STATE PLANNING COMMISSION

Agenda Report for Decision

Meeting Date: 28 April 2022

Item Name	Major Development – SA/NSW Interconnector
Presenters	Robert Kleeman and Laura Kerber
Purpose of Report	Decision
Item Number	5.2
Strategic Plan Reference	N/A
Work Plan Reference	N/A
Confidentiality	Not Confidential (Release Delayed), with papers to be released following final Development Authorisation being granted for the development
Related Decisions	• SPC Decision – Guidelines released, 20 November 2019 • SPC Briefing – Consultation Process, 22 July 2021 • SPC Briefing – Assessment Process, 25 November 2021 • SPC Briefing – Assessment Report and Recommendation to Minister, 9 December 2021

Recommendation

It is recommended that the State Planning Commission (the Commission) resolves to:

1. Approve the designation of this item as Not Confidential (Released Delayed), with papers to be released following final Development Authorisation being granted for the development.
2. Note the rigorous and comprehensive review of documentation supplied by the proponent as required under the Reserved Matters and conditions for the Bundey Substation component of the SA/NSW Interconnector Project, and the endorsement of approval of such reserved matters and conditions by the Technical Working Group (comprising key Commonwealth, State and local council representatives).
3. Approve the final Development Authorisation for Stages 1 and 2 of the Bundey Substation component of the SA/NSW Interconnector Project under section 115(2) of the *Planning, Development and Infrastructure Act 2016* (the PDI Act), and the Decision Notification Form under section 126 of the PDI Act (**Attachment 1**).
4. Authorise the Chair of the Commission to sign the Decision Notification Form at **Attachment 1**, subject to amendments as required to finalise.

5. For the remaining stages (including the balance of the Bundey Substation works and all the transmission line componentry) of the SA/NSW Interconnector Project, as provisionally approved by the former Minister for Planning and Local Government on 23 December 2021, agree to sub-delegate to the Executive Director, Planning and Land Use Services (PLUS), all powers and functions delegated to the Commission by the Minister for Planning (the Minister) under:

   (a) Section 115(2), 115(5), 115(6), 115(7) and 115(8) of the PDI Act in relation to:

   - determining the satisfaction of conditions
   - assessment and discharge of remaining reserved matters

   (b) Section 126 of the PDI Act in relation to the granting of final Development Authorisation.

Background

Key milestones

The proposal by ElectraNet to establish a high-voltage interconnector from Robertstown to the South Australian border (en route to Wagga Wagga in New South Wales via Buronga) was initially declared a Major Development by the former Minister for Planning on 24 June 2019. The following table summarises the key milestones associated with the proposal since that date:

Date	**Milestone**	**Commentary**
20 November 2019	Public Release of Guidelines	EIS-level of assessment set by the Commission
12 May to 25 June 2021	Public Consultation on EIS	Council, State Agency and four public submissions received
1 November 2021	Final Response Document	Received in response to EIS
9 December 2021	Final Assessment Report	Approved by Commission and transmitted to Minister, including recommendations and Reserved Matters
23 December 2021	Provisional Development Authorisation under section 48 of the *Development Act 1993*	Granted by the former Minister for Planning and Local Government

Legislative Provisions

The issue of a provisional development authorisation by the then Minister for Planning and Local Government was subject to a range of conditions and matters reserved for further assessment.

The Reserved Matters (Part B) of the Provisional Development authorisation require that a suite of detailed design maps, work schedule and management plans be prepared in consultation with relevant local councils and State Agencies.

In issuing the provisional authorisation, the former Minister for Planning also delegated all of the powers and functions under section 48 of the *Development Act 1993* (the Development Act) to the Commission to determine the satisfaction of conditions and reserve matters, and issue of the final development authorisation.

The Commission should note that, although the Development Act has now been repealed, regulation 11(3) of the *Planning, Development and Infrastructure (Transitional Provisions) Regulations 2017* (the Transitional Provisions) provides that the Development Act will continue to apply in relation to a declared major development (which has not been approved or determined under that Act, before the date the relevant Development Plan was repealed).

Discussion

The Project is being delivered as two work packages by separate parties under contract to ElectraNet, including:

1. Construction of the new Bundey Substation, located approximately 11km north of the existing Robertstown substation, by Consolidated Power Projects (CPP).
2. Construction of the transmission line and associated infrastructure, including temporary construction sites and an accommodation camp by Downer.

Since January 2022, PLUS has facilitated a rigorous and comprehensive review of documentation submitted by CPP and Downer as required by the Reserved Matters and conditions. A Technical Working Group (established since the assessment guidelines were confirmed) and comprising key State Agency representatives, the Commonwealth Department of Agriculture, Water and the Environment (DAWE), and the five local councils has met regularly to provide feedback on the various management plans.

As a result, the Technical Working Group has recommended the approval of the satisfaction of the reserved matters and conditions for the Bundey Substation component of the SA/NSW Interconnector project.

<u>Bundey Substation</u>

All Reserve Matters pertaining to the Bundey Substation component have been completed to the satisfaction of relevant State Agencies and the Regional Council of Goyder.

This was accomplished through the Technical Working Group, with State Agency members actively involved, comprising:

- Department of the Premier and Cabinet, Aboriginal Affairs and Reconciliation (AAR)
- South Australian Country Fire Service (CFS)
- Department for Infrastructure and Transport (DIT)
- Department for Environment and Water (DEW)
- Environment Protection Authority (EPA)
- Native Vegetation Council
- Landscape Boards South Australia.

The final plans and details for the Bundey substation works were supported following the above process.

The following key points are noted:

- The development is generally in accordance with the Environmental Impact Statement (EIS) and Assessment Report prepared for the Major Development, and comprises:
    - Installation of a temporary (18 month) above ground water supply augmented from an SA Water connection point in Pipeline Road, to be removed at completion of construction.

  - Bulk earthworks, footings and ducts, fencing and kerbing.
  - Access points from Powerline Road only (two during construction, one during operation).
  - Native vegetation clearance (under approval from Native Vegetation Council).
  - Temporary concrete batching plant (under licence from the EPA).
  - Substation construction.
  - Commissioning and energisation.

- A Cultural Heritage Management Plan, reviewed and endorsed by AAR, provides adequate management protocols to protect a heritage site during construction and operation phases. A Construction Activity Zone (CAZ) has been sited to provide separation from a culturally significant site located to the north-east of the substation. A section 23 authorisation pursuant to the *Aboriginal Heritage Act 1988* is not required.
- A comprehensive Construction Environmental Management Plan (CEMP), reviewed by the EPA, provides adequate management measures to minimise environmental and cultural harm, and mitigate interface impacts namely noise, dust and traffic movements.
- A Traffic Management Plan (TMP), reviewed by the Regional Council of Goyder and DIT, identifies heavy vehicle freight routes and expected traffic volumes during construction. The routes will be surveyed prior to construction, monitored, and rehabilitated back to agreed standards at the end of construction. During operation the substation will be unmanned therefore operational traffic will be limited to 1-2 maintenance visits per year by standard passenger vehicle.
- An Emergency Management Plan, reviewed by CFS, details response protocols for a range of scenarios. The document has been revised following comment from CFS to clarify evacuation procedures in event of a bush fire emergency.

Building Rules certification has been provided by Private Certifier, Luke Trento, for Stages 1 (mobilisation and site establishment) and Stage 2 (bulk earthworks and drainage), therefore a final Development Authorisation can be issued for these stages to enable works to commence.

Building Rules certification for subsequent stages will be submitted in due course which will enable at that juncture the issue of a final Development Authorisation for remaining Stages 3 to 5 (footings and foundation construction; primary plant construction; commissioning and energisation).

Supporting documentation submitted by the proponent is provided at **Appendices A** to **H**.

Transmission Line

Refinement of the detailed design plans and management documents for the transmission line componentry is continuing in consultation with the above agencies and councils. The documents are expected to be finalised in the coming weeks ready for consideration as to whether Reserved Matters have been properly completed. The following key points are noted:

- An updated Works Program has been provided which details the sequencing, time frames, and execution strategy for the construction phase. This includes the establishment, operation and rehabilitation/demobilisation of nine temporary laydown facilities and one accommodation camp near Morgan.
- Detailed CAZ plans have been provided which depict the placement of transmission infrastructure in relation to land ownership, natural features and key environmental constraints.

- AAR, DEW, EPA, CFS and Landscape Boards South Australia have provided detailed feedback to enable the environment, heritage and emergency related management plans to be finalised.
- Further refinement of the Threatened Species Management Plan is underway to finalise appropriate management actions to minimise bird strike and develop a post-construction monitoring program.
- The TMP has undergone significant revision to detail freight routes to the various construction laydown areas and the transmission line. The TMP details interaction with school bus routes, required road upgrades, and pavement monitoring and rehabilitation. DIT is providing specialised advice in this regard.
- Clarification has been sought on the design of the transmission line in proximity to a private airstrip at Sugarwood Station. The Reserved Matter requires the provision of a design solution that allows the ongoing use of the airstrip in accordance with Community Alliance SA (CASA) requirements.

Next steps

It is recommended that the Commission approves final Development Authorisation for Stage 1 (mobilisation and site establishment) and Stage 2 (bulk earthworks and drainage) of the Bundey Substation component of the SA/NSW Interconnector Major Development and authorises the Chair to sign the Decision Notification Form at **Attachment 1**. This will allow construction of the new Bundey Substation to commence.

It is noted that Stage 3 and 5 works (footings and foundation construction; primary plant construction; commissioning and energisation) will similarly be capable of being issued full Development Authorisation upon receipt of the Building Rules certification. For ease of administration, it is recommended that the Commission sub-delegates these functions to the Executive Director, PLUS, to enable its issue without needing to revert to the full Commission.

In addition, and noting the substantive work undertaken with the Technical Working Group and the Reginal Council of Goyder in relation to the transmission line and ancillary infrastructure components (with five separate meetings convened over the last two months), a more substantive standing sub-delegation is now sought to the Executive Director, PLUS.

This will enable the discharge of all remaining Reserved Matters and conditions, and the granting of final Development Authorisation for the overall project.

Attachments:

1. Decision Notification Form (#18390703).

Appendices:

A. Bundey Substation – Program Overview (#18519958).

B. Bundey Substation:

   i. Construction Environmental Management Plan (#18519964)

   ii. Erosion Sediment Control Plan (#18520225).

C. Bundey Substation – Cultural Heritage Management Plan (#18519967).

D. Bundey Substation – Emergency Management Plan (#18519970).

E. Bundey Substation – Traffic Management Plan (#18519976).

F. Bundey Substation – CAZ Plans (#18520313).

G. Bundey Substation – Technical Drawings (#18520185).

H. Bundey Substation – Certificate of Compliance from Trento Fuller (Building Certifiers and Consultants) for Stages 1 and 2 (#18546697).

Prepared by: Laura Kerber

Endorsed by: Simon Neldner and Robert Kleeman

Date: 21 April 2022

DECISION NOTIFICATION FORM

Section 126 of the *Planning, Development and Infrastructure Act 2016*

TO THE APPLICANT:

Name: ElectraNet Pty Ltd
Postal address: PO Box 7096 Hutt Street Post Office, ADELAIDE SA 5000
Email: Haynes.scott@electranet.com.au

IN REGARD TO:

Development application no.: 422/P003/19	Lodged on: 18 July 2019
Nature of proposed development: SA/NSW Interconnector (Project Energy Connect) – Bundey Substation - Satisfaction of Stage 1 -2 conditions	

LOCATION OF PROPOSED DEVELOPMENT:

Street address: Corridor extends from the existing Robertstown substation to the SA-NSW border.

DECISION:

Decision type	Decision	Decision date	No. of conditions	No. of reserved matters	Entity responsible for decision
Provision development authorisation	**GRANTED**	23 December 2021	19	10	Minister for Planning and Local Government
Bundey Substation Stages 1-2 Building consent	**GRANTED**	4 April 2022	N/A	N/A	Trento Fuller
Bundey Substation Stages 1-2 Development Authorisation	**GRANTED**	29 April 2022	21	N/A	Minister for Planning
Bundey Substation Stages 3-5, Transmission Line, Temporary facilities and Ancillary Infrastructure	STILL REQUIRED			10	Minister for Planning

FROM THE RELEVANT AUTHORITY: Minister for Planning
Date: 29 April 2022

CRAIG HOLDEN
CHAIR, STATE PLANNING COMMISSION
as delegate of the
MINISTER FOR PLANNING

PREAMBLE:

- On 21 June 2019 the Minister for Planning and Local Government made a declaration (the Declaration) under section 46 (1) of the *Development Act 1993* in relation to a proposed development for a high voltage transmission line with a capacity of up to 330 kilovolts, to be constructed between Robertstown in South Australia and the border with New South Wales (NSW) (190 kilometres). The Declaration was published in the Gazette on 27 June 2019 at page 2272.
- On 19 March 2020, the declaration was varied to remove reference to land division as one of the elements captured by the major development assessment process, to enable ElectraNet to proceed with purchasing land for the proposed Bundey substation in advance of any decision.
- The major development proposal was the subject of an Environmental Impact Statement (EIS) and an Assessment Report under sections 46 and 46C of the *Development Act 1993*.
- On 23 December 2021 the Minister for Planning and Local Government granted a provisional development authorisation under section 48 of the *Development Act 1993*. The authorisation was published in the Gazette on 6 January 2022 at page 2.
- All relevant documentation required by Reserved Matters 20 through 28 (Part B) of the provisional development authorisation in relation to Bundey Substation have been provided to the satisfaction of relevant State Agencies and local Council.
- Reserved Matters 20 through 28 (Part B) of the provisional development authorisation in relation to the transmission line, temporary facilities and ancillary infrastructure have been carried over to Reserved Matters 1 through 10 of this development authorisation.
- Reserved Matters 4 (Scope Operational Environmental Management Plan) and 8 (Native Vegetation Management, Rehabilitation and Monitoring Plan) have been amended to reflect that these documents relate to the construction phase of the transmission line. New conditions 15 and 16 require the preparation of a full OEMP and NVMR&MP relating to the operational phase of the transmission line.
- On 4 April 2022, Trento Fuller (Building Certifiers and Consultants) issued a Certificate of Compliance with the Building Rules for Stages 1 and 2 (mobilisation, site establishment, bulk earthworks and drainage) for the Bundey Substation development pursuant to section 118(8)(b) of the *Planning, Development and Infrastructure Act 2016.*
- On 29 April 2022, the delegate of the Minister for Planning granted a development authorisation for Stage 1and 2 works for the Bundey substation.

RESERVED MATTERS:

Pursuant to Section 115(6) of the *Planning, Development and Infrastructure Act 2016*, the following matters are reserved for further assessment and approval by the Minister for Planning:

Transmission Line Component Only

1. A Works Programme must identify the proposed stages of construction of the development.

2. A Stage Details Plan for each stage that is identified in the Works Programme as is approved must include:
   (a) final detailed designs for all transmission infrastructure, including detailed route plans, towers (and their location), details of any cut and fill, finishes and colours and access roads, including advice as to the design safety solution applicable to the existing airstrip located on Sugarwood Station consistent with applicable Civil Aviation Safety Authority (CASA) standards;
   (b) final detailed plans and designs for all substation infrastructure, including site plans, building floor plans, elevations, cross-sections, details of cut and fill; and
   (c) final detailed plans for all temporary construction component (i.e. laydown areas, works compounds, storage areas, helicopter landing areas etc.).

3. A CEMP must be prepared in consultation with the Environment Protection Authority; the Department for Environment and Water; the Department of Primary Industries and Regions South Australia; the Country Fire Service; the Murraylands and Riverland Landscape Board and relevant local councils. The CEMP must (at a minimum) identify the predicted impacts of the major development on the following matters, the measures that will be implemented to manage and monitor the predicted impacts on those matters, and the predicted effectiveness of the measures:
   (a) soil erosion and drainage;
   (b) groundwater;
   (c) flora and fauna;
   (d) weeds and pests;
   (e) air quality and greenhouse gas emissions;
   (f) noise and vibration;
   (g) traffic; and
   (h) local community impacts.

   The CEMP must include the following plans:
   (a) Traffic Management Plan including a Pavement Monitoring & Management Plan.
   (b) Emergency Response Plan.
   (c) Soil Erosion and Drainage Management Plan.
   (d) Air Quality Management Plan.

   The CEMP must be prepared taking into consideration, and with explicit reference to, relevant *Environment Protection Act 1993* policies and guidance documents, including but not limited to:
   - the Environment Protection (Air Quality) Policy 2016.
   - the Environment Protection (Noise) Policy 2007.

- the Environment Protection (Water Quality) Policy 2015.
- the Environment Protection (Waste to Resources) Policy 2010.
- the Environment Protection Authority Bunding and Spill Management Guideline 2016.
- Environment Protection Authority Handbooks for Pollution Avoidance.
- the Environment Protection Authority Stormwater Pollution Prevention Code of Practice for the Building and Construction Industry 1999.
- the Environment Protection Authority guideline 'Construction environmental management plan (CEMP) 2019'.
- any other relevant legislative requirements, Guidelines and Australian Standards.

4. A Scope OEMP must be prepared in consultation with the Department of Environment and Water; the Department of Primary Industries and Regions South Australia; the Country Fire Service; the Murraylands and Riverland Landscape Board and local Councils. The OEMP must (at a minimum) identify the predicted impacts of the major development on the following matters, the measures that will be implemented to manage and monitor the predicted impacts on those matters, and the predicted effectiveness of the measures:
   (a) soil erosion and drainage
   (b) flora and fauna
   (c) weeds and pests
   (d) air quality
   (e) noise and vibration
   (f) local community impacts

5. A Cultural Heritage Management Plan must be prepared in consultation with the Traditional Owner groups and the relevant Aboriginal heritage representatives, and must establish protocols to apply to the discovery of any Aboriginal sites, objects and/or remains during construction.

6. A Fire Hazard Management Plan must be prepared in consultation with the South Australian Country Fire Service.

7. A Waste Minimisation and Management Plan must be prepared in consultation with the Environment Protection Authority and relevant local council (to the extent relevant to their respective legislative authority).

8. A Native Vegetation Management, Rehabilitation and Monitoring Plan, relating to the construction phase of the development, must be prepared in consultation with the Department for Environment and Water and the Murraylands and Riverland Landscape Board. The Plan must address:
   (a) Vegetation clearance requirements of the Native Vegetation Council.
   (b) Vegetation clearance practices.
   (c) Restoration measures, such as site preparation, natural regeneration or direct seeding.
   (d) Protection and maintenance of remnant vegetation, including and the control of current / future degrading factors (especially erosion).
   (e) Pest plant and animal control.
   (f) Fire management.
   (g) Monitoring requirements.

9. A Threatened Species Management Plan, relating to both the construction phase and operational phase of the development, must be prepared in consultation with the Department for Environment and Water and the Murraylands and Riverland Landscape Board and the Australian Government Department of Agriculture, Water and the Environment. The Plan shall address the measures to be implemented to avoid, minimise and off-set impacts on each nationally threatened species that could be affected by the proposal (including consideration of any Recovery Plans that relate to each species). Species of State and Regional conservation significance (especially those listed under the *National Parks and Wildlife Act 1972*) must also be addressed in the Plan.

Transmission Line and Bundey Substation Components

10. Building Rules compliance must be assessed and certified for each stage of the development by an accredited professional (or by a person determined by the Minister) and a copy of all relevant certification documentation must be provided to the Minister.

CONDITIONS OF PLANNING CONSENT:

11. Except where minor amendments may be required by other legislation or by conditions imposed herein, the construction, operation, use and maintenance of the major development must be undertaken in accordance with the approved plans and details, drawings, designs and specifications:
   (a) set out in the application:
      (i) Project Energy Connect – Environmental Impact Statement – Main Report and Appendices – May 2021;
      (ii) Project Energy Connect – Environmental Impact Statement – Response Document – November 2021; and
   (b) set out in the final and approved documents listed in Attachment 1:
      (iii) Works Programme;
      (iv) Stage Details Plan for each stage identified in the Works Programme as is approved;
      (v) Construction Environment Management Plan (CEMP);
      (vi) Operational Environmental Management Plan (OEMP);
      (vii) Cultural Heritage Management Plan;
      (viii) Fire Hazard Management Plan;
      (ix) Waste Minimisation and Management Plan;

(x) Native Vegetation Management, Restoration and Monitoring Plan; and
(xi) Threatened Species Management Plan.

To the extent of any inconsistency, and subject to any contrary intention, a later document will prevail over an earlier one.

12. The major development, including all stages, must be substantially completed within five (5) years of the date of this authorisation, failing which an extension of time may be sought from the Minister for Planning and Local Government (the Minister) prior to the expiry of that period or the authorisation may be cancelled.

13. Should the major development not be substantially completed within five (5) years of the date of this authorisation, and no extension of time sought before such expiry and subsequently approved, the state and condition of the land and buildings must be reinstated, so far as is reasonably practicable, to the state and condition that the land and buildings were in immediately before the commencement of the major development.

14. Prior to the operation (energisation) of the transmission line a Native Vegetation Management, Rehabilitation and Monitoring (NVMR&M) Plan, relating to the operational phase of the development, must be prepared in consultation with the Department for Environment and Water and the Murraylands and Riverland Landscape Board, to the satisfaction of the Minister for Planning and Local Government.

    The NVMR&M Plan must include details on the management of both retained native vegetation within the transmission line corridor, areas restored after the completion of construction, and disturbance of native vegetation during operational / maintenance activities. The Plan must address:
    (h) Vegetation clearance requirements of the Native Vegetation Council.
    (i) Vegetation clearance practices.
    (j) Restoration measures, such as site preparation, natural regeneration or direct seeding.
    (k) Protection and maintenance of remnant vegetation, including and the control of current / future degrading factors (especially erosion).
    (l) Vegetation maintenance during operation, especially to maintain access, safety clearance zones under conductors and asset protection zones.
    (m) Pest plant and animal control.
    (n) Fire management.
    (o) Monitoring requirements.

15. Prior to the operation (energisation) of the transmission line a detailed OEMP must be prepared in consultation with the Department of Environment and Water; the Department of Primary Industries and Regions South Australia; the Country Fire Service; the Murraylands and Riverland Landscape Board and local Councils, to the satisfaction of the Minister for Planning and Local Government.

    The OEMP must (at a minimum) identify the predicted impacts of the major development on the following matters, the measures that will be implemented to manage and monitor the predicted impacts on those matters, and the predicted effectiveness of the measures:
    (g) soil erosion and drainage
    (h) flora and fauna
    (i) weeds and pests
    (j) air quality
    (k) noise and vibration
    (l) local community impacts

16. No building works on any part of the site of the major development (the site) may commence until a favourable decision has been notified to the proponent by the Minister in respect of the reserved matters (PART B) and until a development authorisation under section 48(2) of the Development Act 1993 and/or section 115(2) of the Planning, Development and Infrastructure Act 2016 is granted for the relevant stage as is approved in the Works Programme.

17. The implementation of the CEMP must be continuously monitored and reviewed every six (6) months to ensure compliance with the measures to manage and monitor relevant impacts and effectiveness of those measures and updated (with approval of the Minister) as necessary. Each review must be made publicly available and a copy provided to the Minister until all construction stages are complete.

18. The implementation of the OEMP must be continuously monitored and reviewed at regular intervals (being at least every 6 months for the first 2 years of operation) to ensure compliance with the measures to manage and monitor relevant impacts and effectiveness of those measures and updated (with approval of the Minister) as necessary. Each review must be made publicly available and a copy provided to the Minister.

19. Council, utility or state agency maintained infrastructure that is demolished, altered, removed or damaged without lawful authority in the implementation of the major development must be reinstated to Council, utility or state agency specifications as applicable. All costs associated with these works must be met by the proponent.

20. All road infrastructure upgrades must be completed to the standard required to enable use of the identified vehicle type (as specified in the Traffic Management Plan), to the satisfaction of the relevant road authority.

21. All road infrastructure upgrades, unless otherwise identified, are to be funded by the proponent.

22. The proponent must ensure that the design, construction and operation of the development complies with the applicable electric and magnetic fields (EMF) limits in the *International Commission on Non-Ionizing Radiation Protection (ICNIRP) Guidelines for limiting exposure to time-varying electric and magnetic fields (1Hz – 100kHz) (ICNIRP, 2010).*

23. Should the proponent or any subsequent owner or operator of the relevant network intend that the operation of the relevant network or portion of it will cease, the Minister must be advised as soon is reasonably practicable, and a Decommissioning and Rehabilitation Plan (DRP) must be prepared in consultation with the relevant Government agencies and local councils, and must be submitted to the reasonable satisfaction of the Minister.

    The DRP must be prepared nine (9) months prior to the time that the operation (or relevant portion of it) is scheduled to cease, and include information related to:

    (a) identifying assets to be rehabilitated, remediated, decommissioned and/or removed, along with those that are proposed to be retained and the proposed tenure and management arrangements;
    (b) confirming responsibility for costs associated with rehabilitation, remediating, decommissioning and/or removing and retaining assets;
    (c) handover arrangements for useable assets;
    (d) responsibility for future management and maintenance of useable assets; and
    (e) measures, if required, to remove fuel and chemical storage and wastewater treatment facilities in accordance with relevant legislation and standards.

24. Decommissioning of the development and rehabilitation of the site must be undertaken in accordance with the approved DRP.

25. All external lighting, including for car parking areas and buildings at the Bundey Substation Site (being the land located at the corner of Powerline and Sutherlands Road, Bundey as comprised in Certificate of Title Volume 6257 Folio 867) ("the Bundey Substation Site") must be designed and constructed to conform with *Australian/New Zealand Standard AS/NZS 4282:2019 – Control of Obtrusive Effects of Outdoor Lighting* and must be located, directed and shielded, and of such limited intensity, as far as reasonably practicable, that no unreasonable nuisance is caused to any person beyond the boundary of the site.

26. All vehicle car parks, driveways and vehicle entry and manoeuvring areas at or providing access to and from the Bundey Substation Site must be designed and constructed in accordance with the relevant Australian Standards and appropriately line marked, and must be constructed, drained and paved with bitumen, concrete or paving bricks (or other such material as agreed to by the Minister for Planning and Local Government), in accordance with sound engineering practice.

27. All loading and unloading, parking and manoeuvring areas at or providing access to and from the Bundey Substation Site must be designed and constructed to ensure that all vehicles can safely traffic the site and enter and exit the subject land in a forward direction.

28. All stormwater design and construction at the Bundey Substation Site must be in accordance with Australian Standards and recognised engineering best practice to ensure that stormwater does not adversely affect any adjoining property or public road.

29. All liquids or chemical substances that are to be stored at the Bundey Substation Site and that have the ability to cause environmental harm must be located within a bunded compound that has a capacity of at least 120% of the volume of the largest container, in accordance with the EPA 'Bunding and Spill Management Guidelines' (2016).

30. Unless otherwise specifically provided for in these conditions or otherwise agreed to in writing with the Minister, all costs necessary for compliance with these conditions must be met solely by the proponent.

ADVISORY NOTES:

a. The proponent is advised that all conditions must be met including monitoring, mitigation and reporting requirements as detailed in relevant management plans. Failure to comply with a condition is a breach of the *Development Act 1993* or the *Planning, Development and Infrastructure Act 2016* (as applicable), under which this authorisation is given.

b. An accredited professional undertaking Building Rules assessments for each stage must ensure that the assessment and certification for any stage is consistent with this provisional development authorisation and the approved Works Programme (including any conditions or advisory notes that apply in relation to this provisional development authorisation).

c. Construction of each stage of the development may commence only after a Building Rules assessment and certification has been undertaken in relation to that stage and has been issued by an accredited professional undertaking Building Rules assessments, and the Minister for has received a copy of the relevant certification documentation.

d. In accordance with the *National Heavy Vehicle Law (South Australia) Act 2013*, the proponent must apply to the National Heavy Vehicle regulator to obtain permits for use of Restricted Access Vehicles and/or High Productivity Vehicles on public roads, where access for such vehicle is currently not available. This might include such things as construction equipment and vehicles carrying large indivisible construction materials. This might also include access for vehicles such as Road Trains or Performance Based Standards (PBS) vehicles to transport commodities.

e. Prior to the use of any High Productivity Vehicles, the Department for Infrastructure and Transport requires that any additional road infrastructure upgrades required to facilitate this use must be completed to the satisfaction of the relevant road authority.

f. An important initial step, as outlined in the Heavy Vehicle Access Framework, is to have an assessment of the route undertaken by an Authorised Route Assessor, at the proponent's cost. This process will identify any upgrades required to make the route safe and suitable for the type of vehicle access requested. As part of the approval/s, the proponent will be required to prepare a list of final transport infrastructure improvement needs upon completion of a full route assessment. If this is necessary, the list should identify the scope, timing and estimated cost of the required improvements.

g. The proponent is reminded of its obligations under the *Aboriginal Heritage Act 1988* that excavation, damage, disturbance of, or interference with, any Aboriginal site, object or ancestral remains is unlawful without ministerial authorisation under sections 21 and 23 of the Act.

h. The proponent, and all agents, employees and contractors, such as construction crew, are reminded of requirements under the *Aboriginal Heritage Act 1988*, particularly the requirement to immediately contact the Department of Aboriginal Affairs and Reconciliation in the event that archaeological items (especially skeletal material) are uncovered during earthmoving.

i. The proponent is reminded of requirements under the *Native Title Act 1993* particularly those requiring consultation with appropriate representatives of any relevant Aboriginal Groups in relation to any known sites of significance in the area and any Native Title Claims over the sea bed and subjacent lands.

j. The proponent is reminded of requirements under the *Native Vegetation Act 1991* and the *Native Vegetation Regulations 2017* particularly where native vegetation clearance must be undertaken in accordance with a management plan that has been approved by the Native Vegetation Council that results in a significant environmental benefit on the property where the development is being undertaken, or a payment is made into the Native Vegetation Fund of an amount considered by the Native Vegetation Council to be sufficient to achieve a significant environmental benefit in the manner contemplated by section 21(6) of the *Native Vegetation Act 1991*, prior to any clearance occurring.

k. The proponent is reminded of requirements under the *National Parks and Wildlife Act 1972*, particularly as permits are required for the 'taking of protected animals', such for the capture and relocation of animals during construction and the destruction or relocation of animals during operation.

l. The proponent is reminded of requirements under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* not to undertake any activity that could have a significant effect on any matter of National Environmental Significance without the approval of the Commonwealth Minister for Environment.

m. Should the proponent wish to vary the major development or any portion of it, an application to the Minister must be submitted, provided that the development application variation remains within the ambit of the Environmental Impact Statement and Assessment Report referred to in this development authorisation. If an application variation involves substantial changes to the proposal, pursuant to section 47 of the *Development Act 1993* or section 114 of the *Planning, Development and Infrastructure Act 2016* (as applicable), the proponent may be required to prepare an amended Environmental Impact Statement for public inspection and purchase. An amended Assessment Report may also be required to assess any new issues not covered by the original Assessment Report and the decision made pursuant to section 48 of the *Development Act 1993* or section 115 of the *Planning, Development and Infrastructure Act 2016* (as applicable).

n. The Minister has a specific power to require testing, monitoring and auditing under section 48C of the *Development Act 1993* or section 117 of the *Planning, Development and Infrastructure Act 2016* (as applicable).

INFORMATION TO BE INCLUDED ON DECISION TO GRANT DEVELOPMENT APPROVAL PURSUANT TO SECTION 99(4) OF THE ACT

CONTACT DETAILS OF CONSENT AUTHORITIES:

Name: Minister for Planning	Type of consent: Provisional Development Authorisation
Postal Address: GPO Box 1815, ADELAIDE SA 5001	
Telephone: 08 7109 7060	Email: scapadmin@sa.gov.au

ATTACHMENT 1: FINAL APPROVED DOCUMENTATION

BUNDEY SUBSTATION

Documents

Name	Ref	Rev	Date	Author
Construction Environmental Management Plan	11135	I	22/03/2022	Consolidated Power Projects (CPP)
Cultural Heritage Management Plan	11135-3B	4.0	18/01/2022	Consolidated Power Projects
Emergency Management plan	11135-3B	3.0	22/03/2022	Consolidated Power Projects
WSHE Emergency Requirements Assessment	FRM-S142	V1.0	June 2019	Consolidated Power Projects
Erosion & Sediment Control Plan	14171-CPP-HSE-PLN-0212_A	V1.0	Mar 2019	Consolidated Power Projects
Traffic Management Plan	11135	F	22/03/2022	Consolidated Power Projects
Program of Work Overview	11135-B	1.0	17/01/2022	Consolidated Power Projects
Bundey Substation Project Program	11135-B		18/01/2022	Consolidated Power Projects

Drawings

Name	Ref	Rev	Date	Author
Bundey 330/275kV Substation - CAZ Map - Site	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map – Site Image	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map – Cultural Heritage	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map – Cultural Heritage Image	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map – Office Compound	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map – Overall Compound	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map - Substation	-	-	22/03/2022	CPP and ElectraNet
Bundey 330/275kV Substation - CAZ Map – Pipe Construction Supply (4 sheets)	-	-	18/03/2022	CPP and ElectraNet
Substation Ultimate Layout (1 sheet)	310_607_601_001	A	11/2021	ElectraNet
Mains Water Reticulation Construction Water Supply (1 sheet)	310_607_606_012	A	01/2022	ElectraNet
Equipment 330kV Area (16 sheets)	310_607_621_001 to 310_607_621_101	A	11/2021	ElectraNet
Equipment 275kV Area (14 sheets)	310_607_622_001 to 310_607_622_101	A	12/2021	ElectraNet
Equipment 33kV Area (3 sheets)	310_607_625_001 to 310_607_625_101	A	12/2021	ElectraNet
Earthworks Paving & Fencing (14 sheets)	310_607_790_052 to 310_607_790_105	A	26/11/2021	ElectraNet, CPP & WGA
Floor Level Plan	310_607_795_051	A	26/11/2021	CPP & WGA
Earthworks Paving & Fences – Bundey Substation – Erosion and Sediment Control – Sheet 2 During Construction	310 607/790-092	C	11/03/2022	CPP & WGA
Earthworks Paving & Fences – Bundey Substation – Erosion and Sediment Control – Sheet 2 Post Construction	310 607/790-093	B	11/03/2022	CPP & WGA

Project Energy Connect

Bundey Substation Development

Program of Work Overview

CPP Reference: 11135-B

Consolidated Power Projects Australia Pty Ltd in Australia is certified to the latest version of ISO9001, ISO14001, AS/NZS4801 and OHSAS 18001. CPP is also accredited to OHS Accreditation Scheme via the Office of the Federal Safety Commission since November 2018

Current Revision			
Revision: 1.0		**Date of Issue: 17/01/2022**	
Task	**Name/Position**	**Date**	**Signature**
Prepared By:	Steve Cheesman – Project Manager	**17/01/2022**	Cheesman, Steve 2022-01-17 18:37:01
Reviewed By:	Chris Hooper – Program Manager	**17/01/2022**	Digitally signed by Hooper, Chris DN: DC=local, DC=quantaservices, OU=Quanta International, OU=Australia, OU=CPP, OU=Users, OU=South Australia, CN="Hooper, Chris" Reason: I am the author of this document Location: your signing location here Date: 2022-01-18 08:18:33 Foxit Reader Version: 10.0.0
Approved By	Duncan Howie – Regional Manager	**17/01/2022**	Howie, Duncan 2022-01-18 05:52:33

Revision History

Rev.	Reason for Revision	Date	Prepared	Reviewed	Approved
1	Initial Release	17/01/2022	SC	CH	DH

TABLE OF CONTENTS

1 PROJECT OVERVIEW

The Bundey Substation (also referred to as Project Energy Connect) ia s 330 kV / 275 kV greenfield substation development which will provide a High Voltage interface connection between NSW and SA. This integral piece of infrastructure will deliver an increase in the reliability and flexibility of the national electricity transmission network, whilst enabling a gateway for increased renewable energy sources.

The Bundey Substation is a key element for Project Energy Connect, with the broad scope of work associated with this key infrastructure project being outlined below:

1.1 Scope of Work – Bundey Substation Development

The Bundey Substation is located approximately 155 kM North East of Adelaide, South Australia, and is a greenfield project development site. The profile of the project is considerable, with both State and Federal Government agencies having a vested interest in the construction program and completion date.

A summary of the project scope of work is outlined below:

(a) Civil, Primary and Secondary Systems Engineering and Design

(b) Site Safety, Environmental, Quality and Cultural Heritage Management

(c) Stage 1: Mobilisation and Site Establishment

(d) Stage 2: Site Bulk Earthworks, Drainage and Access Road provisions

(e) Stage 3: Substation Footings & Foundation Construction

(f) Stage 4: 275 kV and 330 kV Substation Primary Plant and Structure Construction

(g) Stage 5: 275 kV / 330 kV Substation Energisation

(h) Rehabilitation and Demobilisation from Site

1.2 Site Location

Site Location: Approximately 155kM North East of Adelaide, South Australia

(Google Map Reference 33.928296; 139.221160)

Nearest Townships: Morgan (50kM); Burra (54kM); Kapunda (66kM); Clare (75kM)

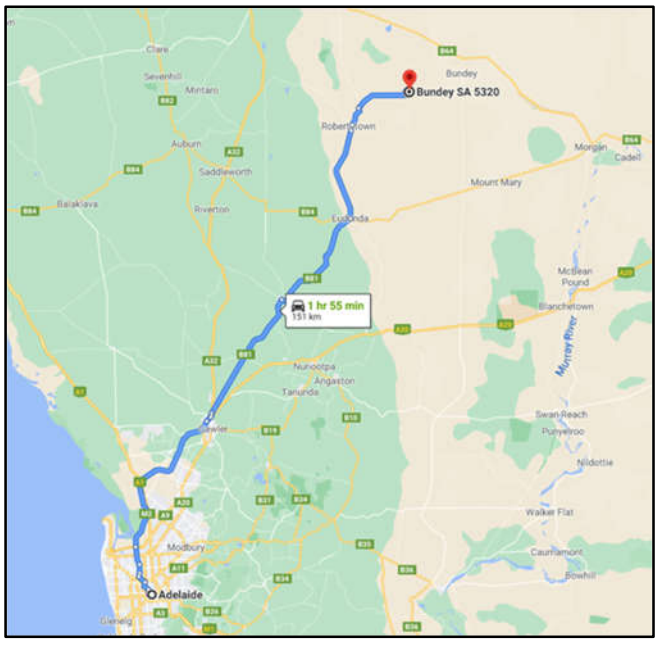


Figure 1-1 - Site Location

1.3 Overarching Program of Work & Key Milestones

Description:	Milestone / Window	Comment
Mobilisation to Site (Target)	4th April 2022	Key Project Milestone
Stage 1: Site Establishment	04/04 – 09/06/22	-
Stage 1: Site Establishment Complete	9th June 2022	Key Milestone
Stage 2: Bulk Earthworks & Drainage Construction	16/05 – 27/10/2022	-
Stage 2: Bulk Earthworks & Drainage Complete	27th October 2022	Key Milestone
Stage 3: Substation Footings & Ducts Construction	19/09/22 – 20/04/23	-
Stage 3: Substation Footings & Ducts Complete	20th April 2023	Key Milestone
Stage 4: Substation Primary Plant Construction	17/10/22 – 30/06/23	-
Stage 4: Substation Primary Plant Construction Complete	30th June 2023	Key Milestone
Stage 5: Substation Commissioning & Energisation	08/05 – 11/08/23	-
Stage 5: Substation Energisation Complete	11th August 2023	Key Milestone
Bundey Substation Outages (Network Integration)	12/08 – 01/09/23	-
Energisation of Bundey Substation	1st September 2023	Key Project Milestone
Robertstown & Tungkillo Outages (Network Integration)	01/09 – 30/09/23	-
Energisation of Robertstown & Tungkillo Substations	30th September 2023	Key Project Milestone

2 OVERARCHING EXECUTION STRATEGY

The execution of the Bundey Substation will be undertaken in five distinct stages, as outlined below:

Figure 2-1 - Design & Engineering Program Overview

3 STAGE 1: MOBILISATION & SITE ESTABLISHMENT

3.1 Initial Mobilisation Overview:

Mobilisation to site will occur in early April 2022, with the intent of establishing the Construction Activity Zone, and site utilities such as water, power, and internet services.

The following key elements associated with Mobilisation and Site Establishment are outlined below, please also see CAZ Map drawings provided for further detail:

- Site Survey, establish site boundaries and areas of Cultural Heritage Significance
- Welcoming Ceremony with Murray Lands First People
- Install temporary site office, establish site water connection and civil water infrastructure
- Clear Vegetation and establish Construction Activity Zone (CAZ) area
- Establish laydown areas, waste management, storm water and sediment control (as per CEMP)
- Implement Traffic Management & signage (as per TMP)
- Install underground water and power services to Site Office Area
- Establish Site Internet Connection
- Implement Site Signage, Notice Boards & Emergency Management protocols and procedures

3.2 Site Water Supply & Storage

A temporary Dia 160 mm above ground polymer pipeline is proposed from a SA Water connection point (corner Pipeline and Sutherlands Road) to the Bundey Substation, with installation proposed for the western side of Sutherlands Road. To accommodate road crossings and property access locations, underground installation will be implemented (see drawing 310 607/606-012 for further detail).

The site water pipeline is intended to be a temporary installation only (April 2022 – September 2023), which will be removed together with rehabilitation of the land at the completion of the project. Approvals of this temporary pipeline will be incorporated into the Development Consent Compliance Submission for the Bundey Substation Project with the Attorney Generals Department of South Australia.

An overview of the proposed temporary pipeline is outlined below:

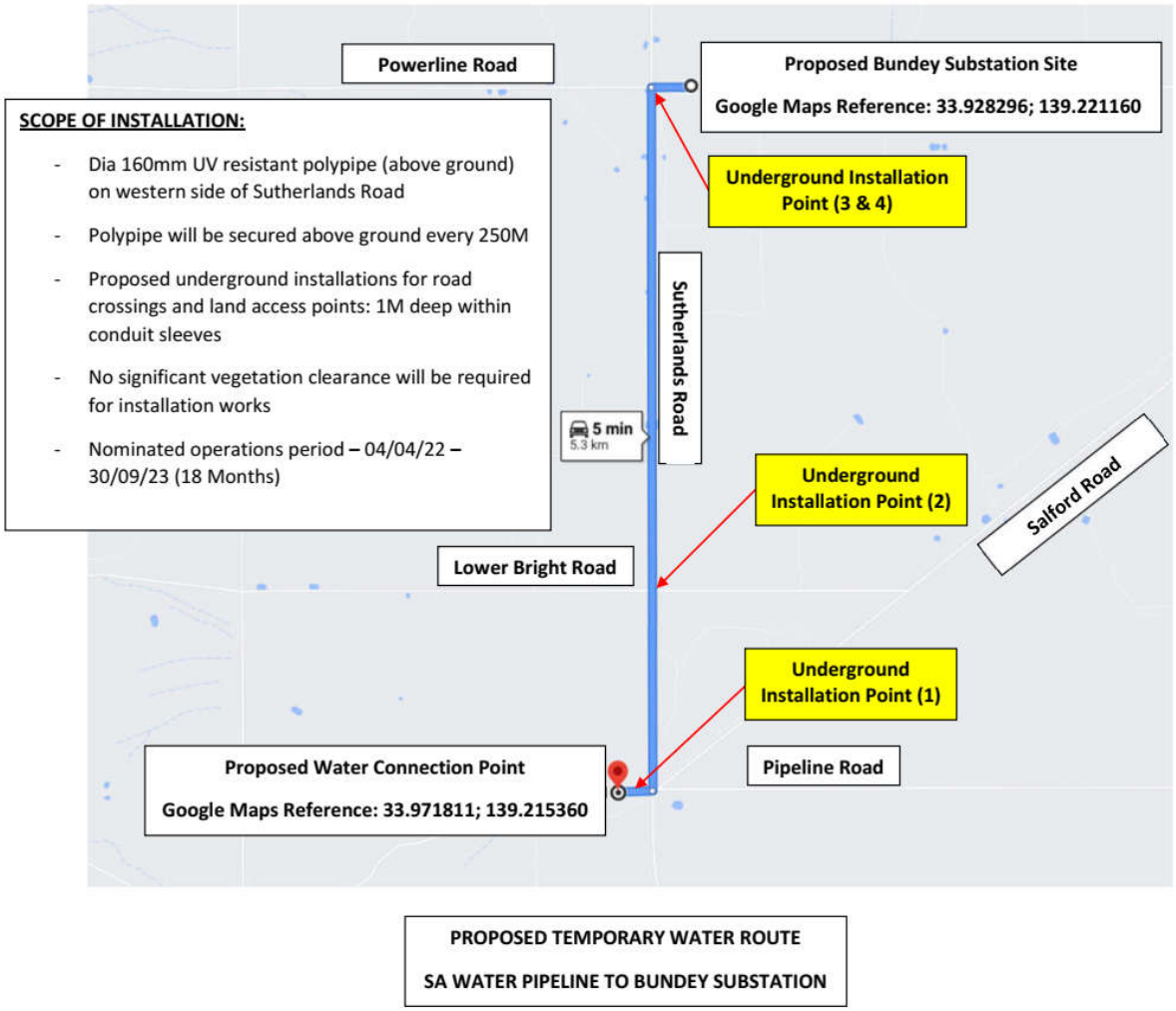


Figure 3-1 – Temporary Pipeline Route

3.3 Mobilisation and Site Establishment Timeline:

Item	Package of Work	Duration	Working Window
1	Mobilisation to Site	Milestone	04/04/2022
2	Initial Site Establishment (CAZ Area)	10 Weeks	04/04 – 09/06/22
3	Site Establishment Complete	Milestone	09/06/2022

3.4 CONSTRUCTION ACTIVITY ZONE – OVERVIEW

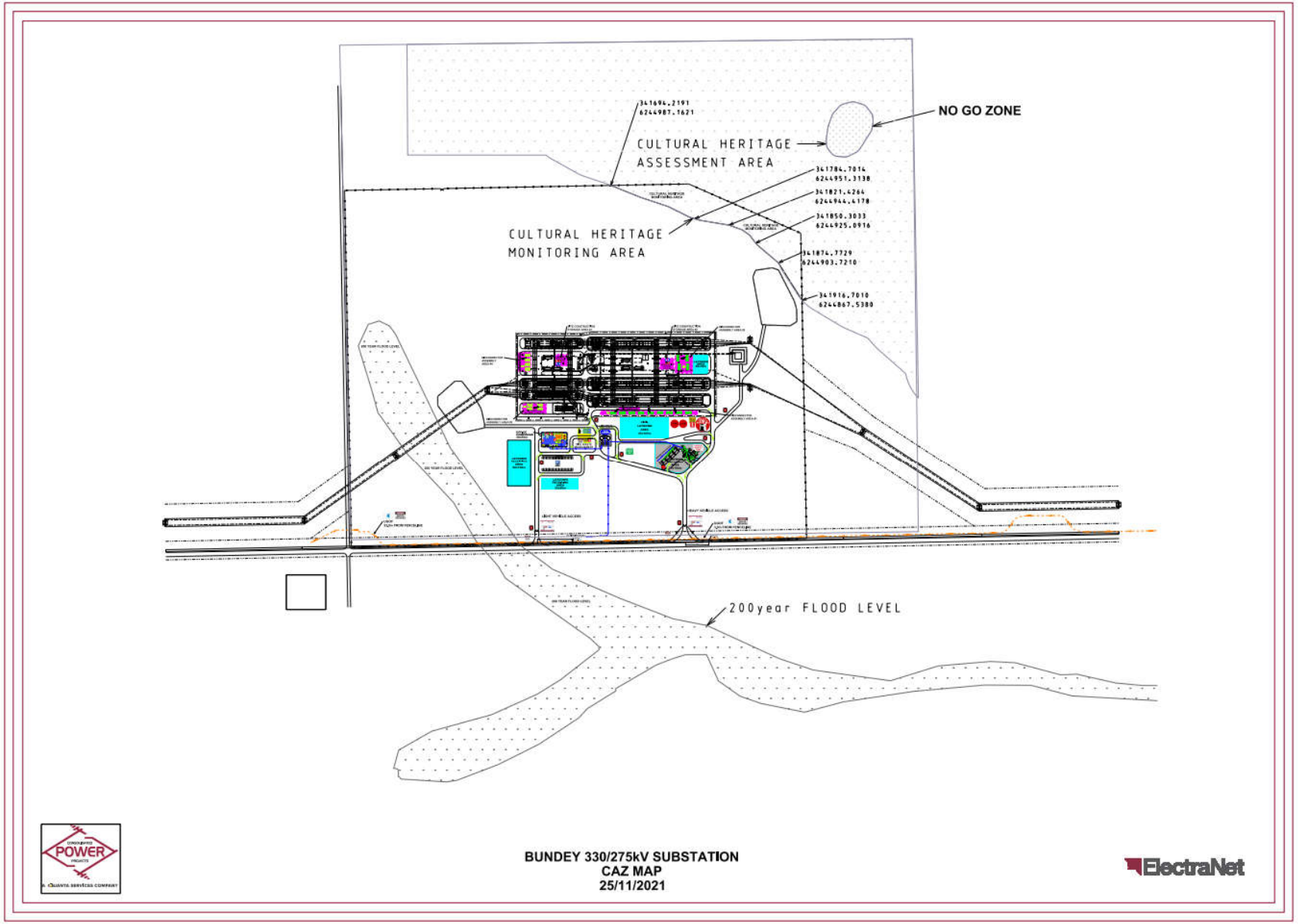


Figure 3-1 - CAZ Map - Bundey Substation – Site Boundary Overview

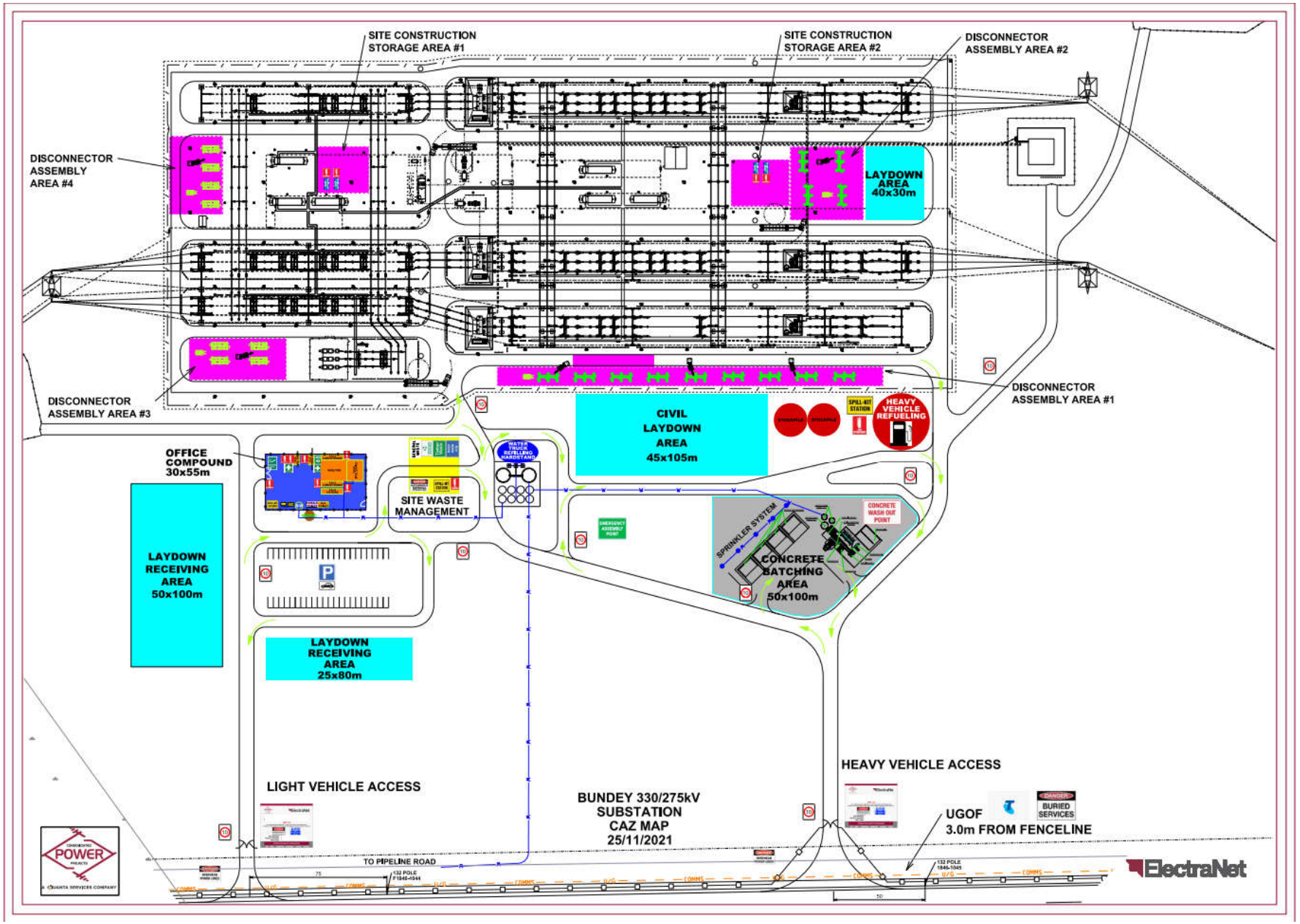


Figure 3-2 - CAZ Map - Bundey Substation Construction Areas

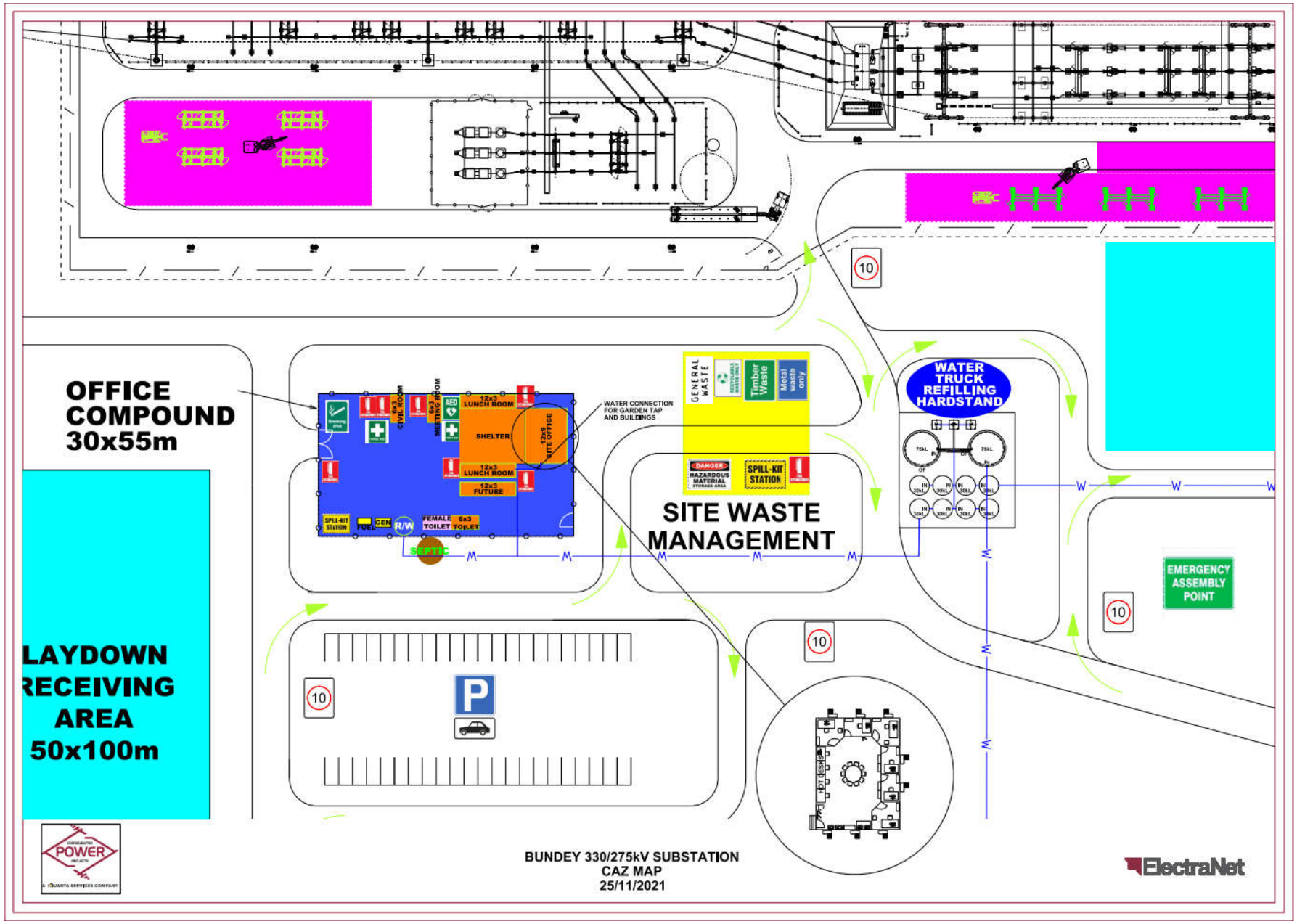


Figure 3-3 - CAZ Map - Bundey Substation – Site Office Area

4 STAGE 2 – BULK EARTHWORKS & DRAINAGE

4.1 Bulk Earthworks & Drainage Overview:

Furthering the completion of site establishment, construction of the Bulk Earth Works and Drainage will commence. An overview of the elements of work associated with this stage of construction is outlined below, please also see substation design drawings provided for further detail.

- Substation bench construction (Bulk Earthworks)
- Construction of underground substation drainage
- Construction of substation earth grid
- Construction of substation bench (imported material top 200 mm only)

A neutral cut and fill design will be incorporated into the bulk earthworks, with no imported fill required for the base foundation layer of the substation. Only the top 200 mm of PM2/20 bench capping material will be imported to site. All site water will also be sourced from the temporary water pipeline to the substation site.

4.2 Work Packages & Timeline

Item	Package of Work	Duration	Working Window
1	Bulk Earthworks & Drainage (Zone #1)	18 Weeks	16/05 – 15/09/22
2	Bulk Earthworks & Drainage (Zone #2)	18 Weeks	27/06 – 27/10/22
3	Bulk Earthworks & Drainage Complete	Milestone	27/10/2022

5 STAGE 3: FOOTINGS & FOUNDATION CONSTRUCTION

5.1 Footings and Foundation Overview

A staged approach to the footings and ducts installation will occur, which will follow the phased completion of the Bulk Earthworks and Drainage.

Three work fronts will be engaged on site, working from South to North, which will encompass the following elements:

- Pier Footing Quantity: 938
- Transformer & Reactor Footing Quantity: 6
- Total Concrete: 2,145 M^3
- Total Cable Culvert: 1,105 LM
- Total Conduit Installation: 4,337 LM

5.2 Site Concrete Supply

To increase efficiency and reduce heavy vehicle traffic movements, a dedicated concrete batching plant will be established on site in accordance with South Australian Government EPA and Regulatory Guidelines.

5.3 Footings & Ducts Timeline

Item	Package of Work	Duration	Working Window
1	Establish Concrete Batching Plant	4 Weeks	08/08 – 01/09/22
2	Substation Footings & Duct Installation	31 Weeks	19/09/22 – 20/04/23
3	Substation Footings & Ducts Complete	Milestone	20/04/2023

6 STAGE 4: PRIMARY PLANT CONSTRUCTION

6.1 Construction Execution Strategy

A staged approach will also be undertaken with the construction of the substation primary plant, with activities moving from south to north. Furthering the completion of the footings and ducts within each bay, physical barriers will be established to clearly identify and separate the substation construction work zones. Such delineation will provide a safe working site whilst allowing a phased approach to the substation construction.

Construction of the substation will occur within three distinct work zones:

- **275 kV Yard Construction**
- **Central Zone (Transformer) Construction**
- **330 kV Yard Construction**

6.2 Substsation Primary Plant Construction Timeline

Item	Package of Work	Duration	Working Window
1	275 kV Primary Plant Construction	33 Weeks	17/10/22 – 01/06/23
2	275 kV Primary Plant Construction Complete	Milestone	01/06/2023
3	Central Zone (Transformer) Construction	33 Weeks	27/02 – 01/06/23
4	Central Zone (Transformer) Construction Complete	Milestone	01/06/2023
5	330 kV Primary Plant Construction	37 Weeks	17/10/22 – 30/06/23
6	330 kV Primary Plant Construction Complete	Milestone	30/06/2023

7 STAGE 5: COMMISSIONING & ENERGISATION

7.1 Commissioing Strategy

Furthering the completion of the substation construction, commissioning of the control buildings and primary plant will commence. Commissioning activities planned within this stage include:

- High Voltage Testing
- Primary Plant Site Acceptance Testing
- Protection Scheme Testing

7.2 Substsation Commissioning & Energisation Timeline

Item	Package of Work	Duration	Working Window
1	275 kV Yard Primary Plant Commissioning	14 Weeks	08/05 – 11/08/23
2	275 kV Yard Commissioning Complete	Milestone	11/08/2023
3	Central Yard (Transformer) Commissioning	7 Weeks	26/06 – 11/08/23
4	Central Yard (Transformer) Commissioning Complete	Milestone	11/08/2023
5	330 kV Yard Primary Plant Commissioning	14 Weeks	08/05 – 11/08/23
6	330 kV Yard Commissioning Complete	Milestone	11/08/2023
7	Bundey Substation Outages (Network Integration)	2 Weeks	12/08 – 01/09/23
8	Bundey Substation Energised	Milestone	01/09/2023
9	Robertstown & Tungkillo Outages (Network Integration)	4 Weeks	02/09 – 30/09/23
10	Bundey & Robertstown & Tungkillo Energised	Milestone	30/09/2023

8 SUBSTATION OVERVIEW IMAGES

The following substation images have been included to provide an overview of the programming and sequencing of construction activities. Further detail can also be found within the engineering drawings provided (see Section 9 for drawing list).

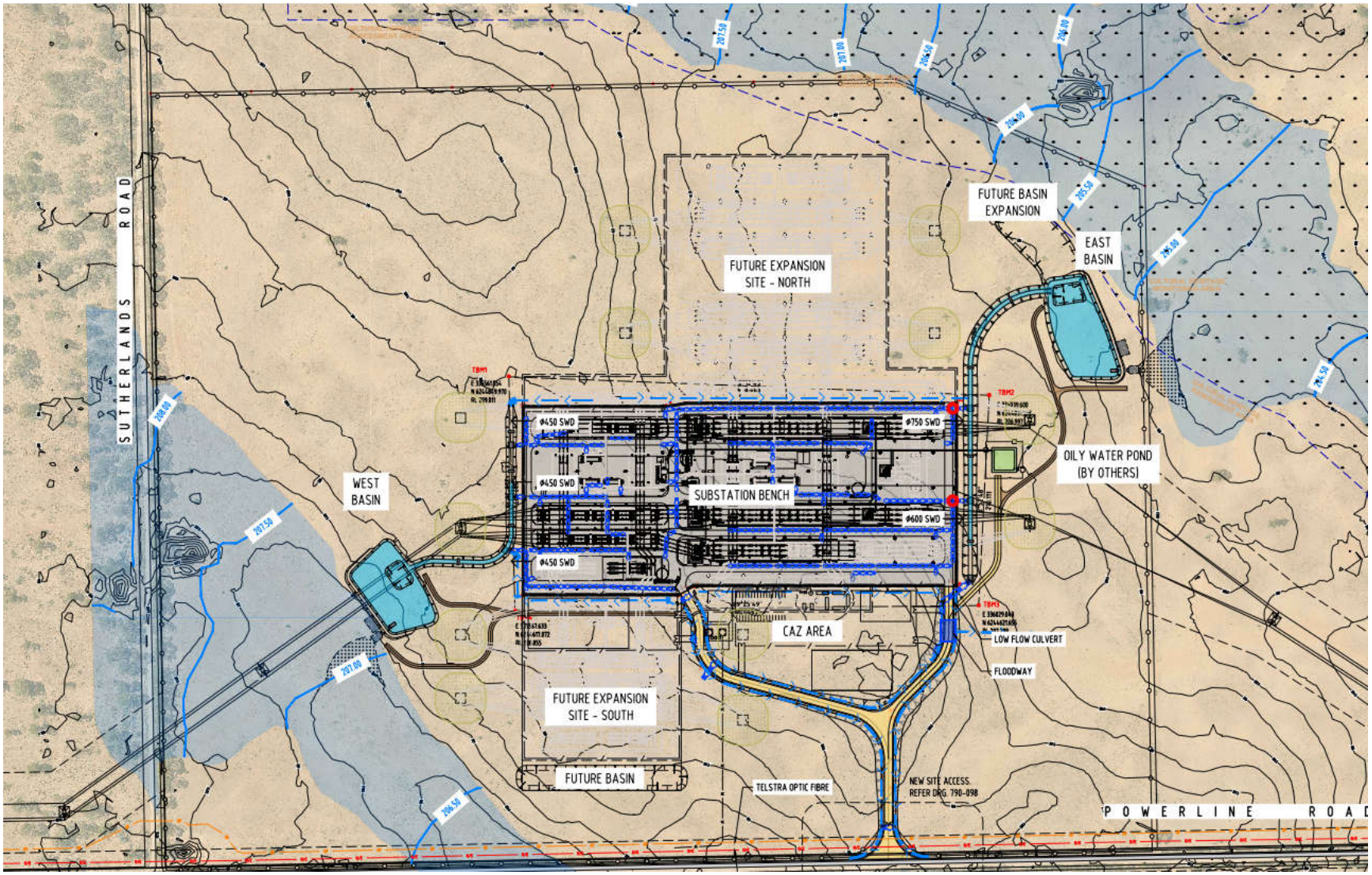


Figure 8-1 – Substation Site Overview

8.1 Vegetation Clearance Scope of Work

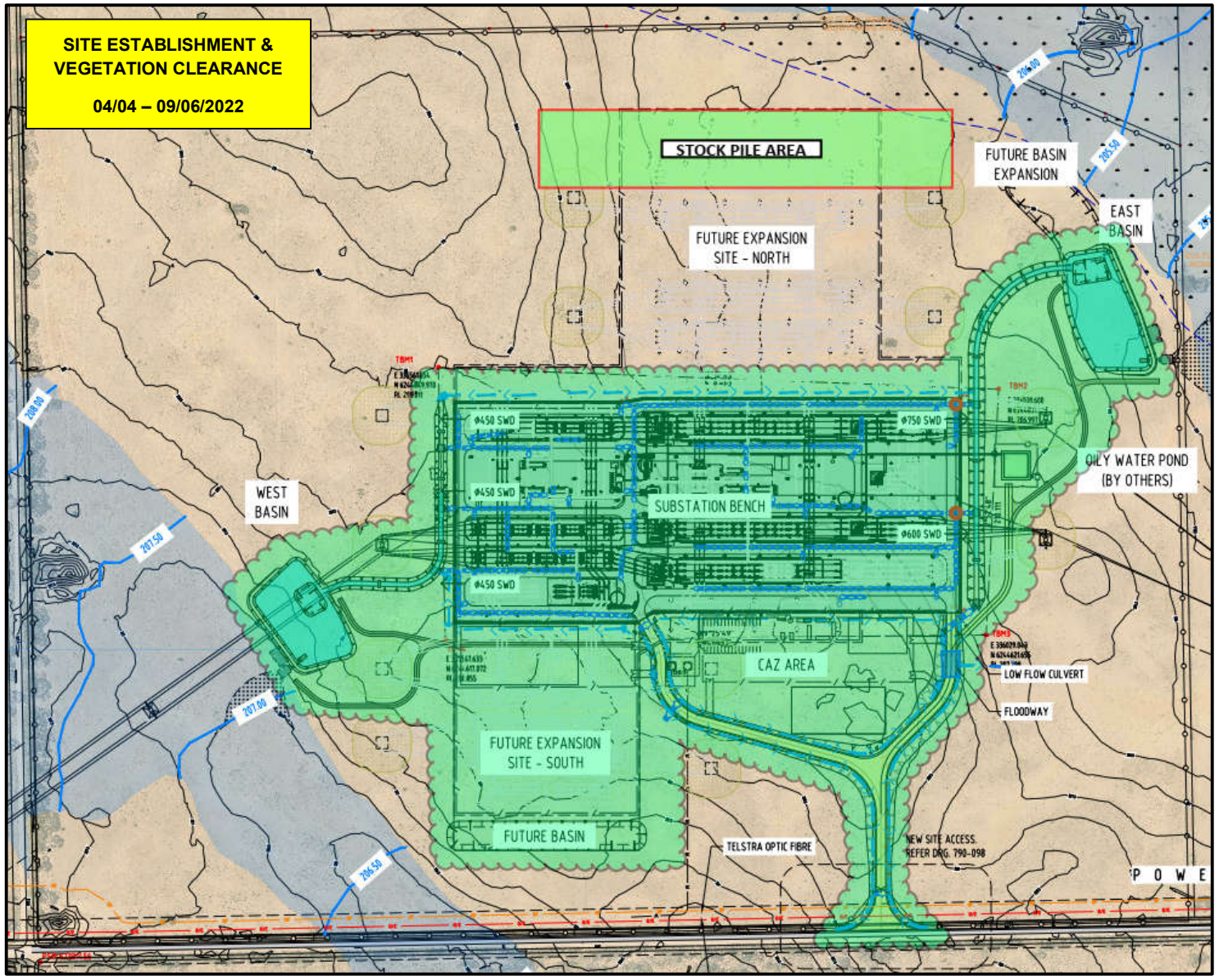


Figure 8-2 – Vegetation Clearance Scope of Work

8.2 Construction Activity Zone (CAZ) and Bulk Earthworks & Drainage Scope of Work

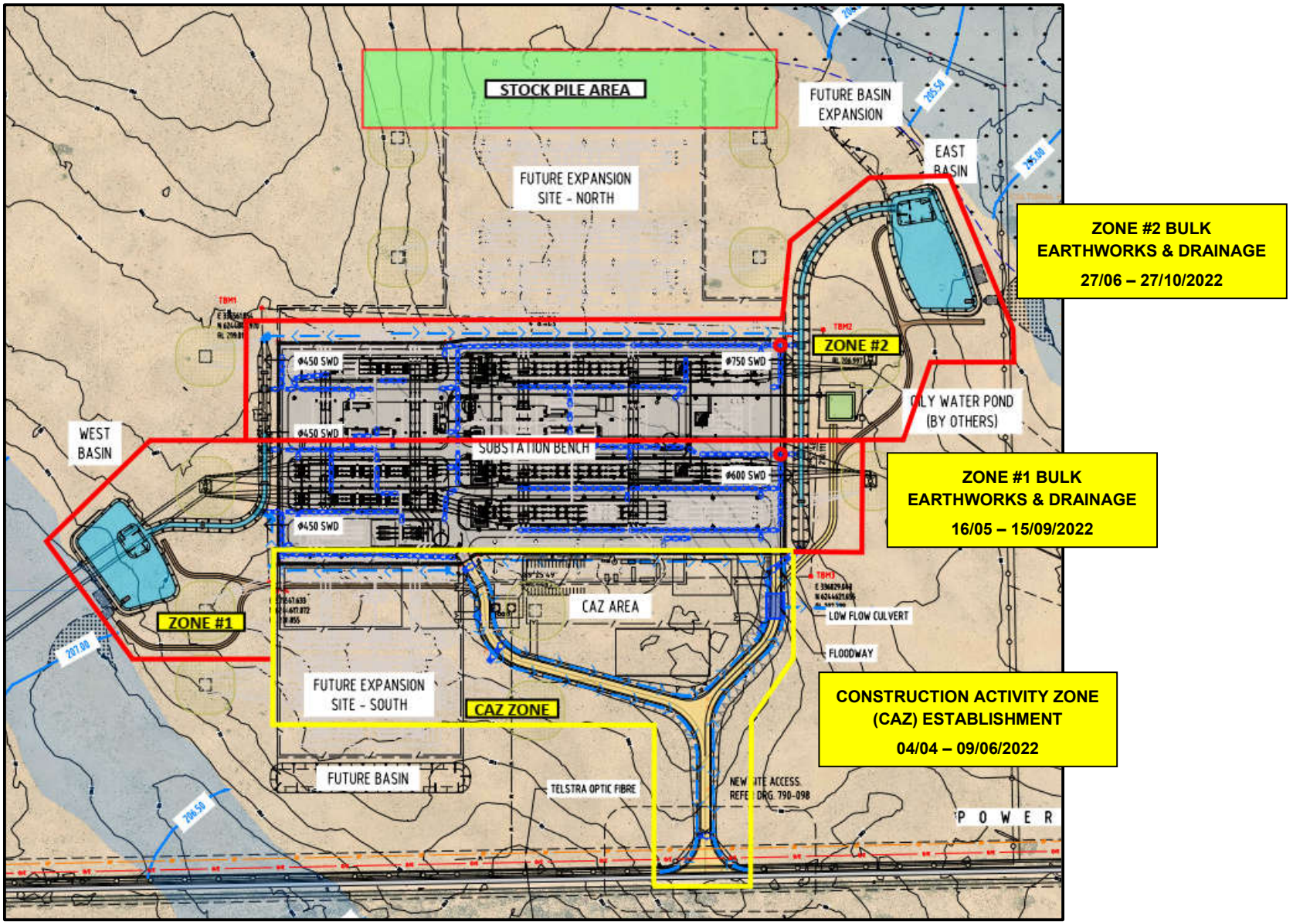
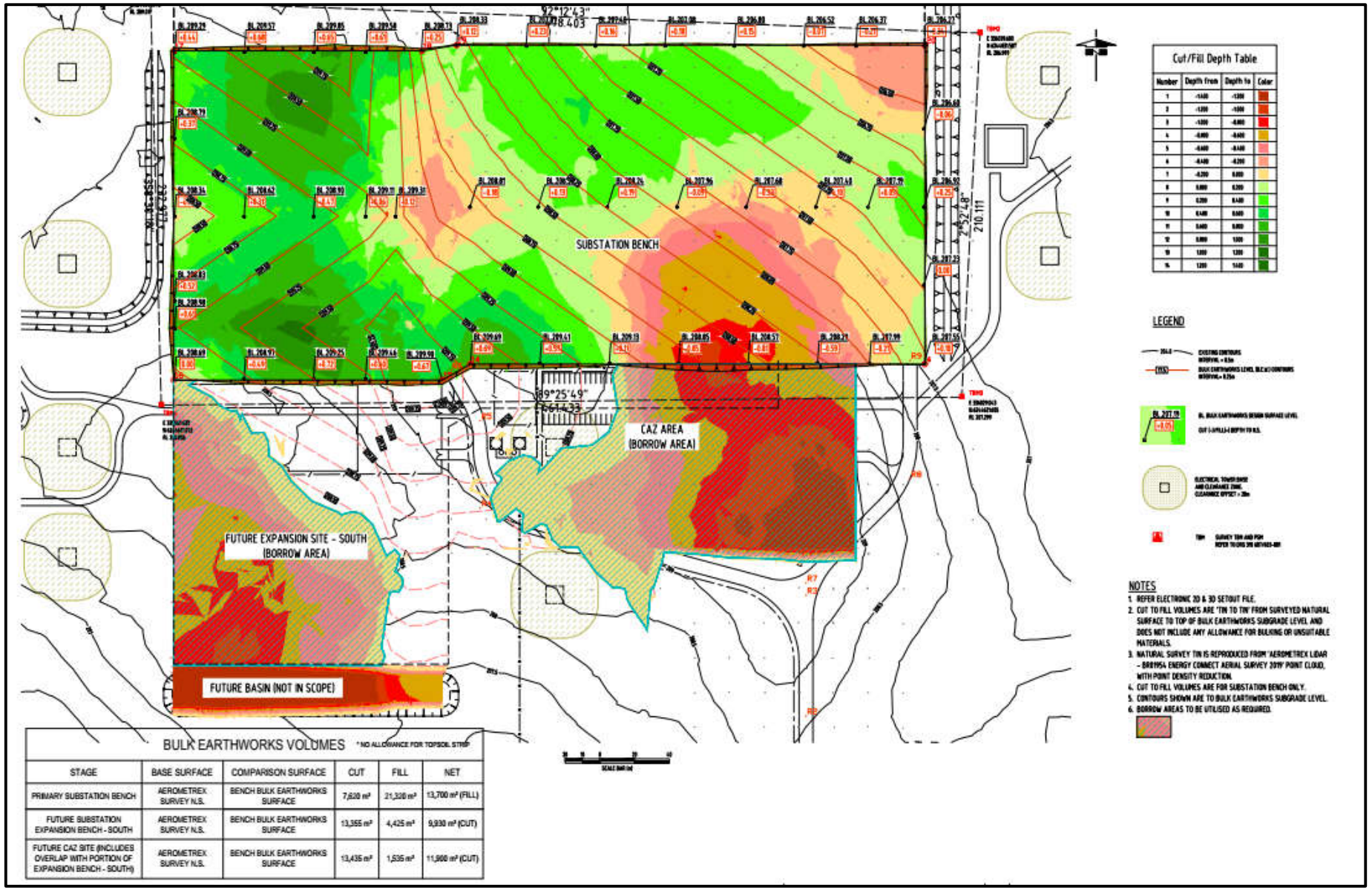


