



**Douglas North 66/11kV Substation
and Mine Power Supply System**

Preliminary Environmental Assessment

Prepared to accompany a Part 3A Application pursuant to the EP&A Act 1979

October 2006

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1. INTRODUCTION

As part of the ongoing operations of their Illawarra mining operations, BHP Billiton Illawarra Coal plans to install the new Douglas North Substation approximately 5.6km west of the Appin Colliery.

The general location of the proposed Douglas North 66/11kV Substation is shown on Figure 1. Details of the site layout are shown in Figures 2 and 3.

The Substation will enable up to 25MVA of power to be delivered underground at the Appin/Douglas Mine at 11kV.

2. STANDARDS AND SAFETY REQUIREMENTS

The proposed Substation will be designed, supplied, installed and commissioned in accordance with the ENA National Guidelines, the Australian Standards and the NSW Service and Installation Rules as appropriate.

The Project Manager, Subcontractors and their employees will abide by the Electricity Supply (Safety & Network Management) Regulation 2002, OH&S Regulation 2001 and the Integral Energy Environmental Management Standards (EMS) during this project. The Project Manager will have the appropriate work place instructions and contingency plans in place to cover related safety, environmental and operational issues in accordance with the relevant EMS's.

A work method statement will be produced to cover all works in line with WorkCover requirements.

3. PROJECT DESCRIPTION

The proposed Douglas North 66/11kV Substation will consist of:

- A cleared switchyard 20x50m, containing
 - Two outdoor 66kV feeder bays,
 - Two 66kV transformer bays,
 - One 11kV auxiliary transformer,
 - One control building,
 - An earth grid,
 - Lightning protection,
 - Fire and security systems,
 - Switchyard lighting,
 - Switchyard drainage,
 - Power and control cables and associated conduits,
- Buried 11kV cables to transfer power from the substation to the underground mine workings via two boreholes from the surface to the Bulli Seam Workings (nominally 500m below),
- An access road.

The switchyard will be covered with crushed aggregate and will be enclosed by a security fence. The control building will contain protection panels, control panels, AC and DC

distribution panels and various other typical office inclusions. It will include a toilet with washing facilities. The toilet will be connected to a Biocycle Septic System or similar. Potable water will be supplied via tank, contract supply or connection to town water supply if available.

The switchyard has been sited in the northern corner of the block to minimise clearing.

The expected project value is \$3.6M

4. THE APPLICABILITY OF PART 3A TO THIS PROPOSAL.

BHP Billiton is seeking approval to construct and operate the Douglas North 66/11kV Substation and associated boreholes. The proposed works are required to ensure the ongoing operation of the Appin/Douglas underground coal mine.

The State Environmental Planning Policy (Major Projects) 2005 describes the following development as a Major Project:

Mining

(1) *Development for the purpose of mining that:*

- (a) *is coal or mineral sands mining, or*
- (b) *is in an environmentally sensitive area of State Significance, or*
- (c) *has a capital investment value of more than \$30 million or employs 100 or more people.*

(2) *Extracting a bulk sample as part of resource appraisal or a trial mine, comprising the extraction of more than 20,000 tonnes of coal or of any mineral ore.*

(3) *Development for the purpose of mining related works (including primary processing plants or facilities for storage, loading or transporting any mineral, ore or waste material) that:*

- (a) *is ancillary to or an extension of another Part 3A project, or*
- (b) *has a capital investment value of more than \$30 million or employs 100 or more people.*

It is clear that the proposal would be categorized as development for the purpose of mining of coal. Consequently, it is a Major Project under the State Environmental Planning Policy (Major Project) 2005. As a result, the proposal is a “project” for the purposes of Part 3A of the Environmental Planning and Assessment Act 1979 and will be determined pursuant to that Part.

5. PLANNING PROVISIONS APPLYING TO THE SITE

The site is located within the Wollondilly Shire Local Government Area. The site is zoned Rural 1A under the Wollondilly Local Environmental Plan 1991. The proposed development is characterised as a mine, which is permissible in the Rural A1 Zone with Consent.

