

Installation Procedures:

There are three primary types of Aqua-Barrier installations. The following descriptions of the various types of Aqua-Barrier installations are simplified and are only meant to give a general overview of the installation process. More detailed installation information must be provided by a trained Hydrological Solutions representative on all installations.

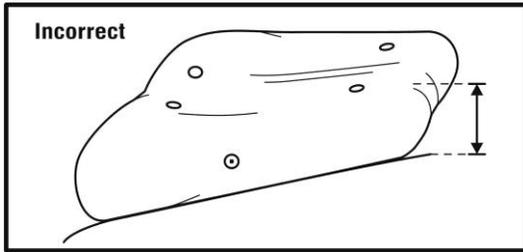
During all installations the barriers can tractor or rotate toward the side which possesses less hydrostatic pressure or water depth. The maximum length of movement toward the side of least water resistance is half of the properly inflated barrier height (i.e., 6 ft high barrier can adjust as much as 3 ft). The same adjustment behavior can occur if a slope or grade exists from one side of a barrier to the other. Barriers which are not inflated to their proper height can tractor toward the dewatered area more than half of the recommended inflated height.

Dry Surface Installation: The location where the barriers are to be installed has not water present. The barriers are simply unrolled and inflated. This style of installation is generally used in anticipation of flood waters.

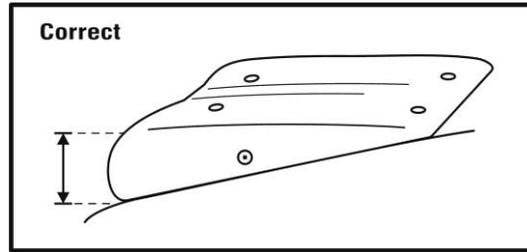
Static Water Installation: Non-moving water is present at installation location. The barriers are buoyant and float on the water's surface. The barriers are placed at the water's edge, unrolled on the water's surface and floated into position.

Dynamic Water Installations: Dynamic or moving water is present at installation location. Barriers are positioned properly by controlling the ends of the unit with hydraulic equipment (i.e., track hoe, crane) and/or anchoring at least on end of the barrier at the shoreline.

End to End Slope

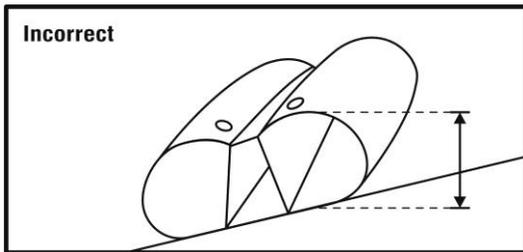


Incorrect
Measuring the recommended inflation height from the higher elevation causes the end at the lower elevation to be over-inflated.

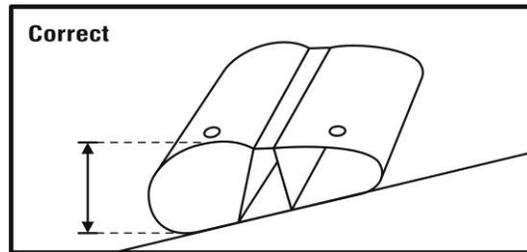


Correct
Inflation of the barrier has been correctly accomplished by measuring the inflation height from the lowest elevation and stopping inflation once the lowest end has achieved its recommended inflation height.

Side to Side Slope

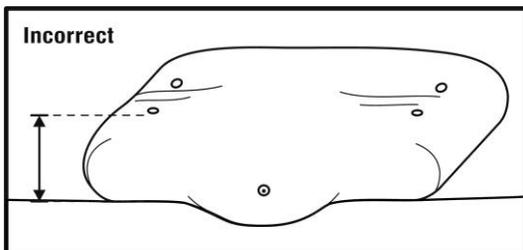


Incorrect
Measuring the recommended inflation height from the higher elevation causes the end at the lower elevation to be over-inflated.

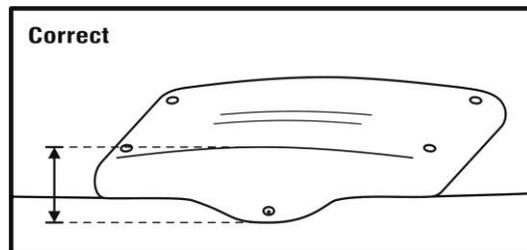


Correct
Inflation of the barrier has been correctly accomplished by measuring the inflation height from the lowest elevation and stopping inflation once the lowest end has achieved its recommended inflation height.

Longitudinal Install



Incorrect
Measuring the recommended inflation height from the higher elevation causes the middle portion to be over-inflated because it lies at a lower elevation.



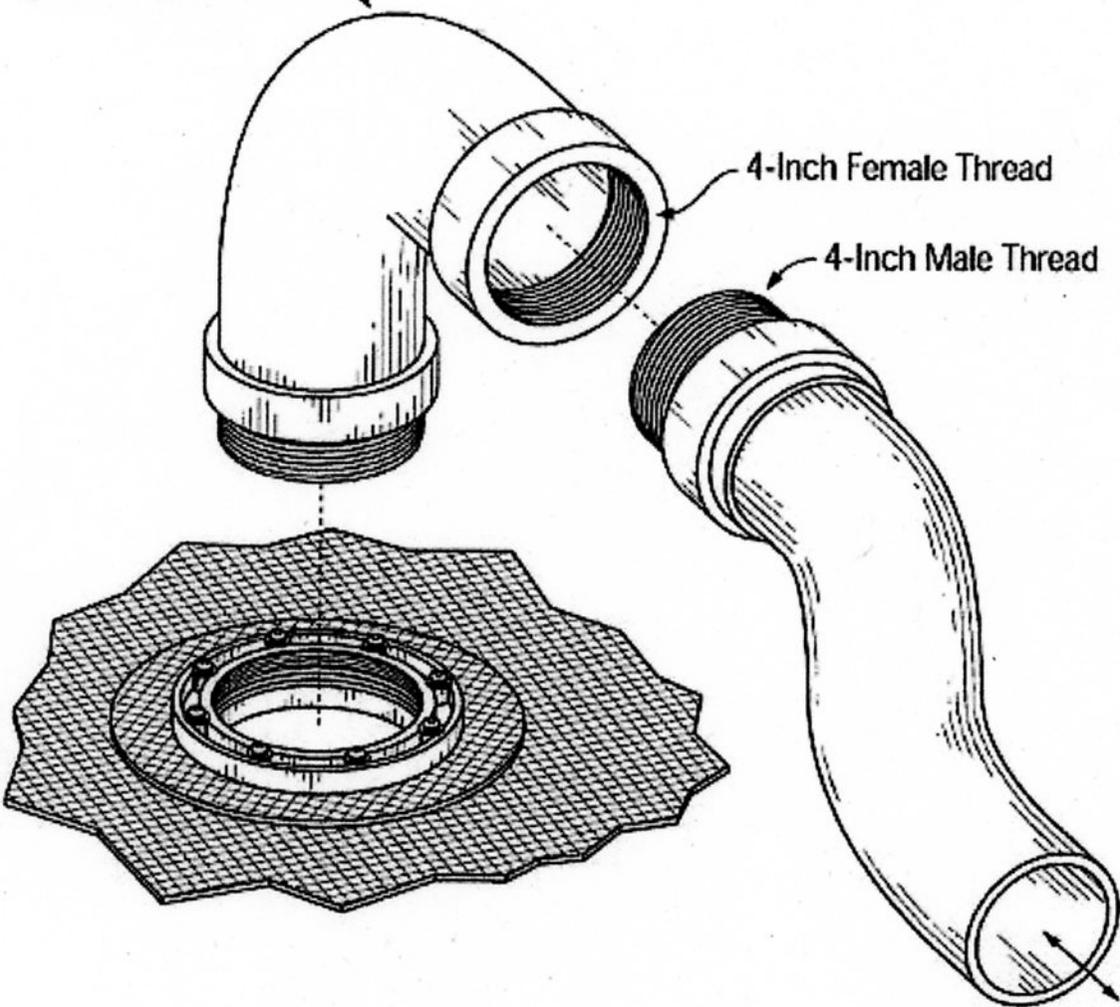
Correct
Inflation of the barrier has been correctly accomplished by measuring the inflation height from the lowest elevation and stopping inflation once the lowest portion has achieved its recommended inflation height.

