

# RESOLUTE BAY SEWAGE MACERATOR FACILITY OPERATIONS AND MAINTENANCE PROCEDURES

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**RESOLUTE BAY SEWAGE MACERATOR FACILITY  
OPERATIONS AND MAINTENANCE PROCEDURES**

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**\* Refer to Reference Drawings D212 and D301 for general O&M Reference.  
All conditions to be confirmed onsite.**

## **RESOLUTE BAY SEWAGE MACERATOR FACILITY OPERATIONS AND MAINTENANCE PROCEDURES**

### **A: MACERATOR BUILDING – DAILY, WEEKLY, MONTHLY**

Before entering the building, operate the ventilation system for a minimum of 5 minutes. If ventilation system is not operating, obtain a portable fan to ventilate building.

#### Daily

1. Check operation of interior and exterior lighting.
2. Check heating system operation.
3. Check for excessive noise, heat and/or vibration of motorized components
4. Check that all pumps, valves and other equipment are performing correctly, and service is required.
5. Lock out power for macerator unit and configure bypass.
6. Remove gas-tight macerator cover.
7. Drain Macerator basket and remove debris to maintain at least 90% of flow through capacity
8. Flush basin
9. Clean all combs, coarse screens or other preliminary treatment devices.
10. Replace gas-tight macerator cover.
11. Restore power to macerator unit.

#### Weekly

1. Operate backup power supply and check fuel tank (if backup power supply available)
2. Exercise backup pump if pumps are not being cycled as duty pump.

#### Monthly

1. Maintain records of problems, repairs/modifications/replacement, and fuel and electrical consumption.
2. Clean and disinfect floor of building, and equipment.
3. Lubricate all components as recommended.

#### Annual

1. Inspect cutting edge and shear bars and replace if necessary
2. Open, check, overhaul and sharpen cutters
3. Lubricate all components as recommended.
4. Service motor as recommended.

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### **B: EMERGENCY LIGHTING - ANNUAL**

1. Simulate power failure to prove operation.
2. Check that pilot lights are functioning and not obviously damaged or obstructed.
3. Top up electrolytes if applicable.
4. Check that terminal connections are clean, free of corrosion and lubricated as required.
5. Check that terminal clamps are clean and tight.
6. Ensure that battery is clean and dry.
7. Ensure that security devices or locks are operational, and guards are in place.
8. Wipe down and remove dust accumulation on lamp.
9. Ensure supports are securely fastened and not damaged.
10. Test to ensure that the unit will provide emergency lighting for the following durations :
  - a. two (2) hours for high buildings (as defined by the National Building Code 3.2.6; and
  - b. one (1) hour for buildings where persons are detained or under special care; and
  - c. one-half (1/2) hour for all other buildings
  - d. At this time the unit must be able to produce 50% of its designed illumination or 10 lux at floor or tread level.
11. At the end of the test required by #10 check that the charging system functions.
12. When maintenance is complete, return to service.
13. Check expiry date of batteries and general condition.

### **C: EXIT SIGNAGE - MONTHLY**

1. Check that exit signs are illuminated, clean and legible.

### **D: COMPRESSOR - DAILY, MONTHLY AND SEMI-ANNUAL:**

#### Daily

1. check compressor visually.
2. Drain receiver.
3. Check gauges on reservoir.

#### Monthly

1. Check oil in compressor.
2. Clean air filter intake and trap.
3. Check operation of pressure reducing valves and high and low limit compressor switches.
4. Check and adjust belts.
5. Check safety guards and mounts.

#### Semi-Annual

1. Check heat trace and controls for proper settings/operation. (Water lines)
2. Verify safety and check valve operation.

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3. Change belts if showing wear.
4. Check and record amp draw on motor.
5. Connect power supply to eve heat cables as required to prevent or remove ice build up. Verify proper operation. Disconnect when not required.
6. Drain crankcase and refill with clean oil
7. Clean air intake filter and trap.

