Enola Low-Grade Trail – Providence Township Section
Master Plan – DRAFT – Supervisors Review v1.0

Prepared For:
Providence Township
200 Mt. Airy Road, New Providence, PA 17560
Phone: (717)786-7596
Email: Parks@providencetownship.com
Acknowledgements:
This master plan would not have been possible without the help of a large number of individuals in the community. We wish to thank the following people for their efforts and input not only creating this plan, but on our trail progress to date...THANK YOU.

Providence Township Park and Recreation Committee:
Korleen Calkins
Greg Collins
Merv and Sis Conrad
Greg Hohenwarter
John Kirk
Brian Longenecker
Barb Musser
Bill Musser
Sean and Vicki Smith
Roy Snyder
Wayne and Judy Sponseller
John Walton
George Wanner

Providence Township Supervisors:
Greg Collins, Chairman
Bill Schall, Co-Chairman
David Gerhart, Member
Bill Shaffer (Previous Supervisor)
Wayne Herr (Previous Supervisor)

Providence Township Road Crew:
Jim Grube, Road Master
Paul Keys
Carl Kreider
Kevin Kreider
Jim “JD” Shaubach

Providence Township:
Vicki Eldridge
Connie Peiffer

Adjoining Townships and boroughs
Bart Township
Eden Township
Martic Township
West Sadsbury
Manor Township
Salisbury Township
Conestoga Township
Atglen Borough
Quarryville Borough

Others:
Simone Jaffe Collins, "Northwest Lancaster County River Trail" Master Plan, 2003
Greenways Incorporated, "Atglen-Susquehanna Trail"
Master Plan, 1994
Mike Domin, Lancaster County Planning Commission
Lori Yeich, PA D.C.N.R.
Pat Tomes, Rails to trails Conservancy
Dan Mummert, PA Game Commission Biologist
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1. INTRODUCTION

GOALS & OBJECTIVES

MASTER PLAN GOALS
The intent of this Master plan is to define and delineate Providence Township’s goals to protect, preserve and enhance the environmental, historic, engineering and recreational assets of the Enola Low-grade for the use and enjoyment of its residents, and the larger regional community. The Township intends to do this in a timely, cost-effective manner that addresses the wishes and concerns of residents and trail users alike. The design development recommendations presented in this Plan represent a compilation of public feedback taken during years of various publics meetings throughout the region and, more recently, one year (+) of monthly Providence Township Parks Committee (PTPC) meetings, which have also been open to public comment.

PROJECT PLAN GOALS
The goals, comments and concerns expressed are many and varied and have coalesced into the following as design guidelines:

- To develop a trail for non-motorized transportation, recreation, biking, hiking, walking, cross-country skiing, birding, nature observation, environmental education, etc.
- To develop this trail as a link to the same in neighboring communities and to the larger network of regional trails.
- To help preserve, enhance, celebrate and connect the rural, agricultural, suburban and small town communities which surround the trail.
- To encourage the interaction of these communities with the natural environment.

To preserve and showcase the physical and cultural heritage of the people and history involved in the creation of the Low-Grade, it’s relation to the Railroad’s importance in the development of our nation, and the importance of preserving it as an irreplaceable natural linear corridor.

- To create a regional resource, which can be easily accessed by all people, of all ages and levels of physical abilities, to experience and participate in the above.
- To foster community through volunteer involvement.

More specifically, to accomplish these larger goals the Township plans to:

- Develop a trail that is a safe and welcome asset to the community.
- Preserve, restore and protect the natural resources of the corridor.
- Protect environmentally sensitive areas. And where possible, recreate lost wildlife habitat.
- Create and maintain an environmentally sensitive trail, developing only to the extent required to achieve the above for all residents and visitors.
- Reuse and recycle as much leftover railroad hardware and components as practical in future trail development.
- Foster community stewardship of the trail environment and wildlife.
- Help foster a “Green Neighbors” type atmosphere to monitor and promote creation, of wildlife habitat.
2. HISTORY OF THE CORRIDOR

The Atglen & Susquehanna Branch was constructed in 1903-1906 by the Pennsylvania Railroad (PRR). It was a 23 mile segment in a 140 mile Low-Grade line from Trenton to Harrisburg, dedicated to moving through-freight only, avoiding local freight and passenger service. The railroad ran Steam Engines until 1938 when electric service was supplied by the Safe Harbor Dam. Use of the rail line continued essentially unchanged until 1972 when Hurricane Agnes damaged portions of the rail line, disrupting service for several years. In 1976, when the Consolidated Rail Corporation, or Conrail, took the line over from Penn Central (PRR’s successor) it was assessed high fees by AMTRAK for the use of the overhead power lines and subsequently converted to running diesel engines on the line until they diverted their freight traffic to a northern line. In 1988, Conrail ran its last train on the Atglen & Susquehanna line.

When built, the Low-Grade cost $20 million and required the movement of an estimated 22 million cubic yards of earth and stone. Creation of the extremely low grades (<1%) and gradual bends required constant cuts and fills through the many hills and valleys along much of the line, especially through Providence Township. The cuts were often made by dangerous blasting while the fills were completed by constructing elevated rails to run side-dumping railcars on, dumping their load to fill the valleys below, upwards to meet the rails. Most of the fills over roads and streams were supported with beautiful Stone Arch bridge/tunnels, reminiscent of the aqueducts of historic Rome.

As a result of this multi-faceted engineering feat, the entire Rail Line, and, of the original 19 crossing structures in Providence Township and Quarryville, 12 are eligible for listing with the National Register of Historic Places. The consensus of the PTPC, the vast majority of local and regional Planning, Conservation and Historic officials, and participants at planning meetings is that converting the line to a Rail-Trail/Greenway is the most viable way to preserve this piece of history.

It was likely no accident that one of the nation’s most experienced railroad contractors, McManus Construction Company of Philadelphia, was awarded the arduous Providence section. Work extended westward from Quarryville where an existing railroad to Lancaster hauled in materials and massive steam shovels. At least three temporary rail spurs trailed off the older railroad to supply A&S work sites. In the cuts, temporary construction track bobbed along the deepening route, requiring constant relaying to stay ahead of the track-bound shovel. McManus removed an estimated 1,300,000 cubic yards of rock and earth over seven cuts, as deep as ninety feet.