The land is located within a Mine Subsidence District within the meaning of Section 15 of the Mine Subsidence Compensation Act.

The land is subject to the provisions of Regional Environmental Plan No 20. Hawkesbury-Nepean River. Draft Sydney Regional Environmental Plan-Sustaining the Catchments may also be relevant.

There are a number of Development Control Plans that apply to land zoned Rural A1 that may be relevant to this proposal. These are as follows:

- DCP No 7- Off street Parking
- DCP No 21-Earth Dams
- DCP No 36-Development in Rural Zoned Areas
- DCP-Design Code
- DCP-Wollondilly Agricultural Lands

6. THE VIEW OF OTHER AGENCIES, LOCAL COUNCIL AND THE COMMUNITY

6.1 Wollondilly Shire Council

A meeting will be held with Planning people from Wollondilly Shire Council. This proposal is similar to a number previously undertaken by BHP Billiton in the local area. In all previous cases, Wollondilly Shire Council Officers have agreed with BHP Billiton seeking approval under Part 3A of the Environmental Planning and Assessment Act.

6.2 Integral Energy

Lengthy discussions have been held with Integral Energy. They have assisted with the conceptual planning and assessment of the proposal. They have advised that the required power is available from their 66kV system and will make suitable provision for BHPB access to their network.

6.3 Local Community

Consultation has commenced with the adjacent landowners. The local community will be advised of the proposal through the extensive Illawarra Coal community consultation programme for its mining activities in this area.

This will ensure timely community input into the approval, construction and monitoring of the development.

7. OTHER APPROVALS REQUIRED

Appin/Douglas Mine already holds a licence from the Department of Environment and Conservation under the Protection of the Environment Operations Act (EPL 398). This Department will be notified of the new Substation and the existing licence may be modified to accommodate any additional requirements that DEC may have.

A Mining Lease will be applied for from the Department of Primary Industries Minerals for the surface and the strata to the Bulli Seam. The Bulli Seam is covered by Consolidated Coal Lease 767.

BHP Billiton Illawarra Coal owns the land and there are no issues associated with land access.

8. PRELIMINARY ENVIRONMENTAL ASSESSMENT

The existing Appin/Douglas electrical power supply is derived from the Integral 66kV distribution network. This supply system requires upgrading to meet BHP Billiton's projected power supply requirements.

Draft Part 3A Guidelines indicate that, "As part of the project application, the proponent should undertake a preliminary environmental assessment based on the Preliminary Assessment Guidelines (gazetted by the Minister) and submit this information with the project application".

To date, there have not been any Preliminary Assessment Guidelines gazetted by the Minister. The most relevant Guidelines are those included in the Draft Part 3A Guidelines, dated 14 July 2005, "What is the level and scope of Assessment for Major projects?"

The proposed Douglas North Substation will be constructed on a site that overlies extensive underground Appin/Douglas Coal Mine workings. These workings are recent extraction areas undertaken in accordance with current Department of Primary Industries Mineral Resources' requirements for underground coal extraction and were subject to comprehensive assessment in accordance with Section 138 of the Coal Mines Regulation Act.

Consequently, there has been detailed examination of the environment of the area. BHP Billiton is very familiar with those components of the environment that are likely to be affected by this proposal.

In undertaking this Preliminary Assessment, use has been made of the Department of Planning Draft Guideline, dated 18 July 2005, and titled "What is the level and scope for Major Projects?".

The Description of Proposed Project, included on the following page, places the Project in context.