Figure 8-2 – Bulk Earthworks and Drainage Scope of Work & Timeline

8.3 Bulk Earthworks Cut & Fill Overview



BULK EARTHWORKS VOLUMES * NO ALLOWANCE FOR TOPSOIL STRIP

STAGE	BASE SURFACE	COMPARISON SURFACE	CUT	FILL	NET
PRIMARY SUBSTATION BENCH	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	7,820 m³	21,320 m³	13,700 m³ (FILL)
FUTURE SUBSTATION EXPANSION BENCH - SOUTH	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	13,355 m³	4,425 m³	9,930 m³ (CUT)
FUTURE CAZ SITE (INCLUDES OVERLAP WITH PORTION OF EXPANSION BENCH - SOUTH)	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	13,435 m³	1,535 m³	11,900 m³ (CUT)

Figure 8-2 – Bulk Earthworks and Drainage Scope of Work & Timeline

8.4 275kV Substation Layout

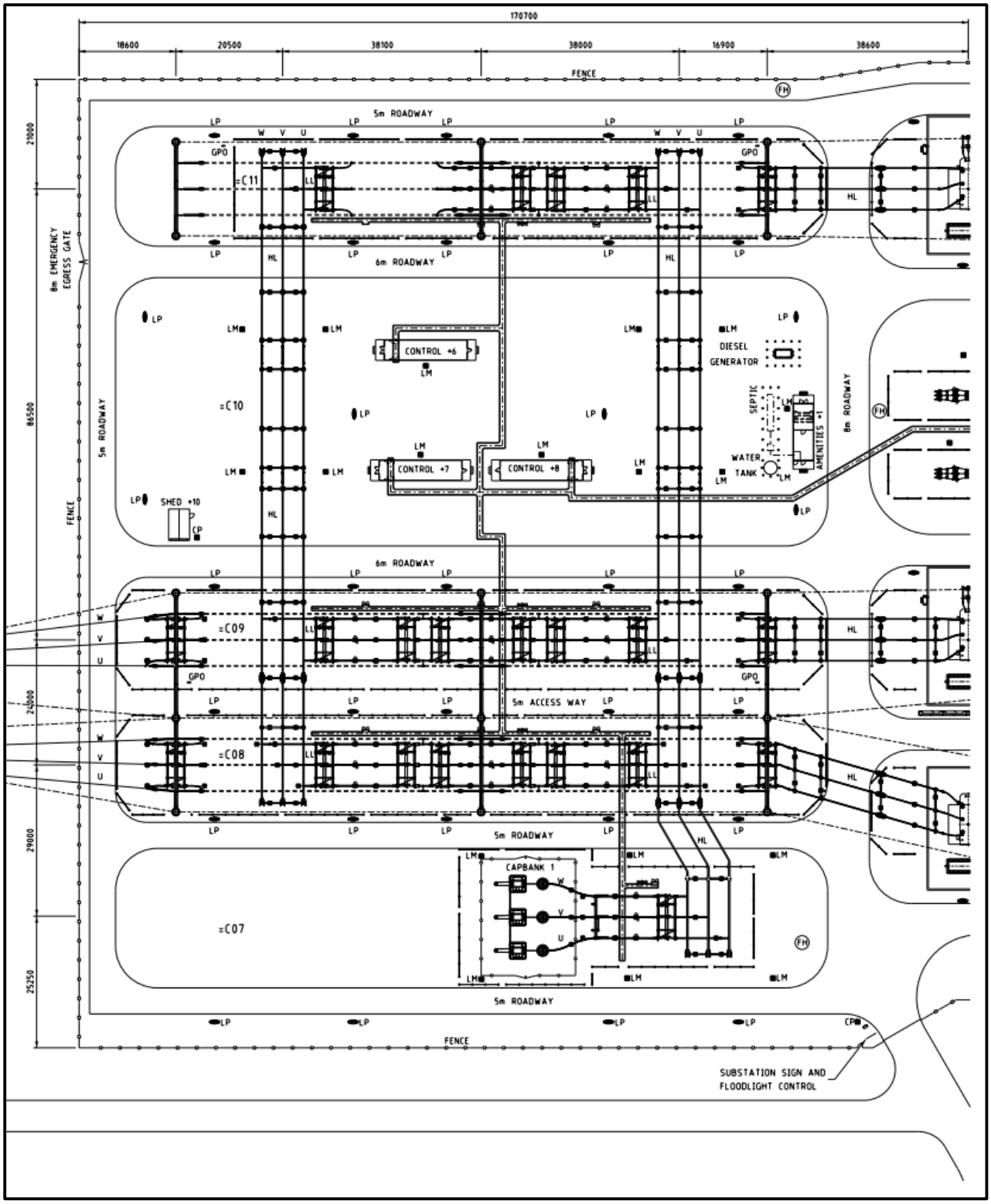


Figure 8-3 – 275 kV Yard Layout

8.5 330kV Substation Layout

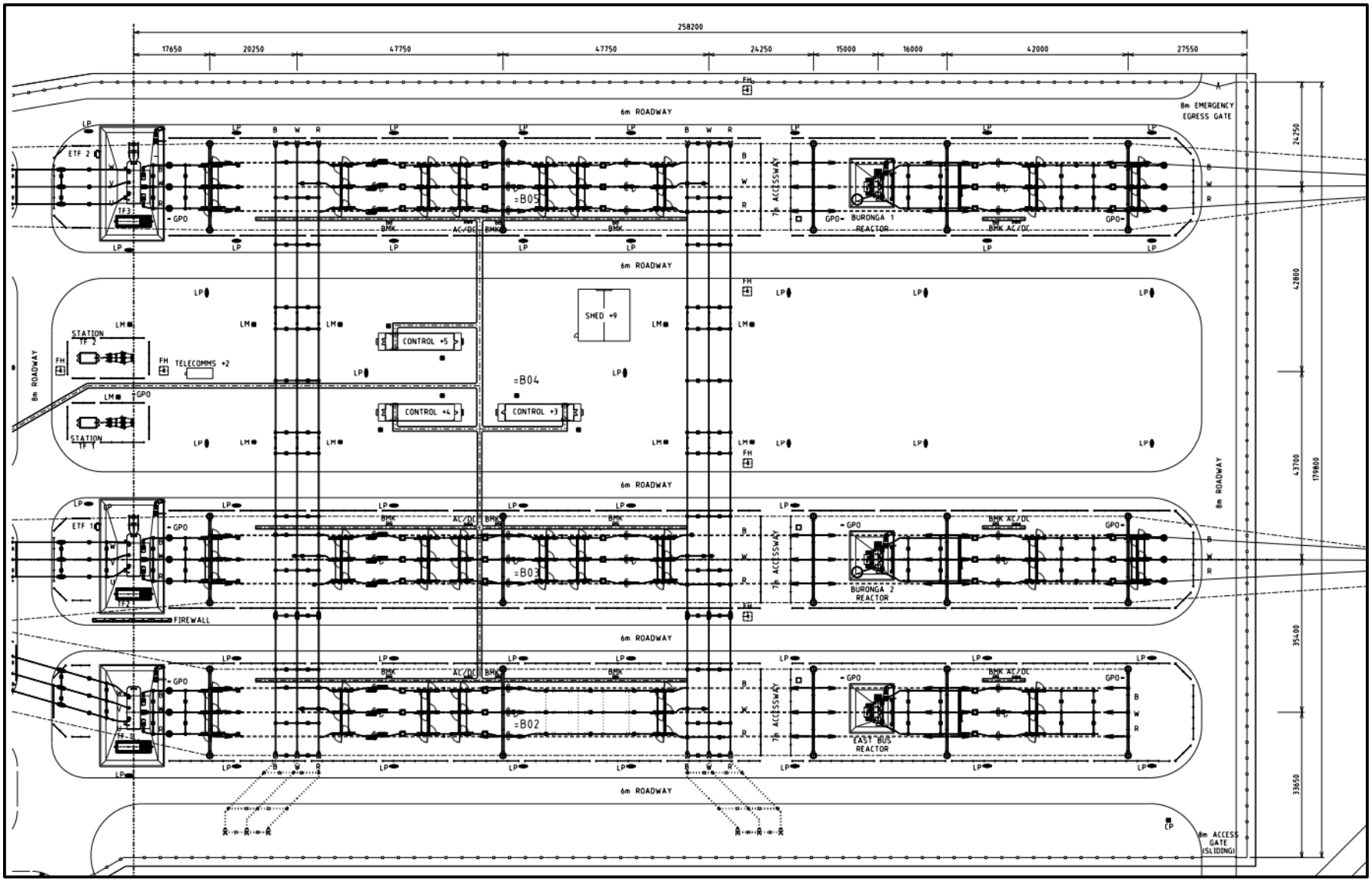
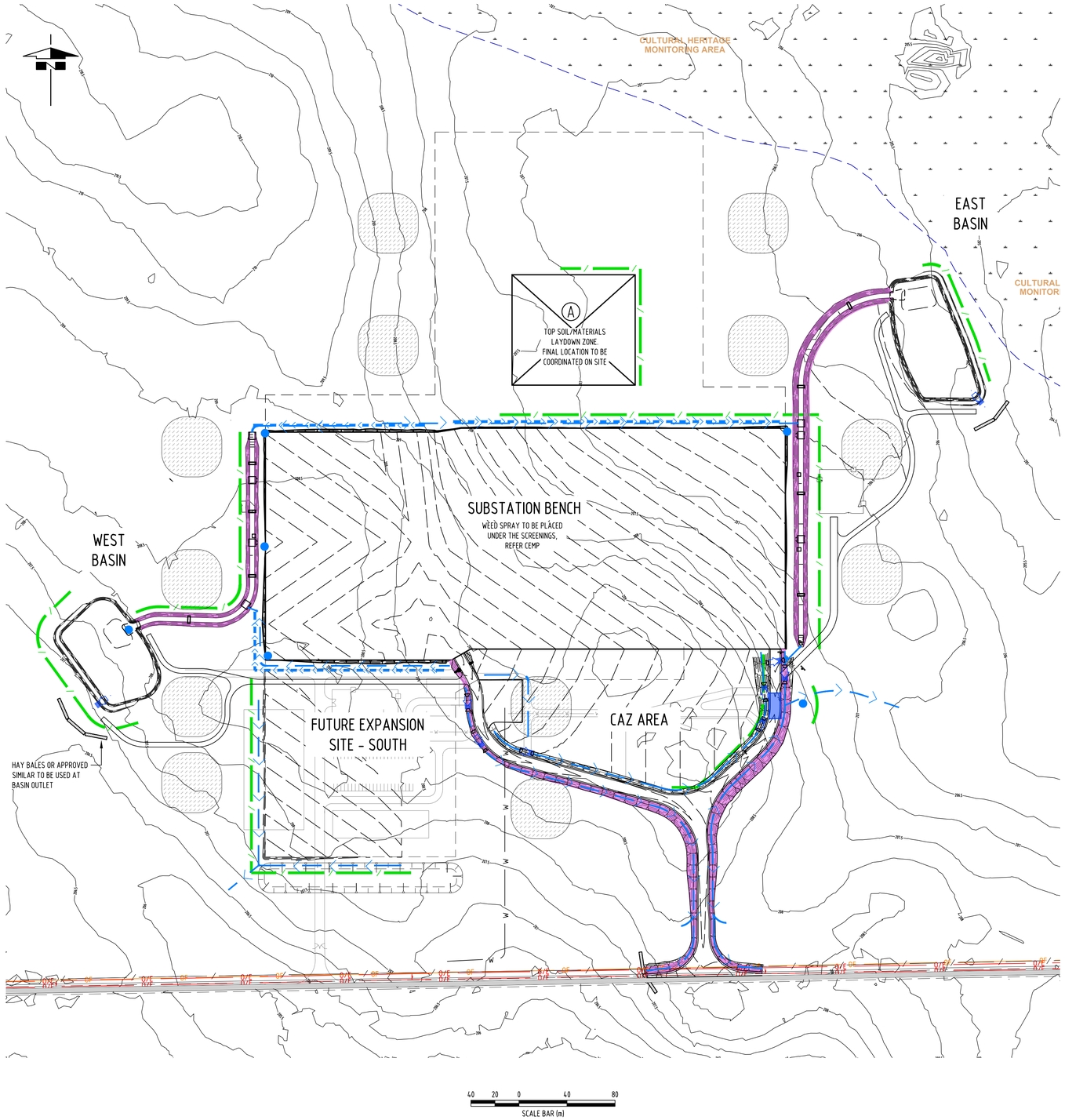


Figure 8-4 – 330 kV Yard Layout

9 ENGINEERING DRAWINGS

Item	Drawing Number	Description	Revision
1	310 607/601-001	Bundey Substation – Ultimate Layout	A
2	310 607/606-012	Bundey Substation – Services Layout – Construction Water Supply	A
3	310 607/621-001	Bundey Substation – 330 kV Yard – Ley Plan	A
4	310 607/621-001	Bundey Substation – 330 kV Yard	A
5	310 607/621-021	Bundey Substation – 330 kV Plan & Elevation – B02 Bay West	A
6	310 607/621-022	Bundey Substation – 330 kV Plan & Elevation – B02 Bay East	A
7	310 607/621-023	Bundey Substation – 330 kV Plan & Elevation – B02 Reactor Bay	A
8	310 607/621-025	Bundey Substation – 330 kV Plan & Elevation – B03 Bay West	A
9	310 607/621-026	Bundey Substation – 330 kV Plan & Elevation – B03 Bay East	A
10	310 607/621-027	Bundey Substation – 330 kV Plan & Elevation – B03 Reactor Bay	A
11	310 607/621-029	Bundey Substation – 330 kV Plan & Elevation – B05 Bay West	A
12	310 607/621-030	Bundey Substation – 330 kV Plan & Elevation – B05 Bay East	A
13	310 607/621-031	Bundey Substation – 330 kV Plan & Elevation – B05 Reactor Bay	A
14	310 607/621-041	Bundey Substation – 330 kV Area West Bus – Section 1	A
15	310 607/621-042	Bundey Substation – 330 kV Area West Bus – Section 2	A
16	310 607/621-043	Bundey Substation – 330 kV Area East Bus – Section 1	A
17	310 607/621-044	Bundey Substation – 330 kV Area East Bus – Section 2	A
18	310 607/621-101	Bundey Substation – 330 kV Area – Materials List	A
18	310 607/621-001	Bundey Substation – 275 kV Yard – Ley Plan	A
20	310 607/621-001	Bundey Substation – 275 kV Yard	A
21	310 607/621-032	Bundey Substation – 275 kV Plan & Elevation – C07 Bay East	A
22	310 607/621-032	Bundey Substation – 275 kV Plan & Elevation – C08 Bay West	A
23	310 607/621-033	Bundey Substation – 275 kV Plan & Elevation – C08 Bay East	A
24	310 607/621-034	Bundey Substation – 275 kV Plan & Elevation – C08 Bay West	A
25	310 607/621-035	Bundey Substation – 275 kV Plan & Elevation – C09 Bay West	A
26	310 607/621-036	Bundey Substation – 275 kV Plan & Elevation – C09 Bay East	A
27	310 607/621-037	Bundey Substation – 275 kV Plan & Elevation – C11 Bay West	A
28	310 607/621-038	Bundey Substation – 275 kV Plan & Elevation – C11 Bay East	A
29	310 607/622-051	Bundey Substation – 275 kV Plan & Elevation – KC1 West Bus Section 1	A
30	310 607/622-052	Bundey Substation – 275 kV Plan & Elevation – KC1 West Bus Section 2	A
31	310 607/622-051	Bundey Substation – 275 kV Plan & Elevation – KC2 West Bus Section 1	A
32	310 607/622-052	Bundey Substation – 275 kV Plan & Elevation – KC2 West Bus Section 2	A
33	310 607/622-101	Bundey Substation – 275 kV Area – Materials List	A
34	310 607/625-001	Bundey Substation – 33 kV Yard – Plan & Elevation – F01	A
35	310 607/625-001	Bundey Substation – 33 kV Yard – Plan & Elevation – F02	A
36	310 607/625-101	Bundey Substation – 33 kV Materials List	A
37	310 607/790-069	Bundey Substation – Earthworks – Bench Cut and Fill Heat Map (1)	A
38	310 607/790-070	Bundey Substation – Earthworks – Bench Cut and Fill Heat Map (2)	A
39	310 607/790-073	Bundey Substation – Earthworks – Bench Cut and Fill Sections (1)	A
40	310 607/790-074	Bundey Substation – Earthworks – Bench Cut and Fill Sections (2)	A
41	310 607/790-075	Bundey Substation – Earthworks – Bench Cut and Fill Sections (3)	A
42	310 607/790-076	Bundey Substation – Earthworks – Bench Cut and Fill Sections (4)	A
43	310 607/790-079	Bundey Substation – Earthworks – Access Road Sections (1)	A
44	310 607/790-092	Bundey Substation – Earthworks – Erosion and Sediment Control (1)	A

45	310 607/790-095	Bundey Substation – Earthworks – Finished Surface Grading Plan	A
46	310 607/790-098	Bundey Substation – Earthworks – Powerline Road Intersection Plan	A
47	310 607/790-102	Bundey Substation – Earthworks – Finished Bench Section (1)	A
48	310 607/790-103	Bundey Substation – Earthworks – Finished Bench Section (2)	A
49	310 607/790-104	Bundey Substation – Earthworks – Finished Bench Section (3)	A
50	310 607/790-105	Bundey Substation – Earthworks – Finished Bench Section (4)	A
51	310 607/790-051	Bundey Substation – Earthworks & Paving – Overall Site Layout	A
52	310 607/795-052	Bundey Substation – Site Drainage	A
53	Bundey CAZ Map (1)	Substation Boundary Layout	20-12-21
54	Bundey CAZ Map (2)	Cultural Heritage Area	20-12-21
55	Bundey CAZ Map (3)	Substation Arial Image	20-12-21
56	Bundey CAZ Map (4)	Cultural Heritage Arial Image	20-12-21
57	Bundey CAZ Map (5)	Site Compound	20-12-21
58	Bundey CAZ Map (6)	Substation Layout	20-12-21



LEGEND:

- EXISTING CONTOURS
- DESIGN CONTOURS
- SILT TRAP/SEDIMENT BASIN
- CATCH/DIVERSION DRAIN
- HAY BALE BARRIER
- SILT FENCE
- GEOTEXTILE SILT FENCE AT STORMWATER PIT (GEOFABRIC SOCK FILLED WITH SAND)
- PERIMETER DRAIN TO BE ESTABLISHED EARLY
- CULTURAL HERITAGE 'NO-GO ZONE' LIMIT OF ACCESS TO BE FLAGGED AT OFFSET

CULTURAL HERITAGE ASSESSMENT AREA

CONSTRUCTION SEQUENCING NOTES:

1. THE CONTRACTOR TO READ AND REVIEW THE PROJECT CEMP
2. CONTRACTOR TO ESTABLISH PERIMETER SWALE DRAINS ON THE EASTERN AND WESTERN SIDE OF THE WORK EXTENTS UP FRONT TO FORM PRIMARY SEDMP CAPTURE.
3. AS THE WORKS PROGRESS FORMALISE BASIN OUTFLOW WITH PIPE OUTLETS AND DOWNSTREAM HAY BALES FOR SEDIMENT CAPTURE.
4. CONTRACTOR TO RE-VEGETATE SWALE AND BASIN AREAS AS EARLY AS POSSIBLE DURING THE CONSTRUCTION PHASE. TAKE THE OPPORTUNE TIME WITH THE WEATHER TO ESTABLISH
5. ONGOING SEDMP MONITORING AND STAGED PLANS TO BE DEVELOPED BY THE CONTRACTOR TO BE DEVELOPED ALIGNING WITH THEIR EXECUTION METHODOLOGY

EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL TRAFFIC INTO AND OUT OF THE SITE, INCLUDING THE MOVEMENT OF CONSTRUCTION TRAFFIC WITHIN THE SITE AND SHALL MAINTAIN DUST SUPPRESSION MEASURES TO THE SATISFACTION OF THE SUPERINTENDENT. ACCESS TO THE SITE SHALL BE LIMITED TO A MAXIMUM OF TWO LOCATIONS.
2. ALL DISTURBED AND UNSEALED AREAS SHALL BE DAMPENED AND ROLLED TO SEAL THE SURFACE TO MINIMISE DUST.
3. INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND SILT TRAPS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
4. TOP SOIL STRIPPED FROM CONSTRUCTION AREAS TO BE STOCKPILED AT A NOMINATED SITE AWAY FROM FLOW PATHS.
5. CONSTRUCT ALL SEDIMENT CONTROL FENCES ALONG CONTOUR WHERE POSSIBLE. WHERE SEDIMENT CONTROL FENCES ARE NOT CONSTRUCTED ALONG CONTOUR INCORPORATE RETURN PANELS AT REGULAR INTERVALS NOT EXCEEDING 20M.
6. INSPECT ALL SILT TRAPS WEEKLY AND AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. REMOVE ALL SILT TO MAINTAIN SILT TRAP STORAGE CAPACITY. REPAIR ANY DAMAGE AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
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8. CONSTRUCT AND MAINTAIN A BERM 200MM IN HEIGHT OR GREATER AT THE TOP OF FILL BATTERS WHERE CATCHMENT CONTRIBUTION IS GREATER THAN 5M.
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11. ADDITIONAL EROSION CONTROLS MAY BE REQUIRED DURING CONSTRUCTION AS DETERMINED BY THE SUPERINTENDENT IN CONSULTATION WITH THE EPA.
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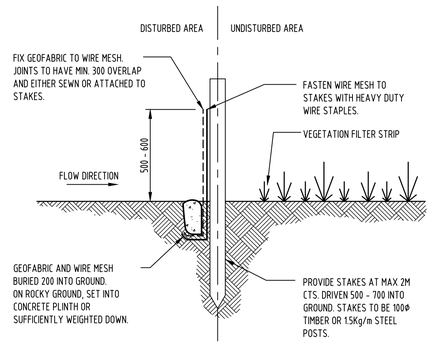
13. THE CONTRACTOR SHALL MANAGE THE SITE SUCH THAT NOT ALL SURFACE VEGETATION IS CLEARED IN ONE OPERATION. THE SITE SHALL BE PROGRESSIVELY MANAGED, AND AREAS OF VEGETATION SHALL REMAIN TO ACT AS BUFFER STRIPS TO TRAP AND REDUCE THE RISK OF SEDIMENT LADENED RUNOFF.

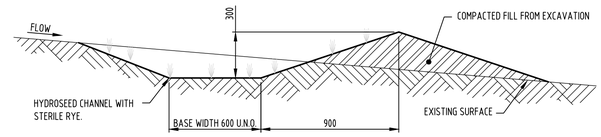
MAINTENANCE NOTES:

1. THE SEDIMENTATION BASIN AND SILT TRAPS SHALL BE CLEANED OUT WHEN THE ACCUMULATED SEDIMENT HAS REDUCED THEIR CAPACITY BY 60%. THIS LEVEL SHALL BE INDICATED BY PLACING A MARK ON A RISER.
2. ALL SEDMP MEASURES SHALL BE MAINTAINED AND MONITORED TO ENSURE THEY ARE OPERATING EFFECTIVELY. IN PARTICULAR AFTER EACH RAIN EVENT MEASURES SHALL BE INSPECTED TO ASCERTAIN IF REPAIRS OR UPGRADES ARE REQUIRED.
3. SEDIMENT REMOVED FROM BASIN AND TRAPS CAN BE COMBINED WITH TOPSOIL STOCKPILES FOR LATER SPREADING.
4. ALL SITE SEDMP MEASURES SHALL BE REGULARLY MONITORED, MAINTAINED REPAIRED AND UPGRADE TO SUITE CHANGING SITE CONDITIONS AND STORM EVENTS. THE SEDMP PRESENTED, REPRESENTS A GUIDE AS TO THE MINIMUM MANAGEMENT THAT SHOULD BE APPLIED TO THE SITE.



SILT FENCE DETAIL

SCALE 1:20



CATCH/DIVERSION DRAIN DETAIL

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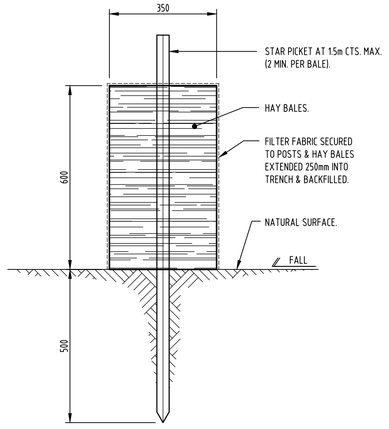

HAY BALE DETAIL

SCALE 1:10

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
C	ISSUED FOR CONSTRUCTION 14171 (CPP/WGA)	TSM	RB	RB	11.03.22
B	ISSUED FOR 40% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	10.02.22
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR CONSTRUCTION
DATE: 11/03/2022 REV: C
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: EROSION AND SEDIMENT CONTROL - SHEET 1
DURING CONSTRUCTION

ElectraNet – electricity transmission

TITLE: EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE: AS SHOWN | A1 | 310 607/790-092 | REV: C | DISTB

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;
150
100
50
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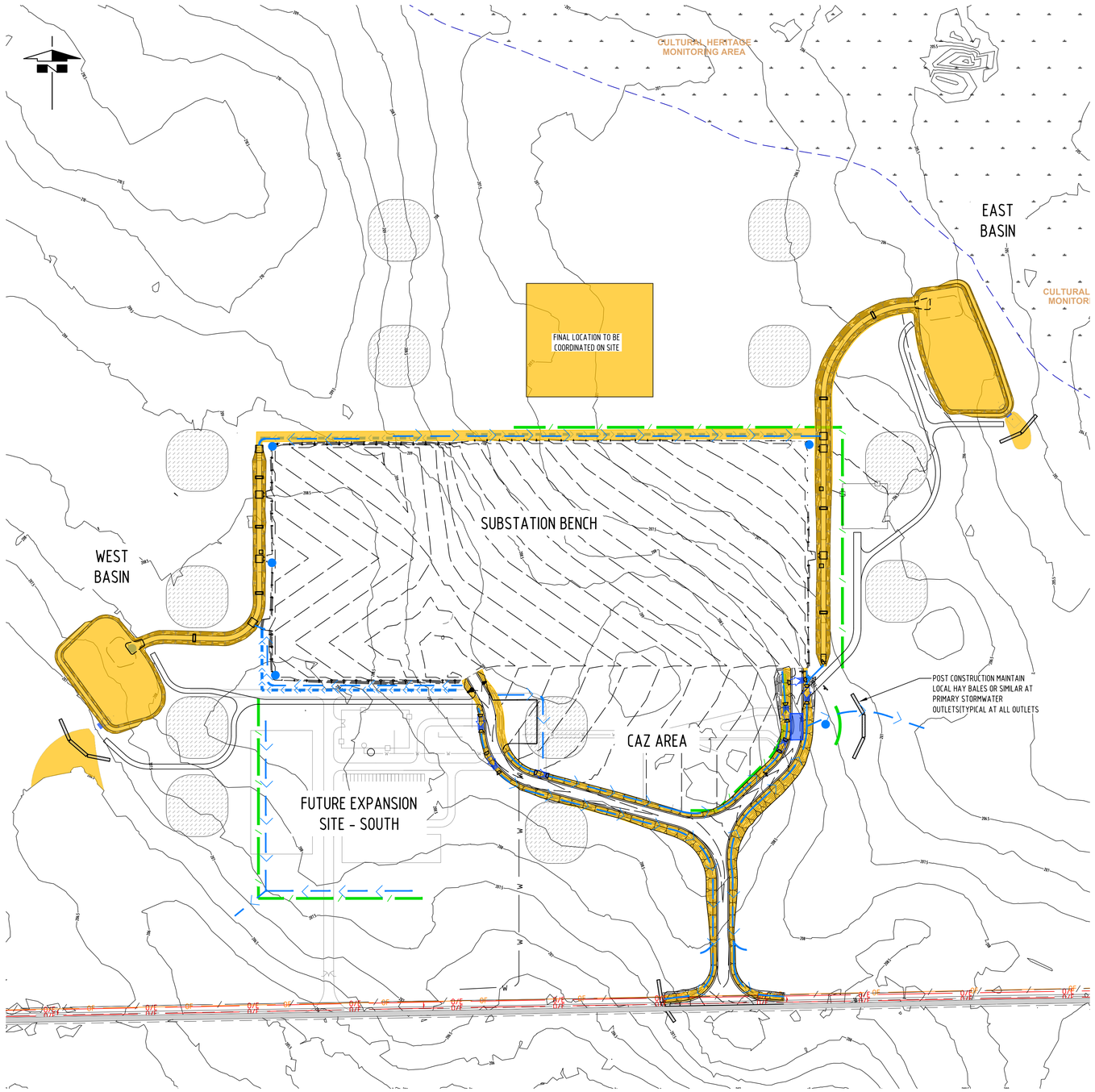
DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



LEGEND:

- EXISTING CONTOURS
- DESIGN CONTOURS
- HAY BALE BARRIER
- AREAS TO BE RE-VEGETATED POST EARTHWORKS CONSTRUCTION (NOTING ALL DISTURBED AREAS ARE REQUIRED TO BE REMEDIATED
- SILT FENCE
- CULTURAL HERITAGE 'NO-GO ZONE' LIMIT OF ACCESS TO BE FLAGGED AT OFFSET

CULTURAL HERITAGE ASSESSMENT AREA

POST CONSTRUCTION SEQUENCE NOTES:

1. ALL DISTURBED AREAS TO BE RE-VEGETATED IN ACCORDANCE WITH THE CEMP. TEMPORARY SEDMP MEASURES TO BE KEPT IN PLACE UNTIL RE-ESTABLISHMENT HAS OCCURRED.
2. SEDMP MEASURES AT PRIMARY OUTLETS TO BE KEPT IN PLACE WHILE VEGETATION AROUND THE DISTURBED ARES TAKE UP.

EROSION CONTROL NOTES:

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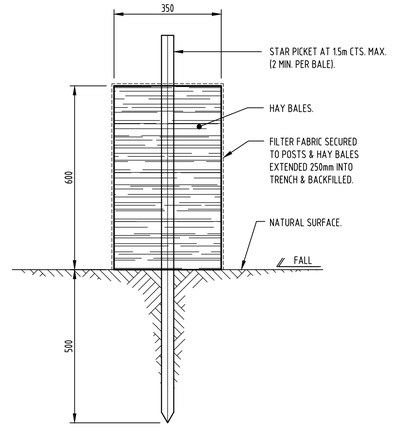

HAY BALE DETAIL
SCALE 1:10

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SUB TITLE
EROSION AND SEDIMENT CONTROL - SHEET 2
POST CONSTRUCTION

ElectraNet – electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-093 | REV B | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

Emergency Management Plan

ElectraNet Project Energy Connect

Bundey

CPP Project No: 11135-3B

Current Revision			
Revision:	3.0	Revision Date:	22.03.2022
Task:	**Responsibility:**	**Date:**	**Signature:**
Developed by:	Rhys March	22.03.2022	
SQE Review:	Dawn Beaumont	22.03.2022	
Review by Responsible Site Manager:	Adam Kenny		
Approved by Accountable Project Manager:	Steve Cheesman	22.03.2022	

TABLE OF CONTENTS

1 INTRODUCTION

The purpose of this Emergency Management Plan (EMP) is to establish an organizational structure and procedures for response to emergencies whilst working or visiting Bundey Substation. It assigns the roles and responsibilities for the implementation of the plan during an emergency.

1.1 Scope

This EMP is also designed to prioritise emergency management efforts based on the philosophy of People, Environment, Assets and Reputation (PEAR). The principles of PEAR are implemented concurrently rather than independently, and PEAR is defined as:

- **People** - minimise the impact of the emergency on personnel, responders and the community.
- **Environment** - minimise the impact of the emergency and response activities on the environment.
- **Assets** - minimise the impact of the emergency on assets and facilitate the restoration of normal project operation.
- **Reputation** - effectively implement emergency response plans in order to mitigate adverse publicity and protect the reputation of all key stakeholders.

This EMP aim is to provide personnel working at Bundey with the procedures:

- To ensure that the alarm is raised and that appropriate parties are alerted
- To summon assistance from appropriate sources
- To provide relevant information to those providing assistance
- To ensure that the correct actions are taken at the site of the emergency

1.2 Potential Emergencies

The Consolidated Power Projects Project Risk Register has been reviewed to assist in developing this list of potential emergency scenarios.

The list was developed by compiling and then categorising the risk events and outcomes considered during the risk assessment process.

Within Bundey Substation, the following potential emergencies may be encountered and may have the potential to cause injury or damage:

- Serious Medical Emergency, Injury or Fatality;
- Missing Person;
- Fire (including bush fires);
- Environmental Spill;
- Extreme Weather Events (including lightning);
- Electrical Emergencies – Low Voltage / High Voltage;
- Contact with Overhead Power Line;
- Machine Rollover / Collision
- Threats – Bomb or Suspicious Parcel;
- Excavation/ Trench Emergency;

- Elevated Work Platform Emergency (Without EDD);
- Heights Emergency;
- SF6 Gas Leak;
- Explosion;

1.3 Consolidated Power Projects Commitment

- It is CPP's genuine commitment to safety in the workplace and the protection of the environment.
- Our Project EMP encompasses policy and reflects our commitment to ensuring all works have nil or little impact on our environment and community.
- Our commitment extends to all associated with our works including our employees, subcontractors, clients and members of the community.
- A Master copy of the EMP must be maintained on site with accessibility available to employees and sub-contractors for the duration of the project.
- A copy of this plan, together with the relevant appendices, shall be made available to all Consolidated Power Projects project staff and supplied to all subcontractors prior to commencing work on the project.
- All personnel, prior to starting work on the site, shall be made aware of this plan and its location by means of a Project Induction.
- CPP will invite local emergency services teams to come and complete a site induction once bulk earth works has been completed. To ensure familiarity with the site in the event that emergency support is needed.
- Staff and subcontractors shall conform to the requirements of this EMP.
- A copy of the plan and or any revisions to the plan shall be retained for the duration of the project.

2 EMERGENCY CONTACT DETAILS

- All relevant emergency numbers will be posted in the Consolidated Power Project (CPP) Site Office and Lunch Room.
- It is the responsibility of the CPP Site Manager to ensure senior management are informed should any emergency occur.

2.1 Project Information

Table 1 Project Specific Details	
Client:	ElectraNet Pty Ltd
Principal Contractor:	Consolidated Power Projects (CPP)
Project Name:	Project Energy Connect (PEC) – Bundey, Canowie and Makota Substation
Project Number:	11135
Project Address:	Corner of Sutherlands Road and Powerline Road, Bundey, SA -33.925418, 139.222023
Project Manager:	Steve Cheesman
Site Manager:	Adam Kenny
Site SQE Advisors	Jamie Kirk

2.2 Consolidated Power Project Management

The Senior Management teams from CPP are to be notified in the event of an emergency and have the role to provide high level support, direction and resources to the team at site and to authorise response arrangements within their authority.

Name	Title	Phone
Wallie van Hoving	Vice President	0407 540 042
Carl Hogg	SQE Manager	0400 166 121
Dan Nelson	People & Culture Manager	0477 736 327

2.3 Emergency Contact List

Refer Appendix D

3 ROLES & RESPONSIBILITIES

- To ensure a quick and efficient response to an emergency situation, persons with responsibility for activities described in this EMP, must be aware of the procedures and their duties at all times.
- There should be a minimum of two (2) persons on site when works are being completed in case one is injured in activity.
- All personnel are required to carry a mobile phone and/or two-way radio when coordinating works across the site.

3.1 Regional Manager

- To oversee the contractual obligations, ensure compliance to CPP policies and procedures and general operations being conducted throughout the Project.

3.2 Project Manager

- Is responsible to ensure this plan and all requirements within are implemented.
- Ensure compliance to CPP policies and procedures, performance management, general compliance with this plan.

3.3 Site Manager

- Responsible for overall control of the emergency situation at a site level.
- Designate key team members who will have the responsibility to assist him/her with the implementation of the procedures within this plan.
- Designate team members to provide relevant information related to the emergency.
- Be contact person for all enquiries from the authorities.
- Ensure that all persons, present on site have received emergency and evacuation instructions and have access to the emergency instructions.
- Ensure that emergency and evacuation equipment and instructions are present in the Site Office and Lunch Room at all times.
- Must ensure that the EMP is reviewed and revised on a twelve (12)-monthly basis.
- Must ensure that an evacuation drill is planned and implemented quarterly.

3.4 SQE Team

- The SQE Team will be responsible for auditing this process to ensure that all aspects of the EMP have been implemented and followed and to ensure the EMP remains effective.
- This review process should happen annually or following any change in procedure or personnel.

3.5 Media Relations

- If an employee is approached by a journalist for comment on any issue related to any of the above-mentioned potential emergencies, it is mandatory to refer them to the following CPP Representative.

Name	Title	Phone
Dan Nelson	People and Culture Manager	0477 736 327

4 EMERGENCY MUSTER POINTS

- Emergency Muster point will be clearly marked at site.
- Locations will be displayed on site layout maps and communicated to all during the CPP Site Specific Induction.
- In the event that it is not safe to meet at the primary muster point the Site Manager will communicate to the team that they are to meet at the secondary muster point.
- Primary Muster Point – South of Office compound - See **Appendix. A**
- Secondary Muster Point – to be confirmed once mobilised to site - See **Appendix. A**
- The Site Manager will do a roll call to ensure all workers on site have been cleared of the hazard and mustered accordingly.
- The sign-in (and out) register is located within CPP's Site Office and will be taken by the Site Manager to perform roll call.

4.1 All Clear

The decision to declare the area "all clear" shall only be given by the Site Manager or his delegate on advice from the Emergency Services (if attending).

Personnel involved in the emergency shall be notified of the "all clear" verbally or by radio.

Do not leave your area unless you have been authorised to do so by your supervisor.

5 REPORTING AN EMERGENCY

- Should an emergency, event or evacuation be called for, the words EMERGENCY, EMERGENCY, EMERGENCY will be broadcast over the radio channel (Channel - 14) and there will be 3 blasts of the emergency Siren / Horn
- Radio silence should be maintained until instructions are given regarding the situation e.g. Event details, full evacuation to an Emergency Muster Point, or other information as deemed necessary.
- Emergency services and ElectraNet SMSC shall be notified in the event of an emergency requiring assistance.
- After personal are safe, any emergency on site must be reported to the Site Manager and Project Manager immediately.
- All site personnel have a duty to report any emergencies that may arise.
- When raising an emergency, the caller should give the following information related to the emergency:
  - Clear — Speak clearly remember people are counting on you;
  - Who — Who you are;
  - What — What is the nature of the emergency;
  - Need — What assistance required;

- Where What is your location;

Describe the nature of the emergency e.g. number of people injured, for spills product involved if known and estimate of quantity, for fires what is burning, are hydrocarbons or chemicals involved are people trapped.

6 ELECTRANET EMERGENCY ACCESS PROCEDURE

The procedure for granting emergency access shall be as follows:

- The SMSC shall be advised of the need for emergency response personnel to enter under these conditions;
- Where possible, a single person (on site) should liaise between the SMSC and all attending emergency service;
- The emergency response personnel shall be met at the gate or site entry point;
- An abbreviated induction shall be provided indicating:
  - All live and dangerous equipment
  - Relevant approach limits
  - An overview of the emergency situation at hand including associated hazards
  - Any other hazards that may impact on the situation at hand
- Emergency response personnel shall be escorted to the exact location of the emergency;
- Under no circumstance shall the emergency response personnel be left unguided or unattended;
- The direct supervision of emergency response personnel shall remain continuous until they have departed the site and the site is secured.

7 STANDARD EMERGENCY RESPONSE

7.1 Basic Procedures – Medical Emergency

- Objectives
  - Obtain immediate and adequate treatment for injured person (s).
  - Secure accident site to prevent risk of further injury.
  - Contact the Site Manager.
  - Assist in the implementation of the Site EMP.
  - Notify Senior Management.
- Required Equipment
  - First Aid kit.
  - Communication equipment – radio or telephone.
- Required Competencies
  - First Aid training.
  - Knowledge of this action plan.

	ACTION	BY WHOM
1.	Obtain appropriate immediate medical aid for any injured persons	Person at the scene
2.	Secure the area to prevent further injuries or damage *Note that for serious events the event scene will need to be secured for an investigation by the relevant authorities*	Person at the scene / Site Manager
3.	Notify the appropriate emergency response services and co-ordinate site access for them with SMSC	Site Manager or Representative
4.	Start a diary of the sequence of events as they unfold Log all messages and enquiries	Site Manager or Representative
5.	Notify the Consolidated Power Projects Manager / SQE	Site Manager or Representative
6.	Notify the Consolidated Power Projects Senior Management Team	Project Manager or Representative
7.	Notify the client representative (s)	Project Manager or Representative
8.	Provide assistance and information to the family of injured persons *In some cases, it may be necessary to arrange transport for a family member to a medical facility to be with an injured person.*	Project Manager or Representative
9.	Co-ordinate response to media enquiries	Project Manager or Representative
10.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

7.2 Missing Person/s

- Objectives
  - Locate the missing person/s quickly and efficiently.
  - Provide medical treatment promptly if the missing person/s is injured.
- Required Equipment
  - Access to vehicles to search for the missing person/s if required.
  - Communication equipment.
- Required Competencies
  - Knowledge of this action plan.

	ACTION	BY WHOM
1.	If an employee is involved in an event on their way to work and does not require immediate attention they are to stay with their vehicle until assistance arrives	Person/s involved
2.	If passing vehicles are in a position to take the employee to site or the nearest town, please leave a note with the vehicle advising (CPP personnel who may be searching for you) where you are	Person/s involved
3.	If an employee fails to arrive at the worksite at their designated time, immediately try and phone the employee	Site Manager or Representative
4.	If unable to locate the missing person/s by phone, try to contact where the employee is staying	Site Manager or Representative
5.	If unable to contact the employee by mobile phone or at their designated accommodation the Site Manager or his delegate will drive towards the missing person/s accommodation in an attempt to locate employee	Site Manager or Representative
6.	If the Site Manager or his delegate locates the employee and they are requiring urgent medical attention notify the appropriate emergency response services	Site Manager or Representative
7.	Obtain appropriate immediate first aid for any injured persons	Person at the
8.	Secure the area to prevent further injuries or damage	Site Manager or Representative
9.	Notify the Consolidated Power Projects Senior Management Team	Project Manager or Representative
10.	Notify the client representative (s)	Project Manager or Representative
11.	Provide assistance and information to the family of injured persons *In some cases, it may be necessary to arrange transport for a family member to a medical facility to be with an injured person*	Project Manager or Representative
12.	Co-ordinate response to media enquiries	Project Manager or Representative
13.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

7.3 Fire

The following fire situations could cause an emergency situation affecting those working on the Project:

- Bush/Grass Fire;
- Fire on site either within the compound area or on an area within the confines of the site;
- A fire within the Landowner's residence area;
- Fire initiated by site plant and equipment.

In order to assist either in fighting a fire or dealing with an emergency situation the following actions must be taken during the mobilization process:

- Objectives
  - Inform key stakeholders including the relevant fire authority, ElectraNet and landowners.
  - If possible, prevent the spread of fire.
  - Safely evacuate personnel if considered necessary.
- Required Equipment
  - Access to vehicles to evacuate the site if required.
  - Firefighting equipment – if considered safe to attempt to extinguish a fire.
  - Communication equipment.
- Required Competencies
  - Knowledge of this action plan.
  - Use of firefighting equipment – if required to extinguish a fire.
  - Knowledge of the site evacuation process – including location of Muster Points.

Refer to Appendix E for the Emergency Fire Plan Checklist

7.3.1 Bush/Grass Fire Response – Fire initiated off site

Regardless of the Fire Danger Rating, in the event that a bush fire is observed (or reported to be) in the general location of the Project the following actions must be carried out:

	ACTION	BY WHOM
1.	Don't wait until there is a fire, activate your plan well before a fire starts on high fire danger days	Site Manager or Representative
2.	On days where the fire danger rating for your area has been declared Catastrophic all personnel will be advised not to attend site	Site Manager or Representative
3.	On days where the fire danger rating for your area has been declared Extreme this should be communicated at the daily pre-start and a discussion held regarding the following items: • Exit routes to be used in the event of an evacuation, minimum of two exit routes to be identified and communicated during the induction process. Details of evacuation points from site and refuge location included in CAZ Map Page 47 (CAZ MAP will be displayed at prominent locations around the project site as well as entry point to site) • Communicate the criteria for initiating evacuation from site. This needs to be identified prior to a bush fire starting in your area. Note telecommunication services will be installed for mobile communication onsite. Radios will be used between mobile plant and equipment and utilised in the event of an emergency.	Site Manager or Representative
4.	The most important thing on high fire risk day is to be alert to what is going on around you, the following action should be undertaken on days of high fire risk: • monitoring the radio; • check the weather forecast; • ring the Bushfire Information Hotline about what is happening in your area; • go outside and looking for smoke every 30 minutes; • perform the actions that will allow you more time as the fire front approaches. i.e. commencing early site shut down processes, pack away equipment etc.	Site Manager or Representative
5.	If there is an apparent immediate threat to the Project (or on the advice of the emergency services) notify SMSC	Site Manager or Project Manager
6.	The site shall commence site shut down (park mobile plant, put away tools and equipment) At a minimum if the site receives a bush fire warning issued by the local emergency services or when the fire front approaches within of 100km (or as per individual site risk assessment)	Site Manager or Representative
7.	Implement arrangements to assist the evacuation of personnel in slow moving plant, or with insufficient available transport	Site Manager or Representative
8.	All personnel shall muster at the site muster point for further instruction	All Personnel
9.	On receiving an evacuation message from emergency services or when the fire front or weather conditions have met the site's criteria to initiate a full site evacuation, all personnel shall be accounted for and the evacuation from site shall commence with all vehicles evacuating to the bush fire safer place / refuge in convoy	Site Manager or Representative
10.	Notify Consolidated Power Projects Senior Management	Project Manager or Representative

11.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

7.3.2 Bush/Grass Fire Response – Fire initiated at site

If a bush fire is initiated within the Project, either through work activities or by a lightning strike, the following actions must be carried out:

	ACTION	BY WHOM
1.	If safe to do so, attempt to contain the fire using resources available	All (Only if trained to do so)
2.	If there is no immediate threat, contact local fire authority for information on the likely effect on the Project and notify the client	Site Manager or Representative
3.	If there is an apparent immediate threat to the Project (or on the advice of the local fire authority) notify the client	Site Manager or Representative
4.	If necessary, evacuate the work site	Site Manager or Representative
5.	Provide assistance to project personnel in slow moving plant, or without transport	Site Manager or Representative
6.	Notify local landowners	ElectraNet
7.	Notify Consolidated Power Projects Senior Management	Project Manager or Representative
8.	Co-ordinate response to media enquiries	Project Manager or Representative
9.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

Reference

FRM-S142 WHSE Emergency Requirements Assessment

7.3.3 Air Quality Risk from Adjacent Fires

If smoke from surrounding bushfires is impacting the Project, the following actions must be carried out:

	ACTION	BY WHOM
1.	Continuously monitor the situation, referring to the Australian Air Monitoring Website, or the state-based air quality advisories: https://air-quality.com/country/australia/59ae3071?lang=en&standard=aqi_us https://www.dpie.nsw.gov.au/air-quality/current-air-quality https://www.epa.sa.gov.au/data_and_publications/air_quality_monitoring https://www.qld.gov.au/environment/pollution/monitoring/air/air-monitoring	Site Manager or Representative
2.	If the assessed risk rating is **Very Good to Fair:** • Carry on work as usual	Site Manager or Representative
3.	If the assessed risk rating is **Poor:** • Carry on work as usual • Advise workers of the elevated risk • Ensure P2 masks are available on site	Site Manager or Representative
4.	If the assessed risk rating is **Very Poor:** • Advise workers of the elevated risk • Ensure P2 masks are available and used when working outdoors • Increase the number and or length of breaks • Ensure all breaks are taken indoors in air-conditioned areas • Reduce or eliminate heavy outdoor work	Site Manager SQE Project Manager
5.	If the assessed rating is **Hazardous:** • Review whether the site should be closed or not • If the site is to remain open, only indoor work or plant-based work shall be permitted. • Any emergency work conducted outdoors during hazardous air quality conditions, requires a specific SWMS or risk assessment and must be approved by the Program Manager or SQE Manager	Project Manager SQE Program Manager
6.	Subcontractors will follow the direction of CPP in terms of risk levels and controls	Site manager / Project Manager
7.	Notify Consolidated Power Projects Senior Management	Project Manager or Representative
8.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

7.4 Environmental Spill

Emergencies of this type include:

- Major oil or fuel spill.

7.4.1 Basic Procedures - Major oil or fuel spill

A major oil or fuel spill is most likely to come about from damage to plant or to fuel storage facilities.

- Objective
  - Contain a spill to prevent leakage to local environment.
- Required Equipment
  - Spill kits.
  - SDS for the product.
- Required Competencies
  - Knowledge of this action plan.
  - Able to access SDS as required.

	ACTION	BY WHOM
1.	Control the source of the spill if possible, e.g. turn off tap, close valve	Person at the scene
2.	Implement immediate actions to contain the spill *This may include the use of temporary earth bunds or sandbags*	Site Manager or Representative
3.	Identify the product and obtain the SDS for it *The SDS should be referenced before handling or treating the spill*	Site Manager or Representative
4.	Notify the Principal Contractor	Site Manager or Representative
5.	Clean up the spill and dispose of contaminated waste as per local legislation. *Contact SQE for further information*	Site Manager or Representative
6.	Notify Consolidated Power Projects Senior Management	Project Manager or Representative

7.5 Extreme Weather Events

- Site weather conditions may dictate that it may be too dangerous to continue some or all work activities.
- When extreme weather conditions are forecast, the Site Manager will monitor the conditions at site and may take pre-emptive action prior to extreme weather conditions eventuating including the possibility of evacuating specific areas or the entire site.
- In all extreme conditions, communication by mobile phones or 2-way radio will be utilised.
- If evacuation of the site is deemed necessary, generally this will be to designated assembly points, where checks can be made to account for all personnel.
- The following table identifies some specific conditions, their effect and the necessary actions that will be undertaken:

Weather Condition	Effect	Action
Extreme Frost	May render access roads too slippery	• Close access roads until inspection shows roads safe
Heavy Rain	May render access roads too dangerous to travel on	• After event, inspect roads prior to re-opening • Signpost eroded or dangerous areas
High Winds (up to 18 m/s)	Stops crane activities	• Stop all crane lifts • Crane operator responsible for close down and making crane safe
Gale Force Wind Condition (in excess of 18 m/s)	Wind-blown materials Stops crane activities	• Ensure all materials, plant & equipment tied down / protected • Make cranes “safe” (lower booms if possible, etc.) • Cease work activities if considered too dangerous to continue • Move personnel in doors

7.5.1 Lightning

- Monitor the severity and directional path of the approaching storm using an approved lightning strike tracker.
- The Site Manager or delegate is responsible to monitor the approaching storm.
- Remote work groups shall appoint a designated person to monitor storm activity.
- When lightning strikes are identified as potentially affecting the safety of workers, the direction and potential impact of the lightning strikes will be monitored and actioned in accordance with the table below.

Alert Level	Criteria	Actions
Yellow Alert	Lightning within 50km of site	• **Inform all workers threat of lightning may exist** • Continue all activities with awareness • Monitor lightning activity every 30 minutes and provide updates to all site workers • Supervisors should consider not commencing new tasks which may require a longer lead time to make safe
Amber Alert	Lightning within 30km of site	• **Inform all workers threat of lightning is nearby** • Continuously monitor lightning activity and provide updates to all workers • Consider whether Cranes / Boom Pumps to lower their mast / booms and pause, cease or delay starting operations • All surface refuelling operations cease • Identify and communicate nearest safe location, so people know where to go if required • Mobilise transport to work area to evacuate workers, if required • No new significant works to commence • Supervisors to consider any work fronts that should be shut down, due to the nature of the task or location
Red Alert	Lightning within 10km of site or 30 seconds from "Flash to Bang"	• **Inform all workers storm is local, no one to be working outdoors** • Continuously monitor lightning activity and provide updates to all site workers • The lightning tracker app/BOM is consulted to confirm distance and heading • All work site activities will cease and be safely shut down • All Personnel shall seek their nearest safe location and remain until the Alert is downgraded • Personnel should not enter or leave a vehicle if there is less than 2 metres from safe location to vehicle • In the absence of internet connectivity, the 30/30 guideline is used
All Clear	>30 minutes since last lightning strike within 10km zone	• **Inform all workers storm has passed and it is safe to resume normal activities** • Inspect work area and equipment for damage or changed/unsafe conditions prior to recommencing work

Note: "30/30 Guideline" - when you see lightning, count the time until you hear the associated thunder, and if this time delay is 30 seconds or less, go immediately to a safe location.

7.5.2 Lightning – Safe Locations

- Inside a substantial metal clad building or structure that is earthed.
- Inside a large building keeping away from windows and any appliances connected to electrical conductors.

- Inside the cab of a light or heavy vehicle, bus or machine, with the doors shut and the windows rolled up.
- Avoid contact with metallic parts and remove any hands-free mobile phone attachments from the body.
- Avoid driving the vehicle.

7.6 Electrical Emergencies

7.6.1 Emergencies of this type include:

- Low voltage equipment
- High voltage equipment

Note: events that result in an electrical emergency may also result in significant injury to personnel. The management of an event of this type will be done using the Site EMP.

- Objectives:
  - Isolate sources of supply (remotely) to terminate the event.
  - Remove person (s) from danger if safe to do so.
  - Obtain immediate and adequate treatment for injured person(s).
  - Secure accident site to prevent risk of further injury.
  - Contact the Site Manager.
  - Assist in the implementation of the Site EMP.
  - Notify Senior Management.

- Required Equipment:
  - First Aid kit.
  - Communication equipment – radio or telephone.
  - Low Voltage rescue kit.

- Required Competencies:
  - Licensed Electrician.
  - Qualified HV Operator.
  - First Aid training.
  - Low Voltage Rescue Trainings.
  - CPR Training.
  - Knowledge of this action plan.

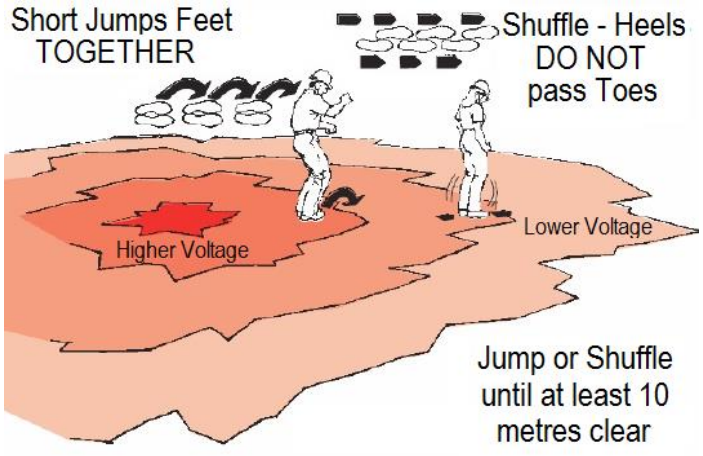
7.6.2 High Voltage (HV Emergency)

- A High Voltage (HV) emergency is a real risk to the general construction and commissioning of a Project.
- HV emergencies can have a catastrophic result to both health and safety of personnel but significant risk to property.
- All personnel whom undertake HV works are highly trained and must follow strict procedures and legislative requirements.
- In the unlikely event that a High Voltage emergency has occurred the following actions must be followed:

	ACTION	BY WHOM
1.	Immediately isolate the electrical emergency source if safe to do so. Remote switching is preferable through SMSC if possible	HV operator or delegate
2.	Obtain appropriate immediate medical aid for any injured persons (Anyone having received an electric shock is to attend hospital for health check even when no injury is apparent Any person exposed to arc flash material in the breathing zone is to highlight this issue and seek specialist medical attention) ***Note** that in events involving large plant, other plant may need to be sourced to assist in moving debris to extract injured people*	Person at the scene
3.	Secure the area to prevent further damage, injuries or damage to the environment. This may require the asset to be switched off from other energy sources (e.g. solar or battery) ***Note** that for serious events the event scene will need to be secured for an investigation by the relevant authorities*	HV Operator / Site Manager
4.	Contact SMSC and Co-ordinate site access for emergency response services ***Note**: This may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
5.	Start a diary of the sequence of events as they unfold. Log all messages and enquiries	Site Manager or Representative
6.	Notify the Consolidated Power Project Senior Management Team and Office of The Technical Regulator (where applicable)	Site Manager / SQE Manager
7.	Notify the client representative(s)	Project Manager or Representative
8.	Co-ordinate response to media enquiries	Senior Management
9.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

7.6.3 Contact with Overhead Power Line

	ACTION	BY WHOM
1.	Immediately isolate the electrical emergency source if safe to do so. Remote switching is preferable through SMSC if possible	HV operator or delegate
2.	Contact SMSC and co-ordinate site access for emergency response services ***Note**: This may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
3.	Obtain appropriate immediate medical aid for any injured persons (Anyone having received an electric shock is to attend hospital for health check even when no injury is apparent) *Note that in events involving large plant, other plant may need to be sourced to assist in moving debris to extract injured people*	Person at the scene
4.	Secure the area to prevent further damage, injuries or damage to the environment. This may require the asset to be switched off from other energy sources (e.g. solar or battery) ***Note** that for serious events the event scene will need to be secured for an investigation by the relevant authorities*	HV Operator / Site Manager
5.	If evacuation from the plant (due to fire or collapsing structures), follow these steps to avoid electrocution: • Jump well clear from the plant, ensuring you **DO NOT** touch the plant and ground together; • Try to land on your feet; and then with both feet together you can jump away from the site, OR; • Shuffle along the ground keeping your feet together (your heels shall not pass your toes); • Keep jumping or shuffling until you are at least **10 metres** from the plant or power line. If y*ou do not land on your feet, (or you fall while jumping or shuffling clear) you **MUST NOT** stand up, you should roll along the ground, keeping your arms and legs tucked in close to your body*	Operator
6.	ALL plant that has contacted Power lines must be assessed by a qualified service mechanic before returning to service Any wheeled vehicle that contacts high voltage power lines must immediately be parked away from personnel for 24 hours, to protect from exploding tyres	Site Manager or Representative
7.	Start a diary of the sequence of events as they unfold. Log all messages and enquiries	Site Manager or Representative
8.	Notify the Consolidated Power Project Senior Management Team and Office of The Technical Regulator (where applicable)	Site Manager / SQE Manager
9.	Notify the Client representative (s)	Project Manager or Representative
10.	Co-ordinate response to media enquiries	Senior Management
11.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative



Legs not kept in tight, could create a "Step Potential"

✘

Arms and Legs held close to the body

✓

7.6.4 Low Voltage (LV) Emergency

- A low voltage (up to 1000 Volts) emergency is a significant risk to all site personnel as well as risk to plant and equipment.
- CPP employees and nominated contractors are consistently working on electrical equipment as part of the construction and commissioning responsibilities. These CPP employees and approved contractors are trained and deemed competent in the CPP Lock out tag out (LOTO) procedure and the procedure must be followed when working on any electrical equipment.
- In the unlikely event that a Low Voltage emergency has occurred the following actions must be followed:

	ACTION	BY WHOM
1.	Immediately isolate the electrical emergency source if safe to do so	Person at the scene
2.	Avoid becoming another casualty due to the risk of electric shock, extreme heat, toxic fumes or smoke	Person at the scene
3.	Assess the situation and rescue the casualty as quickly as possible, move the casualty to a clear, safe area to allow for assessment/treatment **One Man Drag Method** • Do not touch the victim if still in contact with live equipment • Crouch behind the casualty • Position arms around the casualty's upper chest • Securely grip one hand over the opposite wrist • Adopt correct lifting procedure to avoid sustaining a back injury when lifting and dragging the casualty	Person at the scene
4.	Obtain appropriate immediate medical aid for any injured persons (Anyone having received an electric shock is to attend hospital for health check even when no injury is apparent) *Note that in events involving large plant, other plant may need to be sourced to assist in moving debris to extract injured people*	Person at the scene
5.	Secure the area to prevent further damage, injuries or damage to the environment *Note that for serious events the event scene will need to be secured for an investigation by the relevant authorities*	Site Manager or Representative
6.	Contact SMSC and co-ordinate site access for emergency response services ***Note**: This may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
7.	Start a diary of the sequence of events as they unfold. Log all messages and enquiries	Site Manager or Representative
8.	Notify the Consolidated Power Projects Senior Management Team	Site Manager or Representative
9.	Notify the client representative (s)	Project Manager or Representative
10.	Co-ordinate response to media enquiries	Senior Management
11.	Keep project employees informed – via a Toolbox meeting if required	Site Manager

7.7 Machine Rollover / Collision

	ACTION	BY WHOM
1.	Notify the Site Manager	Person at the scene
2.	Assess the severity of the injury to the operator/ personnel involved	Person at the scene
3.	Contact SMSC and co-ordinate site access for emergency response services *Note that this may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
4.	Assess the area for immediate risks such as fire, fuel/ liquid spills *Note Plant may be unstable and unsafe to approach. Do not place first responders at risk – await assistance from suitably trained and resourced Emergency Services.*	Person at the scene
5.	Operator - If able, turn off engine, exit cabin without jumping and move clear from plant	Operator
6.	• Establish communication with victims (if applicable) • Do not move the injured person(s) unless they are in immediate danger • If safe to approach plant, apply first aid	Person at the scene / First Aider
7.	If safe to do so, without further injuring involved person(s) remove from plant and continue first aid until Emergency Services arrive	Person at the scene / First Aider
8.	Notify the Consolidated Power Project Senior Management Team	Project Manager or Representative
9.	Notify the client representative (s)	Project Manager or Representative
10.	Contact competent persons to tow/ reposition plant for repairs. Ensure crane/ equipment are suitable for task, and in good condition. Never attempt to re-enter the area until the all clear has been given by the CPP Site Manager	Site Manager or Representative
11.	Complete / develop Risk Assessment prior to commencing towing or reposition plant of vehicle	Operator

7.8 Threats

- The bomb threat is a serious public nuisance of modern times.
- Each one could be a cruel prank or a warning of an impending bomb attack.
- Usually, they are committed by individuals seeking to inflict alarm and confusion on an otherwise peaceful organisation.
- The problem can be minimised by proper planning and nomination of appropriate decision-making authorities.
- Objectives:
    - Preserve suspicious documents for later analysis.
    - Accurately record information received by telephone to allow analysis of the threat.
    - Minimise threats posed by suspicious mail or parcels.
- Required Equipment:
    - Envelope or bag to contain a suspicious letter or parcel.
- Required Competencies:
    - Knowledge of this action plan.

The threats may be in one of the following forms:

7.8.1 Written Threat

If a suspicious object is received, it should be put to one side, the Site Manager informed, and the procedures shown below followed.

TRIGGER		
If receiving a bomb threat written or verbal; further unnecessary handling should be avoided.		
	ACTION	**BY WHOM**
1.	Keep the letter, envelope or container	Person sorting mail.
2.	Do not touch or handle the letter, envelope or container, leave in the location identified and vacate the area.	Person sorting mail.
3.	Notify the Site Manager and the Principal Contractors representative	Person sorting mail.
4.	Do not speak to any other person about the threat	Person sorting mail.
5.	Notify the Consolidated Power Project Senior Management Team	Site Manager

7.8.2 Telephone Threat

TRIGGER		
If a call is received An accurate analysis of the telephone threat can provide valuable information on which to base recommendations, actions and subsequent investigation. The person receiving the bomb threat by telephone should record the information required.		
ACTION		**BY WHOM**
1.	• Do not hang up • Keep the caller talking • Ask questions in a careful manner, and attempt to assess other information, e.g. background noise, voice	Person receiving call.
2.	When the call is finished, immediately complete all sections of the Check List to the best of your ability	Person receiving call.
3.	Notify the Principal Contractor's representative and the Site Manager	Person receiving call.
4.	Do not speak to any other person not involved in the emergency about the threat	Person receiving call.
5.	Notify the Consolidated Power Projects Senior Management Team	Site Manager

7.8.3 Suspicious Object Discovered

TRIGGER		
Discovery of a Suspicious Object or Parcel A suspect object is any object found on the premises and deemed a possible threat by virtue of its characteristics, location and circumstances.		
ACTION		**BY WHOM**
1.	Notify the Site Manager and the Principal Contractor's representative	Person finding object.
2.	Notify the Consolidated Power Projects Senior Management Team	Project Manager or Representative

7.8.4 Bomb Threat Checklist

DATE:

TIME:

TIME CALLER HUNG UP:

PHONE NUMBER WHERE CALL RECEIVED:

Ask Caller:

- Where is the bomb located? (building, floor, room, etc.)
- When will it go off?
- What does it look like?
- What kind of bomb is it?
- What will make it explode?
- Did you place the bomb? Yes / No. Why?
- What is your name?

Exact Words of Threat:
Information About Caller:
Where is the caller located? (background/level of noise)
Estimated age:
Is voice familiar? If so, who does it sound like?
Other points:

Caller's Voice		Background Sounds	Threat Language
□ Female	□ Excited	□ Animal noises	□ Incoherent
□ Male	□ Laughter	□ House noises	□ Message read
□ Accent	□ Lisp	□ Kitchen noises	□ Taped message
□ Angry	□ Loud	□ Street noises	□ Irrational
□ Calm	□ Nasal	□ Booth	□ Profane
□ Clearing throat	□ Normal	□ PA system	□ Well-spoken
□ Coughing	□ Ragged	□ Conversation	
□ Cracking voice	□ Rapid	□ Music	
□ Crying	□ Raspy	□ Motor	
□ Deep	□ Slow	□ Clear	
□ Deep breathing	□ Slurred	□ Static	
□ Disguised	□ Soft	□ Office machinery	
□ Distinct	□ Stutter	□ Factory machinery	
		□ Local	
		□ Long Distance	

7.9 Excavation / Trench Emergencies

An excavation emergency will most likely be during civil works and would typically be a trench collapse.

- Objective:
  - Preserve life and minimise injury to personnel.
  - Remove person (s) from danger if safe to do so.
  - Obtain immediate and adequate treatment for injured person(s).
  - Secure accident site to prevent risk of further injury.
  - Contact the Site Manager.
  - Assist in the implementation of the Site EMP.
  - Notify Senior Management
- Required Competencies:
  - Knowledge of this action plan.
  - Understanding of what equipment is required in the event of an emergency.
  - Plant operators to assist in removal of rubble (if required)

The following actions are required:

	ACTION	BY WHOM
1.	Contact SMSC and Co-ordinate site access for emergency response services ***Note*** *that this may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
2.	Maintain communications with trapped person, identify location within the trench/ excavation where person/s are	Person at the scene
3.	Use only hand powered tools to excavate and retrieve trapped person/s Where possible shore or batter the excavation to protect from further collapse Clear soil from around the head and chest area or trapped person/s	Person at the scene
4.	Obtain appropriate immediate medical aid for any injured persons	Site Manager or Representative
5.	Notify the Consolidated Power Project Senior Management Team	Project Manager or Representative
6.	Notify the client representative (s)	Project Manager or Representative
7.	Keep project employees informed – via a Toolbox meeting if required	Site Manager or Representative

7.10 Elevated Work Platform Emergencies (Without EDD)

In a situation where there is a requirement to evacuate persons due to unforeseen events (such as the need to evacuate an injured person who is unable to use the EWP):

- Objectives:
  - Obtain immediate and adequate treatment for injured person(s).
  - Safely evacuate any persons to ground level.
- Required Equipment:
  - First Aid Kit
  - Elevated Work Platform (As required).
  - Personal Fall Protection Equipment.
  - Communication equipment – radio or telephone.
- Required Competencies:
  - Working at Height training.
  - First Aid training (in the event of a medical emergency).
  - Knowledge of Emergency controls of Elevated Work platforms.

	ACTION	BY WHOM
1.	When notified of an event, if required dispatch suitably trained personnel to the location	Site Manager or Representative
2.	Attempt to lower the EWP to ground level be activation the overriding emergency system e.g. hand pump, a secondary power unit, gravity lowering valves	Person at the scene
3.	If rescue attempt is considered unsafe or too difficult notify the appropriate emergency response services and co-ordinate site access for them by contacting SMSC ***Note*** *that this may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
4.	If the overriding emergency system fails on the machine, then another licensed operator can use another EWP to assist with the rescue	Person at the scene
5.	Operator will not unclip harness or leave work platform until the harness is latched onto the recovery EWP by a second lanyard	Operator of EWP
6.	Obtain appropriate immediate medical aid for any injured persons	Site Manager or Representative
7.	Notify the client representative (s)	Project Manager or Representative

7.11 Heights Emergencies

- Objectives:
  - Obtain immediate and adequate treatment for injured person(s).
  - Safely evacuate any persons to ground level.
- Required Equipment:
  - First Aid Kit
  - Elevated Work Platform (As required).

- Personal Fall Protection Equipment.
- Communication equipment – radio or telephone.

- Required Competencies:
  - Working at Height training.
  - First Aid training (in the event of a medical emergency).
  - EWP Training

Instructions

- A working at height rescue plan must be established before starting the following activities:
  - Use of a fall arrest system
  - Use of a rope access system (e.g. abseiling)
- The following considerations should be taken into account when developing the rescue plan:

	Considerations
1.	Identify the rescue scenario
2.	Consider potential, suitable rescue methods.
3.	Consider how quickly a rescue response may be needed: • Atmospheric conditions (confined spaces) • Availability of light • Expected weather • Potential for harness hang syndrome • Potential for, and severity of, worker injuries
4.	Consider the safety risks of a 'team rescue': • Physical conditions at work location, including terrain, weather, availability of light and atmospheric conditions (confined spaces) • Access to suitable rescue equipment, trained rescue operators and first aid
5.	Identify who will conduct the rescue, after considering responses to items 3 and 4: • Team-rescue • Worker self-rescue • Emergency Services rescue
6.	Identify your precise work location: • Consider producing a map and leaving it with a responsible person, who can provide it to emergency services, if the work location is remote or difficult to access
7.	Identify a competent observer to monitor work at height and to identify when a rescue may be required.
8.	Identify how the team will communicate with Emergency Services
9.	Where a team rescue is to be conducted, identify: • The rescue method to be used • The equipment to be used and where it will be 'laid out' (i.e. the staging area) • Who will lead the rescue and who will participate in the rescue, and define responsibilities • What communication methods will be used
10.	**Complete Working at Heights Rescue Plan – Appendix C**
11.	Communicate the rescue plan

7.12 SF6 Gas Leak

- Objectives:
  - Obtain immediate and adequate treatment for injured person(s).
  - Safely evacuate any persons in the area.
- Required Equipment:
  - Hazchem Personal Protection Equipment.
  - Communication equipment – radio or telephone.
  - SDS for the product.
- Required Competencies:
  - Knowledge of this action plan.
  - First Aid training (in the event of a medical emergency).
  - Able to access SDS as required.

