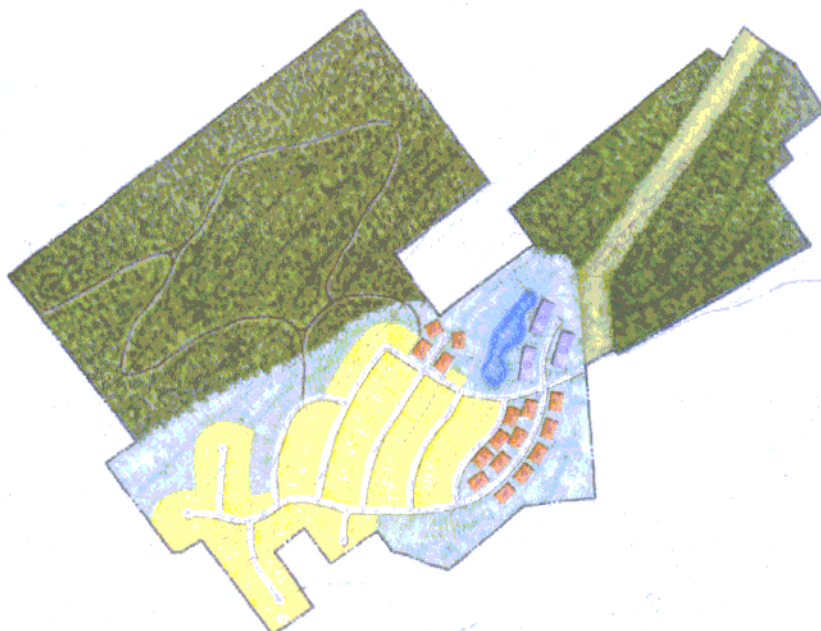




**Borton
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ENGINEERING

Earth Conservancy

Plymouth Township Land Use Feasibility Study



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July 31, 2006

Project Number: 2005-1748-05

Plymouth Township Land Use Feasibility Study

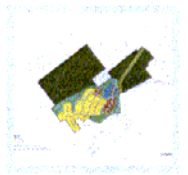
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7. Utility Map
8. Master Plan
9. Prospective View

Appendices

1. Market Analysis – Economic Research Associates
2. Utility Correspondence
3. Preliminary Opinion of Probable Cost – Offsite Infrastructure Improvements



I. Executive Summary

Earth Conservancy is a non-profit corporation formed in 1991 with its mission to reclaim industrially scarred land in Northeastern Pennsylvania formerly owned by Blue Coal Corporation. Earth Conservancy's properties encompass approximately 16,300 acres located south and southwest of the City of Wilkes-Barre in Luzerne County. Earth Conservancy's goal is to reclaim the scarred land in an environmentally and socially productive use. Since 1991, Earth Conservancy has systematically completed extensive long range planning efforts of their holdings. Included in this planning effort was the completion of a long range Land Use Plan authored by EDAW, Inc. in 1996.

The Land Use Plan identified 6,100 acres of their 16,300 acres as being suitable for commercial, residential, industrial, and recreational development. Within these developable areas, the Land Use Plan identified approximately 350 acres in Plymouth Township, Luzerne County as an area that warranted a detailed study to evaluate the potential future use of the parcel.

The subject study parcel includes a significant abandoned strip mine pit known as the Avondale Pit, which is approximately 2,600 feet long, 800 feet wide, and over 200 feet deep. Currently, the Pennsylvania Department of Environmental Protection (PaDEP) Bureau of Abandoned Mine Reclamation (BAMR), in partnership with Earth Conservancy, is in the process of reclaiming the strip pit area. The project cost is approximately \$4 million, and includes complete filling of the strip pit area, thus making the 350 acre parcel suitable for planning its most productive future use. The reclamation project is scheduled for completion in 2008.

In an effort to properly plan the future use of the Plymouth Township parcel, Earth Conservancy engaged the team of Borton-Lawson and Economic Research Associates to complete the Plymouth Township Land Use Feasibility Study. The Study has been funded by Earth Conservancy in conjunction with a grant provided by Luzerne County.

The scope of the Plymouth Township Land Use Feasibility Study includes completion of a detailed Market Analysis and Master Plan in order to create a cohesive and implementable project. Earth Conservancy's vision for this property is to create the optimal balance of residential and recreational opportunities for the parcel while maximizing the potential of its physical attributes. The market and economic elements of the study are intended to provide a basic perspective on area residential development patterns to inform the planning process and to assist Earth Conservancy in making the best use of developable land holdings for residential and recreational amenities. The market analysis forms the basis of the plan by identifying the depth of potential market support for new housing. In addition, the market analysis is used to:

- Understand overall growth patterns in the area;
- Identify economic drivers, such as employment growth, that affect the demand for new housing;

- Evaluate the advantages and disadvantages to the site's development;
- Provide the information necessary to assist Earth Conservancy in its decisions regarding the property's ultimate development.

The Master Plan also evaluates the sites physical characteristics which must be considered in conjunction with the Market Analysis. This evaluation included a review of location, topography, mining hazards, zoning and subdivision regulations, stormwater management requirements, utility services, and traffic considerations.

The findings of this Feasibility Study conclude that although the study parcel has inherent constraints including topography, access, and utility service, it also has tremendous opportunity based on its location, exceptional vistas, and the potential impact of the completion of the South Valley Parkway. Over the long term, the site's physical attributes and excellent regional access should bode well for new market-rate housing.

The proposed Master Plan provides for a balanced mix of residential and recreational uses for the parcel. Keeping with Earth Conservancy's mission to balance development while respecting the natural environment, the proposed residential development has been targeted to occur within the area of the parcel currently being improved under the Pa DEP reclamation project. Although the opportunities and constraints analysis identified a total of 131 acres which would be considered developable, development has initially been limited to the 70 acres within the previously disturbed reclamation area, thus maximizing the protection of natural and forest area on the parcel.

The proposed Master Plan includes a mix of single family residential units, townhomes, and condominiums which all are sited to take advantage of the exceptional views overlooking Wyoming Valley. The residential development will require access improvements to Jersey Road as well as utility extensions, all of which are detailed within the study.

**balance
development
while respecting
the natural
environment**

Recreational opportunities include a tremendous potential for trails within the development area as well as the remaining forested hillside of the tract. The location of the parcel provides an opportunity for a natural trail linkage to the Lackawanna State Forest, located on the northwest edge of the parcel.

In order to maximize the potential success of development of the parcel, it is critical that Earth Conservancy work with Municipal Officials from Plymouth Township and the Northeast Pennsylvania Alliance (preparing the township's Recovery Plan under Act 47 designation) to enhance the current deteriorated conditions of commercial and residential properties along Route 11 in Plymouth Township as well as the Township's fiscal distress to negate any limitation of the site's market appeal. Appropriate strategies include physical and infrastructure improvements such as sidewalk and streetscape improvements facade grants for commercial store front renovations and code enforcement for problem residential properties.



II. Market Analysis

The Market Analysis for the Plymouth Township Feasibility Study was completed by Economic Research Associates (ERA) of Washington, D.C. A complete copy of the Market Analysis is included in this Study as Appendix 1. Since the Market Analysis sets the tone for the Master Plan, it is suggested to review the Market Analysis in Appendix 1 prior to reading the remainder of this Study. The Market Analysis is provided as an Appendix for coordination and organizational purposes.

III. Opportunities and Constraints Analysis

1. Site Location

The study parcel is located in the West Nanticoke section of Plymouth Township, Luzerne County. The site, which is located approximately ½ mile north of US Route 11, is bounded on the northwest by Lackawanna State Forest, on the east by Curry Hill, on the west by Lands of Emerald Anthracite and on the south by lands of Earth Conservancy and Avondale Hill. Exhibit 1 depicts the existing overall location map.

Plymouth Township is a Second Class Township located along the Susquehanna River, approximately 8 miles south of the City of Wilkes-Barre. The Township is bounded on the north by Plymouth Borough, on the west by Jackson Township, on the south by Hunlock Township, and on the east by the Susquehanna River.

The site is located ½ mile north of the State Route 11 Interchange with the South Cross Valley Expressway, providing excellent access to Route 29 and Interstate 81.

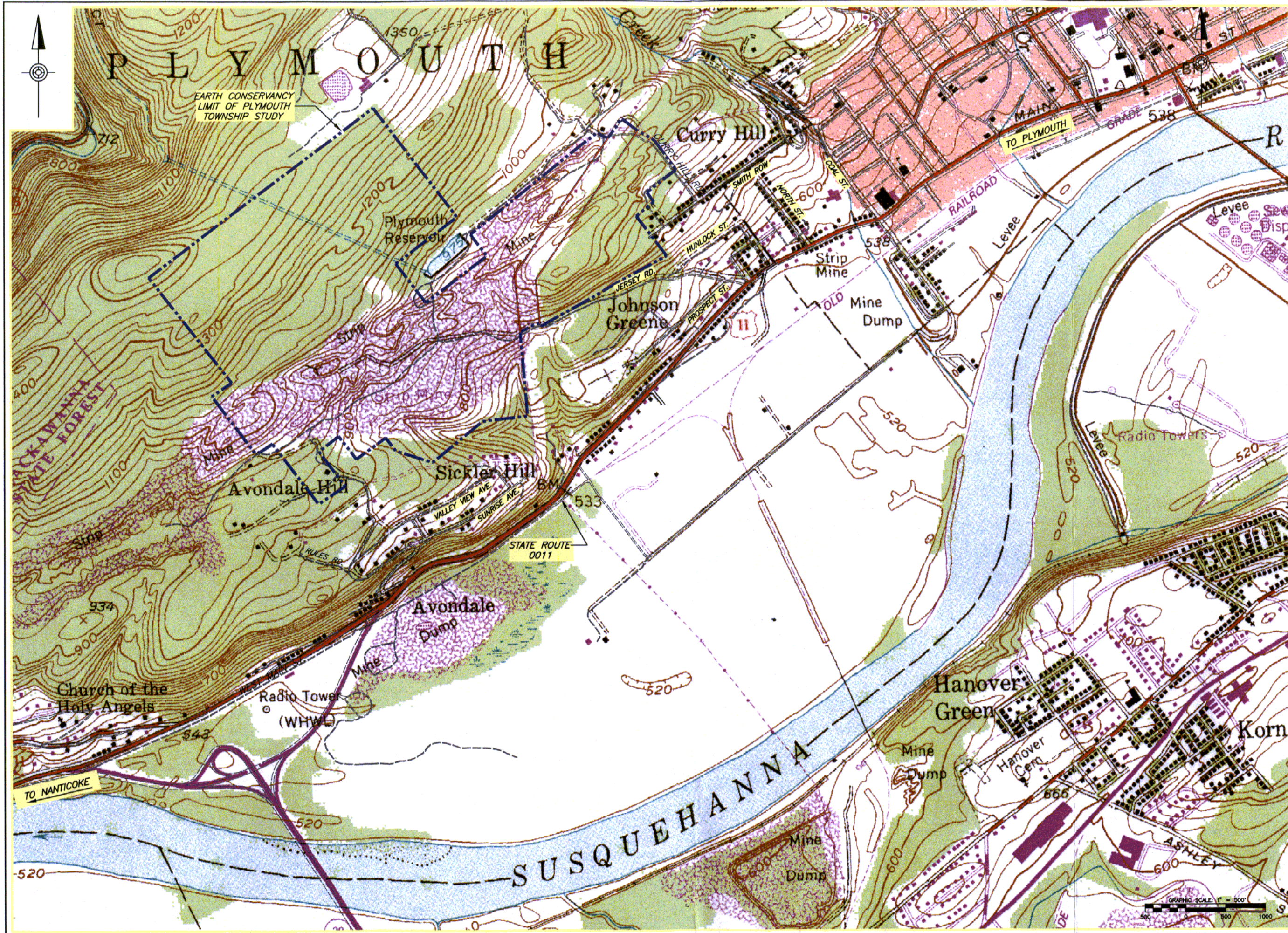
The topography of the Township consists of both steep mountainous terrain along the Larksville and Shickshinny Mountains and low lying flood plain areas located along the river.

While local access is somewhat constrained, regional access is favorable. The site is

located approximately 0.5 miles north of the State Route 11 interchange with the South Cross Valley Expressway, which connects Plymouth Township with State Route 29 and Interstate 81.

2. Topography

The study parcel is located on the western mountain side of lower Wyoming Valley. At present, the site is encumbered by the Avondale Pit, a deep strip pit left as a result of the coal mining operations in Wyoming Valley. The existing pit is approximately 2,600 feet long, 800 feet wide, and over 200 feet deep. This site is currently being reclaimed by PaDEP Bureau of Abandon Mine Reclamation. The proposed reclamation project calls for complete filling of the Avondale Pit in order to eliminate the hazard to the public. The reclamation project includes approximately 4



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REVISIONS			

EXISTING OVERALL LOCATION MAP	PROJECT NO. 2005-1748-05
PLYMOUTH TOWNSHIP FEASIBILITY STUDY	DRAWING NO. EXHIBIT 1
EARTH CONSERVANCY	
PLYMOUTH TOWNSHIP	LUZERNE COUNTY
	PENNSYLVANIA

million cubic yards of earthwork to cut existing soils across the site necessary to fill the pit.

Exhibit 2 shows the existing topography of the site prior to the start of the BAMR reclamation project. Earth Conservancy provided Borton-Lawson with an electronic file of the proposed topography at the completion of the BAMR reclamation project. Exhibits 3 and 4 show the topography for the parcel considering the finished reclamation project by BAMR. For planning purposes, Exhibit 4 was utilized to evaluate development potential of the parcel. As can be seen by Exhibit 4, the highest elevation on the parcel is located at the northwest corner of the property line, adjacent to the Lackawanna State Forest, at an approximate elevation of 1400. The lowest elevation of the site is located at the southeast corner of the property, at an approximate elevation of 630, resulting in a 770 foot vertical drop across property.

The average slope across the parcel tract is approximately 20%. As part of the constraints analysis, Borton-Lawson completed a steep slope analysis of the parcel as shown in Exhibit 6. Exhibit 6 concludes that approximately 27 acres or 7.5% of the site lies within the 0-5% slope range; 46 acres or 13% of the site lies within the 5-10% slope range; 89 acres or 25% of the site lies within the 10-15% slope range; and approximately 195 acres or 54.6% of the site exceeds 15% slope. Since the Plymouth Township Subdivision and Land Development Ordinance limits development over 15%, allowable development was targeted for areas under 15%.

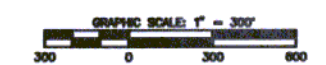
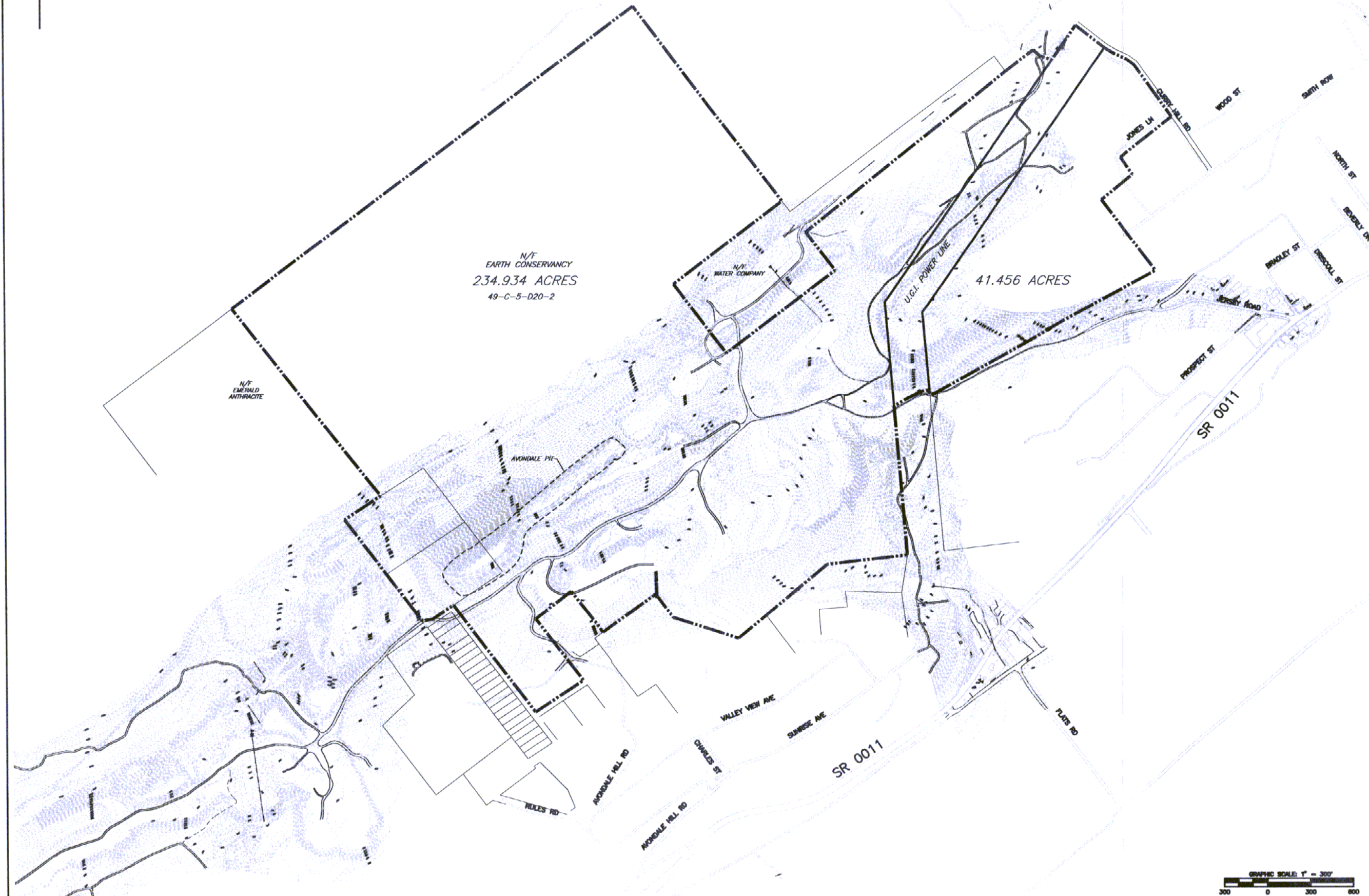
Exhibit 6 was utilized to provide ERA with the developable area within the 350 acre tract. Utilizing Exhibit 6, Borton-Lawson concluded that there were three potential areas for development which would comply with the Plymouth Township SALDO requirements. These areas include the following:

- Open Vista (identified Open Flats in ERA's Market Analysis) - Includes approximately 70 acres in the area of the parcel being reclaimed under the BAMR project. This area is generally open with access from Jersey Road.
- Plateau - This area includes approximately 45 acres on the northern edge of the property. This 45 acres has very favorable topography for development, however, its access is limited due to its location on top of the mountain.
- Curry Hill - This area includes approximately 16 acres located on the eastern property drive adjacent to the Curry Hill section of the Township.

