



Specification for Installation of Below Ground Pressure Reduction Installations

ESP/PC/PRI Spec 2

| Document Details | | | |
|-------------------------|----------------------------------------------------------------------------|------------------------|-----------|
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| 6.0 | Oct 21 | Safety & Compliance Engineer: R.Hughes | Total re-write. Contents of ESP/PL/PRI SPEC 4 & 5 plus ESP Technical Bulletin Numbers 8,11,15 & 21 incorporated | Entirety |
| 7.0 | July 2022 | Michael Erskine | Inclusion of PRI parking bay security plus minor update | Document |

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MANDATORY AND NON-MANDATORY REQUIREMENTS

In this document:

must: indicates a mandatory requirement by law in Great Britain at the time of publication

Shall: indicates a requirement which, it is intended, will be complied with in full and without deviation.

should: indicates best practice and is the preferred option. If an alternative method is used then a suitable and sufficient risk assessment must be completed to show that the alternative method delivers the same, or better, level of protection.

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This Specification has been produced to assist UIPs and contractors when installing below ground Pressure Reduction Installations (PRIs) on networks that are either owned by or to be adopted by ES Pipelines (ESP) and should be read in conjunction with management policy ESP/PL/PRI 'Pressure regulating installations with inlet pressures not exceeding 7 Bar Gauge'.

Specification

1: PRI Location

ESP recommends that wherever possible an Above Ground PRI be installed. Below ground PRIs should never be installed where there is a possible risk of flooding, or an unusually high water table.

The safest possible location of a PRI is critical, and ESP welcomes involvement with decision making at the earliest opportunity.

The proposed location of a PRI must be approved by ESP. A site drawing indicating the location of the PRI and safe off-road parking area, together with a completed 'Site Location Assessment Form' **must** be forwarded to ESP for approval as part of the Design Package. The PRI must be accessible by ESP, or ESP authorised personnel, at all times and must not have any restricted access conditions.

Following this Desktop Site Location assessment, and on-site assessment must also be undertaken prior to construction commencing.

A PRI must be located as far as possible away from: -

- Any overhead power cables (minimum 10 meters) or any other possible sources of ignition e.g., Street lights
- Major pedestrian highways
- The side of roads or streets
- Road junctions
- Bends in roads, particularly on the outside of bends
- Properties & buildings
- Other structures or items which will reduce any gas cloud dispersal e.g., trees
- Low lying areas that have a high risk of flooding. (i.e., located at the highest point possible within the development, and above any road levels. Ensure there is enough fall to allow free water drainage from the location)

Due consideration of the above items will reduce the risk of any potential hazards from, or damage to the PRI installation. A vehicle impact risk assessment will be carried out by ESP and may indicate a requirement to install safety barriers or parking protection bollards adjacent to the PRI to prevent impact, however negating this requirement through prudent location is preferable. Where possible the parking bay should be configured so that parked maintenance vehicles protect maintenance personnel from vehicular traffic.

Joint site visits with all relevant parties, ESP, UIP, Developer, etc. are essential in order to discuss all aspects of the installation and avoid later issues.

2: PRI Specification.

The PRI specification **must** be forwarded to ESP as part of the Design Package. ESP will only accept the following configurations of PRI.

≤2bar Inlet PRI – Twin Stream Active, Slamshut complete with Stream Selection

>2bar ≤7bar Inlet PRI – Twin Stream Active, Monitor, Slamshut complete with Stream Selection

ESP require a minimum of two pressure points on the upstream side of the inlet stream isolation valves and two on the downstream side of the outlet stream isolation valves. When ordering PRIs that are to be adopted by ESP, please ensure that the manufacturers fully understand this requirement.

Greater detail is contained within ESP document ESP/PL/PRI

Note. ESP will, following commissioning of the PRI, fit their own pressure monitoring device so there is no requirement for the UIP to purchase such items with the PRI.

3: Hazardous Area Assessment (SR25).

A Hazardous Area Assessment calculated utilising the IGEM/SR/25 spreadsheet calculator to produce the required Hazardous Area Installation drawings and supporting calculations **must** be forwarded to ESP for acceptance as part of the Design Package.

To prevent water ingress, ESP will only accept the fitting of CEL DryVent terminations to all relief pipework on its PRIs. Therefore, when completing the hazardous area assessment and inputting details into the "Define New Vent" section of the calculator the venting type is "angled at 30deg". As the "30deg angle" is around the full circumference of the DryVent then the hazardous area drawing should indicate a hazardous area that is equidistance around the full circumference of the DryVent, as illustrated in the example below.

Relief Valve Vents with non-Ideal Venting - 30 deg Angled (CEL DryVent)

Assessed on 03/07/2015 with SR25 Calculator Version 4.0.5 which is for the sole use of Burnage Associates Ltd

Name of Vent :

ID of Vent : #1 or #2

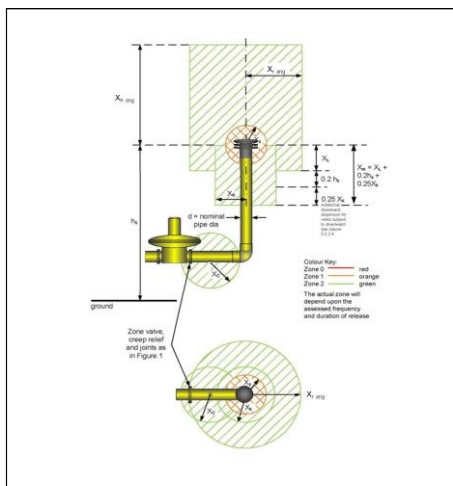
Project Ref:

Vent Characteristics :

Diameter of Vent 25.0 mm
 Length of Vent 4.0 m
 Height of Vent tip above ground 3.0 m
 Distance to nearest structure 40.0 m
 Discharge coefficient (Cd) 0.97
 Drainhole diameter N/A
 Diameter of flow limiting orifice 25.0 mm
 Number of elbows 0
 Number of short radius bends 1
 Number of long radius bends 0
 Number of through run tees 0
 Number of through branch tees 0

Release and Gas Characteristics :

Volume of release N/A
 Duration of release N/A
 Probability of presence of gas N/A
 Pressure of release 0.080 barg
 Temperature of gas 5.0 °C
 Molecular weight of gas 18.10 kg.kmol⁻¹
 Vent tip flowrate 0.00377 kg.s⁻¹
 Drain hole flowrate N/A
 Flowrate calculation method Pre-determined flowrate



| Zone Distances (m) | |
|--------------------|------|
| X ₀ | 0.50 |
| Zone | 2 |
| X ₁ | 2.50 |
| X _{1ang} | 2.50 |
| X _{0ang} | 1.50 |
| X ₂ | 0.05 |
| X ₃ | 2.50 |
| 0.2h ₁ | 0.60 |
| 0.25X ₀ | N/A |
| X _m | 0.75 |
| X _c | N/A |

4: PRI Isolation Valves.

