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1 October 2021

Alexandra Wade
Planning Department
City of Monash
293 Springvale Road
Glen Waverley VIC 3150

Dear Alexandra,

PLANNING PERMIT APPLICATION FOR GROUND IMPROVEMENT PRELOADING WORKS AND TEMPORARY VENTING TRENCH 1221-1241 CENTRE ROAD, OAKLEIGH SOUTH

We continue to act on behalf of Huntingdale Estate Nominees Pty Ltd in relation to the former Talbot Quarry site at 1221-1249 Centre Road, Oakleigh South.

Our clients wish to carry out some ground improvement works (preloading) for the north-western portion of the site and the construction of a temporary landfill gas venting trench along the north-western boundaries of the site.

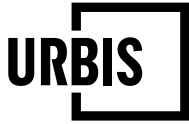
The north-western portion of the site is known as Zone 1 in the Statements of Environmental Audit. The corresponding geotechnical nomenclature (as referenced in the preload design report) is 'Domain 1'. These terms represent the same area.

Zone 1/ Domain 1 comprises a former quarry pit which had been used as a municipal landfill (generally uncontrolled fill and landfill materials). The proposed earthworks of stockpiles are a geotechnical ground improvement measure involving bringing clean fill onto the site to 'preload' the existing fill to assist with ground consolidation and settlement, as an engineered treatment of uncontrolled fill material in Zone 1 and to investigate settlement patterns of the fill. The gas venting trench is identified as a requirement of the Audit, prior to any preloading works taking place in Zone 1 of the site.

This letter should be read in conjunction with the following supporting documentation:

- Existing Plans and Domain/ Zone Plans prepared by Tetra Tech Coffey;
- Preload layout and trench detail plans prepared by Tetra Tech Coffey;
- Letter in support of the Zone 1 Temporary Boundary Venting Trench prepared by Tetra Tech Coffey dated 28 September 2021;
- Workplan For Zone 1 Temporary Boundary Venting Measures prepared by Tetra Tech Coffey dated 23 September 2021;

Application letter GIW DRAFT



- Domain 1 Preload Design Report prepared by Tetra Tech Coffey dated September 2021;
- Site Environmental Management Plan prepared by Verve, dated 28 September 2021;
- Arboricultural Assessment and Report prepared by Tree Logic dated 15 September 2021;
- Aboriginal Cultural Heritage Assessment prepared by Ecological Australia dated 31 March 2021; and
- Construction and Environmental Management Plan, dated 1 May 2020.

A letter of verification from the Environmental Auditor for the proposed gas venting trench design will follow shortly.

Please note the Construction and Environmental Management Plan (CEMP) is the same as that appended to the Statements of Environmental Audit which have previously been provided to Council.

1. BACKGROUND

The site's previous uses and activities of sand quarrying and landfilling in Zone 1 require a geotechnical and environmental management response to improve the ground conditions to enable future development works.

The majority of the eastern portion of the site has been preloaded with stockpiles under a previous permit (Planning Permit TPA/43337) which expired in 2019. These works have been instrumental as part of comprehensive geotechnical investigation in providing extensive data and modelling to enable assessment of proposed ground improvement works and any additional works that may be required. The data has facilitated the preparation of the Settlement Prediction Report that informs the geotechnical and structural response of redevelopment.

This application is the first in a staged approach for additional ground improvement works across the site.

