

KARARA MINING LIMITED

Karara Mining Limited

L280 Additional Concentrate Filter Project

**Scope of Work -
Supply and Installation of Civil, Structural,
Mechanical, Piping and E&I Works**

L280-GE-SOW-0001

xx 2026

KARARA MINING LIMITED**L280 ADDITIONAL CONCENTRATE FILTER PROJECT****SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS**

Synopsis

Karara Mining Limited (KML) has completed the detailed design for the Additional Concentrate Filter Project. The current Concentrate Filtration Building will be extended westward to house a new filter press Metso FFP2512DD. This approach minimises the engineering required as it utilises existing designs. This building extension consists of a new steel structure bay housing 1 filter press, cake discharge system, discharge feeder, head chute, transfer chute, and associated mechanical equipment, piping, electrical and instrumentation. The concentrate cake will be discharged onto the existing conveyor CV20.

KML is procuring the filter press including the discharge feeder. This contract is to package all remaining works for the delivery of the project, including supply and construct/install civil and concrete works, steel structures, piping, electrical and instrumentation equipment and associated cable trays and supports as described below:

- Supply, construct civil earthwork and foundations for the new building extension and the new equipment foundations at the tank farm area.
- Supply, fabricate, freight and handle including unloading at site, assembly and erection of structural steel, monorail, handrail, guarding, grating, chequer plate flooring including modification of walkway/platform/crane girder for the existing overhead crane and field attachment of gusset plates, stiffeners to existing structural members for the connection of new work.
- Handle and unloading at site, assembly and installation of free-issue filter press and pumps.
- Supply, fabricate, freight, handle including unloading at site and installation of chute, hoppers, and other equipment.
- Supply, fabricate, freight, handle including unloading at site, assembly and installation of piping, electrical & in-line instrumentation.
- Supply, freight and install transformer, VSDs, switchgear in existing Substation.
- Tie-ins to the existing process and all other necessary associated site work and off-site works including relocating an existing weightometer along CV20 for the completing of the Project.

Disclaimer

“This document has been prepared by Karara Mining Limited for exclusive use on the Karara Iron Ore Project (“the Purpose”). Use of this document other than for the Purpose is not permitted.”

L280-GE-SOW-0001

REV	DESCRIPTION	ORIG	REVIEW	APPROVED	DATE
A	Issued for Tender	SY	CC Luo		xx2026

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L280 ADDITIONAL CONCENTRATE FILTER PROJECT

SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS

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1 INTRODUCTION

1.1 Project Overview

Karara Mining Ltd (“KML”, the “Company”) is executing the Additional Concentrate Filter Project, which is located on the Karara mine site in the Mid-West Region of Western Australia.

The Karara mine site (“Mine Site”) is located 320 km North-North-East of Perth and 225 km East of Geraldton, at approximately 29.19° South Latitude, 116.76° East Longitude. See Figure below.

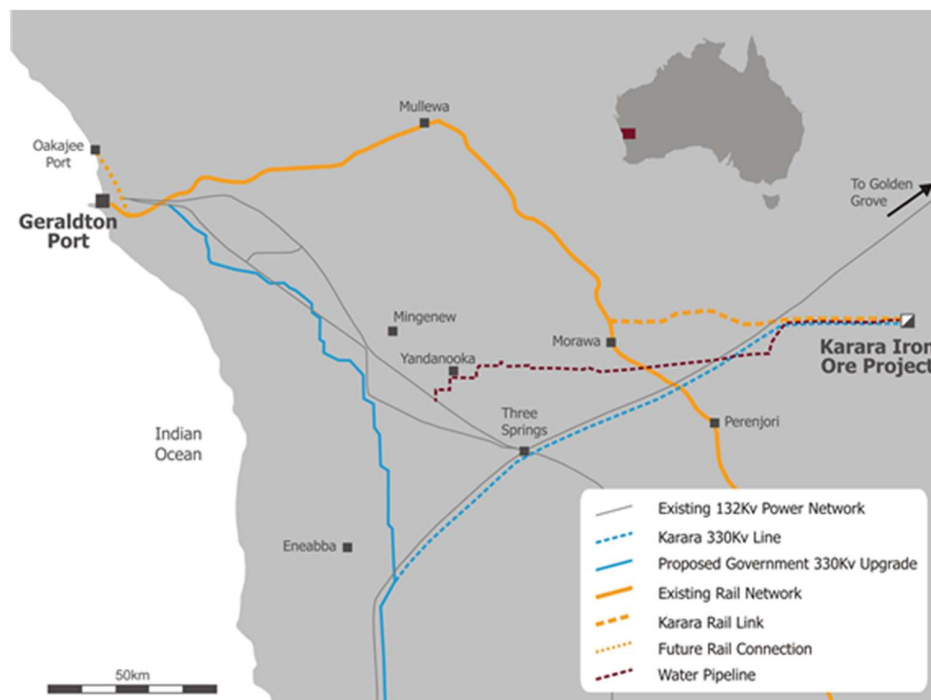


Figure 1: Location of the Karara Mine Site

1.2 Overview of the Existing Concentrate Filtration Facility

The existing Concentrate Filtration Facility consists of a Filtration Building with 4 filters, a slurry storage tank farm, a dedicated substation and a product transfer conveyor CV20 to the Concentrate stockpile area.

The Contractor shall fully understand the scope by familiarising themselves with the existing site condition.

The Works take place in an existing brown-field operating process plant environment. Some steel, platework, equipment installations, piping and services tie-ins can only be done during a scheduled or opportunistic plant shutdown. An overview of the existing concentrate filtration facility is shown in Figure below.

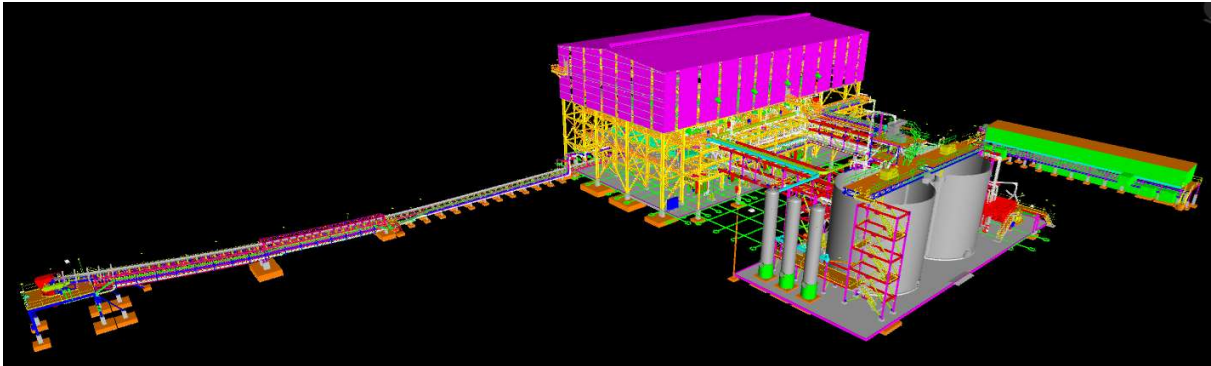


Figure 2: 3D-model overview of the existing Concentrate Filtration Facility

1.3 Brief Process Overview

The current concentrate filtration area consists of two feed tanks equipped with dedicated pumps to feed 4 x 576m² vertical plates and frame pressure filters configured in parallel.

All four existing filters are required to be operating to meet the nominal concentrate production rate. Although the filter feed tanks provide 24 hours surge capacity to facilitate routine maintenance, no spare filter capacity exists to take one complete unit off-line for extended maintenance.

Due to reliability issues and process constraints, the realised concentrate filter availability is approximately 63% -75%. To increase the filter availability, 1 additional concentrate filter is added. The preferred location for the additional filter is to the west of the existing building because of the vacant space and CV20 will not require extending. The only equipment impacted by locating the filter at this end of the building is to relocate the existing weightometer WT-007.

2 GLOSSARY

Wherever the words “Company, Purchaser or Buyer” are used, it shall mean Karara Mining Limited, Wherever the words “Contractor” or “Supplier” are used it shall mean the person so named in the Contract (and its successors and permitted assigns).

Wherever the words “Company’s Representative”, “Purchaser’s Representative” or “Buyer’s Representative” are used, it shall mean the person so named in the Contract (and its successors and permitted assigns).

Any word in the table below or that is capitalised shall have the meaning ascribed to it or in the Contract.

Term	Definition
Authorities	Any statutory, public, municipal, governmental or administrative department, commission, authority, agency or entity with jurisdiction in connection with the Works Under Contract
BoD	Basis of Design
CCIWA	Chamber of Commerce and Industry Western Australia
CDRL	Contractor Data and Document Requirements List
Company’s Project Requirements	Has the meaning ascribed to it in the Contract
Company’s Representative’s nominee	Means an individual appointed in writing by the Company’s Representative under the Contract
Contract	The agreement between the Company and the Contractor to which this Scope of Work pertains
D&A test	Alcohol and other Drugs (‘Drug & Alcohol’) testing
DSO	Direct Shipping Ore
Execution Date	Means the date on which the Formal Instrument of Agreement is signed by the Company
Equipment and materials	Means the goods, equipment or materials, to be installed, constructed and commissioned
EWP	any Elevated Work Platform (typically a ‘Cherry-Picker’ or a Scissors-Lift)
FAT	Factory Acceptance Testing
FEED	Front End Engineering Design
FIC	Final Inspection Certificate, or Field Inspection Check sheet
HAZOP	Hazard and Operability Review
HME	Heavy Mining Equipment
HSEC	Health, Safety, Environment and Community
HV	High Voltage
IFC	Issued For Construction.
ISOs	Piping Isometric drawings
ITP	Inspection & Test Plan
JB / JBs	Junction Box or Junction Boxes, typically Electrical JBs
KML	Karara Mining Limited, the “Company”, “Purchaser” or “Buyer”
KIOP	Karara Iron Ore Project
kW	Kilowatt
LV	Low Voltage
MCC	Motor Control Centre

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Term	Definition
MDR	Manufacturer's Data Report
Mine site	The location of the KIOP mine at Karara in the Mid-West Region of Western Australia, approximately 215 km East of Geraldton and 320 km North-North-East of Perth
MIS	Management Information Systems
MPO	Main Plant Outage
MSDS	Material Safety Data Sheet(s)
MTOs	Material Take Offs
MV	Medium Voltage
NDT / NDE	Non-Destructive Testing / Non Destructive Examination
P&IDs	Piping and Instrumentation Diagrams
PCS	Process Control System
PEP	Project Execution Plan
PFDs	Process Flow Diagrams
PMC	Project Management Contracting
PLC	Programmable Logic Controller
Port Site	Export Port at Geraldton
SCADA	System Control and Data Acquisition
SDRL	Supplier Data and Document Requirements List
SoW	Scope of Work
SWMS	Safe Work Method Statement
Supplementary Requirements	Specifications, standards, regulations and codes of practice set out in the Appendices of this SoW
subcontractor	Has the meaning in the General Conditions of Contract
shall	Indicates a contractual requirement that the Contractor must follow
will	Indicates a contractual requirement that the Contractor will follow
should	Indicates a preferred option which the Contractor should select, otherwise substantial reasons for not selecting shall be provided in writing to the Company's Representative for approval
may	Indicates an option which the Contractor may select at its choice, but subject to approval / confirmation by the Company's Representative
Tenderer	Means a person who lodges a tender for the Works
The Works	Means the whole of the Works under Contract
TOC/TOS/TOP/BOP	Top of Concrete / Top of Steel / Top of Pipe / Bottom of Pipe
UON	Unless Otherwise Noted
Work	Includes the supply and installation of Equipment, "The Works"
VOC	Verification of Competency certification
WUC	Means the whole of the Work to be carried out under the Contract

3 GENERAL CLIMATIC INFORMATION - MEAN WEATHER DATA

The following weather conditions in the Mine Site area is provided for guidance. Refer to *CORP-GE-BOD-1001 Project Basis of Design* for further location and site data references.

The nearest Meteorological Station is that of Morawa, Bureau of Meteorology station number 008093. The synoptic station is located at 29.21°S; 116.0089° E. The station elevation is 274m AHD.

The next approximate meteorological station is that of Paynes Find, Bureau of Meteorology station number 007139. The synoptic station is located at 29.27°S; 117.6836° E. The station elevation is 339m AHD.

The indicative average climatic data is as follows:

Table 1: General Conditions

Climate Statistic	Annual Value, Morawa
Mean Daily Solar Exposure (MJ/m ²)	20.7
Mean Number of clear days (day)	147.4
Mean Number of cloudy days (day)	65.1

Table 2: Temperature Data

Climate Statistic	Annual Value, Morawa
Mean Maximum Temperature (°C)	27.4
Highest Temperature (°C)	47.8
Mean Number of Days ≥ 30°C (day)	135.1
Mean Number of Days ≥ 35°C (day)	73.5
Mean Number of Days ≥ 40°C (day)	20.5
Mean Minimum Temperature (°C)	12.4
Lowest Temperature (°C)	-2.2
Mean Number of Days ≤ 2°C (day)	7.6
Mean Number of Days ≤ 0°C (day)	1.5
Mean 9am Temperature (°C)	18.8
Mean 9am Wet Bulb Temperature (°C)	14
Mean 9am Dew-Point Temperature (°C)	10
Mean 9am Relative Humidity (%)	62
Mean 3pm Temperature (°C)	26.4
Mean 3pm Wet Bulb Temperature (°C)	16.6
Mean 3pm Dew point Temperature (°C)	8.7
Mean 3pm Relative Humidity (%)	37

Table 3: Rainfall Data

Climate Statistic	Annual Value, Morawa
Mean Rainfall (mm)	332.8
Highest Rainfall (mm)	580.4
Lowest Rainfall (mm)	149.1
Decile 1 month Rainfall (mm)	227.2
Decile 5 (Median) Monthly Rainfall (mm)	325.2
Decile 9 Monthly Rainfall (mm)	452.4
Highest Daily Rainfall (mm)	120
Mean Number of Days of Rain (day)	71.4
Mean Number of Days of Rain $\geq$ 1mm (day)	50
Mean Number of days of Rain $\geq$ 10mm (day)	8.7

Table 4: Wind Parameters

Climate Statistic	Annual Value, Morawa
Mean 9am Wind Speed (km/h)	11.2
Mean 3pm Wind Speed (km/h)	12.9
Structural Design to AS1170.2 Terrain Category 2, Region A4	

4 FREE-ISSUE MATERIALS

The materials, equipment items and platework are indicated in Preliminary Mechanical Equipment List “Equipment List_14136LM007C.xls”. The breakdown of client supplied, or the Contractor’s supplied items are as follows. The free issued items will be made available at no direct cost to the Contractor, DDP at a location to be agreed with the Company’s Representative, which will typically be the Contractor’s laydown area on-site.

Table 5: Free-Issue Materials

Item Tag#	Description
1314-FL-194	Metso Larox FFP2512-62/62DD filter press including head chute, head pulley, E&I control package; similar to the existing. Total weight of filter press (empty) 160-180 tonnes Dimension 19.3m x 5.95m x 3.87m (LxWxH) Vendor drawing T-8754
1314-HP-051	1xhydraulic power pack skid for pressure filters including oil heaters, cooling fan, hydraulic pump, piping, hoses and local control station. Part of filter press supply. GA T-8460.
1314-HO-050	1xFilter Cake discharge hopper. Part of filter press supply.
1314-CH-217	1xHead Chute
1314-FE-018	1xFilter cake discharge feeders. Vendor drawing KDFE-00GA
1314-CH-218	1xTransfer chute, skirting arrangement onto CV20.
1314-PU-198	1xFilter Feed Pump model Weir-Warman 10/8 FF-AH with 315 kW drive, pre-mounted on base plate, 6881kg approximate.
~~1314-PU-200 (to be deleted)~~	~~1xFlushing Water Pump model Weir-Warman 10/8 AH with 280kW drive, pre-mounted on baseframe, 5536kg approx.~~
1314-PU-284	1xConcentrate Filtrate Pump model Weir-Warman 6/4 B AH with 37kW drive, pre-mounted on baseframe, 1229kg approx.
1314-PU-030	1xSump pump Weir/Warman 100 VEH GPS, 1800mm column length, 22kW C drive configuration (1x V belts), pump mounting frame is supplied as part of the structural steel package
1314-PV-024	1xConcentrate Filter Air Receiver
-	Drive motor for Filtrate Transfer Pump 1314-PU-413 & 414
-	1x33kV switchboard
-	1x415V Motor Control Centres (MCC)
-	5x Variable Speed Drives (VSDs) VSD for Filter Cake Discharge Feeder 1314-FE-018 VSD for Concentrate Filter Feed Pump 1314-PU-198 VSD for Concentrate Filtrate Pump 1314-PU-284 VSD for Concentrate Filtrate Transfer Pump 1314-PU-413 VSD for Concentrate Filtrate Transfer Pump 1314-PU-414

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Item Tag#	Description
	2xVentilation fans including local control station (to be confirmed)
-	1x CV20 Drive motor 132 kW (to be deleted)
-	1x CV21 Drive Motor 132 kW (to be deleted)
-	1x CV22 Drive Motor 132 kW (to be deleted)

The Contractor shall be responsible for the receivals unloading and care on site of all Company supplied materials. Once given into the Contractor's custody, the Contractor shall be responsible for the safe-keeping, inventorying, storage, handling, transportation, preservation and unpacking of these items.

- **Receipt**

The Contractor shall keep a register of all items received showing as a minimum an adequate description of the equipment, the date received, where it is located and any damage/deficiencies on receipt. A copy of these records shall be provided to the Company on request.

- **Shortages, Damages & Make-Good**

The Contractor shall inspect all free-issue materials on arrival for transfer into its custody, and shall promptly notify the Company's Representative of any damage or shortfall according to its own in-house format. Any claim for damage, shortfall or making-good subsequent to this will not be entertained by the Company.

In particular, damage to paintwork, incorrectly fabricated, or 'missing' items shall be reported promptly, with sufficient descriptive detail including clear photographs to allow the Company to expedite or place a claim against the Shipper and/or Fabricator as required. There is a limited time window during which this must occur. Any subsequent damage to surface finishes, shortfall or making-good shall be at the Contractor's cost.

The Contractor shall inspect all self-supplied materials, and shall reject and replace any defective items.

- **Handling**

All items shall be safely and suitably handled by using appropriate equipment to prevent accidents and injury to persons or damage. Any damage caused by the Contractor through mishandling shall be the responsibility of the Contractor to rectify at own cost.

- **Storage**

Equipment shall be unloaded to the designated laydown area or other storage area as may be agreed or directed by the Company. The Contractor shall be responsible for the unpacking, inspecting and checking of all Company supplied equipment and materials.

The Contractor shall be responsible for dunnage and appropriate weather protection such as tarpaulins or similar for plant and equipment where deemed necessary by the Company. The Contractor shall note that certain items such as instrumentation and electrical panels will require 'indoor' storage (sea-containers or similar); small items may require shelving or similar; Contractor shall include in their scope as required.

The Contractor shall be responsible for transferring equipment as required from laydown storage to site.

- **Spares**

The Contractor shall segregate and keep safely any commissioning spares and operational spares delivered with the various free-issue materials, and shall hand all these over to the Company, as directed by the Company or before demobilising from site.

5 CONTRACTOR-SUPPLIED MATERIALS

The following equipment and materials shall be sourced, purchased, delivered and installed directly by the Contractor. The Contractor shall purchase items as listed in CORP-GE-LST-1007_0 *Preferred Equipment List* where applicable.

Table 6: Contractor-Supplied Materials

Item Tag#	Description
Multiple structural steel items	Multiple prefabricated Structural Steel items, grid-mesh flooring panels, chequer plate flooring, stair treads & components, monorail beams, crane girders, handrailing, kickplates, guarding to filter unit, discharge feeder and similar items for the new extension. Structural steel is typically supplied in bundles of similar type or cross-section, usually in stillages within a standard 40ft sea-container (occasionally on a shipping flat-rack, or break-bulk skid), prefabricated, with cleats, bolt-holes and surface treatment as required, and identified by a hard-wired tag or hard-stamp bearing the item's piece-number. Steelwork items is detailed in separate Bills of Materials and Packing Lists. See "L280 Supply & Install - Pricing Schedule_A.xls" for the work volume.
	All cladding & roof sheeting, including nominated roof-ridge ventilator & translucent sheeting; all purlins & girts, trimmers and other incidental steelwork; all flashings, sheet-metal work and similar for cladding materials all detailing, cutting, punching, drilling and fixings; One (1) steel door / frames & hardware, Door that access upper crane level (1-off) to be lockable and keyed alike.
	Rolled steel crane rail, Chinese 'P24' standard, 24kg/m ~100m nom. Crane Rail Fishplates, with bolts nuts & washers, Crane rail gantrex clips, single M20x70 bolt attachment; Crane rail, rail-clips and Fishplates are part of the filter building structural steel.
1314-TK-045 (existing)	Qty.1 Concentrate Filtrate Transfer Tank wall extension ("Hoppers") and their access stair/platform, with overflow drawing L2xx-ME-DRG-xxxx, to be located at grade at 1314 tank farm, Shop fabricated, fully welded construction, rubber-lined internally & painted, to be bolted on top of the existing hopper 1314-TK-045.
1314-TK-094	Qty.1 Concentrate Filtrate Tank ("Hoppers") and their access stair/platform, with overflow drawing L2xx-ME-DRG-xxxx, to be located at grade under new building extension, Shop fabricated, fully welded construction, rubber-lined internally & painted.
	Impact Idler sets, skirtboxes and skirting for existing CV20.

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Item Tag#	Description
1314-MN-124	Qty.1 Monorail beam, serves the tail pulley at Feeder level within the building extension, 5T capacity, part of the structural steel supply
1314-MN-123	Qty.1 Monorail beam, serves the Cake discharge feeder drive FE-018 at Feeder level within the building extension, 10T capacity, part of the structural steel supply
1314-MN-125	Qty.1 Curved monorail beam, serves the sump pump under the building extension, 2T capacity, part of the structural steel supply
1314-SS-xxx	Qty.1 (tbc) Eyewash/safety shower stations, <i>Enware EC270</i> , drawing CORP-PI-DRG-1113, for new building extension
1314-HR-xxx	Qty.1 (tbc) Fire Hose-reel stations, preassembled, Galvin Engineering, 382663 G3 Swivel Fire Hose Reel, w/ fixed waterway, Cabinet Item-381905, 36m hose & hose nozzle Item-383190.
1314-FH-xxx	Qty.1 (tbc) Fire Hydrant angle Landing Valves, 90-degree, DN65
1314-US-xxx	Qty.1 (tbc) Utility Stations (air, rosewater & hose bracket), (drawing CORP-PI-DRG-1187)
	Skirts and guards onto CV20 at the discharge hopper
Tank nozzle DNxxx	Prefabricated steel tank nozzle DNxxx and loose reinforcing plate, for new nozzle tie-in to area 1314 slurry storage tank.
1314-XS-1001K 1314-XS-1001L	2 Ventilation Fans, ø800, in-line, axial flow, wall-mounted, with inlet guard, ductwork, transitions, 45° discharge wall cowls, 7½kW motor, mounting feet, anti vibration mounts, fan support frames and secondary supports; for filter building ventilation, Fantech AP0804 GA6/34, each approx. 1200mm x 1200mm x 2100mm long, 1350kg. Ref vendor drg KM-M01-A & M02-A.(to be confirmed)
Piping spools	Large-bore and medium-bore piping (DN65 and larger), including valves, in-line instrumentation as listed in Instrumentation List (document pending) and fittings within the battery-limits indicated on the construction drawings, supplied as flanged piping spools, prefabricated to the extent shown in individual piping isometric drawings. The majority of this piping is rubber-lined, supplied as flanged 3D-bends, flanged straight spools & flanged fittings. There will be a small amount of hot-dip galvanised firewater piping in DN65/80/100 which will be supplied prefabricated as flanged spools. Stainless steel piping for Potable Water will be supplied in full lengths (nominally 6m); valves and welding fittings 'loose', in quantities as per the BOM (document pending). Small-bore screwed piping DN50 and smaller is supplied in full lengths (nominally 6½ m); valves and fittings 'loose', in quantities as per the BOM (document pending).
Special-Piping Items	All items listed in the SP-Items list (document pending)
In-Line Instruments	All items listed in the Instrument List (document pending)
Pipe Supports	Pipe supports as nominated in the Piping Isometric drawings (typically fabricated brackets, U-Bolts and Shoe-type supports) will be supplied in accordance with a

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Item Tag#	Description
	suite of individual detail drawings, each referenced from the Isometric drawings. All items listed in the Pipe Support List (document pending) Primary structures for support of piping (e.g. major supports) are included in the building steelwork supply.
Cable-ladder Supports	Approximately 30 (tbc) prefabricated steel supports for cable ladders tank farm, as indicated in the model or drawings.
Structural and equipment bolting	All structural bolting required for the erection of the building, its steelwork, for the installation of equipment and for installation of pipe supports and cable-ladder supports (if any) (any exceptions will be noted in the text of this installation scope of work)
Grating Clips	All grating clips, to suit <i>Webforge B325MPG</i> floor grating
Flange bolting, gaskets	All flange bolting, gaskets and thread-seal tape required for the erection of piping
	Supply of all cable and electrical and instrumentation equipment that is not listed as Karara supplied in the documents: "L280 Supply & Install - Pricing Schedule_A.xls" The quantities of contractor supplied materials listed in the electrical and instrumentation Material Take Offs (MTOs) are a guide only. The contractor shall be responsible for confirming the items types, sizes and the quantities against the SOW, contract drawings, equipment lists and cable schedules.
Others	Incidental items or materials where described in the Scope of Work.

6 SCOPE OF WORK

6.1 Overall

This Scope of Work defines the activities to be performed by the Contractor for the supply, fabrication, erection, testing and handover of the Civil, Foundation, Structural, Mechanical, Piping and E&I Works.

All Works shall be carried out in a professional and workmanlike manner in accordance with applicable laws and regulations, the Contract documents, Procedures, Specifications and Drawings.

Obligations, goods and services not expressly shown on the Drawings or mentioned in the Contract documents but which are necessary for the proper completion of the work or for good Engineering practice, shall be supplied and executed by the Contractor at its own cost.

6.1.1 Access to Site

The Site is private property, and access onto site is subject to ongoing compliance with the requirements listed in this Scope of Work, KML's site Procedures and the Contract documents.

Maps showing driving access routes to site from Perth and from Geraldton are given in Appendix F.

Flights ex Perth and site accommodation will be provided by KML for pre-arranged site-based work crews. On arrival-day, latest flight check-in (at T2 Perth Domestic Airport) is typically at 06:45 for a 07:30 flight departure ex Perth, landing Karara at 08:30; and on departure day last check-in at the camp is typically at 15:15 for a 16:35 flight departure, arriving Perth at 17:25. Additional or alternative flight times may be arranged to cater for the additional workforce anticipated. Flights are subject to delay & variation for technical and other reasons. Baggage is limited.

Bus transport from Geraldton (airport) to Site is also available.

The Contractor shall note that the work area in the location of the existing building including the tank farm is quite congested, all of which will be in continuous operation during the works and will need to be accessed on a regular basis by other non-project personnel. In particular, there are the following regular unrelated activities by others in the region:

- the operation, cloth replacement and periodic maintenance of the existing 4 filters.
- there is an unsurfaced Ansteel Road to the Concentrate Filtration Facility passing the utility piperack to Concentrate Thickener TH1.
- the Mining office to the North needs frequent and unimpeded access. The current LV parking area south of this office is to remain.

6.1.2 Mine Site Work Arrangement

KML currently operates a 2-weeks ON / 1-week OFF site roster. The Contractor may align with this shift pattern for site works, with rotating crews, or implement other shift pattern to provide better and continuous coverage as needed to achieve the project milestones.

Normal site working time is 6am to 6pm, 7-days per week during ON-roster.

Night-shift working is not currently foreseen or encouraged for these works, but the Tenderer may offer priced and resourced proposal option(s) for 2-shift working or for 24-hour working or similar if this can be shown to be of benefit to achieve the required project milestones or to achieve overall project savings.

