

Geologic Consultants Environmental Professionals Construction Services (518) 270-1620/Fax (518) 270-1672

16 August 2017

Barry Medenbach, PE Medenbach and Eggers Stone Ridge, NY

**Subject:** Wetland Mapping and Affected Area-Habitat Assessment

850 Rte. 28 Site

Town of Kingston, NY

Dear Barry,

Please find attached two narratives that we have generated in support of the application materials for the above reference project. Upon our review we have determined that approximately 56 acres of the 110 acre site have historically been affected by mining activities. Within the initial Site plan showing the building and parking areas, 17.3 acres have been affected of the 20.8 proposed to be used. The water bodies on the Site are recently excavated water filled, manmade features that are hydrologically isolated and are neither DEC wetlands nor are they jurisdictional to any other government agency. The DEC wetland does abut the access road to the site, its boundary is well defined. I do not believe that any of the proposed site development will be within the DEC wetland or its buffer area.

If you have any questions please feel free to give me a call.

Very truly yours,

**H2H Associates. LLC** 

Richard A. Hisert, PhD.

Elm SAlast

Principal

C. Robert V Surprise via email

Attach as noted

c. Robert V. Surprise Jr. MP – H2H Associates, LLC H2H Associates, LLC Page 2 of 14

## 850 Route 28 Property Wetland Narrative

## **Executive Summary**

NYSDEC wetland KW-3 parallels and abuts the western boundary of the property along the southern end of the access road along the toe of the slope from road grade to the wetlands. Site development will be required to meet DEC buffer area limitations. There are no other regulated, jurisdictional or NYSDEC wetlands on the property. All other surface water features are isolated to the Site, anthropogenic and formed as a function of recent bluestone mining activity.

On August 10, 2017, Richard A Hisert, PhD of H2H Associates inspected the 850 Route 28 parcel located in the Town of Kingston, NY. The purpose of the Site visit was to determine the presence of jurisdictional wetlands and or regulated wetlands as mapped by the NYSDEC. This Site visit was done in conjunction with a Site inspection to evaluate the extent of historic and recent mining activities across the entire Site. The summary of those findings is found in a separate narrative, but are related to this narrative in that the surface water features as identified below are a function of recent mining activity.

#### **NYSDEC Wetland KW-3**

DEC Wetland KW-3 is mapped along the western perimeter of the Site. The purpose of the Site inspection was to approximate the limits of this wetland and or the wetland buffer area, should it exist as mapped along the entrance road to the Site. As mapped, the DEC wetland extends to the property line for approximately the first 1,000 of the access road starting from Route 28. The buffer area for the wetland parallels this limit and extends up to the garage currently located on the Site. Upon inspection of the Site topographic map and in conjunction with the Site visit, it is clear that wetlands associated with the DEC wetland exist in close proximity to the Site. In general, the area immediately west of the access road and for 25 feet, is either an upland area characterized by the shoulder of the road or a steep slope down to the adjacent wetland (Figure 1; Photo 1 and 2). The wetlands exist at the toe of the slope adjacent to the access road to the property and their lateral limits are more or less are approximated by the 430 foot contour line as mapped by H2H (Figure 1). Given the steep slope down to the wetlands, the delineation of the upland and wetland boundary is relative sharp.

For planning purposes, it should be assumed that any improvements made to the road consider this wetland limit to the west and as appropriate all Site development should take into consideration the NYSDEC wetland buffer limitations where it occurs on Site.

#### **Surface Water Features**

As mapped and observed in the field there are a series of surface water bodies that appear along the western part of the Site near the garage. These surface water bodies have been mapped by the USFWS as a "lake" with no associated wetlands. In general, the water features are shallow (less than 5 feet deep at their deepest parts, generally less than 1 foot deep), linear in nature, orientated northeast-southwest and a relatively narrow. Structurally these water bodies parallel the general geologic strike of units in the region. Upon review of the historic aerial images and USGS quadrangle maps it becomes clear that these features are manmade, developed as mining progressed through the Site, from sometime after 1958 through today. Along the slopes of these water bodies are spoil piles from bluestone mining operations. In some areas, the spoil has been revegetated over the past 20 years. Interpretations of aerial images indicates these features have grown and gone dry over time presumably as a function of mining practices and weather patterns. Note, that as of August 2017, this year has had a higher than normal precipitation.

H2H Associates, LLC Page 3 of 14

For ease of identification the water bodies have been labeled alphabetically from north to south (Figure 1., see water bodies A-G) and are described below.

