

MASTER WORK BREAKDOWN STRUCTURE

Faro Mine Remediation Project - Faro Side

Level 1	Level 2	Level 3	Level 4
F1 - Governance and Management			
	F1.1 - Project Management		
		F1.1.1 - Governance - Project Management	
		F1.1.2 - Project Controls - Project Management	
		F1.1.3 - Regulatory - Project Management	
		F1.1.4 - Environment, Health & Safety - Project Management	
		F1.1.5 - Consultation - Project Management	
		F1.1.6 - C&M - Project Management	
		F1.1.7 - Design - Project Management	
		F1.1.8 - Implementation - Project Management	
		F1.1.9 - Monitoring - Project Management	
		F1.1.10 - Procurement Management - Project Management	
		F1.1.11 - Data Management - Project Management	
	F1.2 - CIRNAC Project Administration		
		F1.2.1 - Human Resources	
		F1.2.2 - Admin & other disbursements	
		F1.2.3 - Training	
		F1.2.4 - Travel	
		F1.2.5 - Project Technical Support	
		F1.2.6 - Legal Resources	
		F1.2.7 - Communication Resources	
	F1.3 - PSPC Project Administration		
		F1.3.1 - PSPC Human Resources	
		F1.3.2 - Training	
		F1.3.3 - Travel	
		F1.3.4 - Admin and other Disbursements	
		F1.3.5 - PM Support Services	
F2 - Regulatory			
	F2.1 - Regulatory Management		
		F2.1.1 - Project Management (PM)	
		F2.1.2 - Admin	
		F2.1.3 - Travel	
	F2.2 - Environmental and Socio-economic Assessment		
		F2.2.1 - Preparation of YESAB Proposal	
		F2.2.2 - Project Proposal Studies or Modeling	
		F2.2.3 - Post-submission of Project Proposal	
	F2.3 - Water License Application		
		F2.3.1 - Preparation of Water License Application	
		F2.3.2 - Project Application Studies or Modeling	
		F2.3.3 - Post-submission of Project Proposal	
	F2.4 - Fisheries Act Authorization Application		
		F2.4.1 - Preparation of FAA	
		F2.4.2 - Supporting Studies or Modeling	
		F2.4.3 - Post-submission of Project Proposal	
	F2.5 - Other Licenses and Permits		
	F2.6 - Regulatory Reporting		
		F2.6.1 WUL Reporting	
		F2.6.2 FAA Reporting	
		F2.6.3 Other Licenses and Permits Reporting	
F3 - Consultation			
	F3.1 - Affected Yukon First Nations		
		F3.1.1 - Ross River Dena Council	
		F3.1.2 - Liard First Nation	
		F3.1.3 - Kaska Dena Council	
		F3.1.4 - Selkirk First Nation	
	F3.2 - Town of Faro		
	F3.3 - Other Stakeholders		
	F3.4 - Socio-economic Strategy Development/Implementation		
F4 - Investigation and Assessment			
	F4.1 - New Site Investigation and Assessment (During Definition and Implementation Phases)		
F5 - Care and Maintenance (C&M)			
	F5.1 - C&M Management		
		F5.1.1 - Site Management	
		F5.1.2 - Administration	
		F5.1.3 - Travel	