### Air filter and dryer:

1. Check operation of automatic dryer.
2. Clean entire unit and filter on airline.
3. Change drying media as required.

### Piping:

1. Check pipe work for leaks.
2. Check quick couplers and utility outlets for leaks, repair as required.

### **E: HEAT TRACE - DAILY**

Check heat trace and controls for proper settings/operation.

### **F: PORTABLE FIRE EXTINGUISHER - MONTHLY**

1. Check that extinguishers are in designated place with no obstruction to access or visibility.
2. Check for damage, corrosion, defects, leakage or clogged nozzle.
3. Check that operating instructions are facing out and legible and that seals and tamper indicators are not broken or missing.
4. Check that pressure gauge reading or indicator is in the operable range. Check fullness by weighing or "hefting".
5. If inspection (2,3,4) reveals any deficiencies the unit is to be removed from service and replaced or the deficiency corrected.
6. Record the inspection date and initial the tag or label attached to the extinguisher.

### Dry Chemical Extinguishers:

1. Note: Residential extinguishers are to be replaced with a ULC listed A.B.C disposable unit when 5 or 12 yr service is due.
2. Note: Surplus units are to have head/cap and powder removed before being put in the dump. The powder must be buried if put in the dump.
3. These systems are to be serviced by qualified persons only.
4. Any extinguishers of a type not mentioned here is to be serviced as required by N.F.P.A. 10.
5. Unless required by the hazard class or some special requirement, all other types of
6. extinguisher can be replaced with a U.L.C. listed A.B.C stored pressure unit as 6 or 12 service is due.

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**G: DOORS – MONTHLY AND ANNUAL**

Monthly

1. Check action and motion of doors, adjust and lubricate as required.
2. Check all hardware for tightness and smooth operation. Adjust and lubricate as required.
3. Replace damaged, ineffective, or missing weather stripping and gaskets.

Annual

4. Check metal doors, frames and screens, correct any deficiencies including:
  - a. - looseness
  - b. - rust or corrosion
  - c. - warping, poor fit or binding
  - d. - missing caulking.
5. Check electric operators and controls (if applicable).
6. Inspect all fire doors for any damage that may affect their fire rating. Repair as required.
7. Check/clear/clean door tracks as necessary.
8. Ensure fusible link is free of dirt and paint where applicable.

**H: ROOFING INSPECTION - ANNUAL**

1. Inspect asphalt-shingle roofing for lifting; weathering; cracking; curling; buckling; blistering; loss of granules.
2. Inspect built-up roofing for cracking; alligatoring; low spots, and water ponding; failure of or lack of gravel stops; cracks in membrane; exposed bituminous coatings; exposed, disintegrated, curled or buckled felts.
3. Inspect asphalt-roll roofing for weathering, cracking, alligatoring, buckling, blistering, sufficient laps, tearing, other damage to the coating.
4. Inspect metal roofing for holes, looseness, punctures, broken seams; adequate side end laps adequate expansion joints; rust corrosion or physical damage. Check all exposed fasteners, caulking, and condition of gaskets at screws.
5. Inspect "M.B.M." torch on roofing, to ensure membrane laps are fully adhered. Check granule loss.
6. Inspect metal base flashings for rust, vertical joints, flanges, adequate nailing, proper fastening,
7. proper sealing, cant strip. Inspect chimney, wall, ridge, vent, valley, and edge flashings for open
8. joints, looseness, proper fastening.
9. Inspect other base flashings for sagging; separation adequate coverage or embedment; vertical
10. joints; proper fastening; buckling; cracking; surface coat; cant strip.
11. Inspect cap flashings for open joints, cracking, buckling; surface coat; proper fastenings; rust and corrosion.
12. Inspect parapet walls and copings for cracks, spalling, caulking, other damage; open joints.

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13. Inspect roof drains, remove debris, clean screen replace as necessary; examine membrane around drain for damage.
14. Inspect gutters eavestrough: clean screens, clean gutters, check caulking, ensure down-spouts are securely fastened.
15. Inspect catwalks, pipe walks. Clean debris from underneath, check for membrane damage a supports. Check fastenings.
16. Inspect all protrusions to ensure that seals are intact.
17. Inspect all vent hoods, turbine vents, for proper operation. Check seal at base.

