SAFE WORK PROCEDURE
ASBESTOS CEMENT PIPE REMOVAL

1.0 OVERVIEW

EMPLOYER	City of Powell River	**DATE**	September 6, 2023
ADDRESS	6910 Duncan Street, Powell River, BC, V8A 1V4	**DEVELOPED BY**	Orca Health & Safety Consulting Inc.
PROJECT SITE	Various Pre-2018 Water Distributions Systems	**VERSION**	V2.0 September 2024
RISK LEVEL	**MODERATE RISK**	**REVISED**	September 9, 2024

2.0 BACKGROUND

This Safe Work Procedure ("procedure" and "SWP") applies to select City of Powell River, ("City", "Owner", "Employer", and "Prime Contractor") Utilities workers at/within various pre-2018 City owned water distributions systems including asbestos-containing (AC) cement pipes located throughout Powell River, BC.

NOTES:

- All other unqualified workers must adhere to the City's no touch/avoidance asbestos safety policy.
- Select low to moderate-risk asbestos related work tasks noted below will only be performed on an as required basis.
- Refer to latest version of corresponding *Asbestos Exposure Control Plan* including risk assessment for more information.

3.0 PURPOSE/SCOPE

The purpose of this procedure is to prevent/minimize potential worker exposure to asbestos by the implementation of controls in compliance with WorkSafeBC (WSBC) Occupational Health & Safety Regulation (OHSR) Section 6.8 Procedures.

Scope of asbestos-related work activities are limited to select low to moderate-risk work tasks including:
Scope of select asbestos-related work activities are limited to the following low to moderate-risk work tasks including:

- Cutting and tying into AC cement pipes using hand tools only.
- Tear down/de-mobilize asbestos work zone including decontaminated equipment/materials and dispose into non-reusable materials into asbestos waste containers.
- Moving asbestos-containing waste material that is properly contained (i.e., sealed, labelled, double-bagged and decontaminated).

4.0 ASBESTOS-RELATED WORK TASKS

WORK TASK	CONTROLS	RISK LEVEL
• Cutting and tying into AC cement pipes using hand tools only. • Tear down/de-mobilize asbestos work zone including decontaminated equipment/materials and dispose into non-reusable materials into asbestos waste containers.	• Engineering • Administrative • Personal Protection Equipment (PPE)	**Moderate Risk**
• Moving asbestos-containing waste material that is properly contained (i.e., sealed, labelled, double-bagged and decontaminated).	• Administrative • PPE (recommended)	**Low-Risk**

5.0 ROLES & RESPONSIBILITIES

COMPANY	ROLE	RESPONSIBILITY
City of Powell River	Owner	Site health & safety
	Prime Contractor	Contractor health & safety
	Employer	Supervisor/worker health & safety
Orca Health and Safety Consulting Inc.	Consultant	Asbestos health & safety documents, training and/or air monitoring

6.0 PROCEDURE

6.1 Required Controls

1.	**SUPERVISOR:** Ensure all required controls (i.e., documents, equipment, tools, and materials) are onsite and in good working condition. Refer to **APPENDIX 1** for *Exposure Control Checklist*.	☐
2.	**SUPERVISOR:** Confirm current/compliant copies of asbestos inventories/assessments, hazardous materials surveys, bulk sample reports including laboratory testing results and/or clearance letters are obtained/reviewed by workers.	☐

6.2 Notice of Project

3.	**SUPERVISOR/CONTRACTOR:** Submit Notice of Project (NOP) for asbestos including Exposure Control Plan, with risk assessment and Safe Work Procedure to WorkSafeBC at least 48 hours before performing any moderate risk asbestos-related work tasks. **NOTE:** If it is necessary to do immediate work (i.e., emergency) in order to prevent the risk of injury to workers or other persons, the risk of occupational disease or damage to property, a work activity may begin at the worksite immediately, and the City must ensure that WSBC receives, in writing, a NOP that contains the information required and a copy is posted at the worksite as soon as possible and is kept posted for the duration of the project.	☐
4.	**SUPERVISOR/CONTRACTOR:** Post copy of NOP on project notice board and/or include a printed copy within site-safety binder, on safety notice board and/or upload to file management system including other applicable asbestos records.	☐

6.3 Site Coordination

5.	**SUPERVISOR:** Ensure all subject workers have reviewed the *Asbestos Exposure Control Plan* including risk assessment and this safe work procedure and signed-off in **Section 7.0** below.	☐

