

Chalkyitsik Raw Water Intake Upgrades

Scope:

The Black River is the community water source for the Village of Chalkyitsik. Water is withdrawn from the river via an intake located adjacent to the pumphouse. In the spring after breakup, a floating summer intake is placed on the Black River and anchored in place. In the winter after freeze up, an insulated intake is placed on the ice.

The floating summer intake is launched from a boat trailer with an ATV at the community boat launch and towed to correct location via skiff. The location of the intake and pumphouse are shown on Figure 1. The floating intake consists of a platform suspended on two pontoons (see Figures 2 and 3) and anchored by two 16-pound Danforth style anchors with 10 feet of 1/2" galvanized chain and 35 feet of polypropylene rope. The intake is removed prior to freeze up each year and stored at the washeteria.

The winter insulated intake (Figure 4) is placed on the river after the ice thickness is sufficient to support deployment activities using a snow machine and trailer. The snow machine is used to tow the winter intake to the correct location. The intake pump casing assembly, drop pipe and pump are installed through the ice once intake box is set at the location shown in Figure 1. Prior to spring break-up, the winter intake is disassembled, retrieved and stored in the washeteria.

An insulated water hose runs from the intake to the pumphouse and is about 180 feet long. For the floating intake, the portion of the hose on the river is suspended using orange fenders attached by braided floating propylene rope to make it visible to boaters. For the winter intake, the hose sits on the ice.

