Fosterville Gold Mine

OHSF-MPL-003

Bush Fire Mitigation Plan

2023-2024

Document Number:	OHSF-MPL-003
Issue Number:	2023-10b
Authorised by:	Lance Faulkner – General Manager
Authorisation date:	19th October 2023
Signature:	L. F. Mer

Related Documents:

- Electricity Safety Act 1998
- Electricity Safety (Bushfire Mitigation) Regulations 2023 S.R. No. 40/2023 Authorised Version as at 16 June 2023
- Blue Book – The Blue Book 2017 Code of Practice on electrical safety for the work on or near high voltage electrical apparatus.

Scope:
This Bush Fire Mitigation Management Plan has been prepared to comply with the requirements of the Electricity Safety (Bush Fire Mitigation) Regulations. The objective of this Bush Fire Mitigation Management Plan is to describe management procedures to comply with the regulations. An annual review of all regulation changes will be conducted prior to submission of the Bush Fire Mitigation Management Plan each year.

Purpose:
The objective of this Bush Fire Mitigation Management Plan is to describe the process and plans in place to comply with the regulations.

Contents

DOCUMENT CONTROL

Revision 00 – Document Reviewed October 2015

1) Added document control page.
2) Email address updated – New Croc gold emails addresses have the ".au" removed.
3) Clause (h) – Added examples of potential factors.
4) Clause (i) - Added full table showing preventative maintenance on FVTS and Overhead Power line.
5) Clause (j) – Reworded this clause to explain how training and competency is verified.
6) Clause (l (i)) – Update clause, added reference to emergency management plan.
7) Clause (m) – Updated clause.
8) Clause (n) – Reviewed and added new paragraph.
9) Clause (o) – Reviewed and added new paragraph with more detail.
10) Appendix – Added google map and reference points add Appendix 2 - Powercor Plan Reference PCA55/000017.
11) Replaced wording "SP AusNet" with "AusNet Services" (6 phrases in total).

Revision 01 - Document Reviewed 20-June-2016.

1) In line with Electrical Safety (Bushfire Mitigation) Regulations 2013 Version 004 1 May 2016.
2) In Line with Electrical Safety Act 1998 Version 071.
3) Added the following to (l) (ii) - The PSV Feeder that supplies the site power does not have an auto reclose facility. If the feeder trips at any time it stays tripped until the cause is investigated.
4) Added what training qualification is required for an asset inspector to heading (j).

Revision 02 Document Reviewed 22—May-2017.

1) Reviewed current document to relevant regulation for 2017-18. Authorised Version No. 004. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 1 May 2016. Updated contact details for FGM.
2) Updated cable length on page 4 to 135 metres.

Revision 03 Document Updated 22-June-2017.

1) Stipulated office hours on page 4.
2) Inserted Appendix 1 (pages 16 to 18) and Appendix 2 (pages 20 to 23) details to zoom in to enable images to be more legible.

Revision 04 Document Reviewed 29-June-2018

1) Reviewed current document to relevant regulation for 2018-19. Authorised Version No. 004. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 1 May 2016.
2) Updated General Manger and Beon Energy contact details.
3) Include new power line to Overview section.
4) Updated section (h) to Electrical Safety (Electric Line Clearance) Regulation 2010 Version 002.
5) Updated section (n) to include maintenance contractor meetings.
6) Added google map and reference points for new overhead power line.
7) Removed old site map as more detailed pictures have been included.
8) Updated Appendixes.
9) Added new Appendix 4 and 5 for updated drawings of new overhead power line.

Revision 05 - Document Updated 8-August-18

Updated document re comments back from ESV Evaluation CM8217.

1) Added document name to header title blocks and front page – OHSF-MPL-003 Bush Fire Mitigation Plan.
2) Added Issue number to front page.
3) Updated the documents control page to have revision numbers.
4) Added revision title block to the footer of the document.
5) Changed revision idents from roman numerals to numbers.

Revision 06 - Document Updated 17-June-19

1) Reviewed current document to relevant regulation for 2018-19. Authorised Version No. 004. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 1 May 2016.
2) Added FGM document template replace page 1 that includes related document, Scope and Purpose sections.
3) Minor word changes to page 6 and 7.

Revision 07 - Document Updated 24-June-20

1) Reviewed current document to relevant regulation for 2018-19. Authorised Version No. 004. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 1 May 2016.
2) Updated document control page.
3) Updated revision footer number and revision date.
4) Updated KL Gold email addresses page 8 and 9.
5) Document updated form evaluation questions from ESV ref: CM-10168.
    i) Minor changes to answer clarification comment.
    ii) For clarity of the document answered each sub-clause for 6(n).

Revision 08 - Document Updated 24-June-21

1) Reviewed current document to relevant regulation for 2021-22. Authorised Version No. 005. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 27 May 2020
2) Updated document control page.
3) Updated revision footer number and revision date.
4) Updated General Manager's name from Ion Hann to Lance Faulkner. Update LF contact details.
5) Updated page 7 wording as FGM Feeder 2 is now connected to Pole 1A.
6) Updated Appendix 4 (removed text stating new underground feeder not installed)
7) Updated (j) training codes to new training codes - training.gov.au web page.
8) Updated (l) (iii) to removed Gold Mine and replaced near FGM overhead lines.
9) Updated (h) to mention Electrical Line Clearance regulations 2020.
10) Updated Appendix 5, Image 2 (added Pole 5A text box).
11) Add acronym of FGM on page 16 of 31

Revision 8a – Document Updated from Evaluation Report CM-11248

1) Done added to 6h: As per the requirements set out in the approved ESV Electric Line Clearance Management Plan for site.
2) Done added to 6m: No fires have been initiated from either any at-risk electric lines or from assets connected to the electric line.
3) Added to additional Information: FGM does not have any exemption issued by ESV for any part of the Bush Fire Mitigation Plan.
4) Added the company webpage link to the location where the report is located plus a 4 step process to find the report.
5) Added to additional Information: Rectification works were carried out on the 28th/29th October by Electrical Resource Providers.
6) Added new table to Appendix 2 as requested.
7) Change wording as requested.

Revision 09 - Document Updated 27-June-22

1) Reviewed current document to relevant regulation for 2021-22. Authorised Version No. 005. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 27 May 2020.
2) Updated document control page.
3) Updated revision footer number and revision date.
4) Removed reference to Beon in the document.
5) Page 9 updated Bush Mitigation paragraph.
6) Page 10 updated email address.
7) Page 11 updated matrix and removed reference to Beon.
8) Page 13 removed wording referencing Beon to approved companies and change Feeder to Feeders to reflect 2 x feeders from the FVTS to site.
9) Page 13 updated training codes and edited feeder abbreviations from PSV to FGM.

Revision 10 - Document Updated 1-June-23

1) Reviewed current document to relevant regulation for 2023. Authorised Version No. 005. Electricity Safety (Bushfire Mitigation) Regulation 2013 S.R. No. 62/2013 dated 27 May 2020.
2) Updated document control page.
3) Updated revision footer number and revision date.
4) Minor change to inspection table on Page 12.

Revision 10a - Document Updated 15-September-2023

1) Updated BMP from audit evaluation review from ESV (ref: CM-12833).
2) Update Page 1 and 6 to mention *Electricity Safety (Bushfire Mitigation) Regulations 2023 S.R. No. 402023 Authorised Version as at 16 June 2023*
3) Section (a) - Added company details.
4) Section (e) - Added sentence re HBRA Location Map as per Appendix 6.
5) Section (h) – Added sentence re Woodscan and Thor tests.
6) Moved Thermal Imaging from Section i to Section h.
7) Section (i) - Updated programmed inspection table.
8) Section (i) edit phrase ground based to aerial patrol and visual inspections.
9) Moved training competency for Thermographer from section J to section K.
10) Section (j) – updated minimum requirement for statutory inspections.
11) Section (l) – updated wording in 3 sub sections
12) Section (m) updated with Incident Management procedure.
13) Section 6 minor edits to section 6(n)(i) and 6(n)(v).

Revision 10b - Document Updated 19-October 2023

1) Section (h) – Minor edits to add no vegetation defects from most recent audit.
2) Section (i) – Updated priority table and minor edits to wording.
3) Section (j) – Added additional wording around asset inspectors training.
4) Section (k) – Included vegetation work, Lineworkers and Thermographer.
5) Section (l) – Minor edits to include fire tanks and CFA and emergency vegetation clearance.
6) Section (n) (i) – Added additional paragraph explain work order process.

OVERVIEW

The Fosterville Gold Mine (FGM) Bushfire Mitigation Plan (BFM) has been developed to identify possible electrical causes of fire to reduce the effect of any fire.

The Plan is a requirement of the Electricity Safety Act and a new plan must be prepared and submitted to Energy Safe Victoria before the 1st July of each year.

This Management Plan relates to the requirements under the *Electricity Safety (Bushfire Mitigation) Regulations 2023 S.R. No. 40/*
2023 Authorised Version as at 16 June 2023

The area on which the Fosterville Terminal Station (FVTS) is established is a cleared area of Australian Native Bushland and the 11kV power line crosses area that is used as pasture for sheep. There are only a minimal number of trees within the vicinity of the FVTS.

The location of electrical assets belonging to the FGM site where a fire would most likely originate is:

- The Fosterville Terminal Station.
- The overhead 11kV pole line between FVTS and the Processing Facility HV Switch room – 311-EB-01.
- The overhead 11kV pole line between FVTS and the Mine Ventilation HV Switch room -111-EB-02.

The main terminal station, FVTS supplies two main overhead 11kV overhead power lines.
These are:

1) The 11kV line between the FVTS and the Processing Facility HV Switch room – 311-EB-01.
    - Pole identification numbers are Pole 1 to Pole 19.
2) The 11kV line between the FVTS and Mine Ventilation HV switch room – 111-EB-02.
    - Pole identification numbers are Pole 1B, Pole 1A to Pole 8A.

Other overhead lines on the mining lease are under control of Powercor Australia and AusNet Services.

All other cables are buried underground.

A copy of this bushfire mitigation plan can be found on the company's internet site:
https://www.agnicoeagle.com/English/operations/operations/Fosterville-Gold-Mine/default.aspx
and at the principal office located at McCormick's Road, Fosterville, 3557.
Office hours are 9.00am to 4.00pm Monday to Friday.

Steps to find document on the above company link:

a) Agnicoeagle.com
b) Select Operations
c) Select Fosterville
d) Select Find out more
e) Scroll to the bottom of the web page to find the document

Fosterville Terminal Station

The FVTS is contained within a fenced yard where the ground is fully covered with crushed rock.

The overhead lines within the FVTS are 220 kV conductors interconnecting the AusNet Services transmission line to the 220kV line connection on the transformer.

The total conductor length is in the order of 50 metres and has been spaced so that the conductors cannot clash.

The area under and in the vicinity of the 220 kV conductors is covered in crushed rock, minimizing the possibility of igniting any flammable material.

The area underneath the outdoor high voltage switchgear is covered by crushed rock.

