APPENDIX I. SOURCES

Aiuvalasit, Michael and Joseph Schudlenrein  

Blasland and Bouck Engineers  

Bradley, James W.  

Fagan, L.  
1852 Map of Onondaga County, New York.  
Abandoned & Little-Known Airfields: Central New York State.

Hohman, Christopher D.  


Hohman, Christopher D. and Dr. Nina Versaggi  

Morgan, Lewis Henry  

Parker, Arthur C.  

Sanborn Fire Insurance Company  

Sweet, Homer  


Thompson, Donald H.  
Thompson, John H. (editor)

United States Department of Agriculture

United States Geological Survey
1978/1  7.5 minute, Syracuse, NY quadrangle.
1973
1947  7.5 Minute, Syracuse, NY quadrangle.
1898  15 Minute, Syracuse, NY quadrangle.

www.pwinc.com/geoprobe-directpush.html
www.pwinc.com/drilling-and-sampling.html
APPENDIX II. CORRESPONDENCE

PRELIMINARY GEOMORPHOLOGICAL OBSERVATIONS FOR THE ONONDAGA LAKE PROJECT

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Geoarcheology Research Associates (GRA) has been contracted by the Public Archaeology Facility (PAF) to examine the geomorphic contexts of properties slated for remedial measures as part of the Onondaga Lake Project, which is sponsored by Honeywell and conducted by Parsons. GRA’s role is to evaluate whether project areas are intact and contain buried deposits with the potential for archeological materials. Evaluations are based on reviewing historical documents compiled by PAF (Hohman 2004 and Hohman and Versaggi 2009), the background literature on the geological and natural setting of Onondaga Lake, and examining logs from geotechnical and soil borings conducted in select portions of the project areas. A brief field visit on December 17, 2009 provided opportunities to examine the project areas first-hand. This document presents initial observations of the project areas. Recommendations are made for use in the planning of upcoming fieldwork.

Harbor Brook/Waste Bed 8

Harbor Brook and the Waste Bed B are located along the southwest shore of Onondaga Lake. Waste Bed B is situated along the shoreline of Onondaga Lake behind artificial bulkheads. The waste bed consists of fill deposits placed atop Solvay wastes. Previews of subsurface stratigraphy come from two sources: engineering cross sections along Waste Bed B near the shoreline compiled by Geosyntec Consultants and geotechnical borings by Parsons (Hohman and Versaggi 2009: Appendix 11). Nearly all of the borings identify a general sequence of: fill; Solvay waste; marl; silt and clay; silt and sand; and sand and gravel. The thickness of fill and waste materials extends to depths of 15 ft. The marl is typically described in Parsons geotechnical logs as a gray silt with little fine sand. Also observed are trace organics (peat), trace shells, and oncölites. None of the borings logs are suggestive of deeply buried intact shorelines or nearshore settings. Instead the thick marl deposits are indicative of basin and subaqueous shoreline deposits, which are neither conducive to prehistoric settlement nor archeological preservation.
The course of Harbor Brook has been extensively modified across the project area to accommodate transportation structures (highway and railroad) as well as the placement of waste beds. The site visit confirmed the widespread historical alteration of adjacent landscapes which are extensively documented by PAF (Hohman 2004 and Hohman and Versaggi 2009). There appears to be little potential for Harbor Brook to retain deeply buried intact sediments and soils.

Ninemile Creek

The Ninemile Creek IRM consists of a narrow APE which is largely confined to the channel and adjacent banks of Ninemile Creek. Our geomorphic evaluation of the Ninemile Creek IRM is broken into segments using the New York State Department of Environmental Conservation (NYSDEC) Reach Boundaries: A) shoreline and mouth of Ninemile Creek; B) between the shoreline and I-690; C) between I-690 and the intersection of Pumphouse Road and the exit ramp of I-690; and D) between the Pumphouse Road intersection and the most upstream portion of the project area, approximately 400 feet upstream past the confluence of Ninemile Creek with Geddes Brook.

Segment A is the confluence of Ninemile Creek and Onondaga Lake. The mouth of this artificial channel has also been dredged in the late 1960's. Historical maps from the early 19th century depict segment A to be near salt springs and swamplands with muck soils (Carlisle and Edwards series) identified in historical soil surveys (1938, USDA 1977). Subsurface testing did not extend into segment A as it is an offshore and subaqueous. The potential for deeply buried archaeological surfaces is low due to the extensive disturbances which were involved in both the creation and maintenance activities along the mouth of the channel.