All IP/MP/LP PRIs adopted by ESP must be fitted with a single inlet (PRIIV) and outlet (PRIOIV) Isolation Valve (previously referred to as fire valves) such that the installation in its entirety can be isolated in an emergency by the closure of these valves.

These valves must be clearly accessible and should be located not less than 3 metres and not greater than 10 metres from the PRI, dependant on site location and local conditions.

The PRI Isolation Valves must be easily recognisable as a Gas Valve and where possible valve boxes should be of MDPE construction complete with a yellow lid.

If the PRI Isolation Valve is located in a grass verge, then a 100mm concrete apron is to be constructed around the perimeter of the valve box. The finished levels of the valve box must be the same as the finished level of the surrounding area so as not to create a trip hazard.

The valve box should be constructed to allow the head of the valve to be fully accessible and operable at ground level.

ESP will only permit the use of either plastic bodied Certus valves, or Polyurethane (PUR) coated metallic valves. It is recommended that where possible a PE tailed version of the Polyurethane (PUR) valve be used as it negates the need to use further corrosion prevention products. If a flanged valve is used the flange and all bolt heads must have sufficient corrosion protection.

In all cases the valve ID plate must not be damaged during backfill and must remain legible for future reference.




4.1 PRI's with inlet pressure up to and including 2Barg

Certus PE Ball Valves (for use up to 2Barg)

These are quarter-turn Polyethylene (PE) ball valves and come in sizes 32mm, 63mm and 90mm. ESP promote their use as PRI isolation valves on smaller PRI's where deemed suitable following a detailed risk assessment at the design stage.



Certus PE Ball Valves are supplied as part of ESPUG's Material Framework with Fusion Provida. The table below shows the product code and descriptions.

| Product Image | Product Code | Product Description |
|-------------------------------------------------------------------------------------|--------------|------------------------------------------------------|
|  | K83196 | 32MM BLACK PE CERTUS VALVE SDR11 |
| | K83197 | 63MM BLACK PE CERTUS VALVE SDR11 |
| | K83199 | 90MM BLACK PE CERTUS VALVE SDR17 |
|  | CA6191 | CHAMBER KIT FOR CERTUS ISOLATION VALVES (YELLOW LID) |
| | CA6192 | CHAMBER KIT FOR CERTUS ISOLATION VALVES (BLACK LID) |
|  | K83325 | T KEY FOR 32/63/90MM CERTUS VALVES |

Donkin AVK Cast Iron PUR Coated Fig 555 Valve (for use up to 2Barg)

This is a double faced, resilient seal, internal screw, full bore, wedge gate valve with full block and bleed capability including a pressure relieving plug. These valves can be procured with either PE80 SDR17.6 tails, which facilitate installation on PE networks, or with PN16 flanges for use where a flanged face is the only available option, i.e., fitted to an encirclement tee to facilitate a branch drilling. In both cases the PUR coating allows the valve itself to be buried without further protection. However, where the flanged option is chosen, the corrosion protection measures detailed later in this section must be followed. These valves can be procured via ESPUG's Materials Framework with Fusion Provida, with supporting and more detailed product information shown in the tables below.

| | Product Code |
|-----------------------------------------------------------------|--------------|
| 90mm Fig 555 PE Tailed Cast Iron PUR coated Valve c/w stem cap | CA7014 |
| 125mm Fig 555 PE Tailed Cast Iron PUR coated Valve c/w stem cap | CA7015 |
| 180mm Fig 555 PE Tailed Cast Iron PUR coated Valve c/w stem cap | CA7016 |
| 250mm Fig 555 PE Tailed Cast Iron PUR coated Valve c/w stem cap | CA7114 |
| 315mm Fig 555 PE Tailed Cast Iron PUR coated Valve c/w stem cap | CA7115 |

| | Product Code |
|--------------------------------------------------------------------|--------------|
| 80mm PN16 Fig 555 Flanged Cast Iron PUR coated Valve c/w stem cap | CA7108 |
| 100mm PN16 Fig 555 Flanged Cast Iron PUR coated Valve c/w stem cap | CA7109 |
| 150mm PN16 Fig 555 Flanged Cast Iron PUR coated Valve c/w stem cap | CA7110 |
| 200mm PN16 Fig 555 Flanged Cast Iron PUR coated Valve c/w stem cap | CA7111 |
| 250mm PN16 Fig 555 Flanged Cast Iron PUR coated Valve c/w stem cap | CA7112 |
| 300mm PN16 Fig 555 Flanged Cast Iron PUR coated Valve c/w stem cap | CA7113 |

4.2 PRIs with inlet pressure above 2Barg and up to and including 7Barg

Donkin AVK Ductile Iron PUR Coated Fig 555 Valve (for use between 2Barg-7Barg)

This is a double faced, resilient seal, internal screw, full bore, wedge gate valve with full block and bleed capability including a pressure relieving plug. These valves can be procured with either PE100 SDR11 tails, which facilitate installation on the outlet of PE networks, or with PN16 flanges for use where a flanged face is the only available option, i.e., fitted to an encirclement tee to facilitate a branch drilling. In both cases the PUR coating allows the valve itself to be buried without further protection but where the flanged option is chosen the corrosion protection measures detailed later in this section must be followed. These valves can be procured via ESPUG's Materials Framework with Fusion Provida, with supporting and more detailed product information shown in the tables below.

| | Product Code |
|--------------------------------------------------------------------|--------------|
| 90mm Fig 555 PE Tailed Ductile Iron PUR coated Valve c/w stem cap | CA7120 |
| 125mm Fig 555 PE Tailed Ductile Iron PUR coated Valve c/w stem cap | CA7121 |
| 180mm Fig 555 PE Tailed Ductile Iron PUR coated Valve c/w stem cap | CA7122 |
| 250mm Fig 555 PE Tailed Ductile Iron PUR coated Valve c/w stem cap | CA7123 |
| 315mm Fig 555 PE Tailed Ductile Iron PUR coated Valve c/w stem cap | CA7124 |

| | Product Code |
|-----------------------------------------------------------------------|--------------|
| 80mm PN16 Fig 555 Flanged Ductile Iron PUR coated Valve c/w stem cap | CA7155 |
| 100mm PN16 Fig 555 Flanged Ductile Iron PUR coated Valve c/w stem cap | CA7156 |
| 150mm PN16 Fig 555 Flanged Ductile Iron PUR coated Valve c/w stem cap | CA7157 |
| 200mm PN16 Fig 555 Flanged Ductile Iron PUR coated Valve c/w stem cap | CA7158 |
| 250mm PN16 Fig 555 Flanged Ductile Iron PUR coated Valve c/w stem cap | CA7159 |
| 300mm PN16 Fig 555 Flanged Ductile Iron PUR coated Valve c/w stem cap | CA7160 |