3. Avondale Pit

As described previously, the major physical feature associated with the project site is the Avondale Pit which is currently being filled as a result of the BAMR reclamation project.

The fill operations associated with the reclamation project do not include controlled compaction of the fill material. Therefore, any use of the surface area associated with the pit in the future must consider additional densification measures such as dynamic



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REVISIONS			
DATE	SCALE	DATE	SCALE

TOPOGRAPHY PRIOR TO BARR PROJECT

PLYMOUTH TOWNSHIP FEASIBILITY STUDY
EARTH CONSERVANCY

PLYMOUTH TOWNSHIP LUZERNE COUNTY PENNSYLVANIA

PROJECT NO. 2005-1748-05
SHEET NO. 2
EXHIBIT 2

EXHIBIT 3 PROPOSED TOPOGRAPHY

Legend

- PROPERTY BOUNDARY
- MUNICIPAL BOUNDARY
- 50 FT ELEVATION INTERVALS
- 10 FT ELEVATION INTERVALS

NOTE: DETAILED CONTOURS IN THE APPROXIMATE CENTER OF THE SITE WERE DERIVED FROM THE DRAWING "MAJ-CONTOURS.DWG."

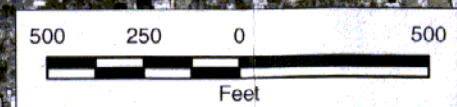
GENERAL CONTOURS ILLUSTRATED IN NORTH SECTION AND THE EASTERN SECTION OF SITE WERE DERIVED FROM 30M USGS DIGITAL ELEVATION MODEL (DEM) FOR THE WILKES-BARRE WEST 7.5 MINUTE QUADRANGLE. THE CONTOUR LINES DERIVED FROM THE USGS DEM WERE MODIFIED IN SOME AREAS TO MORE CLOSELY CORRESPOND TO THE DETAILED CONTOUR LINES FROM THE DRAWING.

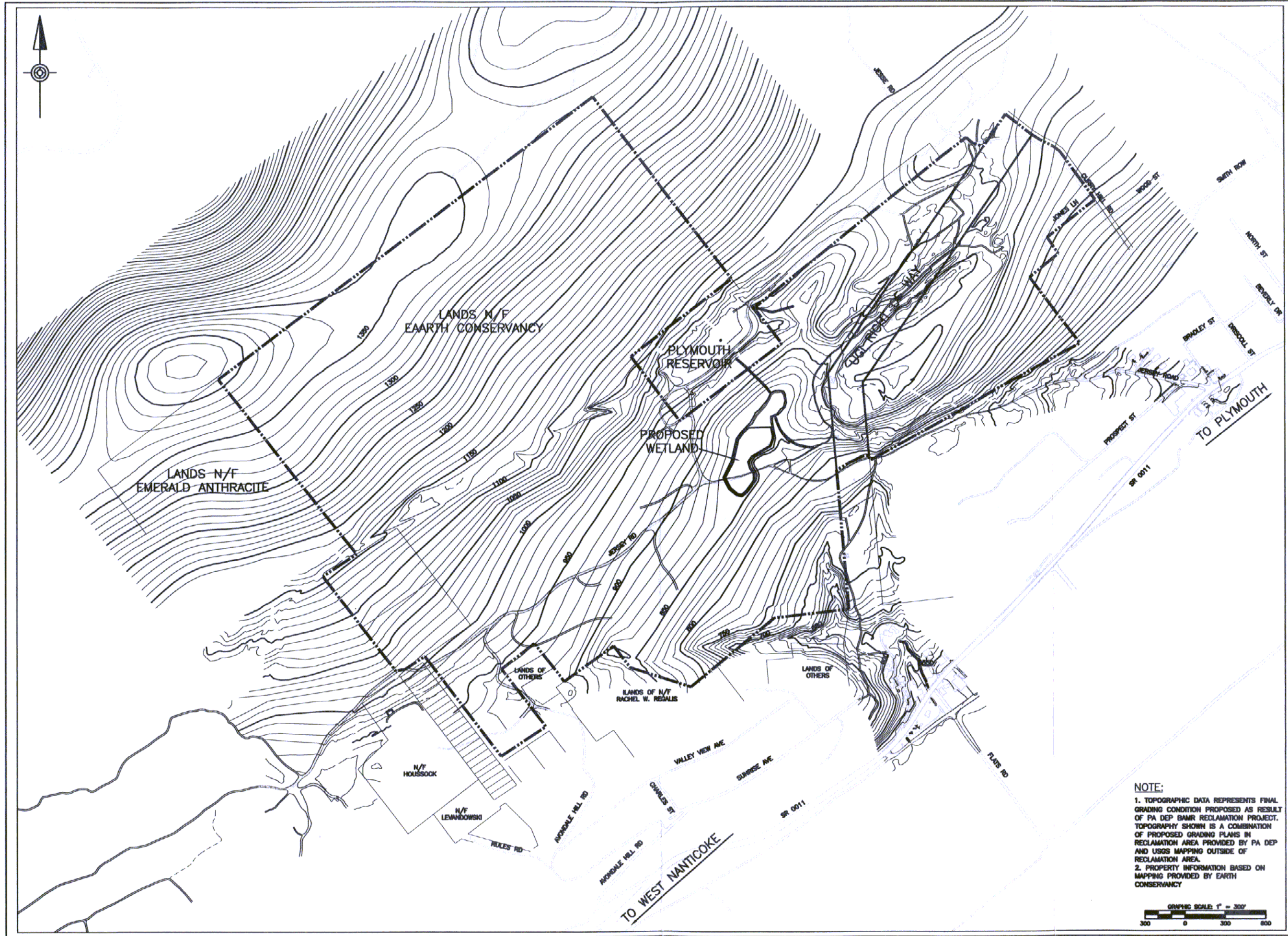
THE TWO CONTOUR DATASETS THEN WERE MERGED AND CONTOUR LINES EXTENDED TO THE PROPERTY BOUNDARY

THE CONTOUR DATA WAS PROCESSED TO DERIVE PERCENT SLOPES. AREAS LESS THAN 700 SQUARE FEET WITH CONTIGUOUS SLOPES WERE MERGED INTO THE SURROUNDING AREAS

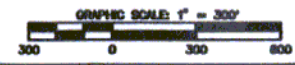
THIS DRAWING IS FOR ILLUSTRATIVE PURPOSES ONLY AND TO APPROXIMATE POTENTIALLY DEVELOPABLE AREAS.

ALL DATA ARE SUBJECT TO REVISION BASED ON SITE SPECIFIC SURVEY DATA.





NOTE:
 1. TOPOGRAPHIC DATA REPRESENTS FINAL GRADING CONDITION PROPOSED AS RESULT OF PA DEP BARR RECLAMATION PROJECT. TOPOGRAPHY SHOWN IS A COMBINATION OF PROPOSED GRADING PLANS IN RECLAMATION AREA PROVIDED BY PA DEP AND USGS MAPPING OUTSIDE OF RECLAMATION AREA.
 2. PROPERTY INFORMATION BASED ON MAPPING PROVIDED BY EARTH CONSERVANCY



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REVISIONS	DATE	SCALE	DRAWN	CHECKED

EXISTING CONDITION PLAN POST BARR PROJECT
 PLYMOUTH TOWNSHIP FEASIBILITY STUDY
 EARTH CONSERVANCY

PLYMOUTH TOWNSHIP LUZERNE COUNTY PENNSYLVANIA

PROJECT NO. 2005-1748-05
 SHEET NO. 4
EXHIBIT 4

compaction. Due to the excessive depth of the fill and the length of time required to complete the fill operation, it is likely that a good deal of self compaction will occur over time as a result of the weight of the fill itself, and the combination of moisture/rain water which will enter the pit area during the construction process. The location of the Avondale Pit is outlined in Exhibit 2.

4. Mining Hazards

This site is currently being reclaimed by BAMR to eliminate the hazard known as the Avondale Pit. At the conclusion of the mining reclamation project, this parcel should be free of any significant mining hazards.

Due to the bulk nature of the backfill operations associated with the reclamation project, the area that lies within the limits of the deep fills of the Avondale Pit are not recommended for development in the initial phases, due to risk associated with potential settlement. However, due to the excessive depth of the fill and the length of time required to complete the fill operation, it is likely that much of the required self compaction will occur over time. Any future development should consult a geotechnical engineer to investigate the subsurface conditions at the time of any specified development. It is likely that some remedial measures, such as dynamic compaction, will be required prior to building construction.

5. Wetlands

A review of available National Wetland Inventory Mapping did not reveal any documented wetlands on the study parcel. A formal delineation was not performed as part of this project. Any future development will require the completion of a formal wetland delineation as part of the subdivision design process.

6. Zoning Regulations

The study tract consists of three different zoning districts as outlined by the Plymouth Township Zoning Ordinance. The Township Zoning Ordinance was adopted on June 13, 1974 as Ordinance No. 19 and was most recently amended on April 6, 1987. The site is divided into the following zoning districts; Special Residential District (S1-R); One Family Residential District (R-1A); Two Family Residential District (R-1A). The zoning boundaries which affect the tract are shown on Exhibit 5. A summary of the zoning regulations are shown in Table I.

The key zoning restriction associated with future planning of the parcel includes the use allowed in each district and the minimum lot size allowed in each district. As can be seen by Table 1, all districts allow residential use. The S1-R District requires a minimum 1 acre lot size, the R-1A District requires a minimum 20,000 square foot lot size, and the R-2 District requires a minimum 8,000 square foot lot size. It should be noted that the R-2 district also permits a multi-family dwelling use.

Table 1
Summary of Zoning Regulations

District	R-1A 1-Family	R-2 2-Family	S-1R Special Residential
Principal Permitted Uses	Single-family detached dwellings Public recreation areas Temporary tract offices and tract signs Mobile homes on permanent foundations. ⁶ Other similar uses, as determined in accordance with the procedures set forth in § 125-50C	Same as R-1A 2-family dwellings	Single-family detached dwellings Churches and parish houses Essential services Public and recreation areas Schools, except trade schools for adults Temporary tract houses and tract signs Seasonal dwellings Mobile homes on permanent foundation [Amended 11-23-87] Other similar uses, as determined in accordance with the procedures set forth in § 125-50C
Accessory Uses	Home occupations, including professional offices only Private garages and private parking areas Signs as regulated in § 125-35E Other accessory uses and structures customarily appurtenant to a principal permitted use	Same as R-1B	Home occupations Private parking areas and garages Signs as regulated by § 125-35E Private swimming pools Other accessory uses and structures customarily appurtenant to a principal permitted use Animals in residence districts (See § 125-34A) [Amended 12-5-85]
Special Uses	Large-scale residential developments, including single-family, 2-family and multifamily housing ⁴ Animals in residence districts (See § 125-34A ⁷)	Same as R-1B Mobile homes and mobile home parks	Cemeteries, country clubs, golf courses Electric and telephone transmission and distribution facilities, including substations and water-pumping stations Essential services Hospitals and sanatoriums, except animal hospitals Institutions for children and the aged Nursing homes Other institutional and educational uses
Minimum Lot Size¹	20,000 square feet	8,000 square feet ³	1 acre
Minimum Yards			
Front¹	35 feet	25 feet ³	35 feet
Side, 1	15 feet	6 feet ³	15 feet
Side, Both	30 feet	15 feet ³	30 feet
Rear	30 feet	25 feet ³	50 feet
Minimum Lot Frontage²	125 feet	80 feet ³	150 feet
Minimum Lot Depth	150 feet	100 feet	200 feet
Maximum Lot Coverage¹	25%	25%	25%
Maximum Building Height			
Stores	2-1/2	2-1/2	2-1/2
Feet	35 feet	35 feet ²	35 feet

Notes:

¹ Except as otherwise provided for large-scale developments.

² Four (4) stories or fifty (50) feet for multifamily dwellings.

³ Except that for garden apartments and other multifamily dwellings, the provisions of § 125-30A(2) shall apply.

⁴ Minimum lot area per dwelling unit shall be four thousand (4,000) square feet for two-family dwellings, three thousand (3,000) square feet for garden apartments and one thousand Five hundred (1,500) square feet for other multifamily dwellings.

⁵ Construction within districts in the one-hundred year floodplain must comply with the township's buildings regulations.

⁶ [Amended 11-23-87]

⁷ [Amended 12/5/85]



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REVISIONS			
NO.	DATE	BY	CHK

ZONING MAP

PLYMOUTH TOWNSHIP FEASIBILITY STUDY
EARTH CONSERVANCY

PLYMOUTH TOWNSHIP LUZERNE COUNTY PENNSYLVANIA

PROJECT NO. 2005-1748-05
DRAWING NO. EXHIBIT 5

EXHIBIT 6

Legend

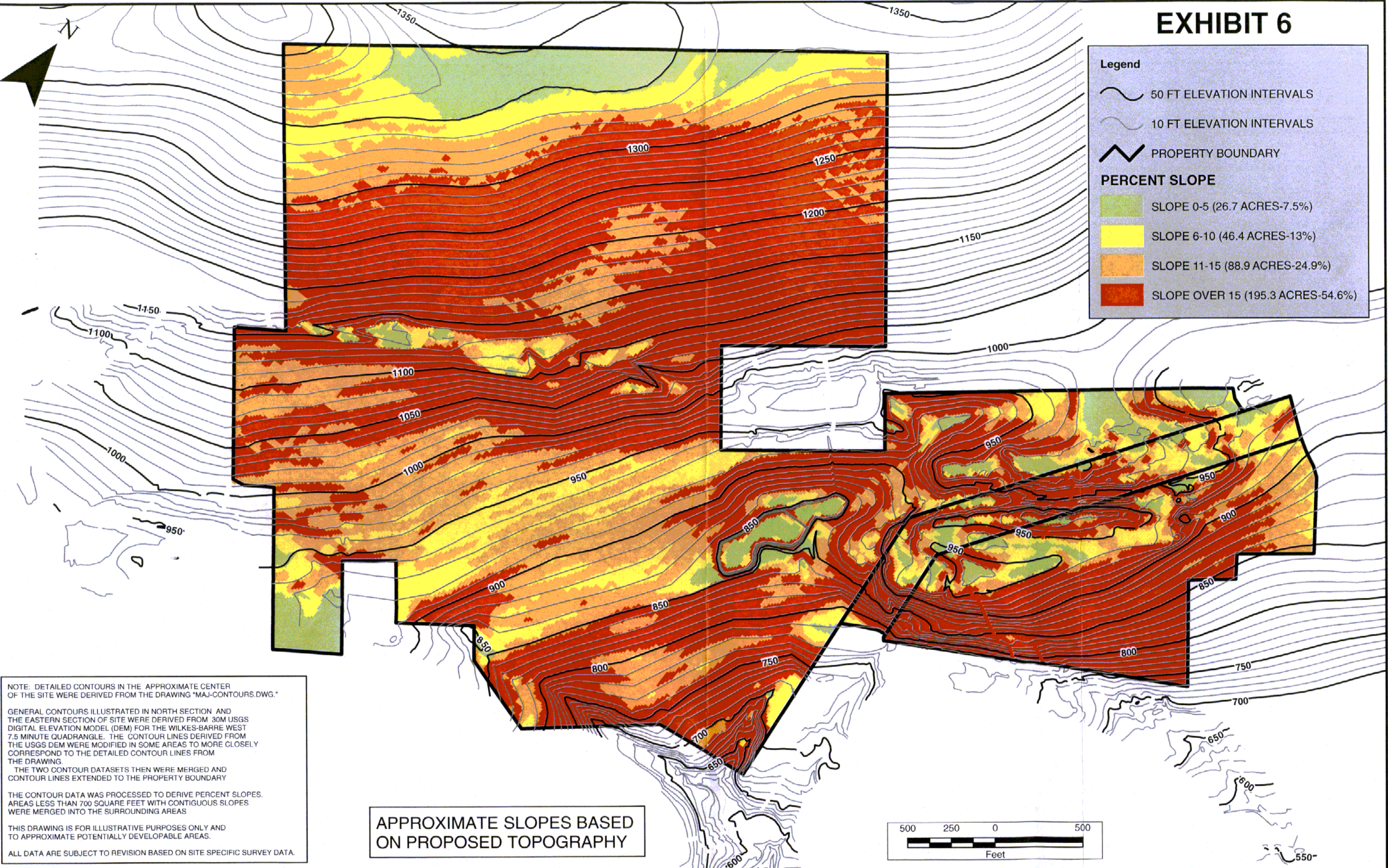
50 FT ELEVATION INTERVALS

10 FT ELEVATION INTERVALS

PROPERTY BOUNDARY

PERCENT SLOPE

SLOPE 0-5 (26.7 ACRES-7.5%)
SLOPE 6-10 (46.4 ACRES-13%)
SLOPE 11-15 (88.9 ACRES-24.9%)
SLOPE OVER 15 (195.3 ACRES-54.6%)



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APPROXIMATE SLOPES BASED
ON PROPOSED TOPOGRAPHY

7. Subdivision and Land Development Regulations

Proposed development associated with this parcel will be subject to the requirements of the Plymouth Township Subdivision and Land Development Ordinance, adopted August 3, 1992.