Segment B extends from the confluence of Ninemile Creek upstream to where it is crossed by I-690. This segment is an artificial channel created in 1927 after the placement of Wastebeds 1-8. The channel is narrow and runs parallel to the north of the I-690 right-of-way. Segment B includes a wetland adjacent to the mouth of the creek identified as SWY-10. Subsurface investigations have consisted of shallow groundwater test pits (series labeled GW-) conducted by Parsons and geoprobe borings into the channel bottom conducted by Blasland, Bouck, and Lee (series labeled TN-; logs found in Hohman and Versaggi 2009: Appendix II). None of the groundwater test pits extended to depths greater than 36 inches (0.9 m). Two sequences were registered: shallow organic topsoil over Solvay waste (n=5); and soft black topsoil over mottled silts (n=5). Neither sequence is indicative of contexts which would preserve intact prehistoric deposits or buried soils. The seemingly undisturbed mottled silts are very likely historically recent alluvium accumulating along the channel and near the mouth of the stream.

Segment C is a narrow project area of the channel and banks of Ninemile Creek between I-690 and the intersection of Pumphouse Road. Subsurface investigations have consisted of shallow groundwater test pits (series labeled GW-) conducted by Parsons and
geoprobe borings into the channel bottom conducted by Blasland, Bouck, and Lee (series labeled TN--; logs found in Hohman and Versaggi 2009: Appendix II). The subsurface tests registered stratigraphy similar to what was observed in Segment B.

A narrow segment Segment 0 on the southern sides of Nine mile Creek downstream of the confluence with Geddes Brook is slated for remediation. Logs for this area (NMC-S8-07 to -21 (Hohman and Versaggi 2009: Appendix II)) were reviewed. The logs identified two sequences: either shallow impenetrable gravels with a veneer of approximately 6" (0.15 m) of black silts; or black and brown silts capping stiff clays to depths of 2-3" (0.6-0.9 m). Disturbances in the form of Solvay waste are noted in some of the test pits. Such contrasts between cores suggests a buried 'ridge and swale' topography, with gravel bar ridges and swales infilled with fines of clay and silt.

This shallowly buried landscape may register shallowly buried archeological surfaces in sediment either capping gravel bars and in swales infilled with clay. Archeological investigations in the form of shovel testing and the additional field observations of open shovel tests by geomorphologists are recommended to assess the floodplain segments along the southern banks of Nine mile Creek within segment D.

**Geddes Brook**

The Geddes Brook project area is an expanse of floodplain at the confluence of Geddes Brook and Nine mile Creek, which includes SYW-18. The floodplain has already been delineated as wetlands. The vegetation is dominated by phragmites. Bermed roads and utilities cross through the floodplain, and stand above lower floodplain surfaces heavily vegetated by phragmites. Logs from soil testings (GW-I to -15 and 58-I to -54) were reviewed. The stratigraphic observations were recorded with differing levels of detail. The borings with the prefix "OW" were less detailed than those labeled "S8". The OW borings describe the soils largely as "gray or brown organic topsoil" with underlying "brown and gray clay". While the SB logs offer more detailed stratigraphy, the field for stratigraphic documentation on the majority of the printed log sheets obscures the entire description. Regardless, a review of all of the logs provides general impressions of the subsurface stratigraphy. Generally the logs register surface organic horizons (hisric epipedons) to a depth of 12". Below are mineral horizons of sands, silts, and clays. While the logs describe the sediments as moist the water table is typically only encountered towards the base of the sequences (which average maximum depths of 36""). The mineral horizons underlying the organic surface horizons likely represent floodplain sequences (i.e. coarser sediments found within or adjacent to former channels, finer sediments in backswamps and swales) associated with Nine mile Creek and Geddes Brookug. A cutbank across Nine mile Creek showed a thick sequence of alluvial sands below waste materials which suggests the potential for intact alluvial sequences. There are instances of disturbances in the form of Solvay waste and fill gravels, as noted in many of the logs.

While the project area is currently a wetlands the diversity of intact sediment types recorded in test pits suggest that there are alluvial contexts below more recent organic
accumulations associated with wetlands. These buried sediments have the potential to register floodplain settings along the confluence of Ninemile Creek and Geddes Brook which are different than modern conditions.