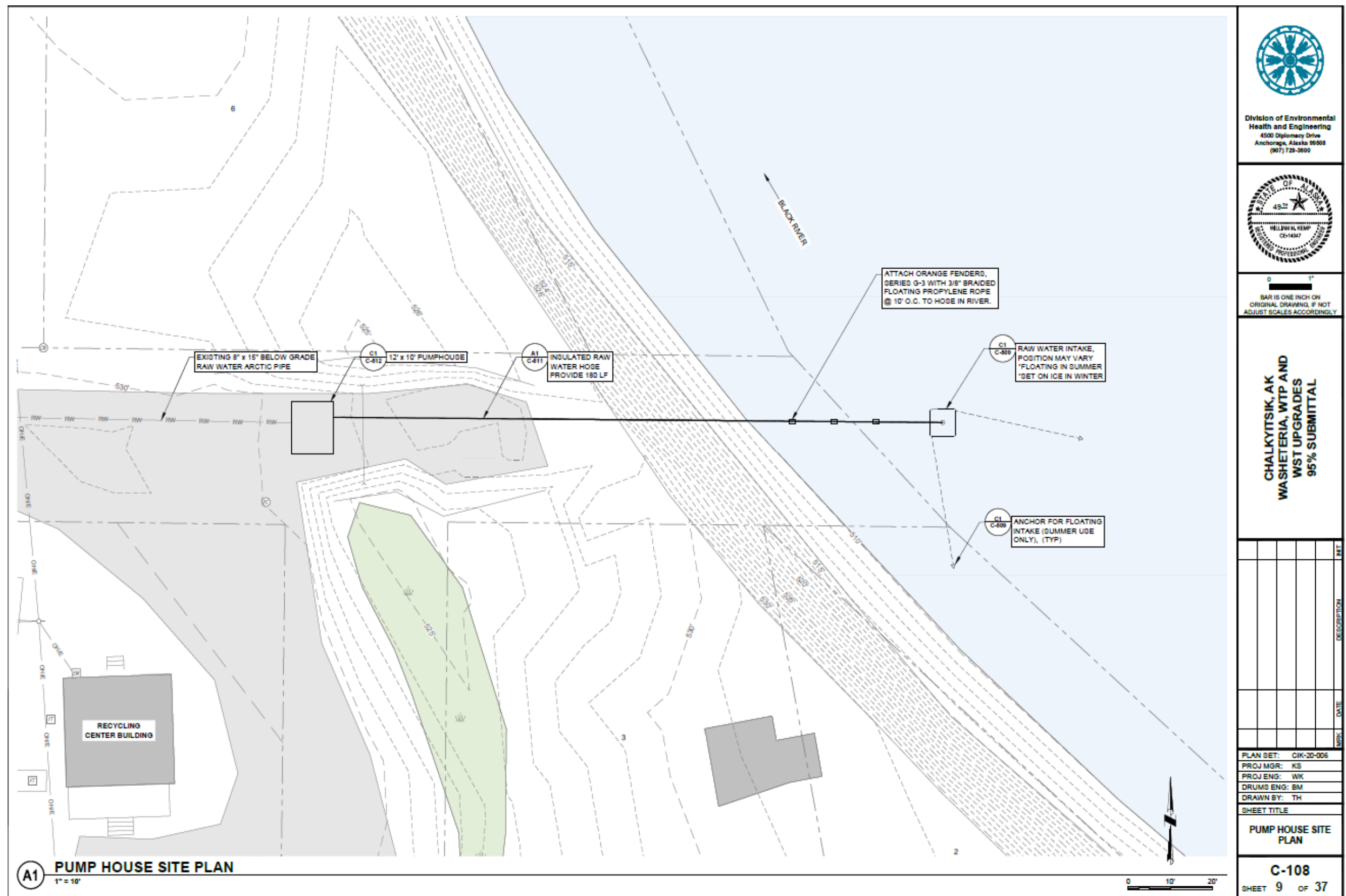
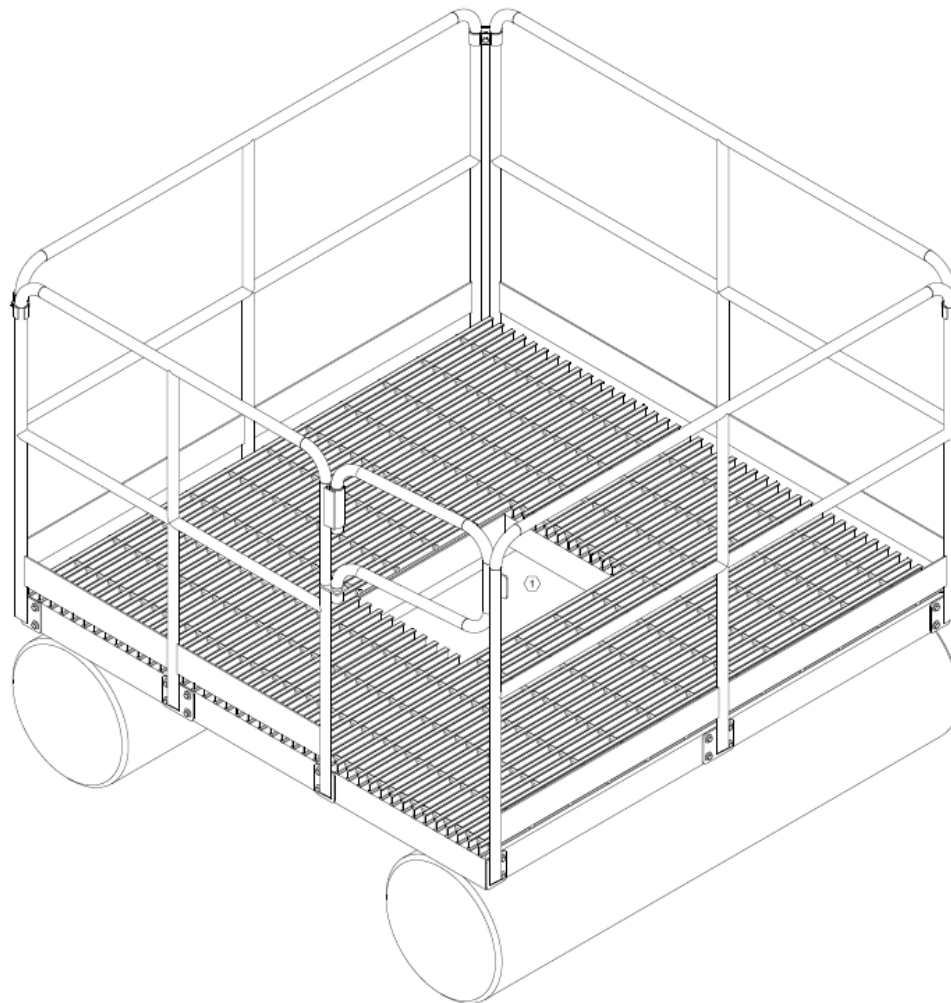


Figure 1. Pumphouse and Raw Water Intake Site Plan



NOTES:

- ① SQUARE OPENING SHOWN FOR PUMP, HOWEVER CIRCULAR OPENING SHALL BE PROVIDED IN ACCORDANCE WITH DRAWING A3 SHEET C-508.