6.	**SUPERVISOR:** Confirm all workers have received required instruction/training including: a. ☐ Asbestos safe work procedure b. ☐ Respiratory protection c. ☐ Fit testing **NOTE:** Workers will not perform asbestos-related work tasks until all safety documents have been read/understood and properly instructed/trained.	☐
7.	**SUPERVISOR:** Retain a qualified person (i.e., Consultant) to perform: a. ☐ Asbestos air monitoring including daily occupational, clean room, ambient and final air clearance (when required). b. ☐ Inspections such as pre-contamination, progress and/or final visual to ensure all required controls are onsite, in good condition and workers are following this Procedure (when required). **NOTE:** Asbestos air monitoring is required for high risk asbestos work activities, however workplace monitoring may be required for moderate risk if/when: • A walkthrough survey reveals that a worker may be at risk of overexposure to airborne asbestos fibers. • An assessment reveals that worker may be exposed to airborne asbestos fibers in excess of 50% of its exposure limit.	☐
8.	**SUPERVISOR:** Establish communication, emergency evacuation via airhorn and muster station locations with workers. **NOTE:** Emergency Response Plan and Evacuation Procedures to be reviewed by workers prior to performing work tasks.	☐
9.	**SUPERVISOR:** Coordinate with an approved hazardous waste disposal facility that will accept all asbestos waste from the worksite. **NOTE:** Hazardous waste disposal facility may require appointments, documents (i.e., disposal form, asbestos sampling report, clearance letter, waste manifest etc.), waste disposal limits and acceptable asbestos waste containers.	☐
6.4 Project Startup Meeting/Toolbox Talk		
10.	**SUPERVISOR:** Verify that only instructed/trained and clean shaven (“authorized”) workers are onsite to perform asbestos-related work tasks and copies of current training records and fit tests records are readily available (i.e., file management system).	☐
11.	**SUPERVISOR:** Conduct toolbox talk with all involved workers and re-review objectives, roles/responsibilities, hazards, exposure controls and ensure all required equipment, tools and materials are onsite and in good condition.	☐
12.	**SUPERVISOR/WORKER:** Complete daily hazard assessments (i.e., pre-job/field level) and ensure: a. ☐ Involved workers review and sign-off on hazard assessments. b. ☐ All records including other required safety documents are kept/maintained on file (i.e., file management system) for 10 years.	☐
6.5 Designated Work Area Setup/Mobilization		
13.	**SUPERVISOR:** Instruct all unauthorized/unprotected workers at the worksite to stay outside of any asbestos designated work areas (“asbestos work zones”) and/or keep a safe distance away (>10 feet) from asbestos-related work tasks being performed.	☐

14.	**WORKER:** If required, identify/mark boundary of asbestos work zone with barricades, fences, delineators and/or caution barrier tape.	☐
15.	**WORKER:** Setup designated work area including wash station as shown in **Figure #1** below.  **Figure #1: Designated Work Area**	☐
16.	**WORKER:** Post asbestos warning signage describing the hazards, health consequences of asbestos exposure and prohibit the entry of unauthorized workers (**Figure #2**) at all containment entrances.  **Figure #2: Asbestos Warning Signage**	☐
17.	**WORKER:** Setup a wash station (**Figure #3**) at entry/exit point of the designated work area within asbestos work zone for required worker decontamination/personal hygiene including: a. ☐ 6-mil polyethylene (“poly”) drop sheet with a waste receptable. b. ☐ Wash buckets (i.e., wash & rinse) and potable water source.	☐

	c. ☐ Cleaning materials such as sponges, rags, cloths, wet wipes and/or respirator wipes.  **Figure #3: Wash Station**	
18.	**SUPERVISOR/WORKER:** Ensure adequate amounts of worker decontamination/personal hygiene materials (i.e., sponges, rags, cloths, wet wipes and/or respirator wipes) are readily available and replenished per work shift or as required.	☐
19.	**WORKER:** Setup a waste receptable (i.e., 6-mil, labelled, poly waste bag) within the wash station for contaminated cleaning materials and disposable PPE.	☐
20.	**WORKER:** If available, place a certified high efficiency particulate air (HEPA)-filtered vacuum with brush attachment within wash station to assist worker decontamination. **NOTE:** A certified HEPA-filtered vacuum is recommended to assist workers with decontamination, work area cleaning, waste disposal and spill response but not required.	☐
21.	**SUPERVISOR**: If applicable, verify all HEPA-filtered equipment (i.e., HEPA-filtered vacuums (**Figure #4**), have been certified for effectiveness ("DOP tested") onsite or similar means: a. ☐ At least annually b. ☐ After HEPA-filter is replaced c. ☐ Before use in high-risk work activity  **Figure #4: HEPA-Filtered Vacuum**	☐

