

Appendix A

Engineering Design Summary – Skinners Shoot Road/Yagers Lane

Engineering Design Compliance Summary

Proposed Upgrade to Skinners Shoot Road, Yagers Lane & Construction of new Driveway to provide access to proposed transformer site No.7, Suffolk Park/Skinners Shoot



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Engineering Design Compliance Summary – Proposed Road Works to provide access drive for substation site No 7

Introduction

This report has been prepared at the request of Ian Brooks of Right Of Way Services on behalf of Country Energy to assist in the decision process involved with identifying the best option for a new 66 kV sub station at Suffolk Park.

The preferred site for the substation has been narrowed down to 2 options, reduced from 11 possible sites after extensive investigation over the last 12 – 18 months. The attached aerial photo prepared by MWH shows these 11 proposed sites.

The scope of works requested to be undertaken by Tricend was in relation to sub station site No 7 which involved determining the engineering constraints associated with accessing this proposed substation site via Skinners Shoot Road & Yagers Lane.

The **scope of works** was;

“To assess the quality, curvature, width and gradient of Skinners Shoot Road and Yagers Lane, Suffolk Park to access a 50 tonne low loader truck. Determine what further work is required on the roads to get them to a standard to handle the load/width and any tree clearing requirements. Provide written report with findings and recommendations.

The following should be allowed for:

Length of float	22 metres approx.	
Width of float	3.5 metres	
Weight of transformer	50 tonne approx.	
Height from ground	300 mm max.	
Height to top of transformer	(from ground level)	4.7 metres
Turning radius	To be confirmed	

Note:- The crucial point with ground clearance is the part of the float near the goose neck is the problem area. If the site is above the level of the road we need to ensure the entrance driveway is gently curved otherwise the float will bottom out at this point.”

Skinners Shoot Road & Yagers Lane are currently typical minor rural type roads which have relatively low traffic usage. It was determined that they will require civil works to enable them to be used now and in the future for delivery of the proposed 66kV / 132 kV transformer and its ongoing maintenance.

Once a decision has been made as to the viability of this option (No 7) an approval for a section 138 application would need to be obtained prior to commencement of construction works from Byron Shire Council for the proposed upgrade works within the road reserves known as Skinners Shoot Road & Yagers Lane. A development application to locate the sub station and construct new access driveway would be required from Byron Shire Council over the property owned by Mr. R Bruce & Bernie Schreiber known

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as Yagers farm (lot 5 DP 258640, Lots 4, 6, 7 & 8 DP 8385) and Julie Trevor-Jones (Lot 9 DP 588885). It should be noted that the site No 7 is actually located on the Trevor Jones property but that access to the subject site is only possible via the Bruce/Schrieber property due to certain physical constraints as detailed in this report.

Skidders Shoot Road extends from the southern edge of Byron Bay to the suburb of Byron Bay known as Suffolk Park. It runs generally in a north south direction where it intersects Yagers Lane near the end of its current formation. Yagers Lane runs in a generally east west direction before leading onto a property previously operated as a commercial piggery known as Yagers farm which is currently going through the process of being converted to a large plant nursery. The current owners of this site (which contains the proposed substation site No 7) also have plans in the future to create a community title subdivision for between 8 – 12 dwellings. Whilst there is driveways and infrastructure in place at the old piggery site new access driveway will need to be constructed to enable the delivery of the proposed substation once it reaches the end of Yagers Lane.

One of the constraints associated with the selection of the sub station site No 7 is that parts of Skidders Shoot Road, Yagers Lane and the Old piggery are effected by periodic flooding. This has implications in relation to those times when ongoing maintenance requirements to the substation site are necessary. The substation site itself is considered to be well above the 1/100 year flood level but the same situation of periodic flooding applies to many other parts of Byron Bay and the Suffolk Park area where from time to time due to the low lying nature of the area, access will be restricted.

Description of proposed works

Skidders Shoot Road & Yagers Lane are currently under the control and ownership of Byron Shire Council. Plans & details are attached in the appendix which shows where the proposed upgrade works are to commence and finish.

Skidders Shoot Road currently services approximately 30 dwellings (some legal others not so it is a little hard to confirm the actual number). According to current Australian Standards the width of its carriageway and capacity of its formation would not meet those Standards. The proposed civil works identified by this investigation involve amongst other things, widening of the Skidders Shoot Road in parts, and therefore it would potentially be seen as a benefit to the residents of Skidders Shoot Road for the proposed works to be undertaken.

It is understood that section 94 contributions (i.e.: contributions toward the provision or improvement of community amenities or services managed by council) have been collected by Byron Shire Council associated with development approvals in the vicinity which could assist with the costs to do the road upgrade works (subject to negotiation with BSC).

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Currently Yagers Lane services the Nursery site (old piggery) with the potential to become an additional 12 dwellings. The Skinners Shoot Road & Yagers Lane section of the proposed access route is shown in the details, (including plans & photographs of the respective access conditions at the time of this report) attached in the appendix.

Skinners Shoot Road is a variable 3 – 6 meters bitumen formation with variable 0.5 – 2 m gravel sealed shoulders. The attached plans show details for a distance of 1500 metres to the corner of Yagers Lane, the distance of 629 meters to the front gate of Yagers farm and details on the section of the new driveway proposed to be constructed from the entrance to the Nursery /Yagers farm and the extent of the proposed works.

In the investigation the aspects of pavement capacity, change in longitudinal gradients and crossfalls were considered to enable a estimate of cost to be established subject to final detailed investigation. A cost estimate was then undertaken to allow the option to be considered in terms of comparison to other options available (i.e.: water tower site).

The section of Skinners Shoot Road from the start (adjacent to the Aquarius hostel) for the first 1200 meters is expected to require minimal works which include mostly overhanging vegetation and possibly CBR testing to confirm pavement adequacy.

The remaining section of Skinners Shoot Road up until where it intersect Yagers Lane will require more intensive works to provide satisfactory access to the require low loader. These works have been identified in attached plans & details and the cost estimate prepared by JM Bashforth Pty Ltd who are experienced civil works contractors established for many years in the local area. The principal John Bashforth has also worked on the site in terms of providing earthworks to the previous owners of the Option No 7 property. These works involve reconstruction of sections of the road and lane to provide better alignment in terms of mostly crossfalls where pavement super elevation exceed 3%. The cost estimate prepared includes the cost to adjust cross falls at chainages 268, 580 and intersection of Skinners Shoot Road and Yagers Lane. There will also be improvements to certain areas of pavement along both road formations to cater for the vehicle turning templates (variable widening) and finally increasing the capacity of 2 pipe culverts for additional width and strengthening in Yagers Lane.

When determining the minimum works necessary to provide the required access way we were referred to the Byron Shire Council performance criteria which is

- “Access way widths should reflect the function and volume of use.”

The width of the access way proposed is 4 metre wide seal with 1 m shoulders which is the now the minimum standard (in accordance with Byron Shire Council’s requirements per discussions with Council’s engineer on the minimum acceptable standard) for the number of daily traffic movements between 0 – 150 . The number of additional average daily traffic movements assumed after the construction period is less than 2. During its period of operation as a piggery the traffic volume would have been likely to be 15 – 20

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per day, dependant upon the number and frequency of deliveries to the commercial operation.

This is less than the number of daily traffic movements attributed to the subject sites current dwelling entitlement. Once the operation of the property becomes an established plant nursery, the minimum standard of access way proposed on Yagers Lane would assist in the future operations of the Nursery.

The definition of minor works is defined by the Dept of Lands as follows:

“To establish or maintain an access track within the land corridor set aside as a public or crown road”

The extent of works required on Skinners Shoot & Yagers Lane do not fall within this definition however the attached plans and details will substantially assist in obtaining the necessary approvals to undertake the works required.

The proposed works are able to be undertaken without significant disturbance to the land form as outline in the following Photo description.

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Photo 1: Start of Skinner Shoot Road adjacent to the Aquarius Hostel Intersection

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Photo 2: View looking toward the south at the start of the detailed survey information of the typical existing Skinners Shoot road formation.

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Photo 3: View looking north back toward the start of where the survey information was undertaken. Improvements to the pavement width will be required over this section between **CH 0 - 231**

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Photo 4: View of Skinners Shoot Road looking toward the south from approximately **CH 231** showing the start of the first of the realignment works that will be required between **CH 231 – 317** involving adjustment of the pavement cross fall and horizontal road alignment. This is the steepest part of the proposed access drive being in the vicinity of 10 degrees.