PE Tailed Fig 555 PUR Valve

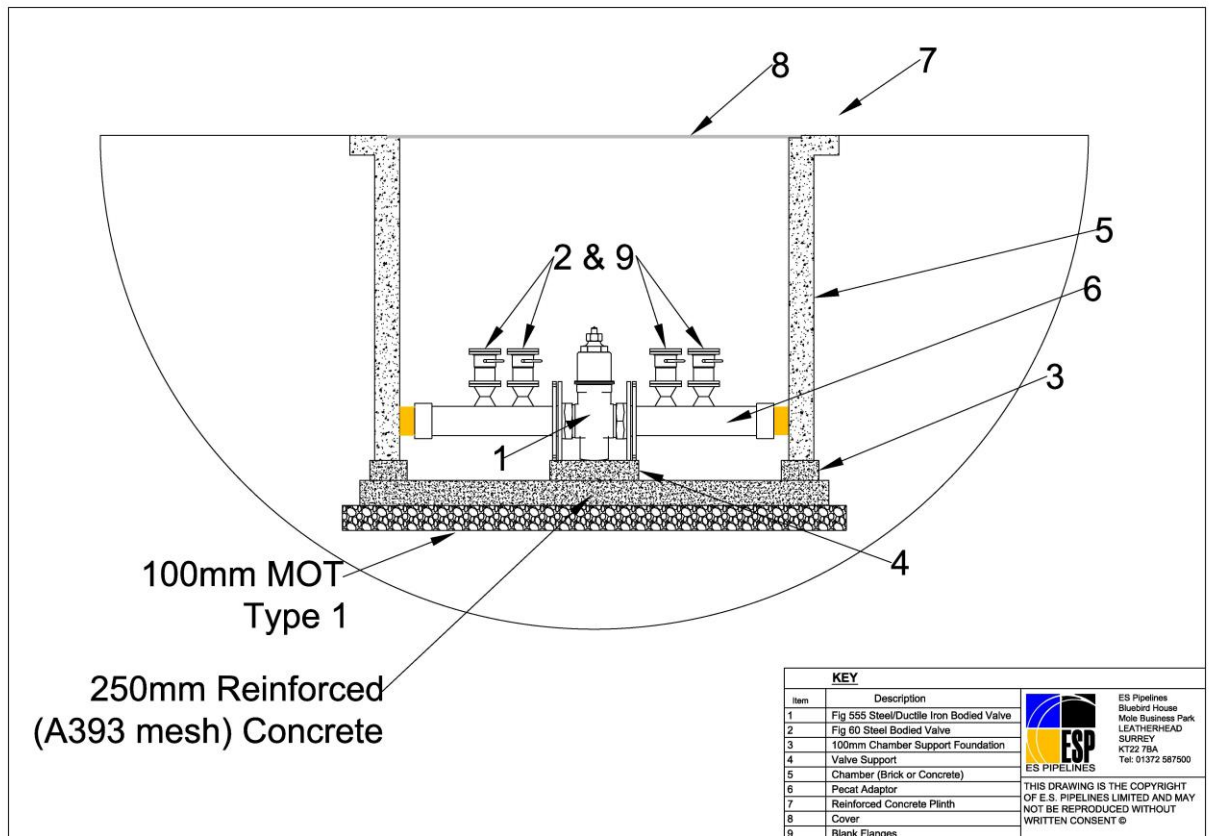
PN16 Flanged Fig 555 PUR Valve

Note: The PUR coating allows the valve to be buried without any additional “protection” being applied. However, in all cases, and prior to installation, a final visual inspection must be carried out.

4.3 PRI Isolation valve configuration for inlet pressure above 2Barg and up to 7Barg

On PRIs with an inlet pressure of above 2barg up to 7Barg the inlet isolation valve must be constructed using Pecat flange adaptors, either side of a PUR metallic valve. The Pecat flange adaptors must have a single valve attached at low level to the pressure and purge point connections (no riser pipework with top valve is required). The valve installation must be located within a single chamber to allow unrestricted access to the isolation valve and the purge and pressure points. Chambers must be easily accessible in a verge or pavement **not** in a roadway. As the valve installation is not buried, CP will not be required on these valve installations but they should be protected from corrosion. Typical arrangement below.

See arrangement drawing below:



4.4 Corrosion Protection of Flanged Valves

Following the completion of a successful pressure test, the following procedure **must** be followed: -

- Clean any unprotected surfaces, removing any loose rust scale and/or flaked coating by wire brushing
- Apply a coating of Denso paste and primer over the entire area to be protected
- If there are any significant edges, such as bolt heads and nuts, make the profile smoother by applying either Densyl Mastic or Denso Putty as a filler at angles and around bolts
- Fully insert Denso Putty between the raised faces of both flanges
- Completely wrap the entire flange assembly, including the nuts, with Denso Tape and ensure that each coat overlaps the previous one

Further information can be obtained at the links shown below:

- <http://www.denso.net/densotape/>
- <https://www.youtube.com/watch?v=FhDNPFn7JDE>
- http://raci.in/sites/raci.in/pdfs/petrolatum_mastic_filler/IFU%20-%20PETROLATUM%20Tapes.pdf

4.5 Valve Information Collection

Details of ALL buried valves **must** be recorded by means of an individual Valve Information Document for each valve, see document below.

The valve information document(s) together with two photographs; one showing the valve prior to backfilling and another showing a general overview of the area where the valve is located in relation to the PRI or other fixed object, are to be forwarded to ESP.

The location drawing should show the location and distance the valve is to any nearby fixed objects (kerb line, building & PRI etc.).

Details of stream isolation valves installed on PRIs and Meter modules will be collected during commissioning of the PRI using the ESP installation and commissioning documentation.



Valve Location Details (PRI or Line)

Site Details

| | |
|-----------------|-------------|
| Network Name: | Network ID: |
| Location | |
| Post Code: | |
| GPS Co-ords: | |
| Date Installed: | |

Valve Details

| | | |
|-------------------------------|--------|-----------------------|
| Manufacturer: | Model: | Serial No: |
| No & Size of Pressure Points: | | |
| Direction to Close: C / AC | Size: | No of turns to close: |

The serial number is either stamped on the top edge of the flange or on a tag attached to the valve body.

| | | |
|-------------------------|-----------------------------------|--------|
| Is the Valve duty as a: | PRI Inlet Isolation (Fire) Valve | Yes/No |
| | PRI Outlet Isolation (Fire) Valve | Yes/No |
| | Strategic Line Valve | Yes/No |

All metallic valves installed on ESP Networks must be Polyurethane coated (PUR) valves. If metallic flanged valves are installed, then a protective coating of Denso putty and tape must be applied to the flanges and bolts. If PE tailed or plastic valves installed there is no requirement for further corrosion protection.

| | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------|
| Is the Valve: | Metallic - Flanged | Yes/No |
| | Metallic – PE tailed | Yes/No |
| | Plastic - Certus | Yes/No |
| If metallic flanged valves are installed has an application of Denso tape and putty been applied to the flanges and bolts? | | Yes/No |
| Have two photographs' been taken and attached to this record card, one showing the valve prior to back filling and the other with a general overview of the valve location in relation to the PRI or other fixed objects? | | Yes/No |

Valve Location Details (PRI or Line) Form – May 2021

| | | | |
|------------------------------------------------------------------------------------------------------------------------------------------|--|--|--------------|
| Location Drawing: Show location and distance from the valve to any nearby fixed object (i.e., building, lighting column, kerb, PRI etc.) | | | |
| | | | |
| <u>Name:</u> | | | |
| <u>Signature:</u> | | | <u>Date:</u> |

Valve Location Details (PRI or Line) Form – May 2021

5: Purge and Pressure Points.

