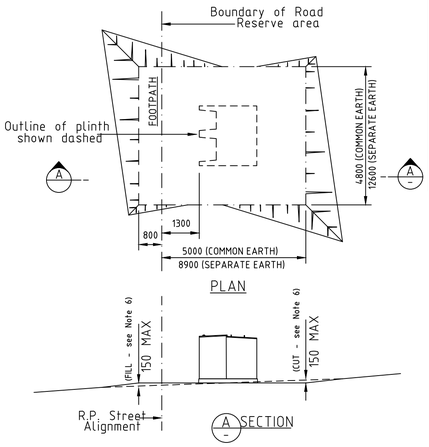
For SEPARATE LV & HV earthing a clearance zone of 12.6m wide by 8.9m deep is required.
The clearance zone is to be maintained free from metallic objects, buildings and structures, including their foundations.



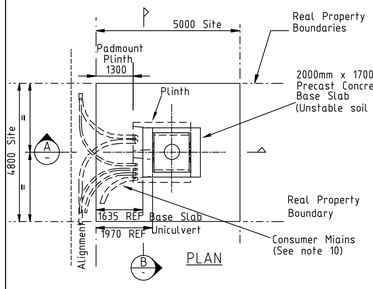
SITE PREPERATION DETAIL

REQUIRED TASKS	DATE COMPLETED YES	DATE COMPLETED NO	CHECKED BY
CUSTOMER RESPONSIBILITIES			
24 HOUR ACCESS PROVIDED.			
PADMOUNTED SUBSTATION SITE IS LEVEL.			
PADMOUNTED SUBSTATION SITE SIZE - 5.0M x 4.8M			
RETAINING WALLS (INCL. RPEQ APPROVAL IF REQUIRED).			
PADMOUNTED SUBSTATION SITE IS CLEAR OF ALL SERVICES.			
CORRECT FOUNDATION INSTALLED.			
CONDUITS ARE INSTALLED (INCLUDING BUNGS & DRAW WIRES)			
CONDUITS TRENCHES BACKFILLED & COMPACTED.			
FENCES INSTALLED.			
HAVE 2000mm DEDICATED CLEAR ZONE IN FRONT OF PLINTH.			
CUSTOMER RESPONSIBILITIES PRIOR TO COMMISSIONING			
SITE BACKFILLED & COMPACTED (INCLUDING UNDER PLINTH)			
BOUNDARY SURROUND & SITE SURFACE CONCRETED.			
AREA SUITABLY DRAINED (NO PONDING)			
SITE CLEANED-UP NEATLY.			

NOTE. x if applicable.

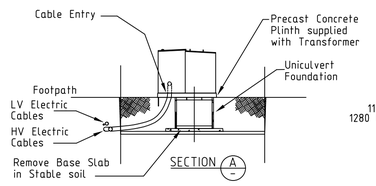
NOTE:

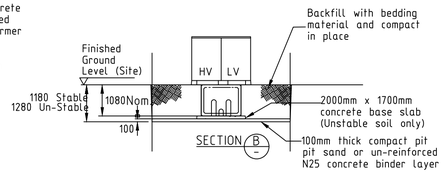
1. ENERGEX's padmount clearance zone shall be levelled and surrounding area graded to ensure no water ponding.
2. No services other than the ENERGEX's electric cables shall pass through this substation site.
3. Clear access to the transformer shall be maintained for ENERGEX's personnel and heavy equipment.
4. After installation is complete the site surface is to be finished with a concrete slab, refer C3-2.5.
5. Mature Landscaping (including trees, sprinklers etc.) shall not encroach onto the substation site.
6. Cut and fill levels greater than 150mm will require a Civil RPEQ certified design to ensure levels, compaction standards, drainage have been considered, Sites requiring retaining walls shall be designed in accordance with C3-2.6.



NOTES:

1. Foundation design details are as follows:
   - Unstable soils are soft clay to sandy gravel with a soil undrained shear strength 50 - 150 kPa. These soil types REQUIRE a base slab as shown.
   - Stable soils are very stiff clay to shale/rock with soil undrained shear strength of 150kPa or higher. These soil types DO NOT REQUIRE a base slab.
2. Lift uniculvert and base slab separately with 4 x 1.3t Reid Swiftlift lifting eyes.
3. Position top face of Uniculvert at finished ground level. (refer Civil Constructions drawings)
4. Installed Uniculvert shall be level.
5. If deep excavation is required under transformer cabinet and in front of foundation plinth front edge shall be propped while excavation remains open.
6. Foundation Components:
   1 x Uniculvert (Stock Code 19959)
   2 x End Walls (Stock Code 19959)
   1 x Base Slab (Stock Code 19960)
   Uniculvert and end walls come assembled with a Layer of preformed sealant to the perimeter of the uniculvert end and between the mating surfaces.
7. Only remove minimum knockout area required to pass conduits. (Max. conduit 150mm nom. dia.) or cables through uniculvert void by tapping out concrete.
8. Seal between conduits/cables and concrete end wall at knockout interface by grouting with high strength sand and cement grout after conduit installation to prevent entry of vermin and backfill ingress to uniculvert void.
9. Excavate to property boundaries to facilitate installation of earth grid.
10. Consumers mains (where present) shall not cross HV mains or run back under transformer.





