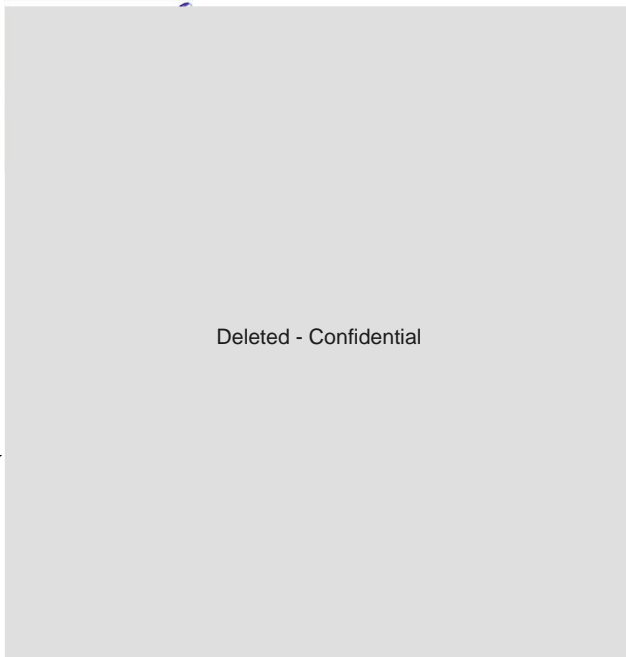




ADDENDUM No.2 to the:

Waurm Ponds Stabling & Maintenance Facility Report dated 3/9/15

Prepared by



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Reviewed by

Opus International Consultants
(Australia) Pty Ltd

Opus Rail
Level 2, 60 Collins Street
Melbourne VIC 3000
Australia

Telephone: +61 3 9911 6400
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Future Land Use Assessment- Site F- North of Main line

Status: Final

Date: 11 April 2016

Contents

1	Background.....	1
2	Site Location Suitability and Logic	1
3	Feasibility Study of Site F	2
4	Study Findings	2
5	Development of Concept Design.....	3
6	Livestock Route.....	4
7	Flora Fauna and Geology.....	4
8	Summary of Key Ancillary Facilities.....	4
	8.1 Communications	4
	8.2 Lighting.....	4
	8.3 Mechanical Services	5
	8.4 Road Vehicle Movements within the Depot	5
	8.5 Security Measures	5
9	High Level Cost Estimates	6
	9.1 General.....	6
	APPENDIX 1.....	8
	Cost Estimates.....	8
	APPENDIX 2	9
	Civil and Track Drawings	9
	Figure 1: Waurm Ponds area sites assessed for suitability for a proposed Train Stabling and Maintenance Facility	1

1 Background

The Public Transport Victoria (PTV) engaged Opus Rail (OR) to develop the Waurn Ponds Stabling and Maintenance Future Land Use Assessment. The work included a concept design and cost estimates for the facility to be constructed on a previously identified site (Site G) located beyond the level crossing at Reservoir Road and Bogans Lane, Waurn Ponds (88.678km) and extending in a westerly direction parallel to and south of the railway reserve and Warrnambool main line for approximately 1,700 metres to Pettavel Road.

The property identified as Site G (refer Figure 1) is owned in the same interest as Site F located adjacent to Site G, but north of the rail reserve and the Warrnambool main line. Site F was previously assessed and dismissed because the owner's residence, shearing shed and various outbuildings are located on the site.



Figure 1: Waurn Ponds area sites assessed for suitability for a proposed Train Stabling and Maintenance Facility

Details of each of the above sites, their characteristics and assessment outcomes are set out in the Concept of Operations Report (COO) located in Appendix 1 of the Opus Rail Report dated 3 September 2015.

2 Site Location Suitability and Logic

The Waurn Ponds area was selected as the most appropriate location in the Geelong Region for a future train maintenance and stabling depot. This decision was based on the principle that such a depot should be beyond the outer reach of regular commuter services to and from Melbourne in order for trains to be efficiently “fleeted” into their starting position for morning trips to Melbourne and with the reverse process applying during late afternoons and evenings. Waurn Ponds is expected to be the outer terminus for Geelong line commuter services for the foreseeable future.

