



Rock Run Dam

The Pennsylvania Department of Environmental Protection is proposing to construct a dam across Rock Run in Lower Makefield, Bucks County, PA. The Township has agreed to act as local sponsor.

DAM FACTS

The proposed earthen dam would be 650 feet long, 9 feet high and 10 feet wide at the crest/top.

The dam's spillway would be a 150-foot long concrete wall.

The project includes realigning 650 feet of channel, blocking the culvert that flows under the Charles Boehm School and enlarging a grass-lined diversion channel to carry larger stormwater flows around the school.

The dam will destroy woodlands and 5 acres of wetlands classified as palustrine forested wetlands. These wetlands will have to be mitigated on a 2 to 1 ratio within the watershed.

The Pennsylvania Historical and Museum Commission, Bureau of Historic Preservation, based upon available information reported a high probability of significant archaeological sites located in the study area.

According to DEP studies, the 100-year flood in the Rock Run watershed study area caused flood damages to 31 buildings, with 3 receiving first-floor flooding (total damages estimated at \$518,000). The 135-year flood affected 40 buildings with 5 receiving first floor flooding (total damages estimated at \$620,000).

The PADEP cost/benefit analysis failed to consider the costs to Lower Makefield of the project. As local sponsor, the costs to be borne by the Township include:

- acquire necessary property and easements to construct the project including property needed to mitigate at least 10 acres of wetlands
- relocation of any utilities that would interfere with project construction – this will include relocating sanitary sewer lines present at the location of the proposed dam and behind the Charles Boehm Middle School, as well as potentially relocating two underground gasoline tanks;

Delaware Riverkeeper Network

300 Pond Street, Second Floor
Bristol, PA 19007

tel: (215) 369-1188

fax: (215) 369-1181

drkn@delawariverkeeper.org

www.delawariverkeeper.org

- altering and/or removing any buildings, homes, structures and other fixtures that would interfere with construction of the project;
- relocation and/or reconstruction of any roads, streets or bridges necessary for project construction, this includes replacing or modifying at least two bridges;
- operation and maintenance of the project once complete – the Township will be required to allocate an estimated \$15,600 a year to maintain the dam, wetlands mitigation and other associated project components.

Cost to the State for the project, not including costs to the Township, is \$1,040,000.

BASIC WATERSHED FACTS

The Rock Run watershed is comprised of single-family homes on 1/3 to ½ acre lots, forest and open fields.

The natural course of the Rock Run has been altered in many places as the result of development.

Stormwater runoff from new development has been primarily controlled with detention basins that focus on the peak rate of discharge and ignore the growing volume of runoff.

The stream channel borders yards and is subject to numerous road crossings. Fill and other structures have been placed within the natural floodplain along the stream's banks.

According to the Pennsylvania Department of Environmental Protection (PADEP) "inadequate culverts and bridges along Rock Run and the backup of floodwaters at these structures results in additional localized flooding...."

ALTERNATIVES CONSIDERED

Levees – rejected because of concerns regarding space, the need to replace culverts and the need to raise roadways.

Channel improvements – increasing the size of the channel – rejected because it required the purchase of 8 properties in Milford Manor and required constructing 3 larger culverts at road crossings.

Enclosing the channel in a concrete box culvert – rejected because of needed easements and could not be justified economically.

Detention dam on the Rock Run – presently being proposed by PADEP.

Source for fact sheet information – Flood Protection Feasibility Study, C9:8 Rock Run Dam, prepared by Bureau of Waterways Engineering, Pennsylvania Department of Environmental Protection

The Pennsylvania Department of Environmental Protection report used to support the dam recommendation is incomplete and leaves unanswered, and even unconsidered, a number of important questions and issues.

SOME QUESTIONS THAT NEED TO BE ANSWERED

(this is just a short list of the outstanding questions yet to be addressed):

The cost benefit analysis prepared by the PA Department of Environmental Protection, Bureau of Waterways Engineering, does not include the costs to the project's local sponsor, in this case Lower Makefield Township. Township costs include acquiring at least 10 acres of land for wetlands mitigation, relocating two sanitary sewer lines, potentially relocating two underground gasoline tanks, replacing or modifying two bridges, and operation and maintenance of the dam over its life. Isn't the benefit/cost ratio inaccurate because it fails to include total project costs, i.e. it fails to include costs to be shouldered by the Township taxpayers?

- Other than a figure of \$15,600 per year for annual operation and maintenance costs, the evaluation fails to provide details on the other costs for Lower Makefield such as purchasing 10 acres of land, moving sewer lines, replacing bridges, etc.... What would be the costs to the Township?
- Construction of the dam will destroy 5 acres of wetlands; this acreage will have to be mitigated. Can mitigation sites for wetlands be located within the Rock Run watershed and is there any assurance that such mitigation sites will actually serve the same beneficial functions of the wetlands that would be destroyed and impacted by the proposed dam? Would the Township purchase new land or use land already acquired with open space dollars? If acreage must be found outside the Rock Run watershed then the quantity of wetlands to be mitigated increases. The Township needs firm information on the wetlands mitigation before making a decision as it will be responsible for acquiring the needed land.
- The report says that inadequate culverts and bridges back up floodwaters. Coupled with filled in floodplains, localized flooding results. Why did the report not study correcting these problems/causes of flooding as a potential alternative solution? Why build another structure that could also fail or cause other flooding?
- The report fails to consider floodplain restoration, voluntary buyouts, stormwater infiltration or best management practices as alternatives to the dam -- these solutions are more environmentally protective and often more protective of flood victims. The study only considers other large structural and environmentally damaging solutions including constructing a levee and enclosing the stream in a culvert. Even if the State can only pay for structural solutions, the information on less costly, more environmentally friendly, and potentially more effective measures should have been provided to allow for complete and informed decision-making.
- How much of the proposed dam impoundment area would be cleared and stripped of its natural vegetation?
- The Pennsylvania Historical and Museum Commission, Bureau of Historic Preservation "reported a high probability of significant archaeological sites located in the study area." What kind of archaeological sites? Why does PA DEP only *recommend* a Phase 1 archeological survey and not *require* it despite the fact that federal permits will require this study? Who is responsible for paying for this study?