An ideal location for a pond would be a natural low area or wide draw, narrowing on the downhill side. The area to be flooded should be as flat and wide as possible to obtain the largest water volume in relation to dam height. Ideally more than half of the pond should be at least 8 feet deep for fish survival and to decrease potential aquatic vegetation problems.

### Required Permits:

A **Land Disturbance Permit** is needed if construction of the pond will disturb one acre or more of land.
(Stormwater Division (636-797-6228).

You may need an **USACE Permit** especially if a stream, wetland or dry streambed is in the path or drains into the pond location.
(COE: 314-331-8579).

A **DNR Permit** may be needed if a stream or wetland is being converted to construct a pond. Check with DNR to see if a permit is required because this activity may be illegal.
(DNR: 314-416-2960)

A **Floodplain Permit** is needed if any portion of the pond is being constructed in a FEMA special flood hazard area. The County may require a HEC RAS study to be completed by an engineer to determine the effect the pond would have on the flood elevation.
(Code Enforcement: 636-797-5310)

### Ponds in the floodplain:

Any activity that occurs within the watershed will directly influence the quality and safety of the pond. Ponds should be elevated above the BFE (Base Flood Elevation) so they are protected from the high inflow of flood waters that could potentially pollute the pond water and damage the dam through erosion or overflow. For these reasons, it is not advisable to construct ponds in floodplains.



Flood waters carry pollutants, debris and silt from the upstream watershed drainage area. Because the pond owner has no control over this area, chemicals, and other pollutants will be introduced into the pond. The result could be a muddy pond that contains pesticides, septic pollution, nutrients and sediment. However, ponds elevated above the BFE have a greater chance of maintaining its pond structure, and the aquatic life and the delicate pond ecosystem necessary to sustain the life in your pond have a greater chance of survival. Proper pre-planning and management will prolong the time that the pond is an enjoyable part of your life.

## Vegetation Helps Control Runoff

A healthy pond needs at least 100 feet of dense vegetation between it and any cultivated land. Plant cover in the drainage area affects the quality and the rate or runoff a pond receives by slowing runoff and filtering pollutants. Creek beds or large draws should not be dammed to construct a pond because these areas often produce runoff water quantities that are too great to control in small ponds.

## Control Pollutant Sources

The drainage area should be free of pollution sources. Ponds receiving barnyard or feed lot drainage, domestic sewage, runoff from heavily stocked or fertilized pastures or other high nutrient inputs won't support fish successfully over the years. These materials promote the growth of algae or pond scum. Too much plant growth leads to a loss of dissolved oxygen as these plants die and decay. Loss of dissolved oxygen in the water will suffocate aquatic life and fish. To keep your pond healthy, eliminate these sources of pollution before you begin construction. Either build a lagoon large enough to contain all the nutrients so that none can flow into the pond or pipe the drainage from these sources to a point downstream of the pond.

## Design Your Pond For Long Life
(If pond is one acre or more, you need the following for Jefferson County)

- Survey the pond site. Make sure you don't impound water on roads, legal easements or neighbors' property.

- Calculate the expected flow of water into the pond.

- Set elevations and size for grass and pipe spillways and for the top of the dam.

- Determine the dimensions of the dam and spillways.

- Establish the degree of slope of the sides of the dam.

- Calculate how much earth fill and other materials will be needed.

- Prepare site plans with details of dam and spillway and pre and post contours.

- Figure out construction procedures.

- Consider all intended uses in the design of the pond.

CONTACT THE JEFFERSON COUNTY SOIL AND WATER DISTRICT FOR HELP IN SIGNING YOUR POND
636-789-2441

Information in this flyer from:

Missouri Pond Handbook for the Missouri Department of Conservation by Ken Perry.
www.mdc.mo.gov

Pond Building Guide for Clermont County Ohio
www.clermontswcd.org

## Pond Safety and Liabilities

Ponds, like any body of water attract people, so there is the risk of an accident occurring. Regardless of the intentions for the proposed pond, people may be drawn to the pond for various reasons.

It is the responsibility of the pond owner to ensure that the pond is as safe as possible. Safety equipment should be easily accessible in the case of emergency. This may include a life buoy, a long pole, or other equipment. Signs should be posted where dangers are present, such as submerged hazards or sudden drop offs. Check with your insurance agent to determine your legal liabilities and coverage needs.

Having a properly constructed pond is important to the safety of downstream lives and structures. Careless or shoddy construction could create a liability in the event of pond failure, regardless of pond size. Repairs and reduction of hazards may cause unwanted future expenses if not addressed properly in the design or during pond construction. For example, the pond's overflow should always be directed away from neighboring property or structures.

## For more information

Pond, fishing and other conservation related issues are available at Missouri Department of Conservation website: mdc.mo.gov

Request free publications by contacting Missouri Department of Conservation
PO Box 180
Jefferson City MO 65102-0180
573-522-4115
pubstaff@mdc.mo.gov

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*JEFFERSON COUNTY
STORMWATER DIVISION*

# Building A Pond In Jefferson County



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