FOUNDATION DETAILS - STANDARD UNICULVERT

Note

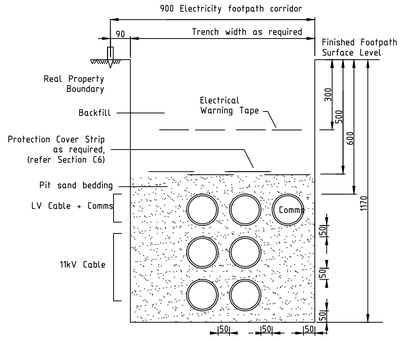
ENERGEX will not commision the transformer until the transformer site has been completed to ENERGEX specifications (including the concrete surround).

ENERGEX specifications for construction of the transformer site and installation of conduits on private property are available at the following web address.
https://swp.energex.com.au/service_providers/technical_docs/asp/technical_documents.asp

Underground Distribution Construction Manual 00305 v16
Section C1 - Conduits
Section C2 - Excavations & Reinstatements
Section C3 - Padmount Transformer Sites

Commercial and Industrial Substations Manual 00293 v11
Section 14 - Drawing 11040-A4-14-33 Sht 2

The site contractor is to refer all substation construction queries to their electrical consultant.



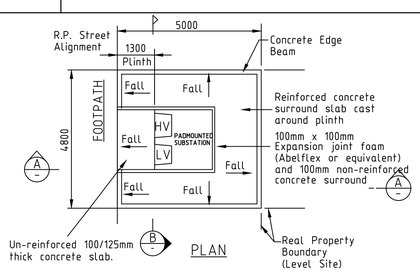
NOTES

1. CABLE CONDUIT SHALL BE OF THE FOLLOWING TYPE: LIGHT DUTY ELECTRICAL CONDUIT TO AS/NZS 2053. CONDUIT BENDS SHALL HAVE A MINIMUM RADIUS OF 1830mm.
2. CONDUITS SHALL BE 125mm ORANGE FOR ELECTRICAL AND 100MM WHITE (LOCATED TOP KERBSIDE) AS SPECIFIED BY ENERGEX AND SHALL BE SUPPLIED AND INSTALLED BY THE DEVELOPER OR ENERGEX. CONDUITS SHALL BE SECURELY SEALED TO PREVENT INGRESS OF DIRT UNTIL CABLE INSTALLATION AND THEN RESEALED.
3. EACH CONDUIT TO BE FITTED WITH A 6mm BRAID POLYPROPYLENE DRAW ROPE TO PULL IN HAULAGE ROPE. (MINIMUM BREAKING STRENGTH OF 1.0kN.)
4. ENERGEX MAY NEED TO INSTALL AN EARTH WIRE AND EARTH RODS IN CONDUIT TRENCHES FROM THE SUBSTATION SITE.
5. ELECTRICITY SUPPLY CONDUITS AND CABLES SHALL HAVE POLYMERIC CABLE PROTECTION COVER STRIPS PLACED 100mm ABOVE THE TOP CONDUIT FACE OF THE ELECTRICITY SUPPLY CONDUITS AND CABLES. CABLE PROTECTION COVER STRIP SHALL BE LAPPED WHEN PLACED TOGETHER; 100mm MINIMUM ALONG THE LONGITUDINAL AXIS, 40mm MINIMUM ALONG THE TRAVERSE AXIS AND SHALL EXTEND 40mm MINIMUM PAST THE EXTERNAL EDGES OF THE CONDUIT/CABLE BANK.
6. POLYMERIC CABLE PROTECTION COVER SHALL BE A MINIMUM OF 5mm THICK AS DESCRIBED IN THE AUSTRALIAN STANDARD; AS4702 FPR POLYMETRIC CABLE PROTECTION COVERS.
7. REDUCED CONDUIT SEPARATION MAY BE ACCEPTED TO AVOID SPECIFIC OBSTACLES
8. MIN. DEPTHS SHOWN ARE THOSE DEPTHS REQUIRED BY CODE OF PRACTICE, WORKS (MINOR ROADS) AND DMR (ARTERIAL ROADS).