F5.2 - Operation

F5.2.1 - Clean Water Management

F5.2.2 - Contaminated Water Management

F5.2.2.1 - Contaminated Water Management - Labour

F5.2.2.2 - Contaminated Water Management - Equipment

F5.2.2.3 - Contaminated Water Management - Inventory and Ops Expenses

F5.2.2.4 - Contaminated Water Management - Lime Consumables

F5.2.2.5 - Contaminated Water Management - Fuel Consumables

F5.2.2.6 - Contaminated Water Management - Acid Consumables

F5.2.2.4 - Contaminated Water Management - Power Consumables

F5.2.2.4 - Contaminated Water Management - Other Consumables

F5.2.3 - Waste Management

F5.2.4 - Remediation Interface

F5.2.5 - Upgrade/Site Improvements

F5.2.6 - Erosion and Sediment Control

F5.2.7 - Site Security and Health and Safety

F5.3 - Maintenance

F5.3.1 - Preventative Maintenance and Minor Repairs

F5.3.2 - Major Repairs and Equipment Replacement

F5.4 - Operational Monitoring

F5.4.1 Monitoring collection

F5.4.2 Monitoring Reporting

F6 - Remediation

F6.1 - Definition / Design Contract

F6.1.1 - Design Management

F6.1.1.1 - Design Project Management

F6.1.1.2 - Design Administration

F6.1.1.3 - Travel

F6.1.2 - Site Development

F6.1.2.1 - Roads [SD-ROAD]

F6.1.2.2 - Bulk Earthworks (Pads) [SD-PADS]

F6.1.2.3 - Fuel Storage [SD-FUEL]

F6.1.2.4 - Explosives Storage [SD-EXPL]

F6.1.2.5 - Borrow Development [SD-BORR]

F6.1.2.6 - Site Development Investigations

F6.1.3 - Tailings Area

F6.1.3.1 - Tailings Relocations [TA-RELC]

F6.1.3.2 - Tailings Landform [TA-LAND]

F6.1.3.3 - Tailings Cover [TA-COVR]

F6.1.3.4 - Tailings Surface Water Conveyance [TA-TSWC]

F6.1.3.5 - Tailings Area Investigations

F6.1.4 - Tailings Area Dams

F6.1.4.1 - Intermediate Dam [TA-IDAM]

F6.1.4.2 - Secondary Dam [TA-SDAM]

F6.1.4.3 - Cross Valley Dam Regrading [TA-CVDR]

F6.1.4.4 - Tailings Area Dams Investigations

F6.1.5 - Mine Area

F6.1.5.1 - Mine Area Relocations [MA-WRDR]

F6.1.5.2 - Waste Rock Landform [MA-WRDL]

F6.1.5.3 - Mine Area Covers [MA-COVR]

F6.1.5.4 - Waste Rock Surface Runoff Conveyance [MA-MSWC]

F6.1.5.5 - Mine Area Contact/Runoff Water [MA-CONW]

F6.1.5.6 - Mine Area Investigations

F6.1.6 - Contact Water

F6.1.6.1 - Zone II Pit Dewatering System [CW-ZTPD (CW-ZIIP)]

F6.1.6.2 - Emergency Tailings Area Seepage Interception System (ETA-SIS) [CW-ETAC (ETA-SIS)]

F6.1.6.3 - North Fork Rose Creek Seepage Interception System (NFRC-SIS) [CW-NFRC (NFRC-SIS)]

F6.1.6.4 - Down Valley Seepage Interception System (DV-SIS) [CW-DVIS (DV-SIS)]

F6.1.6.5 - Contact Water Conveyance System [CW-CONV]

F6.1.6.6 - Contact Water Investigations

F6.1.6.7 - Permanent Water Treatment Plant

F6.1.7 - Perimeter Non-Contact Water

F6.1.7.1 - North Tailings Conveyance System [NC-NTCS (NC-DVDC)]

F6.1.7.2 - East Tailings Diversion Channel [NC-ETDC]

F6.1.7.3 - Faro Creek Diversion Channel (East and West Faro Valley) [NC-FCDC]

F6.1.7.4 - North Fork Rose Creek Integration [NC-NFRC (NFRC-NCWC)]

F6.1.7.5 - Rose Creek Diversion Channel [NC-RCDC]

F6.1.7.6 - Confluence of North Fork Rose Creek and South Fork Rose Creek [NC-RCCA]