Standard Fill-Port Assembly

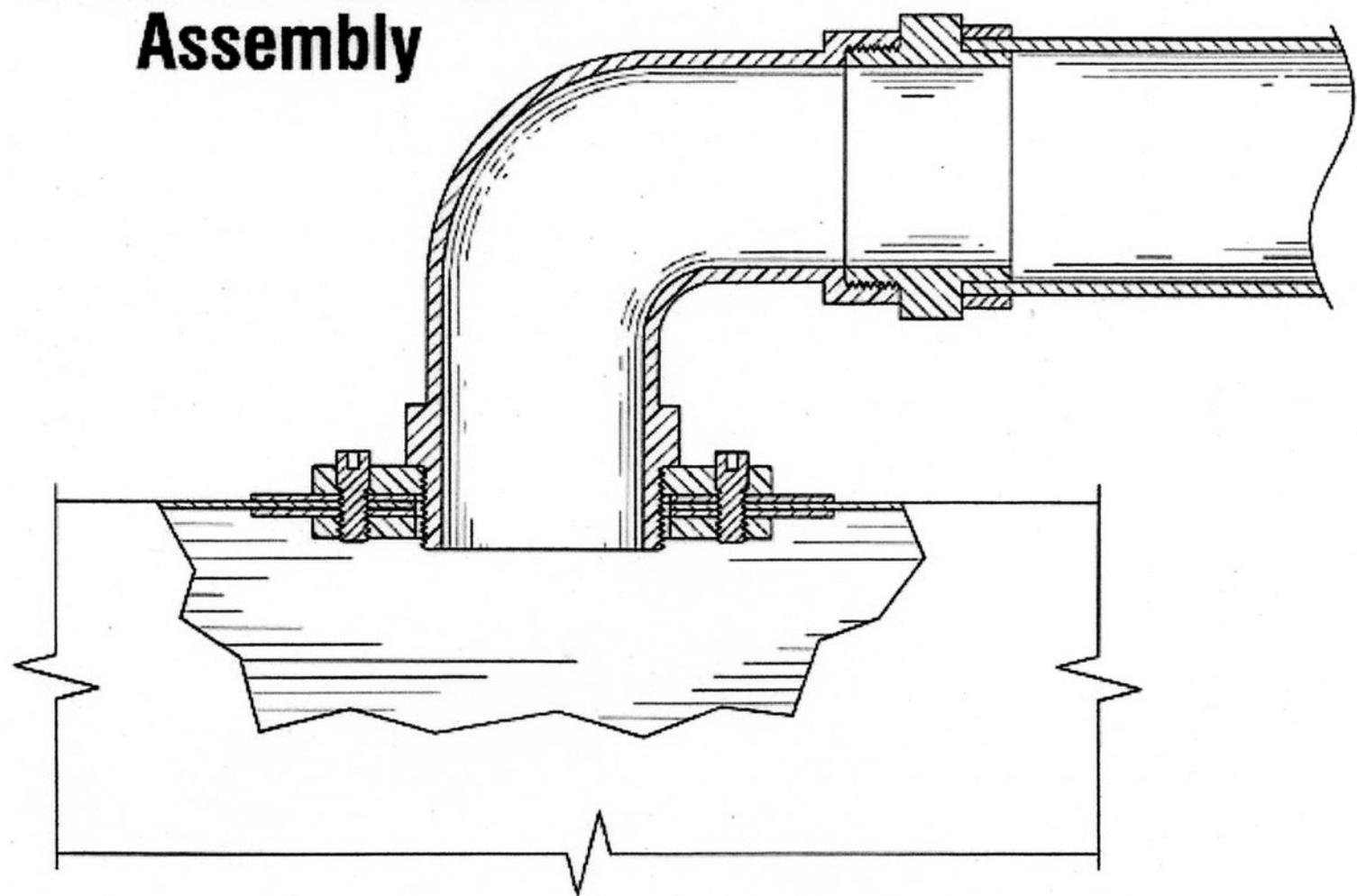
Elbows Provided by
Hydro-Solutions, Inc.

