instalcom.co.uk>
Sent: 15 October 2018 14:26
To: Utility Solutions GDC Requests
Subject: E10-18-3019 RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Dear Sir or Madam,

Thank you for your plant enquiry below.

We can confirm that CenturyLink Communications UK Limited (formerly Level 3), Global Crossing (UK) Ltd, Global Crossing PEC, Fibernet UK Ltd and Fibrespan Ltd do not have any apparatus within the indicated works area.

Instalcom responds to plant enquiries for all of the above and therefore you only need send one plant enquiry to cover all of these companies.

Please note that this response is only valid for 3 months. If your works do not commence within this time period, please resubmit your plant enquiry for assessment before any works commence.

Regards

Plant Enquiries Dept
Instalcom Limited
Borehamwood Ind. Park
Rowley Lane
Borehamwood
WD6 5PZ

Office: +44 (0)208 731 4613
Fax: +44 (0)208 731 4601
Email: plantenquiries@instalcom.co.uk
Web: <http://www.instalcom.co.uk>



From: Utility Solutions GDC Requests [mailto:requests.utilitysolutions@atkinsglobal.com]
Sent: 08 October 2018 11:57
To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk; darren.chaffe@merthyr.gov.uk; carwyn.morris@merthyr.gov.uk; plantenquiries@catelecomuk.com; plantenquiries@energetics-uk.com; Plantenquiries <Plantenquiries@instalcom.co.uk>; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; nrswa@sky.uk;

From: Milne Gareth <Gareth.Milne@networkrail.co.uk> on behalf of OP Buried Services Enquiries <OPBuriedServicesEnquiries@networkrail.co.uk>
Sent: 09 October 2018 17:19
To: Utility Solutions GDC Requests
Subject: RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Dear Sir/Madam,

With regards to your enquiry, Network Rail does not believe there is any Network Rail owned apparatus or underground services within the area you have defined. As there is always the possibility that new works could be planned and undertaken in this area by Network Rail this information is valid as at today's date and is supplied for general guidance only.

Please be aware that this response is based on Network Rail's records and knowledge and no guarantee can be given regarding accuracy or completeness. CAT scans, safe digging practices (as contained in HSE publications) and other appropriate investigative techniques should always be carried out.

There may be other apparatus or underground services owned or operated by Utility Companies and accordingly you should contact individual utilities for information.

If, in connection with your investigations and/or work, you become aware of Network Rail apparatus or underground services within your area of work, please ensure these are notified to our Asset Protection team via the following link as a matter of urgency so that appropriate measures for avoidance of risk and damage can be put in place.

<http://www.networkrail.co.uk/asp/1758.aspx?cd=1>

If you require any further clarification on any of the information please contact opburiedservicesenquiries@networkrail.co.uk.

Regards,

Gareth Milne

Distribution Administrator, Worksite Survey

Asset Information Services: inspiring & enabling through the power of data

National Records Centre, 5 Audax Road, York YO30 4GS

T +44(0)1904 386392

E gareth.milne@networkrail.co.uk

Network Rail – Working for you

AIS Hub

[Visit the new AIS Hub site](#) for information, user guides, key contacts, and more on all our services.

AIS Hub is replacing ASD Online and our Connect pages from Monday 3 September 2018

From: Utility Solutions GDC Requests [mailto:requests.utilityolutions@atkinsglobal.com]

Sent: 08 October 2018 11:57

To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk; darren.chaffe@merthyr.gov.uk; carwyn.morris@merthyr.gov.uk; plantenquiries@catelecomuk.com;

From: Interoute Enquiries <interoute.enquiries@plancast.co.uk>
Sent: 08 October 2018 16:54
To: Utility Solutions GDC Requests
Subject: RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

This response does not include Vtesse or Easynet plant, please continue to use Vtesse or Easynet details for their enquiries

To whom it may concern

Thank you for your enquiry regarding the above proposals at the above location

We would advise that we are unaware of any Interoute plant or services in this Location as indicated in your enquiry.

We bring to your attention the fact that whilst we try to ensure the information we provide is accurate, the information is provided Without Prejudice and Interoute and its Agents accept no liability for claims arising from any inaccuracy, omissions or errors contained in this response.

All responses are only valid for 28 days

Yours faithfully

PLANCAST Plant Enquiry Department



The Old Haybarn
Rosebery Mews, Mentmore
Bedfordshire LU7 0UE

T: 01296 662647

www.plancast.co.uk



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Registered office: 1st Floor, The Old Haybarn, Rosebery Mews, Mentmore LU7 0UE.

