Domain 4 Information Session 9 March 2023 Questions and Answers

Amenity impacts

How is noise, dust and vibration from the works going to be minimised and managed for neighbouring properties?

All works will be undertaken in accordance with the Construction Environmental Management Plan included in the Environmental Audit.

Dust

The contractor will take steps to minimise dust utilising the following measures:

- Minimising vehicle speed on site.
- Limiting work on dry windy days.
- Locating the drying area a minimum of 40m away from the site boundaries.
- Water spraying on stockpiles and in works areas to suppress dust.
- Application of dust suppressant or re-vegetation on completed stockpile areas.

Noise

Noise can be expected during site works. However, to minimise the impact to adjoining residents, working hours are proposed to be limited to:

- Monday to Friday – 7am – 6pm
- Saturdays – 8am to 12pm
- No work on Sundays or public holidays

Majority of the works and machinery will be within the quarry pit. Limit the amount of time working near neighbouring properties as best as possible.

When removing existing stockpiles/preloads from the other domains, a bund of stockpile material will be retained along the boundaries to assist with noise until such time as this is the last stockpile and will be removed to be used as backfill material.

Vibration

During the Works the following measures to minimize vibration will be used:

- Construction methods to be undertaken in accordance with Construction Management Plan (CMP) requirements
- Placement and compaction of Fill Materials will use conventional earthworks equipment, namely Dump trucks, Water-cart and Compactor (example – refer CAT 815/825 Compactor)
- Compaction will be via ‘ wheel roller’ type equipment. No dynamic compaction equipment proposed
- A ‘vibration’ risk assessment to be carried out to review our compaction strategy and methodology prior to commencement. This may include field testing where identified by the outcome of a risk assessment.

In the event that there is any damage to adjoining properties through any of the works across all Domains, including Domain 4, via vibration, dust, flood, weed infestation, noise, excavation, compaction, bore drilling etc, who will be responsible for rectifying the damage and paying the associated costs?

The project team will take necessary measures to ensure the works are carried out in accordance with relevant regulatory requirements and guidelines, with the aim to mitigate any impact to the adjoining properties so far as reasonably practicable.

Any unfortunate/unforeseen events can be assessed and evaluated on a case-by-case basis.

Landfill Gas

Can you clarify what landfill gas measures will be in place in Domain 4 and other domains in addition to the trench in domain 1?

The Domain 1 landfill extends into the northern section (batter slope) of Domain 4. Whilst the volume of waste in the batter slope of Domain 4 is relatively small and not expected to produce significant volumes of gas, the exact extent of wastes in this area has not been completely defined due to access constraints. The Domain 1 pathway intervention measures have been designed to extend into Domain 4 to the base of the quarry void (i.e. to natural soil) to ensure that any residual wastes at the Domain 1 – Domain 4 interface are incorporated within the cap extent.

At the Domain 4 interface, the pathway intervention measures will comprise a compacted clay cap with high permeability gravel gas collection layer to be installed in lifts as the quarry void is filled. The gas collection trench would transport any gas back towards Domain 1 to discharge at the boundary venting system to be installed between Domain 1 and Domain 4. The detailed design of the boundary venting system will be completed as part of the Domain 1 pathway intervention detailed design and is not required for the purposes of backfilling Zone 4.

Subject to detailed design, landfill gas protection measures will also be incorporated into future buildings to be constructed in Domain 4 as required by the environmental audit.

Excavation

Will there be any excavation of landfill and uncontrolled fill and if so where?

There may be some minor landfill materials encountered in the northern end of Domain 4 which will be removed from site or used as backfill (where environmentally and geotechnically suitable) depending on what is encountered. The uncontrolled fill is being removed and replaced as controlled fill in Domain 4.