4-Inch Female Thread

4-Inch Male Thread

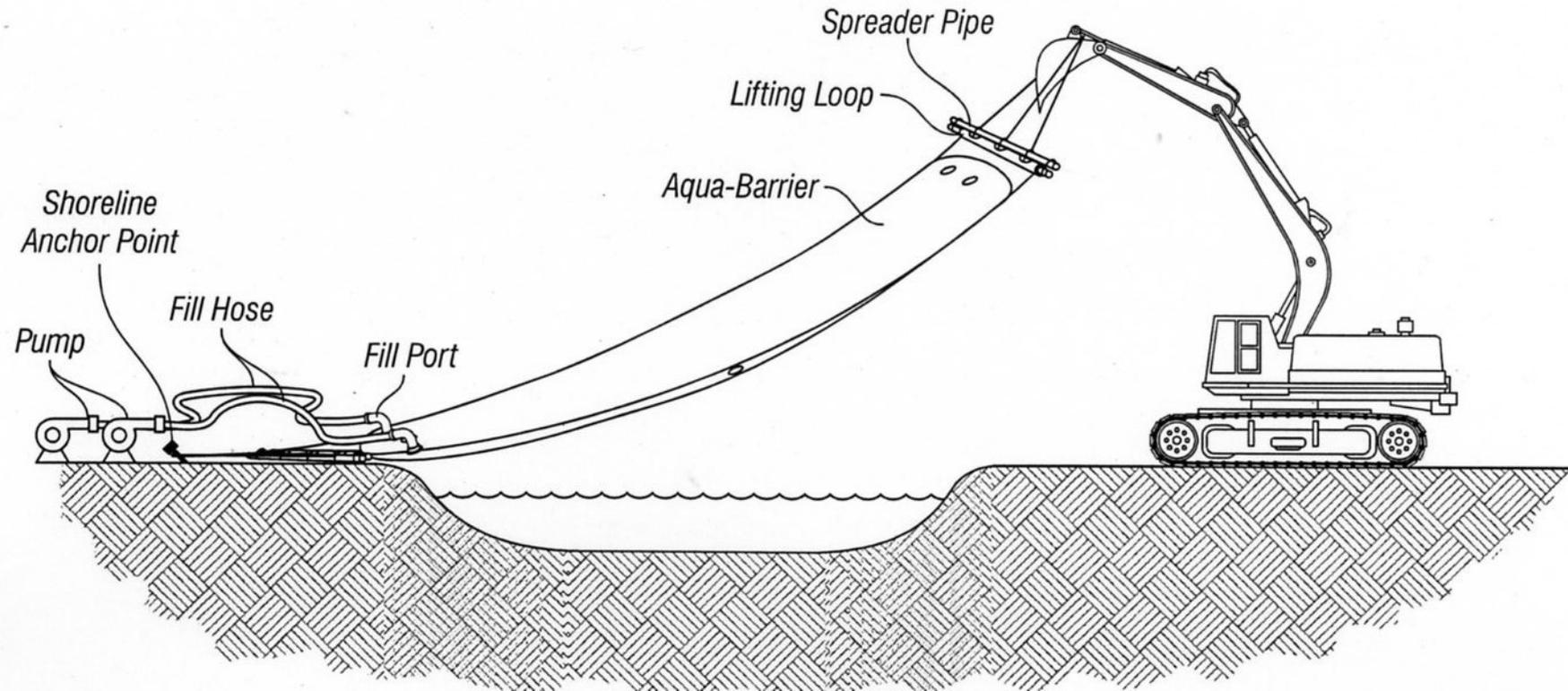


Standard Fill-Port Assembly



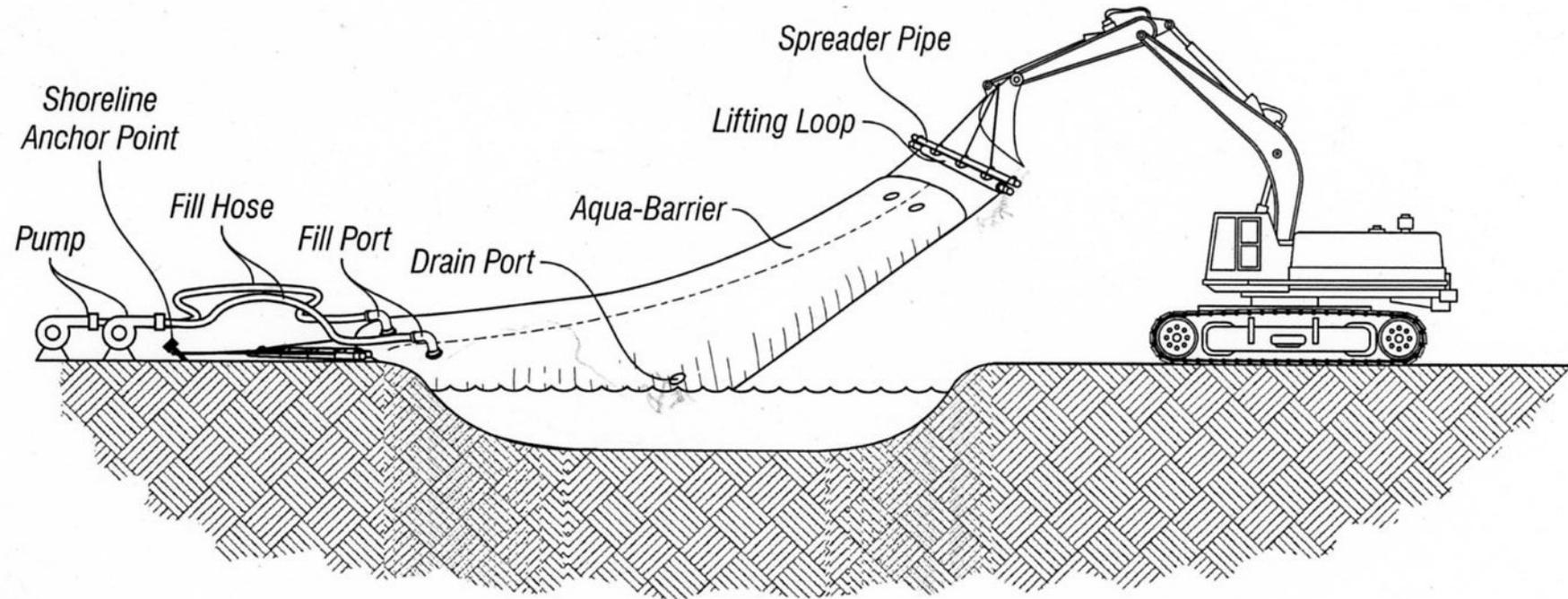
Aqua-Barrier Deployment Method

Using one track hoe and shoreline anchor
Phase 1



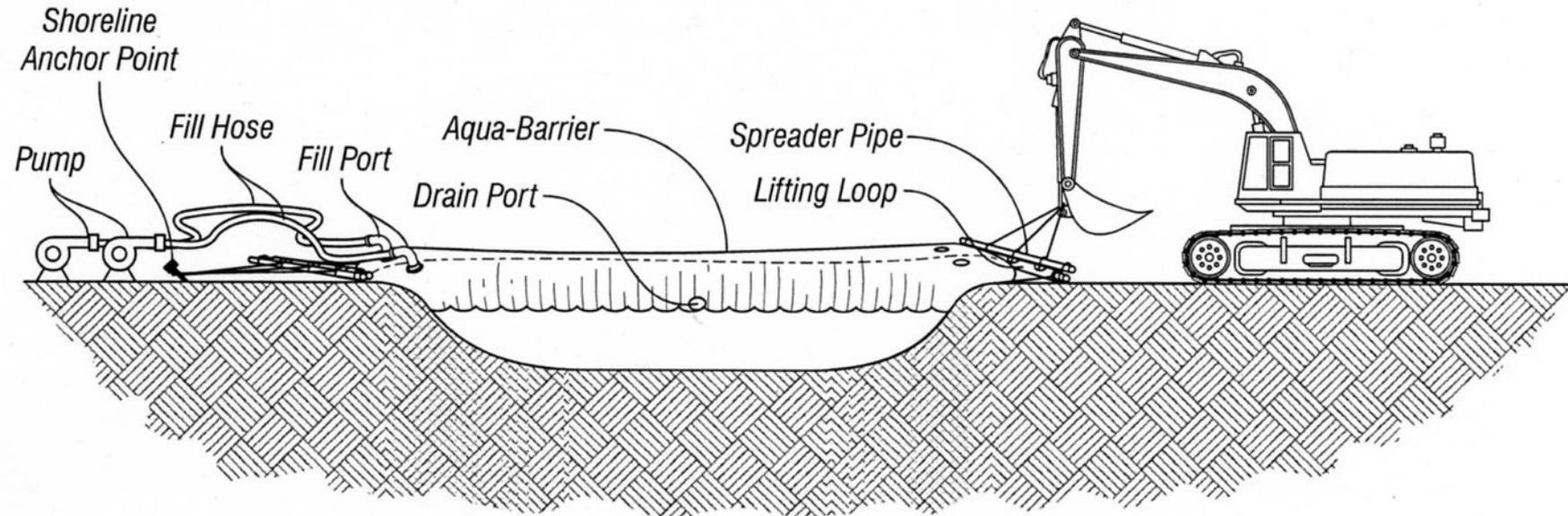
Aqua-Barrier Deployment Method

Using one track hoe and shoreline anchor
Phase 2



Aqua-Barrier Deployment Method

Using one track hoe and shoreline anchor
Phase 3