Patricius McManus, Contractor
A&S Section 3, Providence Twp.
(Picture courtesy of AMTRAK)
3. PARTNERSHIP with ADJACENT MUNICIPALITIES

In 1989 Conrail filed for abandonment of the Atglen and Susquehanna Branch, the Enola low Grade. As part of the abandonment stipulation, West Sadsbury, Sadsbury, Bart, Eden, Providence, Martic and Conestoga Township municipalities each were to acquire ownership and take responsibility for that portion of the property and its crossings within their boundaries. Providence Township additionally received the portion of the line in Quarryville Borough who had chosen not to participate.

Following execution of a stipulation agreement of settlement between Conrail and the municipalities in 1997, and while various legal and sometimes contentious activities were ongoing, a mutual agreement among the Townships was signed in July of 2004. This agreement, in part, recognized the importance that the Line remains a continuous corridor for future recreation and public use.

The transfer of the property from Norfolk Southern, who had absorbed the property from Conrail, was finalized in 2008. Following completion of an AMTRAK and ARRA funded project to rehabilitate the catenary power poles and lines that carry electricity from the Safe Harbor Dam to passenger lines in 2011 efforts and interest in use of the property increased. As part of the AMTRAK project crushed stone was placed over the railroad ballast providing for a more hiking friendly surface.

Subsequently, several Townships have opened their portion of the line to public trail use and most have had discussions regarding their ability and/or desire to cooperate in future development of the Line as a Trail. Providence Township has been a leading facilitator in these discussions and it is the PTPCs recommendation that it continue to do so.

<table>
<thead>
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<th>Adjacent Municipalities</th>
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<td>Providence Township</td>
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<td>Eden Township</td>
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<td>Bart Township</td>
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<td>Sadsbury Township</td>
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<td>Conestoga Township</td>
<td>Open</td>
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<td>West Sadsbury</td>
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Adjoining township Eden trail parking to the East

Adjoining Township Martic trail parking to the West
4. PRESERVATION ACTIONS

The entire 23 mile long Enola Low Grade Trail, of which the 8 mile Providence/Quarryville Section is central to, has been recognized as, “of Historical Significance”, and determined to be eligible for nomination to the National Register of Historic Places. It was recognized for its contribution to the development of the eastern railway system and for its engineering, and method of construction. This alone, speaks to the advisability of preservation and appropriate development of the corridor system.

Additionally, the Lancaster County Open Space Plan has designated it as a “Highest Priority Greenway, while the Providence Township Comprehensive Plan’s “Environmental and Cultural Resources” section states some of its goals and objectives as:

- Protect areas with slopes of 20% or greater.
- Support the identification and designation of properties with national, state and local historic significance.

The Comprehensive Plan also goes on to identify many nearby historic sites, too many to list here, in the township. In support of the recognition, designation goals and objectives noted above, this plan recommends that:

- The trail shall be developed with sensitivity to the historical, cultural and environmental resources and objectives noted above.
- The Township consults with State Historic Preservation Officers, Biologists, Conservationists, etc., when development and/or maintenance threatens the integrity of these resources.
- The Township retains and/or implements sensitive zoning regulations which promote these goals and objective.

- Protect and enhance natural resources.
- Maintain the Township’s rural, safe and attractive living environment.
- Protect cultural resources in the township.
- Preserve and enhance farmland, open space and scenic rural qualities to the extent feasible.
- Protect sensitive, scenic and important natural features (e.g., floodplains, wetlands, steep slopes, marshes, caves, hazardous or unique geology, woodlands, important wildlife habitats, etc.) from indiscriminate development.
5. REGIONAL CONNECTIONS / FUTURE EXTENSIONS

The Providence Township/Quarryville Section of the Enola Low-Grade is located within 15 miles of approximately one half the population of Lancaster County and is part of the larger 23 mile Enola Low Grade spanning the entire county, east to west from Atglen to the Susquehanna River. It includes 8 municipalities whose population is approximately 28,000. With further development, to the west, the trail is connected to an extension of the trail corridor, running north along the Susquehanna river through, and by, Manor Township, and continuing further north, through Columbia Borough, West Hempfield Township, Marriotta Borough, East Donegal Township and Conoy Township, (Northwest River Trail) by a coalition of those municipalities with Lancaster County and the Pennsylvania Department of Natural Resources, to the Lancaster/Dauphin County line.

On the eastern end is an additional 4 miles of abandoned rail line running from Atglen, east to Parkesburg, owned by SEPTA, which has the potential for future trail development through possible lease agreements. This eastern terminus is also within 30 minutes travel time to an extensive trail network in Chester and Montgomery counties, as well as being within the purview of several Cycling clubs in and around Philadelphia who promote day-trips to Southern Lancaster County.

The trail section is also bisected at approximately 1/3 points by Routes 222 and 272, the only two major north–south traffic corridors through Lancaster County, connecting it to other recreational Trails and the city of Lancaster to the north, and the Maryland/Baltimore region to the south.

While no current studies are cited, usage of this trail was projected at 5,000 to 10,000 persons per week in 1994. There are many reasons to believe the projected volume can only increase. Its central location in Southern Lancaster County, its designation as a highest priority greenway, noted above, and its inclusion of Quarryville Borough make the development of this Trail section crucial link, or “Keystone”, in a regional trail network and a potential jewel in the vitalization of Quarryville and its neighbouring communities.

As of the 2010 census, the current population of Quarryville is 2,576.
6. INVENTORY/ ANALYSIS

CONSERVATION and ENVIRONMENTAL STEWARDSHIP
Conservation and environmental stewardship are important goals for the trail property. Improvements and continual maintenance are also of great importance to the community. The trail offers a great opportunity to introduce trail users to many different native plants, ecological features such as swamps, second growth hardwood forests and meadow openings. The grade of the trail makes it possible for people of all ages and abilities to get out and enjoy nature.

Several areas will need to be addressed with concerns including erosion, drainage, invasive plants and restoration and improvements to wildlife habitats.