Description of Proposed Project

Project	BHP Billiton Illawarra Coal. Douglas North 66/11kV Substation and service boreholes.
Objectives	To enable up to 25 MVA of power to be delivered underground at Appin/Douglas Mine at 11kV.
Major elements including any environmental impact mitigation measures	Typical electricity supply distribution substation components. Two 66/ 11 kV transformers and associated switchgear. One demountable style single level control building (approximately 10m x 4m), security fence, lightning protection, access road connecting to Morton Park Road, two boreholes, 11kV cables and switchyard lighting.
Any ancillary works	N/A. Approvals for the 66kV transmission line to the Douglas North Substation will need to be obtained under to Part 5 of the Environmental Planning and Assessment Act.
Outline of construction methods	Offsite fabrication and components delivered to site for assembly. No onsite worker accommodation. Temporary buildings for administration, meals and toilets/bathhouse.
Outline of operations	Generally self-operating. Approximately weekly inspections for monitoring, maintenance and repairs.
Location(s)	Refer Figures 1 & 2. Located approximately 5.6km west of Appin Colliery. Approximately 150m to nearest residence. Approximately 100m to F7 Freeway.
Time frame	Construction anticipated over a 6 month period immediately prior to December 2007. Operations to occur over at least 20 years following construction and commissioning.

This Preliminary Environmental Assessment has been completed in accordance with the Guidelines which have enabled identification of the potential environmental issues associated with the Douglas North Substation.

The following potential environmental issues associated with the proposed Substation have been identified:

- Vegetation and soil disturbance associated with construction,
- Water quality issues associated with site runoff,
- Coolant and hydrocarbon storage and use on site,
- Waste management,
- Site and road dust,
- Noise,
- Visual impacts,
- Fauna and flora affected,
- Bushfire effects,
- Weed introduction,
- Archaeological, historical and heritage impacts, and,
- Minor Increased traffic numbers on Morton Park Road.

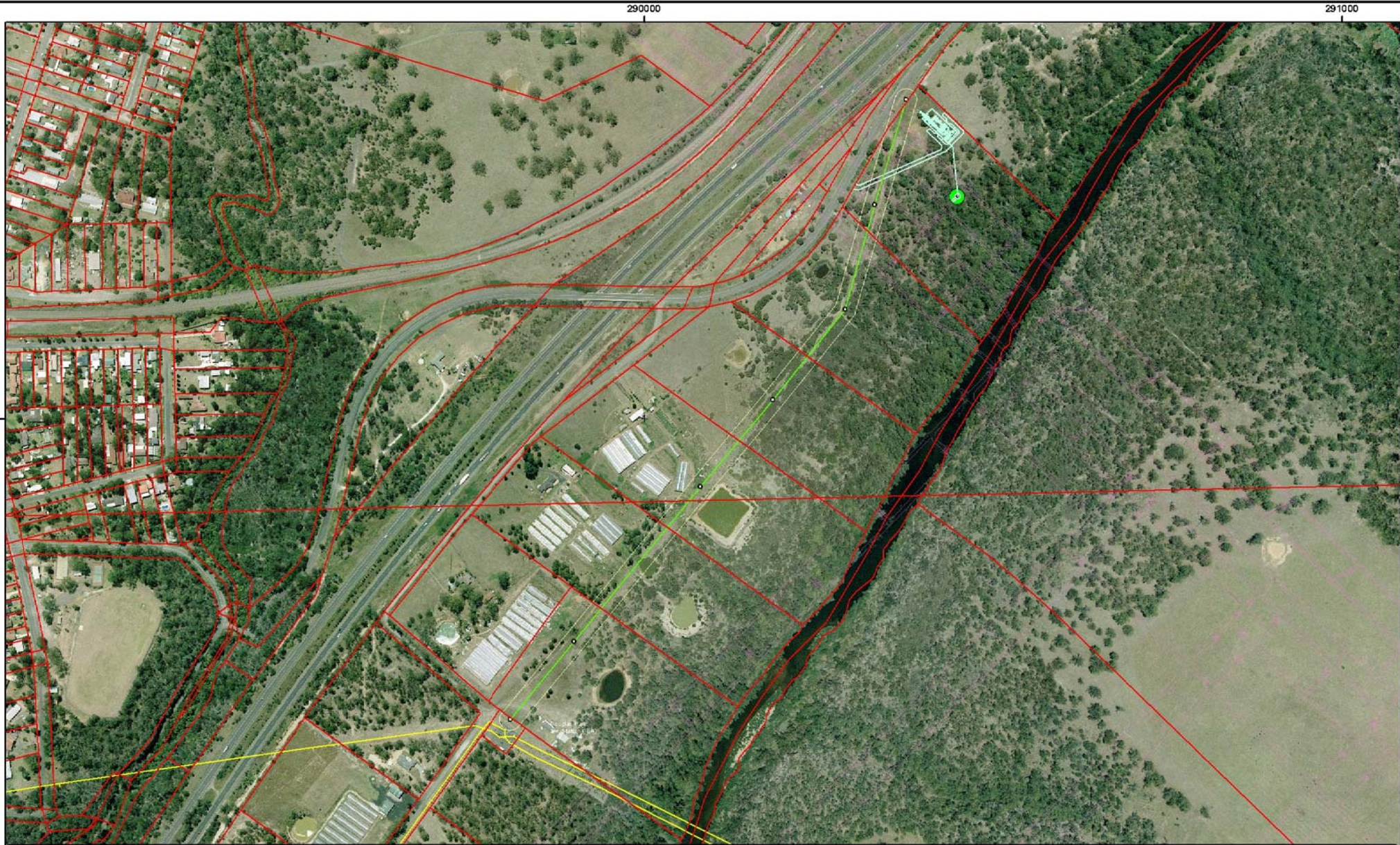
Following is a ranking of the potential significance of the extent of potential impacts.

