

**Questions and Ideas Related to the 3rd Street Bridge/Dam Design**  
**Compiled by Friends of Glen Providence Park**  
**July 31, 2011**

**Alternative Design Options:**

For each of the following options, were they considered? *See below.*

If so, when and why were they dismissed? *See below.*

Were there estimates from contractors for any of these alternatives? *No.*

1. Breach the dam & restore the waterway  
*Not considered. This was not an alternative we were asked to consider.*
2. Repair the existing dam  
*This was considered in the 1998 Report. Since the existing spillway can only pass a fraction of that needed to meet PADEP requirements, a secondary spillway would be needed in addition to repair of the existing. This option was evaluated and not selected due to cost.*
3. Construct concrete dam that would have much narrower base, with less impact to Glen Providence Park  
*This option was not considered. Based on prior experience, this option would be more costly than repairing the existing dam.*
4. Create pedestrian/bike bridge only  
*This option was not considered. We were only requested to consider options that retained the roadway.*
5. Maintain/restore waterfall to its original stature  
*Maintaining the existing waterfall was considered in the 1998 Report. Restoring the waterfall to original stature was not requested. Since the existing spillway can only pass a fraction of that needed to meet PADEP requirements, a secondary spillway would be needed in addition to repair of the existing. This option was evaluated and not selected due to cost.*
6. Alternative bridge designs; including a covered bridge to reduce noise, improve aesthetics  
*An alternative with a straight ogee spillway and no bridge (neither road nor pedestrian bridge) was evaluated in the 1998 Report. This option was estimated to be more costly and therefore not selected.*

Please explain any other designs you considered, and why they were not chosen.

*None.*

**Current Dam Design:**

1. Is this considered an earthen embankment dam?  
*Yes.*

2. Why was this the design that was chosen?  
*See 1998 Report.*
3. Who gave Schnabel Engineering the guidelines for the design? Who has directed decisions regarding the design?  
*Borough of Media and their municipal engineer.*
4. What can be done to reduce the physical footprint of this dam?  
*The parking lane and/or shoulder can be eliminated.*
5. Is there a planned walkway or steps leading down to the park?  
*The existing pathway will be restored at the end of construction.*
6. Can the waterfall be restored by making the culvert higher, allowing for a higher outlet?  
*See August 23 meeting minutes.*

#### **Historical Considerations:**

1. Is this dam on the national historic register?  
*No.*
2. If not, is it eligible to be?  
*No.*
3. What can be done to restore and preserve the historic character of the bridge, dam, waterfall and park?  
*Formliners can be used on concrete structures to give the appearance of stone. Fencing other than the cyclone type can be considered; however, the cost for this will likely not be covered by existing funding.*

#### **Roadway Options / Multiple-Use:**

1. What can be done to design roadway use in a way that promotes the green values that distinguish Media from other communities?  
*Trees cannot be located on the dam due to PADEP Regulations. The slope must be covered with a uniform stand of grass that is conducive to visual inspection, which allows detection of possible internal problems within the dam. Plantings beyond the limits of the dam could be considered by the Park or the Borough.*
2. Can we ban vehicular traffic and create a "greenway" designed exclusively for foot and bike traffic? This would sustain current low levels of air and noise pollution at Glen Providence Park.  
*Although PennDOT Guidelines do not preclude removal of the vehicular bridge and replacement with a pedestrian greenway, the decision to reconstruct the dam and roadway was made in 1998 in conjunction with securing funding for the project. In addition, the recent legal agreement among Media Borough, Delaware County, and Broomalls Swim Club requires reconstruction of the roadway on top of the dam.*

3. Could the road be made one-way into Borough, both reducing the width of the dam, and minimizing traffic and noise?  
*Although PennDOT Guidelines would allow a one-way roadway, the decision to reconstruct the dam and roadway as a two-lane thoroughfare was made in 1998 in conjunction with securing funding for the project.*
4. Could the bridge be one-lane crossing for vehicular traffic? This would slow down the speed of potentially dangerous vehicular traffic and discourage overuse by vehicles.  
*PennDOT Guidelines preclude one lane bridges unless the roadway is designated one-way. See above for two-lane roadway decision.*
5. Can we eliminate the parking lane, and replace it with a bike lane and sidewalk?  
*Yes, the parking lane can be eliminated. A bike lane and/or sidewalk will be funded only if they connect to a bike lane and sidewalk on each side of the bridge and dam.*
6. Could we connect a bridge sidewalk on the Upper Providence side of the bridge with a trail entering Glen Providence Park? That trail could then lead to the Kirk Lane park entrance, and connect with the planned greenway in Upper Providence.  
*Yes; however, the trail entering Glen Providence Park must be a hard paved surface and ADA-compliant relative to widths, slopes, and landings.*