#### Waterbody A

Waterbody A abuts the northern end of the property. This feature like the others is elongated north to south (Photo 3). At the southern end of this feature water drains from the north to south into waterbody B (Photo 4) via a small spill way at the western end of an earthen feature generally separating the two water bodies. This feature is not on the Site, but its connection to the Site is important to understand for future development potential.

## Waterbody B

Waterbody B (Photo 5) is located immediately to the east of the garage and generally less a few feet deep. At the southern end of this feature is the existing Site access road that separates this water feature from Waterbody C to the south. There is no hydrologic connection, either man made or natural between features B and C (Photo 6).

## Waterbody C

Waterbody C is located south of the access road and is hydrologically isolated from features B and C Photo 7). There is no inlet to this feature. This feature is also bordered by bluestone spoil piles to the west and drains generally to the south towards features D and E. At certain pool elevations water will drain from C to feature D via a small drainage swale the exists through the land mass at the southern end of the feature (Photo 8).

## Waterbody D

This feature is located south of feature C and is being created as a function of a beaver dam (Photo 9). The beaver dam appears to be inactive and there is no recent activity of beavers in the vicinity of this water feature. Large portions of this pool have water depths of less than a few inches.

#### Waterbody E

This feature is located south of feature D and is a result of historic mining activity on the site, like all other features (Photo 10). This feature is shallow and an earthen embankment is located at its southern end (Photo 11). Large portions of this pool have water depths of less than 1 foot. There is no outlet to this feature.

#### Waterbody F

This feature is located south of feature E and is a result of historic mining activity on the site (Photo 12). This feature is shallow and an earthen embankment is located at its southern end (Photo 13). Large portions of this pool have water depths of less than 1 foot. There is no inlet and no outlet to this feature.

## Waterbody G

This feature is located south of feature F and is a result of historic mining activity on the site. This feature is shallow and an earthen embankment is located at its southern end. There is no inlet and no outlet to this feature.

H2H Associates, LLC Page 4 of 14

Figures



H2H Associates, LLC Page 5 of 14

**Photographs** 

H2H Associates, LLC Page 6 of 14



Photo 1. View of entrance road looking northeast.



Photo 2. View to west of site entrance road shoulder, note steep slope and water body in top right of photo.

H2H Associates, LLC Page 7 of 14



Photo 3. View of Water Body A to north from embankment separating B and A.



Photo 4. View looking north from Waterbody B to A, note hydrologic connection to left of photo through embankment material.

H2H Associates, LLC Page 8 of 14



Photograph 5. View of Waterbody B looking south from embankment separating A and B water bodies.



Photo 6. View of waterbody C looking north at embankment separating B and C water bodies.

H2H Associates, LLC Page 9 of 14



Photo 7. View of Waterbody C looking south from entrance road.



Photo 8. View looking west of hydrologic connection between Waterbody C and D.

H2H Associates, LLC Page 10 of 14



Photo 9. View of water body D to north from beaver dam separating D from E.



Photo 10. View looking south of water body E.

H2H Associates, LLC Page 11 of 14



Photo 11. View looking west of embankment separating water bodies E and F.



Photo 12. View of embankment and water body F.

H2H Associates, LLC Page 12 of 14



Photo 13. View of embankment looking west of along southern end of water body F.

H2H Associates, LLC Page 13 of 14

## 850 Route 28 Property Disturbed Area Assessment

## **Executive Summary**

Approximately 50% of the site has been disturbed by mining activity over the past 60 years resulting in a site largely devoid of vegetation and topsoil and containing revegetated spoil piles of bluestone. Several, shallow water-filled isolated features are consistent with numerous mine faces and excavation pits located throughout the parcel. Within the proposed project area, 90% of this area has already been affected by recent and historic mining activity.

## **Existing Conditions**

The parcel consists of approximately 110 acres of cleared land, access roads, mine faces, mine spoil/tailing piles (bluestone and shale piles), wooded lands and surface water features. The Site is accessed via an approximately 20-foot wide gravel road along the western portion of the site. There is currently one 60-foot by 100-foot garage on site, with a cleared and level parking area graded around the building. The central portion of the Site is a recently affected bluestone mining area consisting of processing areas, old structural footings, vertical mine faces, mine floor and spoil piles of bluestone (Figure 1).