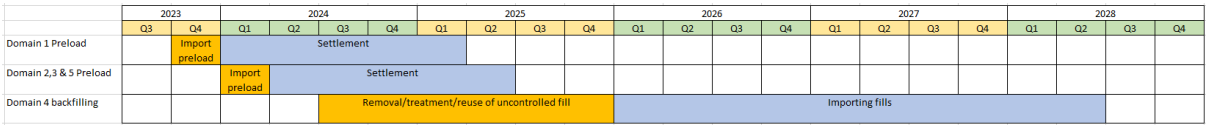
Timing and order of works on the site

Why has domain 4 remained partially unrehabilitated until now?

Domain 4 previously obtained backfilling permit in 2015. The permit expired in 2019 prior to the work was able to commence. As the result, the project team had prioritised the rezoning process and the preloading works/permits in the other domains.

Do you have a timetable for the order of works for all domains?

Works will occur across the site in stages. The below outlines an indicative timeline of the site preparation works. All works are subject to Council approval and geotechnical sign off to proceed to the next phase. Sequencing the program is indicative only and subject to regular review.



How long is it expected to take to backfill domain 4? what is the expected timeframe for all the works across all of the sites including that of domain 4?

Estimated to be 3 to 4 years (weather and site conditions dependent)

Why are you working in domain 4 void when you do not know the precise nature of waste beneath it?

As referenced in the submitted documentation, environmental sampling has been conducted within Domain 4 as part of the environmental audit. The results indicate that the fill materials in Domain 4 comprise clayey sand and sandy clay with some bricks, concrete, tree roots and siltstone cobbles and boulders and extend to depths in excess of 5m. Clay and silt sediments were also encountered in the southern part of Domain 4 to depths of up to 2.3m and extend to the base of the former pit. Slimes is present in the north western part of Domain 4. The materials being excavated will be assessed and placed as engineered fill if suitable.

There are materials in the base of the excavation which are not considered suitable for use as engineered fill. These materials include but are not limited to:

- Soils containing organic materials such as tree roots branches, grasses etc.
- Waste materials (building waste, rubbish etc.)

Vehicles and machinery

How many trucks will be operating per day in Domain 4 and other domains and how frequent and for how long?

The number of trucks will vary from day-to-day, however in regard to truck movements, the Works can be generally divided into two phases. The first being related to moving fill materials from onsite. The second relates to importing Fill materials from off-site. The aim is to reuse all suitable materials from within the site, prior to supplementing with Fill from offsite. In regard to Truck requirements for onsite works, this is relatively minimal, with 2-4 dump moving Fill materials in and out of the quarry hole. Import of materials from offsite will require the use of conventional 'truck and trailers' being registered for use of public roads. There could be anyway between say 5 and 15 trucks working in a cycle with varying entry and exit times throughout a typical day.

How long will a concrete crusher operate in domain 4 and what is its role?

Concrete waste has been buried beneath the fill materials in Domain 4. This material may be used as part of the engineered fill provided any steel reinforcing has been removed and approval has been granted by the appointed EPA auditor for the use of the concrete at the site.

The concrete crusher will crusher the concrete pieces to dimensions that can be used as part of the engineered fill. The duration of the crushing activities will depend on the amount of concrete waste encountered.

How will the Engineered fill platform be compacted?

The engineered fill is placed and spread by convention self-propelled compactors to meet the criteria set out in Australian Standards for placing fill for residential and commercial purposes. Refer example CAT 815/825 Compactor - as above

What machinery will be used to remove slimes and sediments and how long will this take?

Long reach excavators working from "solid" ground are expected to be used to remove the slimes. The process of removing and drying the slimes and sediments is expected to take around 3-5 months.

How will the void be dewatered? what equipment and machinery will be used?

Dewatering will require the use of pumps to remove water from the base of the quarry. Other measures such as swales, bunds, sumps, filters with manage the flow of water to the pump/s.

What machinery will be used to remove trees?

Conventional tree loping equipment, eg chain-saw, wood-chipper mounted to the rear of a truck, and likely a cherry-picker if this becomes the preferred method of access for the professional tree-loppers to be engaged to carry out the works.