The Contractor shall:

- a) Provide all things necessary, including but not limited to the provision of labour, materials, equipment, tools, consumables, scaffold and temporary access, cranes, storage facilities, design, testing, NDT, flushing, commissioning, all management, administration, supervision, safety management, transport of own equipment to and from Site (includes initial mobilisation and final demobilisation), transport of personnel at Site, inductions, quality control, inspections, permits, training, VOCs, operation, maintenance and calibration of all associated own plant and equipment necessary to carry out the Works;
- b) Plan resources (labour and equipment) to meet the requirements of the Contract while limiting the fatigue and heat-stress of workers. *Work-Safe* guidelines shall be used as a guide to work hours, breaks between shifts and fatigue management processes, and KML work and schedule requirements shall be adhered to;
- c) Review and comply with the requirements of the KML Corporate Documents listed in the Appendices;
- d) Ensure Good Industry Practice is employed and maintained in all areas in performance of Services;
- e) Ensure all Services provided are read in conjunction with the referenced drawings, specifications and procedures;
- f) Ensure the Supply of all Equipment is fit for purpose, in full compliance to all statutory requirements and in accordance with all applicable Company and Australian Standards;
- g) Be aware that the Works take place within an operating process plant environment. Provide rigorous monitoring and conditions to ensure there is no interference with the continuous operating process plant environment.

6.1.3 Nominated Site Laydown, preassembly and the Site Office area

The Contractor shall nominate its preferred size of the area/s for its temporary site facilities, including storage, laydown areas, pre-assembly areas, parking areas and office/cribroom areas; however the ultimate size of the area allocated to the Contractor for this purpose is subject to availability and is at the sole discretion of the Company's Representative.

For the purposes of Pricing, the Company's Representative will make available to the Contractor a cleared area within the concentrate plant site for its site offices, temporary laydown, storage of materials and preassembly of steelwork and equipment. As per the current planning, the tentative location for the Contractor's site office and the laydown area are as follows:



Figure 3: Contractor's Site Office & Laydown Yard

Supply and installation of security fencing should it be required shall be by the Contractor.

6.1.4 Mobilisation & Site Establishment

Shortly after Contract Award and prior to commencement of the works, the Contractor and Company shall hold Kick-off meeting/s which will include a comprehensive workshop to discuss the expectations and execution plan for construction of the Works. This meeting shall be facilitated and presented by the Contractor with the aim of demonstrating how the Works will be undertaken by the Contractor in a timely and efficient manner. The meeting agenda shall include the proposed works schedule, constructability, sequence and logic, key interfaces and necessary inputs from the Company.

The Contractor together with the Project team need to notify the KML's HST Department (safety@kararamining.com.au) before mobilisation or commencement of the scope.

The Contractor, with the HST Department, will then determine the applicable pre-mobilisation requirements based on the size, complexity and risk of the work. This may include:

- Pre-Mobilisation Meeting;
- scope-specific risk assessment/ Contractors Risk Assessment Workshop (CRAW);
- review of roles, competencies, plant, chemicals and work procedures; and
- completion of the applicable Regulation 625D contractor/MSMS arrangement.

The intention is for HST to trigger the pre-mobilisation governance process, with mobilisation or the work not proceeding until the applicable H&S and statutory requirements have been completed. The Pre Mobilisation Meeting Form CORP-HS-FRM-1171_0 that must be completed which will then guide the rest of the process.

The Contractor should mobilise a small team to site initially (2-4 persons only, which should include site supervisor/s), before the main SMP works begin, so that the Contractor may:

- Establish their presence on site
- Become familiar with the location, the site, the people and the systems involved
- Discuss and agree location and size of laydown areas, site facilities etc
- Carry out own site inductions, site driving VOC tests, obtain Mines Act 'Schedule 26 competency requirements of the Work Health and Safety (Mines) Regulations 2022.
- Become familiar with the Permit to Work systems
- Establish own site routines
- Establish site-registers as required, e.g. of personnel, VOCs, lifting equipment, etc
- Organise permitting, delivery and installation of own facilities – crib rooms, site offices, power, water, ablutions, storage, parking, vehicles, mobile plant, refueling, etc
- Be present to receive goods as they arrive on-site, carry out goods unloading, receipting and laydown as required;
- Prepare and submit two-week manpower/workload look-ahead, to plan and schedule timely and efficient deployment and ramp-up /-down of own workforce to site.

The Contractor shall establish the Site facilities and infrastructure required to carry out the Services (together: the '*Establishment*').

- a) The Contractor shall mobilise all personnel, site offices, cribsrooms, toilets, ablutions, sanitary needs, facilities, workshops, stores, tools, gen-sets, Plant and Equipment, material and management systems for use by the Contractor, its approved Sub-contractors and miscellaneous services personnel necessary for the safe, proper and timely execution of the Works. The Contractor is responsible for all the mobilisation, setup, running services, maintenance and demobilisation of all Contractor facilities.

- b) KML will undertake to have sewage removed from the Contractor's storage facilities near the job-front up to twice per week. KML will provide water for these facilities at a nominated location but the Contractor shall draw, transport and store this water, as needed.
- c) The Contractor shall provide all necessary ancillary equipment for own use, (e.g.: transportable temporary buildings, furniture, generators, UPS, computers, software, hardware, printers, copiers, scanners, internet connections, telephone, mobile phones, two-way radios, stationery, etc.).
- d) The Contractor shall supply and install all own equipment related to the Contractor's workshops, offices, plant and equipment.
- e) The Contractor shall provide and maintain own-use first aid kits, trained First-Aiders, and fire extinguishers; KML maintain an on-site medical center and Fire-Fighting/Emergency Response crews. Existing plant buildings have fire hose reels installed.
- f) Potable water for the Contractor's workforce will not be available at the tentative Site Office location. The Contractor is to provide potable water tank.
- g) Other utilities such as electricity to their transportables and temporary work-site power shall be provided by the Contractor. The Contractor shall provide all necessary furniture, plant, fittings, tools and infrastructure to connect, stock and / or utilise any facilities that are in addition to those provided by the Company.

Self-powered (diesel) generators, welding sets, elevated work platforms (EWPs), lighting towers etc must be inspected, tested and tagged according to the relevant standards. Particular attention shall be given to the installation and testing of the associated generator earthing. All portable generators, welding sets, lighting towers & EWPs with electrical power outlets to be used on site shall be approved by the nominated Electrical Supervisor or nominated person before commencement of operation; see Doc no. CORP-HS-PRO-1003 *General Electrical Safety Procedure*. Petrol engines are not normally allowed on site.

Existing plant buildings have a limited number of existing welding outlets and GPOs, which may be used by the Contractor (subject to confirmation by the Company's Representative on site).
- h) If any Site facility or infrastructure is provided by the Company, these Site Facilities are to be handed back to the Company at the end of the term in a good condition acceptable to the Company, subject to fair wear and tear.
- i) The Contractor shall include for off-loading (including forklift/cranage), inspection, materials control, receivals, correct handling and storage including dunnage, goods issue procedures, unpacking, loading and transportation of all materials delivered to its laydown area;
- j) The Contractor shall provide suitable mine-specification vehicles and refueling facilities for commuting and transporting personnel, supervision and materials around the Site and between the village and the Site.

No private or non-mine specification vehicles will be allowed at the Site or the village.
- k) The Contractor shall note that there are minimum standards, cleanliness, inspection and approval requirements to be observed for all vehicles and mobile plant (including hired plant) before they may be brought onto the site, or return to site from outside areas; see for example:
 - CORP-HS-PRO-1008 Mobile plant, equipment and light vehicle procedure
 - CORP-HS-FRM-1053 Mobile plant, equipment and light vehicle access request, inspection
 - CORP-EN-PRO-1009 [§ 4.9.2] Environmental Procedure – Flora, Weeds & Plant Pathogens,
 - CORP-EN-FRM-1009 Vehicle and mobile equipment weed inspection form.
- l) The Contractor shall establish machinery parking area(s) including approved containment and storage for fuel, oil and other potential contaminants necessary for Plant, Temporary Works, equipment maintenance and operation during the period of The Works.

- m) The Contractor shall in operating the Establishment:
- comply with all relevant Laws including but not limited to the Work Health and Safety Act 2020, the Explosives and Dangerous Product Act, and the Company's procedures, all as may be modified from time to time;
 - consider the maximum necessary amount of storage;
 - consider the congestion of the area and other work areas;
 - consider proximity of other buildings and facilities and any risk to those buildings and facilities;
 - be responsible for maintaining the Establishment in good condition, and the Establishment shall at all times be kept in a safe and workmanlike state to the satisfaction of the Company.

The Contractor shall:

- i. allow for and ensure that site inductions, medicals and necessary training and equipping of all personnel, including Subcontractors, is in accordance with the Company's safety procedures;
- ii. supply all necessary experienced and competent labour to complete the Works under the Contract, including all training, VOCs, inductions, medicals and tests required to perform the Services. This shall include direct engagement by the Contractor of specialist Sub-Contractors as required to execute the works; for example, for scaffolding, hydraulics, plumbing, craneage, heavy lifts, NDE, rubber lining, insulation, cladding, roofing, etc.
- iii. ensure ongoing personnel compliance with necessary competencies, including but not limited to the following VOC related activities: current driving / 4WD & HR truck tickets & licenses, Confined Space testing and entry, Working at Heights, Rigging, Dogging, Crane Driving, Scaffolding, Elevated Work Platforms (EWP), etc., as required for the Works, and maintain a register of personnel on site by VOC.
- iv. allow for ongoing transport and delivery of all approved Contractor's Plant, Equipment and supplies between the Contractor's depot and job-site including the initial mobilisation and final demobilisation from the Site.
- v. ensure efficient and effective logistics solutions for transport delivery of all other support materials and equipment, including tools and equipment, staff trucks, light vehicles, consumables, PPE and any own-use spares required for commencement and ongoing provision of the Services.
- vi. The Contractor shall note that FIFO personnel using the airplane service to/from site have a limited baggage allowance, typically 10kg max checked baggage with 5kg max carry-on, which may be further reduced for operational reasons (e.g. during very hot weather). This aircraft shall not be used for transport of Contractor's materials, but may be made available on special request for very urgent delivery of small and light materials. KML have a regular delivery service from Perth to Site (currently FLG), and the Contractor may choose to consolidate their materials with KML's materials, but the cost of transport and delivery of Contractor's materials will remain the Contractor's cost, to be negotiated and settled directly with the transport company.

6.1.5 Site Safety & Site Access (including Induction programs)

- a) The Contractor shall carry out all work in a safe and professional manner and in accordance with the Work Health, Safety Act 2020 and the regulations thereto as amended.
- b)** KML will conduct random alcohol and other drugs ('D&A') testing, which may be at any time and without notice; see CORP-HS-PRO-1052. Individuals will be selected for testing using an independent random selection process, blanket screening, or where there is reasonable cause. Any person selected for a D&A test must attend the testing venue (e.g. medical centre at the village or on the mine-site) for testing as soon as they have been notified. Failure to attend immediately without a valid reason will result in the test being recorded as a positive test.

Involvement in any reportable incident will require immediate mandatory D&A testing.

Any positive test will result in disciplinary action and immediate expulsion from site – ‘Zero Tolerance’

- c) The Contractor shall include for and ensure that any person involved in the Works entering the Site has received and successfully passed the Company’s induction program and the required on-site orientation process – Work Health and Safety (Mines) Regulations 2022. The induction process is an online tutorial in several modules with interactive pass/fail tests, which must be set up in advance by arrangement with KML. Travel requests to site will not be processed without a valid induction together with a recent (<28-days) negative D&A test result.

A Visitor’s Induction is also available for typically one-day only. Visitors to site cannot perform any physical work and must be accompanied on-site at all times by a fully-inducted person.

In order to be permitted to drive a vehicle on site, the Driver shall have passed KML’s site driving VOC test. Speeding or traffic violations on site may result in disciplinary measures.

There are a number of prerequisites before any person may come on site; see:

- Site Entry and Security Procedure (Doc no: CORP-HS-PRO-1022)
- Personnel Compliance Verification form (“PCV” form) (Doc no: CORP-AD-FRM-1050)
- Site Entry Request form (“SERF”) (Doc no: CORP-AD-FRM-1046)
- Personal Protective Equipment Procedure (Doc no: CORP-HS-PRO-1037)
- List of Banned Tooling not allowed on site (in Appendix F)
- Site Travel & Accommodation Procedure (Doc no: CORP-AD-TMP-001).

- d) The manufacturing process crushes the ore and extracts iron concentrates from an ore that is roughly 40% silica and 40% Iron. One result of this is that Silica present in the ore as quartz is comminuted and concentrated to 80% or more in the tailings residue, which presents a respirable crystalline silica dust hazard to personnel (Silicosis). To address this hazard, all personnel who intend to come on site are required to be fitted for and to use a suitable dust respirator while on certain parts of the site. The map below and local signage indicate the locations where a respirator is mandatory PPE, which in general relates to most of the Crushing, Screening and Tailings areas, i.e. West of the tailings conveyor CV-041 and South of the main East-West roadway (see Appendix-F, *Safety Bulletin 0138-21 Mandatory Respiratory Protection Areas, and Amendment - Respiratory Program 24-05-18*).

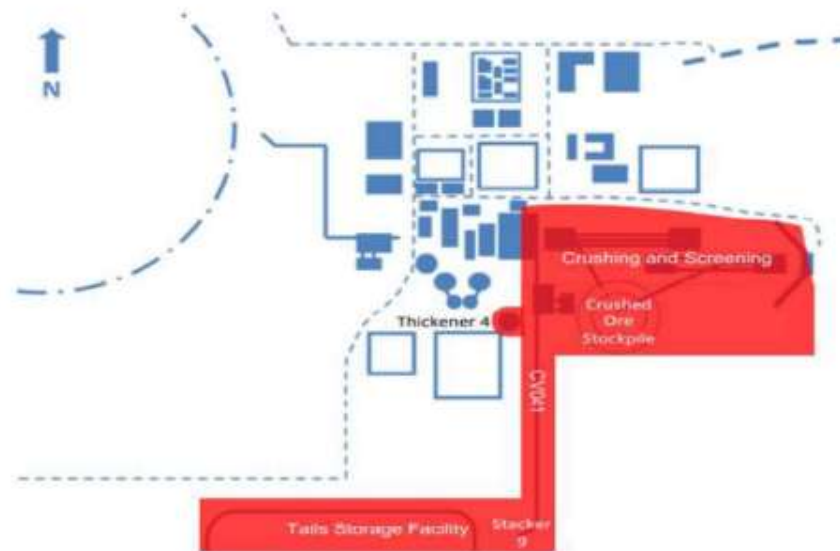


Figure 4: Mandatory respirator PPE area

The Contractor should note that the location for the Concentrate Filtration Facility is not within this mandatory respirator area, and likewise areas that may be proposed for laydown to the South of Process Water Dam are also not within the mandatory respirator area; however, changing wind conditions may at times carry fine dust containing respirable silica to these areas, and the use of respirators may nonetheless be justified and prescribed by Site Bulletin. For short-term exposures the Contractor may choose (as an alternative to the full respirator) to self-supply and deploy a disposable P2 particulate face mask such as the 3M 9320 to employees as necessary (Note: *P2 Particulate* or better is requisite – these are not a general/nuisance dust mask).

The respirator or face mask relies upon an effective seal against the wearer's face, and beards or facial hair can render these ineffective; as a result, personnel shall be either clean-shaven (daily), or source and maintain at own cost an alternative acceptable solution (i.e. a PAPR 'Powered Air Purifying Respirator' apparatus).

A limited number of PAPR respirators may be made available by KML for Contractor's use; however, the Contractor shall adequately record user/usage per PAPR unit on a daily basis, shall maintain the units as necessary (including cleaning/sanitising, recharging, supply & changing of filters), and return them on demand in good condition. This privilege may be withdrawn by the Company at any time if considered to be abused – the default is Contractor supply.

The Contractor shall include for the supply and maintenance of suitable respirators or P2 dust masks for all their personnel and visitors on site, shall enforce their use by all such personnel, and shall include for initial respirator fit-testing and periodic (typically annual) mandatory fit validation as required.

Smoking is only permitted in designated areas, outside of the mandatory respirator zone. Smoking on the job or at the work-front is unacceptable and will result in disciplinary measures.

See in particular:

- CORP-HS-PRO-1063 Respirator Protection Procedure,
- Safety Bulletin No.0138-21, map showing mandatory respirator areas, (in Appendix-F)
- Details of Fit Testing Providers in Perth, and 3M Dust Masks, (in Appendix-F)

- Amendment – Respiratory Program, (in Appendix-F). Note: This applies only to short-term visitors to site, not to regular rostered Contractor workforce.

The Contractor shall:

- supply, install and maintain all temporary safety equipment, PPE and materials for the protection of people and the works, for the duration of the works on site, in accordance with the Work Health and Safety Act 2020, and KML Safety Requirements;
- Prepare and update a Traffic Management Plan as required to ensure work scopes are completed safely, including but not limited to erection and maintenance of all road traffic signs, radio call up points, Stop/Go systems, restricted entry areas etc. to ensure safe works;
- Plan the works in close consultation with the Company's Representative and others so that labour and equipment utilisation is used cost-effectively and consistent with Company requirements;
- Liaise with the Company's Representative to ensure workloads and work areas are correctly managed, and to mitigate relocation or re-work due to poor planning or design by the Contractor;
- Be responsible for the protection of all existing services and structures in the work area. Any damage to plant assets or known services caused by the Contractor shall be repaired at the Contractors expense;
- Provide materials as required to protect equipment from the elements and damage of any kind, such as impact, fire and the like by both the Contractor's personnel and that of others during the execution of the Works.
- Supply and erect all temporary guards, barriers, and handrails required for the execution of the Works.
- Where applicable, provide and maintain guarding, fencing, temporary barricades, danger signs and other items necessary to ensure the safety of all personnel, plant and equipment engaged at the Site from hazards associated with the Contractor's operations. At all times, accessways must be kept clear of objects or obstructions which could cause injury to personnel or damage to equipment and plant;
- Where applicable, provide and maintain all temporary facilities supplying power and compressed air as required during the works, which are to be regularly inspected and maintained at the required frequency as stated by the manufacturer and / or the *Health, Safety, Environment and Community Management Plan(s)* HSECMP;
Electrical equipment, power-cords, RCDs etc.; lifting equipment (chain-blocks, slings, etc.); ladders; safety harnesses etc., are subject to a quarterly inspection and colour-tagging system; scaffold is subject to a *ScaffTag* system.
- Carry out regular clean-up of the work areas in accordance with the Health, Safety, Environment and Community Management Plan(s) (HSECMP) and / or as directed by the Company's Representative. The Contractor shall also conduct a final clean-up of the work areas upon completion of the Works;
- Undertake housekeeping of the Contractor's area and storage area to acceptable standard and to allow efficient stocktaking and auditing of Contractor's materials and equipment;
- Provide correct segregation and disposal of all waste materials on site as directed by the Company's Representative.
The Company provides segregated waste skips at a number of locations around the site – Timber / Rubber / Steel / Hydrocarbon / General waste. The Contractor may use these skips in accordance with site procedures, viz. provided that the waste materials are correctly segregated,

and the skips are not overloaded. This privilege may be withdrawn by KML at any time if it is shown to have been abused by the Contractor, in which case the Contractor shall correctly dispose henceforth of all its waste offsite at own cost.

The Contractor shall take care to dispose properly of waste foodstuffs and related materials, so as to minimise environmental impacts such as vermin and impacts on native fauna;

- Liaise with the Company's Representative for the removal from site of tyres, bulk hydrocarbons and hazardous waste, including used or surplus chemicals, oils, paints, used chemical and hydrocarbon containers, rags, paint brushes, etc;
- Where applicable, (outside of the max. twice-weekly collection service by KML), remove and dispose correctly all Sanitary waste and Ablutions waste;
- Participate in a brief daily "Pre-start" on-site meeting with the KML Site Representative and Contractor's site supervision to plan and agree on the work program for the day/shift following.

The Contractor shall:

- i. Be aware that it does not have exclusive access to any area on site. The Contractor acknowledges that it must work with other contractors and others that may need to access work areas that the Contractor also accesses. In particular, this is likely to include KML's Operations and Maintenance personnel and the Electrical Installation Contractor, and others, especially during commissioning. The Contractor shall conform to a management plan developed and implemented by the Contractor that takes into account and plans for such instances, in line with the Company's requirements for traffic management, and agreed to by the Company, as amended from time to time.
- ii. Facilitate and provide weekly Toolbox meetings that shall be attended by all Contractor's site personnel, subcontractors and KML's Site Representative. Key issues discussed shall be recorded and a copy sent to KML's Site Representative;
- iii. Prepare Safe Work Method Statement (SWMS) to satisfy regulations 299-303 for specific tasks as required by KML safety requirements or as instructed by KML Site Representative;

6.1.6 Demobilisation

The Contractor shall include a lump sum cost for demobilisation and de-establishment of the Contractor's yard site/s and equipment after completion of the Services Contract, which shall include:

- Completion of a demobilisation plan for approval and to the satisfaction of the Company;
- Transport and removal of all Contractor owned items used or stored on site during the Contract;
- Demobilisation of personnel and Subcontractors;
- Removal of Contractor's Plant and Equipment;
- Remove all other support materials and equipment required for the Services;
- Decommission and remove Contractor-owned buildings, transportables and infrastructure; and
- Cleaning of the site as stipulated by the Company's environmental requirements.

6.1.7 Lighting

The Contractor shall:

- a) ensure all work carried out during the hours of darkness or poor visibility can be undertaken safely;

- b) provide adequate lighting in the following areas used exclusively or predominantly by the Contractor:
 - at all main work front locations;
 - for Scaffold, Cranage lifts, and Confined Spaces;
 - at the workshop, assembly yard and other maintenance areas;
 - at any other working area deemed necessary by the Company.
- c) ensure all lighting is installed and used so as not to create undue environmental or social nuisance.

6.1.8 Site Supervision & Management

- a) The Contractor shall always maintain full supervision of the works by a competent supervisor experienced in this type of work. The Contractor shall appoint Site Supervisor/s who will be accountable for the works and be the point of contact for the Company's Representative.
- b) Supervision is not an office-based role but shall involve active and constant presence on the job's work-fronts.
- c) The Site Supervisor shall be a competent professional with significant understanding and experience of these types of works and shall have completed training as a '*Schedule 26 Compliance Supervisor*' and the *WA Work Health and Safety (Mines) Regulations 2022*. The KML Registered Mine Manager or delegate will interview suitably trained candidates before award of the required VOC letter.
- d) An organisation structure indicating all supervisory personnel and key personnel (and their back-to-back alternatives where applicable) shall be submitted with the tender and updated as required in accordance with the Contractor's nomination of Key Personnel.
- e) The Contractor's Supervisor is required to manage the following minimum responsibilities:
 - Supervise and manage the Contractor's own workforce, including any disciplinary requirements
 - Manage daily timesheet completion (including any overtime / leave requests);
 - Safety compliance to the Company's requirements, for example '*Take-5*', Prestart Inspections;
 - Manage SWMS to satisfy regulations 299-303 completion and quality with the workforce;
 - Scope jobs and provide timing estimates to the Planning or Supervisor teams;
 - Ensure equipment is maintained to an acceptable standard (i.e. Light Vehicles, Trucks, slings, etc.); and
 - Ensure personnel compliance with required competencies, including, but not limited to Driver's License, Confined Space, Working at Heights, Rigging, Scaffolding, Elevated Work Platforms (EWP), Welding Qualifications, NDE qualifications, etc. as required;
- f) The Contractor shall mitigate the fatigue of workers in accordance with The KML Fatigue Management Policy CORP-HS-POL-1031 and KML Fatigue Management Procedure CORP-HS-PRO-2151.
- g) The Contractor shall attend safety, progress and coordination meetings facilitated by the Company's Representative.
- h) The Contractor shall provide weekly reports on safety, manpower, plant, equipment, progress and lookahead, in a format approved by the Company's Representative.
- i) The Contractor shall provide monthly reports in a format approved by the Company's Representative in accordance with the Contract.

6.2 Overall Work Description

For Information, the approximate principal dimensions of the new building extension are:

- Length 20m* (East-West)
- Width 35m (North-South)
- Height 27.28m (to top of roof ridge ventilator)
- Footprint ~700 m² *

***To be confirmed in detailed engineering.**

The building is an enclosed industrial steelwork building with roof and wall sheeting, no guttering or drainage downpipes. In addition to the roof ridge ventilator, there are 2 forced ventilators in the new building extension.

Reference zero elevation EL+0.000 corresponds to plant datum Reduced Level RL+335.300m.

The Concentrate Filtration building is comprised of the following building levels:

- Ground Floor: an at-grade concrete slab, elevation varies ~EL.+0.000 down to ~EL.-0.175; EL+0.000 is the highest point of the concrete slab, which is laid to falls.
Top of Kerb is approx.EL.+0.150.
Top of Pedestals at ground-floor level is nominally EL+0.250m
A filtrate tank, filtrate pump and sump pit & sump pump including the existing product conveyor CV20 are at this level.
- Feeder Level: a cake discharge feeder is supported at EL+6.170 TOS with galvanised grating flooring. There is a column splice just above this level, at EL+7.470.
- Filter Level: Filter press is supported at level EL +11.640 TOS with galvanised chequer- plate flooring
- Upper level: A service platform with galvanised grating at EL +15.205 TOS.
Another column splice is at EL +16.105.
- Roof level: The overhead crane girder level is at EL +22.122 TOS.
Roof level is from EL +25.750 to EL +27.280 TOS. The roof cladding is uninsulated with a ridge ventilator at the apex.

In addition, there are:

- A stair at the external building to access the service platforms of the overhead crane.
- Guarding to feeder & guarding to skirt module of conveyor.
- 3 monorail beams 1314-MN-123, 124 & 125.
- All new cable trays and pipings will be laid onto the existing piperack or on new piperack extension to the tank farm.
- Wall cladding with translucent sheet and roof sheeting.
- 2 forced ventilators on each side of the wall cladding.

All flooring and stair treads are galvanised grid-mesh flooring UON, galvanised chequer-plate flooring is at the filter level.

6.2.1 Overview

The following narrative is intended to give a simplified overview of the works, following the plant's flow-path. A more complete and detailed description of the works follows in later sections.

- The existing Concentrate Filtration building has four filter presses. Each filter press has a dedicated filtrate hopper and a filtrate pump. The existing concentrate filter building is extended to house a new filter. The equipment should be erected at the same time as the building, from the bottom-up, rather than on a bay-by-bay basis, or structure followed later by equipment.
- The existing slurry tanks have sufficient storage capacity. A new filter feed pump is required. An additional nozzle will be required to be installed in one of the slurry tanks for the new filter feed pump on a new pump plinth.
- A concentrate filtrate pump and Filtrate Tank will be required at the ground floor of the Concentrate Filtration building.
- The existing Filtrate Transfer Tank TK-045 is to be modified to increase its height and drive motor upgraded to handle the increased duty (to be confirmed).
- On the ground floor of the building extension, new ground slab and a sump pump is required.
- Cable trays and pipings are installed onto the available space of existing structural members of piperacks or on new piperack extension (typically at level approximately EL+11.640m) from the Concentrate Filter building to tank farm.
- Once all the new works are essentially completed, pre-commissioning and commissioning will be carried out.

6.2.2 General

The services to be provided by the Contractor shall include but not be limited to the following, in accordance with the Company's Corporate Standard Specifications and § 7.

The Contractor shall:

- a) Provide cranes, forklifts, telehandlers, EWPs, rigging, scaffolding, temporary access and platforming for the installation of the Works in accordance with KML's standards, in particular CORP-HS-PRO-1007 *Crane Management Procedure*, CORP-HS-STD-1046 *Lifting & Rigging Equipment standard*, and CORP-HS-STD-1041 *Scaffolding, Ladders Stairs & Walkways*.
- b) Include incidental civil / concreting and grouting works where nominated in this Scope of Work. There will be an on-site Concreting Contractor available during early works, and this Contractor may use for concrete work in order to avoid additional mobilisation costs. Supply, installation and testing of all grout to underside of baseplates shall be in accordance with CORP-CI-SPC-1012. Grout shall be installed such that a forty-five degree (45°) grout chamfer is achieved from the underside of the baseplate to the top of the concrete foundation.
- c) Make good any damage caused to existing and constructed works, concrete and steel structures, equipment, services and facilities, by the Contractor during the performance of the work at own cost.
- d) Include receipt and unpacking of free-issue materials, including removal of stops, retainers, dunnages, anti-brinelling devices and the like. The Contractor shall be responsible for correct segregation and disposal of all packaging, wastage and removed packing materials.