Any proposed subdivision or land development will require approval from the Plymouth Planning Commission and the Plymouth Township Board of Supervisors. Detailed requirements of the plan approval process are outlined in the ordinance. For this study, the following SALDO items were identified as being critical:

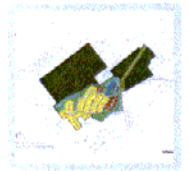
- Depth of Residential Lots shall not be less than one (1) nor more than two and a half (2-1/2) times their width.
- Depth of Multifamily Residential and Non-Residential Lots shall be adequate for the use proposed and sufficient to provide satisfactory space for on-site parking, loading and unloading, setbacks, and landscaping.
- Proposed streets shall be extended to the boundary lines of the tract to be subdivided, unless prevented by topography or other physical conditions, or unless approved by the Planning Commission as not necessary.
- Cul-de-sac streets are permissible in accordance with the SALDO.
- Maximum street grade of a local street is 10%.
- Minimum cartway width of a local street is 22 feet. In addition, seven foot shoulders should be provided on both sides for curbed roadways.
- Grading slopes of cuts and fills shall not exceed 2 horizontal to 1 vertical.
- Stormwater Management Facilities must provide control for the 2, 10, 25 and 50 year storms.
- Curbs shall be required on all streets and parking lots located within multifamily and apartment building developments and on new streets in subdivisions in which the average lot width of the interior lots at the required setback line is 100 feet or less.
- Sidewalks shall be required on all streets located within multifamily building developments and on new streets in subdivisions in which the average lot width of the interim lots at the required setback line is one hundred (100) feet or less. The requirement of sidewalks may be waived at the discretion of the Planning Commission.

8. Stormwater Ordinance Requirements

As listed above, the Plymouth Township SALDO requires that any proposed development to provide control measures for the 2, 19, 25 and 50 year storms. The subject parcel does not lie within a designated Act 167 Stormwater Management Plan study area. Approvals of stormwater detention/management facilities must be obtained from Plymouth Township, Luzerne County, and the Luzerne County Conservation District as part of the subdivision and land development review process.

It is important to note that PaDEP BAMR completed significant storm conveyance improvements from the parcel to an established conveyance system along State Route 11. It is anticipated this would be most logical stormwater discharge channel for any proposed development on the parcel. In addition, the topography of the parcel provides a natural drainage pattern for future development. Proper design should allow for the installation of a gravity storm conveyance system with central detention facilities located at the low points of the development.

All post development runoff will require detention to meet the discharge requirements of the applicable stormwater ordinances in effect at the time of plan approval. Detention facilities can either be maintained by the Developer or homeowner association, or be offered for dedication to the Township at the time of subdivision approval.



IV. Utility Analysis

1. Water Supply

Public water supply is readily available to the parcel from the Pennsylvania American Water Company (PAWC) public water supply system. Exhibit 7 shows utility services to the parcel. As shown on Exhibit 7, the Plymouth Reservoir is located adjacent to the reclamation area of the parcel. The Reservoir serves to interconnect the Ceasetown Water Treatment Plant and a 5,000,000 gallon storage tank located just north of Curry Hill. Correspondence with PAWC indicates that a 36" ductile iron pipe connects the Reservoir to the storage tank. The proposed development would likely connect to this pipe system just downstream of the Reservoir. According to PAWC officials, the maximum elevation which can be served by the storage tank is at an elevation of 1,500 feet. The highest elevation of the parcel is 1,400 feet and the highest elevation targeted in the Master Plan is approximately 1,150 feet, therefore adequate pressures will be available to the development.

The proposed water supply system within the residential development areas on this parcel will likely consist of 8" and 10" ductile iron mains and appropriate valving and hydrants. Final design of the system would require approval from PAWC as part of the subdivision design process.

Appendix 2 includes correspondence provided by PAWC for this project.

2. Sanitary Sewer

Currently, there is not adequate sanitary sewer service to the parcel. However, Plymouth Township is in the process of completing the design for a central sanitary collection system within the Township. Plans provided to Borton-Lawson by the Township Engineer, Pasonick Engineering, indicates that the preliminary design of the collection system includes an 8" gravity sewer line on Jersey Road to the limit of existing residential property. Exhibit 7 shows the location of the proposed sewer as provided by Pasonick Engineering. The proposed sanitary sewer is scheduled to terminate approximately 2,500 LF from the study property line, therefore, service could easily be extended for any future development. Earth Conservancy should approach the Township concerning the possibility of an agreement to extend service to the study parcel property line. According to Pasonick engineering, it is likely the proposed 8" sanitary sewer may have to be increased to a 10" sanitary sewer to ensure future development is accommodated. Cost savings could be realized if this extension could be completed as part of the Township's overall sanitary sewer project due to the magnitude of the project.

3. Electric

The closest electric utility to the subject parcel is owned and operated by UGI, Inc. along the Route 11 corridor. Correspondence from UGI indicates that electric service can be provided to a potential development. Costs associated with extending electric service to the development for Route 11 would occur during the design phase of the project, when specific usage is known. Any proposed developer will have to open a work order with UGI, Inc. to have a detailed engineering evaluation completed at that time. For this study, it is assumed that electric service would be extended from State Route 11 along Jersey Road to the entrance of the development.

4. Gas

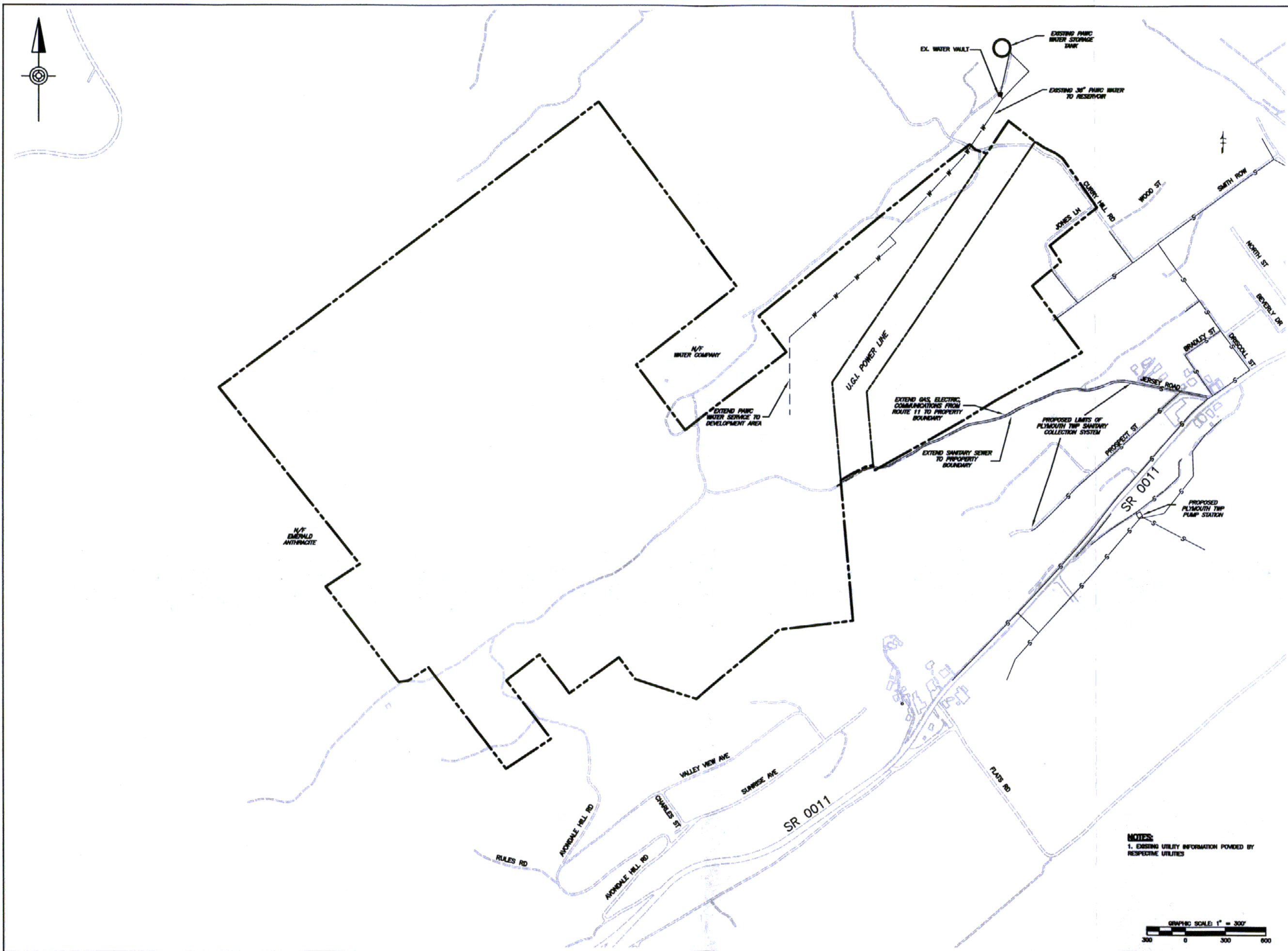
Gas service would be available to the project from PG Energy from their adjacent facilities located along the Route 11 corridor. Correspondence from PG Energy indicates that gas service can be provided to the potential development. Costs associated with extending gas service to the development from Route 11 would occur during the design phase of the project, when specific usage can be protected. Depending on the demand projected for the development, it is possible that the PG Energy would extend the gas service at no cost to the developer. Exhibit 7 shows the location of gas service as provided by PG Energy. Appendix 2 includes correspondence provided by PG Energy.

5. Communications

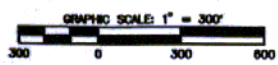
Television cable service would need to be provided to the development by MetroCast Communications. Telephone service would need to be coordinated with Verizon. In both cases, it is projected that both services must be coordinated with the electric service so that common poles are underground duct bank systems will be provided. Appendix 2 includes correspondence provided by the respective utility companies.

6. Offsite Utility Extension Costs

Based on information provided by the above utilities, a preliminary Opinion of Probable Costs for required offsite utility extensions has been prepared and is provided in Appendix 3.



NOTES:
1. EXISTING UTILITY INFORMATION PROVIDED BY RESPECTIVE UTILITIES



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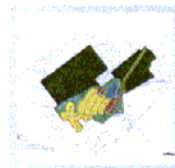
Northwest Pennsylvania
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Wilkes-Barre, PA 18702-7903
Voice: 570-821-1998
Fax: 570-821-1990

Lehigh Valley
3863 Adler Place
Suite 100
Bethlehem, PA 18017
Voice: 484-821-0470
Fax: 484-821-0474

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UTILITY MAP
PLYMOUTH TOWNSHIP FEASIBILITY STUDY
EARTH CONSERVANCY
PLYMOUTH TOWNSHIP LUZERNE COUNTY PENNSYLVANIA

PROJECT NO. 2005-1748-05
DIVISION NO. EXHIBIT 7



V. Traffic / Access Considerations

1. Access

There are several access points available to the parcel, however, proper access to the development must take into account safety including adequate grade, adequate right-of-way, and suitable sight distance.

The potential access points available to the overall parcel include Avondale Hill, Curry Hill, and Jersey Road. Avondale Hill is a narrow paved road which intersects with Route 11 and winds its way up the hillside through the Avondale Hill section of the Township. Avondale Hill's intersection with Route 11 is at a significant angle to Route 11 hindering sight distance and turning movements in and out of Avondale Hill. Avondale Hill's intersection with Route 11 presents a safety hazard and therefore cannot be considered as a major access point. However, Avondale Hill is a potential access for emergency vehicles to enter or exit the parcel in the event other access points were blocked.

The second access point to the property is along Curry Hill, at the eastern end of the property. Curry Hill is a paved Township road, where it abuts the property. It would be difficult to make the Curry Hill entrance the main access point due to its steep grade and location within a narrow residential neighborhood. Similar to Avondale Hill and Curry Hill could be considered a possible secondary entrance and an alternate entrance for emergency vehicles.

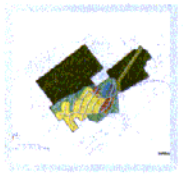
Jersey Road is currently the main logical access to the property. Jersey Road intersects Route 11 near Bradley Street and accesses the study parcel via a partially paved and partially gravel roadway. The average grade of Jersey Road is approximately 9%. Recently, Earth Conservancy paved the lower 2,500 feet of Jersey Road to a width varying between 15 and 16 feet. Any future development would require the developer to improve the roadway including paving, widening and stormwater management facilities. The specific improvements needed to comply with SALDO regulations would include providing a cartway of 22 feet, stone shoulders and adequate storm swales and cross pipes. Depending on the final design of the development, it may be necessary to provide detention facilities along the paved roadway.

In addition, future development may require modifications of Jersey Road's intersection with Route 11. Improved geometrics and signage would be appropriate if a significant residential development occurs. The improved geometrics could also allow for streetscape and signage improvements to the parcel.

Final design of a residential development for this parcel will require approval of a highway occupancy permit by PaDOT for the Jersey Road access to Route 11.

2. Trip Generation

The final trip generation analysis for any development will depend on the final development density and access configuration. As part of the subdivision process and highway occupancy permit approval process, it may be necessary to complete a traffic analysis to evaluate impacts of the proposed development at the intersection of Route 11. The findings of a traffic study would dictate what improvements may be necessary at the intersection.



VI. Development Options

The current Plymouth Township Zoning Ordinance allows for residential development across the entire parcel. As part of the physical analysis of the parcel, Borton-Lawson identified approximately 131 acres (38% of the site) which would be considered developable (i.e. including areas with slopes of 15% or less). This 131 acres included approximately 70 acres in the area of the current reclamation project, 45 acres at the northern edge of the property and 16 acres at the eastern side of the property abutting Curry Hill. The Market Analysis (Appendix 1) has identified these areas as "Open Flats" (70 acres), the "Plateau" (45 acres) and "Curry Hill" (16 acres). The Master Plan identifies the "Open Flats" area as the "Open Vista".

It is critical to note that Earth Conservancy has a great deal of interest in preserving valuable green space when balancing potential development. For these reasons, the study has immediately focused on limiting development within the Open Vista area, where the reclamation project is being completed.

Borton-Lawson utilized the recommendations of the Market Analysis to develop a potential sustainable development. Obviously, the most critical features to consider when laying out a proposed development for this parcel is both the topography and the resulting potential views. The development plan has been designed to minimize earthwork associated with the relatively steep grades and also provide potential views for the maximum number of lots. In addition, the development scenario is arranged to minimize infrastructure costs by optimizing the number of residential units that can be achieved while looping utilities and roadways where feasible.

