Photo 3. Unit 3, north and east wall profiles, Owego Elementary School Prehistoric Site.

The Owego Elementary School Prehistoric site produced a single diagnostic point from the B1 horizon of Unit 3 (Photo 4). Two refitted pieces of this incomplete point were recovered. This point has been tentatively classified as Brewerton-like, indicating a Late Archaic age (ca 3000-2500 BC) for the Owego Elementary School Prehistoric site. The point is made of Onondaga chert. The distal portion of the blade is missing. One hafting element appears to be corner-notched, while the other more closely resembles side-notching. The blade is relatively thin (5.7 mm). At the shoulder the point is 21.2 mm wide, below which it narrows to 11.1 mm at the notches. The base is convex and unground.

Photo 4. Brewerton-like point (Onondaga chert), Unit 3, Level 13, 66-71 cm.

4.3 Artifact Analysis

The three units and 12 STPs excavated during the reconnaissance and site examination contained 198 prehistoric and 7 historic artifacts (Appendix 2.2). The historic artifacts (2 window glass and 5 pieces of ironstone) represent random refuse and do not indicate the presence of intact cultural deposits. These artifacts are not considered in the following analysis.

The entire prehistoric assemblage is exclusively chipped stone artifacts. No groundstone (e.g., celts), roughstone (e.g., net weights or pitted stones), fire-cracked rock, or prehistoric pottery was found. To facilitate interpretation of the Owego Elementary School Prehistoric lithic assemblage, comparison will be made to recently published data on the Late Archaic and early Late Woodland components of the Chenango Point site[1], located approximately 30 km (18.6 mi) to the east, at the confluence of the Chenango and Susquehanna Rivers (Knapp 2011). The Chenango Point Late Archaic occupation is a Brewerton-aged base camp, and therefore provides a contemporary comparison. The Chenango Point early Late Woodland occupation likely represents a horticultural village and as such should contrast with the more ephemeral Owego Elementary School component. Each of these sites represents different levels of mobility: the long-term sedentary early Late Woodland Chenango Point village; the tethered mobility of the seasonally sedentary Late Archaic Chenango Point base camp; and the logistical mobility of the Owego Elementary School resource procurement/processing station.

All chipped stone artifacts were separated and classified using the typology discussed in Section 3.2. All of the chipped artifacts recovered were Onondaga chert. Although this reliance on Onondaga chert is not surprising in

[1] Only Late Archaic and early Late Woodland feature data from Chenango Point are used.

south-central New York, where this raw material dominates most assemblages, the lack of raw material diversity may be a product of the short-term focused use of this site.

Table 3 and Figure 9 summarize the gross chipped stone classes for the Owego Elementary School Prehistoric site. As would be expected, flakes dominate, accounting for 98% of the chipped stone. Distant seconds are chunk/shatter and bifaces, which each account for 1% of a sub-assemblage. No cores or formal unifacial tools were recovered, although this may be related to the relatively small sample size. For the Owego Elementary School site, the frequencies of lithic classes reflect the short-term specialized role of this site. Relatively high numbers of chunk/shatter have been linked to a greater reliance on expedient tool technologies (Knapp 2011:108). By corollary, a dearth of chunk/shatter in assemblages like Owego Elementary School likely indicates an emphasis on bifacial tools. Visitors to short-term (several hours up to a few days) resource procurement/processing stations would likely have carried a bifacial toolkit rather than rely on the availability of potentially unpredictable on-site lithic raw materials. Figure 10, which plots the ratio of flakes to chunk/shatter, highlights the linkage between mobility and the frequency of chunk/shatter. A low flake:chunk/shatter ratio indicates a higher relative frequency of the debris typically associated with expedient toolkits. Conversely, a high ratio likely points to a greater reliance on bifacial tools. By this measure, the low frequency of chunk/shatter, relative to even the Chenango Point Late Archaic base camp is striking.

Table 3. Chipped Stone Artifact Classes

	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
Chipped Stone Class	Count	%	Count	%	Count	%
Flake	194	98.0	3065	92.4	1312	86.9
Chunk/Shatter	2	1.0	186	5.6	156	10.3
Core	0	0.0	2	0.1	3	0.2
Biface	2	1.0	58	1.7	34	2.3
Uniface	0	0.0	6	0.2	5	0.3
Total	198	100	3317	100.0	1510	100.0

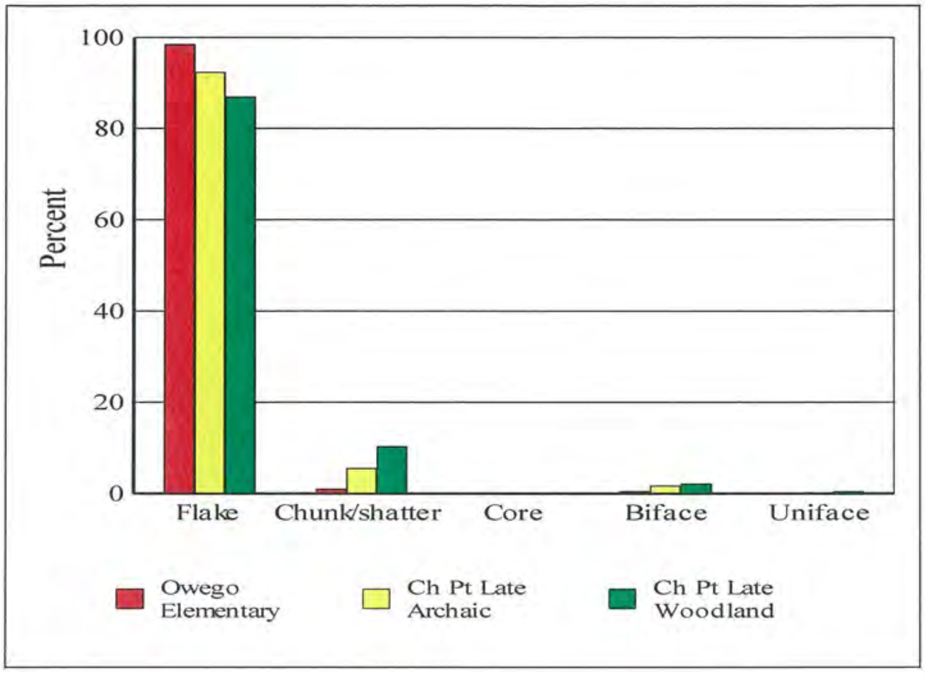


Figure 9. Class of chipped stone.

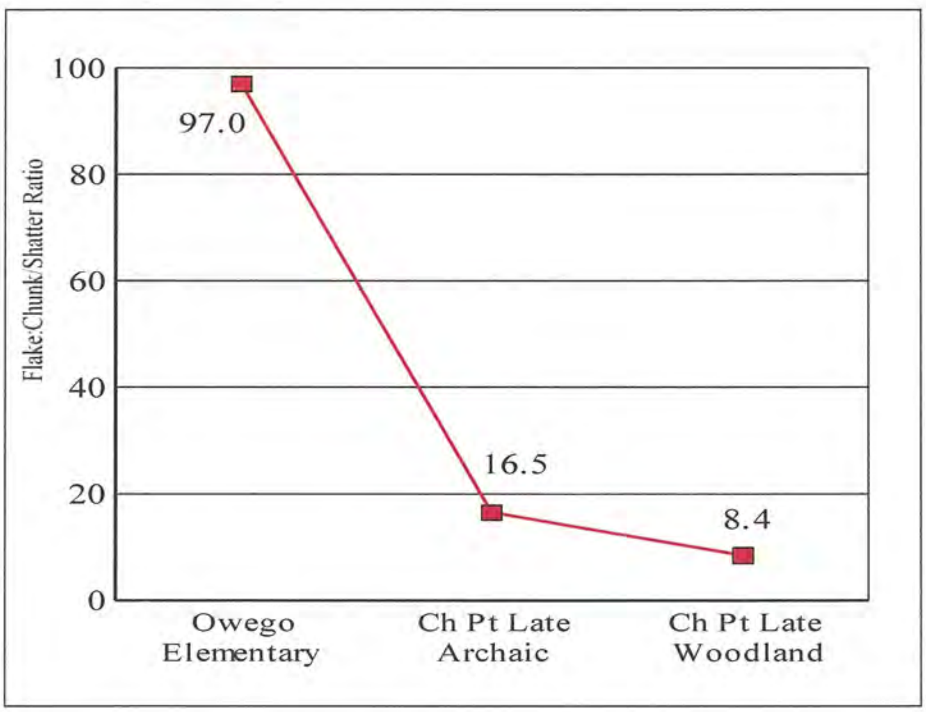


Figure 10. Flake:chunk/shatter ratio.

All flakes were classified as either cortical or non-cortical (Table 4; Figure 11). Nearly all (99%) of the Owego Elementary School flakes are non-cortical. The nearly complete absence of cortical flakes from Owego Elementary School stands in stark contrast to both the Late Archaic and early Late Woodland Chenango Point components, which have 12% and 25% cortical flakes, respectively. The absence of cortical flakes at the Owego Elementary School site supports the contention that bifacial lithic tools were brought to the site in finished or near-finished condition.

Table 4. Flake Type.

	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
Flake Type	Count	%	Count	%	Count	%
Cortical	3	1.5	352	11.8	320	25.1
Non-cortical	191	98.5	2630	88.2	953	74.9
Total	194	100.0	2982	100.0	1273	100.0

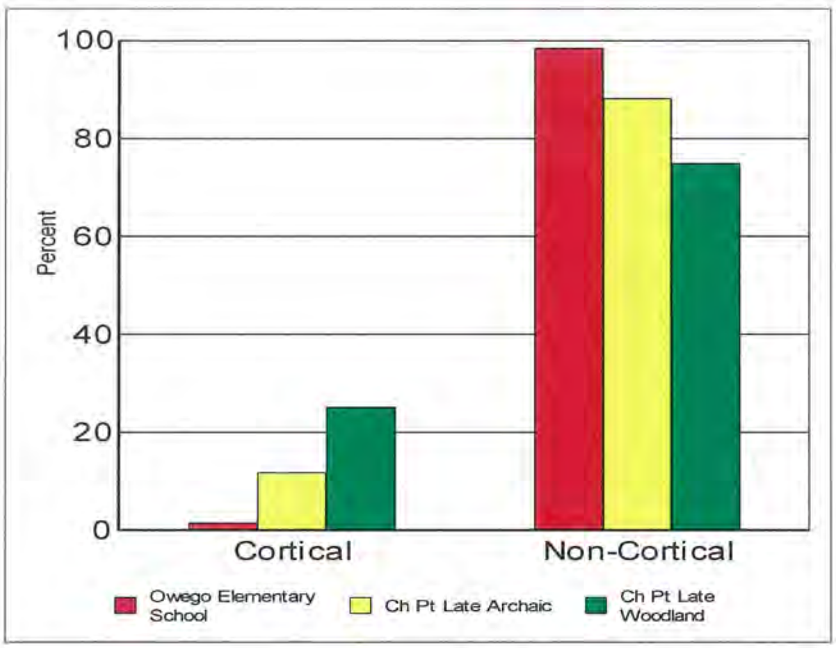


Figure 11. Flake type.

Flakes recovered from the Owego Elementary School Prehistoric site were placed into one of 23 size grades (Table 5). To help interpret this size grade data, Figure 12 plots flakes by size grade. Flake size grades are arranged in decreasing size along the x-axis. The peak size grade for Owego Elementary School is 4.2 (3/8-7/16"), which is smaller than the Chenango point Late Archaic and early Late Woodland components. The zigzagging and overlapping lines in Figure 12 make patterns difficult to sort out. To better visualize these differences, Figure 13 plots the cumulative percentage of flake sizes. This graph highlights a pattern of progressively smaller flake sizes moving from the Chenango Point Late Woodland village, to the Chenango Point Late Archaic base camp, and finally to the Owego Elementary School Late Archaic procurement/processing station. This pattern is confirmed by the average flake weight of 0.21 g at Owego Elementary School, which is roughly one-third that of Chenango Point early Late Woodland flakes (0.73 g), and approximately two-thirds that of the Chenango Point Late Archaic flakes

(0.34 g). Together these flake size data support the use of a highly curated bifacial tool strategy at the short-term Owego Elementary School Prehistoric site.

Table 5. Flake Size

Size Grade Code	Size	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
		Count	%	Count	%	Count	%
1.3		0	0.0	3	0.1	4	0.3
2.1		0	0.0	2	0.1	2	0.2
2.2		0	0.0	0	0.0	2	0.2
2.3		0	0.0	3	0.2	5	0.4
2.4		0	0.0	7	0.2	11	0.8
2.5		0	0.0	6	0.8	14	1.1
2.6		0	0.0	24	1.2	26	2.0
2.7		0	0.0	38	1.2	40	3.0
2.8		1	0.5	59	1.9	67	5.1
3.1		1	0.5	57	1.9	43	3.3
3.2		2	1.0	79	2.6	84	6.4
3.3		3	1.5	96	3.1	71	5.4
3.4		6	3.1	153	5.0	95	7.2
3.5		6	3.1	224	7.3	94	7.2
3.6		20	10.3	321	10.5	151	11.5
3.7		26	13.4	407	13.3	144	11.0
3.8		34	17.5	564	18.4	172	13.1
4.1		38	19.6	499	16.3	172	13.1
4.2		41	21.1	346	11.3	85	6.5
4.3		13	6.7	129	4.2	22	1.7
4.4		3	1.50.8	35	1.1	6	0.5
5.1		0	0.0	11	0.4	2	0.2
5.2		0	0.0	2	0.1	0	0.0
Total		194	100.0	3065	100.0	1312	100.0

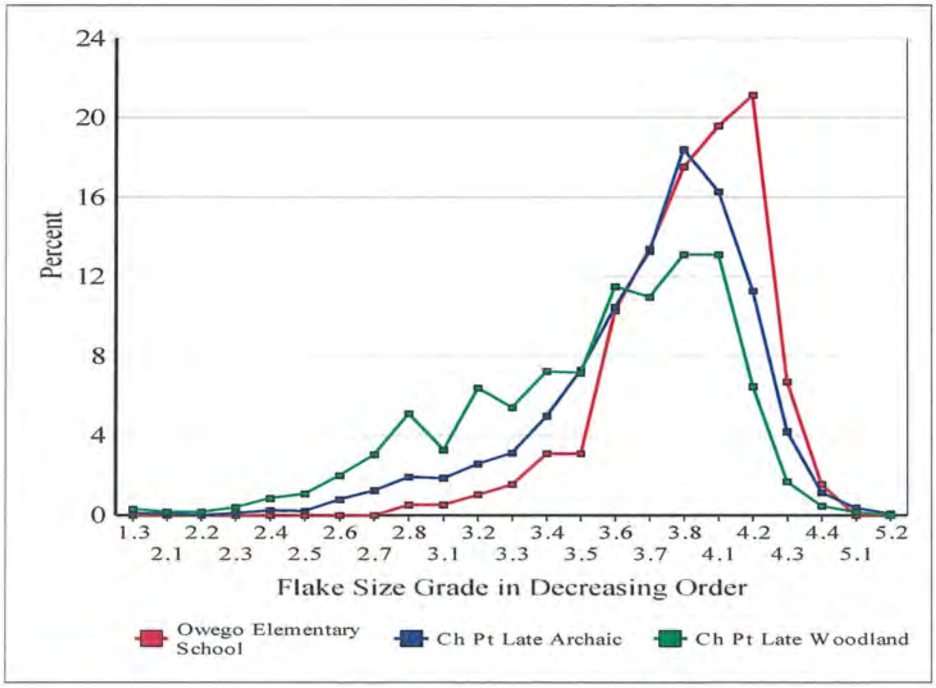


Figure 12. Flake sizes.