22.	**WORKER:** Setup low pressure water sprayers (e.g., hand-pump, water hose, water truck) for wetting and ensure adequate source of water available onsite and shown in **Figures #5 & #6**.  **Figure #5:** Hand-Pump Water Sprayer  **Figure #6:** Low-Pressure Water Hose	☐
23.	**SUPERVISOR:** Ensure any electrical equipment are equipped with a ground fault circuit interrupters (GFCIs) as shown in **Figure #7** below.  **Figure #7: Ground Fault Circuit Interrupter** **NOTE:** Continually wetting ACMs and/or outdoor work areas can pose electrical hazards.	☐
24.	**WORKER:** Setup designated asbestos waste storage area in proximity to asbestos work zone to temporarily store sealed, labelled and decontaminated asbestos waste.  **Figure #8: Service Truck with Caboose** **NOTE:** Asbestos waste will be disposed of at the end of each shift at an appropriate hazardous waste disposal facility and if required, will be secured in service truck "caboose" (**Figure #8**) overnight or over the weekend until disposal facility can be accessed.	☐

25.	**WORKER:** Obtain and setup all other required exposure controls (i.e., equipment, tools, and materials) as shown in **APPENDIX A** below within asbestos work zone.	☐
26.	**SUPERVISOR/WORKER:** Inspect all required controls to ensure they are in good condition and remove, tag, and replace any controls that are defective and/or damaged.	☐
27.	**WORKER:** Don (wear) required enhanced moderate-risk specific PPE including: ☐ Half-facepiece APRs & P100 HEPA-filters (**Figure #9**) for moderate-risk work tasks ☐ Disposable, full-body impermeable suits with hoods & boot covers (**Figure #10**) ☐ If required, laceless steel-toed rubber boots (**Figure #11**) ☐ Disposable, impermeable gloves (i.e., nitrile) under work gloves (**Figure #12**)  **Figure #9: Half-Facepiece APR & P100 HEPA Filters**  **Figure #10: Impermeable Full-Body Suits**  **Figure #11: Laceless Steel-Toed Rubber Boots**  **Figure #12: Impermeable Gloves under Work Gloves** **NOTES:** • Inspect respirator prior to every use for damage and ensure inhalation & exhalation valves are present and functioning before donning • Perform positive and negative respirator valve pressure checks. • Ensure respirator straps are worn under hoods (not over), and nothing is permitted to intrude between the facepiece and the face, or which interferes with the face seal. • Respirators must be donned first and doffed (taken off) last for best practice to prevent/minimize worker exposures to asbestos.	☐

	• Never share respirators to prevent infectious diseases from spreading between workers. • Mark date on respirator filter cartridges as part of filter cartridge replacement schedule. • Work gloves worn outside of disposable impermeable gloves must be cleaned to be reused outside the asbestos work area or must be disposed of into poly waste bags. • Boot covers are not required if workers are wearing steel-toed laceless rubber boots. • Loader Operators shall wear enhanced moderate-risk PPE noted above as a precaution in the event they must exit/enter the loader within the asbestos work zone and/or the cabin becomes inadvertently contaminated (i.e., windows, vents and/or door open). • Workers performing low-risk asbestos-related work tasks are not required to wear PPE, however moderate-risk PPE is recommended.	
28.	**SUPERVISOR:** Verify qualified person (i.e., Consultant) is onsite to perform air monitoring and/or inspection (when required). **NOTE:** Air monitoring and inspections are not required for moderate risk work tasks however they are recommended to ensure exposure controls, and this procedure are sufficient.	☐
29.	**SUPERVISOR/CONSULTANT:** Perform pre-contamination inspection of asbestos work zone for successful setup and ensure all required controls are onsite and in good working condition prior to approving asbestos-related work tasks to begin ("going dirty").	☐
30.	**SUPERVISOR:** Instruct workers to perform corrective actions for any deficiencies identified in the pre-contamination inspection such as additional setup, remove, tag, and replace damaged/defective controls.	☐
6.6 Air Monitoring (When Required)		
31.	**CONSULTANT:** When required, setup air monitoring including: a. ☐ Occupational air sampling (**Figure #13**) for workers. b. ☐ Area air sampling (**Figure #14**) for clean rooms, ambients and clearances.  **Figure #13: Occupational Air Monitoring**  **Figure #14: Area Air Monitoring** **NOTES**: • Occupational air samples are collected to ensure exposure controls and protection factor of respiratory protection are adequate.	☐