The Environmental Audit was completed in May 2020 which resulted in three Statements of Environmental Audit permitting sensitive uses subject to various requirements including landfill gas protection measures. *Condition 5(a)* of the *Statement of Environmental Audit (SoEA)* issued for Zone 1 and Zone 2A is outlined below:

- 5) *The CEMP and CDSMM prepared by Coffey Services Australia Pty Ltd attached to this Statement, also must be adhered to prior to the commencement of construction and followed in detail regarding the proposed staging; the location of required gas protection measures (i.e. gas pathway intervention and building/ services protection measures); and required continuing monitoring of landfill gases. In particular:*
 - a) *A temporary or permanent boundary gas venting system constructed prior to pre-loading activities, along the northwest site boundary of Zone 1.*

This application seeks approval for a temporary trench. A permanent trench will need to be designed in association with the cap required for Zone 1 and the redevelopment of the site in accordance with Condition 5(b) of the SoEA for Zone 1 and 2A which states:

- b) *A permanent vertical (boundary intervention) gas venting system constructed prior to the landfill cap, at all boundaries as indicated on Figure 1 of the CDSMM report to intercept and vent gas potentially migrating laterally.*

The temporary system would be installed prior to any stockpiling works, which would then be repurposed as a permanent trench as part of the site's future redevelopment.

2. SITE AND SURROUNDS

The entire property comprises almost 19 hectares, situated to the north east of Centre and Huntingdale Roads intersection in Oakleigh South. The land has a long history of use for quarrying and sand extraction, and landfilling in parts of the site. Stockpiling of fill has been the most recent activity undertaken on site.

The works proposed as part of this application will take place the north-western portion of the site (the same area referred to as Zone 1 in the Environmental Audit or Domain 1 in the Preload Design Report).



Figure 2 - Zones in Environmental Audit



Figure 1 - Geotechnical Domains

Zone 1 has a western interface with the rear of properties which front Huntingdale Road. To the northern interface is a public reserve and a scout hut.

To the south of the whole site is a four storey apartment building located at the corner of Huntingdale and Centre Roads, two storey apartment blocks at 1219 Centre Road and Talbot Park to the south-east.

The eastern and north eastern boundary of the whole site has an interface with the rear of residential properties.

3. PROPOSAL

3.1. GROUND IMPROVEMENT WORKS (PRELOADING)

The former quarry pit in Domain 1 has been partially and unevenly backfilled in the past and currently comprises soil mounds and stockpiles with surface elevations ranging from RL59m to over RL66m. The proposed preload will be placed at three levels across Domain 1 varying from RL66m at the northern end, RL65m in the middle and RL64m at the southern end. These levels correspond to at least 2.5m above the proposed final site levels and have been adopted to provide an applied load of about 25kPa greater than the final applied loads to accelerate the settlement that occurs and to reduce the magnitude of settlement that occurs during the placement of the structural fill and dwellings. Due to the variations in current surface levels, these levels may result in the preload being thicker in the lower parts of the Domain. The existing stockpiles with current elevations higher than the proposed preload levels will be retained at those heights.

The crest of the stockpiles along the western boundary is proposed to generally align with the estimated quarry pit edge (approximately 10-15m from the western site boundary) to assist with uniform settlement of ground in the former quarry pit. The take account of a batter slope of 2H:1V, the toe of the preload stockpile will approximately 5m from the western boundary of the site. A minimum 5m buffer from the north wall of the existing quarry void in Domain 4 is also proposed. Further details of the preload design are provided in the Preload Design Report.

The preload is expected to be in place and monitored for settlement for around 12-18 months. After which, the preload will be removed and used as backfill material for the quarry void in Domain 4 (subject to separate approval).

As the preloading of stockpiles is required up to 5m from the site boundaries to ensure uniform settlement of ground within the former quarry pits and avoid differential settlement with existing ground, all the trees and vegetation within the Zone 1 area are proposed to be removed.

It is proposed to widen the existing access from Huntingdale Road to enable trucks to enter and leave using this access.

3.2. GAS VENTING TRENCH

The proposed works include the construction of a temporary boundary trench with a width of around 600mm and depth of between 4m and 5m below the current ground surface (to the approximate depth of the water table).

A high density polyethylene (HDPE) geomembrane and geotextile liner (or other suitable materials verified by the environmental auditor) is to be installed on the site boundary side of the trench. The trench will then be filled with permeable materials such as 20mm to 50 mm basalt aggregate or suitable high permeability material alternative. The toe of the preload would cover the top of the trench and vent risers installed (from the trench through the preload), spaced every 20m along the length of the trench. These vent risers will extend a minimum of 2m above final preload level.