11kV Power line – Pole 1 to Pole 19.

There is a length of approximately 150 metres of underground cabling between the FVTS and the 1st cable head pole (Pole 1), situated alongside the FVTS.

The 2,661 metre overhead 11kV line between the FVTS and the Processing Facility High Voltage Switch room (311-EB-01) has been installed so that the conductors cannot clash, being designed and constructed in line with the design standards at the time of circa 2004 by Powercor Australia who are an electrical distribution authority for Victoria.

The area in the vicinity of the plant transformers is covered in crushed rock, minimising the possibility of igniting any flammable material.

The overhead line section of the installation comprises of a three phase three wire, single circuit, single pole structure type line using an AS 1531, Triton (37/3.75 AAC) conductor.
The rating conditions applying to the overhead line section inlcude:

- Daytime bright conductor:cc
- Ambient temperature: 35°C
- Conductor temperature rise: 40°C
- Wind: 1.0 m/s

The line construction is equal to Powercor Distribution Construction Standards; Powercor Standard Wood Pole construction (EJ 101 and generally using 2.6 m cross arms) apply.

See attached screen shot from Powercor drawing PCA55/000017 from Appendix 3.

OVERHEAD CABLE SCHEDULE

11kV HV SERIES	CONDUCTOR	STRINGING	MES	ROUTE LENGTH
POLE 1 - POLE 8	3-37/3.75 AAC	EC251 (VX18/33)	177	1216.4
POLE 8 - POLE 9	3-37/3.75 AAC	EC261 (VX18/49)	111.1	111.1
POLE 9 - POLE 17	3-37/3.75 AAC	EC251 (VX18/33)	161	1164.3
POLE 17 - POLE 19	3-37/3.75 AAC	EC251 (VX18/33)	90	168.8

11kV Power line – Pole 1A to Pole 8A.

There is a length of approximately 150 metres of underground cabling between the FVTS and the 2nd cable head pole (Pole 1A), situated alongside the FVTS. There is also a connection point between both the overhead lines Pole 1 and Pole 1A via a slack span on Pole 1B.

The 810 metre overhead line between Pole 1A and the Mine Ventilation HV switch room (111-EB-02) has been installed so that the conductors cannot clash, being designed by Aurecon Australasia and constructed in line with the design standards by Powercor Australia who are an electrical distribution authority for Victoria.

The area in the vicinity of the transformers is covered in crushed rock, minimizing the possibility of igniting any flammable material.

PLS-CADD Weather Conditions Table

Weather Condition		Remarks
Everyday Temperature	15°C	Also conductor stringing temperature
Maximum Conductor Temperature for Profiling	90°C	Conductor temperature assumed for compliance with minimum conductor-to-ground clearance
Minimum Conductor Temperature	-5°C	Used for structural loading if greater than ultimate conductor wind load
Structure Clearance – Low Wind	100Pa at 15°C	
Structure Clearance – Moderate Wind	300Pa at 15°C	
Structure Clearance – High Wind	500Pa at 15°C	
Ultimate Wind	500Pa and 750 Pa at 15°C	28.86m/s wind on conductors and 35.3m/s wind on poles

For the timber poles a strength reduction factor has been considered as per Powercor standard EA061, and AS 7000 Appendix F. All new poles are strength group 2 and durability class 2 timber.

The overhead line section of the installation comprises of an 11kV three phase, three wire, single circuit, single pole structure using a Triton (37/3.75 AAC) conductor. The maximum operating temperature is 90°C strung at 14.4% CBL (equivalent to EC251) at 5°C for span from poles 1A to 8A.
See attached screen shot from the design drawings from Aurecon.

OVERHEAD CONDUCTOR SCHEDULE				
11kV HV SERIES	CONDUCTOR	STRINGING	MES	ROUTE LENGTH
POLE 1A - POLE 8A	3-37/3.75 AAC (TRITON)	14.4% CBL AT 5° (EQUIV TO EC251)	-	790.0m
POLE 1 - 1A	3-37/3.75AAC (TRITON)	1% CBL AT 5°C (SLACK TENSION)	-	20m

FOSTERVILLE 11kV FEEDER STRINGING TABLE - INITIAL CONDITION

SPAN	SPAN LENGTH (m)	CONDUCTOR	-5 °C		-0 °C		5 °C		10 °C		15 °C		20 °C		25 °C		30 °C		35 °C		40 °C		45 °C	
			SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)
1A - 2A 11 kV	135.0	37/3.75MM (TRITON) AAC	2.55	9.897	2.68	9.405	2.81	8.969	2.94	8.585	3.06	8.237	3.18	7.930	3.30	7.648	3.41	7.393	3.52	7.160	3.63	6.948	3.74	6.749
2A - 3A 11 Kv	128.0	37/3.75MM (TRITON) AAC	2.30	9.897	2.42	9.405	2.54	8.969	2.65	8.585	2.76	8.237	2.87	7.930	2.98	7.648	3.08	7.393	3.18	7.160	3.28	6.948	3.37	6.749
3A - 4A 11 kV	103.0	37/3.75MM (TRITON) AAC	1.41	10.374	1.52	9.620	1.63	8.980	1.74	8.421	1.84	7.955	1.94	7.540	2.04	7.182	2.13	6.870	2.22	6.583	2.31	6.333	2.40	6.105
4A - 5A 11 kV	114.8	37/3.75MM (TRITON) AAC	1.74	10.374	1.88	9.620	2.01	8.980	2.15	8.421	2.27	7.955	2.40	7.540	2.52	7.182	2.63	6.870	2.75	6.583	2.86	6.333	2.97	6.105
5A - 6A 11 kV	102.9	37/3.75MM (TRITON) AAC	1.40	10.374	1.51	9.620	1.62	8.980	1.73	8.421	1.83	7.955	1.93	7.540	2.02	7.182	2.12	6.870	2.21	6.583	2.30	6.333	2.38	6.105
6A - 7A 11 kV	114.9	37/3.75MM (TRITON) AAC	1.75	10.374	1.88	9.620	2.02	8.980	2.15	8.421	2.28	7.955	2.40	7.540	2.53	7.182	2.64	6.870	2.76	6.583	2.86	6.333	2.97	6.105
7A - 8A 11 kV	86.0	37/3.75MM (TRITON) AAC	0.96	10.740	1.05	9.620	1.13	8.980	1.20	8.421	1.28	7.955	1.35	7.540	1.41	7.182	1.48	6.870	1.54	6.583	1.60	6.333	1.66	6.105

FOSTERVILLE 11kV FEEDER SACK TENSION STRINGING TABLE - INITIAL CONDITION

SPAN	SPAN LENGTH (m)	CONDUCTOR	-5 °C		-0 °C		5 °C		10 °C		15 °C		20 °C		25 °C		30 °C		35 °C		40 °C		45 °C	
			SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)	SAG (m)	TENSION(kN)
1A TO 1B 11 kV	10.4	37/3.75MM (TRITON) AAC	0.23	0.682	0.24	0.660	0.25	0.620	0.26	0.593	0.27	0.574	0.28	0.550	0.29	0.535	0.30	0.516	0.31	0.502	0.32	0.488	0.33	0.474
1B TO 1 11 kV	7.0	37/3.75MM (TRITON) AAC	0.09	0.636	0.11	0.707	0.12	0.623	0.14	0.561	0.15	0.513	0.16	0.478	0.17	0.449	0.18	0.425	0.19	0.400	0.20	0.396	0.21	0.367

BUSHFIRE MITIGATION

The Responsible Person for the BMP is also responsible for the Operation and Maintenance of the 11kV power lines, poles and the FVTS. This person will ensure the inspection and rectification process are conducted. The process and procedures to be utilised will be the standards, code of practices and manuals defined by an approved distribution company. Fosterville Gold Mine Pty Ltd acknowledges that these standards and manuals are acceptable for their use.

FGM will ensure that inspections of the FVTS and the 11kV overhead power lines are preformed to determine required fire safety status and any immediate requirements in accordance with this plan.

BUSHFIRE MITIGATION PLAN

a) The name, address and telephone number of the specified operator;

This Bushfire Mitigation Plan is submitted by:

Fosterville Gold Mine
McCormick's Rd, Fosterville 3557
Office 03 5439 9000
Facsimile 03 5439 9099

ACN: 010 604 878
Registered Company Name: Fosterville Gold Mine Pty Ltd
Owner Name: Agnico Eagle Mines Limited
Specified Operator: Fosterville Gold Mine

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b) The position, address and telephone number of the person who was responsible for the preparation of the plan;

Name: Mr. Lance Faulkner
General Manager

Company: Fosterville Gold Mine
Address: McCormick's Rd, Fosterville 3557

Contact:
Mobile 0427 324 806
Office: 03 5439 9146
Facsimile: 03 5439 9099
Email Address: Lance.Faulkner@agnicoeagle.com

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c) The position, address and telephone number of the persons who are responsible for carrying out the plan;

Name: Mr. Heath Guthrie
Mine Electrical Superintendent

Company: Fosterville Gold Mine
McCormick's Rd, Fosterville 3557

Contact:
Mobile 0427 399 004
Office: 03 5439 9070
Facsimile: 03 5439 9099
Email Address: Heath.Guthrie@agnicoeagle.com

d) The telephone number of the specified operator's control room so that persons in the room can be contacted in an emergency that requires action by the specified operator to mitigate the danger of bushfire;

FVTS and its exiting 11kV line is remotely monitored and controlled 24hrs/day by AusNet Services Transmission Operation Centre (TOC).

In case of an emergency contact should be made with:

AusNet Services Transmission Operation Centre (TOC) 03 9420 2103

And

Name: Mr. Lance Faulkner
General Manager

Company: Fosterville Gold Mine
Address: McCormick's Rd, Fosterville 3557

Contact:
Mobile: 0427 324 806
Office: 03 5439 9146
Facsimile: 03 5439 9099
Email address: Lance.Faulkner@agnicoeagle.com

And/or

Name: Mr. Heath Guthrie
Mine Electrical Superintendent

Company: Fosterville Gold Mine
McCormick's Rd, Fosterville 3557

Contact:
Mobile 0427 399 004
Office: 03 5439 9070
Facsimile: 03 5439 9099
Email Address: Heath.Guthrie@agnicoeagle.com

e) The bushfire mitigation policy of FGM to minimise the risk of fire ignition from its at-risk electric lines;

To ensure that FGM electrical infrastructure is maintained in a fire safe condition by regular inspection, asset maintenance and vegetation clearance to appropriate standards. A further aim of the policy is to minimise the risk to public safety and the effect of the electric lines on the vegetation.
The CFA HBRA zone and where Fosterville Gold Mine power lines are located is shown in Appendix 6.

f) The objectives of the plan to achieve the mitigation of fire danger arising from the specified operator's at-risk electric lines;

The objective of this strategy is to ensure that the risk of fire starting from FGM electrical assets is minimised. This will be carried out by ensuring the assets are in a fire-safe condition prior to and maintained in this condition throughout the respective Declared Fire Danger Periods (DFDP's) as declared by the Country Fire Authority (CFA). Electric lines are to be kept well clear of vegetation and an inspection and maintenance of the assets will occur to minimise the risk to public safety and the effect of the electric lines on the vegetation.

g) A description, map or plan of the land to which the bushfire mitigation plan applies, identifying the location of FGM's at-risk electric lines;

The drawings in the appendixes of this plan show the area under the control of FGM and the location of the FVTS, 11kV overhead line and the underground cables. This management plan applies to the area in the immediate vicinity of these installations.