#### **Traffic & Speed:**

1. We are concerned with sustaining the current low levels of air and noise pollution at Glen Providence Park, and prioritizing the safety of children playing in and around the park.  
*The project will be designed according to PennDOT safety requirements.*
2. What traffic studies have been conducted?  
*The roadway was already closed at the start of conceptual design for this project; therefore, no site-specific traffic studies could be performed.*
3. Please explain the traffic data used in the Safety Review Plans.  
*The traffic data was estimated from data on the nearest state roads using the PennDOT iTMS website.*
4. What measures will be used to slow traffic: both for safety and noise? Including stop signs, speed bumps, 15 mph speed limit.  
*The project team has not been directed to look at additional traffic calming features beyond re-establishing the existing roadway features which include stop signs at either end of Third Street.*

#### **Stormwater:**

1. Will the inlets in the drainage report adequately handle all stormwater leading to the dam, Broomall's Lake and Broomall's Run?  
*The inlets will be designed according to PennDOT criteria to handle stormwater runoff from a 10-year storm event. No inlets will be directed to Broomall's Lake.*

### **Stream Water Quality & Wetlands:**

1. What will keep the fertilizer (listed in the Safety Review Plans) from destroying the High Water Quality designation of Broomall's Run and Ridley Creek?  
*Mulch will be applied to topsoiled and fertilized areas to reduce erosion potential. Rapid growth of grass is critical in avoiding erosion of topsoil and downstream sediment deposition, which would be detrimental to the stream.*
2. How will it be kept from destroying the ecology of the pond in the park?  
*See above.*
3. How will this project impact the water quality at the Aqua plant on Ridley Creek?  
*Aqua PA's intake is upstream of the dam on Ridley Creek, while Broomall's Run enters Ridley Creek below the dam. The project will therefore not impact the intake.*
4. Is the planned wetland swapping to be done within the Ridley Creek watershed?  
*Mitigation will be required in the watershed. A possible mitigation site is at the small pond in Glen Providence Park.*

### **Environmental Requirements & Other Requirements:**

1. Has the Army Corps of Engineers been involved?  
*Yes, the Corps of Engineers has been involved in the jurisdictional determination of wetland boundaries and conformance with other environmental requirements under their jurisdiction.*
2. Did the federal government contribute to any of the cost?  
*No.*
3. Please explain the status for each of the requirements listed on the Schedule under 7.7.1 - Environmental Clearance: "SEI - T&E Species, PNDI, Section 4f, Section 2002, PHMC, DOE Report, and Cultural Resource Clearance."

**Threatened and Endangered Species:** *A PNDI search was conducted. The Pennsylvania DCNR and the USFWS concluded that there would be no rare, threatened or endangered species impacted by the proposed construction. The PA Fish & Boat Commission identified that without a detailed habitat assessment, eastern redbelly turtles could be using the area for overwintering (brumation). They recommended that no construction be performed between October 15 and April 15. In December 2001, the US Army Corps of Engineers performed a bog turtle habitat survey and did not identify any potential bog turtle habitat.*

**Historic and Archeological Resources:** *A historic resources survey was conducted in the early 2000s, resulting in the submission of Pennsylvania Historic Resource Survey Forms for Glen Providence Park, the Media Swimming and Rowing Club, and the Third Street Dam. Only one of these properties, the Glen Providence Park, was found to be eligible for the National Register of Historic Places. A Determination of Effect (DOE) Report was performed by Cultural Heritage Research Services, Inc. (CHRS) in October 2003. The report found that the proposed work on the dam will have "No Adverse Effect" to the Glen Providence Park, as defined in 36 CFR §800.16(i).*

*A Phase I Archaeological Survey was submitted in March 2002, which found that the archaeological potential for the site was low, and no additional investigations were recommended.*

*A Section 2002 (Section 4f) Evaluation, required when a transportation facility may impact public land, was completed in March 2004. The Evaluation concluded that "there is no feasible and prudent alternative that avoids Section 2002 Resources," and the proposed alternative "meets the project needs and is considered prudent."*