These contexts have the potential to register archeological surfaces within what was depicted historically as a cedar swamp and alluvial contexts. Archeological survey employing shovel testing should go forward within this project area to test for intact alluvial surfaces below the approximately 12" of organic surface horizons. In-field geomorphic observations of select shovel tests could provide a clearer understanding of the alluvial sequences and wetland development of the project area through detailed examination of pedogenic features (redoximorphic concentrations, depletions) and correlating facies relationships between subsurface stratigraphic sequences.

Unnamed Tributary of Geddes Brook

The unnamed tributary to Geddes Brook is located along the southern edge of the floodplain of Ninemile Creek alld Geddes Brook. Historical background research conducted by PAF (Hohman and Versaggi 2009) indicates that this tributary is an artificial drainage ditch created in the mid-20th century. GRA examined the logs of eighteen borings conducted within the project area. Typical profiles consist of organic muck (O horizons) in the upper two feet, with common organic fragments, roots, and disturbances. Solvay waste is identified in four of the cores, typically within or immediately below the organic muck epipedon. Red-brown silt and clay underlie the muck horizons. These deposits are stiff and moist, with trace gravels identified at the top of the horizon in four of the cores. Trace organics are common at the top of the deposit. The underlying fine silts and clays are largely indicative of lake-bottom sedimentation, which would have been deposited during either higher levels of Onondaga Lake, preceding sequences of glacial lakes during the Late Wisconsinan. The potential for intact archaeological resources within the project area of the unnamed tributary is low. The channel is artificial, alld therefore is not representative on a natural body of water. Historical maps describe the area as a cedar swamp and wetlands, and the muck soils corroborate this finding. The L'Iltire Holocene transect is likely confined to the muck and disturbances within the upper two (2) feet of the sequence. This compressed sequence indicative of wetland contexts has been heavily impacted by historical disturbances. From a geomorphological perspective no additional archeological investigations are warranted.

Shoreline

Three shoreline locations adjacent to Ninemile Creek have been identified. Historical background research has identified that these areas were historical shorelines as well, and may have buried archeological surfaces. There are no soil boring logs for these areas to evaluate, therefore subsurface testing is recommended. As the vertical stratigraphy has not been established, testing should attain depths that span the entire Holocene sequence. Therefore limited deep testing in the form of either bucket augers or backhoe: trenching should be conducted before devising an archeological testing strategy.
Conclusions

Based on our preliminary evaluation of boring and test pit logs in relationship to background investigations, GRA offers the following recommendations:

- The Geddes Brook Tributary and tlabor Brook areas do not require additional field investigations. Both areas were disturbed by historical activities and logs of subsurface test logs indicate that these contexts have very limited potential for buried archaeological surfaces.

- No subsurface testing has taken place in the three Shoreline locations. Geomorphological testing in the form of either deep bucket augers or backhoe trenching in each of the three segments is recommended to establish a baseline stratigraphy for these project areas, which will guide future archaeological investigations.

- Ninemile Creek is also largely disturbed by historical activities. The only section that retains intact deposits is within segment D along the southern banks of Ninemile Creek downstream of the confluence with Geddes Brook. Logs suggest that underneath a veneer of modern alluvium are ridge and swales of former alluvial channels of Ninemile Creek. Shovel tests within this area should be adequate for testing this area. Inspection of representative shovel tests by a geomorphologist will provide opportunities to model alluvial stratigraphy of this segment of Ninemile Creek.

- The Geddes Brook IRM has the potential for buried archaeological surfaces. Logs indicate that below approximately 1' (0.30 m) of organic muck are intact alluvial sequences of sands, silts, and clays. While evidence of disturbances were recorded in some of the cores, these underlying alluvial deposits within the Geddes Brook IRM have the potential to register shallowly buried landforms which may have the potential for archeological deposits. It is recommended that shovel testing be conducted within this area. A geomorphologist should inspect a representative sample of the shovel tests and conduct limited deep testing in the form of bucket augering. Shovel testing should be conducted to the depth of 1 m or until silt or clay marls are encountered. A limited number of bucket augers should be excavated if necessary to correlate stratigraphic sequences between shovel tests.
Works Cited

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Hohman, C.

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United States Department of Agriculture

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