Excepting configurations as detailed in 4.3 above, all purge and pressure points fitted to inlet and outlet mains for commissioning purposes, **must** be removed by cutting back and capping off at main level immediately following commissioning of the PRI.

6: Concrete Base. (As per ESP/BG BASE/01)

Concrete strength to be a minimum of C30; Ordinary Portland Cement minimum 320kg/cubic metre.

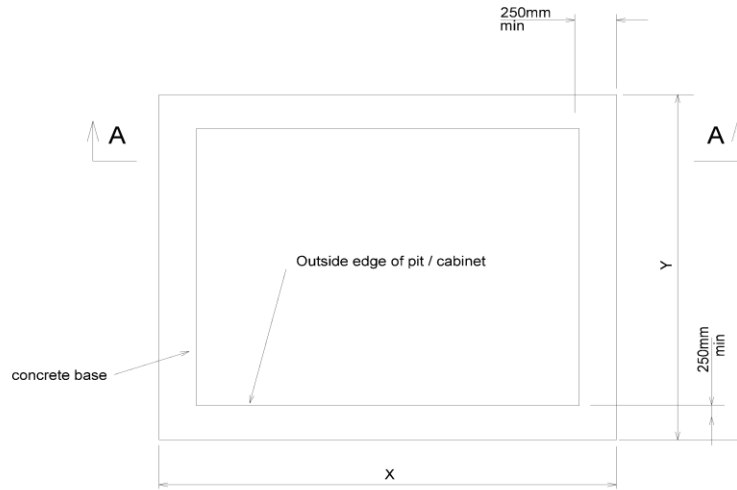
Water/Cement ratio 0.6; Aggregate – 20mm with Water-Reducing Admixture.

- Concrete to be fully vibrated.
- Base surface to be float finished.
- Base to provide minimum 250mm surround beyond outside pit chamber profile on all four sides.
- Base to be formed on minimum 200mm thick well compacted sub-base of MOT Type 1. Actual concrete base thickness to be determined on site to suit ground conditions but should be a minimum of 150mm thick.
- Steel fibre reinforced concrete may be used following agreement with ESP.
- The base to be protected from extreme weather conditions for a minimum of 7 days following the laying of the concrete.

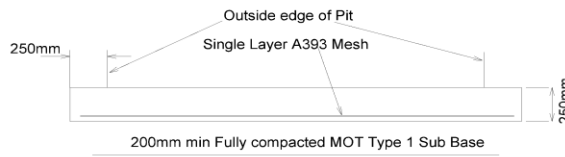
On all below ground PRIs a minimum clearance, including with doors/lids in the open position, of 1m must be maintained around the outside perimeter of the PRI apron and any possible obstruction. This is facilitated by the provision of a 1m wide concrete, slabbed or block paved area all around the PRI concrete apron.

See drawing on next page

6.1: Below Ground PRI Concrete Base Construction Drawing ESP/BG BASE/01



PLAN



SECTION A-A



DETAIL SHOWING REINFORCEMENT ARRANGEMENT

BELOW GROUND P.R.I.
Base Construction Detail
Drawing No.: ESP/BG BASE/01



6.2: Base Reinforcement (As per ESP/BG BASE/01 - Drawing above)

See www.dynahurst.com for details of reinforcement materials specified below:

-

Mesh: A single layer of A393 Mesh – 10mm dia. Bar, 200 x 200mm grid. On smaller installations this can be reduced to A142 6mm mesh.

Mesh set up using:

- Top of sub-base to Bottom Layer - 40 GP 50 Grade Plate Spacers
- Minimum cover @ 40mm at **all** points from base surfaces and vertical edges.
- All mesh & tie bars to be joined using 16-gauge black annealed tying wire.

7: Infill Construction (As per ESP/BG/BASE/02 - (Drawing on page 15))

Fibre Glass pits (i.e., SGM10s, SGM13s, Elster J125). The bottom of the excavation, around the base and sides of the cabinet leaving a 200mm clearance around the inlet and outlet pipework to be back filled using concrete. (See 7.1).

Note. Failure to follow this procedure when re-instating around GRP pits will eventually lead to internal bulging of the pit walls, damage to equipment and possibly failure of the PRI to supply.

While carrying out this operation the internal tank walls should be braced using adequate timbers to prevent bowing of the internal pit walls and misalignment of the secondary metal covers.