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h) The preventative strategies and programs to be adopted by FGM to minimise the risk of FGM's at-risk electric lines starting fires;

Prior to the declaration of the Fire Danger Period action shall be undertaken to ensure that:

- There is no vegetation growing within the FVTS;
- The area around the FVTS shall be inspected and slashed if required to minimise the amount of flammable material within 5 metres of the substations.

The area within the 11kV line easement shall be inspected and if necessary pruning/slashing will be undertaken to minimize the amount of flammable material within the easement as per the conditions set out in the approved ESV Electric Line Clearance Management Plan for site.

As soon as practicable after the declaration of the fire danger period an audit shall be undertaken to ensure the FVTS and the 11kV overhead line easements are clear of any vegetation. In particular steps will be taken to ensure that the surrounds of all lines and stations remain clear of any vegetation for a distance appropriate to maintain electric line clearance spaces as defined in the *Electrical Safety (Electrical Line Clearance) Regulations 2020*. The audit will also ensure that new vegetation has not established within the Fosterville Terminal Station and that trees are not established within 5 metres of the FVTS

Cyclic inspection and maintenance of the overhead pole line assets will be undertaken for potential factors in fire incidence. Examples of these factors that have required more cyclic inspections on site are pole cracking, pole leaning to one side and broken ground around the pole. Pole 6 was replaced due to pole cracking that was identified during routine inspections.
With the extra monitoring put in place the examples above were managed without incident.

Woodscan tests have been conducted which did not identify any poles to be replaced.
Recently Thor tests were done. No major defects were found. The test indicated to retest 3 poles within 2.5yrs to monitor their pole health index. No poles have been identified to be replaced.
There are no outstanding vegetation clearance actions from the last audit conducted in October 2022.

Thermal Imaging

A thermal imaging survey of high load current lines on a cyclic basis is managed by FGM. A thermal imaging contractor is engaged to perform these surveys.

Programmed Inspection: comprises:
An approved test of all poles, including an approved procedure for the visual asset and vegetation inspection of all lines to identify all defects which directly affect the fire and/or electrical safety of the line; and
If defects exist, classification of the defect/s appropriate to the nature of the defects, and rectification in accordance with the nature of the defect.

Detailed Inspection: comprises:
An approved procedure for the visual inspection of all poles and test and/or check of any poles or equipment as necessary to identify all defects which could directly affect the fire and/or electrical safety of the line.
If defects exist, classification of the defect/s appropriate to the nature of the defects, and rectification in accordance with the nature of the defect.

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i) **A plan for inspection that ensures that all of FGM's at-risk electric lines are inspected at regular intervals of no longer than 37 months.**

Equipment Description	Outage Type	Maint. Period (yrs)
11kV FDR Assett Inspection Pole and Assett	Online	3
FVTS ASSET INSPECTION. RF, Corona & ultra Sonic scan	Online	3
PSV 11 KV FDR ASSET INSPECTION. High Fault Current (UAV inspection)	Online	1
PSV 11 KV FDR ASSET INSPECTION. VEGETATION BEFORE FIRE SEASON	Online	1
FVTS & PSV 11 KV FDR ASSET INSPECTION. THERMAL BEFORE FIRE SEASON	Online	1

Line Inspection

FGM will monitor the condition of its assets by means of an asset inspection program and a vegetation control program to be carried out by an approved company used by local power distributors as per the above matrix.

The period between tree clearing or pruning will be determined by the results of programmed and/or detailed inspections of the assets and easements.
All serviceable poles shall be inspected within 1 month of their 3 year cyclic inspection date.

The vegetation control program requires a pre-summer inspection in the fire hazard area of all spans other than those that were cyclic inspected and cleared in the year leading up to the Fire Declaration period.

Aerial Patrol and Visual Inspections

An annual Aerial patrol and visual inspection of the overhead power lines and switches will be carried out. Typically, the inspections will be conducted as part of a Line Condition Audit program (first scheduled audit, just prior to the DFDP)

Programmed Inspection:

Inspection of all poles	At 37 months intervals
Visual inspection of all lines to identify all defects which directly affect the fire and/or electrical safety of the line.	Prior to DFDP
If defects exist, classification of the defect/s appropriate to the nature of the defects, and rectification in accordance with the nature of the defect	**P1** The item is assessed to pose an immediate supply/reliability, fire or safety risk. **P32** The item is assessed as not to pose an immediate but impending supply, reliability, fire or safety risk. This item should be addressed within 32 weeks of the assessment. **P3** The item is not a priority but requires attention (including monitoring) before the next cyclic inspection (at risk of becoming an issue within 3 to 5 years). All defects for power line faults are coded P4 in the site work order system (power outage required). The power industry **P1, P2** and **P3** priority codes will be added to the work description to ensure the defect is rectified and/or re-inspected within the required period. The nature of the fault may require further inspections or an outage to conduct rectification. This will be reviewed by site and qualified external service provider and recorded.

j) Details of the process and procedures for ensuring that each person who is assigned to carry out the inspections referred to in paragraph (i) has satisfactorily completed a training course approved by Energy Safe Victoria and is competent to carry out such inspections);

Training and competency will be verified when companies submit their quotations to FGM for the inspections.

On requesting companies to conduct inspections and/or work any sub-contractors used must be deemed competent and have training records to have correct authorisations to ensure all statutory inspections as per this BFM plan are conducted and actions completed to standard.

Programmed maintenance inspections will be carried as per paragraph (i) above by a company that complies with paragraph (k) below. Sub contract companies submitting for planned preventative inspections will document their team is competent and hold correct authorisation for the assigned task.

To do work on site for statutory inspections the asset inspectors and workers must meet the minimum VESI requirements for that task.

Training and VoC is provided by the employer via training certificate/s or competency reports sent by the employer.

When Asset Inspectors are planned to come to site for statutory inspections the asset inspectors and workers must meet the minimum VESI requirements for that task.

People entering the site will enter via the security office area prior to arrival and the appropriate site induction will be completed.

The minimum qualification requirements for the asset inspections are listed below:

- **FGM 11kv feeder asset inspection. Pole and asset**:
  Certificate II in Asset Inspection *(UET20621) or equivalent or Certificate III in ESI – Power Systems – Distribution Overhead *(UET30621) or equivalent.

- **FGM 11kv feeder asset inspection. High fault current:**
  Certificate II in Asset Inspection *(UET20621) or equivalent or Certificate III in ESI – Power Systems – Distribution Overhead *(UET30621) or equivalent.

- **FGM 11kv feeder asset inspection. Vegetation before fire season**:
  Certificate II in ESI – Power line Vegetation Control *(UET20321).

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k) Details of the process and procedures for ensuring that persons (other than persons referred to in paragraph (j)) who carry out or will carry out functions under the plan are competent to do so.

Prior to engaging any company to perform inspections of power lines or approving work near or around overhead power lines, FGM will be collaborating closely with suitable contractors to ensure that only contractors who are approved, authorised and suitably trained to perform inspections are used. In order to ensure they meet the training criteria of Energy Safe Victoria the company must comply with the requirements of the following.

1) Powercor Australia.
2) Another approved Distribution Company.

If any contractor is found not having the appropriate training, then work would cease and not proceed until these were verified by the responsible person.

When any person attends site for inspection, audits, vegetation clearance work, Lineworkers, Thermography training verification is proven via training certificate/s or competency/refresher training reports and visual inspection of any license or VESI passport or reports from their employer.

Profiles will be as per VESI skills matrix for that task.

If any other work is required then copies of licenses or training will be provided by the employer, e.g. licensed line worker.

Thermal Inspection will be carried out by a qualified Thermographer
CAT1 AINDT-CMCB Certified and Trained Thermographer
FGM 11kv feeder asset inspection. Thermal before fire season

l) The operation and maintenance plans for FGM's at-risk electric lines –

(i) In the event of a fire; and
(ii) During a total fire ban day; and
(iii) During a fire danger period;

(i) In the event of fire in the vicinity of the at-risk lines FGM would activate its Emergency Management Plan (OHF-MPL-001). Our site emergency team would work closely with any emergency services and if required the 11kV line will be de-energised if directed to do so. If deemed necessary the line will be inspected prior to re-energisation. FGM have trained emergency response people who conduct weekly training exercises and a fire truck is located on site along with fire water storage tanks. Site has a relationship with the local Axedale CFA organisation.

ii) The operation and maintenance of the assets during any day that has been declared to be a day of total fire ban remains unaltered. FGM does not undertake any works under normal circumstances that would need to be altered. The FGM Feeders that supply site power do not have an auto reclose facility. If the feeder trips at any time it stays tripped until the cause is investigated. In any event require power turned off we would comply with our Emergency Management Plan FGM-HSS-0016 – Section Bush Fire Threat.

iii) Although no 'hot' work is intended to be carried near FGM overhead lines, this sort of work will not, as a matter of policy, be carried out during total fire ban days. For the event of an emergency FGM may arrange permits allowing this work under particular circumstances e.g. cable repair. Any required work on the overhead lines would be carried out by an approved company and they would operate under their particular constraints and permits and would comply with the CFA restrictions in place on that day, but in most cases work would be reschedule not to occur during these periods.

If any emergency cutting/ vegetation management had to occur during a DFDP the process is detailed in the FGM Electrical Line Clearance Plan. Any urgent work requiring cutting or removal of trees due to growth not anticipated in the annual assessment or during fire danger period, will only be removed or cut back sufficient to ensure 1 metre clearance from minimum clearance space. Records documenting this process will be kept on site.

m) The investigations, analysis and methodology to be adopted by FGM for the mitigation of the risk of fire ignition from its at-risk electric lines:

All planned and unplanned work at FGM is captured using our CMMS (Computer Maintenance Management System). We have no history of faults on the overhead line due to material falling on lines, material fail or bird strikes. The only interruption on the overhead line has been for planned and unplanned maintenance on the network.
Pole 9 had a poor connection once on the fuse switch in 2009; the root cause of this was a stainless steel bolt was reused and was not tightened correctly which caused a hot joint on the fuse switch – incorrect torque, this was reviewed with Powercor and only galvanised bolts should have been used.

FGM will be working closely with the approved companies to ensure that it is able to learn from the experience of this Operator. FGM will be liaising with local environment groups and relevant authorities and will disseminate any appropriate information to operate and maintain at-risk electric lines appropriately.

Any incident first priority is to make the area safe and contact emergency services. The investigation process would follow the site Incident Management Procedure AEA-HSS-PRO-002.
If any fire occurred an Investigation would occur and would be reported to ESV.
Corrective action and improvement process would be implemented prior to power being restored and then long-term corrective actions derived from the ICAM analysis.

