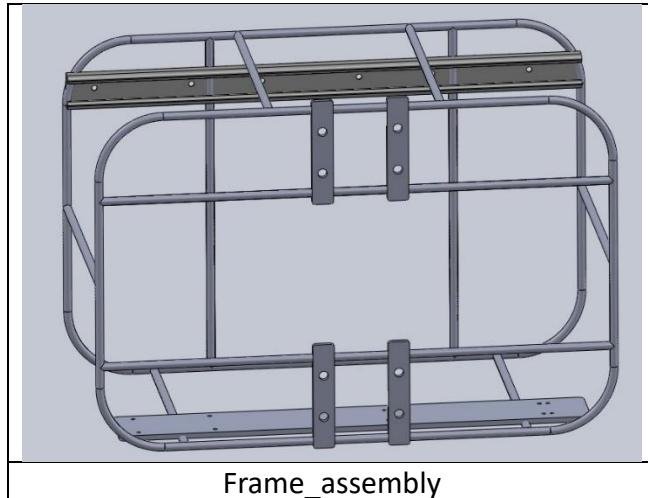


frame_assembly

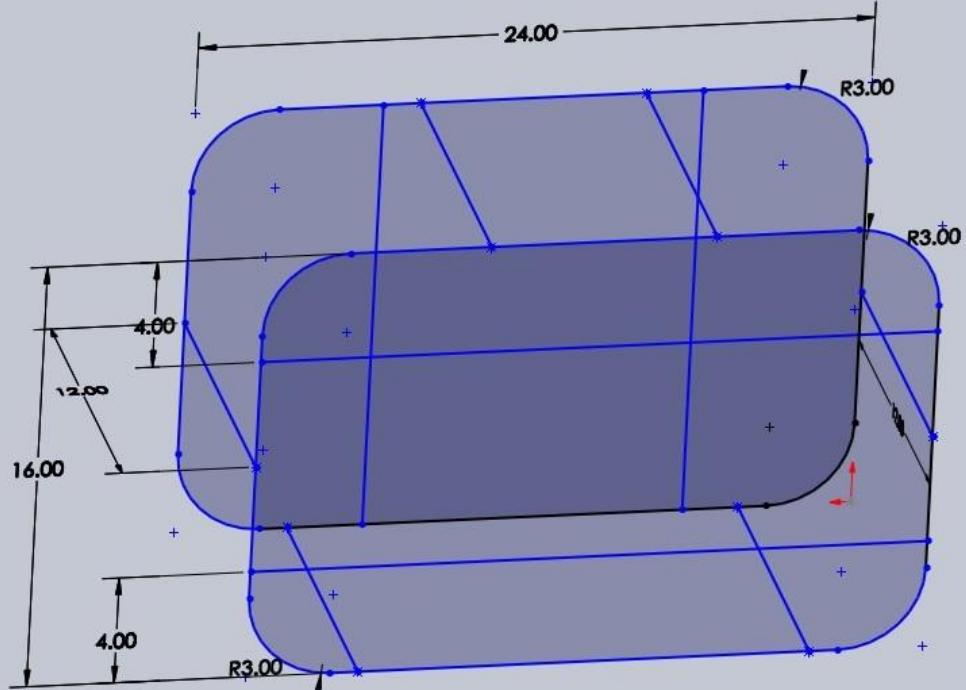
The frame, or cage, is constructed of welded 3/8-inch diameter corrosion resistant 316 stainless steel rods. Attached to this structure are 1) a 1/4-inch thick stainless-steel plate for mounting the watertight enclosure and pump unit, 2) a stainless-steel strut channel for mounting the filter holders, and 3) 1/4-inch thick stainless plates for mounting the wire clamps. The dimensions of the frame are 24 x 12 x 16 inches.