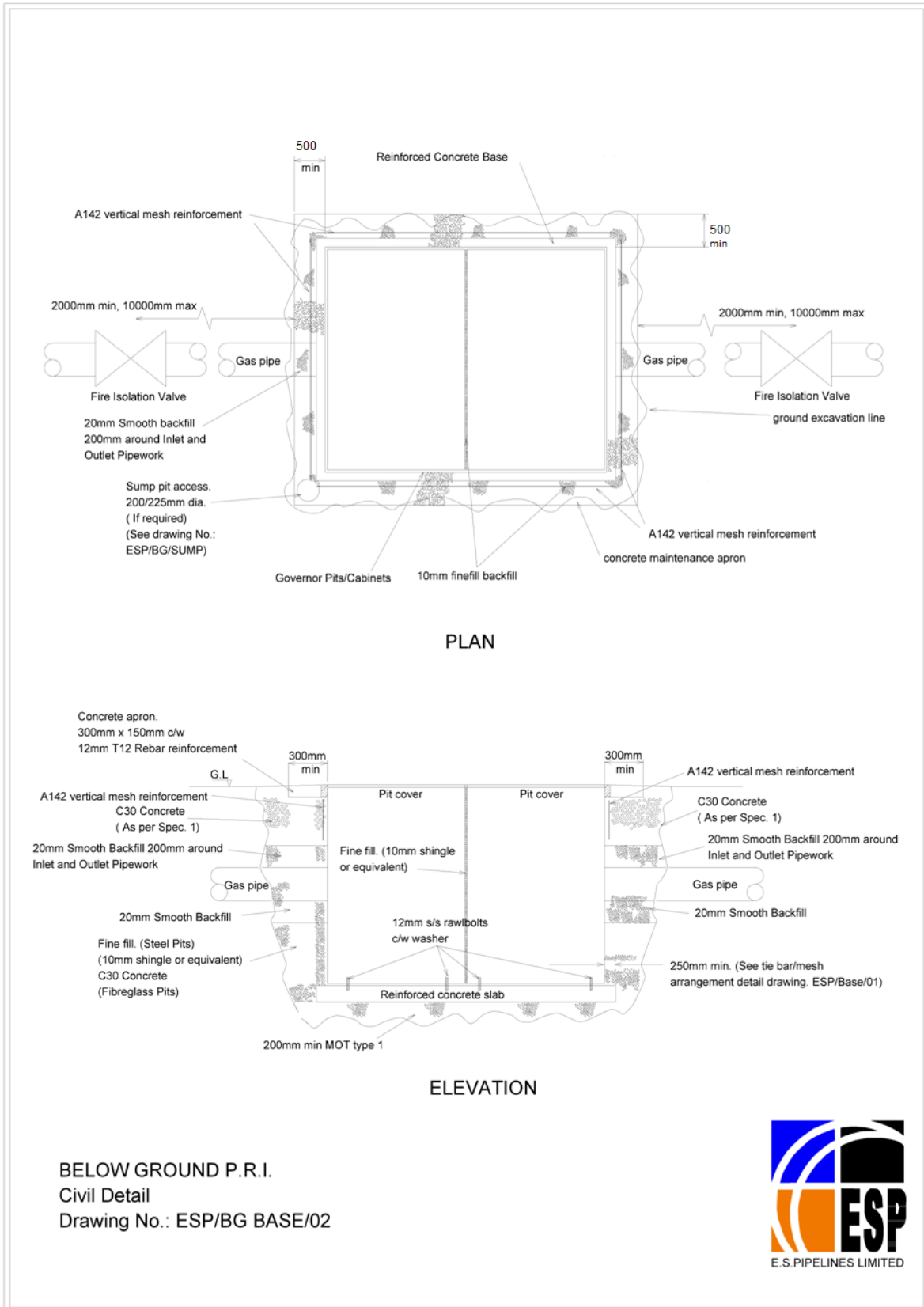
Steel pits (i.e., RMG Vector units etc.). The bottom of the excavation and around the base of the cabinet and to within 200mm of the inlet and outlet pipework to be back filled with fine fill (10mm) shingle or equivalent.

The excavation in the vicinity of the inlet and outlet mains to be back filled using 20mm smooth backfill to approx. 200mm above and around inlet and outlet mains.

The remainder to be backfilled using concrete complete with vertical sections of A142 6mm mesh to be incorporated within the concrete backfill on all four sides of the pit.

A concrete maintenance apron 500mm (min) wide is to be provided around the outside pit profile. The apron to be 150mm thick and reinforced using 12mm T12 rebar in accordance with: - *Drawing Number ESP/BG Base/02*

7.1: Below Ground Civil Detail Concrete Infill Construction Drawing ESP/BG
BASE/02



8: Pit Orientation Detail

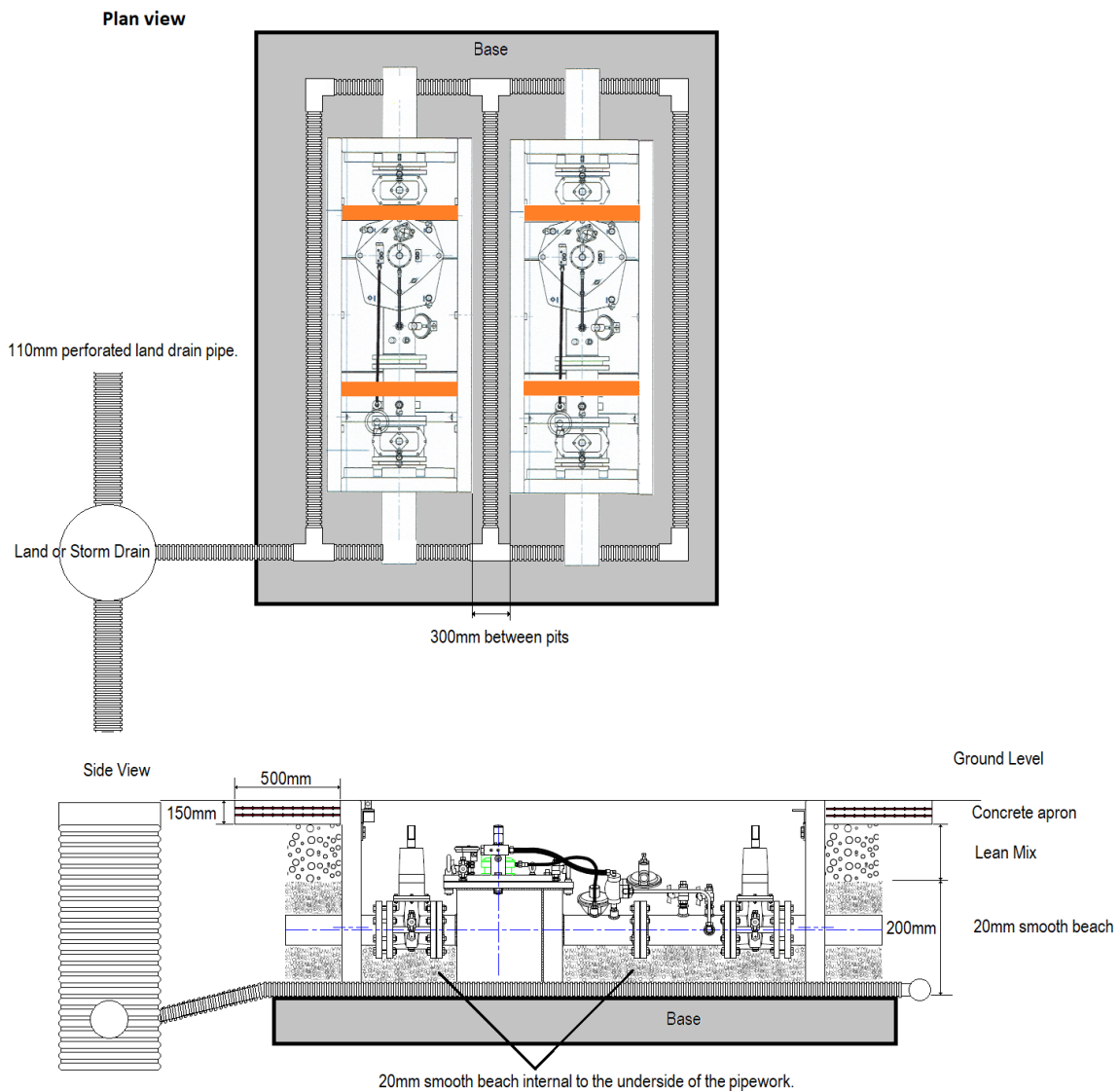
The PRI Pits should be directly fixed (or clamped) square on to the concrete base by using 12mm stainless steel Rawl-bolts (or equivalent) and large washers to form a watertight seal.