## **Impact Assessment**

Based upon a review of historic aerial images (see Appendix A), historic topographic maps and a Site walk, the Site has a history of being mined as a source of bluestone beginning in the late 1800's and was mined more or less continuously through today. In fact, the majority of the site is essentially an un-reclaimed mine as defined by the State of New York. H2H walked the majority of the Site and surrounding wooded areas to confirm historic mapping, evaluate habitat and determine the presence of wetland and water features. H2H determined that most of wooded areas have been previously affected by recent (over the past 40 years) bluestone mining activities and that mine faces, tailings piles, and access roads were found. There is no unique habitat, nor are there any wetlands on the property. East and southeast of the existing garage are bodies of water that are abandoned bluestone mining areas, they have no inlet or outlet. Tailings piles were found along the shore line of the water bodies. In addition, the shore line of the water bodies are steep faces, absent any wetland areas and are indicative of the historic mining practices. Overall as recently observed in the field, approximately 60 acres of the Site has been affected by mining operations conducted as recently as 1997 (See Figure 1 and 2, Aerial Image with Field Mapping and Figure 5, USGS Quad Sheet circa 1997).

Figure 3 is an aerial photo of the Site and surrounding area from 1978. It clearly shows that most of the vegetation has been cleared from the Site and the mine faces and mine floor throughout much of the property. Note also that there are no water features located on the Site at this time with the exception of the surface water feature along the northern end of the property. Figure 4 is an aerial photo of the Site from 1986; the photo shows the Site being actively mined for bluestone, stockpile areas and now the presence of the water surface features on the western side of the mining area. In addition, Figure 5, 1997 USGS Topographic Map of Site, shows the proposed affected area as being a Disturbed Surface.