### **I: ELECTRICAL – ANNUAL**

1. De-energize lock and tag out.
2. Replace or repair and tighten connections. A/R.
3. Ensure breaker size is proper for equipment it protects.
4. Exercise breaker to ensure freedom from binding.
5. Wipe down breaker faces; ensure they are clean and dry.
6. Ensure fuse size and type is proper for equipment it protects.
7. Ensure fuse holders in good condition.
8. Check out and ensure labelling on the index card is correct.
9. Ensure labelling is legible.
10. Note spare circuit capacity remaining.
11. Remove accumulation of dirt dust and debris.
12. Install knockout seals if required.
13. Remove locks, tags and return to service

### **J: ELECTRIC FORCED AIR UNIT HEATER – DAILY AND MONTHLY**

#### Daily

1. Visually check Unit
2. Check operation of controls
3. Check for any unusual noise

#### Monthly

1. Check fan bearing/belts



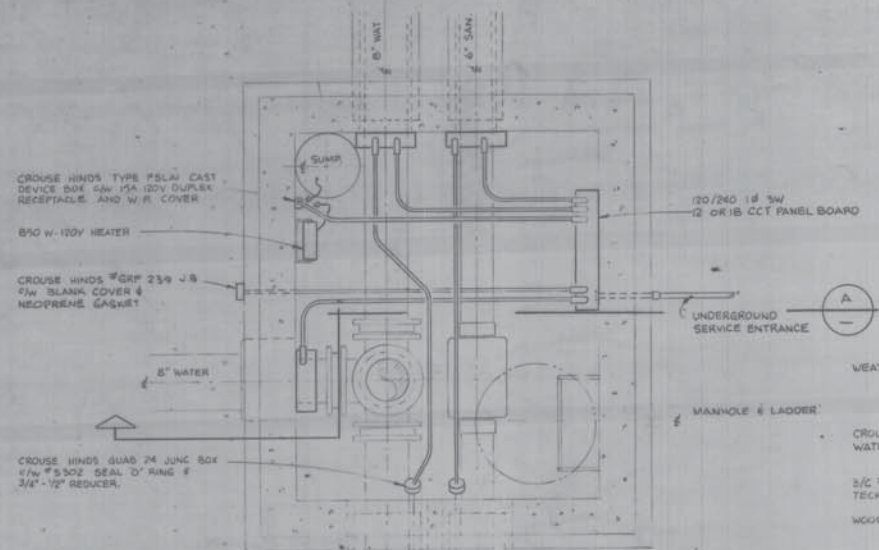




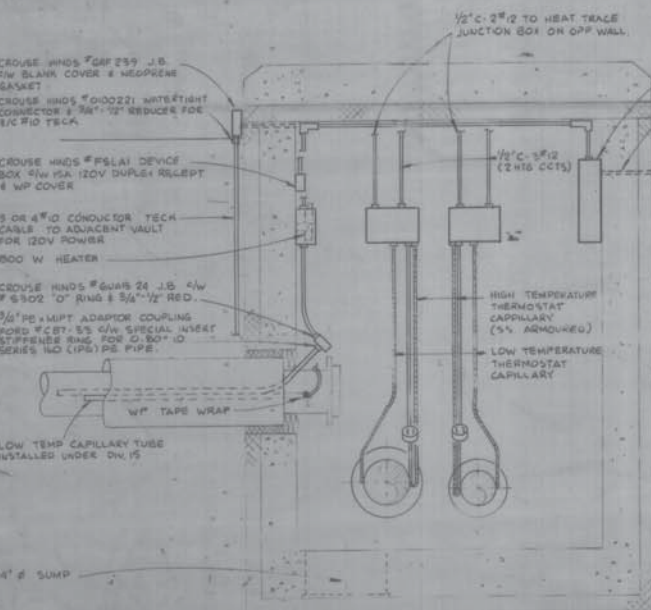
MACERATOR  
BUILDING  
DESIGN DRAWINGS

FOR O&M GENERAL  
REFERENCE

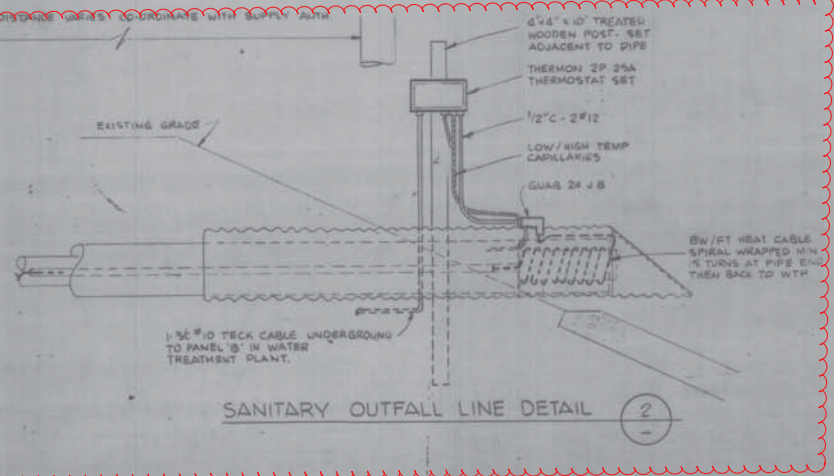
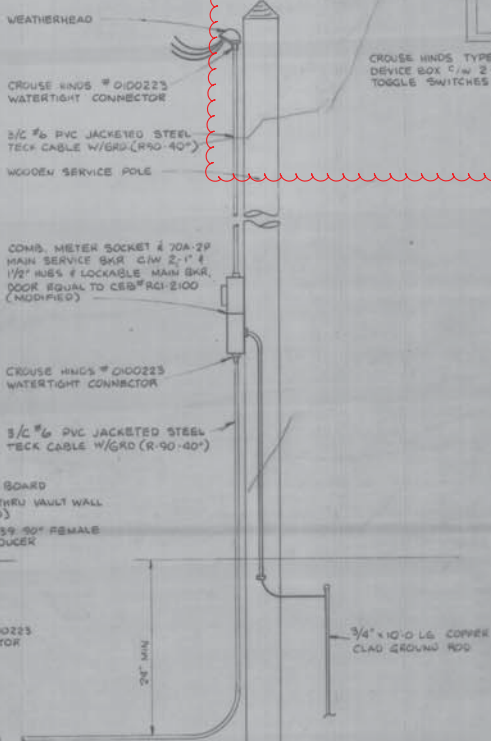
ALL CONDITIONS  
TO BE CONFIRMED  
ON SITE



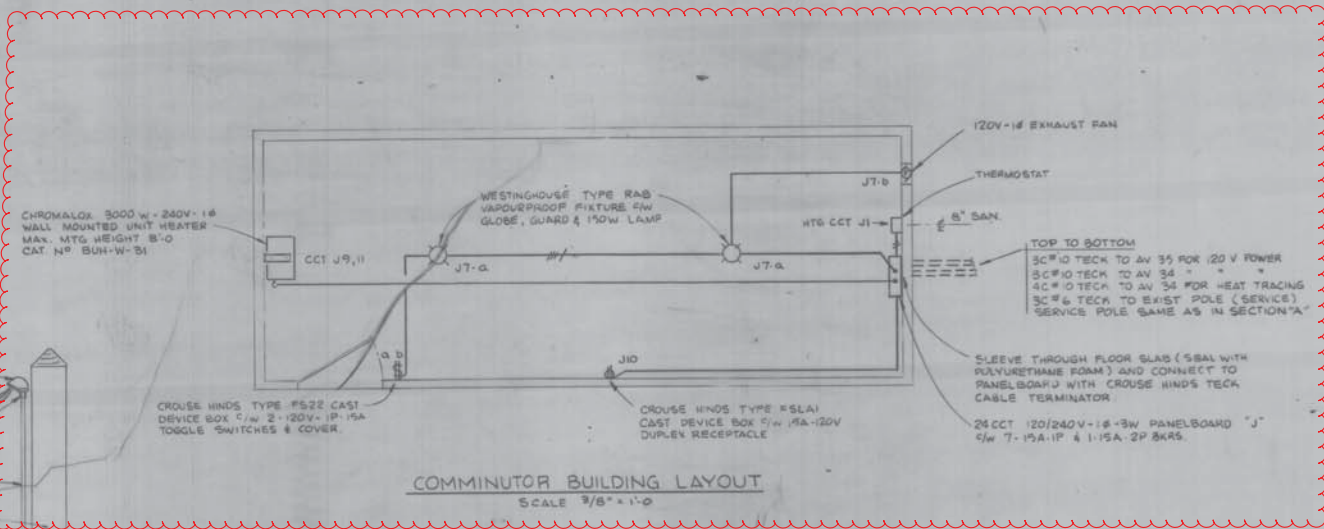
PLAN-TYPICAL MANHOLE  
SCALE 3/4"=1'-0"