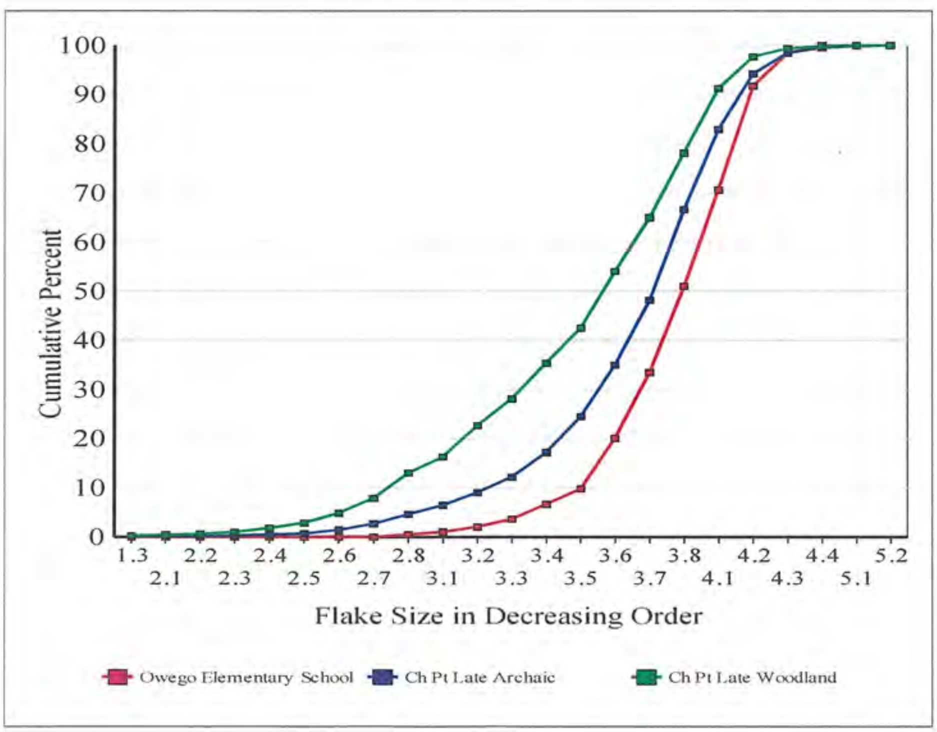


Figure 13. Cumulative percentage of flake sizes.

Flake platforms record information useful in reconstructing chipped stone tool-making. Platforms are important because they encode data on the decisions and actions of prehistoric knappers. Attributes recorded on platforms included: platform type, lipping, and grinding. Many flakes recovered from archaeological sites are missing platforms, either from postdepositional breakage or as a result of the knapping process itself. Therefore, sample sizes for platform analysis are considerably smaller than the total flake population. Of the 194 Owego Elementary School flakes, 117 retained platforms or platform remnants.

Flake platforms were placed into one of seven platform type categories, based largely on the number of flake scars (facets) present on the platform surface (Table 6; Figure 14). Platforms retaining the original exterior surface of the raw material were coded as cortical. Flakes with a single facet were described as flat, concave, and pointed. Platforms with two facets are dihedral, and those with more than two facets are assigned to the faceted category. Collapsed platforms are those where a platform remnant is present, however, much of the platform has been crushed during flaking and therefore cannot be confidently placed in one of the other types. These platform types are based largely on the number of flake scars present on the platform surface. At Owego Elementary School nearly one-third of the platform-bearing flakes are faceted, while concave and flat platforms account for between 20 and 25%.

Table 6. Flake Platform Types

	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
Platform Type	Count	%	Count	%	Count	%
Cortical	0	0.0	98	5.2	100	13.9
Concave	26	22.2	161	8.6	69	9.6
Flat	24	20.5	678	36.1	234	32.5
Dihedral	5	4.3	83	4.4	36	5.0
Faceted	42	35.9	441	23.5	208	28.9
Pointed	0	0.0	47	2.5	3	0.4
Collapsed	20	17.1	369	19.7	69	9.6
Total	117	100.0	1877	100.0	719	100.0

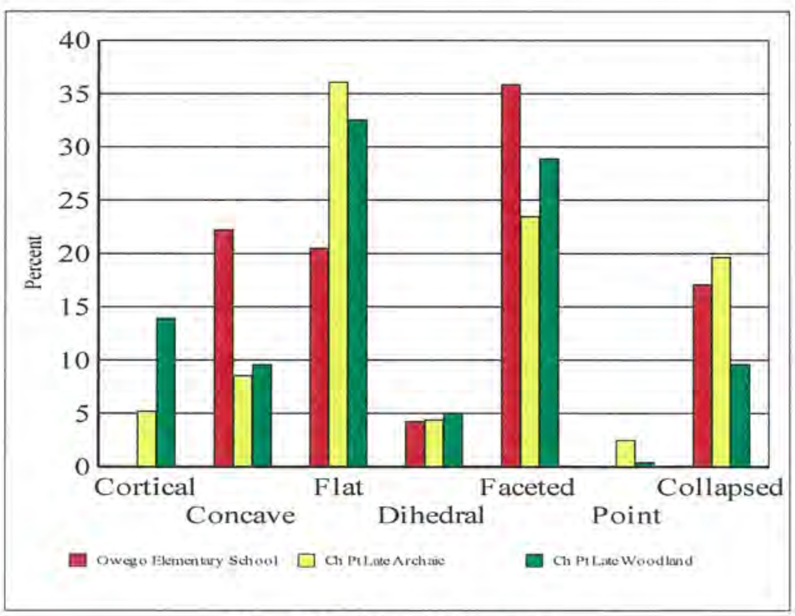


Figure 14. Flake platform types.

Platform types can be grouped based on their relative complexity using counts of platform flake scars (Figure 15). Cortical platforms have no flakes scars; concave, flat, and pointed platforms have a single flake scar; dihedral platforms have 2 flake scars; and faceted platforms have 3 or more flake scars. The number of flake scars on a collapsed platform is indeterminate. However, partial platforms associated with collapsed platforms indicate that these platforms almost invariably have more than 2 flake scars. Therefore, collapsed platforms have been lumped with faceted platforms. Owego Elementary School flakes are more likely to have platforms bearing 3 or more flake scars, than either the Late Archaic Chenango Point base camp or the early Late Woodland Chenango Point village. Again, this supports a bifacial tool emphasis at this short-term procurement/processing station.

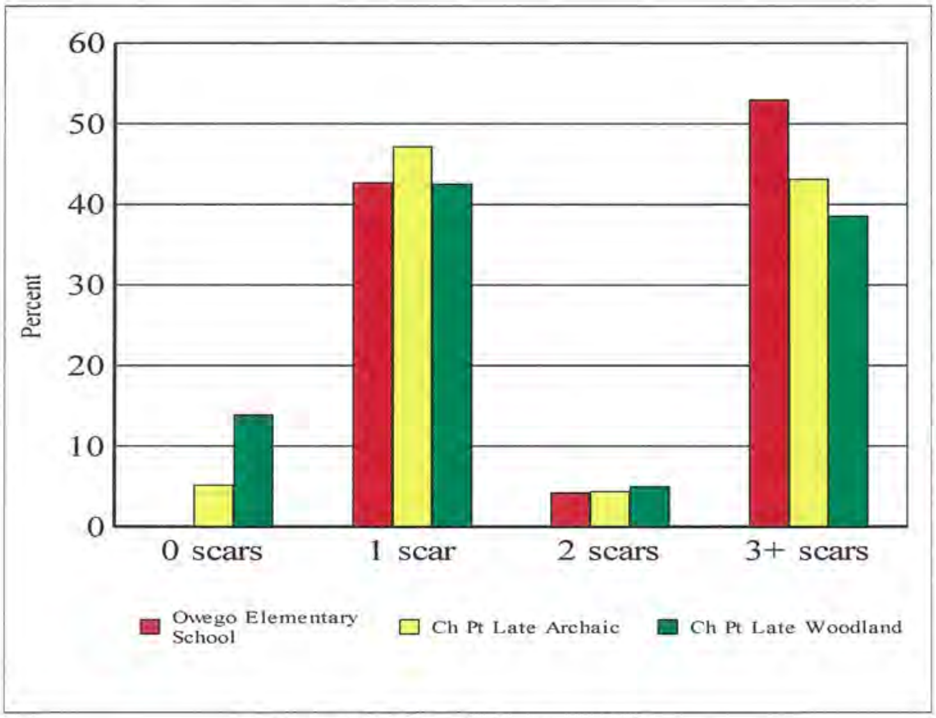


Figure 15. Flake platform complexity.

Another important clue in reconstructing lithic technologies is the presence or absence of a platform lip, defined as "a projection at the base of the striking platform on the ventral surface of the flake" (Andrefsky 1998:18). Less than one-quarter of the Owego Elementary School platforms are lipped (Table 7; Figure 16). This is in stark contrast to both the Late Archaic and early Late Woodland Chenango Point components; where between 50 and 60% of platforms are lipped. The presence of platform lipping has been linked to soft-hammer percussion (Andrefsky 1998:114-115; Crabtree 1972:74; Frison 1968:149). If frequency of platform lipping can discriminate soft-hammer and hard hammer flake detachment, then the Owego Elementary School data appears to indicate that hard percussors were more frequently used in making and/or maintaining stone tools associated with the particular activities occurring at this resource procurement/processing station. A preference for hard hammer percussion at Owego Elementary School is unexpected given the generally small size of flakes at the site. Generally speaking, hard hammer percussion is thought to produce larger flakes than soft hammer techniques. A larger sample size and/or examination of additional attributes may resolve this apparent paradox.

Table 7. Flake Platform Lipping.

	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
Platform Lipping	Count	%	Count	%	Count	%
absent	91	76.5	936	49.3	305	40.8
present	28	23.5	963	50.7	442	59.6
Total	119	100.0	1899	100.0	747	100.0

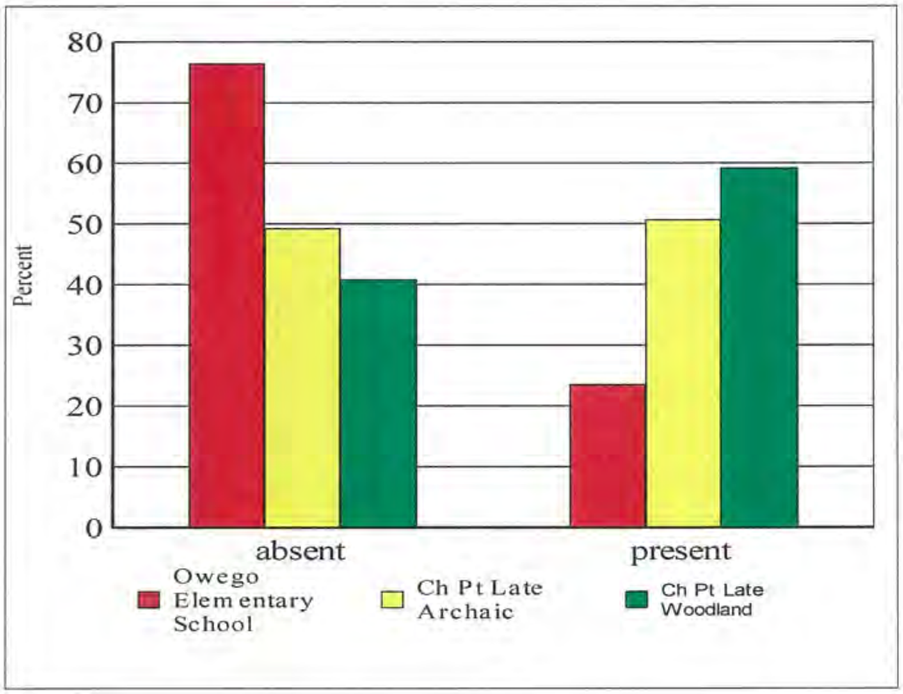


Figure 16. Flake platform lipping.

Another key platform variable is the frequency of platform grinding. Striking platform imperfections may cause the force delivered by a percussor to travel through an object piece in an unintended direction, possibly leading to tool production failure (Andrefsky 1998:95-6). Grinding or abrading intended platforms eliminates or reduces the effects of these imperfections allowing greater control of the manufacturing process. Knapping failures from platform imperfections are a more significant problem in the manufacture of formal bifacial tools, where the longer production sequence leads to a cumulative investment of labor as knappers approach tool completion. Errors can be so catastrophic, that the knapper may reject an unfinished tool. Therefore, knappers making bifaces strove to minimize risk of failure by grinding or abrading platforms when necessary. So we would expect that in technologies where biface production is relatively more important, there should be a relatively higher incidence of platform grinding. In expedient technologies where ad hoc tools are the intended outcome, and labor investment is significantly less, the frequency of platform preparation (grinding/abrading) should be less.

Only 5% of the Owego Elementary School platform bearing flakes exhibit platform grinding (Table 8; Figure 17). This is significantly less than the 35-41% of Chenango Point Late Archaic and early Late Woodland flakes. Given the emerging pattern of a heavy emphasis on bifacial tool technology, the low frequency of platform grinding was unexpected. One possible explanation may involve the time investment required for abrading platforms. It may be that careful platform preparation was reserved for base camps, and abandoned for expedience at some types of short-term sites. Alternatively, abrading may be tied to reductive activities that involve shaping, and was less necessary for resharpening and maintenance activities occurring at short-term procurement/processing stations.