7.12.1 Sulfur Hexafluoride (New or Reclaimed SF6 Gas, No Trace of SO2)

	ACTION	BY WHOM
1.	Evacuate the leak area and deny entry to unprotected personnel *If containers are leaking, they may cause oxygen levels in immediate areas to reach dangerously low levels.* *Take suitable precautions*	Person at the scene
2.	When notified of an event, if required dispatch suitably trained personnel to the location.	Site Manager or Representative
3.	If the leak can be stopped without putting personnel in danger, Stop the leak, If the leak cannot be stopped, keep people away from areas where leaking cylinders are present and wait until all gas has escaped from the cylinders or the leak has otherwise been stopped	Site Manager or Representative
4.	Ventilate the area thoroughly, especially if the leak occurred inside a building or other enclosed area *Do not allow re-entry until certain that oxygen levels have returned to normal, (if unsure, contact fire brigade to assist)*	Site Manager or Representative
5.	If this product is involving a fire notify the appropriate emergency response services and co-ordinate site access for them ***Note** that this may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
6.	Notify the Consolidated Power Project Senior Management Team	Project Manager or Representative
7.	Notify the client representative (s)	Project Manager or Representative

7.12.2 Sulfur Hexafluoride (SF6 Gas Found to Contain SO2)

	ACTION	BY WHOM
1.	Evacuate the leak area and deny entry to unprotected personnel *If containers are leaking, they may cause oxygen levels in immediate areas to reach dangerously low levels. Take suitable precautions*	Person at the scene
2.	Contact SMSC and Co-ordinate site access for emergency response services ***Note** that this may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
3.	If safe to do so, do not allow any water that the leaking product comes into contact with to enter drains or waterways without appropriate neutralization ***Note** that this product is a gas which is denser than air, and if a leak occurs it may accumulate in low lying areas such as drains, gutters and ditches, making oxygen levels lower to an unsafe level*	Site Manager or Representative
4.	Ventilate the area thoroughly, especially if the leak occurred inside a building or other enclosed area. *Do not allow re-entry until certain that oxygen levels have returned to normal, and advised from fire brigade*	Site Manager or Representative
5.	Notify the Consolidated Power Project Senior Management Team	Project Manager or Representative
6.	Notify the client representative (s)	Project Manager or Representative

7.13 Explosion

Emergencies involving an explosion or flammable liquid may be followed by either a fire or an evacuation alarm.

All personnel shall take such reasonable actions as are necessary to ensure their safety and evacuate as instructed.

- Objectives:
  - Obtain immediate and adequate treatment for injured person (s).
  - Safely evacuate any persons in the area.
  - Secure accident site to prevent risk of further injury.
  - Contact the Site Manager.
- Required Equipment:
  - Communication equipment – radio or telephone.
  - SDS for the product (if applicable).
- Required Competencies:
  - Knowledge of this action plan.
  - First Aid training (in the event of a medical emergency).
  - Able to access SDS as required.

	ACTION	BY WHOM
1.	Evacuate the area to the nearest Muster Point *Do Not touch, examine or fight the fire or explosion*	Person at the scene
2.	Contact SMSC and Co-ordinate site access for emergency response services ***Note** that this may require the dispatch of a guide vehicle to a meeting location to escort an emergency vehicle to a remote part of the site*	Site Manager or Representative
3.	Obtain appropriate immediate medical aid for any injured persons ***Note** that in events involving a large explosion, plant may need to be sourced to assist in moving debris to extract injured people*	Person at the scene
4.	Secure the area to prevent further damage, injuries or damage to the environment. This may require the asset to be switched off from other energy sources (e.g. solar or battery) ***Note** that for serious events the event scene will need to be secured for an investigation by the relevant authorities*	HV Operator / Site Manager
5.	Notify the Consolidated Power Projects Senior Management Team	Project Manager or Representative
6.	Notify the client representative (s)	Project Manager or Representative
7.	Co-ordinate response to media enquiries	Senior Management

8 CRITICAL EVENT RESPONSE AND ASSISTANCE

A critical event for the purpose of the Consolidated Power Project System is defined as an Individual occurrence or event of significant importance with respect to the outcome.

If the emergency escalates out of control, or the nature of the emergency warrants it, the Project Manager or Delegate shall initiate the Crisis Management Plan, by contacting the SQE Manager.

Emergencies that will be escalated immediately are:

- Fatality / Significant serious injury;
- A significant event involving injuries to multiple people;
- Negative, State or National media attention following an event;
- Environmental contamination, requiring extensive clean up and long-term effects;
- Anything involving public protest / demonstration or blockades;
- Events classified as actual Category 4 or 5 events. (Refer SOP-S001 Event Reporting and Investigation Procedure).

Emergencies that will be discussed and assessed for possible escalation are:

- Medical Treatment Injury involving a serious injury;
- A significant event where regulator prosecution is likely;
- Negative, local media attention following an event;
- Environmental contamination, requiring a lengthy clean up and short-term effects.

9 INDUCTION & TRAINING

The Site Manager or their delegate shall ensure that all workers and visitors to the site attend an induction prior to commencing works. During project specific site inductions all workers on site, and any visitors, shall been informed of the key requirements of this Emergency Management Plan.

The following are undertaken as part of the Consolidated Power Projects Emergency Management Plan requirements:

- SQE Advisor to complete site-specific review of the emergency requirements, Emergency Equipment and First Aid – Needs assessments. Persons completing the assessment must ensure the right equipment is located on site to cater for the identified emergencies that may occur on the project. Emergency equipment may include fire extinguishers, equipment specific to potential site emergencies such as retrieval of arrested fall, confined spaces, working around live electrical equipment, stretcher, method of raising alarm, remote site requirements etc. consideration is given to the placement of such equipment (in consultation with site workers and legislative requirements).
    - Persons completing document must hold a minimum Certificate IV in Work Health & Safety.
- CPP **will** ensure all appointed persons are trained in emergency preparedness. Minimum training requirements are:
    - Applied First Aid
        - Fire Extinguisher Familiarisation Training
        - Internal CPP Emergency Preparedness Drill and Procedure Training
- Nominated employees will receive training and practice in emergency procedures appropriate to their allocated emergency response responsibilities and the degree of risk.

- CPP has determined the following roles will be assumed by employees during any emergency that occurs within our workplace and will be trained in the Site Specific emergency Management Plan requirements:
    - **Emergency Controller** - Project Manager/Site Manager/the most senior qualified person on site;
    - **Applied First Aider** – Project Manager/Site Manager, SQE Advisor or Nominated Qualified Contractor
    - Low Voltage Rescue – CPP Electricians
- Where it has been identified that further specialised emergency training and qualification is required to carry out or use specific emergency equipment, nominated CPP personnel will receive the relevant familiarisation or formal training and qualifications, however if a more specialised qualification is required e.g. paramedic then an external resource will be utilised.
- On site emergency response review to be undertaken once mobilised.

10 DRILLS & REVIEWS

Drills and reviews will highlight the following:

- Types and nature of emergencies;
- Emergency contacts, procedures;
- Frequency of project emergency drills is 3 months, but the intervals between tests may be reduced depending on type of emergency and duties for people specified in the plan.

The emergency plan of a project **MUST** be tested within the first 4 weeks from when a project commences and then re-tested at least every three months. Scenario training will be based on the emergency with the most potential to occur on the project.

All outcomes and corrective actions from project emergency drills shall be recorded in the Project Issues Tracking Register and are determined in accordance with legislative requirements and the hierarchy of controls and that controls reduce the risk to as low as reasonably practicable.

The Emergency Management Plan and supporting documents shall be reviewed:

- Annually;
- When there is a change in legislation, Code of Practice, Australian Standard, or other relevant reference material; or
- Following an event where the Emergency Management Plan was used.

Evaluation of this plan shall assess effectiveness of emergency management response.

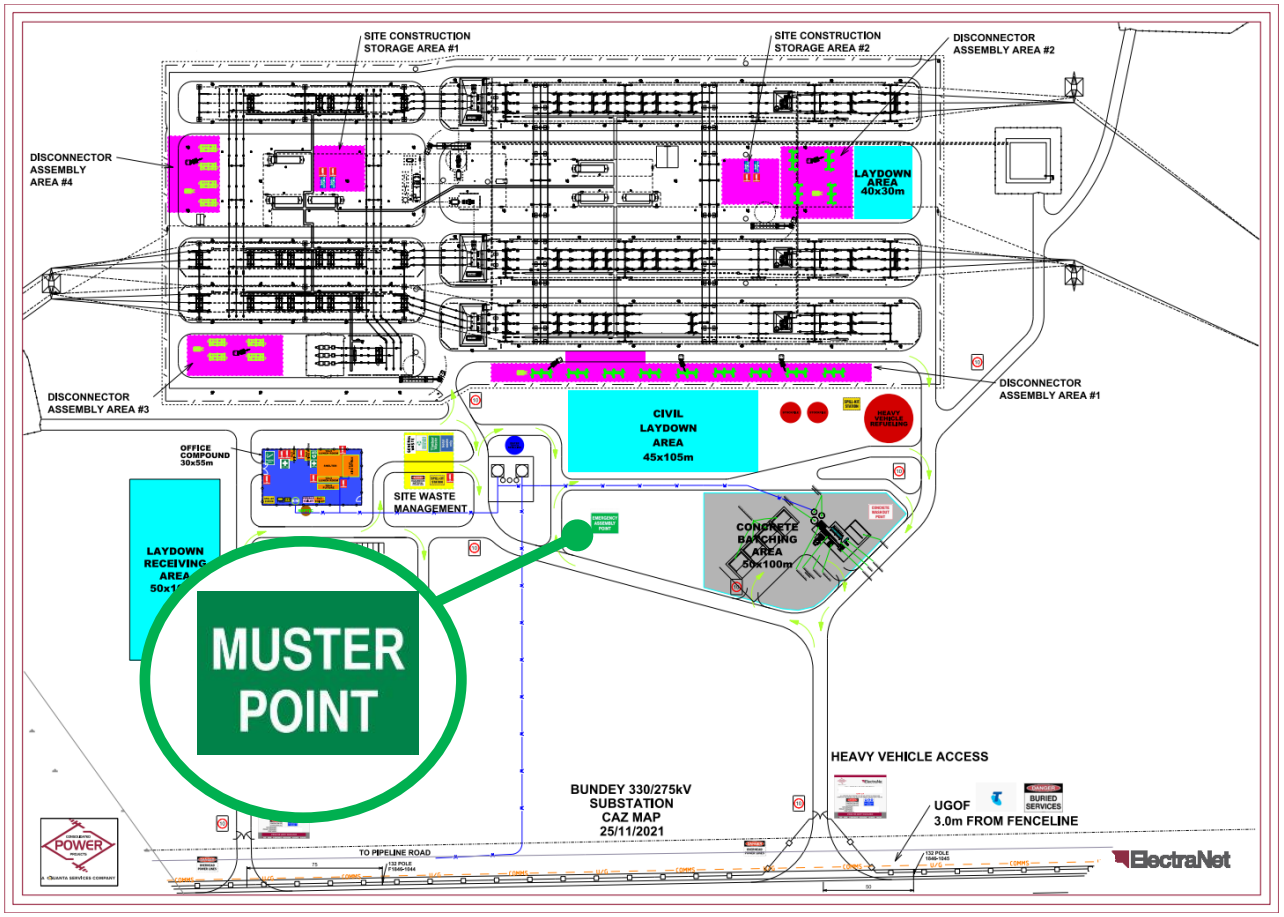
11 EMERGENCY EQUIPMENT

- The WHSE Emergency Requirements Assessment shall determine what types of emergency equipment is required and the type of monitoring/inspections the equipment needs.
- All the emergency and first aid equipment on site is inspected and maintained in accordance with OEM and Code of Practice requirements, See Project WHS Management Plan: Inspection and Calibration Table.

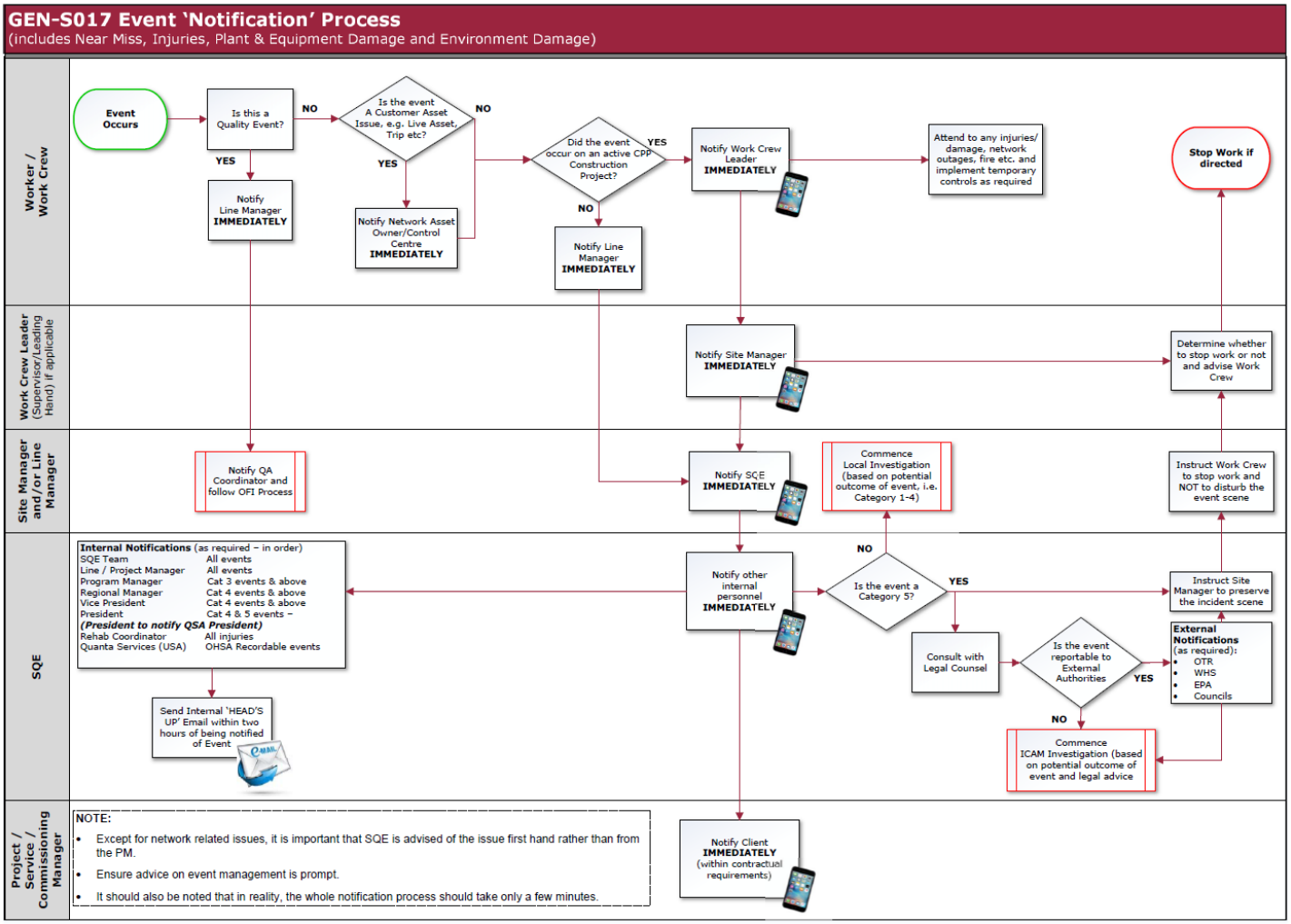
12 PUBLIC RELATIONS

- Any information requested by media of a general nature or pertaining to a site-specific event are to be forwarded to the Project Manager who will contact the People and Culture Manager, Dan Nelson.
- No statements are to be issued to the media or external agencies by any person.
- All enquiries are to be directed via the Project Manager to the People and Culture Manager, Dan Nelson for formal comment if required.

APPENDIX A EMERGENCY MUSTER POINTS



APPENDIX B EVENT NOTIFICATION FLOWCHART



APPENDIX C WORKING AT HEIGHTS RESCUE PLAN

Task details		
Project:	Location:	Nearest Muster Point:
Date:		
Description of task:		

Operators: Names of operators who are involved in the work at height	
1.	4.
2.	5.
3.	6.

Communications: Methods to be employed between the suspended worker and rescue team	
☐ Direct voice communication	☐ Mobile phone
☐ Whistle	☐ Two-way radios/headsets

Emergency contacts	Name	Contact no.
Rescue team:		
First aider(s): (able to treat suspension trauma)		
Nearest hospital/emergency:		

If the rescue team is unable to affect a rescue within 5min, Emergency Services are to be called on 000.

Note: The team leader / site manager shall be prepared to provide the following information to emergency services as a minimum:

- Location / how high up the casualty is; and
- Injured Persons' condition after fall.

Safety of rescuers:	Tick as appropriate	
Are operators trained competent & in date in use of rescue equipment?	Yes ☐	No ☐
Are rescue training records in date?	Yes ☐	No ☐
Are there a sufficient number of rescuers available?	Yes ☐	No ☐
Is rescue equipment selected appropriate for nature of work?	Yes ☐	No ☐
What obstructions are in the way of reaching the suspended operator? (Detail below)		

Safety of rescuers:	Tick as appropriate	
Have assessments been made of anchor points, and are they in date for test?	Yes ☐	No ☐
Has consideration been made to method of attaching casualty? (Detail below)		

How will rescuers get to casualty? Tick as appropriate			
Rescue ladder system	☐	Rescue haul system	☐
Keys to building & roof	☐	Elevator	☐
Pull casualty in through window / balcony	☐	Pull casualty up through floor/slab/roof	☐
Climb / abseil down building / structure	☐	Suspended access equipment	☐
Aerial equipment from ground	☐	Crane man basket	☐

What equipment is needed to ensure rescue within 5 minutes? Tick as appropriate			
Rescue ladder	☐	Rescue haul system	☐
Toxic shock strap	☐	Suspended access equipment	☐
Ropes	☐	EWP	☐
Climbing / rope rescue system	☐	First Aid Kit	☐
Stretcher	☐	Deliberator	☐

Other considerations: Detail as appropriate
Weather conditions:
Proximity to emergency services / hospital:
Language barriers (agency / contract staff):

Site Manager:		
Name:	Signature:	Date:

APPENDIX D EMERGENCY CONTACT DETAILS

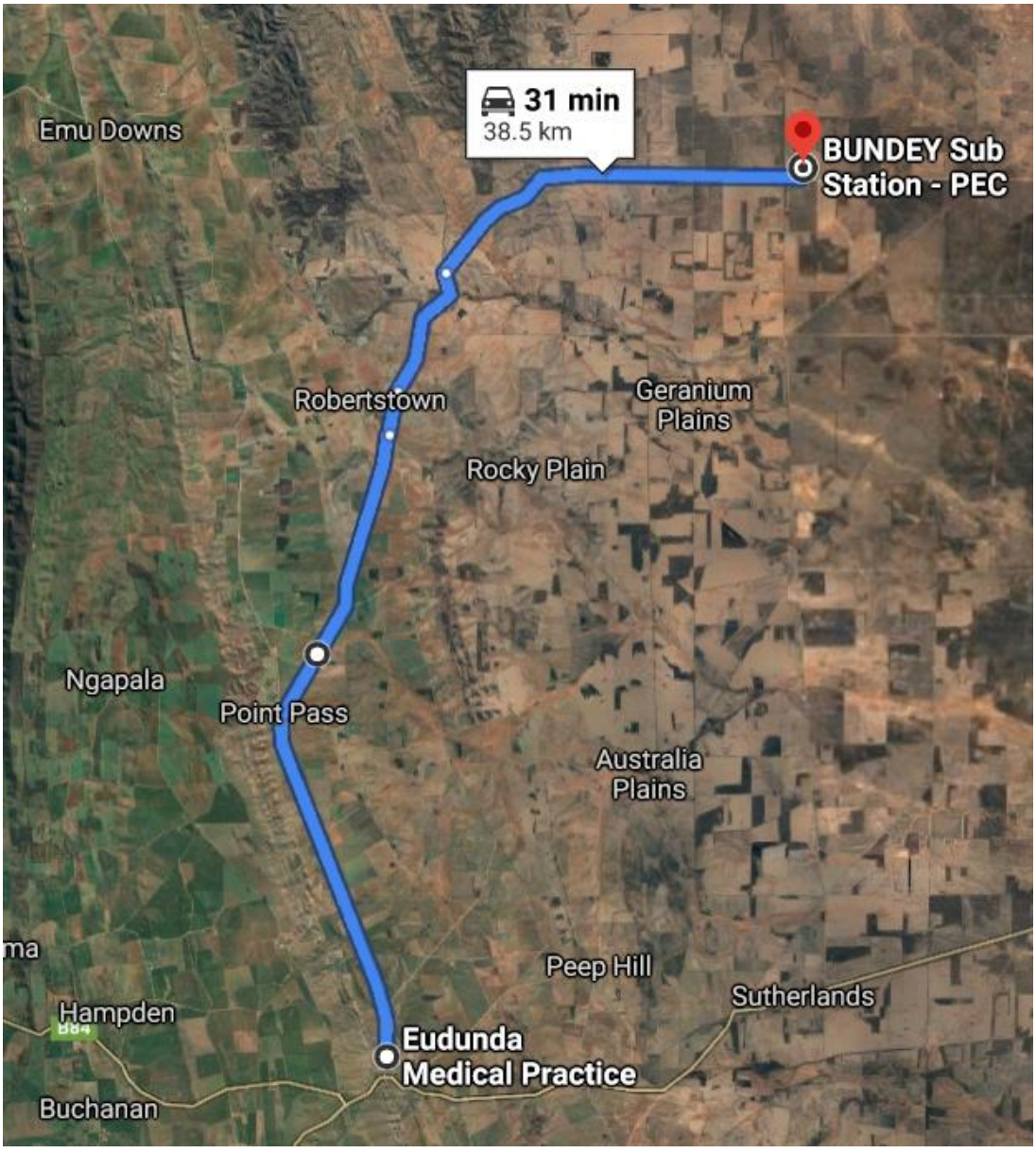
PROJECT DETAILS			
Project Name:	Project Energy Connect (PEC) Bundey	**Project Number:**	11135-3B
Client:	ElectraNet	**Principal Contractor:**	Consolidated Power Projects (CPP)
Project Address:	Corner of Sutherlands Road and Powerline Road, Bundey, SA -33.925418, 139.222023		

EMERGENCY CONTACT DETAILS		
Title/Section	**Name/Address/Comments**	**Phone/Number**
Project Manager	Steve Cheesman	0457 5112 601
Site Manager	Adam Kenny	0428 530 579
SQE Advisor	Jamie Kirk	0427 455 347
SQE Manager	Carl Hogg	0400 166 121
Rehab & Return to Work Coordinator	Carl Hogg	0400 166 121
CPP Corporate Head Office	205 Halifax Street, Adelaide SA 5000	08 8291 7800
Police, Ambulance & Fire	Emergency	**000**
	Mobile emergency number if out of range of your network or you cannot unlock your keypad or use your PIN	112
UHF Radio	Comms Emergency Channel	Channel 14 for UHF
ElectraNet SMSC		Emergencies 08 8404 7233 Internal 2999 External 1300 362 299
Poisons Info Centre	National Information, Advice and Emergency	131 126
Bush Fire Safer Place	Eudunda Township - **Use if you need to relocate early.**	
Bush Fire Last Resort Refuge	Robertstown Oval, Robertstown Main Road, Robertstown SA 5381 **Use if your plan has failed.**	

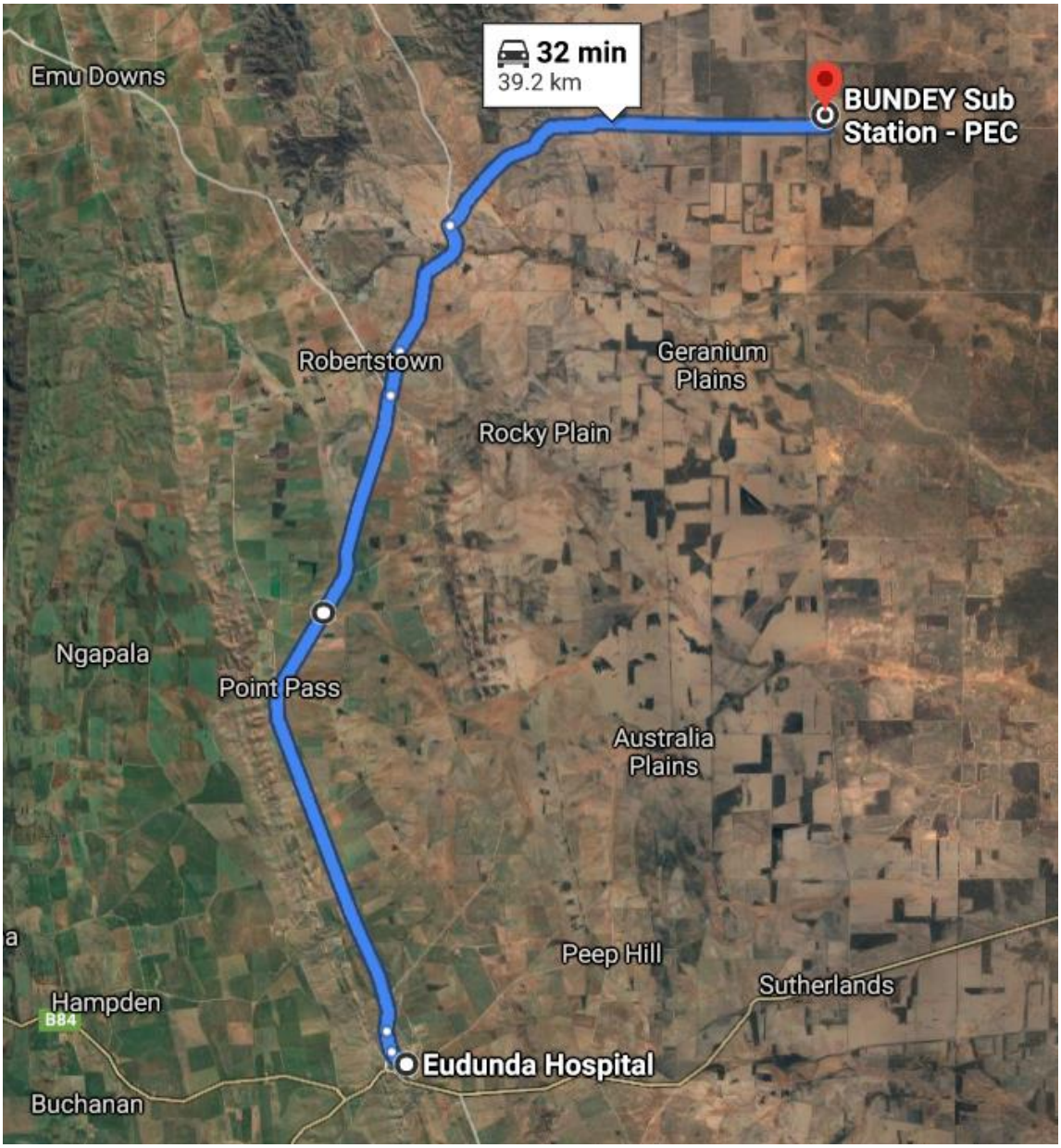
EMERGENCY CONTACT DETAILS		
Title/Section	**Name/Address/Comments**	**Phone/Number**
SafeWork SA	Information and Advice	1300 365 255 (9-5)
	Emergency	1800 777 209 (24 hr)
SA Country Fire Service (CFS)	General Enquiries Only for Information on Local Fire Bans	1800 362 361
State Emergency Services	National Emergency	132 500
Wildlife Information, Rescue and Education Service (WIRES)	National Information, Advice and Emergency	1300 094 737
EPA SA	Information, Advice and Emergency	1800 623 445

FIRST AID TREATMENT	
Adam Kenny - 0428 530 579	**Jamie Kirk – 0427 455 347**
	

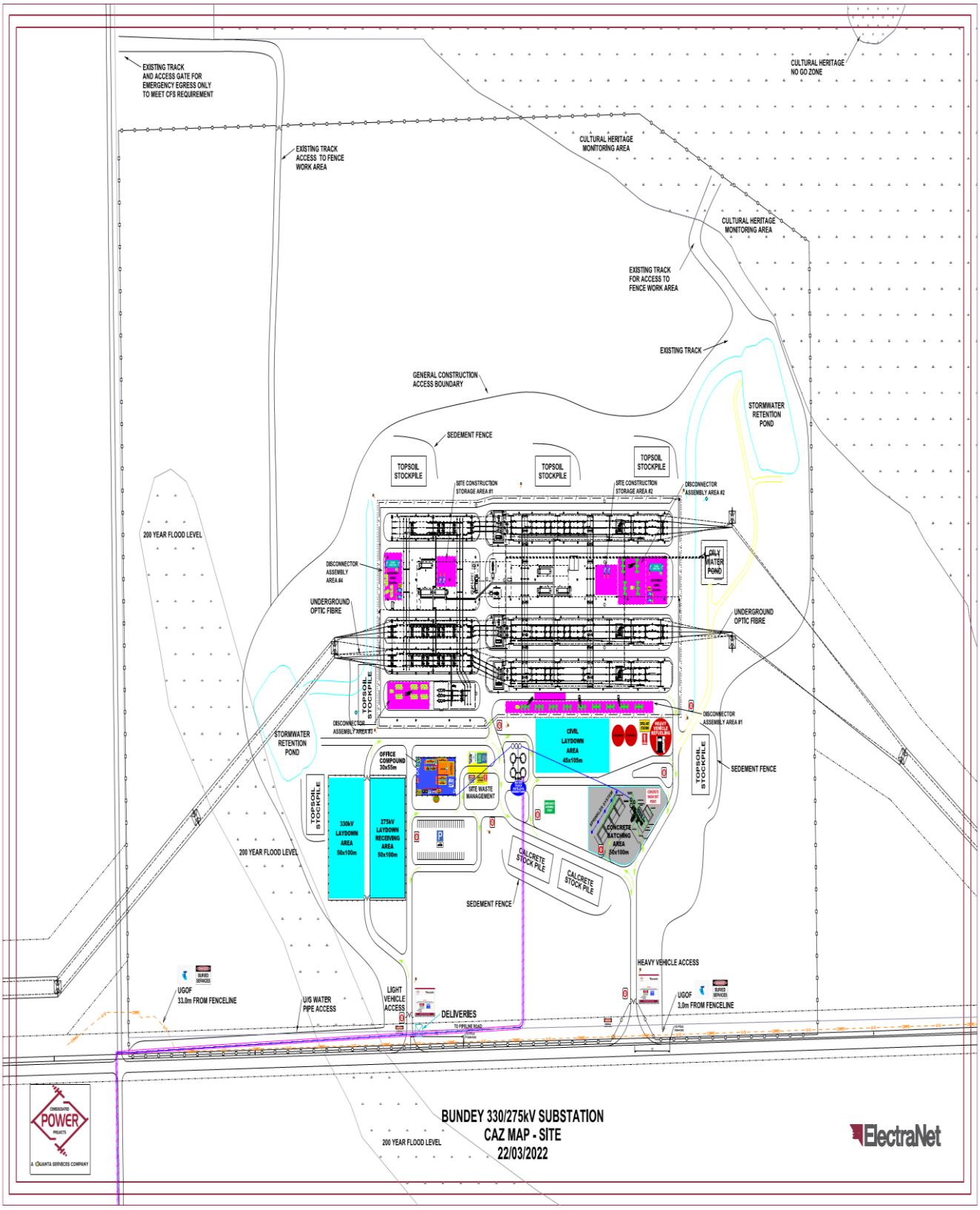
MEDICAL TREATMENT		
Medical Centre	**Address**	**Phone Number**
Eudunda Medical Practice	25a Bruce Street, SA 5374	(08) 8581 1309



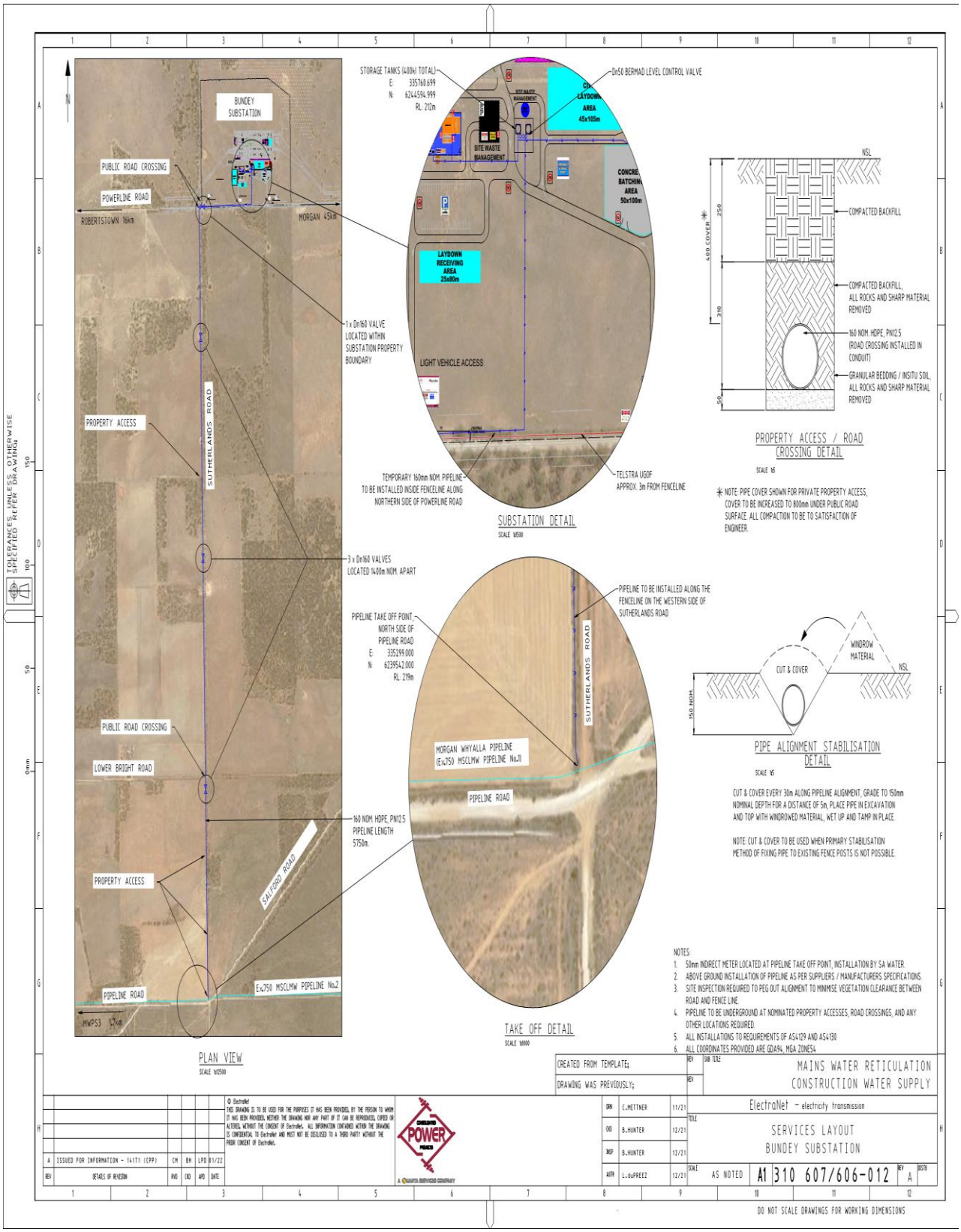
Hospital		
Hospital	**Address**	**Phone Number**
Eudunda Hospital	40 Ward St, Eudunda SA 5374	8858 11404



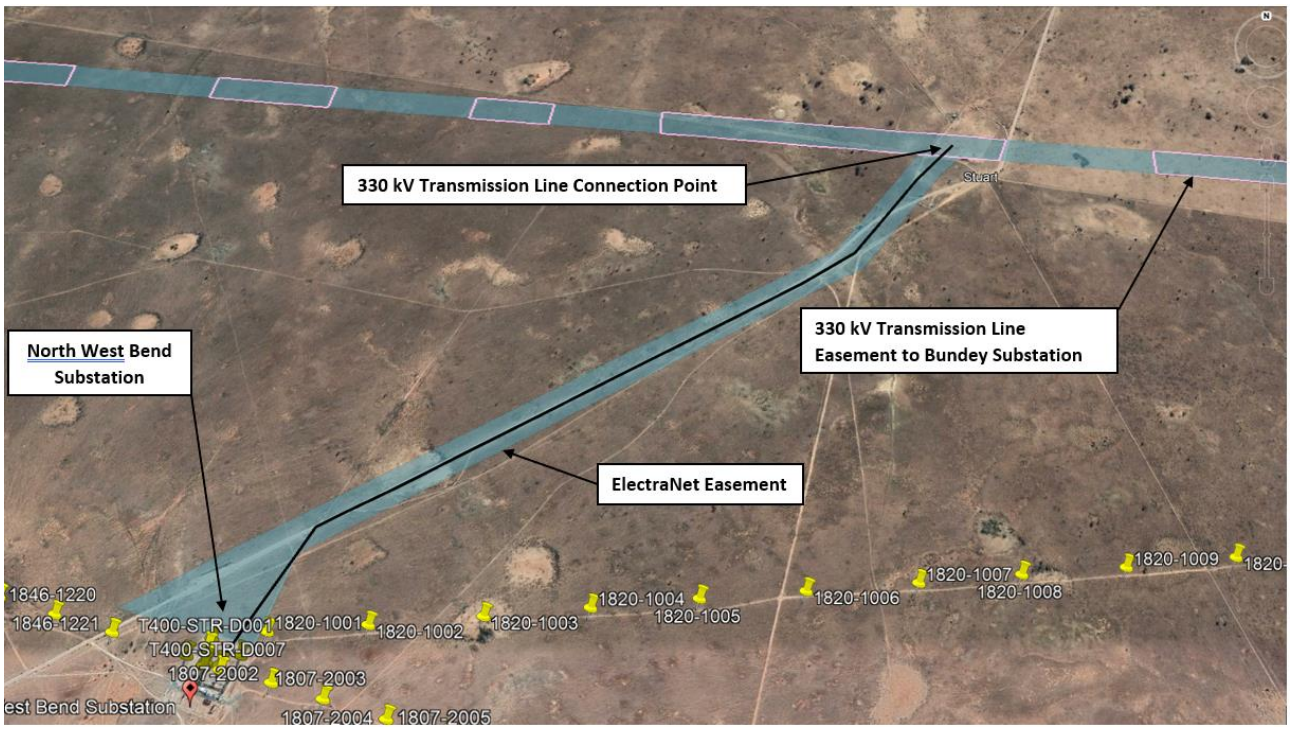
Construction Activity Zone Map



Temporary Water Pipeline Installation Map



North West Bend Fibre Optic Installation Map



APPENDIX E EMERGENCY FIRE PLAN CHECKLIST

Upon being informed of a fire within 100km, or 2 hours from your project AND the wind is pushing the fire in your direction, the Project Manager will implement the following:			
Time	**Action**	**Responsible Person**	**Tick when completed**
	Appoint someone to monitor the emergency services fire information and an alternative person if nominated is unavailable	1. 2.	❑
	Get today's pre-start meeting list to identify people on site		❑
	Notify Operations Manager and Client Representative that emergency preparations are underway, and they will be kept informed. Operations Manager will inform Crisis team leader or initiate Crisis Plan as required		❑
	Inform the work crew that a fire has been reported and they should immediately report any sightings or concerns. Have all vehicles parked facing the nominated escape path, also review alternative escape routes. Decide on a preferred escape route and establish how the site will be left (IE: trenches filled or fenced off, locations to park machines)	Record the initials of who you informed 1. 2. 3.	❑
	Check the operation of all two-way radios and mobile phone communication	Record the initials of who you checked 1. 2. 3.	❑
	Review the planned works for that day and determine appropriateness (e.g. should an open excavation across a road that could be required in a community evacuation continue)		❑
	Clean up any site rubbish that could add fuel to a fire Close lids on all bins. Close site containers		❑
	If safe / practical, relocate any bulk fuel storage off site completely or at the least move 200m away from any buildings		❑
	Back up any critical project files on the server		❑
	Establish a location (outside of the affected fire area) and route of escape where people will evacuate to IF required. This can include people evacuating to their homes or nominated point.	Record location/s 1. 2. 3.	❑
	Inform emergency services of project activities, number of personnel and that you will inform them if the project is evacuated. Also provide contact details, the amount and location of any stored fuels or flammable liquids and evacuation route information.	Fire Police Ambulance	❑

Upon being informed of a fire within 50km, or 1 hour from your project <u>AND</u> the wind is pushing the fire in your direction, the Project Manager will implement the following:			
Time	**Action**	**Responsible Person**	**Tick when completed**
	Issue an order to stop all work and initiate the emergency evacuation plan	Record the initials of who you informed 1. 2. 3.	❑
	The following actions will only be completed if they haven't already been completed AND ONLY if safe		

	Make any active construction areas as safe as possible taking into account potential risks from the public travelling through the site.		❑
	Close the lids of all site bins		❑
	Close and lock all container doors		❑
	Close and lock all site office windows and doors		❑
	Back up any critical project files on the server and take the backup disk and any laptops as you leave		❑
	Lock compounds gate		❑
	Confirm all site personnel have been evacuated	Record the initials of who you confirmed with 1. 2. 3.	❑
	Inform emergency services that you have evacuated		❑
	The site was evacuated, this checklist is incomplete		

After evacuation and BEFORE recommencing project activities the Project Manager will:			
Time	**Action**	**Responsible Person**	**Tick when completed**
	Obtain clearance/advice from emergency services before returning to site	Advised by:	❑
	Consult with emergency services regarding any planned road closures if restarting construction activities		❑
	Take photos of any site damage		❑
	Provide a debrief to the work crew		❑
	Project Manager confirms the end of the bushfire emergency and resumes operations		

APPENDIX F DRSABCD ACTION PLAN

DRSABCD action plan

In an emergency call **triple zero (000)** for an ambulance

St John

D DANGER

Ensure the area is safe for yourself, others and the patient.

R RESPONSE

Check for response—ask name—squeeze shoulders

No response
- Send for help.

Response
- make comfortable
- check for injuries
- monitor response.

S SEND for help

Call Triple Zero (000) for an ambulance or ask another person to make the call.

A AIRWAY

Open mouth—if foreign material is present:
- place in the recovery position
- clear airway with fingers.

Open airway by tilting head with chin lift.

B BREATHING

Check for breathing—look, listen and feel.

Not normal breathing
- Start CPR.

Normal breathing
- place in recovery position
- monitor breathing
- manage injuries
- treat for shock.

C CPR

Start CPR—30 chest compressions : 2 breaths

Continue CPR until help arrives or patient recovers.

D DEFIBRILLATION

Apply defibrillator if available and follow voice prompts.

Traffic Management Plan

ElectraNet Project EnergyConnect

Bundey

CPP Project No: 11135

Current Revision			
Revision:	F	Revision Date: 22.03.2022	
Task:	Responsibility:	Date:	Signature:
Developed by:	David Winterburn		
SQE Review:	Dawn Beaumont		
Review by Responsible Site Manager:	Adam Kenny		
Approved by Accountable Project Manager:	Steve Cheesman		

TABLE OF CONTENTS

1 INTRODUCTION

1.1 Project Overview

Project EnergyConnect (PEC) is a proposed high voltage electricity transmission interconnector to be constructed between Robertstown in South Australia (SA) and Wagga Wagga in New South Wales (NSW), with an added connection from Buronga in NSW to Red Cliffs in north-west Victoria. The transmission line would be the second major interconnector between SA and the National Electricity Market (NEM).

The South Australian components of Project EnergyConnect will be developed by ElectraNet, and will require a new substation to be sited at Bundey, approximately 14 km north-east of Robertstown. This substation will connect the 275 kV and the 330 kV transmission lines and control the flow between the two systems.

The Bundey substation will comprise:

- transmission gantries which guide transmission lines into the substation
- surge arrestors to protect equipment within the substation from any voltage spikes on the transmission lines
- power transformers which allow the step change in voltage
- line disconnectors which allow the transmission lines and equipment within the substation to be safely isolated for maintenance work
- voltage and current transformers which measure voltage and current entering and moving through the substation
- circuit breakers which are automatic switches that interrupt electrical flow to de-energise equipment and clear faults
- busbars which are conductors that connect equipment within the substation
- light poles which provide emergency lighting for crews that might need to attend the site in the event of a fault
- lightning masts which attract lightning strikes away from sensitive substation equipment
- a weather station which provides real time information about localised conditions that could affect the safe and reliable operation of the transmission network
- communication / radio tower which allow the substation to be remotely monitored and operated
- associated control and amenities buildings.

Consolidated Power Projects Australia Pty Ltd (Consolidated Power Projects, CPP), has been awarded the contract to construct the Bundey Substation on behalf of ElectraNet.

1.2 Company Overview

Consolidated Power Projects specialises in providing full turnkey high voltage solutions for power utility, industrial, resource and renewable energy sectors.

We offer specialist design, construction, commissioning and maintenance of high voltage infrastructure. As a trusted partner to Australia's largest renewable and power transmission utility companies, we continue to deliver successful, large-scale projects including battery infrastructure, solar and wind farms, and high voltage transmission substations.

Our commitment to zero harm to the environment is taken as seriously as zero harm to our workforce. We have a framework for the development of site-specific Environmental Management Plans based on our environmental policy. Project-specific Environmental Management Plans are developed to meet client requirements, ensuring environmental risks, impacts or disturbances are either avoided or minimized.

Our ISO 14001 accredited systems help to ensure we achieve this in a systematic way that is repeatable on every project we undertake.

1.3 Traffic Management Plan

This Traffic Management Plan (TMP) outlines the traffic control and traffic management procedures to be implemented by CPP to manage potential hazards associated with the traffic environment during the Project.

1.3.1 Consolidated Power Projects (CPP) Commitment

Our Project TMP encompasses and reflects our commitment to meeting customer requirements for safety, performance and value in relation to our delivered products.

1.3.2 Scope and Purpose

This TMP applies to the planning, construction and defects liability phases of all works to be undertaken as part of the Project. It applies to all workers, contractors, labour hire and suppliers working on the project.

This TMP should be read in conjunction with other project documents including:

- Project Management Plan;
- Project Risk Register;
- Project Work Health and Safety Plan;
- Construction Environmental Management Plan;
- Project Quality Plan; and
- Associated Sub-Plans

1.3.3 Objectives and Strategy

The objectives of the Traffic Management Plan is to ensure:

- The safety of the workers engaged in the Project.
- All road users, including vulnerable road users, are safe from Project-related traffic movements
- The performance of the road network is not unduly impacted and the disruption and inconvenience to all road users are minimised for the duration of the works.
- Impacts on users of the road reserve and adjacent properties to the Project site are minimised.

In an effort to meet these objectives the TMP will incorporate the following strategies:

- Describing the proposed road routes and traffic volumes to raise awareness of traffic movements associated with the Project
- Minimise and control wherever possible the interaction and impact between heavy vehicles, light vehicles and public traffic; and
- To ensure a safe working environment for all personnel working at or visiting the site.

- Ensuring delays are minimised.
- Ensuring all road users are managed including motorists, pedestrians, cyclists, people with disabilities and people using public transport.
- Ensuring work activities are carried out sequentially to minimise adverse impacts.
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures.
- All entry and exit movements to and from traffic streams shall be in accordance with the requirements of safe working practices.

1.3.4 Traffic Management Plan Development

This Traffic Management Plan has been developed in accordance with the requirements of:

- *Road Traffic Act 1961*
- Road Traffic Regulations 2013
- Dangerous Substances (Dangerous Goods Transport) Regulations 2008
- EIS Volume 1 Chapter 16 Traffic and Transport
- EIS Volume 3 Appendix P Draft Construction Environmental Management Plan
- Relevant ElectraNet and CPP guidelines and procedures

1.3.5 Traffic Management Plan Revisions

This TMP shall be amended following any significant events, or if there are significant changes to Project scope, methodology, risk profile or legislation. CPP will ensure that each relevant person affected by the amendment is advised of the details of the amendment or given a copy of the amendment.

Management plan updates will be managed via an appendix to the TMP. Electronic and hardcopy versions will have the updates highlighted and added to the appendix.

TMP nomenclature will be as follows:

- Draft Revisions: (A, B, C ….): where the documents are in draft and not yet finalised
- Major revisions (1.0, 2.0, 3.0 ….): where there is a significant change to environmental requirements or project management methodology. Major revisions will be required to be resubmitted to the client and authorised by the Project Manager.

Minor revisions (2.1, 2.2, 2.3 ….): may include items such as changes of a minor nature following a management review of the TMP or referenced documents, any change in the name or numbering of a referenced document, changes to names or contact numbers of key personnel contacts. Minor revisions require approval by the Project Manager but do not require submission to the client

2 PROJECT DESCRIPTION

2.1 Project Details

Particulars of the Project are described in Table 1.

Table 1: Project Specific Details

Aspect	Description
Client:	ElectraNet Pty Ltd
Principal Contractor:	Consolidated Power Projects (CPP)
Project Name:	Project Energy Connect (PEC) – Bundey
Project Number:	11135
Project Address:	Corner of Sutherlands Road and Powerline Road, Bundey, SA -33.925418, 139.222023
Project Manager:	Steve Cheesman
Site Manager:	Adam Kenny
Site SQE Advisor	Jamie Kirk

2.2 Project Scope of Works

Project Energy Connect (PEC) is proposing to develop a new interconnector between NSW and SA. This involves connecting the existing TransGrid Buronga substation in NSW to the proposed new ElectraNet 330/275kV Bundey Substation via approximately 325 km of new double circuit transmission line. The new Bundey Substation will be connected to the existing Robertstown substation by approximately 11 km of double circuit transmission line. The Bundey substation will be located approximately 11 km north of the existing Robertstown substation (see Figure 1).

The scope of CPP commission is to complete the design, installation and commissioning works to build the new Bundey substation in order to connect the two new high-capacity transmission lines each from 330 kV Buronga substation and 275 kV Robertstown substation.

A summary of the project scope of work is outlined below:

- Civil, Primary and Secondary Systems Engineering and Design
- Site Safety, Environmental, Quality and Cultural Heritage Management
- Implementation of Site Bulk Earthworks, Drainage and Access Road provisions
- Installation and Commissioning of 3 x 330 kV and 3 x 275 kV Transformer Bays in a breaker and a half configuration
- Installation of 275 kV and 330 kV Gantry System, Strung Bus and earth wire configuration
- Installation and Commissioning of 2 x 330 kV Transmission Line Bays (Buronga Substation (NSW))
- Installation and Commissioning of 2 x 275 kV Transmission Line Bays to Robertstown Substation (SA)

- Installation and Commissioning of 3 x 400 mVA 330 kV / 275 kV Transformers
- Installation and Commissioning of 1 x 275 kV Capacitor Bank
- Installation and Commissioning of 2 x 60 MVAr Reactors
- Installation of 1 x 60MVAr Reactor (Site Spare)
- Installation and Commissioning of 3 x 275 kV Control Buildings, 3 x 330 kV Control Buildings, 1 x Amenities Building, and 1 x Telecommunications Building
- Integration of a new Telecommunications Link into the ElectraNet Network
- Management of Transmission Line Outages to Energise Bundey Substation (from Buronga NSW)
- Management of Transmission Line Outages to Energise Robertstown Substation (from Bundey)
- Submission of all As-Built Drawings and Project Documentation at Project Completion

To support the construction activities at Bundey Substation, a temporary 5km 100mm UV resistant polypipe will be installed above ground on the western side of Sutherlands Road. The polypipe will be secured above ground with metal pegs every 250m. The pipe is proposed to be installed underground for road crossing 1m deep in conduit sleeves. It will tie in with existing mains water at the water connection point on Pipeline Road.

Authorisation for works has been given from Regional Council of Goyder and SA Water.

As part of Bundey Substation project delivery, a fibre optic cable for telecommunications will be installed to connect the North West Bend Substation as part of the scope of works. 2 x 150mm diameter conduit containing fibre will be buried 1000m deep running along the ElectraNet easement into the North West Bend Substation.

2.3 Construction Works

The Project construction program is divided into a number of stages, summarised in the following sections.

2.3.1 Mobilisation and Site Establishment

Mobilisation to site will be completed as outlined below:

- Site Survey, establish site boundaries and areas of Cultural Heritage Significance
- Welcoming Ceremony with Murray Lands First People
- Install Temporary Site Office
- Establish Site Water Connection to Site
- Establish Site Civil Water Infrastructure
- Clear Vegetation and establish Construction Activity Zones (CAZ) Map area bench
- Establish Construction Activity Zone and Site Office Setup and Secure Fenced Areas
- Establish Laydown Areas, Waste Management, and site Traffic Management signage
- Install underground water and power services to Site Office Area
- Establish Site Internet Connection
- Implement Site Signage, Notice Boards and Emergency Management Procedures
- Establish Site Office Area – Ready for Business

CPP have assessed a suitable office and laydown areas to best suit the project and operation needs of the site during the construction phase. The CAZ is described in Figure 2, and shows the proposed Project layout.

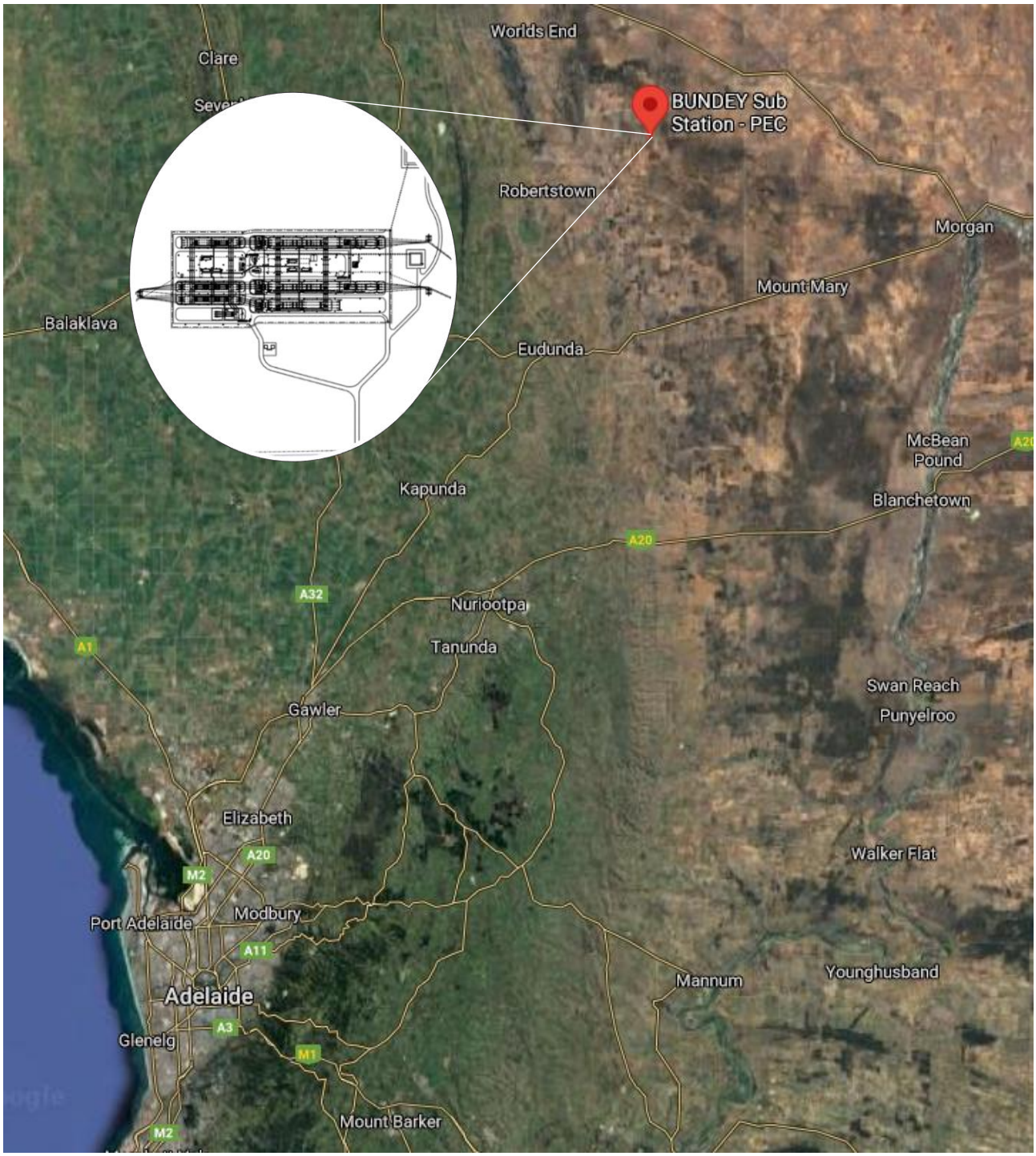


Figure 1: Location of the PEC Bundey Substation

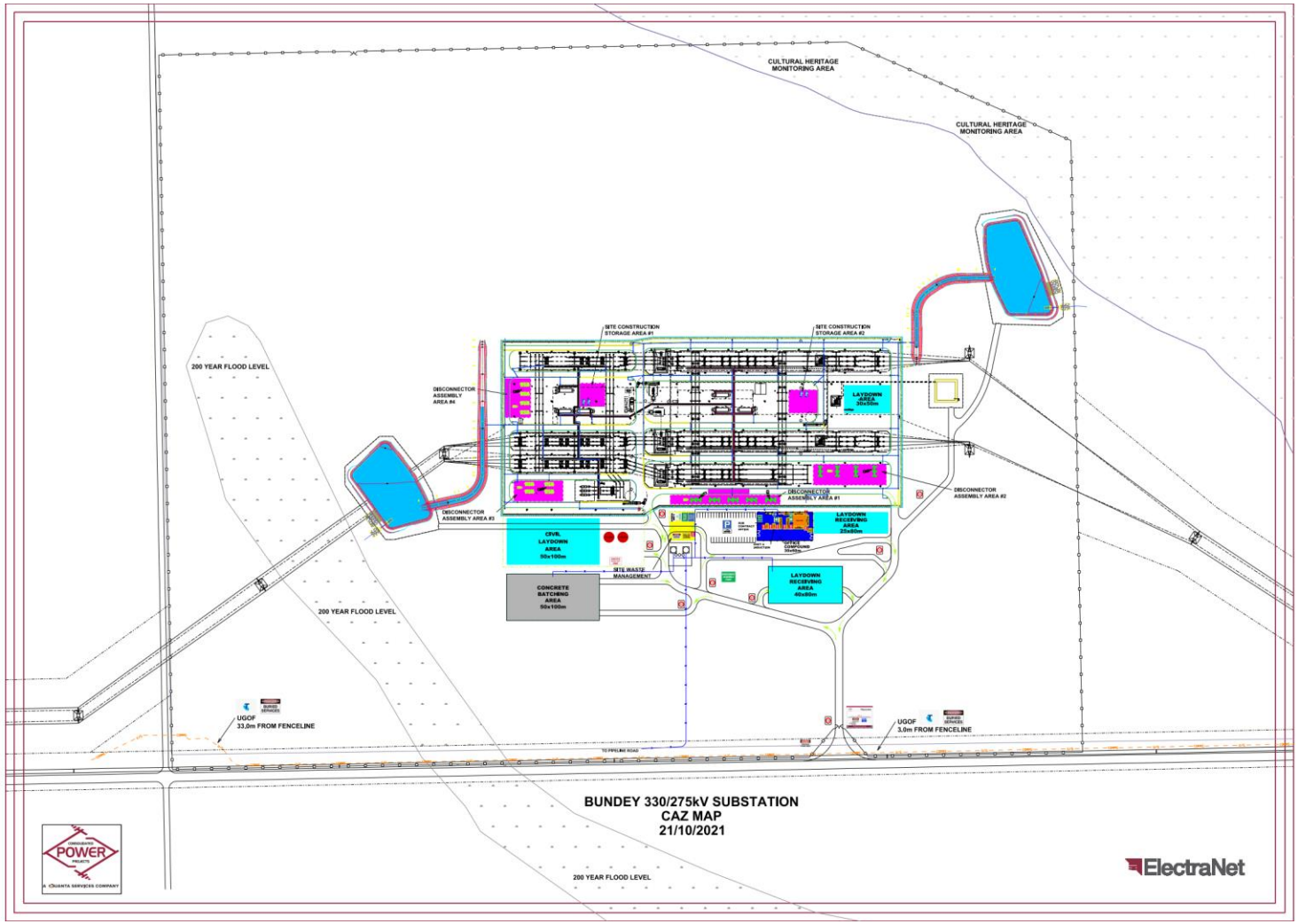


Figure 2: PEC Bundey Substation Layout and Construction Activity Zone (CAZ)

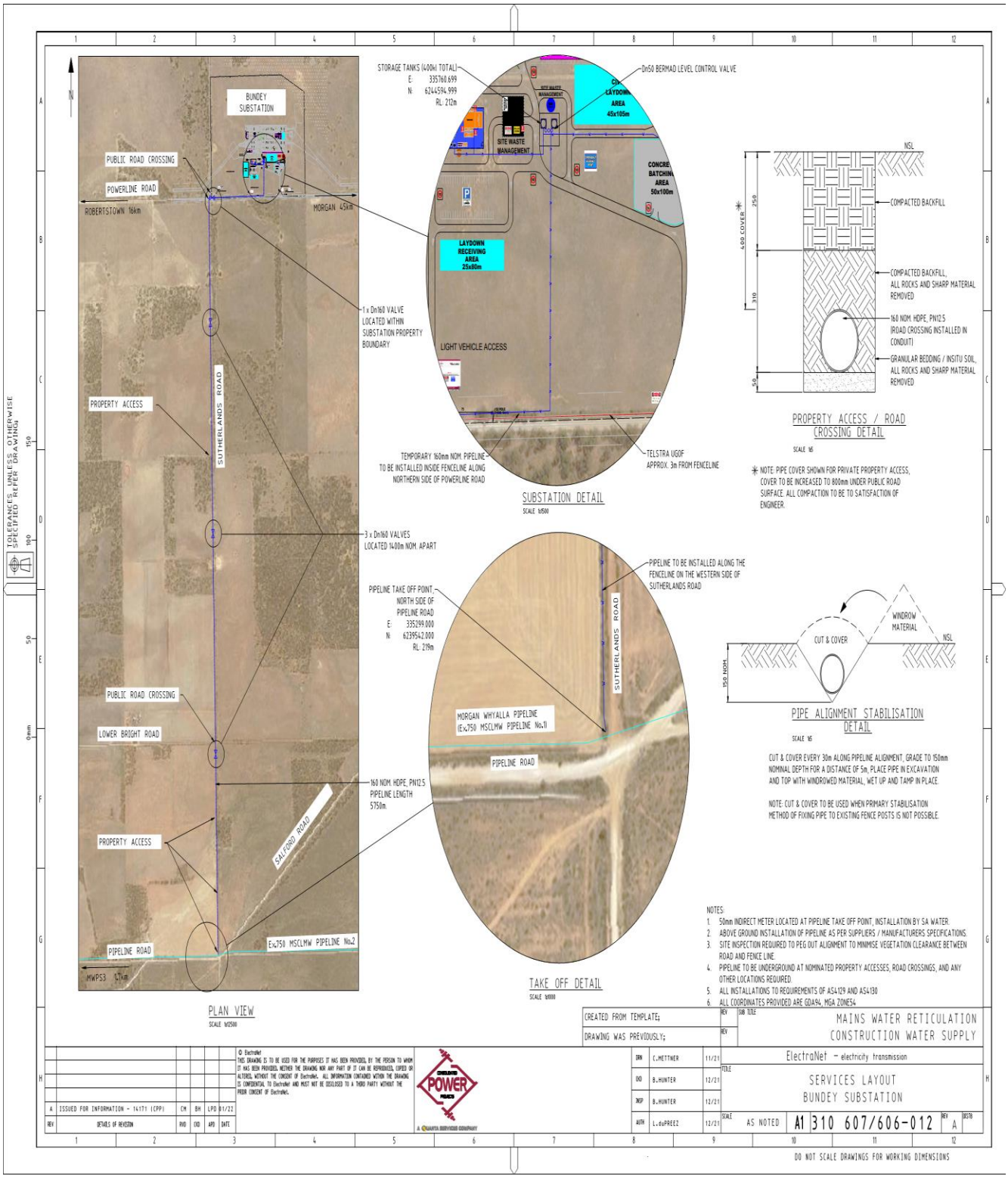


Figure 3 – Temporary Water Supply Installation

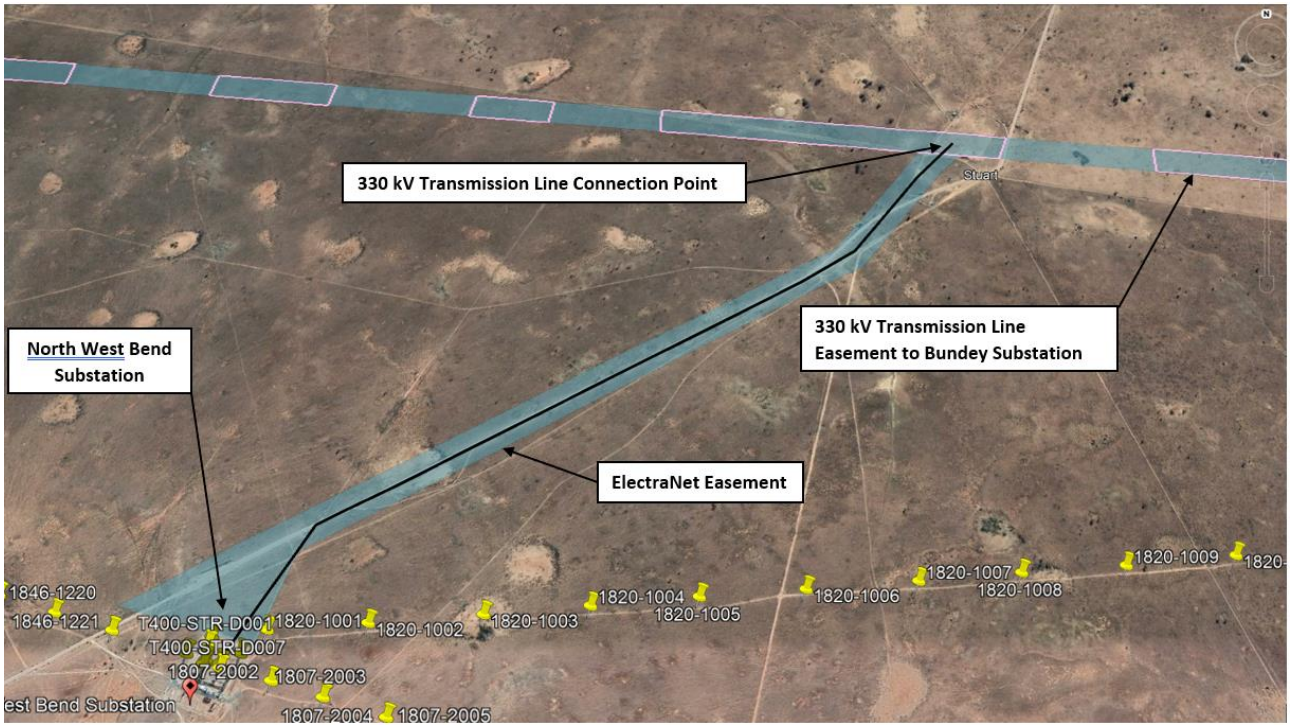


Figure 4 – North West Bend Fibre Optic Installation

2.3.2 Bulk Earthworks and Drainage

The bulk earthworks will commence immediately after site mobilisation and establishment, and the IFC approval of the bench design. The strategy for the execution of this package of work is to work from the southern to the northern side of the yard, in view of completing the benching works in full prior to the commencement of the site drainage installation.

A SA Water connection will be established on site, negating the need to truck water to and from site during the bulk earthworks stage of the project. See Figure 4.

2.3.3 Footings and Ducts

Upon the completion of the civil bulk earthworks, drainage and earth grid installation, the footings and ducts component of the substation will commence. It is intended that the construction will progress from south to north, with dedicated work areas being established to ensure safe work zones and minimal trade stacking on site. Site facilities will be established, with a dedicated site office being provided for the civil contractor.

To facilitate the planning and execution these works, A strategic approach to the execution of the substation footings and ducts has been adopted, with the substation being divided into two three distinct work zones:

- 275 kV Zone: 275 kV Yard Footings and Ducts
- Central Zone: Central Yard Footings and Ducts
- 330 kV Zone: 330 kV Yard Footings and Ducts

2.3.4 Concrete Supply

To increase efficiency and flexibility on site, and to reduce heavy vehicle traffic movements to and from site, a dedicated concrete batching plant will be established on site. Water supply for the batching plant will be provided on site, with dedicated NATA accredited concrete testing engineers being present on site throughout the footings and ducts installation period.

2.3.5 Fencing, Surface Water Drainage and Kerbing

Fencing, kerbing, surface water management infrastructure, oil sumps, site buildings (offices and storage sheds), telecommunications infrastructure and site access roads will be installed/constructed during the footings and ducts phase of the project.

2.3.6 Substation Construction

Due to time constraints, a strategic approach will also be undertaken for the execution of the construction phase of the project, in that the construction of the substation bays will occur as the footings and ducts of the respective bay is completed.

A summary of the proposed work zones is outlined below, which will be clearly delineated on site to ensure safety of site personnel and to minimise the clashing of alternate trade groups:

275 kV Zone Construction Packages of Work

- Primary Plant Preparation (Disconnector Assembly and Primary Plant Earthing)
- 275 kV Gantry, Primary Plant and Bus Installation (100 T Slue Crane installing pre-prepared plant)
- Capacitor Bank Installation (by others)
- Control Building Installation (+1, +7, +8 and +6 Buildings)
- Control Cable Installation
- Primary and Secondary Terminations
- Earthing Connections
- Overhead Strung Bus and Primary Connections
- VAB Installation
- Surface Drainage, Kerbing, Blue Stone and Bitumen Installation

Central Zone Construction Packages of Work

- Transformer Installation and Assembly (by others)
- 33 kV Plant Installation
- 33 kV Cable Installation
- Aux Transformer Installation
- 275 kV Bus Installation

330 kV Zone Construction Packages of Work

- Primary Plant Preparation (Disconnector Assembly and Primary Plant Earthing)
- 330 kV Gantry & Primary Plant Installation (100 T Slue Crane installing pre-prepared plant)
- Capacitor Bank Installation (by others)

- Control Building Installation (+3, +4 and +5 Buildings)
- Control Cable Installation
- Primary & Secondary Terminations
- Earthing Connections
- Overhead Strung Bus and Primary Connections
- Reactor Installation and Assembly (by others)
- VAB Installation
- Surface Drainage, Kerbing, Blue Stone and Bitumen Installation

2.3.7 Commissioning and Energisation

The purpose of the substation commissioning process is to ensure that installed plant and equipment operates as designed. The substation commissioning process can be split into the following stages:

- Commissioning Inspection and Test Plan development (CITP).
- Factory Acceptance Testing (FAT).
- Primary Plant Testing.
- Site Integration Testing (SIT).
- Commissioning Tests; and
- Commissioning Inspection and Test Plan completion

3 ENVIRONMENT, SOCIAL AND GOVERNANCE

3.1 Environment, Social and Governance Objectives

Sustainability is a core value at CPP, and we recognise the value and importance of incorporating Environmental, Social, and Governance (ESG) criteria into our operating framework. Our ESG objectives support our longstanding commitment to our partners, shareholders, employees and the communities in which we operate.

We view ESG as a continuous process of aligning our operations and controls with our values as a Company. Our ESG objectives are structured around three key areas of our business, Our People, Our Planet, and Our Principles, as described in Table 2.

Table 2: CPP Environment, Social and Governance Objectives

Our People	Our Planet	Our Principles
All employees have access to the Employee Assistance Program	Carbon reduction plan in place, with increased savings year on year.	Signatory to annual Quanta Services Group's Modern Slavery statement
Partners with Mates in Construction	Annual Waste Reduction KPI's, with new initiatives program.	100% compliance with directors & Officers obligations under WHS legislation

Indigenous Participation – Supporters of the national reconciliation movement with Reconciliation Australia. Approved CPP RAP.	Community Volunteer programs and local community sponsorships	100% of nominated employees complete contractual and legal training
Graduate and Apprentice Programs with annual intakes	Local Community Employment Plans	100% completion of risk assessments completed on JV partners
Diversity and Inclusion program, including strategies to increase gender diversity across the executive	Local Procurement Plans	100% completion of risk assessment completed on new clients >$10M
	Annual budget increases to clean energy and renewable projects spend	

3.2 Community and Environment Policy

The Community and Environment Policy (Document No. POL-S002) communicates CPP's commitment toward avoiding, reducing or controlling environmental impact and will be communicated during the Site Induction and displayed in visible locations on sites and in offices.

3.3 Regulatory Requirements

3.3.1 Development Approval

Condition 22 of the Development Application Conditions of Approval (The South Australian Government Gazette 6 Januray 2022) requires that:

A CEMP must be prepared in consultation with the Environment Protection Authority; the Department for Environment and Water; the Department of Primary Industries and Regions South Australia; the Country Fire Service; the Murraylands and Riverland Landscape Board and relevant local councils. The CEMP must (at a minimum) identify the predicted impacts of the major development on the following matters, the measures that will be implemented to manage and monitor the predicted impacts on those matters, and the predicted effectiveness of the measures:

(g) Traffic; and

The CEMP must include the following plans:

(a) Traffic Management Plan including a Pavement Monitoring & Management Plan

A stand-alone TMP for the Bundey works has been developed (this document) and shall be submitted to and approved by the Minister for Planning, prior to the commencement of site works, as a component of the CEMP. Further requirements outlined in the conditions are described in Table 3.

