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s 9(2)(a)

·· Strategy ·· Policy ·· Planning ··

Fast Track Approval Application – Green Steel

2 May 2024

From: Craig Shearer
To: Vipan Garg
Subject: Adverse Effects

You have requested that I undertake an assessment of whether there are anticipated and known adverse effect of the project on the environment. I have carried out that assessment, with the assistance of information provided by you (eg water demand) and preliminary technical reports prepared by experts assessing geotechnical, transportation, air discharges, ecology, sediment control and stormwater, water use, and noise matters.

My overall conclusion is that there will be no adverse effect on the environment from the proposal.

The following is my summary assessment of possible effects.

1. Air Quality

Green Steel has engaged Air Quality Consulting NZ Limited (AQCNZ) to undertake a high-level overview to identify the potential effects associated with discharges to air from the Project. The report is available on request.

With mitigation, the effects of dust discharges (both nuisance dust and dust that can cause health effects) are likely to be contained within a distance of 50 m. With the appropriate mitigation in place, there will be sufficient distance between potential construction activities and nearby receptors for these locations to not be affected by dust discharges

In terms of discharges associated with the operation of the Green Steel Mill, screening level dispersion modelling results predicted off-site concentrations of air pollutants below the relevant assessment criteria, therefore AQCNZ considers that proposed site is consentable under the AQNESTransport.

In terms of GHG emissions, the proposal would result in an overall decrease in emissions when considering factors such as transportation emissions and the use of an EAF to produce steel from recycled material. However, there will be some natural gas used on-site which will most likely require a resource consent under the NES GHG. If a consent was required, Green Steel would need to prepare an ERP for the site. Given what is being proposed is best practice and

that the proposal will overall result in a decrease in GHG emissions, AQCNZ considers that a consent under the NES GHG is achievable.

Overall, based on the information provided AQCNZ considers there to be limited potential for adverse health effects from the construction and operation of the proposed plant.

2. Transportation

A transportation assessment report has been prepared for the proposal by CKL (18 April 2024) and is available on request.

In summary the report says number of trips generated by the site has been calculated to be in the order of 166 to 168vph. Given the existing traffic volumes are less than 200vph on s 9(2)(b)(ii) , the expected trip generation is well within the carrying capacity of the road. As such, no adverse effects are anticipated on the surrounding road network has a result of traffic generated by the proposed metal recycling plant.

Access to s 9(2)(b)(ii) will be provided via two existing vehicle crossings. These accesses comply with the requirements of the Operative District Plan and the Proposed District Plan. No new accesses are created and the increase in traffic movements is unlikely to create significant congestion. As such, the proposal is unlikely to exacerbate the existing road safety record.

The future parking provision has not been designed but is expected to comply with the relevant standards given the size of the site.

Overall, it is concluded that there are no traffic engineering or transport planning reasons to preclude approval of the proposed development.

3. Ecology

PDP has reported on the ecological values of the site. A high-level field assessment of whether there are any ecological constraints to developing part of the property at s 9(2)(b)(ii) for a new Green Steel processing plant was carried out in April 2024. After reviewing the proposed development plans for the site, the assessment was that the proposed development area does not have any significant ecological characteristics. Its development will not impinge upon the remnant water pepper wetland and is outside a 100m buffer of that wetland area. The conclusion is that there will be no ecological effects in from the proposed new Green Steel plant.

A letter from PDP with the ecology assessment is available on request.

4. Geotechnical

A preliminary geotechnical assessment and report has been prepared for the proposal by Earthtech Consultants (1 May 2024) and is available on request.

In summary preliminary site investigations and assessment have been undertaken of the geology and soils of the site and with significant cut and fill earthworks needed to create the platforms needed for the proposal, the site can be made suitable for the proposed use. Further,

more detailed investigations and design will be needed to finalise the engineering work needed to prepare the site for the proposed arc furnace and steel mill plant and ancillary activities. Geotechnically we are confident that the site is suitable for the proposed development provided further assessment and engineering recommendations are followed, as indicated in the preliminary assessment.