WILDLIFE DIVERSITY MANAGEMENT RECOMMENDATIONS
The Township has involved a Wildlife Diversity Biologist from the PA Game Commission as part of the PA landowner assistance program. This plan was created to provide guidance on how the township could increase the diversity of wildlife on the property with an emphasis on establishing and maintaining valuable habitat for Pennsylvania’s species of concern and overall wildlife diversity. A custom Wildlife Diversity Management plan was created for the trail property.

EDUCATION OPPORTUNITIES RELATED TO NATURAL RESOURCES
The Fairview trail head offers a perfect educational setting to trail visitors to learn about how industrial landscapes can be transformed into a park like setting. Native plants and wildlife habitat can be introduced to the public utilizing signage and interpretive brochures to identify these resources along the trail system. The trail also accesses wetland habitats and meadows providing opportunities to educate visitors on the benefit of wetlands, native pollinators, and how native grasses and shrubs benefit the local native wildlife habitat.

SCENIC VIEWING
Along the entire length of the trail system, many scenic viewing vistas exist. Several key scenic viewing points have been located and noted on the detailed design maps. Several of the key scenic points offer opportunities of enhancement with shade structures, benches, and interpretive signage.
7. COMMUNITY and RECREATIONAL FACILITIES

In addition to the adjacent trails and networks previously noted, the Providence Township/Quarryville Section of The Enola Low-Grades’ predominantly rural setting is ideally situated to provide access to many local parks, greenways and nature preserves, and encourage larger connections to local outdoor recreation. The more prominent of these being:

- The Conestoga Trail, 60 miles long intersects with the Martic Township Section of the Enola Low-Grade just west of the Providence Township line.
- State Game Lands also in Martic Township.
- Pequea Recreation Area in Martic Township.
- Silver Mine Park, 1 ½ - 2 miles north.
- Lancaster Boys Club, .4 mile north.
- Hauer-Trout Run Preserve, .2 miles west.
- Shenks Ferry Wildlife Preserve, 4 miles west. Along the Susquehanna River.

The trails interaction with Quarryville, PA, provides opportunity for activity coordination with local businesses, several schools, and the Southern End Community Association (SECA), whose mission is to “Create recreational opportunities” for the residents of southern Lancaster county. The township will encourage joint educational and recreational activities through SECA, and the local schools, while promoting mutually beneficial relationships with local businesses.
8. INFRASTRUCTURE/BRIDGE CROSSING ANALYSIS

The Historical significance of the Corridor is largely a result of its “Engineering and Continuity”. It is interesting to note that, in contrast to the finely tuned, high tolerance art of engineering that is recognized as state of the art today, the Enola Low-Grade and connected sections beyond, are engineering feats of essentially “Brute Force”. While some of the construction techniques were elaborate for the time, the end result is, for the most part, a large compilation of extremely stable, earth and stone, providing a level, gently curving trail surface, which is protected by a deceptively simple, but essential, “Drainage System”. Its beauty is in its simplicity. Stone Arch tunnels and bridges, huge piles of mechanically and time compacted fill and deep blasted cuts mark its essence.

Lack of maintenance and surrounding encroachment during the years since falling into disuse in 1988, have compromised these features of the Trail corridor in several ways, and in several places (see Design Maps for specific locations). The PTPC recommends the township address these issues in the following manner:

- The first and foremost action shall be to restore adequate and appropriate drainage paths. Clear-cutting of steep slopes, adjacent and inappropriate land use encroachment and lack of continued cleaning of debris from the trail sides have compromised the drainage system immediately adjacent to the trail, the result being flooding, standing water and wash-out, on and off the trail surface. Remediation of this problem is paramount in that upgrading the trail surface is a near-term high priority goal of the Township, and poor drainage will most certainly make this upgrade costly to maintain. This can be accomplished in the short-term by cleaning and minor re-grading of compromised drain paths, coupled with a continued cleaning/maintenance program. While this action will largely solve the immediate problems, the larger causes of, clear-cut slopes and erosion should be addressed by establishing native vegetation on these slopes, and the land use encroachment issues through establishment of property line delineation and sensitive land management practices. In addition to affecting the corridor surface, the poor drainage and erosion needs to be addressed as part of a larger plan to protect the many streams and creeks running adjacent to and under the trail and in turn, the local/regional waterways/shed, and ultimately in response to the Chesapeake Bay Initiative.
- Secondly, the bridges and tunnels, many of which are of historic significance and in fairly good condition, need minor maintenance (see “Crossing/Bridge Overview” chart). Some will require safety fencing and signage, some minor pointing of masonry and curbing repairs, and many, a continued program of vegetation control adjacent to the abutments. The two exceptions to this are the steel girder spans in Quarryville which will require fairly significant decking repair/replacement, safety fencing and signage, as well as structural inspection of the steel superstructure during repair.

- Finally, the years since abandonment of the line have resulted in the removal of 3 bridge/tunnels in Providence Township, (Sigman Rd., Rt. 222 and Oak Bottom Rd.) compromising the safety of Trail users and the continuity of the trail/corridor. It is imperative, for these reasons, that the resulting crossings be addressed in the Trail Development (see “Trailhead” and Bridge Crossing” drawings), and that the Township make every practical effort to preserve and maintain the remaining structures.

Date: April 2012
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<td>Church Road</td>
<td>RIBBED STONE ARCH</td>
<td>YES</td>
<td>36'-7&quot;</td>
<td>8'-8&quot;</td>
<td>FAIR</td>
<td>MONITOR, MAINTENANCE AND SAFETY RAILING</td>
</tr>
<tr>
<td>7.55</td>
<td>RAIL SPUR</td>
<td>STEEL THRU-GRINDER W/ CONC. SHORING</td>
<td>NO</td>
<td>33'</td>
<td>22&quot;</td>
<td>POOR</td>
<td>REHABILITATE / REPLACE DECK AND TRAIL SURFACE &amp; INSTALL SAFETY RAILING</td>
</tr>
<tr>
<td>7.8</td>
<td>North Line Street</td>
<td>STEEL SPACER W/ CONC. ABUTMENTS</td>
<td>NO</td>
<td>40'</td>
<td>6'-8&quot;</td>
<td>POOR</td>
<td>REHABILITATE / REPLACE DECK AND TRAIL SURFACE &amp; INSTALL SAFETY RAILING</td>
</tr>
</tbody>
</table>

* SEE DRAWINGS IN DESIGN FEATURES FOR BRIDGE REMEDIATION SCHEMATICS
9. EASEMENTS/PROPERTY LINES

The trail corridor is a continuous linear property, varying in width from 150’ – 450’ in width throughout, with several parcels 3 to 12 acre scattered along its length. Integral to the property is an AMTRAK easement for its electrification system, of which the double pole catenary system was recently replaced with a single pole system, and will remain, for all practical purposes, to perpetuity. These catenaries are to one side of the trail sub-surface which was installed, by AMTRAK during catenary replacement, and are of no real hindrance to the trail development.