To take account of the preload design that requires uniform preloading to the edge of the former quarry pit, the trench will be installed approximately 5m from the site's boundary. A buffer of 4-6 m is proposed to allow for any localised variation in the trench orientation should any buried wastes be encountered. It is estimated the trench will be approximately 196m long.

Further information with regards to the trench construction are provided in the enclosed letter from Tetra Tech Coffey and the Workplan For Zone 1 Temporary Boundary Venting Measures (2021).

There are some associated risk management matters associated with preloading of Domain 1 given the proximity to sensitive residential uses along the western boundary. These are:

- The potential for settlement or compression of buried landfill wastes in Zone 1 that may displace soil gas and have the potential to cause (temporarily) off-site gas migration; and/or
- The potential for stockpiling/compaction of less permeable materials across the Zone 1 surface to impact landfill gas migration in this area.

Whilst the likelihood of these concerns being realised due to proposed stockpiling in Zone 1 is low, landfill gas contingency measures are proposed to be established along the western boundary of Zone 1 as a risk adverse approach to this sensitive interface.

4. PLANNING CONTROLS AND POLICIES

4.1. ZONING AND OVERLAYS

The site is located in the **General Residential Zone – Schedule 3 (GRZ3)** and the **Special Use Zone 2 (SUZ2)**. The proposed earthworks associated with improving the ground conditions of the land and installation of a venting trench, requires a planning permit under the General Residential Zone and Special Use Zone.

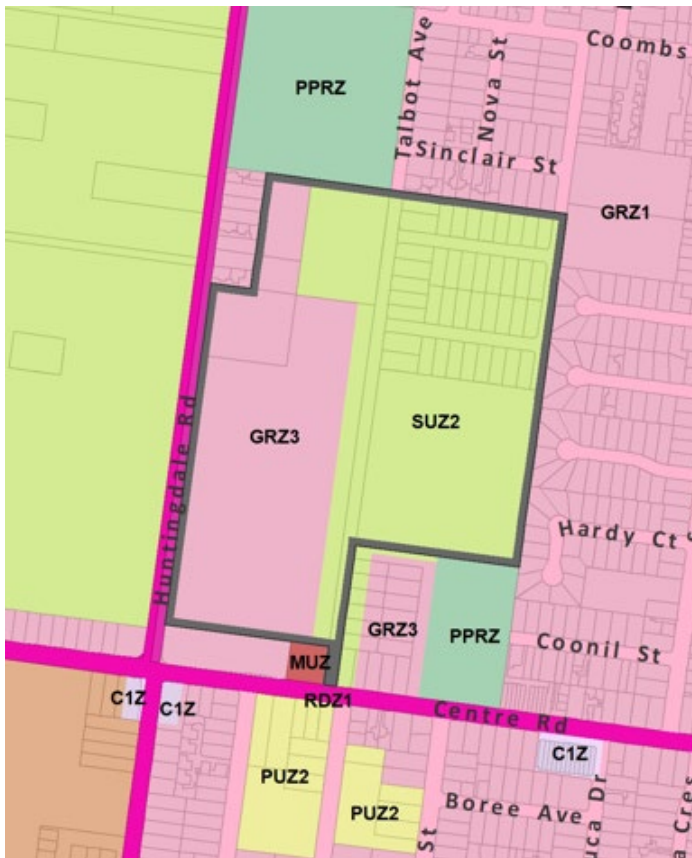


Figure 3 - Zoning Plan

The subject site is affected by an Environmental Audit Overlay. The Environmental Audit is now complete.

4.2. CULTURAL HERITAGE SENSITIVITY

The south western portion of the site is located in an area of cultural heritage sensitivity as shown in the plan below.