6.2.3 Design Engineering and Certification for Any Temporary Works and any Materials supplied by the Contractor

The Contractor shall allow for the design development for any temporary works for ease of installation, engineering, coordination, manufacture, required for the installation of the Scope of Works to fully comply with the specification and Contract Documents including compliance with the Agreement and Karara's Project Requirements. The Contractor shall allow for full coordination of any design requirements with all other Contractors and Consultants including but not limited to civil, structural and operation services.

Co-ordination with all Consultants, Operations and interface with other Contractors to ensure installation items are fully compliant and able to be installed to specification and design, as well as accommodate any fire, electrical, instrumentation, hydraulic, or the like that are to be housed or installed within the installation items once the installation items are installed.

The Contractor is responsible for managing and progressing the sample approval process for items supplied (e.g. Structural fasteners, grouts, safety signs, pipe insulations, special brackets, structural shims etc) providing all information and complete sample information as required for all elements of the installation scope of works and ensuring the approval of conforming and non-conforming alternative materials/finishes prior to the commencement of manufacture. The Contractor will be required to present all samples for approval at the Karara office in Perth, or where otherwise nominated by Karara, to allow consultant and client sign-off.

The Contractor understands the above scope is included within the Contract Pricing and will be undertaken by the Contractor in accordance with this scope of works.

6.2.4 Bolting

The Contractor shall note that while structural steel and similar items for the new building extension including all bolting (other than U-bolt pipe supports as listed in the piping isometrics) is to be supplied by the Contractor.

All bolting shall be Metric, UON. Bolting shall typically be hot-dip galvanised bolting UON; zinc-plating is NOT an acceptable substitute to galvanising. The Contractor shall ensure that fasteners are of the correct length to suit, and washers shall be used where required by good engineering practice; there shall typically be between one to three full threads exposed beyond the nut. All bolt threads shall be coated with anti-seize compound prior to final installation. Bolts shall be torqued and checked according to the Company's approved procedure.

Tapered washers for the bolting of Chinese Tapered Flange channels are to be supplied by the Contractor as part of the bolting assemblies supply.

Shims, shim-packs, packers and spacers shall be provided by the Contractor where required for levelling and spacing. Shims ($\leq 3\text{mm}$) shall be of stainless steel unless otherwise agreed by the Company's Representative. Thicker packers that will be fully encapsulated by grouting – for example underneath pump or column baseplates – may be ex carbon steel. Plastic shims may only be used under very light loading.

Cast-in hold down bolts with double-nuts per bolt will be provided as part of the foundations, and are anticipated to include a foam grouting sleeve ~75mm long to allow small lateral adjustment; any shortfall including washers, spacers and shims shall be supplied and installed by this Contractor. All other bolting, chemical anchors, *Rawlbolts*, *Tek-Screws*, J-bolts, nuts, washers, locknuts, pipe support hardware and other fixings shall be supplied and installed by the Contractor. U-Bolts and pipe-shoes nominated as pipe supports in the Materials Take-Off (MTO) on the Piping Isometric (ISO) drawings shall be supplied by the Contractor.

Structural Bolting shall be in accordance with AS1252 Grade 8.8 *High strength steel bolts, nuts & washers for structural engineering*, UON, or as shown on the drawings;

M20 bolting is preferred structural bolting size, or as shown on the drawings;

M16 bolting Grade 4.6 is preferred for Mechanical Assembly UON, or as shown on the drawings.

Bolting for mechanical assembly shall preferably be hot-dip galvanised bolting except where otherwise dictated by machined surfaces or a particular high-strength or specialist requirement, in which case stainless steel is preferred. Black steel bolting shall be a last-preference, and shall only be used following consultation and agreement with the Company's Representative.

Bolting for piping and flanges shall be complying or as a default the Line Specification of KML's Piping Specification 1300-PI-SPC-1001. Some relaxations in flange bolting may be permitted to Gr.8.8 galvanised. Flange bolting will be listed in the MTO on each piping isometric drawing and shall be supplied by the Contractor, and shall be metric Machine Bolts (rather than stud-bolts), with heavy hex nut. The equivalence between metric flange bolting and imperial UNC bolting is given in § 6 of KML's Piping Specification 1300-PI-SPC-1001.

6.2.5 Cranage, & Access Equipment

Cranage shall be in accordance with CORP-HS-PRO-1007 *Crane Management procedure*, CORP-HS-STD-1033 *Lifting Equipment & Operations standard*, & CORP-HS-STD-1046 *Lifting & Rigging Equipment standard*.

The Contractor shall provide a Cranage Study to the Company's Representative for prior approval, for all multi-crane lifts, oversize lifts, all lifts over 10-tonnes and across existing services, all of which are considered to be 'Critical Lifts'.

All cranage, including rigging, associated personnel (including suitably qualified Crane Drivers, Riggers, Dogmen etc.), and including mobilisation and demobilisation of these to Site shall be by this Contractor. For the avoidance of doubt, this shall include all maintenance, testing and certification, the design and coordination of lifts by this Contractor (and where applicable in conjunction with any Cranage Sub-Contractor), and shall include for all lifting equipment, spreader-bars, slings, shackles, swivels, lifting eyes and the like.

The Contractor should note that there is a semi-permanent on-site presence by *Freo Cranes*, who maintain a site office at Pad-4 and an on-site fleet of typically three cranes 40T, 80T & 145T for hire for routine plant maintenance; however at times, all of these cranes will be in use by KML Maintenance (who will take precedence). The Contractor shall provide own cranage as required, but may call upon Freo Cranes on site to hire additional rigging, personnel, expertise or equipment etc if suitable and available.

Soft slings are permitted on site, but shall be subjected to very frequent inspection.

The Contractor shall supply, erect, inspect, strike and maintain all means of access, scaffold & *ScaffTags*, forklifts, transport, telehandlers etc as may be required for the works. The Contractor should note that there is a semi-permanent presence on-site by a scaffolding contractor, who may be available to assist with or supplement scaffolding requirements at the Contractor's cost. Typically, scaffolding within the construction area may be by the Contractor's own personnel, but scaffolding outside the construction zone should preferably be by the on-site contractor.

6.3 Temporary works

It is expected that CV-20 will be in operation during the construction of the building extension. In this regard, the Contractor is required to carry out the following advance works during the scheduled MPO before the actual full construction:

- Temporary protection to CV-20 over the entire length of the building extension.

Modular steel protective shedder shall be designed and installed during MPO to protect the CV20 conveyor and ensure this conveyor system is in continuous operation throughout the building extension construction period. The protective shedder and its foundations shall be a temporary structure that can be dismantled after completion of the building extension. The foundations should be designed as precast concrete units or steel support structures, with no cast-in-situ concrete required. The length of this protective shed shall cover the entire building extension with sufficient protrusions beyond this building extension for material falling from height.

- Temporary shoring to Low Level Conveyor Footings

The Contractor is to design and propose suitable temporary shoring for the low level conveyor footings so that these footings will not be undermined during the new foundation construction. The excavation within the existing live facilities shall be done by vacuum excavation or manual excavation.

- Relocation of existing weightometer WT-007

This work is expected to be done during the MPO too. To fast track the relocation of the weightometer, a new precast foundation shall be constructed in advance of the MPO. The new foundation is to be installed during the MPO and have the existing weightometer installed at the new position and at the right elevation. Detailed drawing will be available on the location as well as the foundation details.

The MPO is typically 1 week. KML will inform the Contractor as soon as the dates are confirmed. Tentative date of the MPO is April/May 2027.

- Temporary protection to the building against the elements

There shall be provision to ensure the operation of the existing filters is not affected when the cladding to the end bay is taken down till the new building enclosure is built.

6.4 Civil & Concrete Construction works

6.4.1 General

The works generally comprises the detailed excavation, backfilling, disposal of excess material, reinforcement, concrete and associated site works for the following site areas:

- construction of pad foundation for the building extension, pedestals, ground slab, kerbs, and sump;
- installation of electrical earthing grid, earth electrodes, earth pits and connection to foundation reinforcement;
- construction of access covers to existing service pits within the area of the new ground slab.

New partial concrete foundations are superimposed upon the existing foundations in the image below.

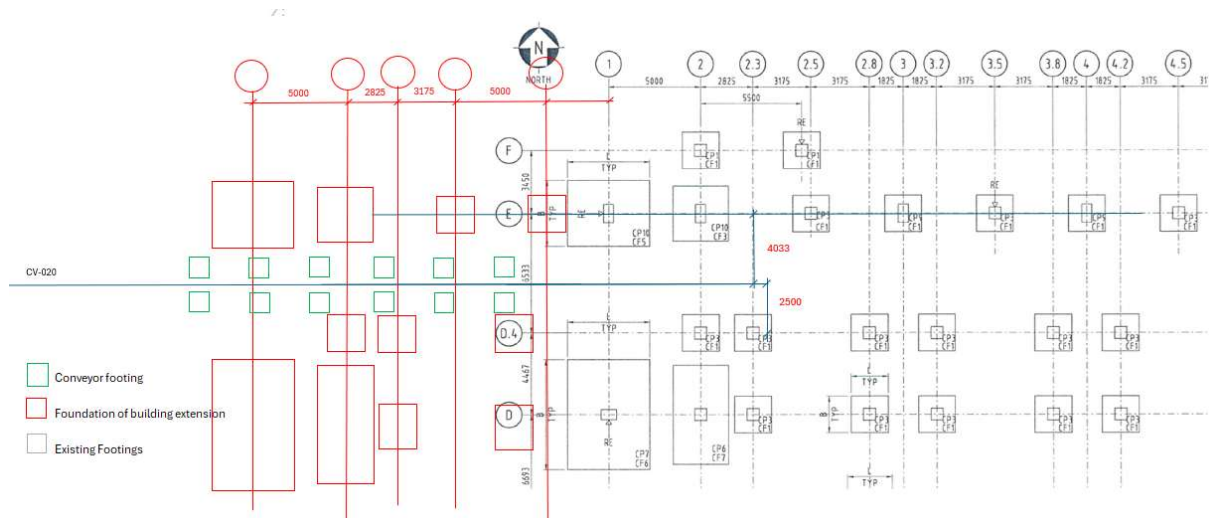


Figure 5: Preliminary Concrete Foundations (partial) (to be updated)

See “L280 Supply & Install - Pricing Schedule_A.xls” for the work volume.

6.4.2 Survey

The Contractor shall be responsible for all surveying required to be set out, construct and control the works. The Works Contractor’s survey work shall be tied back into the site primary control network of survey marks. The engineering control point will be provided to the Contractor for setting out purposes. All survey work shall be subject to review by the Company’s representative.

The Contractor shall record all survey information in field books or alternative digital records and maintain a set of as built drawings which shall be made available to the Company’s representative and handed over on

completion of the Works. Adequate care shall be taken by the Contractor to ensure the protection of all survey marks. Destruction of these shall result in re-establishment at the expense of the Contractor.

Where survey measurement is required, survey shall be carried out by the Contractor's surveyor and jointly with the Company's surveyor. Additionally, interim stages of survey may be required, at the Contractor's discretion, for payment purposes. The Contractor shall give the Company's representative 72 hours' written notice of application for verification of quantities.

The Company's representative may undertake their own survey check of any item, either in conjunction with the Contractor, or separately. Suitable time shall be allowed by the Contractor for the Company's representative to perform checks. The Contractor and Company's representative shall agree on the results of measurement surveys that are carried out prior to any works being covered up or within 7 days of a survey being undertaken. Should agreement not be reached, the difference shall be documented such that the matter can be later resolved without disruption to the Works program.

The Contractor shall ensure all its survey measurement instrumentation is regularly calibrated and maintained by a certified laboratory.

The Contractor shall conduct the as-built survey of anchor bolts' position before the concrete works is ready for the steel erection.

6.4.3 Site Preparation, Excavation, Backfill and Fill Materials

The site preparation and earthwork for this scope are:

- The new Building extension
- The crane pad area for all the installation works including the provision of dunnage & ground preparation to handle the load of the outriggers derived from the Lifting Study by the Contractor. The Contractor shall allow cost for the plate load test to confirm that the soil bearing capacity at the outriggers location is meeting the requirements.

All site preparation, compaction and backfill requirements shall be in accordance with Company's Standard Specification (CORP-CI-SPC-1001) "Mine Site Earthwork and Roadwork". The drawings and specifications provided by the Company's representative shall be referenced with respect to the scope of work. The Works will include but not limited to the following:

- Preparation and management of any borrow area (if applicable), including borrow pit management plan, site facilities, clearing, grubbing, stripping, testing, excavation and rehabilitation;
- Preparation of project area for removal of concentrate material and surplus spoil material. For the purpose of pricing, the area of concentrate and spoil disposal is <2km and <5km from the Project area respectively;
- Cutting and filling as required to achieve the levels as indicated on the drawings, including conditioning, compaction and testing as per the Specification;

- Proof rolling and surface preparation as indicated on the drawings;
- Removal of rock as required;
- Excavation and removal of unsuitable material;
- Construction of drainage for surface runoff as nominated on the drawings, including earthwork for open drains, if any.

The Contractor shall also heed the compaction requirements and geotechnical information and ground capacity information noted on the Contract drawings, specifications and the existing geotechnical report.

All excavation shall be free of all loose material and sludge and the foundation base shall be inspected and signed off by the Company's representative prior to casting of any blinding or concrete.

Where excavated material is not considered suitable for backfilling, the Company's will nominate sources for selection of suitable backfill. These areas will be confirmed by the Company's representative before commencement of works. The Contractor shall be responsible for verifying the suitability of selected materials for the intended purposes. The Contractor shall allow cost to win, haul and place the selected backfill material from these sources.

The Contractor shall dispose of material unsuitable for use as backfill at a location nominated by the Company's representative before commencement of works and in accordance with the Company's policies and procedures. The Contractor is responsible for moisture conditioning, curing of materials.

The Ground Floor slabs are laid to falls abutting the existing slab, towards a new sump pit.

6.4.4 Management of Surface Water

The Contractor shall properly deal with and dispose of all surface process water from the existing filtration building or the rainfall runoff to ensure the works are being kept sufficiently dry at all times for their proper execution. For this purpose, the Contractor shall provide temporary works as may be necessary to minimise damage, inconvenience or interference arising from surface water. The Contractor shall be responsible for surface water management during construction in accordance with document CORP-EN-PRO-1011 "Environmental Procedure – Surface Water Management".

6.4.5 Foundation Works

The Contractor shall:

- a) Set out all works required to be undertaken to lines, levels and grades.
- b) Undertake all detailed excavation of earthworks by vacuum truck or by machine excavation (including backfilling) and provide all necessary shoring for the works if required;

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L280 ADDITIONAL CONCENTRATE FILTER PROJECT

SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS

- c) Supply and install all materials, consumables and all other items such as hold-down bolts / anchor bolts, blockouts / void formers, dowels, cast-in items, sleeves, ferrules, plugs, waterstops, etc, and where stated as supplied and installed all items, necessary to complete the works;
- d) Supply and install all reinforcement and all necessary accessories such as bar chairs, spacer blocks and purpose made support bars whether shown on the drawings or not, to enable the works to be carried out. Reinforcement shall be formed to the specific shapes in bar bending schedule developed by the Contractor and placed as shown on the drawings;
- e) Liaise with their electrical contractor for the attachment and bonding of electrical earthing cables to reinforcing bar cages prior to commencing concrete pours. The location of earthings will be shown on construction drawings;
- f) Design, provide and construct all temporary works (e.g. falsework), formwork, access, and craneage required to complete the works;
- g) Handle, place and test all concrete required for the works. The cost of the concrete supply (from batch plant to the Site) and testing shall be borne by the Contractor. All concrete batches shall be tested for strength and slump in accordance with the requirements in the Specification;
- h) Supply and install all joints (eg. construction, shrinkage, expansion, shear keys etc.) and all penetrations where required in accordance with the Drawings, Specification and/or manufacturers requirements;
- i) Undertake curing, stripping and finishing of all concrete surfaces in accordance with the details in drawings and Specification requirements;
- j) Demolish the existing concrete pedestals at Gridline D/1 and C/1 to 1m below Ground Level. The existing foundation bases are to be left in place. See drawing xxx
- k) Remove all blockouts, sleeves and inserts used to form voids in the concrete using non-chemical (mechanical) means in accordance with this SOW and the Specification;
- l) Provide dust suppression on the construction site and around the laydown and office area during the period of the works. The Contractor shall allow for the collection, transport and spraying of water from a designated standpipe;
- m) Make good any damage caused to existing and constructed civil works; concrete and steel structures; equipment; services and facilities by the Contractor during the performance of the work at his own cost; and
- n) Co-ordinate and liaise with their relevant Structural / Mechanical / Piping Contractors for the supply of major cast-in items (if any) to ensure no delays in construction activities through late manufacture and supply of the free issue items.

6.4.6 Excavation in Rock

The Contractor shall be fully aware with the subsurface and all geotechnical condition of the Project area by reviewing the existing geotechnical report doc. No.: 1300-CI-REP-1002. The nearest borehole and the trial pit to the Project area is BH21 and TP49 respectively. The Contractor is at his own discretion to conduct additional trial excavation if necessary. The Company will not consider any reimbursement of cost to the Contractor in case of rock excavation. For the definition of rock excavation, see clause 5.4.4 of Corporate Specification CORP-CI-SPC-1001.

6.4.7 Special Consideration for Excavation Near Existing Conveyor Footings

During the construction of new foundations, CV20 is live. It is crucial to exercise care during the new works as the low level conveyor footings of CV20 are shallower. The Contractor shall propose construction methodology for not undermining the conveyor footings and caused any impart to operation.

6.5 SMP Supply

6.5.1 Scope of Supply & Fabrication

In general, the scope of supply consists of the supply of all management, supervision, labour, materials, equipment, tools, consumables, inspection, testing, temporary works, surface finishing, export documentation, sea-worthy packaging, storage and transportation necessary for:

- Shop detailing and the preparation of shop drawings, including structural connection detailing;
- Supply and fabricate all structural components;
- Supply and fabricate all handrails including webforge standard self closing gate with lock down plate and guarding;
- Supply and fabricate platework items, i.e. rubber-lined tanks and hoppers;
- Supply and fabricate galvanised sump-pump frame, see drawing CORP-ME-DRG-1003;
- Supply and fabricate piping as shop-fabricated piping-spool items, including rubber-lined piping spools, carbon-steel piping spools and galvanised piping, including pipe fittings and flanges;
- Supply of pre-formed flanged rubber hose items;
- Supply and fabricate of all cable tray supports (if any) and
- Supply of shipping cradles, shipping containers and pack for despatch by containerised or breakbulk shipments.
- Supply of hose reel, utility station and the new underground fire protection line with tie in to the existing fire water mains.

Detailed scope is as listed in the subsequent sections.

6.5.2 Structural Steel – Supply & Fabrication

The work shall include the supply of materials, labour, equipment and the fabrication of structural steelwork for:

- Building structure (ground level, feeder level, filter level, upper level and roof level)
- Platforms, stair structures, walkways, stairs, grating, guarding, handrails and self closing gate
- Cable ladder support brackets (allowed 30 cable tray supports)
- Monorails and crane girders including crane rail and rail clips, to be painted yellow and stencilled with the right MRC, refer drawing CORP-ST-DRG-1002.
- Pipe support

see detail in "L280 Supply & Install – Pricing Schedule_A.xls"

The Supplier shall be responsible for the:

- Procurement and fabrication of all structural steel, floor grating, stair treads, handrail and kick plates and all other items necessary to complete *the Works*, in accordance with Technical Specification CORP-ST-SPC-1008 Structural Steelwork Fabrication – Chinese Supply.
- Grit blasting, surface treatment and coating of steel in accordance with Technical Specification CORP-GE-SPC-1004, Table A.1.1 Surface Treatment of Structural Steel and Pipework.
- Provision of suitably qualified personnel for Visual Testing and Non-Destructive Testing (NDT) as required by AWS D1.1. NDT reports must be China National Accreditation Service (CNAS) endorsed and be submitted to the Company within 2 weeks of completion of each component. All testing shall be done in accordance with the requirements in the Technical Specification CORP-ST-SPC-1008.
- Provision of all *temporary works* such as transport frames, internal bracing, lifting lugs and other distortion controls required for safe and effective transport and lifting of structural assemblies both for shipping and for installation on *site*.

6.5.2.1 Shop Detailing of Structural Steel

‘Issued for Construction’ documents

The Contractor or Supplier will be issued with the following:

- Issued for Construction (IFC) 2D Design drawings.
- Issued for Construction (IFC) 2D non-standard project specific details.
- 3D Microstation .dgn Version 8 file. 3D model including piping, cable ladders, grating and handrails (excluding connections).
- Issued for Construction (IFC) Bills of Quantities (BOQ).
- Equipment (IFC) 3D models.
- Equipment (IFC) 2D design drawings.

Connection Design

The Supplier shall detail the pinned or moment connections in accordance with the requirements shown in 2D design drawings to details in KML’s Corporate Standard Drawings. The fully connected details will be submitted to the Company. The Company’s design consultant to review to ensure all connections are done to the requirements.

Bolt Detailing and Bolt Lists

The bolting detailing shall be done to Australian Steel Institute Connection Bolting Guide with accurate bolt length, threaded, unthreaded length etc. A bolt set shall consist of a bolt, a nut and a washer (tapered or flat). A complete Bolt List / MTO and a Bolt-Location List shall be made available in a sortable format (Excel spreadsheet, or similar) for procurement and installation purposes.

Shop Drawings

The Supplier shall prepare shop fabrication drawings and relevant electronic data files to requirements in Technical Specification CORP-GE-SPC-1005 and to requirements in Section 6.5.2.2 of this document.

Fabrication Drawings shall be provided by the Supplier in both native (.dwg or .dgn) format, and as PDFs. The Fabrication Drawings (General Arrangements, Assemblies & Fittings) shall include:

- Steelwork marking plans, assembly drawings, elevations, sections, etc.
- Grating plans and grating panel table & details. Floor plan in native format will be provided for detailing of the grating panels. Shop drawings on layout plan & panels are required to be submitted. Grating flooring details shall give as a minimum, the overall size, cut-out / notch dimensions, size and location of all structural supports, span directions, banding / kick plate locations and details, all nosing / grip-strip locations and details, and locations of any specific split line requirements in the case of pipe penetration.
- Handrail (standard & extra height?) assembly and installation details for both shop and *site* requirements. In general, handrail will be detailed as shop-fabricated panels. Handrail layout plan and detailed handrail panel drawings. The 3D model only shows the extent of handrail. 2D drawing typically shows the handrail in dash line. Handrail panels including the pipe sockets and all bolt holes are to be detailed to KML's standard CORP-ST-DRG-1212 & -1213; including clash checking with stiffeners, gusset plates, cleats of steel assemblies to ensure no interference in steel erection. Each and every pipe socket (if any) shall be checked to ensure that the handrail stanchion can slot through.
- Webforge standard self closing gate with lock down plate details and side mounted type shall be detailed and supplied. Location of gate will be shown in the 3D model and the 2D drawing.
- Aluminium handrail with kickplates will be shown in the 2D drawing and in the 3D model. Typically the handrail stanchion is bigger than the carbon steel pipe stanchion. Care shall be taken to ensure pipe sockets are sized larger. Each pipe socket shall be checked to ensure stanchion can slot through. Aluminium handrails are left unpainted.
- Chequered plate with raised pattern shall be 6mm thick, galvanised and size to facilitate transport and lifting. All joints to plate shall be field welded by continuous fillet weld. Weld area to be made good, remove all burn marks and apply with cold galvanising paint.
- Guarding shall be fabricated to detail (in tender pack) and layout shown. Guarding to be hot dipped galvanised then painted to Y14 yellow colour. Mounting of post is to B325MSG grating using galvanised 4M10 J bolts or the base plate to be field welded to chequer plate.
- Monorail to be painted yellow Y14 and denotes with monorail number (1314-MN-xxx) and the right maximum rated capacity "MRC x T".
- Electronic data in the form of DXF & NC files for fabrication processes.
- Final 3D model including all fabricated items such as bolted connections, cleats, gussets, stiffeners, grating, handrails etc shall be a deliverable provided by the Supplier in NavisWorks .nwd and native

CAD (DWG, DGN or IFC) format. A model review session involving the Design Consultant is required before the detailing will be approved for fabrication.

- Shop assembly drawings inclusive of a material list giving the item identification number, material description, size, quantity and mass of all materials required (including vendor supply items). In addition, the drawing shall give a net assembled mass for each shop assembly and an overall mass for the items shown on the drawing.
- Marking plans, elevations and 3D arrangements, required to easily identify the location, orientation and installation procedure of all shop assemblies.
- Site installation details for all site welded members/fitments including accurate location and weld preparation details.
- Brackets and supports for: shop spooled piping including fittings and valves; cable trays; field devices; and other miscellaneous items of equipment requiring structurally engineered support.
- Surface Preparation specification also clear indication of paint/no paint areas (if any). The Company's preference is to eliminate all no paint areas.

Grating Panel plans and Handrail drawings or model shall be submitted to the Company for review and approval prior to fabrication. This review is to ensure compliance with Australian standards and legislative requirements, and with constructability and maintenance needs. The model review described above will include review of end connection details for compliance with KML standards and for the ease of erection.

6.5.2.2 Documentation & Quality Control

The Supplier shall advise of their document control system to facilitate the receipt, checking, document control and reporting of all company supplied 2D CAD drawings, 3D model and electronic data files as detailed in this SOW.

The Supplier shall prepare and submit documents and data in accordance with the *Supplier Data Requirements List L280-SDRL-0001* for steel, platework and piping.

The *Supplier* shall complete the Supplier Data Schedule (SDS), showing the documents that the *Supplier* intends to submit in its compliance with the SDRL.

- The *Supplier* shall utilise a document control system that fulfils the following functions:
 - acknowledges the receipt of all documents from the *company*
 - tracks the revisions of all *company* supplied documents;
 - ensures that fabrication is occurring from the latest revision of *company* supplied documents;
 - tracks the completion of all deliverables to the *company*;

- The *Supplier* shall submit QA documentation relating to the fabrication and supply of structural steel in accordance with CORP-QA-SPC-1001 and CORP-QA-SPC-1002. This shall include but not be limited to:
 - Material certification (mill certificates and such) including any additional testing requested by the Company's representative, and traceability (including weld maps and such) for the fabrication of the steelwork and piping. Mechanical testing and lamination test reports must be CNAS endorsed.
 - All welding consumables must be approved by ABS, Lloyds Register or Det Norske Veritas (DNV), and certification must be submitted for review by the Company's representative.
 - Welder qualifications in accordance with AWS D1.1 or as otherwise agreed to by the Company's representative. Welder Qualification Certificates supported by CNAS endorsed reports (for NDT and Mechanical Tests) must be submitted for approval by the Company's representative. A welder qualification register must be maintained by the Contractor.
 - Qualification of welding procedures in accordance with AWS D1.1 or as otherwise agreed by the Company's representative. All Procedure Qualification Record (PQR) tests including mechanical tests shall be witnessed by the Company's representative. All records must be CNAS endorsed and prepared by competent welding supervisor and submitted for approval by the Company's representative. A Welding Procedure Register must be maintained by the Contractor.
 - Dimensional records including reference to allowable tolerances.
 - Visual Inspection and NDT in accordance with AWS D1.1, with CNAS endorsed reports. Reports shall be submitted to the Company's representative and shall include the associated weld maps etc.
 - Method statement for painting, including preparation of substrate, mixing of paints and application. Particular attention shall be paid to cleanliness, mixing and application of paint systems in temperatures below the minimum recommendations of the paint manufacturer.
 - A completed Inspection & Test Plan (ITP) in accordance with CORP-QA-SPC-1001
 - A completed MDR in accordance with CORP-QA-SPC-1002
- The *Company's Representative* reserves the right to request any additional information necessary to clarify the installation of structural steel.