As potential sources of funding; the linear continuity and associated AMTRAK easement as well as its inclusion of, and adjacency to, large south-facing open spaces provide the Township with the possibility of negotiating future lease agreement fees with appropriate utilities and/or installation of solar/wind generated electricity facilities of its own.

10. NEIGHBORHOOD CONCERNS

Historically, neighbouring landowners of proposed Rail-Tails have voiced initial concerns that the development will have an adverse effect on, their lifestyle, privacy, security, property value, etc. as a result of increased trespassing, crime, litter, noise, etc. While many studies can be cited showing this to be, in reality, the opposite of what typically transpires this plan prefers to note the Real-Time experience of the Enola Low-Grade. The “undeveloped trail” has been open to the public for 6 months at the time of this writing. During this time local citizens have removed several tons of trash, tires, appliances, furniture and all manner of debris, accumulated as a result of its being used as an undocumented “Dumping Ground”, not only during the years of abandonment, but during its time of railroad usage as well. It is true that some level of dumping continues, but community minded Trail Users and Volunteers have been cleaning it up as it is deposited. Additionally, the Township has contracted with Quarryville police department to patrol the trail 12 hours a month where previously the only oversight was through AMTRAK security based 60 miles away. Since its opening in September 2011 the predominant, reported complaints, aside from continued dumping, is trespassing by hunters, on adjoining property or without the required Township issued permit and/or those who ignore the regulations associated with these permits, and illegal motorized vehicle use. These too, are long standing violation patterns which are dwindling alongside responsible Trail use.

In short, the community response has been largely supportive of the trail, pleased with the improvements related to what were initially concerns, and optimistic that increased usage will bring further improvement.

11. ENVIRONMENTAL CONCERNS

The former presence of an industrial activity such as a railroad corridor raises concern regarding the possible presence of hazardous waste. An assessment of the property, as part of the larger Atglen-Susquehanna Trail, was done by GemChem following the cessation of rail use, and while the possibility exists, there were no obvious contamination sites or finding identified. In the event that any areas of concern are to surface, the Township will initiate the proper investigation and subsequent remediation.

Aside from this possibility, the primary environmental concern is erosion and its impact on the local and regional waterways/watershed. Any adverse effect the trail has on this issue can only see improvement as the result of the remediation noted in the prior “Infrastructure/Bridge Crossing” section.
12. Trail Master Plan

DESIGN PLAN
The purpose of this Conceptual Master Plan is to graphically define Providence Township’s development goals showing specific amenities and their intended locations. The design sketches on the following pages represent a graphic summary and the design-development recommendations taken from public feedback, comparative Rail-trail experience and Providence Parks committee planning sessions. Its intent is to guide the Townships development in a way which respects and fulfills the previously stated goals and to do so in a cost effective manner. It is, in no way, to be taken as a final plan for construction, but as an evolving document pointing the way forward.

TRAIL USE / SURFACE / STATE AND FEDERAL GUIDELINES
This section of the Enola Low-Grade is being designed to support hiking, walking, running/jogging, biking, cross-country skiing and other non-motorized, self-propelled uses. Currently, the Township allows horseback riding at a walking pace only, as galloping horses created immediate damage to the surface upon trail opening. The trail currently has an approximately 16’ +/- wide x 3” to 4” deep modified stone wearing surface roughly centered on the approximately 24’ wide original rock ballast base. The modified stone surface, installed by AMTRAK upon completion of the recent catenary replacement, is 6 months old as of this writing, and has provided an adequate surface for most trail use. It is the recommendation of this plan to have an 8’ to 10’ wide x 3”-4” deep surface of rolled, crushed limestone fines (or equivalent) installed on top of the current 16’ base, and to the side towards the catenary poles as soon as is practical. The 8’ dimension was determined based on both, cost estimates, and to allow the remaining 8’ for emergency and service vehicles, as well as the segregation of possible future uses which will damage the finer trail surface. As trail use will likely increase over time, and the Quarryville Section represents a different user demographic, it is also recommended that the future installation of an asphalt surface be considered within Quarryville Borough. It should be noted that railroad ballast is often recommended to be removed and re-graded prior to finished surfacing in order to prevent “telegraphing”, the tendency for the ballast under the former rail ties to expand at different rates, causing ripples, mirroring the old tie pattern, in the surface. That the corridor has not seen rail traffic for 23 years and the current base has gone through a “freeze-thaw” cycle without evidence of telegraphing makes this phenomenon unlikely.

Motorized uses other than maintenance and law enforcement will be prohibited with the possible exception of a “one day-a-year” event, such as an “Autumn Colors” organized tour, and/or designated snowmobile openings. These “motorized” events as well as the continuation of, and if so the extent to which horseback riding will be allowed, are still under discussion and any decision may well depend on near-term usage effects and future funding and support sources.

AMERICANS WITH DIABILITIES ACT
The Americans with Disability Act (ADA) requires all public facilities to be fully accessible to persons with varying degrees of motor skills and abilities. Put simply, all buildings, restroom/toilets, benches, tables, etc., shall be made accessible to all persons. This includes maintenance of a clear, safe and barrier free path of travel to and from all amenities and, on the trail itself for a sufficient distance from developed sites to provide an equitable trail experience, as well as tactile warning strips at road crossings and Braille signage for the visually impaired.