**... minimize
earthwork and
provide
potential views
for maximum
number of lots**

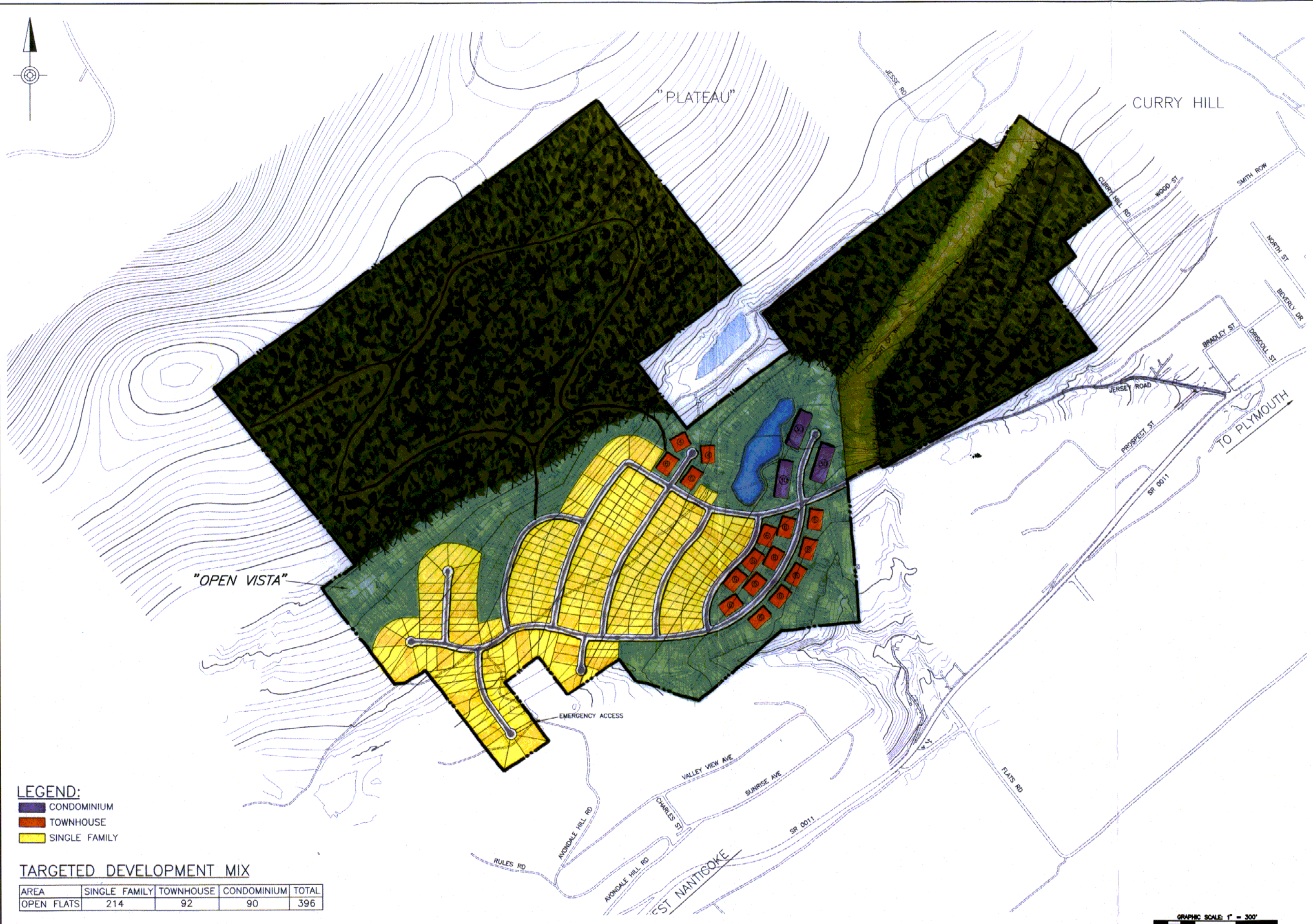
As can be seen by Exhibit 8, it is possible the Open Vista could yield a significant mix of single family, townhomes, and condominiums. Although the final mix and number of each residential type will depend on detailed engineering and housing products, it is certainly possible to support 350 to 450 units in the Open Vista area. The Master Plan presented provides approximately 214 single family units, 92 townhouse units, and 90 condominiums.

Exhibit 9 depicts the anticipated view lines associated with the development. Based on final topography proposed for the development, Exhibit 9 outlines requirements for right-of-ways, lot depths and setbacks coupled with the slope constraints of the parcel. Exhibit 9 shows that any construction on the hillside must be designed carefully to minimize costs, however, the resulting views for each residential lot will be outstanding and should reflect well in the sale price which can be achieved for the home sites.

Key factors which must be considered in any final design will include the feasibility or cost associated with extending utilities to the site and the cost associated with providing

adequate access from Route 11 to the property boundary. Appendix 3 provides a preliminary estimate to external utilities along Jersey Road and to improve Jersey Road to the property boundary.

Additional amenities considered in the Master Plan includes the provision of walking or hiking trails throughout the Plateau area with potential linkage to the Lackawanna State Forest.



LEGEND:

- CONDOMINIUM
- TOWNHOUSE
- SINGLE FAMILY

TARGETED DEVELOPMENT MIX

AREA	SINGLE FAMILY	TOWNHOUSE	CONDOMINIUM	TOTAL
OPEN FLATS	214	92	90	396



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 Fax: 570-821-1990

Luzerne Valley
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 Bethlehem, PA 18017
 Voice: 484-821-0470
 Fax: 484-821-0474

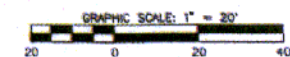
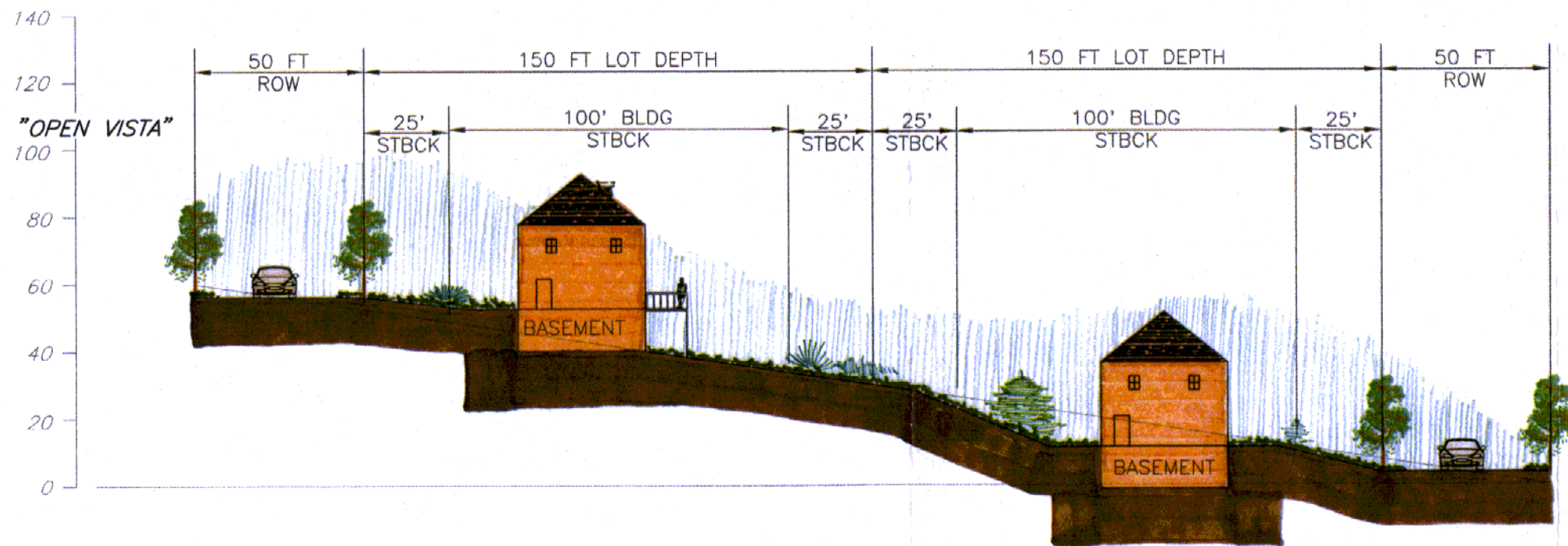
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MASTER PLAN

PLYMOUTH TOWNSHIP FEASIBILITY STUDY
EARTH CONSERVANCY

PLYMOUTH TOWNSHIP LUZERNE COUNTY PENNSYLVANIA

PROJECT NO. 2005-1748-05
 DRAWING NO. **EXHIBIT 8**



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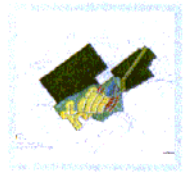
Voice: 484-821-0470
Fax: 484-821-0474

REVISIONS	DATE	SCALE	DATE	SCALE

PROSPECTIVE VIEW PLAN
PLYMOUTH TOWNSHIP FEASIBILITY STUDY
EARTH CONSERVANCY
PLYMOUTH TOWNSHIP LUZERNE COUNTY PENNSYLVANIA

PROJECT NO. 2005-1748-05
DRAWING NO.

EXHIBIT 9



VII. Conclusions and Recommendations

The findings of this planning effort conclude that although the study parcel has constraints including topography, access, and utility service, it also has tremendous opportunity based on its location, exceptional vistas, and the potential impact of the completion of the South Valley Parkway. Over the longer term, the site's physical attributes and excellent regional access should bode well for new market-rate housing.

Initial development is recommended to occur in the Open Vista, which is the area currently being reclaimed as part of the BAMR project. The proposed development mix includes single family units, townhomes, and condominiums. The remaining parcel is recommended to be preserved as natural area which will allow recreational opportunities such as walking trails. The ability to coordinate utility extensions and roadway improvements to the development area in a cost effective manner will be critical to the success of the project. Earth Conservancy is encouraged to begin discussion with Township as well outside potential funding sources to evaluate the merit of financial assistance for these activities.

There are several independent on going actions outside of this study when combined significantly effect the potential success of this project. These activities include completion of the reclamation project by BAMR (scheduled for 2008), completion of the South Valley Parkway, and continued implementation of the Township Financial Recovery Plan. Each one of these items have some influence on the potential success of a residential development for this parcel. If all of these independent activities come together in the same time frame, the potential marketability of this parcel is significant.

Finally, in order to maximize the potential success of development of the parcel, it is critical that Earth Conservancy work with Municipal Officials from Plymouth Township and the Northeast Pennsylvania Alliance (preparing the Township's Recovery Plan under Act 47 designation) to enhance the current deteriorated conditions of commercial and residential properties along Route 11 in Plymouth Township as well as the Township's fiscal distress to negate any limitation of the site's market appeal. Appropriate strategies include physical and infrastructure improvements such as sidewalk and streetscape improvements facade grants for commercial store front renovations and code enforcement for problem residential properties.

**The potential
marketability
of this parcel is
significant**



1. Market Analysis: Economic Research Associates

Memorandum (Final)

Date: July 31, 2006

To: The Earth Conservancy

From: Economics Research Associates (ERA)

RE: Plymouth Township, PA Land Use Feasibility Study

CC: Borton-Lawson Engineering

ERA No. 16418

Introduction

The Earth Conservancy retained a consultant team headed by Borton-Lawson Engineering of Wilkes-Barre, PA in January 2006 to examine development opportunities on one of its parcels located in Plymouth Township in Luzerne County, PA. Economics Research Associates (ERA) of Washington, D.C. was asked to assist Borton-Lawson in identifying a market supportable development program and to prepare an economic impact analysis of the program.

Earth Conservancy's principle objective in this study is to create a cohesive, integrated master plan for approximately 341 acres of its landholdings in Plymouth Township known as the "Avondale Pit". The market and economic elements of the feasibility study are intended to provide a basic perspective on area residential development patterns to inform the planning process. Moreover, the market analysis forms the basis of the plan by identifying the depth of potential market support for new housing. In addition, the market analysis is used to:

- Understand overall growth patterns in Luzerne County and in specific communities in the Wyoming Valley such as Plymouth Township and nearby jurisdictions by analyzing various demographic trends and characteristics;
- Identify economic *drivers*, such as employment growth, that affect demand for new housing;
- Evaluate the advantages and disadvantages to the site's development—what developers and "outside eyes" such as investors look for—to understand implications for new housing; and
- Provide the information necessary to assist Earth Conservancy in its decisions regarding the property's disposition and ultimate development.

The Earth Conservancy site is located in the West Nanticoke section of Plymouth Township; it consists of unimproved acreage formerly used for strip mining when owned by the Blue Coal Company. The site is located at the crest of Avondale Hill, which comprises the southern tip of Larksville Mountain, between State Route 11 and Harvey's Creek.

Key Findings & Recommendations

Based on ERA's analysis, we believe that the current deteriorated conditions of commercial and residential properties along Route 11 in Plymouth Township as well as the township's fiscal distress **limit the site's immediate market appeal for residential development**. Over the longer-term (i.e., three-plus years), however, the site's physical attributes and excellent regional access should bode well for new, market-rate housing; this will be enhanced with the pending completion of the South Valley Parkway, which will provide better regional access from the site to existing and proposed employment centers in the South Valley such as Whitney Point in Nanticoke and the proposed Center Point business park project.

ERA urges that Earth Conservancy work with municipal officials from Plymouth Township, Luzerne County, the Northeastern Pennsylvania Alliance (preparing the township's Recovery Plan under Act 47 designation) as well as other relevant entities such as the state to focus attention on reducing or eliminating these problems. Appropriate strategies include physical and infrastructure improvements such as new streets and sidewalks, landscape and streetscape improvements, façade grants for commercial storefront renovations and code enforcement for problem residential properties that should be undertaken as the basis for subsequent efforts focused on business recruitment strategies and other initiatives that will strengthen the competitive economic position of the township, raise its overall profile, and concomitantly, strengthen the site's marketability for new housing development over the longer-term.

It is in the township's best interest from a fiscal standpoint to ensure that these initiatives are successful, as it critically needs additional revenues generated by new property taxes from new housing on the Earth Conservancy site in order to climb out of the downward fiscal spiral/cycle that exists today. The Commonwealth of Pennsylvania anticipates approximately two years of work to complete site remediation (i.e., filling) of the former Avondale Pit. As such, this should provide sufficient time for a "full-pronged attack" to implement the strategies identified above to ensure the site's ultimate disposition and development.

Residential Comparables

Another factor limiting the *immediate* marketability of the site for new housing includes competition from a number of new housing developments being delivered in locations across the greater Wilkes-Barre area that would be considered more marketable today, particularly those in premier locations such as the Back Mountain. ERA collected detailed information on a number of new single-family detached subdivisions and for-sale multi-family (i.e., condominium or townhouse) developments across the area to determine the overall strength of the market, product positioning, achievable land and unit sales prices

and the potential for pent-up demand (assuming it exists), recent market activity, and the extent to which new housing in Plymouth Township can effectively compete with other residential projects located elsewhere in Luzerne County.

Key comparable findings, which are detailed in Table 8 at the end of this report, are summarized below:

Single-family Activity

- Six single-family projects in Back Mountain or Mountaintop were profiled; these locations are considered far more marketable than Plymouth Township for new housing *today* and, in fact, are experiencing the lion's share of new residential development activity. These six projects will contain almost 600 new housing units at buildout on lots ranging from one-half to 2.5 acres.
- Single-family lot pricing ranges from a low of \$40,000 to a high of \$70,000, with a middle range of \$50,000 to \$58,000 per lot. This equates to **\$2.50 to \$3.21 per sq. ft.** of land.
- Unit pricing varies from a low of \$189,000 at *Pine Ridge Estates* in Wilkes-Barre to as much as a *reported* \$700,000 at *Windsor Farms* in the Back Mountain.
- Notably, only one project is under construction on reclaimed land. The developer of Pine Ridge Estates purchased the site for \$1 from the City. In turn, the developer will pay the City \$2,000 to \$2,500 per lot upon sale.
- A critical barometer of demand for new housing is *absorption* (i.e., the sale of lots or units in the marketplace). Based on the profile, ERA estimates that annual absorption in the six single-family comparables is approximately **30 units per year per project**. Presuming that this pace is sustained over time, this would suggest that *significant* lead time will be required to absorb the remaining undeveloped lots that comprise the 550 or so units at buildout in these six projects.