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Photo 5: View of Skinnars Shoot Road looking north from about **CH 317** back toward **CH 231** (refer to access road plan for details).

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Photo 6: View of Skinners Shoot Road looking North West from about CH 522 back toward CH 447 of existing pavement condition required to be improved.

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Photo 7: View of Skinners Shoot Road looking toward the south east from about **CH 522** showing start of the next section of realignment works which will be required between **CH 548 – 611** involving adjustment of the pavement cross fall and horizontal road alignment.

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Photo 8: View of Skinners Shoot Road looking back toward the north from CH 611 toward CH 580

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Photo 9: View of Skinners Shoot Road where it intersects with Yagers Lane, looking to the North of current access arrangements between **CH 1508 (stn 29) – CH 1444**. The formation at this section will also require adjustment of the pavement cross fall and horizontal road alignment for low loader turning arrangements.

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Photo 10: View of intersection of Skinners Shoot Road & Yagers Lane looking toward the east in the direction of the entrance to the Yagers farm site. This section of road will require environmental control, repair and extension of existing pipe culverts, excavation and widening of the road shoulders and overlay of existing pavement with 100mm road base. The two coat flush seal and minor reshaping will benefit the use of the Yager's farm as a nursery and reduce maintenance in the long term associated with the substation (and to protect against scouring in larger storm events).

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Photo 11: View of Yagers Lane looking back to the north along the existing formation between **CH 288 – CH 197**. There are 2 x pipe culvert crossings (comprising 2 x 600 diameter RC pipes) which need to be upgraded.

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Photo 12: View of Yagers Lane looking north at approximately **CH 396**

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Photo 13: Once at the entrance to the Yagers farm the new access drive will need to be constructed to avoid any impacts to the large fig at the entrance which will require also the removal of an old weigh bridge adjacent to the entrance gate (see below Photo 14).

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Photo 14: View of old weighbridge required to be removed at the entrance to Yagers farm.

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Photo 15: View of proposed route of new access drive from the fig tree to the top side of the adjacent piggery sheds which is partially formed.

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Photo 16: View of the next 200 meters (approximately) looking toward the south which will follow the natural contours and sweep round to the east on the down slope side of the dam.

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Photo 17: View of the existing slope in the direction of the white car proposed for the new access route.

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Photo 18: New access road is proposed to be constructed in between the concrete overflow device and the dam to the right of the photo.

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Photo 19: Once past the dam the driveway will require to cross over an existing gully. The site of the option No 7 is approximately 20 meters past the post and rail fence in the background of the photo. It is intended to use box culverts to provide a suitable crossing. Other works in this section of the works is to change spillway location to existing dam. Install pipe culvert in approximate location of old spillway and provide rock scour protection to new roadwork's at existing concrete spillway and proposed box culvert. The proposed formation from the fig tree to the proposed site will be four meter wide road pavement with a 3.60 wide two coat flush seal.

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Photo 20: It should be noted that at the corner of Lawson & Shirley Streets just prior to turning into Skinners Shoot Road is a recently constructed roundabout which should be able to be navigated by the low loader under the supervision of a suitable traffic management plan.

Conclusion

The proposed access upgrade of Skinners Shoot Road & Yagers Lane will allow for access by the required low loader and delivery of the 66 kV and 132 kV transformers. Where sealing of the road is to be undertaken this can occur after or toward the end of the completion of the site proposed for the sub station (building pad, drainage, etc). The road during construction will also continue to be used by cars servicing dwellings in the vicinity so a traffic management plan should be submitted with the application details to council for public comment.

The proposed works will allow access to the substation site for the low loader as well as other types of service vehicles in the future. It will improve existing access arrangements for the local community as well as Rous Water, Country Energy and Byron Shire Council.

In general the factors effecting access are site distance, speed restrictions, turning radii and vertical and horizontal gradient and alignment. It should be noted that the maximum change in vertical gradient within the proposed route for the access driveway is less than the 6%. The maximum recommended by the Australian Standard 2890 and the Byron Shire Council Specification for Engineering works is 12.5%. The average grade over the length of the existing and proposed access drive is less than 5% with 3 steeper sections occurring only for short distances that can be modified to provide the required access.

The minimum turning radii evaluated within the proposed access drive is between 15 – 30 m, which exceeds the requirements of the Australian Standard and the Byron Shire Council Specification for Engineering works. The maximum proposed **vehicle speed** is adequate for the circumstances (**20 km/hr**).

The maximum depth of cut required to construct the proposed access way is between 0.300 - 1 m and the maximum fill height is proposed to be 1.200 m.

A summary of the works proposed to the existing public roads and the unformed section of the driveway is:

- Slashing undergrowth and trimming of trees where necessary
- Light grading of the natural terrain
- Crowning with Grader and medium sized excavator the road formation to establish surface and cross fall drainage
- Establishing cross-banks and table drains to control water and sediment runoff
- And Placement of gravel, road base to stabilize the track formation and fill surface depressions such as potholes etc.

The works can be undertaken by John Bashforth Pty Ltd using a medium sized excavator, grader and roller to compact the gravel base. The summary description of the required

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works based on inspections and the plans and details attached is included in the appendix. In total the **cost of construction works estimated was \$505,145-00 plus GST.**

All works are proposed to be undertaken in accordance with the soil and water management details prepared for the final works to the standards such as those detailed in the NSW Dept Of Housing manual.

A surveyor will prior to commencement of works confirm the location of the works within the Road Reserves and the associated existing access track to ensure proposed works are built to the specific requirements.

There are no significant new drainage structures required to be installed other than 2 pipe crossings and the minor gully crossing to prevent water ponding against the driveway. These will be 900 mm diameter Class X type with headwalls to prevent scour. These pipes crossings are to be installed to control the flow of water into the natural drainage system and mitigate impacts from stormwater runoff.

Finally there will be minimal impact during and after construction of the upgrade to Skinners Shoot Road & Yagers Lane as well as the new access drive to either the environment or amenity of the surrounding area. The Environmental Assessment of Proposal (under a format such as Part 5, Environmental Planning & Assessment Act 1979) relating to the road works should be undertaken and submitted with the section 138 application (i.e.: consent from the council/road authority required for any works within a public road reserve). Final detailed engineering design should be undertaken by suitably qualified civil engineer and approved by Byron Shire Council prior to commencement of works to confirm the cost estimate provided.

The proposed upgrade and extension of the access route can be designed and constructed in accordance with the Council Development control Plan 2002, the Council Specification for Engineering Works, Dept of Lands requirements (if applicable), the relevant Australian Standards and associated local and statutory authority requirements.

Addendum

For the purposes of comparison of the costs associated with Option No 7 to the alternative site (known as the water tower site) near the corner of Bangalow Road and Old Bangalow Road, Suffolk Park a preliminary investigation was undertaken to approximate this alternative sites associated civil works costs.

The length of the driveway access works required to be undertaken is substantially less than for Option No 7 and is approximately 200 meters. The cost is estimated to be in vicinity of **\$85,000 plus GST**. There is also significant cost to prepare suitable building envelope for the substation due to the sloping nature of the land. Potentially significant retaining works will be required as well as drainage works to divert the large water catchment area of storm water runoff which effects the site. This is estimated to be **\$280,000 plus GST**. If this option is of further interest as a preferred site, further detailed engineering investigation should be undertaken to confirm final costs.

