



MassWildlife

Commonwealth of Massachusetts

Division of Fisheries & Wildlife

Wayne F. MacCallum, *Director*

January 13, 2012

John Aubin, Principal
Open Square Properties LLC
4 Open Square Way
Holyoke MA 01040

RE: Open Square Hydro Project LIHI Certification

Dear John,

This letter is in response to your questions regarding the Holyoke Canal System and required fish passage protections.

The Project

The Open Square Hydro Project is located on the Connecticut River and the Holyoke Canal System (a man-made structure constructed for the purpose of power generation). It consists of three levels, referred to as First, Second, and Third Level Canals. The system is tiered with the first canal at the highest elevation and each subsequent canal at a lower elevation. A series of subsurface sluiceways extend between each of the canals. Many of the sluiceways contain rotating turbines that generate power. The sluiceways and canals are not considered to be navigable waterways under the Clean Water Act.

There are a total of twenty hydroelectric generating stations currently in service on the Holyoke Canal System including two owned by Open Square and seventeen that are owned and operated by HG&E (Holyoke Gas & Electric, a department of the City of Holyoke). The canal system begins with the canal gatehouse structure located between the Hadley Falls Station and the western shore.

The Holyoke Dam is the first dam encountered by fish migrating up the Connecticut River. The HG&E Holyoke Hydroelectric Project (FERC No. 2004) provides upstream and downstream passage for migratory fish at the Holyoke dam, include Atlantic salmon, American shad, Blueback herring, alewife, Striped bass, American eel, and Sea lamprey.

Potential Environmental Issues:

Because this is a small project located on the large Holyoke canal system the potential impacts are very limited. HG&E owns and operates the Holyoke hydro project (at the Holyoke dam) and with that dam and the adjacent gatehouse control the flow through the Holyoke canal system. Therefore HG&E (through the FERC license for Holyoke project) mitigates many of the potential environmental impacts.

- Run of River Operations: This project can only generate with water supplied by HG&E who are required by their FERC license to operate in a modified Run of River mode.
- Bypass Reach Flow: While the Holyoke canal system creates a substantial bypass reach- HG&E is required to release a minimum flow from the Holyoke dam. Operation of this project will not affect these flows.

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- Fish Passage: The Connecticut River has significant runs of migratory fish. However, HG&E is responsible for upstream fish passage at the Holyoke Dam and upstream migrants cannot enter the canal system. HG&E also operates a fish exclusion device at the head of the Holyoke canal system. This full depth louver system effectively prevents most downstream migrants from entering the canal system. Therefore this project will not have fish passage requirements.
- Endangered Species: The Holyoke canal system is habitat for a state and federally endangered freshwater mussel. The potential presence of these mussels in the project area will require consultation with the MA Natural Heritage and Endangered Species Program and the U.S. Fish and Wildlife Service to ensure project operations protect these animals.

With regard to the specific questions in your email:

- *C.1. Please confirm that the Holyoke Canal System louvered bypass system owned and operated by HG&E is the current prescription and that it is working effectively, that is, in compliance with the prescription. Please also confirm that there is no need for passage facilities of any nature at the Open Square project.*

The louver bypass on the Holyoke Canal is the current fish passage prescription and is working effectively. Because most migratory fish are excluded from the canal system there are no fish passage requirements of any kind at this project.

- *C.2. This question ask: "Are there historic records of anadromous and/or catadromous fish movement through the Facility area, but anadromous and/or catadromous fish do not presently move through the Facility area (e.g. because passage is blocked at downstream dam or the fish no longer have a migratory run)?" We do not see evidence of these fish at the Open Square facility, the bypass system owned by HG&E upstream appears to be very effective. Do you have any information or clarification to add to this question? If not, please indicate that there are no issues for this question.*

There are no issues from this question. The Holyoke canal is an artificial system and not the route for migratory fish passage past the Holyoke dam.

- *C.5.& C6 These questions ask: "Is the Facility in Compliance with Mandatory Fish Passage Prescriptions for upstream and/or downstream passage of Riverine fish?" and "Is the Facility in Compliance with Resource Agency Recommendations for Riverine, anadromous and catadromous fish entrainment protection, such as tailrace barriers?" Open Square has no Mandatory Fish Passage Prescriptions nor Resource Agency Recommendations" for these fish. As in C.2. the bypass system appears to be very effective and we do not see evidence of these fish at the Open Square facility. Do you have any information or clarification to add to this question? If not, please indicate that there are no issues for this question.*

The Open Square project has no Mandatory Fish Passage Prescriptions nor Resource Agency Recommendations for Riverine, anadromous, or catadromous fish.

Please contact me if you have any further questions,



Caleb Slater, Ph.D.