Table 8. Flake Platform Grinding.

	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
Platform Grinding	Count	%	Count	%	Count	%
absent	113	95.0	1112	58.6	480	64.4
present	6	5.0	787	41.4	265	35.6
Total	119	100.0	1899	100.0	745	100.0

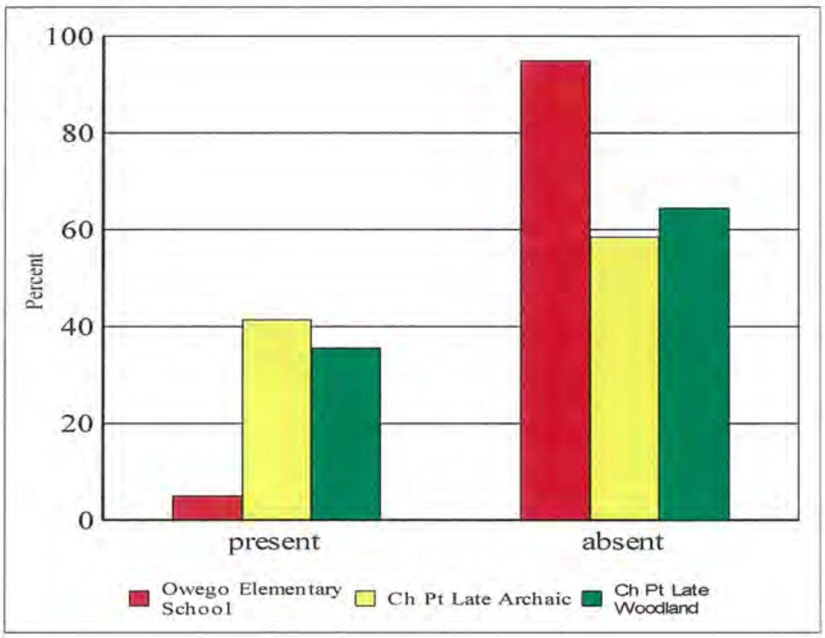


Figure 17. Flake Platform Grinding

The edges of all flakes were examined for macroscopic evidence of usewear. Approximately 5% of the Owego Elementary School flakes show usewear (Table 9). This is very similar to the rate of utilized flakes at the Chenango Point Late Archaic component, but only half that from the Late Woodland component. The relatively low number of Owego Elementary School utilized flakes reflects a lower incidence of ad hoc tool use and a greater reliance on formal bifacial tools.

Table 9. Utilized Flakes.

	Owego Elementary School		Chenango Point Late Archaic		Chenango Point Late Woodland	
Utilization	Count	%	Count	%	Count	%
Non-utilized	184	94.8	2944	96.1	1035	89.2
Utilized	10	5.2	121	3.9	125	10.8
Total	194	100.0	3065	100.0	1160	100.0

Summary of Lithic Analysis

A single broken projectile point, recovered from the B1 horizon of Unit 3 and tentatively identified as a Brewerton-like side- or corner-notched type, suggests a Late Archaic (ca 3000-2500 BC) age for the Owego Elementary School Prehistoric site. Detailed analyses of the debitage assemblage suggest a strong reliance on a bifacial tool technology. The high ratio of flakes to chunk/shatter, small flake size, near complete absence of cortical flakes, and high frequency of faceted platforms all point to activities associated with late stage manufacture and/or maintenance of bifaces. For short-term sites such as Owego Elementary School, where lithic raw materials were not readily available, bifaces provided a predicable toolkit while minimizing transportation costs. The relatively low number of utilized flakes also likely reflects a focus on bifacial tools.

4.4 Features

Site examination excavations at the Owego Elementary School Prehistoric site produced one possible feature. In Unit 3, at 46 cm (18 in) below the ground surface two small circular stains were identified in the southwestern corner of the unit (Figure 18). At this depth, excavation had preceded approximately 5 cm (2.0 in) into the dark yellowish brown B1 horizon. Level 8 (41-46 cm) of Unit 3 marked the beginning of the buried Late Archaic component. In plan, each stain was 6 cm (2.4 in) in diameter and was a very dark grayish brown (10YR3/2) silt loam. These stains, identified as Features 1 and 2, were drawn and photographed in plan view. A single bisection line was established that intersected each feature. Unit excavation proceeded in 5 cm (2.0 in) levels, leaving a bulk contain Features 1 and 2. Within the first 5 cm (2.0 in) Feature 2 disappeared and was determined to be non-cultural. The profile of Feature 1 generally conforms to that of a post mold, but has an atypical bend (Photo 5). Careful excavation of Feature 1 did not reveal any offshoots that may have indicated that this feature was a rodent burrow or root cast. Given the short-term use of the site, it may be that selection of a highly symmetrical post was not necessary and that a readily available piece of wood—which happened to be crooked—was driven into the ground as part of a temporary shelter or as part of some other above ground feature (e.g., drying rack). From its initial definition at 46 cm (18 in) below the surface, Feature 1 extended down 23 cm (9.0 in) through the B1 horizon before ending approximately 3 m (1.8 in) into the C horizon.

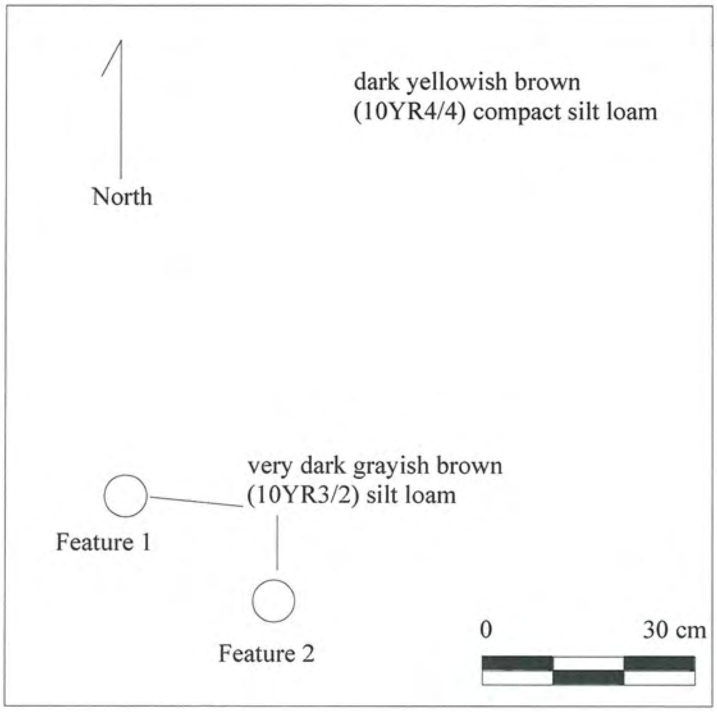


Figure 18. Plan view of Features 1 and 2.

Photo 5. Profile of Feature 1.

4.5 Intra-Site Spatial Analysis

Figure 19 plots the distribution of prehistoric artifacts recovered from STPs and units. Based on the reconnaissance data, the site was believed to measure only 4 by 4 m (13.1 by 13.1 ft). Site examination unit testing was clustered tightly around the positive reconnaissance STPs. Unit 1 had no artifacts and Unit 2 had only a single flake. Unit 3, only 1 m (3.3 ft) to east of Unit 2, had 191 prehistoric artifacts, including two fragments of a single projectile point. The spike in artifacts associated with Unit 3, which had been placed at the extreme eastern edge of the site as it had been defined based on the reconnaissance survey, clearly indicates that the site continued to the southeast. Supplemental STPs excavated as part of the site examination expanded the boundaries of the site, but appear to confirm that the site is relatively small (approximately 88 m^2).

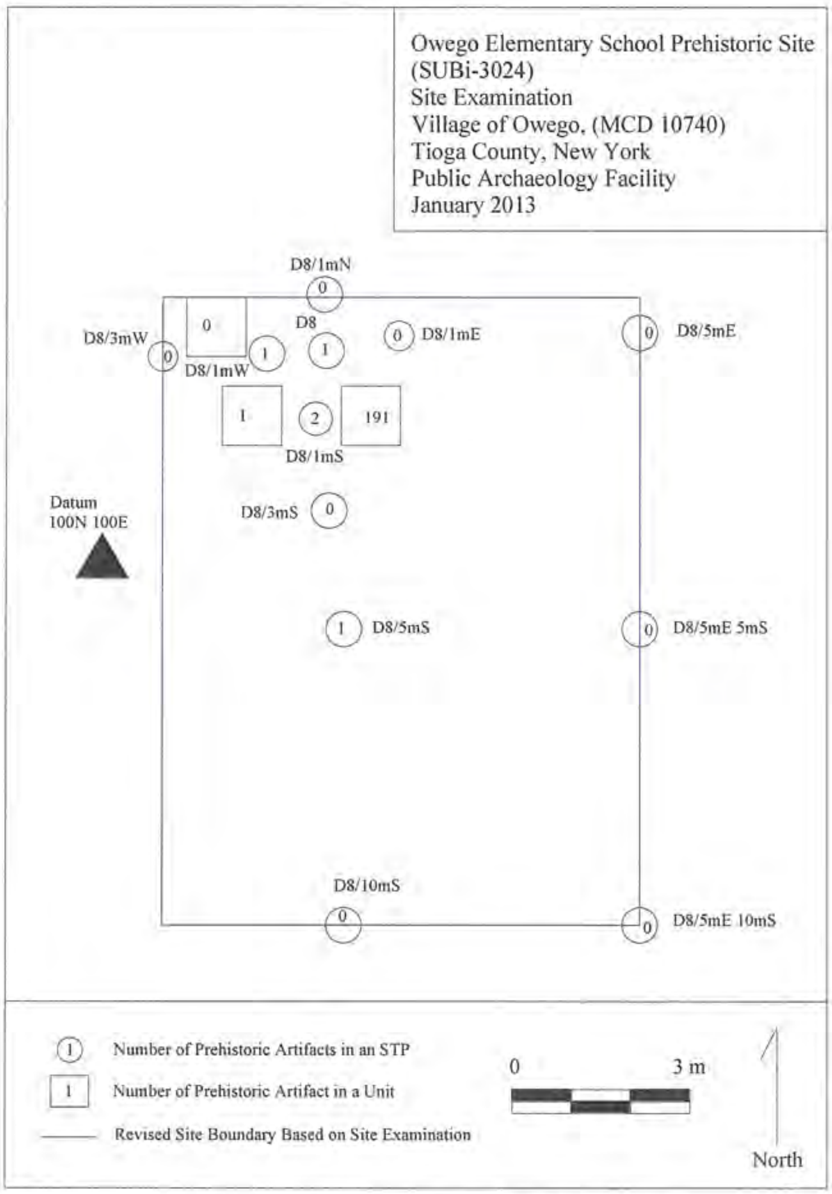


Figure 19. Prehistoric artifact distribution.

4.6 Interpretations

Using Verasaggi's (1987, 1996) research on prehistoric hunter-gatherer settlement models in the Upper Susquehanna drainage, the Owego Elementary School Prehistoric site can tentatively be classified as a single-task field camp. This site type is defined in part as relatively high-density, short-duration, small sites, with a mostly bifacial tool-kit, all of which the Owego Elementary School Prehistoric site clearly meets. One hallmark of the single-task field camp, the presence of specialized tools, is poorly represented in the Owego Elementary School assemblage. However, this may be related to the relatively small excavation sample, and may be clarified with additional excavation. The specific activities that occurred at this single-task field camp are uncertain, but could be answered with a larger artifact sample and targeted analyses, such as microwear analysis.

The Owego Elementary School Prehistoric site was part of a larger Late Archaic settlement system, which likely included a longer-term residential base-camp, probably near the confluence of Owego Creek and the Susquehanna River.

4.7 Integrity

The Owego Elementary School Prehistoric site exhibits high physical integrity. Nearly all of the prehistoric material was recovered from B1 horizon deposits sealed below the Ap horizon. No evidence of natural or historic disturbances was apparent.

4.8 Assessment of Research Potential

The site examination identified several categories of data that have high research potential.

- *Chronology*. Excavations documented a buried cultural horizon containing a Brewerton-like projectile point. The presence of diagnostic artifacts in a sealed context can assist in defining site chronology. The recovery of additional diagnostic projectile points would clarify the site's age and allow researchers to tie this upstream site to a confluence area base camp;

- *Subsistence and Seasonality*. Analysis of stone tools and usewear provides data on the types of potential food resources procured and processed on the site and may allow for the assessment of seasonality of the occupation;

- *Site function*. Formal tools, utilized flakes, and intra-site spatial structure have high research potential in regards to questions of site function for the Owego Elementary School Prehistoric site. Documenting additional postmolds, such as Feature 1, may lead to the identification of a temporary shelter such as a lean-to or the delineation of ephemeral above-ground processing features such as drying racks. Assessing site function allows for this site to be placed within existing models and frameworks for regional settlement patterns;

- *Lithic reduction strategies*. Data on debitage, raw materials, and tool forms can be used to address the stages of reduction present on the site and how these relate to models of mobility and lithic management. These strategies also contribute to an interpretation of site function.

Together, these data sets address the development of riverine adaptations within the Upper Susquehanna drainage. The location of the Owego Elementary School Prehistoric site on Owego Creek's floodplain, only 2.3 km (1.4 mi) above its confluence with the Susquehanna River provides an excellent opportunity to study the role of ancillary sites in the Late Archaic subsistence-settlement system.

4.9 Recommendations

The Owego Elementary School Prehistoric site is located within an area that will be impacted by the proposed floodplain mitigation drainage associated with the construction of a new Owego Elementary School structure. The site examination indicates that this site has sufficient data potential to be eligible for the National Register of Historic Places. Impacts to the site should be avoided, but if this is not possible, then we recommend that these impacts be mitigated through data recovery. A Data Recovery Plan outlining our proposed field, analysis, and reporting methods has been requested by the Owego Apalachin School District, and is being prepared.

APPENDIX I: BIBLIOGRAPHY

Ahler, Stanley

1989 Mass Analysis of Flaking Debris: Studying the Forest Rather Than the Tree. In *Alternative Approaches to Lithic Analysis*, edited by Donald O. Henry and George Odell, pp. 85-117. Archaeological Papers of the American Anthropological Association, 1.

Andrefsky, William, Jr.

1998 *Lithics: Macroscopic Approaches to Analysis*. Cambridge University Press, Cambridge.