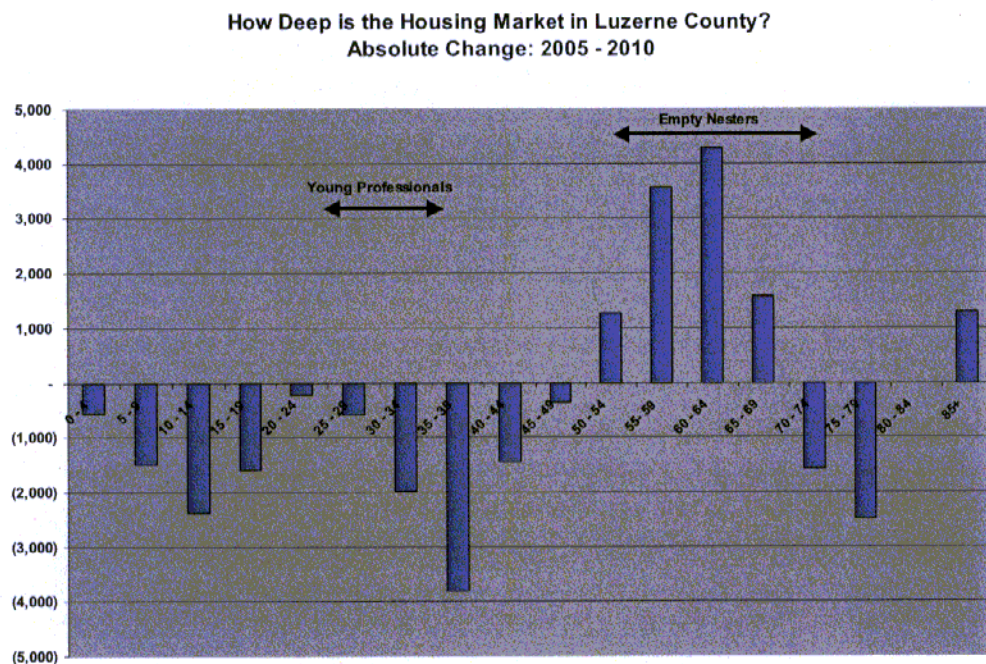
For-sale Multi-family Activity

- Five multi-family projects in various locations across the area were also profiled, including *Rivermist*, *Dakota Woods*, *Insignia Point*, *Marina Point*, and *Dorranceton*. At buildout, these five projects will contain almost 130 new condominium units or townhouses.
- Unit sizes range from 1,900 to 2,400 sq. ft., with an average size that is quite large for a multi-family product, 2,214 sq. ft. Sales prices are generally in the range of **\$94 to \$105 per sq. ft.**, or \$179,000 to \$265,000 per unit. Units with the highest price points are those offering unique amenities, such as lakefront lots for the townhouse units at *Marina Point* at Harvey's Lake.
- With regard to unit absorption, the area's for-sale multi-family product appears to be selling at approximately *half* the pace of the single-family units—in the range of **15 units per project per year**.

Demand Potentials

Our demographic analysis (Tables 2-6) reveals that, while most age cohorts are forecast to decline in size between 2005-2010, the “empty nester” and “early retirement” age segments (i.e., ages 50 to 69) are forecast to *increase* in Luzerne County. Specifically, these age segments are expected to increase by almost **2,100 residents** in the five core communities examined (noted below) and by 8,600 residents in total in Luzerne County over the next five years.

Figure 1: Absolute Population Change, By Age Cohort, 2005-2010



These anticipated trends in empty nester cohorts could be expected to enhance market demand for new housing in Plymouth Township presuming the marketability issues identified above can be resolved; this would further suggest that in order to attract some portion of empty nesters seeking to downsize to smaller units, new housing at the subject site must provide quality units and project amenities.

The forecasts illustrate the apparent *disconnect* in Luzerne County between declines in both population and households that do *not* reflect the pace of activity in new housing starts (on the order of 400 units per year as illustrated in Table 7). This would suggest that older housing stock in aging municipalities such as Wilkes-Barre and Plymouth Township are being vacated (or added to the region’s rental pool) in favor of new construction in selected, highly marketable locations such as the Back Mountain.

On the other hand, the slow pace of absorption—in the range of **30 single-family units** per project per year and about **15 units** per project per year for condominiums and townhouses

based on 11 new residential projects—suggests that developers are reacting to these market dynamics by limiting exposure/risk with a measured and careful pace in delivering finished (i.e., builder-ready) lots or units. Whether this momentum in development activity can be sustained, however, remains uncertain in light of the *decrease* in new households forecast for Luzerne County over the next five years.

Our housing demand analysis is illustrated in Tables 1, 9 and 10 and summarized below:

- Based on Borton-Lawson's physical analysis, approximately 131 acres (roughly 38% of the site) are considered developable (i.e., including areas with slopes of less than 15%). At a gross average density of about four units per acre (based on current allowable zoning), the site's overall *carrying capacity* is roughly **513 dwelling units** in three developable areas—the "Open Flats", the "Plateau", and "Curry Hill."
- ERA then distributed development potentials based on current activity in the marketplace. That is, of the 11 residential projects profiled in this analysis, single-family detached units comprise 80% of the activity, while for-sale, multi-family (i.e., condominiums/townhouses) comprises 20%.
- For single-family product on 80% of the site (114 acres), ERA assumed average densities ranging from a low of one unit per acre on the "Plateau" (due to topographic and infrastructure constraints) to 3.5 units per acre in both the "Open Flats" and "Curry Hill," resulting in development potentials totaling **286 single-family units**.
- Presuming that the project achieves *sustained* annual absorption (i.e., sales) of **30** single-family units per year based on current market activity suggests a buildout period of roughly **9.5 years**. Some residential market experts believe that the *pace* of absorption could accelerate if more moderately priced units can be delivered, in the range of **\$150,000 to \$200,000** for single-family detached product.
- For condominium flats and townhouses on the remaining 20% of the site (17 acres), ERA assumed average densities at the low-end of current allowable zoning, or 14 units per acre. This results in multi-family development potentials of about **240 units**.
- ERA also assumed that 50% of the project's multi-family units would be a for-sale product, with the remaining 50% developed as rental units. Thus, presuming that the project achieves *sustained* annual sales of **15** multi-family units every year would require approximately **eight years** to reach buildout. Similarly, lower-priced product—in the range of **\$125,000 to \$150,000** for condominium flats and townhouses—could be expected to sell more quickly, thereby shortening the expected absorption/buildout period.

Table 1: Summary of Housing Market Potentials at Buildout

Site/Area	Gross Acres	Unit Allocation @	Developed Acres	Avg. Density (Units/Acre)	Development Potential
Single-family Detached					
(1)					
Total Developable Area (2)					
Open Flats	70	80.0%	56	3.5	196
Plateau	45	100.0%	45	1.0	45
Curry Hill	16	80.0%	13	3.5	45
Total:	131		114		286
BUILDOUT					
Average Annual Absorption (In Units)		(3)			30
Years to Buildout					9.5
Multi-family					
Total Developable Area (2)					
Open Flats	70	20.0%	14	14.0	196
Plateau	45	0.0%	-	14.0	-
Curry Hill	16	20.0%	3	14.0	45
Total (In Acres):	131		17		241
BUILDOUT					
Assume 50% For-sale Condominium Flats/THs		(4)			120
Average Annual Absorption (In Units)		(3)			15
Years to Buildout					8.0

(1) Based on the distribution among comparable projects in the marketplace between single-family (80%) and condominium/townhouse product (20%).

(2) The Open Flats is the premium/immediate location available for development; both the Plateau and Curry Hill parcels should be considered for future development potential.

(3) Average annual absorption activity per project based on comparables.

(4) Assumes that 50% of the multi-family units in the project are rental units as a means of reducing developer risk by not limiting housing type, and to introduce high-quality rental units to the Wilkes-Barre market.

Source: Borton-Lawson Engineering; Economics Research Associates, June 2006.

In conclusion, ERA recommends that Earth Conservancy continue with its planning, engineering and due diligence efforts aimed at securing entitlements and funding for infrastructure to position the site for new housing with an expected date for delivery of *initial* builder-ready pads on the Open Flats of **three-plus years**. These planning efforts will coincide with ongoing site remediation by the Commonwealth of Pennsylvania that is expected to take two years to complete. During this period, site planning and engineering efforts should identify the amount of net usable land area that can accommodate new housing in order to calculate an expected density level and overall development program. Concurrently, the state is also working on completion of the South Valley Parkway, which will enhance the site's regional access to nearby employment centers such as Hanover Crossings and Whitney Point.

The ability to successfully capture demand for new housing on the Plymouth Township site will be determined largely by the success with which the critical issues identified above are resolved. On the whole, the site has strong physical attributes and regional access. After current starts are absorbed by the marketplace, future new housing development in Luzerne—especially over the next three to five years—will be focused on those sites with excellent highway access, visibility and amenities, and proximity to retail and services. As a result, planning on the Plymouth Township site must further ensure that design, unit features and overall project amenities are of the highest quality so that the project's competitive position in the market is reinforced.

ERA also recommends that Earth Conservancy undertake a financial feasibility study to understand whether the price points as recommended above are feasible in light of the site's expected cost premiums associated with providing required infrastructure and improved road access. Specifically, a financial analysis will determine the overall economic viability (or return-on-investment) of residential development using market-based inputs on revenues and infrastructure costs to determine the potential to attract private development interest, and to identify the level of supportable investment of the project for prospective development partners.

Economic Impacts

ERA also measured the potential economic impacts accruing to various levels of government as a result of construction of a residential project in Plymouth Township. Economic impacts, which are illustrated in Tables 11-13, include:

- Temporary construction jobs and income associated with construction of the project
- New, permanent residents attracted to the project's residential uses
- Expected benefits accruing to Plymouth Township, Luzerne County, and the Nanticoke Area School District (the school district serving Plymouth Township) in the form of annual property tax revenues

The calculations underlying this analysis are based on current actual real estate mil rates as reported by the various taxing jurisdictions. Additional assumptions regarding job creation per dollar value of construction and annual retail expenditures per resident are based on

industry benchmarks and ERA's experience on numerous similar projects across the United States.

Key Working Assumptions

- **Total Development Costs:** Expected all-in construction costs as illustrated in the economic impact model are estimates based on industry-standard average costs for residential development; a Northeastern Pennsylvania locational factor is included. All-in development costs, which range from **\$65 per sq. ft.** for multi-family rental to **\$88 per sq. ft.** for single-family detached units, were used to determine equivalent temporary and full-time construction employment and total assessed values.
- **Average Annual Construction Wages:** The **\$23,948** per year figure is based on actual average annual wages for the construction trades in Luzerne County (2004 data).
- **Property Tax Rate:** Based on current property tax rates per \$1,000 of assessed value and a current equalization ratio (i.e., as a proportion of fair market value) of 6.5%, as reported by Luzerne County. The following current property tax rates were applied: **\$94.90 per \$1,000 of AV for Luzerne County; \$34.00 for Plymouth Township; and \$245.00 for the Nanticoke Area School District.**
- **Resident Expenditure Potentials:** Calculated based on estimates of average annual spending on "GAFO" retail categories (i.e., General Merchandise, Apparel & Accessories, Furniture/Home Furnishings, and Other) of **21.7%** of average household income of \$63,380 in 2010, and average annual productivity (i.e., sales) of \$200 per sq. ft.

Potential economic benefits of a \$54 million project at buildout are summarized below:

- **\$21.6 million in temporary construction employment generating 90 construction jobs** associated with roughly 675,000 sq. ft. of new residential development presuming a 10-year buildout period. In fact, the number of construction jobs would increase if the project were completed in less than 10 years.
- **527 new households** in the project's new housing units. Assuming annual average incomes of \$63,380 per year and average household spending levels on various categories of retail could be expected to generate more than **\$7.2 million** in annual retail spending, irrespective of location. This would support approximately 36,000 sq. ft. of retail space at assumed annual sales levels of \$200 per sq. ft.
- **Approximately \$1.6 million in annual property taxes at buildout** assuming that current property tax rates for Luzerne County, Plymouth Township, and the Nanticoke Area School District as well as common-level (i.e., equalization) ratios (of 6.5%) remain constant. This generates approximately **\$397,200 per year for Luzerne County, \$142,300 per year for Plymouth Township, and \$1.025**



million per year for the Nanticoke Area School District based on a current, combined mil rate of \$373.90 per \$1,000 of assessed value.

Scope of Work

ERA conducted the following market tasks between January and June 2006:

- **Site and Area Visit**—Tour the site and surrounding market area to understand site opportunities and constraints, regional access, current development patterns, and competitive market dynamics
- **Stakeholder Interviews**—Conduct interviews with selected real estate developers, brokers, and others identified by the client team to gauge response to the project's physical characteristics and location in Plymouth Township as well as competitive market position, product types, absorption potentials and other market factors
- **Regional Demographic & Economic Profile**—Analyze current and projected growth in population and households, age composition and changes in specific target age cohorts, migration patterns, household and income characteristics, employment growth, and other specific demographic indices informing demand for new housing
- **Market & Economic Impact Analysis**—Translate market findings into an achievable (market supportable) development program that considers current market conditions, near-term demand expectations, local and regional growth indices, locational characteristics, and phasing/buildout. The economic impact analysis estimates expected project benefits of new housing, such as construction and permanent employment, and estimated assessed value and property tax receipts accruing to Plymouth Township and/or Luzerne County.

Site/Area Analysis & Marketability

From a marketability perspective, while parts of the site offer excellent views of the Wyoming Valley from several ridgelines (which could be expected to provide an amenity premium), its frontage on Route 11 is problematic because of significant slopes that limit immediate access. Presuming that slope/grade issues can be resolved, Joel Hill, Avondale Hill and/or Jersey Hill roads (existing gravel or nominally improved roads with no/limited public utilities) could provide multiple points of access to the site from Route 11.

Currently, the former mining pit at the crest of Avondale Hill is being filled as part of a larger reclamation project funded by the Commonwealth of Pennsylvania. This two-year effort will eliminate the pit although it is unclear whether the filled area will be developable. Site planning and engineering studies being conducted by Borton-Lawson will determine the net developable acreage available for residential development. A land appraisal prepared by Goeringer Appraisal Service of Dallas, PA estimates the site's current fair market value at \$396,000, or \$850 per acre; notably, values have been discounted to account for the site's reclamation as a former strip mine. Thus, a key advantage in the site's marketability for residential development is Earth Conservancy's low basis in the land.

While local access is currently limited because of these site constraints, regional access is generally considered excellent. The site is proximate to the Route 11 interchange with the South Valley Expressway (State Route 29), which connects Plymouth Township with nearby employment and business centers along I-81, such as Highland Park Boulevard in Wilkes-Barre Township and Hanover Crossings in Hanover Township. As noted, regional access will be enhanced with the completion of the South Valley Parkway.

ERA notes that Plymouth Township applied for distressed status under Act 47 of the Commonwealth of Pennsylvania, and the Department of Community & Economic Development (DCED) approved this designation in July 2004. DCED appointed the Northeastern Pennsylvania Alliance (NEPA) as the Recovery Plan Coordinator for the township to develop a recovery plan. According to the February 2005 *Recovery Plan* prepared by NEPA, the granting of "distressed" status stems from escalating problems ranging from a decreasing tax base, increasing operating costs, lack of employment opportunities, aging population, deteriorating municipal infrastructure, and lack of developable real estate.

In addition, a large part of the township's existing developed areas and locations that could potentially accommodate redevelopment are located in the 100-year floodplain of the Susquehanna River, further compounding this cycle. (The report also pointed out management, policy and resource deficiencies that have aggravated the township's fiscal crisis). As a result, the township contains few, if any, areas either not located in the floodplain or as large as the Earth Conservancy site that could accommodate new development.

Demographic & Economic Profile

In order to understand the broader regional factors that are likely to affect market potentials for new housing in Plymouth Township, ERA analyzed demographic and economic characteristics for key indices—including trends and forecasts in population and households, age composition and changes in specific target age cohorts, migration patterns, household and income characteristics, employment growth, and other specific demographic indices informing demand for new housing. Effectively, this profile focuses on those variables that "drive" demand for new housing. Relevant data are detailed in Tables 2 through 6 and accompanying graphics at the end of this memorandum.

For purposes of this analysis, ERA examined these indices at two geographic levels—in the first, "core municipalities" include adjacent or nearby communities such as Plymouth, Nanticoke and Wilkes-Barre Townships, Wilkes-Barre City, and Kingston Borough. The second "trade area" includes Luzerne County in its entirety. Key findings are highlighted below:

Population & Households

- Luzerne County's population in 2000 was 319,250, a decline of almost 8,900 residents from its 1990 population of 328,149. According to the Pennsylvania State Data Center, Luzerne has continued to lose population over the past five years, with the state

estimating the county's current population at **312,900**—a loss of 6,350 residents since 2000, a decline of 2.0%.

- Demographics forecasts prepared by ESRI Information Systems, Inc. for 2005-2010 indicate that the region's population is expected to continue to *decline*, albeit more slowly than occurred between 1990 and 2005. Luzerne County's population is forecast to decrease by more than 4,700 residents—from about 315,000 (ESRI's 2005 population estimate) to **310,400** residents, a decline of 1.5% over the next five years. The five core municipalities are also expected to lose population—on the order of 1,800 residents and a decline of 2.1%—to **83,000**.
- Current forecasts suggest that the number of households in Luzerne will decline—by approximately 900 households—to **129,700** households by 2010. Similarly, the number of households in the core municipalities is also forecast to drop by 2010—by about 500 households—to **36,125**.