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APPENDIX

- PRELIMINARY ESTIMATE OF COST FOR ROAD IMPROVEMENTS
SKINNERS SHOOT ROAD AND YAGERS LANE TO PROPOSED
SUBSTATION SITE
- SURVEY INFORMATION, PLANS & DETAILS PREPARED BY LAND
PARTNERS & TRICEND DESIGN & ENGINEERING FOR THE PROPOSED
ACCESS ROUTE



LandPartners Limited
26 Grafton Street, Sydney
NSW 2000, Australia
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www.landpartners.com.au

Incorporating
ASPECT north &
KFM Partnership

DETAIL SURVEY OF SKINNERS SHOOT ROAD & YAGERS LANE. BYRON BAY for COUNTRY ENERGY

LOCALITY PLAN:

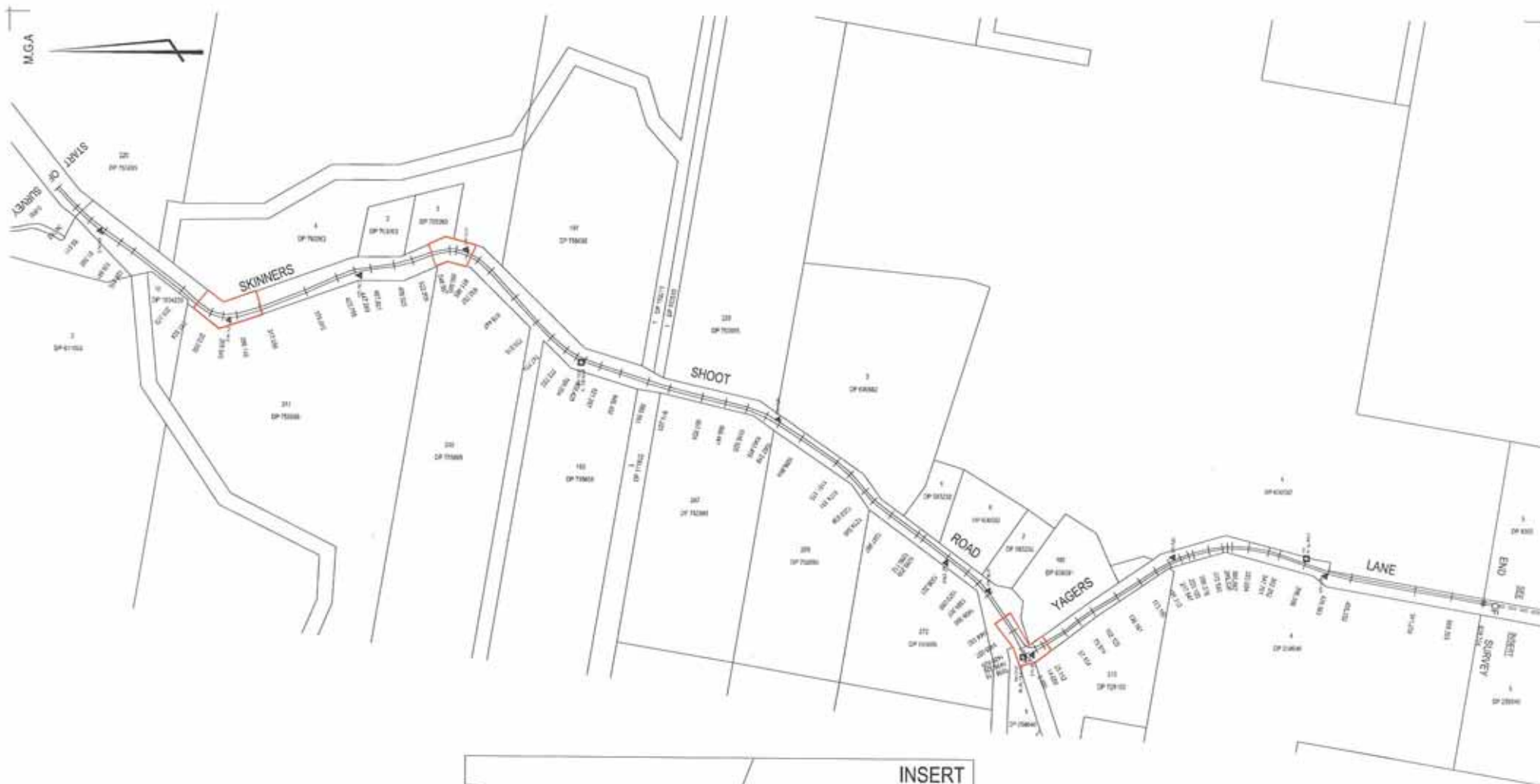


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- SV2 LAYOUT PLAN
- SV3 INTERSECTION OF SKINNERS SHOOT ROAD & YAGERS LANE
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- SV5 LONGITUDINAL SECTION - SKINNERS SHOOT ROAD (CHN 800.429 - 1508.115)
- SV6 LONGITUDINAL SECTION - YAGERS LANE (CHN 0.00 - 629.724)
- SV7 CROSS SECTIONS - SKINNERS SHOOT ROAD (CHN 0.00 - 467.821)
- SV8 CROSS SECTIONS - SKINNERS SHOOT ROAD (CHN 498.003 - 848.456)
- SV9 CROSS SECTIONS - SKINNERS SHOOT ROAD (CHN 885.561 - 1290.112)
- SV10 CROSS SECTIONS - SKINNERS SHOOT ROAD (CHN 1299.209 - 1508.115)
- SV11 CROSS SECTIONS - YAGERS LANE (CHN 0.00 - 288.536)
- SV12 CROSS SECTIONS - YAGERS LANE (CHN 295.023 - 629.724)

LM070201-SV1

October 2007



DISCLAIMER:-

THE TITLE BOUNDARIES AS SHOWN HEREON WERE NOT MARKED AT TIME OF SURVEY AND HAVE BEEN DETERMINED BY PLAN DIMENSIONS AND FIELD SURVEY.
 SERVICES SHOWN HEREON HAVE BEEN LOCATED WHERE POSSIBLE BY FIELD SURVEY.
 PRIOR TO DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITIES SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF UNDERGROUND SERVICES AND DETAILS OF ALL SERVICES.
 ALL DIMENSIONS ARE APPROXIMATE ONLY AND ARE SUBJECT TO FINAL SURVEY.
 THIS PLAN MAY NOT BE COPIED UNLESS THESE NOTES ARE INCLUDED.