*The above reports issued by CHRS are located on the Borough's web site.*

#### **Public & Borough Involvement:**

1. How can we notify and enable all park users to provide input on the design: from Media Borough, Upper Providence Township, and Delaware County?  
*Another public meeting will be held in Council Chambers on October 13, 2011. The basic layout and requirements for the project were established in 1998: rehabilitation of the existing earthen dam with a drop-box spillway and box culvert, and reestablishment of a roadway across the dam. Opportunity for public input is available for aesthetic considerations such as concrete formliners, fencing, sidewalk (if commitment from Upper Providence Twp or County is obtained), etc.*
2. What Borough Council Committee would be the appropriate liaison with the engineers?  
*The Borough has created a subcommittee to address questions regarding the dam design and rehabilitation.*
3. Can we create a Borough Council Committee to specifically oversee the design process?  
*See above.*

#### **Aesthetics & Architectural Elements:**

1. What steps can be taken to make this design more suitable for the neighborhood and the park?  
*See above.*
2. Can there be stone facing in the final design, on both sides of the dam?  
*Stone masonry for proposed structures could only be a facing over reinforced concrete, is much more expensive, and would likely not be approved by PennDOT. Formliners are a relatively inexpensive alternative that PennDOT will likely agree to fund. Formliners can be used to give concrete the appearance of stone. The final surface can be stained to mimic color variations of natural stone. The stone resulting from the demolition of site structures can be retained by the Park or the Borough for use on future projects.*
3. For any concrete in any final design, can we get form liners to make the concrete elements look like stonework? Compare to the attractive walls of the Springton Reservoir Dam.  
*See above.*

4. Can we request that the replacement fence for the swim club be in keeping with the design? Is barbed wire necessary?  
*Alternative fencing at the north side of 3<sup>rd</sup> Street will be discussed with the Swim Club. PennDOT will pay for cyclone fencing or fencing of similar durability and cost. PennDOT will not fund ornamental fencing; the Borough or other parties would need to pay for ornamental fencing.*
5. What kind of plantings can be done on a downstream dam wall, in addition to grasses?  
*There can be no trees or woody shrubs on the earth dam. Slopes must be covered with grass. See PADEP Fact Sheet regarding vegetation on dams.*

**Specific questions pertaining to documents as posted on the Borough website:**

**Color Plans & Simulations**

1. What is the date of these plans?  
*2011.*
2. Are these the October 2002 Schnabel Engineering plans referred to in the Cost Estimate?  
*No.*
3. Who directed these plans?  
*Media Borough.*
4. Why weren't these plans provided to the public for input?  
*The plans were presented at the public meeting for comment.*
5. Is the outlet visible at any point?  
*See renderings.*
6. Is it open or covered from above?  
*The drop inlet in the lake will be covered with a trash rack.*
7. What type of fence is proposed directly above the outlet?  
*Cyclone fencing has been proposed around the outlet at the downstream slope of the dam; however, the Borough may allow and pay for ornamental fencing in this location.*

**Design Alternatives:**

1. Is roadway use the only difference in the three design alternatives?  
*Yes, roadway use is the only difference in the color plans posted on the Borough web site. However, in 1998 three dam rehabilitation alternatives were considered. See 1998 Report posted on the Borough web site.*
2. How will the roadway uses affect the footprint of the dam and project? If the roadway is more narrow, will this reduce the total width of the dam?  
*Roadway use will impact the footprint of the dam. The Borough has committed to a 2-lane roadway; however, the parking lane could be omitted.*

## **Safety Review Plans:**

p.1 – The design speed of “30 mph, 25 mph posted” seems fast for safety and noise.

*The design will undergo a PennDOT Safety Review.*

p.5 – This states "should the contractor disturb any additional acreage"- what specific areas might be disturbed?

*That phrase is a part of general note. There is no plan to allow the contractor to disturb additional areas outside of the limits of disturbance.*

p.6 – Please explain the diversion dike system and borrow and waste areas.

*Diversion dikes are used to divert clean runoff away from disturbed soil areas. There are no on-site borrow or waste areas for this project.*

p.6 – This indicates the dam area will be covered with 70% vegetative cover of erosion resistant perennial species or “acceptable BMP”. What is acceptable BMP?

*BMP means Best Management Practice. For this project the permanent grass seed will be specified and no substitutions would be considered.*

p.6 – The Alternate Erosion and Sediment Control Plan (point 7) states: “Acquire areas outside of the Limits of Disturbance that are necessary for erosion and sediment pollution control.” What specific areas might be acquired? Is any of this private property?

*This is a general note and does not have applicability to this project.*

p.10 – What is the source of the earth fill?

*Earth fill must meet the project specifications, and will be obtained from off-site sources as identified by the contractor.*

p.11 – What of the steel sheeting and intake will be visible from Broomall’s Lake?

*Approximately 2 to 3 ft of sheeting will be visible from Broomall’s Lake. The two sides of the intake will extend about 3 ft above the normal lake level and will therefore be visible.*