As a result of property use agreements associated with the land acquisition, the trail has been open to the public prior to any possibility of addressing these issues. Of the current 16 foot wide rough stone base, the proposed 8’ to 10’ foot wide surface upgrade will meet the ADA surface standards. It is the Townships intent to complete further development of the trail, as it evolves, to meet the necessary ADA criteria.
EXISTING CATERIARIES

PRESERVE AND ENHANCE NATIVE VEGETATION

WHILE

CONTROLLING/REMOVING INVASIVE SPECIES

STABILIZE ERODING STEEP BANKS

REPAIR AND MAINTAIN LINEAR DRAINAGE SYSTEM

20'-24' TYP

EXISTING ORIGINAL BALLASTED RAIL END

F'-O' EXISTING ROLLED 3'-4' STONE BASE

F'-O' PROPOSED FINISHED SURFACE THICKNESS DETERMINED

WOOD OR METAL DROP-DOWN BOLLARD

20"X20"X4" +/- STONE FROM DEMOLISHED TRAIL BRIDGES

TYPICAL TRAIL SECTION

DETAIL # 1

REMOVABLE BARRIER

DETAIL # 2
13. CONCEPTUAL DESIGN MAPS

DESIGN MAP KEY
The Design Map Key shows the Providence Township/Quarryville Enola Low-Grade section in its entirety and its larger county and regional context. It is the central section of the 23 mile long “contiguous” (designated open-space) Enola Low-Grade corridor which, spans Lancaster County from east to west, includes the Borough of Quarryville which is the largest population center in southern Lancaster County, and is bisected by Routes 222 and 272, the only contiguous north to south highways running through the county. Connection to the Coatesville, Downingtown and Philadelphia populace to the east, Lancaster City and trails to the north, the Maryland, Baltimore populace to the south, and Susquehanna River trails and Harrisburg to the north, make development of this central section ideal, if not crucial, as a connecting hub, or “Keystone” to the growing Rail-trail network.

The map also indicates:

- Adjacent land use in the context of the entire section, which is predominantly rural agriculture with some residential, and the Commercial/Residential hub of Quarryville. It is important to note here that portions of Quarryville and its perimeter are in the only designated urban growth district in southern Lancaster County. This juxtaposition of pristine farm and woodland with an Urban Growth District, connected by a Linear Greenway-Recreational Trail can, by all planning experience, make for mutually beneficial partners, ideally situated to fulfill a major goal of this plan, which is to foster connections and Educate about Regional and Cultural Heritage. Quarryville’s interests can only benefit both economically and socially, from hosting/servicing trail users as well.

- Proposed Trail Access points along the entire section.

- Delineates the 5 larger scale Design Maps
LANCASTER COUNTY

DESIGN MAP KEY *** MARTIC TO EDEN TOWNSHIP
14. DESIGN MAPS

The Design Maps show Providence Township’s development/maintenance intent for the trail in larger scale and broken into 5 roughly equal sections.

DESIGN MAP #1

Map #1 depicts the trails 1.6 mi. section from the western Martic Township border, east to Route 272. A primary focus of this section is to develop the trail crossing as a minor Trailhead with pedestrian access and limited parking. The crossing is important to develop as the historic steel girder and stone abutment bridge was removed for traffic safety reasons but was left unimproved as regards to trail-recreational use and is a safety hazard for trail users. The bridge demolition also compromised a small unnamed branch of Trout Run, a pristine stream running through the adjacent Hauer-Trout Run Natural Heritage Preserve. Development of the minor Trailhead (see Sigman Road plan) will address safety crossing issues, remediate the stream disturbance, and provide limited and accessible parking and trail access which is in near proximity to Hauer-Trout Run, and a near-by Boys Club Park. A long-term goal is to install a replacement pedestrian bridge over Sigman Road returning continuity to this section of the trail.

Development moving east from Sigman Road toward route 272 predominantly entails continued clean-up of trash and construction debris, on-going repair and maintenance of the original Rail Line drainage channels, and placement of benches, primarily stone boulders retained from previous bridge demolition at approx. ½ mile to ¾ mile intervals. The exception being a several hundred yard long stretch of wetlands along the edge of the trail near the Rawlinsville Road overpass, which will be preserved and enhance through more intensive erosion / drainage / water management.

Finally, a long-term goal of this section, as well as those to follow is to preserve, enhance and, where possible, reintroduce native vegetation while removing invasive species.
Enola Low-Grade Trail – Providence Township Section

Design Map 1 – Martic Township to RT 272

LEGEND

**SAFETY BARRIER**
**SCHOOL**
**CHURCH**
**STONE ARCH**
**WETLANDS/WATER**
**TREE CANOPY**
**BENCH**
**PICNIC AREA**
**EROSION**

**PRIMAR Y FEATURES:**
* Pedestrian Trail Access with Future "ADA" Access
* Connection to Wildlife Preserve and Park to be Promoted and Managed
* Existing Wetlands to be Managed and Maintained
* Control Erosion at Steep and Unprotected Banks

DESIGN MAP 1 *** MARTIC TOWNSHIP TO RT 272

Issue Date: April 2012
15. DESIGN MAP #2

Map #2 depicts the 1.5 mi. trail section from just west of Route 272 to the eastern side of Hollow Road. In addition to the on-going clean-up, erosion and drainage issues mentioned previously, there are 3 main areas of interest and concern. First, the crossing over the tunnels above Route 272, while providing nice scenic views in each direction, will require safety railings for several hundred feet along each side. This is also a prime spot for bench placement as, because of the views it seems a logical resting-get oriented place. Second, Sawmill Road to the east is currently the location of a service/emergency vehicle entrance as well as a pedestrian access point. Just east of this access is an approx. 1 acre at-grade clearing which is currently used by the township as stone and cinder storage. The Township storage requires only a small portion of the existing open space allowing for potential meadow reclamation and “primitive” development as a resting spot with benches, picnic table(s) and possibly a toilet. This section passes through areas of the trail property that contain prime woodland and several possibilities exist for creating side trails along parts of the section.
Design Map 2 - RT 272 to Hollow Road
16. DESIGN MAP #3

Map #3 depicts the 1.3 mi. trail section from just east of Hollow Road, west/southwest to Truce Road. The western 2/3 of this portion of the trail, from Hollow Rd. to just west of Sawmill Rd. is in relatively good condition and features nice farmland, and some of the more pristine woodland views along the length of the trail, requiring little intervention aside from the addition of a few benches. More to the point, it is an example of what much of the disturbed areas can be with effective reclamation.