Table 3: Development Application Conditions of Approval

Aspect / Requirement	Condition	TMP Reference

Condition 22	A CEMP must be prepared in consultation with the Environment Protection Authority; the Department for Environment and Water; the Department of Primary Industries and Regions South Australia; the Country Fire Service; the Murraylands and Riverland Landscape Board and relevant local councils. The CEMP must (at a minimum) identify the predicted impacts of the major development on the following matters, the measures that will be implemented to manage and monitor the predicted impacts on those matters, and the predicted effectiveness of the measures:	This document
	(g) Traffic	
	The CEMP must include the following plans: (a) Traffic Management Plan including a Pavement Monitoring & Management Plan	
Condition 15	All vehicle car parks, driveways and vehicle entry and manoeuvring areas at or providing access to and from the Bundey Substation Site must be designed and constructed in accordance with the relevant Australian Standards and appropriately line marked, and must be constructed, drained and paved with bitumen, concrete or paving bricks (or other such material as agreed to by the Minister for Planning and Local Government), in accordance with sound engineering practice.	Section 6.5.1 (Table 14) and the site engineering drawings / plans submitted in response to Condition 21(b).
Condition 16	All loading and unloading, parking and manoeuvring areas at or providing access to and from the Bundey Substation Site must be designed and constructed to ensure that all vehicles can safely traffic the site and enter and exit the subject land in a forward direction.	Section 6.5.1 (Table 14) and the site engineering drawings / plans submitted in response to Condition 21(b).
Advisory Notes	(d) In accordance with the *National Heavy Vehicle Law (South Australia) Act* 2013, the proponent must apply to the National Heavy Vehicle regulator to obtain permits for use of Restricted Access Vehicles and/or High Productivity Vehicles on public roads, where access for such vehicle is currently not available. This might include such things as construction equipment and vehicles carrying large indivisible construction materials. This might also include access for vehicles such as Road Trains or Performance Based Standards (PBS) vehicles to transport commodities.	Section 5.4.4
	(e) Prior to the use of any High Productivity Vehicles, the Department for Infrastructure and Transport requires that any additional road infrastructure upgrades required to facilitate this	Section 5.4.4. No infrastructure upgrades are considered necessary nor proposed.

	use must be completed to the satisfaction of the relevant road authority.	
	(f) An important initial step, as outlined in the Heavy Vehicle Access Framework, is to have an assessment of the route undertaken by an Authorised Route Assessor, at the proponent's cost. This process will identify any upgrades required to make the route safe and suitable for the type of vehicle access requested. As part of the approval/s, the proponent will be required to prepare a list of final transport infrastructure improvement needs upon completion of a full route assessment. If this is necessary, the list should identify the scope, timing and estimated cost of the required improvements.	Route assessment undertaken by Tonkin Consulting and presented at Appendix M to the PEC EIS (see https://media.caapp.com.au/pdf/bix9ns/ae49ff7d-a630-4335-89ba-482550155820/Appendix%20M.pdf), and the parts relevant to the Bundey Substation have been presented in this TMP (see Section 5). No route upgrades are considered necessary nor proposed. Section 6.2 details proposed signage audits prior to the commencement of works.

3.3.2 Legislative Requirements

Consolidated Power Projects will ensure that all legislative requirements relevant to the Project are complied with, including the *Road Traffic Act 1961* and associated regulations, policies and guidelines. CPP's legal requirements and obligations are identified and communicated through Safe Work Method Statements (SWMS), this TMP and the CPP Legal Register. The CPP SQE Manager monitors changes to legislation and advises Project Managers via emails or bulletins and the update of CPP System requirements.

The key relevant legislation and standards as applicable to traffic and transport in the area of the Project includes the:

- Murray and Mallee Region Plan (2011)
- Mid North Region Plan
- AUSTROADS Guide to Road Design
- AUSTROADS Guide to Traffic Management
- Highway Capacity Manual Volume 2 (HCM)

The Heavy Vehicle National Law (HVNL), which came into effect on 10 February 2014, applies to all heavy vehicles over 4.5 tonnes. This law and its associated regulations operate in Queensland, New South Wales, Victoria, Tasmania, South Australia and the Australian Capital Territory. The law covers vehicle standards, mass, dimensions and loadings, fatigue management, the Intelligent Access Program (a national program developed in partnership with all Australian road agencies), heavy vehicle accreditation and on-road enforcement.

The objectives of the HVNL are:

- to promote public safety
- manage the impact of heavy vehicles on the environment, road infrastructure and public amenity
- promote industry productivity and efficiency in the road transport of goods and passengers by heavy vehicles
- encourage and promote productive, efficient, innovative and safe business practices.

The national regulations prescribe mandatory standards for heavy vehicles using public roads.

3.3.3 ElectraNet Requirements

ElectraNet have specified additional requirements for the TMP, as described in Table 4.

Table 4: ElectraNet SEMP Conditions

Condition	TMP Reference
The Contractor's Traffic Management Plan must comply with the following DPTI guidelines available at www.dpti.gov.au: • SA Standard for Workzone Traffic Management; • Field Guide: Traffic Control Devices for Workzone Traffic Management • Where work is required on Local Government roads, the Contractor shall provide the Traffic Management Plan to the relevant Local Council for approval.	Section 6.5.1
The Contractor must ensure that all necessary approvals from the National Heavy Vehicle Regulator (https://www.nhvr.gov.au/) are obtained for all transportation of material requiring the use of Restricted Access Vehicles.	Section 5.4.4
The Traffic Management Plan for Bundey Substation shall include reference to Pavement Monitoring and Management.	Section 6.2

4 RESOURCES, ROLES, RESPONSIBILITIES AND AUTHORITIES

4.1 Roles and Responsibilities

Roles and responsibilities for achieving environmental objectives and targets for the Project are described in Table 5. Support roles and responsibilities associated with the successful implementation of this TMP are also described.

The organisational structure will be reviewed on a regular basis to ensure a capacity for meeting the CPP Community and Environment Policy, this TMP and any other regulatory requirements.

Table 5:Roles and Responsibilities under the TMP

Role	Responsibility
Project Manager	Without limiting the role of the Project Manager, he/she has responsibility for: • Ensuring that the TMP is fully implemented • The overall management of the project • The first point of contact for any issues or discrepancies arising during the project • Maintaining the progress and mutual interaction of the associated and interested parties in such a way that reduces the risk of overall failure.
Site Manager	Without limiting the role of the Site Manager, he/she is responsible for: • Managing the day-to-day site issues with respect to the movement of authorised vehicles within the construction area; • Logging complaints from the public in relation to traffic management.
Traffic Controller	The Traffic Controller (where appointed) is responsible for absolute compliance with the requirements of this plan.
Vehicle Operator	Vehicle and Machine Operators are responsible for absolute compliance with the requirements of this plan.
All employees, subcontractors and visitors	Employees, Sub-contractors and visitors are responsible for absolute compliance with the requirements of this plan.

4.2 Organisation Structure

The organisation structure for the TMP-related aspects of the Project is illustrated in **Figure 5**5.

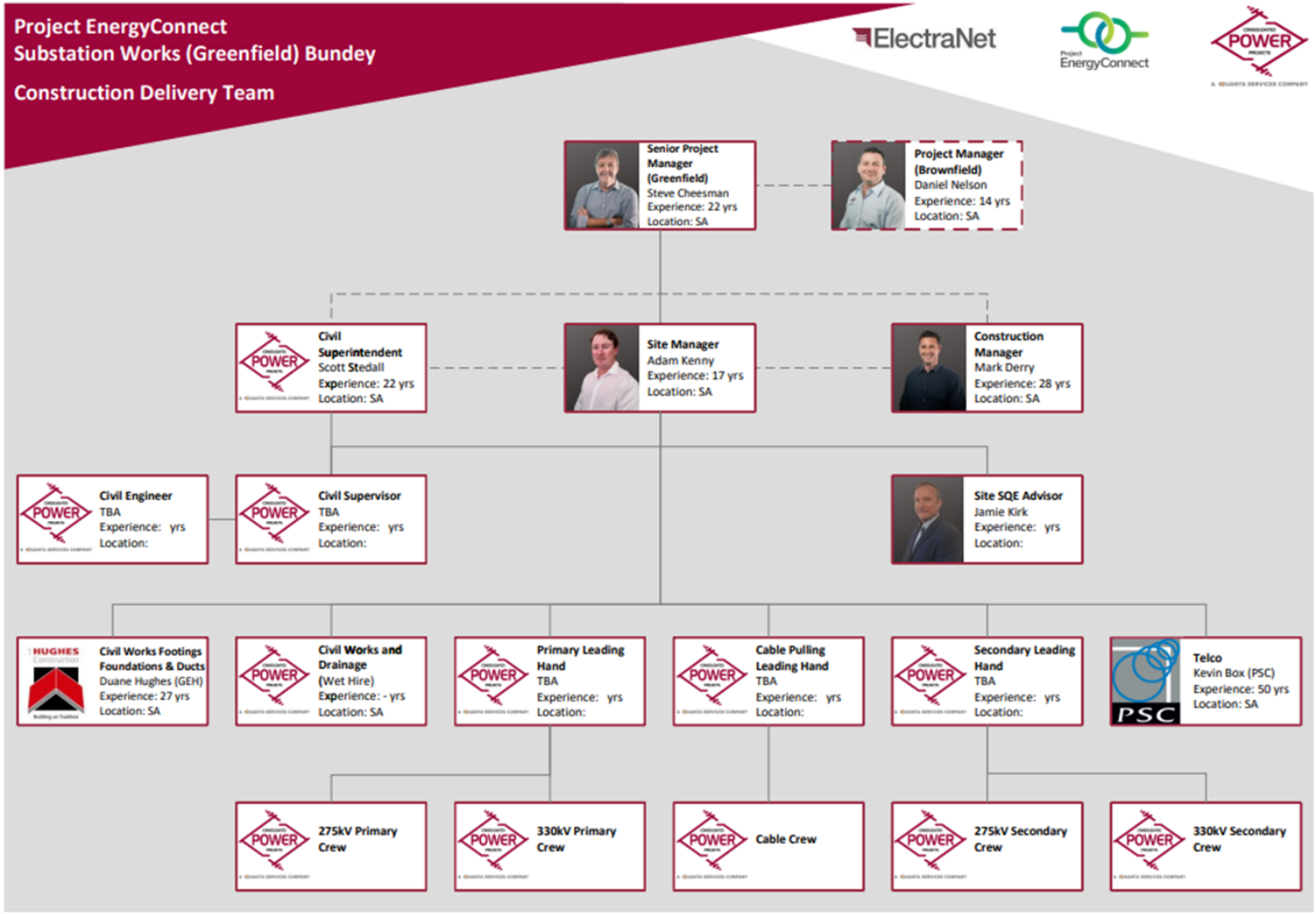


Figure 5: Bundey Substation – CEMP Organisation Structure

5 EXISTING AND EXPECTED CONDITIONS

5.1 Proposed Transport Routes

The Bundey Substation is located in the area of Bundey, approximately 16 km east of Robertstown. The importation of materials to sight would be via the routes nominated in Table 6, depending on the origin of the delivery.

Table 6:Transport Routes Supporting the Project

Start / End	Description	Route
Adelaide to Project	Majority of deliveries/personnel and general transport will travel this route	Port River Expressway, North-South Motorway (M2), Northern Expressway, Sturt Highway, Thiele Highway, World's End Highway, Powerline Road
Kapunda to Project	Travel between accommodation and Project and supply of local materials	Thiele Highway, World's End Highway, Powerline Road
Robertstown Substation to Project	Travel between remote ends	• World's End Highway, Powerline Road.

5.2 Existing Road Specifications

The proposed transport routes are made up of a mix of state and local roads, as described in Table 7.

Table 7:State and Local Road Network Associated with the Proposed Transport Route

Road Name	Sealed	Overtaking Lanes	AustRoads Road Class	Lanes	Carriageway Width (m)	Pavement Type	Description
State Road Network							
North-South Motorway (M2)	Y	N	1	6	15	Concrete	-
Northern Expressway (M2)	Y	N	1	4	11	Asphalt	-
Sturt Highway (A20)	Y	Y	1	2	10	Spray Seal / Asphalt	The Sturt Highway forms part of the Australian National Highway Network, linking Adelaide to Sydney. Nearest the study area, it provides connectivity between a number of towns, including Barmera, Waikerie and Renmark. It consists of a sealed single carriageway with one lane in each direction. A number of overtaking lanes are provided at regular intervals.
Thiele Highway (B81)	Y	N	3	2	6.5 – 8.5	Spray Seal	Thiele Highway provides a link between the Horrocks Highway and a number of regional towns including Freeling, Kapunda, Eudunda, terminating at Morgan. It consists of a sealed single carriageway with one lane in each direction.
World's End Highway	Y	N	3	2	6.5	Spray Seal	World's End Highway provides north-south connectivity between the town of Eudunda and intersection of Goyder Highway. It consists of a sealed single carriageway with one lane in each direction.
Local Road Network							
Powerline Road[1]	N	N	4	-	6 - 8	Unpaved	Powerline Road forms an east-west link between the Worlds End Highway and Goyder Highway. It generally follows the alignment of the western portion of the study area for approximately 35km. It extends through two Council districts, with the western portion maintained by Goyder Regional Council and the eastern portion by

							Mid Murray Council. It consists of an unsealed, formed and sheeted, two-way single carriageway, generally 6-8m wide. The road was generally in good condition, with some isolated sections of minor corrugations.

1 Asset Owner: Regional Council of Goyder/Mid Murray Council

5.3 Existing Intersections

Outside of the major motorways, two intersections have been identified within the realms of the study area that will primarily be used by construction traffic as listed in Table 8:

Table 8:Intersections on the Transport Route

Intersection	Description	Photo
Thiele Highway / Worlds End Highway	Located in Eudunda. Currently forms a T-junction with Thiele Highway being the priority road. Worlds End Highway approach is controlled via a Give Way sign. Located within a 50 km/h zone.	
Worlds End Highway / Powerline Road	Located approximately 5km north of Robertstown. Forms a staggered four-way intersection with Powerline Road and Rettke Road operating under the T-junction rule. T-junction warning sides are provided on the approach of Powerline Road. Sight distance is slightly restricted at the Powerline Road approach due to the existing road geometry of Worlds End Highway. Located within a 110 km/hr section of the highway.	

5.4 Road Users and Traffic Volumes

5.4.1 Road Users

Apart from general road users, the major users of roads in the Project area include:

- Farm and rural residences: In many locations, access to farms and rural residences to roads within the Project Area is via private driveways. In some cases, sight distances at these junctions do not comply with road standards.
- School bus routes: School buses are operated by various schools within the Project area, including several schools in Renmark, Barmera, Waikerie, Morgan and other surrounding areas. School bus routes are generally revised annually depending on the requirements of the school population.

- Public Transport: Public transport within the Project area is limited. Stateliner operates regular bus services between Adelaide and regional centres including:
    - a service between Adelaide and Loxton with six buses each way per week. Buses leave Adelaide and Loxton Sunday to Friday
    - a service between Adelaide and Renmark with 13 buses each way per week. Buses leave Adelaide and Renmark seven days a week with two services a day (each way) Sunday to Friday, and one service a day (each way) on Saturdays.
- Local industry: As most of these roads exist within primary production areas (e.g. agriculture, horticulture and livestock areas), there is likely to be some seasonal variation in traffic volumes along the local road networks. There is likely to be higher volumes of heavy vehicles associated with vintage during late summer / early autumn and increased heavy vehicle activity associated with harvest associated with agriculture land use. This is heavier within some areas of the Riverland and nearest the western portion of the Traffic Study Area.
- Vulnerable road users: Proposed routes will have to negotiate town centres. Some of these roads exist where there is higher pedestrian activity. This occurs when the route forms part of the main street though the town. Travel through these town centres is often unavoidable, as the route forms part of approved and gazetted roads for heavy vehicle movements. Within the Project area, town centres where this will apply include Morgan, Eudunda and Robertstown.

5.4.2 Project Construction-Related Traffic

Load deliveries to the site for large volumes are assumed to occur in the most economic vehicle type legally permitted to undertake the journey on the relevant road. For most deliveries this will be on 19 m semi-trailers. Where the quantity to be transported is much smaller than the load capacity of a semi-trailer, smaller rigid trucks or light commercial vehicles will be used.

It is also expected there will be oversize loads required for the delivery of materials for the substation primary plant and control buildings.

Estimated traffic volumes associated with Project construction are shown in Table 9.

Table 9: Estimated Project-Related Traffic Volumes (Construction Period)

Load Type	Load Vehicle	No. of Trips	Construction Phase
Work Crew/Visitors	Utilitarian 4x4, or passenger vehicle	Daily	Earth works
Plant Mob/Demob	Low Loader / Semi Trailer	16	Earth Works
Work Crew/Visitors	Utilitarian 4x4, or passenger vehicle	Daily	Civil Works
Plant Mob/Demob	Low Loader / Semi Trailer	16	Civil Works
Steel (Reinforcing)	Semi-Trailer	60	Civil Works
Blue Metal	30t Tandem-Tipper	60	Civil Works
Work Crew/Visitors	Utilitarian 4x4	Daily	Substation Construction
Plant Mob/Demob	Low Loader / Semi Trailer	14	Substation Construction
Steel (structural)	Semi-Trailer	30	Substation Construction

Load Type	Load Vehicle	No. of Trips	Construction Phase
Steel (OHL)	Semi-Trailer	14	Substation Construction
Cable & HV Conductors	Semi-Trailer	40	Substation Construction
Equipment & Materials	Semi-Trailer	60	Substation Construction
Control Building Delivery	Low loader/ oversized load	14	Substation Construction

5.4.3 Existing and Expected Traffic Volumes (Construction)

Traffic volumes of local roads expected to be used as part of the haulage routes were provided by Regional Council of Goyder during review conducted as part of the Development Approval. The most recent count information provided was from December of 2020 with 160 vehicles per day. It was advised that the Regional Council of Goyder will be placing count monitors on these council roads in March/April 2022.

Existing traffic volumes on the state road network are detailed in Table 10.

Table 10: Existing and Expected Traffic Volumes

Road Name	Segment	Traffic (AADT)	Heavy Vehicles (%)	Cumulative Traffic (AADT during Project)
World's End Highway	Powerline Road to RRD 28.99	170	20.5%	180
	RRD 28.99 to Railway Parade	490	12.0%	520
	Railway Parade to Railway Terrace, Point Pass	340	12.0%	360
	Railway Terrace to Australia Plains Road	500	9.5%	530
	Australia Plains Road to Barwell Street	600	9.0%	640
	Barwell Street to Kapunda Street	800	9.0%	860
	Kapunda Street to Thiele Highway	1200	9.0%	1290
Thiele Highway	Worlds End Highway to Eudunda Road	600	13.5%	640
	Eudunda Road to Bower Boundary Road	390	13.0%	410
	Bower Boundary Road to Murraylands Road	350	13.0%	370
	Murraylands Road to Fourth Street	650	15.5%	680

5.4.4 Restricted Access Vehicles

The main highways, as well as many other roads across the study area are gazetted for a variety of restricted access vehicles. The gazetted vehicles for each of the Highways in the study area are detailed in Table 11.

All local roads on the transport route are gazetted as general access (maximum vehicle length 19 m Semi-Trailer).

It is noted that permits will be required on routes which are currently not designated as oversize approved routes. The dimensions of the oversize vehicles will need to be confirmed prior to confirming the exact routes, which will also need to be discussed and agreed with DIT and the relevant Council prior to construction. Piloting requirements for oversize vehicles are specified in the Escorting Guidelines for Oversize and Overmass Vehicles and Loads in South Australia (2019).

Table 11: Restricted Access Vehicle Routes (Permitted Vehicles)

Route	Gazetted Vehicle Type	Worlds End Highway	Thiele Highway
General Mass Limits (GML) Routes	23m B-Double (GML)	Y	Y
	26m B-Double (GML)	Y	Y
Higher Mass Limits (HML) Routes	23m B-Double (GML)	Y	Y
	26m B-Double (GML)	Y	Y
Oversize/Overmass (OSM Routes)	23m 42.5t Low Loader 24 Hr	Y*	Y*
	23m 42.5t Low Loader Day Only	Y*	Y*
	25m 49.5t Low Loader		Y*
	25m 59.5t Low Loader		Y*
	4.0m Wide up to 93.5t Low Loader		Y*
	Controlled Access Bus up to 14.5m	Y	Y*
	3 Axle Crane Network		Y
	4 Axle Crane Network		Y*
	5 Axle Crane Network – Level One		Y*
	6 Axle Crane - Day Travel		Y*
	40t Special Purpose Vehicle	Y	Y*
Performance-Based Standard (PBS) Route	Level 1A	Y	Y
	Level 2A	Y	Y
	Level 2B		Y*
Commodity Routes – B Double	Grain (B Double GML)	Y	Y
	Fertilizer (B Double GML)	Y	Y
	Hay & Bulk Stock Feed (B Double GML)	Y	Y

	Dairy Milk (B Double GML)	Y	Y
	Livestock (B Double GML)	Y	Y
	Logging & Timber (B Double GML)	Y	Y
	Wine (B Double GML)	Y	Y
	Wool (B Double GML)	Y	Y
	Fruit & Veg (B Double GML)	Y	Y

* *Restrictions to part of the Highway/Road apply

5.4.5 Operational Traffic

Access to the substation during operations will occur via World's End Highway, Powerline and Bright Road.

In total, the likely traffic generation upon commission and operation of the site will be 1-2 visits per year by car. This may increase if maintenance works are required, however the overall traffic generation upon commencement of the Project operations is considered to be minimal. Due to the very low traffic volumes likely to be generated during the operations phase of the Project, the traffic impact on the existing road network is considered to be negligible.

It is noted that there will be no fulltime personnel at the sub-station, therefore a nominal 3-5 parking spaces will be provided at the site to accommodate for personnel when required.

6 TRAFFIC MANAGEMENT

6.1 Responsibility

When CPP consigns, packs, loads or receives goods as part of the Project, CPP could be held legally liable for breaches of the Heavy Vehicle National Law (HVNL) even though they have no direct role in driving or operating a heavy vehicle. In addition, corporate entities, directors, partners and managers are accountable for the actions of people under their control. This is the 'chain of responsibility' (COR). To this end:

- CPP and its Suppliers and Subcontractors shall abide by the HVNL and COR guidelines insofar as it is practicable for them to do so in ensuring the safe transit of any materials for the Project. This shall include:
    - Selection of reputable haulage providers and / or couriers for the transit of Project materials;
    - Make reasonable enquiries as to how loads are to be packed and delivered to site;
    - Review load restraints on arrival of deliveries to site to ensure the transport provider has adequately met their COR requirements relative to the same;
    - Provide for a suitable exclusion zone for the unloading activities to take place clear of any personnel that are not required for the unloading or material inspection tasks;
    - Supervisor review (where practicable) of all load restraints prior to any load departing site or in the case of Subcontractor's performing their own deliveries from workshops, at the workshop;
    - Where the driver of a heavy vehicle is an employee of CPP or Subcontractor, the employer of that person shall ensure they follow the HVNL guidelines relative to adequate licensing, fatigue management and all other relevant requirements.
- Particular assurance shall be sought from haulage providers as to any statutory requirements regarding traffic permits (e.g. oversize / over-weight) and assurances that such permits and associated controls (e.g. pilot vehicle, additional road signage / traffic management measures) are in place for such loads.

6.2 Pre, During and Post-Construction Monitoring

Consolidated Power Projects, utilising appropriate specialist consultants as required, will undertake a pre-construction (visual/recorded) road condition survey of the proposed transport routes, site access and site parking areas. This survey will be used to:

- identify any access constraints that exist for all construction vehicles prior to site mobilisation
- determine whether or not any pre-construction road upgrades are required;

During and after construction, continued monitoring of the road conditions shall be made of the roads utilised by construction vehicles. The log of photographic / videographic evidence shall be used as a reference in determining the extent of road dilapidation. Based on this post-construction assessment, the ElectraNet in coordination with CPP shall determine whether or not any post-construction road upgrades / rehabilitation are required.

All upgrades works along road sections and intersections are to be rehabilitated back to an agreed arrangement upon the conclusion of the construction phase of the project. This includes all shoulder works. The site access will be kept as general site access.

As part of CPPs pre-mobilisation phase of the Project, CPP will engage a suitably qualified traffic management company to ensure the installation of any identified signage on public roads has been installed

as per relevant national and or local authority requirements as approved by ElectraNet and/or the local Council.

Daily monitoring of Powerline Road to access the Bundey Substation will occur. Periodic road maintenance will be undertaken as required during the life of the project.

Quarterly dilapidation video and photographs of Powerline Road will be taken and provided to ElectraNet and Regional Council of Goyder.

6.3 Vehicle Specifications

6.3.1 Minimum Standards

All vehicles operating on public roads must be appropriately registered and the driver must hold a valid Driver's Licence and/or certificate for the vehicle being operated. Vehicles are required to be fully road-worthy and maintained in good working order. In addition, Table 12 provides the minimum standards for vehicles associated with the Project.

Table 12: Vehicle Minimum Standards

Requirement	Mobile Plant	Truck	Light Vehicle
Operating Manual or SOP	✓		
Plant Risk Assessment	✓	✓	
Daily Inspection Record	✓	✓	
Weekly Inspection Recorded			Site Vehicle only
4 Wheel Drive Vehicle		Site Risk Assessment	Site Vehicle only
Functioning seatbelts	As per manufacturer's recommendations	✓	✓
Rotating Beacon	✓	✓	Site Vehicle only
Reversing Beeper	✓	✓	Site Vehicle only
Fire Extinguisher	✓	✓	✓
First Aid Kit	Site Risk Assessment	Site Vehicle only	✓
Unique Plant Identifier	✓	Site Risk Assessment	Site Risk Assessment
Chocks	Site Risk Assessment	Site Risk Assessment	
Emergency Triangle	Site Risk Assessment		
2-Way Radio	✓	✓	Site Vehicle only
Grease Gun	✓		
ROPS (to AS2294)	✓ (> 1,500kg)		

FOPS (to AS2294)	As per project/task risk assessment		

6.3.2 Unique Plant Identifier

Where required in the minimum standards, or as an outcome of a site risk assessment process, mobile plant and vehicles will be fitted with a unique plant identifier which shall meet the follow requirements (as shown in Figure6):

- Signage providing positive ID shall be displayed on mobile plant and vehicles;
- The identification number shall be displayed on both sides and the rear;
- The signage may be a sticker, painted on or be of a magnetic type and shall display a unique equipment identification number which is clearly visible at all times;
- The pre-fix prior to the Machine ID Number shall be 3 letters and followed by three numerical numbers, e.g. CPP-100;
- Height should be no less than 150 mm high and should be either on a reflective background or reflective ID

Figure 6: Example of Unique Plant Identifier Plate

6.3.3 Vehicle Load Restraints

All vehicles carrying or towing loads must have the load properly restrained by suitable means. Typically this includes:

- Ratchet straps – suitable rated for the load (e.g. 2500 kg, 5000 kg, etc.);
- Tarps or covers to be placed over loose materials
- Chains and load binders – suitably rated.

Loads must not exceed the rated limit, unbalance, or extend more than 1.2 m beyond the end of the vehicle under any circumstance.

6.4 General Traffic Management Requirements

General requirements related to traffic to and from the Project are detailed in Table 13.

Table 13: General Traffic-Related Management Requirements

Traffic Aspect	Requirements

Driver behaviour	• Implementing driver behaviour policies as a condition of employment or contract; • Ensuring drivers maintain safe speeds of narrow and / or unsealed carriageways • Being courteous to other drivers. • All Project construction vehicles will drive in a manner that is consistent with the conditions of the road and terrain being negotiated. • All drivers shall abide by the rules and regulations in place on the public roads leading to the subject site. • All personnel are to be fit for work. • All vehicles must maintain a minimum 40 m following distance from vehicles travelling in the same direction as them (unless in the process of overtaking) • Smoking is not permitted in any vehicle
Stakeholder communication	• As much as possible, sourcing local labour and services, and local resources and materials • Informing the local community of any significant transport events, particularly the movement of over-dimensioned vehicles • Positive communications shall be used at all times when interacting with other road users
Over-dimensional loads	• CPP will apply for all permits for transport of all oversized and overmass vehicle transportations through the National Heavy Vehicle Regulations (NHVR). • Once approved CPP will forward all approved permits to Electranet Representative for the PEC Project. • Scheduling the movement of over-sized vehicles so that these movements occur outside of peak hour, reduce conflicting times with harvest seasons where possible and developing routes that ensure such vehicles do not pass through built up areas during daytime peak traffic periods • No over dimensional loads shall occur on a Sunday

6.5 Site Access

6.5.1 Site Access Requirements

Requirements related to access to the Project site, and the movement of traffic within the site, are detailed in Table 14.

Table 14: Site Access and Workplace Traffic-Related Management Requirements

Site Traffic Aspect	Requirements
Infrastructure	• All vehicle car parks, driveways and vehicle entry and manoeuvring areas at or providing access to and from the Bundey Substation Site will be designed and constructed in accordance with the relevant Australian Standards and appropriately line marked, and will be constructed, drained and paved with bitumen, concrete or paving bricks (or other such material as agreed to by the Minister for Planning and Local Government), in accordance with sound engineering practice • The proposed traffic areas will comply with the following DIT guidelines: ○ SA Standard for Workzone Traffic Management;

	○ Field Guide: Traffic Control Devices for Workzone Traffic Management • All loading and unloading, parking and manoeuvring areas at or providing access to and from the Bundey Substation Site will be designed and constructed to ensure that all vehicles can safely traffic the site and enter and exit the subject land in a forward direction
Parking	• During the construction period, all 'non-authorised' vehicles shall be parked in the 'designated' parking areas prior to the daily commencement of work. • The designated parking area shall be located within the property boundary adjacent to the site office compound. • Authorised vehicles parked in the construction area during working hours, must have the keys left in it so that they can be moved if required • Vehicles must not be parked so as to block access roads or tracks • Handbrakes must be applied at all times whilst the vehicle is stationary. Where parked on a gradient, park across the gradient and/or ensure wheels are turned towards bund • Light Vehicle parking is provided at the office compound (or other suitable agreed location) • Light Vehicles and Mobile Plant parking areas will be separated where possible, and will be clearly defined and delineated to ensure separation is maintained. • Mobile Plant should park up with a minimum 3 meters between equipment. • Reverse parking shall be adhered to in all designated parking areas. • Where provided, all vehicles shall park in 'V' drains or parking humps
Site access	• Due to the progressive nature of work and work areas at Bundey Substation, only authorised and site inducted personnel shall be permitted to access the work area. This includes other contractors who require access to perform their duties • Only 'authorised' vehicles and plant are permitted within the construction area. Authorised vehicles are those approved by the Site Manager • Vehicles must at all times keep on the designated site roads where established • Off road driving is not permitted other than in emergency situations, or if no roads have been established • Vehicles MUST come to site clean and leave site clean • Speed limit is 10 km/h within the CAZ unless otherwise sign posted • All persons driving on site shall hold a current driving license for the type of vehicle they are driving • All operators/drivers of plant shall hold the appropriate license/competency to operate/drive the plant • Seatbelts must be worn in vehicles and plant when being operated • Use of mobile phones while driving vehicles or plant is prohibited unless suitable hands-free equipment is utilised • Vehicles must travel at a safe distance apart with clear visibility; • Extra care should be taken when driving at dawn or dusk, being particularly watchful for wildlife and/or livestock

	• Vehicles must give way to pedestrians, cranes, mobile plant, emergency vehicles and livestock • Flashing beacons shall be utilised at all times when vehicle is operational within the project boundaries
Deliveries	• During the construction period all deliveries will be received by the CPP Site Manager (or their delegate) in a controlled fashion. • A suitable designated holding area within the compound will be identified during site mobilisation. • Transport and delivery vehicles shall initially park in the designated holding area. • Drivers shall then contact the CPP Site Manager (by mobile phone/UHF radio) for instruction. • Depending on the specific delivery point and material type, the vehicle may require an escort through the construction area. • Goods and materials delivered must be laid down in the allocated lay down area, unless needing to be off-loaded directly within the construction area
Speed limits	Adequate speed signage shall be displayed along each road to provide warning and clear direction where required. The speed limits are subject to change depending on daily works and all speed limit signage is to be adhered to at all times. Unless otherwise signposted, the speed limits for the project area are as follows: • 80 km/h on unsealed public roads • 10 km/h within ElectraNet Substation or property • 10 km/h when driving past work crews
Communication	• All vehicles must be fitted with UHF radio tuned to channel 14 when operating on the Project. • All personnel should familiarize themselves with the traffic management and key call up areas where required. • UHF radio channel used within CPP work areas will be UHF CH 14 unless otherwise stated. • Signage with this information will be placed at the entry to the project site.
Change management	• Changes to temporary rules in place for the Project site will be communicated at forums such as site inductions, toolbox meetings, start-up meetings etc. • All changes to the TMP will be communicated at pre-start meetings
Weed management	• Weed and pest management measures described in CEMP • All vehicles and equipment mobilising to the Project must be cleaned offsite to remove any dirt or organic material that may contain weeds or soil borne pathogens. • Vehicles and equipment shall be inspected by CPP at the Site Office (or other suitable agreed location) before being approved for use on Site. • If the vehicle and/or equipment is deemed unsatisfactory it shall be removed from site and cleaned at a wash-down station.
Pedestrian access	• Where applicable all pedestrian traffic in the work area must wear High-Visibility clothing and have a hand-held UHF radio CH 14 • Pedestrians are to use the dedicated walkways where provided and give way to all traffic

Spotters	• A spotter shall be used where there is limited vision and/ or reversing in work areas. • All spotters must ensure they have clear line of vision and maintain positive communications with the operator and remain out of the 'line of fire' at all times.
Exclusion zones	No vehicle access is permitted to exclusion zones around the site. There are 4 standard barriers or indicators for exclusion zones that shall be used: • Delineation - Woven barricading tape, bunting, danger tape & reflective signs • Soft Barricading - Red / Orange 700mm hi-visibility safety cones, mesh or webbing fencing • Hard Barricading - Windrows (must be half the height of the largest tyre on site), concrete or water filler barriers • Fencing - Temporary Fencing, portable electric fencing, scaffold fencing In the event there is a requirement for any personnel to access hazardous areas delineated with red safety cones/ bunting, approval must be obtained from the CPP Site Manager on channel 14 prior to passing through the cones (e.g. where cones are used to prevent access to any work area or open excavations).

6.5.2 Heavy Vehicle Interactions

The interaction of pedestrians and light vehicles with operating heavy vehicles necessitates particular careful management. CPP will implement the control measures described in Table 15 within the Project site to manage these interactions.

Table 15: Heavy Vehicle Interaction Management

Site Traffic Aspect	Requirements

Heavy Vehicle Interaction	• Positive communications need to occur at all times when interacting with heavy equipment, light vehicles and pedestrians.
	• No light vehicles or heavy vehicles are permitted within a 10-metre radius of any operating heavy mobile equipment, unless the following rules are applied:
	  ○ Radio communications between the LV/HV and the operator of the HV is established.
	  ○ The HV operator is to be advised of the need to approach the equipment.
	  ○ The operator of the HV must acknowledge the request
	  ○ A light vehicle may not park directly behind or directly in front of a heavy vehicle at any time.
	• No personnel are permitted within a 10-metre radius of any operating heavy mobile equipment, unless the following rules are applied:
	  ○ Radio communications between the person and the operator of the HV is established.
	  ○ A light vehicle may not park directly behind or directly in front of a heavy vehicle at any time.
	  ○ The HV operator is to be advised of the need to approach the equipment.
	  ○ The operator of the HV must acknowledge the request.
	  ○ The operator must lower all implements to the ground and ensure the safety of the unit.

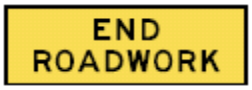
	○ The operator must advise when it is safe to be approached by personnel.
Overtaking vehicles on-site	Vehicles may only pass stationary heavy equipment or ancillary equipment when: • Positive two-way radio contact has been made with the stationary vehicle's operator/driver and clearance to proceed has been given. • The stationary vehicle's operator/driver must ensure there are no oncoming vehicles or equipment before granting clearance and ground the equipment's Ground Engaging Tools (GET); or • The vehicle has been authorised or directed to do so by a person in control. • When passing stationary HV's, the passing vehicle shall leave an adequate safe clearance distance between the two vehicles, the stationary HV must have its GET grounded therefore allowing the passing vehicle to safely pass within the equipment's swing radius. Overtaking moving heavy equipment (HV) within the Project site is prohibited at all times. Overtaking moving ancillary equipment or light vehicles is only permitted when: • Positive two-way radio contact has been made with the moving vehicle's operator/driver and clearance to proceed has been given. • The moving vehicle's operator/driver must ensure there are no oncoming vehicles or equipment before granting clearance. • When overtaking moving mobile equipment, the speed limit should be adhered to at all time.

6.5.3 Site Signage

Table 16 illustrates images of typical site signage which shall be applied where practical in or around the site entrance.

Table 16: Typical Site Signage

Typical Signs	Locations
	Typically installed on local roads prior to project site access points.
	Typically installed on local roads prior to project site access points.
	Typically installed at main project site entrance. CPP Sign/Logo (All visitors must report to site office). *Includes contact phone numbers for the Project and Site Managers, and the assigned UHF channel for site communications.*
	Typically installed at project site entrance and at intervals along site access roads.

	Typically installed at access road intersections with local roads.
	Typically installed during council road re-sheeting and other road works as required.
	Typically installed during council road re-sheeting and other road works as required.

6.6 Hours of Operation

The Project construction activities will nominally be undertaken 7:00am to 5:00pm Monday through to Sunday (i.e. seven days per week). No work, including site deliveries, is intended to be carried out on the public holidays detailed in Table 17.

Table 17: Public Holidays during which no Site Operations or Transport Activities will be Undertaken.

Date	Day	Holiday
24 Dec 2021	Friday	Christmas Eve
25 Dec 2021	Saturday	Christmas Day
26 Dec 2021	Sunday	Boxing Day
28 Dec 2021	Tuesday	Proclamation Day
31 Dec 2021	Friday	New Year's Eve
3 Jan 2022	Monday	New Year's Day
26 Jan 2022	Wednesday	Australia Day
14 Mar 2022	Monday	Adelaide Cup Day
15 Apr 2022	Friday	Good Friday
16 Apr 2022	Saturday	Holy Saturday
18 Apr 2022	Monday	Easter Monday
25 Apr 2022	Monday	Anzac Day
13 June 2022	Monday	Queen's Birthday
3 October 2022	Monday	Labour Day
24 December 2022	Saturday	Christmas Eve
25 December 2022	Sunday	Christmas Day

26 December 2022	Monday	Boxing Day
31 December 2022	Saturday	New Year's Eve
2 January 2023	Monday	New Year's Day
26 January 2023	Thursday	Australia Day
13 March 2023	Monday	Adelaide Cup Day
7 April 2023	Friday	Good Friday
8 April 2023	Saturday	Holy Saturday
10 April 2023	Monday	Easter Monday
25 April 2023	Tuesday	Anzac Day
12 June 2023	Monday	Queen's Birthday
2 October 2023	Monday	Labour Day

7 EMERGENCY MANAGEMENT

7.1 Emergency Management Plan

Consolidated Power Projects maintains a Project-specific Emergency Management Plan which details how CPP responds to emergency situations, including vehicles collisions and roll-overs.

All personnel must adhere to the CPP Emergency Management Plan

7.2 Emergency Services

Clear access within the Project site will be maintained for emergency services vehicles at all times.

7.3 Vehicle Breakdowns

Vehicle breakdowns are **not** an emergency, and do not trigger the implementation of the Emergency Management Plan. They may, however, expose drivers, vehicles and members of the public to additional risks.

Should a vehicle breakdown within the work area the following must occur:

- Pull over to the side of the road in a safe location.
- Activate hazard lights and communicate location and the hazard.
- Contact the Site Manager.

EXISTING TRACK AND ACCESS GATE FOR EMERGENCY EGRESS ONLY TO MEET CFS REQUIREMENT

EXISTING TRACK ACCESS TO FENCE WORK AREA

CULTURAL HERITAGE NO GO ZONE

CULTURAL HERITAGE MONITORING AREA

CULTURAL HERITAGE MONITORING AREA

EXISTING TRACK FOR ACCESS TO FENCE WORK AREA

EXISTING TRACK

GENERAL CONSTRUCTION ACCESS BOUNDARY

STORMWATER RETENTION POND

SEDEMENT FENCE

TOPSOIL STOCKPILE

TOPSOIL STOCKPILE

TOPSOIL STOCKPILE

SITE CONSTRUCTION STORAGE AREA #1

SITE CONSTRUCTION STORAGE AREA #2

DISCONNECTOR ASSEMBLY AREA #2

200 YEAR FLOOD LEVEL

DISCONNECTOR ASSEMBLY AREA #4

OILY WATER POND

UNDERGROUND OPTIC FIBRE

UNDERGROUND OPTIC FIBRE

TOPSOIL STOCKPILE

DISCONNECTOR ASSEMBLY AREA #3

DISCONNECTOR ASSEMBLY AREA #1

STORMWATER RETENTION POND

OFFICE COMPOUND 30x55m

CIVIL LAYDOWN AREA 45x105m

HEAVY VEHICLE REFUELING

SPILL KIT STATION

TOPSOIL STOCKPILE

SEDEMENT FENCE

SITE WASTE MANAGEMENT

330kV LAYDOWN AREA 50x100m

275kV LAYDOWN RECEIVING AREA 50x100m

WATER TRUCK REFILLING HYDRANT

SPRINKLER SYSTEM

CONCRETE WASH OUT POINT

CONCRETE BATCHING AREA 50x100m

200 YEAR FLOOD LEVEL

CALCRETE STOCK PILE

CALCRETE STOCK PILE

SEDEMENT FENCE

HEAVY VEHICLE ACCESS

UGOF 33.0m FROM FENCELINE

U/G WATER PIPE ACCESS

LIGHT VEHICLE ACCESS

DELIVERIES

TO PIPELINE ROAD

UGOF 3.0m FROM FENCELINE

132 POLE 1045-1044

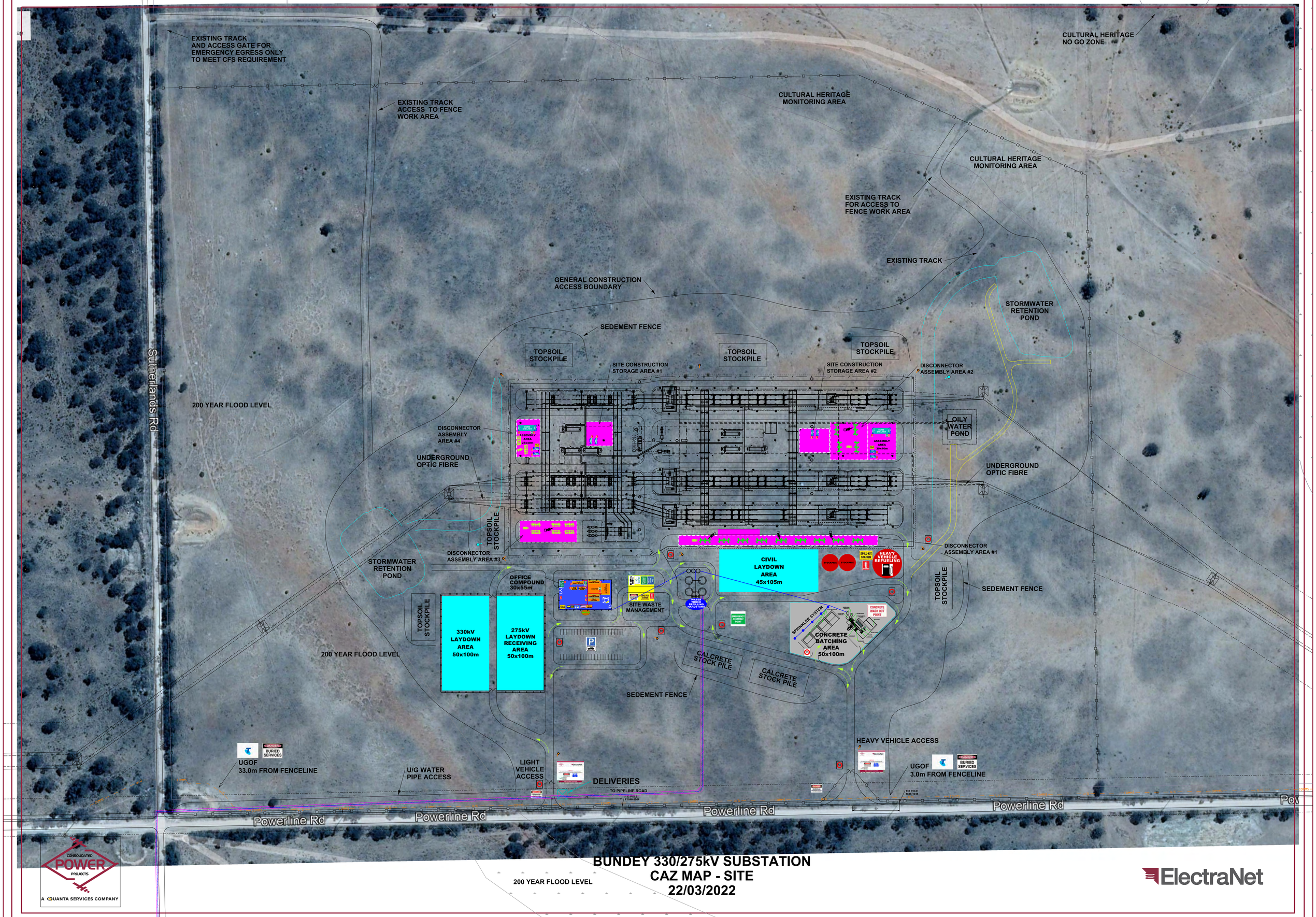
132 POLE 1046-1045

BUNDEY 330/275kV SUBSTATION
CAZ MAP - SITE
22/03/2022

200 YEAR FLOOD LEVEL

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

ElectraNet



CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

BUNDEY 330/275kV SUBSTATION
CAZ MAP - SITE
22/03/2022

200 YEAR FLOOD LEVEL

ElectraNet

NO GO ZONE

CULTURAL HERITAGE ASSESSMENT AREA

CULTURAL HERITAGE MONITORING AREA

341694.2191
6244987.1621

CULTURAL HERITAGE NO GO ZONE

341784.7014
6244951.3138

341821.4264
6244944.4178

341850.3033
6244925.0916

341874.7729
6244903.7210

341916.7010
6244867.5380

Sutherlands Rd

EXISTING TRACK AND ACCESS GATE FOR EMERGENCY EGRESS ONLY TO MEET CFS REQUIREMENT

EXISTING TRACK ACCESS TO FENCE WORK AREA

CULTURAL HERITAGE MONITORING AREA

CULTURAL HERITAGE MONITORING AREA

EXISTING TRACK FOR ACCESS TO FENCE WORK AREA

EXISTING TRACK

GENERAL CONSTRUCTION ACCESS BOUNDARY

SEDEMENT FENCE

TOPSOIL STOCKPILE

TOPSOIL STOCKPILE

TOPSOIL STOCKPILE

SITE CONSTRUCTION STORAGE AREA #1

SITE CONSTRUCTION STORAGE AREA #2

DISCONNECTOR ASSEMBLY AREA #2

200 YEAR FLOOD LEVEL

DISCONNECTOR ASSEMBLY AREA #4

UNDERGROUND OPTIC FIBRE

UNDERGROUND OPTIC FIBRE

TOPSOIL STOCKPILE

DISCONNECTOR ASSEMBLY AREA #3

DISCONNECTOR ASSEMBLY AREA #1

CIVIL LAYDOWN AREA 45x105m

OFFICE CARPOUND 30x50m

SITE WASTE MANAGEMENT

TOPSOIL STOCKPILE

SEDEMENT FENCE

TOPSOIL STOCKPILE

330kV LAYDOWN AREA 50x100m

275kV LAYDOWN RECEIVING AREA 50x100m

CONCRETE BATCHING AREA 50x100m

200 YEAR FLOOD LEVEL

CALCRETE STOCK PILE

CALCRETE STOCK PILE

SEDEMENT FENCE

HEAVY VEHICLE ACCESS

UGOF 33.0m FROM FENCELINE

U/G WATER PIPE ACCESS

LIGHT VEHICLE ACCESS

DELIVERIES

UGOF 3.0m FROM FENCELINE

Powerline Rd

Powerline Rd

Powerline Rd

Powerline Rd

200 YEAR FLOOD LEVEL

200 year FLOOD LEVEL

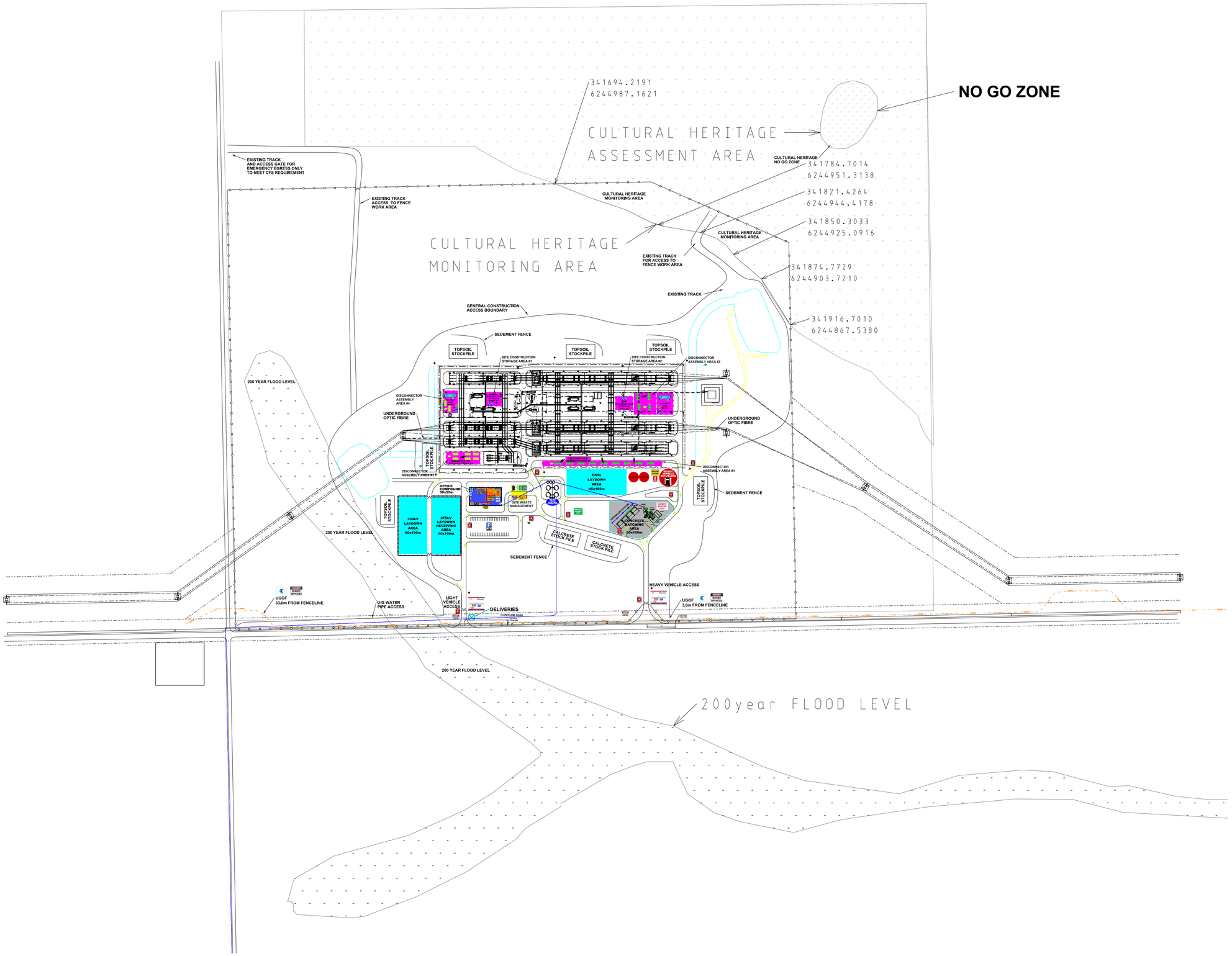
Sutherlands Rd

CONSOLIDATED POWER PROJECTS

QUANTITY SURVEYORS AUSTRALIA

ElectraNet

BUNDEY 330/275kV SUBSTATION
CAZ MAP - CULTURAL HERITAGE
22/03/2022



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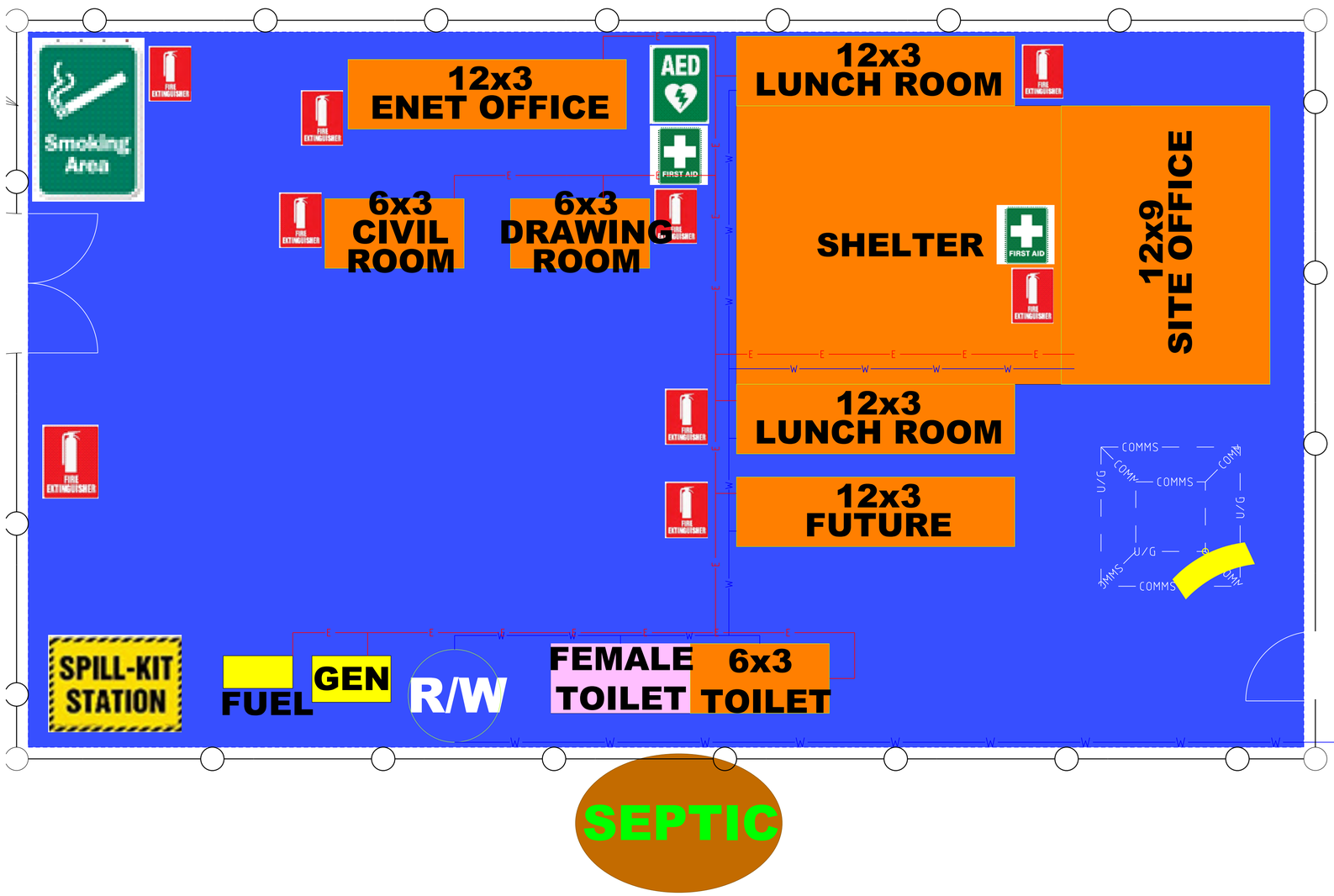
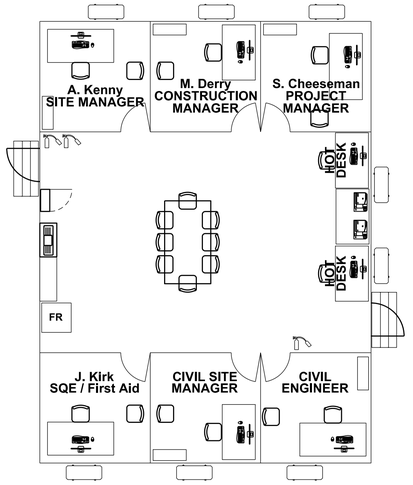
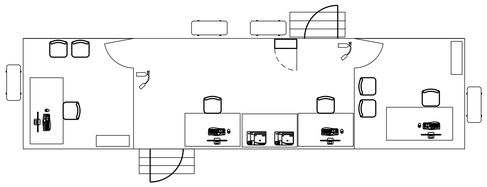
BUNDEY 330/275kV SUBSTATION
CAZ MAP - CULTURAL HERITAGE
22/03/2022

ElectraNet





SITE OFFICE LAYOUT



ENET OFFICE LAYOUT

POWER CIRCUITS

WATER PLUMBING

TELECOMMUNICATIONS TOWER

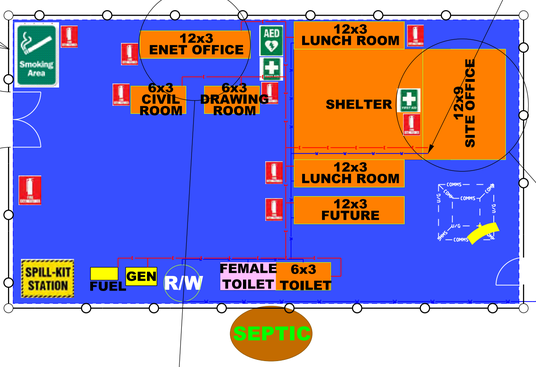
CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

BUNDEY 330/275kV SUBSTATION
CAZ MAP - OFFICE COMPOUND
22/03/2022

ElectraNet

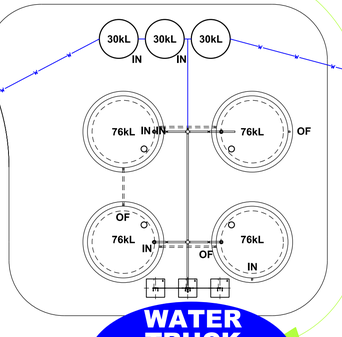
OFFICE COMPOUND 30x55m

275kV LAYDOWN RECEIVING AREA 50x100m



WATER CONNECTION FOR GARDEN TAP AND BUILDING

SITE WASTE MANAGEMENT



WATER TRUCK REFILLING HARDSTAND

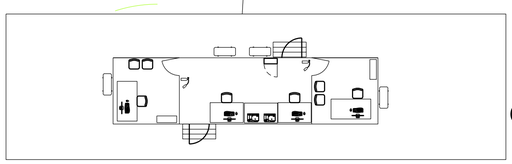
WATER SUPPLY TO BATCHING PLANT AREA

EMERGENCY ASSEMBLY POINT

10

SECURITY CAMERA

CALCRETE STOCK PILE



BUNDEY 330/275kV SUBSTATION
CAZ MAP - OVERALL COMPOUND
22/03/2022

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

ElectraNet

STOCKPILE

STOCKPILE

SECURITY CAMERA

SITE CONSTRUCTION STORAGE AREA #1

SITE CONSTRUCTION STORAGE AREA #2

DISCONNECTOR ASSEMBLY AREA #2

TIME LAPSE CAMERA

DISCONNECTOR ASSEMBLY AREA #4

UNDERGROUND OPTIC FIBRE

DOME SHELTER

ASSEMBLY AREA 25x40m

DOME SHELTER

ASSEMBLY AREA 30x40m

UNDERGROUND OPTIC FIBRE

TOPSOIL STOCKPILE

TIME LAPSE CAMERA

DISCONNECTOR ASSEMBLY AREA #3

SECURITY CAMERA

CIVIL LAYDOWN AREA 45x105m

STOCKPILE

STOCKPILE

SPILL-KIT STATION

HEAVY VEHICLE REFUELING

DISCONNECTOR ASSEMBLY AREA #1

TOPSOIL STOCKPILE

SEDEMENT FENCE

OFFICE COMPOUND 30x55m

TOPSOIL STOCKPILE

330kV LAYDOWN AREA 50x100m

275kV LAYDOWN RECEIVING AREA 50x100m

SITE WASTE MANAGEMENT

WATER TRUCK REFILLING HARDSTAND

EMERGENCY ASSEMBLY POINT

SPRINKLER SYSTEM

CONCRETE WASH OUT POINT

CONCRETE BATCHING AREA 50x100m

CALCRETE STOCK PILE

CALCRETE STOCK PILE

SEDEMENT FENCE

HEAVY VEHICLE ACCESS

LIGHT VEHICLE ACCESS

DELIVERIES

BUNDEY 330/275kV SUBSTATION
CAZ MAP - SUBSTATION
22/03/2022

UGOF 3.0m FROM FENCELINE

TO PIPELINE ROAD

75

132 POLE F1846-1044

132 POLE 1846-1045

50

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

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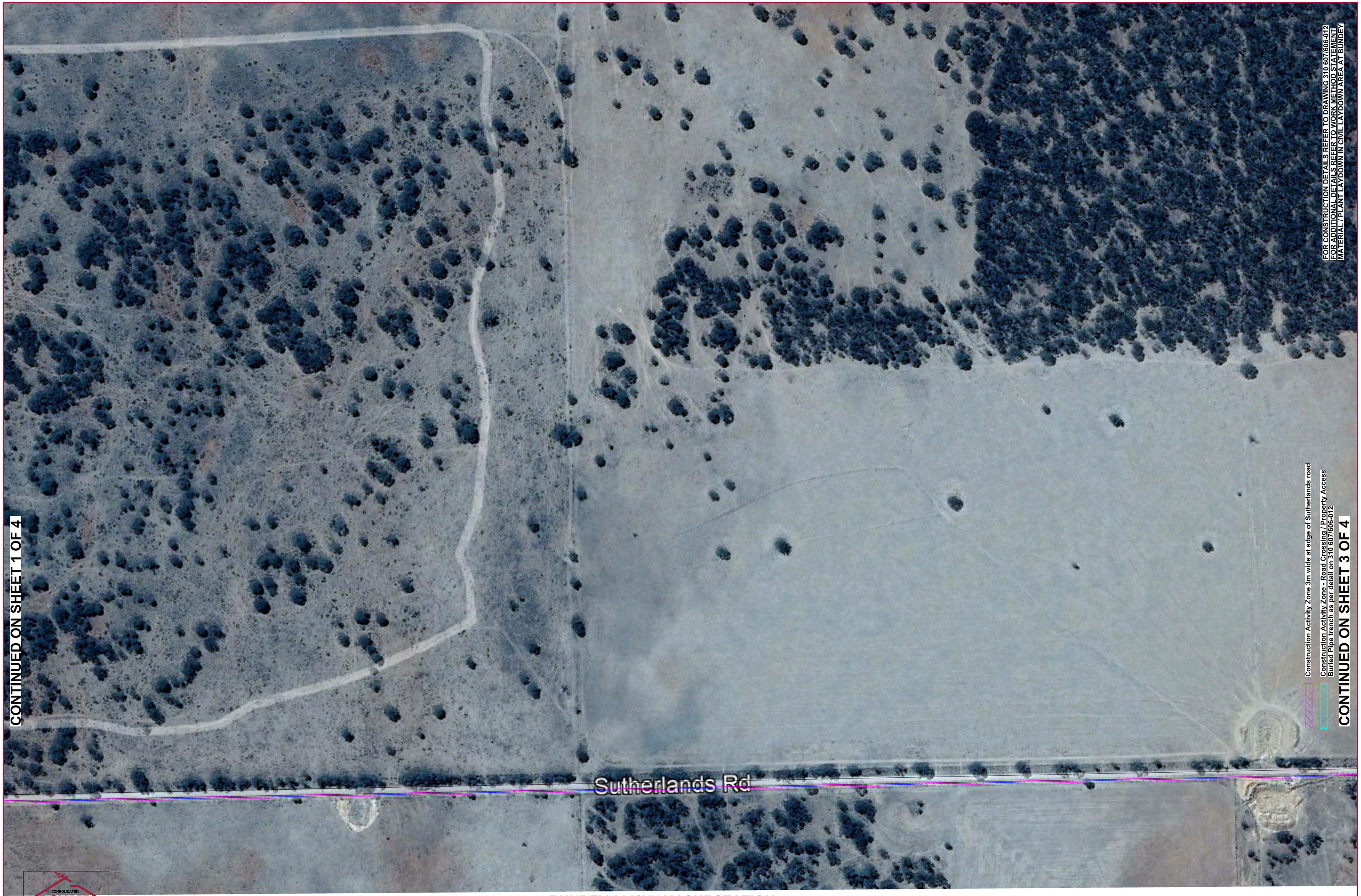

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

BUNDEY 330/275kV SUBSTATION
CAZ MAP - CONSTRUCTION PERIOD PIPELINE
2 OF 4
18/03/2022

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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

BUNDEY 330/275kV SUBSTATION
CAZ MAP - CONSTRUCTION PERIOD PIPELINE
3 OF 4
18/03/2022

ElectraNet

FOR CONSTRUCTION DETAILS REFER TO DRAWING 310 607/606-012
FOR ADDITIONAL DETAILS REFER TO WORK METHOD STATEMENT MATERIAL / PLANT LAYDOWN IN CIVIL LAYDOWN AREA AT BUNDEY

Construction Activity Zone 3m wide at edge of Sutherlands road

Construction Activity Zone - Road Crossing / Property Access Buried Pipe trench as per detail on 310 607/606-012

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

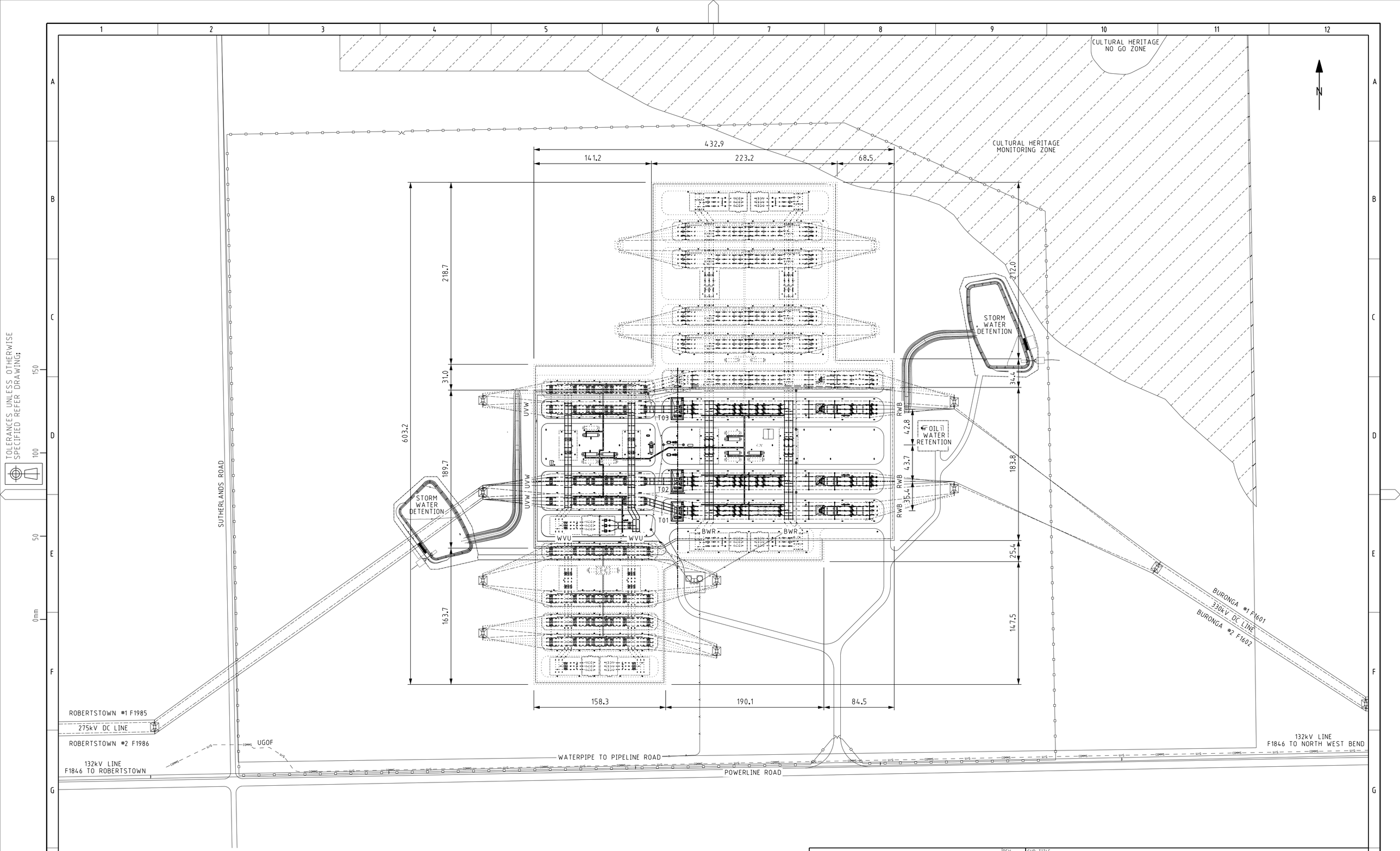
BUNDEY 330/275kV SUBSTATION
CAZ MAP - CONSTRUCTION PERIOD PIPELINE
4 OF 4
18/03/2022

ElectraNet

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

BUNDEY 330/275kV SUBSTATION
CAZ MAP - CONSTRUCTION PERIOD PIPELINE
1 OF 4
18/03/2022

ElectraNet



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

CREATED FROM TEMPLATE; REV

DRAWING WAS PREVIOUSLY; REV

SUB TITLE

REV	DETAILS OF REVISION	DRN	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	DCC	PM	LdP	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

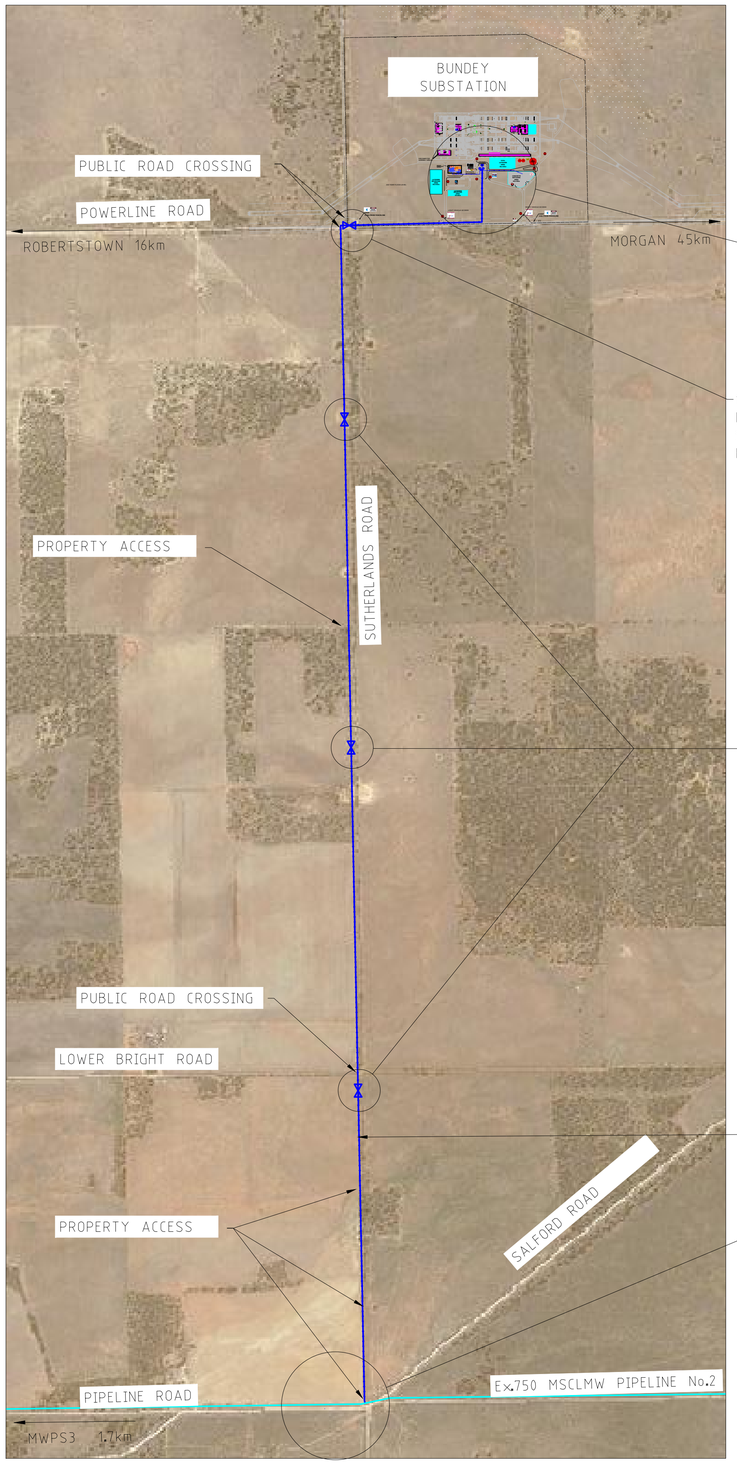
ElectraNet – electricity transmission

TITLE
ULTIMATE SITE LAYOUT
BUNDEY SUBSTATION

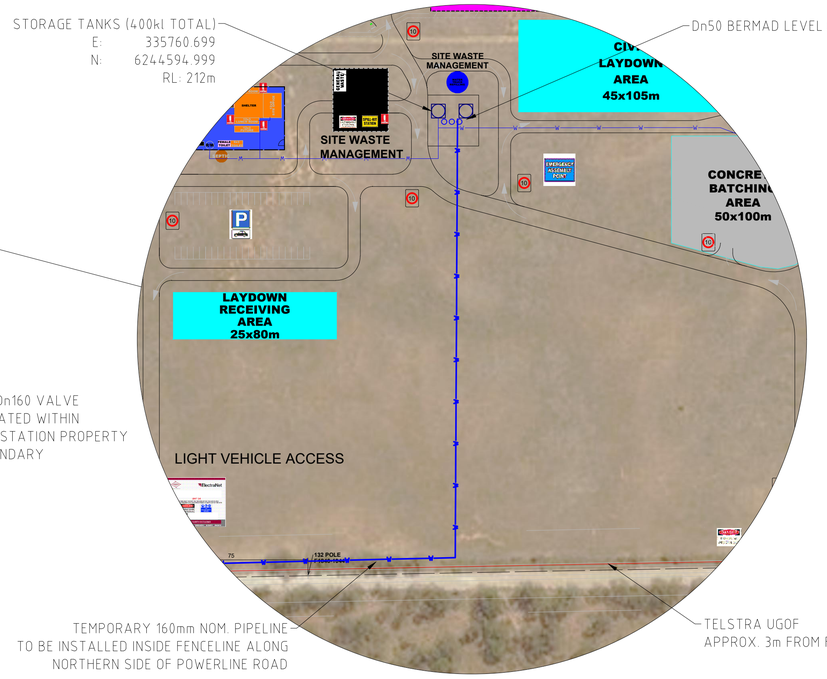
SCALE 1:2000 | A1 | 310 607/601-001 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

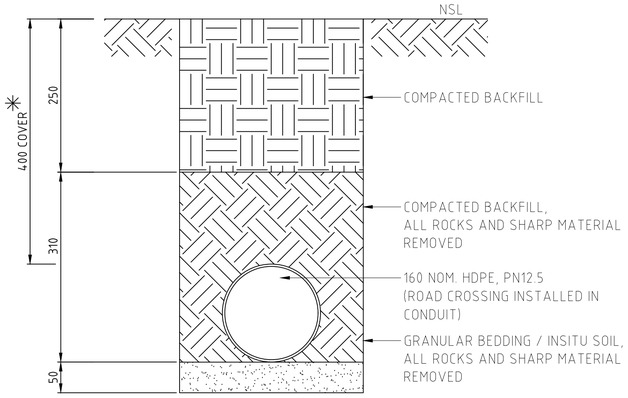


PLAN VIEW
SCALE 1:12500



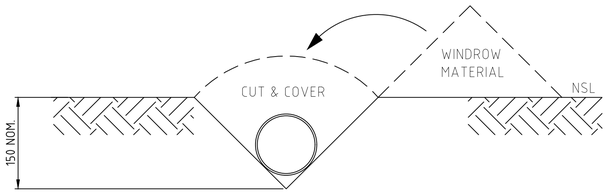
SUBSTATION DETAIL
SCALE 1:1500

TAKE OFF DETAIL
SCALE 1:1000



PROPERTY ACCESS / ROAD CROSSING DETAIL
SCALE 1:5

✳ NOTE: PIPE COVER SHOWN FOR PRIVATE PROPERTY ACCESS, COVER TO BE INCREASED TO 800mm UNDER PUBLIC ROAD SURFACE. ALL COMPACTION TO BE TO SATISFACTION OF ENGINEER.