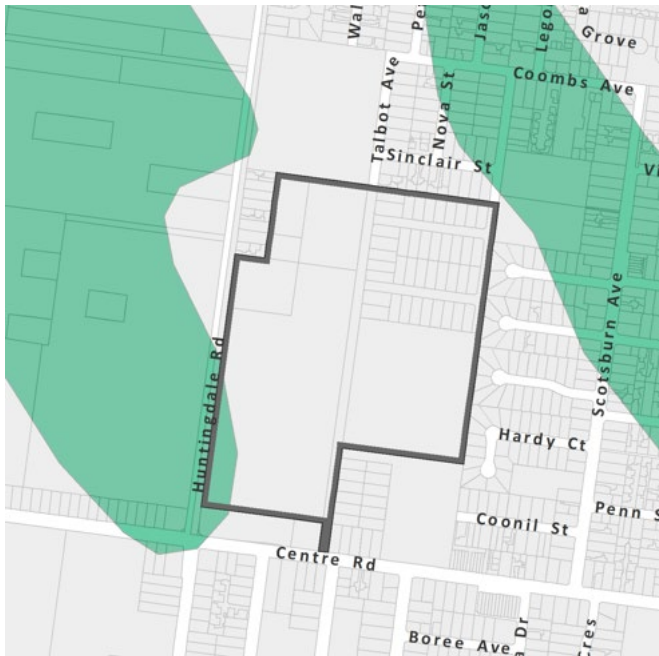


Figure 4 - Aboriginal area of cultural heritage sensitivity

Whilst no works are proposed in this area under the current application, an Aboriginal cultural heritage assessment has been carried out by Ecological Australia. This assessment concluded that the previous activities on the site has resulted in significant ground disturbance and the mandatory cultural heritage management plan (CHMP) will not be required for quarry infilling or any future redevelopment of the site for mixed-use residential purposes, on the basis that no areas of Aboriginal cultural heritage sensitivity are present within the study area.

4.3. PARTICULAR PROVISIONS

Clause 53.18 'Stormwater Management in Urban Development' seeks to ensure stormwater in urban development, including retention and reuse, is managed to mitigate the impacts of stormwater on the environment, property and public safety, and to provide cooling, local habitat and amenity benefits. Whilst the proposed works are not for new buildings, the provisions of this clause have been taken into account.

4.4. RELEVANT PLANNING POLICIES

Clause 13.04-1S 'Contaminated and potentially contaminated land' seeks to ensure that '*potentially contaminated land is suitable for its intended future use and development, and that contaminated land is used safely*'.

Clause 21.13 'Sustainability and Environment' seeks to (amongst other strategies) '*ensure that planning, development and associated infrastructure complies with the principles of economic prosperity, social advancement and environmental protection*.'

Clause 22.05 'Tree Conservation Policy' seeks to 'maintain, enhance and extend the Garden City Character throughout Monash' and 'to promote the retention of mature trees and encourage the planting of new canopy trees with spreading crowns throughout Monash'.

Clause 22.09 'Non-Residential Use and Development in Residential Areas' seeks to '*ensure that development is appropriate having regard to the residential environment of the surrounds and that the amenity of the neighbourhood is not adversely affected by a business conducted in a residential area*.'

5. PLANNING CONSIDERATIONS

The preloading works are considered appropriate on the basis they are required as an engineered geotechnical design response to improve the ground conditions to enable the construction of the landfill cap (as required by the Environmental Audit) and future development on the site.

The proposed preloading extent and stockpile pile heights are required to ensure uniform settlement of ground within the former quarry pits and avoid differential settlement with existing ground. The preloading design has also had regard to the future redevelopment of the site and the requirement for future ground levels in the northern portion of the site to be higher than the southern portion of the site to allow for gravity drainage to a future retarding basin/wetlands in the southern portion of the site.