	• Clean room air samples are collected to ensure workers are properly decontaminating/practicing personal hygiene and containment is being maintained under negative pressure. • Ambient air samples are collected to ensure containment is being maintained under negative pressure and there are no breaches. • Clearance air samples are collected to ensure an acceptable level of cleanliness has been achieved following the successful completion of the abatement scope of work prior to containment tear down/de-mobilization.	
32.	**SUPERVISOR/CONSULTANT:** Perform daily air monitoring (i.e., occupationals, clean rooms and ambients) and progress inspections to ensure integrity of asbestos work zone and exposure controls are being maintained and complete inspection form (when applicable).	☐
33.	**SUPERVISOR/CONSULTANT:** Report inspection findings (during inspection and/or upon completion of inspection form) with supervisor/workers and provide copy of inspection form (when applicable).	☐
34.	**SUPERVISOR/WORKER:** Correct any deficiencies identified by the supervisor/consultant during inspections and confirm corrective actions upon completion on updated inspection form (when applicable).	☐
35.	**CONSULTANT:** Collect air samples at end of each work shift and expedite to an accredited laboratory for rush (<24-hour) analysis.	☐
36.	**CONSULTANT:** Report air monitoring results to supervisor/workers and provide copy of air monitoring results within 24-hours of air sample collection. **NOTES:** If/when results are ≥50% ("action level") of the occupational exposure limit (OEL) and/or greater than the Maximum Use Concentration of assigned respiratory protection; all workers must stop work and exit asbestos work areas following decontamination/personal hygiene procedures.	☐

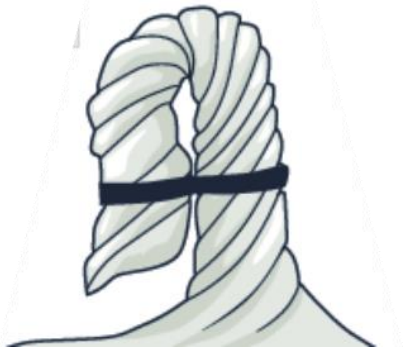
37.	**SUPERVISOR/CONSULTANT:** When required, investigate reasons, and re-inspect asbestos work zone in response to any air monitoring results that exceed the following limits:
	• 8-hour time weighted average (TWA) OEL of 0.1 f/cc for occupational air samples.
	• 10-hour TWA OEL of 0.07 f/cc for occupational air samples.
	• Maximum Use Concentration for:
	  ○ Half-facepiece APR for an 8-hour work shift = 1 f/cc
	  ○ Half-facepiece APR for a 10-hour work shift = 0.7 f/cc
	
	NOTES:
	• Assigned protection factor (APF) of a half-facepiece APR = 10
	• WSBC guideline for clean room and ambient air sample results is the air clearance limit of 0.02 f/cc.
		☐

38.	**SUPERVISOR:** Permit workers to re-start asbestos-related work tasks following successful implementation of corrective actions, procedure revisions and worker instruction/training.	☐
39.	**SUPERVISOR:** Post completed inspection forms and/or air monitoring results within site safety binder, on site safety notice board and/or upload to file management system.	☐
6.7 Asbestos-Related Work Tasks		
40.	**SUPERVISOR:** Prohibit workers from eating, drinking, chewing gum and/or smoking within the asbestos work zone and only allow these activities within designated clean zones (i.e., lunchrooms and designated smoking areas).	☐