Registered in England and Wales with number 4455025 VAT No. 8567 195 80

From: NRSWA <nrswa.nrswa@sky.uk>
Sent: 08 October 2018 21:23
To: Utility Solutions GDC Requests
Subject: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - 24/10/2018



Thank you for your enquiry.

Please be advised that Sky Telecommunications Services Ltd will not be affected by your proposal.

Best endeavours have been made to ensure accuracy, however if you require further information, please contact us by email at nrswa@sky.uk.

Regards



From: Utility Solutions GDC Requests [mailto:requests.utilitysolutions@atkinsglobal.com]
Sent: 08 October 2018 11:57
To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk; darren.chaffe@merthyr.gov.uk; carwyn.morris@merthyr.gov.uk; plantenquiries@catelecomuk.com; plantenquiries@energetics-uk.com; plantenquiries@instalcom.co.uk; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; NRSWA <nrswa.nrswa@sky.uk>; assetrecords@utilityassets.co.uk; osp-team@uk.verizon.com; National Plant Enquiry's <OSM.enquiries@atkinsglobal.com>
Subject: [EXTERNAL] Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Our Reference: 69681
Site Name: Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil
Works Description: Development Appraisal
Site Grid References: 306058 208759,306108 208724,306014 208785,306066 208819,306052 208699

To whom it may concern,

Please find enclosed a plant enquiry for your attention.



We have checked SSE's website and in this instance your area is not affected.



We have checked Trafficmaster's website and in this instance your area is not affected.

From: UK OSP-Team <osp-team@uk.verizon.com>
Sent: 09 October 2018 19:45
To: Utility Solutions GDC Requests
Cc: UK OSP-Team
Subject: RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Dear Sir/Madam

Verizon is a licensed Statutory Undertaker.

We have reviewed your plans and have determined that Verizon (Formally known as MCI WorldCom, MFS) has no apparatus in the areas concerned.

If you have any further queries please do not hesitate to get in touch.

Yours faithfully

Plant Protection Officer E.mail osp-team@uk.verizon.com

From: Utility Solutions GDC Requests [mailto:requests.utilityolutions@atkinsglobal.com]
Sent: Monday, October 8, 2018 11:57 AM
To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk; darren.chaffe@merthyr.gov.uk; carwyn.morris@merthyr.gov.uk; plantenquiries@catelecomuk.com; plantenquiries@energetics-uk.com; plantenquiries@instalcom.co.uk; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; nrswa@sky.uk; assetrecords@utilityassets.co.uk; UK OSP-Team; National Plant Enquiry's
Subject: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Our Reference: 69681

Site Name: Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

Works Description: Development Appraisal

Site Grid References: 306058 208759,306108 208724,306014 208785,306066 208819,306052 208699

To whom it may concern,

Please find enclosed a plant enquiry for your attention.

We request plans showing the location of your company's affected plant in relation to the entire site area shown within the boundary on the attached map. Grid references and postcodes relative to the site boundary are provided on the attached map to help you locate the site.

Within your response please quote our reference number and the name of the site shown above. If you do not have any apparatus in this area, please could you send written confirmation to declare that no apparatus is affected. Please also include information relating to the use and location of Radio Frequency Identification Devices (RFIDs) where available.



As of 24/10/2018, Virgin Media are deemed to be not affected by your site.

An additional response from Virgin Media in relation to your area of interest is available on request from Landmark Customer Services with prices starting from £43 + VAT.

No liability of any kind whatsoever is accepted by Landmark Information Group, its servants or agents, for any error or omission in respect of information contained in this report. The underground services must be verified and established on site before any excavation is carried out.

From: Ramanikanthan, Jayakanth
Sent: 12 October 2018 11:28
To: Utility Solutions GDC Requests
Subject: RE: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Please accept this email as confirmation that Vodafone: Fixed **does not** have apparatus within the vicinity of your proposed works detailed below.

Many thanks.

Plant Enquiries Team
T: +44 (0)1454 662881
E: osm.enquiries@atkinsglobal.com

ATKINS working on behalf of Vodafone: Fixed



This response is made only in respect to electronic communications apparatus forming part of the Vodafone Limited electronic communications network formerly being part of the electronic communications networks of Cable & Wireless UK, Energis Communications Limited, Thus Group Holdings Plc and Your Communications Limited.

