

Request for Proposals:

Engineering Design Services for Fish Passage Restoration on Fish Creek, Gibraltar Township, Wisconsin.

The Town of Gibraltar Planning Commission is soliciting proposals with qualifications, for engineering design solutions for fish passage at two barrier locations on Fish Creek in Door County, Wisconsin. By **Tuesday, March 26, 2019**, Consultants must submit a hardcopy of their proposals to: Town of Gibraltar, attn. Beth at P.O. Box 850, Fish Creek, Wisconsin 54212. Electronic copies must also be submitted to:
Beth Hagen, Town Clerk at clerk@townofgibraltar.us

Fish Creek Watershed Plan

The Town of Gibraltar completed and adopted in 2017, a comprehensive watershed management plan. The complete Fish Creek Watershed Plan can found at weblink:

<https://www.townofgibraltar.com/fish-creek-watershed-plan/>

One of the major elements of the Plan is reconnecting fragmented aquatic habit by removing barriers to native, migratory fish. This ensures that spawning habitats are accessible and helps restore sustainable native fish and aquatic organism populations in the Fish Creek Watershed and Lake Michigan Basin. Restoring native, migratory fish to their historical spawning grounds in the upstream wetlands of the Creek is an important priority for residents of the Town.

Project Summary

Currently, two barriers exist along the lower reaches of the stream. The first is a flat bottomed box culvert where State Highway 42 crosses the stream. Here, the downstream edge of the concrete culvert apron is a short lip barrier at this time. Also, Fish Creek exhibits somewhat intermittent flow and the breadth of the culvert and its apron creates difficulty for fish in low flow conditions. Secondly, about a half mile upstream, there is a small dam of ~4 feet, (on private property) that currently offers little opportunity for fish to pass upstream to historical spawning grounds.

In Spring of 2018, Gibraltar was awarded a Wisconsin Department of Natural Resources River Management Grant to address these needed restorations. As stipulated in the grant and following US Forest Service fish passable stream crossing protocols, the Consultant will provide the Town with three engineering design options for assuring fish passage into and through the Hwy. 42 culvert as well as two engineering options for assuring fish passage past the dam site. After a public input meeting where the options will be presented, the Town will choose the best option for each site at which time the Consultant will proceed with completion of the shovel ready plans for each preferred option.

From the grant:

Goal for the culvert site: The Town would like to evaluate options to reduce the difference in height between the downstream creek bed and the culvert below STH 42. Options may include modification of the floor of the box culvert, restoration of the creek bed, installation of downstream gradient controls and step pools, and/or the extension of a cement apron. The evaluation should identify choices that also narrow the creek to increase water depth during low flow, such as adding bumpers on the apron and creating a concrete side sill inside the culvert that could also serve to allow for safer passage of people and wildlife, are within reasonable costs, and fundable by grants. Options should address which fish species will benefit from changes and the likelihood of success.

Goal for the dam site: The Town would like to obtain designs to allow fish to pass between Fish Creek and the small pond and if feasible, create the connection. If this is not feasible, explore options, such as fish ladders, to allow fish passage through the pond formed behind the Redmann Dam and into the headwaters. In addition, consider the possibility of regulating the flow of water from the dam or the removal of the dam. Options should address which fish species will benefit from changes and the likelihood of success.

Activity for both sites: Review existing Watershed Plan and other plans and previously completed studies for the study area. Utilize existing site data, along with data attained to identify viable fish passage design concepts.

Perform field investigations to validate available data and identify changes; preliminary hydrologic modeling and hydraulic modeling of the concepts.

Coordination with WisDOT, WDNR, USACOE, USFWS, utilities

Property owner coordination and at least one public involvement meeting.

Deliverables:

— A) Engineering Design Plan and Cost Estimate for fish passage at the State Highway 42 culvert

— B) Engineering Design Plan and Cost Estimate for fish passage at the Redmann Dam

for both A and B:

- Public meeting for presentation of designs with citizen input and Town Board selection and approval of one design for each site.
- Plan review meeting
- Construction plans for the preferred alternative
- Plan and Cross section(s) showing new structure(s) and/or retrofit(s)
- Identify and describe utilities and access concerns
- Identify all required permits
- Prepare funding strategy for implementation
- Additional products or services provided to the Town by the Consultant

Procedures:

Each proposed design for the culvert shall generally follow US Forest Service stream crossing protocols. To the degree practicable, all fish passage options provided shall be guided by bank-full channel cross section measurements taken in stable, representative reaches (preferably upstream of the crossing) considered consistent with the anticipated, natural channel morphology of Fish Creek. Flow velocities passable to native fish species (i.e., generally two feet per second or less or as demonstrated by Fish Xing or another accepted method) must be

achieved by each proposed design. Options should address which fish species will benefit from changes and the likelihood of success. Additional design considerations should include sediment transport, riparian corridor continuity for herptiles and other wildlife, site topography, utility conflicts, safety, aesthetics, and other attendant issues.