The specific requirements at Waurn Ponds were to provide sufficient site length for trains of maximum potential length (up to approximately 250 metres) to arrive in reasonably quick

succession (e.g. at 10 minute intervals) and be processed in a series progression through the necessary servicing facilities without the risk of queueing back onto the main running line.

Following servicing, in the ultimate layout, trains will need to be directed into as many as 20 (minimum) parallel stabling sidings. The longitudinal separation and required clearance between parallel tracks being the principal driver of desired site length and width. In addition, space is required for a separate maintenance workshop building with up to five internal tracks that would accommodate the maximum length of future rolling stock, together with indoor and outdoor storage for parts inventories. Areas for staff amenities including staff car parking, train crew administration, training rooms and dining area will also be required.

In addition, the 24/7 almost continuous nature of activity at such a depot (and particularly at night) will require appropriate perimeter buffering to attenuate noise and lighting emissions.

3 Feasibility Study of Site F

PTV has again engaged Opus Rail to undertake a feasibility study to determine if Site F could be suitable for construction of the Waurm Ponds Train Maintenance and Stabling facilities, based upon the same requirements adopted for the concept design developed for Site G.

Specifically, Opus Rail is required to:

- Superimpose (mirror) the existing layout concept design (Site G) on the new site (Site F) to determine initial feasibility and meet with the PTV Project Manager to determine the way forward;
- Develop concept design drawings relative to Site F for track and facilities layout for both the Initial Schemes 1a and 1b, and the Ultimate;
- Minimise impact on the farmer's residence and out-buildings;
- Provide a livestock route at the west end of the site linking the farmer's properties north and south of the railway reserve and main line;
- Identify aspects of the layout that could have a negative impact on functional operation and maintenance of trains;
- Provide indicative cost estimates for both the Initial schemes 1a, 1b, and the Ultimate, based on criteria used for the previous concept design;
- Provide a brief report for PTV and submit as Addendum No.2 to the Waurm Ponds Stabling and Maintenance Facility Report submitted to PTV on 3 September 2015. Addendum No.1 refers to a previous Study of Options for a Livestock Crossing.

4 Study Findings

The land presently under consideration for the proposed train maintenance and stabling facility is triangular in shape approximately 1,600 metres long and identified as Site 'F' on the aerial photograph (refer Figure 1 above). It is located approximately 4km beyond Waurm Ponds

station, on the north side of the rail reserve (Geelong-Warrnambool main line), bounded to the south by the existing rail reserve, to the east by Bogans Lane and to the west by Pettavel Road.

Key aspects of the site include:

- Main line access to the site is reasonably level;
- The site slopes upwards toward Reservoir Road and would require excavation of approximately 5 metres near the northern boundary;
- The VicTrack fibre optic cable is located along the south side of the site and would need to be crossed for access to the site;
- The farmer's residence, shearing shed and other out-buildings are located on the site and, regardless of buffering and any other noise attenuating action taken, development of the train maintenance and stabling facility will significantly impact the farmer.

The site dimensions are:

- Southern boundary (parallel to the main line) 1654m;
- Eastern boundary 485m;
- Northern boundary 1116m; and
- Western boundary 221m.

This provides a total area of 26.667 hectares.

The site dimensions when buffered by an assumed 10 metre wide low earth bund and plantings on its perimeter are;

- Southern boundary (parallel to the main line) 1541m;
- Eastern boundary 386m;
- Northern boundary 1120m; and
- Western boundary 180m.

This provides a total usable area inside the bunding of 21.322 hectares.

The overall length of the Site F is less than Site G and the concept design reflects a track layout approximately 190 metres shorter in length than Site G. This has resulted in some reduction in operations functionality, specifically movement of trains between the train wash and maintenance facility. However, this should not be seen as a significant issue. The operational differences between Sites F and G include;

- A reduction in the wash plant approach of 200m, down to 80m;
- A reduction in the cripple siding length of 140m, down to 90m; and
- Once stabled, no direct access to the maintenance facility via the biowash/carwash.

The concept design confirms feasibility of the site and with some adjustment of length, the site meets the proposed facility functionality and scope requirements for the short and longer term.