LEGEND

- LOT BOUNDARY
- EDGE OF FORMATION
- EDGE OF RETEN SEAL
- OVERHEAD ELECTRICITY
- CENTRELINE OF ROAD
- SURFACE DRAIN

COUNTRY ENERGY DETAIL AND CONTOUR SURVEY OF SKINNERS SHOOT ROAD & YAGERS LANE BYRON BAY

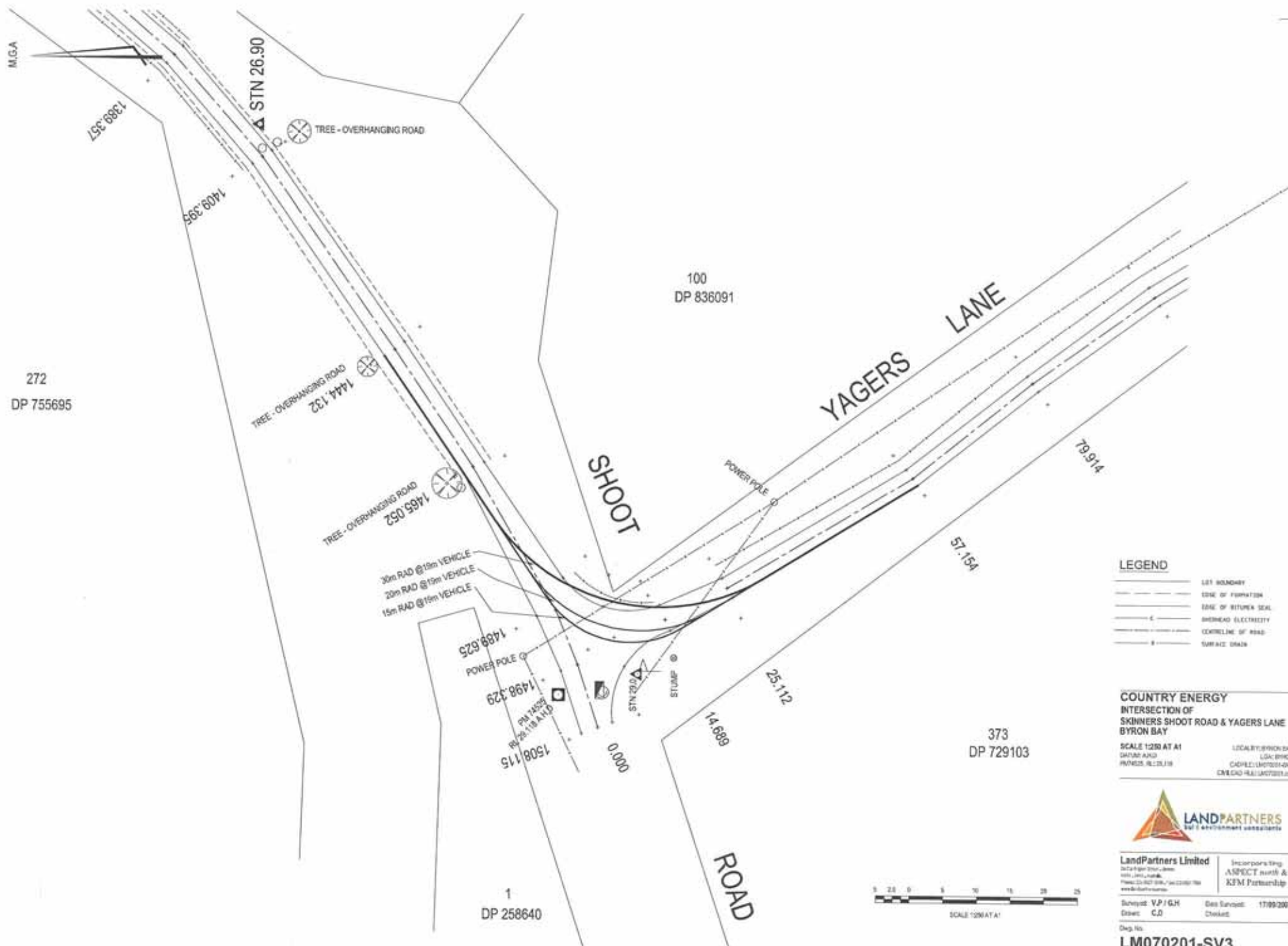
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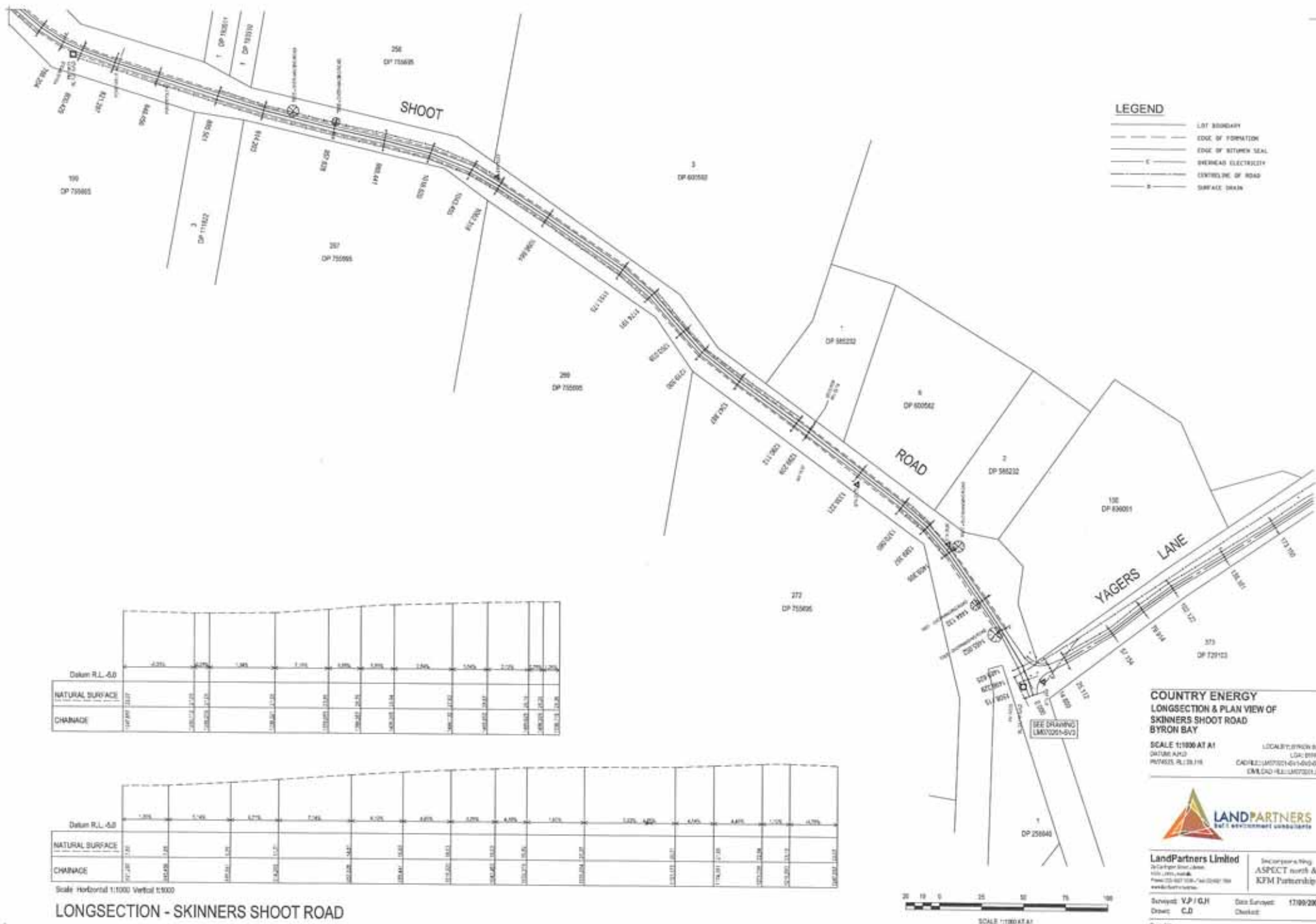


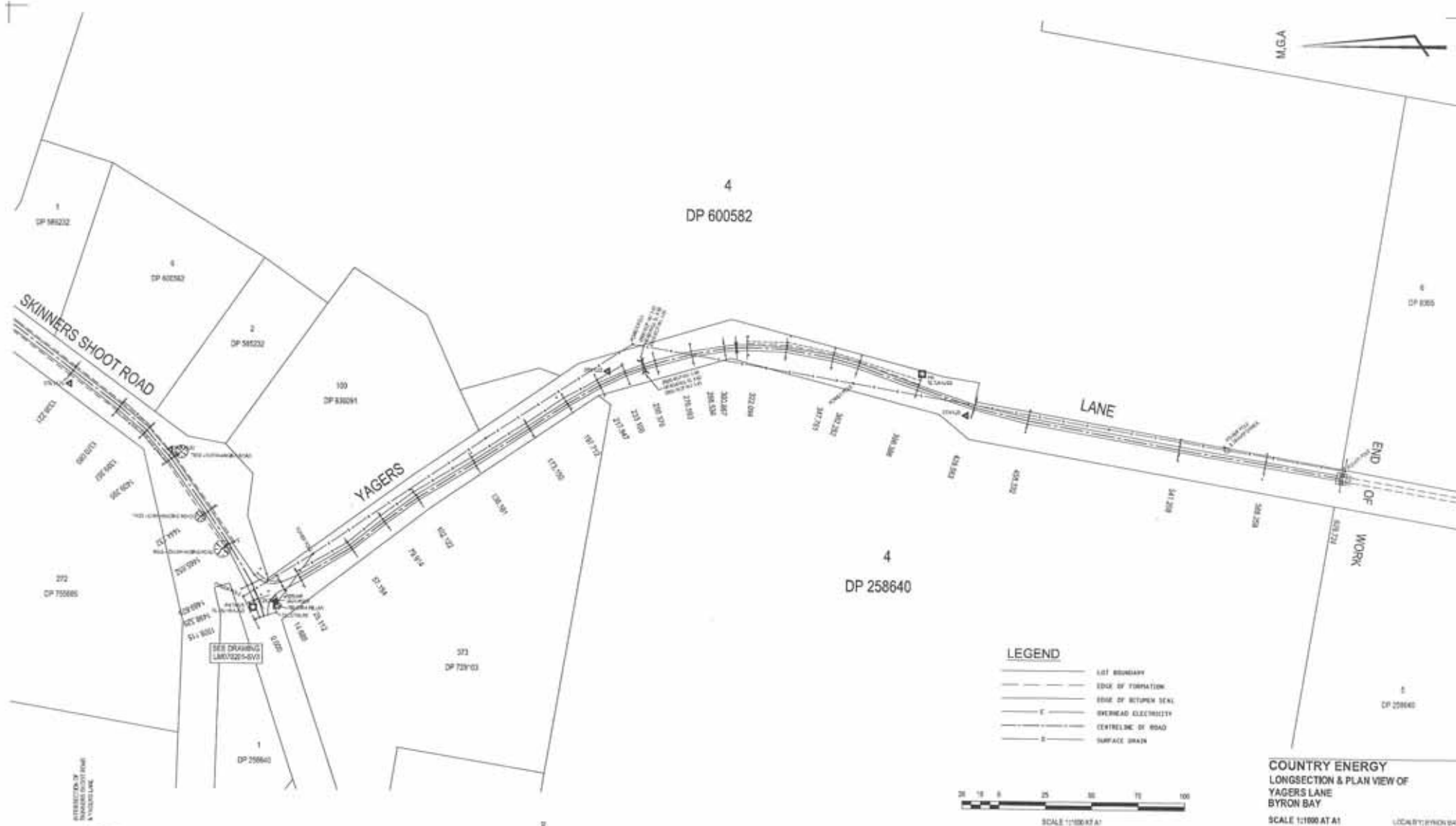
LandPartners Limited
 10/10/2016
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 10/10/2016