6.5.3 Platework - Supply & Fabrication

The works include the complete supply of materials, documentation and fabrication including the furnishing of all labour, supervision, tools, consumables, supplies and services required to fabricate, rubber line, inspect and test, surface protect, storage (if required) prior to shipping, packing, transport and delivery to the nominated point of delivery for the following equipment:

Tank

Tag Number	Equipment Description	Quantity	Reference Sketches
1314-TK-045 <i>existing</i>	Filtrate Transfer Tank top extension	1 total	1314-ME-DRG-1058
1314-TK-094	Concentrate Filtrate Tank	1 total	1314CF-50-1000

The tank shall be rubber-lined internally as specified in KML's Technical Specification *1300-ME-SPC-1046 Specification for Rubber Lining*, and painted externally to the same standard as the structural steel, i.e. surface treatment to Table A.1.1 of Technical Specification *CORP-GE-SPC-1004, Surface Treatment of Structural Steel and Pipework*.

A snapshot of a tank is shown in figure below:

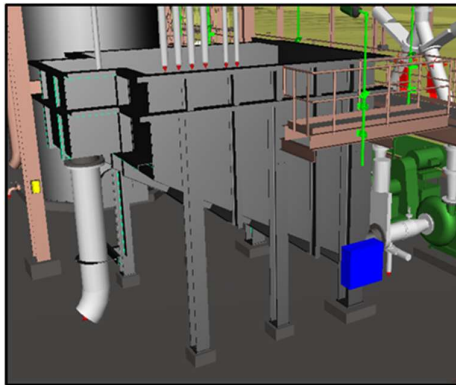


Figure 6: Existing Filtrate Transfer Tank TK-045 height is to be extended

A snapshot of the Concentrate Filtrate Tank should be similar to existing, See below:

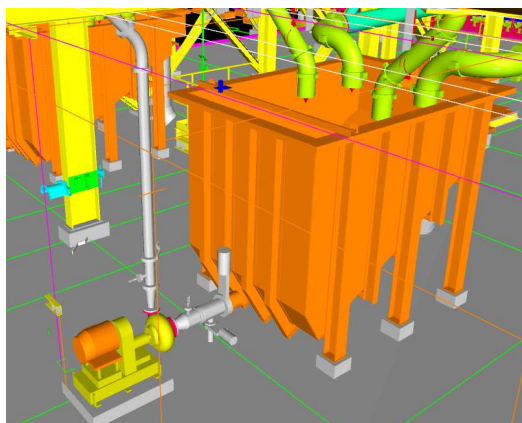


Figure 7: Concentrate Filtrate Tank TK-094 (similar to existing)

Sump Pump Frame

- One fully shop welded sump pump frame assembly supplied fully assembled, hot dipped galvanised, including the four grating screen panels, as per drawing CORP-ME-DRG-1003.

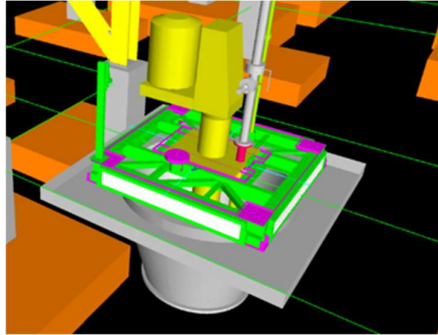


Figure 8: Sump pump Frame in precast concrete sump

6.5.4 Piping – Supply and Fabrication

The Supplier shall supply materials and shall fabricate Piping, typically comprising shop-fabricated flanged piping spools for use within the building extension and onto its associated Piperack structure.

Piping supply is of the following types:

- Rubber-lined piping, typically piping spools or fabricated fittings, flanged both ends
- Rubber hose assemblies, flanged both ends
- Carbon-steel piping, typically shop-fabricated spools using standard forged pipe fittings and RF-flanges, flanged both ends
- Small-bore piping, supplied as lengths of galvanised pipe, and screwed galvanised fittings, loose. Small-bore piping supply and installation shall be included in this Tender.

The extent of supply is illustrated and summarised in the Pricing Schedule **"L280 Supply & Install – Pricing Schedule_A.xls"**.

The detailed specification for the purchase of piping materials is given by *Piping System Datasheets* for each Line Specification in the Company's *Piping Technical Specification 1300-PI-SPC-1001*.

In the descriptions, the designation "3D" indicates that the radius of curvature of a pipe bend or fitting shall be three-times the pipe diameter, typically 'pulled-bends' rather than standard forged elbows.

6.5.4.1 Rubber-Lined Piping

Rubber-lined piping shall be to Piping System Specification SR1 and SR2 of the Company's *Piping Technical Specification 1300-PI-SPC-1001*. Specifications SR1 and SR2 are identical as regards supply and fabrication; the differences are in operating pressures, test pressures, and duty.

Rubber-lined piping comprises straight spools flanged both ends, and fabricated fittings flanged both ends, typically to a series of standard drawings by the Company. It is intended that an item to a standard Company drawing will be interchangeable with any other of the same type, to allow for replacement from spares when required, due to wear.

Flanges for rubber-lined piping shall be Flat-Face ANSI 150# flanges (which may be machined by the Supplier from a standard Raised-Face flange by removing the raised face), as shown by the Company's standard drawing CORP-PI-DRG-1170. Overall dimensions of flanged fittings shall include the rubber-facing over the face of the flanges. Certain items are specified as requiring Rotating flange / Slip-flange / Lap flange, which is a flange that may be rotated in order to align the boltholes with the adjacent fitting, and the detail shall be as shown in the Company's standard drawing *CORP-PI-DRG-1169_0 Lap-Joint Flange*.

Rubber-lined piping shall be fully fabricated and subjected to examination and testing, before being rubber-lined in accordance with the Company's corporate standard *1300-ME-SPC-1046 Specification for Rubber Lining*.

Rubber-lined piping does not need any external painting by the Supplier, but any paint or varnish applied by the manufacturer of the pipe or fittings should be left in place.

6.5.4.2 Rubber Hose Assemblies

Rubber hose assemblies shall be to Piping System Specification MH1 of the Company's *Piping Technical Specification 1300-PI-SPC-1001*, and typically have one end with a rotating flange as per the Company's standard drawing *CORP-PI-DRG-1169_0 Lap-Joint Flange*.

6.5.4.3 Carbon Steel piping spools

Carbon steel piping assemblies shall be shop-fabricated flanged spools to Piping System Specification SC1 of the Company's *Piping Technical Specification 1300-PI-SPC-1001*.

The quantities of materials and the extent of spooling can be seen from the illustrations in the Piping MTO "**L280 Supply & Install – Pricing Schedule_A.xls**". It is anticipated that there will be no field-welds, and that on-site work will consist only of bolting together flanged spools. Further detail for SC1 Piping will be provided (expected to be as Piping Isometric drawings) before fabrication; the information presented should be sufficient for pricing.

Carbon steel piping assemblies do not need any external painting by the Supplier, but any paint or varnish applied by the manufacturer of the pipe or fittings should be left in place.

6.5.4.4 Small-bore piping

Small-bore piping shall be to Piping System Specification SG1 of the Company's *Piping Technical Specification 1300-PI-SPC-1001*, typically galvanised ERW pipe screwed BSP, and 3000# galvanised screwed fittings.

Small-bore piping shall be supplied in bundled pipe lengths, with fittings 'loose' for site assembly, bagged or boxed by type/size, and all crated.

6.6 Freight Forwarding

6.6.1 General

In general, the Contractor shall be responsible for all costs, planning and delivery of materials in a timely manner to suit the Project Construction Schedule in this freight forwarding scope. The freight forwarding services for all of the Contractor's supplied items (*as per the summary in Section 5 of this document*) are:

- Stick-build structural steelwork including steel gratings, chequer-plate, guarding and handrail panels;
- Platework in the form of prefabricated tanks;
- Piping – prefabricated flanged Bends, Fittings and Spools;
- Prefabricated sump frame, and various smaller items in cartons and boxes; and
- Others

to be sourced in China or any other countries and to be despatched to the Karara Mine Site.

6.6.2 Work Description

The Scope of Work for the project:

- Develop logistic program
- Freight forwarding (import and export)
- Chartering passage by sea.
- Customs brokerage (import and export)
- Stock yard placement
- De-stuff of consignment and return of shipping containers to shippers at Port of Arrival
- Submit Mine-site entry request to the Company
- Inland haulage from port to Mine site
- Freight tracking and reporting
- Submit Packing List
- Obtain all insurances

- Manage and pay all import duties, Import GST or other government statutory charges for custom/DAFF clearance and as required for the Work.

The main shipping port of importation and discharge shall be decided by the Contractor. Consignments shall be delivered to the Company's Mine Site at Rothsay in Western Australia.

6.6.3 Detail of items to be shipped

6.6.3.1 Structural Steel

Structural Steel items are to be arranged and pre-packed and strapped by the Fabricator into fabricated metal stillages. Painted surfaces may be chipped/damaged by movement against other items during transit, and should be adequately protected by the Fabricator during packing. The filled stillages will be loaded by the Fabricator into the shipping containers and delivered by this Contractor to the nominated loading point, as agreed with the Fabricator. The Contractor may choose to oversee some or all of this packing to ensure the load is secure and unlikely to suffer damage in transit. Once packing is deemed complete, the Contractor shall review the packing arrangement, container seals may be applied, and the Fabricator will load the containers onto transport provided by the Fabricator for transport by the Fabricator to the port of departure. Packing requirements of steel, grating and handrail can be referred to Section 6.6.4.

6.6.3.2 Tanks, Sump Frame & other small items

The tank extension can be fabricated in several sections, which will be stacked, packed and strapped onto pallets together with the bolts by the Fabricator. The rubber lining surface is soft and can be easily damaged and should be properly protected by the packaging.

New Concentrate Filtrate tank should be fully assembled and despatched as a single unit. The tank is a rectangular open-topped rubber-lined vessels with legs as shown, approximately 5.924m x 3.5m x 3.8m tall, and ~8.7 tonne each.

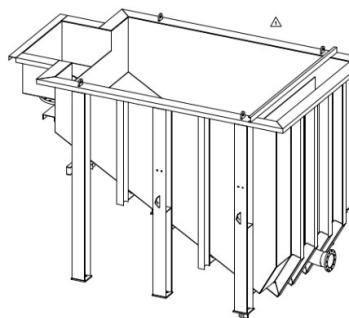


Figure 9: Filtrate Tank TK-094

Due to their size and one-piece construction this will not fit into a standard shipping container, and top-load or break-bulk is likely to be necessary. Lashing onto a flat-rack in conjunction with top-load may provide an

optimal solution. The Contractor shall advise on this point and assist their Fabricator in selecting a shipping method that is cost-effective for all but especially for the project (the Company).

The rubber lining surface is soft and can be easily damaged, and should be properly protected by the packaging.

The Contractor shall identify if these items will become an oversize load for transport to the port of export, and shall assist the Fabricator in obtaining any transport clearances (etc.) as may be required.

The Contractor shall also identify if these will become an oversize load for transport from the port of arrival to site, and shall provide any oversize transport, clearances, escorts, etc. as may be required.

The sump frame should be fully fabricated and likely to be packed on a pallet.

The TK045 tank extension shall be despatched fully assembled with rubber lining with bolting connection to the existing tank.

There will also be several small but heavy cartons or crates of bolts associated with the piping.

It is anticipated that the loaded pallets will be stacked and filled into a standard shipping container by the Fabricator, from where the procedure will progress as described for Structural Steel items above.

6.6.3.3 Piping

Piping will comprise mainly prefabricated flanged lengths and individual flanged fittings. The piping lengths will be packed and strapped into fabricated steel stillages by the Fabricator, similar to Structural Steel items above.

It is expected that the fittings will be either strapped together into bundles and placed onto pallets by the Fabricator, or for smaller fittings or rubber hoses they may be boxed by the Fabricator.

6.6.4 Pack for Despatch, & Freight Forwarding

The shipment is to be as far as practicable transported inside standard 40-foot sea containers or any other mode of transport as applicable. To ensure the shipment is transported intact and undamaged, the assemblies of steel and piping shall be first stacked in secure cradles prior to being placed inside the sea containers. Packing shall be in accordance with Technical Specification CORP-GE-SPC-1002 Packaging and Marking.

The Supplier shall be responsible for:

- Supply and fabrication of shipping cradles, suitable for fork-lift and for crane handling, with certified lifting points clearly indicated, with lashing points etc to ensure steel assemblies can be bundled and securely fastened to the cradle for assemblies to stay consolidated during lifting, loading, during transit and during unloading both at export and destination. The Supplier shall include lugs on the shipping cradle ends to allow the cradle to be pulled out of the container at destination. All lifting points shall be painted yellow, stamped with their Working Load Limit (e.g. "WLL 500kg"), and welds shall receive 100% UT by a qualified inspector.

KARARA MINING LIMITED

L280 ADDITIONAL CONCENTRATE FILTER PROJECT

SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS

- Packing of fabricated goods shall maximise the efficiency of sea freight in accordance with Technical Specification *CORP-GE-SPC-1002 Packaging and Marking*.
- Adequate fastening of goods by using appropriate straps and packings between items within the container is required to prevent cargo movement and damage during transit.
- Coordinate, engage freight forwarder and provision of all logistical documentation to meet custom clearance and sea freight logistic requirements.
- Delivery of fabricated steels by standard 40' containerised shipment or any other means. Any goods that are not within a sea-container and are to be shipped 'above-deck' shall be thoroughly plastic-wrapped in robust heat-shrink plastic to fully exclude sea-spray.

The Supplier's freight forwarder will arrange for the delivery of the requested number and type (where available) of sea-containers to the Supplier's nominated address; the Supplier shall supply all labour and materials for cleaning, wrapping and packing the goods into the containers, and the Supplier shall arrange the loading, transport, documentation and delivery of the filled containers to the main sea-port address nominated by the freight forwarder.

The Supplier shall be aware that Australia has very strict cleanliness and quarantine requirements for shipping, and that all imported consignments are inspected by designated federal Inspectors at port of entry. Consignments that fail inspection will be impounded and subject to treatment or destruction at the sender's cost, which can be very expensive. Containers must be clean inside, with no evidence of vermin, insects, spiders, etc. All wooden pallets or dunnage used for packing shall be fumigated or heat-treated and marked to meet *Department of Agriculture, Fisheries & Forestry (DAFF* <https://www.agriculture.gov.au/biosecurity-trade/import>) requirements.



Organic packing materials such as straw, wood-shavings or shredded paper are strictly prohibited. All openings of tubular sections shall be closed-off / sealed to meet *DAFF* requirements. All piping flanges shall be protected from damage and sealed with plywood or plastic protective cover/s.

Goods shall be stacked into their shipping cradles with their item identification / Piece-number upwards or clearly visible, not turned downwards or hidden. Each steelwork item or pipe-spool shall carry a unique identification mark to identify the item and where it fits into the overall system, and packing lists shall list these identification/piece-numbers. Each shipping cradle shall have a copy of its Packing List and certificates for any associated lifting lugs attached.

Some typical packing of steel assemblies including the cradle design are shown below:



Figure 10: Steel assemblies, stackable



Figure 11: Light steels such as handrail – non-stackables



Figure 12: Grating Panels in bundles – stackable

The Supplier should be available to provide guidance for the correct loading/lashing/securing of goods to minimize the risk of damage during transportation from China to Australia Project Site. Documentation to be provided with each delivery

The Contractor must provide all documentation required for shipping and quality assurance purposes which includes, but is not limited to, the following documents:

- Packaging of Goods for effective and safe handling, customs clearance and preservation of Goods in accordance with Company Procedures;
- Commercial Invoice;
- Packing List with goods;
- Bill of Lading (B/L);
- Packing Declaration Form;
- Certificate of Origin; and
- Related Quality Assurance/ Quality Control (QA/QC) Test Reports (If any).

The Contractor must ensure that no delays in shipping, customs clearance or quarantine are experienced due to incorrect packing, cleaning and/or documentation.

6.6.4.1 Quality Control

The Supplier shall be responsible for the:

- Provision of an in-house Quality Control system and dedicated Quality surveillance personnel.
- Provision of all necessary quality and MDR documentation and information as detailed in section 6.5.2.2 of this SOW.
- Provision of all skilled labour and equipment for QA and NDT, weld examinations, weld and Welder testing, spark-testing, surface-finish and painting inspection, etc
- Use of a suitable materials tracking system to ensure that all components are supplied, fabricated and despatched in agreed work phases and sequence of this SOW.

The Purchaser may engage a 3rd party quality surveillance team to be stationed at the Supplier's workshop to conduct quality surveillance work. This will not relieve the Supplier of their primary responsibility for the quality of the Works up to the point of despatch. The Supplier shall provide the usual facilities and extend cooperation to these surveillance personnel.

6.7 SMP Installation

6.7.1 Modification works

Prior to the installation of new structure, the following modification works are expected:

- The wall claddings of the existing end bay of the building where a new building is to be erected are expected to be removed and discarded. This will also involve the removal of girts of cladding and supporting structural members of the wall of the end bay. Temporary protection to the building against the elements is to be provided when the existing cladding is taken down and the building enclosure is built.
- Existing service platform and stair to the existing overhead crane are to be modified. Existing access platform will be relocated/modified to the new end bay of building.
- Existing ground slab of the tank farm where new pumps are to be mounted are to be cut to allow new pump foundations construction.
- The existing weightometer is to be relocated.

6.7.2 Structural Steel Installation

6.7.2.1 Structural Steel Assembly & Erection

The Contractor shall:

- a) Survey and set out all works required to be undertaken to lines, levels and grades as shown on the drawings.
- b) Provide labour, equipment, cranes and transport as required to sort the materials as-received, by their piece-marks; sort, record, laydown and catalogue into suitable work-packs by location, to facilitate pre-assembly of modules where applicable or erection of the building. This sorting shall include checks that all needed parts are present and correct, and that correct bolting is available.
- c) Transport structural materials and assemblies from storage or laydown yard, pre-assemble where applicable, transport pre-assembled modules as required, and install all these in accordance with details in drawings and specifications.
- d) Supply and install all materials, consumables and all other items such as chemical anchors, structural bolts, nuts and washers (including square taper washers), grating clips, shim plates, packers etc., and all items necessary to complete the works.
- e) Supply and install galvanised or Stainless-Steel grating clips to suit the nominated *Webforge B325MPG* flooring panels. Install the free-issue flooring panels as shown in the floor marking plans and adjust gaps, clearances and kickplates. The Contractor shall note that the maximum gap permitted between adjacent floor panels is 10mm, and from floor-panel to fixed equipment or structure is 100mm, as prescribed in AS1657 [AS Platform / Handrailing standard], and that flooring will be inspected against these criteria during walkdown. Site welding /spot-welding or other permanent fixing of flooring is not an acceptable alternative to proprietary flooring clips except for small areas of infill and shall be done only by agreement with the Company's Representative.

The Contractor shall include for all site-cut penetrations to Webforge flooring to be properly banded, or edged with kick-plate as required by AS1657. Specifically, flooring penetrations are not provided by others for small-bore piping, which shall be done by the Contractor as and where required.

All site modifications and site welding to galvanised items shall be touch-up painted with a *Cold-Galv* paint system approved by the Company's Representative, typically power wire-brush cleaning followed by aerosol-applied *Cold-Galv* proprietary zinc-rich paint followed by bright aluminium lacquer top-coat (or other colour where appropriate).

- f) Carry out modifications as required at the existing building to install and tie-in the two walkways across to the new crane service platform. Tie-in shall typically require EWP or scaffold or similar for field attachment of free-issue cleats and knee-braces to the existing structure, modifications and tie-in to existing handrailing, touch-up painting and making good.
- g) Design, provide and construct all temporary works, supports and access required for the works.
- h) Supply and install all grouts below the column bases and the equipment plinths to level and heights as shown on the drawings and according to specification CORP-CI-SPC-1012. 30mm grouting allowance is typical design allowance under baseplates. Certain pedestals and baseplates also include shear keys, where shown in the drawings.
- i) Prepare and carry out all site welding and site-drilling, NDE, surface coating and touch-up for the attachment of brackets, gusset plates and supports as required for the works. Site welding procedures, testing, surface treatment touch-up and make good shall be in accordance with the Painting Specification CORP-GE-SPC-1004 requirements. Welds or damage to galvanised materials shall be touch-up painted with approved *Cold-Galv* procedure described at (Section 14.3). Piping supports and similar brackets shall be attached by site-drilling and bolting in preference to site-welding.
- j) Co-ordinate and liaise with the relevant Contractors and Others as required for the installation of structure, platforms, railings, flooring and equipment items at each level or work-front as work progresses.
- k) The Contractor shall devise and implement a procedure whereby each floor level in the new building is progressively released for general access once safe to do so, while areas still under construction are clearly marked and barricaded as such, with general access restricted for their own safety. This shall typically involve a structural walk-down and punch-listing process with the Company's Representative, for safety, completeness of structure, bracing, bolting, flooring, floor clips, kickplates, handrails, guardrailing and guarding, to AS1657.
- l) Conduct as-built survey to all structures and provide as-built drawings for the works, as per CORP-GE-PRO-1006 *As-Build Procedure*.

For structural steel despatched from the overseas Fabricator's workshop, the Contractor shall advise the priority of delivery for lower floors' steelwork, up to feeder level in distinct tranches: lower building level, feeder, filter levels and the roof structure.

The Contractor shall be responsible for all handling at the laydown and assembly yards including goods receivals, off-loading, unpacking, inspection, sorting, cataloguing and tracking whilst within the Contractor's care, loading onto transport before and after preassembly, transport to and erection at the work-front, and documentation (e.g. Receivals dockets, Packing Lists, etc), as required.

The Contractor shall work closely with the Company's Representative for the confirmation of the lifting plans and the bolt tightening inspection before and during installation.

6.7.2.2 Structural Member Sizing

The Contractor shall note that the Structural Sections provided will be predominantly **Chinese Structural Sections**, rather than Australian- / US- or BS-Standard Structural Sections. There are dimensional differences between Chinese sections and the more usual Australian-standard structural sections.

6.7.2.3 Pre-assembly of Structural Modules

Walkway, crane service platform, roof portal frames may be preassembled for quick installation. The steelwork assembly should occur on-site, and not at an off-site yard. The rest of the steel structure is likely to be stick built.

Equipment and large-bore Piping should be installed progressively as the building is being erected.

6.7.2.4 First Structural lift (to Feeder Level)

The Contractor should position the ground floor mechanical equipment (filter tank & pumps) in place on their concrete pedestals before raising the structural steel, as cranaage will be much simpler at this time.

The First Structural lift is from top of concrete pedestal EL+0.030 to the column splice at EL+7.470. The Feeder level at EL+6.170 TOS has gird-mesh flooring or handrail with opening for the discharge feeder. The Contractor should install where possible the transfer chute and large piping supported onto this level (e.g. Slurry piping, if available) before installing the next structural level.

The feeder level at EL+6.170 TOS is accessible from the existing of stairs. Note that the existing filtration building will be in operation, the Contractor shall provide own temporary stairs to this level.

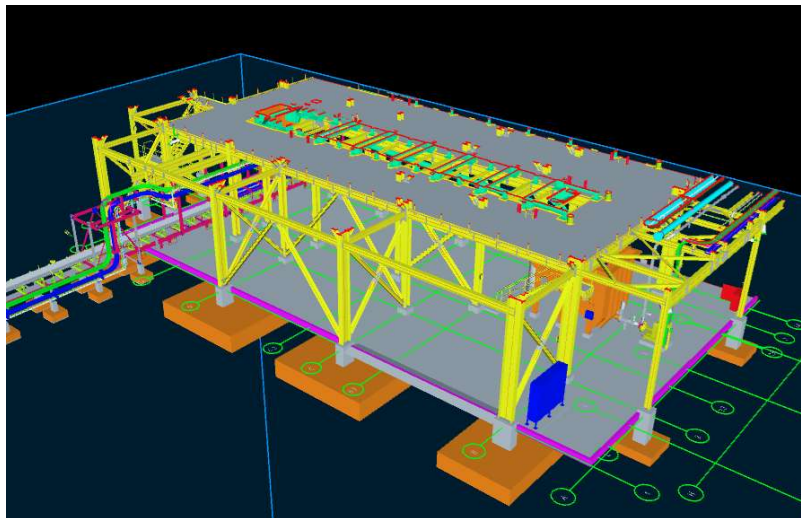


Figure 13: First floor EL +6.170 TOS

The discharge feeder and the discharge hopper should now be placed next to the building and cranaage to be ready for lifting these in place.

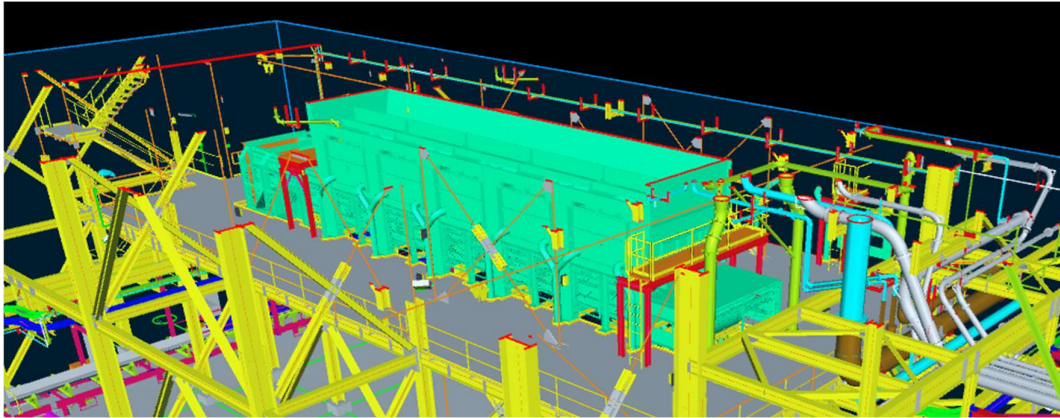


Figure 14: Discharge Feeder and discharge hopper are to be installed before the next structural lift

6.7.2.5 Second-Floor level EL+11.640 TOS - Filter Level

A chequer-plate floored filter level is to be erected at EL+11.64 TOS. Chequer-plate flooring is 6mm thick. The weight of the filter unit bears onto this level and there is considerably more steel in this level than other levels. See below:

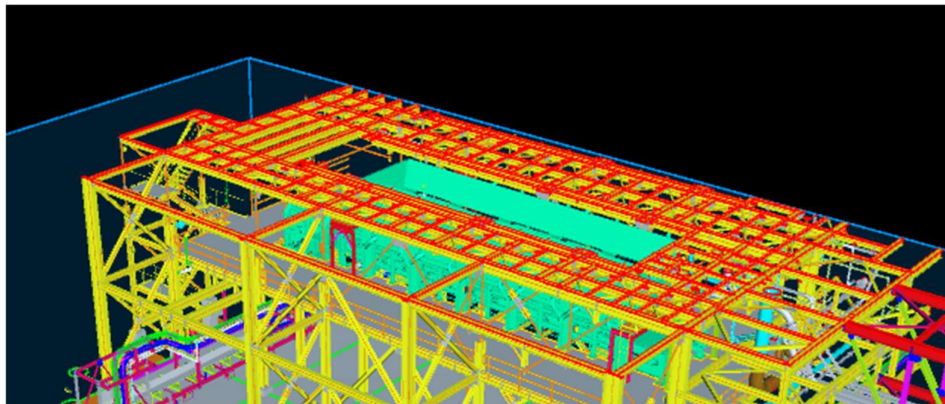


Figure 15: Filter level steelwork

The filter press unit should be installed onto this level at this stage. See below:

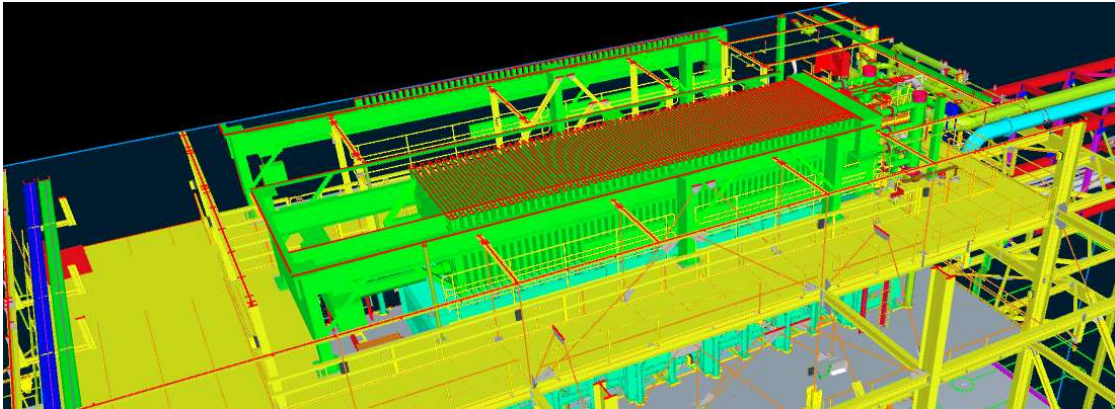


Figure 16: Filter Press unit installation with all filter plates

6.7.2.6 Third-Floor level EL+15.205 TOS – Top working level

This level is the working level for filter cloth change covered with galvanised grid-mesh flooring. Some instrument controls and a hydraulic power pack are mounted on this level.

