CLIENT	CONSULTANT	CONTRACTOR	SUB-CONTRACTOR

TASK RISK ASSESSMENT WORKSHEET

CONTRACT NO	REF	DATE	REV
—	RA-2026-D6M6SNqI	11.08.2026	A

PROJECT —

CLIENT	CONSULTANT	MAIN CONTRACTOR	SUBCONTRACTOR
—	—	—	—

ACTIVITY **febrication**

ASSESSORS	— PROJECT MANAGER *signature*	— HSE ENGINEER *signature*	— PROJECT MANAGER *signature*	— CIVIL ENGINEER *signature*	— HSE ENGINEER *signature*

SN	Activity	Hazard / Aspect	Consequence	Groups Exposed	Existing Controls	Initial Risk P × S = R	Additional Controls	Residual Risk P × S = R
1	**Complete HDPE Duct Infill**	1. Vehicle movement and traffic hazards 2. Manual handling during loading/unloading 3. Uneven ground conditions	Personal injury, property damage	Site Personnel, Subcontractors, Public	1. Implement traffic management plan 2. Designated walkways 3. Mandatory PPE 4. Speed limit enforcement	**P 3 × S 3** **9**	1. Comply with ADOSH SF CoP 27.0 2. Daily vehicle inspection 3. Toolbox talk	**P 2 × S 2** **4**
2	**Site mobilization and setup of temporary**	Passing high-speed public traffic and moving site vehicles	Personal injury, property damage	Site Personnel, Subcontractors, Public	Approved TTM plan, high-visibility clothing (Class 3), physical water-filled/concrete barriers, advanced warning signs, and trained flagmen.	**P 3 × S 3** **9**	Deployment of Truck Mounted Attenuators (TMA) and enforcement of reduced speed limit zone in coordination with local traffic authorities.	**P 2 × S 2** **4**
3	**Trench excavation and sub-surface ground preparation**	Accidental strike on existing buried live electrical cables or gas utilities	Personal injury, property damage	Site Personnel, Subcontractors, Public	Utility mapping review, CAT & Genny cable avoidance scanning, and manual trial pits (pot-holing) prior to mechanical excavation.	**P 3 × S 3** **9**	Mandatory Permit to Dig system, use of insulated hand tools near identified utilities, and continuous competent supervision.	**P 2 × S 2** **4**
4	**Uncoiling, handling, and positioning HDPE pipe**	Sudden release of stored mechanical spring energy in coiled HDPE pipe	Personal injury, property damage	Site Personnel, Subcontractors, Public	Use of specialized pipe reeler/uncoiler frame, controlled strap cutting procedures, and establishing exclusion zones.	**P 3 × S 3** **9**	Mandatory deployment of safety restraints/bands before unstrapping and wearing high-impact resistant safety glasses and gloves.	**P 2 × S 2** **4**
5	**HDPE pipe jointing via electrofusion and**	High-temperature heating elements, hot molten plastic, and portable electrical generators	Personal injury, property damage	Site Personnel, Subcontractors, Public	Certified welding equipment, RCD-protected generators, heat-resistant safety gloves, and portable fire extinguishers nearby.	**P 3 × S 3** **9**	Hot Work Permit implementation, provision of localized exhaust ventilation or respiratory protection (FFP3) in confined areas.	**P 2 × S 2** **4**
6	**Entry into underground chambers and manholes**	Hazardous atmosphere (oxygen deficiency, toxic gases like H2S/methane), engulfment, or fall from height	Personal injury, property damage	Site Personnel, Subcontractors, Public	Confined Space Entry Permit, pre-entry 4-gas atmospheric testing, forced air ventilation, and tripod rescue system with harness.	**P 3 × S 3** **9**	Continuous multi-gas monitoring during entry, dedicated trained top-person/standby monitor, and verified emergency rescue plan.	**P 2 × S 2** **4**