Armstrong, Douglas V., LouAnn Wurst and Elizabeth J. Keller

2000 *Archaeological Sites and Preservation Planning in Central New York: A Unified Site File and GIS Database for NYSDOT Region 3*. New York State Historic Preservation Office: Peebles Island, Waterford, NY.

Crabtree, Don

1972 *An Introduction to Flintworking: Part I. An Introduction to the Technology of Stone Tools*. Occasional Paper, Idaho State University 28. Pocatello.

Custer, Jay F.

1996 *Prehistoric Cultures of Eastern Pennsylvania.* Pennsylvania Historical and Museum Commission, Harrisburg, PA.

Folts, James D.

2010 *The Munsee Delawares of Chemung/ Wilawana and Their Neighbors in the Revolutionary Era.* Public Archaeology Facility, Binghamton, New York.

Frison, George C.

1968 A Functional Analysis of Certain Chipped Stone Tools. *American Antiquity* 33:149-55.

Funk, Robert E.

1993 *Archaeological investigations in the upper Susquehanna Valley, New York State*. Persimmon Press, Binghamton, New York.

Henry, Donald O.

1989 Correlations Between Reduction Strategies and Settlement Patterns. In *Alternative Approaches to Lithic Analysis*, edited by Donald O. Henry and George H. Odell, pp. 139-156. Archaeological Papers of the American Anthropological Association, Number 1.

Kinsey, W. Fred.

1972 *Archaeology in the Upper Delaware Valley: A study of the cultural chronology of the Tocks Island Reservoir.* Anthropological Series No. 2. Pennsylvania Historical and Museum Commission, Harrisburg, PA.

Knapp, Timothy D.

2011 *Life at the Confluence: Archaic and Woodland Occupations of the Chenango Point Site (SUBi-1274), Data Recovery Excavations for the Downtown Academic Center Project, City of Binghamton, Broome County, New York, MCD 00740.* Public Archaeology Facility, Binghamton University. Binghamton, New York.

Knapp, Timothy D. and John Stiteler
2012 *Phase 1 Cultural Resource Survey, Owego Apalachin Elementary School and Flood Mitigation Project, Village of Owego, Tioga County, New York (MCD 10740).* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

NYAC (New York Archaeological Council)
1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State.* The New York Archaeological Council, Albany. NYSED, New York State Education Department.

NYSHPO New York State Historic Preservation Office
1994 *Phase 1 Archaeological Report Format Requirements.*
2005 *Phase 1 Archaeological Report Format Requirements.*

Parry, William J.
1987 Chipped Stone Tools in Formative Oaxaca, Mexico: Their Procurement, Production, and Use. In *Memoir No. 10, Museum of Anthropology*, University of Michigan, Ann Arbor.

Pope, Melody
1998 *Chipped Stone Artifacts from the Woodland and Archaic Occupations at 15Lo182, Logan County, Kentucky: Report of the Lithic Analysis*. Wilbur Smith Associates, Lexington, KY.

Rickard, L.V. and D.W. Fisher
1970 *Geologic Map of New York: Finger Lakes Sheet*. New York State Museum and Science Service; Map and Chart Series #15.

Ritchie, William A.
1980 *The Archaeology of New York State*. Purple Mountain Press, Fleischmanns, NY.

Ritchie, William A. and Robert E. Funk
1973 *Aboriginal Settlement Patterns in the Northeast.* The University of the State of New York, the State Education Department, Albany, NY.

Shott, Michael
1994 Size and Form in the Analysis of Flake Debris: Review and Recent Approaches. *Journal of Archaeological Method and Theory* 1(1):69-110.

South, Stanley
1976 *Method and Theory in Historical Archaeology*. New York: Academic Press.

Sullivan, Alan P. and Kenneth C. Rozen
1985 Debitage Analysis and Archaeological Interpretation. *American Antiquity* 50(4): 755-779.

Trubowitz, Neal L.
1977 *Highway Archaeology and Settlement Study of the Genesee Valley.* Thesis, State University of New York at Buffalo.

United States Department of Agriculture (USDA)

2012 *Web Soil Survey [Online WWW].* Available URL: "http://soils.usda.gov/technical/classification/osd/index.html[Accessed July 2012].

United States Geological Survey

1969 *Owego, NY, 7.5' Quadrangle Map*. United States Geological Survey, Washington, D.C.

Versaggi, Nina

1987 *Hunter-gatherer settlement models and the archaeological record : a test case from the Upper Susquehanna Valley of New York*. PhD dissertation, Department of Anthropology, Binghamton University.

1996 Prehistoric Hunter-Gatherer Settlement Models: Interpreting the Upper Susquehanna Valley. In *A Golden Chronograph for Robert E. Funk, Occasional Publication in Northeastern Anthropology*, No. 15: 129140.

1999 Regional diversity within the Early Woodland of the Northeast. *Northeast Anthropology* 57:45-56.

2000 An Overview of Prehistoric Settlement Patterns and Landforms in the Northern Appalachians. Paper presented in the symposium, *Current Topics in Northeast Geoarchaeology: Glaciated Landscapes* (John Hart and David Cremeens, organizers). New York State Museum, Albany.

Versaggi, Nina M. and Timothy D. Knapp

2000 Steatite, Interaction, and Persistence: The Transitional Period of New York's Upper Susquehanna. Paper presented at the 65th Annual Meeting of the Society for American Archaeology, Philadelphia, Pennsylvania.

Versaggi, Nina M., Janice M. McDonald, A. Peter Mair II, and Susan C. Prezzano

1982 *The Southside Treatment Plant Site, SUBi-672, Cultural Resources Mitigation Report*. Public Archaeology Facility, Binghamton, NY.

APPENDIX II:

Appendix 2.1 Soil Records

PA=PALE LT=LIGHT MD=MEDIUM DK=DARK
BR=BROWN GR=GRAY YL=YELLOW OL=OLIVE TN=TAN RD=RED BK=BLACK WH=WHITE
SI=SILT SA=SAND CL=CLAY LO=LOAM GVL=GRAVEL
P=PREHISTORIC H=HISTORIC N=NO CULTURAL MATERIAL

STP	UNIT	NORTH	EAST	LEVEL	DEPTH (CM)	MUNSELL COLOR	DESCRIPTION	COMMENTS	CM	CREW	DATE
D8/5mE				1	0-25		GR BR SI LO		N	DP/TK	12/21/2012
D8/5mE				2	25-40		GR BR SI LO		N	DP/TK	12/21/2012
D8/5mE				3	40-65		YL BR SI LO		N	DP/TK	12/21/2012
D8/5mE				4	65-75		YL BR SI LO W/COBBLES & GVL		N	DP/TK	12/21/2012
D8/5mS				1	0-25		DK BR SI LO		N	DP/TK	12/21/2012
D8/5mS				2	25-40		DK BR SI LO		P	DP/TK	12/21/2012
D8/5mS				3	40-85		YL BR COMPACT SI LO		N	DP/TK	12/21/2012
D8/5mS				4	85-95		YL BR SI LO W/COBBLES		N	DP/TK	12/21/2012
D8/5mS/5mE				1	0-30		DK BR SI LO		N	DP/TK	12/21/2012
D8/5mS/5mE				2	30-60		YL BR SI		N	DP/TK	12/21/2012
D8/5mS/5mE				3	60-65		YL BR SI		N	DP/TK	12/21/2012
D8/5mS/5mE				4	65-74		DK YL BR SI LO W/GVL & COBBLES		N	DP/TK	12/21/2012
D8/10mS				1	0-18		DK BR SI LO		N	DP/TK	12/21/2012
D8/10mS				2	18-55		DK BR W/MINOR YL BR MOTTLES SI LO		N	DP/TK	12/21/2012
D8/10mS				3	55-85		YL BR COMPACT SI LO		N	DP/TK	12/21/2012
D8/10mS, 5mE				1	0-25		GR BR SI LO		N	DP/TK	12/21/2012
D8/10mS, 5mE				2	25-50		GR BR SI LO		N	DP/TK	12/21/2012
D8/10mS, 5mE				3	50-70		YL BR SI		N	DP/TK	12/21/2012
D8/10mS, 5mE				4	70-80		DK YL BR SA SI W/GVL & COBBLES		N	DP/TK	12/21/2012
	1	104.5	102.4	1	0-10	10YR3/3	DK BR SI LO W/VERY MINOR GVL		N	TK/VL	12/20/2012
	1	104.5	102.4	2	10-16	10YR3/3, 10YR4/4	DK BR SI LO W/DK YL BR SI LO MOTTLES & MODERATE GVL		N	TK/VL	12/20/2012
	1	104.5	102.4	3	16-20	10YR3/3, 10YR4/4	DK BR MOTTLED W/DK YL BR SI LO W/MODERATE AMOUNTS OF GVL	ARBITRARY 5cm LEVEL; APPEARS VERY MOTTLED, SUGGESTING SOME MIX OF SOIL HORIZONS; LOW AMOUNTS OF COAL & MORTAR - DISC.	N	TK/VL	12/20/2012
	1	104.5	102.4	4	20-25	10YR4/3, 10YR5/4	BR SI LO W/YL BR SI LO W/GVL	METAL PC.STUCK IN W.WALL; LOW DENSITY COAL & SLAG - DISC.	H	TK/VL	12/20/2012

STP	UNIT	NORTH	EAST	LEVEL	DEPTH (CM)	MUNSELL COLOR	DESCRIPTION	COMMENTS	CM	CREW	DATE
	1	104.5	102.4	5	25-30	10YR3/4, 10YR4/4	DK YL BR W/MINOR MOTTLING OF DK YL BR SI LO, W/VERY LITTLE GVL	TOOK OUT ARBITRARY 5cm LEVEL; AT BASE OF LEVEL APPEAR TO BE MAKING A TRANSITION TO B HORIZON; COAL & SMALL GLASS SHARDS - DISC.	N	TK/VL	12/20/2012
	1	104.5	102.4	6	30-35	10YR3/4, 10YR4/6	DK YL BR SI LO CHANGING OVER TO DK YL BR SI		N	TK/VL	12/20/2012
	1	104.5	102.4	7	35-40	10YR4/6	DK YL BR SI LO W/LOW DENSITY GVL	TOOK OUT ARBITRARY 5cm LEVEL; BW HORIZON; GVL STARTING TO PICK UP ALONG S.EDGE OF UNIT - LIKELY MATCHES UP W/GVL BAR (C-HORIZON) IN UNIT 2	N	TK/VL	12/20/2012
	1	104.5	102.4	8	40-45	10YR4/6	DK YL BR SI W/GVL (MAINLY IN S 1/2)		N	TK/VL	12/20/2012
	1	104.5	102.4	9	45-50	10YR4/6	DK YL BR SLIGHTLY DAMP SI W/GVL ALONG S 1/2		N	TK/VL	12/20/2012
	2	103	103	1	0-10	10YR3/3	DK BR SI LO W/LOW DENSITY GVL		N	EA/GD	12/20/2012
	2	103	103	2	10-15	10YR3/3	DK BR SI LO W/LOW DENSITY GVL		P	EA/GD	12/20/2012
	2	103	103	3	15-20	10YR3/3	DK BR SI LO W/GVL & LOW DENSITY COBBLES	1 PC.WINDOW GLASS, LOW DENSITY COAL - DISC.	N	EA/GD	12/20/2012
	2	103	103	4	20-25	10YR4/3	BR SI CL LO	SEEING MORE DISTURBED SOILS W/FILL & GVL; VERY LOW DENSITY CHARCOAL & COAL, 2 PCS.GLASS - DISC.	H	EA/GD	12/20/2012
	2	103	103	5	25-30	10YR4/3, 10YR5/6	BR SI LO W/GVL W/MOTTLED YL BR SI LO	MOTTLED LAYER - MAY BE TRANSITION LEVEL	N	EA/GD	12/20/2012
	2	103	103	6	30-35	10YR5/6	YL BR SA SI	LAYER OF COMPACT GVL	N	EA/GD	12/20/2012
	2	103	103	7	35-40	10YR5/6, 10YR4/6	MOSTLY YL BR SA SI W/HIGH DENSITY GVL; SE CORNER & ALONG S.EDGE - DK YL BR SI		N	EA/GD	12/20/2012
	2	103	103	8	40-45	10YR5/6	YL BR SI LO W/GVL		N	EA/GD	12/20/2012
	3	103	105	1	0-11	10YR3/3	DK BR SI LO		N	DP/GP	12/20/2012

STP	UNIT	NORTH	EAST	LEVEL	DEPTH (CM)	MUNSELL COLOR	DESCRIPTION	COMMENTS	CM	CREW	DATE
	3	103	105	2	11-16	10YR3/3	DK BR SI LO W/PEBBLES		N	DP/GP	12/20/2012
	3	103	105	3	16-21	10YR3/3	DK BR SI LO W/SOME GVL		P	DP/GP	12/20/2012
	3	103	105	4	21-26	10YR3/3, 10YR4/3	DK BR SI LO MOTTLED W/BR SI LO	BRICK - DISC.	P/H	DP/GP	12/20/2012
	3	103	105	5	26-31	10YR4/3, 10YR5/4	BR SI LO W/YL BR SI LO SUBSOIL APPEARING	POSS.END OF A HORIZON	N	DP/GP	12/20/2012
	3	103	105	6	31-36	10YR5/4, 10YR4/3	YL BR SI LO MOTTLED W/BR SI LO		P	DP/GP	12/20/2012
	3	103	105	7	36-41	10YR4/4	DK YL BR SLIGHTLY COMPACT SI LO	FULLY INTO B HORIZON	N	DP/GP	12/20/2012
	3	103	105	8	41-46	10YR4/4	DK YL BR COMPACT SI LO	2 POSS.POST MOLDS IN SW QUAD - DESIGNATED FEA.1 & FEA.2	P	DP/GP	12/20/2012
	3	103	105	9	46-51	10YR4/4	DK YL BR SI LO	BISECTION OF FEA.1 SHOWED NO ARTIFACTS; BISECTION OF FEA.2 INCONCLUSIVE	P	DP/GP	12/20/2012
	3	103	105	10	51-56	10YR4/4	DK YL BR SI LO	SO FAR NO ARTIFACTS IN FEA.1	P	DP/TK	12/28/2012
	3	103	105	11	56-61	10YR4/4	DK YL BR SI LO	TOOK OUT ARBITRARY 5cm LEVEL; INCREASING AMOUNTS OF COBBLES, ALTHOUGH STILL LESS THAN 10% OF MATRIX; COBBLES THROUGHOUT, BUT SLIGHTLY MORE CONCENTRATED IN NW QUAD	P	DP/TK	12/28/2012
	3	103	105	12	61-66	10YR4/4	DK YL BR SI LO	NW CORNER IS SOLID C HORIZON SOIL	N	DP/TK	12/28/2012
	3	103	105	13	66-71	10YR4/4	DK YL BR SI LO; C HORIZON - DK YL BR GVL SA SI	TOOK OUT ALL REMAINING B HORIZON	P	DP/TK	12/28/2012