Notes:
(1) Energex Communication conduit to be 100mm white located top kerbside.
(2) Power cable conduits to be 125mm orange, light duty.
(3) Separation for conduits - 50mm minimum, up to 160mm desirable.
(3) Increased cover required for road crossings.
(4) Select Backfill and Pit sand bedding complying with ENERGEX UDCM Section C2
(5) For de-rating factors for cables in duct bank, refer to the Plant Rating Manual

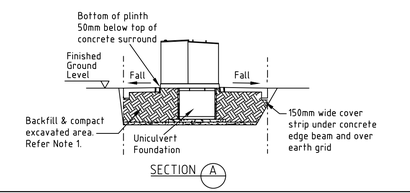
11KV NETWORK

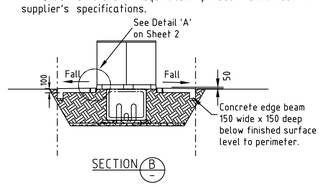
TYPICAL CROSS SECTION - 11KV AND C&I (FOOTPATH ON PUBLIC FOOTPATHS)

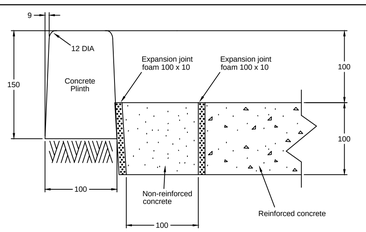


NOTES:

1. Backfill excavated area with crusher dust,deco or bedding material and compact in place. Ensuring that only bedding material is used around cables.
2. Reinforced concrete surround slab:
   a. 100 / 125mm thick slab;
   b. F62 mesh reinforcement in centre of slab;
   c. 25 MPa grade concrete;
   d. Finish by wood float or by nylon broom.
3. The top face of the concrete surround slab shall be 25mm above the final surface level (when turf is laid)
4. The concrete slab is to slope away from plinth falling at a slope of 1 in 25.
5. Cable apertures through the precast concrete plinth shall be backfilled to 50mm from the top of the plinth, using bedding material.
6. The surface of the surround slab may be finished with a stencil pattern surface to match the surrounding pavements of the development.
   (Use textcrete or equivalent product. Construct to supplier's specifications.







DETAIL 'A'

NOTES:

1. Backfill excavated area with crusher dust,deco or bedding material and compact in place. Ensuring that only bedding material is used around cables.
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   (Use textcrete or equivalent product. Construct to supplier's specifications.

BEFORE YOU DIG www.byda.com.au

CULVERT INSPECTION REQUIRED BEFORE TRANSFORMER IS DELIVERED
- 5 BUSINESS DAYS PRIOR NOTICE NEEDED.
CONTACT: PAUL HAWKINS PH: 0419 756 501 EMAIL: ProjectCoordinationsesth@energex.com.au

TRANSFORMER WILL NOT BE ENERGISED UNTIL ALL REQUIREMENTS ARE MET.

REV:	DESCRIPTION:	DATE:
1	CONSTRUCTION	30/05/2025

Rohrig (Qld) Pty Ltd
ABN 67 093 753 970
QBSA LIC NO 740842
250 Abbotsford Road, Bowen Hills Qld 4006
PO Box 86 Albion DC Qld 4010
T+61 (7) 3257 4411 F+61 (7) 3257 2211
www.rohrig.com.au

FOR ALL ENERGEX RELATED CONSTRUCTION QUERIES THE ELECTRICAL DESIGN GROUP ON (07) 3278 4375 IS THE FIRST POINT OF CALL.

ELECTRICAL DESIGN GROUP
ELECTRICAL BUILDING SERVICES CONSULTANTS
BRISBANE GOLD COAST
P.O.Box 15, Sherwood Q.4075
Phone: (07) 3278 4375
Email: brisbane@edg.net.au
Web: www.edg.net.au

PROJECT:
LLEWELLYN MOTORS SPRINGFIELD - LOT 32

LOT 32 AUGUSTA PARKWAY, AUGUSTINE HEIGHTS

DRAWING:
ELECTRICAL SERVICES
ENERGEX PADMOUNT SUBSTATION STANDARD DETAILS

SCALE: NOT TO SCALE AT A1

PROJECT NO:	DRAWING NO:	REVISION:
C3294a	EN02	1