F6.1.7.7 - Perimeter Non-Contact Water Investigations

F6.1.8 - Demolition and Waste

	F6.1.8.1 - Contaminated Soil Treatment Facility [DW-CSTF1]
	F6.1.8.2 - Contaminated Soils [DW-SOIL2]
	F6.1.8.3 - Site Landfill [DW-LAND3]
	F6.1.8.4 - Demolition and Waste Investigations
F6.1.9 - Site Restoration	
	F6.1.9.1 - Existing Roads (incl. Haul Road) [SR-ROAD]
	F6.1.9.2 - Other Historical Disturbance [SR-HIST]
	F6.1.9.3 - Revegetation [SR-RVEG]
	F6.1.9.4 - Site Restoration Investigations
F6.1.10 - Other Design Works	
F6.2 - Implementation / MCM Contract	
F6.2.1 - MCM Management	
	F6.2.1.1 - Site Management
	F6.2.1.2 - Health, Safety & Security
	F6.2.1.3 - Environmental Management
	F6.2.1.4 - Construction Management
	F6.2.1.5 - Procurement
	F6.2.1.6 - Project Management, Reporting and KPIs
	F6.2.1.7 - Socio-economic Opportunities Management
	F6.2.1.8 - Admin
	F6.2.1.9 - Travel
F6.2.2 - Site Development	
	F6.2.2.1 - Roads [SD-ROAD]
	F6.2.2.2 - Bulk Earthworks (Pads) [SD-PADS]
	F6.2.2.3 - Fuel Storage [SD-FUEL]
	F6.2.2.4 - Explosives Storage [SD-EXPL]
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F6.2.4 - Tailings Area Dams	
	F6.2.4.1 - Intermediate Dam [TA-IDAM]
	F6.2.4.2 - Secondary Dam [TA-SDAM]
	F6.2.4.3 - Cross Valley Dam Regrading [TA-CVDR]
F6.2.5 - Mine Area	
	F6.2.5.1 - Mine Area Relocations [MA-WRDR]
	F6.2.5.2 - Waste Rock Landform [MA-WRDL]
	F6.2.5.3 - Mine Area Covers [MA-COVR]
	F6.2.5.4 - Waste Rock Surface Runoff Conveyance [MA-MSWC]
	F6.2.5.5 - Mine Area Contact/Runoff Water [MA-CONW]
F6.2.6 - Contact Water	
	F6.2.6.1 - Zone II Pit Dewatering System [CW-ZTPD (CW-ZIIP)]
	F6.2.6.2 - Emergency Tailings Area Seepage Interception System (ETA-SIS) [CW-ETAC (ETA-SIS)]
	F6.2.6.3 - North Fork Rose Creek Seepage Interception System (NFRC-SIS) [CW-NFRC (NFRC-SIS)]
	F6.2.6.4 - Down Valley Seepage Interception System (DV-SIS) [CW-DVIS (DV-SIS)]
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	F6.2.7.3 - Faro Creek Diversion Channel (East and West Faro Valley) [NC-FCDC]
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	F6.2.9.2 - Other Historical Disturbance [SR-HIST]
	F6.2.9.3 - Revegetation [SR-RVEG]
F6.2.10 - Other Construction Works	
F6.3 - Engineering and Construction Oversight and Management	
	F6.3.1 - PM and Admin
	F6.3.2 - Travel
	F6.3.3 - Construction oversight
	F6.3.3.1 - Quality Management
F6.3.4 - Construction reporting and as-builts	

F7 - Monitoring

F7.1 - Environmental Monitoring (EM) Contractor

F7.1.1 - EM Management

- F7.1.1.1 - PM and Admin
- F7.1.1.2 - Travel
- F7.1.1.3 - Planning and technical services
- F7.1.1.4 - Environmental Compliance and Auditing

F7.1.2 - Monitoring

- F7.1.2.1 - Water quality monitoring
- F7.1.2.2 - Water level and flow monitoring
- F7.1.2.3 - Toxicity testing
- F7.1.2.4 - Aquatic effects monitoring
- F7.1.2.5 - Air quality monitoring
- F7.1.2.6 - Geotechnical monitoring
- F7.1.2.7 - Meteorological monitoring
- F7.1.2.8 - Wildlife monitoring
- F7.1.2.9 - Vegetation monitoring