Surveyor: YP/GH
 Drawn: C.D.
 Date Surveyed: 17/09/2007
 Checked:

Drawn:
LM070201-SV2







LEGEND

- LOT BOUNDARY
- EDGE OF FORMATION
- EDGE OF BITUMEN SEAL
- OVERHEAD ELECTRICITY
- CENTRELINE OF ROAD
- SURFACE DRAIN



COUNTRY ENERGY LONGSECTION & PLAN VIEW OF YAGERS LANE BYRON BAY

SCALE 1:1000 AT A1
LOCALITY: BYRON BAY
DATUM: AHD
PROJECT: LM070201-SV6
DRAWN: R.L. 17/09/2007



LandPartners Limited
Incorporating
ASPECT north &
KFM Partnership

Surveyed: VP / GJM
Drawn: C.D.
Des. No.:
Des. Surveyed: 17/09/2007
Checked:

LM070201-SV6



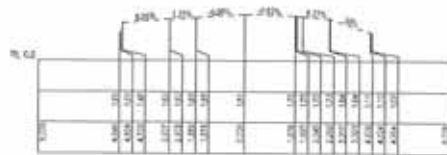
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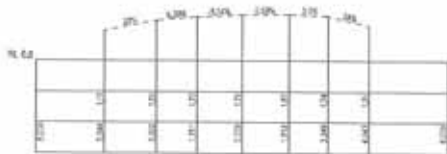
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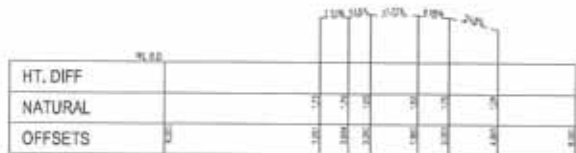
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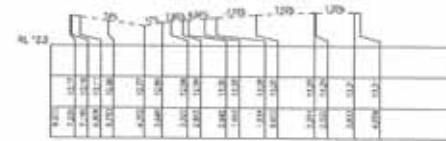
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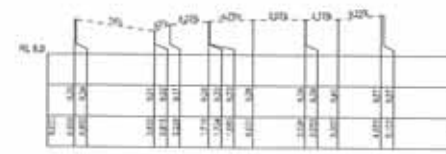
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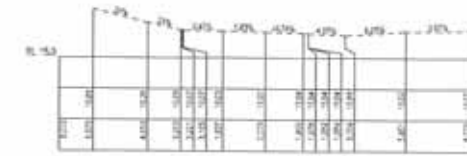
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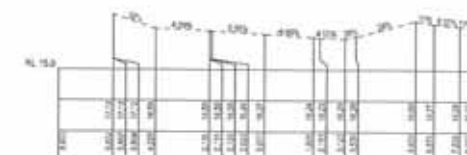
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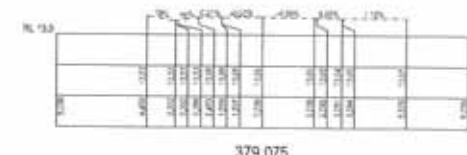
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NOTE:- FIRST OFFSET LEFT & RIGHT OF CENTRELINE INDICATES EDGE OF BITUMEN SEAL (TYPICAL).

COUNTRY ENERGY
CROSS SECTIONS (CHN 0.000-467.821)
SKINNERS SHOOT ROAD
BYRON BAY

AS SHOWN
DATE: 14/01/2010
PROJECT: RL 34.162

LEGEND: BYRON BAY
LGA: BYRON
CADD: LM070201-SV1
CADD: LM070201-SV1



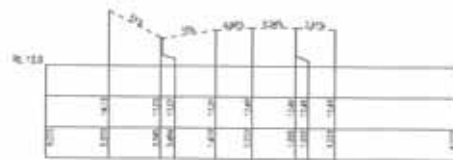
LandPartners Limited
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ASPECT north &
KFM Partnership

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Drawn: C.D.
Date Surveyed: 17/09/2007
Checked:

Dep. No.
LM070201-SV7

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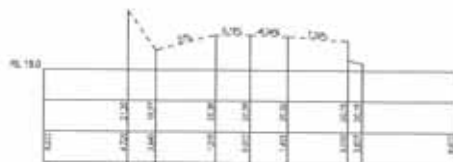
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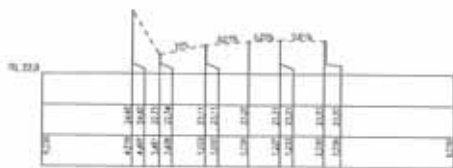
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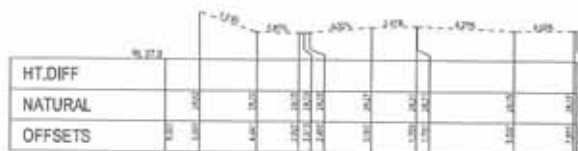
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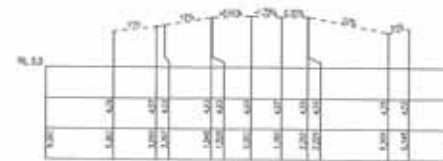
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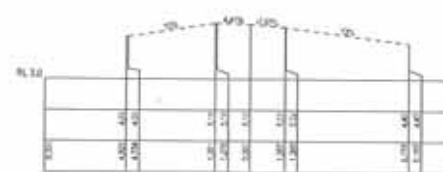
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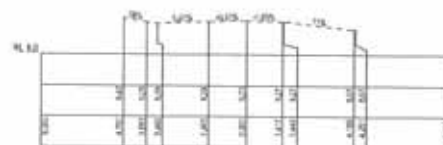
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250.370

NOTE: FIRST OFFSET LEFT & RIGHT OF CENTRELINE INDICATES EDGE OF BITUMEN SEAL (TYPICAL).

COUNTRY ENERGY
CROSS SECTIONS (CHN 0.000-288.536)
YAGERS LANE
BYRON BAY

AS SHOWN
DATE: 10/09/2007
PROJECT: 10072021-SV11
LOCATION: BYRON BAY
LGA: BYRON
CLIENT: 10072021-SV11
DRAWN: 10072021-SV11



LandPartners Limited
20 College Street, Suite 201, Byron Bay, NSW 2480, Australia
Phone: 02 6337 0900 Fax: 02 6337 0901
www.landpartners.com.au

Surveyed: Y.P./G.H. Date Surveyed: 17/09/2007
Drawn: C.D. Checked:

Proj. No.
LM070201-SV11

Scale: Horizontal 1:100 Vertical 1:100

CROSS SECTION - YAGERS LANE



CROSS SECTION - YAGERS LANE



Surveyor: VP/GJ Date Surveyed: 17/09/2007
Drawn: C.D. Checked:
Dep. No.
LM070201-SV12

NOTE:- FIRST OFFSET LEFT & RIGHT OF CENTRELINE
INDICATES EDGE OF BITUMEN SEAL (TYPICAL).



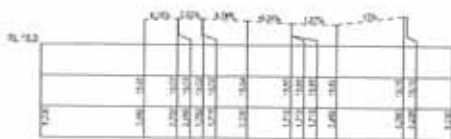
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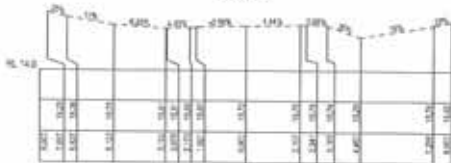
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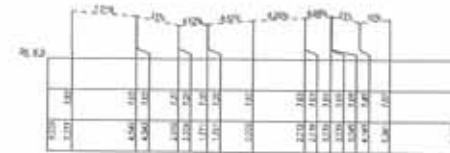
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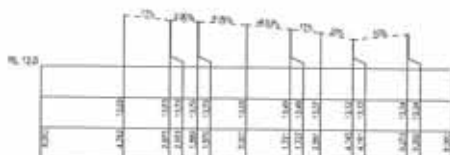
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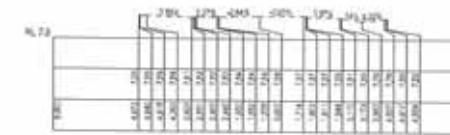
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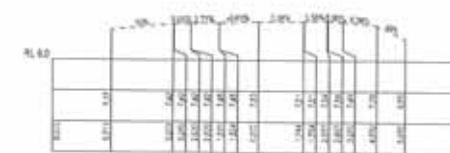
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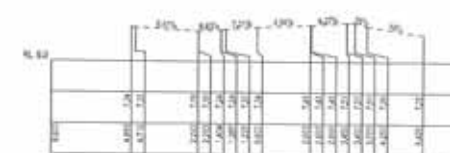
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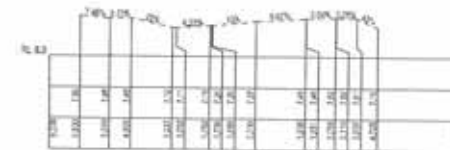
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821.287



800.429



788.204

Scale Horizontal 1:100 Vertical 1:100

CROSS SECTION - SKINNERS SHOOT ROAD

NOTE:- FIRST OFFSET LEFT & RIGHT OF CENTRELINE INDICATES EDGE OF BITUMEN SEAL (TYPICAL).