POTENTIAL IMPACT	RANKING OF POTENTIAL SIGNIFICANCE OF EXTENT
1. Dust	Low
2. Water runoff and sediment	Medium
3. Noise	Low
4. Biological impacts	Low
5. Road use	Low
6. Waste	Low
7. Community impacts related to noise, electromagnetic field, lighting visual, archaeological and heritage	Medium

In accordance with the Guidelines, Table 4 provides a summary of the potential issues identified in the Preliminary Assessment and a definition of the studies required in order to determine the level of risk and also, those studies required to avoid, minimise or manage the impacts so the risks are acceptable.

TABLE 4 SUMMARY OF THE ISSUES AND THE LEVEL OF ASSESSMENT

What are the key issues? Consider the ▪ Extent of the impacts ▪ Nature of the impacts ▪ Environmentally sensitivity of site	What is the extent of the studies required to determine the level of risk?	What is the extent of the studies required to avoid, minimise or manage the impacts so the risks are acceptable?
1. Dust control during construction and along access road.	Comparison with similar activities.	Identify and commit to implementing standard operating control measures.
2. Surface water quality management	Comparison with similar activities.	Identify and commit to implementing standard operating control measures. Preparation of Water Management Plan.
3. Soil management	Comparison with similar activities.	Identify and commit to implementing standard operating control measures. Preparation of Soil Management Plan.
4. Noise during construction and during operation associated with the transformer.	Undertake acoustic assessment of proposed activities in accordance with accepted EPA guidelines and requirements.	Undertake acoustic assessment of proposed activities in accordance with accepted EPA guidelines and requirements.
5. Fauna impacts.	Undertake fauna study in accordance with standard procedures.	Undertake fauna study in accordance with standard procedures.
6. Flora impacts.	Undertake flora study in accordance with standard procedures. Selective clearing around endangered species. Very small area cleared.	Undertake flora study in accordance with standard procedures.
7. Traffic impacts on Morton Park Road.	Determine likely levels of traffic and compare with traffic volumes and RTA intersection guidelines.	Determine likely levels of traffic and compare with traffic volumes and RTA intersection guidelines.
8. Waste management	Determine waste streams and volumes and identify appropriate management response. Waste Management Plan.	Determine waste streams and volumes and identify appropriate management response. Waste Management Plan.
9. Electromagnetic field effects.	Obtain assessment from Integral utilising their extensive database and experience.	Obtain assessment from Integral utilising their extensive data base and experience. Incorporate requirements into planning.
10. Switchyard lighting effects.	Define acceptable levels and design accordingly.	Define acceptable levels and design accordingly.
11. Archaeological, historical and heritage implications.	Undertake archaeological and heritage study in accordance with appropriate requirements and incorporate findings into project design.	Undertake archaeological and heritage study in accordance with appropriate requirements and incorporate findings into project design.
12. Visual impact.	Undertake visual impact assessment by recognised architect.	Undertake visual impact assessment by recognised architect. Incorporate findings and recommendations into planning process.