PIPE ALIGNMENT STABILISATION DETAIL
SCALE 1:5

CUT & COVER EVERY 30m ALONG PIPELINE ALIGNMENT, GRADE TO 150mm NOMINAL DEPTH FOR A DISTANCE OF 5m, PLACE PIPE IN EXCAVATION AND TOP WITH WINDROWED MATERIAL, WET UP AND TAMP IN PLACE.

NOTE: CUT & COVER TO BE USED WHEN PRIMARY STABILISATION METHOD OF FIXING PIPE TO EXISTING FENCE POSTS IS NOT POSSIBLE.

NOTES:
1. 50mm INDIRECT METER LOCATED AT PIPELINE TAKE OFF POINT, INSTALLATION BY SA WATER.
2. ABOVE GROUND INSTALLATION OF PIPELINE AS PER SUPPLIERS / MANUFACTURERS SPECIFICATIONS.
3. SITE INSPECTION REQUIRED TO PEG OUT ALIGNMENT TO MINIMISE VEGETATION CLEARANCE BETWEEN ROAD AND FENCE LINE.
4. PIPELINE TO BE UNDERGROUND AT NOMINATED PROPERTY ACCESSES, ROAD CROSSINGS, AND ANY OTHER LOCATIONS REQUIRED.
5. ALL INSTALLATIONS TO REQUIREMENTS OF AS4129 AND AS4130
6. ALL COORDINATES PROVIDED ARE GDA94, MGA ZONE54

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	CM	BH	LPD	01/22

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE: 12/01/22 REV: A1
PROJECT: 14171
SIGNED: B.HUNTER

DRN	C.METTNER	11/21
CKD	S.STEDALL	12/21
INSP	B.HUNTER	12/21
AUTH	L.duPREEZ	12/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE
MAINS WATER RETICULATION CONSTRUCTION WATER SUPPLY

ElectraNet – electricity transmission

TITLE
SERVICES LAYOUT
BUNDEY SUBSTATION

SCALE AS NOTED | A1 | 310 607/606-012 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE
2. MINIMUM ELECTRICAL CLEARANCES AS PER AS 2067 & EC.14171 SECTION 3.4

	VOLTAGE	275kV	330kV
TBC	a) PHASE TO PHASE	3100mm	3600mm
	b) PHASE TO EARTH	2400mm	2900mm
	c) SECTIONAL CLEARANCE	4990mm	5520mm
	d) GROUND SAFETY CLEARANCE	2440mm	2440mm
	e) OVERHEAD STRUNG BUS TO GROUND	15.5m	16.2m
	f) ENA NENS-04 SAFE APPROACH DISTANCE FOR AUTHORISED PERSONS	2300mm	3000mm
	g) ENA NENS-04 SAFE APPROACH DISTANCE FOR MOBILE PLANT OPERATED BY AUTHORISED PERSONS	3000mm	3700mm

3. EQUIPMENT INTERCONNECTION

VOLTAGE	275kV	330kV
a) MAIN BUSBAR	Φ200 × 10 Al	Φ200 × 10 Al
b) INTERPLANT BUSBAR	Φ125 × 10 Al	Φ125 × 10 Al
c) DROPPER	TRIPLE AAC VENUS	TRIPLE AAC VENUS
d) INTERPLANT	TRIPLE AAC VENUS	TRIPLE AAC VENUS
e) INTERPLANT (NON-CURRENT CARRYING)	SINGLE AAC VENUS	TWIN AAC VENUS

4. EARTH STIRRUPS TO BE INSTALLED MINIMUM 300mm AND MAXIMUM 1000mm FROM EQUIPMENTAND POST INSULATORS.
5. ALL GROUND LEVEL CLEARANCES TO BE MEASURED FROM UNDERSIDE OF STRUCTIRE BASEPLATE.

N

310 607/621-029
=B05 - WEST

310 607/621-030
=B05 - EAST

310 607/621-031
=B05 - REACTOR BAY

310 607/621-042
KB1 330kV WEST BUS SECTION 2

310 607/621-044
KB2 330kV EAST BUS SECTION 2

BURONGA 1
F1601

OIL/WATER
RETENTION
POND

310 607/621-025
=B03 - WEST

310 607/621-026
=B03 - EAST

310 607/621-027
=B03 - REACTOR BAY

310 607/621-041
KB1 330kV WEST BUS SECTION 1

310 607/621-043
KB2 330kV EAST BUS SECTION 1

BURONGA 2
F1602

310 607/621-021
=B02 - WEST

310 607/621-022
=B02 - EAST

310 607/621-023
=B02 - REACTOR BAY

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

310 607/622-001
KEY PLAN

REFER DRAWING 310 607/622-001
FOR 275kV KEY PLAN

REV	DETAILS OF REVISION	DCC	PM	LdP	11/21
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE
KEY PLAN

ElectraNet – electricity transmission

TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:1000 | A1 | 310 607/621-001 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE

2. MINIMUM ELECTRICAL CLEARANCES AS PER AS 2067 & EC.14171 SECTION 3.4

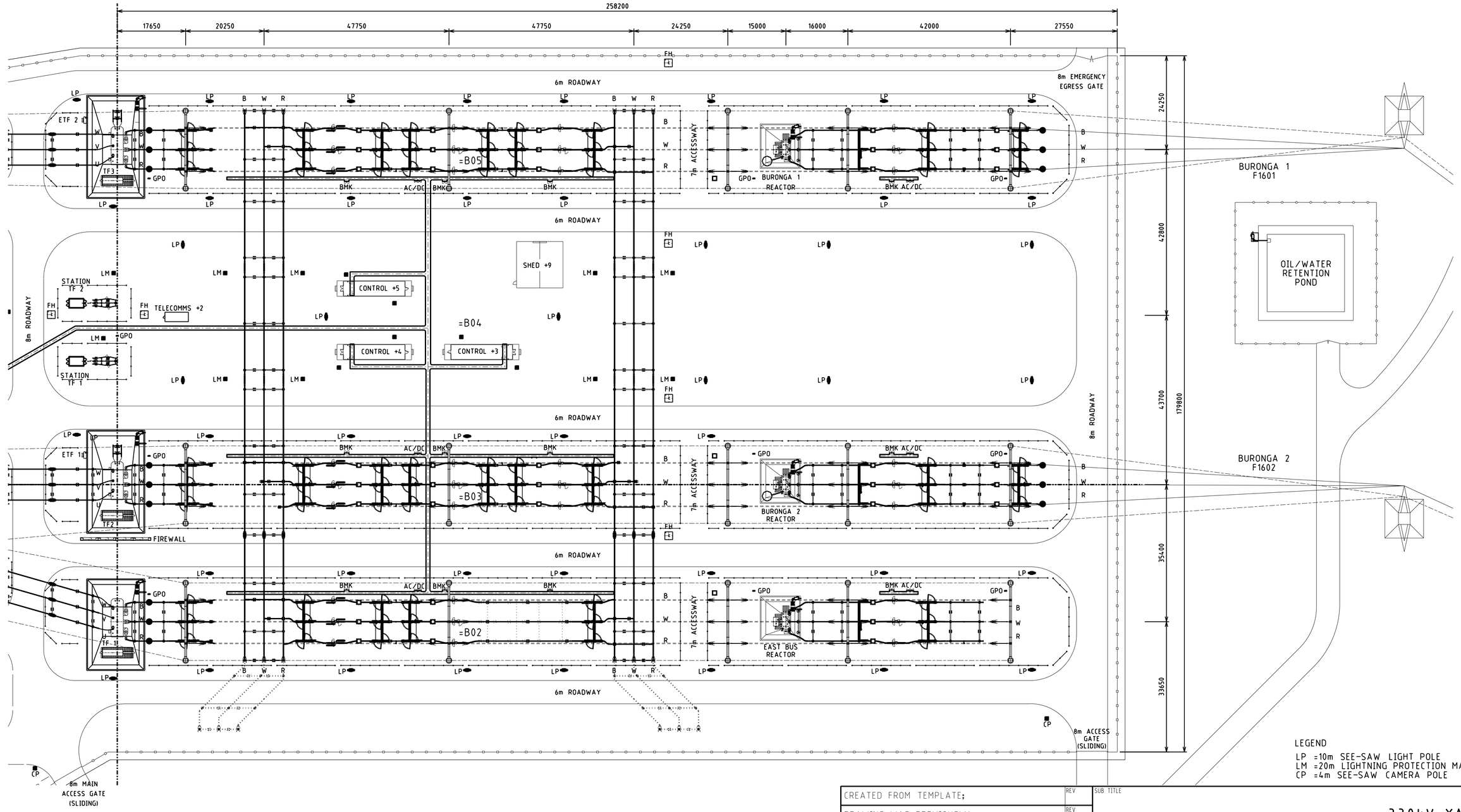
	VOLTAGE	275kV	330kV
TBC	a) PHASE TO PHASE	3100mm	3600mm
TBC	b) PHASE TO EARTH	2400mm	2900mm
TBC	c) SECTIONAL CLEARANCE	4990mm	5520mm
	d) GROUND SAFETY CLEARANCE	2440mm	2440mm
	e) OVERHEAD STRUNG BUS TO GROUND	15.5m	16.2m
	f) ENA NENS-04 SAFE APPROACH DISTANCE FOR AUTHORISED PERSONS	2300mm	3000mm
	g) ENA NENS-04 SAFE APPROACH DISTANCE FOR MOBILE PLANT OPERATED BY AUTHORISED PERSONS	3000mm	3700mm

3. EQUIPMENT INTERCONNECTION

VOLTAGE	275kV	330kV
a) MAIN BUSBAR	Φ200 x 10 Al	Φ200 x 10 Al
b) INTERPLANT BUSBAR	Φ125 x 10 Al	Φ125 x 10 Al
c) DROPPER	TRIPLE AAC VENUS	TRIPLE AAC VENUS
d) INTERPLANT	TRIPLE AAC VENUS	TRIPLE AAC VENUS
e) INTERPLANT (NON-CURRENT CARRYING)	SINGLE AAC VENUS	TWIN AAC VENUS

4. EARTH STIRRUPS TO BE INSTALLED MINIMUM 300mm AND MAXIMUM 1000mm FROM EQUIPMENTAND POST INSULATORS.

5. ALL GROUND LEVEL CLEARANCES TO BE MEASURED FROM UNDERSIDE OF STRUCTIRE BASEPLATE.



LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REFER DRAWING 310 607/622-002 FOR 275kV YARD

REV	DETAILS OF REVISION	DCC	PM	LdP	11/21
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

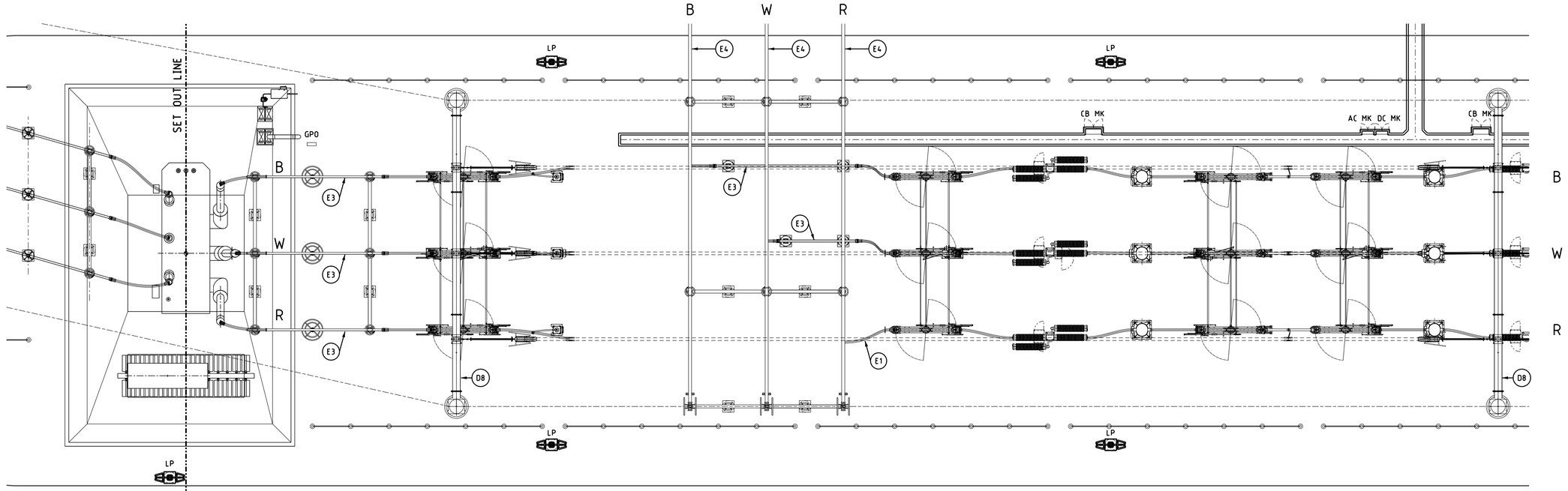
SUB TITLE
330kV YARD

ElectraNet – electricity transmission

TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE			REV	DISTB
1:500	A1	310 607/621-002	A	

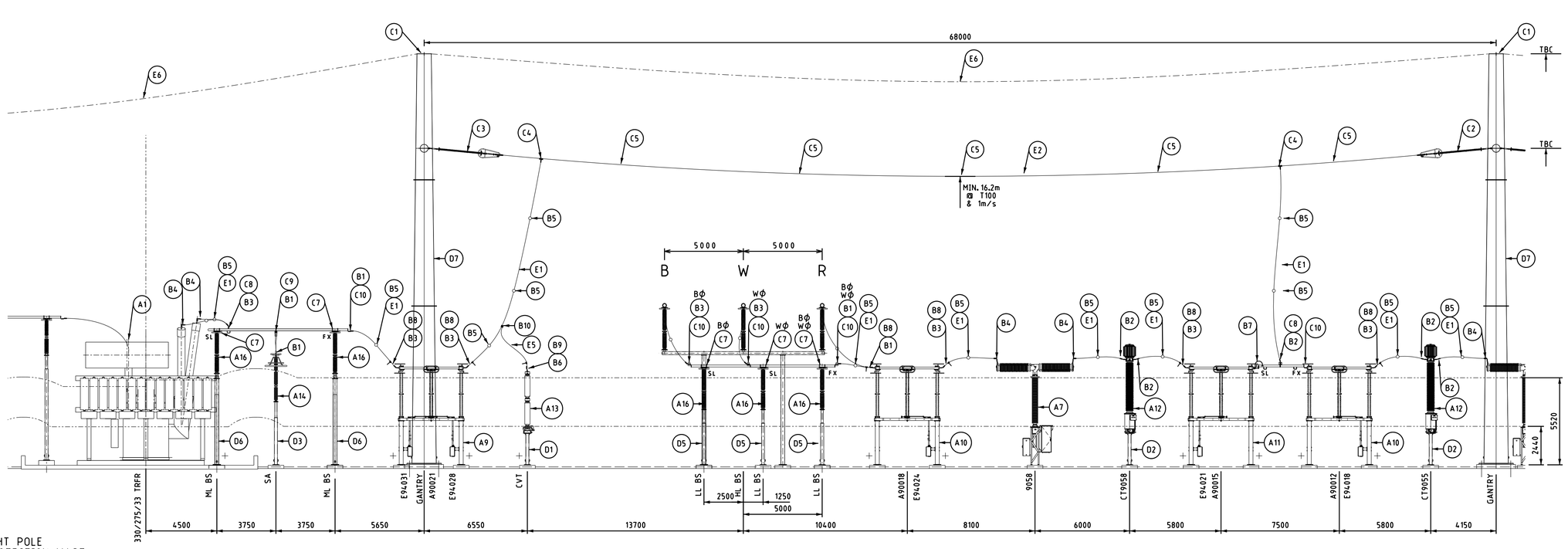
DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW

CONTINUED ON 310 607/622-034

CONTINUED ON 310 607/621-022



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	DCC	PM	LdP	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

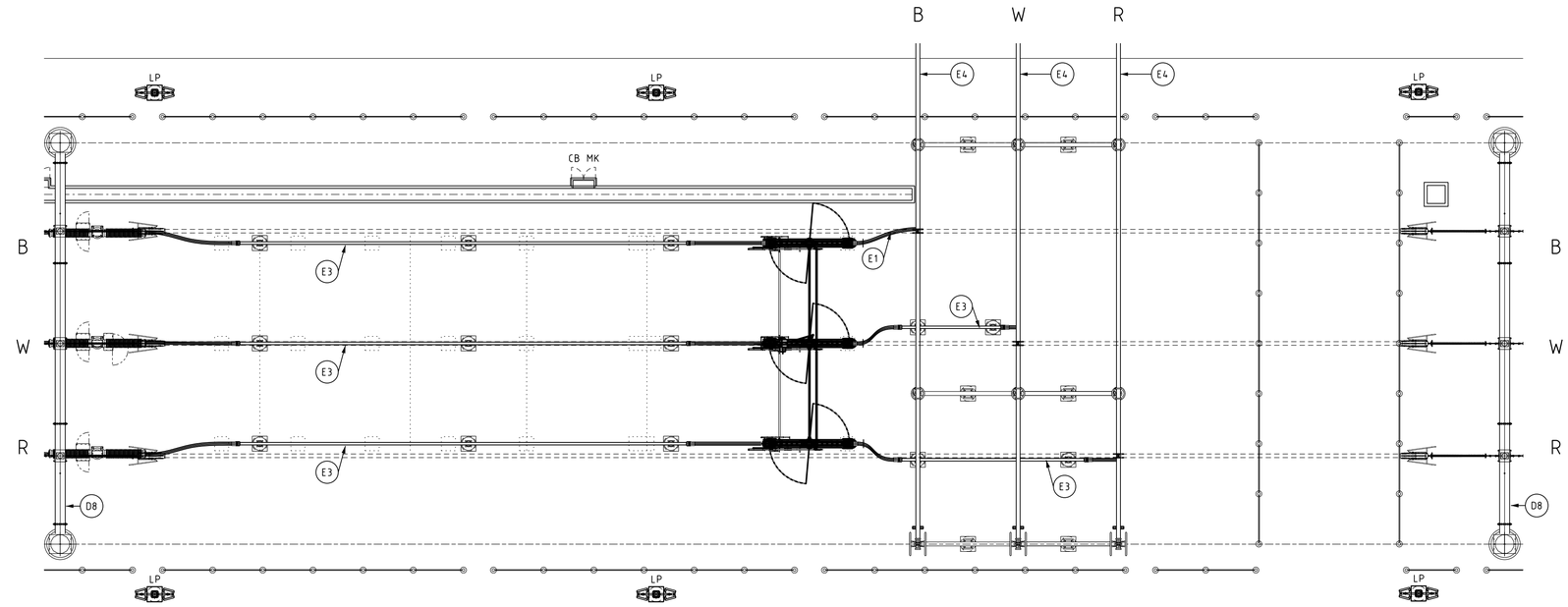
SUB TITLE: PLAN AND ELEVATION B02 WEST

ElectraNet – electricity transmission

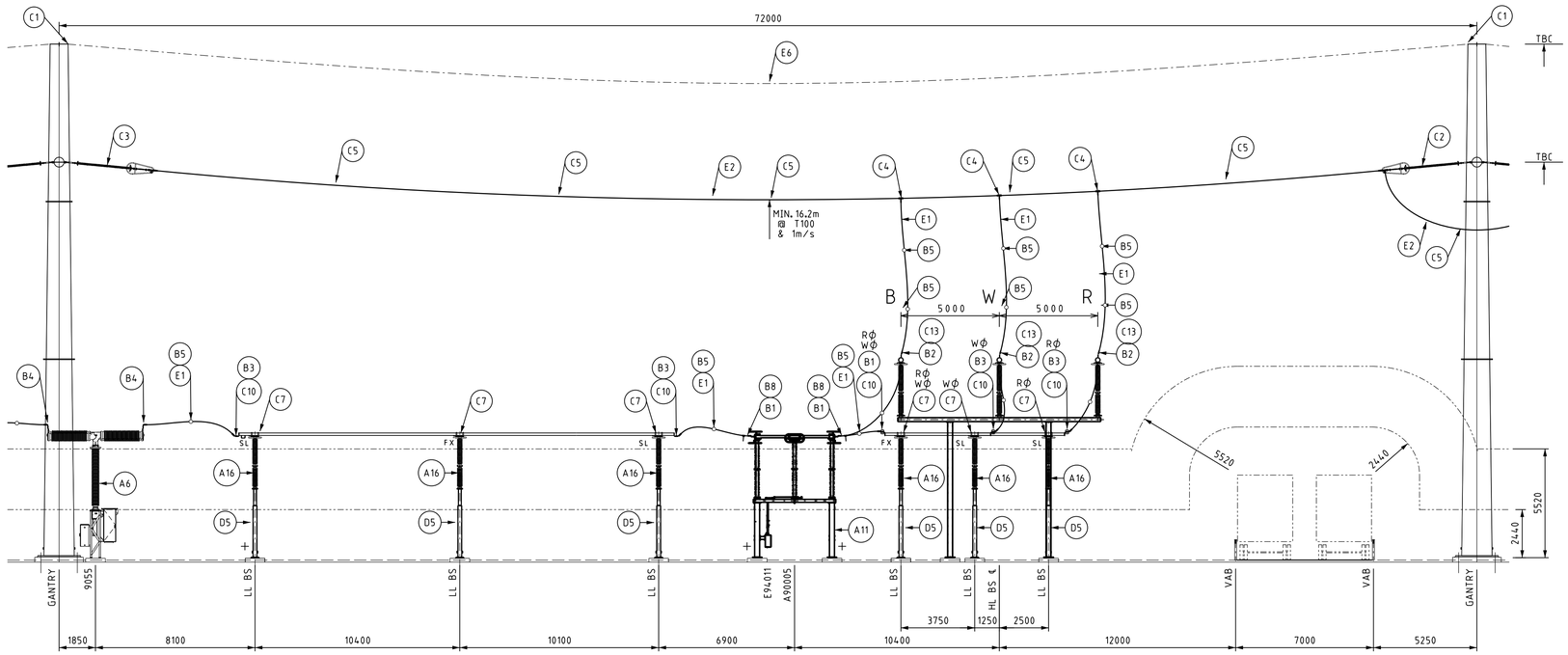
TITLE: EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/621-021 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/621-021

CONTINUED ON 310 607/621-023

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DCC	PM	LdP	11/21
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

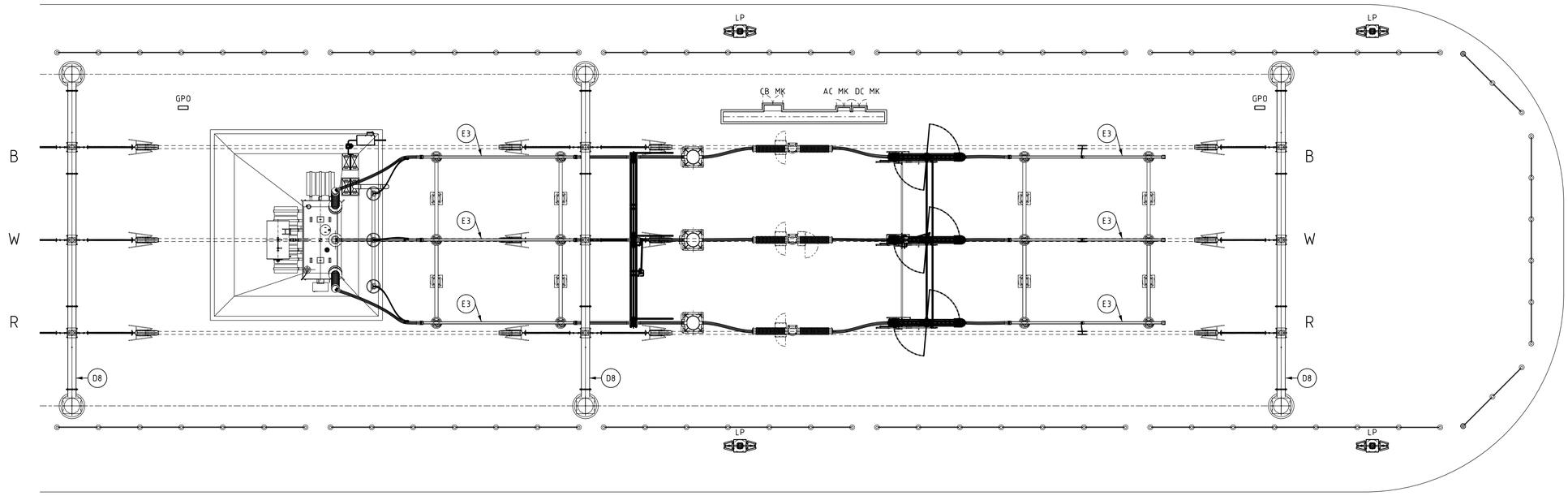
SUB TITLE
PLAN AND ELEVATION B02 EAST

ElectraNet – electricity transmission

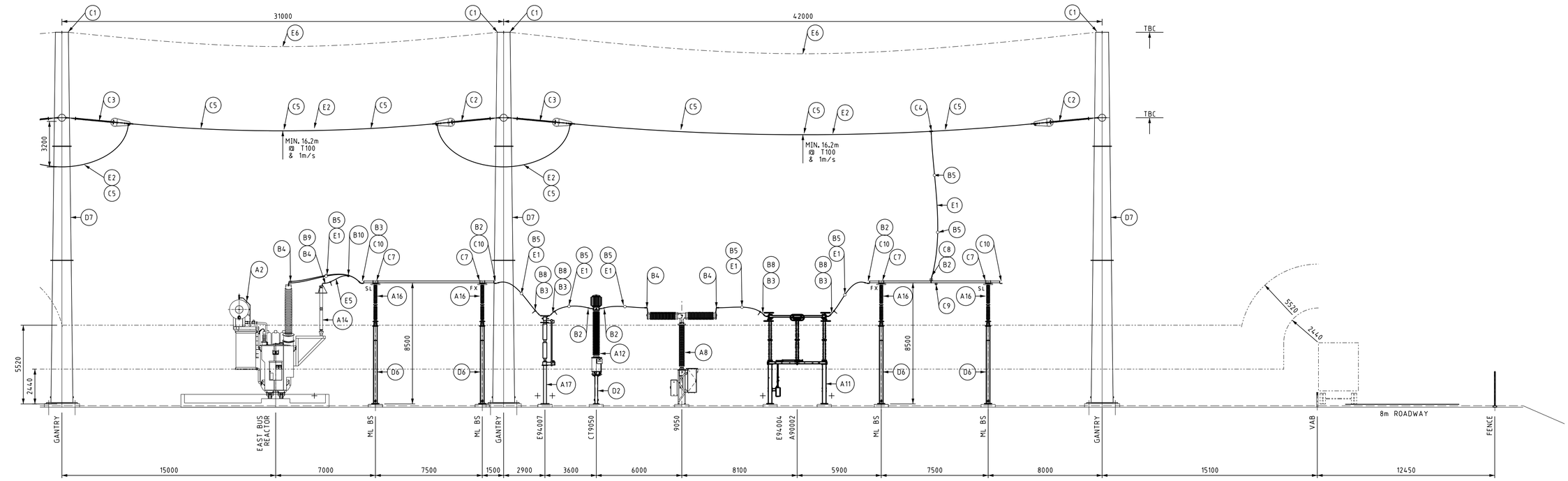
TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/621-022 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



ELEVATION

CONTINUED ON 310 607/621-022

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DCC	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	PM	LdP	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

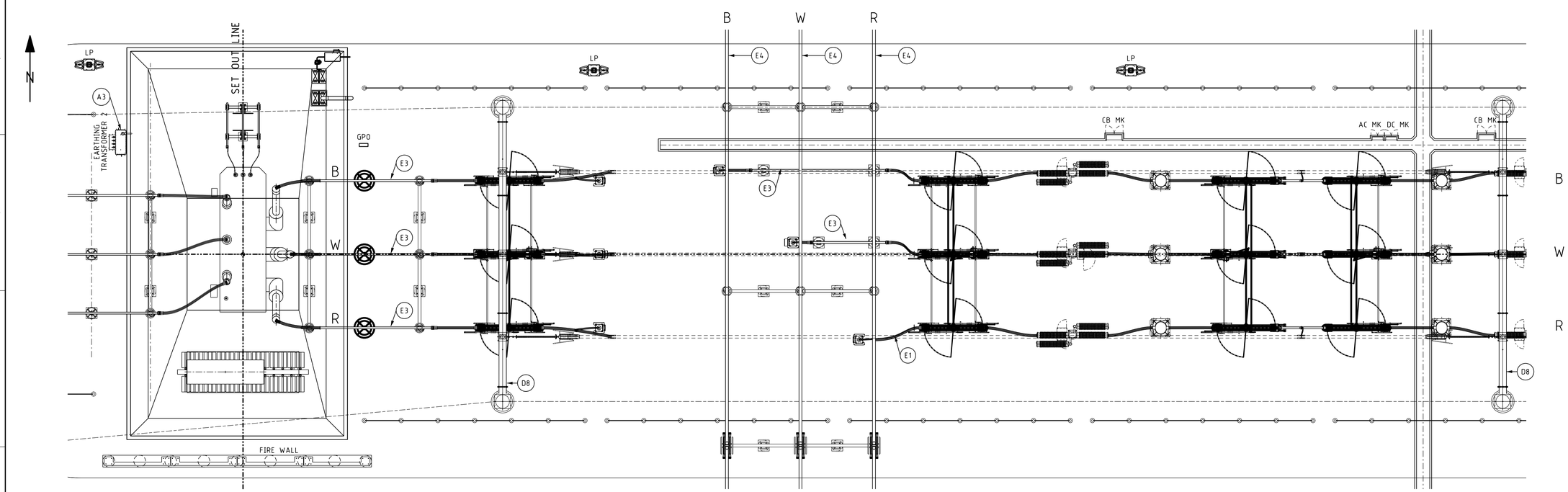
SUB TITLE
PLAN AND ELEVATION B02 REACTOR BAY

ElectraNet – electricity transmission

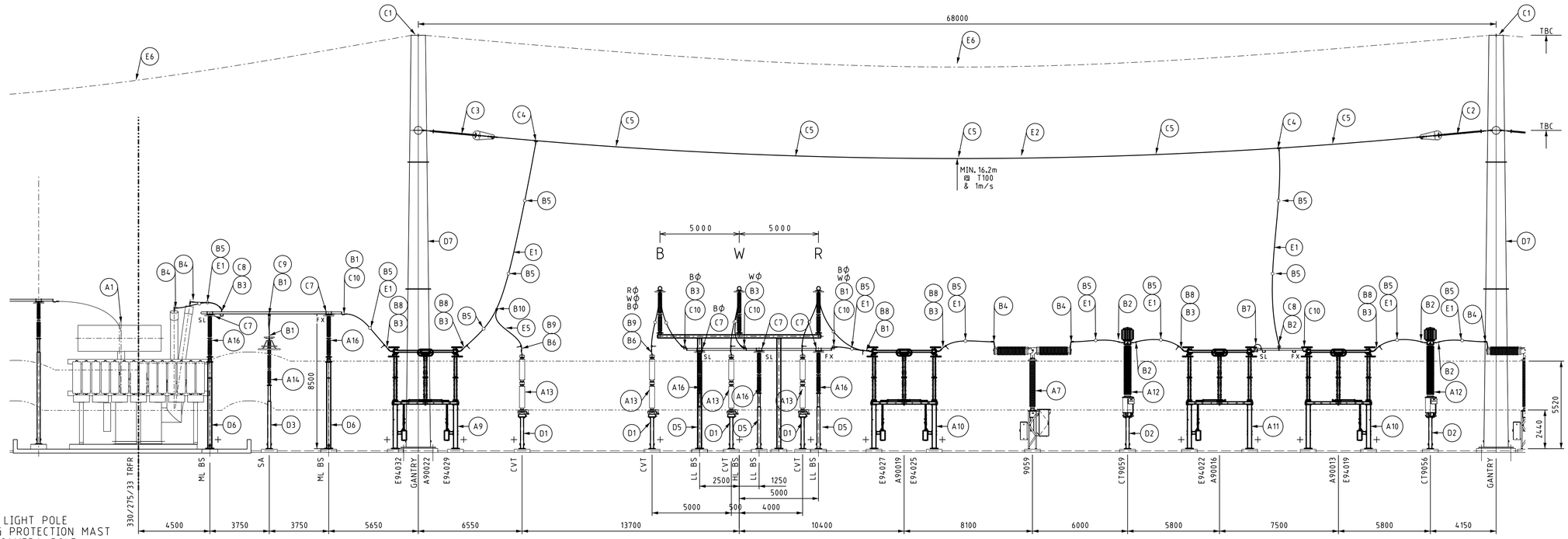
TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/621-023 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/622-036

CONTINUED ON 310 607/621-026

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DCC	PM	LdP	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

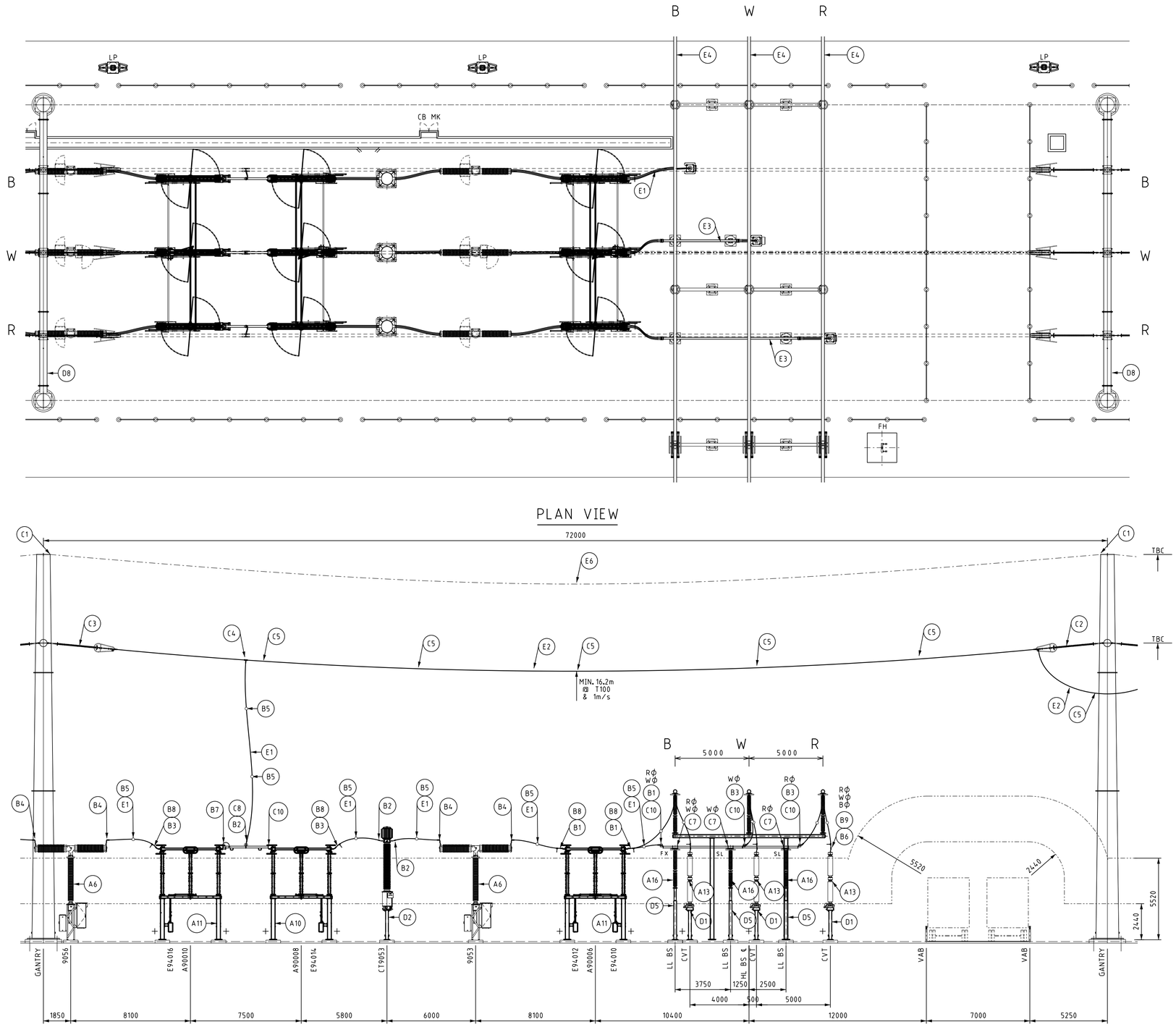
SUB TITLE
PLAN AND ELEVATION B03 WEST

ElectraNet – electricity transmission

TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/621-025 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

CONTINUED ON 310 607/621-025

CONTINUED ON 310 607/621-027

REV	DETAILS OF REVISION	DCC	PM	LdP	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

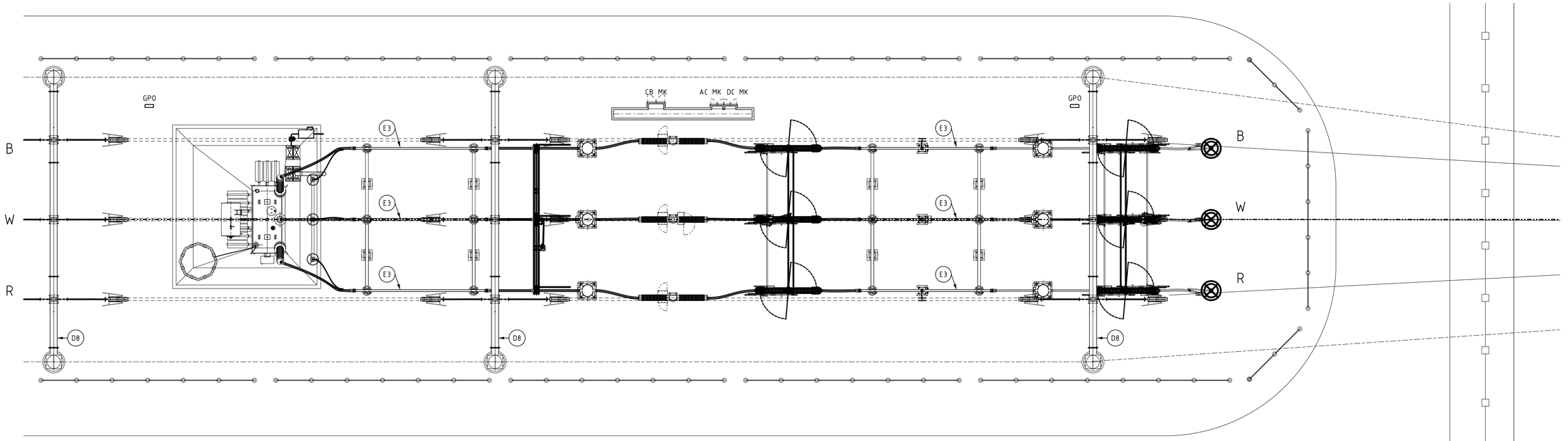
SUB TITLE
PLAN AND ELEVATION B03 EAST

ElectraNet – electricity transmission

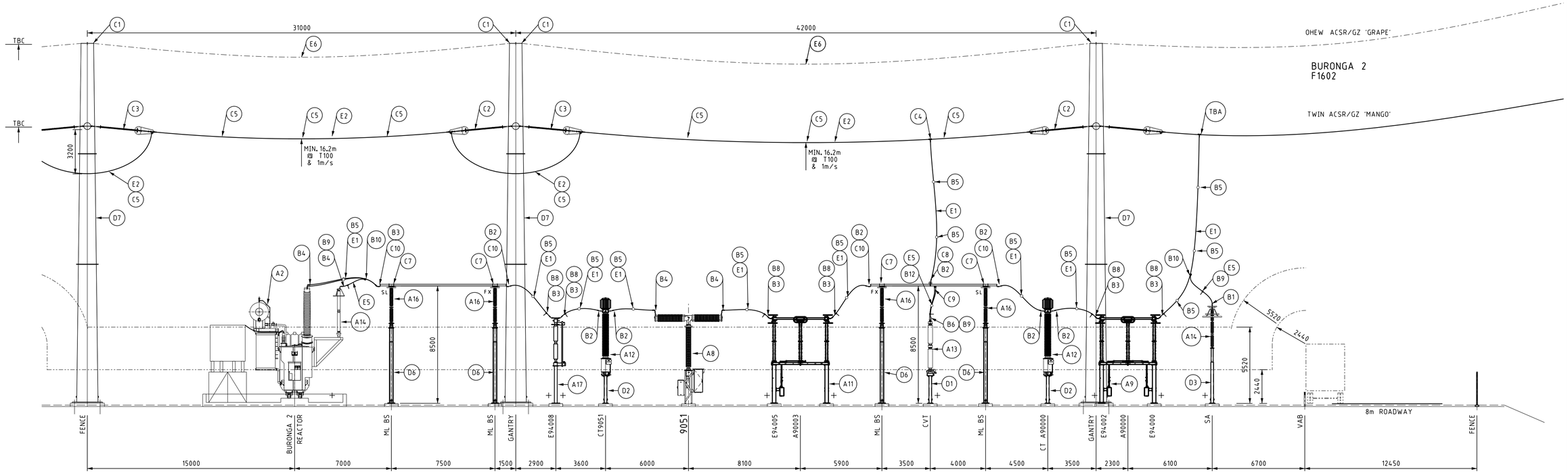
TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/621-026 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/622-026

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DCC	PM	LdP	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
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DATE:26/11/2021 REV: A1
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DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

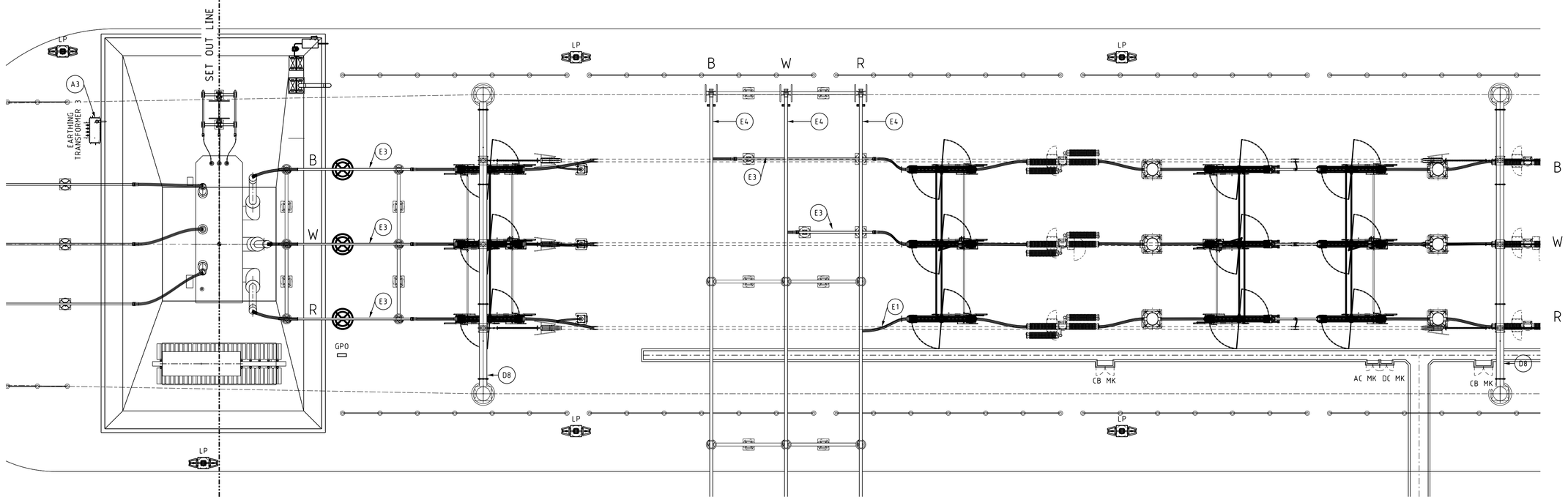
SUB TITLE
PLAN AND ELEVATION B03 REACTOR BAY

ElectraNet – electricity transmission

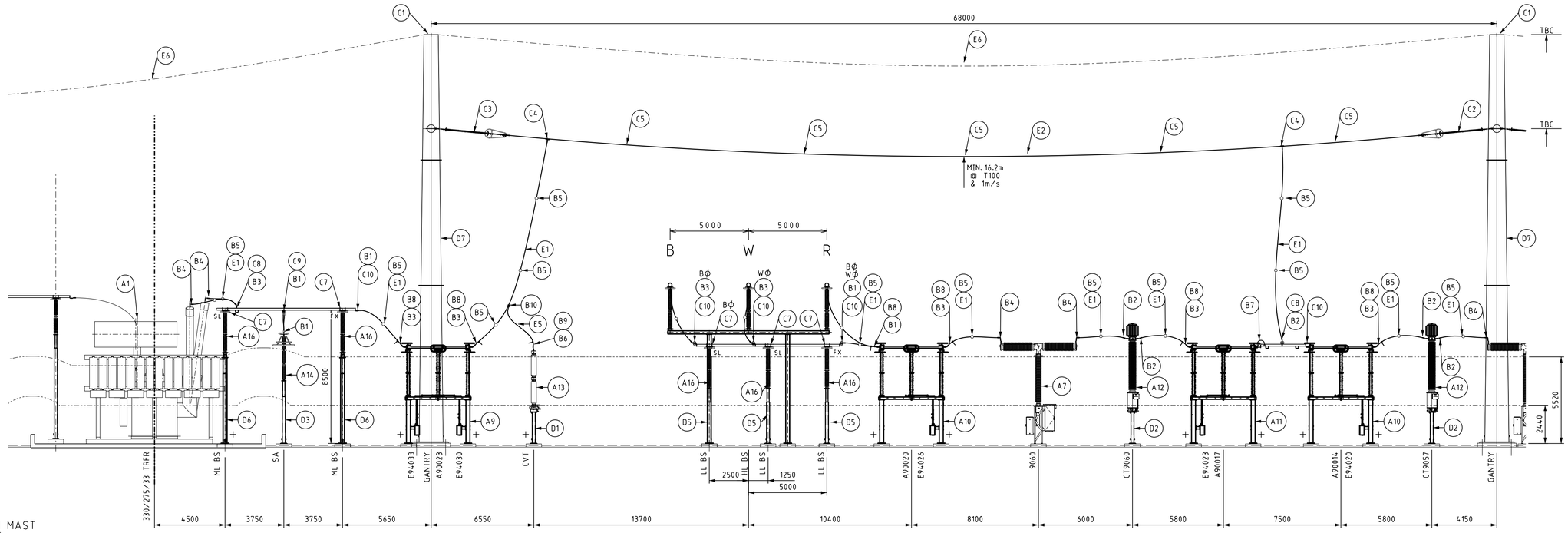
TITLE
EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/621-027 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MASH
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
ML =MID LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/622-038

CONTINUED ON 310 607/621-030

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DCC	CM	LdP	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	RVD	CKD	APD	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:26/11/2021 REV: A1
PROJECT: 14171
SIGNED: L.Du PREEZ

DRN	D.CALDWELL	11/21
CKD	C.METTNER	11/21
INSP	L. du PREEZ	11/21
AUTH	L. du PREEZ	11/21

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SUB TITLE: PLAN AND ELEVATION B05 WEST

ElectraNet – electricity transmission

TITLE: EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

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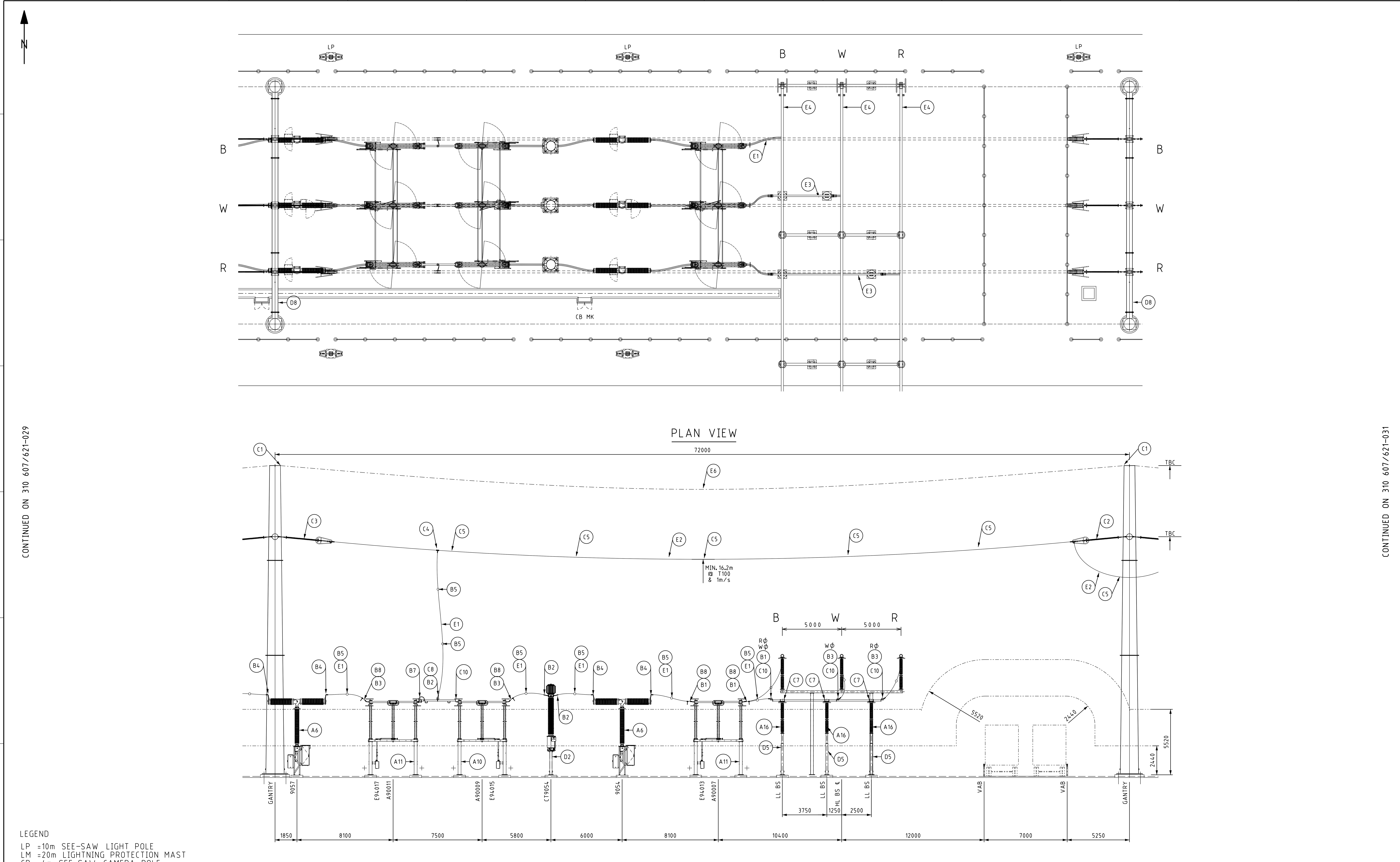

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CONTINUED ON 310 607/621-031

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
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REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	DCC	PM	LdP	11/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

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DRN	D.CALDWELL	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

SUB TITLE: PLAN AND ELEVATION B05 EAST

ElectraNet – electricity transmission

TITLE: EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

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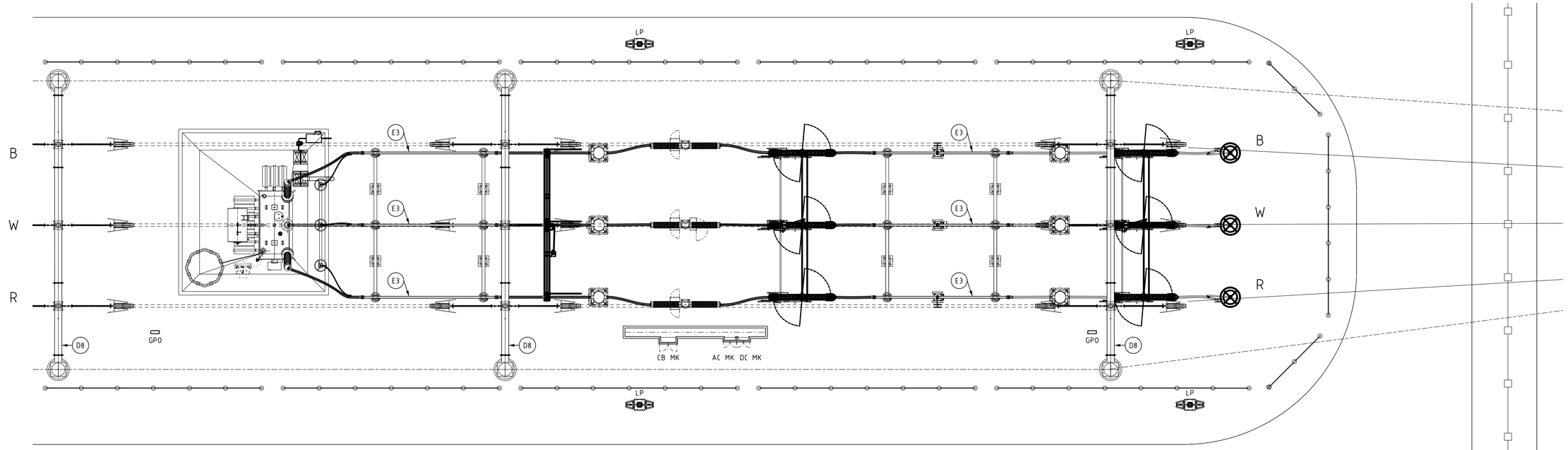
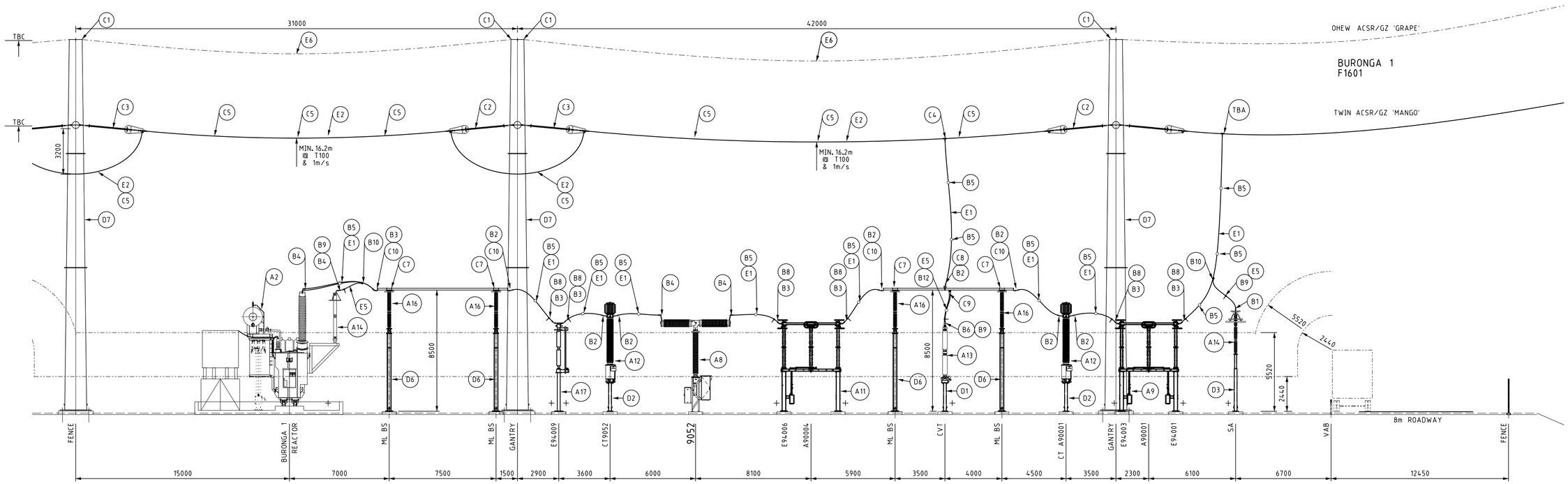


PLAN VIEW



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TITLE
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BUNDEY SUBSTATION

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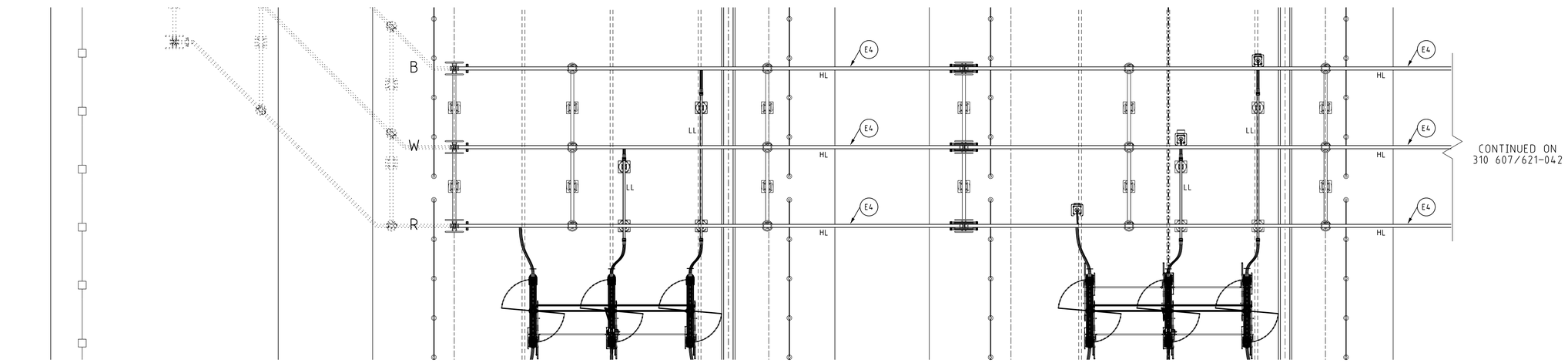

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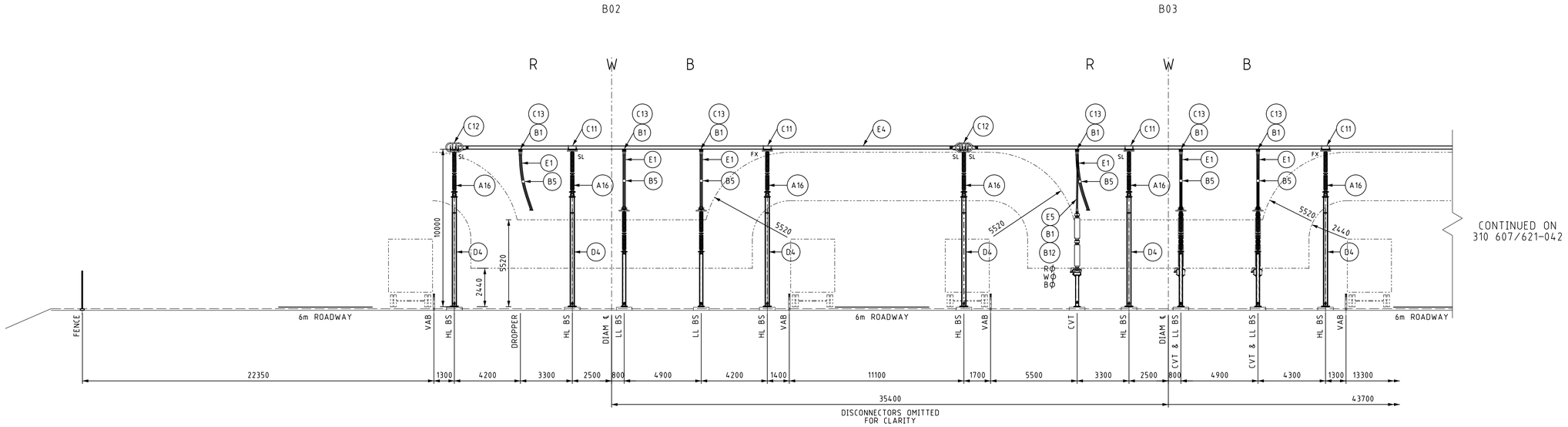

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PLAN AND ELEVATION WEST BUS SECTION 1

ElectraNet – electricity transmission

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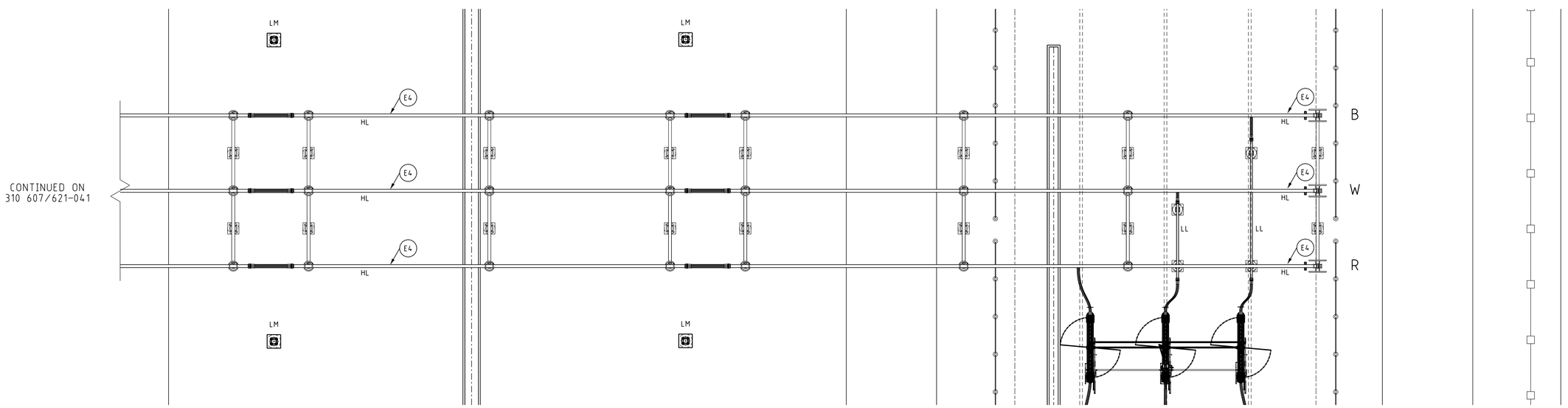

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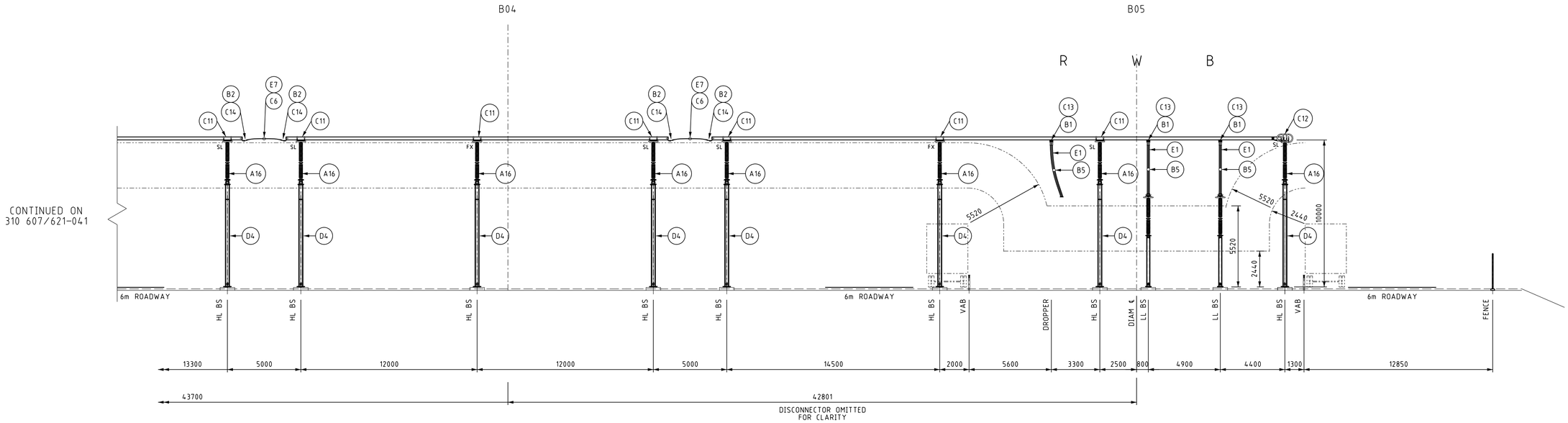

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ElectraNet – electricity transmission

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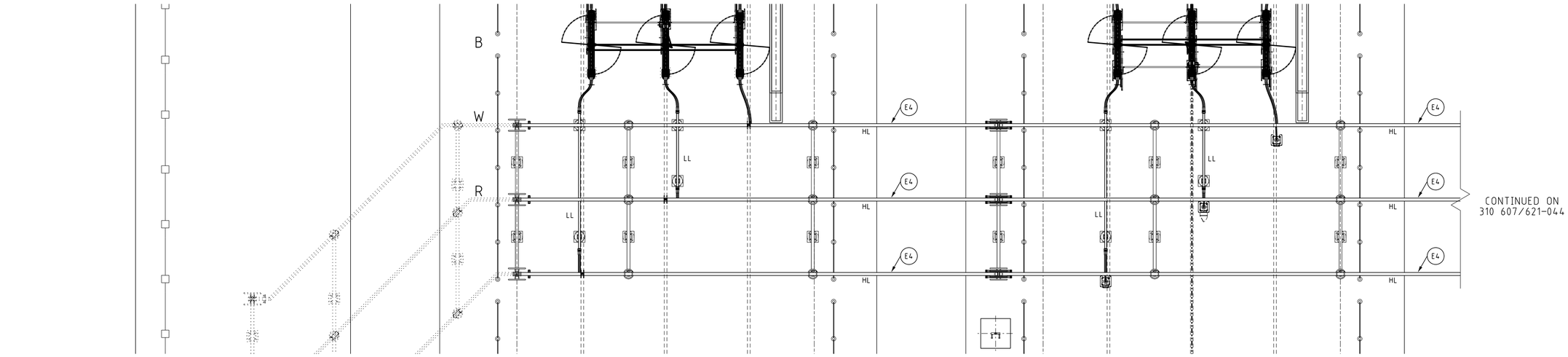

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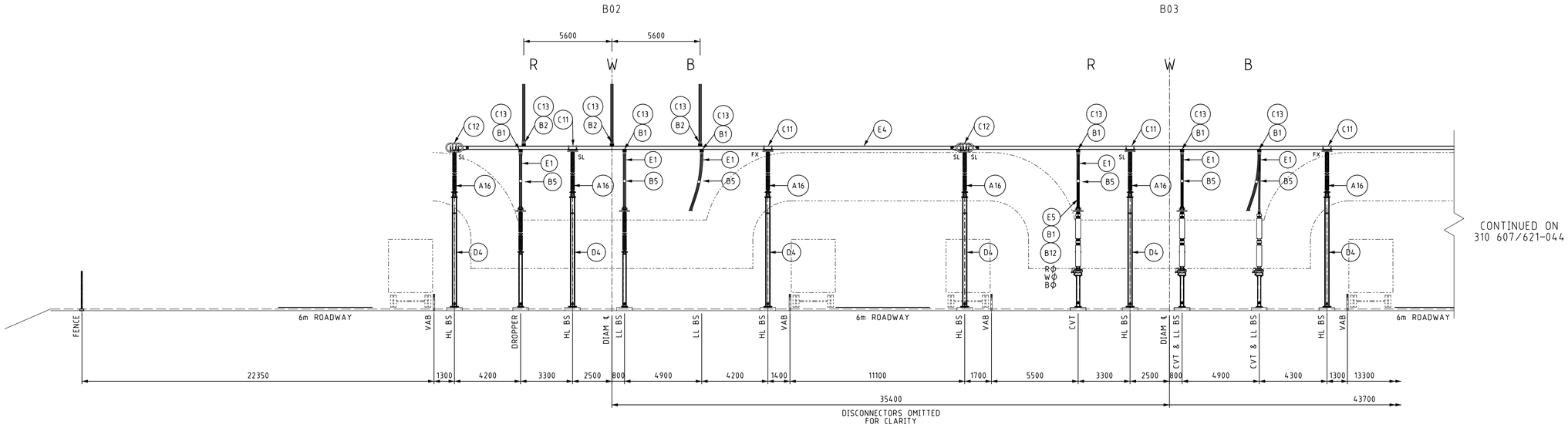

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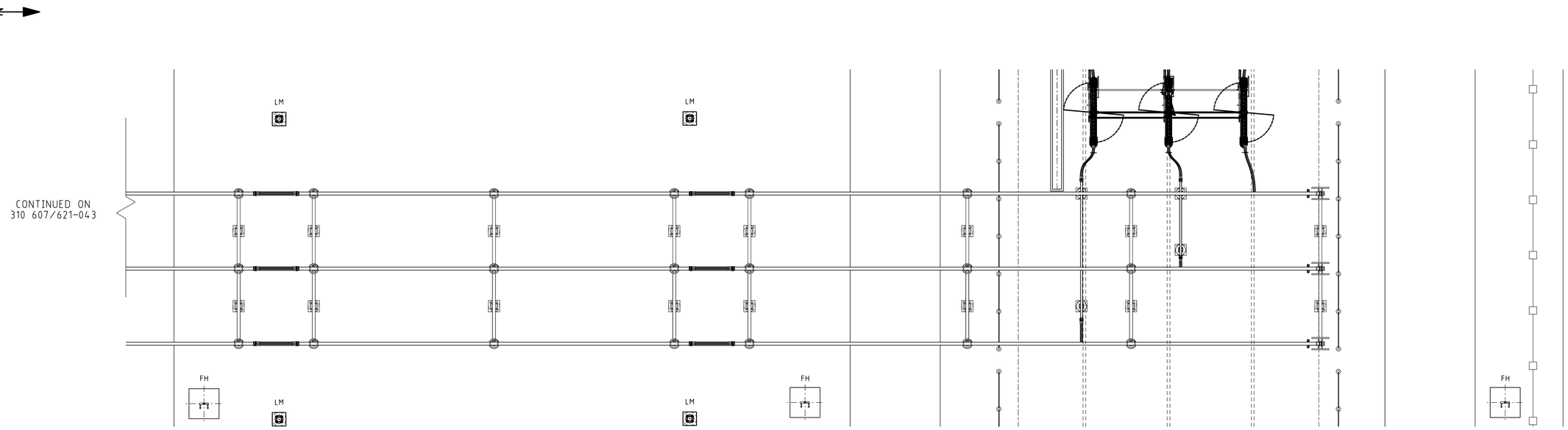