6.7.1 Moderate-Risk Work Tasks (When Required)		
41.	**WORKER:** Perform select moderate risk asbestos-related work tasks including: • Cutting and tying into asbestos-containing cement pipes using hand tools only. • Tear down/de-mobilize asbestos work zone including decontaminated equipment/materials and dispose into non-reusable materials into asbestos waste containers.	☐
6.7.2 Low-Risk Work Tasks		
42.	**WORKER:** Perform select low risk asbestos-related work tasks including: • Moving asbestos-containing waste material that is properly contained (i.e., sealed, labelled, double-bagged and decontaminated). • When required, move properly sealed/labelled, and decontaminated asbestos waste containers from the asbestos work zone (i.e., containment) to the designated waste storage area (i.e., service truck caboose). **NOTES:** • Workers performing low-risk asbestos-related work tasks are not required to wear PPE, however moderate-risk PPE is recommended for this task in the case of an asbestos breach/spill (i.e., split/punctured poly waste bag). • Refer to **Section 6.8.2** below for Emergency Spill Response/Cleanup procedure.	☐
43.	**WORKER:** Immediately report any unsafe work practices/conditions, including accidental releases of asbestos fibers (i.e., breaches/spills) and/or worker exposures incidents to your supervisor. **NOTES:** • All worker must stop work; and • Do not re-start work until approved by supervisor following an incident investigation and corrective actions are successfully implemented.	☐
44.	**WORKER:** Do not exit work area without properly decontaminating/practicing personal hygiene as per **Section 6.9** below nor enter clean zones such as lunchroom with contaminated clothing.	☐
6.7.3 Medical Emergency Procedure		

45.	**SUPERVISOR/FIRST AID:** In the event of a medical emergency, evaluate if worker can self-decontaminate as per **Section 6.9** below, if not, perform the following steps: a. ☐ Remove worker's respirator so that mouth-to mouth resuscitation can be performed. b. ☐ Leave worker's contaminated clothing (i.e., suit) if a spinal injury is suspected. c. ☐ Remove worker's PPE/clothing when they have been safely brought to an uncontaminated area (i.e., outside boundary of containment) if no spinal injury is suspected and does not interfere with emergency response/rescue. d. ☐ Perform "hasty decontamination" with wash station bucket(s) to remove asbestos fibers quickly from worker PPE/clothing if this step does not interfere with emergency response/rescue. e. ☐ Warn emergency personnel (i.e., OFAA, first responders, rescue team) of asbestos exposure hazard of entering a contaminated work area. f. ☐ Provide emergency personal asbestos-specific PPE (i.e., respirators, suits, gloves) prior to entering a contaminated work area. g. ☐ Cover contaminated, injured (i.e., spinal injury) worker in such a way (i.e., blanket) as to minimize contamination of clean areas and not hinder access by emergency personnel. h. ☐ Ensure a trained worker to accompany contaminated, injured worker to the hospital and properly handle/dispose of asbestos-contaminated PPE/clothing. i. ☐ Inform hospital staff upon arrival of contaminated, injured worker and instruct them on the proper handling/disposal of asbestos-contaminated PPE/clothing. j. ☐ Collect and handle any contaminated PPE/clothing as per applicable steps of **Section 6.9** below. **NOTES:** • If a medical emergency (e.g., worker collapse) occurs within a containment, some procedural steps may be temporarily ignored if they would cause an immediate threat to the worker's life or recovery ("life over limb"). • In response to potential asbestos exposure, emergency personnel may refuse to enter the contaminated work area. • Emergency personnel accompanying an injured worker can decontaminate in the wash station area to minimize risk of contaminating other arears outside the work area.	☐
6.8 Work Area Cleanup & Asbestos Waste Handling		
46.	**WORKER:** Continually inspect asbestos work zones for asbestos contamination on workplace surfaces (i.e., equipment, tools and/or materials) and place used wet wipes, rags and/or cloths into asbestos waste containers to prevent/minimize potential asbestos fiber release and/or worker exposure.	☐