bhpbilliton
Carbon Steel Materials
Illawarra Coal Holdings Pty Ltd
Asset Development

Legend

- Existing 33kV Poles
- Existing 33kV Conductor
- Existing 33kV Easement
- Existing IEA 66kV Network
- Proposed Substation
- Potential Borehole Location
- Property Boundaries
- Douglas Mine Plan

No.1 Seam Operations
Douglas North Substation
Project General Location

Date: 12th Oct, 2006
Author: P. Booth
Signed Off:

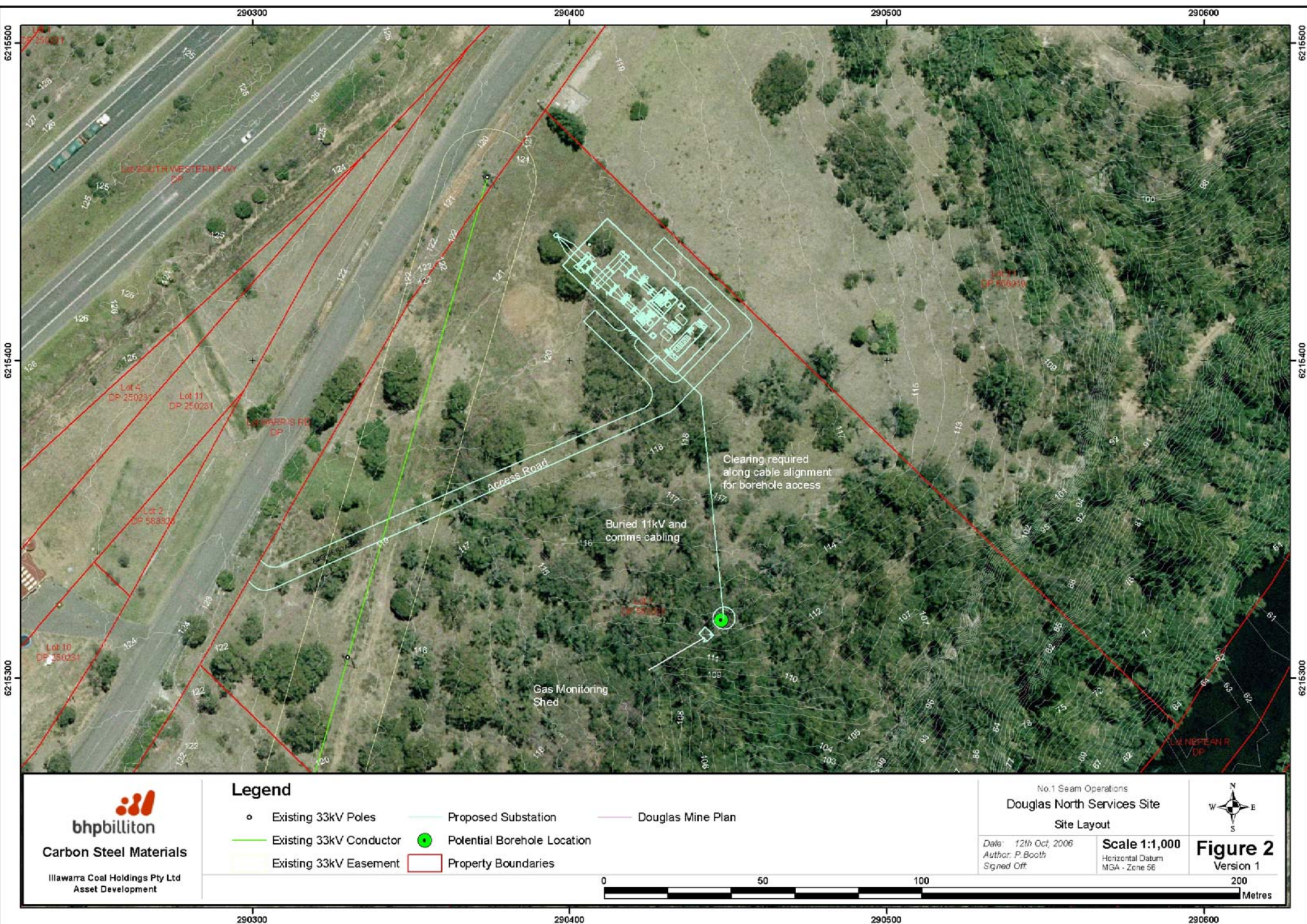
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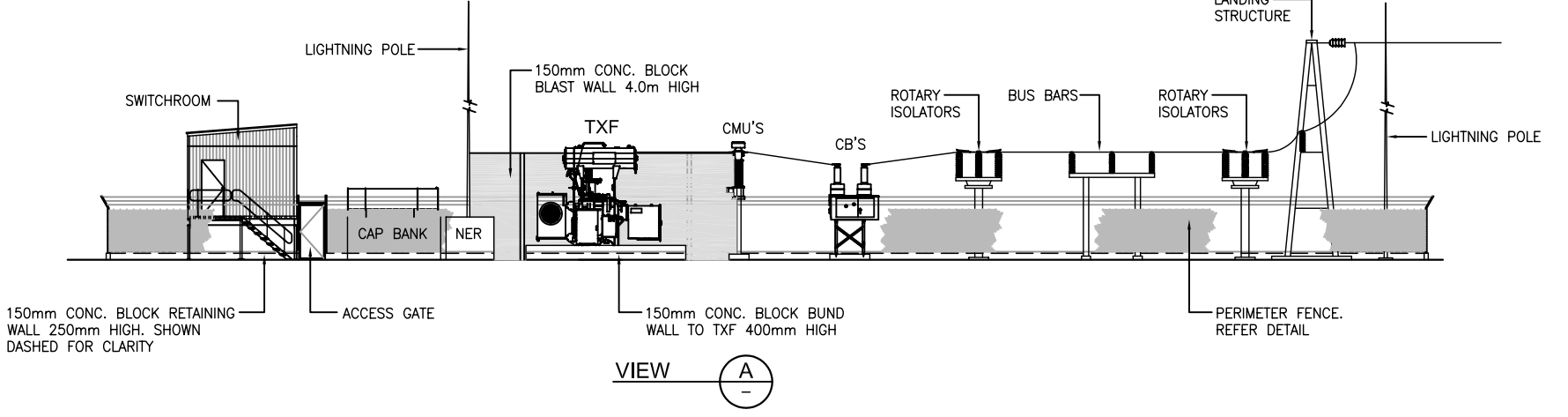
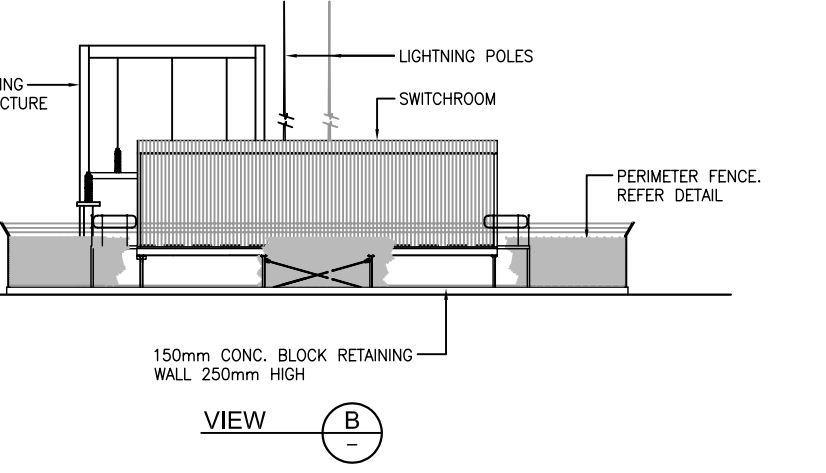
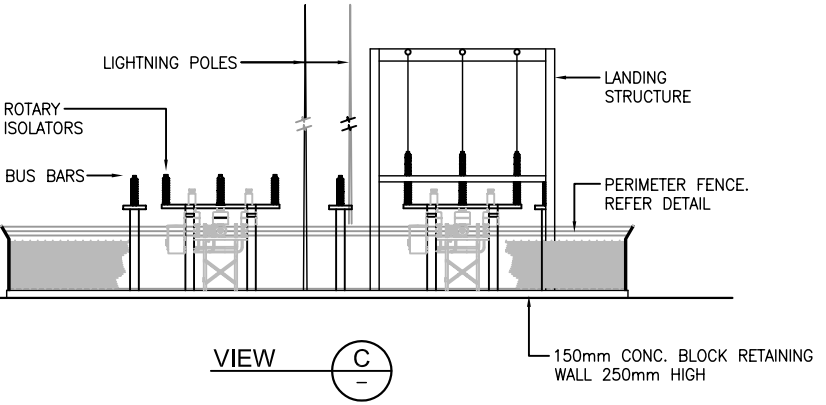
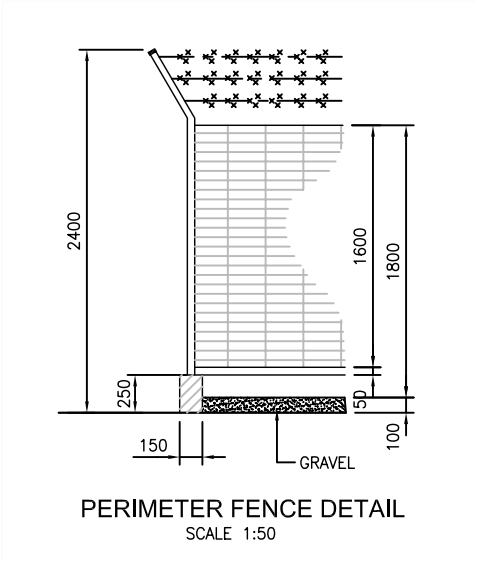
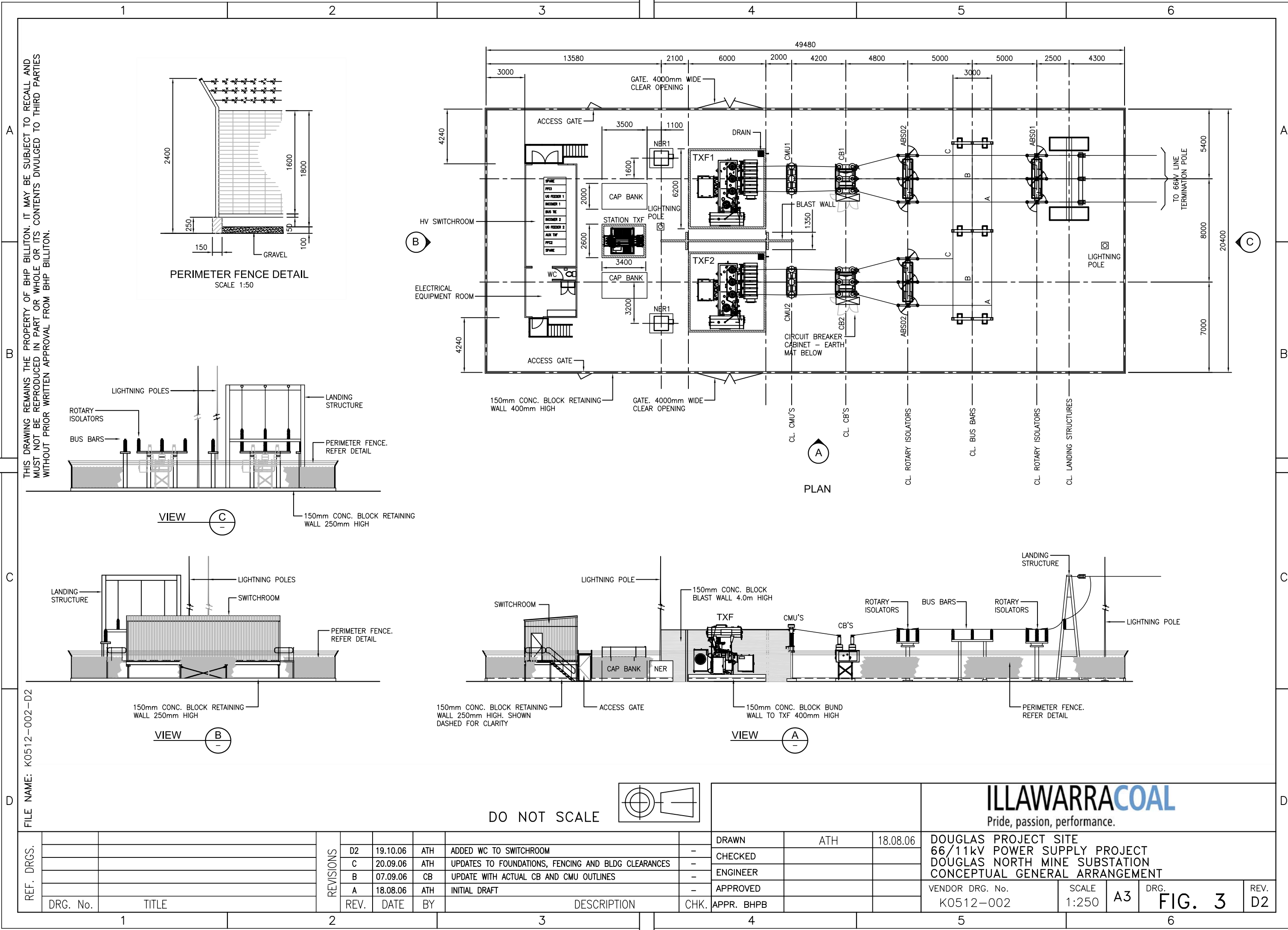
Figure 1
Version 1



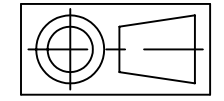
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DO NOT SCALE



ILLAWARRACOAL
Pride, passion, performance.

REF. DRGS.			REVISIONS						DRAWN	ATH	18.08.06	DOUGLAS PROJECT SITE 66/11kV POWER SUPPLY PROJECT DOUGLAS NORTH MINE SUBSTATION CONCEPTUAL GENERAL ARRANGEMENT				
				D2	19.10.06	ATH	ADDED WC TO SWITCHROOM	-	CHECKED							
				C	20.09.06	ATH	UPDATES TO FOUNDATIONS, FENCING AND BLDG CLEARANCES	-	ENGINEER							
				B	07.09.06	CB	UPDATE WITH ACTUAL CB AND CMU OUTLINES	-	APPROVED							
				A	18.08.06	ATH	INITIAL DRAFT	-	APPR. BHPB			VENDOR DRG. No. K0512-002	SCALE 1:250	A3	DRG. FIG. 3	REV. D2
	DRG. No.	TITLE		REV.	DATE	BY	DESCRIPTION	CHK.								