Step
1

Standing Water Deployment

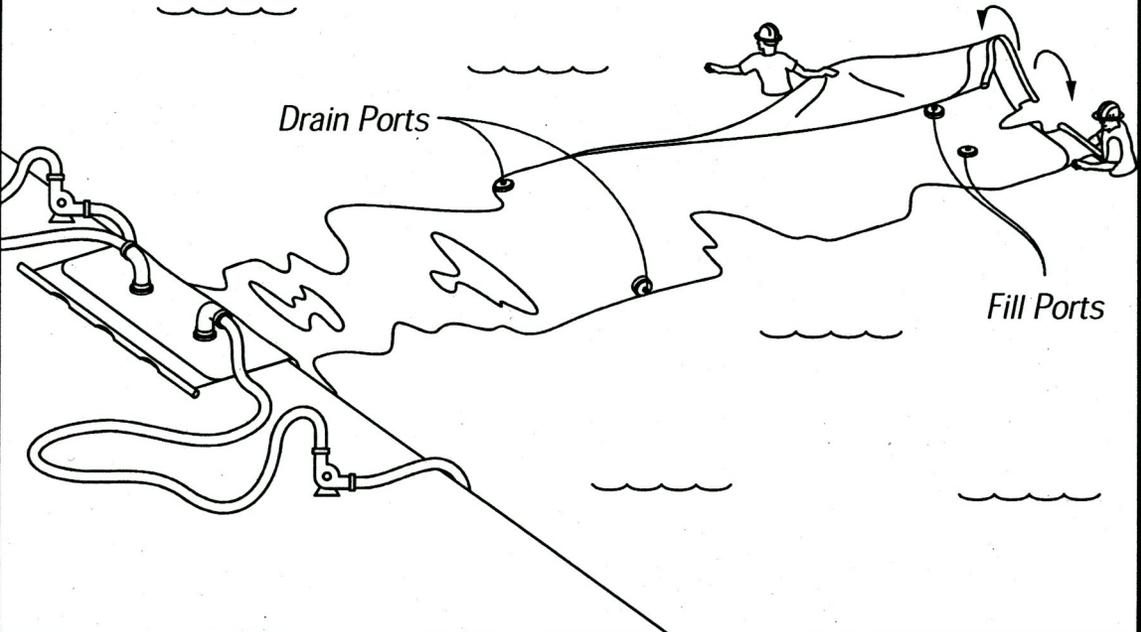
Unroll barrier from shoreline.



Step
2

Standing Water Deployment

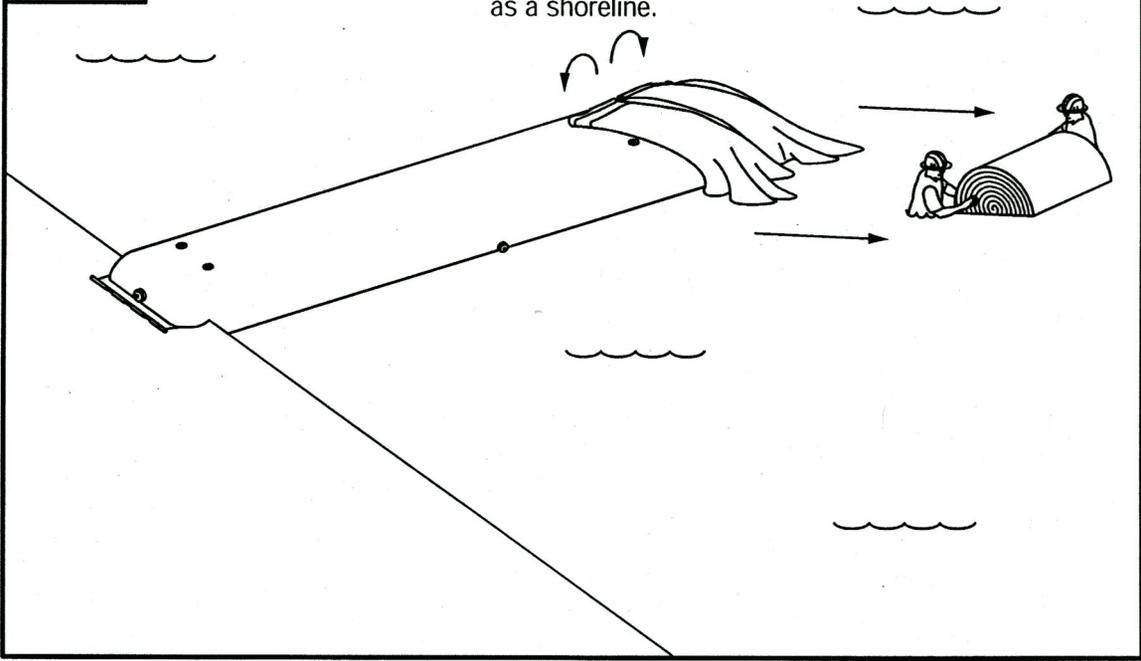
Unfold from the center and attach pump hoses to fill ports.



**Step
3**

Standing Water Deployment

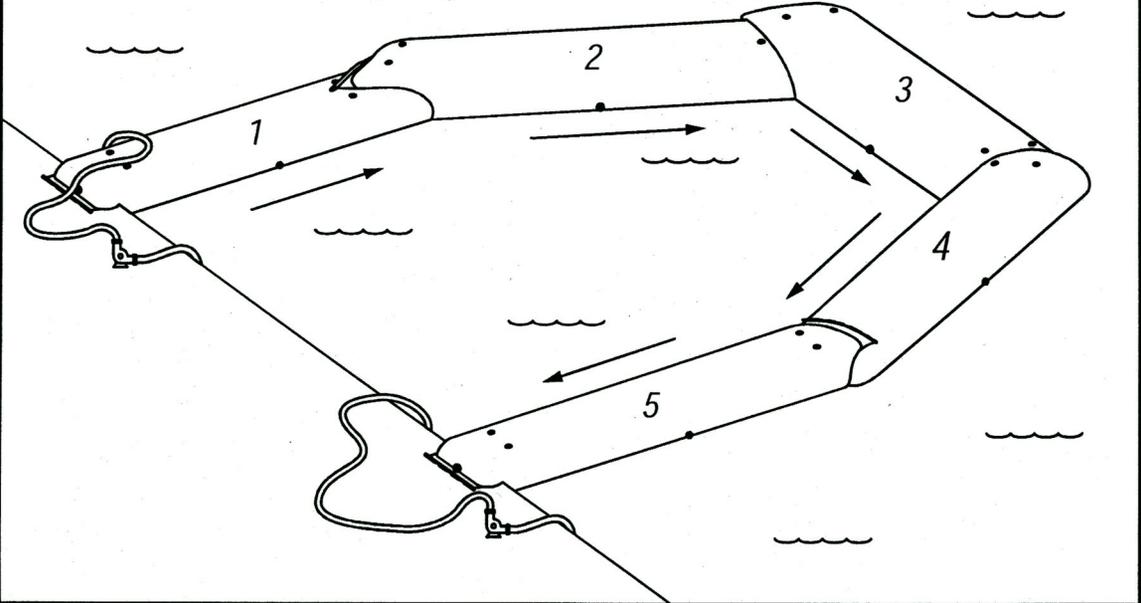
Partially inflate first barrier and repeat steps 1 and 2 with second barrier treating the first barrier as a shoreline.