5 Development of Concept Design

The Concept of Operations (COO) provided by PTV for development of the track and facilities layout for Site G has a strong focus on developing a facility with a high level of functionality and efficiency, which includes track and infrastructure layout that facilitates best work practises. The concept design for Site F follows the same principles; complies with applicable local building codes; is compatible with environmental conditions and building services adhere to

international standards and requirements. VRIOG Metropolitan Electric Train Stabling Design Guidelines has been used for reference purposes, where applicable.

Track lengths and track centres necessarily have been adjusted due to the constraints of the site, rail track geometry and the design standards detailed in the main report. In general, 250m section lengths (anticipated train length) have not been achieved; however, 240m was achievable and this was approved by PTV for the concept design for Site G.

6 Livestock Route

The concept design provides a route along the west end boundary of the site to enable the farmer to move livestock between his two properties, north and south of the main line. There is provision for an underpass under the Warrnambool main line.

7 Flora Fauna and Geology

Although not part this study, the flora, fauna and geology is anticipated to be similar to that of Site G. This will be verified as part of preliminary design and further geotechnical investigations.

8 Summary of Key Ancillary Facilities

In addition to the principal facilities and structures generally referred to above, the concept design also facilitates provision of various other important facilities and equipment that are all relevant to this site, bearing in mind the farmer's residence located on the site. These are detailed in the main report but include:

8.1 Communications

- CCTV;
- Security and access control;
- Public address in specific areas;
- WiFi access
- Phones and computer systems; and
- Alarms.

8.2 Lighting

Flood lighting is intended throughout the facility to provide both security of the asset and safety of personnel. The lighting should be designed with suitable cut-offs, screening and glare

suppression to minimise impact on adjacent land use and be arranged in such a way that it can be sectionalised and controlled for most effective and efficient use.

8.3 Mechanical Services

- General lighting and power;
- Water and fire services;
- Sewerage and train toilet system; and
- Diesel fuel service pumps.

8.4 Road Vehicle Movements within the Depot

The main access gate to the site is provided towards the east end of the facility from Reservoir Road. All entries and exits, including staff access and all deliveries by service vehicles, should be routed through this entrance gate. An emergency access / exit gate is provided at the western end of the site for use by emergency vehicles, if required.

The access road layout is designed to limit the need to cross tracks.

Appropriate access is provided for emergency vehicles to the workshop, stabling tracks and main parts of the facility.

Adequate parking space for cars and two-wheeled vehicles is provided for both maintenance and operations staff and visitors. Parking has been located in order to minimise walking time to and from work points.

Visitors and administration office personnel should be directed to the relevant area and dedicated car park after checking, identification and registration at the main access gate.

8.5 Security Measures

The entire facility compound is completely fenced. Road access is provided by a single entrance only. All entries and exits, including pedestrians and deliveries by service vehicles, should proceed through this entrance gate, controlled by security personnel.

Flood lighting is proposed within the compound for the following areas;

- Remote controlled entrance gate on the arrival tracks, interlocked with the signalling system;
- Perimeter fencing;
- Stabling tracks;
- Servicing tracks;
- Fuel storage area;

- Outdoor storage areas;
- Road and rail apron areas at workshop entrances;
- Workshop store;
- Level crossings; and
- Security checkpoints.

Intrusion alarms for key areas are recommended; CCTV is proposed with surveillance covering the perimeter fencing, gates, fuel storage area, stabling sidings, and the entrances to the workshop facility, amenities buildings, equipment storage sheds and service facilities.

It is suggested that the perimeter security arrangements referred to above be reviewed at a later stage of development to determine if a more intensive plan is required.

9 High Level Cost Estimates

9.1 General

9.1.1 Earthworks and Drainage

High level cost estimates have been undertaken in isolation of detailed survey and geotechnical information. It is recommended that a feature survey and geotechnical investigation of the site be undertaken to confirm the depths of excavation and the ground conditions.

Assumptions: The earthworks and drainage costs allow for the conditions that are likely to be encountered in the area. It is assumed that the selected area will be naturally well-drained and not swampy. The existing ground condition is suitable for construction of the proposed facility.