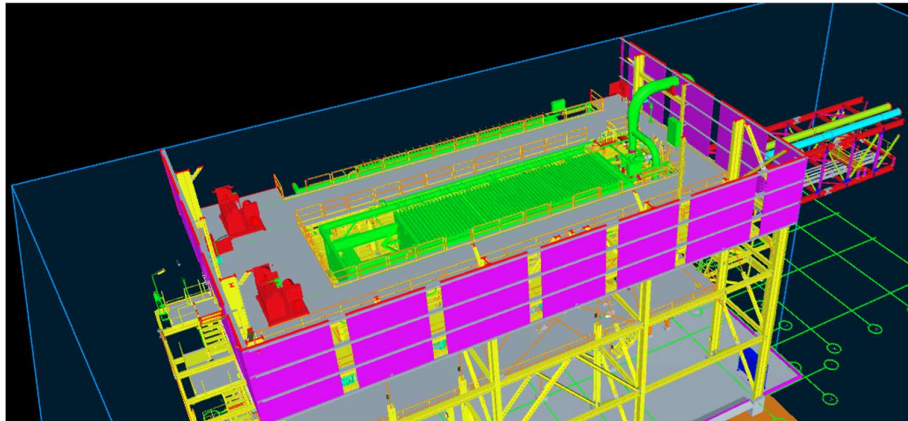


Figure 17: Working platform at 3rd level

The wall cladding starts at this level. Note that 2 forced ventilators are to be installed on both sides of the walls. The wall cladding comes with the translucent sheet. For safety reason, the translucent sheet starts at approximately 1.6m above this floor level; similar to the existing.

6.7.2.7 Crane Girders extension

Existing crane service platform is to be dismantled and a new service platform for the overhead crane is to be installed. A new section of crane girder at this level on both sides of the building is to be installed for the overhead crane to serve this building extension. See below:

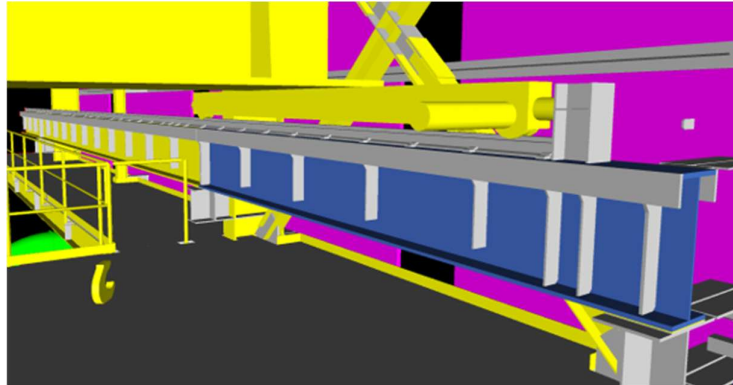


Figure 18: Crane Girder Extension complete with P24 Crane Rail & gantrex clips

The Contractor is to supply and install the mechanical aspects of the overhead crane girder expected to be of double beam type and shall be installed before the building roof is completed to a point where it would impede the installation of the crane girder.

It is expected that the P24 crane rails shall machine-cut (by bandsaw / power hacksaw / cut-off saw or similar; not oxy) into parts to suit the overall runway length. Rail joints are supplied scarf-jointed and shall be staggered at opposite sides of the building by at least 1 metre and shall include installation of fishplates using the [specialist] bolting. The joining of these crane girders are designed to be fully-bolted connections, to a detail given in independent drawings and not as shown in the model. The existing crane stops are to be removed.

Installing the rail shall include shimming, levelling, fixing and alignment of the crane rails to AS1418 §7.20.7 & §7.20.9 and the specifications of the crane vendor. The crane rails shall be secured to the building steel by proprietary crane rail gantrex clips, one at each side of each rail at nominal spacing. There is no resilient pad between underside of rail and top of steel. Each clip is secured through pre-drilled holes in the top flange of runway steel by one M20 Gr.8.8 structural bolt & nut; this bolting will be included with the free-issue clips. See also standard drawing CORP-ST-DRG-1201_0.

The Contractor shall supply and install earthing lugs for the connection of rail equipotential grounding cables. This shall typically comprise supply and install by welding of a suitable stainless steel drilled earth tab to the web or foot near each end of each rail, and a similar earthing-point on each crane runway (2-places) – see drawing CORP-EL-DRG-1032.

This Contractor shall include site craneage, Elevated Work Platforms, rigging and manpower to lift assemble and install the crane girders including any electrical conductor bar assembly (3ph+E, insulated) onto the crane rail support structure, if required. The existing overhead crane was supplied by Elbeck and it is a 5T MRC crane with 29.3m span.

6.7.2.8 Monorail beams

The monorails for sump pump and the tail end pulley are to be installed connecting to the existing monorail beams. The drop down zone remains unchanged i.e to East end of building. The end stops of these existing beams where new beams are to be connected are to be removed. See below:

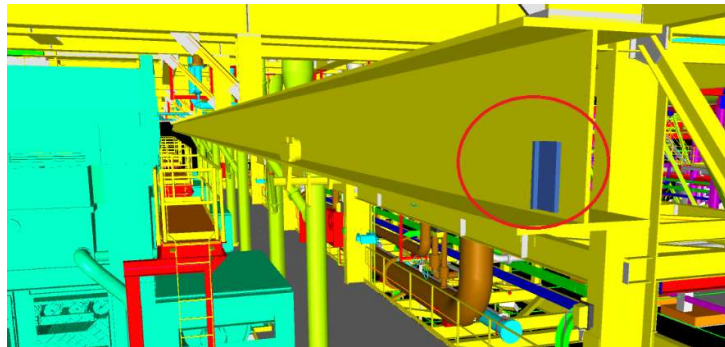


Figure 19: Existing end stops are to be removed

New end stops are to be provided to the new monorails. The rail alignment gap and the height tolerance shall be to AS1418. A new monorail to serve the discharge feeder is also required.

6.7.2.9 Roof Frame, Cladding, Roofing and Roof Ridge Ventilator Installation

The roofing is a portal frame structure with purlins to support the roofing sheet. This roof is uninsulated and a ridge ventilator Robertson 600 RSGF (similar to existing) is to be installed at the apex. The maximum height of this building at the apex of roof is EL +27.280 TOS.

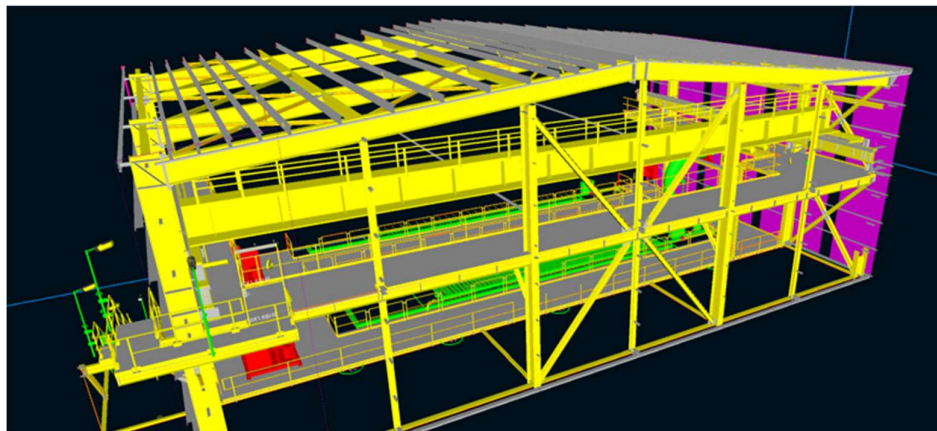


Figure 20: Roof level (roofing, cladding and girts hidden for clarity)

The Contractor shall supply and install all required wall sheeting, roofing sheets, external flashings, roof ridge ventilator, brackets, girts and purlins including steel doors and frames. The Contractor shall install the cladding in accordance with AS/NZS 1562 Design and Installation of Sheet Roof and Wall Cladding, Lysaght Trimdek Installation Guide, KML standards and this scope of work. Installation details are shown in KML's corporate standard drawings CORP-ST-DRG-1220, CORP-ST-DRG-1221, and CORP-ST-DRG-1222. The material

specification, product name and metal thickness can be found in KML's corporate standard CORP-AR-SPC-1001. Translucent sheeting shall be installed in accordance with AS/NZS 1562.3.

The Contractor shall have all additional installation details from the steel fabricator/cladding designer if needed. If there is a shortage of materials necessary to complete the works, the Contractor shall procure and provide the materials on site for use.

The Contractor shall decide on suitable lengths of cladding for installation, but shall be mindful of the safety & handling implications of 15m-long roof sheets for example in windy conditions on a roof some 30m in the air. Translucent sheeting is more brittle, and is probably subject to length limits; say two sheets at ~5.5m per vertical strip, at the Contractor's discretion.

The Contractor shall supply and install one (1) steel door /frame & hardware to the building. Door to the upper crane-access level shall be lockable and keyed alike.

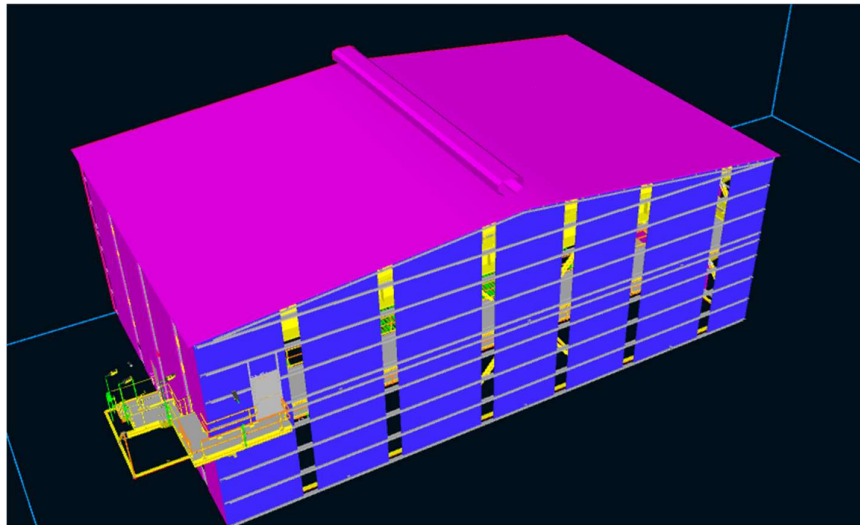


Figure 21: Roofing and wall cladding installed

6.7.2.10 Demolition of existing steels

The existing gable end of the building is expected to be demolished. The extent of demolition is shown in drawing L280P-ST-DRG-xxxx. All existing steels as part of the demolition works are not to be re-used. It is important to maintain stability of the building by keeping the existing vertical bracings and beams in the transverse direction of building until the new end bay are completely installed. See the following illustration of the existing vertical braces at the existing end bay.

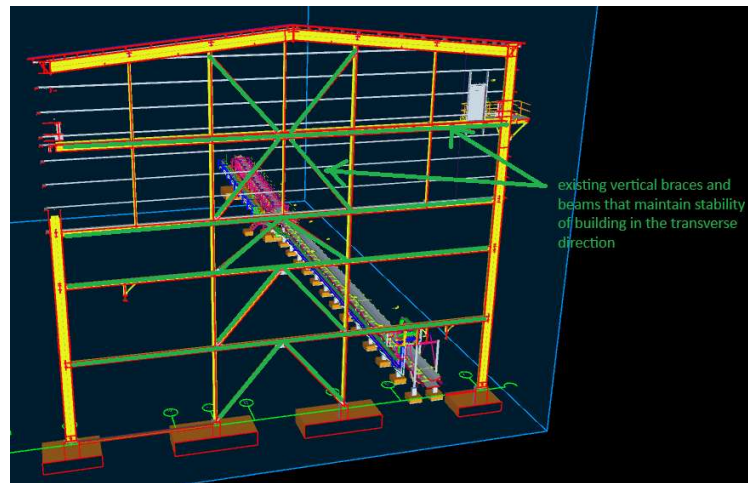


Figure 22: Existing Braces and Beams at End Bay

6.7.2.11 Cable Tray Support Installation

The Contractor shall install prefabricated cable-ladder supports (~30 supports) at:

- Existing piperack to the tank farm; typically at approximately EL +12.00
- Existing piperack to switchroom 1314-SR-108; typically at approximately EL +12.00

onto existing structural members of piperacks. Contractor shall site drill the bolt holes for the mounting of these supports. This is on the assumption that the existing piperacks do not have spare space for the running of these cable trays. The structural configuration of the piperacks are as follows:

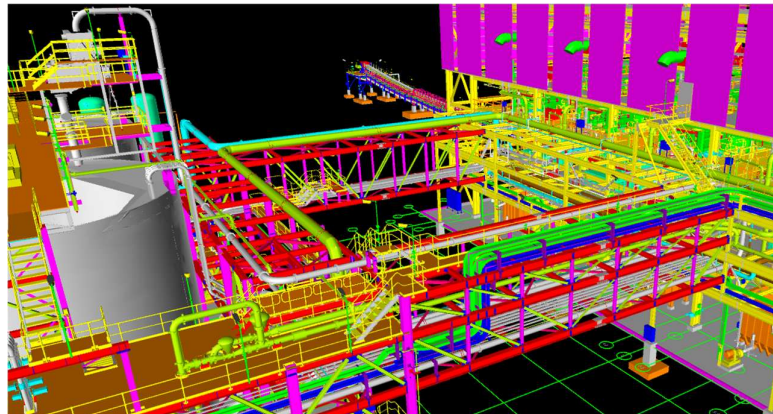


Figure 23: Cable Tray Route on Piperack from filter building to 1314 tank farm

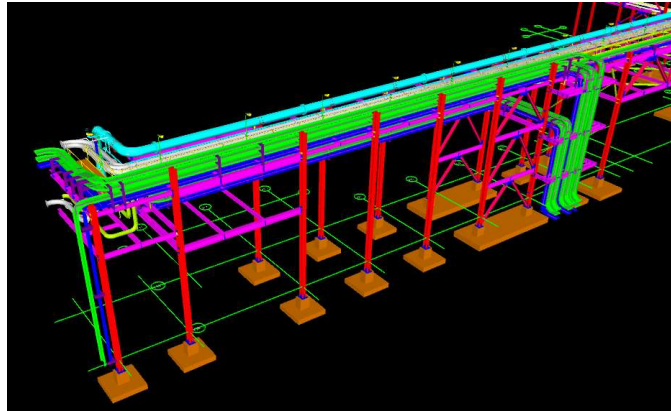


Figure 24: Cable Tray Route to the Switchroom 1314-SR-108

6.7.3 Mechanical & Equipment Installation

Mechanical Equipment shall be Company supply unless otherwise noted. Please refer Mechanical Equipment List “Equipment List_14136LM007C.xls” and Section 4 above for details of the free issued mechanical equipment.

Mechanical installation shall be generally in accordance with the Company’s specification 1300-ME-SPC-1003 and General Notes standard drawing CORP-ME-DRG-1002_RDL, UON.

6.7.3.1 General

The works shall include but not necessarily be limited to:

- Assembly, placement, installation, alignment and pre-commissioning of all mechanical equipment and platework in accordance with the Contract Drawings, 3D-model, standard drawings, Specifications and OEM documentation including installation of all ancillary items (e.g., sealants, gaskets, etc.).
- Supply of packers and shimming materials for packing and shimming of structural assemblies, mechanical equipment, base plates and platework to cover any shortfall in the materials supplied with equipment.
- Supply and installation of grout for all baseplates and equipment.

The Company strongly recommends that equipment items should be put in place onto their hold-down bolts, levelled & shimmed, but not grouted or finally fixed in place until after its associated piping has been attached or offered up. This is because much of the piping is supplied as prefabricated spools, and the flexibility of a few millimetres in the positioning of equipment may be helpful in achieving alignments without excessive cold-spring or rework of the piping.

The Contractor shall keep records and verify installation of all structure and equipment by performing regular surveys during each stage of installation.

The following major items of equipment as listed in § 4 shall be transported from the laydown area for unloading, assembly and installation into the building by the Contractor as described further below.

6.7.3.2 Filer Press FFP2512

The Contractor is responsible for the unloading of the filter press and the cake discharge feeder units when these goods arrived on site. Previous Contractor for this similar work has mobilized a 400tons Manitowoc crawler crane for the lifting. The Contractor shall conduct the lifting study to confirm the suitable crane type and size. MetsoOutotec has provided a Lifting and Transportation Strategies for the Filter Press units for the past filters delivered to site. This document has the lifting, transportation and installation requirements. Similar report may be available for this new filter FFP2512 DD. The Contractor can refer to the document 1314-M23-PME080-1001 & 1005 in Appendix F for information related to the lifting requirement.

The manufacturer provides a Filter Transport/Lifting Frame with the filter as shown by drawing OU601715332. A photograph of a similar filter being lifted is offered below for information.



Figure 25: A view of FFP2512 being lifted

The Contractor shall remove and dispose properly of the packaging, provide coordination, transport, crantage, rigging, bolting and shims, and shall install level and align the Pressure Filter units onto structural steel in the building.

The Pressure Filters are each a large pre-assembled and plastic-wrapped item, estimated at 160 ~ 180 tonnes. Swivel Plates assemblies (sometimes also called “bomb-bay doors”) to be assembled with sealing arrangement below each pressure filter.

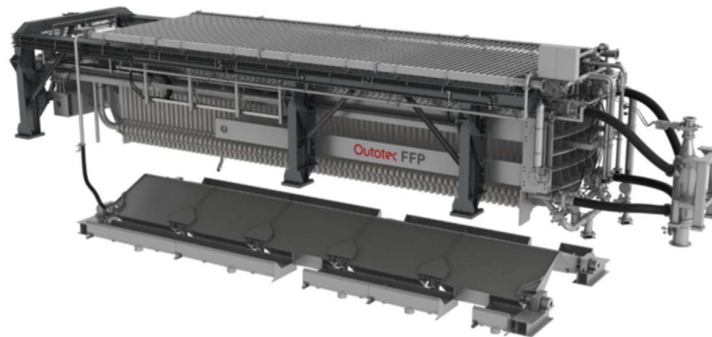


Figure 26: Indicative view filter and the swivel plate assembly.

6.7.3.3 Discharge (belt) Feeder

The Filter Cake Discharge Feeder including hoppers, 1314-FE-018 and sealing rubbers below the filter swivel plates weight **about ~110 tons**. The feeder is wrapped in plastic for shipping, with lifting lugs. These require multiple slings for lifting (4-legged, or slings & spreader bar). No lifting frame / spreader-bar is supplied with these units, and the Contractor shall provide all suitable rigging. At the appropriate time, the Contractor shall remove and dispose properly of the packaging, supply transport, bolting, craneage and rigging, and shall install level and align the belt feeder units into the building

The feeder sections are supplied with Tail pulley, idler brackets and idler rollers (carry, impact, and return) pre-installed. The drive-section of the feeders will have the head-chute preinstalled. The drive mechanism, head pulley, guards, scrapers, plough, switches, belt and discharge chute sections are shipped separately.

The feeder sections are supplied without the belt fitted. Once the feeder halves have been assembled and aligned, the Contractor shall provide all things necessary to reel on the belt and carry out a hot splice according to the belt manufacturer's instructions, specification 1300-ME-SPC-1053 Conveyor Belt Splicing and 1300-ME-SPC-1003 Mechanical Installation. This typically involves lifting heating platens into position above and below the belt, cutting stepped bias-cut joints to each layer of the belt's structure, and may require the use of a specialist contractor and equipment who shall be engaged directly by the Contractor.

Once the belt is installed and spliced the Contractor shall promptly provide adequate covers as needed to protect the belt from damage due to foot-traffic, hot-work, sparks from welding / cutting / burning, impact of dropped items, whether by this Contractor or by Others who may happen to be in the area.

The drive components (pulley, motor / gearbox and support) will have been trial-fitted to the equipment for FAT but are shipped crated and without oil, to be installed on site by this Contractor. The Contractor shall supply and install first-fill gearbox lubricant for commissioning.

Guards have been trial-fitted to the equipment for FAT but are shipped bundled on pallets or crated, and shall be installed on site by this Contractor. Guards are intended to be interchangeable (viz. most guards may be

fitted in any location, other than occasional 'specials' which will be match-marked to their appropriate location). See KML standard drawing CORP-ME-DRG-1016_RDL & -1017_RDL for typical installation detail.

Belt head-scrapers (Martin Engineering, XHD QC1 primary + DTS2 secondary) and V plough for return strand (Flexco HPB-TP-2400) shall be supplied, installed and adjusted by the Contractor. See KML standard drawings CORP-ME-DRG-1004 & CORP-ME-DRG-1011 for typical installation details.

As part of commissioning, the Contractor shall provide labour and shims as required, and shall adjust idler sets and pulleys as necessary and adjust tail pulley tension screws to obtain correct alignment and tracking of the belt on both top and return sides. Standard Packer & Shim set details are given on drawing CORP-ME-DRG-1040_RDL.

6.7.3.4 Launder, chutes, power pack & service platforms

Launders, one Pair (1 each side) for each filter to collect wash waters at the swivel-plate level. The Launders are shipped each in two sections, joined together by a flanged connection and jointing plate. A structural section passes through the launder in this connection zone.

Hydraulic Powerpack for each pressure filter, skid-mounted, to be located on upper filter floor level, ~2600kg each without oil. Each skid includes oil heater, cooling fan, hydraulic main pump.

The Contractor shall include for flushing and purging of the hydraulic systems, and for transport, handling and craning and shall install 800-litres of first-fill hydraulic oil per powerpack

Head and transfer chute can be fabricated using the existing details, ref vendor drg 1314CF-51-1028, 1314-CF-00-0121 in Appendix.

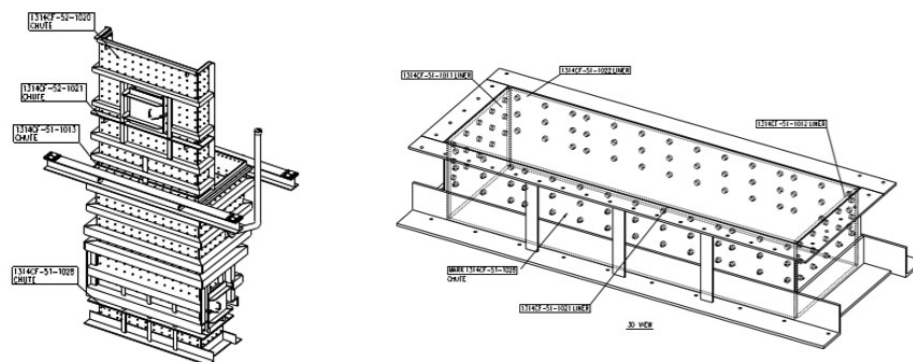


Figure 27: Existing vendor details of head chute and transfer chute

Access platforming at the Bombay door and the valve service platform (shown in red) at the Belt Feeder and filter level shall be installed. The steelwork is part of the structural steel building package.

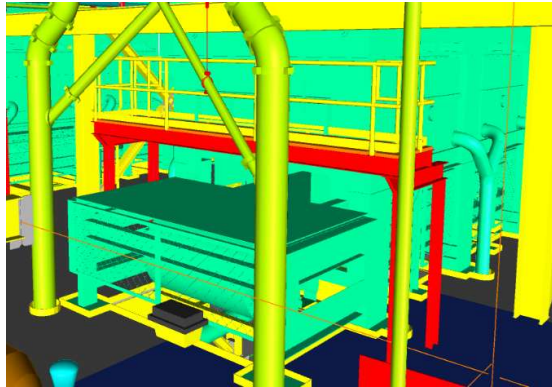


Figure 28: Feeder level - Bombay door service platform (to be updated)

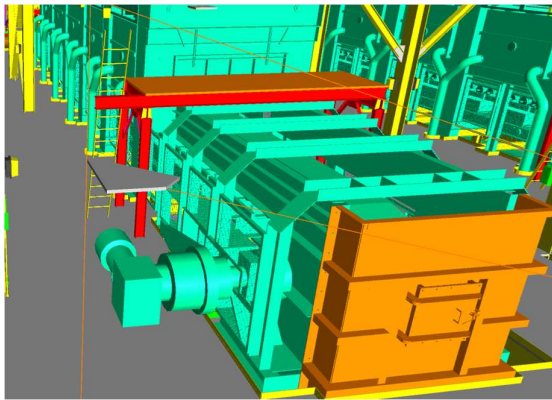


Figure 29: Feeder level - Service platform at tail end (to be updated)



Figure 30: Filter level - Valve service platform (to be updated)

6.7.3.5 Pumps

The following are the pumps to be installed. All grouting at the underside of the structural baseplates and equipment bases shall be done by the Contractor to the requirements in KML's standard CORP-CI-SPC-1012. The Contractor shall supply, install and bench lean-mix concrete to fill pump base frames after pump installation, both to provide mass for stability and reduce vibration, but also to assist with housekeeping.

For all motors installed, the Contractor shall allow for drive disassembly for motor rotation testing, followed by adjustment and alignment to site standards of all drive components such as V-belts, drive couplings, motors and drive guards (laser alignment and certification, as required), and guard reinstatement.

Mechanical installation shall be generally in accordance with KML's General Notes standard drawing CORP-ME-DRG-1002_RDL, UON.

Filter Feed Pump

1 filter feed pump 1314-PU-198 including their pre assembled motor, drive and base frame, to be installed levelled and grouted onto 6-No M42 hold down bolts cast into concrete plinth others to the north of the 1314 Slurry Feed Tank. A new tank nozzle xx is to be installed onto the filtrate tank during one of the scheduled shut.

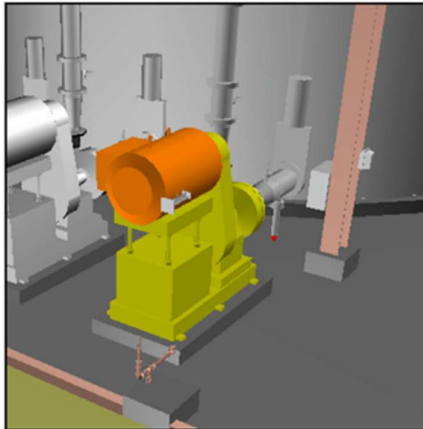


Figure 31: Typical view of Filter Feed Pump

Filtrate Transfer Pumps and Hopper

Filtrate Transfer Pumps 1314-PU-413 and 414 drive motor upgrade, including their pre assembled motor drive and base frame, to be installed levelled and grouted onto 6-No M24 hold down bolts (per pump) cast into concrete plinth.

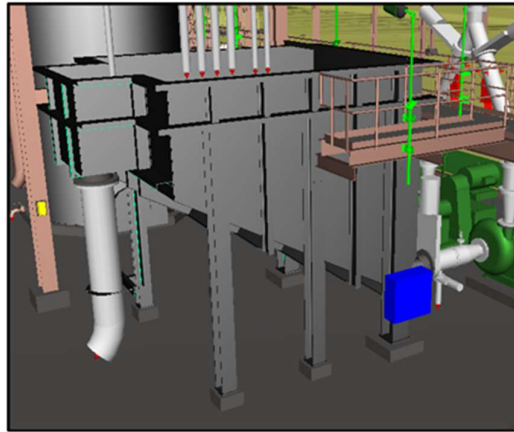


Figure 32: Typical view of Filtrate Pump and hopper

Concentrate Filtrate Pump

Filtrate Pumps 1314-PU-284, including their pre assembled motor drive and base frame, to be installed levelled and grouted onto 6-No M24 hold down bolts (per pump) cast into concrete plinth.