**Step
4**

Standing Water Deployment

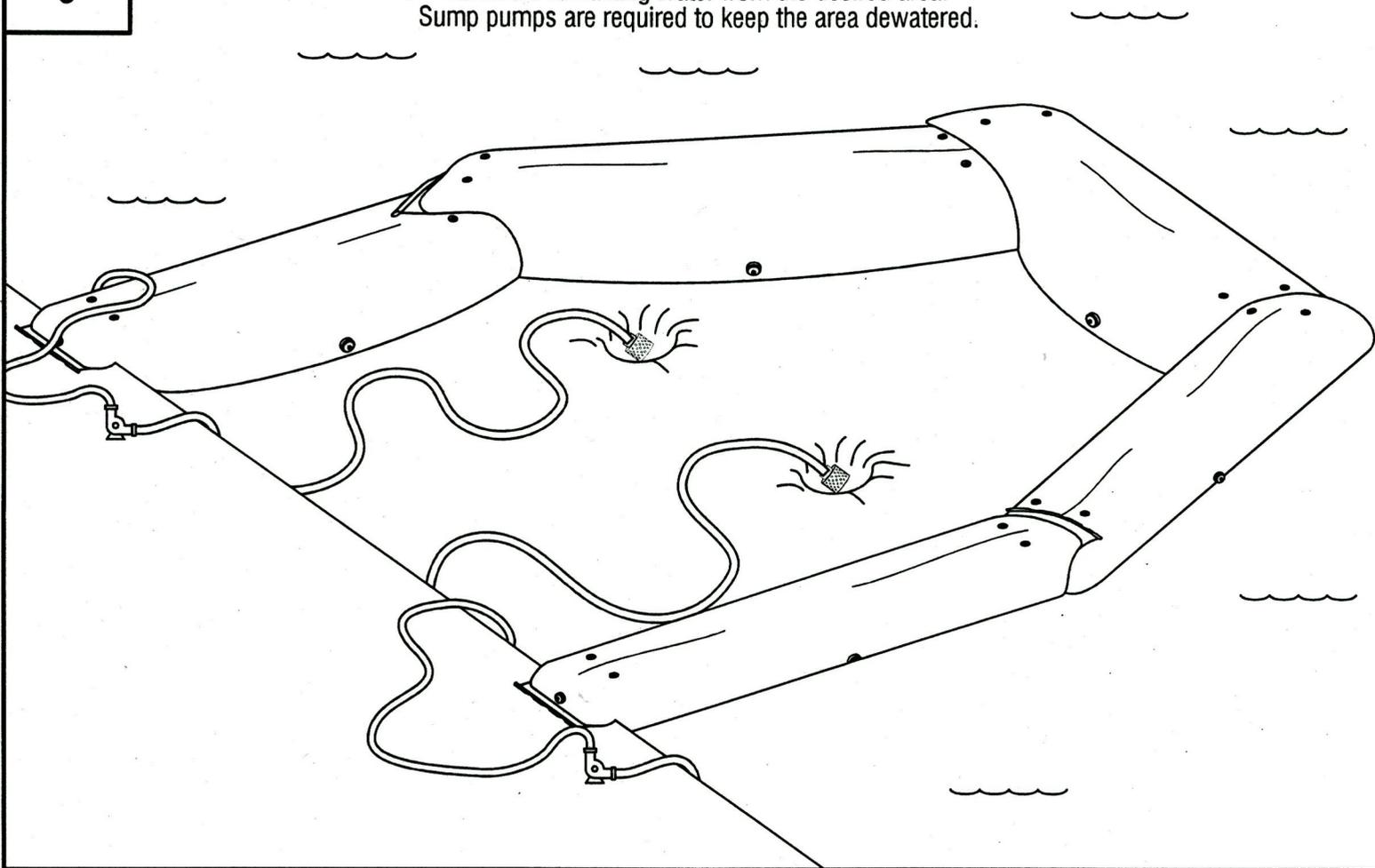
Overlap each barrier using steps 1, 2, and 3 until the barriers completely enclose the desired area. Then go back and inflate each barrier completely beginning with the last barrier installed.



**Step
5**

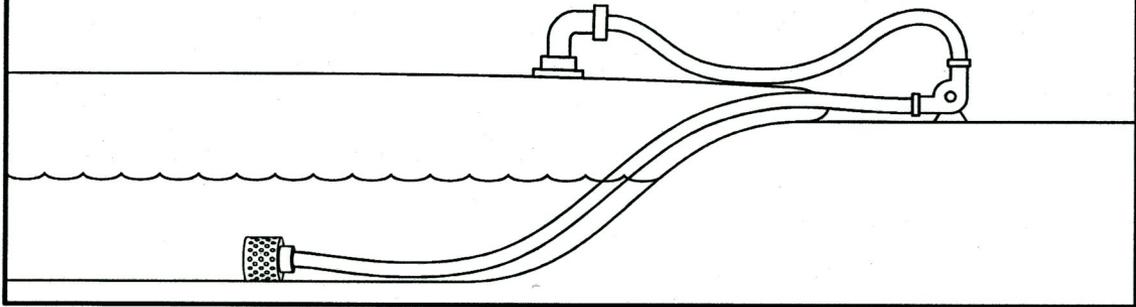
Standing Water Deployment

Drain the remaining water from the desired area.
Sump pumps are required to keep the area dewatered.