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7	**Mechanical winch pulling of HDPE sub-ducts**	High-tension winch wire snap, rotating capstans, and pinch/nip points	Personal injury, property damage	Site Personnel, Subcontractors, Public	Properly rated winching wire with calibrated weak-link swivel, emergency stop switches, and safety guards over rotating parts.	P 3 × S 3 = 9	Integrated load monitoring with automatic shut-off at peak tension limits and strict exclusion zones along the tension line.	P 2 × S 2 = 4
8	**Duct proving (mandrel testing) and air**	Uncontrolled high-pressure compressed air release and projectile ejection of foam pig or mandrel	Personal injury, property damage	Site Personnel, Subcontractors, Public	Calibrated pressure relief valves, secure containment/catcher cage at receiving duct end, clear exclusion zone enforcement.	P 3 × S 3 = 9	Mandatory Pressure Testing Permit, full-face protection shields for operators, and calibrated double-gauge manifolds.	P 2 × S 2 = 4
9	**Unloading and Manual Handling of Busbars and Sheet Metal**	Sharp metal edges, heavy loads, awkward lifting postures	Musculoskeletal injuries, spinal strain, severe cuts, lacerations, foot impact injuries	Fabrication Technicians, Store Keepers, Material Handlers	Mandatory cut-resistant gloves (Level D/E), safety boots, manual handling training, use of overhead cranes and forklifts for heavy loads	P 4 × S 3 = 12	Enforce team lifting policy for loads exceeding 20 kg, conduct daily pre-use inspections on lifting gear and slings	P 2 × S 2 = 4
10	**Hydraulic Shearing and Cutting of Metal Enclosures and Busbars**	Exposed high-speed shear blades, moving mechanical parts, pinch points	Traumatic finger or limb amputation, severe crushing injuries, lacerations	Machine Operators, Fabrication Helpers	Two-hand safety control mechanisms, fixed perimeter guarding, emergency stop buttons, safety glasses, and cut-resistant gloves	P 4 × S 4 = 16	Install interlocked light curtains, implement strict Lockout/Tagout (LOTO) protocols during blade changes and maintenance	P 1 × S 3 = 3
11	**Hydraulic Busbar Bending and Punching Operations**	High-pressure hydraulic clamping, pinch points, metal ejection under force	Pinch injuries, hand/finger fractures, high-pressure fluid injection injuries	Machine Operators, Electrical Assemblers	Enclosed punching dies, foot pedal shrouds to prevent accidental actuation, routine hydraulic hose pressure inspection	P 3 × S 4 = 12	Mandatory usage of holding jigs to keep hands outside the hazard zone, schedule quarterly preventive hydraulic maintenance	P 1 × S 2 = 2
12	**Welding (TIG/MIG) and Metal Frame Fabrication**	Ultraviolet/Infrared arc radiation, toxic welding fumes, high-voltage electrical arc	Arc eye (photokeratitis), skin burns, respiratory illness, electrical shock	Welders, Fabricators, Nearby Personnel	Auto-darkening welding helmets, flame-retardant leather jackets and aprons, local exhaust ventilation (LEV), welding screens surrounding workspace	P 4 × S 3 = 12	Provide Powered Air-Purifying Respirators (PAPR) for prolonged welding operations, perform annual LEV extraction efficiency testing	P 2 × S 2 = 4

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13	**New Activity 125879654**	Identify hazards here	Describe consequences	All personnel	List control measures	**P 3 × S 3** **9**	Additional controls	**P 2 × S 2** **4**

LIKELIHOOD / FREQUENCY

Descriptor	Likely Frequency	Probability
Frequent	Occurs frequently	5
Often	Occurs several times per year	4
Likely	Has occurred more than once	3
Possible	Has occurred	2
Rare	Never occurred	1

RISK MATRIX — PROBABILITY × CONSEQUENCE

Probability	Consequence				
	Insignificant (1)	Minor (2)	Moderate (3)	Major (4)	Catastrophic (5)
Rare (1)	1	2	3	4	5
Possible (2)	2	4	6	8	10
Likely (3)	3	6	9	12	15
Often (4)	4	8	12	16	20
Frequent / Almost Certain (5)	5	10	15	20	25

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15 – 25	**Extreme Risk**	Activity or industry should not proceed in current form.
8 – 12	**High Risk**	Activity or industry should be modified to include remedial planning and action and be subject to detailed EHS assessment.
4 – 6	**Moderate Risk**	Activity or industry can operate subject to management and/or modification.
1 – 3	**Low Risk**	No action required, unless escalation of risk is possible.