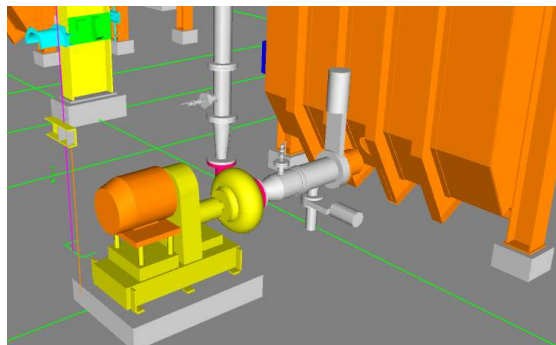


Figure 33: Concentrate Filtrate Pump below the new building extension

Sump Pump

One (1) new Warman GPS100-VEH-C Sump Pump assembly 1314-PU-030 with 22kW motor and belt-drive as shown in vendor drawing A441438-S1 shall be installed onto the sump frame and installed into the precast concrete sump pit as part of the concrete slab of the new building. This includes supply of chemical anchors, assemble install level and grout the free-issue pump mounting frame drawing CORP-ME-DRG-1003 with mesh side guards onto the concrete, installation of the pump onto the frame, alignment of the belt drive, refitting the guard, installing and connecting the gland water.

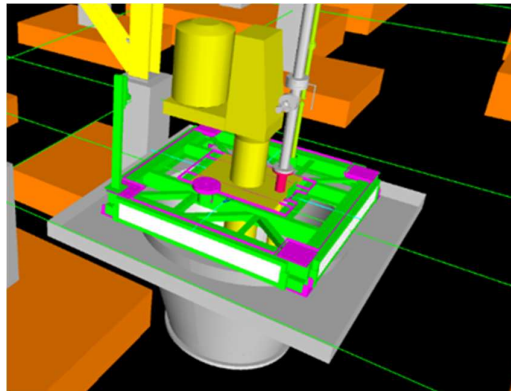


Figure 34: Sump pump in sump pump pit

The Contractor shall install one monorail and its end-plates over the location of the sump. This monorail is part of the structural steel package.

For the grouting of pump bases, Contractor shall scabble top of concrete as necessary, provide all materials and perform grouting of the structural column bases and mechanical equipment bases to details on the relevant drawings and specifications.

The Contractor shall supply, install and bench grouting to fill the pump base frames after pump installation, both to provide mass for stability and reduce vibration, but also to assist with housekeeping.

6.7.3.6 CV20 works

The CV20 modifications works will be:

- Relocate the existing Weightometer 1314-WT-007 (ref vendor drg: 1314-D01-PME006-1001) downstream during a short outage of a planned Plant Shutdown.
- Precast a similar foundation with all details to be installed at the new weightometer location.
- During a planned Plant Shutdown, install foundation, install skirting modules and guards onto CV20, from the existing Filter Building to the end point of the new discharges. The skirting and guards will protect CV20 from damage and afford some protection to Workers, so that work may proceed nearby without needing a CV20 shutdown, subject to JHA.
- After the belt feeder and the discharge head chute are installed, followed by the Feeders, then the Transition chutes to be connected to the skirting. The head chute is mounted onto the feeder frame. The Transitions are suspended from the underside of the platform structure.

6.7.4 Piping Installation

Piping shall be installed by the Contractor; this shall include any fabrication, welding, supports, insulation, cladding, flushing, inspection, testing, hydro-testing and NDE required per the Piping Line Specification or AS4041 for that piping class and KML's *Piping Fabrication and Installation Specification* 1300-PI-SPC-1002.

The Contractor shall:

- a) Install piping, pipe fittings, flanges, valves, in-line instrumentation, SP-Items, all piping supports, pipe insulation and cladding (if nominated in the piping Line-Specification), as per the requirements in the drawings and specifications
- b) Supply any additional materials not indicated by the piping isometrics.
- c) Carry out Tie-ins to the existing process as described in 6.7.4.8.
- d) Installation, inspection, testing, finishing and identification of piping shall be as carried out as per KML's Piping Fabrication and Installation Specification 1300-PI-SPC-1002.
- e) Installation of all materials including piping, pipe fittings, flanges, valves, gauges, gaskets, sealants, bolts, nuts, washers, brackets, hangers and pipe supports required to complete the Works.
- f) Installation of pipe supports in accordance with the Pipe support Standard drawings, the piping Isometric drawings ('ISOs') and Engineering Specifications even if not shown on the General Arrangement drawings;
- g) Piping, in particular instrument air lines, shall be "blown through" prior to installation of the filter/ regulators.
- h) When installing valves, the Contractor shall be alert to the arc of swing of manual valve handles or rising valve stems and shall ensure that the valve does not clash in operation with other adjacent items such as flooring or piping and does not intrude excessively (create a safety hazard) into walkways. It is permissible to roll a valve through one or more boltholes to achieve this, although orientations with valve stem downwards are non-preferred. The Contractor should seek guidance from the Company's Representative where doubt exists. Valve handles that clash or present a safety hazard shall be rectified at the

Contractor's expense. Where practicable, valve handles should point in the direction of flow when the valve is opened.

- i) Mark all pipelines including colour coding and hazardous identification labelling in accordance with the specifications. Labels and markers shall be supplied by the Contractor.
- j) Route, design, fabricate and install all field run small bore piping and its pipe supports or structures. The Contractor shall provide the necessary equipment for fabrication, threading, and installation of threaded piping.
- k) The Contractor shall prepare and submit As-Built drawings for site run small bore piping.

Drawings and 3D model showing the extent of piping works for this **project is pending.**

Rubber lined piping spools, fittings and bends are typically flanged both ends.

Non-rubber lined piping, fittings and bends of size DN65 and above will typically be pre-fabricated into flanged spools to the maximum dimensions that will fit into a sea-container. There is expected to be minimal site fit-up or site welding required for these.

Stainless steel potable water piping is supplied as stock lengths of Sch.40S pipe (nominally 6m) with all valves, flanges and fittings supplied loose. The Contractor shall fabricate stainless steel piping by welding, and install on shoe-type supports.

The Contractor will supply standard stock lengths of medium-wall pipe (nominally 6½m) for small bore piping (DN50 and smaller) of line specs SC1 & SG1. The Contractor shall fabricate (typically by threading), support and install these small-bore piping runs onsite. This includes gland water piping, plant air piping, process water piping and fire water piping. Fabrication and installation of small-bore piping shall be carried out as per KML's *Piping Specification* 1300-PI-SPC-1001 and *Piping Fabrication and Installation Specification* 1300-PI-SPC-1002.

Piping DN50 and smaller will not normally have isometric drawings provided or pipe support details nominated by the Company, but routing will typically be indicated on Plan, Elevation and Sectional drawings, or by means of the NavisWorks 3D-model; Piping DN32 and smaller shall be site-run to a routing to be agreed with the Company's Representative. The Contractor shall prepare and submit an isometric drawing routing proposal, as described in § 4.6 of the *Piping Installation Specification* 1300-PI-SPC-1002. For piping DN50 and smaller the Contractor shall supply, fabricate, paint and install pipe supports according to the suite of Corporate Standard Piping Support drawings indexed on drawing CORP-PI-DRG-1034, or as agreed with the Company's Representative on site.

Installation of piping spools shall typically require assembly and erection of pipe supports. Pipe supports will include U-bolts where applicable, and bolt-on shoe type supports will include the clamp bolting. All other pipe support bolting such as structural bolts to secure a pipe support baseplate to existing steelwork, or hardware such as turnbuckles shall be by the Contractor. All pipe flange bolting, gaskets, thread-seal tape etc shall be by the Contractor.

Material Certificates - typically EN10204 Type 3.1 certificates - shall be provided for any Contractor-supplied materials where required by the *Piping Line Specification* or AS4041 *SAA Pressure Piping Code*.

Valves, loose pipe fittings, SP-Items, instruments and flanges are so indicated in the Piping Isometric drawings, but will be supplied bulked together and crated; valves and instruments will be tagged, packaging

to be advised via the Packing Lists issued during shipping. The Contractor shall allow for handling, sorting, storage and installation of these as required. In-line Instrumentation shall be installed in accordance with KML specification CORP-IN-SPC-1007.

The Contractor shall include installation of any incidental drain legs and vent lines where shown on the drawings or P&IDs.

The Contractor shall note that several KML piping line specifications use the proprietary Victaulic grooved pipe-end fitting system extensively, but its use has been discontinued for all new work on site, and Victaulic locations will instead use flanges or butt-weld fittings.

Other than above-ground Potable Water lines (which shall be insulated ‘-C’ to restrict solar heat gain), insulation is not foreseen in this project; see 1300-PI-SPC-1004 *Thermal Insulation Specification*. Pipe will be supplied without insulation or cladding. The Contractor shall supply fabricate and install all insulation and cladding required by the Line-Specifications of KML's Corporate Piping Specifications.

Since a major proportion of the piping is supplied as pre-fabricated rubber lined flanged spools, it is strongly recommended that the Contractor should install all of each run of piping (e.g. from pump to tank), holding-back on installing pipe anchors until it can be established that the piping will align and connect. It is often possible to “shuffle” piping along in the piperacks to achieve alignments before it is locked in place, rather than resort to spacers or field-welded ‘special’ spools. Anchors etc shall be installed once alignment is achieved.

6.7.4.1 Flange Bolting & Gaskets

Flange bolting shall be Contractor supply and shall be galvanised Metric Hex-Head Machine Bolts UON, (as opposed to stud-bolts). Accepted metric equivalent sizes for the usual Imperial inch-size bolts are given in § 6 of Piping Spec 1300-PI-SPC-1001.

Lug-type Butterfly valves “BF2” are only supplied to suit Imperial [UNC] bolting according to the native ANSI B16.5 150# flange specification, and the valves are to be fitted with a SS tag by their supplier to highlight this exception. The Contractor shall note this exception, shall supply appropriate UNC bolting and tooling to suit, and shall take care to avoid confusion on this point.

The piping specification typically specifies ASTM A193M Gr.7B flange bolts & A194M 2H nuts for SC1, SG1 & SR rubber-lined piping. Since the operating fluid pressures on the KML site are relatively low (by comparison to oil & gas plants for example), the bolting specification may be relaxed to galvanised machine bolts & nuts Grade 8.8, which are likely less expensive and on faster lead-times.

The Contractor shall supply & install a thin flat washer under at least one of the ends of the bolting (usually under the rotated element, typically the nut). The KML Piping Specification has omitted this. Washers need not be thick, preferably galvanised, but zinc-plated might be considered (black CS is unacceptable).

The Contractor shall include for provision and implementation of a suitable Flange Management procedure including checking and signoff, for installation.

Note that Warman pump suction and discharge flanges are vendor ‘specials’, i.e. not standard ANSI 150# flanges, gaskets or bolting; see pump drawings or CORP-PI-DRG-1128. Mating flanges are provided pre-welded as part of the prefabricated piping spools.

All gaskets and thread-seal tape etc shall be by the Contractor.

Klinger-C4243 gasket material as nominated in the Piping specification 1300-PI-SPC-1001 has been replaced by Klinger-C4430.

Contrary to the Piping specification 1300-PI-SPC-1001, Klinger-type gaskets are not required between rubber-lined piping flange faces. The Contractor shall instead apply a thin smear of silicone-based grease (such as “Red Rubber”) to prevent the rubber faces binding to each other; (note: not a Lithium-based lubricant grease).

6.7.4.2 Special Piping (SP) Items

SP-items typically include items such as Straub couplings, flexible hoses, hose clamps, spray nozzles, Camlock couplings, Minsup couplings, air trap/drains, and the like.

Special Piping (SP) items shall be supplied and installed by the Contractor.

6.7.4.3 Small-Bore (<DN50) Piping

Galvanised pipe and fittings line spec SG1 in place of plain carbon-steel pipe and fittings of line spec SC1 for small-bore piping.

Equally, the Contractor may choose to provide galvanised pipe or fittings for any small-bore materials that the Contractor may be required to supply.

6.7.4.4 Rubber-Lined Piping SR1 & SR2

Rubber-lined piping SR1, SR2 & SR3 are all fabricated from the same materials and to the same dimensions; the difference is in their working pressure and test-pressures. SR1 is for normal duty; SR2 is for gravity-flow and atmospheric launder flow; SR3 is a higher-pressure system that is not used in this project.

Rubber-lined piping SR1 & SR2 are spooled items, flanged both ends, with no site welds foreseen.

Straight spools are 6m max, flanged both ends. There was an effort to standardise straight spools into standard 1m / 2m / 3m / 6m lengths, which should all be interchangeable, but this was not always possible and each run will include a straight spool of other length to make up the distance required.

Fittings & bends are typically to standardised dimensions, flanged both ends, and fittings of the same size/type are intended to be interchangeable. For example, all DN400 SR1 bends should be interchangeable - not unique or dimensionally different to another - although each supplied will have a unique piece-mark (for shipping purposes, & to relate to the relevant ISO drawing).

Not all –ST- and –SF- lines are fully rubber-lined; drains, vents & sump lines and the like may be SC1 carbon steel after a spec-break [this is indicated on the ISO-drawings].

A small proportion of the rubber-lined piping is comprised of semi-flexible mining hose, line spec MH1 of specification 1300-PI-SPC-1001, which allows for some flexibility in installation. These hoses typically have a slip-flange (lap-flange or rotatable flange) one end.

Some of the rubber lined spools and fittings are supplied with a slip-flange one end, where it has been identified that this is necessary to accommodate falls in the piping run.

The Contractor shall correctly orient any hose or spool with a slip-flange to make use of the slip-flange to best advantage.

Contrary to the Piping specification 1300-PI-SPC-1001, Klinger-type gaskets are not required between rubber-lined piping flange faces. The Contractor shall instead apply a thin smear of silicone-grease to prevent the rubber faces binding to each other.

Any existing rubber-lined piping that becomes redundant during the tie-in or installation of the project shall be removed without damage and transported to an on-site laydown area nominated by the Company's representative, for relining by others.

6.7.4.5 Fire Protection, Hose Reel and Utility station

Pending

6.7.4.6 Pipe Supports

Major pipe supports such as pipe-racks, pipe bridges, large T-posts and 'goal-post' style pipe supports will be supplied and erected by the Contractor. The Contractor should note that pipe supports that are included in the Structural steel package will not include any hardware such as bolting, PTFE sliding surfaces, pipe-hangers, pipe shoes or chairs, chains, hammer-lock fittings, turnbuckles, shackles, etc., which shall be supplied and installed by the Contractor.

The basic brackets shown in these drawings comprising structural section and plate weldments will be hot-dip galvanised and are expected to arrive with the third delivery of structural steel (ex-China,). Note that bolting / hardware including U-bolts indicated on these drawings shall be supplied by the Contractor.

All other pipe supports shall be supplied, painted and installed by the Contractor. This shall include all mounting hardware, site-welding painting touch-up and making good as required.

It is anticipated that attachment points for secondary steelwork such as platforms, walkways, handrails, bracing, pipe supports, cable ladders and electrical/Instrumentation cabinets will be by bolted attachment to the main steel, not site-weld and not site-drilled, and the bolt-holes required for this will be included in the 3D-model, so that the primary steel (or equipment) will be supplied with these bolt holes shop-drilled.

Any additional piping supports deemed necessary shall be selected/designed by the Contractor according to the support style nominated on the drawings or the KML pipe-support Corporate Standard drawings (indexed on drawing CORP-PI-DRG-1034). The Contractor shall supply materials, fabricate, paint, install and make good after installation, which shall include site-welding and site-drilling where required.

The Contractor shall note that the suite of KML Corporate Standard Pipe-Supports are based upon Australian structural sections and sizes, and that the majority of structural steel supplied will be to Chinese standards and dimensions. The Contractor may use Australian sections when supplying materials, but shall accommodate the dimensional differences that may be found, especially at connections (gussets, cleats, bolt-holes, etc.).

Pipe Supports for Small-bore threaded piping may be a clamp-on support system such as *Unistrut*.

Pipe Supports for Stainless-Steel SS1 piping

Stainless steel welding piping is used for Potable Water (-WO-) to the eyewash stations, is mostly DN50 within this work scope, and needs to be insulated, hence is supported on bolt-on pipe shoes J-060C.

6.7.4.7 Piping - Detail

The detail of the Piping scope of work is pending.

6.7.4.8 Other Plant Tie-In works

Tie-ins comprise connecting to existing valved utility connection points, and connecting at nominated locations for change-over / plant-flow diversions for commissioning.

The Contractor shall carry out tie-in works to connect the new plant to existing infrastructure. There are a number of piping and equipment tie-ins to the existing process plant which can only be carried out under an approved isolation, during either a planned or unplanned (opportunistic/breakdown) plant stoppage. Isolations are obtained by the KML Operations personnel under approved isolation procedures, typically resulting in a direct loss of production, and accordingly their duration shall be minimised. The Contractor and Contractor's personnel are required to participate in the equipment isolations by tagging-out or locking-on according to the procedure.

Tie-ins and associated works shall be coordinated and implemented by the Contractor and agreed by the Company. Contractor shall liaise with the appropriate KML personnel, the Company's Representative and other Contractors as necessary in planning and executing these shutdowns and tie-ins, so as to minimise downtime. Some isolations can be obtained relatively easily; however there may be some that require a plantwide outage, and the Contractor shall respond to the best of its ability in those cases, especially should an unplanned opportunistic shutdown (breakdown) occur at short notice.

The Contractor shall note that safety and the continued operation of the plant shall take priority over all types of construction activities. The Contractor shall perform as much pre-work as possible outside shutdowns, whether by prefabrication, pre-assembly, installing temporary barriers and protective covers or otherwise. This may include for example guards, protective barriers (planked scaffolding) when working above and below equipment, etc. In carrying out this work, the Contractor shall at all times allow adequate access to existing plant and equipment for Operations personnel.

No tie-in schedule and details are available at this stage. These works are to be identified and scoped during the detailed engineering.

6.8 Electrical and Instrumentation supply and installation

6.8.1 Statutory Requirements

The contractor shall comply with the following statutory requirements:

6.8.1.1 Electrical Licenses

All electrical work shall be carried out or directly supervised by licensed electrical tradespeople holding current WA Electrical Workers Licenses (as per the Western Australian Electricity (Licensing) Regulations).

A copy of the Electrical Workers License and residential address of each electrical tradesperson shall be submitted to the company's representative prior to them commencing work.

6.8.1.2 Mines Electrical Log Book

The contractor shall make entries into the existing Electrical Log Book applicable to their area of control. The Electrical Log Book shall conform to the requirements of Part 5 of the Mines Safety and Inspection Regulations.

Information within the area of control that shall be recorded will include:

- Name of the Electrical contractor including EC license details.
- Mobilisation date.
- Name, residential address and license number of each electrician on site.
- All electrical incidents/accidents.
- All electrical test results.
- Date when each major piece of equipment is energised.
- Certification from the in-house nominee or Contractor nominee that the Works are complete and installed in accordance with all relevant standards and electrical licensing regulations.

The log book shall be available for review at all times by the company's representative or LGIRS Electrical Inspectors.

6.8.1.3 Statutory Notices and Certificates

The contractor shall submit Preliminary and Completion Notices and certificates of compliance (Electrical Safety Certificate) for the electrical work carried out under this Scope of Work in accordance with the requirements of Electricity (Licensing) Regulations, Regulations 51, 52, 52A and 52B.

6.8.2 Electrical and Instrumentation Installation Work

6.8.2.1 General

The Works shall be carried out in accordance with the listed standards, specifications, schedules and drawings listed in this scope of work.

A description of the work included for the common types of installation is given below. The areas of work covered by this scope and additional work specific to a particular installation are given in Section 6.8.3.

Wherever possible, the contractor shall install electrical and instrumentation equipment into modules on the ground, prior to lifting into position to reduce the requirement for working at height.

The Contractor shall include for attendance for other Trades, generally the Contractor's appointed Electrical Sub-Contractor (generally called Electrical Contractor), under its on-site guidance and direction and for the benefit of the Electrical trade, as follows:

a) Cable-Ladder Supports to Switchrooms -108

Install prefabricated cable-ladder supports typically at high level onto existing piperacks from the utility piperack to Switchrooms 108. This shall include transport, craneage, handling, assembly (if required), access and erection of the supporting steel/brackets. These steelwork items is a part of the overall Structural Steel package, and are typically to be attached to the existing piperack steelwork by site-drilling & bolting, rather than by site-welding. Contractor shall supply all galvanised structural bolting for this work item.

This installation shall include provision of all craneage, transport, telehandlers, EWP's or scaffold or any other means of access as required, *Working at Height* skills and equipment. The Contractor will provide graded, levelled and compacted ground for EWP's. Any additional or further ground compaction or earthworks that may be required shall be by the Contractor at own cost.

The installation of these supports shall be carried out by the Contractor early in the works schedule, as it is an essential enabling work for the Contractor's Electrical Sub-Contractor to begin cable installation.

b) Other Cable-Ladder Supports

There are other structural supports for cable ladders included within supply package of structural steel for the new building and piperack, and these shall be supply and installed by the Contractor. Typically these will be supports for the major cable runs, 600mm ladders. Supports for smaller cable ladders ($\leq 300\text{mm}$), cable-trays and conduit will be by the Contractor's Electrical Sub-Contractor.

c) Control Cabinets

The Contractor shall provide transport, craneage and handling, and shall lift, position, supply bolting and shims and secure in place:

"No information is available at this stage"

6.8.2.2 Switchroom 108

The works are:

- a) Completion of switchroom modifications, reconnection and testing of light and small power circuits, fire system circuits, inter switchboard wiring and control system wiring.
- b) Modify MCC module layouts to accommodate new Elutriator power supply modules, including adjustment/extension of the relevant Profibus DP segments
- c) Installation of VSD's
- d) Supply and installation of switchroom air conditioning compressors on to concrete pads (Pads installed by Civil works scope).
- e) Supply, installation and termination of power and control cabling as per cable schedules.
- f) Supply and installation of an ablative fire-retardant coating (KBS Coating or similar) to power cables in underfloor cable ladder in accordance with 1300-EL-SPC-1001 Specification for Electrical Equipment Installation.
- g) Supply and installation of piping between the outdoor compressor units and indoor air conditioning units. The contractor shall engage a company approved air conditioning sub-contractor to install the piping and test and commission each switchroom air conditioning system.
- h) Drilling of gland plates for contractor installed cables.

6.8.2.3 Field Electrical Installation (Scope to be confirmed during detailed engineering)

6.8.2.3.1 Local Control Stations and Field Junction Boxes

- a) Supply and installation of local control stations and emergency stops, associated mounting supports and labels where nominated in the SOW and equipment lists.
- b) Supply and installation of field junction boxes including mounting support, internal terminal rail, terminals and earth bar and labels where nominated in SOW and equipment lists or shown on the drawings.

6.8.2.3.2 Slurry Pumps

- a) Supply and installation of local control stations and associated mounting supports and labels.
- b) Supply and installation of earth connection to the earthing boss on the pump motor frame.
- c) Supply, installation and termination of power and instrument cables to the pump motor.

6.8.2.3.3 Sump Pump

- a) Supply and installation of a local control station and associated mounting supports and labels.

- b) Supply and installation of decontactor socket and associated mounting supports and labels, plug and flexible power cable.
- c) Supply and installation of an instrument field junction box and associated mounting supports and labels.
- d) Supply and installation of an ultrasonic level transmitter and associated mounting supports and labels.
- e) Supply, installation and termination of power and instrument cables to the sump pump equipment.

6.8.2.3.4 Cable Ladder and Conduit

- a) Supply and installation of all cable ladder supports within plant areas for cable ladder smaller than 300mm. The supports shall conform to the standard structural detail drawings or contractor submitted drawings approved by the company's representative. Supports for ladder 300mm and larger will be supplied and installed by others where indicated on the structural cable ladder support drawings. Note that supports provided by others will be tapered flange channel (TFC) type and will require tapered washers to be fitted to the fixing bolts. The contractor shall ensure that all cable ladders are supported in accordance with the requirements of NEMA standard VE 2 and shall supply and install additional supports where required to ensure this standard is met. All supports supplied and installed by the contractor shall conform to the standard structural detail drawings or contractor submitted drawings approved by the company's representative.
- b) Supply and installation of all conduit supports.
- c) Supply and installation of all cable ladders and above ground conduits within the plant areas including final runs not shown on drawings. This shall include supply and installation of all fixings, barrier, lid, draw boxes and miscellaneous equipment required to complete the cable ladder and conduit installation.
- d) Cutting and welding of floor penetrations through gridmesh where required for cable ladder and conduit. The company's representative shall approve any cutting of floor panels prior to cutting. The SMP contractor shall cut the gridmesh, supply, install and fully weld the kick plate surround to the cut edges and apply touch up paint in accordance with CORP-GE-SPC-1004 Technical Specification for Surface Treatment of Structural Steelwork and Pipework. The kick plate surround shall conform to the requirements of CORP-ST-DRG-1002 Structural Steel Standards Structural General Notes.
- e) Sealing of underground conduits with fire rated mortar (KBS Mortar or equivalent).
- f) Sealing of cable ladder penetrations through walls with fire rated mortar (KBS Mortar or equivalent) where required.

6.8.2.3.5 Cabling

- a) Supply of all LV and instrumentation cables and installation and termination of all LV and instrumentation as detailed in the cable schedules. This shall include supply of all termination kits,

lugs, heat shrink, cable glands, shrouds, flags, markers, ferrules etc necessary to terminate the cables to the equipment.

- b) Drilling of all gland plates for contractor installed cables.
- c) Testing of fibre optic cables in accordance with Section 9.16 of the Technical Specification – Instrumentation Installation CORP-IN-SPC-1007 and Chapter 9 of Fibre Optic Cabling Specification 1400-TE-SPC-1006.

6.8.2.3.6 *Earthing*

- a) Supply and installation of plant earthing including:
 - i. Buried grids.
 - ii. Earth pits and electrodes including connections to grid and earth bars and labels.
 - iii. Connections to concrete steel reinforcing ground plates.
 - iv. Cable ladder earthing.
 - v. Field earth bars.
 - vi. Connections to structural bonding tags (tanks, support columns, stairways, rail and landings).
 - vii. Plant earth ring.
 - viii. Connections to motor earth studs.
 - ix. Structural column earthing tags (where not shown on structural drawings).

6.8.2.3.7 *Light and Small Power*

- a) Supply and installation of field welding and small power outlets and associated mounting supports and stainless steel (304) IP66 junction boxes. The welding outlet junction boxes shall be supplied complete with terminals and overcurrent protection for each welding outlet. All equipment shall be in accordance with the types listed in the project preferred equipment list.
- b) Installation of company supplied field light and small power distribution boards and supply and installation of associated mounting supports and protective covers.
- c) Supply and installation of battery backed emergency shower light fittings and support poles.
- d) Supply, installation and termination of field lighting (including safety showers) and small power circuits, including determination of cable sizes and circuit configuration where not specified in the Contract documentation.
- e) Cleaning of light fittings prior to energisation and testing.
- f) Alignment of floodlights and testing of lighting levels following energisation.
- g) Testing of emergency lighting in accordance with AS2293.

6.8.2.4 Field Instrument Installation

6.8.2.4.1 Field Marshalling Panels/Junction Boxes

- a) Supply and assembly of sunshields and mounting brackets on company supplied field marshalling panels.
- b) Installation of field marshalling panels and supply and installation of associated supports.
- c) Supply (where nominated in the Schedules as contractor supply) and installation of field junction boxes and associated mounting supports and labels

6.8.2.4.2 Field Instrumentation

- a) Supply (where nominated in the area instrument lists), installation (where nominated in the area instrument lists) and cabling of instruments in accordance with this SOW, the cable schedules, the drawings and the specifications.
- b) Testing of instrumentation cabling and loops in accordance with Technical Specification – Instrumentation Installation CORP-IN-SPC-1007.

6.8.2.4.3 Communications

- a) Installation and termination of all fibre optic cables within process areas as detailed in the cable schedules. This shall include supply of all connectors, heat shrink, cable glands, shrouds, flags, markers, ferrules etc necessary to terminate the cables to the equipment. All fibre cable will be free-issued to the contractor by the company.
- b) Testing of fibre optic cables in accordance with Section 9.16 of the Technical Specification – Instrumentation Installation CORP-IN-SPC-1007 and Chapter 9 of Fibre Optic Cabling Specification 1400-TE-SPC-1006.