Where the PRI is made up of two pits (i.e., SGM10S, SGM13S or the Elster Orpheus) approximately 300mm clearance **must** be left between the two pits.

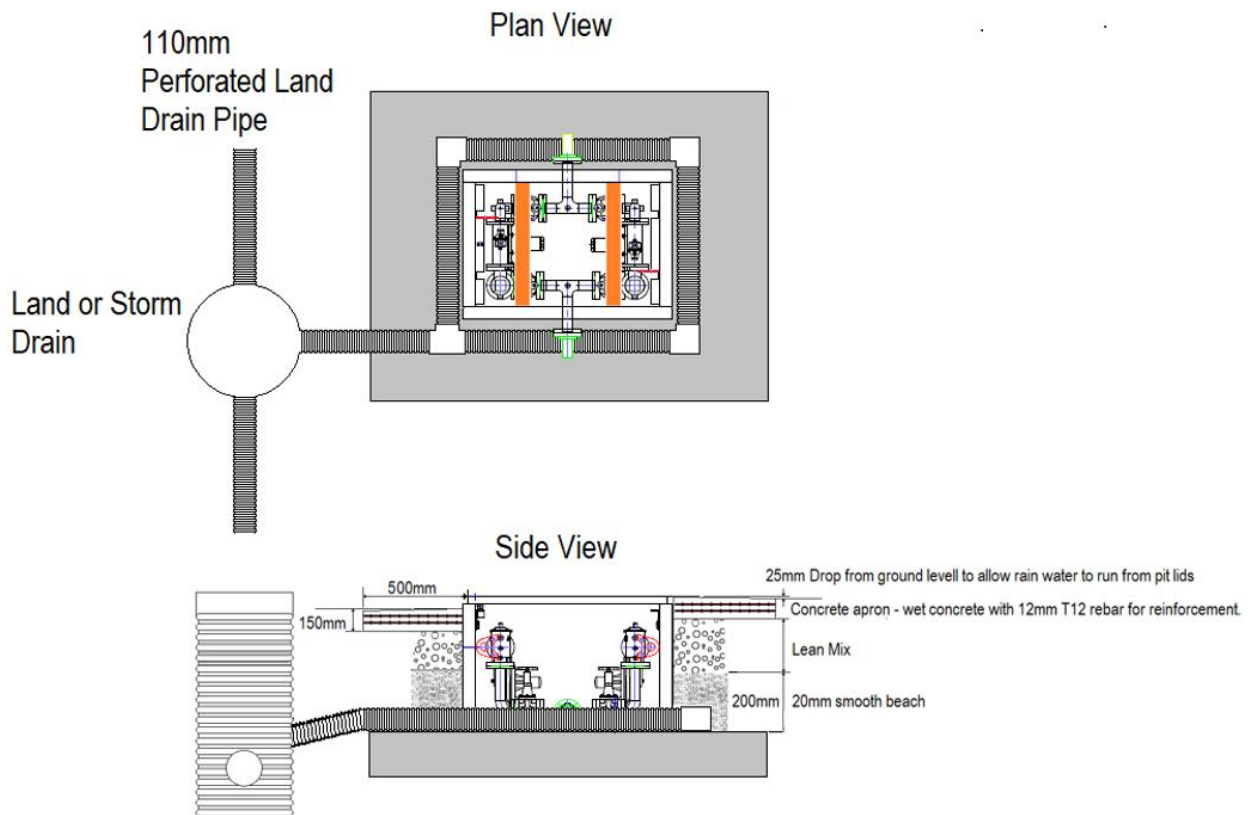
A minimum clearance of 1.5m around the perimeter of the plinth must be left to allow for safe access and egress.

9: Drainage.

All below ground PRI's must be fitted with a 'French' drainage system as detailed below. (Brown rectangles indicate temporary timber cross beams as detailed in Section 7)



J125 Below Ground Installation



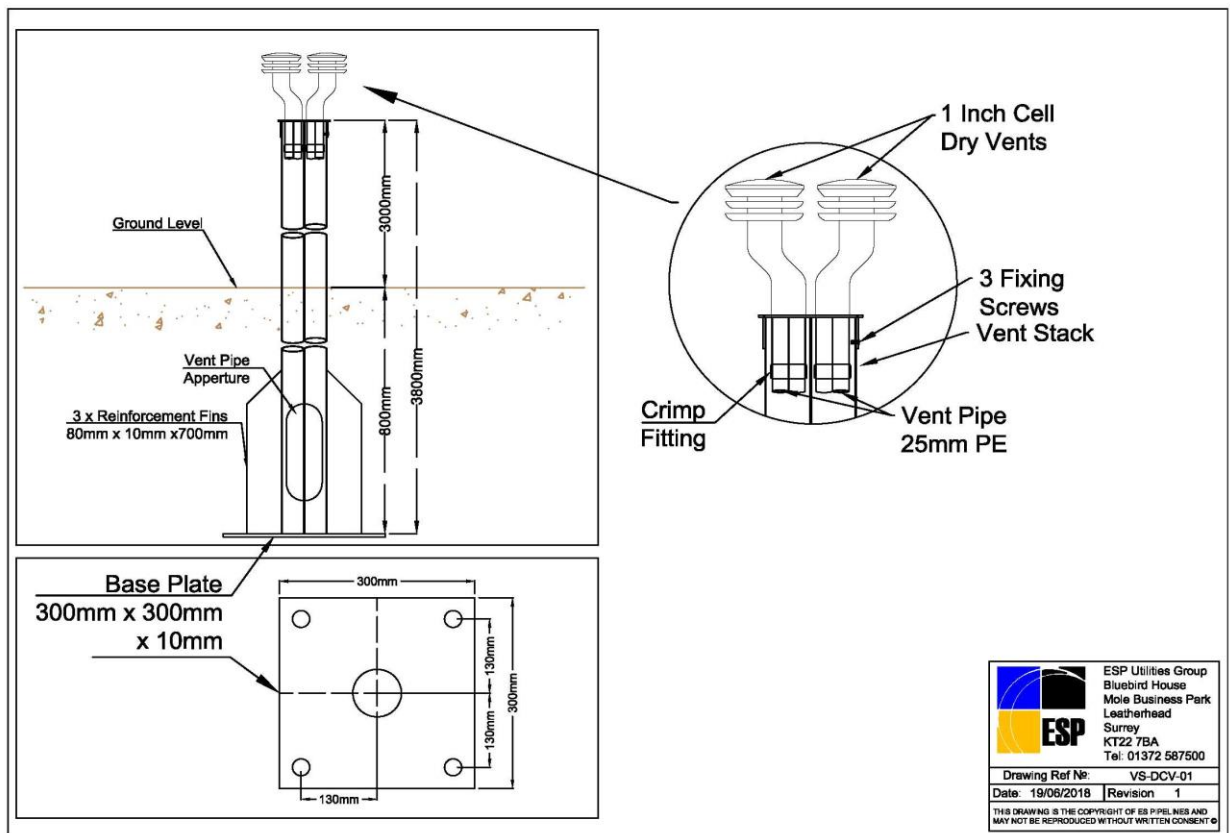
10: Relief Vent Stacks. (See ESP Specification for Vent stack arrangement)