Appendix 2.2 Artifact Catalog

UNIT/STP	NORTH	EAST	LEVEL	DEPTH (CM)	DESCRIPTION	COMMENTS	CT	WT (G)	DATES
D8			2	25-38	ONONDAGA CHERT NON-CORTICAL FLAKE		1	0.13	
D8/1mS			2	15-37	ONONDAGA CHERT NON-CORTICAL FLAKE		2	1.4	
D8/1mW			1	0-27	ONONDAGA CHERT NON-CORTICAL FLAKE		1	0.31	
D8/5mS			2	25-40	ONONDAGA CHERT CORTICAL FLAKE		1	0.33	
D8/5mS			2	25-40	ONONDAGA CHERT CORTICAL FLAKE	HEATED/BURNED	1	0.08	
1	104.5	102.4	4	20-25	GLASS WINDOW		1	1.9	
1	104.5	102.4	4	20-25	IRONSTONE UNDIFF. CERAMIC		1	0.3	1850-2012
2	103	103	2	10-15	ONONDAGA CHERT CORTICAL FLAKE		1	1.58	
2	103	103	4	20-25	IRONSTONE TABLEWARE/TEAWARE		1	0.6	1850-2012
2	103	103	4	20-25	IRONSTONE UNDIFF. CERAMIC		1	0.1	1850-2012
3	103	105	3	16-21	ONONDAGA CHERT NON-CORTICAL FLAKE	UTILIZED	1	0.86	
3	103	105	4	21-26	ONONDAGA CHERT NON-CORTICAL FLAKE		1	0.59	
3	103	105	4	21-26	GLASS WINDOW		1	0.3	
3	103	105	6	31-36	ONONDAGA CHERT NON-CORTICAL FLAKE		1	0.24	
3	103	105	8	41-46	ONONDAGA CHERT NON-CORTICAL FLAKE		18	3.18	
3	103	105	9	46-51	ONONDAGA CHERT SHATTER		2	0.15	
3	103	105	9	46-51	ONONDAGA CHERT NON-CORTICAL FLAKE		91	17.64	
3	103	105	9	46-51	ONONDAGA CHERT NON-CORTICAL FLAKE	UTILIZED	5	1.11	
3	103	105	9	46-51	ONONDAGA CHERT NON-CORTICAL FLAKE		17	3.2	
3	103	105	9	46-51	ONONDAGA CHERT NON-CORTICAL FLAKE	UTILIZED	1	0.38	
3	103	105	10	51-56	ONONDAGA CHERT NON-CORTICAL FLAKE		22	3.7	
3	103	105	10	51-56	ONONDAGA CHERT NON-CORTICAL FLAKE	UTILIZED	2	0.57	
3	103	105	10	51-56	ONONDAGA CHERT NON-CORTICAL FLAKE		12	1.74	
3	103	105	10	51-56	ONONDAGA CHERT NON-CORTICAL FLAKE	UTILIZED	1	0.22	
3	103	105	11	56-61	ONONDAGA CHERT NON-CORTICAL FLAKE		12	2.88	
3	103	105	11	56-61	ONONDAGA CHERT NON-CORTICAL FLAKE		3	0.92	
3	103	105	13	66-71	ONONDAGA CHERT BREWERTON-LIKE PROJECTILE POINT	MEND	2	1.97	

Appendix 2.3 Lithic Catalog

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
D8			2	25-38	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		CONCAVE	NO	NO	1	0.13
D8/1mS			2	15-37	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.5
D8/1mS			2	15-37	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.9
D8/1mW			1	0-27	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.31
D8/5mS			2	25-40	3.7	ONONDAGA	CORT. FLAKE	WHOLE	NO	NO	COBULAR 26-50%	FLAT	NO	NO	1	0.33
D8/5mS			2	25-40	4.1	ONONDAGA	CORT. FLAKE	FRAGMENT					NO	YES	1	0.08
2	103	103	2	10-15	3.2	ONONDAGA	CORT. FLAKE	BROKEN	NO	NO	COBULAR 76-99%	CONCAVE	NO	NO	1	1.58
3	103	105	3	16-21	2.8	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FLAT	YES	NO	1	0.86
3	103	105	4	21-26	3.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.59
3	103	105	6	31-36	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.24
3	103	105	8	41-46	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.39
3	103	105	8	41-46	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	8	41-46	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.1
3	103	105	8	41-46	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.16
3	103	105	8	41-46	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		DIHEDRAL	NO	NO	1	0.25
3	103	105	8	41-46	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.19
3	103	105	8	41-46	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	NO	NO	1	0.18
3	103	105	8	41-46	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.21
3	103	105	8	41-46	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.09
3	103	105	8	41-46	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.19
3	103	105	8	41-46	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.08
3	103	105	8	41-46	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	YES		FACETED	NO	NO	1	0.11
3	103	105	8	41-46	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.1
3	103	105	8	41-46	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.05
3	103	105	8	41-46	4.2	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		COLLAPSED	NO	NO	1	0.13
3	103	105	8	41-46	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
3	103	105	8	41-46	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.07
3	103	105	8	41-46	3.5	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	NO	NO	1	0.61
3	103	105	9	46-51	3.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	YES		FLAT	NO	NO	1	0.69
3	103	105	9	46-51	3.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.45
3	103	105	9	46-51	3.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.44
3	103	105	9	46-51	3.4	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.19
3	103	105	9	46-51	3.4	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	NO		FACETED	NO	NO	1	0.35
3	103	105	9	46-51	3.5	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.4
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		CONCAVE	NO	NO	1	0.32
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.27
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.4
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.3
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.32
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					YES	NO	1	0.36
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		CONCAVE	NO	NO	1	0.19
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.23
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.4
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.33
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.29
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FACETED	NO	NO	1	0.24
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.43
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.27
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.2
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	YES		CONCAVE	NO	NO	1	0.24
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.11
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.27
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	YES		FACETED	NO	NO	1	0.4
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.31
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		DIHEDRAL	NO	NO	1	0.24

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.15
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		DIHEDRAL	NO	NO	1	0.25
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.23
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.14
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.2
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.26
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.23
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.16
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FLAT	NO	NO	1	0.3
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		CONCAVE	NO	NO	1	0.23
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.24
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.14
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	NO	NO	1	0.25
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.27
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		COLLAPSED	NO	NO	1	0.15
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	YES	NO	1	0.21
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		DIHEDRAL	NO	NO	1	0.15
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.14
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.29
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.21
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		CONCAVE	NO	NO	1	0.23
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.1
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	YES	NO	1	0.24
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.13
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FLAT	NO	NO	1	0.09

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		COLLAPSED	YES	NO	1	0.18
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.16
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.11
3	103	105	9	46-51	4.1	ONONDAGA	SHATTER						NO	NO	1	0.04
3	103	105	9	46-51	4.1	ONONDAGA	SHATTER						NO	NO	1	0.11
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	NO		FACETED	NO	NO	1	0.19
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.13
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.17
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.23
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FLAT	NO	NO	1	0.13
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.16
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.24
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.12
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.15
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.2
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.17
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.13
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.12
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.09
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.14
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.1
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.14
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		INDETER.	NO	NO	1	0.11
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.1
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.12
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.06
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					YES	NO	1	0.12
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.06
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.14

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.09
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.09
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.07
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.04
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.01
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.06
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.06
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.08
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.08
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.07
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.05
3	103	105	9	46-51	4.4	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.04
3	103	105	9	46-51	4.4	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FLAT	NO	NO	1	0.02
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	YES	NO	1	0.38
3	103	105	9	46-51	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FLAT	NO	NO	1	0.21
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.36
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.17
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.12
3	103	105	9	46-51	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.28
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.16
3	103	105	9	46-51	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.14
3	103	105	9	46-51	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FACETED	NO	NO	1	0.11
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	NO	NO	1	0.09
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.1
3	103	105	9	46-51	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		CONCAVE	NO	NO	1	0.14
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.08
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.03
3	103	105	9	46-51	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.04

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
3	103	105	9	46-51	3.5	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.54
3	103	105	9	46-51	3.5	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.47
3	103	105	10	51-56	3.6	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.22
3	103	105	10	51-56	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	YES		FACETED	NO	NO	1	0.24
3	103	105	10	51-56	3.7	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	NO			NO	NO	1	0.23
3	103	105	10	51-56	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.17
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.14
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					YES	NO	1	0.06
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	NO	NO	1	0.1
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FACETED	NO	NO	1	0.12
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	WHOLE	NO	NO		FLAT	NO	NO	1	0.11
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.08
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.06
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.08
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.09
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.11
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FLAT	NO	NO	1	0.1
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.06
3	103	105	10	51-56	4.3	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.06
3	103	105	10	51-56	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.04
3	103	105	10	51-56	4.3	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.06
3	103	105	10	51-56	3.3	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FACETED	NO	NO	1	0.8
3	103	105	10	51-56	3.5	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	YES	NO	1	0.51
3	103	105	10	51-56	3.5	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FACETED	NO	NO	1	0.61
3	103	105	10	51-56	4.4	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		CONCAVE	NO	NO	1	0.03
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	NO		FACETED	NO	NO	1	0.07
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		CONCAVE	NO	NO	1	0.11

UNIT/ STP	NOR	EAST	LVL	DEPTH (CM)	SIZE	MATERIAL	SUBTYPE	CONDITION	LIPPED	GROUND	CORTEX	PLATFORM TYPE	UTIL.	HT OR BURN	CT	WT (G)
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.09
3	103	105	10	51-56	4.2	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.11
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.15
3	103	105	10	51-56	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11
3	103	105	10	51-56	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	10	51-56	3.7	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		DIHEDRAL	NO	NO	1	0.22
3	103	105	10	51-56	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.12
3	103	105	10	51-56	3.7	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.21
3	103	105	10	51-56	3.6	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.36
3	103	105	10	51-56	3.6	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	NO		FACETED	YES	NO	1	0.22
3	103	105	11	56-61	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		CONCAVE	NO	NO	1	0.29
3	103	105	11	56-61	3.8	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.16
3	103	105	11	56-61	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		FLAT	NO	NO	1	0.28
3	103	105	11	56-61	3.8	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.19
3	103	105	11	56-61	4.1	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.17
3	103	105	11	56-61	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11
3	103	105	11	56-61	4.2	ONONDAGA	NON-CORT. FLAKE	WHOLE	YES	NO		CONCAVE	NO	NO	1	0.07
3	103	105	11	56-61	4.2	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.11
3	103	105	11	56-61	4.3	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FLAT	NO	NO	1	0.06
3	103	105	11	56-61	3.4	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	YES		FLAT	NO	NO	1	0.6
3	103	105	11	56-61	3.4	ONONDAGA	NON-CORT. FLAKE	BROKEN	YES	NO		FLAT	NO	NO	1	0.38
3	103	105	11	56-61	3.4	ONONDAGA	NON-CORT. FLAKE	FRAGMENT					NO	NO	1	0.46
3	103	105	11	56-61	3.4	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.45
3	103	105	11	56-61	4.1	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		CONCAVE	NO	NO	1	0.17
3	103	105	11	56-61	3.6	ONONDAGA	NON-CORT. FLAKE	BROKEN	NO	NO		COLLAPSED	NO	NO	1	0.3
3	103	105	13	66-71	3.1	ONONDAGA	BREWERTON-LIKE PROJECTILE POINT	BROKEN (MENDS)						NO	2	1.97

APPENDIX III: New York State OPRHP Site Inventory Form

CONFIDENTIAL

NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM

Project Identifier: Flood Mitigation Area, Owego Apalachin Elementary School Project **Date**: January 2013
Name: Timothy Knapp **Phone**: (607) 777-4786
Address: Rm. 146, Science I, Binghamton University, Binghamton NY
Organization (if any): Public Archaeology Facility

1. **Site Identifier(s):** Owego Elementary School Prehistoric Site (SUBi-3024)

2. **County:** Tioga
   City:
   Township:
   Incorporated Village: Owego
   Unincorporated Village or Hamlet:

3. **Present Owner:** Owego Apalachin Central School District
   Address:

4. **Site Description (check all appropriate categories):**

Site:

□ Stray find	□ Cave/Rock shelter	□ Workshop
□ Pictograph	□ Quarry	□ Mound
□ Burial	□ Shell midden	□ Village
		☒ Material in plow zone
□ Surface evidence	□ Camp	☒ Resource procurement/ processing area
☒ Material below plow zone	☒ Buried Evidence	□ Intact occupation floor
□ Single Component	□ Multi-component	□ Stratified
☒ Evidence of features		

Location:

□ Under cultivation	□Never cultivated	☒ Previously cultivated
□ Pastureland	□ Woodland	☒ Floodplain
□ Upland	□ Sustaining erosion	

Soil Drainage: □ Excellent ☒ Good □ Fair □ Poor

Slope: ☒ Flat □ Gentle □ Moderate □ Steep

Distance to nearest water from site (approx.): 58 m (190 ft) east of Owego Creek
Elevation: approximately 248.7 m (816 ft) ASL

5. **Site Investigation (append additional sheets if necessary):**
   Surface Testing Date(s):

   Subsurface Testing Date(s): Phase 1 November 2 - December 4, 2012
   Phase 2 December 20 - January 2. 2013

Testing: ☒ **Shovel** ☒ **Units** □ **Other:**

Unit size: STPS 40 cm diameter; units 1 x 1 m
Number of Units: 12 STPs; 3 units **(Submit plan of unit with form*)**

CONFIDENTIAL

NEW YORK STATE PREHISTORIC ARCHAEOLOGICAL SITE INVENTORY FORM

Investigator: Timothy Knapp

Manuscript or published report(s) (reference fully):

Timothy Knapp and John M. Stiteler

2012 *Phase 1 Cultural Resource Survey, Owego Apalachin Elementary School and Flood Mitigation Project, Village of Owego (MCD 10740) Tioga County, New York.* Public Archaeology Facility, Binghamton, NY.