No fires have been initiated from either any at-risk electric lines or from asset failures connected to the electric line.

n) Details of the processes and procedures by which FGM will:

(i) Monitor the implementation of the bushfire mitigation plan;

The BMP maintenance matrix is reviewed by the FGM responsible person and is in contact with the approved contract companies to monitor the maintenance task are conducted as planned.

When asset inspection are completed the reports are reviewed. If actions are required, then FGM laisse with local power providers on what are the industry best practices to resolve issue. Planned maintenance vs actual work completed is reviewed each year.

All vegetation reports and any clearing is to be conducted prior to the DFDP.

All work completed has a work order created to capture when this was done plus listed on the inspection reports. The site responsible person is responsible to ensure the preventative inspections in the plan are carried out. Any cutting is then arranged, defects are planned in to be rectified.

(ii) Audit the implementation of the plan; and

All the preventative maintenance inspections for the FVTS and the Overhead Power line are also entered into the site maintenance system as well as tracked on the FVTS maintenance matrix, this ensure all inspections as per the plan are done and any defects are rectified.

The inspections and maintenance tasks are reviewed each year with the aim to ensure the maintenance plan has been completed on time and to a good standard to eliminate the risk of any equipment failures and worst case a fire situation.

(iii) Identify any deficiencies in the plan or the plan's implementation; and

As per (ii) above all maintenance activities are reviewed each year and any deficiencies are noted here and actioned.

Any deficiencies found on the audit will require the approved contract company to come back and rectify any issues found. The deficiencies will then be discussed at the next contract meeting with them.

(iv) Change the plan and the plan's implementation to rectify any deficiencies identified under subparagraph (iii); and

During the maintenance contractor meetings any valid deficiencies or improvements from audits or reports will be considered and incorporated in the next annual review of the bush fire mitigation plan. The change will be recorded in the document control section of the BMP.

The last deficiency found was the annual high fault current inspection and the way the inspection reports were sent and kept. A new preventive maintenance plan was created (PM-830). The work now is defined more clearly on the quotation from the inspecting company.

(v) Monitor the effectiveness of inspections carried out under the plan; and

The preventative maintenance inspections for FVTS and the Overhead Power Line are reviewed when completed and reports received. Any defects noted are actioned to be rectified. The inspections completed that year (actual vs planned) are reviewed by the FGM Responsible Person and the approved contract company representative to ensure the maintenance plan has been completed and effective.

(vi) Audit the effectiveness of inspections carried out under the plan.

The bush fire mitigation plan is to be reviewed at the FVTS operation and maintenance meeting. Preventative works are monitored here via the FVTS scheduled work plan and forward planning. The competency and effectiveness of any outside service providers conducting audits and reports are reviewed by FGM and any approved contract companies; this process involves reviewing the quality of the inspections, any issues with inspecting companies or their reports.

o) The policy of the FGM in relation to the assistance to be provided to fire control authorities in the investigation of fires near the FGM's at-risk electric lines:

FGM and its contractors will provide all necessary assistance to fire control authorities with respect to investigation of fires near its assets. As indicated previously FGM will liaise with local fire authorities prior to and during any fire investigation or danger period.

The local CFA have been on site before and have been included as part of the crisis/emergency management plan mock situations that have been conducted on site.
If the CFA required access to the power line corridor they would have full access.
FGM has a fire truck on site available by the emergency response team. All buildings have fire extinguishers located in and around them.
Contact to the CFA is made by dialling our site emergency number or you can call 000. All employees are trained as per our crisis management plan.
If there was serious incident on site the CFA would work closely as with our management team as per our crisis management plan.

ANNUAL PLAN SUBMISSION

As per the Electrical Safety Act 1998 Version 081 Clause 83BA Paragraph (1) – Bush Fire Mitigation Plans, this plan will be reviewed and re-submitted prior to 1st July in each year.

ADDITIONAL INFORMATION

I. Fosterville Gold Mine does not have any exemption issued by ESV for any part of the Bush Fire Mitigation Plan.

II. Rectification works were carried out on the 28th/29th October by Electrical Resource Providers.

ACRONYMS

Acronym	Definition
BMP	Bushfire Mitigation Plan
CFA	Country Fire Authority
DFDP	Declared Fire Danger Periods
FGM	Fosterville Gold Mine
FVTS	Fosterville Terminal Station
AusNet Services	AusNet Services
TOC	Transmission Operations Centre
VESI	Victorian Electricity Supply Industry

APPENDIX

The following appendixes show the location and details of the Fosterville Terminal Station and the 11kV overhead power line locations.

Appendix 1- Location Map References

The Google earth map reference points below are for:

1) Fosterville Terminal Station (FVTS).
2) Processing HV Switch room.
3) Mine Ventilation Fan HV Switch room.

The closest town to the Fosterville Terminal Station is Axedale.

Fosterville Terminal Station.

Name: Fosterville Terminal Station

Latitude: 36°44'17.57"S

Longitude: 144°30'36.17"E

FGM Processing High Voltage Switch Room.

Name: Fosterville Goldmine HV Switchroom

Latitude: 36°43'16.11"S

Longitude: 144°29'43.63"E

FGM Ventilation High Voltage Switch Room.

MINE VENTILLATION HV SWITCHROOM

Latitude: 36°43'57.74"S

Longitude: 144°30'14.53"E

Appendix 2 – Pole 1 to Pole 19 - Detail.

FGM Overhead line summary table:

Line (feeder) Denomination	Voltage (kV)	Number of Spans	Length (m)	Insulated Y/N	Number of Poles	Pole Material	Year of Construction
FGM Fdr1	11	17	2661	Bare Al	19	Wood	2004
FGM Fdr2	11	8	810	Bare Al	8	Wood	2017

The 11kV overhead pole line between FVTS and the Processing Facility HV Switch room – 311-EB-01.

Note: Map below not to scale. Power line route shown for approximate location only for Pole 1 to Pole 19.

Appendix 2, Powercor Plan has power line exact location.

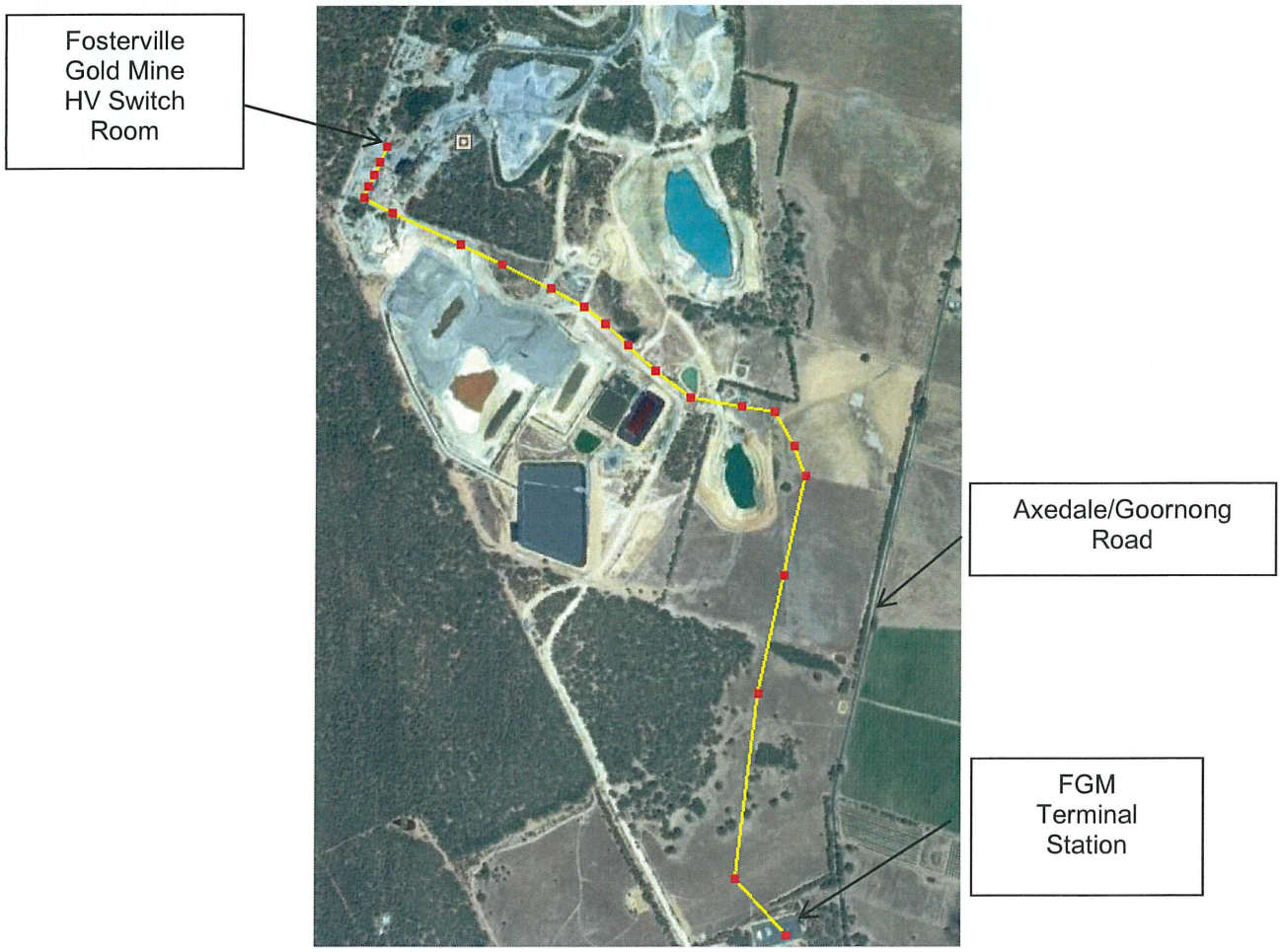


Image - 1

The image below shows the 11kV power line route from FVTS Pole 1 to Pole 19.