Moving southeast however, the .4 mi. from the approach to Sawmill Rd. to the southeast side of Truce Rd. has extensive disruption to the corridor’s drainage channel system in general, including several long stretches of wetlands, due to clear-cutting of steep slopes by AMTRAK, both historically and during recent catenary replacement, and from poor farming practice and agricultural encroachment. To remedy this will require agreement with AMTRAK concerning the clearing of the slopes, and with adjacent farms regarding illegal encroachment, coupled with establishing appropriate vegetation on erosion prone areas.

Finally, at the southeast end of this section the corridor widens to include a 3 acre +/- parcel of woodland and meadow which abuts the property of Providence Elementary School. This is also the location of a portion of the wetlands mentioned above. This proximity to the school is an excellent opportunity to create another informal access point to the trail, as well as, to promote and help coordinate environmental and recreational, education and activities in partnership with the school.
Design Map 3 – Hollow Road to Truce Road
17. DESIGN MAP #4

Map #4 shows the 2.25 mi. trail section from Truce Rd. on the northwest end, to the west side of Route 222. The initial several hundred feet of the trail southeast of Truce Rd. is a continuation of the same erosion/wetlands disturbance noted in Map #3. Beyond this and heading southeast to the Rt.222 interruption the trail is in fairly good condition, featuring many scenic farmland vistas and several smaller patches of woodlands and wildlife habitat, with minimal erosion and/or encroachment.

There are 2 areas of development opportunity on this section, both where Fairview Rd. intersects and/or comes very close to the trail. The western most of these locations, Fairview #1, is currently used as a pedestrian access which will require safety signage in the short-term, but intended to be a minor Trailhead with limited but ADA accessible parking, picnic and rest area and trail access. The accessible parking, when developed will be designed for expansion in the event of future need.

Fairview #2, 1 mi. further east towards Quarryville has been designed as the Primary Trailhead for the Providence Township /Quarryville section (see Fairview Road #2 Plan). It is currently an undeveloped at-grade crossing with service/emergency vehicle access and uncontrolled/undeveloped parking. When developed, the Townships plan is to provide 16 initial parking spaces with room for expansion, picnic and rest areas, an information Kiosk, toilet facilities, and trail access. All will meet current accessibility standards.
Design Map 4 – Truce Road to RT 222

**LEGEND**
- Safety Barrier
- School
- Church
- Bridge
- Stone Arch
- Wetlands/Water
- Tree Canopy
- Pedestrian / Bike Access
- Limited Parking
- Major Trailhead Parking
- Scenic View
- Bench
- Picnic Area
- Erosion

**PRIMARY FEATURES:**
- Develop primary and secondary trailheads
- Promote and coordinate environmental education
- Arrange educational activities with church and community
- Existing wetlands to be managed and maintained
- Control erosion at steep and compromised banks
- Encourage conservation of prime wetland habitat adjacent to abandoned, waterfilled quarries

**DESIGN MAP 4 *** TRUCE ROAD TO RT 222**
18. DESIGN MAP #5

Map #5 shows the 1.75 mi. trail section from the eastern edge of Providence Township, thru Quarryville to Eden Township at the easternmost point of the trail. Predominantly in Quarryville, the most urbanized section of the trail has inherently more interaction with the general public and so, the most opportunity for positive exposure as well as, safety issues to be addressed. Because of its more urban environment, use of this portion of the trail will be monitored with consideration given to a future surface upgrade to asphalt.

Starting to the west in Providence Township is arguably the most pressing issue, an at-grade crossing of Route 222, the main traffic artery into Quarryville from all points north. The removal of the Historic Stone Arch Tunnel for traffic safety reasons has created a dangerous pedestrian crossing and disrupts the continuity of the trail corridor. In the short term this crossing requires, at minimum, extensive safety signage. In the long term, it is imperative that a Pedestrian Bridge be installed over the highway.

The Oak Bottom Rd. at-grade crossing .4 mi. further east towards Quarryville, also the result of the removal of a Historic Stone Tunnel is currently and undeveloped 2:1 slope and difficult to access without trespassing on neighboring property. The township plans to re-grade Oak Bottom Rd. and the trail to provide service/emergency vehicle access to the Quarryville section. The crossing will then require the requisite signage for an at-grade crossing.

Moving east through Quarryville presents both opportunities and challenges. The opportunities being to foster a productive interaction between trail users and the local business community, as well as getting the larger local population involved recreational and environmental activities made available by the trail. Toward this end, Providence Township intends to explore the creation of 2 pedestrian access points to the trail, and parking options with in the borough. The access point/pedestrian paths, shown on Map #5 will be from just north of the Stone Arch Tunnel over North Church St., and from a small public road off of Lime St. just south of the trail.

The primary challenge through Quarryville is addressing the 3 bridges. While the superstructure of the bridges are in good shape, the decking is degraded and in some areas needs to be replaced, and safety railing must be installed at all bridge crossings. There is also the issue of trash and material storage encroachment by local businesses, which the Township plans to address, with the responsible parties amicably.

Also, at the easternmost end of Quarryville the corridor property includes a 12 acre woodland plot on the south side and contiguous with similar plot in Eden Township, and a fairly dense residential neighborhood. The Quarryville Elementary School and Smith Middle School is also approx. 1 mile to 1 ½ mile to the south. This plot which is currently undeveloped with several foot/bike paths running through it presents an excellent opportunity to collaborate with Eden Township’s goal to link with an adjacent Historic Lime Kiln site, as well as the neighborhood and school.

