

## **Appendix 1.1**

### **Brief description of the York Potash Project Mine, MTS, MHF, Construction Village Park & Ride and Whitby Operational Park & Ride**

**BLANK PAGE**

## 1 Introduction

1.1.1 This appendix includes a brief description of the Mine, MTS, MHF, Construction Village and Park & Ride components of the proposed YPP in support of the CIA.

## 2 Mine

2.1.1 The Mine surface development site (the minehead) would be located on a greenfield site at Dove's Nest Farm, approximately 4km south of Whitby within the boundary of the NYMNP. This component of the YPP includes:

- A mine at a depth of about 1,520m below ground level (bgl).
- Two access shafts (northern production shaft and southern men and materials shaft).
- One intake ventilation shaft.
- An additional shaft to provide maintenance access to the mine end of the MTS.
- Subsurface infrastructure.
- Support facilities including staff amenities, workshops for mobile and fixed equipment maintenance, diesel fuel area, mine pump station, electrical sub-station and stores located in the pit bottom.
- Surface infrastructure, including mine site buildings, welfare facilities, Modular Wastewater Treatment Plant, gatehouse, parking and access roads (see **Figure 1** for an indicative layout of surface infrastructure).

2.1.2 The construction of the Mine would include the following:

- Conventional drill and blast methodology.
- Conventional methods of dozer, scrapers, peckers and excavators. Drill and blast maybe required for harder substrata.

2.1.3 In recognition of the sensitivity of developing the Mine within the boundary of a National Park, a number of measures have been included in the design of this aspect to ensure that it is consistent with the visual amenity policies of the NYMNPA. These measures include:

- The main portion of the winding head-frames would be located below ground level.
- All mining equipment, mineral handling equipment, support facilities, personnel and materials would be sent down a shaft and assembled or constructed underground.
- Winding hoists would be housed within agricultural style buildings of limited ridge height.
- Conveyance of workforce, machinery, materials and mineral to be via below ground access shafts or drifts.

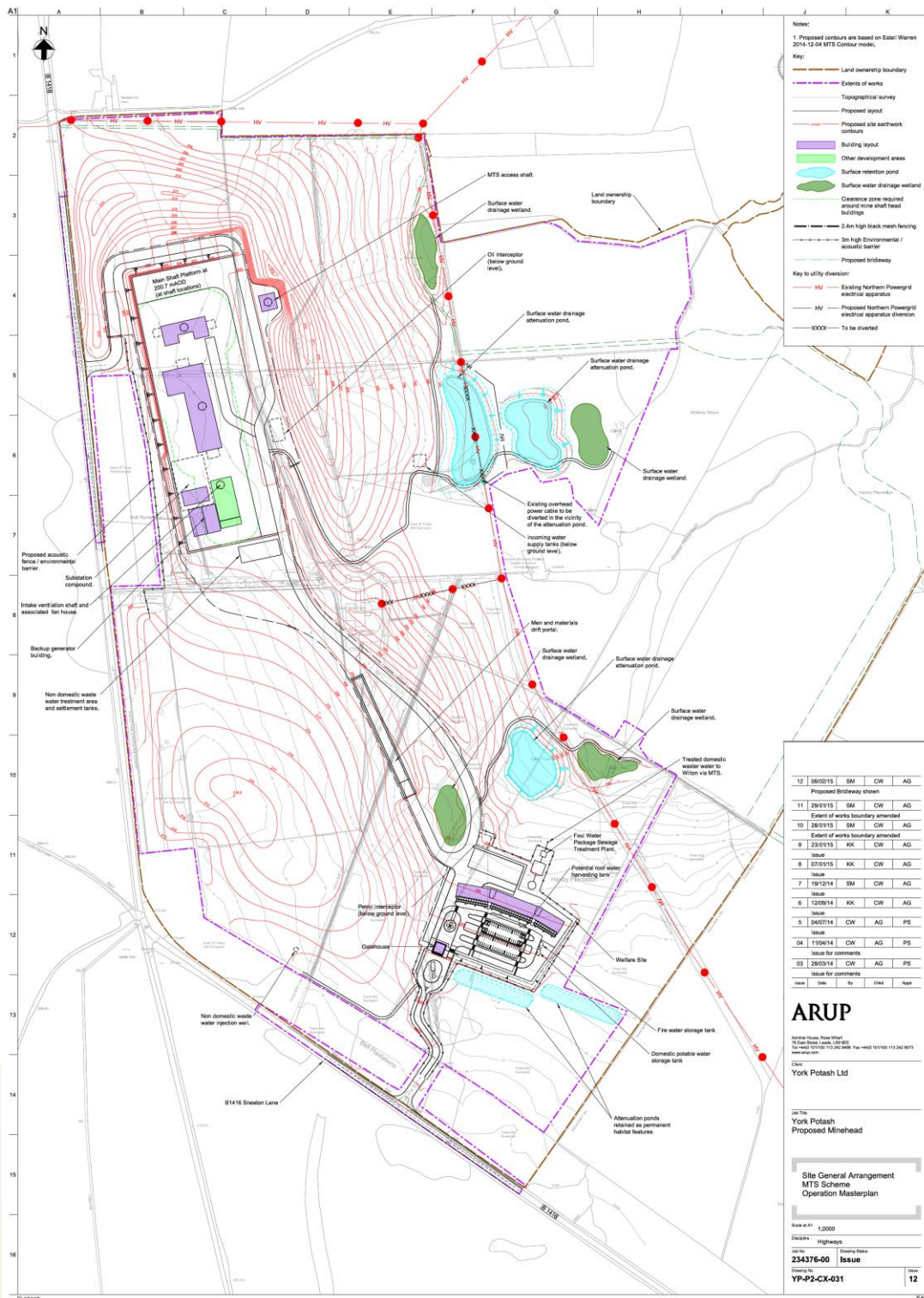
2.1.4 During operation there would be continuous sub-surface operations taking place for the working of polyhalite. The infrastructure in place to achieve this would comprise of:

- A production shaft. This would be used for minerals hoisting.
- A service shaft. This would be used for transportation of personnel, equipment and materials.
- A mine ventilation system. This would ensure airflow through the shafts.
- Support facilities. These would be located at the pit bottom and provide welfare support to mining operators.
- Mining infrastructure. This would comprise of infrastructure for working polyhalite at the pit bottom.

2.1.5 All mining would occur within the two polyhalite seams or adjacent salt. A room and pillar mining method using continuous miners would extract the mineral from the polyhalite seam.

2.1.6 The method comprises of cutting tunnels up to 12m wide and between 5 and 40m high using conventional continuous mining and drill and blast technology. Pillars vary in size depending on extraction height and would be left in-situ to provide local and regional support to the openings and overlying strata and to avoid impacts on aquifers and surface topography (subsidence). Strata control such as rock-bolts would be installed, where required by local conditions, to provide stability within the mining chambers.

Figure 1 Minehead operational site master plan



### 3 Construction Village, Construction and Operational Park & Rides

- 3.1.1 In addition to the Mine, there would be a Construction Park & Ride and may be a Construction Village, which would be located approximately 1.6km to the south west of Whitby town centre, covering approximately 2ha. The proposal comprises two components, namely;
- A temporary construction worker P&R.
  - The option of a temporary construction village.
- 3.1.2 The need for the Construction Village is dependent upon the preference of the contractor and the availability of alternative overnight accommodation in the area at the time of the development
- 3.1.3 The village would include a two storey accommodation block, four single storey buildings, gatehouse, car parking (390 spaces), bus stop and outdoor recreational area. This site is located in Whitby, outside of the National Park and approximately 3km from the closest European site (the North York Moors SAC and SPA).
- 3.1.4 The Park & Ride proposed for use in the operational phase is to the west of Whitby and is operated by North Yorkshire County Council (NYCC). YPL are looking to use the Whitby (Cross Butts) Park & Ride site, in conjunction with the existing NYCC Park & Ride scheme, as part of the operational YPP. Alterations to the existing Whitby Park & Ride are expected to be minor, but may include an additional 100-120 car parking spaces and a proposed security gatehouse.

### 4 Minerals Transport System

- 4.1.1 The MTS would transport mined polyhalite between the proposed mine below Dove's Nest Farm and the MHF at Wilton, Teesside. The MTS would be capable of an initial capacity of 6.5Mtpa and, after upgrading of the conveyor drive system, a capacity of 13Mtpa. The tunnel would accommodate a conveyor, maintenance train track and provision for 66kV mine power supply cables.
- 4.1.2 The tunnel would be accessed by a shaft at the mine and a portal at Wilton. Between these two ends, it is proposed that the tunnel would be accessed from three intermediate shafts located at Lady Cross Plantation near Egton; Lockwood Beck near Stanghow; and Tocketts Lythe near Guisborough for inspection and maintenance purposes. Each of these access points also acts as a secondary evacuation point.
- 4.1.3 The MTS would comprise the following:
- A single tunnel approximately 36.7km in length with an internal finished diameter of approximately 5m, which increases to 6.5m for segmented lined sections, at an average depth of 250m bgl.
  - Intermediate shafts installed along the route located approximately 8km, 24km and 29.5km from the minehead.

- A system of linked conveyor belts capable of transporting crushed polyhalite from the production shaft at the minehead to the MHF at Wilton.
- Operational phase surface buildings at the three intermediate shaft sites in the style of agricultural barns to house ventilation, man and equipment lifting, and maintenance equipment.
- A MTS Portal at Wilton, which would include a train shed, store for conveyor drives, control room, welfare facilities and car parking. The spoil, expected to be in the order of 1.2 to 1.4 million cubic metres, is anticipated to largely consist of mudstone. Arisings are proposed to be spread on land adjacent to the intermediate shaft locations (and at Wilton) and compacted, within the site boundaries, raising the local topography. Surface cover would then be restored on top of this landform.

4.1.4 The MTS tunnel is proposed to be driven through mudstone deposits, which are of low permeability. In addition, there is a lack of groundwater dependant features present along the route of the proposed MTS tunnel which could be affected.