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Health and Engineering
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0 4"
BAR IS ONE INCH ON
ORIGINAL DRAWING, IF NOT
ADJUST SCALES ACCORDINGLY

CHALKYTSIK, AK
WASTEWATER, WTP AND
WST UPGRADES
95% SUBMITTAL

NO.	DESCRIPTION	DATE	BY

PLAN SET: C-510-006
PROJ MGR: KS
PROJ ENG: WK
DRUMS ENG: BM
DRAWN BY: TH

SHEET TITLE
SUMMER INTAKE
ISOMETRIC

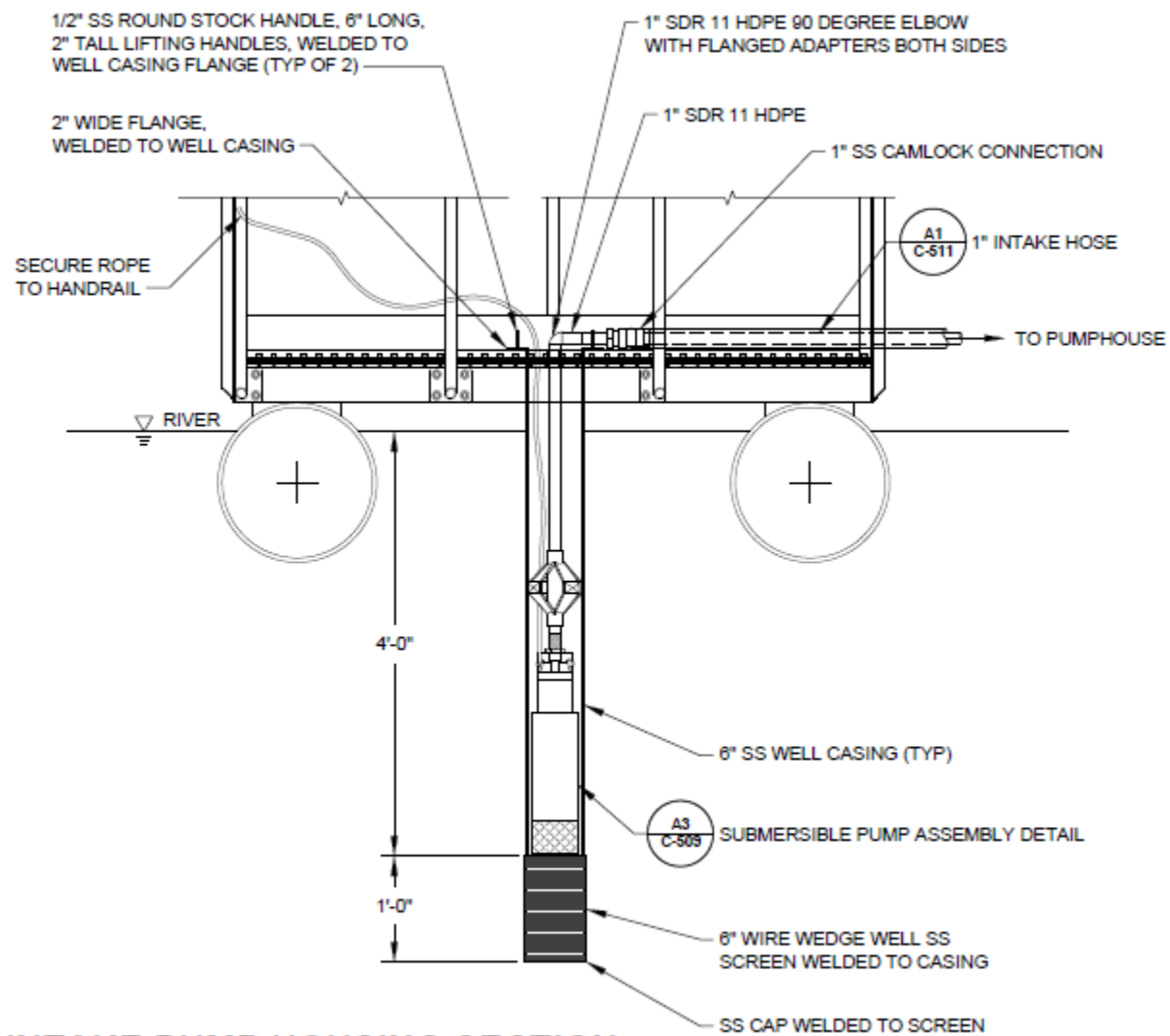
C-510
SHEET 21 OF 37