The temporary boundary venting trench is a potential risk management measure as part of the environmental management associated with previous uses on the site. Due to the proximity of the adjacent properties at 412-420 Huntingdale Road to Zone 1, it would be difficult to implement land fill gas (LFG) control measures in this area after stockpiling, in the unlikely event of unexpected gas migration. The trench is being proposed as a precautionary measure based on the potential nature of the impacts rather than the likelihood of them occurring. The environmental auditor and EPA Victoria agreed with implementing this precautionary measure and as such it is a requirement in the Statement of Environmental Audit.

5.1. CONSISTENCY WITH PLANNING POLICY

The proposal is consistent with relevant planning policy, having regard to:

- The works are recommended in the Environmental Audit, which will enable the land to be safely used (Clause 13.04-1S)
- The works will ensure the surrounding environment is protected from future rehabilitation works on the site (Clause 21.13).
- Whilst Clause 22.05 seeks the retention of semi-mature and mature tree canopy, tree retention is not possible due the extent of preloading earthworks required to be 5m from the site boundary.
- Amenity impacts can be minimised and managed for the works to be appropriate adjacent to existing residential areas (Clause 22.09).

5.2. EXTENT OF PRELOAD WORKS

The preload heights and location are required to avoid differential settlement with the existing natural ground around the former pit edge when the site is redeveloped and future drainage requirements for the whole site. On the basis that the former quarry works extended to up to around 10m from the western boundary and taking account of the slope required for the edge of the preload stockpile, the preload 'toe' will be located approximately 5m from the western boundary.

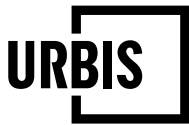
Whilst we note that Clause 52.09 'Extractive Industry and Extractive Industry Interest Areas' refers to the rehabilitation of previously extracted areas, this Clause does not apply to the current application as the proposed works are not for extraction industry, within an Extractive Industry Interest Area, or within 500 metres of an existing or proposed extractive industry operation. Whilst not applicable, the Clause refers to a 20m setback from site boundaries to not alter the natural condition or topography of the land. As noted above, previous quarrying activities at the site occurred up to around 10m from the site boundaries and the proposed works form part of the geotechnical ground improvement strategy for the site that will assist in enabling the rehabilitation of the land so it can be used for future urban purposes that would be more beneficial to the local community than its current fenced off condition.

5.3. OFF SITE AMENITY CONSIDERATIONS

All works will be carried out in accordance with the Construction Environment Management Plan which forms part of the Environmental Audit Statements. The CEMP includes comprehensive mitigation measures to ensure the amenity of adjacent residents will not be adversely impacted.

It is considered there will not be any unreasonable amenity impacts associated with these works having regard to the following:

- As shown in the cross section appended to the Preload Design Report, some sections the preloading stockpiles will be visible from the rear of the properties which front Huntingdale Road. The crest of the stockpiles will be between 9m and 12m from the western boundary which is considered a reasonable setback from a visual amenity perspective, noting the stockpiles are a temporary measure and are expected to be removed from the site after a 12-18 month period.
- The proposed stockpiling works in Zone 1 are considered unlikely to result in an increased risk to the residential properties in this area due to LFG migration off-site. As noted above, the trench is a preventive measure in the unlikely event of unexpected LFG migration.
- Given the significant length of the trench, that it will be covered in its entirety with the pre-load, historical monitoring of gas conditions, design (and height) of the vent risers including rotating cowl, typical wind flow direction and the presence of oxygen within the trench (to facilitate rapid oxidation of any odorous compounds), it is considered highly unlikely that the installation and operation of the trench will pose any olfactory (odour) amenity impacts.
- To limit the impact of noise associated with the construction works, working hours will be restricted to:
 - 7am - 6pm Monday-Friday
 - 8am to 12pm Saturdays
 - No work on Sundays or public holidays.
- The Construction Environmental Management Plan identifies a number of measures are to be taken to minimise the amount of dust detected outside the site. These include minimising the



movement and speed of vehicles at the site and using a water spray for dust suppression, if required.