Timothy Knapp

2013 *Phase 2 Site Examination, Owego Elementary School Prehistoric Site (SUBi-3024), Flood Mitigation Area, Owego Apalachin Elementary School Project, Village of Owego (MCD 10740), Tioga County, New York.* Public Archaeology Facility, Binghamton, NY

Present repository of materials: The Public Archaeology Facility

7. **Components(s) (Cultural affiliation and dates):** Late Archaic

8. **List of material remains (be as specific as possible in identifying object and material):**

Description	Count
Onondaga Chert Non-Cortical Flake	191
Onondaga Chert Cortical Flake	3
Onondaga Chert Shatter	2
Onondaga Chert Brewerton-like projectile point	1 (2 pieces)

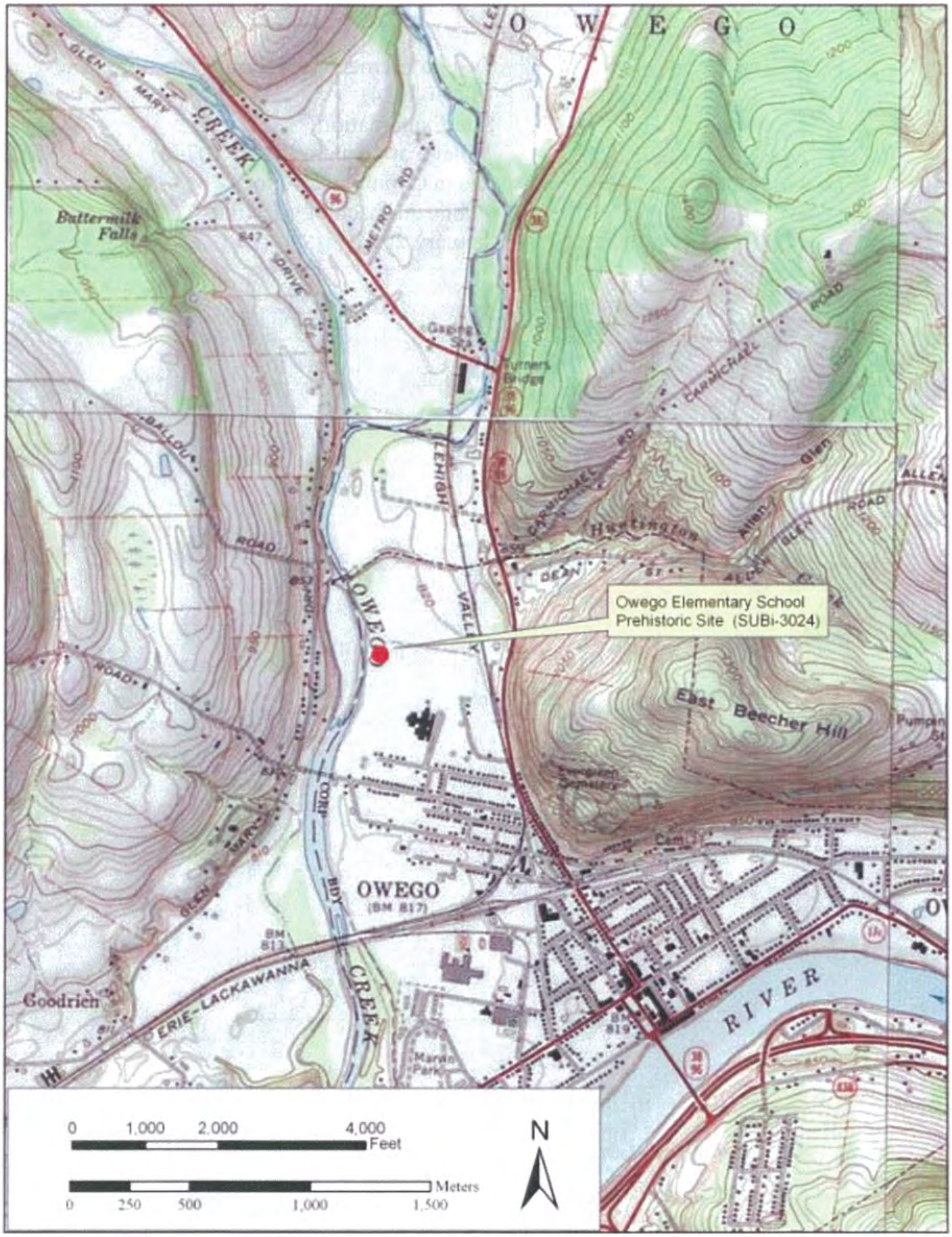
If historic materials are evident, check here and fill out historic site form. □

9. **Map References:** Map or maps showing exact location and extent of site must accompany this form and must be identified by source and date. Keep this information to 8½" by 11" if possible.

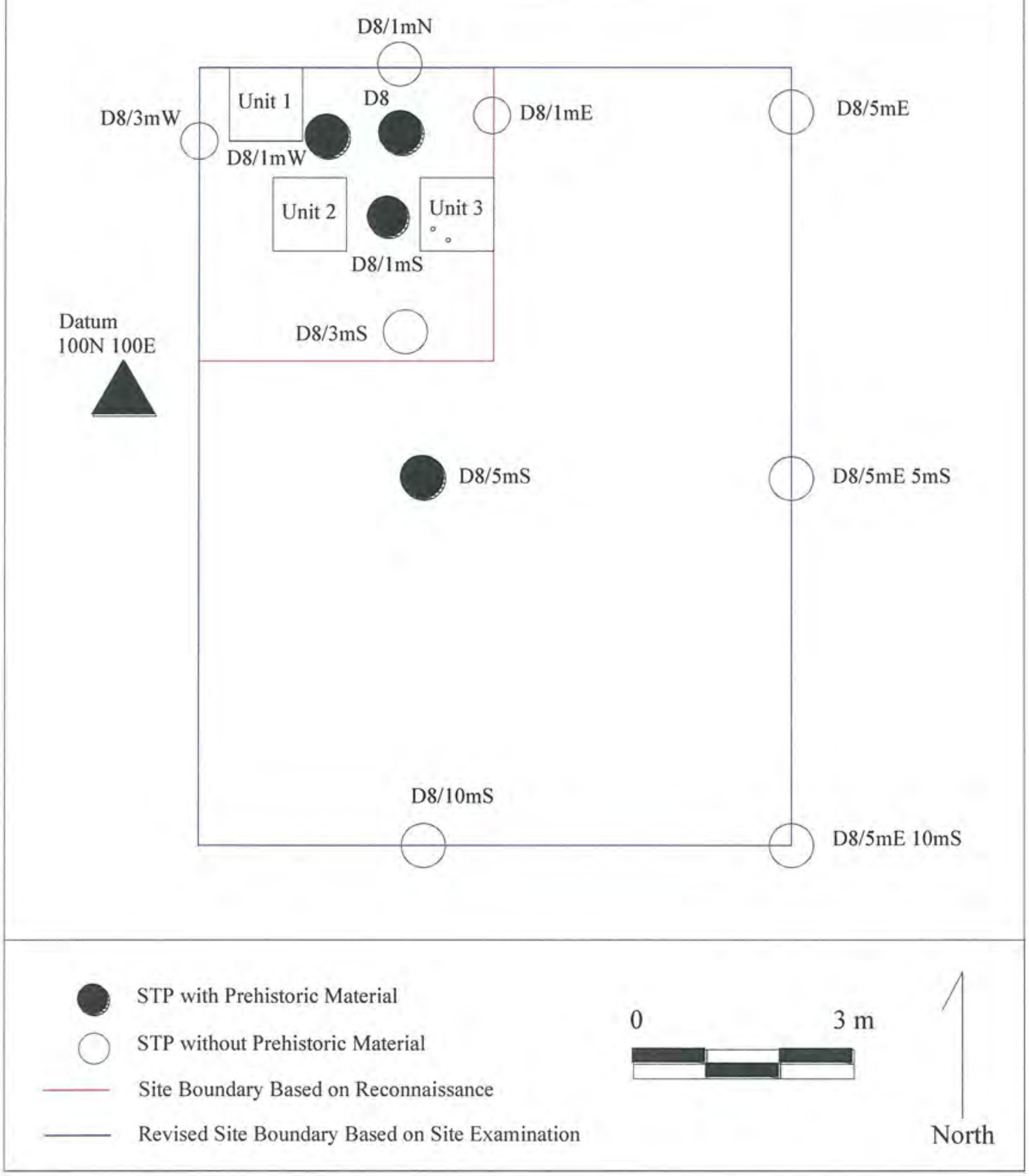
USGS 7 ½ Minute Series Quad. Name: 1969 Owego, NY Quadrangle

For Office Use Only – UTM Coordinates: ____________________________

10. **Photography (optional for environmental impact survey):** Please submit 5" by 7" black and white print(s) showing the current state of the site. Provide a label for the print(s) on a separate sheet.


Owego Elementary School
Prehistoric Site (SUBi-3024)
OWEGO
OWEGO CREEK
East Beecher Hill
Buttermilk Falls
ERIE-LACKAWANNA
RIVER
Goodrich
0 1,000 2,000 4,000 Feet
0 250 500 1,000 1,500 Meters
N

Owego Elementary School Prehistoric Site
(SUBi-3024)
Site Examination
Village of Owego, (MCD 10740)
Tioga County, New York
Public Archaeology Facility
January 2013



The Owego Elementary School Prehistoric Site, facing north.

Public Archaeology Facility Report

DATA RECOVERY PLAN
OWEGO ELEMENTARY SCHOOL PREHISTORIC SITE (SUBi-3024)
FLOOD MITIGATION AREA
OWEGO APALACHIN ELEMENTARY SCHOOL PROJECT
VILLAGE OF OWEGO (MCD 10740)
TIOGA COUNTY, NEW YORK
12PR05046

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SUBMITTED TO:
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I. INTRODUCTION

This document presents a Phase 3 Data Recovery Plan (DRP) for the Owego Elementary School Prehistoric site (SUBi-3024), located in the Village of Owego, Tioga County, New York (Figure 1). A Phase 1 reconnaissance survey conducted by the Public Archaeology Facility (PAF) for the Owego Elementary School and Flood Mitigation project identified this prehistoric site, and recommended a Phase 2 site examination to determine National Register Eligibility (Knapp and Stiteler 2012). The Phase 2 site examination (Knapp 2013) determined that the Owego Elementary School Prehistoric site exhibited high research potential and was potentially eligible for the National Register of Historic Places. PAF archaeologists recommend a Phase 3 data recovery if impacts to the site could not be avoided. A Data Recovery Plan outlining our proposed field, analysis, and reporting methods was requested by the Owego Apalachin School District.

1.1 Site Location

The site is located 58 m (190 ft) east of Owego Creek and approximately 2.3 km (1.4 mi) north of the creek's confluence with the Susquehanna River (Figure 2). The Owego Elementary School Prehistoric site falls on a section of creek floodplain at an elevation of approximately 248.7 m (816 ft) ASL.

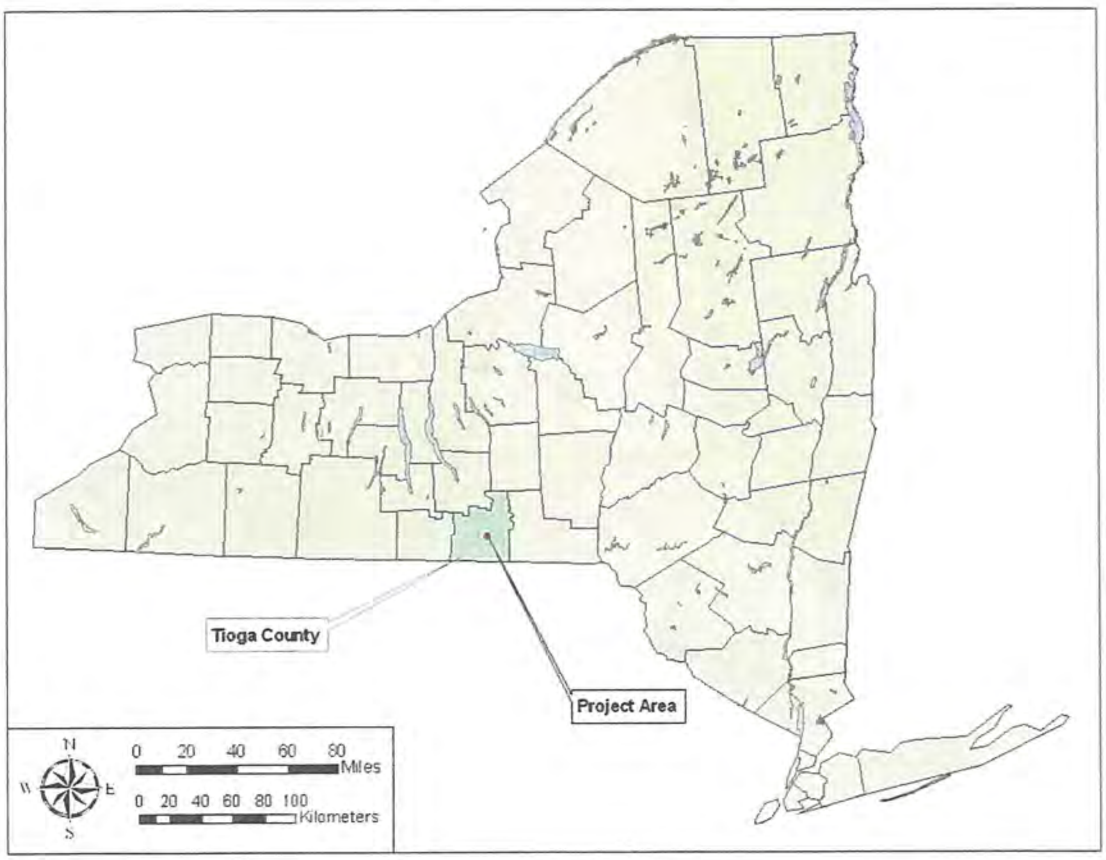

Figure 1. Location of project area in Tioga County.