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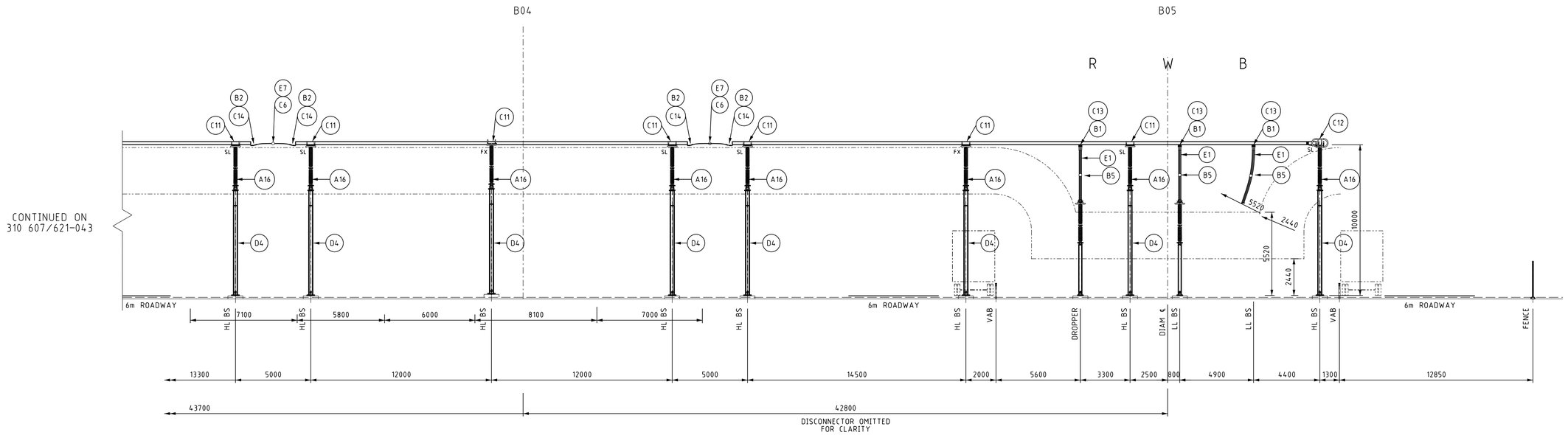

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EQUIPMENT 330 kV AREA
BUNDEY SUBSTATION

SCALE			REV	DISTB
1:150	A1	310 607/621-044	A	

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ITEM	DESCRIPTION	SUPPLIER	QUANTITY REV	QUANTITY TOTAL	DRAWING NUMBER	REVISION	REMARKS
A	**MAIN EQUIPMENT**						
A1	TRANSFORMER 330/275/33kV 400MVA	TBA		3	TBA	TBA	
A2	SHUNT LINE/BUS REACTOR 360kV 60 MVAr	TBA		3	TBA	TBA	
A3	EARTHING TRANSFORMER xxxΩ xxxA xxkA	TBA		2	TBA	TBA	
A4	NEUTRAL EARTHING REACTOR xxkV xxxxΩ	TBA		2	TBA	TBA	
A5	xxkV BUSHING CURRENT TRANSFORMER xxxxA, xxkA, xP, HP	TBA		6	TBA	TBA	**FOR SHUNT LINE/BUS REACTOR**
A6	360kV CIRCUIT BREAKER, LIVE TANK, xxxxA, xxkA, HP, SPAR (PHASE SPACING = 5.5m)	TBA		5	TBA	TBA	C/W SUPPORT STRUCTURE
A7	360kV CIRCUIT BREAKER, LIVE TANK, xxxxA, xxkA, HP, PIR (PHASE SPACING = 5.5m)	TBA		3	TBA	TBA	C/W SUPPORT STRUCTURE
A8	360kV CIRCUIT BREAKER, LIVE TANK, xxxxA, xxkA, HP, POW RELAY (PHASE SPACING = 5.5m)	TBA		3	TBA	TBA	C/W SUPPORT STRUCTURE
A9	360kV DISCONNECTOR, xxxxA, xxkA, LOW LEVEL WITH 2 MOTORISED E/S (PHASE SPACING = 5m)	TBA		7	TBA	TBA	C/W SUPPORT STRUCTURE
A10	360kV DISCONNECTOR, xxxxA, xxkA, LOW LEVEL WITH 1 MOTORISED E/S, LEFT, (PHASE SPACING = 5m)	TBA		10	TBA	TBA	C/W SUPPORT STRUCTURE
A11	360kV DISCONNECTOR, xxxxA, xxkA, LOW LEVEL WITH 1 MOTORISED E/S, RIGHT, (PHASE SPACING = 5m)	TBA		9	TBA	TBA	C/W SUPPORT STRUCTURE
A12	360kV CURRENT TRANSFORMER, xxxxA, xxkA, 4P2M , VHP	TBA		13	TBA	TBA	W/O SUPPORT STRUCTURE (ITEM D2)
A13	360kV CAPACITIVE VOLTAGE TRANSFORMER,	TBA		7	TBA	TBA	W/O SUPPORT STRUCTURE (ITEM D1)
A14	360kV SURGE ARRESTOR, xxkA, VHP	TBA		8	TBA	TBA	
A15	360kV POST INSULATOR FOR DISCONNECTOR, 2650mm HIGH, xkN	TBA		261	TBA	TBA	
A16	360kV BUS POST INSULATOR, 2650mm HIGH, xkN	TBA		171	TBA	TBA	
A17	360kV EARTH SWITCH, xxkA (PHASE SPACING = 5m)	TBA		3	TBA	TBA	C/W SUPPORT STRUCTURE
A18	xxkV SURGE ARRESTOR xxkA, HP	TBA		2	TBA	TBA	FOR SHUNT LINE/BUS REACTOR LV
B	**FITTINGS FOR EQUIPMENT**						
B1	FITTING, COMPRESSION, VENUS, AS7	PLP			310 607/633-001	A	Ø=O °
B2	FITTING, COMPRESSION, VENUS, AS7	PLP			310 607/633-001	A	Ø=15 °
B3	FITTING, COMPRESSION, VENUS, AS7	PLP			310 607/633-001	A	Ø=45 °
B4	FITTING, COMPRESSION, VENUS, AS7	PLP			310 607/633-001	A	Ø=90 °
B5	SPACER, TRIPLE VENUS, 70mm SPACING, BOLTED	PLP			310 607/633-002	A	
B6	FITTING, COMPRESSION, VENUS, AS5	PLP			310 607/633-001	A	Ø=O °
B7	FITTING, 125mm OD TUBE, PALM NO. 13, SLIDING - 330kV	PLP			310 607/633-001	A	
B8	EARTH STIRRUP, TRIPLE VENUS, BOLTED - UP TO 330kV	PLP			310 607/633-003	A	
B9	EARTH STIRRUP, DOUBLE VENUS, BOLTED - UP TO 330kV	PLP			510 STD/633-014	A	
B10	PARALLEL GROOVE, SINGLE VENUS, SINGLE VENUS - UP TO 330kV	PLP			510 STD/633-012	A	
B11	FITTING, TRIPLE VENUS, PALM 13 to FLANGE 127PCD to PALM 13, BOLTED	PLP					
B12	SPACER, DOUBLE VENUS, 70mm SPACING, BOLTED	PLP			510 STD/633-013	A	
C	**FITTINGS FOR BUSBAR & DROPPERS**						
C1	EARTHWIRE STRAIN ASSEMBLY, "GRAPE", WITHOUT INSULATOR DISC	PLP			310 607/631-004	A	
C2	TENSION STRING, TWIN OLIVE, 180mm SPACING, WITH TURN BUCKLE & SAG LINK - 330kV - L3 POLLUTION	PLP			310 607/631-001	A	
C3	TENSION STRING, TWIN OLIVE, 180mm SPACING, - 330kV - L3 POLLUTION	PLP			310 607/631-002	A	
C4	BOLTED RUN PALM TEE, TWIN OLIVE, PALM AS13	PLP			tba	A	
C5	SPACER, TWIN OLIVE, 180mm SPACING, BOLTED - UP TO 330kV	PLP			tba	A	
C6	SPACER, QUAD VENUS, 70mm SPACING, BOLTED - UP TO 330kV	PLP			tba	A	
C7	FITTING, 125mm OD TUBE, FLANGE 127 PCD, FIXED/SLIDING - 330kV	PLP			510 STD/633-058	A	
C8	FLAG TERMINAL, 125mm OD TUBE, PALM NO. 13, WELDED OPPOSED - 330kV	PLP				A	
C9	FLAG TERMINAL, 125mm OD TUBE, PALM NO. 12, WELDED INLINE - 330kV	PLP			510 STD/633-060	A	
C10	FITTING, 125mm OD TUBE, PALM NO. 13, FIXED - 330kV	PLP			510 STD/633-074	A	BUSBAR END PALM 90^
C11	FITTING, 200mm OD TUBE, FLANGE 127 PCD, FIXED/SLIDING - 330kV	PLP			510 STD/633-102	A	6 x FIXED, 12 x SLIDING
C12	FITTING, 200mm OD TUBE, FLANGE 127 PCD, EXPANSION - 330kV	PLP			510 STD/633-101	A	INSTALL SL HALF AT SW END OF MAIN BUS
C13	FLAG TERMINAL, 200mm OD TUBE, PALM NO. 13, WELDED INLINE - 330kV	PLP				A	
C14	FITTING, 200mm OD TUBE, PALM NO. 14, FIXED - 330kV	PLP				A	BUSBAR END PALM 90^
C15	FITTING, 125mm OD TUBE, FLANGE, 127 PCD, FIXED/SLIDING - 330kV	PLP				A	MODIFIED TO ALLOW ROTATED BUS ACROSS ROAD
D	**STEEL STRUCTURE**						
D1	STEEL STRUCTURE FOR 360kV CAPACITIVE VOLTAGE TRANSFORMER	TBC		7	310 607/921-024		
D2	STEEL STRUCTURE FOR 360kV CURRENT TRANSFORMER	TBC		13	310 607/921-025		
D3	STEEL STRUCTURE FOR 360kV SURGE ARRESTOR	TBC		8	310 607/921-021		
D4	STEEL STRUCTURE FOR 360kV BUS POST INSULATOR HIGH LEVEL @ 5.0m SPACING	TBC		28	310 607/921-023		
D5	STEEL STRUCTURE FOR 360kV POST INSULATOR LOW LEVEL	TBC		33	310 607/921-022		
D6	STEEL STRUCTURE FOR 360kV POST INSULATOR MID LEVEL @ 5.0 SPACING	TBC		18	311 607/921-026		
D7	STEEL STRUCTURE FOR 360kV GANTRY COLUMN	TBC		30	310 607/921-001		GANTRY KEY DIAGRAM DRG.
D8	STEEL STRUCTURE FOR 360kV GANTRY BEAM 20m	TBC		15	310 607/921-008		GANTRY BEAM DRG.
D9	20m LIGHTNING MAST C/W 1m ROD	TBC		16	310 607/927-001		
D10	10m LIGHTING POLE	TBC		46	310 607/927-002		
D11	4m CAMERA POLE	TBC		2	310 607/927-007		
D12	FRONT GATE CONTROL BOX	TBC		1	310 607/927-003		
D13	FRONT GATE CONTROL BOX STAND	TBC		1	310 607/927-004		
D14	GPO BOX	TBC		10	310 607/927-005		
D15	GPO BOX STAND	TBC		10	310 607/927-006		
E	**BUSBAR & CONDUCTOR**						
E1	VENUS - AAC, (TRIPLE)	PLP			N/A	-	DROPPER & INTERPLANT CONNECTION: 3 x AAC VENUS
E2	OLIVE - ACSR/GZ, (TWIN)	PLP			N/A	-	STRUNG BUS: 2 x ACSR/GZ OLIVE
E3	125mm OD, 10mm THICK ALUMINIUM TUBE	PLP			N/A	-	INTERPLANT CONNECTION
E4	200mm OD, 10mm THICK ALUMINIUM TUBE	PLP			N/A	-	MAIN BUSBAR
E5	VENUS - AAC, (DOUBLE)	PLP			N/A	-	INTERPLANT CONNECTION, NON CURRENT: 2 x AAC VENUS
E6	GRAPE - ACSR/GZ, (SINGLE)	PLP			N/A	-	OVERHEAD EARTH WIRE
E7	VENUS - AAC, (QUAD)	PLP			N/A	-	MAIN BUSBAR FLEXIBLE CONNECTIONS

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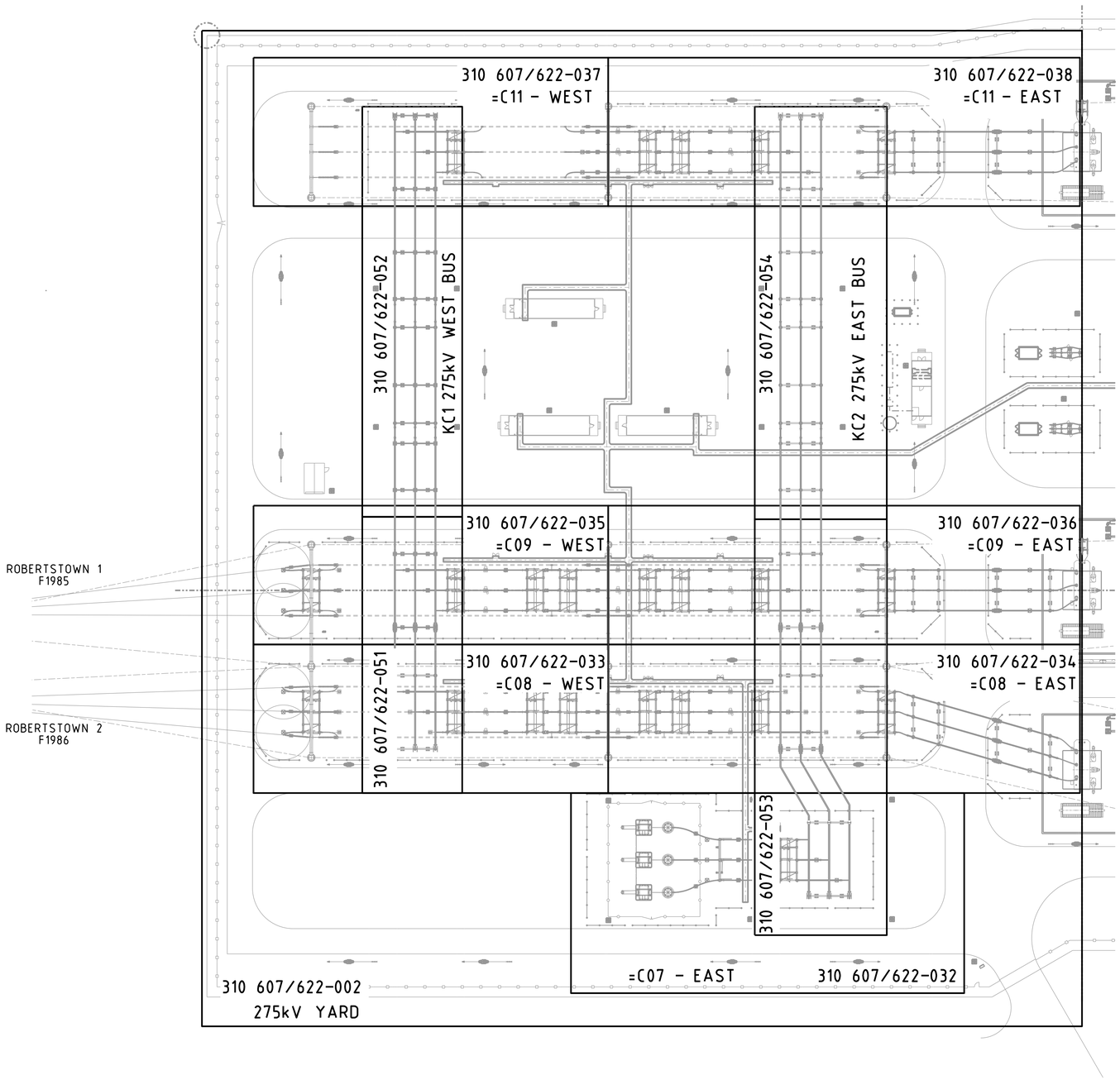

NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE
2. MINIMUM ELECTRICAL CLEARANCES AS PER AS 2067 & EC.14171 SECTION 3.4

VOLTAGE	275kV	330kV
a) PHASE TO PHASE	3100mm	3600mm
b) PHASE TO EARTH	2400mm	2900mm TBC
c) SECTIONAL CLEARANCE	4990mm	5520mm
d) GROUND SAFETY CLEARANCE	2440mm	2440mm
e) OVERHEAD STRUNG BUS TO GROUND	15.5m	16.2m
f) ENA NENS-04 SAFE APPROACH DISTANCE FOR AUTHORISED PERSONS	2300mm	3000mm
g) ENA NENS-04 SAFE APPROACH DISTANCE FOR MOBILE PLANT OPERATED BY AUTHORISED PERSONS	3000mm	3700mm

3. EQUIPMENT INTERCONNECTION

VOLTAGE	275kV	330kV
a) MAIN BUSBAR	Φ200 × 10 Al	Φ200 × 10 Al
b) INTERPLANT BUSBAR	Φ125 × 10 Al	Φ125 × 10 Al
c) DROPPER	TRIPLE AAC VENUS	TRIPLE AAC VENUS
d) INTERPLANT	TRIPLE AAC VENUS	TRIPLE AAC VENUS
e) INTERPLANT (NON-CURRENT CARRYING)	SINGLE AAC VENUS	TWIN AAC VENUS

4. EARTH STIRRUPS TO BE INSTALLED MINIMUM 300mm AND MAXIMUM 1000mm FROM EQUIPMENTAND POST INSULATORS.
5. ALL GROUND LEVEL CLEARANCES TO BE MEASURED FROM UNDERSIDE OF STRUCTURE BASEPLATE.

REFER DRAWING 310 607/621-001
FOR 330kV KEY PLAN

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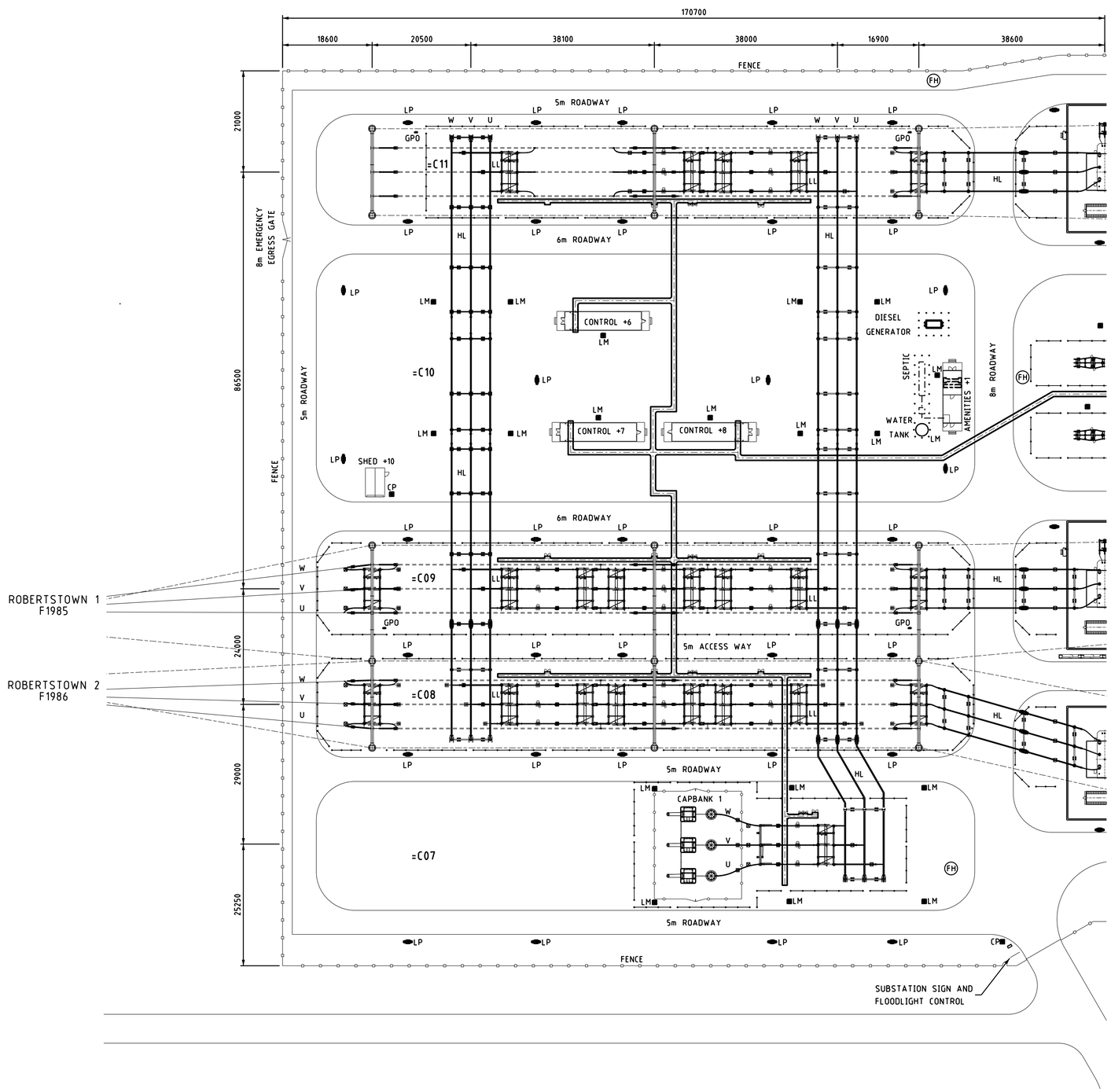
BUNDEY SUBSTATION

SCALE 1:500 | A1 | 310 607/622-001 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



NOTES:

1. ALL DIMENSIONS IN MILLIMETRES UNLESS NOTED OTHERWISE
2. MINIMUM ELECTRICAL CLEARANCES AS PER AS 2067 & EC.14171 SECTION 3.4

VOLTAGE	275kV	330kV	
a) PHASE TO PHASE	3100mm	3600mm	TBC
b) PHASE TO EARTH	2400mm	2900mm	
c) SECTIONAL CLEARANCE	4990mm	5520mm	
d) GROUND SAFETY CLEARANCE	2440mm	2440mm	
e) OVERHEAD STRUNG BUS TO GROUND	15.5m	16.2m	
f) ENA NENS-04 SAFE APPROACH DISTANCE FOR AUTHORISED PERSONS	2300mm	3000mm	
g) ENA NENS-04 SAFE APPROACH DISTANCE FOR MOBILE PLANT OPERATED BY AUTHORISED PERSONS	3000mm	3700mm	

3. EQUIPMENT INTERCONNECTION

VOLTAGE	275kV	330kV
a) MAIN BUSBAR	Φ200 x 10 Al	Φ200 x 10 Al
b) INTERPLANT BUSBAR	Φ125 x 10 Al	Φ125 x 10 Al
c) DROPPER	TRIPLE AAC VENUS	TRIPLE AAC VENUS
d) INTERPLANT	TRIPLE AAC VENUS	TRIPLE AAC VENUS
e) INTERPLANT (NON-CURRENT CARRYING)	SINGLE AAC VENUS	TWIN AAC VENUS

4. EARTH STIRRUPS TO BE INSTALLED MINIMUM 300mm AND MAXIMUM 1000mm FROM EQUIPMENTAND POST INSULATORS.
5. ALL GROUND LEVEL CLEARANCES TO BE MEASURED FROM UNDERSIDE OF STRUCTURE BASEPLATE.

REFER DRAWING 310 607/621-002
FOR 330kV YARD LAYOUT

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
FH =FIRE HYDRANT

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING:

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	CM	PM	LdP	12/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:06/12/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	C.METTNER	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

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SUB TITLE: 275kV YARD

ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA BUNDEY SUBSTATION

SCALE 1:500 | A1 | 310 607/622-002 | REV A | DISTB

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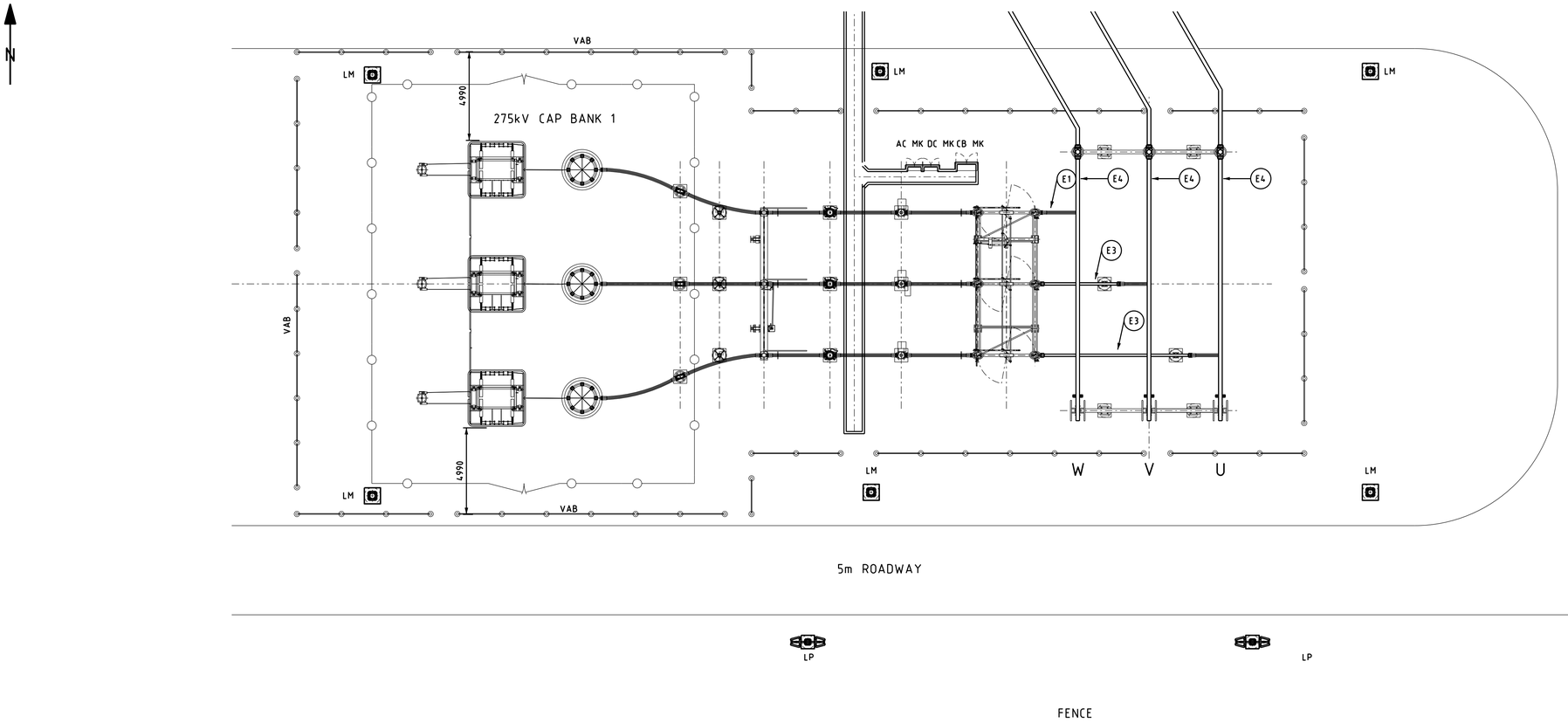
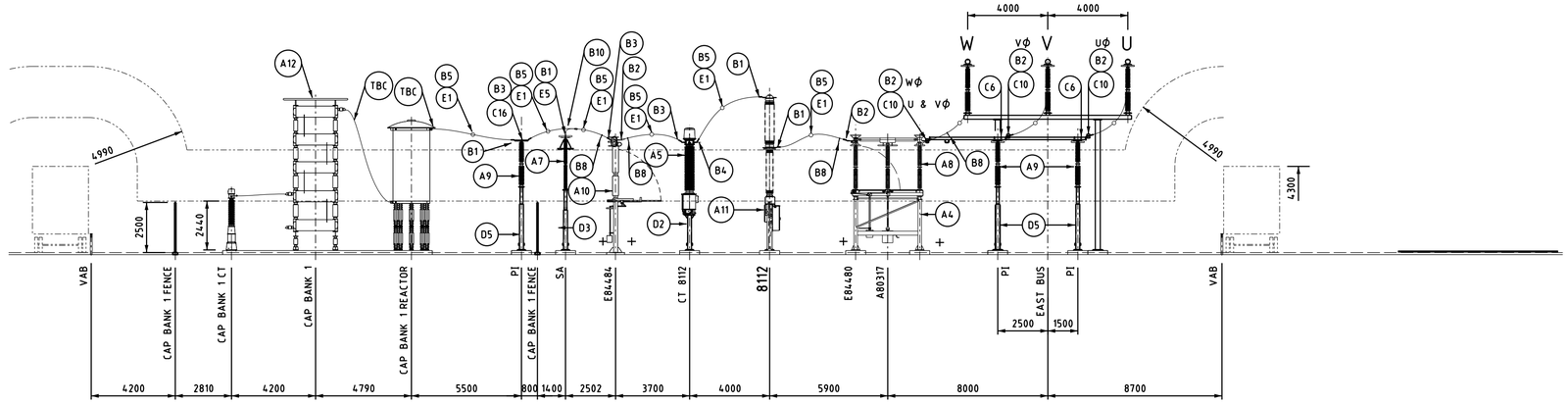


PLAN VIEW



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

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CONSOLIDATED POWER PROJECTS
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AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: DIAMETER C07 - EAST

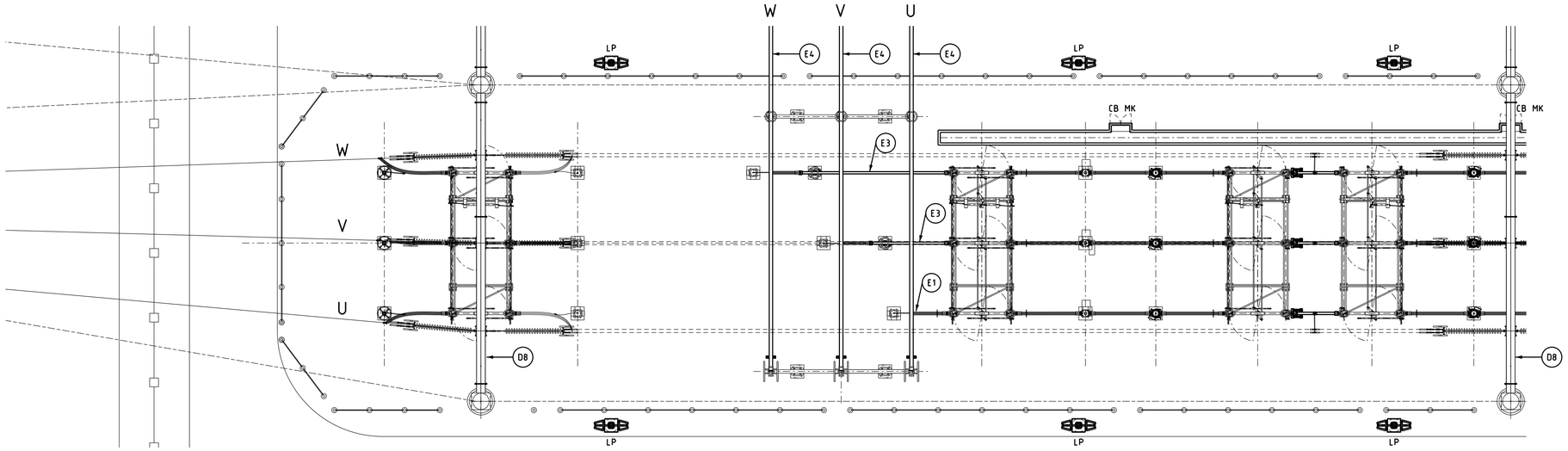
ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

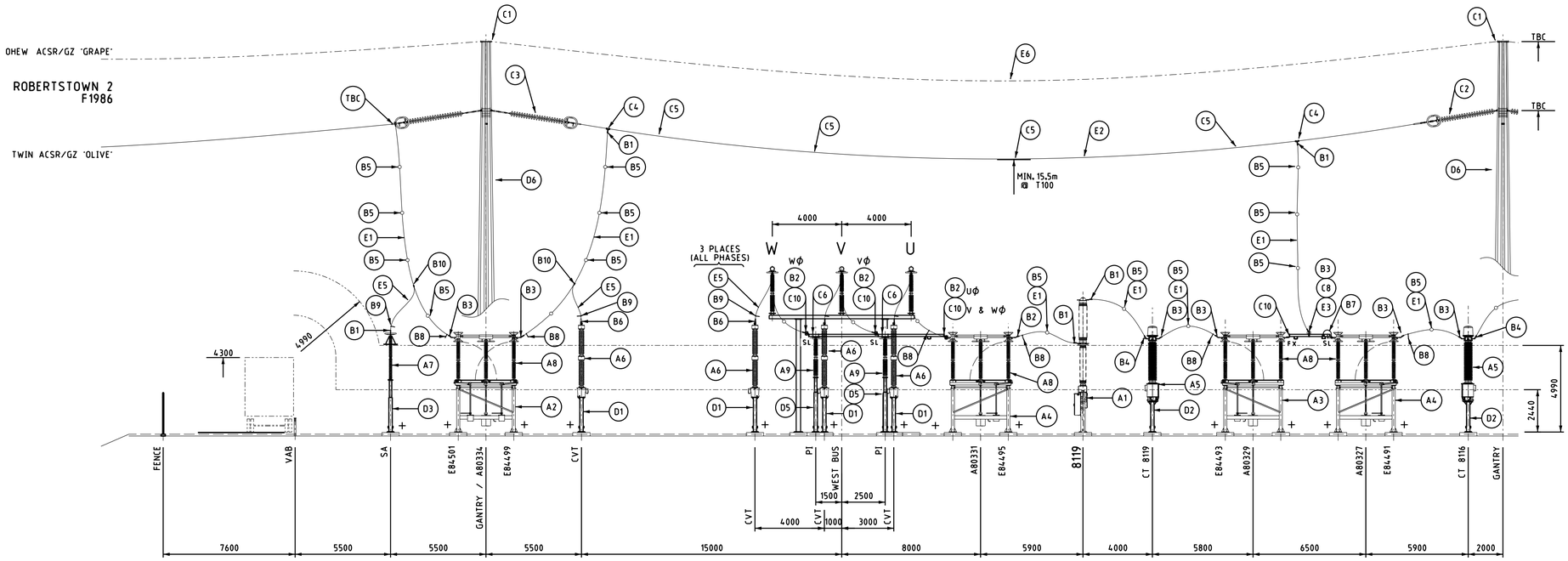
SCALE 1:150 | A1 | 310 607/622-032 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;
150
100
50
0mm



PLAN VIEW



ELEVATION

CONTINUED ON 310 607/622-034

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

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INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

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DRAWING WAS PREVIOUSLY; REV

SUB TITLE
PLAN AND ELEVATION, C08 - WEST

ElectraNet – electricity transmission

TITLE
EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-033 | REV A | DISTB

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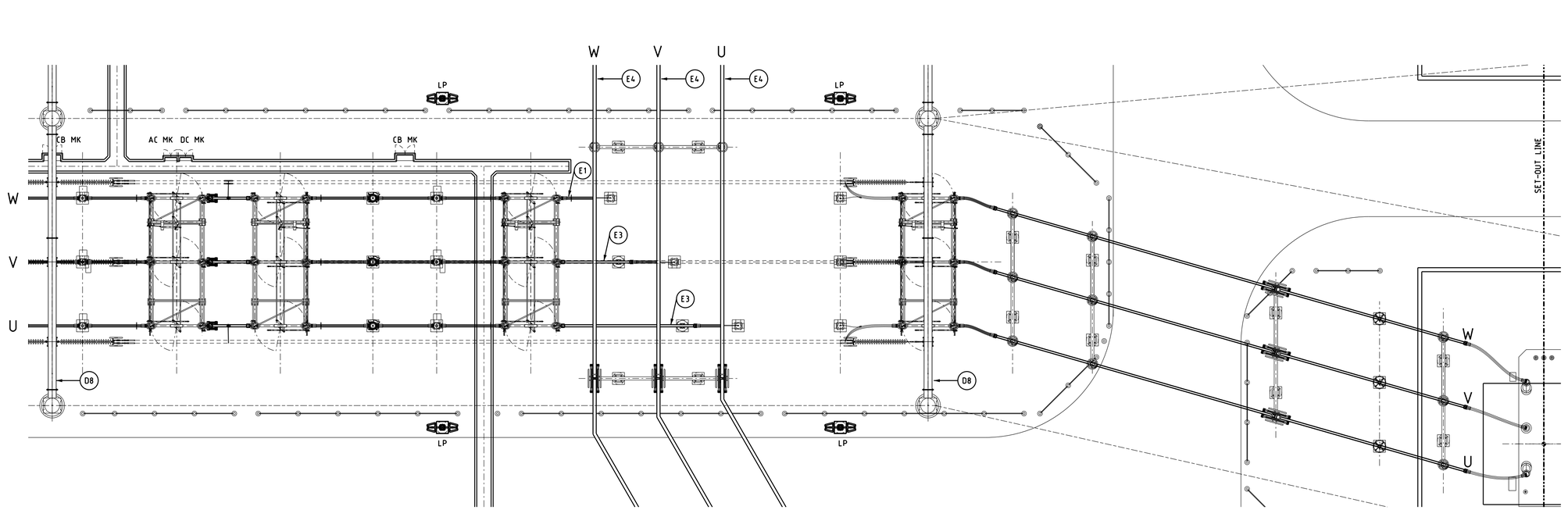
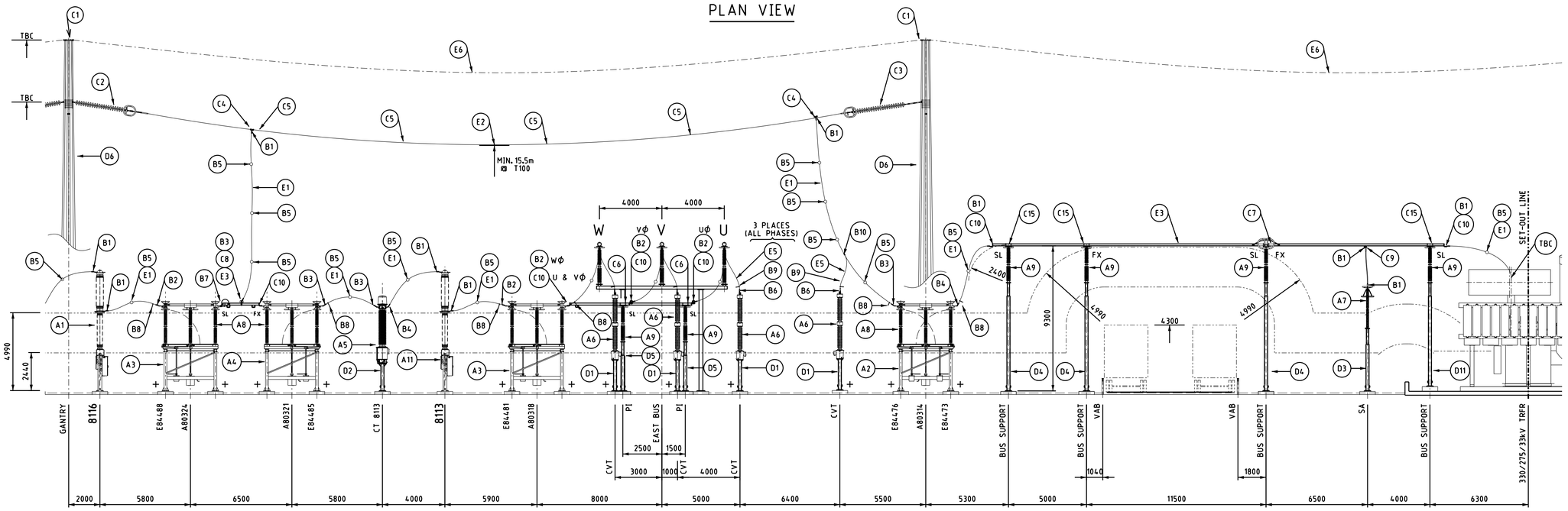


PLAN VIEW



ELEVATION

LEGEND

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HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/622-033

CONTINUED ON 310 607/621-021

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AUTH	L. du PREEZ	11/21

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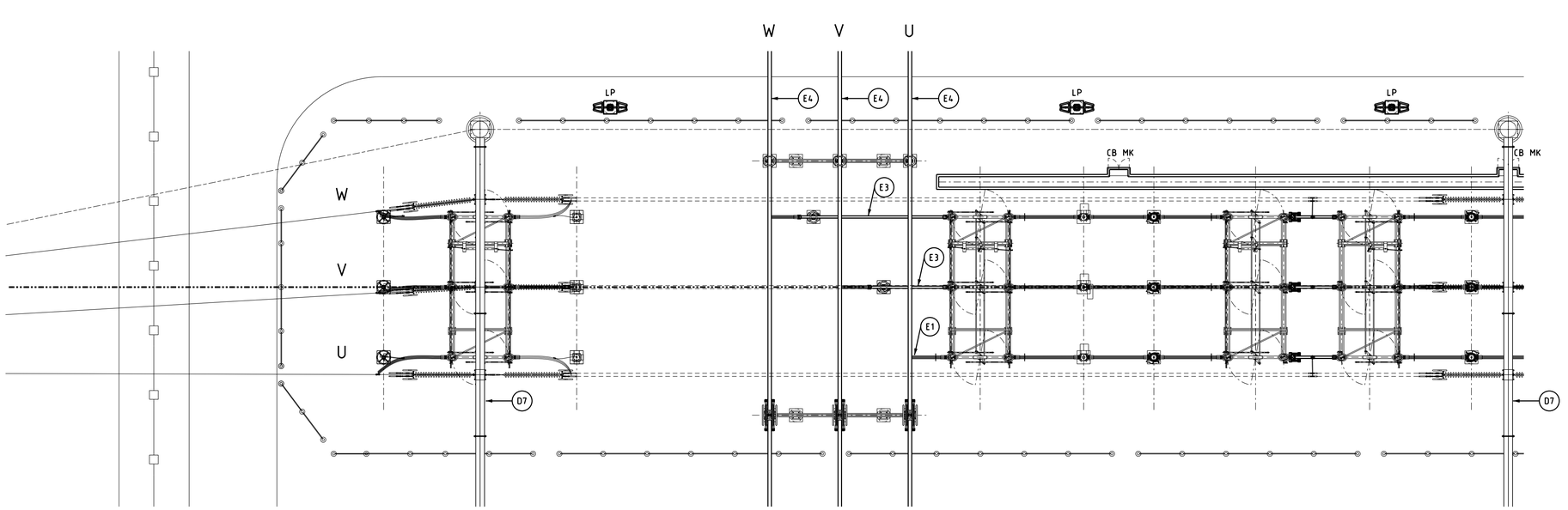
SUB TITLE
PLAN AND ELEVATION, C08 - EAST

ElectraNet – electricity transmission

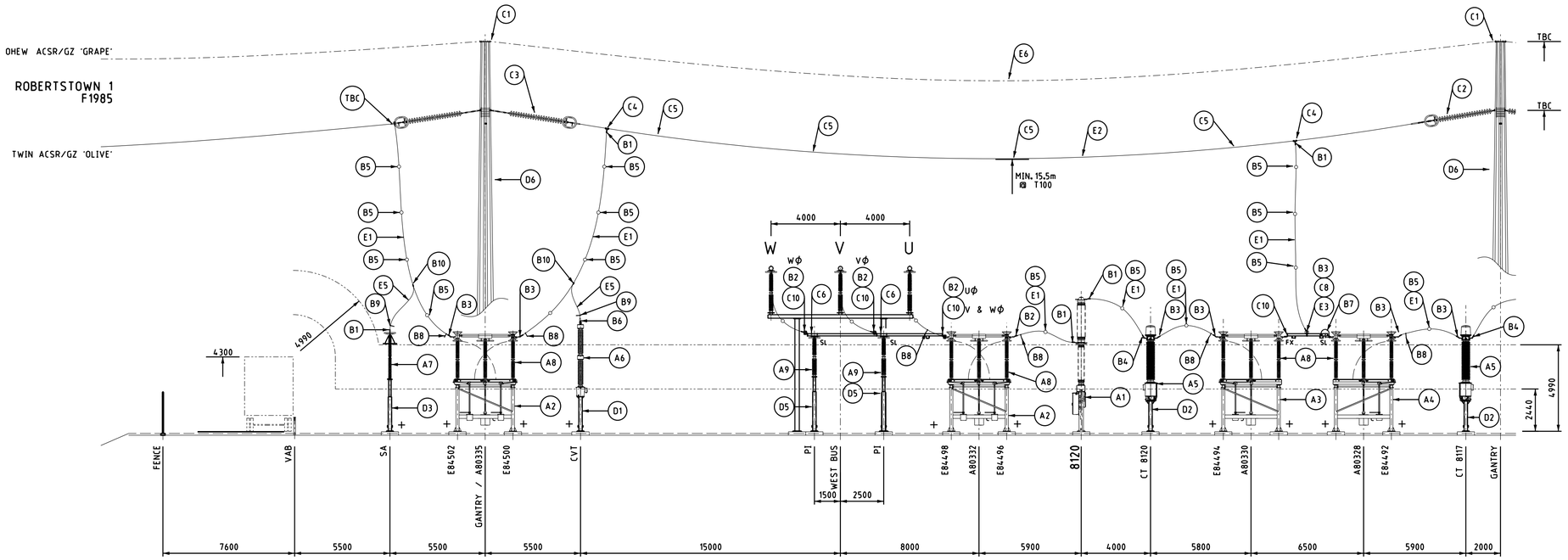
TITLE
EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-034 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



ELEVATION

LEGEND

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LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/622-036

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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
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INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

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DRAWING WAS PREVIOUSLY; REV

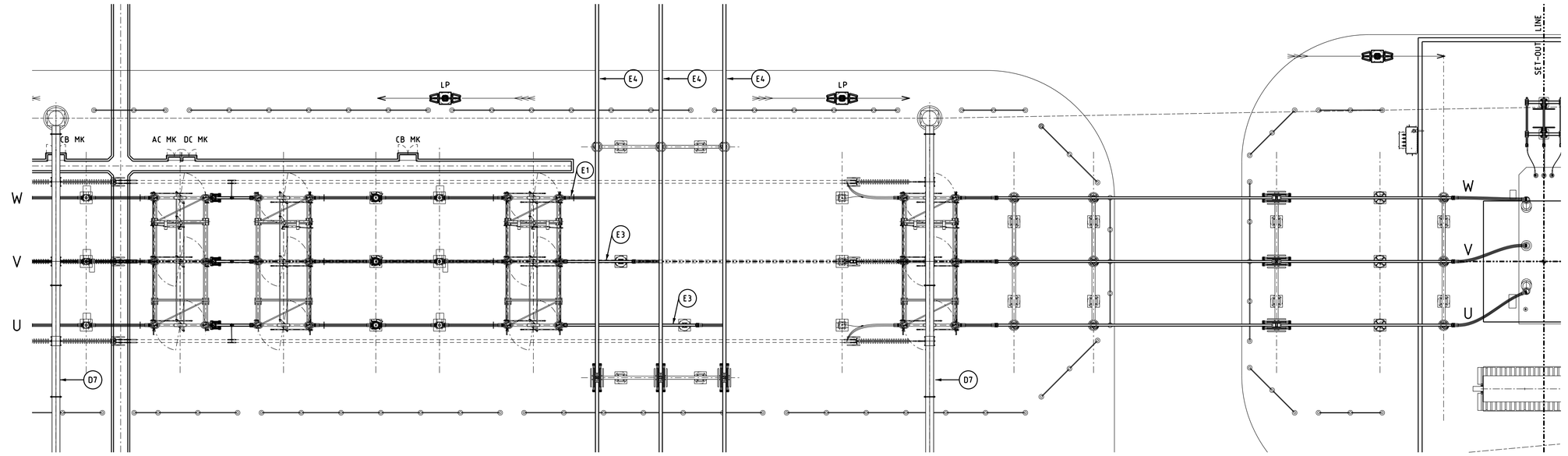
SUB TITLE
PLAN AND ELEVATION, C09 - WEST

ElectraNet – electricity transmission

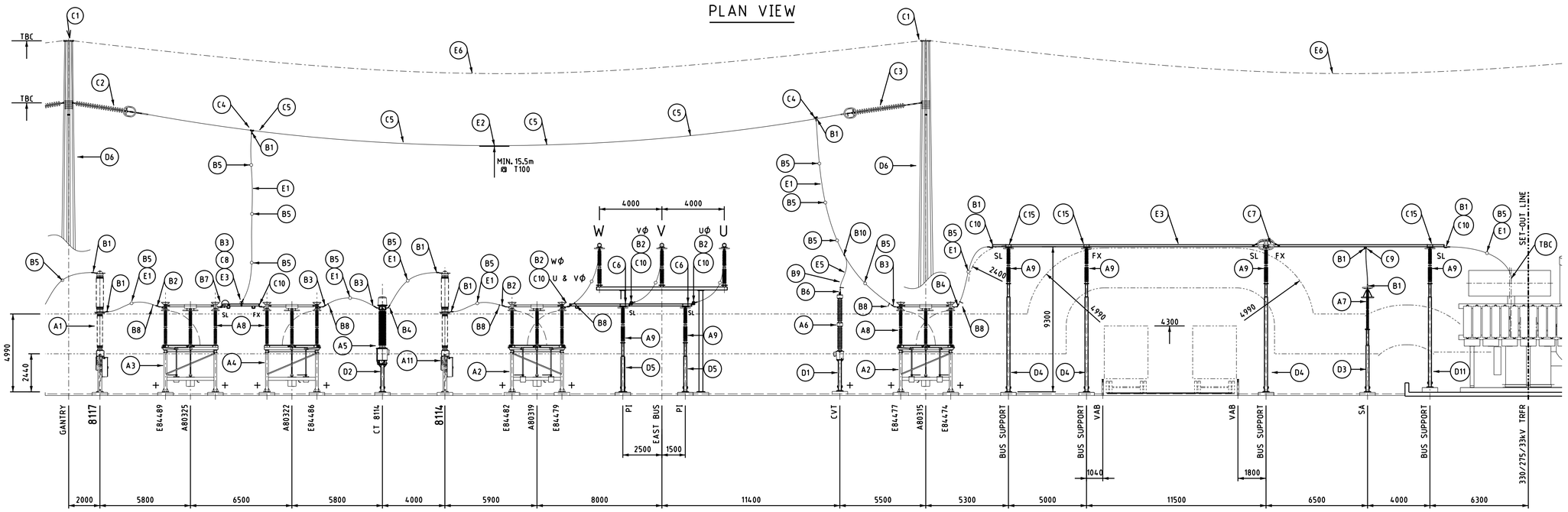
TITLE
EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-035 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW



CONTINUED ON 310 607/622-035

CONTINUED ON 310 607/621-025

ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
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REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
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DRN	C.METTNER	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

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DRAWING WAS PREVIOUSLY; REV

SUB TITLE: PLAN AND ELEVATION, C09 - EAST

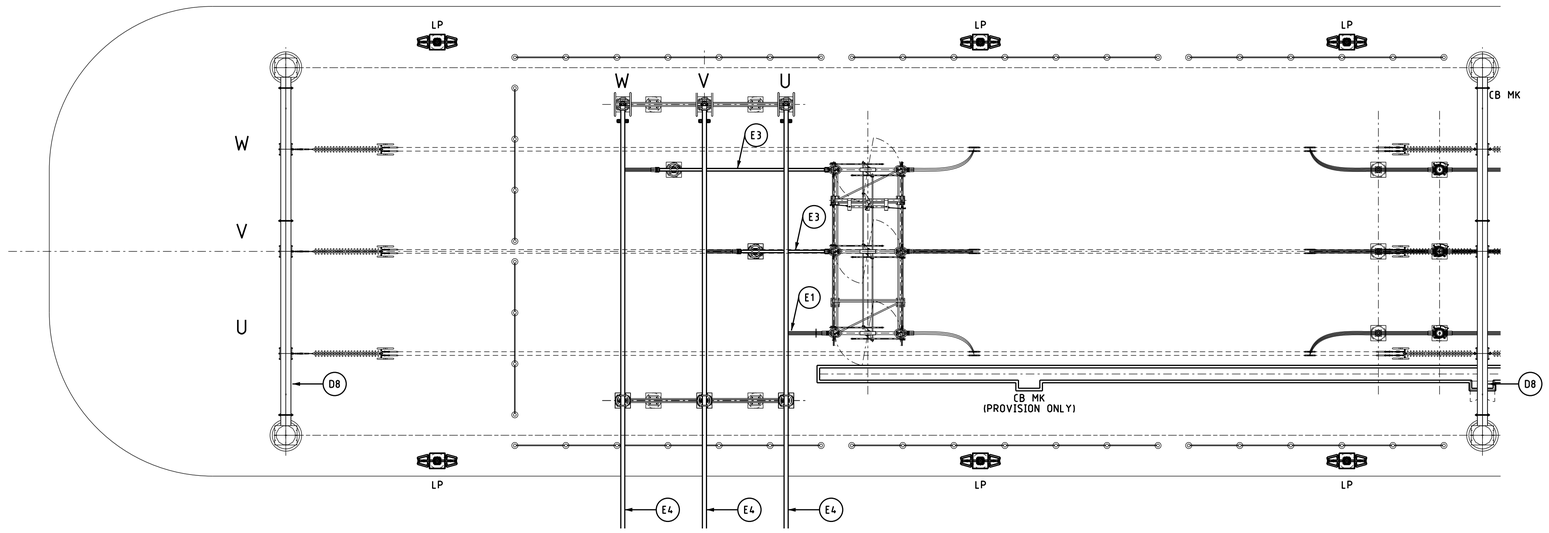
ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA BUNDEY SUBSTATION

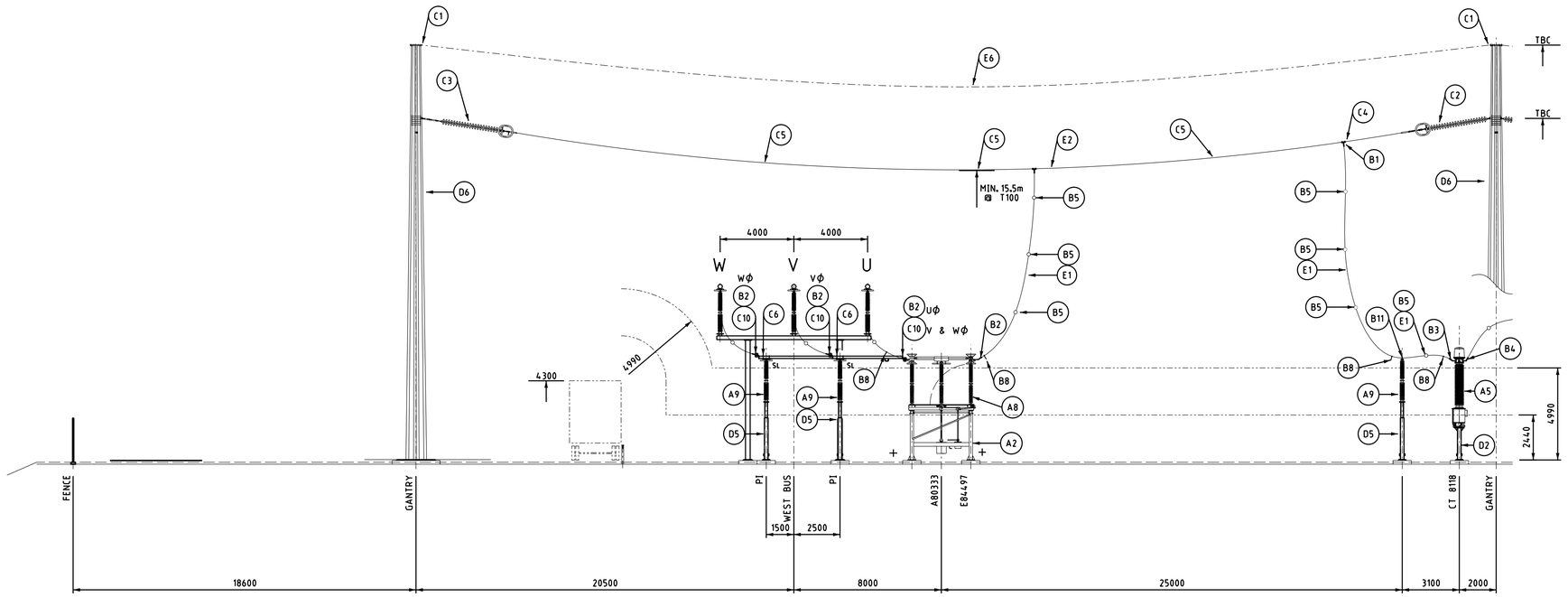
SCALE 1:150 | A1 | 310 607/622-036 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;



PLAN VIEW



ELEVATION

LEGEND

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LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

CONTINUED ON 310 607/622-038

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
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INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE
PLAN AND ELEVATION, C11 - WEST

ElectraNet – electricity transmission

TITLE
EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-037 | REV A | DISTB

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TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

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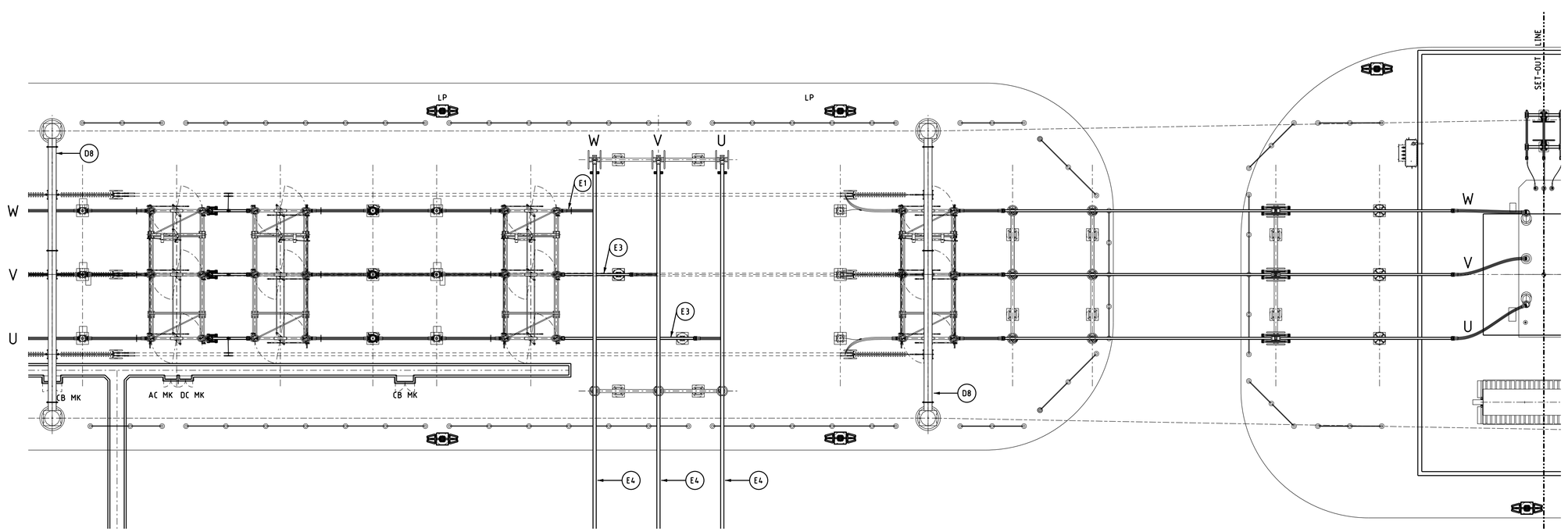
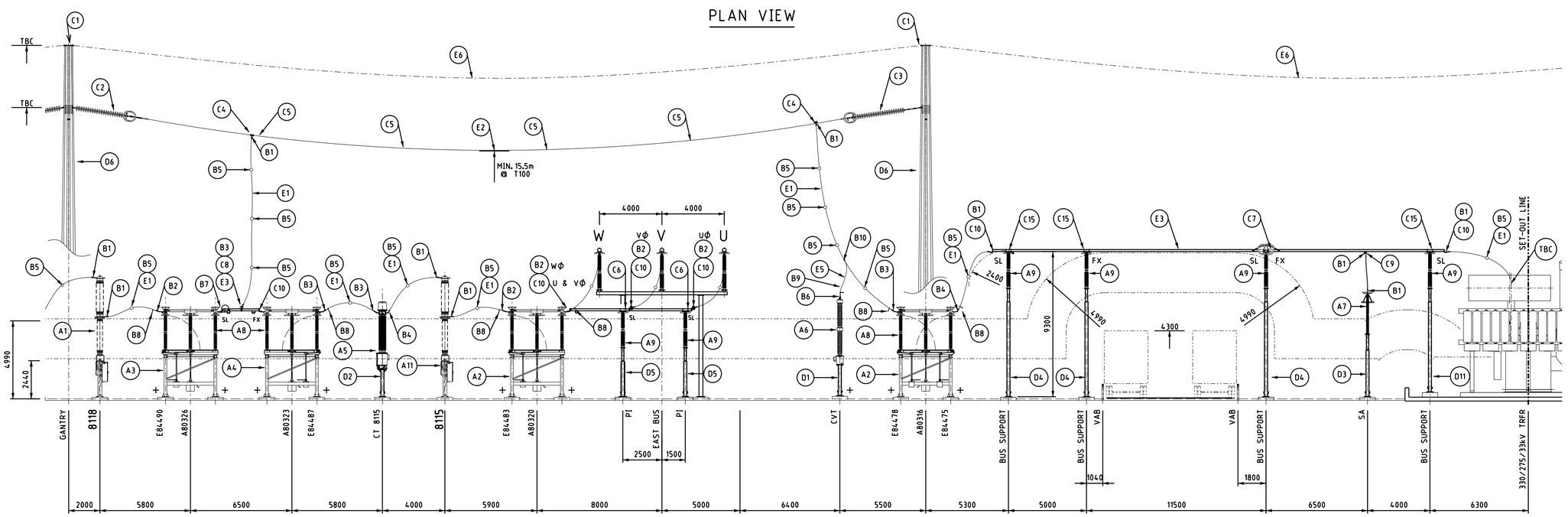
CONTINUED ON 310 607/621-029



PLAN VIEW



ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MASK
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

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SIGNED: D.LAWLESS

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INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: PLAN AND ELEVATION, C11 - EAST

ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-038 | REV A | DISTB

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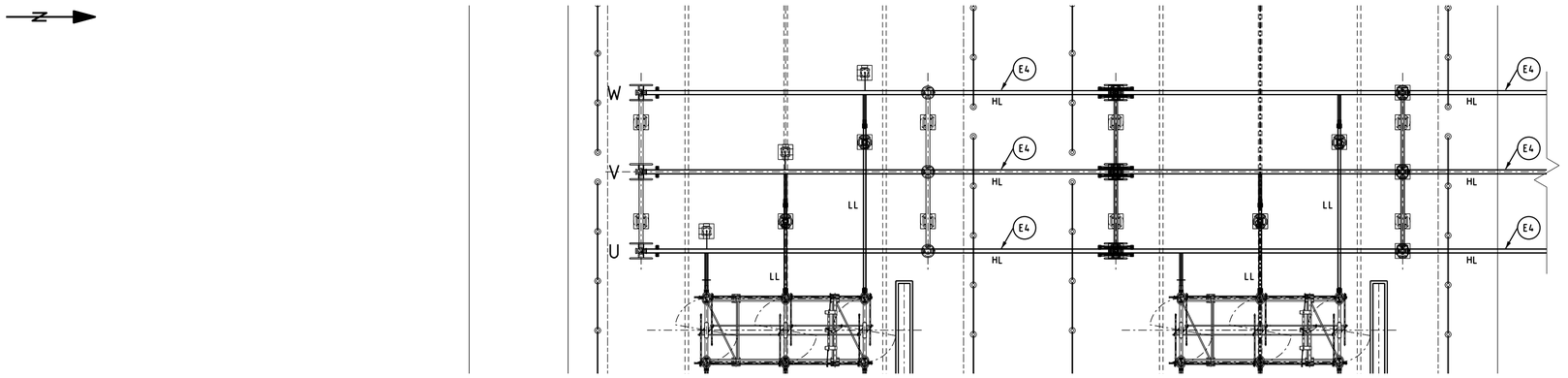
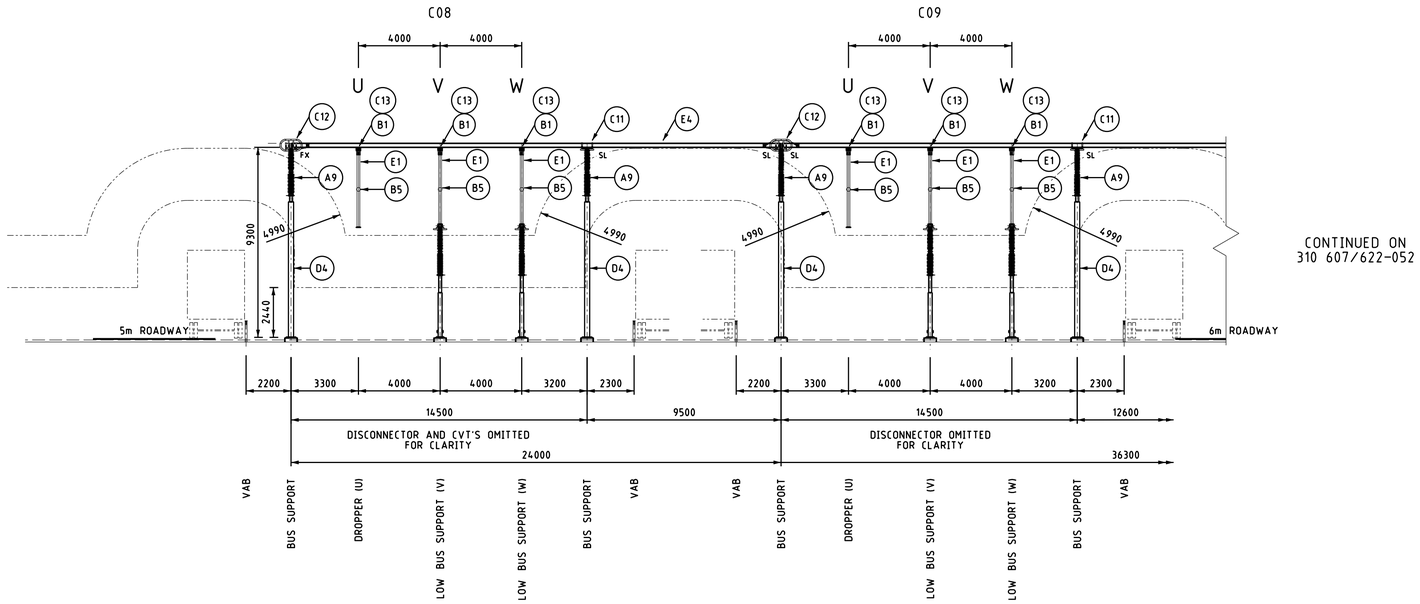


CONTINUED ON
310 607/622-052

PLAN VIEW



CONTINUED ON
310 607/622-052

ELEVATION

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
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AUTH	L. du PREEZ	11/21

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SUB TITLE: PLAN AND ELEVATION, KC1 WEST BUS SECTION 1

ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-051 | REV A | DISTB

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TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

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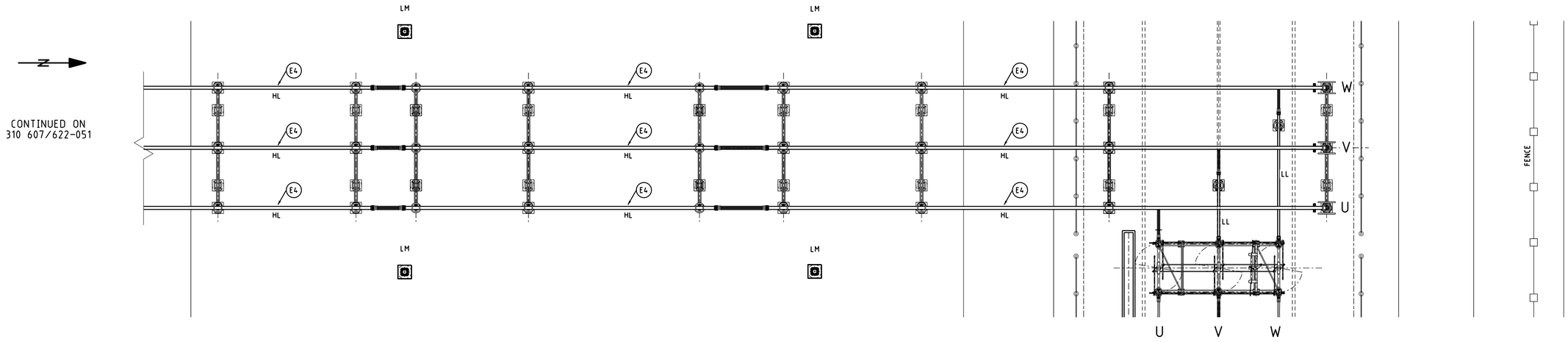

PLAN VIEW

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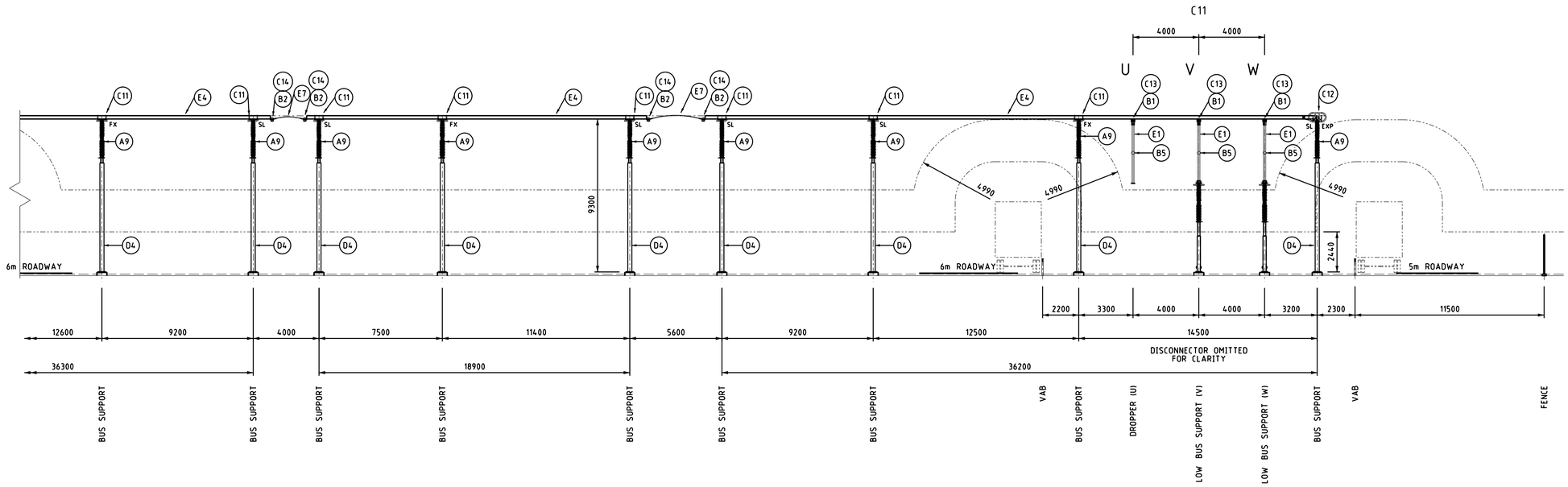
310 607/622-051



ELEVATION

LEGEND

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CP =4m SEE-SAW CAMERA POLE
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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

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AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: PLAN AND ELEVATION, KC1 WEST BUS SECTION 2

ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-052 | REV A | DISTB

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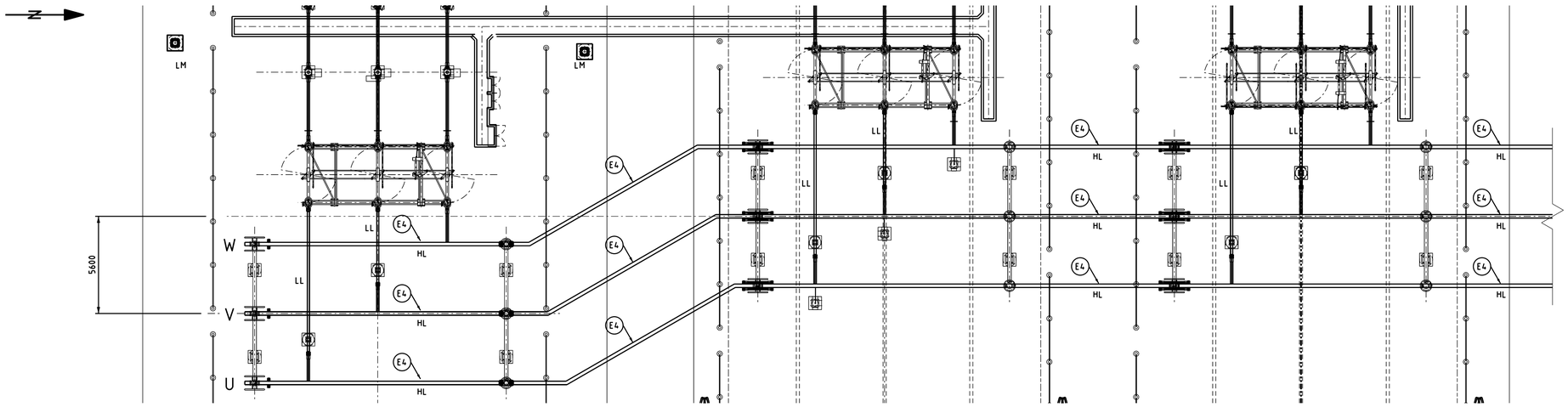
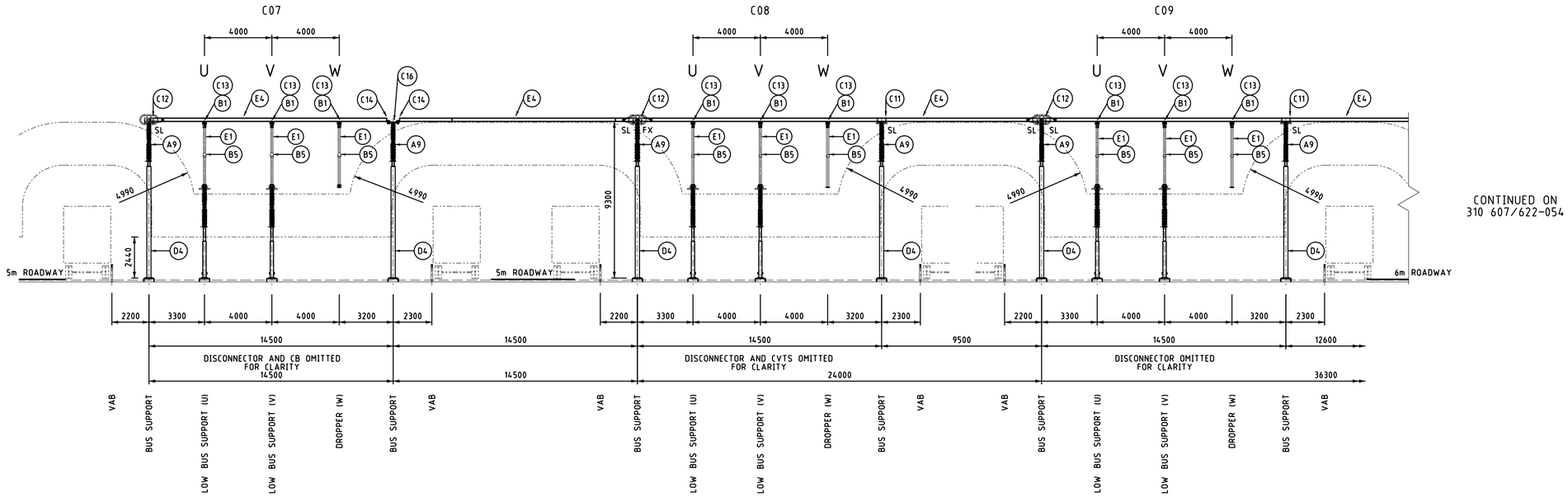