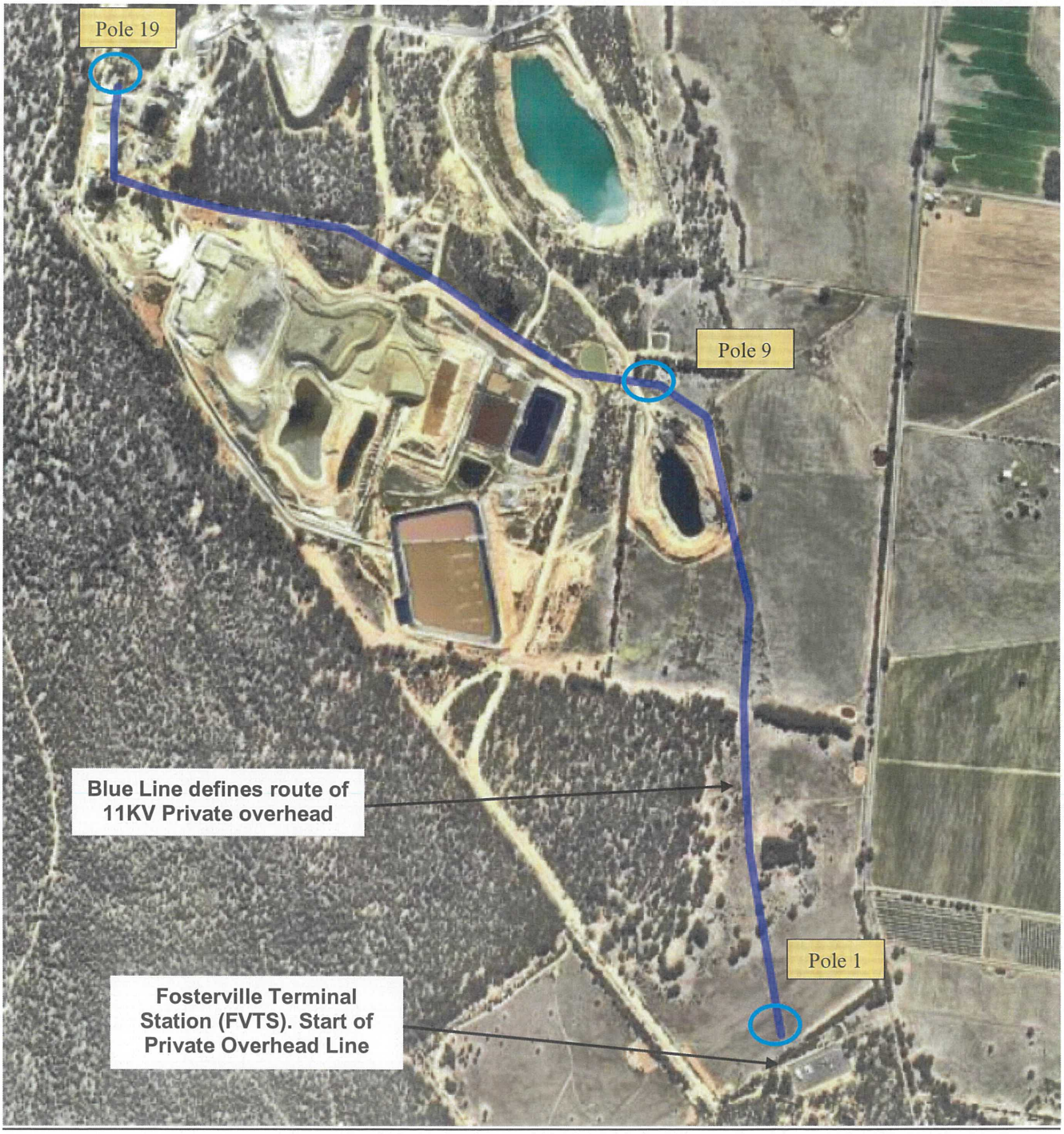


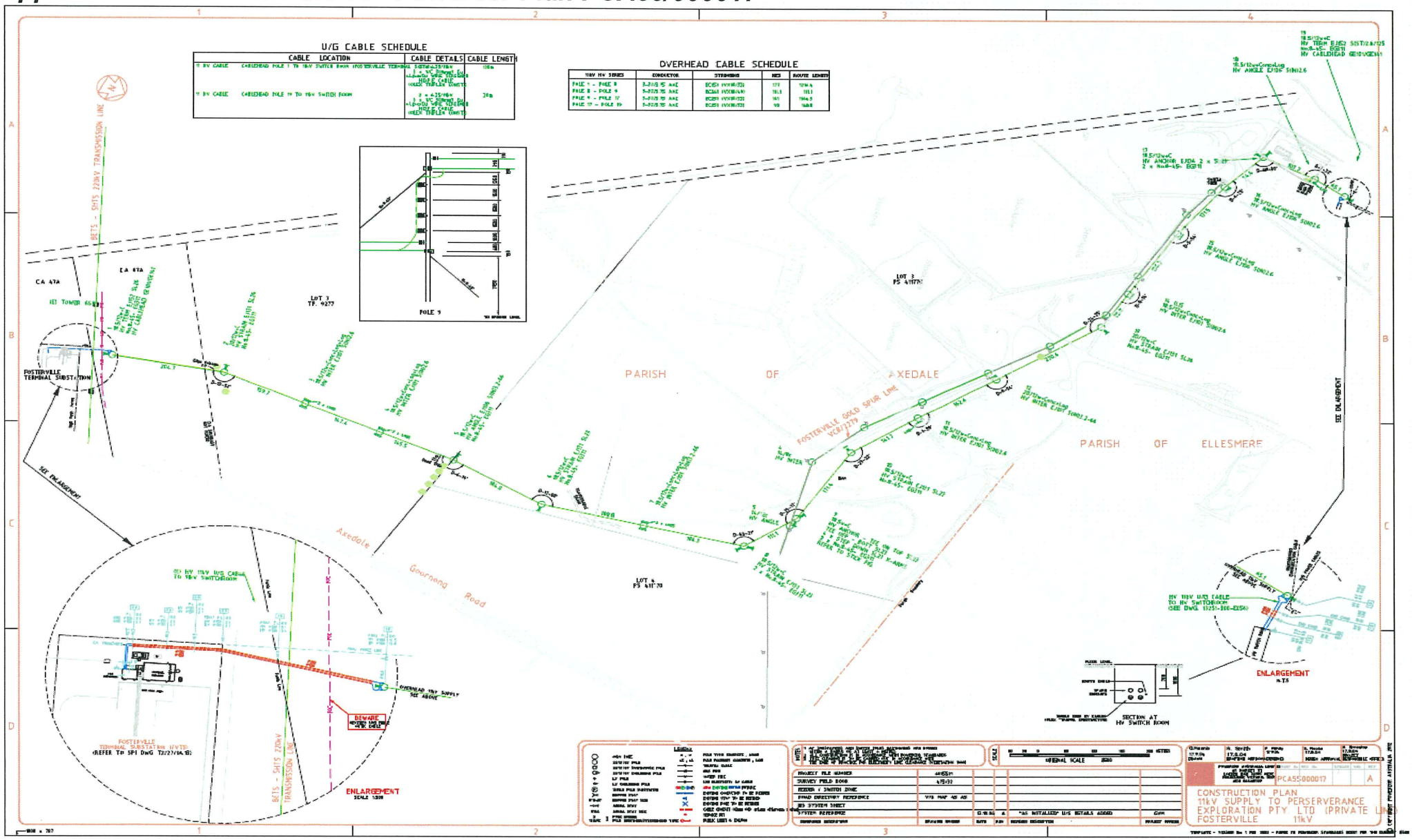
Image - 2

The image below shows the 11kV power line route from FVTS to Pole 9.

Image - 3

The image below shows the 11kV power line route from Pole 9 to Pole 19 that ends at 311-EB-01.

Appendix 3 – Pole 1 to Pole 19 - Powercor Plan PCA55/000017



Appendix 3 - Pole 1 to Pole 19 - Information

Image – 4

Title block from Powercor drawing - PCA_000017.

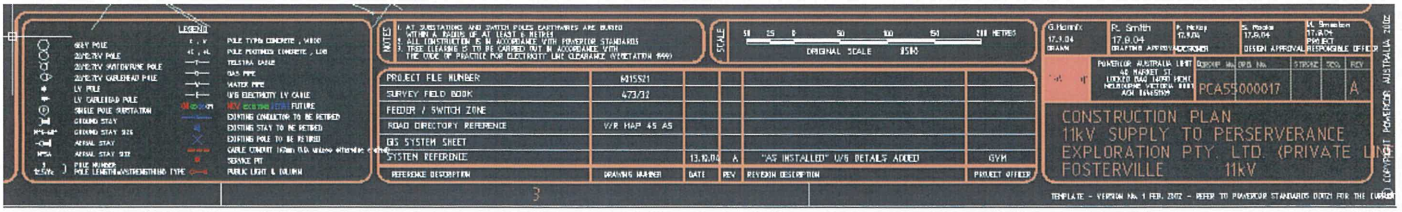
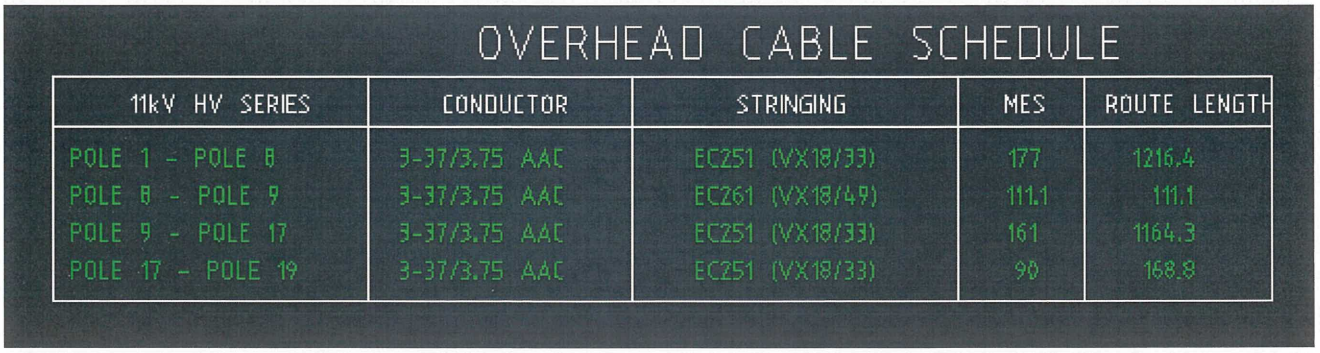


Image – 5

Drawing block details out of Powercor drawing - PCA_000017.



OVERHEAD CABLE SCHEDULE

11kV HV SERIES	CONDUCTOR	STRINGING	MES	ROUTE LENGTH
POLE 1 - POLE 8	3-37/3.75 AAC	EC251 (VX18/33)	177	1216.4
POLE 8 - POLE 9	3-37/3.75 AAC	EC261 (VX18/49)	111.1	111.1
POLE 9 - POLE 17	3-37/3.75 AAC	EC251 (VX18/33)	161	1164.3
POLE 17 - POLE 19	3-37/3.75 AAC	EC251 (VX18/33)	90	168.8

Image 6

The image below defines the 11kV power line route from Fosterville Terminal Station (FVTS) to Pole 6.