6.8.2.4.4 Control System Integration

Integration of the stand-alone Elutriator control system with the existing process control system consisting of GE PLCs (CPE330) and Cimplicity SCADA ver. 2024.. This includes system integration design, communication cables supply and installation, communication modules supply, and installation and the supply and installation of any other equipment required.

Additionally, the electrical contractor shall be responsible for the design and integration of the SCADA control pages including screens and tags for the Elutriator along with the PLC code integration into the existing control system.

6.8.3 Areas Of Electrical And Instrumentation Work

The scope is to be finalised in detailed engineering. Issued for Construction (IFC) revisions of all drawings and the electrical and instrumentation lists will be issued to the contractor prior to scheduled installation activities.

The scope will be summarised here later.

6.8.4 Testing and Commissioning Requirements

The contractor shall be responsible for the performance of all quality control and acceptance testing as specified in the contract, including the provision of suitably qualified testing personnel, equipment and facilities.

The contractor shall, as part of this Scope of Work:

- Complete Stage 1 (Construction Verification) of the commissioning process in accordance with the Specification for Testing and Commissioning of Electrical and Instrumentation Systems 1300-EL-SPC-1011, relevant supplier procedures and Completions Process Specification 1000-CO-SPC-1001.
- Complete all rectification and punchlist items identified in the Works to Go (WTG) Register compiled by the contractor and the company's representative.
- Assist with the remaining Commissioning Stages (2-5) as determined by the company's representative in accordance with Completions Process Specification 1000-CO-SPC-1001 and Testing and Commissioning of Electrical and Instrumentation Systems 1300-EL-SPC-1011. The contractor shall provide test equipment and suitably qualified personnel for the works, which will be performed on day rates on an as needs basis.
- Forward all test records to the company's representative in the timeframe.

The contractor shall be responsible for rectifying any faults that are identified during later commissioning stages, on equipment covered under this contract at the contractor's expense.

Any materials, items and equipment supplied by the contractor that are revealed as faulty shall be replaced prior to further commissioning at the contractor's expense.

The contractor shall be responsible for any rectification work, made necessary by the contractor. Such work shall be undertaken in such a manner as to minimise the disruption of all other company activities.

All works are required to be carried out under an approved isolation. Isolations are obtained by the KML Operations personnel under approved isolation procedures.

6.9 Interface with other Contractors

Given that this is a brownfields project within an operating plant, the Contractor will not be provided with continuous unrestricted access for all the various activities of its work under the Contract.

The Contractor will participate in weekly planning meetings with the Company, Company's Representative and other contractors to identify, discuss and plan the scheduled activities to be performed by the Contractor and others in the area. The Contractor is required to plan the sequence of its work activities around the activities to be performed by others such that interference and or delay to others is minimised.

The nature of the Contract Works and its interface with the Company's and other contractors' work will require the Contractor to adopt a flexible approach in sequencing its various work activities. The Contractor shall allow in the pricing for flexibility in the sequencing of its planned work activities.

The sequence of the activities to be performed by others (as established in weekly planning meetings) may change from time to time, possibly at relatively short notice. The Contractor shall adapt to and incorporate such changes, and proceed with alternative work activities if it cannot gain access to its previously planned activities.

6.10 Quality, Inspection, Construction Verification, Testing & Pre-Commissioning

The Contractor shall:

- a) Comply with the requirements of the *Contractor Quality Requirements Specification* (CORP-QA-SPC-1003), and *Supplier Quality Requirements Specification* (CORP-QA-SPC-1001).
- b) Provide all equipment, personnel and other items necessary to carry out all testing required for the works including, but not limited to:
 - Foundation (subgrade) testing
 - Compaction testing for fill
 - Concrete sampling and testing for slump and compressive strength
 - Thermal temperature monitoring in large concrete pours
 - Weld and Welder qualification and testing
 - NDT
 - Materials testingas nominated on the drawings or in the specifications. The costs of the testing and reporting shall be borne by the Contractor.
- c) Provide all labour and equipment to conduct verticality and position survey and conduct structural adjustment/rectification to ensure structure are erected within the construction tolerances.
- d) Ensure the Works are in accordance with the Contractor's QA assurance procedures, Company specifications and nominated standards.
- e) Ensure Construction Verification is carried out at the completion of each part of the Construction work. This shall include punch-listing, walkdowns and completions activities such as pipe flushing and purging of lines prior to connection and start of commissioning activities, Field Inspection Checksheets (FICs), Inspection and Test Plans (ITPs), testing, NDT and pre-commissioning activities.
- f) The Company will require to witness the verification checks, following the completion of all outstanding punchlist items.
- g) Allow for removal of guards and drive components and subsequent re-installation and alignment, to allow direction of rotation motor check for the Electrical trades as part of commissioning.

6.11 Commissioning

The Contractor shall provide suitable personnel, labour, plant and supervision to assist the Company with wet commissioning activities, at the direction of the Company's Project Representative.

The Contractor shall submit a itemise fixed lump sum cost in the Pricing Schedule.

The Contractor shall note that normal post-installation completion activities such as P&ID walk-downs, punch listing and rectification, NDE, inspection, documentation, flushing, cleaning, hydrostatic testing and finishing of piping as described in §§ 5&6 of the *Piping Installation Specification* 1300-PI-SPC-1002 shall be considered to be included in the Contractor's basic Scope of Work, and will not be considered as 'Commissioning' at unit rates.

Tasks to be carried out by the Contractor are anticipated to include:

- Flow testing of piping, vessels, tankage, valves, in-line instrumentation and equipment during wet commissioning to initialise, test and bring the plant on-line.

Should leaks/defects be identified by this testing that are attributable to the installation of these by the Contractor, then this will be considered to be rectification, and the Contractor shall remedy the defects to the satisfaction of the Company's Representative at the Contractor's cost.

- The Contractor shall submit detailed hot and cold commissioning procedures and checklists for approval by the Company's Representative.
- The Contractor shall perform hot and cold commissioning in accordance with the Company Representative's approved procedures, together with appointed, suitably qualified and equipped personnel.
- The Company's Representative will witness all stages of commissioning and reject results that do not comply with the approved procedures in accordance with the Contract.
- The Contractor shall be responsible for the hand-over of successfully commissioned Equipment.

7 HEALTH, SAFETY & ENVIRONMENT MANAGEMENT

All work must comply with the requirements of document CORP-HS-PLN-1001 Occupational Health and Safety Plan and document CORP-EN-PLN-1001 Construction Environmental Management Plan.

The Contractor shall be required to include in all site based tender documents the above HSE documents and have all successful Contractors prepare a Project Specific Health Safety and Environment Management Plan that aligns with project and KML requirements prior to mobilisation to site.

7.1 HSEC Management

- a) All work undertaken for this project shall be carried out with the greatest regard and attention to safety issues. The *Health and Safety Management Plan* document number CORP-HS-PLN-1001 outlines the minimum safety and health requirements to be implemented in delivery of services to KML for the project. The Contractor shall comply with all safety requirements of the relevant Acts, Regulations, By-Laws, Codes of Practice, Standards and other regulatory requirements.
- b) The safety and health of personnel shall be considered in the design and planning stage, and managed accordingly in the execution phase. Hazards considered shall include those that may be encountered during site and field works, and during travel. Particular attention shall be paid when choosing locations for equipment to providing safe access and egress of personnel.
- c) As a minimum the Contractor must have in place safety management systems that utilise risk based assessments on all equipment, products, services and personnel that are brought on Site to supply the Services.
- d) Prior to mobilising to site, the Contractor is required to conduct a Contractors Risk Assessment Workshop (CRAW) with key stakeholders to further identify and assess hazards and determine management controls. Hazards identified and outputs from the CRAW are incorporated into the Safety / Environmental Management Plan, whereby further policies and procedures are implemented accordingly to ensure safe and efficient delivery of the Services.
- e) Notwithstanding any other conditions of the Contract the Contractor shall conduct its operations in accordance with the Company's *Health and Safety Management Plan* (CORP-HS-PLN-1001) for the KML operation.

7.1.1 Site Safety Requirements

The Contractor shall:

- a) Take all care and necessary precautions in planning and execution of the Site Services and as a minimum institute such measures, as detailed within this SOW and KML Corporate Standards, to manage Site safety and ensure a safe working environment. All elements of the Site Services shall conform to the Company's *Health and Safety Management Plan* (CORP-HS-PLN-1001), relevant Codes of Practice, By-Laws, Acts, Regulations and statutory requirements.
- b) Prepare and submit a Project Site Health and Safety Management Plan, Environmental Management Plan and HSE Risk Register to the Company's Representative for approval within the time period specified in the Contract. The plans shall include, but not be limited to, the provisions of this SOW and the specifications.

- c) Conduct inductions, training for high risk work licenses, certificates of competency and verifications of competency. The Contractor shall provide a copy of the following information for each person inducted in a form acceptable to the Company:
 - i. Personal details
 - ii. Medical examination results
 - iii. Driver's license
 - iv. Certificates of competency issued, incl. date the competency / skill was verified by the Contractor, and the name and qualification of the assessor.

7.1.2 During Site Works

The Contractor shall:

- a) Hold a brief daily "start of shift" on-site meeting with the Company's Representative and Contractor's key personnel responsible for site supervision to plan the work for the day/shift following;
- b) Hold weekly toolbox meetings that shall be attended by all site personnel, Contractor, sub-Contractors and Company's Representative. Key issues discussed shall be recorded by the Contractor and a copy sent to Company's Representative;
- c) Hold a weekly construction meeting with the Company and any Company-engaged consultants with the Company's Representative or delegate, record minutes of meeting and submit a draft minutes to the Company's Representative for review within 48 hours; as a minimum, the Contractor's site superintendent and safety officer shall attend all weekly construction site meetings;
- d) Prepare **JHA's (Job Hazard Analysis)** for specific tasks as per Company safety requirements or as instructed by the Company's Representative. Where in the opinion of Company's Representative, an existing Safe (or Standard) Work Instruction (SWI) is not adequate to cover risks on a particular job, the Contractor will prepare the JHA or conduct a risk assessment for the work;
- e) Provide weekly and monthly safety reports;
- f) Attend monthly safety meetings;
- g) Be required to attend special meetings from time to time to discuss issues relating to the construction and development of progress ideas, cost saving and safety initiatives to ensure project success. The Contractor's key personnel and Representatives of the Contractor's senior corporate management will attend this meeting if required by the Company's Representative;
- h) Where, in the opinion of the Company's Representative, any of the Contractor's personnel including supervisors frequently or repeatedly undertake works in an unsafe manner, the Contractor will be required to remove such personnel from the site immediately;
- i) Where, in the opinion of the Company's Representative, site safety focus is deteriorating, the Company's Representative may direct the Contractor to stop work, and the Contractor will be required to stop work and undertake a minimum of half day safety briefing to refocus before work can recommence. The Contractor is responsible for all additional costs and any program delay resulting from such work stoppages and the Contractor is not entitled to make any Extension of Time (EOT) or other claim against the Company arising from the direction or stoppage of work.

7.1.3 Safety Representative

- a) In respect of all matters concerning the safety of the Site Services and personnel on the Site, the Safety Representative shall be deemed to have the responsibility and authority of the Contractor's Management in accordance with the Contract.
- b) The Safety Representative may consist of the Contractor's senior representative on site or designate.

7.1.4 Safe Working Area

- a) The Contractor shall maintain safe systems of working over the duration of the Site Services.
- b) Within the areas of the Site Services, in addition to the requirements of the Company's *Health and Safety Management Plan* (CORP-HS-PLN-1001), the Contractor shall be responsible for:
 - i) Providing all necessary safe work equipment, and establishing all safe methods (safe operating procedures, SOPs) necessary to carry out the Site Services.
 - ii) Obtaining all necessary permits (e.g. hot works, working at heights, etc.) prior to the commencement of the relevant Site Services activity as applicable.
 - iii) Maintaining the safe and secure storage of any dangerous or potentially harmful substances in accordance with statutory requirements and the Company's *Health and Safety Management Plan* (CORP-HS-PLN-1001) so as to prevent access and use by unauthorized persons. MSDS shall be kept on Site for all dangerous or potentially harmful substances.
 - iv) Effective control of dust and wind-borne material emanating from the Site as a result of the Site Services.
 - v) Provision of floodlighting at all areas and levels to the satisfaction of the Company's Representative where the Site Services is occurring outside of daylight hours, or in areas where natural light is inadequate.
 - vi) Maintaining communication and liaison with the Company's Representative and other contractors on the Site to ensure the Site Services are coordinated and undertaken to maintain safety of all persons on the Site and assist the performance of the project.
 - vii) Keeping the Site Services and access ways in a safe condition from the time of handover to the Contractor, until the Site Services are handed back to the Company's Representative after completion of the Site Services.

7.1.5 COVID 19, Gastroenteritis, & similar infections

The emergence of Covid 19 as a major disruptive influence resulted in the need for measures to be willingly put in place by all parties for mutual protection and to minimise potential impact. The effect of a Covid, Influenza, 'Gastro' or similar outbreak on site can be serious, not only to the Contractor's and the Purchaser's budgets/schedule and operations, but at a personal level can have health effects on a large number of people and their extended families.

The Company's intent is to exclude Covid and similar infections from site rather than attempt to manage or limit them within the site.

The Contractor will already be aware of the need for cleanliness and hygiene, which shall be supplemented or reinforced as may be required from time to time in line with the contemporary risk, KML's Safety Bulletins, government guidelines and public health directive/s. This may for example include requirements for physical isolation or distancing, the compulsory use of face masks and other PPE, mandatory vaccinations, mandatory Covid testing, hand washing, sanitising, restricting/excluding personnel from affected regions and States/Territories, the use of QR codes and vaccination certificates, temperature measurements, or other measures, as required.

Rather than present to work with symptoms, personnel shall isolate, report the matter to their supervisor and request testing and further instructions if feeling unwell. In particular, personnel at start of their swing should not report for FIFO/DIDO if feeling unwell, but should instead report the matter to their Supervisor.

7.1.6 Environmental Requirements

7.1.6.1 General

The Company has an obligation to comply with all statutory environmental requirements in regard to all Site activities for the project. This responsibility devolves to the Contractor for site activities within its remit.

The Contractor shall:

- a) Comply with all relevant requirements and obligations applicable to the Site Services and the Minesite.
- b) Comply with the requirements of Company's specification "Environmental Management Plan" (CORP-EN-PLN-1020) and as required by this SOW.
- c) Nominate a member of its Site workforce as the Contractor's environmental representative.
- d) Notify the Company's Representative in writing of the name of the nominated Contractor's environmental representative. The Contractor shall obtain approval of the nominated representative from the Company's Representative prior to commencing the Site Services on the Site.

7.1.6.2 Specific Environmental Considerations & Compliance

- a) The specific environmental requirements are detailed in the Contract including the Company's *Environmental Management Plan* document CORP-EN-PLN-1020.
- b) The Contractor acknowledges and agrees that the respective lump sums, rates and prices for payment for the execution of the work in the pricing schedule and the program include allowance for compliance with the all requirements including environmental requirements of the Contract including the following:
 - i) Unauthorized vegetation disturbance;
 - ii) Uncontrolled/unauthorised release of fuel/lubricants from equipment;
 - iii) Uncontrolled release of dust;
 - iv) Uncontrolled/unauthorised release of any substance that will damage the environment;
 - v) Protection of wildlife.

8 PLANNING, SCHEDULING & REPORTING

8.1 Planning, Scheduling & Reporting

Prior to commencing work under the contract, the Contractor shall submit its Project Execution Plan to the Company's Representative for review and approval. The plan shall cover the following:

- Project Organisational structure
- A fully resourced and micro-detailed level 6 Project Schedule, in particular inclusive of all:
 - (i) The Contractor's projected timeline for the progress of each micro-detailed activity;
 - (ii) Basis of Schedule that defines the basis for the development of the project schedule and assists the project team in identifying any key elements, issues and special considerations (assumptions, exclusions, etc.);
 - (iii) Construction Methodology that plans, executes, monitors, and controls the outcomes of the work under then Contract;
 - (iv) a resource schedule that nominates the quantity of [own] persons anticipated on-site per week, by Trade, related to each micro-detailed activity, to facilitate Company's forward planning for accommodation and flights
 - (v) a resource schedule that for all off-site and on-site;
 - direct and indirect manning levels and classes,
 - plant and equipment names, types and sizes etc.
- Contractor is to assure that the Project Schedule incorporates all the resources, commodities and quantities used to populate and establish the Pricing Schedule and to complete the works as described in the Scope of Services and under the Contract.
- Document control
- Progress reporting (including all Day Work Sheets in form that is approved by the Company)
- Financial Cashflow Forecast
- Quality management

- Risk management
- Health and safety management
- Subcontractor management
- Completion of remedial repairs as a result of inspections
- Certification & Final documentation.
- Submission of weekly progress reports shall address:
 - Progress summary - %completion, S-curve based on performed services (quantities planned & actual), histogram based on man-hours planned/ expended, broken down by major work front
 - Variations Register
 - Delays & EOT Register
 - Correspondence Register
 - Financial Cashflow Forecast
 - Daily Work Sheets incorporated into the Weekly Work Sheet
 - Bullet-lists of work progressed, and work completed during the period
 - Work planned for the next period, including 2-week proposed Manning Schedule look-ahead, for approval and for coordination of flights and accommodation
 - Subcontractor progress if applicable, work planned/work completed,
 - All injuries, incidents, illnesses, Medical Treatment Injury, Lost-Time Injuries, near-misses, and all recordable obligations
 - Areas of concern
 - Technical Queries and RFIs, and their status
 - Quality (issues reported during the period, non-conformance, audit results, NDT results, additional Welder's qualifications and test results).
- Timing for submittal of Progress data program shall be 12-Noon on every Friday of the week.
- The Contractor shall be available to participate in weekly construction meetings as required, including video and telephone conferences.

8.2 Performance Assessment & Auditing

The Contractor shall:

- Conduct regular Financial, Commercial, Project Controls, HSECQ audits and inspections of their areas.
- Identify corrective actions to address non-conformance or hazards and document any corrective actions in an action register, including assignment of responsibilities and time frames.
- Participate in audits conducted by the Company where requested by the Company Representative.

8.3 Documentation & Drawings

In the event of any conflict between the contract documents, documents shall take the following priority:

1. The Contract, as executed between the parties and as subsequently amended
2. This Scope of Work document
3. Project drawings
4. KML-standard drawings, specifications, procedures, and the like
5. Written Technical Query replies, Site Instructions & Site Bulletins
6. Australian Standards
7. Best industry practice
8. Relevant International standards.

The Contractor shall furnish all drawings and data as required by the CDRL in § 13 below and in accordance with the Contract requirements, including the requirements of CORP-AD-SPC-1002 and L280-SMP-CDRL-1001.

The Company's Representative reserves the right to request any additional information necessary to clarify the installation, operation and maintenance of The Equipment.

The Contractor shall mark-up and submit Contract and Referenced Drawings with 'AS BUILT' information.

The Contractor shall prepare and submit as-built drawings for site run small bore piping.

9 WORK EXCLUDED

The following are the work exclusions. These works are either already completed at Site or they are deemed not necessary to be carried out by the Contractor.

- The preparation of construction drawings, isometrics drawings and 3D models.
- The preparation of any standard drawings and construction specifications. The Company's Corporate Standard Drawings and Specifications shall be used.
- Conduct new geotechnical investigation works.

10 COMPANY'S PROVISIONS

The above is a general outline of the works; however, the Contractor shall be responsible for the performance of the whole of the Works including such work as may be required but not specifically described herein, except for specific Company's provisions detailed below.

- Provision of serviced accommodation and messing for personnel at the KML village in accordance with the Company's site procedures and the pre-approved manning schedule.
- Provision of air travel between Perth and the KML village in accordance with the Company's site procedures and pre-approved manning schedule.
- Provision of diesel fuel (only – no petrol) for use on the Karara Minesite in accordance with KML's procedures. The Contractor shall provide own refuelling facilities/mobile tanker/pumps/service truck etc.
- Provision of Site and Area Inductions at no direct cost to the Contractor.
- Potable Water, from the Company's water storage sites in accordance with KML's procedures.
- Provision of a staffed medical facility at the Village and Operations Site; and
- Provision of emergency response facilities including firefighting capability.

11 INSTALLATION SCHEDULE

The Contractor shall supply DRAFT level 5 resource loaded construction schedule during tender and once award and schedule approved; update and maintain it during construction in accordance with the Agreement and this Scope of Work.

12 RESPONSIBILITY MATRIX

The following Responsibility Matrix summarises the responsibilities of the Company and the Contractor. In the event of an inconsistency between the Responsibility Matrix and the rest of this Scope of Work, the rest of the Scope of Work will take precedence.

ITEM	COMPANY	CONTRACTOR
Messing and Accommodation at Karara Site Camp	X	
Contractor's Communications facilities and maintenance		X
Construction Site office, Ablution and Crib supply, operation & maintenance.		X
Arrange for removal of sewage from job-front toilets and ablutions maximum twice per week	X	
Construction site security		X
Supply of Free-Issue Material and Equipment, UNO	X	
Supply of all required labour		X
Management plans		X
All permits required by the Contractor for the Works (i.e. fuel farm, crane, hazardous waste, surface water usage, etc.)		X
Contractor's Personnel transport (on site transport)		X
Constructional Equipment supply, all consumables and maintenance		X
Provision of on-site construction facilities area (as is where is)	X	
Quality system		X
Risk Assessments		X
Site based first aid facilities and medic	X	
Health and safety management		X
Provision of Project Specifications	X	
Survey – measurement for payment & as-built		X
Civil & Concrete Works		X
Grouting work to equipment & column bases		X
Steel, piping & platework supply & fabrication		X
Freight forwarding of all Contractor's supplied items		X
Testing & Commissioning		X
Monthly Meeting, including Minutes of Meeting	X	X
Reporting		X
Position and Verticality survey of erected structures		X
Preparation of As-Built Drawings		X
Completion of Works as per approved drawings		X
Provide existing Radio Channel	X	
Provide Fuel to Contractor's fuel truck/storage facility	X	
Site inductions	X	X

13 CONTRACTOR DATA & DOCUMENT REQUIREMENTS LIST - “CDRL”

The following documents shall be provided by the Contractor within the timeframe/s indicated.

The Contractor shall furnish all drawings and data as required by the Contractor Data Requirements Specification and in accordance with the Contract requirements, including the requirements of L280-SMP-CDRL-1001.

The Company’s Representative reserves the right to request any additional information necessary to clarify the installation, operation and maintenance of The Equipment.

The Contractor shall mark-up and submit Contract and Referenced Drawings with ‘AS BUILT’ information.

The Contractor shall prepare and submit as-built drawings for site run small bore piping.

14 CONTRACT PRICING

The Contractor shall submit a Fixed Lump Sum Price for completing the whole SoW.

There is a Pricing Schedule provided in this tender package. It shall be noted that the Pricing Schedule provided in the Appendices of the SoW are for reference only. The pricing schedule is the tool to facilitate the derivation of the Fixed Lump Sum Price. The Company does not guarantee the completeness and accuracy of the information in the Pricing Schedule provided. The Contractor is responsible for validating the accuracy and completeness of the information in the Pricing Schedule based on the Project Drawings and Documents, and the information in this SoW.

The Fixed Lump Sum Price shall include provisions for minor modifications, reworks and associated costs arising from design errors in IFC drawings and other design document. The Contractor is responsible for reviewing design drawings and documents in advance of commencement of construction works. If there are any issues identified during the reviewing, the Contractor shall notify the Company of such issues. The Company will resolve the issues with the designer promptly upon receiving such notifications to minimise any re-works. The Contractor is to itemise and present this item in the Pricing Schedule.

Appendix A. Preliminary Project Documents and Drawings

The following preliminary documents & drawings are referenced in this SoW and are applicable to this work. The IFC drawings will be issued electronically to the Contractor after the completion of detailed engineering under transmittal via Document Control:

Pricing Schedules

<u>Document Number</u>	<u>Document Title</u>
-	L280 Supply & Install - Pricing Schedule_A

SDRL/CDRL

<u>Document Number</u>	<u>Document Title</u>
L280-SDRL-1001	SDRL (for steel fabrication)
L280-SMP-CDRL-1001	CDRL for Installation Contractor

3D Model

<u>Document Number</u>	<u>Document Title</u>
1314	3D Model – Navisworks Concentrate Filtration Facility
1325	Utility Piperack

Civil

<u>Drawing Number</u>	<u>Document Title</u>
pending	

Concrete

<u>Drawing Number</u>	<u>Document Title</u>
pending	

Equipment and Line List

<u>Document Number</u>	<u>Document Title</u>
-	Equipment List_14136LM007C

Vendor data

<u>Document Number</u>	<u>Document Title</u>
P01	Conveyor Idlers
P02	Air Receiver
P03	Belt Feeder
P04	Conveyor Chutes
P05	Conveyor Motor
P06	Conveyor Skirts
P07	Manual Valves
P08	Pressure Filters

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<u>Document Number</u>	<u>Document Title</u>
P09	Slurry Pumps
P10	Sump Pump
P11	Tanks & Hoppers
P12	Weightometer
P13	Ventilation Fan

E&I Drawings

<u>Drawing/Doc Number</u>	<u>Title</u>
pending	

Commissioning documents

<u>Drawing Number</u>	<u>Drawing Title</u>
-	Electrical Stage 1 Checksheet – LV Control Cable
-	Electrical Stage 1 Checksheet – VSD Check
-	Electrical Stage 2 Checksheet - Motor Test
-	L280 Supply & Install Shutdown schedule

HAZOP documents

<u>Drawing Number</u>	<u>Drawing Title</u>
1314-PR-REP-1001_B	Area 1314 Concentrate Filtering & Area 1318 Tails Filtering HAZOP Report
1314-PR-REP-1002_B	Area 1314 Concentrate Filtering and Area 1318 Tailings Filtering HAZOP Closeout Report

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Mechanical Drawings

<u>Drawing Number</u>	<u>Drawing Title</u>
L037-ME-DRG-0001	Concentrate Filter Building Filter Bldg & Tank Farm
L037-ME-DRG-0002	Concentrate Filter Building Plot Plan

Structural Drawings

<u>Drawing Number</u>	<u>Drawing Title</u>
pending	

Piping Drawings

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
pending	

Piping Isometric Drawings

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
pending	

Process Drawings

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
L037.1-PR-DRG-0001	Concentrate Filtration – Single Additional Filter from 1314-PR-DRG-1040
L037.1-PR-DRG-0005	Concentrate Handling - Single Additional Filter from 1315-PR-DRG-1040

Contour Survey

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
-	260605_Con_filter_building_spot_height_report

Service Platforms and Handrails

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
1314-ST-DRG-1091_0	RPT-26 Platform Details – sheet 1
1314-ST-DRG-1092_0	RPT-26 Platform Details – sheet 2
1314-ST-DRG-1093_0	RPT-010 Filter Handrail Details
1314-ST-DRG-1094_0	RPT-011 Access Platform – Sheet 1
1314-ST-DRG-1095_0	RPT-011 Access Platform – Sheet 2
1314-ST-DRG-1096_0	RPT-002 Access Platform – Sheet 1
1314-ST-DRG-1097_0	RPT-002 Access Platform – Sheet 2
1314-ST-DRG-1098_0	RPT-006 Access Platform – Sheet 1
1314-ST-DRG-1099_0	RPT-006 Access Platform – Sheet 2
1314-ST-DRG-1100_0	RPT-015 Access Platform
1314-ST-DRG-1102_0	Handrail arrangement – sheet 1
1314-ST-DRG-1103_0	Handrail arrangement – sheet 2

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L280 ADDITIONAL CONCENTRATE FILTER PROJECT

SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS

Filter Press Lifting Frame

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
1314-ME-DRG-FRAM	Lifting Frame for Filter Plates
100517_00	Filter Plate Plates Frame
-	Filter Plate Lifting Frame - Calculation Report[28]

Underground Service Information

<u>Drawing/Doc Number</u>	<u>Drawing/Document Title</u>
-	current_plant_services.dxf