5. Groundwater, Stormwater and sediment control

The assessment of the site undertaken by Earthtech (see above) also considered the possible impacts of groundwater and stormwater diversions and discharges on the environment, and the management of sediment generation.

The proposed development is situated largely within a single catchment area, and stormwater flows can be suitably channeled around the site by strategically located contour drains. The final disposal and discharge of stormwater into and from the property will be determined at the detailed design stage. Attenuation ponds are likely to be required to reduce the impact of peak flows roofs and paved areas. The client's intension is to capture and store rainwater runoff from roofed areas.

In respect of groundwater, suitably engineered subsoil drainage is to be provided below or within the proposed building platforms. Subsoil drains are required to be constructed prior to the placement of compacted engineered fill of the embankments and building platforms to provide both appropriate drainage from the foundations and a secure and stable toe zone for the building platforms. Groundwater seepages encountered across the site can be suitably diverted and conveyed to discharge areas within the property boundary.

With application of appropriate engineering design there is adequate available land to suitably manage the diversions and discharges of stormwater and groundwater with the property boundary.

Earthworks will require careful engineering and management with the provision of strategically positioned stormwater retention and settlement/stilling pond(s). There will be a staging of erosion and sediment control measures as the construction of the main platform progresses from the cut earthworks from the southern areas. Synchronisation with the earthworks, construction and operation will be crucial. A site-specific erosion and sediment control report will be prepared and included in any detailed application material required.

6. Water use

The plant will require 500m³ of water per day. The main use for water at the plant will be for use in the cooling process, and for domestic type uses (bathroom facilities etc).

The property has access to an abundant non-potable water supply from the Te Kauwhata Water Scheme for commercial and industry use which will be sufficient to operate the plant and associated facilities.

The project will not need to apply for any approval for new water services for the plant. When a small volume of potable water is needed (eg for domestic uses such as drinking) existing water

will be either treated, or sourced from a new bore on the property. Required potable water volumes are anticipated to be low.

7. Wastewater discharges

There will be no wastewater generated from the plant, but there will be domestic wastewater generated. These wastewater discharges will be restricted to discharges from bathrooms and other domestic facilities (eg lunchrooms) at the site. Green Steel will look to provide on-site treatment via a package treatment plant for primary and secondary treatment and then discharge to a land application system (eg drip irrigation lines) for final treatment. As the overall site is 53 hectares there is adequate land for a treatment facility.

Water used in the plant itself is cleaned and reused, including water used for cleaning. Any residual water from this process will be disposed of at an approved trade waste facility.

8. Noise

Noise levels from the Green Steel mini-mill have been included with design information from the designers of the project. Green Steel has engaged Hegley Acoustics to undertake a high-level overview to identify the potential noise effects associated with the Project. The report is available on request.

Th main noise sources are the electric arc furnace with a sound power level of 127dB LWA and a Ladle Furnace with a sound power level of 110dB LWA. The only other significant noise source would be from the shedder, to be moved from the National Steel plant in Wiri, South Auckland, which has a sound power of 124dB plus the associated screens with a sound power of 103dB. All other plant is 25dB, or more, quieter so is of secondary concern with respect to any acoustic design.

The notional boundary of the closest dwelling to the site is approximately 500m away. It is anticipated there would be some topographical screening of the plant to the closer dwellings. However, at this stage of the deign assessment it has been assumed there is no screening effects of the plant by the topography to provide a factor of safety with the design.

Without any screening effects of the plant by the proposed building the noise level at the closest notional boundary would be up to 79dB LAeq. The building housing the plant would therefore need to be designed to reduce noise to the closest notional boundary by a minimum of 39dB LAeq. This would be practical to achieve using either a precast concrete slab construction or a double skin light weight building material.

Craig Shearer