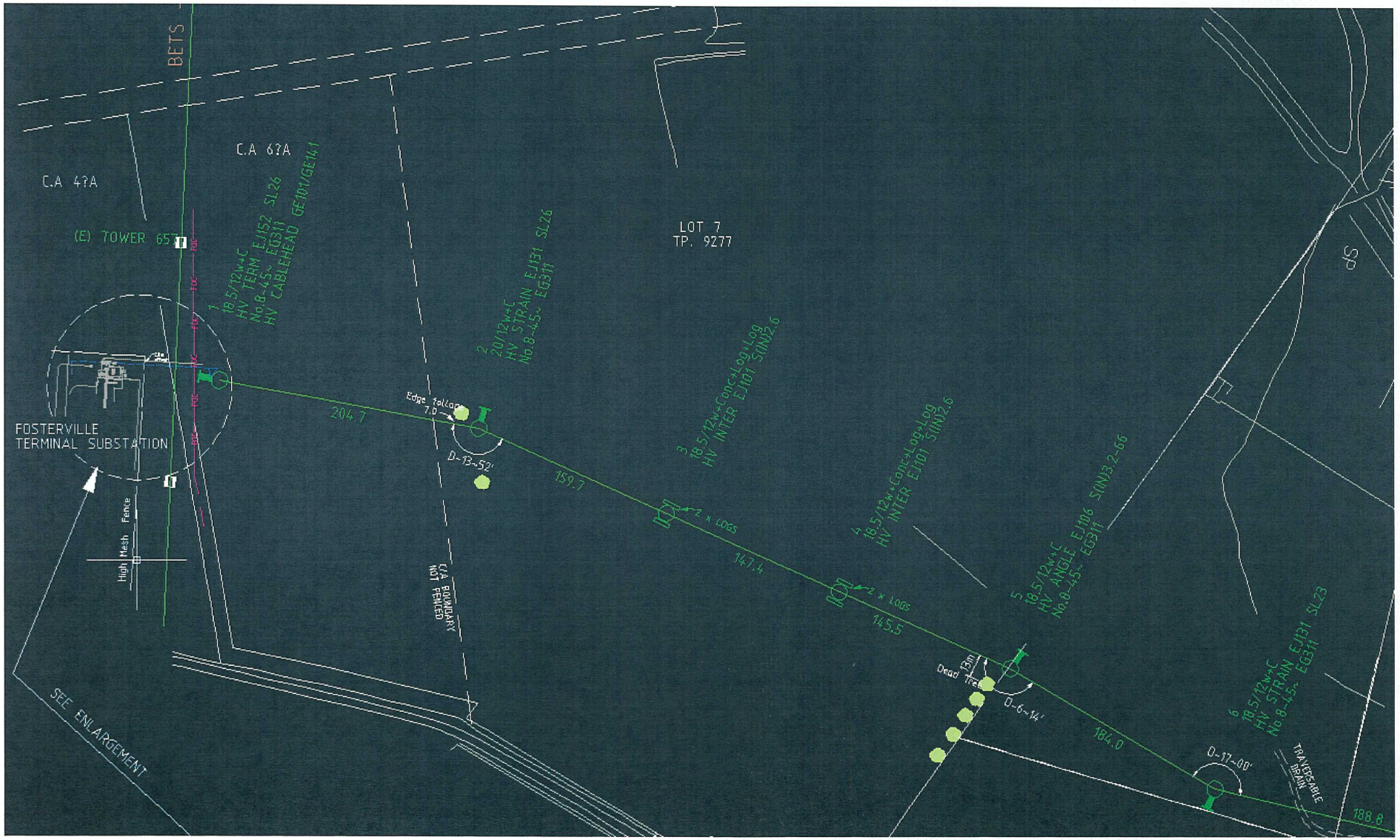


Image – 7

The image below defines the 11kV power line route from Pole 7 to Pole 14.

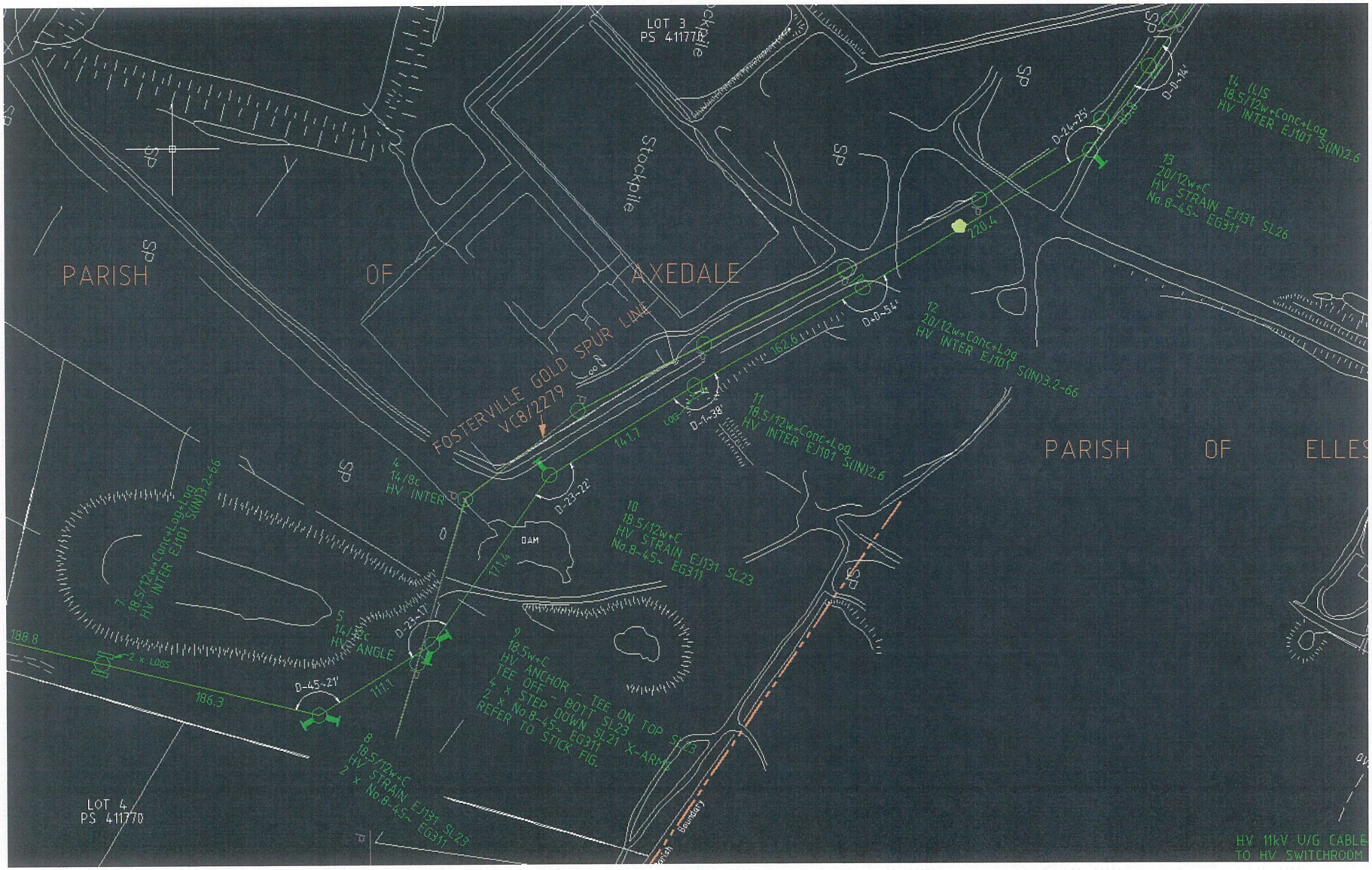
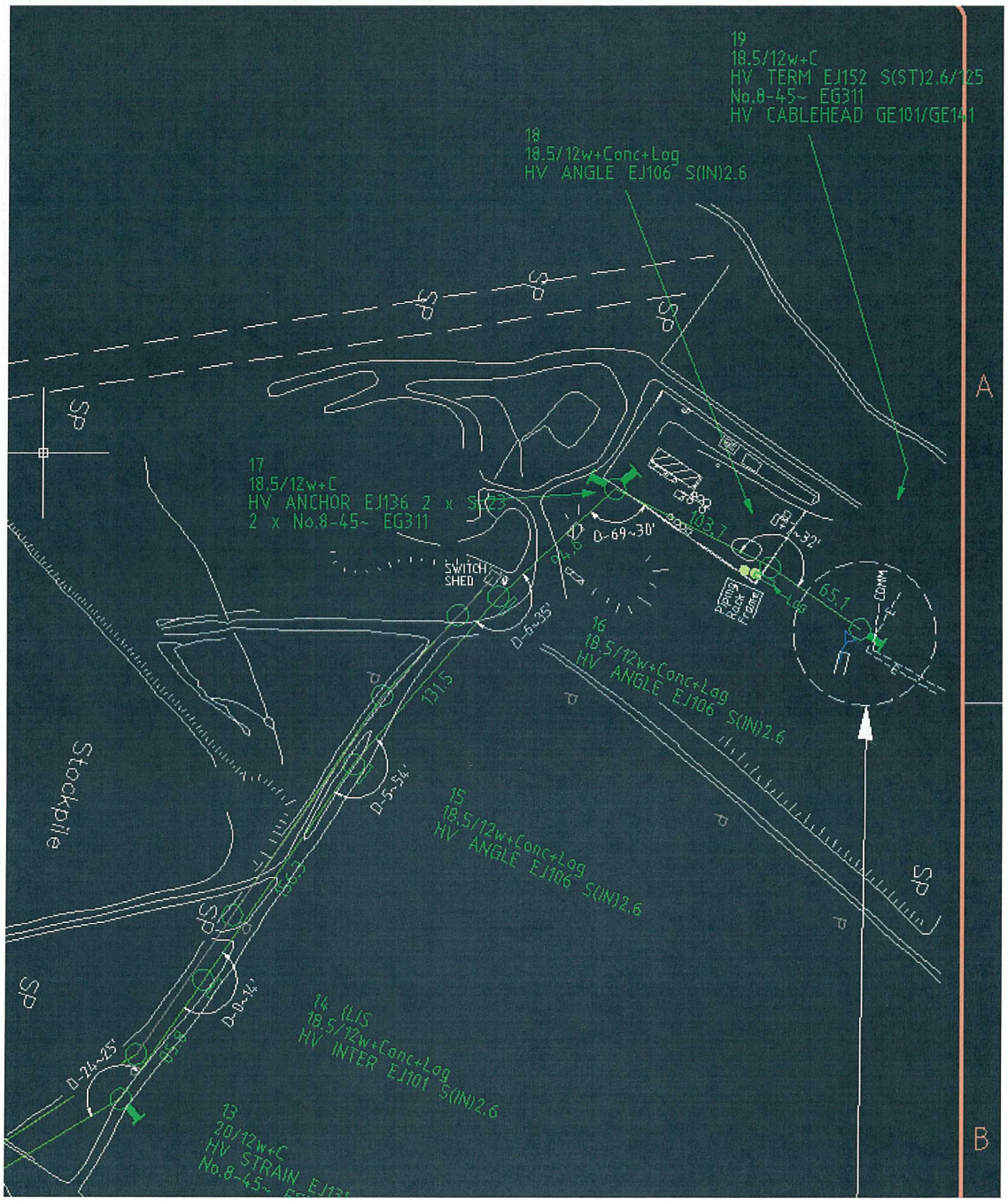