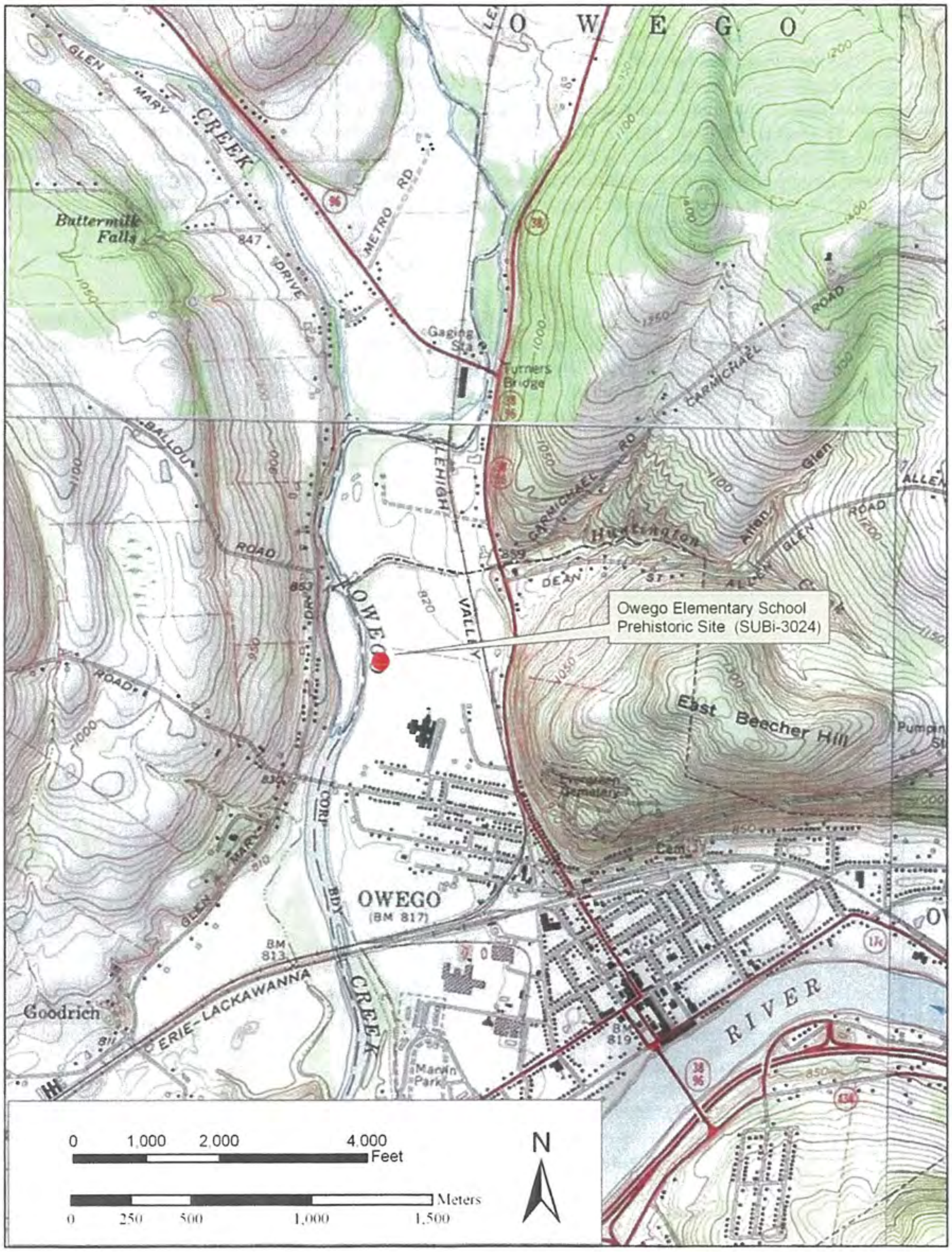

Figure 2. Location of the Owego Elementary School Prehistoric site on 1969 Owego, NY USGS 7.5' quadrangle.

1.2 Archaeological Investigations

During the reconnaissance survey archaeologists identified the Owego Elementary School Prehistoric site (SUBi-3024). The site was initially discovered by a single shovel test pit (STP D8) that included a single non-cortical Onondaga flake (Figure 3). All four surrounding STPs on the original reconnaissance 15 m (49 ft) grid were negative, indicating the site was relatively small. Subsequent close interval 1 m (3.3 ft) radial testing suggested that the site did not extend to the north or east. Positive STPs were located 1 m (3.3) to the south and west. Additional radial STPs 3 m (9.8 ft) to the west and south of STP D8 were negative. The results of the reconnaissance survey indicated that the site measured 4 by 4 m (13.1 by 13.1 ft) for a total area of 16 m^2 (172 ft^2).

During the site examination, three excavation units were placed immediately adjacent to the cluster of three positive reconnaissance STPs. When it became apparent that the most productive unit (Unit 3) was located at the extreme eastern site boundary (as defined by reconnaissance STPs) archaeologists excavated five supplemental STPs on a 5 m (16.4 ft) grid to the east and south. Based on these supplemental STPs, the site size was revised to 8 by 11 m (26 by 36 ft) for a total site area of 88 m^2 (947 ft^2). The cultural material associated with this site was recovered from the first 71 cm (28 in) below ground surface. Unit excavation represents a 3.4% sample of the Owego Elementary School Prehistoric site as redefined during the site examination.

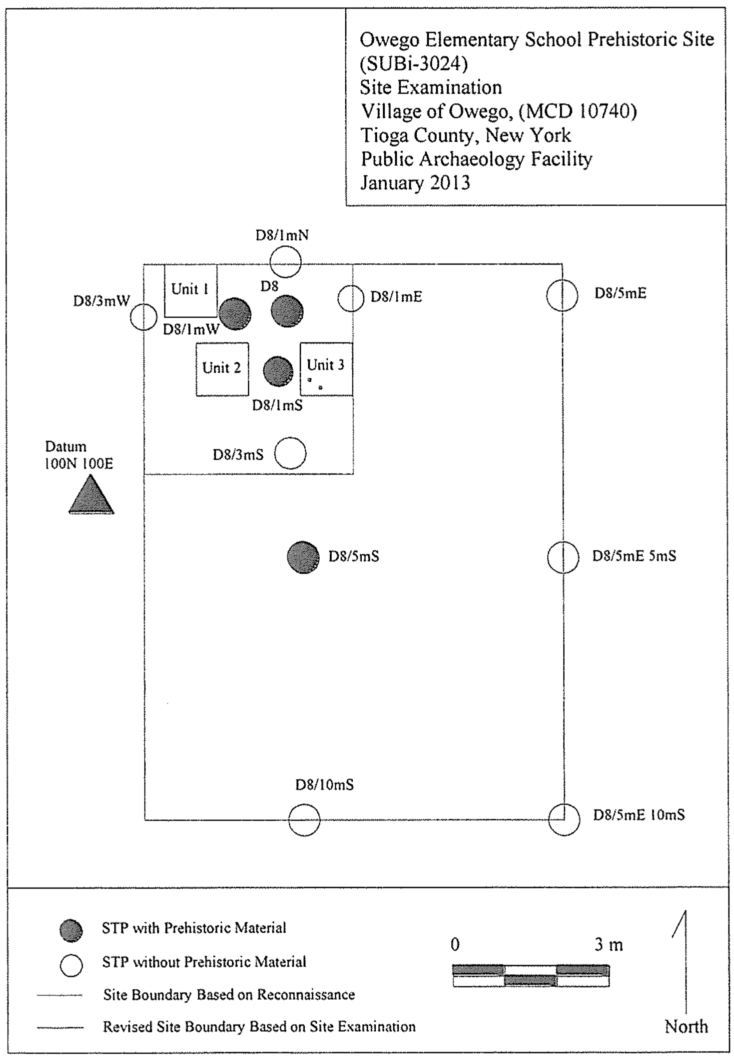

Figure 3. Owego Elementary School Prehistoric site examination map.

Table 1 summarizes the artifacts found from the reconnaissance and site examination. The entire prehistoric assemblage is exclusively chipped stone artifacts. No groundstone (e.g., celts), roughstone (e.g., net weights or pitted stones), fire-cracked rock, or prehistoric pottery was found. A single broken projectile point, tentatively identified as a Brewerton-like side- or corner-notched type, suggests a Late Archaic (ca. 3000-2500 BC) age for the site. Detailed analyses of the debitage assemblage suggest a strong reliance on a bifacial tool technology. The high ratio of flakes to chunk/shatter, small flake size, near complete absence of cortical flakes, and high frequency of faceted platforms all point to activities associated with late stage manufacture and/or maintenance of bifaces.

Table 1. Summary of prehistoric artifacts from Owego Elementary School Prehistoric site

		Count	Percent
Chipped Stone Classes	Debitage	196	98.9
	Bifaces	2*	1.0
	Total	**198**	**100.0**
Raw Material	Onondaga	198	100.0
Debitage Types	Non-cortical flakes	191	97.4
	Cortical flakes	3	1.5
	Shatter	2	1.0
	Total	**196**	**100.0**
Flake Condition	Whole	23	11.9
	Broken (retains platform)	96	49.5
	Fragment (platform missing	75	38.7
	Total	**194**	**100.0**
Flake Platform Types	Cortical	0	0.0
	Concave	26	22.2
	Flat	24	20.5
	Dihedral	5	4.3
	Faceted	42	35.9
	Pointed	0	0.0
	Collapsed	20	17.1
	Total	**117**	**100.0**
Platform Characteristics	Lipping	28 of 119	23.5
	Grinding	6 of 119	5.0
Flake Utilization		10 of 194	5.2
Heat/Burning		1 of 198	0.5

*The two biface fragments are from a single projectile point.

Despite general stratigraphic similarities across this small site, there is some notable geomorphologic variation tied to the underlying glacial geology and post-Pleistocene soil development. The typical stratigraphic sequence is fill, Ap, B1, and C horizons (Figure 4). The uppermost stratum is a dark brown or very dark brown silt loam fill horizon that extends from the surface to between 11 and 18 cm (4.3 and 7.1 in). This fill caps a dark brown silt loam buried plow zone (Ap) that extends to 27-35 cm (10.6-13.8 in) below the surface. Below the B1 horizon is a yellowish brown to dark yellowish brown gravelly sand silt the C horizon. The depth to the C horizon varies considerably over a short distance. In Unit 2, the top of the C horizon is only 21 cm (8.3 in) below the surface in the northwest corner, and dips to 75 cm (29.5 in) in Unit 3, only 1 m (3.3 ft) to the east. The high variability in C horizon depth, results from the presence of an underlying ancient gravel bar associated with the post-Pleistocene stream, which resulted in variable alluvial deposition during Middle Holocene through overbank flooding. Prehistoric artifacts were almost exclusively (98%) within the B1 horizon at depths between 41 and 71 cm (16 and 28 in) below the surface.

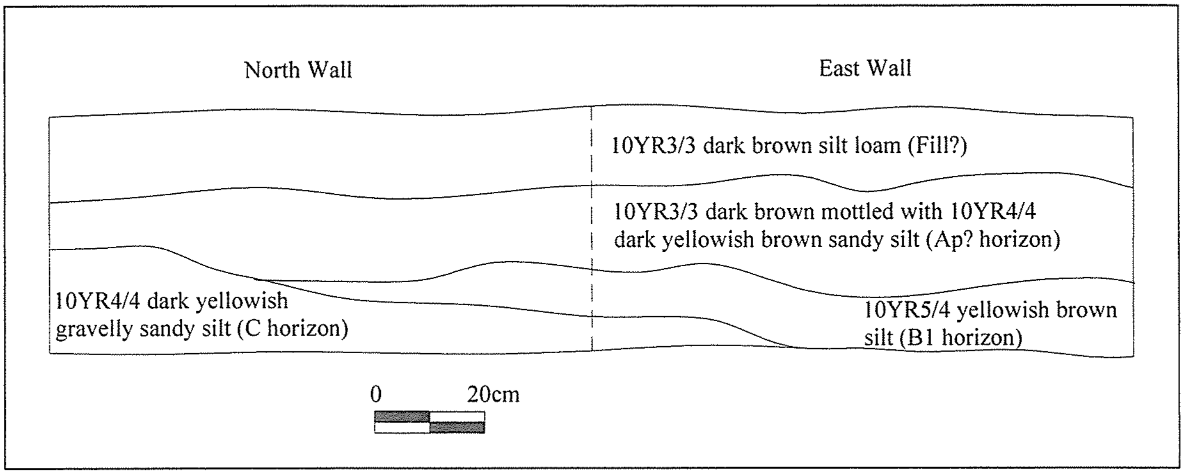

Figure 4. Unit 2, north and east wall profiles, Owego Elementary School Prehistoric Site.

Site examination excavations produced one possible feature, a post mold in Unit 3. This 6 cm (2.4 in) in diameter post mold began at 46 cm (18 in) and extended down another 23 cm (9.0 in).

II. RESEARCH CONTEXT

The Public Archaeology Facility is involved in extensive research on Late Archaic sites throughout the Upper Susquehanna, including work in: the upper main stem between Cooperstown and Oneonta (Miroff et al. 2010; Rafferty 2002); the main stem of the river between Oneonta and Binghamton (Knapp 2005; Kudrle 2004, 2005; Miroff 2002a; Miroff and Kudrle 2003; Wurst and Lain 1998; Wurst and Versaggi 1992); the Chenango sub-basin (Knapp 2011; Wurst and Versaggi 1993); the lower main stem of the river between Binghamton and Waverly (Grills 2012; Miroff and Wilson 2006; Miroff et al. 2008; Versaggi and Miroff 2004; Versaggi et al. 1982); the Owego Creek sub-basin (Miroff 2000, 2002c); the Chemung sub-basin (Miroff 2002b); the Canisteo sub-basin (Horn 2008); and the Tioga River sub-basin (Kudrle 2002; Miroff 2006). The research proposed for the Owego Elementary School Prehistoric site will use existing research designs and contribute to these ongoing investigations by addressing a series of research topics.

2.1 Environmental Setting

As part of the reconnaissance survey a detailed study of the soils and geomorphology for the proposed Owego Elementary School and Flood Mitigation Project was conducted and is briefly summarized here (Knapp and Stiteler 2012). The project area lies within the Glaciated Low Plateau section of the Appalachian Plateau physiographic province, an area that was repeatedly covered by continental ice sheets during the Pleistocene. The last of these continental ice sheets, the Wisconsinan, retreated from the project area sometime between 14,000 and 16,000 BP, releasing vast amounts of meltwater and outwash that flowed south through the Owego Creek valley.

The Owego Elementary School Prehistoric site is located 58 m (190 ft) east of Owego Creek, a fifth-order tributary of the Upper Susquehanna River (Figure 5). The site lies 2.3 km (1.4 mi) north of where Owego Creek joins the Susquehanna River. Above the Owego Elementary School Prehistoric site, the Owego Creek drainage basin covers approximately 800 km^2 (170 mi^2). Huntington Creek (Monkey Run), a minor tributary of Owego Creek, is located 440 m (1444 ft) north of the site. Approximately 1 km (0.6 mi) to the north, Catatonk Creek joins Owego Creek. Catatonk Creek provides a natural transportation corridor leading to Cayuga Lake.