PLAN VIEW



ELEVATION

LEGEND

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LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
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CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

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AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: PLAN AND ELEVATION, KC2 EAST BUS SECTION 1

ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:150 | A1 | 310 607/622-053 | REV A | DISTB

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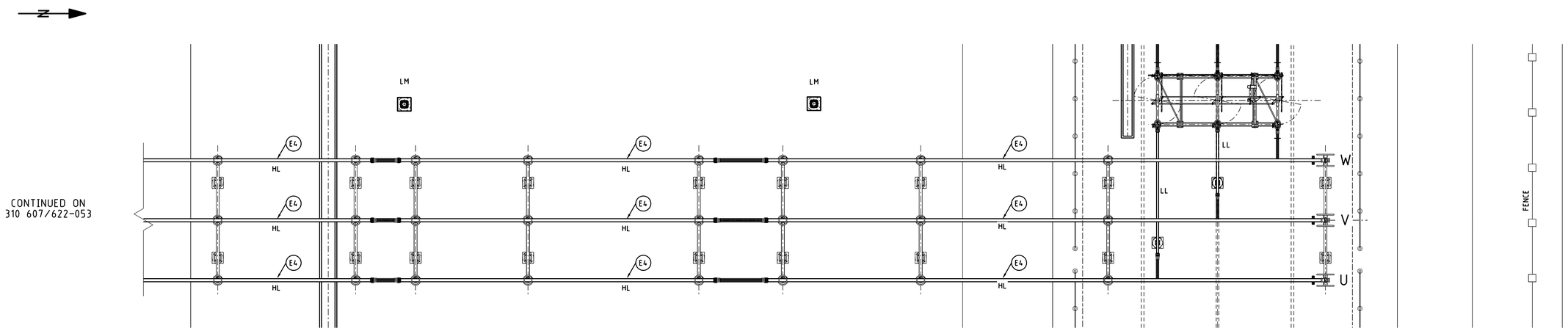

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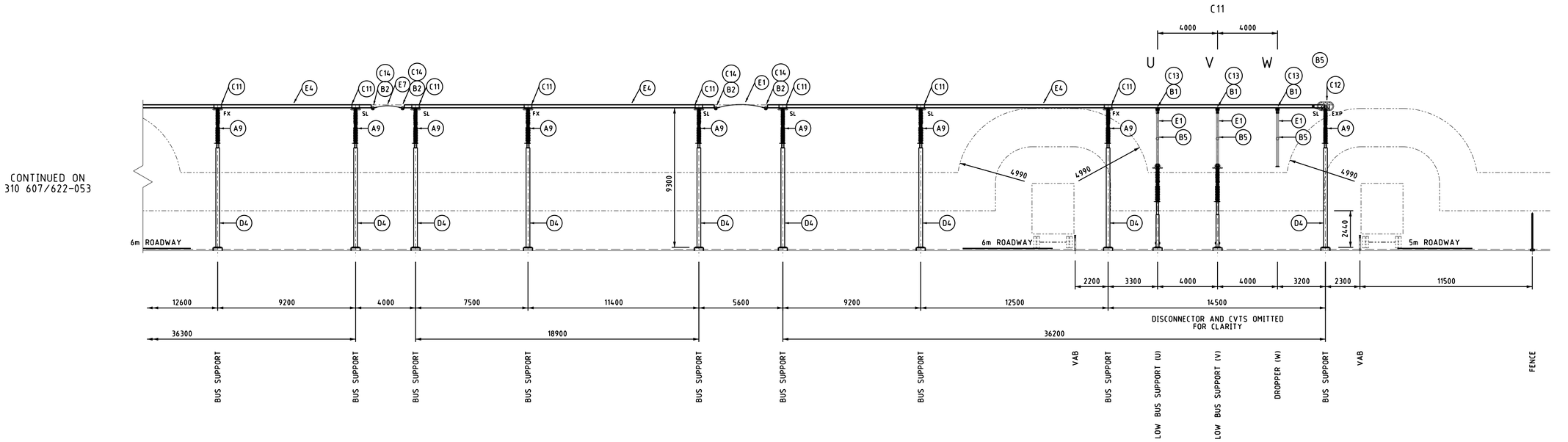

ELEVATION

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SUB TITLE: PLAN AND ELEVATION, KC2 EAST BUS SECTION 2

ElectraNet – electricity transmission

TITLE: EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE 1:200 | A1 | 310 607/622-054 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

ITEM	DESCRIPTION	SUPPLIER	QUANTITY	DRAWING NUMBER	REVISION	REMARKS
A	**MAIN EQUIPMENT**					
A1	300kV CIRCUIT BREAKER, LIVE TANK, 4000A, 50kA, VHP(PHASE SPACING = 4m)	ABB	5	510 0CB/502-701	A	C/W SUPPORT STRUCTURE
A2	300kV DISCONNECTOR, 3150A, 50kA, LOW LEVEL WITH 2 MOTORISED E/S (PHASE SPACING = 4m)	GE	7	510 0DS/502-451	A	C/W SUPPORT STRUCTURE
A3	300kV DISCONNECTOR, 3150A, 50kA, LOW LEVEL WITH 1 MOTORISED E/S, RIGHT, (PHASE SPACING = 4m)	GE	8	510 0DS/502-453	A	C/W SUPPORT STRUCTURE
A4	300kV DISCONNECTOR, 3150A, 50kA, LOW LEVEL WITH 1 MOTORISED E/S, LEFT, (PHASE SPACING = 4m)	GE	7 NOTE 1	510 0DS/502-455	A	C/W SUPPORT STRUCTURE
A5	300kV CURRENT TRANSFORMER, 3150A, 40kA, 4P2M , VHP	ABB	27	510 1CT/502-065	A	W/O SUPPORT STRUCTURE (ITEM D2)
A6	300kV CAPACITIVE VOLTAGE TRANSFORMER, VT-300-31-101	ABB	21	510 1VT/502-001	B	W/O SUPPORT STRUCTURE (ITEM D1)
A7	300kV SURGE ARRESTOR, 10kA, VHP	ABB	18	510 2SA/502-001	A	
A8	300kV POST INSULATOR FOR DISCONNECTOR, 2300mm HIGH, 8kN	SUZHOU	201	510 0PI/502-001	A	
A9	300kV BUS POST INSULATOR, 2300mm HIGH, 8kN	SUZHOU	137	510 0PI/502-001	A	
A10	300kV EARTH SWITCH, 50kA (PHASE SPACING = 4m)	GE	1 NOTE 1	510 0ES/502-019	A	
A11	300kV CIRCUIT BREAKER, LIVE TANK, 4000A, 50kA, VHP, POW RELAY (PHASE SPACING = 4m)	ABB	4	510 0CB/502-711	A	
B	**FITTINGS FOR EQUIPMENTS**					
B1	FITTING, COMPRESSION, VENUS, AS7	PLP		310 607/633-001	A	Ø=O °
B2	FITTING, COMPRESSION, VENUS, AS7	PLP		310 607/633-001	A	Ø=15 °
B3	FITTING, COMPRESSION, VENUS, AS7	PLP		310 607/633-001	A	Ø=30 °
B4	FITTING, COMPRESSION, VENUS, AS7	PLP		310 607/633-001	A	Ø=60 °
B5	SPACER, TRIPLE VENUS, 70mm SPACING, BOLTED	PLP		310 607/633-002	A	
B6	FITTING, COMPRESSION, VENUS, AS5	PLP		310 607/633-001	A	Ø=O °
B7	FITTING, 125mm OD TUBE, PALM NO. 13, SLIDING - 275kV	PLP				
B8	EARTH STIRRUP, TRIPLE VENUS, BOLTED - UP TO 275kV	PLP		310 607/633-004	A	
B9	EARTH STIRRUP, SINGLE VENUS, BOLTED - UP TO 275kV	PLP		510 STD/633-015	A	
B10	PARALLEL GROOVE, SINGLE VENUS, SINGLE VENUS - UP TO 275kV	PLP		510 STD/633-012	A	
B11	FITTING, TRIPLE VENUS, FLANGE 127PCD, BOLTED	PLP				
C	**FITTINGS FOR BUSBAR & DROPPERS**					
C1	EARTHWIRE STRAIN ASSEMBLY, "GRAPE", WITHOUT INSULATOR DISC	PLP		510 STD/631-021	A	DRAWING NOT SIGNED OFF IN SPF
C2	TENSION STRING, TWIN OLIVE, 180mm SPACING, WITH TURN BUCKLE - 275kV - L3 POLLUTION	PLP		510 STD/631-017	A	DRAWING NOT SIGNED OFF IN SPF
C3	TENSION STRING, TWIN OLIVE, 180mm SPACING, WITHOUT TURN BUCKLE - 275kV - L3 POLLUTION	PLP		510 STD/631-018	A	DRAWING NOT SIGNED OFF IN SPF
C4	BOLTED RUN PALM TEE, TWIN OLIVE, PALM AS 13	PLP				
C5	SPACER, TWIN OLIVE, 180mm SPACING, BOLTED - UP TO 275kV	PLP				
C6	FITTING, 125mm OD TUBE, FLANGE 127 PCD, FIXED/SLIDING - 275kV	PLP		510 STD/633-058	A	
C7	FITTING, 125mm OD TUBE, FLANGE 127 PCD, EXPANSION - 275kV	PLP				
C8	FLAG TERMINAL, 125mm OD TUBE, PALM NO. 13, WELDED OPPOSED - 275kV	PLP				
C9	FLAG TERMINAL, 125mm OD TUBE, PALM NO. 12, WELDED INLINE - 275kV	PLP		510 STD/633-060	A	
C10	FITTING, 125mm OD TUBE, PALM NO. 13, FIXED - 275kV	PLP		510 STD/633-074	A	BUSBAR END PALM 90^
C11	FITTING, 200mm OD TUBE, FLANGE 127 PCD, FIXED/SLIDING - 275kV	PLP		510 STD/633-102	A	6 x FIXED, 12 x SLIDING
C12	FITTING, 200mm OD TUBE, FLANGE 127 PCD, EXPANSION - 275kV	PLP		510 STD/633-101	A	INSTALL SL HALF AT SW END OF MAIN BUS
C13	FLAG TERMINAL, 200mm OD TUBE, PALM NO. 13, WELDED INLINE - 275kV	PLP				
C14	FITTING, 200mm OD TUBE, PALM NO. 14, FIXED - 275kV	PLP				BUSBAR END PALM 90^
C15	FITTING, 125mm OD TUBE, FLANGE, 127 PCD, FIXED/SLIDING - 275kV	PLP				MODIFIED TO ALLOW ROTATED BUS ACROSS ROAD
C16	ADAPTOR PLATE, AS13 TO AS 13, 127PCD	PLP				
D	**STEEL STRUCTURE**					
D1	STEEL STRUCTURE FOR 300kV CAPACITIVE VOLTAGE TRANSFORMER	TBC		310 607/922-XXX		
D2	STEEL STRUCTURE FOR 300kV CURRENT TRANSFORMER	TBC		310 607/922-XXX		
D3	STEEL STRUCTURE FOR 300kV SURGE ARRESTOR	TBC		310 607/922-XXX		
D4	STEEL STRUCTURE FOR 300kV BUS POST INSULATOR @ 4.0m SPACING	TBC		310 607/922-XXX		
D5	STEEL STRUCTURE FOR 300kV POST INSULATOR LOW LEVEL	TBC		310 607/922-XXX		
D6	STEEL STRUCTURE FOR 300kV GANTRY COLUMN	TBC		310 607/922-XXX		24 & 18m GANTRY OUTLINE DRG.
D7	STEEL STRUCTURE FOR 300kV GANTRY BEAM 24m	TBC		310 607/922-XXX		24m GANTRY OUTLINE DRG.
D8	STEEL STRUCTURE FOR 300kV GANTRY BEAM 18m	TBC		310 607/922-XXX		18m GANTRY OUTLINE DRG.
D9	20m LIGHTNING MAST C/W 1m ROD	HAYMAN INDUSTRIES		510 STD/92X-023		
D10	10m LIGHTING POLE	HAYMAN INDUSTRIES		510 STD/92X-021		
D11	STEEL STRUCTURE FOR 300kV BUS POST INSULATOR @ 4.0m SPACING					BUS SUPPORT IN BUND
E	**BUSBAR & CONDUCTOR**					
E1	VENUS - AAC, (TRIPLE)	PLP		N/A	-	DROPPER & INTERPLANT CONNECTION: 3 x AAC VENUS
E2	OLIVE - ACSR/GZ, (TWIN)	PLP		N/A	-	STRUNG BUS: 2 x ACSR/GZ OLIVE
E3	125mm OD, 10mm THICK ALUMINIUM TUBE	PLP		N/A	-	INTERPLANT CONNECTION
E4	200mm OD, 10mm THICK ALUMINIUM TUBE	PLP		N/A	-	MAIN BUSBAR
E5	VENUS - AAC, (SINGLE)	PLP		N/A	-	INTERPLANT CONNECTION, NON CURRENT: 1 x AAC VENUS
E6	GRAPE - ACSR/GZ, (SINGLE)	PLP		N/A	-	OVERHEAD EARTH WIRE
E7	VENUS - AAC, (QUAD)	PLP		N/A		MAIN BUSBAR FLEXIBLE CONNECTIONS

NOTES
1. PLANT DRAWINGS TBC

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

CREATED FROM TEMPLATE;
DRAWING WAS PREVIOUSLY;
REV
SUB TITLE
MATERIAL LIST

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	CM	PM	LdP	12/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:03/12/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

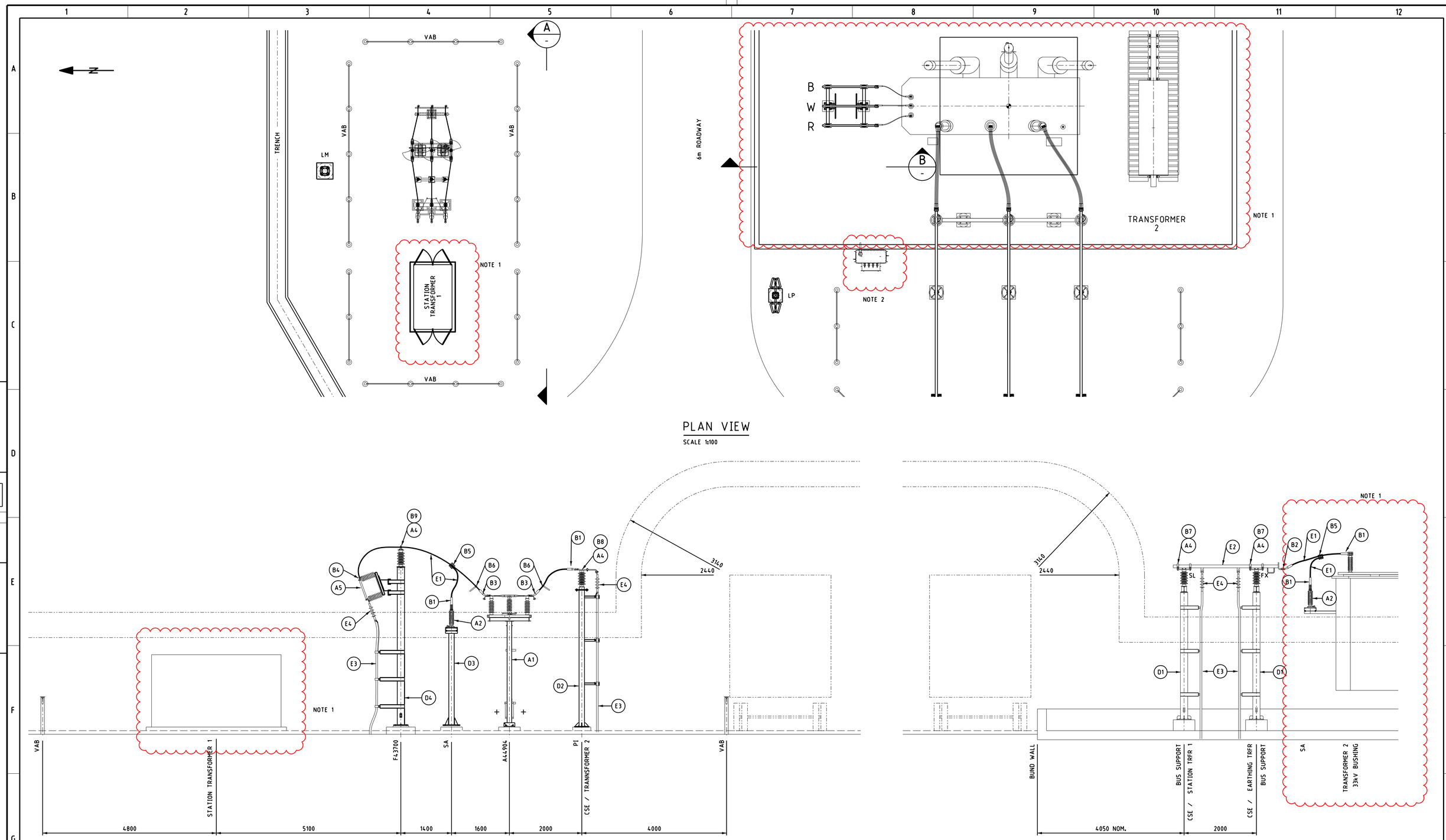
DRN	C.METTNER	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

ElectraNet – electricity transmission

TITLE
EQUIPMENT 275 kV AREA
BUNDEY SUBSTATION

SCALE NTS | A1 | 310 607/622-101 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



PLAN VIEW

SCALE 1:100

ELEVATION A

SCALE 1:50

ELEVATION B

SCALE 1:50

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL
\+ =MEP LOCATION

NOTES

1. TRANSFORMER PLAN AND ELEVATION TYPICAL ONLY AND SUBJECT TO FINAL MUNUFACTURER DETAIL.
2. FINAL ARRANGEMENT AND LOCATION OF EARTHING TRANSFORMER TO BE DETERMINED IN DETAIL DESIGN.

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	CM	PM	LdP	12/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:03/12/2021 REV: A1
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DRN	C.METTNER	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: PLAN AND ELEVATION, F01

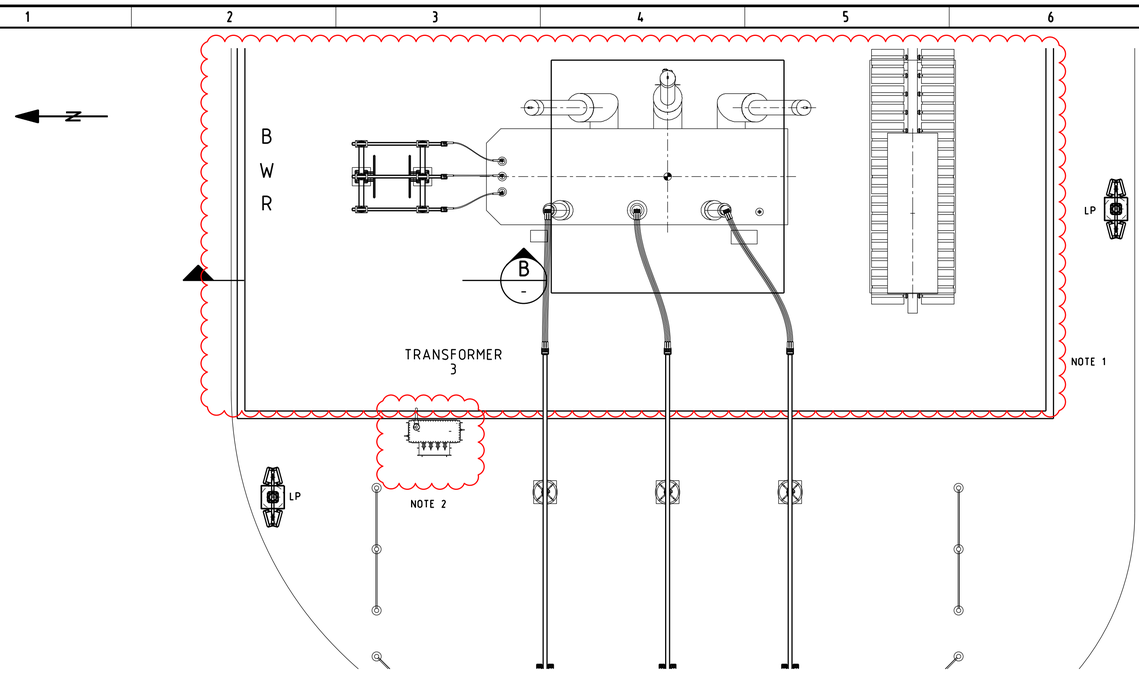
ElectraNet – electricity transmission

TITLE: EQUIPMENT 33 kV AREA
BUNDEY SUBSTATION

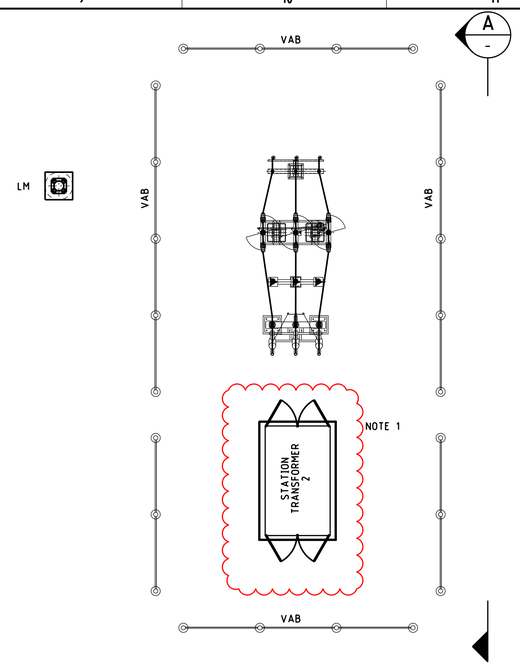
SCALE: AS SHOWN | A1 | 310 607/625-001 | REV A | DISTB

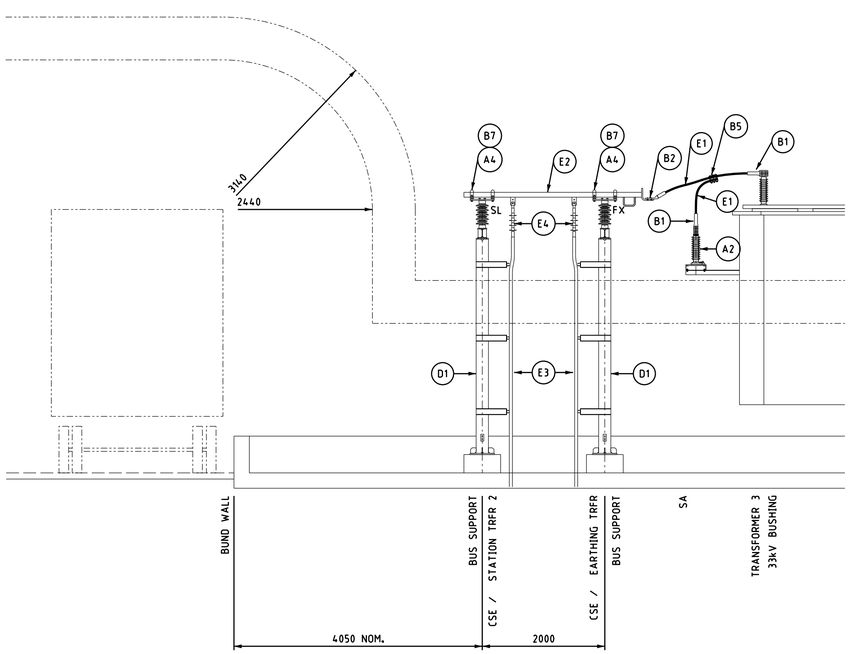
DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;
150
100
50
0mm

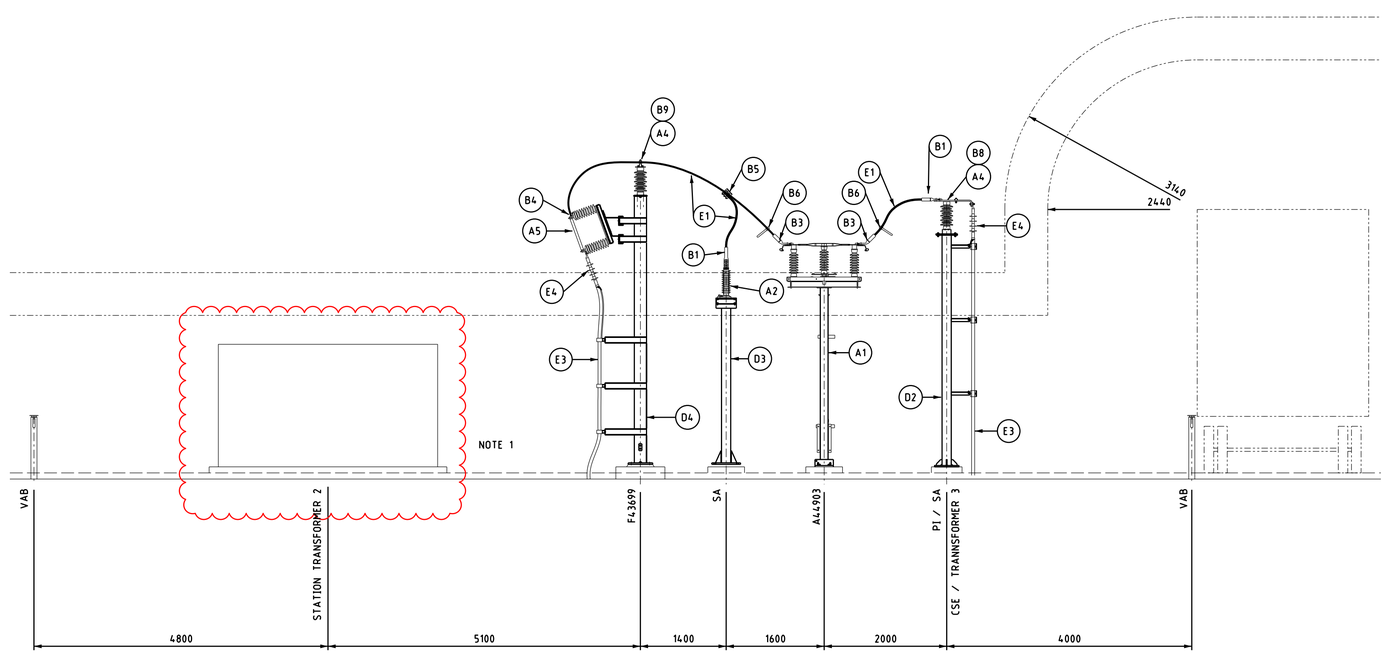


PLAN VIEW
SCALE 1:100





ELEVATION B
SCALE 1:50



ELEVATION A
SCALE 1:50

LEGEND

LP =10m SEE-SAW LIGHT POLE
LM =20m LIGHTNING PROTECTION MAST
CP =4m SEE-SAW CAMERA POLE
LL =LOW LEVEL
HL =HIGH LEVEL

NOTES
1. TRANSFORMER PLAN AND ELEVATION TYPICAL ONLY AND SUBJECT TO FINAL MUNUFACTURER DETAIL.
2. FINAL ARRANGEMENT AND LOCATION OF EARTHING TRANSFORMER TO BE DETERMINED IN DETAIL DESIGN.

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	CM	PM	LdP	12/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:03/12/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	C.METTNER	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE
PLAN AND ELEVATION, F02

ElectraNet – electricity transmission

TITLE
EQUIPMENT 33 kV AREA
BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/625-002 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

ITEM	DESCRIPTION	SUPPLIER	QUANTITY	DRAWING NUMBER	REVISION	REMARKS
A	**MAIN EQUIPMENT**					
A1	36kV DISCONNECTOR, 3150A, 50kA, LOW LEVEL WITH NO E/S (PHASE SPACING=1.07m)	GE	2	510 ODS/505-003	B	
A2	36kV SURGE ARRESTOR 10kA, VHP	ABB	12	510 2SA/505-001	B	
A3	36kV POST INSULATOR FOR DISCONNECTOR, 4445mm, 6kN, VHP	SOZHOU	18	510 OPI/505-002	B	
A4	36kV POST INSULATOR, 4445mm, 6kN, VHP	SOZHOU	24	510 OPI/505-002	B	
A5	36kV FUSE BASE, C/W xxA SIBA FUSE PT No. xxxxxxx	TBC	6		A	
B	**FITTINGS FOR EQUIPMENTS**					
B1	FITTING, COMPRESSION, MOON, AS7	PLP	18	310 607/633-001	A	Ø=O °
B2	FITTING, COMPRESSION, MOON, AS7	PLP	6	310 607/633-001	A	Ø=30 °
B3	FITTING, COMPRESSION, MOON, AS7	PLP	12	310 607/633-001	A	Ø=45 °
B4	FITTING, COMPRESSION, MOON, SINGLE HOLE, UNDRILLED	PLP	6			
B5	PARALLEL GROOVE, SINGLE MOON, SINGLE MOON - UP TO 275kV	PLP	12		A	
B6	EARTH STIRRUP, SINGLE MOON, BOLTED - UP TO 275kV	PLP	12		A	
B7	FITTING, 80mm OD TUBE, FLANGE 76 PCD, FIXED/SLIDING	PLP	6		A	
B8	ADAPTOR PLATE , 76 PCD, AS12 TO AS12 UNDRILLED, 90°	PLP	6			DRILL ON SITE TO SUIT ITEM E4
B9	CABLE CLAMP, POST INSULATOR, SINGLE MOON, 76PCD		6			
D	**STEEL STRUCTURE**					
D1	STEEL STRUCTURE FOR 36kV BUS POST INSULATOR @ 1.07m SPACING	TBC	4	310 607/922-XXX		
D2	STEEL STRUCTURE FOR 36kV CABLE SUPPORT	TBC	2	310 607/922-XXX		
D3	STEEL STRUCTURE FOR 36kV SURGE ARRESTOR	TBC	2	310 607/922-XXX		
D4	STEEL STRUCTURE FOR 36kV CABLE SUPPORT AND FUSE	TBC	2	310 607/922-XXX		
E	**BUSBAR & CONDUCTOR**					
E1	MOON - AAC	PLP	AS REQ	N/A	-	INTERPLANT CONNECTION: 1 x AAC MOON
E2	80mm OD, 4mm THICK ALUMINIUM TUBE	PLP	6	N/A	-	
E3	19/33kV 1C, Cu XLPE CABLE	PLP	AS REQ	N/A	-	CABLE SIZE TBC
E4	OUTDOOR TERMINATION KIT, SUIT ITEM E3	PLP	12	N/A	-	

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

150 100 50 0mm

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR REVIEW - 14171 (CPP)	CM	PM	LdP	12/21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

CPP
ISSUED FOR REVIEW
DATE:03/12/2021 REV: A1
PROJECT: 14171
SIGNED: D.LAWLESS

DRN	C.METTNER	11/21
CKD	P.MOONEY	11/21
INSP	D.LAWLESS	11/21
AUTH	L. du PREEZ	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: MATERIAL LIST

ElectraNet – electricity transmission

TITLE: EQUIPMENT 33 kV AREA
BUNDEY SUBSTATION

SCALE: NTS | A1 | 310 607/625-101 | REV: A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

SUTHERLANDS ROAD

POWERLINE ROAD

FUTURE EXPANSION SITE - NORTH

FUTURE BASIN EXPANSION

EAST BASIN

OILY WATER POND (BY OTHERS)

WEST BASIN

SUBSTATION BENCH

CAZ AREA

FUTURE EXPANSION SITE - SOUTH

FUTURE BASIN

LOW FLOW CULVERT

FLOODWAY

TELSTRA OPTIC FIBRE

NEW SITE ACCESS. REFER DRG. 790-098

ELECTRANET EXISTING OVERHEAD LINE

CULTURAL HERITAGE ASSESSMENT AREA

CULTURAL HERITAGE MONITORING AREA

TBM1
E 335561.854
N 6244849.970
RL 209.011

TBM2
E 336039.600
N 6244831.509
RL 206.997

TBM3
E 336029.043
N 6244621.655
RL 207.209

TBM4
E 335567.633
N 6244617.072
RL 208.855

Ø450 SWD

Ø750 SWD

Ø600 SWD

207.50

207.00

206.50

206.00

205.50

205.00

204.50

204.00

208.00

× WARNING ×
OVERHEAD ELECTRICAL & UNDERGROUND SERVICES PRESENT.
CONTRACTOR TO ACCESS DBYD SERVICE & LOCATE/HAND POTHOLE TO CONFIRM.
ONCE SERVICES LOCATED, INSTALL MARKERS ON-SITE

DIAL BEFORE YOU DIG www.1100.com.au

1:200 YR AEP FLOOD MAPPING
INDICATIVE EXTENT AND APPROXIMATE ONLY. SOURCED FROM: "SOUTHFRONT - CMW GEOSCIENCE. BUNDEY SUBSTATION HYDROLOGICAL AND SURFACE WATER ASSESSMENT: 19087-2". AND PARTIALLY REPRODUCED FROM ACCOMPANYING APPENDICES.

ELECTRICAL TOWER BASE AND CLEARANCE ZONE. CLEARANCE OFFSET = 20m

SCALE BAR (m) 40 20 0 40 80

CREATED FROM TEMPLATE;
DRAWING WAS PREVIOUSLY;

REV
REV

SUB TITLE
OVERALL SITE LAYOUT

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

Project EnergyConnect
ElectraNet

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	19.11.21
CKD	J.HUTCHINSON (WGA)	19.11.21
INSP	-	-
AUTH	-	-

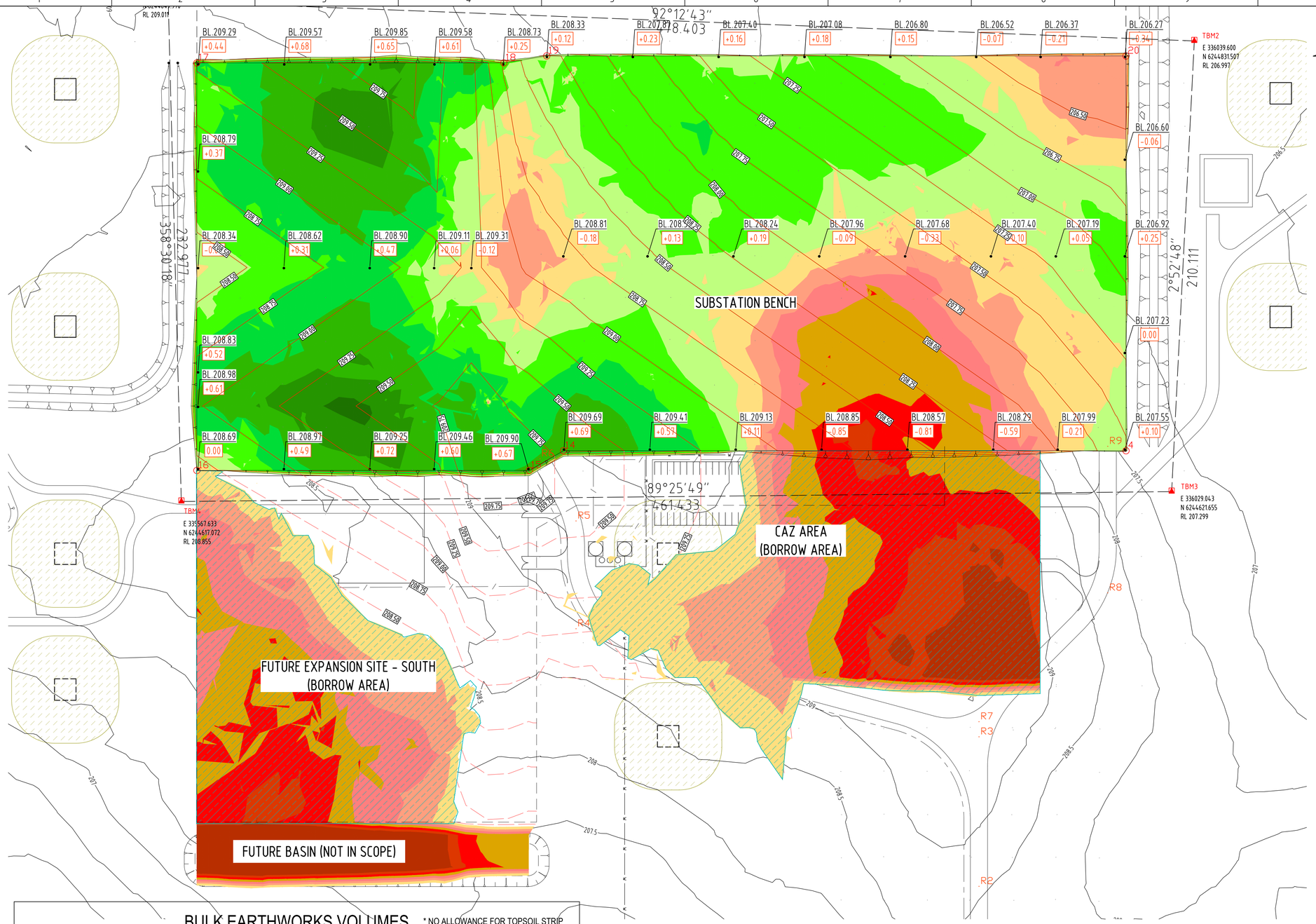
ElectraNet - electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-052 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;



Cut/Fill Depth Table

Number	Depth from	Depth to	Color
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2	-1.200	-1.000	
3	-1.000	-0.800	
4	-0.800	-0.600	
5	-0.600	-0.400	
6	-0.400	-0.200	
7	-0.200	0.000	
8	0.000	0.200	
9	0.200	0.400	
10	0.400	0.600	
11	0.600	0.800	
12	0.800	1.000	
13	1.000	1.200	
14	1.200	1.400	

LEGEND

204.0 — EXISTING CONTOURS INTERVAL = 0.5m

17.5 — BULK EARTHWORKS LEVEL (B.E.W.) CONTOURS INTERVAL= 0.25m

BL. 207.19 +0.05 — BL. BULK EARTHWORKS DESIGN SURFACE LEVEL

CUT (-)/FILL(+) DEPTH TO N.S.

ELECTRICAL TOWER BASE AND CLEARANCE ZONE. CLEARANCE OFFSET = 20m

TBM SURVEY TBM AND PSM REFER TO DRG 310 607/603-001

NOTES

1. REFER ELECTRONIC 2D & 3D SETOUT FILE.
2. CUT TO FILL VOLUMES ARE 'TIN TO TIN' FROM SURVEYED NATURAL SURFACE TO TOP OF BULK EARTHWORKS SUBGRADE LEVEL AND DOES NOT INCLUDE ANY ALLOWANCE FOR BULKING OR UNSUITABLE MATERIALS.
3. NATURAL SURVEY TIN IS REPRODUCED FROM 'AEROMETREX LiDAR - BR01954 ENERGY CONNECT AERIAL SURVEY 2019' POINT CLOUD, WITH POINT DENSITY REDUCTION.
4. CUT TO FILL VOLUMES ARE FOR SUBSTATION BENCH ONLY.
5. CONTOURS SHOWN ARE TO BULK EARTHWORKS SUBGRADE LEVEL.
6. BORROW AREAS TO BE UTILISED AS REQUIRED.

BULK EARTHWORKS VOLUMES

* NO ALLOWANCE FOR TOPSOIL STRIP

STAGE	BASE SURFACE	COMPARISON SURFACE	CUT	FILL	NET
PRIMARY SUBSTATION BENCH	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	7,620 m³	21,320 m³	13,700 m³ (FILL)
FUTURE SUBSTATION EXPANSION BENCH - SOUTH	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	13,355 m³	4,425 m³	9,930 m³ (CUT)
FUTURE CAZ SITE (INCLUDES OVERLAP WITH PORTION OF EXPANSION BENCH - SOUTH)	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	13,435 m³	1,535 m³	11,900 m³ (CUT)

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE;
DRAWING WAS PREVIOUSLY;

REV
REV

SUB TITLE: BULK EARTH WORKS BENCH CUT AND FILL HEAT MAP - SHEET 1

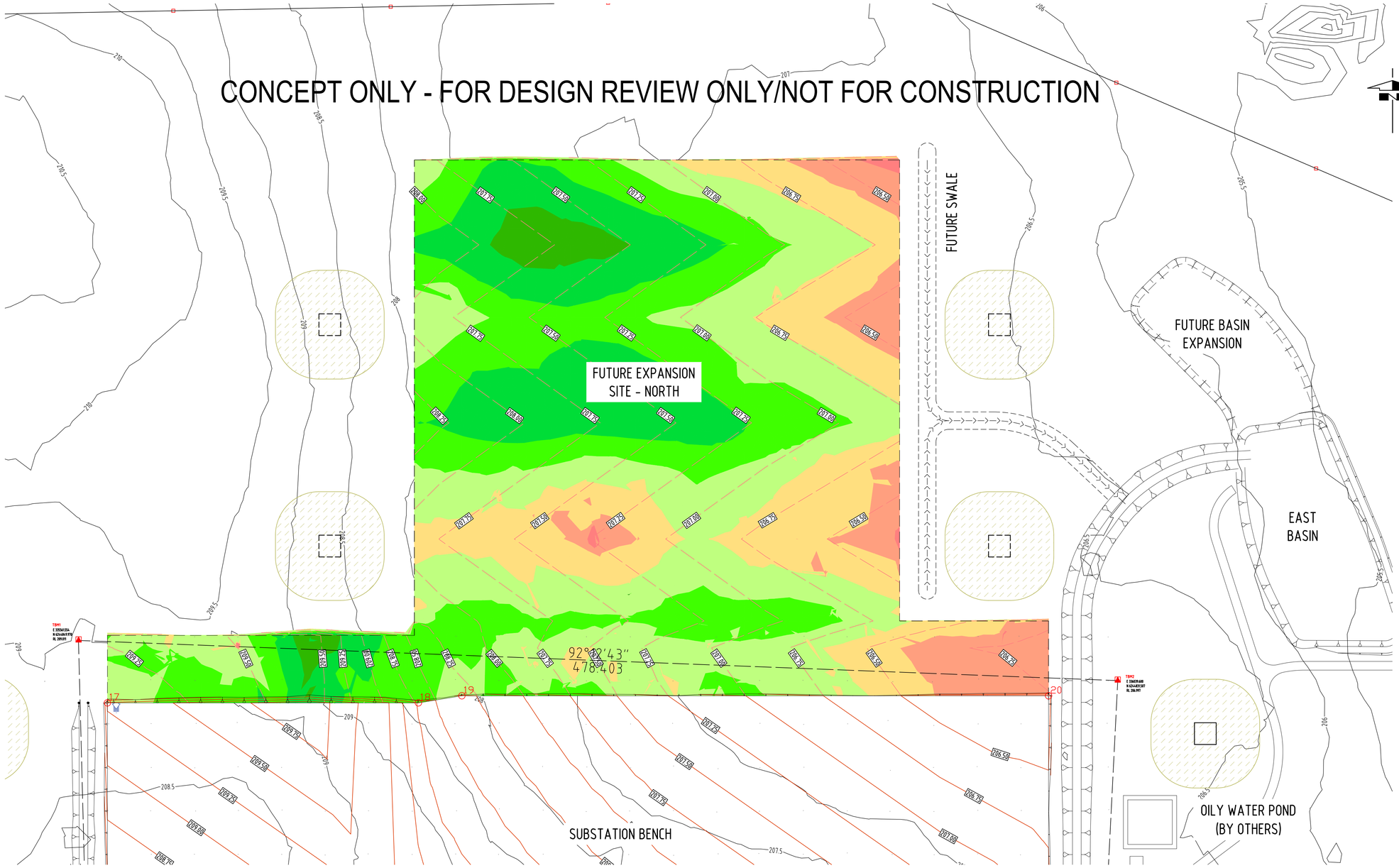
ElectraNet - electricity transmission

TITLE: EARTHWORKS PAVING AND FENCES BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-069 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

CONCEPT ONLY - FOR DESIGN REVIEW ONLY/NOT FOR CONSTRUCTION



Cut/Fill Depth Table

Number	Depth from	Depth to	Color
1	-3.000	-1.200	
2	-1.200	-1.000	
3	-1.000	-0.800	
4	-0.800	-0.600	
5	-0.600	-0.400	
6	-0.400	-0.200	
7	-0.200	0.000	
8	0.000	0.200	
9	0.200	0.400	
10	0.400	0.600	
11	0.600	0.800	
12	0.800	1.000	
13	1.000	1.200	
14	1.200	3.000	

LEGEND

- 204.0 — EXISTING CONTOURS INTERVAL = 0.5m
- 17.5 — BULK EARTHWORKS LEVEL (B.E.W.) CONTOURS INTERVAL= 0.25m
- ELECTRICAL TOWER BASE AND CLEARANCE ZONE. CLEARANCE OFFSET = 20m
- TBM SURVEY TBM AND PSM REFER TO DRG 310 607/603-001

NOTES

1. REFER ELECTRONIC 2D & 3D SETOUT FILE.
2. CUT TO FILL VOLUMES ARE 'TIN TO TIN' FROM SURVEYED NATURAL SURFACE TO TOP OF BULK EARTHWORKS SUBGRADE LEVEL AND DOES NOT INCLUDE ANY ALLOWANCE FOR BULKING OR UNSUITABLE MATERIALS.
3. NATURAL SURVEY TIN IS REPRODUCED FROM 'AEROMETREX LiDAR - BR01954 ENERGY CONNECT AERIAL SURVEY 2019' POINT CLOUD, WITH POINT DENSITY REDUCTION.
4. CUT TO FILL VOLUMES ARE FOR SUBSTATION BENCH ONLY.
5. CONTOURS SHOWN ARE TO BULK EARTHWORKS SUBGRADE LEVEL.

20 10 0 20 40
SCALE BAR (m)

BULK EARTHWORKS VOLUMES * NO ALLOWANCE FOR TOPSOIL STRIP

STAGE	BASE SURFACE	COMPARISON SURFACE	CUT	FILL	NET
FUTURE SUBSTATION EXPANSION BENCH - NORTH	AEROMETREX SURVEY N.S.	BENCH BULK EARTHWORKS SURFACE	2,275 m³	12,280 m³	10,005 m³ (FILL)

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION				
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE;
DRAWING WAS PREVIOUSLY;

REV
REV

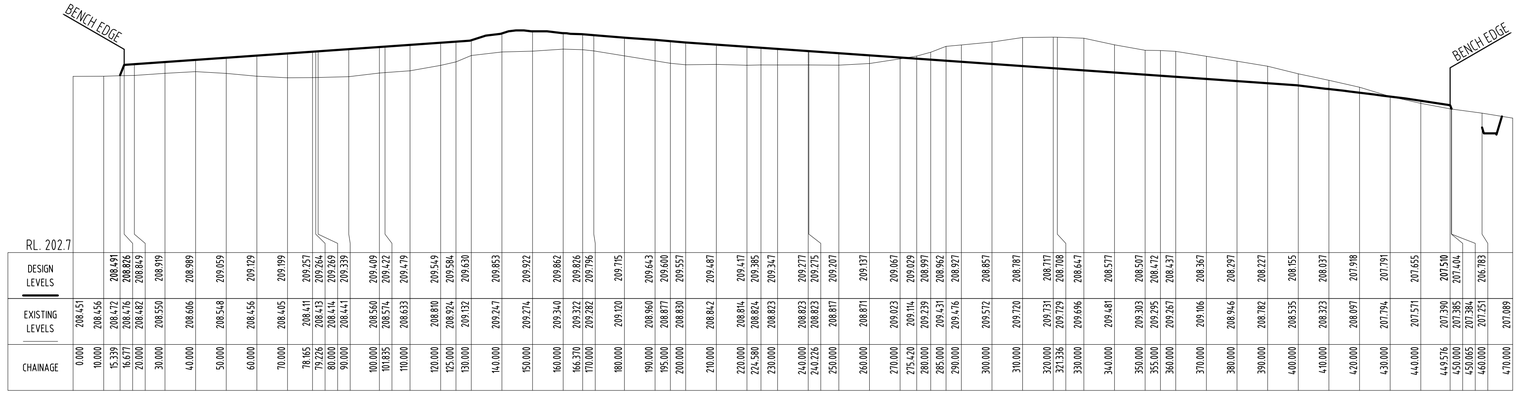
SUB TITLE: BULK EARTH WORKS BENCH CUT AND FILL HEAT MAP - SHEET 2

ElectraNet - electricity transmission

TITLE: EARTHWORKS PAVING AND FENCES BUNDEY SUBSTATION

SCALE: AS SHOWN | A1 | 310 607/790-070 | REV: A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

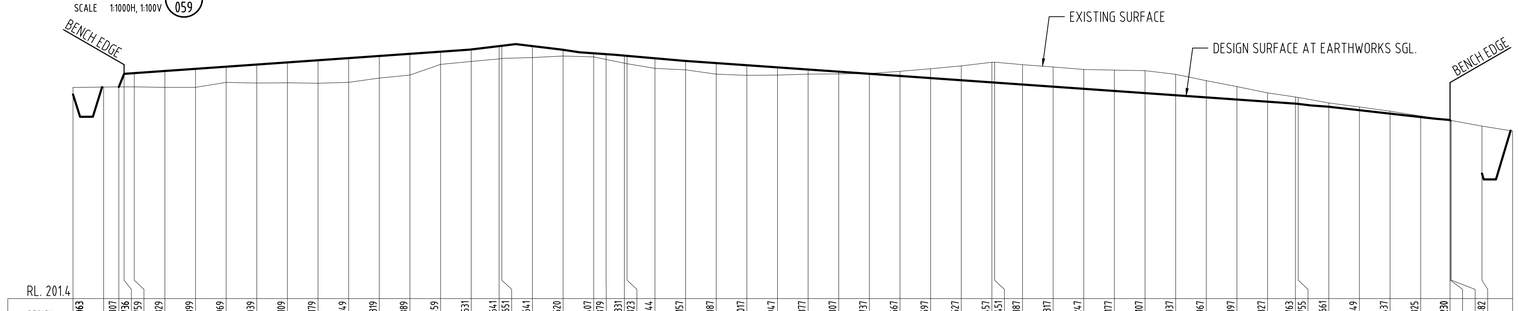


RL. 202.7

CHAINAGE	EXISTING LEVELS	DESIGN LEVELS
0.000	208.451	
10.000	208.456	
15.339	208.472	208.491
16.677	208.476	208.826
20.000	208.482	208.849
30.000	208.550	208.919
40.000	208.606	208.989
50.000	208.548	209.059
60.000	208.456	209.129
70.000	208.405	209.199
78.165	208.411	209.257
79.226	208.413	209.264
80.000	208.414	209.269
90.000	208.441	209.339
100.000	208.560	209.409
101.835	208.574	209.422
110.000	208.633	209.479
120.000	208.810	209.549
125.000	208.924	209.584
130.000	209.132	209.630
140.000	209.247	209.853
150.000	209.274	209.922
160.000	209.340	209.862
166.370	209.322	209.826
170.000	209.282	209.796
180.000	209.120	209.715
190.000	208.960	209.643
195.000	208.877	209.600
200.000	208.830	209.557
210.000	208.842	209.487
220.000	208.814	209.417
224.380	208.824	209.385
230.000	208.823	209.347
240.000	208.823	209.277
240.726	208.823	209.275
250.000	208.817	209.207
260.000	208.871	209.137
270.000	209.023	209.067
275.420	209.114	209.029
280.000	209.239	208.997
285.000	209.431	208.962
290.000	209.476	208.927
300.000	209.572	208.857
310.000	209.720	208.787
320.000	209.731	208.717
321.336	209.729	208.708
330.000	209.696	208.647
340.000	209.481	208.577
350.000	209.303	208.507
355.000	209.295	208.472
360.000	209.267	208.437
370.000	209.106	208.367
380.000	208.946	208.297
390.000	208.782	208.227
400.000	208.535	208.155
410.000	208.323	208.037
420.000	208.097	207.938
430.000	207.794	207.791
440.000	207.571	207.655
449.576	207.390	207.510
450.000	207.385	207.404
450.065	207.384	207.251
460.000	207.251	206.783
470.000	207.089	

B.E.W SECTION 1 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 1/059
SCALE 1:1000H, 1:100V

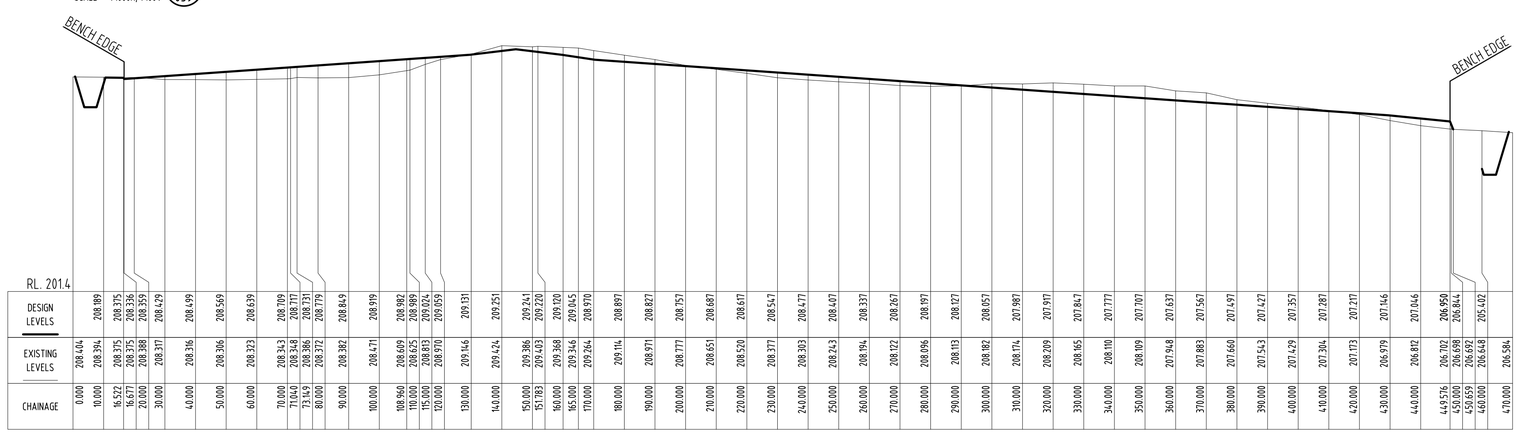


RL. 201.4

CHAINAGE	EXISTING LEVELS	DESIGN LEVELS
0.000	208.392	208.063
10.000	208.304	208.307
14.962	208.309	208.736
16.677	208.311	208.759
20.000	208.311	208.829
30.000	208.294	208.899
40.000	208.295	208.969
50.000	208.457	209.039
60.000	208.436	209.109
70.000	208.443	209.109
80.000	208.429	209.179
90.000	208.459	209.249
100.000	208.598	209.319
110.000	208.697	209.389
120.000	209.044	209.459
130.000	209.140	209.531
139.116	209.222	209.641
140.000	209.240	209.651
150.000	209.267	209.641
160.000	209.318	209.520
170.000	209.289	209.407
174.029	209.206	209.379
180.000	209.084	209.323
189.884	209.066	209.323
190.000	208.914	209.244
200.000	208.867	209.157
210.000	208.726	209.087
220.000	208.687	209.017
230.000	208.695	208.947
240.000	208.726	208.877
250.000	208.735	208.807
260.000	208.746	208.737
270.000	208.818	208.667
280.000	208.902	208.597
290.000	208.996	208.527
300.000	209.113	208.457
300.895	209.117	208.451
310.000	209.035	208.387
320.000	208.960	208.317
330.000	208.878	208.247
340.000	208.858	208.177
350.000	208.840	208.107
360.000	208.720	208.037
370.000	208.512	207.967
380.000	208.319	207.897
390.000	208.114	207.827
399.105	207.980	207.763
400.000	207.966	207.755
410.000	207.786	207.661
420.000	207.654	207.549
430.000	207.516	207.437
440.000	207.360	207.325
449.576	207.220	207.230
449.681	207.219	
450.000	207.213	205.482
460.000	207.030	
470.000	206.871	

B.E.W SECTION 2 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 2/059
SCALE 1:1000H, 1:100V



RL. 201.4

CHAINAGE	EXISTING LEVELS	DESIGN LEVELS
0.000	208.404	
10.000	208.394	208.189
16.522	208.375	208.375
16.677	208.375	208.336
20.000	208.388	208.359
30.000	208.317	208.429
40.000	208.316	208.499
50.000	208.306	208.569
60.000	208.323	208.639
70.000	208.343	208.709
71.040	208.348	208.717
73.149	208.366	208.731
80.000	208.372	208.779
90.000	208.382	208.849
100.000	208.471	208.919
108.960	208.609	208.982
110.000	208.625	208.989
115.000	208.893	209.024
120.000	208.970	209.059
130.000	209.146	209.131
140.000	209.424	209.251
150.000	209.386	209.241
151.783	209.403	209.270
160.000	209.368	209.120
165.000	209.346	209.045
170.000	209.264	208.970
180.000	209.114	208.897
190.000	208.971	208.827
200.000	208.777	208.757
210.000	208.651	208.687
220.000	208.520	208.617
230.000	208.377	208.547
240.000	208.303	208.477
250.000	208.243	208.407
260.000	208.194	208.337
270.000	208.122	208.267
280.000	208.096	208.197
290.000	208.113	208.127
300.000	208.182	208.057
310.000	208.174	207.987
320.000	208.209	207.917
330.000	208.165	207.847
340.000	208.110	207.777
350.000	208.109	207.707
360.000	207.948	207.637
370.000	207.883	207.567
380.000	207.660	207.497
390.000	207.543	207.427
400.000	207.429	207.357
410.000	207.304	207.287
420.000	207.173	207.217
430.000	206.979	207.146
440.000	206.812	207.046
449.576	206.702	206.950
450.000	206.698	206.844
456.659	206.692	205.482
460.000	206.648	
470.000	206.584	

B.E.W SECTION 3 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 3/059
SCALE 1:1000H, 1:100V

SCALE BAR (m) HORIZONTAL: 20 10 0 20 40

SCALE BAR (m) VERTICAL: 2 1 0 2 4

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DRN	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

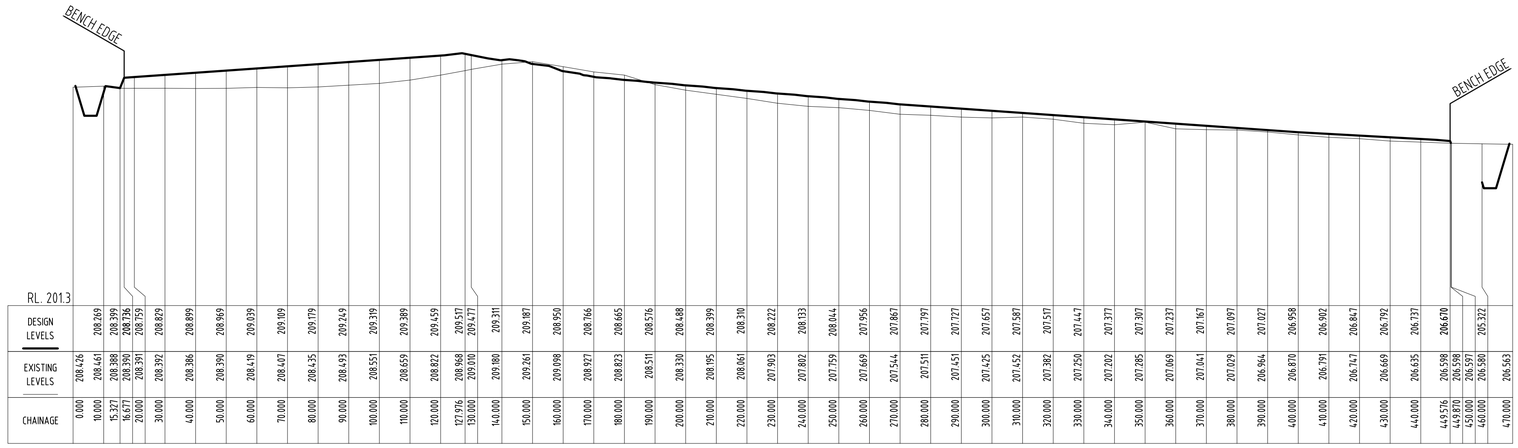
SUB TITLE: BULK EARTH WORKS BENCH SECTIONS - SHEET 1

ElectraNet – electricity transmission

TITLE: EARTHWORKS PAVING AND FENCES BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-073 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000		208.426
10.000	208.269	208.461
15.327	208.399	208.388
16.677	208.736	208.390
20.000	208.759	208.391
30.000	208.829	208.392
40.000	208.899	208.386
50.000	208.969	208.390
60.000	209.039	208.419
70.000	209.109	208.407
80.000	209.179	208.435
90.000	209.249	208.493
100.000	209.319	208.551
110.000	209.389	208.659
120.000	209.459	208.822
127.976	209.517	208.968
130.000	209.477	209.010
140.000	209.311	209.180
150.000	209.187	209.261
160.000	208.950	209.098
170.000	208.766	208.927
180.000	208.665	208.823
190.000	208.576	208.511
200.000	208.488	208.330
210.000	208.399	208.195
220.000	208.310	208.061
230.000	208.222	207.903
240.000	208.133	207.802
250.000	208.044	207.759
260.000	207.956	207.669
270.000	207.867	207.544
280.000	207.797	207.511
290.000	207.727	207.451
300.000	207.657	207.425
310.000	207.587	207.452
320.000	207.517	207.382
330.000	207.447	207.250
340.000	207.377	207.202
350.000	207.307	207.285
360.000	207.237	207.069
370.000	207.167	207.041
380.000	207.097	207.029
390.000	207.027	206.964
400.000	206.958	206.870
410.000	206.902	206.791
420.000	206.847	206.747
430.000	206.792	206.669
440.000	206.737	206.635
449.576	206.670	206.598
449.870		206.598
450.000		206.597
460.000	205.322	206.580
470.000		206.563

B.E.W SECTION 4 LONGITUDINAL SECTION

SCALES: H 1:1000 V 1:100

SECTION 4 / 059

SCALE 1:1000H, 1:100V

CHAINAGE	DESIGN LEVELS	EXISTING LEVELS
0.000		208.727
10.000	208.349	208.748
15.394	208.815	208.741
16.677	209.136	208.756
20.000	209.159	208.818
30.000	209.229	208.968
40.000	209.299	208.818
50.000	209.369	208.782
60.000	209.439	208.730
70.000	209.509	208.730
80.000	209.579	208.770
85.701	209.619	208.791
90.000	209.649	208.824
91.307	209.659	208.834
100.000	209.719	208.903
110.000	209.789	209.000
120.000	209.715	209.088
130.000	209.515	209.050
140.000	209.370	208.984
150.000	209.132	208.839
154.299	208.996	208.670
160.000	208.781	208.620
170.000	208.545	208.504
180.000	208.433	208.218
190.000	208.326	208.132
200.000	208.218	207.943
210.000	208.111	207.804
220.000	208.004	207.689
230.000	207.896	207.584
240.000	207.789	207.482
250.000	207.682	207.380
260.000	207.574	207.307
270.000	207.467	207.181
280.000	207.397	207.107
290.000	207.327	207.038
300.000	207.257	206.964
310.000	207.187	206.885
320.000	207.117	206.802
330.000	207.047	206.755
340.000	206.977	206.706
350.000	206.907	206.662
360.000	206.837	206.638
367.034	206.788	206.637
370.000	206.767	206.629
380.000	206.697	206.611
382.782	206.678	206.658
390.000	206.627	206.636
392.966	206.606	206.589
400.000	206.558	206.618
410.000	206.502	206.700
420.000	206.458	206.782
430.000	206.441	206.730
440.000	206.420	206.702
449.576	206.390	206.718
450.000	206.496	206.719
450.845	206.707	206.720
460.000	205.242	206.755
470.000		206.777

B.E.W SECTION 5 LONGITUDINAL SECTION

SCALES: H 1:1000 V 1:100

SECTION 5 / 059

SCALE 1:1000H, 1:100V

SCALE BAR (m)
HORIZONTAL

SCALE BAR (m)
VERTICAL

CREATED FROM TEMPLATE;

DRAWING WAS PREVIOUSLY;

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

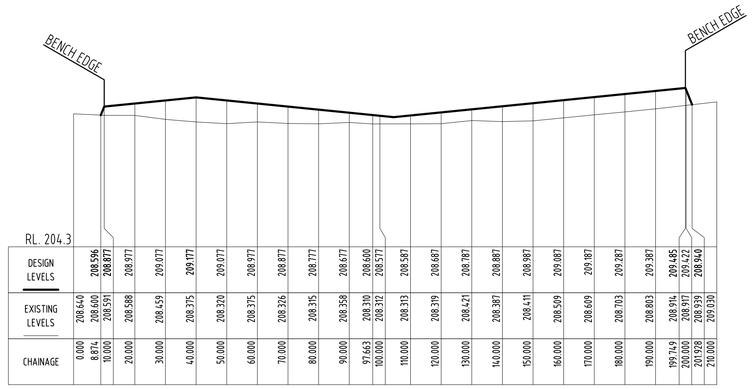
SUB TITLE
BULK EARTH WORKS BENCH SECTIONS - SHEET 2

ElectraNet - electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN
A1 310 607/790-074
REV A
DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

DESIGN LEVELS		208.596	208.877	208.977	209.077	209.177	209.077	208.977	208.877	208.777	208.677	208.600	208.577	208.587	208.687	208.787	208.887	208.987	209.087	209.187	209.287	209.387	209.485	209.422	208.940	
EXISTING LEVELS	208.640	208.600	208.591	208.588	208.459	208.375	208.320	208.375	208.326	208.315	208.358	208.310	208.312	208.313	208.319	208.421	208.387	208.411	208.509	208.609	208.703	208.803	208.914	208.917	208.939	209.030
CHAINAGE	0.000	8.874	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	97.663	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	199.749	200.000	201.928	210.000

B.E.W SECTION A LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION A / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS			209.021	209.647	209.642	209.548	209.448	209.348	209.248	209.148	209.048	208.948	208.844	208.760	208.697	208.634	208.572	208.509	208.443	208.376	208.308	208.241	208.174	208.153	207.951	
EXISTING LEVELS	209.223	209.144	209.036	208.956	208.936	208.846	208.788	208.794	208.829	208.857	208.893	208.908	208.854	208.892	208.741	208.570	208.441	208.419	208.286	208.181	208.106	207.995	207.928	207.899	207.891	207.835
CHAINAGE	0.000	10.000	16.682	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	203.810	210.000

B.E.W SECTION D LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION D / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS		208.563	209.227	209.327	209.427	209.527	209.427	209.327	209.227	209.127	209.027	208.927	208.887	208.937	209.037	209.137	209.237	209.337	209.437	209.537	209.637	209.737	209.825	209.835	209.772	209.138		
EXISTING LEVELS	208.518	208.571	208.554	208.464	208.440	208.507	208.576	208.500	208.493	208.486	208.439	208.425	208.394	208.396	208.433	208.551	208.496	208.554	208.609	208.664	208.785	208.976	209.185	209.177	209.174	209.281	209.262	209.242
CHAINAGE	0.000	7.341	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	104.002	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	198.804	199.749	200.000	202.536	206.268	210.000

B.E.W SECTION B LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION B / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS			208.852	209.297	209.289	209.189	209.089	208.989	208.889	208.789	208.689	208.589	208.489	208.397	208.311	208.225	208.139	208.053	207.964	207.873	207.782	207.692	207.601	207.595	207.577	207.574	207.375		
EXISTING LEVELS	208.925	208.886	208.852	208.844	208.840	208.795	208.772	208.763	208.738	208.804	208.565	208.485	208.329	208.200	208.091	207.995	207.866	207.685	207.578	207.471	207.441	207.425	207.374	207.372	207.366	207.365	207.362	207.365	207.448
CHAINAGE	0.000	10.000	17.406	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	200.689	202.595	202.999	203.793	206.896	210.000

B.E.W SECTION E LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION E / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS		209.251	209.951	209.951	209.951	209.950	209.880	209.850	209.750	209.650	209.550	209.450	209.350	209.306	209.309	209.311	209.313	209.315	209.314	209.313	209.312	209.311	209.308	209.245	208.660	
EXISTING LEVELS	209.172	209.251	209.254	209.267	209.283	209.483	209.230	209.245	209.285	209.277	209.255	209.334	209.300	209.400	209.207	209.261	209.261	209.251	209.207	209.139	208.970	208.804	208.649	208.649	208.661	208.594
CHAINAGE	0.000	7.198	10.000	20.000	30.000	40.000	46.988	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	199.749	200.000	202.342	210.000

B.E.W SECTION C LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION C / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS			209.538	208.947	208.939	208.839	208.739	208.639	208.539	208.439	208.339	208.239	208.139	208.039	207.939	207.839	207.739	207.639	207.539	207.439	207.339	207.239	207.139	207.109	206.934	
EXISTING LEVELS	209.616	209.586	209.556	209.543	209.539	209.432	209.273	209.183	209.071	209.014	208.832	208.505	208.271	208.043	207.769	207.620	207.510	207.340	207.218	207.127	207.023	206.981	206.915	206.922	206.930	206.859
CHAINAGE	0.000	10.000	16.824	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	203.699	210.000

B.E.W SECTION F LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION F / 059
SCALE 1:1000H, 1:100V

20 10 0 20 40
SCALE BAR (m)
HORIZONTAL

2 1 0 2 4
SCALE BAR (m)
VERTICAL

A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21
REV	DETAILS OF REVISION	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

CREATED FROM TEMPLATE; | REV
DRAWING WAS PREVIOUSLY; | REV

SUB TITLE
BULK EARTH WORKS BENCH SECTIONS - SHEET 3

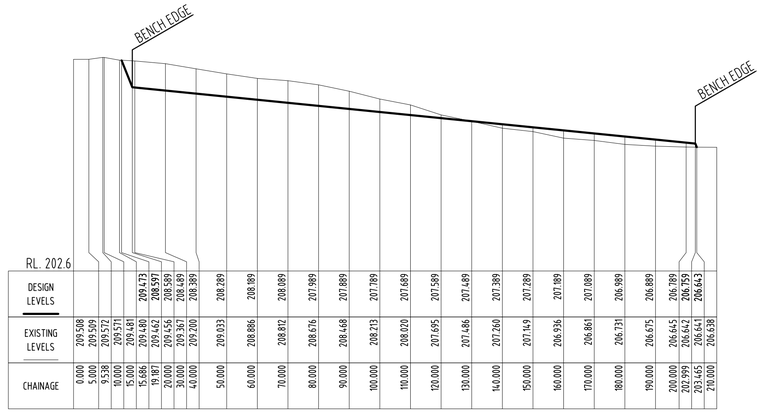
DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

ElectraNet – electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN
A1 310 607/790-075
REV A
DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

DESIGN LEVELS					209.473	208.597	208.589	208.489	208.389	208.289	208.189	208.089	207.989	207.889	207.789	207.689	207.589	207.489	207.389	207.289	207.189	207.089	206.989	206.889	206.789	206.759	206.643	
EXISTING LEVELS	209.508 209.509	209.572	209.571	209.481	209.480	209.462	209.456	209.367	209.200	209.033	208.886	208.812	208.676	208.468	208.213	208.020	207.695	207.486	207.260	207.149	206.936	206.861	206.731	206.675	206.645	206.642	206.641	206.638
CHAINAGE	0.000 5.000	9.538	10.000	15.000	15.686	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	203.465	210.000

B.E.W SECTION G LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION G / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS		207.537	207.621	207.616	207.546	207.471	207.398	207.315	207.233	207.166	207.100	207.030	206.960	206.890	206.816	206.743	206.656	206.573	206.504	206.437	206.372	206.302	206.281	206.594	
EXISTING LEVELS	207.781 207.624	207.537	207.534	207.526	207.461	207.433	207.390	207.329	207.230	207.100	206.929	206.783	206.720	206.656	206.624	206.614	206.631	206.706	206.783	206.747	206.659	206.605	206.599	206.595	206.564
CHAINAGE	0.000 10.000	18.852	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	204.251	210.000

B.E.W SECTION J LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION J / 059
SCALE 1:1000H, 1:100V