F7.1.3 - Laboratory Services

F7.1.4 - Data Management and Analysis Services

F7.2 - Geotechnical Monitoring

F7.2.1 - Geotechnical Management

- F7.2.1.1 - PM and Admin
- F7.2.1.2 - Travel
- F7.2.1.3 - Planning and technical services

F7.2.2 - Dam System Technical Support

F7.2.3 - Operational Support and Technical Expertise

F7.2.4 - Emergency Response Guidance Services

F7.2.5 - Geotechnical data and instrumentation monitoring, installation and maintenance

- F7.2.5.1 - Instrumentation installation and maintenance
- F7.2.5.2 - Pit wall stability monitoring

F7.2.6 - Ongoing geotechnical consultant advisory and technical support

F7.2.7 - Geotechnical monitoring (duplicate of EM scope)

F7.2.8 - Site investigations and geotechnical design

- F7.2.8.1 - Dam Safety Review
- F7.2.8.2 - Other

F8 - Long-term (Future)

F8.1 - Long term monitoring Planning

F8.2 - Long term monitoring (Post remediation)

F8.3 - Long term C&M

MASTER WORK BREAKDOWN STRUCTURE

Faro Mine Remediation Project - Vangorda Side

Level 1	Level 2	Level 3	Level 4
V1 - Governance and Management			
	V1.1 - Project Management		
		V1.1.1 - Governance - Project Management	
		V1.1.2 - Project Controls - Project Management	
		V1.1.3 - Regulatory - Project Management	
		V1.1.4 - Environment, Health & Safety - Project Management	
		V1.1.5 - Consultation - Project Management	
		V1.1.6 - C&M - Project Management	
		V1.1.7 - Design - Project Management	
		V1.1.8 - Implementation - Project Management	
		V1.1.9 - Monitoring - Project Management	
		V1.1.10 - Procurement Management - Project Management	
		V1.1.11 - Data Management - Project Management	
	V1.2 - CIRNAC Project Administration		
		V1.2.1 - Human Resources	
		V1.2.2 - Admin & other disbursements	
		V1.2.3 - Training	
		V1.2.4 - Travel	
		V1.2.5 - Project Technical Support	
		V1.2.6 - Legal Resources	
		V1.2.7 - Communication Resources	
	V1.3 - PSPC Project Administration		
		V1.3.1 - PSPC Human Resources	
		V1.3.2 - Training	
		V1.3.3 - Travel	
		V1.3.4 - Admin and other Disbursements	
		V1.3.5 - PM Support Services	
V2 - Regulatory			
	V2.1 - Regulatory Management		
		V2.1.1 - Project Management (PM)	
		V2.1.2 - Admin	
		V2.1.3 - Travel	
	V2.2 - Environmental and Socio-economic Assessment		
		V2.2.1 - Preparation of YESAB Proposal	
		V2.2.2 - Project Proposal Studies or Modeling	
		V2.2.3 - Post-submission of Project Proposal	
	V2.3 - Water License Application		
		V2.3.1 - Preparation of Water License Application	
		V2.3.2 - Project Application Studies or Modeling	
		V2.3.3 - Post-submission of Project Proposal	
	V2.4 - Fisheries Act Authorization Application		
		V2.4.1 - Preparation of FAA	
		V2.4.2 - Supporting Studies or Modeling	
		V2.4.3 - Post-submission of Project Proposal	
	V2.5 - Other Licenses and Permits		
	V2.6 - Regulatory Reporting		
		V2.6.1 WUL Reporting	
		V2.6.2 FAA Reporting	
		V2.6.3 Other Licenses and Permits Reporting	
V3 - Consultation			
	V3.1 - Affected Yukon First Nations		
		V3.1.1 - Ross River Dena Council	
		V3.1.2 - Liard First Nation	

V3.1.3 - Kaska Dena Council

V3.1.4 - Selkirk First Nation

V3.2 - Town of Faro

V3.3 - Other Stakeholders

V3.4 - Socio-economic Strategy Development/Implementation

V4 - Investigation and Assessment

V4.1 - New Site Investigation and Assessment (During Definition and Implementation Phases)