Finally, opposite the wooded plot mentioned above, the north side of the trail has a serious erosion problem which extends approximately .4 miles and spans the Eden/Quarryville border. The townships recognize this as a problem that must be addressed and are cooperating to do so.
Design Map 5 – RT 222 to Eden Township
19. Trailhead/Crossings/Design Features
Sigman Road Secondary Trailhead

NEW ACCESSIBLE WALK:
- SLOPE NOT TO EXCEED 1/2:1 RETAIL TO PAVING
- ADD AND MAINTAIN 3'-6" WIDE CRUSHED STONE PATH

EXISTING VEGETATED SLOPE

TO: TROUT-HAURER NATURE PRESERVE

EXISTING DIRT DRIVE

REMOVABLE BARRIER

FUTURE UNDEVELOPED PARKING

EXIST. STEEP PATH

EXIST. BARRIERS TO BE REMOVED

LIMITED EXIST. PARKING

EXIST. FISH LADDER

# STABILIZE BANKS AND ROAD EDGE
# ADD PLANTINGS

FUTURE TUBE TRUSS PEDESTRIAN BRIDGE

BOULDERS

REMOVABLE BARRIER

EMERGENCY SERVICE DRIVE

PAINTED CROSSING LINES

SWING ARM SIGNS

STOP

YIELD TO BIKES & PED'S

TRAIL RULES

SIGMAN ROAD ***

SECONDARY TRAILHEAD

Issue Date: April 2012
Fairview Road #1 - Minor Trailhead

FAIRVIEW ROAD #1 *** MINOR TRAILHEAD
Enola Low-Grade Trail – Providence Township Section

Fairview Road #2 – Primary Trailhead

FAIRVIEW ROAD #2 *** PRIMARY TRAILHEAD
Enola Low-Grade Trail – Providence Township Section

Oak Bottom Road

Oak Bottom Road *** WITH TYPICAL AT-GRADE CROSSING IMPROVEMENTS

Issue Date: April 2012
RT 222 Bridge

PLAN

APPROACH RAILING,
4 TYP. SAFETY RAILJS DEG.
MIN LENGTH + 9'-0"

CONC. ABUTMENTS

8' SQ. METAL TUBE TRUSS PEDESTRIAN BRIDGE

SECTION

RT 222 BRIDGE WITH TYPICAL BRIDGE APPROACH IMPROVEMENTS

RT 222

STOP

YIELD TO BIKES & PED’S

TRAIL RULES

HISTORICAL
("APPROPRIATE BRIDGE/TUNNELS")

PROTECTIVE MESH SIDEWALLS

STEEL TRESTLE GIRDERS

CONC. ABUTMENTS

EXIST. 3/4 GRADE

CARTWAY

Issue Date: April 2012
Tunnel Decking and Safety Rail Detail

SAFETY RAILING:
* 6x6 OR 6" DIA.
P.T. POSTS @ 12"
G.C. (MAX)
* 2x4 P.T. OR HEMLOCK
HORIZONTAL RAILS
AND/OR VINYL-COATED
STEEL MESH
* LAG POSTS TO CONC.
PARAPET

CONCRETE PARAPET
EXISTING BALLAST / FILL
TO REMAIN
STONE ARCH FACING
STONE ARCH
ROAD BED OR CREEK

STONE ARCH

TUNNEL DECKING & SAFETY RAIL DETAIL
Bridge Decking and Safety Rail Details

**SAFETY RAILING:**
- 4x4 or 6" dia. P.T. posts @ 12" O.C. (max)
- 2"x4 P.T. or Hemlock horizontal rails and/or vinyl-coated steel mesh
- Lag posts to 8x8 curbing and 4x4 braces or
- Thru blocking into steel girder

**EXISTING STEEL GIRDERS:**
- New or existing timber deck
- New or existing course ballast
- New crushed stone sub-base

**THRU-GIRDER**

**TYP. STEEL GIRDER**
Fairview Trailhead Kiosk
20. IMPLEMENTATION GOALS

Implementation of this plan will require money and action. Toward this end the township will:

- Create and maintain a trail for residents of the entire southeastern PA region.
- Continue to recruit neighboring Municipalities in the development public partnerships and help in the creation of the entire Low-Grade as a contiguous resource.
- Seek Federal, State, County and other non-governmental grants towards development and land stewardship.
- Seek out complimentary adjacent private development.
- Develop the trail in Phases which promote safety and encourage usage of all intended activities.
- Promote cost effective development and maintenance practices.
- Develop a trail that is not management intensive.
- Encourage trail users to help in development and maintenance through organized volunteer programs/work events.
- Continue to log volunteer development and maintenance time as equity towards matching grant requirements.
21. MANAGEMENT

Trail Management

Rules and regulations
Shortly after taking ownership of the Enola Low-Grade property, Providence Township created an ordinance (Ordinance 09-01) related to the trail property. The Supervisors took a proactive role in establishing rules and regulations, addressing the newly acquired recreational lands and the safety of the trail users.

Currently, the follow trail rules have also been established:

- Trail is open from dawn to dusk
- NO motorized vehicles
- Trail users must stay within trail visible right-of-way (approx. 30’ from either side of the main gravel trail surface) - Please respect the trail’s neighbors
- Alcoholic beverages are prohibited
- Dogs must be kept on a leash at all times
- Dog owners and horse riders/owners must immediately remove all horse/pet waste from the main trail surface
- Leave No Trace: Carry in/Carry out
- Hunting is restricted and by permit only – Please contact the township office for permit requirements and regulations.

- Horses must be ridden at a walking pace at all times, travel single file and on the trail side opposite of power poles
- NO horse drawn buggies or carts

Safety and Law Enforcement
Trail user safety is a major priority for the township, and steps need to be taken to protect the safety of trail users and also limit township liability. Where possible, areas of hazardous conditions have been addressed or identified along the trail. Several different tactics will be used to address these issues; hazards shall be removed, repaired, or marked with signage along the trail warning of the hazard.

A trail inspection form shall be created and utilized allowing routine inspection and logging of the trail conditions, expediting repairs, which in turn, lower safety risks for trail users and liability exposure of the township.