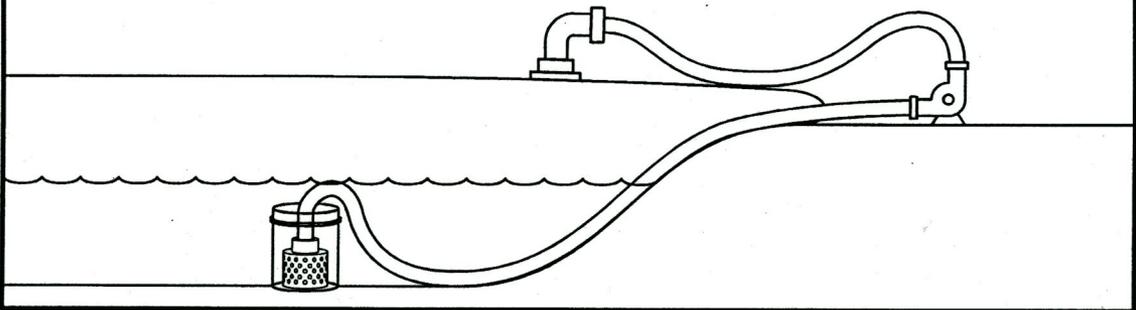


Improper Utilization of Suction Hose

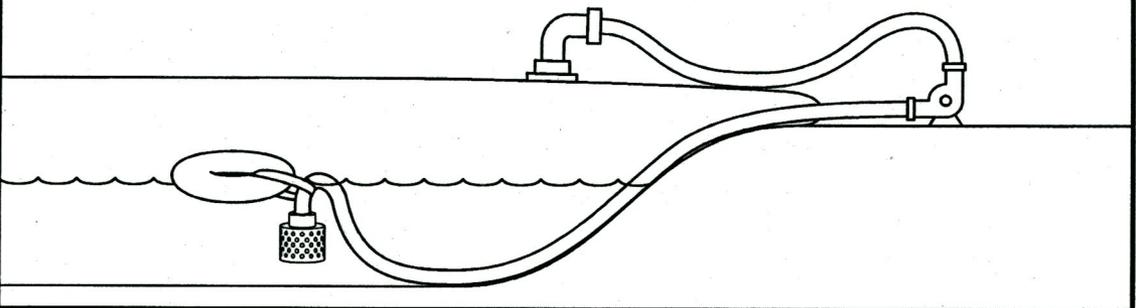
Bottom sediment will be pumped into barrier.



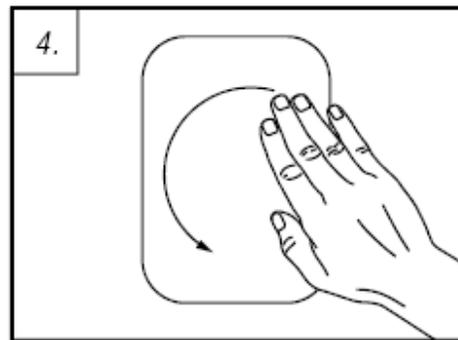
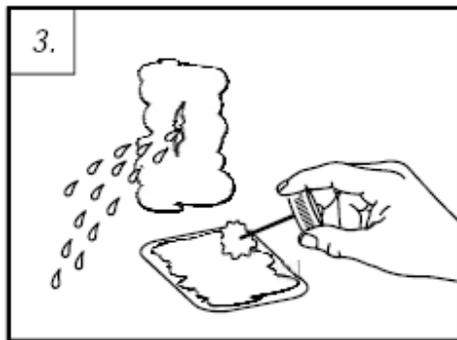
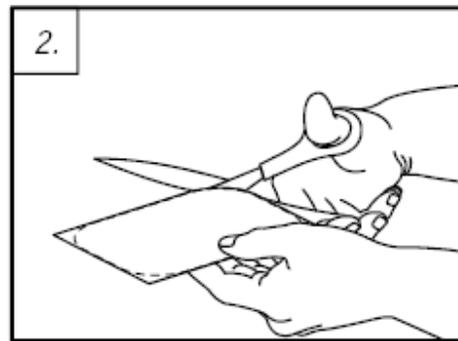
Proper Utilization of Suction Hose (Bucket Method)



Proper Utilization of Suction Hose (Floatation Device Method)



Vinyl Barrier Repair

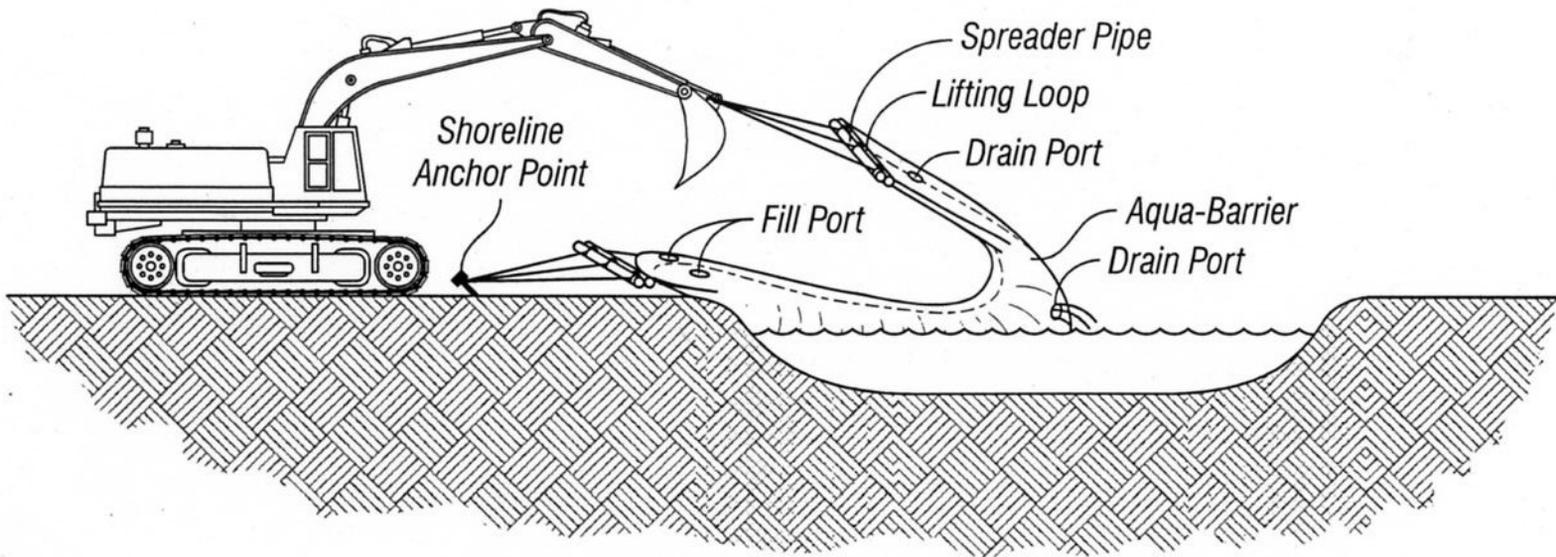


1. Clean barrier surface.
2. Cut appropriate size patch of vinyl fabric and round corners.
3. Generously apply HH66 vinyl adhesive to both the barrier surface and patch. Allow a few minutes for the glue to dry. The drying process is complete when the glue exhibits a frosty color and is tacky to the touch.
4. Apply patch material rubbing into place continually for 1 minute.