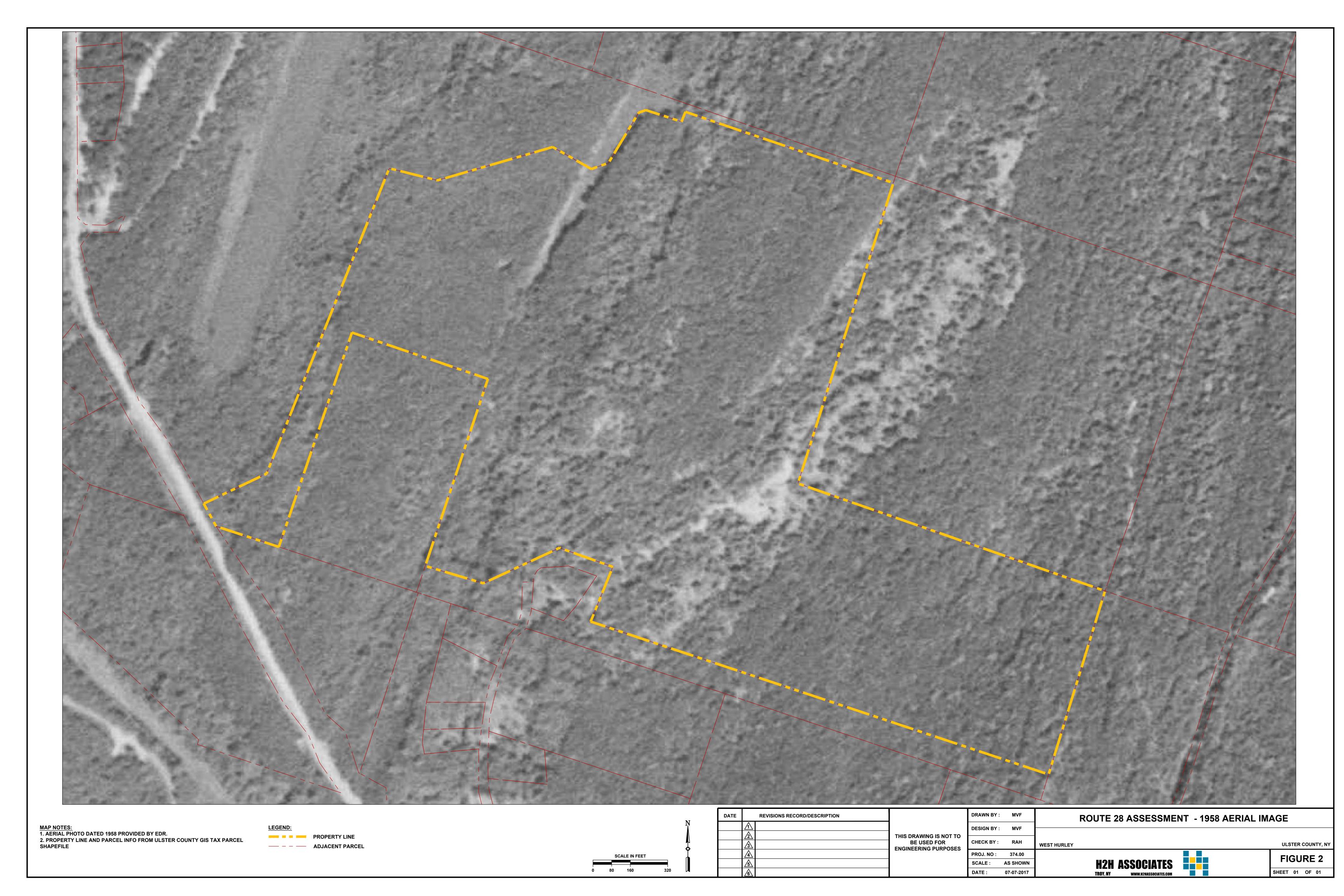
## **Summary**

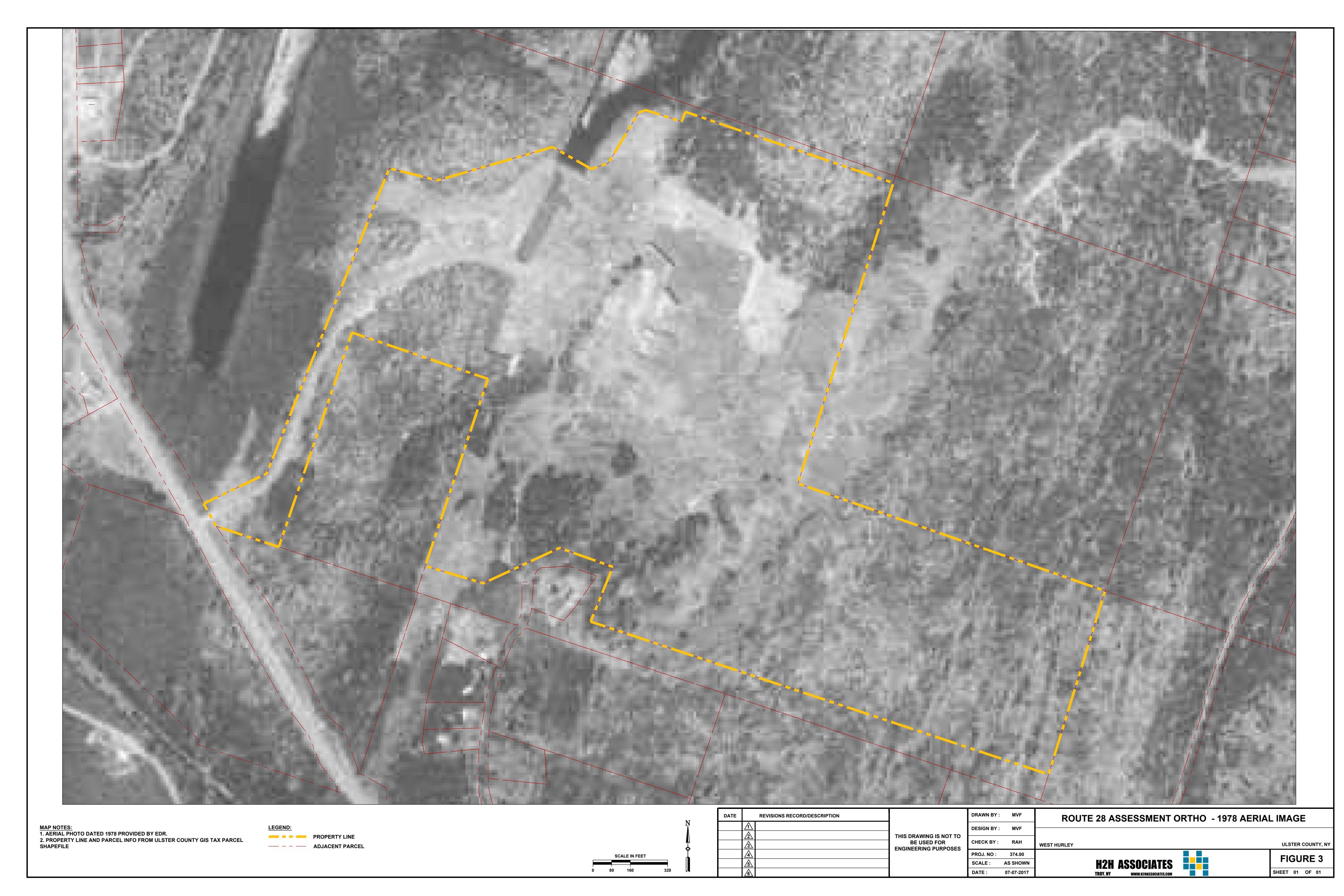
In summary, a review of historic aerial mapping and USGS quadrangle sheets confirm that 60 acres or 60% of the Site has been significantly disturbed by mining excavation, spoil piles and clearing activities (Figure 6). The tree growth across most of the site is younger than 20 years old confirms the date to which most of revegetated portions of the Site has been affected. The historical mapping of the Site indicates that mining activities have occurred on the Site more or less continuously since the early 1970s with modern equipment. It is likely that portions of the Site beyond those observed in the field and on aerial imagery had been mined with early mining techniques for the extraction of bluestone as was common throughout this portion of the Catskill Mountain region.