V5 - Care and Maintenance (C&M)

V5.1 - C&M Management

V5.1.1 - Site Management

V5.1.2 - Administration

V5.1.3 - Travel

V5.2 - Operation

V5.2.1 - Clean Water Management

V5.2.2 - Contaminated Water Management

V5.2.2.1 - Contaminated Water Management - Labour

V5.2.2.2 - Contaminated Water Management - Equipment

V5.2.2.3 - Contaminated Water Management - Inventory and Ops Expenses

V5.2.2.4 - Contaminated Water Management - Lime Consumables

V5.2.2.5 - Contaminated Water Management - Fuel Consumables

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V5.2.2.4 - Contaminated Water Management - Power Consumables

V5.2.2.4 - Contaminated Water Management - Other Consumables

V5.2.3 - Waste Management

V5.2.4 - Remediation Interface

V5.2.5 - Upgrade/Site Improvements

V5.2.6 - Erosion and Sediment Control

V5.2.7 - Site Security and Health and Safety

V5.3 - Maintenance

V5.3.1 - Preventative Maintenance and Minor Repairs

V5.3.2 - Major Repairs and Equipment Replacement

V5.4 - Operational Monitoring

V5.4.1 Monitoring collection

V5.4.2 Monitoring Reporting

V6 - Remediation

V6.1 - Definition / Design Contract

V6.1.1 - Covers

V6.1.2 - Contaminated Water

V6.1.3 - Clean Water

V6.1.4 - Civil

V6.1.5 - Other Design Works

V6.1.6 - Investigations

V6.2 - Implementation / MCM Contract

V6.2.1 - Covers

V6.2.2 - Contaminated Water

V6.2.3 - Clean Water

V6.2.4 - Civil

V6.2.5 - Other Construction Works

V6.3 - Engineering and Construction Oversight and Management

V6.3.1 - PM and Admin

V6.3.2 - Travel

V6.3.3 - Construction oversight

V6.3.3.1 - Quality Management

V6.3.4 - Construction reporting and as-builts

V7 - Monitoring

V7.1 - Environmental Monitoring (EM) Contractor

V7.1.1 - EM Management

- V7.1.1.1 - PM and Admin
- V7.1.1.2 - Travel
- V7.1.1.3 - Planning and technical services
- V7.1.1.4 - Environmental Compliance and Auditing

V7.1.2 - Monitoring

- V7.1.2.1 - Water quality monitoring
- V7.1.2.2 - Water level and flow monitoring
- V7.1.2.3 - Toxicity testing
- V7.1.2.4 - Aquatic effects monitoring
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- V7.1.2.6 - Geotechnical monitoring
- V7.1.2.7 - Meteorological monitoring
- V7.1.2.8 - Wildlife monitoring
- V7.1.2.9 - Vegetation monitoring

V7.1.3 - Laboratory Services

V7.1.4 - Data Management and Analysis Services

V7.2 - Geotechnical Monitoring

V7.2.1 - Geotechnical Management

- V7.2.1.1 - PM and Admin
- V7.2.1.2 - Travel
- V7.2.1.3 - Planning and technical services

V7.2.2 - Dam System Technical Support

V7.2.3 - Operational Support and Technical Expertise

V7.2.4 - Emergency Response Guidance Services

V7.2.5 - Geotechnical data and instrumentation monitoring, installation and maintenance

- V7.2.5.1 - Instrumentation installation and maintenance
- V7.2.5.2 - Pit wall stability monitoring

V7.2.6 - Ongoing geotechnical consultant advisory and technical support

V7.2.7 - Geotechnical monitoring (duplicate of EM scope)

V7.2.8 - Site investigations and geotechnical design

- V7.2.8.1 - Dam Safety Review
- V7.2.8.2 - Other

V8 - Long-term (Future)

- V8.1 - Long term monitoring Planning
- V8.2 - Long term monitoring (Post remediation)
- V8.3 - Long term C&M