Aqua-Barrier Removal Method

Using one track hoe and shoreline anchor

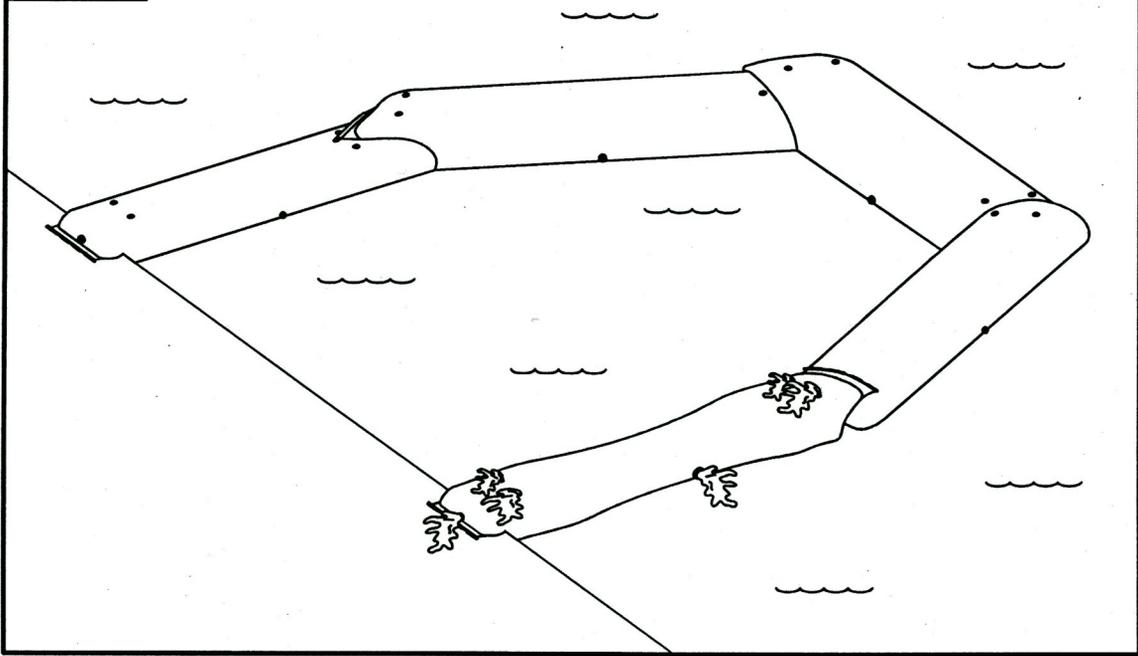
Phase 1



Step
1

Barrier Removal

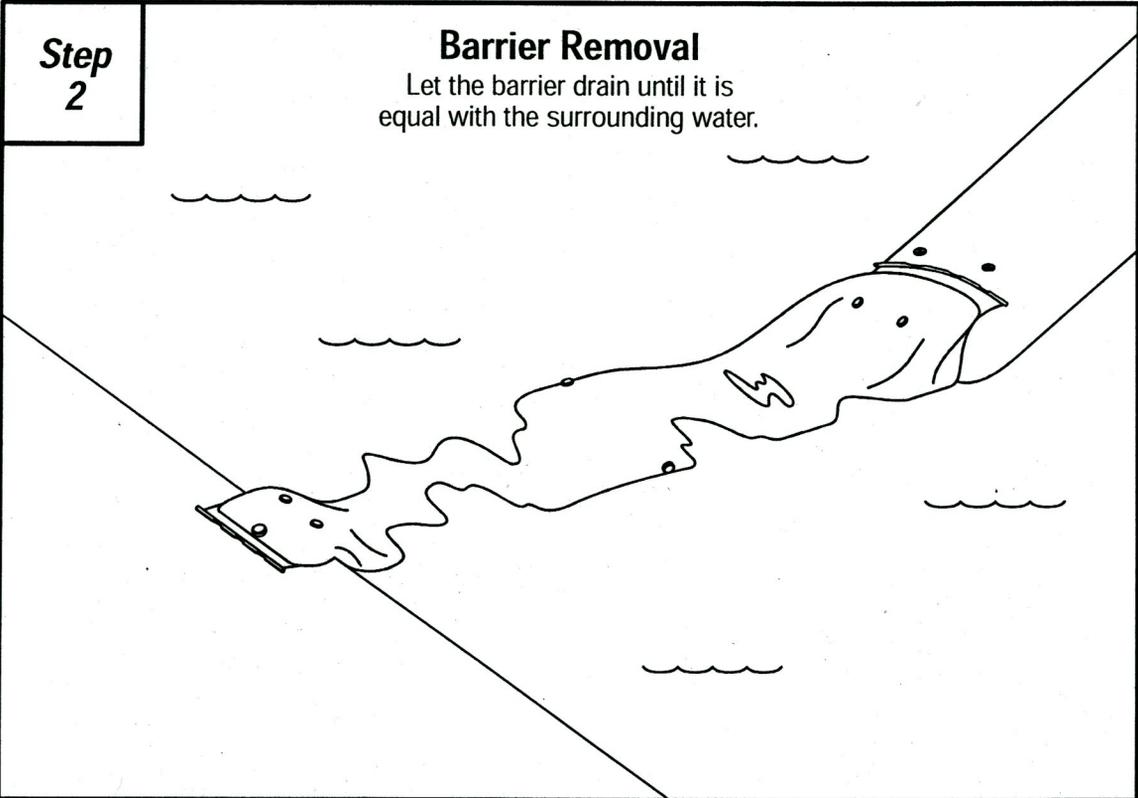
Allow water to equalize on both sides of the barriers prior to draining the barriers by pumping or as necessary.



Step
2

Barrier Removal

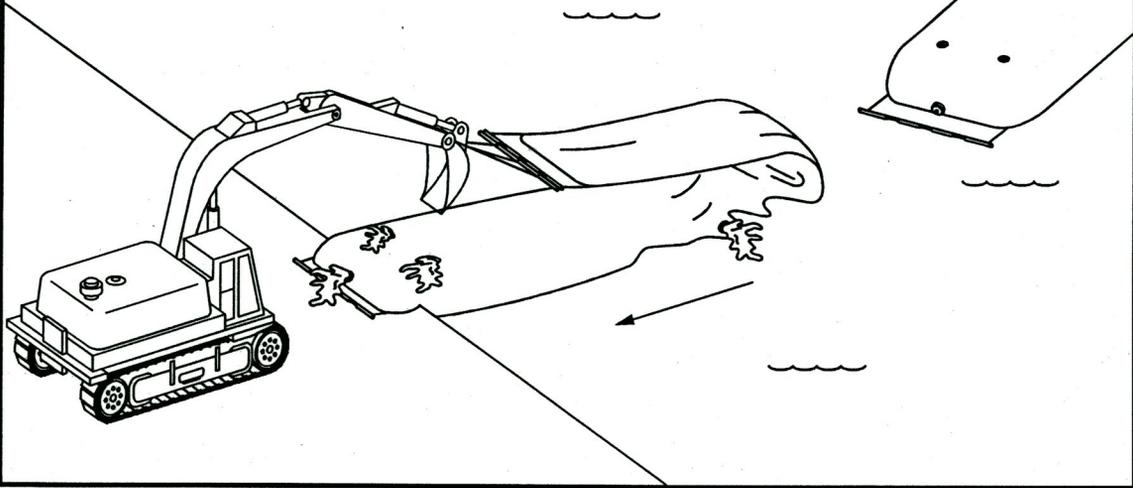
Let the barrier drain until it is equal with the surrounding water.