In line with previous permits on the site and the S173 Agreement applying to the land, a community consultative committee will be re-established to liaise with all parties and deal with and resolve any ongoing issues associated with the project. Residents and land owners surrounding the development will be invited to participate in the community consultative committee prior to the use and development commencing.

It is noted that the purpose of the Special Use Zone expressly encourages the rehabilitation of the land. The works are therefore in accordance with the zone purpose, fulfilling the site's rehabilitation from its former quarrying past.

5.4. ACCESS AND TRAFFIC

The existing access to Huntingdale Road is proposed to be widened to enable trucks to enter and exit from this access while the preloading works take place. A Memorandum of Authorisation will be sought for from the Department of Traffic for this temporary construction access. The amount of the traffic movements is expected to be relatively low.

A Traffic Management Plan has been prepared by Cardno which prescribes safe vehicle movements into and within the site during the construction phase.

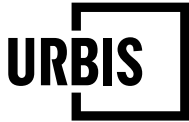
5.5. TREE REMOVAL

The geotechnical strategy for the site contemplates preloading of stockpiles up to 5m from the site boundaries to ensure uniform settlement of ground within the former quarry pit and avoid differential settlement with existing ground. Trees will be required to be removed to enable these earthworks to take place.

An arboricultural assessment has been undertaken for the whole site. For the proposed Zone 1 works, a total of 11 individual trees and 3 tree groups are proposed to be removed. The arboricultural rating, which reflects its retention value from an arboricultural perspective, for the trees to be removed are as follows:

- One (1) tree was attributed an arboricultural rating of Moderate A, being prominent trees in Fair or better condition and with a moderate to long useful life expectancy (ULE).
- Three (3) tree features rated Moderate B, being middle of the range and typical of the species worthy of retention where possible.
- Six (6) tree features rated Moderate C, being of either small size or displaying accumulated deficiencies that are tending towards becoming of Low arboricultural value.
- Three (3) tree features were attributed an arboricultural rating of Low, displaying symptoms of decline and / or structural deficiencies.
- One (1) tree was attributed a rating of Very Low due to being dead or becoming hazardous.

Overall, the vegetation removal is considered appropriate to enable earthworks that are required to enable the future redevelopment of the site. Importantly, none of the tree features on site were assessed to have a High arboricultural rating and only four tree features were identified as Moderate A or Moderate B ratings. Furthermore, extensive planting of trees are proposed as part of the proposed redevelopment of the site which will result in an overall net gain of trees.



The trees have either been planted or self-sown from planted specimens and therefore exempt from needing a permit for removal under Clause 52.17 *Native Vegetation*.

5.6. ENVIRONMENTAL SITE MANAGEMENT AND STORMWATER MANAGEMENT

An Environmental Site Management Plan has been prepared by Verve, which in addition to the CEMP applying to the site (as appended to the Environmental Audit), will ensure the works will be appropriately managed during construction and measures to ensure stormwater is appropriately managed while the stockpiles are in place.

The stormwater management measures include drainage swales close to the edge of the western preload stockpile crest and within the centre of the preload stockpile to enable stormwater to drainage southwards. Additional swales are proposed around the boundaries of the stockpiles to collect water from the stockpile batters. These measures will ensure stormwater drainage is appropriately managed on-site.

Silt fences are proposed at the crest and toe of the stockpiles to ensure soil is does not wash down the stockpile batters.

6. CONCLUSION

Overall, preloading works are considered appropriate as an engineered geotechnical design response to improve the ground conditions to enable the construction of the landfill cap (as required by the Environmental Audit) and future development on the site. The temporary gas venting trench is a precautionary measure to enable the preloading works to take place. There will be no unreasonable amenity impacts resulting.

We trust that the information provided in this application is satisfactory. However, if you have any questions please don't hesitate to contact me.

Yours sincerely,

A handwritten signature in black ink, appearing to read "CBetteridge", written over a horizontal line.

Claire Betteridge
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