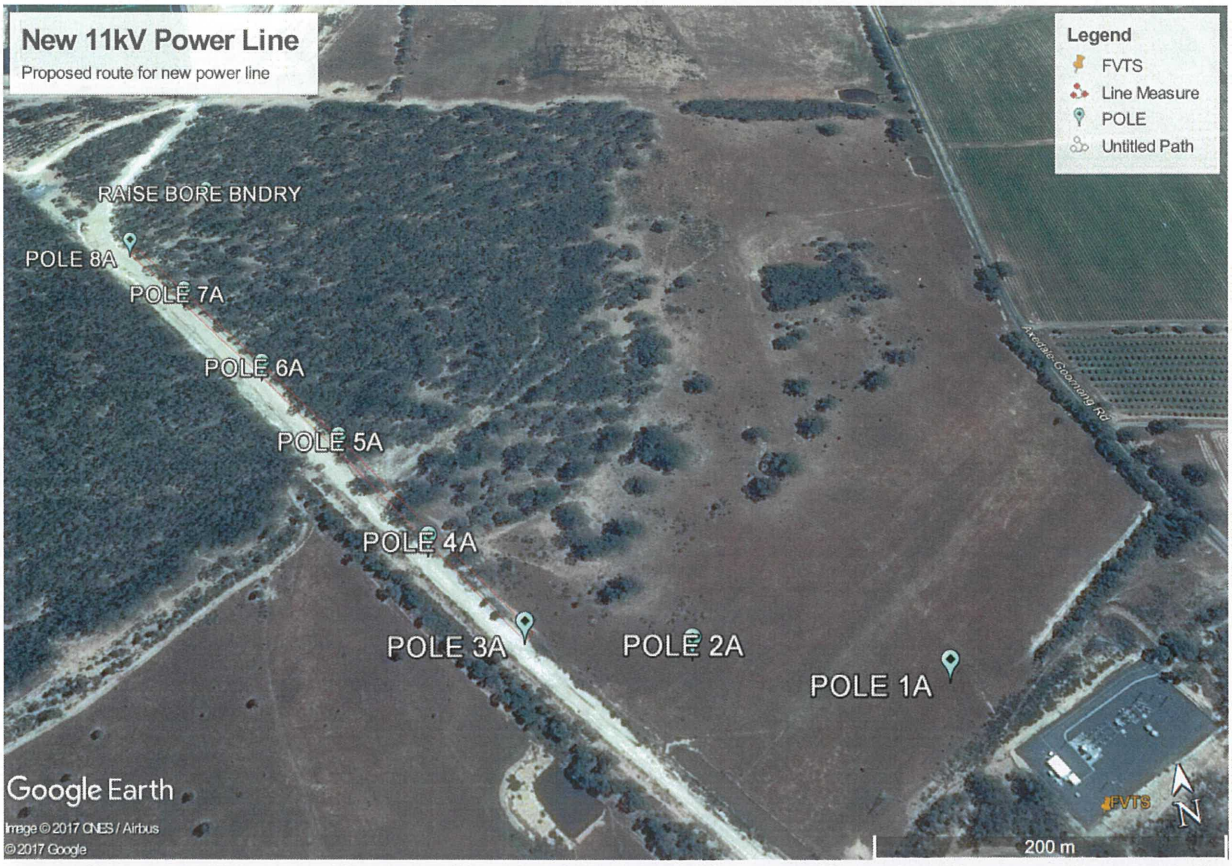
Image – 8

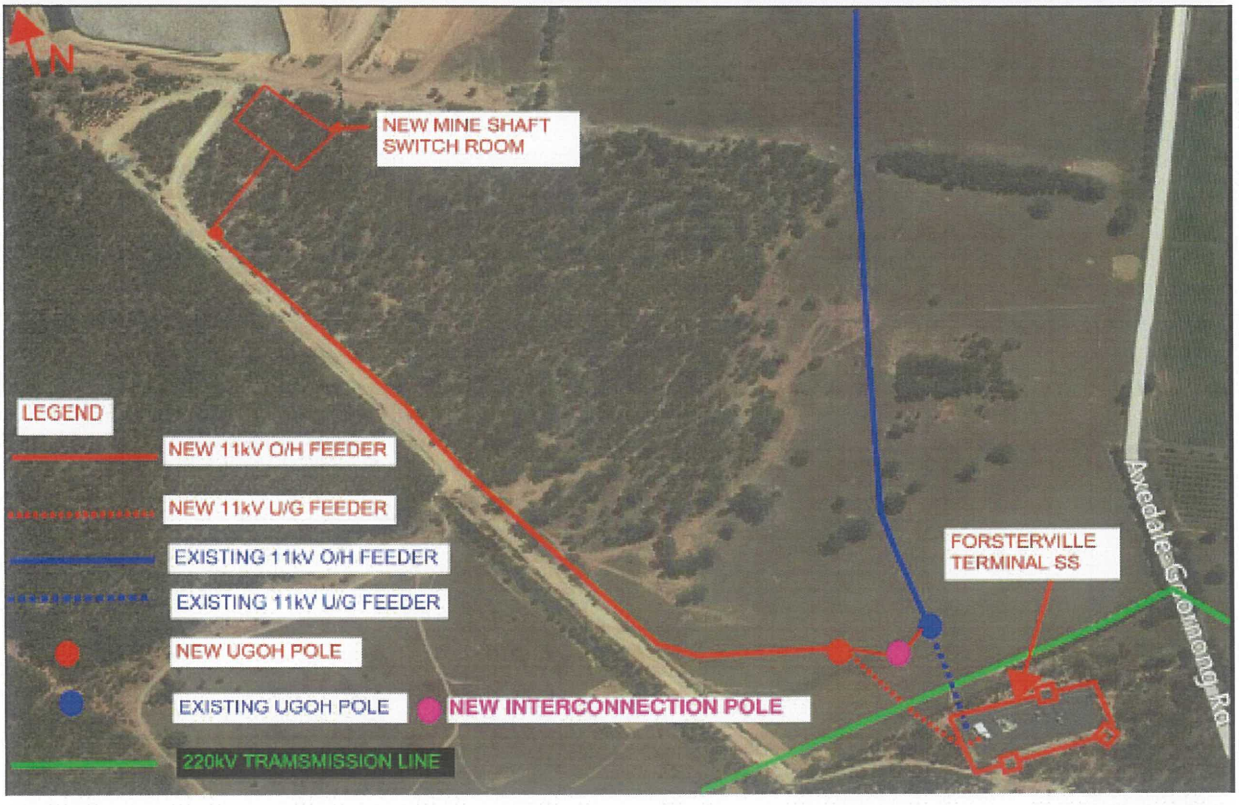
The image below defines the 11kV power line route from Pole 13 to Pole 19.



Appendix 4 - Pole 1A to Pole 8A - Location Map

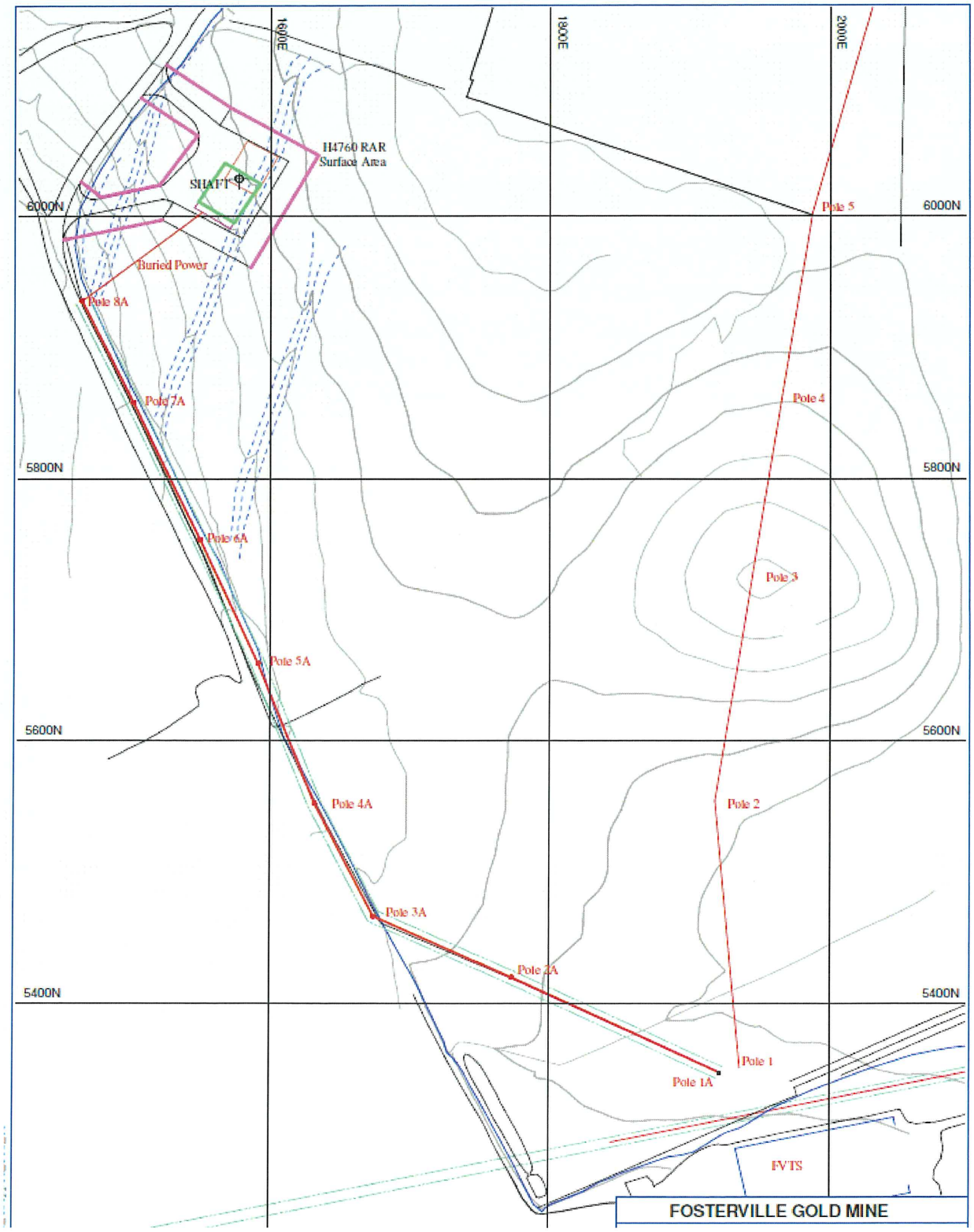
- The overhead 11kV pole line between FVTS and the Mine Ventilation HV Switchroom,111-EB-02.





Appendix 4 - Pole 1A to Pole 8A - Detail

Site map showing the location of the start of the overhead power lines originating from Pole 1 and Pole 1A. The drawing shows where Pole 1A originates and where the overhead power line ends at Pole 8A - Mine Ventilation HV Switch room -111-EB-02.