Please note the following:

1. To the degree practical, the preferred design should not impact local, mapped floodplain elevations. Consultant is responsible for coordination with the local floodplain authority and WDNR floodplain engineer (including all pre-modeling coordination) and for all hydraulic and hydrologic analyses required to show either no change or a decrease to the flood elevation.
2. Consultant is responsible for coordinating the culvert passage design options with any WisDOT requirements or regulations.
3. Town of Gibraltar will provide the Consultant with landowner access agreements prior to any survey work.
4. Proposed scope and budget should be structured: a. To recognize that hydraulic and hydrologic modeling will largely determine design outcomes b. In a fashion that recognizes potential challenges and assigns appropriate actions and reasonable costs.
5. The Project is funded by Wisconsin Department of Natural Resources (WDNR) River Protection Management grant funds and managed by town of Gibraltar. The Consultant is responsible for meeting all WDNR-related stipulations. The Project must meet all timeline goals. WDNR grant requirements do not prohibit or prescribe design considerations.
6. To the degree practical, construction of the passage should minimally impact the surrounding habitat.

Final Design Requirements:

1. Coordinate and perform all hydraulic and hydrologic studies necessary to demonstrate either no change or a decrease to the flood elevation as well as acceptable flow velocities through the proposed structure.
2. Ensure final design conforms, to the degree practicable, to US Forest Service fish passable stream crossing criteria.
3. Review design plans with Town of Gibraltar Plan Commission for approval.
4. Present final design plans at all applicable Town of Gibraltar Plan Commission meetings and/or Town Board meetings.
5. Final plans for each project site will include all pertinent information to meet regulatory permit requirements. At a minimum, this will require. a. Detailed hydrologic and hydraulic analyses. b. 1% occurrence, 50% occurrence, and 100% occurrence rain event elevations at the crossing and supporting data from modeling (if required) c. Plan, profile, and cross-

section views of the culvert/crossing design, including locations of all utilities and right-of-way d. The upstream and downstream longitudinal profile and alignment of the stream bed and on any reference reaches as necessary to guide designs per USFS protocols and Program recommendations e. Upstream and downstream cross sections f. Details for proposed coffer dams, stream diversions, dewatering measures, on site materials storage and staging areas, and sediment controls g. Area of disturbance delineation and area estimation h. Erosion control (temporary and permanent) and restoration plan i. Clear identification of all utilities within project limits and recommendations on whether utilities will need relocation j. A Professional Engineer (Licensed by the State of Wisconsin) stamp on plan sets and all pertinent ancillary documents. k. Digital and hardcopy plan sets be provided to Town of Gibraltar, requisite local municipalities and pertinent regulatory agencies.

6. Conduct all requisite utility coordination.

Project Schedule:

Optional Pre-Proposal Meeting **Tuesday, February 26, 2019**

Proposals due: **Tuesday, March 26, 2019**

Project Schedule:

Town of Gibraltar Award Contract **Wednesday, April 3, 2019**

Chosen company will submit for Town review (3) concept options for Hwy 42 culvert and (2) for the Redmann Dam by **Tuesday May 21, 2019**

Public Input meeting with presentation of options: **Thursday May 30, 2019**

Town makes decision on their preferred option for culvert and preferred option for dam by **Tuesday, June 11, 2019**

Final Design Plans, including complete budget for the culvert and dam fish passage solutions, due by **Tuesday September 17, 2019**

***Dates may be adjusted as needed**

Consultant Engineer Qualifications Describe (at minimum) each of the following:

1. The qualifications, experiences, and skills of key project staff assigned to this project
2. The scope of work assigned to key project staff
3. The firm's experience with projects similar in scope
4. Firm's fee schedule