COUNTRY ENERGY
CROSS SECTIONS (CHN 498.003-848.456)
SKINNERS SHOOT ROAD
BYRON BAY

AS SHOWN
DRAUGHTSMAN
PROJECT NO. 10118
LOCALITY: BYRON BAY
LGA: BYRON
DRAWN: LANCELOT (LANCELOT)
CHECKED: LANCELOT (LANCELOT)



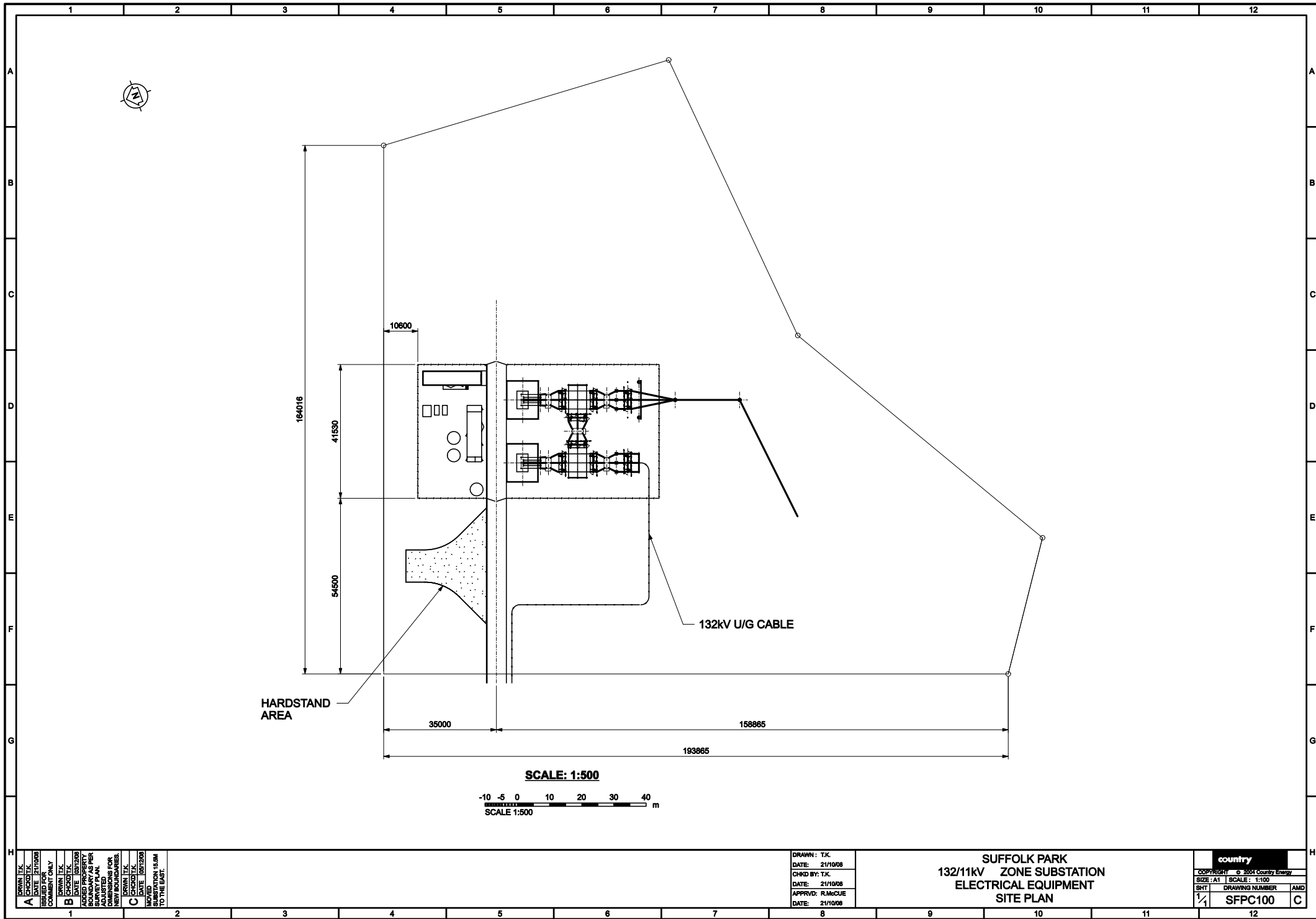
LandPartners Limited
111 St George Street, Sydney
NSW 2000, Australia
Phone: (02) 9237 1000, Fax: (02) 9237 1001
www.landpartners.com.au

Surveyed: V.P./G.H. Date Surveyed: 17/09/2007
Drawn: C.D. Checked:

Desig. No. LM070201-SV8

Appendix B

Substation general layout, building elevations

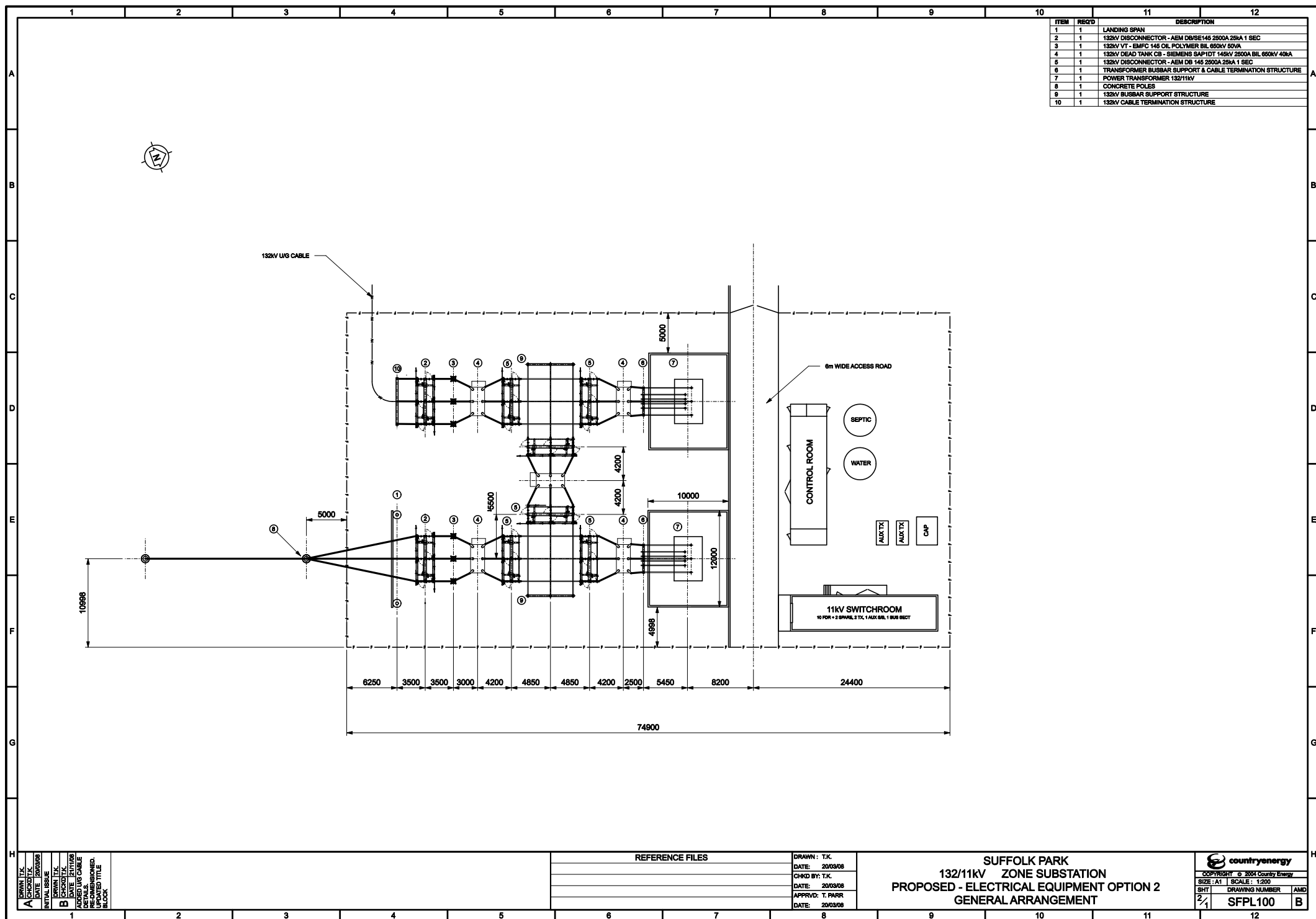


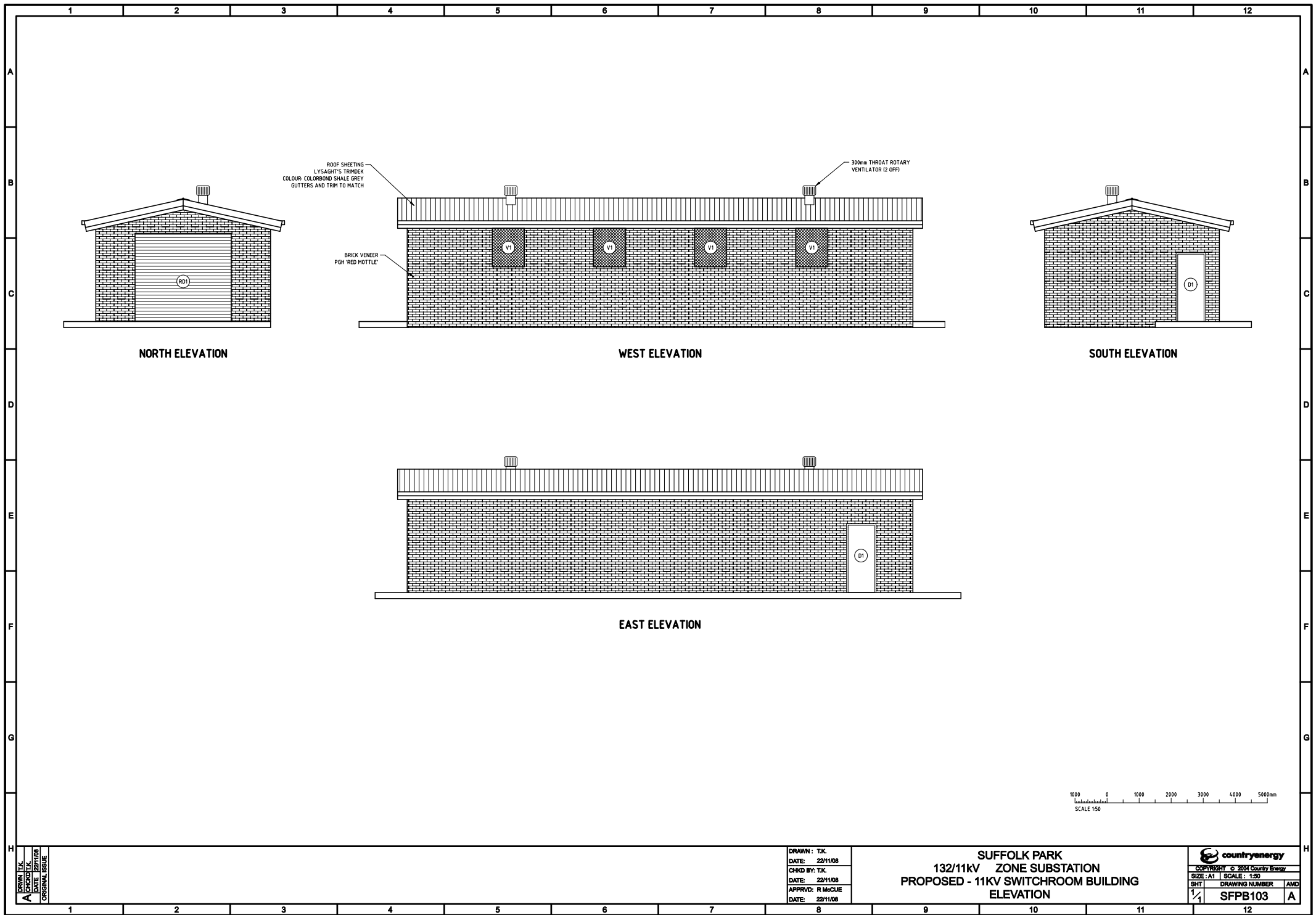
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CHECKED: T.K.	DATE: 21/10/08
DESIGNED: T.K.	DATE: 21/10/08
APPROVED: R.McCUE	DATE: 21/10/08
COMMENTS:	
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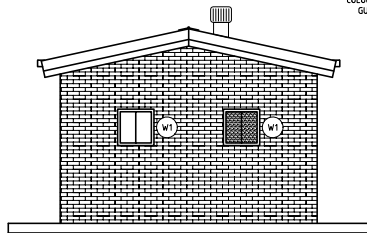
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CHECKED BY: T.K.	DATE: 21/10/08
APPROVED: R.McCUE	DATE: 21/10/08

SUFFOLK PARK
132/11kV ZONE SUBSTATION
ELECTRICAL EQUIPMENT
SITE PLAN

country	
SIZE: A1	SCALE: 1:100
SHT	DRAWING NUMBER
1/1	SFPC100
AMD	C



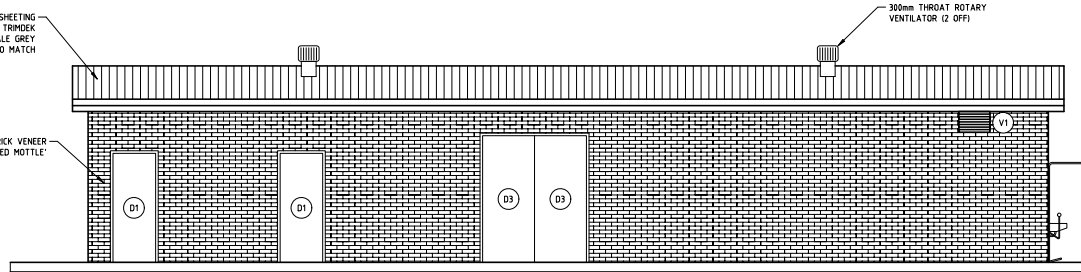




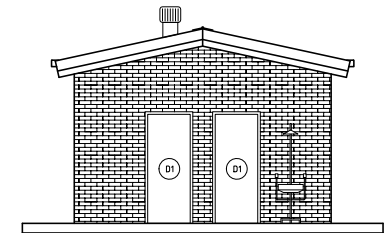
NORTH ELEVATION

ROOF SHEETING
LYSAGHT'S TRIMDEK
COLOUR: COLORBOND SHALE GREY
GUTTERS AND TRIM TO MATCH

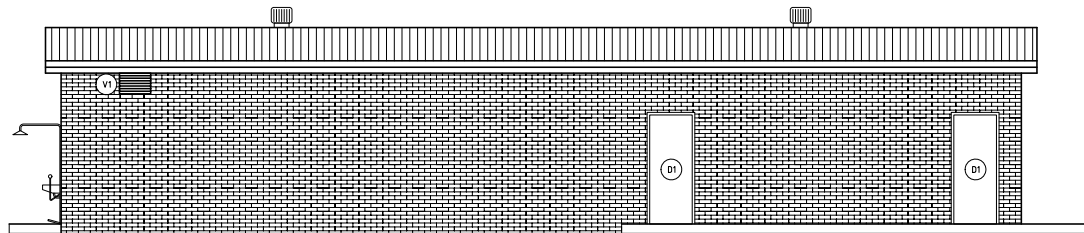
BRICK VENEER
PGH 'RED MOTTLE'