**Step
3**

Barrier Removal

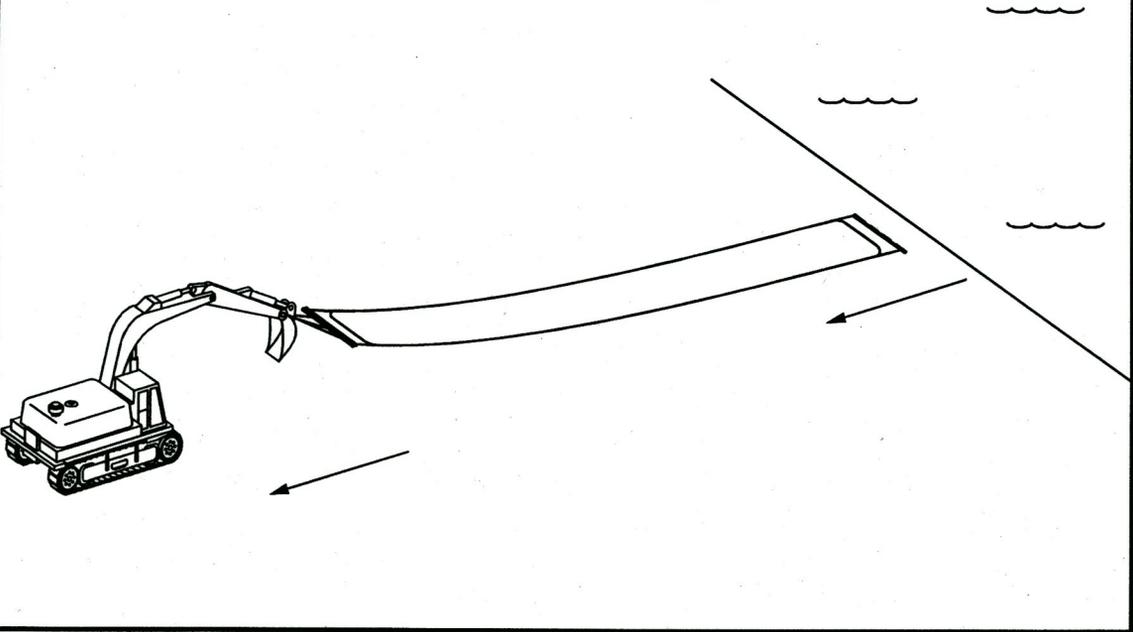
Pull barrier from the end that is opposite of the shore line directly over the top of itself so that the top of the barrier is facing down.



**Step
4**

Barrier Removal

Pull barrier from opposite end directly over top of itself so that the top of the barrier is facing down.



Aqua-Barrier repair instructions:

Locate the puncture, cut, tear, or abrasion on the barrier surface. Locate the patch material and cut an appropriate size patch for problem area. The patch should extend at least two inches beyond the damaged area on the barrier surface. Round the corners of patch material prior to applying patch. Clean both the barrier surface and patch material surface with provided solvent cleaner. Once the solvent cleaner evaporates, apply a generous layer of the vinyl contact cement to both the patch and the barrier surface. Allow a few minutes for the adhesive to dry. The adhesive has dried sufficiently to apply patch when it exhibits a frosty white color and is tacky to the touch. Apply the patch to the barrier surface with a back and forth rubbing motion for approximately 1 minute.

Disclaimer: The barrier repair process is limited to environmental temperatures above 40 degrees Fahrenheit due to the vinyl adhesive temperature limitations.

Return Instructions:

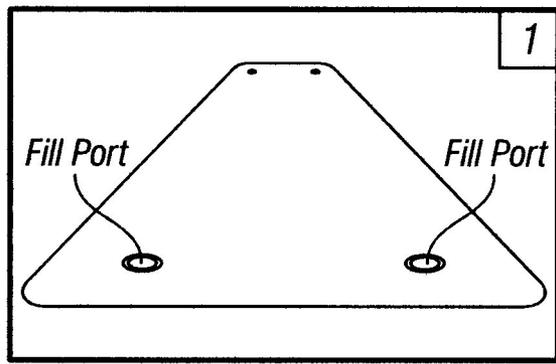
Barriers should be folded and rolled in the same dimension as received. All 4 inch and 8 inch threaded plugs should be reinstalled into their appropriate flange fitting. It is important that the units be rolled as tightly as possible to avoid sagging off the shipping pallet. The pallet should be free of nails and broken wood. A layer of material should then be placed over the unit and then the unit should be banded or tied down to the pallet.

Contact Hydrological Solutions, Inc. to arrange pickup of the barriers.

1-800-245-0199

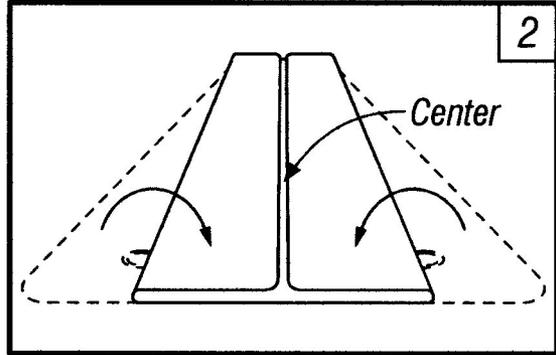
STEP 1:

Lay barrier out flat.



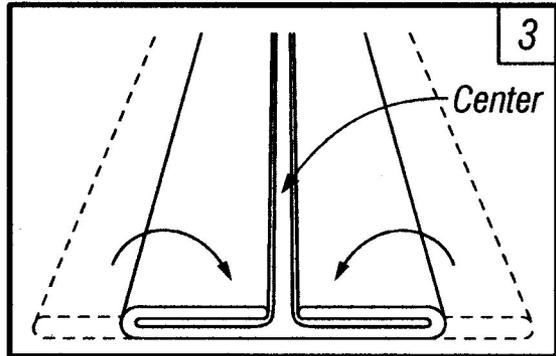
STEP 2:

Fold one side to center. Then, fold the other side to center.



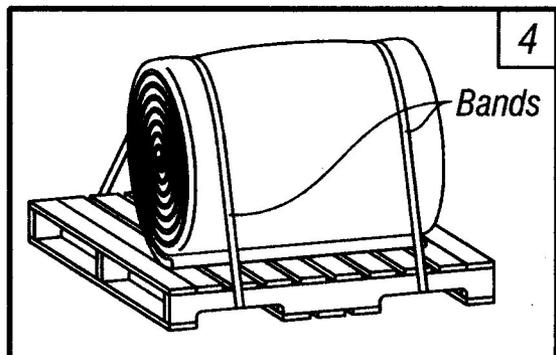
STEP 3:

Take side and fold into center again. Then, fold other side into center.



STEP 4:

Roll up and place on skid. Band down to skid. A protective layer of material is required if metal banding is used.



*Must fit on appropriately sized pallet with **NO OVERHANG.***