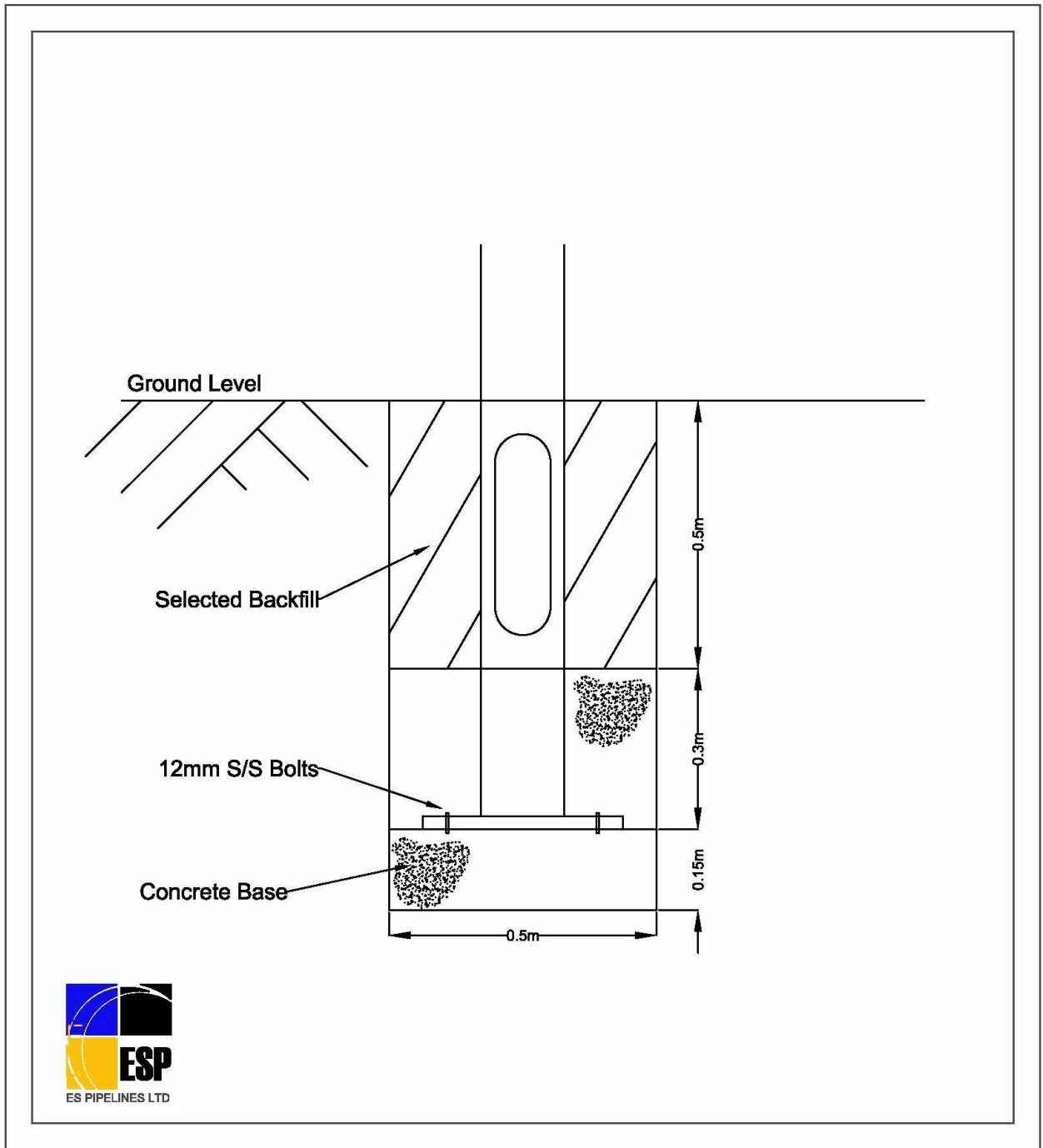
The location of all vent stacks **must** be agreed with ESP prior to the installation of the PRI.

To ensure all vent stacks meet ESP's technical requirements they must be supplied by ESP's preferred supplier, Ralda Ltd. Responsibility for procuring the stacks rests with the UIP. (Contact details for Ralda Ltd are in Section 15)

The vent stack(s) will then be installed before or at the time of commissioning by the Commissioning Contractor, though the UIP constructing the PRI/site will be expected to construct the base for a 'Type B' vent stack. (See details below)

Type 'B'





Standalone Vent Stack Base Construction and Dimensions for Type 'B'

11: Pressure Monitoring device.

Strategic¹ ESP PRI installations are to be fitted with a pressure monitoring device (PMI). The device itself will be free issue from ESP and ESP will contract with Ralda for the installation of the device and supply of connecting ancillary equipment. ESP will commission the device.

Typical pressure monitoring device installed in a vent stack cabinet



12: Completion of Installation.

When the PRI installation is complete, and all pipework tested and proven sound the surrounding area **must** be backfilled using fully compacted backfill.

Following the commissioning of the PRI the area around the PRI must be reinstated to the correct levels at the earliest opportunity.