DESIGN LEVELS		208.775	208.247	208.239	208.139	208.039	207.939	207.839	207.739	207.639	207.539	207.439	207.339	207.239	207.139	207.039	206.939	206.839	206.739	206.639	206.539	206.439	206.434	206.421	206.409	206.585		
EXISTING LEVELS	209.049 208.902	208.809	208.773	208.759	208.591	208.429	208.272	208.118	207.969	207.916	207.751	207.565	207.415	207.227	207.074	206.964	206.855	206.710	206.656	206.592	206.595	206.579	206.577	206.574	206.571	206.570	206.571	206.583
CHAINAGE	0.000 10.000	17.077	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	200.555	201.810	202.999	203.703	206.852	210.000

B.E.W SECTION H LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION H / 059
SCALE 1:1000H, 1:100V

20 10 0 20 40
SCALE BAR (m)
HORIZONTAL

2 1 0 2 4
SCALE BAR (m)
VERTICAL

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

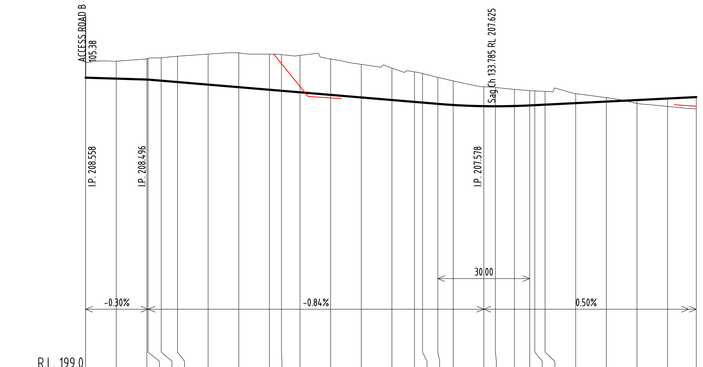
SUB TITLE
BULK EARTH WORKS BENCH SECTIONS - SHEET 4

ElectraNet - electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN
A1 310 607/790-076
REV A
DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

CAZ DESIGN SURFACE	CUT/FILL	DESIGN SURFACE	EXISTING SURFACE	CHAINAGE
	-0.492	208.558	209.050	0.000
	-0.570	208.528	209.098	10.000
	-0.681	208.497	209.178	20.000
	-0.692	208.496	209.188	20.386
	-0.746	208.460	209.206	24.670
	-0.841	208.416	209.257	30.000
	-0.994	208.332	209.326	40.000
	-1.119	208.248	209.367	50.000
	-1.161	208.164	209.325	60.000
209.016	-1.179	208.131	209.310	63.940
208.269	-1.205	208.081	209.286	70.000
207.898	-1.171	207.997	209.168	80.000
	-1.080	207.913	208.993	90.000
	-1.042	207.829	208.871	100.000
	-0.980	207.768	208.748	107.369
	-0.948	207.746	208.694	110.000
	-0.865	207.704	208.569	115.000
	-0.785	207.667	208.452	120.000
	-0.635	207.628	208.263	130.000
	-0.616	207.625	208.241	133.785
	-0.542	207.634	208.176	140.000
	-0.484	207.653	208.137	145.000
	-0.465	207.661	208.126	146.640
	-0.431	207.678	208.109	150.000
	-0.310	207.728	208.038	160.000
	-0.128	207.778	207.906	170.000
	+0.109	207.828	207.719	180.000
	+0.258	207.878	207.620	190.000
207.625	+0.383	207.925	207.542	199.369

ACCESS ROAD A

Scales: H 1 in 1000 V 1 in 100

CAZ DESIGN SURFACE	CUT/FILL	DESIGN SURFACE	EXISTING SURFACE	CHAINAGE
	+0.011	208.389	208.378	0.000
	-0.115	208.254	208.369	4.501
	-0.139	208.271	208.410	10.000
	-0.053	208.301	208.354	20.000
	-0.006	208.313	208.319	24.048
	-0.007	208.316	208.323	24.961
	+0.004	208.331	208.327	30.000
	+0.028	208.357	208.329	38.768
	+0.033	208.361	208.328	40.000
	+0.034	208.362	208.328	40.248
	+0.043	208.372	208.329	43.674
	+0.033	208.391	208.358	50.000
	+0.024	208.401	208.377	53.485
	+0.006	208.421	208.415	60.000
	-0.097	208.451	208.548	70.000
	-0.245	208.481	208.726	80.000
	-0.390	208.511	208.901	90.000
	-0.444	208.541	208.985	100.000
	-0.493	208.557	209.050	105.382
	-0.535	208.571	209.106	110.000
	-0.545	208.601	209.146	120.000
	-0.584	208.631	209.215	130.000
	-0.650	208.661	209.311	140.000
	-0.626	208.691	209.317	150.000
	-0.561	208.721	209.282	160.000
	-0.570	208.751	209.321	170.000
	-0.555	208.753	209.308	170.832
	-0.477	208.781	209.258	180.000
	-0.439	208.811	209.250	190.000
	-0.343	208.841	209.184	200.000
	-0.370	208.857	209.227	205.298
	-0.392	208.872	209.264	210.000
208.967	-0.180	208.912	209.092	220.000
208.689	-0.071	208.961	209.032	230.000
208.691	-0.067	208.963	209.030	230.298
208.750	-0.022	209.021	209.043	240.000
208.831	+0.025	209.091	209.066	250.000
208.873	+0.077	209.132	209.055	255.298
208.911	+0.087	209.169	209.082	260.000
208.992	+0.103	209.249	209.146	270.000
209.072	+0.125	209.316	209.191	280.000
209.113	+0.196	209.339	209.143	285.000
209.139	+0.182	209.356	209.174	290.000
209.111	+0.233	209.362	209.129	292.318
209.083	+0.220	209.369	209.149	300.000
209.105	+0.296	209.369	209.073	305.000
209.083	+0.278	209.373	209.095	310.000
209.109	+0.256	209.402	209.146	320.000
209.236	+0.255	209.460	209.205	330.000
209.297	+0.255	209.499	209.244	335.000
209.336	+0.273	209.542	209.269	340.000
209.426	+0.337	209.629	209.292	350.000
209.435	+0.342	209.640	209.298	351.223
209.464	+0.273	209.671	209.398	354.829
209.506	+0.319	209.715	209.396	360.000
209.585	+0.356	209.802	209.446	370.000
209.701	+0.463	209.875	209.412	378.389
209.711	+0.488	209.888	209.400	380.000
209.775	+0.766	209.975	209.209	390.000
209.818	+0.858	210.061	209.203	400.000
209.800	+0.872	210.103	209.231	404.802

ACCESS ROAD B

Scales: H 1 in 1000 V 1 in 100

A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21
REV	DETAILS OF REVISION	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

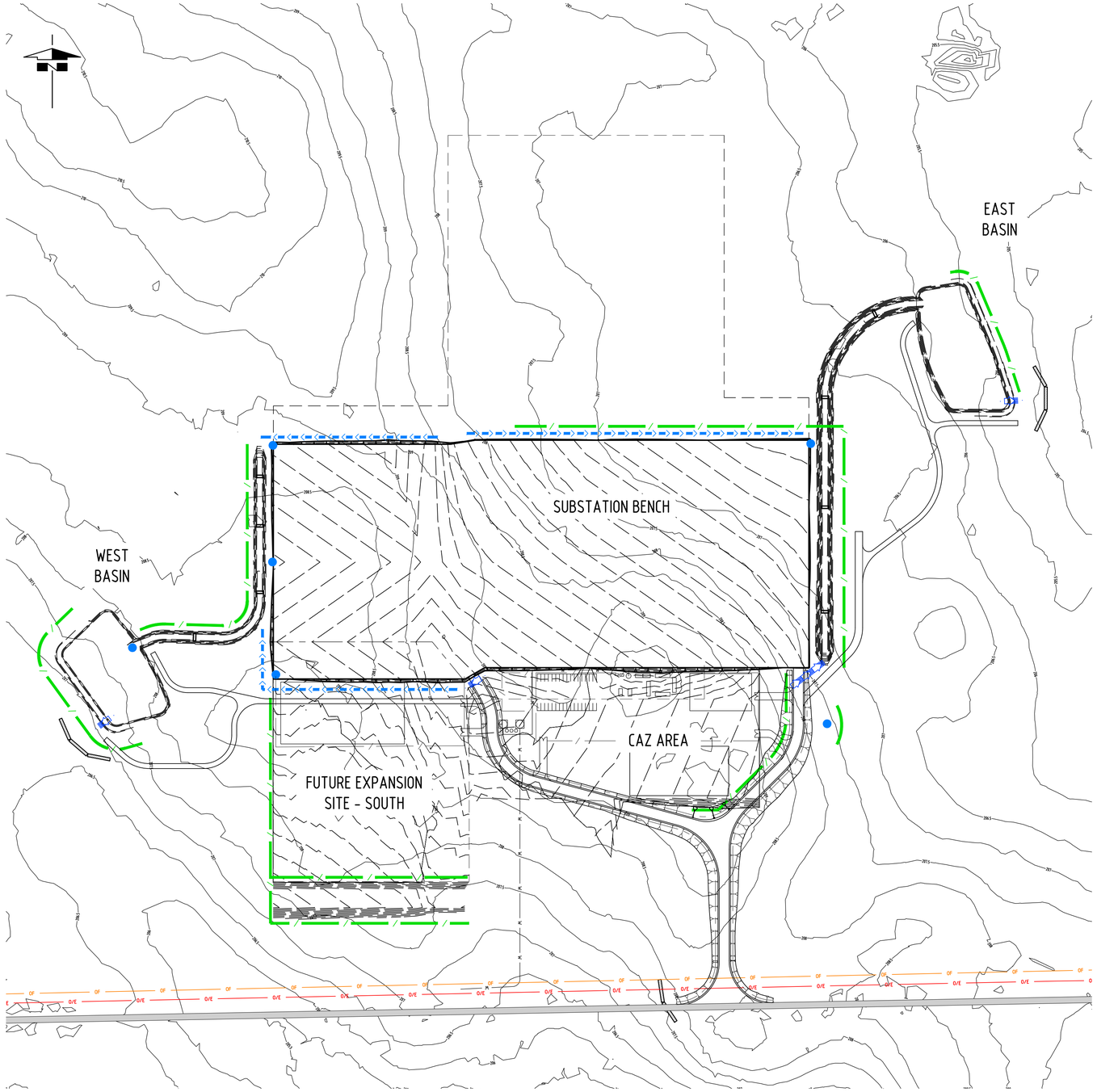
SUB TITLE
ACCESS ROAD LONGITUDINAL SECTIONS - SHEET 1

ElectraNet - electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN
A1 310 607/790-079
REV A
DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



40 20 0 40 80
SCALE BAR (m)

LEGEND:

- EXISTING CONTOURS
- DESIGN CONTOURS
- SILT TRAP/SEDIMENT BASIN
- CATCH/DIVERSION DRAIN
- HAY BALE BARRIER
- SILT FENCE
- GEOTEXTILE SILT FENCE AT STORMWATER PIT (GEOFABRIC SOCK FILLED WITH SAND)

CONSTRUCTION NOTES:

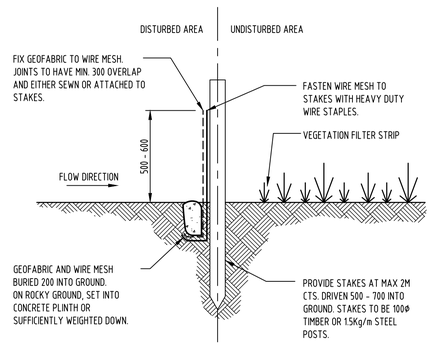
1. CONTRACTOR TO ESTABLISH PERIMETER SWALE DRAINS ON THE EASTERN AND WESTERN SIDE OF THE PAD UP FRONT TO FORM PRIMARY SEDMP CAPTURE.
2. AS THE WORKS PROGRESS FORMALISE BASIN OUTFLOW WITH PIPE OUTLETS AND DOWNSTREAM HAY BALES FOR SEDIMENT CAPTURE.

EROSION CONTROL NOTES:

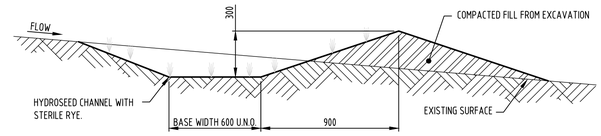
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CONTROL OF ALL TRAFFIC INTO AND OUT OF THE SITE, INCLUDING THE MOVEMENT OF CONSTRUCTION TRAFFIC WITHIN THE SITE AND SHALL MAINTAIN DUST SUPPRESSION MEASURES TO THE SATISFACTION OF THE SUPERINTENDENT. ACCESS TO THE SITE SHALL BE LIMITED TO A MAXIMUM OF TWO LOCATIONS.
2. ALL DISTURBED AND UNSEALED AREAS SHALL BE DAMPENED AND ROLLED TO SEAL THE SURFACE TO MINIMISE DUST.
3. INSTALL ALL EROSION AND SEDIMENT CONTROL DEVICES AND SILT TRAPS PRIOR TO THE COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
4. TOP SOIL STRIPPED FROM CONSTRUCTION AREAS TO BE STOCKPILED AT A NOMINATED SITE AWAY FROM FLOW PATHS.
5. CONSTRUCT ALL SEDIMENT CONTROL FENCES ALONG CONTOUR WHERE POSSIBLE. WHERE SEDIMENT CONTROL FENCES ARE NOT CONSTRUCTED ALONG CONTOUR INCORPORATE RETURN PANELS AT REGULAR INTERVALS NOT EXCEEDING 20M.
6. INSPECT ALL SILT TRAPS WEEKLY AND AFTER STORMS FOR STRUCTURAL DAMAGE OR CLOGGING. REMOVE ALL SILT TO MAINTAIN SILT TRAP STORAGE CAPACITY. REPAIR ANY DAMAGE AND MAKE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT.
7. DIVERT ALL STORMWATER RUNOFF AWAY FROM DISTURBED SOIL INTO INTACT NATIVE VEGETATION OR STORMWATER DRAINAGE SYSTEM.
8. CONSTRUCT AND MAINTAIN A BERM 200MM IN HEIGHT OR GREATER AT THE TOP OF FILL BATTERS WHERE CATCHMENT CONTRIBUTION IS GREATER THAN 5M.
9. COMPLETE ALL FINAL EROSION PREVENTION MEASURES PRIOR TO THE FINAL SUBDIVISION HANDOVER INSPECTION. MAINTAIN ALL CONTROL DEVICES UNTIL THE END OF THE DEFECTS LIABILITY PERIOD.
10. ANY CHANGES TO THE EROSION AND SEDIMENT CONTROL PLAN SHALL BE SUBMITTED AND APPROVED BY THE SUPERINTENDENT.
11. ADDITIONAL EROSION CONTROLS MAY BE REQUIRED DURING CONSTRUCTION AS DETERMINED BY THE SUPERINTENDENT IN CONSULTATION WITH THE EPA.
12. ALL EROSION AND SEDIMENT CONTROL MEASURES TO BE UNDERTAKEN TO THE SATISFACTION OF THE EPA, AND IN ACCORDANCE WITH THE EPA CODE OF PRACTICE FOR THE CONSTRUCTION INDUSTRY.
13. THE CONTRACTOR SHALL MANAGE THE SITE SUCH THAT NOT ALL SURFACE VEGETATION IS CLEARED IN ONE OPERATION. THE SITE SHALL BE PROGRESSIVELY MANAGED, AND AREAS OF VEGETATION SHALL REMAIN TO ACT AS BUFFER STRIPS TO TRAP AND REDUCE THE RISK OF SEDIMENT LADENED RUNOFF.

MAINTENANCE NOTES:

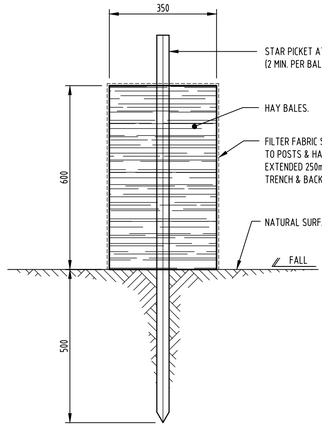
1. THE SEDIMENTATION BASIN AND SILT TRAPS SHALL BE CLEANED OUT WHEN THE ACCUMULATED SEDIMENT HAS REDUCED THEIR CAPACITY BY 60%. THIS LEVEL SHALL BE INDICATED BY PLACING A MARK ON A RISER.
2. ALL SEDMP MEASURES SHALL BE MAINTAINED AND MONITORED TO ENSURE THEY ARE OPERATING EFFECTIVELY. IN PARTICULAR AFTER EACH RAIN EVENT MEASURES SHALL BE INSPECTED TO ASCERTAIN IF REPAIRS OR UPGRADES ARE REQUIRED.
3. SEDIMENT REMOVED FROM BASIN AND TRAPS CAN BE COMBINED WITH TOPSOIL STOCKPILES FOR LATER SPREADING.
4. ALL SITE SEDMP MEASURES SHALL BE REGULARLY MONITORED, MAINTAINED REPAIRED AND UPGRADE TO SUITE CHANGING SITE CONDITIONS AND STORM EVENTS. THE SEDMP PRESENTED, REPRESENTS A GUIDE AS TO THE MINIMUM MANAGEMENT THAT SHOULD BE APPLIED TO THE SITE.



SILT FENCE DETAIL
SCALE 1:20



CATCH/DIVERSION DRAIN DETAIL
SCALE 1:20



HAY BALE DETAIL
SCALE 1:10

REV	DETAILS OF REVISION	DRN	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14.171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14.171
SIGNED: R. Byrne (WGA)
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AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

SUB TITLE: EROSION AND SEDIMENT CONTROL - SHEET 1

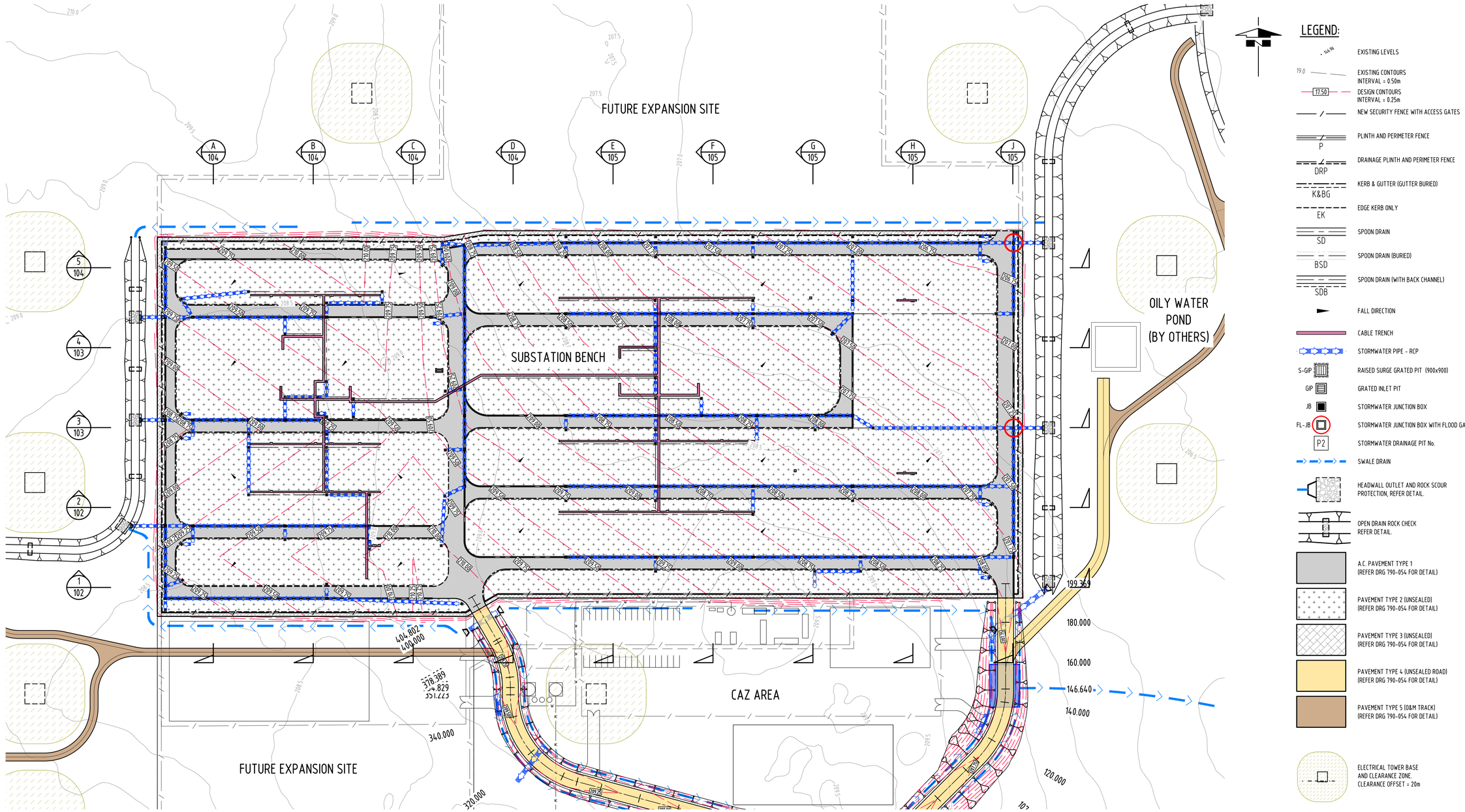
ElectraNet - electricity transmission

TITLE: EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE: AS SHOWN | A1 | 310 607/790-092 | REV A | DISTB

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;
150
100
50
0mm

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



LEGEND:

- EXISTING LEVELS
- EXISTING CONTOURS INTERVAL = 0.50m
- DESIGN CONTOURS INTERVAL = 0.25m
- NEW SECURITY FENCE WITH ACCESS GATES
- P — PLINTH AND PERIMETER FENCE
- DRP — DRAINAGE PLINTH AND PERIMETER FENCE
- K&BG — KERB & GUTTER (GUTTER BURIED)
- EK — EDGE KERB ONLY
- SD — SPOON DRAIN
- BSD — SPOON DRAIN (BURIED)
- SDB — SPOON DRAIN (WITH BACK CHANNEL)
- FALL DIRECTION
- CABLE TRENCH
- STORMWATER PIPE - RCP
- S-GIP — RAISED SURGE GRATED PIT (900x900)
- GIP — GRATED INLET PIT
- JB — STORMWATER JUNCTION BOX
- FL-JB — STORMWATER JUNCTION BOX WITH FLOOD GATE
- P2 — STORMWATER DRAINAGE PIT No.
- SWALE DRAIN
- HEADWALL OUTLET AND ROCK SCOUR PROTECTION, REFER DETAIL.
- OPEN DRAIN ROCK CHECK REFER DETAIL.
- A.C. PAVEMENT TYPE 1 (REFER DRG 790-054 FOR DETAIL)
- PAVEMENT TYPE 2 (UNSEALED) (REFER DRG 790-054 FOR DETAIL)
- PAVEMENT TYPE 3 (UNSEALED) (REFER DRG 790-054 FOR DETAIL)
- PAVEMENT TYPE 4 (UNSEALED ROAD) (REFER DRG 790-054 FOR DETAIL)
- PAVEMENT TYPE 5 (O&M TRACK) (REFER DRG 790-054 FOR DETAIL)
- ELECTRICAL TOWER BASE AND CLEARANCE ZONE. CLEARANCE OFFSET = 20m

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	DRN	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE;
DRAWING WAS PREVIOUSLY;

REV
REV

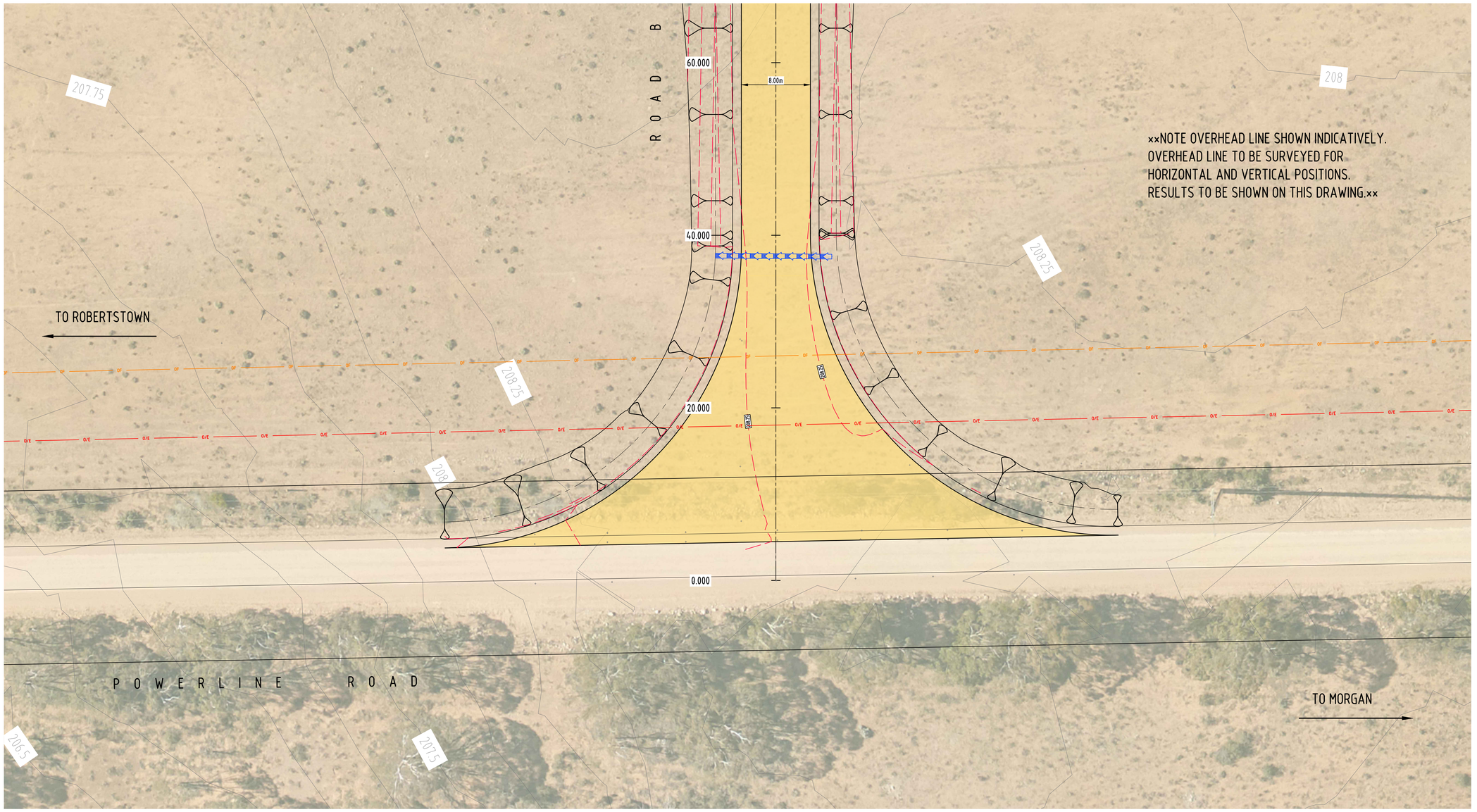
SUB TITLE
PLATFORM PAVEMENT AND FINISHED SURFACE GRADING PLAN

ElectraNet – electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-095 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



BUNDEY SUBSTATION - INTERSECTION PLAN (ROAD A / POWERLINE ROAD

DESIGN BASIS

- INTERSECTION LAYOUT IN ACCORDANCE WITH AUSTROADS PART 4 FIGURE 7.4 RURAL PROPERTY ACCESS
- DESIGN CATERS FOR 19m SEMI MOVEMENTS/TRANSFORMER DELIVERIES
- SAFE INTERSECTION SITE DISTANCE (SISD) CHECK FOR 100km/hr NOTING EXISTING ROAD ADVISORY SIGN POSTED 65km/hr
- 3D DWG/DXF FILE TO BE PROVIDED FOR GEOMETRIC SETOUT

x WARNING x
OVERHEAD ELECTRICAL & UNDERGROUND SERVICES PRESENT.
CONTRACTOR TO ACCESS DBYD SERVICE & LOCATE/HAND POTHOLE TO CONFIRM.
ONCE SERVICES LOCATED, INSTALL MARKERS ON-SITE

DIAL BEFORE YOU DIG www.1100.com.au

5 2.5 0 5 10
SCALE BAR (m)

OF — TEL-UG-ACTIVE (OPTIC FIBRE)
O/E — ELEC OVERHEAD

CREATED FROM TEMPLATE;	REV
DRAWING WAS PREVIOUSLY;	REV

SUB TITLE: INTERSECTION PLAN - SHEET 1

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
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DRN	T.MULLAN (WGA)	11/21
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INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

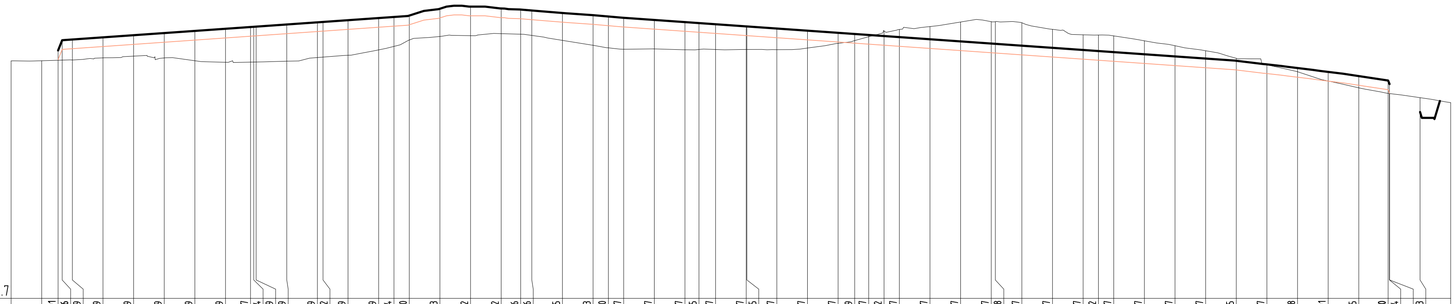
ElectraNet - electricity transmission

TITLE: EARTHWORKS PAVING AND FENCES BUNDEY SUBSTATION

SCALE			REV	DISTB
AS SHOWN	A1	310 607/790-098	A	

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

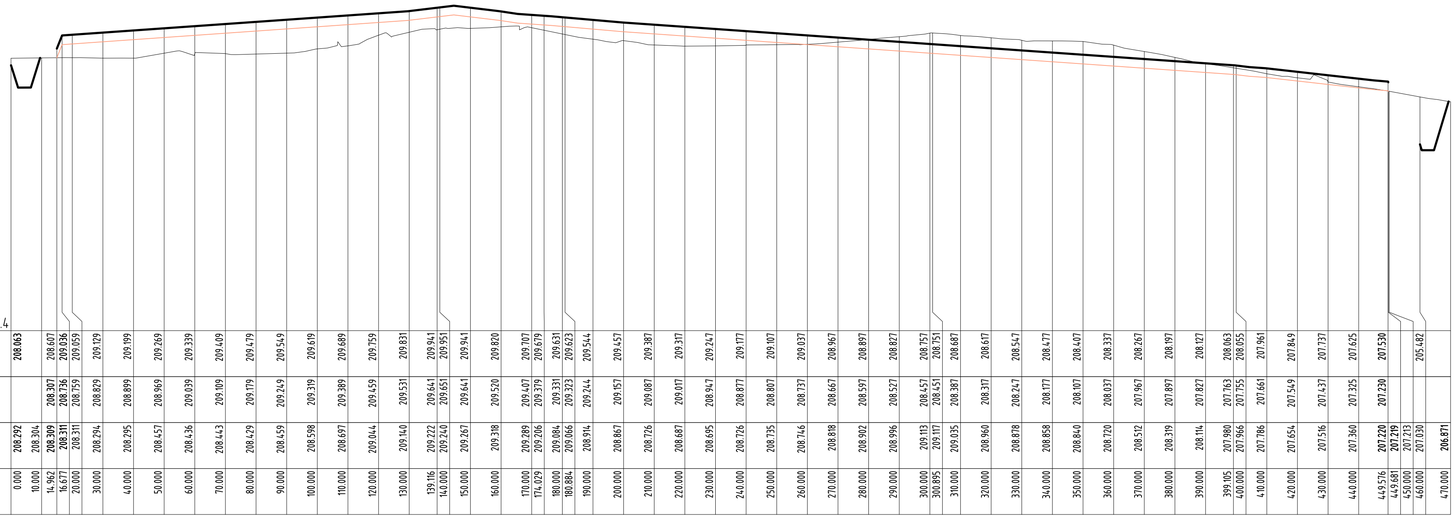


RL. 200.7

CHAINAGE	EXISTING LEVELS	SUBGRADE SURFACE LEVELS	DESIGN FINISHED SURFACE LEVELS
0.000	208.451		
10.000	208.456		
15.339	208.472	208.491	208.791
16.677	208.476	208.626	209.126
20.000	208.482	208.849	209.149
30.000	208.550	208.919	209.219
40.000	208.606	208.989	209.289
50.000	208.548	209.059	209.359
60.000	208.436	209.129	209.429
70.000	208.405	209.199	209.499
78.865	208.411	209.257	209.557
79.226	208.413	209.264	209.564
80.000	208.414	209.265	209.565
90.000	208.441	209.339	209.639
100.000	208.560	209.409	209.709
101.835	208.574	209.422	209.722
110.000	208.633	209.479	209.779
120.000	208.810	209.549	209.849
125.000	208.924	209.584	209.884
130.000	209.132	209.630	209.930
140.000	209.247	209.853	210.153
150.000	209.274	209.922	210.222
160.000	209.340	209.862	210.162
166.370	209.322	209.826	210.126
170.000	209.282	209.796	210.096
180.000	209.120	209.715	210.015
190.000	208.960	209.643	209.943
195.000	208.877	209.600	209.900
200.000	208.830	209.557	209.857
210.000	208.842	209.487	209.787
220.000	208.814	209.417	209.717
224.580	208.824	209.385	209.685
230.000	208.823	209.347	209.647
240.000	208.823	209.277	209.577
243.226	208.823	209.275	209.575
250.000	208.817	209.207	209.507
260.000	208.871	209.137	209.437
270.000	209.023	209.167	209.367
275.420	209.114	209.029	209.329
280.000	209.239	208.997	209.297
285.000	209.431	208.962	209.262
290.000	209.476	208.927	209.227
300.000	209.572	208.857	209.157
310.000	209.720	208.787	209.087
320.000	209.731	208.717	209.017
327.336	209.729	208.700	209.000
330.000	209.696	208.647	208.947
340.000	209.481	208.577	208.877
350.000	209.303	208.507	208.807
355.000	209.295	208.472	208.772
360.000	209.267	208.437	208.737
370.000	209.106	208.367	208.667
380.000	208.946	208.297	208.597
390.000	208.782	208.227	208.527
400.000	208.535	208.155	208.455
410.000	208.323	208.037	208.337
420.000	208.097	207.918	208.218
430.000	207.794	207.791	208.091
440.000	207.571	207.655	207.955
449.576	207.390	207.518	207.818
450.000	207.385	207.404	207.704
459.065	207.384	207.213	206.783
460.000	207.251	207.030	
470.000	207.089		

FSL SECTION 1 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 1 / 095
SCALE 1:1000H, 1:100V



RL. 199.4

CHAINAGE	EXISTING LEVELS	SUBGRADE SURFACE LEVELS	DESIGN FINISHED SURFACE LEVELS
0.000	208.292		208.863
10.000	208.304		
14.962	208.309	208.307	208.607
16.677	208.311	208.736	209.036
20.000	208.311	208.759	209.059
30.000	208.294	208.829	209.129
40.000	208.295	208.899	209.199
50.000	208.457	208.969	209.269
60.000	208.436	209.039	209.339
70.000	208.443	209.109	209.409
80.000	208.429	209.179	209.479
90.000	208.459	209.249	209.549
100.000	208.598	209.319	209.619
110.000	208.697	209.389	209.689
120.000	209.044	209.459	209.759
130.000	209.140	209.531	209.831
139.116	209.222	209.641	209.941
140.000	209.240	209.651	209.951
150.000	209.267	209.641	209.941
160.000	209.318	209.520	209.820
170.000	209.289	209.407	209.707
174.029	209.206	209.379	209.679
180.000	209.084	209.331	209.631
180.884	209.066	209.323	209.623
190.000	208.914	209.244	209.544
200.000	208.867	209.157	209.457
210.000	208.726	209.087	209.387
220.000	208.687	209.017	209.317
230.000	208.695	208.947	209.247
240.000	208.726	208.877	209.177
250.000	208.735	208.807	209.107
260.000	208.746	208.737	209.037
270.000	208.898	208.667	208.967
280.000	208.902	208.597	208.897
290.000	208.996	208.527	208.827
300.000	209.113	208.457	208.757
300.895	209.117	208.451	208.751
310.000	209.035	208.387	208.687
320.000	208.960	208.317	208.617
330.000	208.878	208.247	208.547
340.000	208.858	208.177	208.477
350.000	208.840	208.107	208.407
360.000	208.720	208.037	208.337
370.000	208.512	207.967	208.267
380.000	208.319	207.897	208.197
390.000	208.114	207.827	208.127
391.105	207.980	207.763	208.063
400.000	207.966	207.755	208.055
410.000	207.786	207.661	207.961
420.000	207.654	207.549	207.849
430.000	207.516	207.437	207.737
440.000	207.360	207.325	207.625
449.576	207.220	207.230	207.530
449.681	207.219		
450.000	207.213		206.482
460.000	207.030		
470.000	206.871		

FSL SECTION 2 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 2 / 095
SCALE 1:1000H, 1:100V

20 10 0 20 40
SCALE BAR (m)
HORIZONTAL

2 1 0 2 4
SCALE BAR (m)
VERTICAL

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION				
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21
REV	DETAILS OF REVISION	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

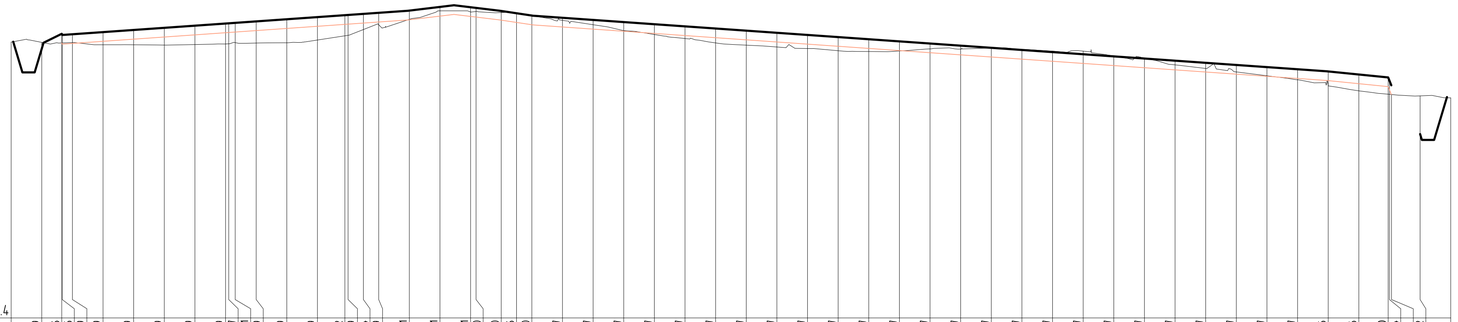
CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV
SUB TITLE
FINISHED BENCH SECTIONS - SHEET 1

ElectraNet - electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-102 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

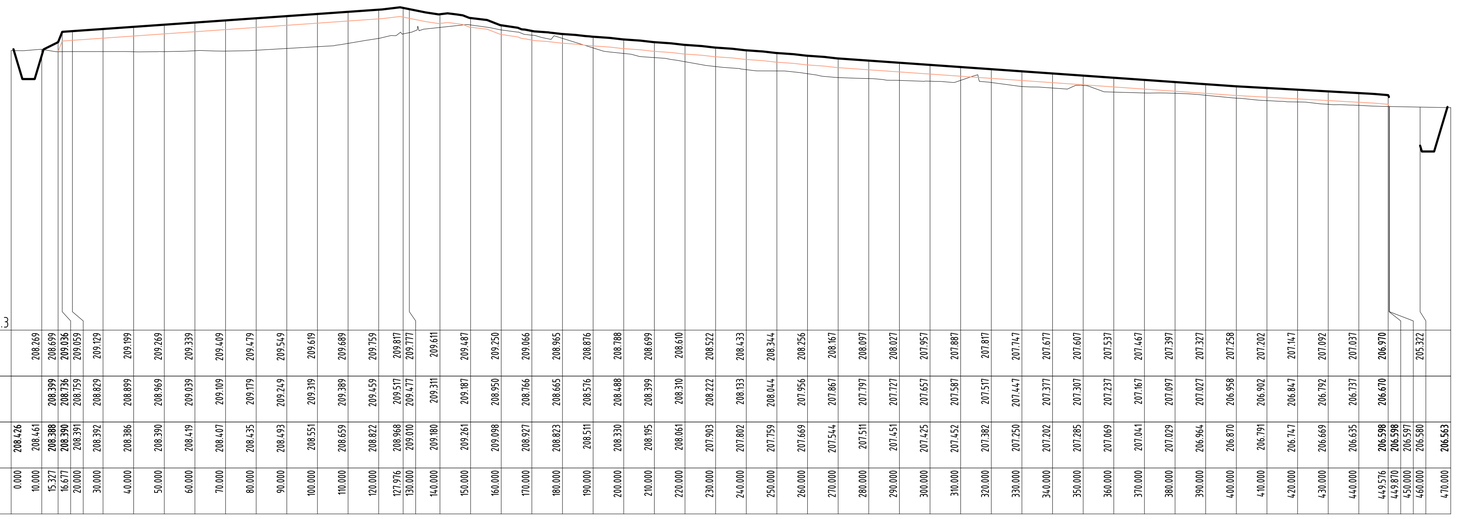


RL. 199.4

CHAINAGE	EXISTING LEVELS	SUBGRADE SURFACE LEVELS	DESIGN FINISHED SURFACE LEVELS
0.000	208.404		208.189
10.000	208.394		
16.522	208.375	208.375	208.675
16.677	208.375	208.336	208.636
20.000	208.388	208.359	208.659
30.000	208.317	208.429	208.729
40.000	208.316	208.499	208.799
50.000	208.306	208.569	208.869
60.000	208.323	208.639	208.939
70.000	208.343	208.709	209.009
71.040	208.348	208.717	209.017
73.145	208.366	208.731	209.031
80.000	208.372	208.779	209.079
90.000	208.382	208.849	209.149
100.000	208.471	208.919	209.219
108.960	208.609	208.982	209.282
110.000	208.625	208.989	209.289
115.400	208.813	209.024	209.324
120.000	208.970	209.059	209.359
130.000	209.146	209.131	209.431
140.000	209.424	209.251	209.551
150.000	209.386	209.241	209.541
151.783	209.433	209.220	209.520
160.000	209.368	209.120	209.420
165.000	209.346	209.045	209.345
170.000	209.264	208.970	209.270
180.000	209.114	208.897	209.197
190.000	208.971	208.827	209.127
200.000	208.777	208.757	209.057
210.000	208.651	208.687	208.987
220.000	208.520	208.617	208.917
230.000	208.377	208.547	208.847
240.000	208.303	208.477	208.777
250.000	208.243	208.407	208.707
260.000	208.194	208.337	208.637
270.000	208.122	208.267	208.567
280.000	208.096	208.197	208.497
290.000	208.113	208.127	208.427
300.000	208.182	208.057	208.357
310.000	208.174	207.987	208.287
320.000	208.209	207.917	208.217
330.000	208.165	207.847	208.147
340.000	208.110	207.777	208.077
350.000	208.109	207.707	208.007
360.000	207.948	207.637	207.937
370.000	207.883	207.567	207.867
380.000	207.660	207.497	207.797
390.000	207.543	207.427	207.727
400.000	207.429	207.357	207.657
410.000	207.304	207.287	207.587
420.000	207.173	207.217	207.517
430.000	206.979	207.146	207.446
440.000	206.812	207.046	207.346
449.576	206.702	206.950	207.250
450.000	206.698	206.844	207.144
456.659	206.692		
460.000	206.648		205.492
470.000	206.584		

FSL SECTION 3 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 3/095
SCALE 1:1000H, 1:100V



RL. 199.3

CHAINAGE	EXISTING LEVELS	SUBGRADE SURFACE LEVELS	DESIGN FINISHED SURFACE LEVELS
0.000	208.426		208.269
10.000	208.461		
15.327	208.388	208.399	208.699
16.677	208.390	208.736	209.036
20.000	208.391	208.759	209.059
30.000	208.392	208.829	209.129
40.000	208.386	208.899	209.199
50.000	208.390	208.969	209.269
60.000	208.419	209.039	209.339
70.000	208.407	209.109	209.409
80.000	208.435	209.179	209.479
90.000	208.493	209.249	209.549
100.000	208.551	209.319	209.619
110.000	208.659	209.389	209.689
120.000	208.822	209.459	209.759
121.976	208.968	209.571	209.871
130.000	209.170	209.477	209.777
140.000	209.180	209.311	209.611
150.000	209.261	209.187	209.487
160.000	209.098	208.950	209.250
170.000	208.927	208.766	209.066
180.000	208.823	208.665	208.965
190.000	208.511	208.576	208.876
200.000	208.330	208.488	208.788
210.000	208.195	208.399	208.699
220.000	208.061	208.310	208.610
230.000	207.903	208.222	208.522
240.000	207.802	208.133	208.433
250.000	207.759	208.044	208.344
260.000	207.669	207.956	208.256
270.000	207.544	207.867	208.167
280.000	207.511	207.797	208.097
290.000	207.451	207.727	208.027
300.000	207.425	207.657	207.957
310.000	207.452	207.587	207.887
320.000	207.382	207.517	207.817
330.000	207.250	207.447	207.747
340.000	207.202	207.377	207.677
350.000	207.285	207.307	207.607
360.000	207.169	207.237	207.537
370.000	207.141	207.167	207.467
380.000	207.029	207.097	207.397
390.000	206.964	207.027	207.327
400.000	206.870	206.958	207.258
410.000	206.791	206.902	207.202
420.000	206.747	206.847	207.147
430.000	206.669	206.792	207.092
440.000	206.635	206.737	207.037
449.576	206.598	206.670	206.970
449.870	206.598		
450.000	206.597		205.322
460.000	206.580		
470.000	206.563		

FSL SECTION 4 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 4/095
SCALE 1:1000H, 1:100V

20 10 0 20 40
SCALE BAR (m)
HORIZONTAL

2 1 0 2 4
SCALE BAR (m)
VERTICAL

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
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DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

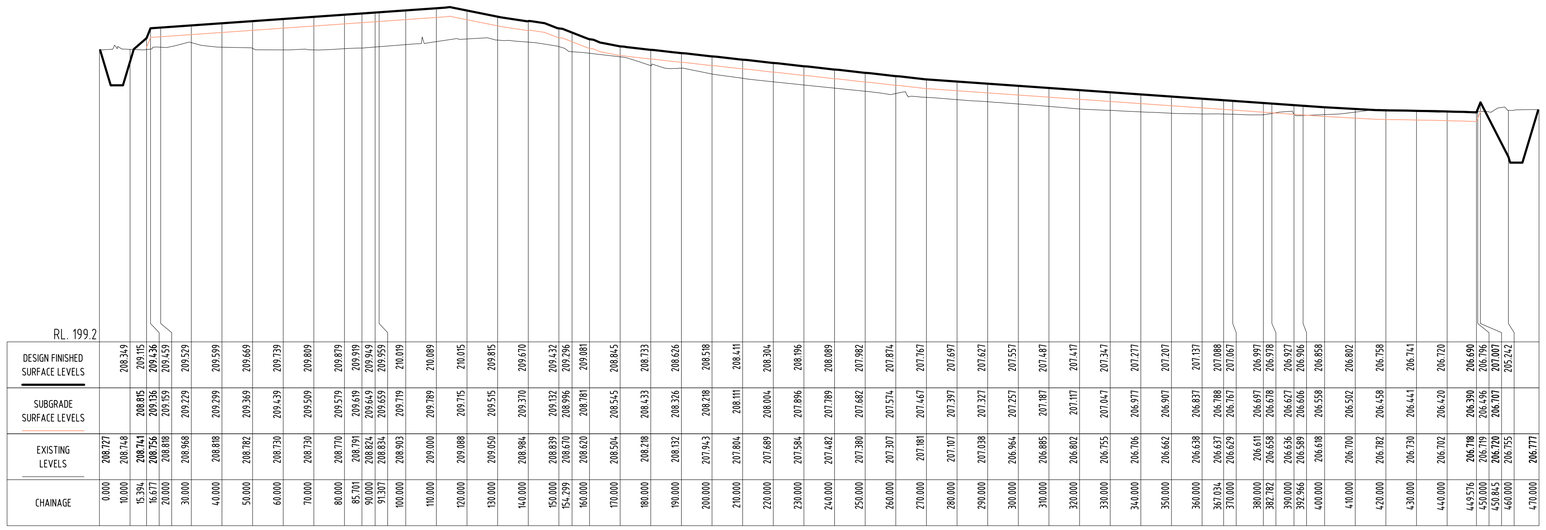
CREATED FROM TEMPLATE;
DRAWING WAS PREVIOUSLY;
REV
REV
SUB TITLE
FINISHED BENCH SECTIONS - SHEET 2

ElectraNet - electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN | A1 | 310 607/790-103 | REV A | DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

RL. 199.2

CHAINAGE	DESIGN FINISHED SURFACE LEVELS	SUBGRADE SURFACE LEVELS	EXISTING LEVELS
0.000			208.727
10.000	208.349		208.748
15.394	209.115	208.815	208.741
16.677	209.436	209.136	208.756
20.000	209.459	209.159	208.818
30.000	209.529	209.229	208.968
40.000	209.599	209.299	208.818
50.000	209.669	209.369	208.782
60.000	209.739	209.439	208.730
70.000	209.809	209.509	208.730
80.000	209.879	209.579	208.770
85.701	209.919	209.619	208.791
90.000	209.949	209.649	208.824
91.307	209.959	209.659	208.834
100.000	210.019	209.719	208.903
110.000	210.089	209.789	209.000
120.000	210.015	209.715	209.088
130.000	209.815	209.515	209.050
140.000	209.670	209.370	208.984
150.000	209.432	209.132	208.839
154.299	209.296	208.996	208.670
160.000	209.081	208.781	208.620
170.000	208.845	208.545	208.504
180.000	208.733	208.433	208.218
190.000	208.626	208.326	208.132
200.000	208.518	208.218	207.943
210.000	208.411	208.111	207.804
220.000	208.304	208.004	207.689
230.000	208.196	207.896	207.584
240.000	208.089	207.789	207.482
250.000	207.982	207.682	207.380
260.000	207.874	207.574	207.307
270.000	207.767	207.467	207.181
280.000	207.697	207.397	207.107
290.000	207.627	207.327	207.038
300.000	207.557	207.257	206.964
310.000	207.487	207.187	206.885
320.000	207.417	207.117	206.802
330.000	207.347	207.047	206.755
340.000	207.277	206.977	206.706
350.000	207.207	206.907	206.662
360.000	207.137	206.837	206.638
367.034	207.088	206.788	206.637
370.000	207.067	206.767	206.629
380.000	206.997	206.697	206.611
382.782	206.978	206.678	206.658
390.000	206.927	206.627	206.636
392.966	206.906	206.606	206.589
400.000	206.858	206.558	206.618
410.000	206.802	206.502	206.700
420.000	206.758	206.458	206.782
430.000	206.741	206.441	206.730
440.000	206.720	206.420	206.702
449.576	206.690	206.390	206.718
450.000	206.796	206.496	206.719
450.845	207.007	206.707	206.720
460.000	205.242		206.755
470.000			206.777

FSL SECTION 5 LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION 5 / 095
SCALE 1:1000H, 1:100V

RL. 202.5

CHAINAGE	DESIGN FINISHED SURFACE LEVELS	SUBGRADE SURFACE LEVELS	EXISTING LEVELS
0.000			209.172
7.198	209.551	209.251	209.251
10.000	210.251	209.951	209.254
20.000	210.251	209.951	209.267
30.000	210.251	209.951	209.283
40.000	210.250	209.950	209.483
46.988	210.180	209.880	209.230
50.000	210.150	209.850	209.245
60.000	210.050	209.750	209.285
70.000	209.950	209.650	209.277
80.000	209.850	209.550	209.255
90.000	209.750	209.450	209.334
100.000	209.650	209.350	209.300
110.000	209.606	209.306	209.400
120.000	209.609	209.309	209.207
130.000	209.611	209.311	209.261
140.000	209.613	209.313	209.261
150.000	209.615	209.315	209.251
160.000	209.614	209.314	209.207
170.000	209.613	209.313	209.139
180.000	209.612	209.312	208.970
190.000	209.611	209.311	208.804
199.749	209.608	209.308	208.649
200.000	209.545	209.245	208.649
202.342	208.960	208.660	208.661
210.000			208.594

FSL SECTION C LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION C / 059
SCALE 1:1000H, 1:100V

RL. 202.3

CHAINAGE	DESIGN FINISHED SURFACE LEVELS	SUBGRADE SURFACE LEVELS	EXISTING LEVELS
0.000			208.640
8.874	208.896	208.596	208.600
10.000	209.177	208.877	208.591
20.000	209.277	208.977	208.588
30.000	209.377	209.077	208.459
40.000	209.477	209.177	208.375
50.000	209.377	209.077	208.320
60.000	209.277	208.977	208.375
70.000	209.177	208.877	208.326
80.000	209.077	208.777	208.315
90.000	208.977	208.677	208.358
97.663	208.900	208.600	208.310
100.000	208.877	208.577	208.312
110.000	208.887	208.587	208.313
120.000	208.987	208.687	208.319
130.000	209.087	208.787	208.421
140.000	209.187	208.887	208.387
150.000	209.287	208.987	208.411
160.000	209.387	209.087	208.509
170.000	209.487	209.187	208.609
180.000	209.587	209.287	208.703
190.000	209.687	209.387	208.803
199.749	209.785	209.485	208.914
200.000	209.722	209.422	208.917
201.928	209.240	208.940	208.939
210.000			209.030

FSL SECTION A LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION A / 059
SCALE 1:1000H, 1:100V

RL. 202.3

CHAINAGE	DESIGN FINISHED SURFACE LEVELS	SUBGRADE SURFACE LEVELS	EXISTING LEVELS
0.000			208.518
7.341	208.863	208.563	208.571
10.000	209.527	209.227	208.554
20.000	209.627	209.327	208.464
30.000	209.727	209.427	208.440
40.000	209.827	209.527	208.507
50.000	209.727	209.427	208.576
60.000	209.627	209.327	208.500
70.000	209.527	209.227	208.493
80.000	209.427	209.127	208.486
90.000	209.327	209.027	208.439
100.000	209.227	208.927	208.425
104.002	209.187	208.887	208.394
110.000	209.237	208.937	208.396
120.000	209.337	209.037	208.433
130.000	209.437	209.137	208.551
140.000	209.537	209.237	208.496
150.000	209.637	209.337	208.554
160.000	209.737	209.437	208.609
170.000	209.837	209.537	208.664
180.000	209.937	209.637	208.785
190.000	210.037	209.737	208.976
198.804	210.125	209.825	209.185
199.749	210.135	209.835	209.177
200.000	210.072	209.772	209.174
202.536	209.438	209.138	209.281
206.268			209.262
210.000			209.242

FSL SECTION B LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION B / 059
SCALE 1:1000H, 1:100V

RL. 201.8

CHAINAGE	DESIGN FINISHED SURFACE LEVELS	SUBGRADE SURFACE LEVELS	EXISTING LEVELS
0.000			209.223
10.000			209.144
16.682	209.321	209.021	209.036
19.187	209.947	209.647	208.956
20.000	209.942	209.642	208.936
30.000	209.848	209.548	208.846
40.000	209.748	209.448	208.788
50.000	209.648	209.348	208.794
60.000	209.548	209.248	208.829
70.000	209.448	209.148	208.857
80.000	209.348	209.048	208.893
90.000	209.248	208.948	208.908
100.000	209.144	208.844	208.854
110.000	209.060	208.760	208.892
120.000	208.997	208.697	208.741
130.000	208.934	208.634	208.570
140.000	208.872	208.572	208.441
150.000	208.809	208.509	208.419
160.000	208.743	208.443	208.286
170.000	208.676	208.376	208.181
180.000	208.608	208.308	208.106
190.000	208.541	208.241	207.995
200.000	208.474	208.174	207.928
202.999	208.453	208.153	207.899
203.810	208.251	207.951	207.891
210.000			207.835

FSL SECTION D LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION D / 059
SCALE 1:1000H, 1:100V

SCALE BAR (m)
HORIZONTAL

SCALE BAR (m)
VERTICAL

A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21
REV	DETAILS OF REVISION	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE; REV
DRAWING WAS PREVIOUSLY; REV

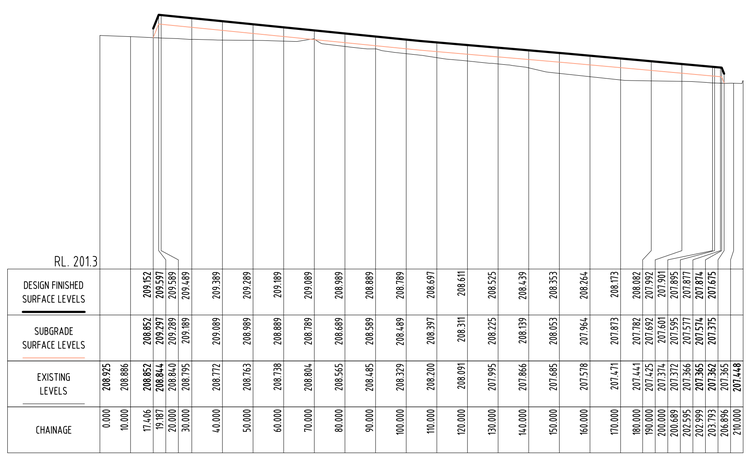
SUB TITLE
FINISHED BENCH SECTIONS - SHEET 3

ElectraNet – electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE AS SHOWN
A1 310 607/790-104
REV A
DISTB

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

DESIGN FINISHED SURFACE LEVELS			209.152	209.597	209.589	209.489	209.389	209.289	209.189	209.089	208.989	208.889	208.789	208.697	208.611
SUBGRADE SURFACE LEVELS			208.852	209.297	209.289	209.189	209.089	208.989	208.889	208.789	208.689	208.589	208.489	208.397	208.311
EXISTING LEVELS	208.925	208.886	208.852	208.844	208.840	208.795	208.772	208.763	208.738	208.804	208.565	208.485	208.329	208.200	208.091
CHAINAGE	0.000	10.000	17.406	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000

DESIGN FINISHED SURFACE LEVELS	208.525	208.439	208.353	208.264	208.173	208.082	207.992	207.901	207.895	207.877	207.874	207.675		
SUBGRADE SURFACE LEVELS	208.225	208.139	208.053	207.964	207.873	207.782	207.692	207.601	207.595	207.577	207.574	207.375		
EXISTING LEVELS	207.995	207.866	207.685	207.578	207.471	207.441	207.425	207.374	207.372	207.366	207.365	207.362	207.365	207.448
CHAINAGE	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	200.689	202.595	202.999	203.793	206.896	210.000

FSL SECTION E LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION E / 059
SCALE 1:1000H, 1:100V

DESIGN FINISHED SURFACE LEVELS						209.773	208.897	208.889	208.789	208.689	208.589	208.489	208.389	208.289	208.189
SUBGRADE SURFACE LEVELS						209.473	208.597	208.589	208.489	208.389	208.289	208.189	208.089	207.989	207.889
EXISTING LEVELS	209.508	209.509	209.572	209.571	209.481	209.480	209.462	209.456	209.367	209.200	209.033	208.886	208.812	208.676	208.468
CHAINAGE	0.000	5.000	9.538	10.000	15.000	15.686	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000

DESIGN FINISHED SURFACE LEVELS	208.089	207.989	207.889	207.789	207.689	207.589	207.489	207.389	207.289	207.189	207.089	207.059	206.943	
SUBGRADE SURFACE LEVELS	207.789	207.689	207.589	207.489	207.389	207.289	207.189	207.089	206.989	206.889	206.789	206.759	206.643	
EXISTING LEVELS	208.213	208.020	207.695	207.486	207.260	207.149	206.936	206.861	206.731	206.675	206.645	206.642	206.641	206.638
CHAINAGE	100.000	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	203.465	210.000

FSL SECTION G LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION G / 059
SCALE 1:1000H, 1:100V

DESIGN FINISHED SURFACE LEVELS			207.837	207.921	207.916	207.846	207.771	207.698	207.615	207.533	207.466	207.400	207.330
SUBGRADE SURFACE LEVELS			207.537	207.621	207.616	207.546	207.471	207.398	207.315	207.233	207.166	207.100	207.030
EXISTING LEVELS	207.781	207.624	207.537	207.534	207.526	207.461	207.433	207.390	207.329	207.230	207.100	206.929	206.783
CHAINAGE	0.000	10.000	18.852	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000

DESIGN FINISHED SURFACE LEVELS	207.260	207.190	207.116	207.043	206.956	206.873	206.804	206.737	206.672	206.602	206.581	206.894	
SUBGRADE SURFACE LEVELS	206.960	206.890	206.816	206.743	206.656	206.573	206.504	206.437	206.372	206.302	206.281	206.594	
EXISTING LEVELS	206.720	206.656	206.624	206.614	206.631	206.706	206.783	206.747	206.659	206.605	206.599	206.595	206.564
CHAINAGE	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	204.251	210.000

FSL SECTION J LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION J / 059
SCALE 1:1000H, 1:100V

DESIGN FINISHED SURFACE LEVELS			209.838	209.247	209.239	209.139	209.039	208.939	208.839	208.739	208.639	208.539	208.439
SUBGRADE SURFACE LEVELS			209.538	208.947	208.939	208.839	208.739	208.639	208.539	208.439	208.339	208.239	208.139
EXISTING LEVELS	209.616	209.586	209.556	209.543	209.539	209.432	209.273	209.183	209.071	209.014	208.832	208.505	208.271
CHAINAGE	0.000	10.000	16.824	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000

DESIGN FINISHED SURFACE LEVELS	208.339	208.239	208.139	208.039	207.939	207.839	207.739	207.639	207.539	207.439	207.409	207.234	
SUBGRADE SURFACE LEVELS	208.039	207.939	207.839	207.739	207.639	207.539	207.439	207.339	207.239	207.139	207.109	206.934	
EXISTING LEVELS	208.043	207.769	207.620	207.510	207.340	207.218	207.127	207.023	206.981	206.915	206.922	206.930	206.859
CHAINAGE	110.000	120.000	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	202.999	203.699	210.000

FSL SECTION F LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION F / 059
SCALE 1:1000H, 1:100V

DESIGN FINISHED SURFACE LEVELS			209.075	208.547	208.539	208.439	208.339	208.239	208.139	208.039	207.939	207.839	207.739	207.639	207.539
SUBGRADE SURFACE LEVELS			208.775	208.247	208.239	208.139	208.039	207.939	207.839	207.739	207.639	207.539	207.439	207.339	207.239
EXISTING LEVELS	209.049	208.902	208.809	208.773	208.759	208.591	208.429	208.272	208.118	207.969	207.916	207.751	207.565	207.415	207.227
CHAINAGE	0.000	10.000	17.077	19.187	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000

DESIGN FINISHED SURFACE LEVELS	207.439	207.339	207.239	207.139	207.039	206.939	206.839	206.739	206.734	206.721	206.709	206.885		
SUBGRADE SURFACE LEVELS	207.139	207.039	206.939	206.839	206.739	206.639	206.539	206.439	206.434	206.421	206.409	206.585		
EXISTING LEVELS	207.074	206.964	206.855	206.710	206.656	206.592	206.595	206.579	206.577	206.574	206.571	206.570	206.571	206.583
CHAINAGE	130.000	140.000	150.000	160.000	170.000	180.000	190.000	200.000	200.555	201.810	202.999	203.703	206.852	210.000

FSL SECTION H LONGITUDINAL SECTION
SCALES: H 1:1000 V 1:100

SECTION H / 059
SCALE 1:1000H, 1:100V

SCALE BAR (m)
HORIZONTAL

SCALE BAR (m)
VERTICAL

CREATED FROM TEMPLATE;	REV	SUB TITLE		
DRAWING WAS PREVIOUSLY;	REV	FINISHED BENCH SECTIONS - SHEET 4		

REV	DETAILS OF REVISION	RVD	CKD	APD	DATE
A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21

CONSOLIDATED POWER PROJECTS
A QUANTA SERVICES COMPANY

WGA
WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

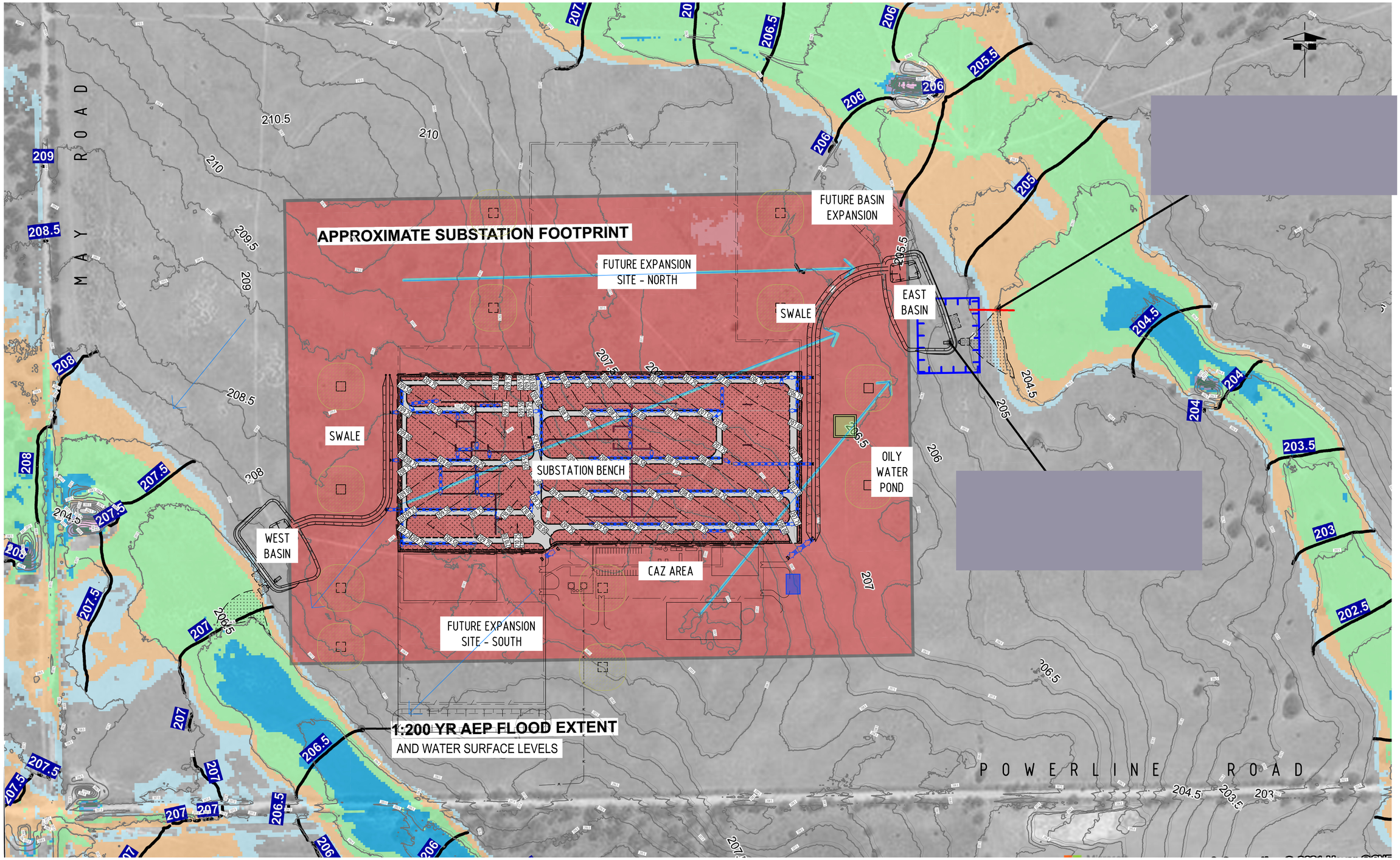
DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

ElectraNet – electricity transmission

TITLE
EARTHWORKS PAVING AND FENCES
BUNDEY SUBSTATION

SCALE			REV	DISTB
AS SHOWN	A1	310 607/790-105	A	

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS



40 20 0 40 80
SCALE BAR (m)

NATURAL RUN-OFF DIRECTION

REPRODUCED FROM SOUTHFRONT HYDROLOGICAL AND SURFACE WATER ASSESSMENT - APPENDICES.

A	ISSUED FOR 15% DESIGN REVIEW 14171 (CPP/WGA)	TSM	RB	RB	26.11.21
REV	DETAILS OF REVISION	RVD	CKD	APD	DATE

CONSOLIDATED POWER PROJECTS — A QUANTA SERVICES COMPANY

WGA WALLBRIDGE GILBERT AZTEC

CPP
ISSUED FOR REVIEW
DATE: 26/11/2021 REV: A
PROJECT: 14171
SIGNED: R. Byrne (WGA)
SIGNED: B. Hunter (CPP)

DRN	T.MULLAN (WGA)	11/21
CKD	J.HUTCHINSON (WGA)	11/21
INSP	R.BYRNE (WGA)	11/21
AUTH	R.BYRNE (WGA)	11/21

CREATED FROM TEMPLATE;	REV
DRAWING WAS PREVIOUSLY;	REV

SUB TITLE
FLOOD LEVEL PLAN

ElectraNet - electricity transmission

TITLE
SITE DRAINAGE - CLEAN AND OILY WATER DRAINAGE FLOWS
BUNDEY SUBSTATION

SCALE			REV	DISTB
AS SHOWN	A1	310 607/795-051	A	

DO NOT SCALE DRAWINGS FOR WORKING DIMENSIONS

TOLERANCES UNLESS OTHERWISE SPECIFIED REFER DRAWING;

TRENTO FULLER
Building Certifiers & Consultants

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Adelaide SA 5000

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ABN 47 160 056 397

CERTIFICATE OF COMPLIANCE WITH THE BUILDING RULES
Section 118(8)b of the Planning, Development and Infrastructure Act 2016

TRENTO FULLER JOB NO:	J220213
NATURE OF DEVELOPMENT:	Bundey Substation - **Stage 1 & 2: Mobilisation, Site Establishment, Bulk Earthworks & Drainage**
LOCATION OF DEVELOPMENT:	Sutherlands Road and Powerline Road, Bundey SA 5320
APPLICANT:	Consolidated Power Projects Australia Pty Ltd
OWNER:	Unknown
CLASSIFICATION:	10b
DEVELOPMENT NO:	422/P003/19

Pursuant to the provisions of Section 118(8)(b) of the Planning, Development & Infrastructure Act 2016, Trento Fuller has assessed the documentation listed below and certifies its compliance with the Building Rules.

Certified Documentation:

Civil Drawings numbered 310 607/603-001 & 310 607/790-001 & 310 607/790-051 to 310 607/790-054 & 310 607/790-058 to 310 607/790-062 & 310 607/790-069 to 310 607/790-070 & 310 607/790-073 to 310 607/790-076 & 310 607/790-079 & 310 607/790-082 to 310 607/790-084 & 310 607/790-092 to 310 607/790-093 & 310 607/790-095 & 310 607/790-098 to 310 607/790-100 & 310 607/790-102 to 310 607/790-106 & 310 607/794-051 to 310 607/794-052 & 310 607/795-051 to 310 607/795-053 & 310 607/795-057 to 310 607/795-058 & 310 607/795-061 to 310 607/795-067 & 310 607/795-070 & 310 607/795-073 to 310 607/795-076 & 310 607/795-082 to 310 607/795-084 by WGA
Bundey Substation Hydrological and Surface Water Assessment by Southfront
Geotech Investigation Report by CMW Geosciences
Geotechnical Interpretive Report by WGA
Civil Design Report by WGA
Mains Water Reticulation Construction Water Supply drawing numbered 310 607/606-012
Bundey Substation Water Pipeline Work Method Statement by Consolidated Power Projects by ElectraNet

Advisory Notes:

This is a staged consent for the **mobilisation, site establishment, bulk earthworks & drainage** component of the development only. An additional consent is required prior to the commencement of any other portion of the works.

This assessment is for compliance with the requirements of the Building Rules as defined in the Planning, Development and Infrastructure Act (and Regulations), and Schedule A of the Disability (Access to Premises – Buildings) Standards 2010 and does not infer compliance with any other Act or Regulation including but not limited to the Disability and Discrimination Act 1992.

TRENTO FULLER
Building Certifiers & Consultants

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147 Pirie Street
Adelaide SA 5000

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admin@trentofuller.com.au
www.trentofuller.com.au
ABN 47 160 056 397

Where the word “shall” is used in conferring a power, it implies that the power must be exercised.

This assessment is for compliance with the requirements of the Building Rules as defined in the Planning and Development Infrastructure Act (and Regulations), and Schedule A of the Disability (Access to Premises – Buildings) Standards 2010 and does not infer compliance with any other Act or Regulation including the Disability and Discrimination Act 1992.

A reference to an Australian Standard in the documents is considered to be a reference to the relevant edition and amendments listed in Specification A1.3 of Volume 1, or Part 1.4 of Volume 2, of the Building Code of Australia (as amended from time to time), current at the date of the application for Building Rules Consent.

The provision of the Building Rules relevant in consideration of this application (pursuant to Section 132(3) of the Planning, Development and Infrastructure Act 2016) is the Building Code of Australia (BCA) 2019 – Amendment 1 as well as the BCA referenced Standards or regulations adopted under the Act, unless approved otherwise.

LUKE TRENTO
Private Certifier Certificate of Registration No. APB20200043

4 April, 2022