Household Incomes

- Changes in household incomes are another indicator of the potential depth in market demand for new housing. According to ESRI, Luzerne County households have a current average household income of \$53,500. By contrast, the municipalities comprising the core trade area are slightly less affluent, with average household incomes of \$44,600. Over the next five years, household incomes are forecast to jump by almost 25% across both the core municipalities and the county—to roughly **\$55,000** and **\$66,000**, respectively. This is expected to be *above* the rate of inflation, suggesting real growth in income, which should enhance prospects for home ownership, particularly in the core municipalities.

Age Cohorts

- However, while most age cohorts are forecast to decline in size, the “empty nester” and “early retirement” age segments (i.e., ages 50 to 69) are forecast to *increase* in both geographies analyzed in this study. Specifically, these age segments are expected to increase by almost **2,100 residents** in the five core communities and by 8,600 residents in total in Luzerne County over the next five years.

Residential Development Activity

ERA examined housing starts in the four counties comprising the Scranton-Wilkes Barre Metropolitan Statistical Area (MSA) based on data provided by the Pennsylvania Builder's Association. The results of this analysis are critical in forecasting growth potentials for new housing in Luzerne County. These trends are illustrated in Table 7 and detailed below.

Housing Starts

Our analysis indicates that for the seven-year period between 1999 and 2005, **Luzerne County had almost 2,800 new housing starts, equating to almost 400 starts per year.** Luzerne is, by far, the *most active* location for new housing in Northeast Pennsylvania, with Lackawanna County exhibiting far fewer housing starts (90 per year). By

comparison, the more rural counties of Columbia and Wyoming counties, on average, experience 35 to 45 new housing units built on an annual basis. Based on discussions with residential brokers and developers in the marketplace, the greatest concentration of new housing development in Luzerne County is located in the Back Mountain, including Dallas Township as well as Mountaintop.

Comparable Residential Projects

ERA collected detailed information on a number of new single-family detached subdivisions and for-sale multi-family (i.e., condominium or townhouse) developments across the area to determine the overall strength of the market, product positioning, achievable land and unit sales prices and the potential for pent-up demand (assuming it exists), recent market activity, and the extent to which new housing in Plymouth Township can effectively compete with other residential projects located elsewhere in Luzerne County.

Key comparable findings, which are illustrated in Table 8, are summarized below:

Single-family Activity

- Six single-family projects in Back Mountain or Mountaintop were profiled; these locations are considered far more marketable than Plymouth Township for new housing *today* and, in fact, are experiencing the lion's share of new residential development activity. These six projects will contain almost 600 new housing units at buildout on lots ranging from one-half to 2.5 acres.
- Single-family lot pricing ranges from a low of \$40,000 to a high of \$70,000, with a middle range of \$50,000 to \$58,000 per lot. This equates to **\$2.50 to \$3.21 per sq. ft.** of land.
- Unit pricing varies from a low of \$189,000 at *Pine Ridge Estates* in Wilkes-Barre to as much as a *reported* \$700,000 at *Windsor Farms* in the Back Mountain.
- Notably, only one project is under construction on reclaimed land. *Pine Ridge Estates*, was purchased by the developer for \$1 from the City. In turn, the developer will pay the City \$2,000 to \$2,500 per lot upon sale.
- A critical barometer of demand for new housing is *absorption* (i.e., the sale of lots or units in the marketplace). Based on the profile, ERA estimates that annual absorption in the six single-family comparables is approximately **30 units per year per project**. Presuming that this pace is sustained over time, this would suggest that *significant* lead time will be required to absorb the remaining undeveloped lots that comprise the 550 or so units at buildout in these six projects.

For-sale Multi-family Activity

- Five multi-family projects in various locations across the area were also profiled, including *Rivermist*, *Dakota Woods*, *Insignia Point*, *Marina Point*, and *Dorranceton*. At buildout, these five projects will contain almost 130 new condominium units or townhouses.

- Unit sizes range from 1,900 to 2,400 sq. ft., with an average size that is quite large for a multi-family product, 2,214 sq. ft. Sales prices are generally in the range of **\$94 to \$105 per sq. ft.**, or \$179,000 to \$265,000 per unit. Units with the highest price points are those offering unique amenities, such as lakefront lots for the townhouse units at *Marina Point* at Harvey's Lake.
- With regard to unit absorption, the area's for-sale multi-family product appears to be selling at approximately *half* the pace of the single-family units—in the range of **15 units per project per year**.

General & Limiting Conditions (Amended at Client's Request)

Every reasonable effort has been made to ensure that the data contained in this study reflect the most accurate and timely information possible. These data are believed to be reliable. This study is based on estimates, assumptions and other information developed by Economics Research Associates from its independent research effort, general knowledge of the market and the industry, and consultations with the client and its representatives. No responsibility is assumed for inaccuracies in reporting by the client, its agent and representatives or any other data source used in preparing or presenting this study.

No warranty or representation is made by Economics Research Associates that any of the projected values or results contained in this study will actually be achieved.

This report is not to be used in conjunction with any public or private offering of securities or other similar purpose where it may be relied upon to any degree by any person, other than the client, without first obtaining the prior written consent of Economics Research Associates. This study may only be used for purposes for which it was prepared, except by Earth Conservancy, which has permission to use the report without prior written consent from Economics Research Associates for purposes that conform to Earth Conservancy's mission. In other cases, Earth Conservancy will obtain prior written consent from Economics Research Associates.

This study is qualified in its entirety by, and should be considered in light of, these limitations, conditions and considerations.



List of Resources/Participants

Earth Conservancy

Borton-Lawson Engineering

Luzerne County Planning Department

Luzerne County Assessor's Office & Tax Office

Mr. Todd Vonderheid, Luzerne County Commission

Mr. John Yudichak, State Representative

Mr. Ed Brennan & Ms. Gail Conran, Plymouth Township Supervisors

U.S. Department of Commerce, Bureau of the Census

U.S. Department of Commerce, Bureau of Labor Statistics

U.S. Department of Commerce, Census of Retail Trade

Pennsylvania Builders Association

Northeastern Pennsylvania Alliance, *Recovery Plan for Plymouth Township, 2005*

ESRI Business Information Solutions

Lewith & Freeman Real Estate, Inc.

Goeringer Appraisal Service

Wilkes-Barre Association of Realtors

Antonic Associates

Century 21 Signature Properties

Smith Hourigan Group

Mericle Commercial Development

Table 2
Summary of Demographic Characteristics, 2005-2010
Plymouth Township Land Use Feasibility Study

	Core Municipalities (1)			Luzerne County		
	2005	2010	% Change	2005	2010	% Change
Population	84,847	83,035	-2.1%	315,165	310,429	-1.5%
Households	36,627	36,125	-1.4%	130,631	129,713	-0.7%
Average Household Size	2.18	2.16	-0.9%	2.31	2.29	-0.9%
Race						
White	79,792	77,374	-3.0%	302,974	296,723	-2.1%
Black	2,846	3,104	9.1%	5,900	6,384	8.2%
American Indian, Eskimo	116	127	9.5%	323	363	12.4%
Asian or Pacific Islander	958	1,202	25.5%	2,489	3,177	27.6%
Hispanic Origin/Other	2,264	2,484	9.7%	7,628	8,378	9.8%
Median Household Income	\$ 33,147	\$ 39,517	19.2%	\$ 40,705	\$ 48,530	19.2%
Average Household Income	\$ 44,567	\$ 54,672	22.7%	\$ 53,462	\$ 66,354	24.1%
Owner-occupied Units	20,796	20,372	-2.0%	92,833	92,883	0.1%
Renter-occupied Units	15,831	15,753	-0.5%	37,748	37,712	-0.1%
Median Age	41.2	42.8	3.9%	42.4	44.2	4.2%

(1) Core municipalities include: Plymouth, Nanticoke and Wilkes-Barre Townships, Wilkes-Barre City and Kingston Borough.

Source: ESRI Business Information Solutions; Economics Research Associates, March 2006.

Table 3
Household Age Characteristics, 2005-2010
Plymouth Township Land Use Feasibility Study

Age Cohort	Core Municipalities (1)			Luzerne County		
	2005	2010	% Change	2005	2010	% Change
0 - 4	4,395	4,273	-2.8%	15,871	15,427	-2.8%
5 - 9	3,999	3,731	-6.7%	15,539	14,321	-7.8%
10 - 14	4,733	4,097	-13.4%	18,481	16,739	-9.4%
15 - 19	5,826	5,416	-7.0%	20,535	19,354	-5.8%
20 - 24	6,303	6,297	-0.1%	19,157	18,946	-1.1%
25 - 29	5,146	4,846	-5.8%	16,540	16,255	-1.7%
30 - 34	5,186	4,978	-4.0%	18,700	16,926	-9.5%
35 - 39	5,419	4,686	-13.5%	21,156	18,085	-14.5%
40 - 44	5,858	5,707	-2.6%	24,340	23,049	-5.3%
45 - 49	5,927	5,638	-4.9%	24,203	24,126	-0.3%
50 - 54	5,561	5,711	2.7%	22,617	23,720	4.9%
55 - 59	4,967	5,626	13.3%	20,242	23,152	14.4%
60 - 64	3,930	4,883	24.2%	16,114	19,439	20.6%
65 - 69	3,418	3,723	8.9%	13,448	14,719	9.5%
70 - 74	3,566	3,143	-11.9%	13,127	11,976	-8.8%
75 - 79	3,844	3,265	-15.1%	13,540	11,617	-14.2%
80 - 84	3,283	3,260	-0.7%	11,049	11,066	0.2%
85 +	3,486	3,755	7.7%	10,506	11,512	9.6%
TOTAL:	84,847	83,035	-2.1%	315,165	310,429	-1.5%
Median Age	41.2	42.8	3.9%	42.4	44.2	4.2%

(1) Core municipalities include: Plymouth, Nanticoke and Wilkes-Barre Townships, Wilkes-Barre City and Kingston Borough.

Source: ESRI Business Information Solutions; Economics Research Associates, March 2006.

Table 4
Household Income Characteristics, 2005-2010
Plymouth Township Land Use Feasibility Study

	Core Municipalities (1)			Luzerne County		
	2005	2010	% Change	2005	2010	% Change
< \$10,000	5,041	4,331	-14.1%	13,083	11,107	-15.1%
\$10,000-\$14,999	3,226	2,472	-23.4%	9,033	6,952	-23.0%
\$15,000-\$19,999	3,109	2,518	-19.0%	9,328	7,243	-22.4%
\$20,000-\$24,999	2,774	2,567	-7.5%	8,576	7,855	-8.4%
\$25,000-\$29,999	2,630	2,264	-13.9%	8,928	6,957	-22.1%
\$30,000-\$34,999	2,319	2,038	-12.1%	7,892	7,023	-11.0%
\$35,000-\$39,999	2,097	2,050	-2.2%	7,338	7,001	-4.6%
\$40,000-\$44,999	2,022	1,824	-9.8%	7,302	6,386	-12.5%
Subtotal - Under \$45,000:	23,218	20,064	-13.6%	71,480	60,524	-15.3%
<i>% of Total</i>	63.4%	55.5%		54.7%	46.7%	
\$45,000-\$49,999	1,855	1,686	-9.1%	7,049	5,968	-15.3%
\$50,000-\$59,999	2,839	3,041	7.1%	11,202	11,543	3.0%
\$60,000-\$74,999	2,915	3,311	13.6%	12,664	13,421	6.0%
\$75,500-\$99,999	2,982	3,208	7.6%	13,649	14,324	4.9%
Subtotal - \$45,000-\$99,999:	10,591	11,246	6.2%	44,564	45,256	1.6%
<i>% of Total</i>	28.9%	31.1%		34.1%	34.9%	
\$100,000-\$124,999	1,427	2,133	49.5%	6,631	9,828	48.2%
\$125,000-\$149,999	709	1,199	69.1%	3,630	5,558	53.1%
\$150,000-\$199,999	307	844	174.9%	2,095	4,570	118.1%
\$200,000-\$249,999	180	275	52.8%	1,023	1,809	76.8%
\$250,000-\$499,999	168	266	58.3%	1,030	1,577	53.1%
> \$500,000	27	98	263.0%	178	591	232.0%
Subtotal - \$100,000 & Above:	2,818	4,815	70.9%	14,587	23,933	64.1%
<i>% of Total</i>	7.7%	13.3%		11.2%	18.5%	
TOTAL:	36,627	36,125	-1.4%	130,631	129,713	-0.7%

(1) Core municipalities include: Plymouth, Nanticoke and Wilkes-Barre Townships, Wilkes-Barre City and Kingston Borough.

Source: ESRI Business Information Solutions; Economics Research Associates, March 2006.

Table 5
Annual Household Consumer Expenditures, 2005

CORE MUNICIPALITIES (1)

Plymouth Township Land Use Feasibility Study

2005			
Demographic Profile			
Population	84,847		
Households	36,627		
Median Household Income	\$ 33,147		
Average Household Income	\$ 44,567		
Consumer Retail Expenditures			
	Annual Total	Per Household	% Distribution
Food & Beverage			
Food At Home	\$ 116,248,549	\$ 3,174	56.5%
Food Away From Home	76,328,758	\$ 2,084	37.1%
Alcoholic Beverages	13,171,294	\$ 360	6.4%
Subtotal - Food & Beverage:	\$ 205,748,601	\$ 5,617	46.7%
Apparel & Accessories			
Apparel & Services	\$ 65,323,533	\$ 1,783	79.2%
Footwear	11,634,212	318	14.1%
Watches & Jewelry	5,495,441	150	6.7%
Subtotal - Apparel:	\$ 82,453,186	\$ 2,251	18.7%
Leisure & Entertainment			
Entertainment	\$ 72,749,253	\$ 1,986	75.3%
Pets & Supplies	7,941,837	\$ 217	8.2%
Sporting Goods	4,627,022	\$ 126	4.8%
Toys & Games	4,745,816	\$ 130	4.9%
Video Rental	956,751	\$ 26	1.0%
Reading Materials	5,572,317	\$ 152	5.8%
Subtotal - Entertainment:	\$ 96,592,996	\$ 2,637	21.9%
Household Furnishings			
Any Household Furnishings	\$ 48,379,695	\$ 1,321	87.1%
Major Appliances	6,315,306	172	11.4%
Home Electronics	871,167	24	1.6%
Subtotal - Home Furnishings:	\$ 55,566,168	\$ 1,517	12.6%
TOTAL ANNUAL HH EXPENDITURES:	\$ 440,360,951	\$ 12,023	100.0%
Comparison to United States Average		\$ 18,433	
% Difference		-53.3%	

(1) Core municipalities include: Plymouth, Nanticoke and Wilkes-Barre Townships, Wilkes-Barre City and Kingston Borough.

Source: ESRI Business Information Solutions; Economics Research Associates, March 2006.