47.	**WORKER:** Clean all safely accessible surfaces within asbestos work zone such as: re-usable equipment, tools, materials, and/or outside of asbestos waste containers using acceptable cleaning methods including wet wiping, wet mopping/sweeping and/or HEPA-filtered vacuuming (while donning required PPE) routinely, at the completion of the work task and/or at the end of each work shift. **NOTES:** • Do not use prohibited cleaning methods such as high-pressure spraying equipment, compressed air, dry sweeping, and/or dry mopping to cleanup asbestos. • Workers must clean surfaces of reusable equipment, tools and/or materials including equipment cabins prior to removing items from asbestos work zone. • Equipment, tools and/or materials that are not cleaned, must remain within the asbestos work zone unless placed in sealed, labelled, 6-mil clear poly waste bags that are only re-opened within asbestos work zone by workers wearing asbestos-specific PPE. • HEPA-filtered vacuum attachments such as brushes and extensions may be useful for difficult to clean surfaces. • Workers shall continually wet disturbed ACMs with low pressure water sprayers whenever practicable, to prevent/minimize potential asbestos fiber release and/or worker exposure. • Use of powered-tools is prohibited when working with/disturbing ACMs unless attached with a dust collection shroud to a certified HEPA-filtered vacuum.	☐
48.	**WORKER:** When applicable, remove and replace HEPA-filtered vacuum bags when they become full and place into asbestos waste containers. **NOTE:** It is advantageous to replace vacuum bags and/or filters while wearing asbestos-specific PPE within the asbestos work zone before containment tear down.	☐
49.	**WORKER:** Replenish all single use/disposable materials such as: wipes, poly waste bags, PPE etc., as required and/or at the end of each work shift.	☐
50.	**WORKER:** Transfer cleaned equipment, tools, and materials – to be reused the next work shift – into a secure and designated storage area (i.e., lockable tool crib or C-can).	☐

6.8.1 Double-Bagging Procedure & Waste Transfer		
51.	**WORKER:** Dispose all ACMs including contaminated cleaning material and PPE into asbestos waste containers such as 6-mil poly waste bags as per the following steps: a. ☐ Continually wet ACMs during waste disposal. b. ☐ Inspect the bag for damage once an asbestos waste bag is roughly 2/3 full. c. ☐ Extract air from bags using a HEPA-filtered vacuum (if/when applicable). d. ☐ Gently twist top of the bag closed, then fold over twisted portion ("goose neck") and seal with duct/tuck tape as shown in **Figure #15** below. e. ☐ Wet wipe the outside of the first bag and place into the second bag. f. ☐ Repeat steps **c** and **d** above for second bag as shown in **Figure #16** below. g. ☐ Wet wipe the outside of second bag and inspect bag for damage such as any holes, tears and/or rips. h. ☐ Repeat double-bagging procedure until all asbestos waste is successfully disposed.  **Figure #15: Goose Necked & Sealed**  **Figure #16: Double-Bagged, Sealed & Labelled** **NOTE:** Do <u>not</u> overfill bags to reduce weight and prevent beaches/spills.	☐
52.	**WORKER:** Transfer properly contained and decontaminated asbestos waste containers to designated storage area (i.e., service truck caboose) as required and/or at the end of each work shift. **NOTES:** • Do <u>not</u> allow asbestos waste containers to accumulate in large quantities within asbestos work zone. • Do <u>not</u> transfer asbestos waste containers in an unsafe manner (i.e., overfill, throw/toss, drag) that may cause breach/spill, worker exposure and work zone contamination. • Although transferring properly contained/decontaminated asbestos waste containers from work zone to the waste bin is a low-risk work task; it is recommended that workers wear asbestos-specific PPE, in case of a breach/spill. • Workers must <u>not</u> exit the asbestos work zone to transfer waste to the designated waste storage area without properly decontaminating as per **Section 6.9** below and wearing new/clean PPE.	☐