Earthworks: The basaltic clay that is expected to overlie the rock for a depth of one to two metres is likely to be reactive and either require removal or treatment. It might be economical to lime-stabilise the basaltic clay to a suitable depth on some parts of the site. Excavated clay can be used to form mounds along the site boundaries for noise and visual screening. Untreated basaltic clay is not a suitable formation or subgrade material. It is estimated that some fill material will be required to be brought in to balance the earthworks on site.

Drainage: The basis for the estimate is to provide:

- Open catch drains at top of batters;
- Open table drains at the toe of batters;
- Track subsurface drainage every second track;
- Kerb and channel on access roads and car parks if the fall requires. At this stage we have assumed kerb and channel on the edge of road and car park pavements; and
- An underground, piped, storm water drainage system.

All drainage, other than from roofs, will be fed into storm water drainage system. Allowance has been made for underground pipes along both long sides of the depot, a retention basin and

sullage separation pit. Runoff from roofs is proposed to be collected in rainwater tanks for use in toilets and nearby gardens.

Excavation for storm water drainage pipes could encounter basalt rock material and the unit rate per metre of pipe has been raised in consideration of such conditions occurring below the nominal cut surface for the general yard.

9.1.2 Trackwork

Trackwork costs have been based on the use of new materials for ballast, sleepers, rail and turnouts. Some cost savings could be made if serviceable materials are available for use, instead of new.

The track estimates should be reasonably accurate and the 30% contingency should be a generous allowance for possible changes in the track layout, track lengths and turnout requirements.

9.1.3 Maintenance Facilities and Amenities

The maintenance facilities and amenities costs have been based on costs of previous similar facilities, including Ballarat East Depot, Geelong Loco Depot and South Dynon Carwash Facility.

9.1.4 Fuel Storage

It is noted that the storage at South Dynon comprises two 550,000 litre tanks; however the tanks are huge and would be difficult to screen or set below ground level, with maintenance vehicle access.

The concept layout and estimated cost of the fuel storage facility are based on ten 100,000 litre tanks, each being 6.5 m diameter and 3.5 m high (height to diameter ratio yet to be optimised). Consideration could be given to setting the fuel storage partially below ground level on solid rock for safety and aesthetic reasons.

A suitable configuration needs to be resolved.

9.1.5 Estimated Costs

The high level cost estimates are included in Appendix 1.

Total estimated cost for development of Stage 1a (including PTV standard on-costs) is Deleted - Confidential

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Total estimated cost for development of Stage 1b (including PTV standard on-costs) is Deleted - Confidential

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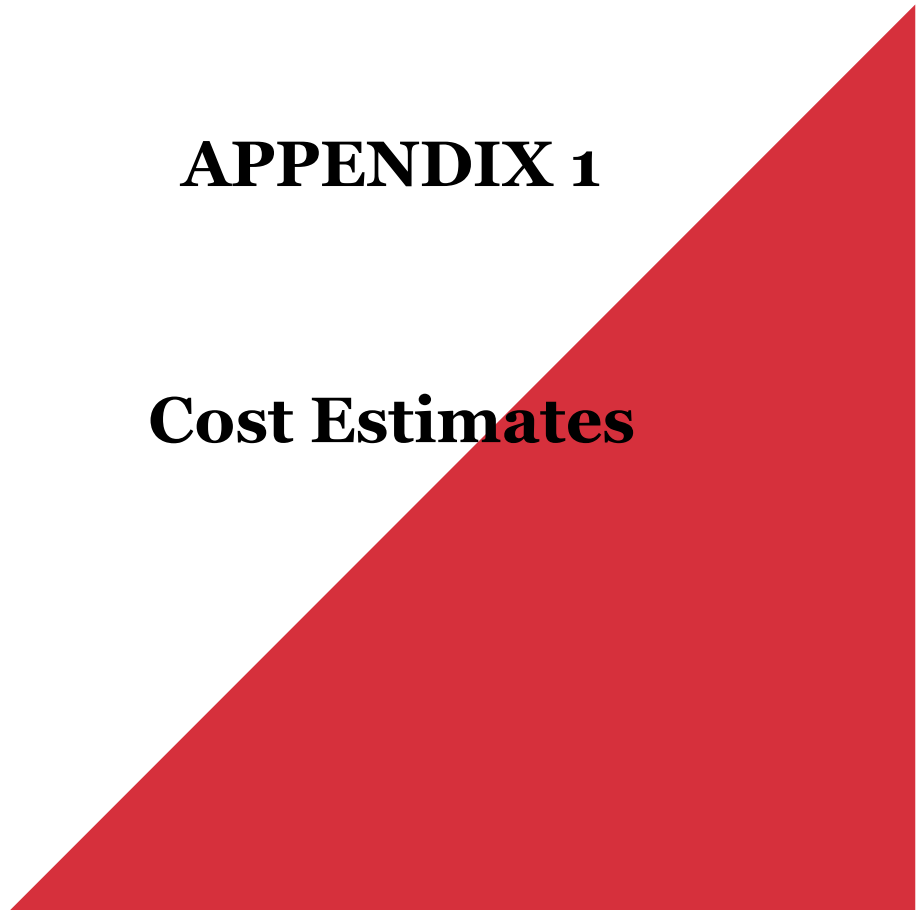
Total estimated cost for the Ultimate extension (including PTV standard on-costs) is Deleted - Confidential