H2H Associates, LLC Page 14 of 14

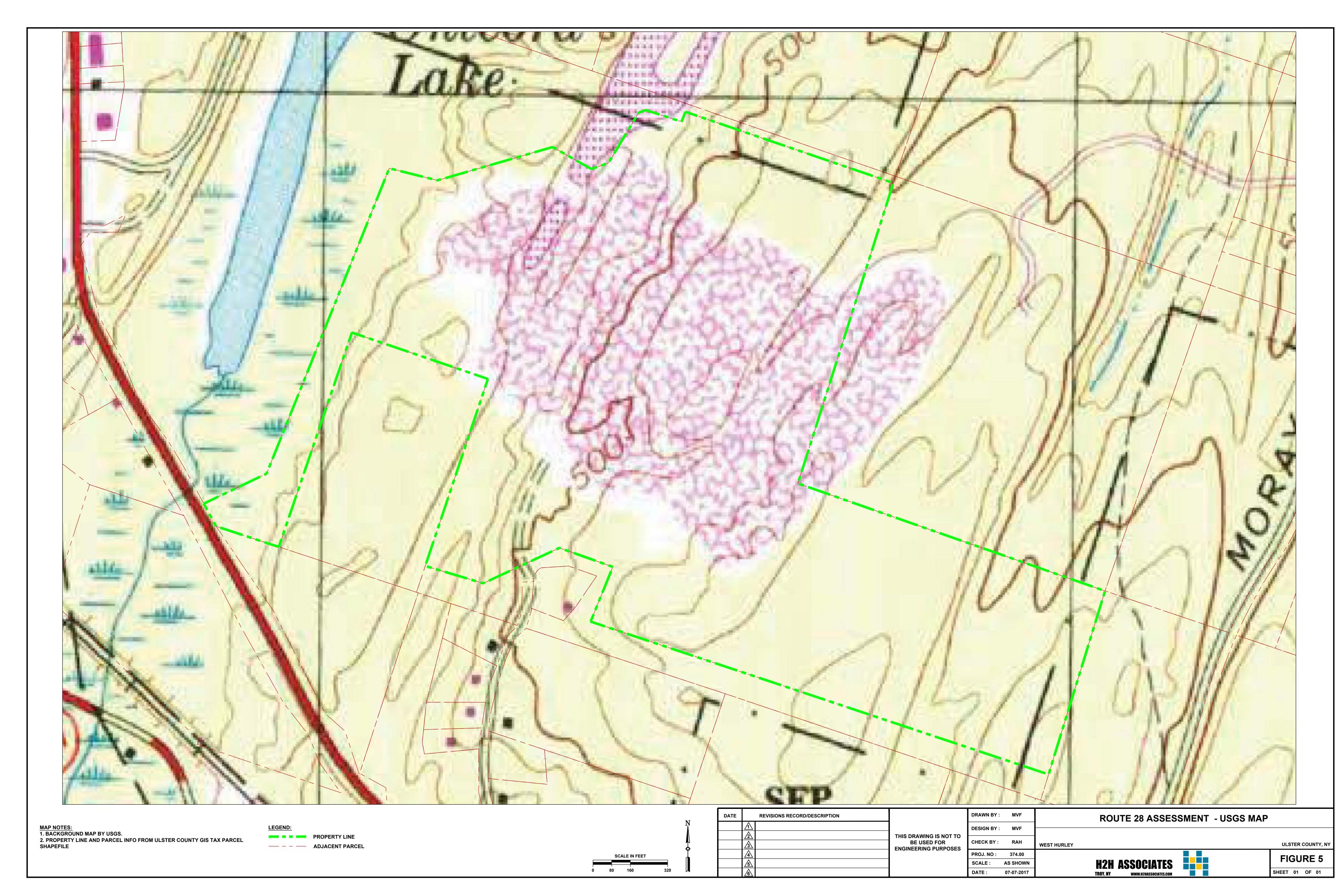
Figures













# Appendix A