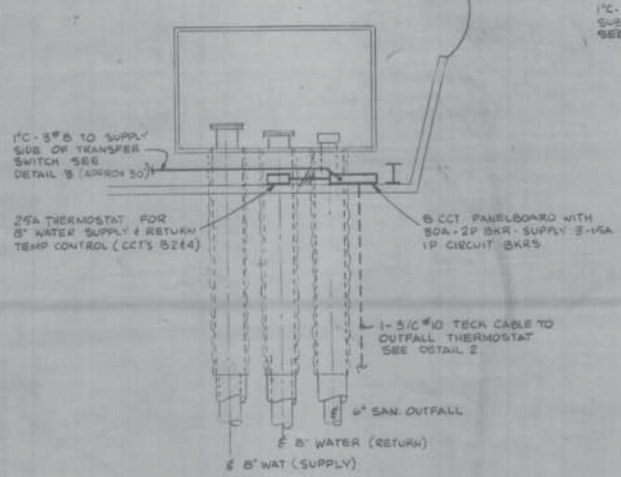
TYPICAL MANHOLE SECTION



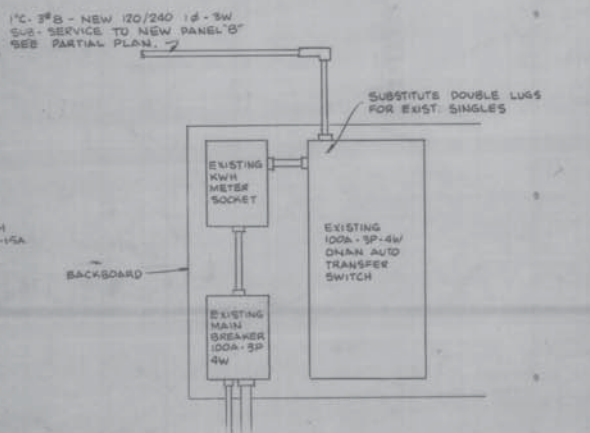
SANITARY OUTFALL LINE DETAIL



COMMUNITOR BUILDING LAYOUT  
SCALE 3/8"=1'-0"



PARTIAL PLAN-W.T. PLANT  
PANEL 'B' LOCATION



NEW PANEL 'B' SERVICE DETAIL

NO.	REVISION		DATE	BY
	ISSUE	DATE	REMARKS	
1		24/02/77	FOR CONSTRUCTION	

GOVERNMENT of the NORTHWEST TERRITORIES  
**RESOLUTE BAY - NEW TOWN**  
CORNWALLIS ISLAND - NORTHWEST TERRITORIES

WATER AND SEWER SERVICING  
STAGE 1A  
ELECTRICAL HEAT TRACING DETAILS

**UNDERWOOD McLELLAN & ASSOCIATES LIMITED**  
CONSULTING ENGINEERS TOWN PLANNERS

DESIGN: E.D.W.	DATE: MAR 4, 1977
DRAWN: M.W.	JOB: 2202-1315-CBS
CHECKED: DMP/BCG	SHEET:
SCALE: AS NOTED	DRAWING: D-301
	ISSUE: 1