**Figure 2: Annual Household Consumer Expenditures,
Core Municipalities, 2005**

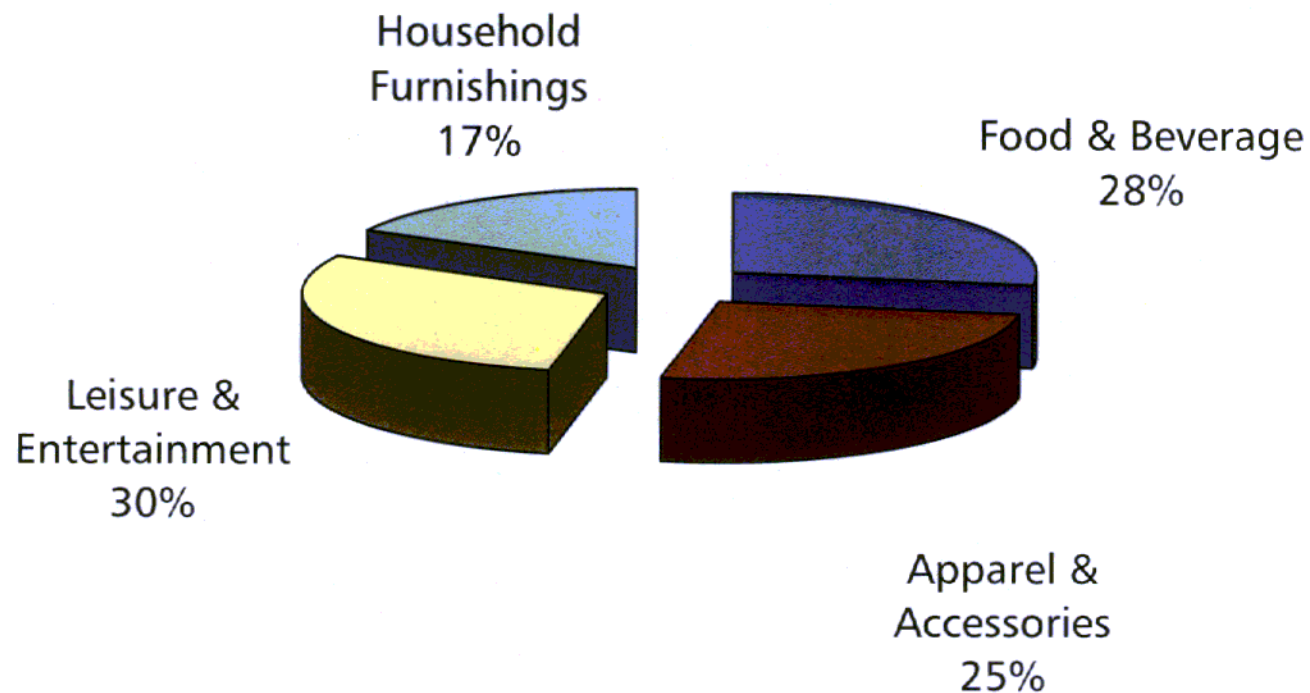


Table 6
Annual Household Consumer Expenditures, 2005

LUZERNE COUNTY

Plymouth Township Land Use Feasibility Study

2004			
Demographic Profile			
Population	315,165		
Households	130,631		
Median Household Income	\$ 40,705		
Average Household Income	\$ 53,462		
Consumer Retail Expenditures			
	Annual Total	Per Household	% Distribution
Food & Beverage			
Food At Home	\$ 491,692,907	\$ 3,764	56.7%
Food Away From Home	321,013,133	\$ 2,457	37.0%
Alcoholic Beverages	55,032,153	\$ 421	6.3%
Subtotal - Food & Beverage:	\$ 867,738,193	\$ 6,643	52.2%
Apparel & Accessories			
Apparel & Services	\$ 276,507,443	\$ 2,117	79.2%
Footwear	48,796,950	374	14.0%
Watches & Jewelry	23,699,210	181	6.8%
Subtotal - Apparel:	\$ 349,003,603	\$ 2,672	21.0%
Leisure & Entertainment			
Entertainment	\$ 314,974,689	\$ 2,411	75.2%
Pets & Supplies	35,500,117	\$ 272	8.5%
Sporting Goods	20,388,037	\$ 156	4.9%
Toys & Games	20,502,074	\$ 157	4.9%
Video Rental	3,928,146	\$ 30	0.9%
Reading Materials	23,644,531	\$ 181	5.6%
Subtotal - Entertainment:	\$ 418,937,594	\$ 3,207	25.2%
Household Furnishings			
Any Household Furnishings	\$ 24,482,045	\$ 187	88.5%
Major Appliances	2,818,191	22	10.2%
Home Electronics	372,056	3	1.3%
Subtotal - Home Furnishings:	\$ 27,672,292	\$ 212	1.7%
TOTAL ANNUAL HH EXPENDITURES:	\$ 1,663,351,682	\$ 12,733	100.0%
Comparison to United States Average		\$ 18,433	
% Difference		-30.9%	

(1) Core municipalities include: Plymouth, Nanticoke and Wilkes-Barre Townships, Wilkes-Barre City and Kingston Borough.

Source: ESRI Business Information Solutions; Economics Research Associates, March 2006.

**Figure 3: Annual Household Consumer Expenditures,
Luzerne County, 2005**

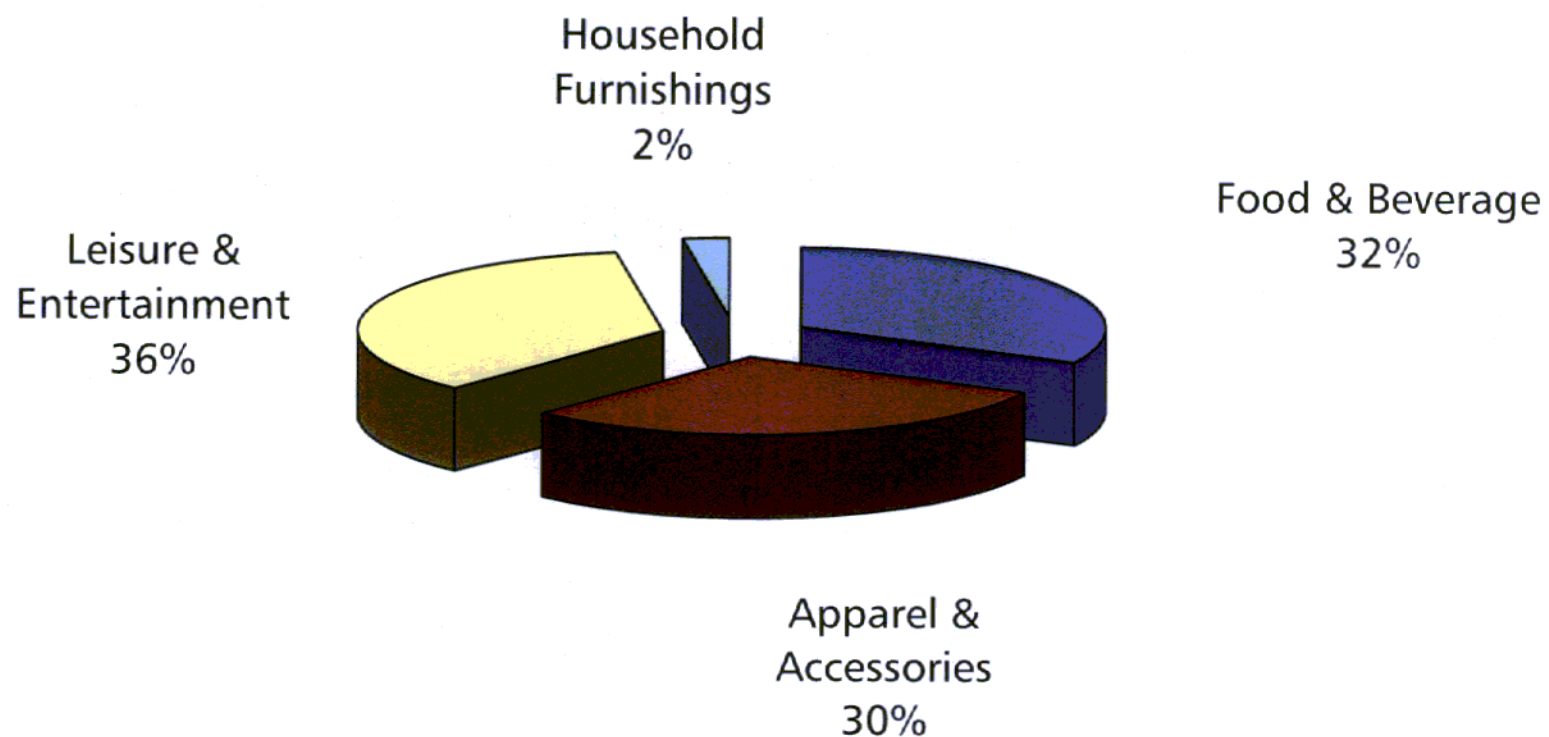


Table 7
Housing Starts in the Scranton-Wilkes Barre/Hazleton MSA, 1999 - 2005
Plymouth Township Land Use Feasibility Study

COUNTY	1999	2000	2001	2002	2003	2004	2005	Change: 1999-2005	
								Total	Avg. Ann'l
Columbia	35	26	23	27	21	155	16	303	43
Lackawanna	80	83	77	124	97	132	45	638	91
Luzerne	296	340	370	448	455	531	331	2,771	396
Wyoming	N/A	31	33	29	39	85	24	241	34
Scranton/Wilkes-Barre/Hazleton MSA:	411	480	503	628	612	903	416	3,953	565
<i>Average Annual % Increase</i>		16.8%	4.8%	24.9%	-2.5%	47.5%	-53.9%		

Source: Pennsylvania Builder's Association (www.pabuilders.org); Economics Research Associates, March 2006.

Table 8

Summary Profile of Selected Residential Developments in Luzerne County
Plymouth Township Land Use Feasibility Study

Project	Township	Expected Completion	No. of Units/Lots	Avg. Lot Size	Estimated Annual Absorption	Lot Pricing		Unit Pricing	Comments
						Per Lot	Per Dirt Ft.		
Single-family Detached									
Blueberry Hill Estates	Duryea	2007	87	16,480	30	\$ 40,000 to \$ 53,000	\$ 2.43 to 3.22	N/A	
Pine Ridge Estates	Wilkes-Barre	N/A	117	N/A	24	\$ 40,000 to \$ 45,000	N/A \$	\$ 189,000 to 250,000	Reclaimed land purchased by developer for \$1. Developer to pay City \$2,000-\$2,500 per lot.
Overbrook Farms	Back Mountain	2006	29	21,780	7	\$ 56,000 to \$ 70,000	\$ 2.57 to 3.21	\$ 385,000 to 600,000	Developer paid \$234,000 for site, or \$9,000 per acre.
Windsor Farms	Back Mountain	N/A	44	N/A	15	\$ 56,000	N/A \$	\$ 475,000 to 700,000	5 lots remain
Woodbury Estates	Mountaintop	2012	148	N/A	25	\$ 59,000 to \$ 64,000	N/A	N/A	4 speculative units on the market
Ice Lakes	Mountaintop	N/A	131	108,900 2.5 acres	81	N/A	N/A	N/A	Many lots sold to individual builders; 31 lots have lake or water views
TOTAL/AVERAGE-Single-family Detached:			556		30 Per Project	\$ 50,200 to \$ 58,000	\$ 2.50 to 3.21		

Table 8 (Continued)
Summary Profile of Selected Residential Developments in Luzerne County
Plymouth Township Land Use Feasibility Study

Project	Township	Expected Completion	No. of Units/Lots	Avg. Lot Size	Estimated Annual Absorption	Unit Pricing		Unit Pricing	Comments
						Size	Per Sq. Ft.		
Condominiums/Townhouses									
Rivermist Townhouses	Plains Township	Completed	N/A	N/A	10	1,900 to 2,100	\$ 89 to 95	\$ 179,900 to 187,900	Phase 1
Dakota Woods Condominiums	Dallas Township	2010	43	N/A	6	2,800	\$ 93 to 95	\$ 259,000 to 265,000	4 units closed in 1st year; 8 units closed in 2nd year. Price range reflects interior & end-units, respectively.
Insignia Point Condominiums	Pittston	N/A Phase 2 to start in mid-2006	30 Phase 1	N/A	20	1,900 to 2,400	\$ 91 to 115	\$ 219,000 to 275,000	Unit pricing for 1st phase of \$115/SF for a 1,900 SF unit. Phase 2
Marina Point Townhouses	Harvey's Lake	Completed	45	N/A	23	2,000 average	\$ 90 to 115	\$ 179,000 to 219,000 to 229,000	Inland lots Lakefront lots
Dorranceton Townhouses	Kingston	Completed	10	N/A	N/A	2,400	\$ 108	\$ 259,900	
TOTAL/AVERAGE-THs/Condominiums:			128		15	2,214	\$ 94.20 to 105.48		

Source: Economics Research Associates surveys, updated May 2006.

Table 9
Summary of Site Carrying Capacity
Plymouth Township Land Use Feasibility Study

Site/Area	Net Developable Area		Assumed Densities			Gross Carrying Capacity (In Units)
	Acres	%	Zoning	Units/Acre	Lot Size	
Carrying Capacity						
"Open Flats"	70	53.4%	R-2	5.4	8,000 sq. ft.	381
"Plateau"	45	34.4%	S-1R	1	43,560 sq. ft.	45
"Curry Hill"	16	12.2%	R-2	5.4	8,000 sq. ft.	87
Total:	131	100.0%				513
Average Density (Units Per Acre):						3.9

Source: Borton-Lawson Engineering; Economics Research Associates, June 2006.

Table 10
Summary of Housing Market Potentials at Buildout
Plymouth Township Land Use Feasibility Study

Site/Area	Gross Acres	Unit Allocation @	Developed Acres	Avg. Density (Units/Acre)	Development Potential
Single-family Detached					
(1)					
Total Developable Area (2)					
Open Flats	70	80.0%	56	3.5	196
Plateau	45	100.0%	45	1.0	45
Curry Hill	16	80.0%	13	3.5	45
Total:	131		114		286

BUILDOUT					
Average Annual Absorption (In Units)		(3)			30
Years to Buildout					9.5

Multi-family					
Total Developable Area (2)					
Open Flats	70	20.0%	14	14.0	196
Plateau	45	0.0%	-	14.0	-
Curry Hill	16	20.0%	3	14.0	45
Total (In Acres):	131		17		241

BUILDOUT					
Assume 50% For-sale Condominium Flats/THs		(4)			120
Average Annual Absorption (In Units)		(3)			15
Years to Buildout					8.0

- (1) Based on the distribution among comparable projects in the marketplace between single-family (80%) and condominium/townhouse product (20%).
- (2) The Open Flats is the premium/immediate location available for development; both the Plateau and Curry Hill parcels should be considered for future development potential.
- (3) Average annual absorption activity per project based on comparables.
- (4) Assumes that 50% of the multi-family units in the project are rental units as a means of reducing developer risk by not limiting housing type, and to introduce high-quality rental units to the Wilkes-Barre market.

Table 11
Potential Economic Benefits
Plymouth Township Land Use Feasibility Study

PRIVATE DEVELOPMENT PROGRAM (In Sq. Ft.)		
Residential (Units)		
Multi-family Rental	800 SF / Unit	96,320
For-sale Condominiums (@ 30%)	950 SF / Unit	34,314
Townhouses (@ 70%)	1,500 SF / Unit	126,420
Single-Family Detached	1,800 SF / Unit	514,440
Subtotal - Residential:		675,174

TOTAL PROGRAM (Sq. Ft.):	675,174
---------------------------------	----------------

CONSTRUCTION EMPLOYMENT & INCOME		
Estimated Hard & Soft Development Costs		
Estimated Average Cost Per Sq. Ft. (Blended)	\$	80
Subtotal - Commercial & Residential	\$	54,013,920

TOTAL DEVELOPMENT COSTS:	\$	54,013,920
---------------------------------	----	-------------------

Estimated Construction Employment	1/	
Equivalent Person Years-Employment		902
Estimated Buildout Period (Years to Complete)		10
Total - Construction Jobs:		90

Estimated Construction Income		
Wages as % of Dev't Costs		40.0%
Average Ann'l Construction Wage	\$	23,948

TOTAL CONSTRUCTION INCOME:	\$	21,605,568
-----------------------------------	----	-------------------

Table 12
Potential Economic Benefits
Plymouth Township Land Use Feasibility Study

ANNUAL PROPERTY TAX REVENUES

Residential--Multi-family

Combined Tax Rate Per \$1,000 AV	\$	373.90	
Estimated Value/SF at Buildout	1/ 3/	\$	65
Estimated Total Value at Buildout		\$	6,260,800
Common-level (Equalization) Ratio			6.5%

Annual Property Taxes - CF:

\$ 152,159

Residential--Condominium Flats

Combined Tax Rate Per \$1,000 AV	\$	373.90	
Estimated Value/SF at Buildout	1/ 3/	\$	69
Estimated Total Value at Buildout		\$	2,367,666
Common-level (Equalization) Ratio			6.5%

Annual Property Taxes - CF:

\$ 57,543

Residential--Townhouses

Combined Tax Rate Per \$1,000 AV	\$	373.90	
Estimated Value/SF at Buildout	1/ 3/	\$	83
Estimated Total Value at Buildout		\$	10,492,860
Common-level (Equalization) Ratio			6.5%

Annual Property Taxes - THs:

\$ 255,013

Residential--Single-family Detached

Combined Tax Rate Per \$1,000 AV	\$	373.90	
Estimated Value/SF at Buildout	1/ 3/	\$	88
Estimated Total Value at Buildout		\$	45,270,720
Common-level (Equalization) Ratio			6.5%

Annual Property Taxes - SFD:

\$ 1,100,237

TOTAL ANNUAL PROPERTY TAX REVENUES:

To Luzerne County	\$	397,202
To Plymouth Township	\$	142,306
To Nanticoke Area School District	\$	1,025,443
TOTAL:	\$	1,564,952

Table 13
Potential Economic Benefits
Plymouth Township Land Use Feasibility Study

		At Buildout
SUPPORTABLE RETAIL SPACE		
Generated by On-site Households		
Total Housing Units		527
Average Household Income	4/	\$ 63,380
Total - Gross Annual Income:		\$ 33,375,820
Annual Spending on General Retail (GAFO)		
As % of Average HH Income @	21.7%	\$ 7,242,553
SPENDING & SUPPORTABLE SPACE:		
Gross Annual Spending		\$ 7,242,553
Annual Required Sales Productivity (Per Sq. Ft.) @		\$ 200
TOTAL SUPPORTABLE SPACE (SQ. FT.):	5/	36,213

1/ Total estimated development costs were used to determine equivalent construction employment and assessed values. Estimated value at buildout excludes land value.