6.8.2 Emergency Spill Response/Cleanup		
53.	**WORKER:** In the event an asbestos waste container breaches/spills (i.e., splits, torn and/or punctured) perform the following steps: a. ☐ Wear asbestos-related PPE (if not already donned) as per **Section 6.5** above. b. ☐ Immediately soak down asbestos debris and container low pressure water sprayer and setup a temporary asbestos work zone using delineators and barrier tape to prevent unprotected occupants/untrained workers entering the contaminated work zone. c. ☐ Repeat double-bagging procedure (as per **Sections 6.8.1** above) to remove all beached/spilled asbestos waste. d. ☐ If contents were spilled on soil, remove top 1-inch of soil with the asbestos debris. e. ☐ If contents were spilled on any other surface: i. ☐ Use HEPA-filtered vacuum to remove debris (if/when applicable) ii. ☐ Wet wipe area with disposable wet wipes iii. ☐ Dispose of used rags in asbestos waste bag	☐
6.9 Decontamination/Personal Hygiene		
54.	**WORKER:** Enter wash station and HEPA-filtered vacuum with brush attachment (if/when applicable) the outside of full-body suit, work gloves, and respirator while still wearing respiratory protection. **NOTES:** • Respiratory protection must be worn until the worker completes decontamination process (taken off last) and exits the wash station. • If not wearing boot covers, ensure steel-toed laceless boots are cleaned.	☐
55.	**WORKER:** Wet wipe outside of suit, work gloves, and respirator using non-reusable cleaning materials such as sponges and cloths/rags and dispose used cleaning materials into asbestos waste container.	☐
56.	**WORKER:** Remove impermeable suit using “inside out” method and dispose into asbestos waste container. **NOTE:** Do not rip, tear, or shake impermeable suit to prevent/minimize asbestos fiber release/worker exposure.	☐
57.	**WORKER:** Remove outer work gloves and place into labelled, clear 6-mill poly bag and store in dirty room of decon to be re-used. **NOTE:** Work gloves must be disposed of into asbestos waste container and not reused if they cannot be properly cleaned.	☐
58.	**WORKER:** Remove nitrile gloves using “first aid” method and clean hands using non-reusable cleaning materials and dispose into poly waste bag	☐
59.	**WORKER:** Place underclothing (if required) into labelled, clear 6-mil poly bag and store in dirty room of decon to be re-used (i.e., colder temperatures). **NOTE:** Underclothing must be disposed of or laundered by an appropriate facility as required.	☐
60.	**WORKER:** Wet wipe outside of respirator while still donning the respirator using sponges and/or cloths/rags and dispose used cleaning materials into asbestos waste containers.	☐

61.	**WORKER:** Decontaminate self/practice personal hygiene (i.e., hand wash) exposed skin using wet wipes with wash buckets (i.e., wash & rinse) and complete the following steps: a. ☐ Doff (remove) respirator and clean inside with disinfecting respirator wipes. b. ☐ Dry off respirator using clean towel and clean inside of mask using disinfecting respirator wipes c. ☐ Allow respirator to dry (i.e., hang on designated coat hook or place into unsealed tote/bag) d. ☐ Tape over respirator filter inlets with duct tape and store separately from respirator to allow for proper drying. e. ☐ Replace filters as needed and dispose used filters into asbestos waste container. f. ☐ Dry off self using clean towels. g. ☐ Don personal clothing including site-required PPE. **NOTE:** A respirator filter cartridge replacement schedule should be established by the supervisor prior to the project start based on manufacturer's instructions, project duration, work shift lengths and anticipated asbestos fiber release/worker exposure.	☐
6.10 Tear Down/De-Mobilization		
62.	**SUPERVISOR/CONSULTANT:** Perform final visual inspection of asbestos work zone for successful completion of work tasks, abatement scope and that an acceptable level of cleanliness has been achieved prior to approving tear down/de-mobilization. Record findings on inspection form (when applicable).	☐
63.	**SUPERVISOR:** Instruct workers to perform corrective actions for any deficiencies identified by the final visual inspection such as additional abatement and/re-cleaning of surfaces. Update inspection form (when required).	☐
64.	**SUPERVISOR:** Ensure tear down/de-mobilization (i.e., dismantle containment) occurs as a moderate-risk activity within the asbestos work zone.	☐
65.	**WORKER:** Clean surfaces at/within asbestos work area using acceptable cleaning methods in the following sequence: a. ☐ Equipment, tools, and re-usable materials and place outside asbestos work zone b. ☐ Temporary waste storage area and transfer any remaining asbestos waste containers to asbestos waste bin c. ☐ Wash station after last worker decontaminates **NOTES:** • Fold any poly drop sheets inwards towards center prior to disposing into asbestos waste container. • Pour wash buckets through 5-micron filter socks to remove asbestos fibers from liquid (as needed) and dispose of socks into asbestos waste container.	☐
6.11 Asbestos Waste Disposal/Transportation		
66.	**SUPERVISOR:** Confirm all ACMs and contaminated materials (i.e., cleaning materials, PPE, containment etc.) been properly disposed into asbestos waste containers and transferred into securable/labelled asbestos waste bin.	☐