Drainage

Will there be a permanent water storage basin once the void is filled? How will you ensure adjoining properties are not exposed to floods? What is happening to the groundwater flow when the void is filled? How long will it take for the groundwater to be restored to pre quarry levels?

There will be a new water storage basin once the void is filled – the final shape and size is subject to the rezoning process.

How will you ensure adjoining properties are not exposed to floods?

set of temporary flood management requirements have been set for Domain 4 during and post the backfill works. These flood management items are used to ensure the site does not impact neighbouring residencies.

During backfilling works:

- Allow for temporary water basins within the quarry pit as it's progressively being filled – to be pumped to trade waste.
- 1m bunds to be installed around the drying area to contain run-off

Post backfilling works:

- Centralized Storage basin – more manageable size

Swale to be installed along the southern boundary to re-direct water

What is happening to the groundwater flow when the void is filled?

Regional groundwater flow is generally to the south/south-west of the site. However, the site hydrogeology is complex and is dominated by the presence of the quarry lake, acting as a regional groundwater depression and the slimes areas acting as groundwater mounds which influence

localised groundwater flow. The excavation of the open quarry pit in the 1990s altered groundwater flow to create a basin. Following filling of the quarry void, groundwater levels will gradually return to regional levels over several decades and the regional groundwater flow will re-establish.

How long will it take for the groundwater to be restored to pre quarry levels?

Resumption of regional groundwater flow following filling of Zone 4 is expected to take several years (potentially decades) to be realised. As such the primary purpose of on-going groundwater monitoring at the site during filling is to validate the results of the groundwater modelling undertaken by Tetra Tech Coffey and calculated aquifer assimilative capacity to ensure that the assumptions made with regards to groundwater contaminant risks remain appropriate. Groundwater monitoring will as a minimum, need to be undertaken during the filling of Zone 4 and for a reasonable period time following filling (expected 2-3 years but may continue depending on monitoring data).

Trees

Do you know how many trees will be removed as part of these works? Are there long-term plans to have the number of trees replaced?

Referring to the submitted documents – Tree Removal Plan & Arboricultural Assessment and Report:

A total of around 80 trees will be removed. The Tree Group G9 are generally located on the slopes of the quarry pit and has a Moderate C value rating which means they are 'either small size or displaying accumulated deficiencies that are tending towards becoming of Low arboricultural value'.

General

Who will enforce any future non-compliance of these works?

The owner and site contractor are bound by the conditions included on the permit. Council's Planning Investigations team would ensure adherence to the planning permit conditions.

What is the role of the EPA in all of this project?

In addition to the requirements outlined within the environmental audit, EPA has issued Environmental Action Notices to enforce the statement conditions relating to implementation of the CEMP (Coffey 2020). The EAN address ongoing groundwater and landfill gas monitoring requirements under current conditions (prior to redevelopment), including during backfilling of the Domain 4.

Results of groundwater and LFG monitoring are required to be reported to an appointed Environmental Auditor and the EPA on an annual basis and immediately in any instances where monitoring trigger levels within the relevant management plans are exceeded. Should LFG or groundwater monitoring trigger thresholds be met during backfilling, then the works must cease pending review of the data and implementation of any contingency measures (if required) in consultation with the Environmental Auditor and EPA.

Why is the CEMP from 2015 advertised and not the 2020 CEMP? What is the difference between the two CEMPs?

The CEMP from 2015 was prepared specially for the backfilling application for Domain 4 and provides the specifical relevant detail for this application. The 2020 Audit CEMP applies to all work to be carried out on site and is appended to the Environmental Audit. The 2020 CEMP refers (at Page 24) to the specific CEMP which was prepared in 2015 for the backfilling of Zone 4 to ensure to the two documents are aligned and consistent. For clarity a copy of the 2020 CEMP is included on the website.