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The cost estimate does not include land acquisition.

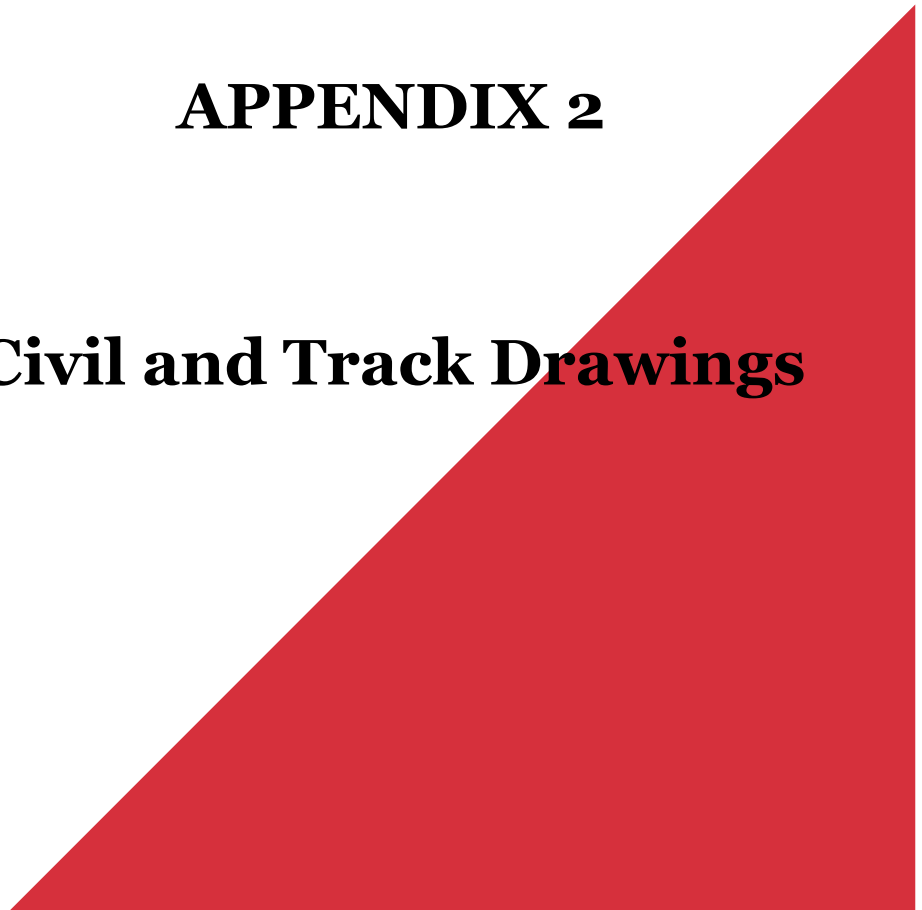
APPENDIX 1

Cost Estimates



APPENDIX 2

Civil and Track Drawings





**Opus International Consultants
(Australia) Pty Ltd**
Level 2, 60 Collins St
Melbourne VIC 3000
Australia

t: +61 3 9911 6400
f: +61 3 9650 7622
w: www.opus.com.au