Appendix B. KML Corporate Standard Specifications

The following KML standard specifications are applicable to this work. These specifications will be issued electronically to the Contractor separately under transmittal via Document Control:

<u>Document Number</u>	<u>Title</u>
1000-CO-SPC-1001	Completions Process Specification
1000-EL-SPC-1017	Standard Specification for The Supply of Cables
1300-EL-SPC-1001	Specification For Electrical Equipment Installation
1300-EL-SPC-1004	Technical Specification – Electrical Requirements for Mechanical Package
1300-EL-SPC-1011	Specification For Testing and Commissioning of Elect & Instrumentation Systems
1300-EL-SPC-1017	Specification For Low Voltage Switchboards & Motor Control Centres
1300-EL-SPC-1019	Requirements for Electrical and Instrumentation
1300-ME-SPC-1002	Specification for Magnetic Separators
1300-ME-SPC-1003	Specification for Installation of Mechanical Equipment
1300-ME-SPC-1046	Rubber Lining specification
1300-PI-BOD-1001	Piping Design Criteria
1300-PI-SPC-1001	Piping Technical Specification
1300-PI-SPC-1002	Piping Fabrication & Installation Specification
1300-PI-SPC-1003	Technical Specification of Pipe Support Manufacture
1300-PI-SPC-1004	Thermal Insulation Specification
1300-PI-SPC-1005	Hydraulic Piping Specification
1300-PI-SPC-1007	Pipe Testing Requirements – Site Installation
1400-TE-SPC-1006	Fibre Optic Cabling Specification
CORP-AD-FRM-1002	Document & Revision Numbering System
CORP-AD-FRM-1057	KML Capital Project Documents - Document & Revision Numbering System ***For Capital Projects Only***
CORP-AD-SPC-1001	Supplier Data Instruction Specification
CORP-AD-SPC-1002	Contractor Data Instruction Specification
CORP-CI-SPC-1001	Technical Specification for Minesite Earthworks and Roadwork
CORP-CI-SPC-1011	Technical Specification for Concrete Supply
CORP-CI-SPC-1012	Specification for Grouting Under Structural Baseplates and Equipment
CORP-CI-SPC-1013	Specification for Anchor Bolts
CORP-CI-SPC-1014	Technical Specification for Steel Reinforcing Bars & Wire Fabrics
CORP-CI-SPC-1015	Technical Specification for Construction of Concrete Works
CORP-GE-BOD-1001	Basis of Design
CORP-GE-MAN-1001	CAD Manual

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CORP-GE-PLN-1002	Document & Data Management Plan
CORP-GE-SPC-1001	Equipment Labelling Specification
CORP-GE-SPC-1002	Specification for Packing, Marking and Documentation Specification
CORP-GE-SPC-1004	Specification for Surface Treatment of Structural Steelwork and Pipework
CORP-GE-SPC-1005	Specification for Shop Detailing of Structural and Mechanical Items
CORP-IN-BOD-1001	Controls & Instrumentation Design Criteria
CORP-IN-SPC-1001	Specification for General Instruments
CORP-IN-SPC-1002	Specification for Control and Instrumentation for Packages
CORP-IN-SPC-1003	Specification for Instrumentation Installation
CORP-IN-SPC-1007	Specification for Installation of Instrumentation
CORP-PI-DRG-1034	Site-Standard Piping Supports Index drawing for a set of 74 standard support configurations
CORP-PR-DRG-1018	Gland Water standard P&ID detail
CORP-QA-SPC-1001	Supplier Quality Requirements Specification
CORP-QA-SPC-1002	Requirement for Compilation of Manufacturer's Data Report (MDR) by Contractors
CORP-QA-SPC-1003	Contractor Quality Requirements specification
CORP-ST-SPC-1001	Specification for Platework Fabrication
CORP-ST-SPC-1002	Specification for Structural Steelwork Erection
CORP-ST-SPC-1005	Specification for Structural Steelwork Fabrication
CORP-ST-SPC-1008	Specification for Structural Steelwork Fabrication – Chinese Supply

Appendix C. Corporate and HSE Documents

The following KML Corporate and HSE documents are applicable to this work. These specifications will be issued electronically to the Contractor separately under transmittal via Document Control:

<u>Document Number</u>	<u>Rev</u>	<u>Title</u>
1000-CO-PRO-1002		Construction Verification Process procedure
1000-CO-SPC-1001		Completions Process specification
1000-EN-PLN-1001		Construction Environmental Management Plan
1000-HS-FRM-1011		(CRAW) Critical Risk Assessment Workshop
1000-HS-PLN-1001		Project Health & Safety Management Plan
1000-HS-STD-1035		Machine Guarding Standard
1000-PC-SPC-1002		Contractor progress reporting and planning
CORP-AD-FRM-1046		Site Entry Request Form User Guide
CORP-AD-FRM-1050		KML personnel compliance verification
CORP-EN-FRM-1009		Vehicle and mobile equipment weed inspection form
CORP-EN-FRM-1021		Chemical Notification Form
CORP-EN-PLN-1008		Environmental plan - fauna management
CORP-EN-PLN-1010		Environmental plan - dust management plan
CORP-EN-PLN-1011		Flora and vegetation management plan
CORP-EN-PLN-1013		Environmental waste management plan
CORP-EN-PLN-1020		Environmental management plan
CORP-EN-PRO-1004		Environmental Procedure – Approval Request & Ground Disturbance
CORP-EN-PRO-1009		Environmental Procedure – Flora, Weeds & Plant Pathogens
CORP-GE-PRO-1001		Village Rules and Regulations
CORP-GE-LST-1007		Preferred Equipment / Vendor List
CORP-HS-FRM-1016		Working at Heights Permit
CORP-HS-FRM-1023		Hot Work Permit
CORP-HS-FRM-1024		Hot Work Checklist
CORP-HS-FRM-1026		Excavation & Penetration Permit Form
CORP-HS-FRM-1028		Grid Mesh & Flooring Removal Permit
CORP-HS-FRM-1052		Permit Scope for Shutdown Work
CORP-HS-FRM-1053		Mobile plant, equipment & light vehicle access request, inspection & risk assessment form
CORP-HS-FRM-1062		Job Hazard Analysis
CORP-HS-FRM-1064		Light Vehicle Inspection Report Form

KARARA MINING LIMITED**L280 ADDITIONAL CONCENTRATE FILTER PROJECT****SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS**

<u>Document Number</u>	<u>Rev</u> <u>Title</u>
CORP-HS-FRM-1065	Work Box Permit
CORP-HS-FRM-1067	Leader Fatigue Checklist
CORP-HS-FRM-1068	Personal Fatigue Checklist
CORP-HS-FRM-1071	Confined space entry permit
CORP-HS-FRM-1075	Critical Lift calculation form – Dual Crane Lift
CORP-HS-FRM-1085	HSE contractor pre-qualification questionnaire
CORP-HS-FRM-1093	Confined space rescue plan
CORP-HS-FRM-1096	Conditions of Entry Truck Drivers
CORP-HS-FRM-1105	Lifting Study – crane lift
CORP-HS-FRM-1106	Critical Lift calculation form – Single Crane Lift
CORP-HS-FRM-1122	Lifting Equipment Register template
CORP-HS-FRM-1146	Load Assessment Form
CORP-HS-FRM-1153	Notice of Energisation Form
CORP-HS-FRM-1160	Critical procedure audit (CPA) confined space entry
CORP-HS-FRM-1171	Pre-mobilisation Meeting form
CORP-HS-FRM-1176	Itinerant Classified Plant Inspection Checklist
CORP-HS-FRM-1180	Working in Heat Checklist
CORP-HS-FRM-1187	Fixed Plant Critical Lift Plan
CORP-HS-FRM-1199	Banned and Restricted Tools
CORP-HS-PLN-1001	Health & Safety Management Plan
CORP-HS-PLN-1003	Emergency Response plan
CORP-HS-PLN-1008	Traffic Management Plan
CORP-HS-PLN-1011	Health, Safety & Training Pre-Mobilisation Requirements
CORP-HS-POL-1001	Karara Health & Safety policy
CORP-HS-POL-1031	Fatigue Management Policy
CORP-HS-POL-1032	KML Contractor HSEQ Guidelines
CORP-HS-PRO-1003	General Electrical Safety procedure
CORP-HS-PRO-1004	Working at Height procedure
CORP-HS-PRO-1005	Confined Space Entry procedure
CORP-HS-PRO-1006	Isolation & Tagging procedure
CORP-HS-PRO-1007	Crane Management procedure
CORP-HS-PRO-1008	Mobile Plant, Equipment & Light Vehicle procedure
CORP-HS-PRO-1012	Classified Plant Management Procedure

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<u>Document Number</u>	<u>Rev</u>	<u>Title</u>
CORP-HS-PRO-1015		Excavation and Penetration Procedure
CORP-HS-PRO-1020		Job Hazard Analysis (JHA) procedure
CORP-HS-PRO-1022		Site Entry and Security procedure
CORP-HS-PRO-1027		Fitness for work procedure
CORP-HS-PRO-1032		HSE Performance Reporting Procedure
CORP-HS-PRO-1036		Manual Handling Procedure
CORP-HS-PRO-1037		PPE Procedure
CORP-HS-PRO-1041		OH&S Risk Management
CORP-HS-PRO-1042		Mobile and EWP Procedure
CORP-HS-PRO-1043		Gridmesh and Flooring installation and removal procedure
CORP-HS-PRO-1046		Incident Management Procedure
CORP-HS-PRO-1052		Alcohol and other Drug Policy procedure
CORP-HS-PRO-1063		Respirator Protection Procedure
CORP-HS-PRO-1071		Minimum Test Inspection and Tagging Requirements Procedure
CORP-HS-PRO-1072		Covid-19 Management Procedure
CORP-HS-PRO-1073		Scaffolding Procedure
CORP-HS-PRO-1080		Bulletin Notification Procedure
CORP-HS-PRO-2151		Fatigue Management Procedure
CORP-HS-STD-1011		Material Transportation Standard
CORP-HS-STD-1012		Steel Erection and Rigging Standard
CORP-HS-STD-1020		Barricades & Barriers standard
CORP-HS-STD-1021		Confined Space Entry standard
CORP-HS-STD-1024		Excavation & Penetration Standard
CORP-HS-STD-1025		Fall Prevention-Protection & Recovery Standard
CORP-HS-STD-1027		Flammable & Combustible Liquid Standard
CORP-HS-STD-1028		Grinder Safety Standard
CORP-HS-STD-1029		Hand Tools Standard
CORP-HS-STD-1030		Hot Work Standard
CORP-HS-STD-1033		Lifting Equipment & Operations standard
CORP-HS-STD-1036		Permit To Work Standard
CORP-HS-STD-1041		Scaffolding, Ladders, Stairs & Walkways standard
CORP-HS-STD-1042		Storage & Use of Hazardous Substances standard
CORP-HS-STD-1043		Welding Health & Safety Standard

KARARA MINING LIMITED**L280 ADDITIONAL CONCENTRATE FILTER PROJECT****SCOPE OF WORK – SUPPLY AND INSTALLATION OF CIVIL, STRUCTURAL, MECHANICAL, PIPING AND E&I WORKS**

<u>Document Number</u>	<u>Rev</u>	<u>Title</u>
CORP-HS-STD-1044		Working at Height Standard
CORP-HS-STD-1046		Lifting & Rigging Equipment standard
CORP-HS-STD-1049		Risk Management Standard
CORP-HS-STD-1050		Alcohol and Other Drug Standard
CORP-HS-STD-1051		Karara Employment Medical Standard
CORP-HS-STD-1052		Fitness for Work Standard
CORP-TR-PRO-1001		Training and Competency Procedure
Motelling Room Sharing		Implementation Plan - Motelling Room Sharing

Appendix D. Corporate Standard Drawings

The following corporate standard drawings are applicable in this SOW and will be issued electronically to the Contractor separately under transmittal via Document Control.

<u>Document Number</u>	<u>Rev</u>	<u>Drawing Title</u>
CORP-CI-DRG-1101		Concrete Standard Index of Concrete Standards
CORP-CI-DRG-1102		Concrete Standard General Concrete Notes
CORP-CI-DRG-1103		Concrete Standard Typ Concrete Details
CORP-CI-DRG-1104		Concrete Standard Typ Concrete Details
CORP-CI-DRG-1105		Concrete Standard Typ Concrete Details
CORP-CI-DRG-1106		Typical Blockwork Details Sheet 1
CORP-CI-DRG-1107		Typical Blockwork Details Sheet 2 Of 2
CORP-CI-DRG-1108		Concrete Standard Typ Pad Footing and Pedestal Arrangements
CORP-CI-DRG-1109		Concrete Standard Shear Key Recess Details
CORP-CI-DRG-1110		Concrete Standard Standard Pedestals
CORP-CI-DRG-1111		Concrete Standard Cast in Items – Typ Details
CORP-CI-DRG-1112		Concrete Standard Service Pits and Cover Plates Typ Details
CORP-CI-DRG-1113		Concrete Standard Typ Sump Details – Cast in Situ
CORP-CI-DRG-1114		Drive In Sump - Typical Details
CORP-CI-DRG-1115		Concrete Standard Typ Sump Details - Precast
CORP-CI-DRG-1116		Concrete Standard Typ Anchor Bolt Details
CORP-CI-DRG-1118		Concrete Standard Bollards & Signage
CORP-CI-DRG-1119		Concrete Standard Reinforcement Bar Bending Shape Details
CORP-EL-DRG-1003		Electrical Standards Typical Labels Arrangement and Details Sh 1
CORP-EL-DRG-1004		Electrical Standards Typical Labels Arrangement and Details Sh 2
CORP-EL-DRG-1011		Electrical Standards Field Equipment Installation Details Cable Ladder Sh 1

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<i>Document Number</i>	<i>Rev</i>	<i>Drawing Title</i>
CORP-EL-DRG-1012		Electrical Standards Field Equipment Installation Details Cable Ladder Sh 2
CORP-EL-DRG-1013		Electrical Standards Field Equipment Installation Details Motors
CORP-EL-DRG-1014		Electrical Standards Field Equipment Installation Details Junction Box Type 1
CORP-EL-DRG-1015		Electrical Standards Field Equipment Installation Details Junction Box Type 2
CORP-EL-DRG-1016		Electrical Standards Field Equipment Installation Details Junction Boxes
CORP-EL-DRG-1017		Electrical Standards Field Equipment Installation Details Equipment Panels
CORP-EL-DRG-1018		Electrical Standards Field Equipment Installation Details Distribution Boards
CORP-EL-DRG-1019		Electrical Standards Field Equipment Installation Details Local Control Stations
CORP-EL-DRG-1020		Electrical Standards Field Equipment Installation Details Welding and Socket Outlets
CORP-EL-DRG-1021		Electrical Standards Field Equipment Installation Details Underground Cables
CORP-EL-DRG-1022		Electrical Standards Field Equipment Installation Details Lighting Sh 1 Of 5
CORP-EL-DRG-1023		Electrical Standards Field Equipment Installation Details Lighting Sh 2 Of 5
CORP-EL-DRG-1024		Electrical Standards Field Equipment Installation Details Lighting Sh 3 Of 5
CORP-EL-DRG-1025		Electrical Standards Field Equipment Installation Details Lighting Sh 4 Of 5
CORP-EL-DRG-1026		Electrical Standards Field Equipment Installation Details Lighting Sh 5 Of 5
CORP-EL-DRG-1030		Electrical Standards Typical Earthing Installation Connection Details Sheet 1
CORP-EL-DRG-1031		Electrical Standards Typical Earthing Installation Connection Details Sheet 2
CORP-EL-DRG-1032		Equipotential (Earth) Bonding, Installation/connection details
CORP-EL-DRG-1033		Electrical Standards Typical Earthing Installation Connection Details Sheet 3
CORP-EL-DRG-1035		Electrical Standards Typical Earthing Cable Ladder and Tank Details
CORP-EL-DRG-1039		Electrical Standards Earthing Installation Typical Plant Layout
CORP-EL-DRG-1041		Electrical Standards Earthing Installation General Embedded Earthing Details
CORP-EL-DRG-1099		Electrical Standards Field Equipment Installation Details Underground Cables Sheet 2
CORP-EL-DRG-1100		Electrical Standards Field Equipment Installation Details Underground Cables Sheet 3
CORP-IN-DRG-1070		Instrument Stands Standard Details
CORP-IN-DRG-1071		Instrument Supports Standard Details
CORP-IN-DRG-1072		Magnetic Flow Meter Remote Transmitted Instrumentation Installation Detail
CORP-IN-DRG-1073		Flow Transmitter DP Type Annubar and Pilot Tube Instrument Installation Detail
CORP-IN-DRG-1074		Flow Transmitter DP Type Dry Air and Gas (Below Tap) Instrument Installation Detail

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<u>Document Number</u>	<u>Rev</u>	<u>Drawing Title</u>
CORP-IN-DRG-1075		Flow Transmitter DP Type Clean Liquid or Steam (Below Tap) Instrument Installation Detail
CORP-IN-DRG-1076		Flow Transmitter DP Type Clean Liquid or Steam (Directly Mounted) Instrument Installation Drawing
CORP-IN-DRG-1077		Flow Transmitter DP Type Dry Air or Gas (Above Tap) Instrument Installation Drawing
CORP-IN-DRG-1078		Pressure Gauge / Transmitter Direct Mount with Bleed Instrument Installation Detail
CORP-IN-DRG-1079		Pressure Gauge / Transmitter Direct Mount Without Bleed Instrument Installation Detail
CORP-IN-DRG-1080		Pressure Gauge / Transmitter with Diaphragm Seal Instrument Installation Detail
CORP-IN-DRG-1081		Overall Single Block Segment Protection Instrument Junction Box
CORP-IN-DRG-1083		Overall Single Block Segment Protection Instrument Junction Box
CORP-IN-DRG-1084		Diff Press – Gauge and Transmitter Clean Liquids Instrument Installation Detail
CORP-IN-DRG-1086		Differential Transmitter Diaphragm Seal with Capillary Detail Tube Instrument Installation Detail
CORP-IN-DRG-1087		Level Indicator Non-Pressurised Tank Instrument Installation Detail
CORP-IN-DRG-1088		Level Transmitter - Ultrasonic and Radar Instrument Installation Detail
CORP-IN-DRG-1089		Level Transmitter/Switch Nucleonic Instrument Installation Detail
CORP-IN-DRG-1090		Nucleonic Density Transmitter Instrument Installation Detail
CORP-IN-DRG-1091		Temperature Transmitter Indicator Flange Mounted Instrument Installation Detail
CORP-IN-DRG-1092		On/Off or Modulating Valve Instrument Installation Detail
CORP-IN-DRG-1093		Sonar Flowmeter (Remote Transmitter) Instrument Installation Detail
CORP-IN-DRG-1100		Overall, One Terminal Strip Instrument Junction Box
CORP-ME-DRG-1001		Mechanical Standards – Index drawing
CORP-ME-DRG-1002		Standard Mechanical General Noters
CORP-ME-DRG-1003		Sump Pump standard Mechanical details
CORP-ME-DRG-1033		Standard Tank Lining detail
CORP-ME-DRG-1034		Tank Standard Nameplate
CORP-ME-DRG-1040		Packer and Shim Sets
CORP-ME-DRG-1041		Lifting Lug Details
CORP-PI-DRG-1034		Standard Pipe Supports [Index of 73 standard support configurations]
CORP-PI-DRG-1111		Rubber Lined Lateral Tee

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<u>Document Number</u>	<u>Rev</u>	<u>Drawing Title</u>
CORP-PI-DRG-1113		Standard drawing, Safety Shower
CORP-PI-DRG-1127		Typical Gland Water Installation
CORP-PI-DRG-1128		Special [Warman] Flanges
CORP-PI-DRG-1134		Blind Flange with Drilled Holes
CORP-PI-DRG-1135		Sump Pump discharge spool, rubber lined
CORP-PI-DRG-1142		Pump Suction Arrangement
CORP-PI-DRG-1161		Pump Discharge Arrangement
CORP-PI-DRG-1162		Sump Pump discharge
CORP-PI-DRG-1163		15° Rubber Lined Pulled Bend 3D/5D
CORP-PI-DRG-1164		22½° Rubber Lined Pulled Bend 3D/5D
CORP-PI-DRG-1165		30° Rubber Lined Pulled Bend 3D/5D
CORP-PI-DRG-1166		45° Rubber Lined Pulled Bend 3D/5D
CORP-PI-DRG-1167		60° Rubber Lined Pulled Bend 3D/5D
CORP-PI-DRG-1168		90° Rubber Lined Pulled Bend 3D/5D
CORP-PI-DRG-1169		Lap Flange for SR1 piping
CORP-PI-DRG-1170		Full-Face Slip-On Flange for SR1 Piping
CORP-PI-DRG-1171		Utility Station
CORP-PI-DRG-1172		Vents & Drains
CORP-PI-DRG-1177		Rubber lined fabricated Tees
CORP-PI-DRG-1178		Rubber Lined Reducing Spools
CORP-PI-DRG-1179		Rubber Lined Spools
CORP-PI-DRG-1180		Rubber Lined Y-Piece
CORP-PI-DRG-1187		Utility Station
CORP-PI-DRG-1189		Rubber Lined Lateral Reducing Tee
CORP-PI-DRG-1198		Gland Water Assembly - Regulated
CORP-PI-DRG-1200		Typical Gland Water Assembly
CORP-ST-DRG-1001		Structural Steel Standards – Australian sections – Drawing index
CORP-ST-DRG-1002		Structural Steel Standards – Australian sections – General Notes
CORP-ST-DRG-1003		Structural Steel Standards – Australian sections – Base Plate Details
CORP-ST-DRG-1004		Structural Steel Standards – Australian sections – Shear Keys for Base Plates
CORP-ST-DRG-1005		Structural Steel Standards – Australian sections – Beam and Bracing Connections sheet 1 of 2
CORP-ST-DRG-1006		Structural Steel Standards – Australian sections – Beam and Bracing Connections sheet 2 of 2

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<i>Document Number</i>	<i>Rev</i>	<i>Drawing Title</i>
CORP-ST-DRG-1007		Structural Steel Standards – Australian Sections – Column Splices - UC & UB Column Sections
CORP-ST-DRG-1008		Structural Steel Standards – Australian Sections – Column Splices - WC Column Sections
CORP-ST-DRG-1010		Structural Steel Standards – Australian Sections – Horizontal Bracing Details
CORP-ST-DRG-1011		Structural Steel Standards – Australian Sections – Pipe Bracing Details Sht. 1 of 2
CORP-ST-DRG-1012		Structural Steel Standards – Australian Sections – Pipe Bracing Details Sht. 2 of 2
CORP-ST-DRG-1013		Structural Steel Standards – Australian Sections – Open Section Bracing Details
CORP-ST-DRG-1014		Structural Steel Standards – Australian Sections – Miscellaneous Details
CORP-ST-DRG-1015		Structural Steel Standards – Australian Sections – Knee Bracing Details
CORP-ST-DRG-1016		Structural Steel Standards – Australian Sections – WC Bracing Details
CORP-ST-DRG-1017		Structural Steel Standards – Australian Sections – Welded Connections
CORP-ST-DRG-1101		Structural Steel Standards - Chinese Sections - Drawing Index
CORP-ST-DRG-1102		Structural Steel Standards - Chinese Sections - General Notes
CORP-ST-DRG-1103		Structural Steel Standards - Chinese Sections - Steel Member Legend Sht. 1 of 2
CORP-ST-DRG-1104		Structural Steel Standards - Chinese Sections - Steel Member Legend Sht. 2 of 2
CORP-ST-DRG-1105		Structural Steel Standards - Chinese Sections - Base Plate Details
CORP-ST-DRG-1106		Structural Steel Standards - Chinese Sections - Shear Keys for Base Plates
CORP-ST-DRG-1110		Structural Steel Standards - Chinese Sections - Beam & Bracing Connections Sht. 1 of 2
CORP-ST-DRG-1111		Structural Steel Standards - Chinese Sections - Beam & Bracing Connections Sht. 2 of 2
CORP-ST-DRG-1112		Structural Steel Standards - Chinese Sections - Horizontal Bracing Details
CORP-ST-DRG-1113		Structural Steel Standards - Chinese Sections - Pipe Bracing Details Sht. 1 of 2
CORP-ST-DRG-1114		Structural Steel Standards - Chinese Sections - Pipe Bracing Details Sht. 2 of 2
CORP-ST-DRG-1115		Structural Steel Standards - Chinese Sections - Open Section Bracing Details
CORP-ST-DRG-1116		Structural Steel Standards - Chinese Sections - Miscellaneous Details
CORP-ST-DRG-1117		Structural Steel Standards - Chinese Sections - Knee Bracing Details
CORP-ST-DRG-1118		Structural Steel Standards - HW Bracing Details

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<i>Document Number</i>	<i>Rev</i>	<i>Drawing Title</i>
CORP-ST-DRG-1119		Structural Steel Standards - Chinese Sections - Chinese Fabrication Welded Connections
CORP-ST-DRG-1120		Structural Steel Standards - Chinese Sections - Column Splices - HM & HW Sections
CORP-ST-DRG-1121		Structural Steel Standards - Chinese Sections- Column Splices - WH Column Sections
CORP-ST-DRG-1160		Structural Steel Standards - Chinese Sections - Cable Tray Support Details, Sht.1 of 5
CORP-ST-DRG-1161		Structural Steel Standards - Chinese Sections - Cable Tray Support Details, Sht.2 of 5
CORP-ST-DRG-1162		Structural Steel Standards - Chinese Sections - Cable Tray Support Details, Sht.3 of 5
CORP-ST-DRG-1163		Structural Steel Standards - Chinese Sections - Cable Tray Support Details Sht.4 of 5
CORP-ST-DRG-1164		Structural Steel Standards - Chinese Sections - Cable Tray Support Details, Sht.5 of 5
CORP-ST-DRG-1165		Structural Steel Standards - Chinese Sections - Cable Tray Support Connection Details
CORP-ST-DRG-1166		Structural Steel Standards - Chinese Sections – Pipe & Cable Tray Support Details
CORP-ST-DRG-1200		Structural Steel Standards - Index
CORP-ST-DRG-1203		Structural Steel Standards - Monorail & Support Details
CORP-ST-DRG-1210		Structural Steel Standards - Stairway Details Sht.1 of 2
CORP-ST-DRG-1211		Structural Steel Standards -Stairway Details Sht.2 of 2
CORP-ST-DRG-1212		Structural Steel Standards - Handrail - Webforge Monowills System
CORP-ST-DRG-1213		Structural Steel Standards - Handrail Hot Rolled Angle System Details
CORP-ST-DRG-1215		Structural Steel Standards - Standard Floor Plate & Grating Details Sht.1 of 2
CORP-ST-DRG-1216		Structural Steel Standards - Standard Floor Plate & Grating Details Sht.2 of 2
CORP-ST-DRG-1218		Structural Steel Standards - Lifting Lug Details

Appendix E. Other Standards Referenced

The following Standards (typically national Standards) are referenced in this SoW and any other standards referenced in other documents such specifications, procedures, standards etc are applicable to this work. For copyright reasons, KML cannot issue these to the Contractor, but the Contractor shall become familiar with the relevant content of the Standard and shall obtain a copy at its own cost if necessary for the proper execution of the works:

<u>Standard Number</u>	<u>Standard Title</u>
AS/NZS 1200	SAA Pressure Equipment standard
AS/NZS 1210	SAA Pressure Vessel code
AS 1418 set	SAA Cranes standard
AS/NZS 1554 set	Welding of Structural Steel
AS 1657	Platforms, Walkways, Stairs & Ladders
AS/NZS 4041	SAA Pressure Piping code
AS/NZS 4343	SAA Pressure Equipment Hazard Levels

Appendix F. Other Project Documents

The following documents & drawings are referenced in this SoW and are applicable to this work.

1. Geraldton to Karara route map
2. Perth to Karara route map
3. Perth to Karara alternative route map
4. KML Safety Bulletin No.0138-21 incl. Map of mandatory respirator PPE areas on site
5. Details of respirator Fit Testing Providers in Perth, and 3M Dust Masks
6. Amendment – Respiratory Program
7. Geotechnical Investigation Report 1300-CI-REP-1002
8. Lifting & Transportation Strategies for Preassembled Unit 1314-M23-MPE080-1001.