PLEASE NOTE:

The information given is indicative only. No warranty is made as to its accuracy. This information must not be solely relied upon in the event of excavation or other works carried out in the vicinity of Vodafone plant. No liability of any kind whatsoever is accepted by Vodafone, its servants, or agents, for any error or omission in respect of information contained on this information. The actual position of underground services must be verified and established on site before any mechanical plant is used. Authorities and contractors will be held liable for the full cost of repairs to Vodafone's apparatus and all claims made against them by Third parties as a result of any interference or damage.

IMPORTANT - PLEASE READ:

Diversionary works may be necessary if the existing line of the highway/railway or its levels are altered, where apparatus is affected. Where apparatus is affected and requires diversion, you must submit draft details of the proposed scheme with a request for a 'C3 Budget Estimate' to c3requests@vodafone.com. These estimates should be provided by Vodafone normally within 20 working days from receipt of your request. Please include proof of this C2 response when requesting a C3 (using the 'forward' option).



Please consider the environment before printing this e-mail

From: Utility Solutions GDC Requests
Sent: 08 October 2018 16:27
To: customer.care@merthyr.gov.uk; huw.williams@merthyr.gov.uk; gavin.davies2@merthyr.gov.uk; darren.chaffe@merthyr.gov.uk; carwyn.morris@merthyr.gov.uk; plantenquiries@catelecomuk.com; plantenquiries@energetics-uk.com; plantenquiries@instalcom.co.uk; opburiedservicesenquiries@networkrail.co.uk; interoute.enquiries@plancast.co.uk; nrswa@sky.uk; assetrecords@utilityassets.co.uk; osp-team@uk.verizon.com; National Plant Enquiry's <OSM.enquiries@atkinsglobal.com>
Subject: Plant Enquiry - 69681 - Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil - Please respond by 24/10/2018

Our Reference: 69681
Site Name: Site at Dowlais Industrial Estate, Dowlais, Merthyr Tydfil

Important Consumer Protection Information

This search has been produced by Landmark Information Group Ltd, Imperium, Imperial Way, Reading, Berkshire, RG2 0TD.

Tel: 0844 844 9966
Fax: 0844 844 9980
Email: helpdesk@landmark.co.uk

Landmark Information Group Ltd is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- Provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom.
- Sets out minimum standards which firms compiling and selling search reports have to meet.
- Promotes the best practice and quality standards within the industry for the benefit of consumers and property professionals.
- Enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code's core principles

Firms which subscribe to the Search Code will:

- Display the Search Code logo prominently on their search reports.
- Act with integrity and carry out work with due skill, care and diligence.
- At all times maintain adequate and appropriate insurance to protect consumers.
- Conduct business in an honest, fair and professional manner.
- Handle complaints speedily and fairly.
- Ensure that products and services comply with industry registration rules and standards and relevant laws.
- Monitor their compliance with the Code.

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm's final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award up to £5,000 to you if the Ombudsman finds that you have suffered actual financial loss and/or aggravation, distress or inconvenience as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details:

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP

Tel: 01722 333306
Fax: 01722 332296
Web site: www.tpos.co.uk
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk.
PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE

Complaints Procedure

If you want to make a complaint, we will:

- Acknowledge it within 5 working days of receipt.
- Normally deal with it fully and provide a final response, in writing, within 20 working days of receipt.
- Keep you informed by letter, telephone or e-mail, as you prefer, if we need more time.
- Provide a final response, in writing, at the latest within 40 working days of receipt.
- Liaise, at your request, with anyone acting formally on your behalf.

Complaints should be sent to:

Landmark Information Group Ltd
Landmark UK Property
Imperium
Imperial Way
Reading
RG2 0TD

Tel: 0844 844 9966
Email: helpdesk@landmark.co.uk
Fax: 0844 844 9980

If you are not satisfied with our final response, or if we exceed the response timescales, you may refer the complaint to The Property Ombudsman Scheme (TPOS):

Tel: 01722 333306
Email: admin@tpos.co.uk

We will co-operate fully with the Ombudsman during an investigation and comply with his final decision.



**The Multi-disciplinary
Engineering Consultancy**

Glasgow | London | Edinburgh

Contact

Suite 4/3 The Skypark
8 Elliot Place
Glasgow, G3 8EP
enquiries@harleyhaddow.com