WEST ELEVATION



SOUTH ELEVATION



EAST ELEVATION

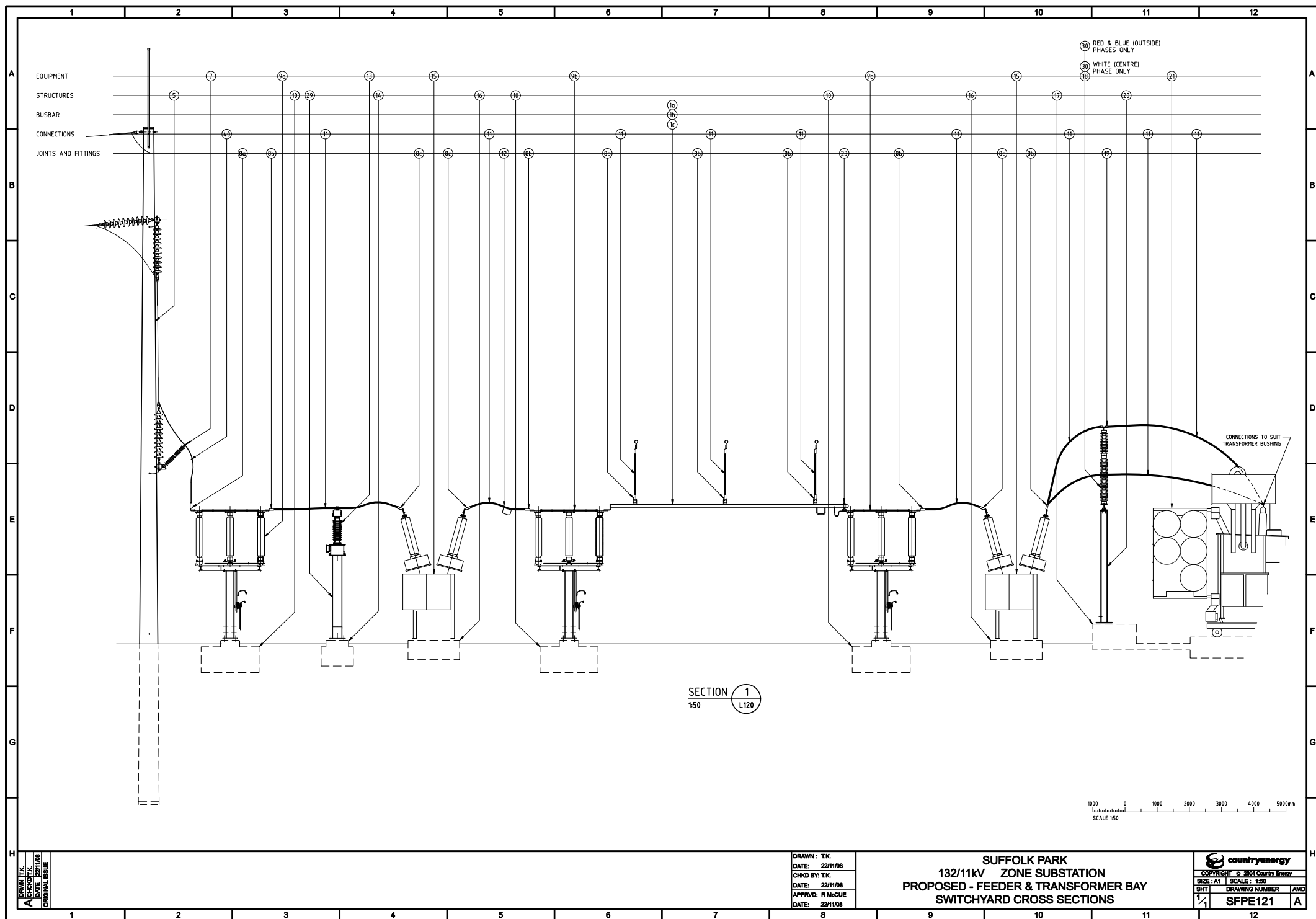
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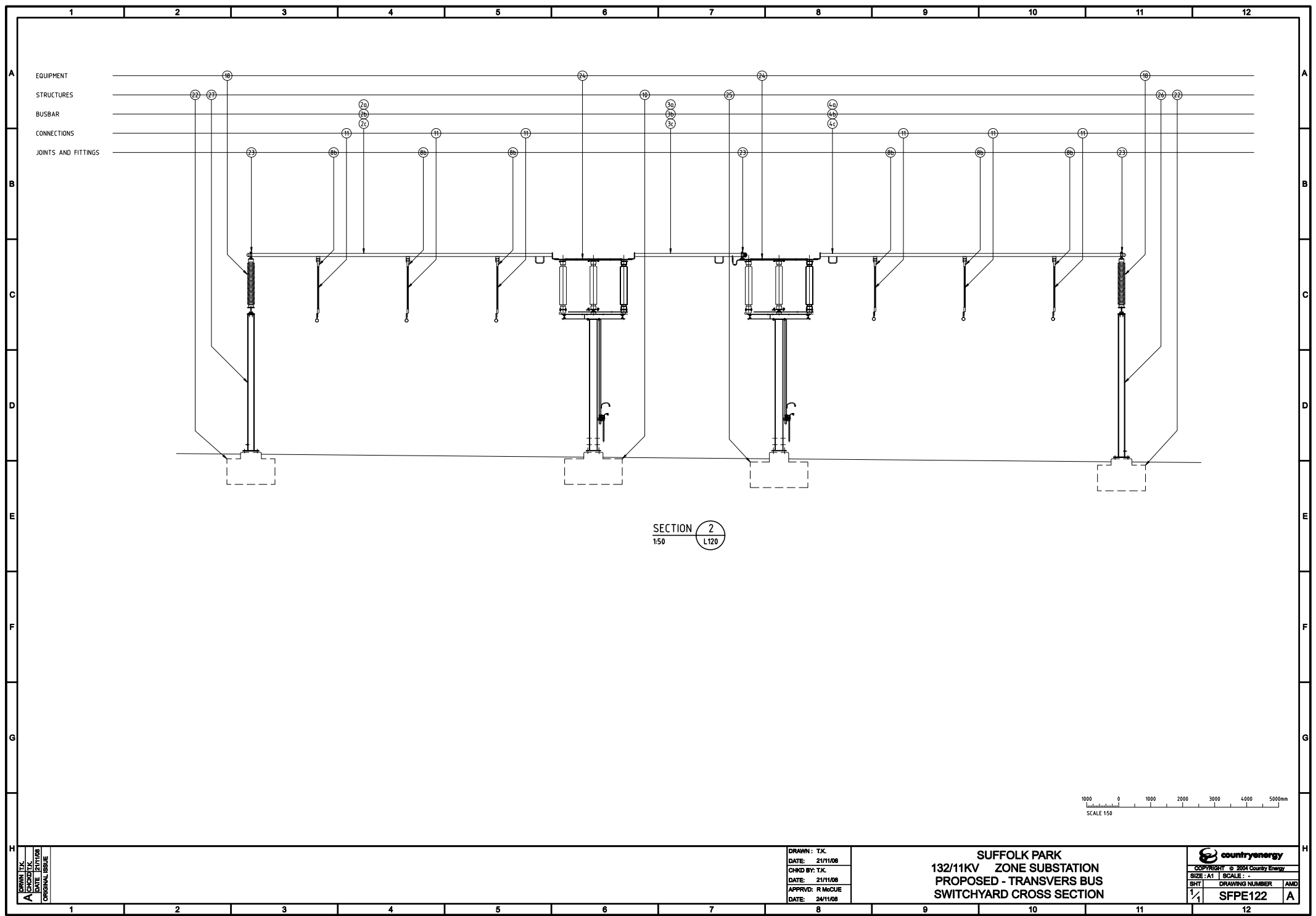
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ORIGINAL ISSUE

DRAWN: T.K.
DATE: 22/11/08
CHKD BY: T.K.
DATE: 22/11/08
APPRVD: R. McCUE
DATE: 22/11/08

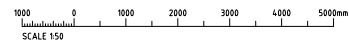
SUFFOLK PARK
132/11kV ZONE SUBSTATION
PROPOSED - CONTROL ROOM BUILDING
ELEVATIONS

countryenergy
COPYRIGHT © 2004 Country Energy
SIZE: A1 SCALE: 1:50
SHT 1/1 DRAWING NUMBER SFPB108 AMD A





SECTION 2
1:50



DRAWN: T.K. CHECKED: T.K. DATE: 21/11/08 ORIGINAL ISSUE	DRAWN: T.K.	
	DATE: 21/11/08	
	CHKD BY: T.K.	
	DATE: 21/11/08	
APPRVD: R McCUE		DATE: 24/11/08

SUFFOLK PARK
132/11KV ZONE SUBSTATION
PROPOSED - TRANSVERS BUS
SWITCHYARD CROSS SECTION

COPYRIGHT © 2004 Country Energy	
SIZE: A1	SCALE: -
SHT: 1/1	DRAWING NUMBER: SFPE122
AND	A

Appendix C

Concept Landscaping Plan