Educating visitors to the trail will serve as not only educational but also raise the awareness of trail visitors. This shall allow visitors to be fully aware of possible safety issues related to current conditions for the trail, state of development, allowed usage, and construction projects along the trail system. A trail map has been produced and plans call for the map to be available not only online, but at each main entry point along the trail, either in map handout form, kiosk or other physical posting along the trail system. The wide-spread use of mobile devices by Generation x/y/z also points to the possible development of a mobile app, allowing for updating of current conditions and providing interactive mapping systems.

Currently, the trail is patrolled under contract with Quarryville Borough Police, for approximately 12 hours per month and also as required for responding to issues related to law enforcement. The number of trail users on the trail at any given time and the wide-spread use and coverage of mobile phone service along the trail, provides an environment that not only provides a safer environment, but provides visitors with the ability to report issues or concerns in a timely manner.

The Providence Township Trail map and Brochure can be downloaded @:
http://www.providencetownship.com
**Maintenance**

After construction, trail maintenance shall be an on-going task that requires resources, including volunteers, staff and funding. Though most maintenance is currently limited to minor surface repairs, trash pickup, vegetation control and graffiti removal, etc. securing funding for trail maintenance will likely increase as more ambitious development and betterment efforts are made and amenities are introduced such as fencing, drainage improvements, trail and cross road signage, paved trail portions near high populated areas, trailhead mowing and mulching, comfort stations, etc.

Available data from a 2006 study by the Northeast Region of Rails-to-Trails Conservancy publication “Rail-Trail Maintenance and Operations: Ensuring the Future of Your Trail—A Survey of 100 Rail-Trails.” indicates that for the average trail surveyed was 23 miles in length, and has annual M&O costs of just under $1,500 per mile, regardless of surface type. These costs will be borne by residents of the townships, offset in part through volunteer efforts and donations. (Operational costs such as insurance and police patrols are not included).

**Signage**

At several locations along the trail system, trail users will need to cross over public roadways. At these locations; barriers, landscaping, and appropriate signage shall be utilized to guide and direct trail users and motor vehicles on public roads.

The follow locations have been identified as locations for signage updates:

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Trail Signage - Safety Signage on Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sigman Road Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Sigman Road Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Hollow Road Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Hollow Road Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Sawmill Road #2 Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Sawmill Road #2 Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Route 222 Pedestrian Sign (alt route)</td>
</tr>
<tr>
<td>1</td>
<td>Route 222 Pedestrian Sign (alt route)</td>
</tr>
<tr>
<td>1</td>
<td>Oak Bottom Road Pedestrian Sign</td>
</tr>
<tr>
<td>1</td>
<td>Oak Bottom Road Pedestrian Sign</td>
</tr>
</tbody>
</table>

Ideally, signage from the “US department of Transportation Manual on Uniform Traffic Control Devices”, current edition 2009 shall be utilized at these locations.

As previously mentioned, warning signage shall also be utilized to warn trail users of any closures or areas of caution along the trail. Rules and Regulations should be posted at all access points.

Trail signage should also be installed along the trail system to provide trail users with approximant locations to the nearest trailhead, public roadway, access point, etc. Also, Signage to identify roads and other landmarks should be utilized along the entire trail corridor.

**Typical On-trail Signage**

Directional signage should be installed at the major roadways (RT 222 and RT 272) to direct trail visitors to the nearest access point.
Volunteers and resident feedback needed

The Providence Township Park and Recreation Committee meets the second Thursday of each Month at 7:00PM. Meetings are held at the Providence Township Municipal Building.

Township residents and residents from adjoining townships are welcome to attend!

Please visit our website @ http://www.providencetownship.com for trail updates

Please contact us @ parks@providencetownship.com

Telephone: 717-786-7596
Fax: 717-786-2565
Township Hours: Mon-Thurs 6:30AM - 4:30PM
Closed Fridays

Enola Low Grade Trail Providence Township Section

Please enjoy the 8+ miles of the Enola Low Grade trail system running through our Township and Quarryville Borough
The Enola Low Grade, built between 1903 and 1906 by the Pennsylvania Railroad, was a marvel of engineering for its time and location. Its construction from Chester Co. to Harrisburg which is almost entirely flat, never exceeding a 1% slope and with curves no sharper than 2 degrees was unique in this geographical region. The intent of the rail line was to provide efficient transport of freight from the East coast to the Midwest freeing up the existing heavily used and less efficient lines for passenger use.

Accomplishing this feat through the relatively inaccessible and often rugged terrain of southern Lancaster County required the efforts of many laborers, both local and immigrant, as well as much of the heaviest equipment of the time. The landscape was significantly changed as evidenced by the large areas of cut and fill. The cuts were achieved through dangerous blasting, while many elevated areas of track were constructed on raised pilings, some as high as one hundred and fifty feet, allowing side dumping cars to be driven on top, dumping loads of fill until the pilings were encased and the track supported by the fill. Topping off, or rather holding up, this amazing feat of earth engineering are the many stone arch tunnels along the Line.

History of the Enola Low Grade

In 2008 the townships adjacent to the Enola Low Grade in Lancaster Co. came to an agreement with Conrail, Amtrak and the Pennsylvania P.U.C., and ownership was transferred to each jurisdiction. Providence Township also acquired the Quarryville section as part of the agreement. For more detailed information, please visit our website.

Early years

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Due to the undeveloped state please exercise extra caution entering, using and exiting the trail.

The currently undeveloped line is open to the public.

Parking is available at the Main Trailhead located at Fairview Rd. #2. Limited parking space is available at Sigman Rd. and Hollow Rd (See trail map)

Pedestrian access is available at Oak Bottom Rd., Fairview Rd#1 & #2., Sawmll Rd., and Sigman Rd.).

The short-term goals are:
- Address trail user safety
- Finish an initial clean-up
- Stabilize minor erosion
- Provide basic (limited) parking
- Provide informational/directional signage
- Survey and clearly mark all trail property boundaries
- Make others aware of this resource

The long-term goals are:
- Develop a working relationship with neighboring Townships, aiming for a consensus to support a contiguous trail, open across the county, and eventually beyond.
- Develop a Master Plan defining the specific improvements required to create a first-class trail.
- Implement the Master Plan

Our Goals

It is the Township’s intent to protect, preserve and enhance this engineering, historic, environmental and recreational treasure for the use and enjoyment of the community.

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