67.	**SUPERVISOR:** Notify hazardous waste disposal facility (i.e., Augusta Recyclers Inc.) and schedule delivery of waste. **NOTE:** Hazardous waste disposal facilities that accept asbestos waste may require 24 to 48-hours notice and a scheduled appointment.	☐
68.	**SUPERVISOR:** Ensure Part A "Generator" and Part B "Carrier" of chain of custody ("waste manifest") is completed, Transportation of Dangerous Good (TDG) placards are posted on waste storage container(s) and Transporter has required TDG training/valid certificate. **NOTE:** Hazardous waste disposal facilities that accept asbestos waste may require documentation such as disposal form, asbestos sampling report, clearance letter, waste manifest etc.	☐
69.	**TRANSPORTER:** Transport waste storage trailer – when full or at completion of project phase – to an approved hazardous waste disposal facility in compliance with applicable TDG Regulations (provincial/federal) and ensure completion of Part C "Receiver" of waste manifest.	☐
70.	**SUPERVISOR:** Maintain record of completed waste manifest with other asbestos-related safety documentation (i.e., project site binder and/or file management system).	☐
71.	**EMPLOYER:** Revise asbestos-related safety documents including this procedure as required and develop a Clearance Letter in compliance with WSBC OHSR Section 20.112(8) Hazardous Materials.	☐

7.0 SIGN OFFS

7.1 Qualified Person Sign Off

NAME	Kris White, Env. B.Sc., & Dipl., AHERA, *Senior Project Manager*	**SIGNATURE**	
COMPANY	ORCA Health & Safety	**DATE**	September 6, 2023
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VERSION	V2.0 September 2024	**REVISION**	September 9, 2024

7.2 Worker Sign Off

NAME	POSITION	COMPANY	SIGNATURE	DATE

7.3 Supervisor Sign Off

NAME	POSITION	COMPANY	SIGNATURE	DATE

APPENDIX 1
EXPOSURE CONTROL CHECKLIST

ITEM	PRESENT
A1.0 ENGINEERING CONTROLS	
1. 6-mil poly drop sheets:	☐
a. Wash buckets (i.e., wash & rinse)	☐
b. Liquid soap	☐
c. Sponges, rags, cloths	☐
d. Wet wipes	☐
e. Towels	☐
f. Respirator wipes	☐
g. 6-mil poly waste bags	☐
h. 5-micron filter socks	☐
2. Low pressure water sprayers	☐
3. Certified HEPA-filtered vacuums (if required)	☐
a. Replacement bags	☐
b. Attachments	☐
4. Ground Fault Circuit Interrupters	☐
a. Extension cords	☐
5. Service Truck with Caboose	☐
A2.0 ADMINISTRATION	
A2.1 Equipment, Tools & Materials	
1. Delineators	☐
a. Caution barrier tape	☐
b. Asbestos warning signs	☐
A2.2 Documentation	
1. Asbestos Inventory/Assessments	☐
a. Utilities Maps Identifying AC Cement Pipes	☐
2. HazMat Surveys	☐
3. Work Zone/Equipment Inspection Forms	☐
4. Air Monitoring Results	☐
5. Asbestos Exposure Control Plan including Risk Assessment	☐
6. Asbestos Safe Work Procedure	☐
7. Training Records	☐
8. Emergency Response Plan	☐
9. Evacuation/Rescue Procedure	☐
10. Hazard Assessments (i.e., Pre-Job, Field Level)	☐
11. Toolbox Meeting Records	☐
12. PPE Program (Respiratory Protection)	☐
13. Fit Test Records	☐
14. First Aid Procedure	☐
15. HEPA-Filter DOP Test Certifications (if required)	☐
16. Equipment Safe Operating Manuals	☐

APPENDIX 1
EXPOSURE CONTROL CHECKLIST

ITEM	PRESENT
17. Waste Disposal Documents (i.e., Waste Manifest)	☐
18. Clearance Letter	☐
A3.0 PERSONAL PROTECTIVE EQUIPMENT	
1. Half-facepiece APR with P100 HEPA filters (moderate risk)	☐
2. Disposable, full-body, impermeable suits with hoods & boot covers	☐
3. Work gloves (over impermeable gloves)	☐
4. Disposable, impermeable gloves (i.e., nitrile)	☐
5. Laceless steel-toed rubber boots (if required)	☐
A4.0 OTHER	
1. First aid kit/room	☐
2. Eye wash bottle	☐
3. Poly knife	☐
4. Duct/tuck tape	☐