Bill of Materials (BOM)					
#	Description	Unit Cost	Qty	Extended Cost	Supplier
1	3/8-inch dia, 316 stainless rod, 6 ft length	\$25.50	4	\$102.00	Grainger
2	3/8-inch dia. 316 stainless rod, 1 ft length	\$8.51	6	\$51.60	Grainger
3	Low-profile, 316 stainless steel solid strut channel, 2 ft length	\$43.82	1	\$43.82	McMaster Carr
4	1/4-inch thick x 3-inch wide 316 stainless steel flat bar, 2 ft length	\$60.50	1	\$60.50	Grainger
5	1/4-inch thick x 1-inch wide 316 stainless steel flat bar, 2 ft length	\$20.17	1	\$20.17	Grainger
Total				\$278.09	

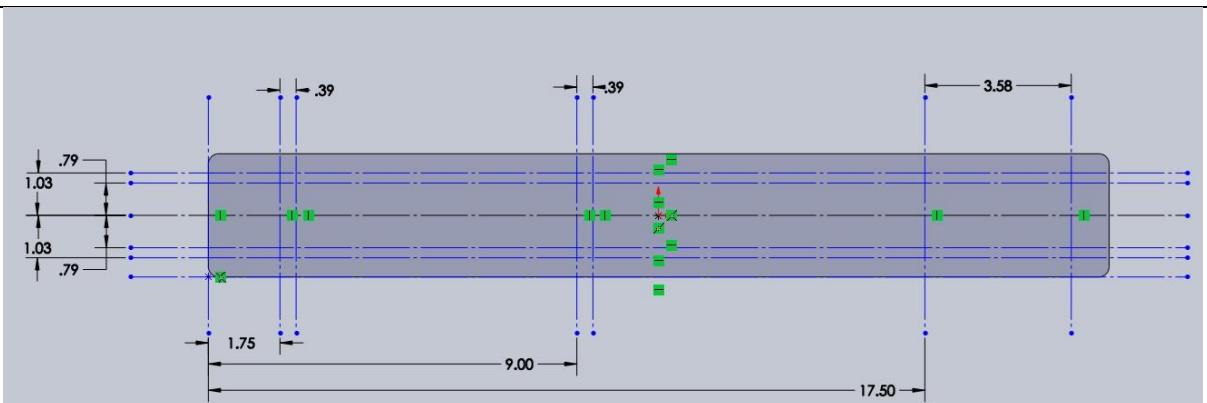
Assembly (approximate time: 4 hours):

1. Prepare stainless steel rod members (dimensions given in figure below). Bends are 3-inch radius. Grind ends to a point for welding.
2. Weld members according to figures.



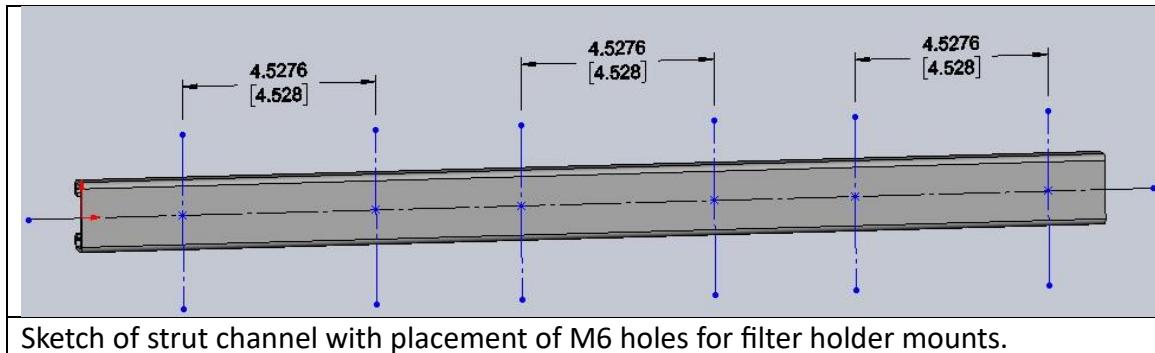
Sketch of frame showing dimensions (inches) of 3/8-inch stainless steel rod members.

3. Place 12 x M4 clearance holes in stainless steel base plate as shown in figure below. Weld the base plate to two lower cross members.



Sketch of base plate with M4 clearance hole placement.

4. Place 8x M6 clearance holes for filter holder mounts in strut channel as shown in figure below. Weld the channel to four vertical rods at back of frame.



Sketch of strut channel with placement of M6 holes for filter holder mounts.

5. Prepare the wire clamp mounts by cutting the $\frac{1}{4}$ -inch by 1-inch stainless steel plate into 5-inch lengths (4 pieces needed). Place two M10 clearance holes in each of the four wire clamp mounts as shown in figure below. Weld each mount to two horizontal rod members as shown in figure above.



Sketch of wire clamp mount with M10 clearance hole placement.