31 OF 177 TOTAL SHEETS

A1 SUMMER INTAKE ISOMETRIC

USER: SSMOT/SINGER PRODUCT: Autodesk Civil 3D 2023 - English FILE: P:\Chalkytsik\CR-20-006\CAD\CHALKYTSIK-C-01SUMM.dwg LAYOUT: C-510 SUMMER INTAKE ISOMETRIC PRINTED: 8/15/2023 2:12:30 PM

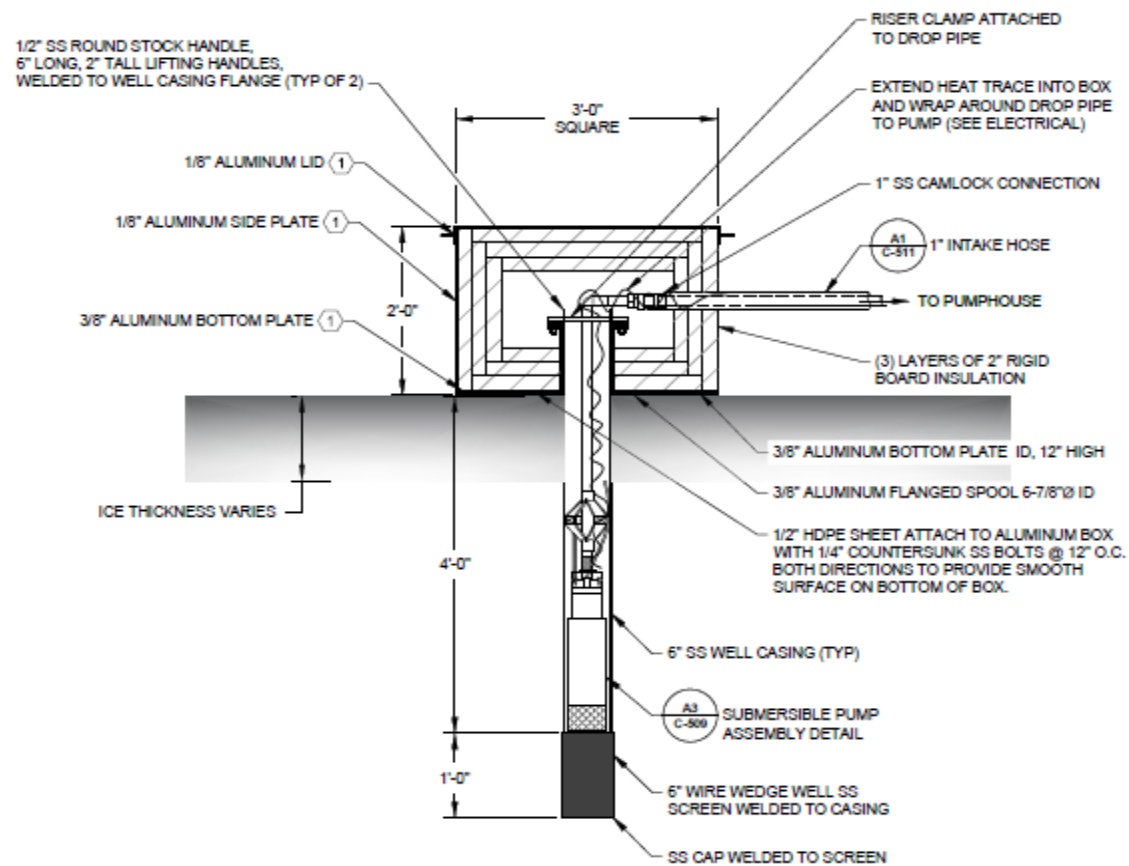
Figure 2. Summer Intake Floating Platform



SUMMER INTAKE PUMP HOUSING SECTION

1" = 1'-0"

Figure 3. Summer Intake Diagram



3) WINTER INTAKE PUMP HOUSING DETAIL

1" = 1'-0"

Figure 4. Winter Intake Diagram