2/ Includes General Merchandise, Apparel & Accessories, Furniture & Home Furnishings, Home Electronics, Sporting Goods, Book/Music Stores, and Miscellaneous Retail categories.

3/ Includes current property tax rates per \$1,000 of assessed valuation (AV): \$94.90 for Luzerne County; \$34.00 for Plymouth Township; and \$245.00 for the Nanticoke Area School District.

4/ 2010 average household income for the core municipalities surrounding Plymouth Township, grown at average annual rate of 3% through 2015.

5/ Retail market potentials (in supportable sq. ft.) are irrespective of location.

Source: Economics Research Associates, May 2006.



2. Utility Correspondence



**Borton
Lawson**
ENGINEERING
ARCHITECTURE

LETTER OF TRANSMITTAL

To: PG Energy
1 PEI Center
Wilkes-Barre, PA 18711-0601

From: Jacinta Vrabel
Office: Northeastern Pennsylvania

Date: December 15, 2005

Attn: Carol Johns

RE: Avondale Reclamation Project
Plymouth Township, Luzerne County

Proj. No 2005-1748-05

We Are Sending You ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
☐ Copy of Letter ☐ Change Order ☐ Other: _____

Copies:	Date:	No.:	Description:
1			USGS Location Map
1			Project Area Plan

These Are Transmitted As Checked Below:

☐ For approval ☐ Approved as submitted ☐ Resubmit _____ copies for approval
☒ For your use ☐ Approved as noted ☐ Submit _____ copies for distribution
☐ As requested ☐ Returned for corrections ☐ Return _____ corrected prints
☐ For review and comment
☐ FOR BIDS DUE _____ ☐ PRINTS RETURNED AFTER LOAN TO US

Remarks: **Our office is performing a feasibility study for a potential land development in the area identified on the attached maps. Future land use is not yet known. Current zoning is residential.**

At this time we are requesting information about the feasibility of, and issues associated with, supplying utility service to the area.

Jersey Road (Township Road 719) provides the most direct access to the site. Possible access from Avondale Hill Road is also being investigated.

I thank you in advance for your response to this request.

Northeast Pennsylvania
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA
18702-7903
Voice: 570.821.1999
Fax: 570.821.1990

Lehigh Valley
3893 Adler Place
Suite 100
Bethlehem, PA 18017
Voice: 484.821.0470
Fax: 484.821.0474

Copy To: _____ Signed: Jacinta Vrabel

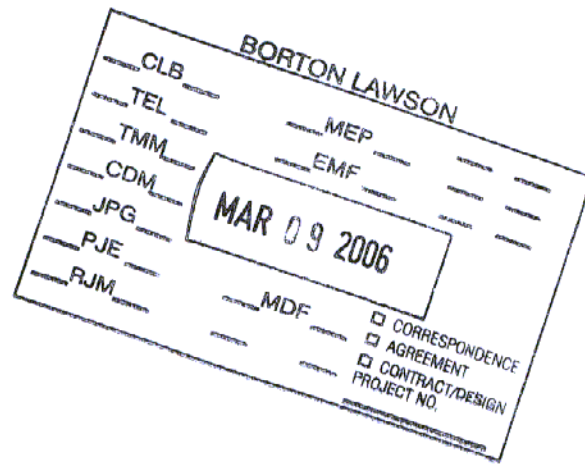
☐ Original ☐ Correspondence ☐ Reading ☐ _____ ☐ _____



March 7, 2006

Jacinta Vrabel
Borton Lawson
613 Baltimore Drive – Suite 300
Wilkes-Barre, PA 18702

Re: Avondale Reclamation project
Plymouth Township



Dear Jacinta:

Attached is a map reflecting the existence of PG Energy owned facilities within and/or adjacent to the referenced project as indicated by your request. This map is on an approximate scale of 1" = 200', and as such, are only a schematic representation of our gas distribution system, appurtenances, commercial and industrial services. Most residential service laterals are **not** shown. Do not use this map to establish the actual locations of our underground facilities.

Also enclosed is a User's Guide of Pennsylvania's Underground Utility Line Protection Law (PA Act 287 Amended by Act 187). Please note SECTION III 1, page 5 and all of Section 4 (page 25 & 26), RESPONSIBILITIES OF THE DESIGNER, especially subsection (4), "To make a reasonable effort to prepare the construction drawings to avoid damage and minimize interference with a facility owner's facilities in the construction area by maintaining an 18" clearance of the facility owner's facilities.

This area is known as the Tolerance zone and is eighteen inches from the outside edge of the line or facility (SECTION VII RESPONSIBILITIES OF THE EXCAVATOR page 17). This Tolerance Zone as defined by the Act requires **hand or vacuum excavation**.

If the information provided herein proves inadequate for your current requirements and an on- site meeting or additional facility information is required, please contact our office and we will take whatever steps deemed necessary to assist you.

If you have any questions, please call (570) 829-8785.

Sincerely,

Carol A. Johns
Pa. One Call coordinator



**Borton
Lawson**
ENGINEERING
ARCHITECTURE

LETTER OF TRANSMITTAL

To: Pennsylvania American Water Co.
2699 Stafford Avenue
Scranton, PA 18507

From: Jacinta Vrabel
Office: Northeastern Pennsylvania

Date: December 15, 2005

Attn: Tony Gangemi

RE: Avondale Reclamation Project
Plymouth Township, Luzerne County

Proj. No 2005-1748-05

We Are Sending You ☒ Attached ☐ Under separate cover via _____ the following items:

☐ Shop Drawings ☐ Prints ☐ Plans ☐ Samples ☐ Specifications
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At this time we are requesting information about the feasibility of, and issues associated with, supplying utility service to the area.

Jersey Road (Township Road 719) provides the most direct access to the site. Possible access from Avondale Hill Road is also being investigated.

I thank you in advance for your response to this request.

Copy To: _____ Signed Jacinta Vrabel

☐ Original ☐ Correspondence ☐ Reading ☐ _____ ☐ _____

Northeast Pennsylvania
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA
18702-7903
Voice: 570.821.1999
Fax: 570.821.1990

Lehigh Valley
3893 Adler Place
Suite 100
Bethlehem, PA 18017
Voice: 484.821.0470
Fax: 484.821.0474



**Borton
Lawson**
ENGINEERING
ARCHITECTURE

MEMO FOR FILE

Project Number: 2005-1748-05 Proposal Number: _____
Project/Proposal Name: Avondale Reclamation
Date: 1-25-06 Time: 9:50 am
Person Calling: Tony Gangemi Phone: 969-7846
Company: PA American Water Co.
Fax: _____
From: _____
Originating Office: NEPA
Reference: _____
☒ Telephone Conversation ☐ Meeting

Items Discussed:

- Water service to future development.

There are water mains nearby that can be used to service the area, but how service is provided will require detailed design, that may include regulators or pumping stations.

In the area of the Plymouth Reservoir, there is a 42" transmission main that goes through the tunnel, which would be accessible at either outlet end of tunnel. On the other side of the reservoir, there is a line to a 5 million gal storage tank, which holds water from the Ceasetown plant.

Tony will be mailing drawings of the facilities relative to the site.

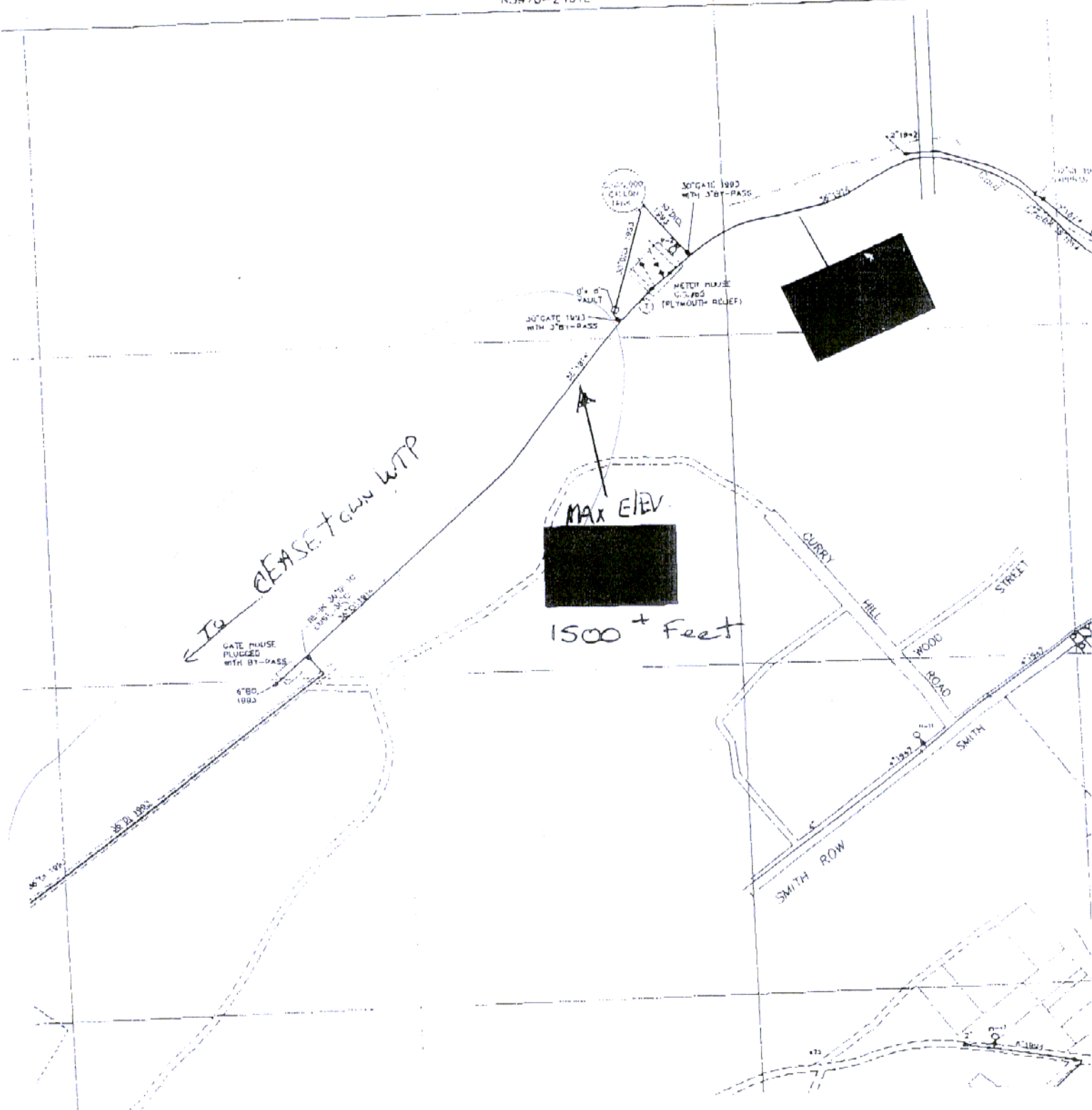
Signed: [Signature]

CC: _____

Corporate Office
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA
18702-7903
Voice: 570.821.1999
Fax: 570.821.1990

**Greater Lehigh Valley
Office**
6814 Chrisphatt Drive
Suite 200
Bath, PA 18014-8503
Voice: 610.837.5916
Fax: 610.837.5918

100





LETTER OF TRANSMITTAL

Date: December 22, 2005

To: MetroCast Communications
1059 East 10th Street
Hazleton, PA 18201

Attn: Dave Kay

RE: Avondale Reclamation Project
Plymouth Township, Luzerne County

From: Jacinta Vrabel

Office: Northeastern Pennsylvania

Proj. No 2005-1748-05

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Copy To: _____ Signed Jacinta Vrabel

☐ Original ☐ Correspondence ☐ Reading ☐ _____ ☐ _____

Northeast Pennsylvania
 613 Baltimore Drive
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 Wilkes-Barre, PA
 18702-7903
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 Fax: 570.821.1990

Lehigh Valley
 3893 Adler Place
 Suite 100
 Bethlehem, PA 18017
 Voice: 484.821.0470
 Fax: 484.821.0474



**Borton
Lawson**
ENGINEERING
ARCHITECTURE

LETTER OF TRANSMITTAL

To: UGI Utilities
P.O. Box 3200
Wilkes-Barre, PA 18773

From: Jacinta Vrabel
Office: Northeastern Pennsylvania

Date: December 15, 2005

Attn: Eric Sorber

RE: Avondale Reclamation Project
Plymouth Township, Luzerne County

Proj. No 2005-1748-05

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Fax: 570.821.1990

Lehigh Valley
3893 Adler Place
Suite 100
Bethlehem, PA 18017
Voice: 484.821.0470
Fax: 484.821.0474

Copy To: _____ Signed Jacinta Vrabel

☐ Original ☐ Correspondence ☐ Reading ☐ _____ ☐ _____



RECEIVED
DEC 21 2005

UGI Utilities, Inc.
Hanover Industrial Estates
400 Stewart Road
Wilkes Barre, PA 18706-1495
(570) 819-1212 Telephone

December 20, 2005

BY: JmV.....

Ms. Jacinta Vrabel
Borton-Lawson Engineering & Architecture
613 Baltimore Drive, Suite 300
Wilkes-Barre, PA 18702-7903

Dear Ms. Vrabel,

Re: Avondale Hill Reclamation Project
Project No. 2005-1748-05
Plymouth Twp, Luzerne County, Pennsylvania
UGI Work Request No. 0060-472747

Please consider this letter your authorization that UGI Utilities, Inc. – Electric Division will provide electric service to the above referenced project.

Please call 570.830.1263 if you have any questions.

Sincerely yours,

A handwritten signature in black ink, appearing to read 'Lisa Gigliello', written over the typed name.

Lisa Gigliello
Staff Engineer

cc: Mr. R. L. Slezak
Mr. K. Adams



**Borton
Lawson**
ENGINEERING
ARCHITECTURE

LETTER OF TRANSMITTAL

To: Wyoming Valley Sanitary Authority
P.O. Box 33A
Wilkes-Barre, PA 18703

From: Jacinta Vrabel
Office: Northeastern Pennsylvania

Date: December 15, 2005

Attn: Barry Hosier

RE: Avondale Reclamation Project
Plymouth Township, Luzerne County

Proj. No 2005-1748-05

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Fax: 484.821.0474



**Borton
Lawson**
ENGINEERING
ARCHITECTURE

LETTER OF TRANSMITTAL

To: Verizon
222 South Main St., 6th Floor
Wilkes-Barre, PA 18701

From: Jacinta Vrabel
Office: Northeastern Pennsylvania

Date: December 15, 2005

Attn: Joe Umbra

RE: Avondale Reclamation Project
Plymouth Township, Luzerne County

Proj. No 2005-1748-05

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3. Preliminary Opinion of Probable Cost – Offsite Infrastructure Improvements

Plymouth Township Land Use Feasibility Study

Offsite Infrastructure Improvements

BL # 2005-1748-05

I. Jersey Hill

A. Utility Extensions

	Qty.	Price	Unit	Total
Sanitary Sewer	2,500	\$ 80.00	LF	\$ 200,000.00
Electric / Cable/ TV	3,150	\$ 40.00	LF	\$ 126,000.00
Gas (assume by utility)	By utility	\$ -		\$ -
Water (from reservoir location)	800	\$ 60.00	LF	\$ 48,000.00
Water Valving	1	\$ 10,000.00	LF	\$ 10,000.00
Miscellaneous	1	\$ 40,000.00	LS	\$ 40,000.00
		Subtotal		\$ 424,000.00
		15% Contingency		\$ 63,600.00
		Total		\$ 487,600.00
		Say		\$ 487,600.00

Future partial reimbursement may be available per PAWC agreements.

B. Roadway Access Improvements*

	Qty.	Price	Unit	Total
Pavement	5,600	\$ 25.00	SY	\$ 140,000.00
Subgrade Improvements	5,600	\$ 6.00	SY	\$ 33,600.00
Storm Swales	5,000	\$ 12.00	LF	\$ 60,000.00
Piping	300	\$ 30.00	LF	\$ 9,000.00
Storm Detention	1	\$ 20,000.00	LF	\$ 20,000.00
Earthwork	2,000	\$ 10.00	CY	\$ 20,000.00
Erosion Control	1	\$ 20,000.00	LS	\$ 20,000.00
		Subtotal		\$ 302,600.00
		15% Contingency		\$ 45,390.00
		Total		\$ 347,990.00
		Say		\$ 348,000.00

*22 Ft. Cartway

C. Rt. 11 Access Improvements

Access Improvement Allowance	\$ 75,000.00
------------------------------	--------------

Total Jersey Hill Offsite Improvements

\$ 910,600.00

DISCIPLINES

Civil Engineering

Professional Land Surveying

Environmental Engineering

Transportation Engineering

Process Automation

Mechanical Engineering

Structural Engineering

Electrical Engineering

Architecture

Construction Administration



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