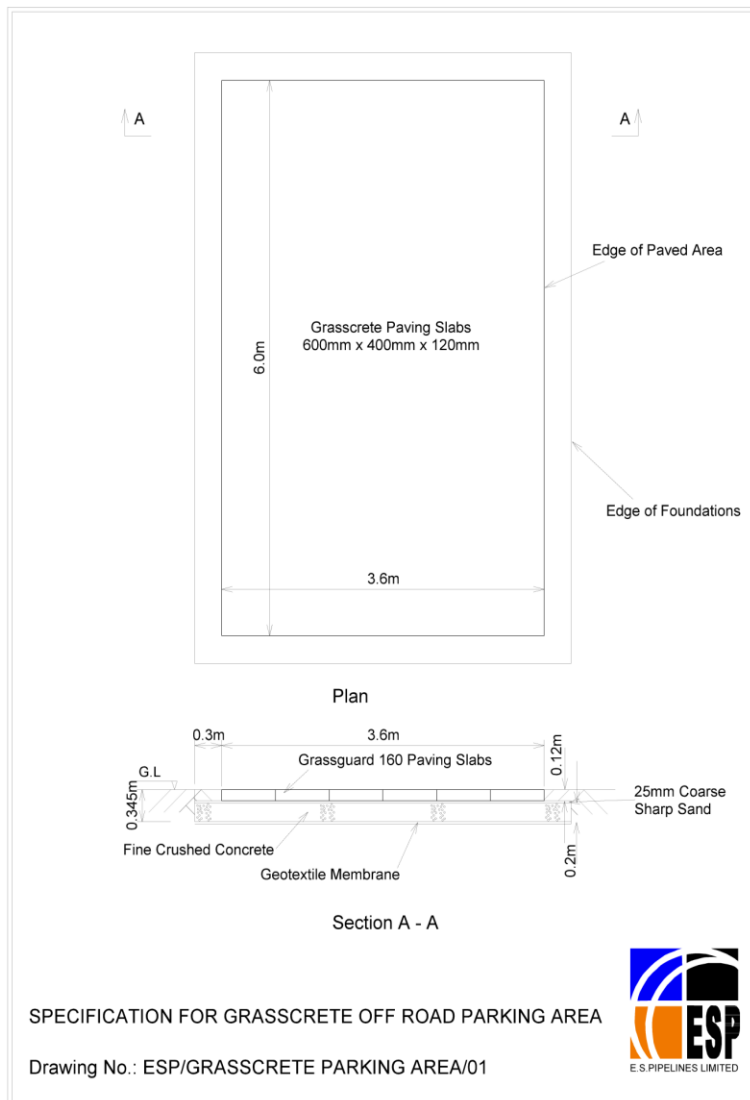
13: Off Road Parking Area.

All PRIs that are to be adopted by ESP must have adequate off-road parking adjacent to the PRI for light commercial vehicles. The dimensions of the parking area should be, as a minimum, 3.6 metres wide x 6 metres deep. All off road parking bays are to be fitted with a minimum of one parking bollard with a coded padlock which is set to 1314, or a gate type security measure, or both to fully prevent unauthorised parking.

Construction as per the following drawing and Construction details is recommended by ESP using 'Marshalls Grassguard 160'.

The sizes of the slabs are 600 x 400 x 120mm. This will allow for 6 blocks (6x600mm) wide and 15 blocks (15x400mm) deep.

Pack size 5.76 metres square per pack. 4 packs required including for any breakage to construct above parking area.



Construction details.

- Excavate minimum 345mm below finished parking area level. Excavate minimum 300mm beyond parking area width and depth to all sides needed.
 - Lay Terram T 1000 or similar geotextile membrane over excavated area.
 - Lay minimum 200mm fine crushed concrete inc. 25 % ratio sand-based topsoil evenly mixed, maximum stone size 50mm, over geotextile membrane Inc. 300mm beyond parking area to all sides; grade to required levels and fully compact using small vibrating roller or large whacker plate.
 - Lay 25mm regulating layer (maximum 40mm) coarse sharp sand including 300mm beyond parking area to all sides; grade to levels and compact using large whacker plate.
 - Lay Marshalls Grassguard 160 onto compacted regulating layer.
 - Cover complete blocked area including 300mm beyond parking area with sand-based topsoil combined with tough coarse ryegrass seed, working soil and seed into pockets in grasscrete blocks. Cover grasscrete blocks with 20mm plus topsoil/grass mixture and, using a whacker plate, compact the topsoil into the Grasscrete block pockets.
 - Remove surplus topsoil to leave upstand of grasscrete block just visible.
 - Protect area from birds.
 - Water as required.
- Note: Topsoil must be dry to carry out above procedure.*

14: Land Rights.

ESP reserves the right not to allow commissioning of the PRI until land acquisition is confirmed.

15: GL5. (Where applicable)

Where a GL5 is required, it **must** be provided to ESP with Part A and Part B complete and Part C ready to be signed off by the user before Design validation. A minimum of 2 weeks should be allowed for ESP to accept a GL5.

Under no circumstances will ESP give design acceptance until Part C has been signed off.

16: PRI Commissioning.

Prior to commissioning ESP will audit the installation to confirm that the PRI has been installed to ESPs satisfaction. Sufficient time should be allowed between the installation of the PRI and commissioning to allow ESPUG to carry out this audit.

Commissioning may only be carried out by ESP approved Commissioning Contractors. (*Contact [details below](#)*). ESP will not allow a PRI to be commissioned outside normal office hours.

- **Penspen**
Unit E2
Neath Vale Business Park
Resolven
Neath, SA11 4SR
Tel: 01639 713010
info@penspen.com

- **Scotia Gas Care**
Saint Leonard's Place
Kingham
Burntisland
KY3 9UL
Tel: 01592 890000
info@scotiagascareltd.co.uk

- **Ralda Ltd**
Coston Lodge South
Buckminster Road
Coston
Melton Mowbray
LE14 2RP
Tel: 01664 778038
richard.ralda@aol.com

17: PRI Documentation.

The following documents **must** be supplied to ESP prior to the commissioning of a PRI. Failure to supply these documents will lead to ESP refusing to allow the PRI to be commissioned.

- PRI Specification. (Under no circumstances will ESP allow a PRI to be commissioned if the Specification does not correspond to the actual PRI installed)
- SR25 Hazardous Area Assessment drawing complete with calculation results.
- PRI Certificate of Conformity. (The CoC is normally delivered attached to the PRI).
- Site drawing displaying the location of the PRI and Off-Road parking area.
- On Polyurethane coated metallic flanged valves photographic evidence demonstrating that the flanges and bolt heads are adequately protected. (As per section 4.4 above)
- Completed valve information documents. (As per section 4.5 above)
- Completed Site Location Assessment. (See ESP/PL/PRI)
- Mains Test Certificates.
- The GL5 (where applicable) with Part A, Part B and Part C signed off by the relevant persons must be forwarded to ESP within 2 weeks following commissioning.

18: Reference Documents. (All Latest Edition)

This specification is to be read in conjunction with the latest issues of the following documents: -

ESP/PL/PRI - Pressure Regulating Installations with Inlet Pressures Not Exceeding 7 bar gauge.

ESP/PL/LP Land Rights – Natural Gas and Electricity Cable Distribution Networks.

ESP Specification for Vent stack arrangement

IGEM/TD/13 - Pressure regulating installations for Natural Gas, Liquefied Petroleum Gas and Liquefied Petroleum Gas/Air

IGEM/SR/25 – Hazardous Area Classification of Natural Gas Installations.

IGEM/GL/5 - Procedures for managing new works, modifications and repairs

19: Further information and contact.

If you have any queries whatsoever regarding the installation of a PRI, please don't hesitate to contact us using the E Mail address below: -

PRIOperations@espug.com

¹ A **strategic** PRI site is generally deemed to be one that provides supplies to >10 Supply Meter Points downstream (unless exceptional circumstances exist on a particular site where this criteria is not considered to be applicable) or in the case of a PRI associated with an Industrial & Commercial Meter installation deemed so by the nature and significance of the usage at the Supply Meter Point.