



Group Infrastructure Capabilities

Design and Construct – Mechanical, Electrical, Civil and Structural Engineering

Civil Works and QA

Detailed Civil Design and Managerial Skills

- Detailed Studies and Design
- Site Operations Management
- Project Risk Management
- Tailings Dams
- Roads
- Drainage/Culvert Systems
- Water Infrastructure – turkeys nest, pipeline
- Rail civil components
- Drill Pads
- Geotechnical Studies
- Rehabilitation
- Environmental Clean-up
- Project Controls – scheduling and cost
- Project Optimisation

Construction

- Logistics Organisation
- Materials Organisation
- Quality Assurance
- Supplier Management
- Materials Testing
- Inventory Management
- Client Relations Management
- Regulatory Compliance
- Bridge Construction
- Sub-Contractor Management
- Commissioning
- Training

Infrastructure

Mine Site

Detailed Design of Village and Ancillaries

- Detailed Village design
- Waste Management system
- Refrigeration systems
- Potable water systems
- Reverse Osmosis Plants
- Desalination Plants
- Waste Water Treatment Plants
- Chemical Storage Units
- Pipelines

Construction

- Tendering (suppliers and sub-contractors)
- Procurement
- Scheduling and Cost Control
- Construction
- As-Built
- QA/QC
- Water Pipelines and Plants
- Commissioning
- Training

Materials Handling

<p>Rail</p> <ul style="list-style-type: none"> ▪ Train unloaders ▪ Dust suppression systems ▪ Rail indexer ▪ Track design and equipment (locks and chokes) ▪ Tipper cells ▪ Apron feeders 	<p>Surface Conveyor Systems</p> <ul style="list-style-type: none"> ▪ Fixed overland conveyors ▪ Feed chutes to conveyors ▪ Conveyor transfer stations ▪ Discharge for stacker/reclaimer loading
<p>Port Facilities</p> <ul style="list-style-type: none"> ▪ Detailed studies and design ▪ Ship loaders ▪ Water/fuel systems ▪ Conveyor systems ▪ Power Systems ▪ Approval Process 	<p>Construction</p> <ul style="list-style-type: none"> ▪ Tendering (suppliers and sub-contractors) ▪ Procurement ▪ Scheduling and cost control ▪ Construction ▪ As-Built
<p>Vertical Shaft Sinking</p> <ul style="list-style-type: none"> ▪ Shaft sinking set-up, including sinking stage (platform), headframe and conveyances ▪ Shaft sinking winders – kibble and stage winders ▪ Shaft shuttering for concrete lining ▪ Shaft sinking loading systems ▪ Surface layout, including batching plant, electrical power and compressed air supply 	<p>Hoisting Shafts</p> <ul style="list-style-type: none"> ▪ Headframe and tipping arrangements ▪ Hoisting skips and loading station facilities ▪ Shaft guided system – fixed or rope guides and associated shaft furnishings ▪ Shaft services and conveyances ▪ Hoisting winders and control systems
<p>Underground Crushing</p> <ul style="list-style-type: none"> ▪ Primary crusher units ▪ Feed systems to crusher from ore passes or truck discharge ▪ Underground grizzly arrangements with rock-breaking and cleaning systems ▪ Dust suppression systems ▪ Material conveying and storage to material handling (hoisting or conveyor) system 	<p>Underground Conveyor Systems</p> <ul style="list-style-type: none"> ▪ Haulage and development layouts ▪ Suspended and ground mounted conveyor systems ▪ Transfer stations on multi-directional belt systems ▪ Feeder arrangements ▪ Surface discharge facilities
<p>Power</p>	
<p>Generator System</p> <ul style="list-style-type: none"> ▪ Back-up systems ▪ Site generation 	<p>Underground Reticulation System</p> <ul style="list-style-type: none"> ▪ Primary power supply from HT source ▪ Transfer system to underground, including shafts, declines or boreholes ▪ Sub-station rating, positioning and layout ▪ Selection of LT system for mining equipment

Water

Waste Water Treatment

Detailed Design of Process and Plant

- Inlet screen systems
- Grit Removal Operations
- Dissolve air floatation (DAF)
- Sequencing batch reactor (SBR)
- Clarifiers
- Sludge digesters
- Sludge de-watering systems and equipment
- Final effluent treatment
- Sludge removal systems

Construction

- Tendering (suppliers and sub-contractors)
- Procurement
- Scheduling and cost control
- Construction
- Instrument controls (SCADA)
- As-Built
- Commissioning
- Training

Water Treatment

Detailed Design of Process and Plant

- Reverse osmosis (RO)
- Pre- treatment filtration systems
- Filtration systems
- Final treatment systems
- Sludge drying beds
- Pumping systems/bore pumps
- Booster pump stations

Construction

- Tendering (suppliers and sub-contractors)
- Procurement
- Scheduling and cost control
- Construction
- Instrument controls (SCADA)
- As-Built
- Commissioning
- Training

Dewatering (Mining Operations)

Detailed Design of System

- Pumping systems including:-
 - bore fields
 - tank systems
 - booster pumps
 - pipeline design
 - turkey's nests
 - dam and pond designs
 - tailings dams
- Mine Site Water Management Systems:
 - mine site water drainage
 - dust suppression systems

Construction

- Tendering (suppliers and sub-contractors)
- Procurement
- Scheduling and cost control
- Construction of Pipelines
- Instrument controls (SCADA)
- As-Built
- Commissioning
- Training