Appendix 5 – Pole 1A to Pole 8A – Aurecon Drawing

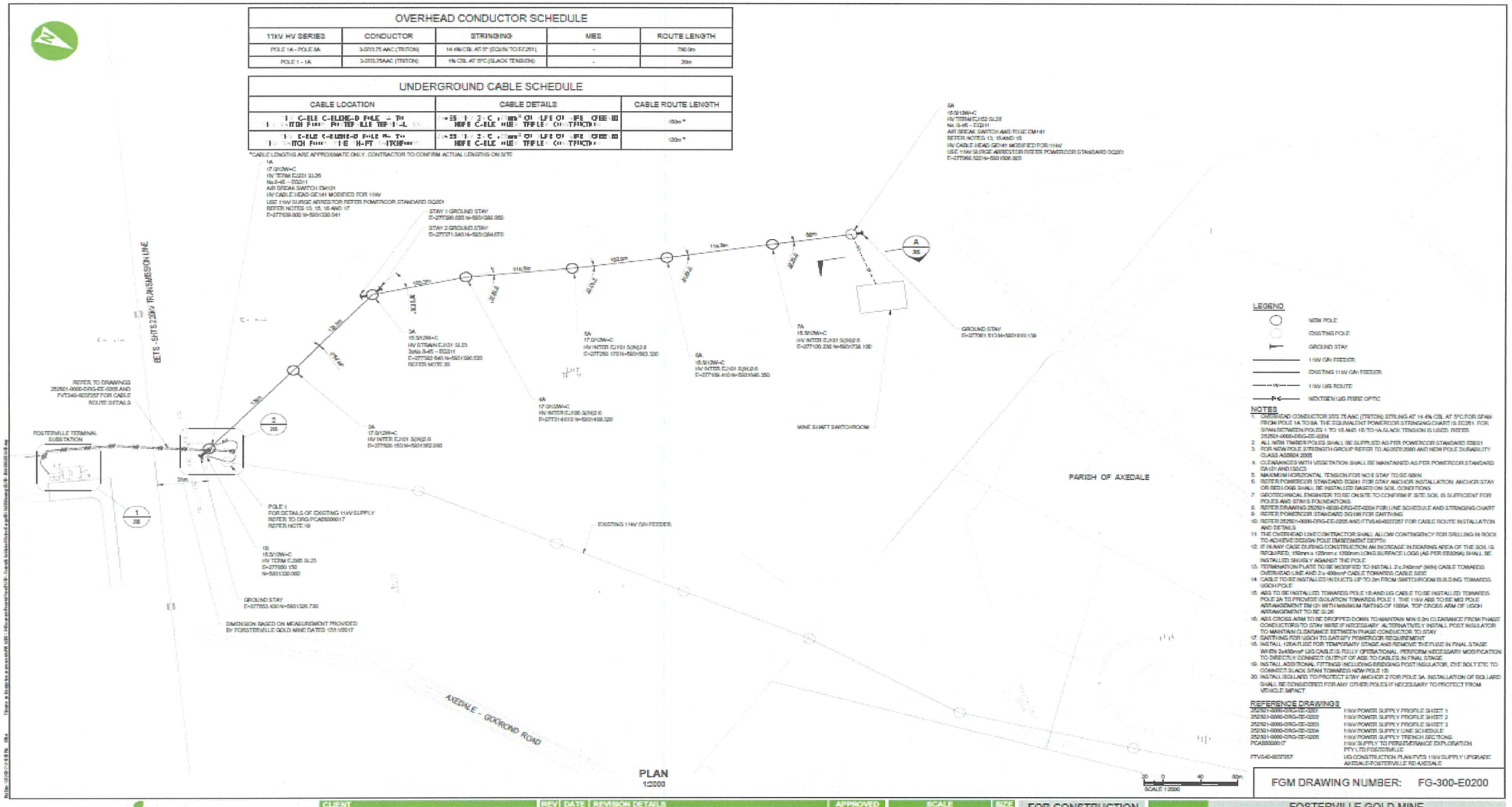


Image 1

The image below shows the 11kV power line route from Fosterville Terminal Station (FVTS) to Pole 5A.

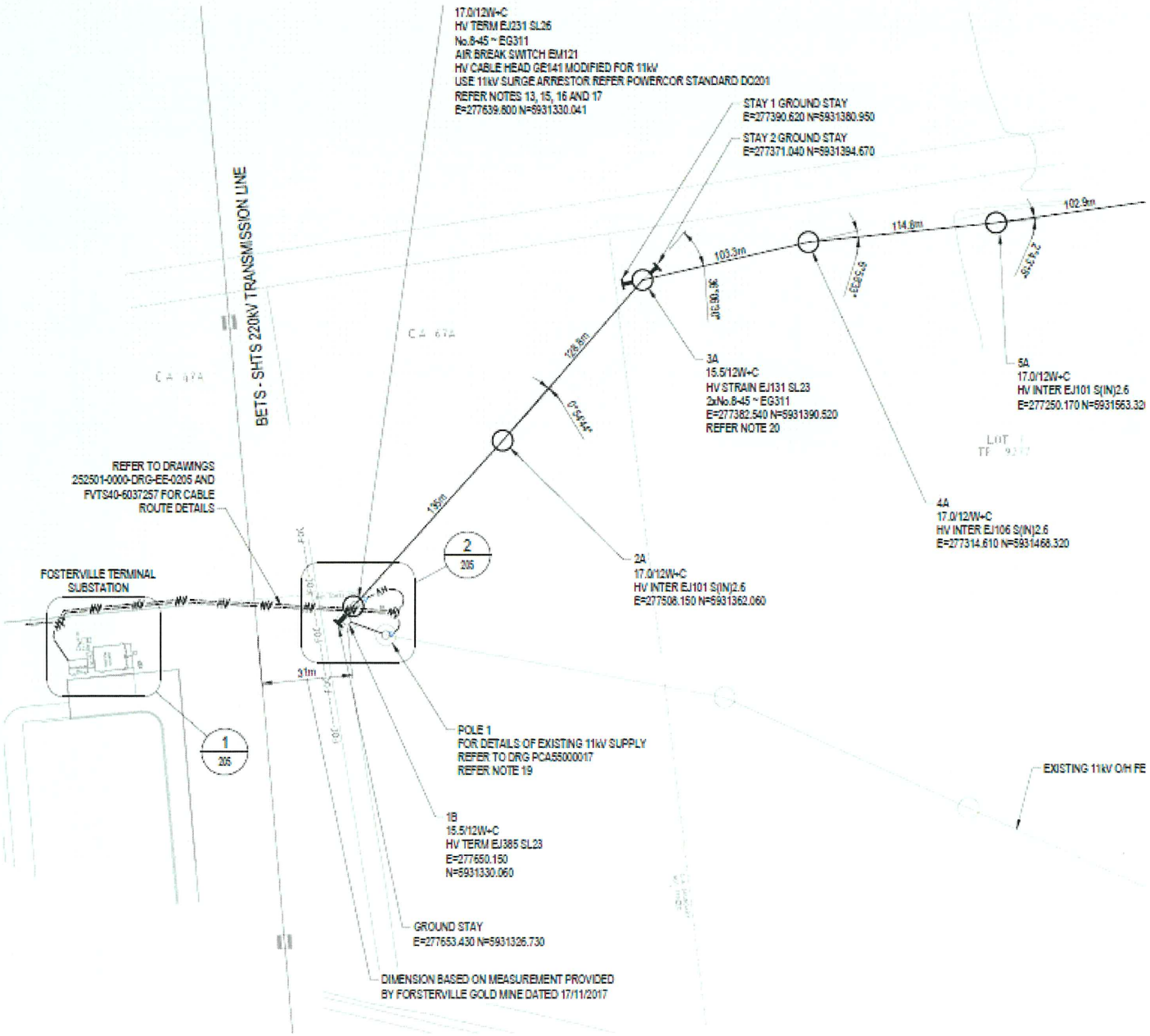
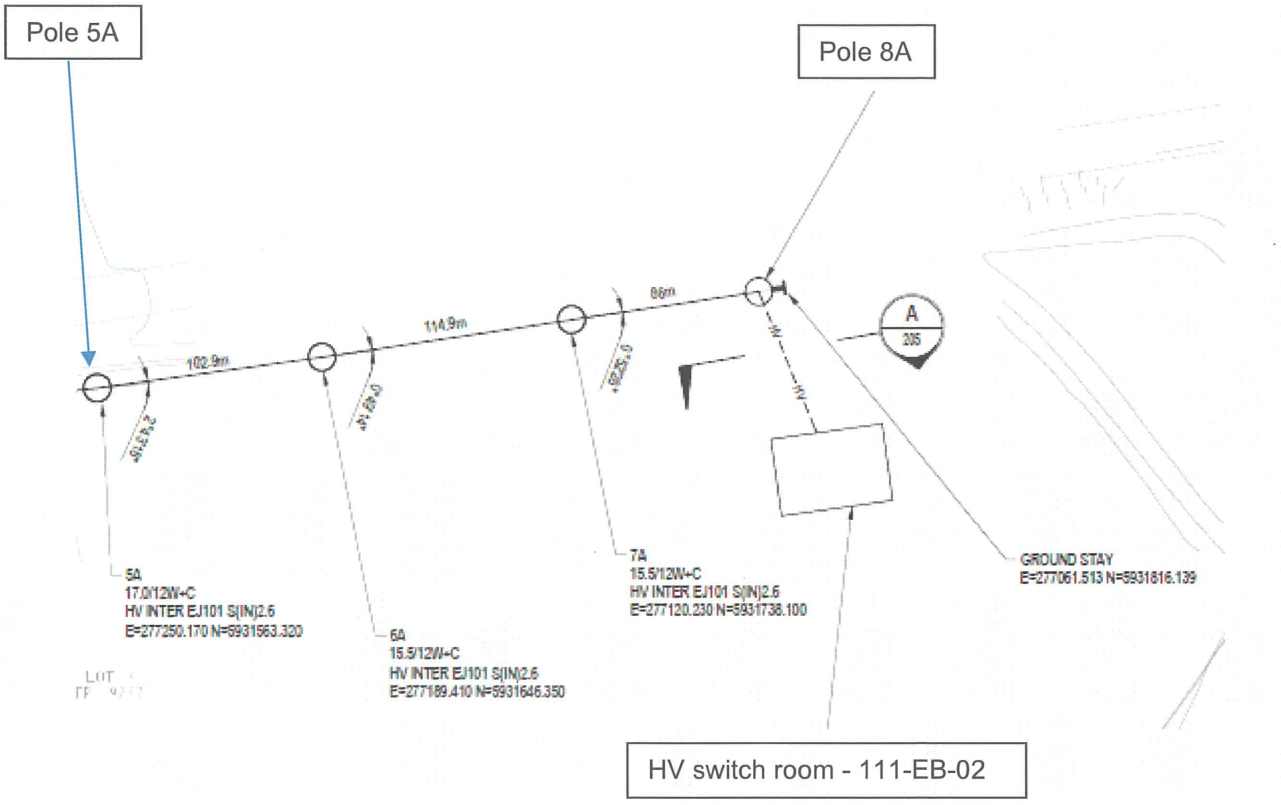


Image 2

The image below shows the 11kV power line route from Pole 5A to Pole 8A.



Appendix 6 – HBRA Location Map