Bedrock underlying the APE is Upper Devonian-age sedimentary rock, mostly shales and siltstones (Gardeau Formation, Beers Hill shale, Grimes siltstone, and others) (Rickard and Fisher 1970). These formations are not generally cited as sources of chert and other cryptocrystalline rock suitable for stone tool production. However, the surficial geography of the area is dominated by glacial drift (outwash and till) which is likely to contain nodules of exotic cryptocrystalline rock.

As the Wisconsinan glacial epoch came to a close around 16,000 years ago, the valleys of the North Branch Susquehanna River and tributaries such as Owego Creek were deeply aggraded with glacial outwash. In the lowest reach of the Owego Creek valley large amounts of outwash accumulated because of the elevated base level of the main stem valley. As the ice front receded from their drainage basins, the supply of outwash was cut off and the river and its tributaries began reworking and removing the accumulated glacial material. Removal of the outwash was seldom complete; resulting in the creation of remnant outwash terraces along valley edges as the streams downcut the central part of their valleys and began construction of floodplains made up of coarse- to fine-textured alluvium. The soil profiles of these floodplains, constructed as the river and stream channels migrated laterally across the valley floor, generally exhibit a fining-upward character. The base of the profile is made up of channel-bottom gravel, cobbles, and channers capped by sand deposited as in-channel bars or lateral deposition. The sand is covered by very fine sand, silt, and clay deposited by overbank floods that spread across the aggrading floodplain surface.

Although geomorphological investigations indicated that soil profiles in the general vicinity of the Owego Elementary School Prehistoric site consist of 75 to 100 cm of Holocene overbank alluvium capped by up to 65 cm of gravelly fill, reconnaissance STP data documented considerably more variability in alluvium thickness and fill content. The extent of pedologic development seen in the profiles, the majority of which consisted of Ap/Bw1/Bw2/C sequences, strongly suggests that the sediments date to the Middle Holocene and later. No argillic (Bt) horizon development was noted, the presence of which would have connoted greater age and stability. The varying thickness of the fill cap – even over relatively short lateral distances – suggests that the floodplain exhibited a gently undulating surface before being leveled by addition of the fill. The highest degree of profile variability and the least expression of soil development were noted in the soil profiles closest to the Owego Creek channel. This suggests that the proximal part of the floodplain was a geomorphologically dynamic area, as is usually the case. Anomalously greater depth to bedload gravel in some STPs is attributable to the presence of an abandoned channel segment that filled in with silty and clay-rich slackwater deposition.

Much of the soils adjacent to Owego Creek, including the Owego Elementary School site, are mapped as Unadilla silt loam, 0-3% slope (Unn) (USDA 2012; Figure 5, p. 7; Table 1). The Unadilla series consists of deep and very deep, well drained soils formed on valley terraces and lacustrine plains in silty, lacustrine sediments or old alluvial deposits. A typical Unadilla profile consists of an Ap/Bw1/Bw2/Bw3/BC/C2 sequence. Thickness of the solum (A and combined Bw horizons) ranges from 50 to 125 cm. Rock fragment content ranges from 0 to 5 percent in the solum and 0 to 60 percent in the C or 2C horizon.

2.2 Prehistoric Context

New York State prehistory is traditionally divided into four main phases: Paleoindian (c. 10,000-8000 BC), Archaic (8000-1500 BC), Transitional (1500-1000 BC), and Woodland (c. 1000 BC to European contact) (Ritchie 1980: xxx-xxxi). While this cultural-historical framework obscures temporal and regional variability, it does highlight major developmental trends in the northern woodlands. A diagnostic projectile point, tentatively identified as Brewerton-like, suggests that the Owego Elementary School Prehistoric site dates to the Late Archaic.

The Archaic period marks the transition to post-Pleistocene adaptations and climatic regimes. A spruce-pine forest, and later a mixed deciduous forest, developed in the northeast and these were populated by modern animal and plant species. The Early Archaic (8000-6000 BC) period defines initial human adaptation to these conditions. Site and population densities during this period are low, a fact that has generally been related to the availability of resources. Explanations have focused on the lack of mast and mast-browsing species in pine dominated forests, the low availability of fish until modern conditions of temperature, flow and gradient were reached, and the generally dispersed nature of resource patches in major valleys during the Early and Middle Archaic (Armstrong et al. 2000: 52). The generally poor environmental conditions may also have confined settlement to the more stable environments of Pennsylvania, New Jersey, and coastal New York while scattered Early Archaic sites in central New York represent only occasional northward excursions (Ritchie and Funk 1973: 337). However, dispersed resource patches existed within major river valleys and around upland water resources (Custer 1996; Versaggi 2000).

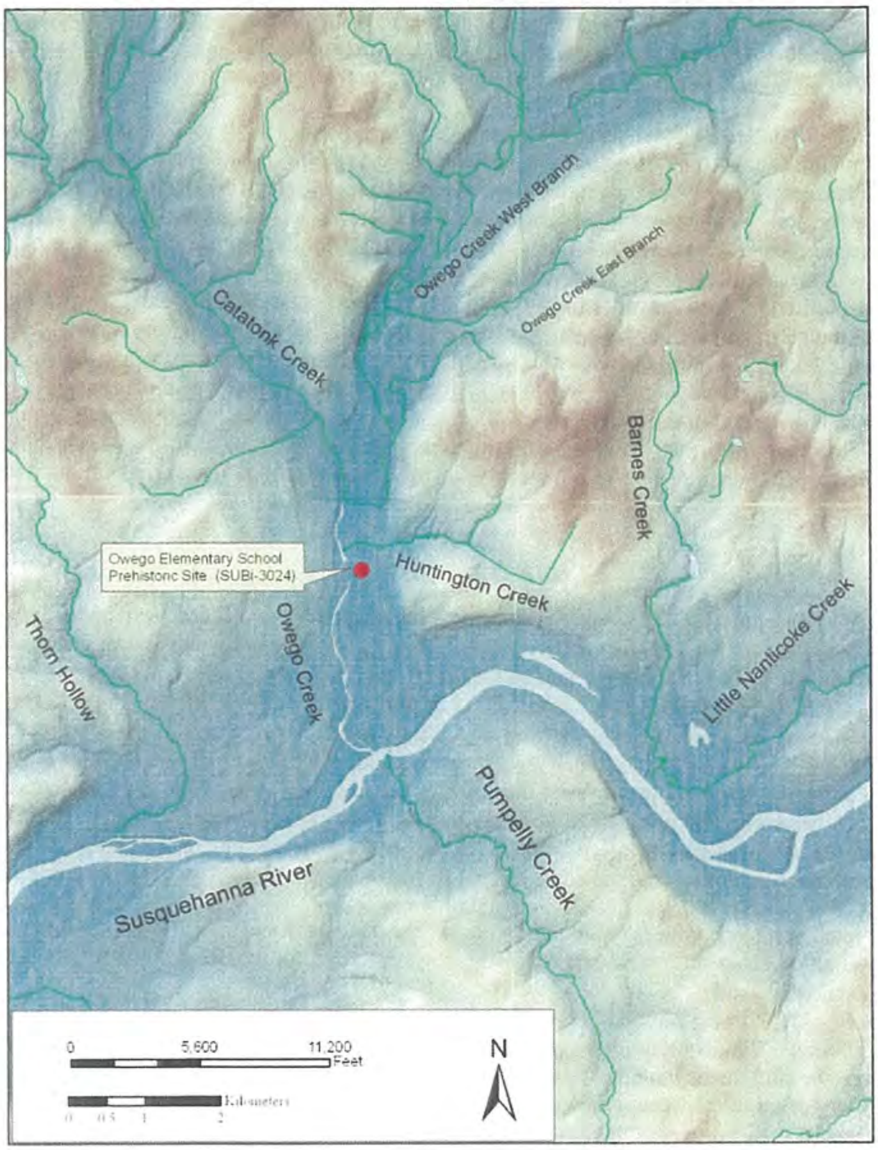

Figure 5. Regional digital elevation showing the location of the Owego Elementary School Prehistoric site.

The Middle Archaic period (6000-4000 BC) differs little from the preceding Early Archaic. The climate did reach its modern condition by approximately 7,500 BP (Funk 1993) which would have led to an increase in oak and, presumably, mast browsing animal species. There is a slight increase in site frequency but population in the Allegheny Plateau remained low. An increase in the number of sites is the major departure from an Early Archaic settlement pattern where small, temporary camps seem to represent an orientation to dispersed resource patches.

The Late Archaic period (4000-1500 BC) is one of increasing population density and cultural diversity related to local processes. Settlement patterns suggest an increased focus on aquatic resources with most sites located near small lakes, rivers, and wetlands, although they were often situated on terraces and upland slopes (Trubowitz 1977: 98-120; Versaggi 1996). Late Archaic subsistence/settlement patterns exhibit a range of variability tied to seasonal scheduling and resource availability. Large base camps located near major water sources provided a focal point for groups during the tougher months of the year from which small groups of foragers could range to procure and process needed resources. During other seasons, base camps would divide into smaller groups who engaged in more mobile foraging activities. This pattern of seasonal aggregation and dispersal results in several site types, including: large residential camps, small special purpose camps and resource processing locations (Versaggi 1996).

Two major studies of the Upper Susquehanna have provided good contextual information for the Late Archaic in the region (Funk 1993; Versaggi 1996). From established residential base camps, daily foraging groups roamed the valley and uplands around the residence and returned each day with the resources they collected or hunted. These foragers would have left light scatters of debris from their resource procurement and processing activities within patches surrounding their work areas. When there was a need for securing resources far distant from the base, other work parties would travel to these areas and spend days or weeks away from the main camp. These groups would create task-specific, or special purpose camps in the far regions where they worked and then return to the base with the products of their trip. In this manner a large diversity of sites and site types would result from this logistical system of organization (Versaggi 1996). One predictive model for this part of the upper Susquehanna Valley suggests that the environmental setting along the Susquehanna River provided excellent locations for fishing during the spawning season, especially near tributary confluences. These fish and deer resources available along the creeks could have provided for a seasonally nomadic population that migrated toward the confluence with main waterways during the fall and winter (Versaggi 1987).

2.3 Research Objectives

Using Verasaggi's (1987, 1996) research on prehistoric hunter-gatherer settlement models in the Upper Susquehanna drainage, the Owego Elementary School Prehistoric site can tentatively be classified as a single-task field camp. This site type is defined in part as relatively high-density, short-duration, small sites, with a mostly bifacial tool-kit, all of which the Owego Elementary School Prehistoric site clearly meets. One hallmark of the single-task field camp, the presence of specialized tools, is poorly represented in the Owego Elementary School assemblage. However, this may be related to the relatively small excavation sample, and may be clarified with additional excavation. The specific activities that occurred at this single-task field camp are uncertain, but could be answered with a larger artifact sample and targeted analyses, such as microwear analysis. The Owego Elementary School Prehistoric site was part of a larger Late Archaic settlement system, which likely included a longer-term residential base-camp, probably near the confluence of Owego Creek and the Susquehanna River.

The data recovery will focus on the role of the Owego Elementary School Prehistoric site within it contemporary Late Archaic settlement and subsistence system. Within this general theme, researchers will address the following specific topics:

- *Chronology.* Excavations documented a buried cultural horizon containing a Brewerton-like projectile point. The presence of diagnostic artifacts in a sealed context can assist in defining site chronology. The recovery of additional diagnostic projectile points would clarify the site's age and allow researchers to tie this upstream site to a confluence area base camp;

- *Subsistence and Seasonality.* Analysis of stone tools and usewear provides data on the types of potential food resources procured and processed on the site and may allow for the assessment of seasonality of the occupation;

- *Site function.* Formal tools, utilized flakes, and intra-site spatial structure have high research potential in regards to questions of site function for the Owego Elementary School Prehistoric site. Documenting additional postmolds, such as Feature 1, may lead to the identification of a temporary shelter such as a lean-to or the delineation of ephemeral above-ground processing features such as drying racks. Assessing site function allows for this site to be placed within existing models and frameworks for regional settlement patterns;

- *Lithic reduction strategies.* Data on debitage, raw materials, and tool forms can be used to address the stages of reduction present on the site and how these relate to models of mobility and lithic management. These strategies also contribute to an interpretation of site function.

2.4 Regional Comparisons

Data from the Owego Elementary School Prehistoric site will be compared with other Late Archaic sites in the Upper Susquehanna drainage. Comparisons will include sites from the Upper Susquehanna's main trunk as well as its various sub-basin tributaries. Baseline data collected from these sites will include, but is not limited to the following: site size; site age; landform; stream order; distance to water; feature types and densities; artifact density; expedient/formal tool ratio; debitage/tool ration; flake to chunk/shatter ratio; frequency of non-local raw materials; non-cortical/cortical flake ratio; and average flake size (and weight).

2.5 Synthesis and Interpretation

Each of the research topics discussed above will be integrated into an interpretative model of subsistence and settlement during the Late Archaic period in the Owego Creek valley. This synthesis will specifically address the function of this site within a larger settlement and subsistence system and the regional context of the site. Stone tool analysis and an examination of subsistence remains recovered from features are critical information for assessing site function and seasonality. These data will highlight the types of resources targeted and the range of processing activities occurring at the site. Data on lithic reduction/management systems in operation at the site will inform on group mobility, which is relevant to any understanding of the site's role in a larger settlement system. Data on raw material types utilized at the site will contribute to our understanding of possible lithic exchange networks and regional integration of groups.

III. METHODOLOGY

In order to accomplish the research objectives of this data recovery, field investigations will need to adequately sample the horizontal and vertical extent of the site. The goal is to retrieve a representative sample of artifacts and features from the site area so that the research topics can be addressed.

3.1 Field Methodology

The Owego Elementary School Prehistoric site is small: approximately of 88 m^2 (947 ft^2). The proposed field strategies include both unit excavation and stripping of the A-horizon. Specifically, we propose the following:

- **Unit excavation.** Archaeologists will excavate an additional 10-12 units measuring 1 x 1 meter within the Owego Elementary School Prehistoric site area.

- **Mechanical stripping of the site topsoil.** Once unit excavations are complete, a backhoe will remove the fill/Ap horizons and archaeologists will shovel clean the surface of the B1 horizon to locate features. Since features are as important as artifact clusters on the site, this field strategy will insure that this data potential is fully examined. In addition, if any burials are present, this method will expose the top of the burial pit. A backhoe with a **smooth-bladed bucket** supplied by the Owego/Apalachin Central School District will remove the fill/Ap horizons. This topsoil stripping will be monitored by the project and field directors. Once the B1 horizon is exposed, crews will shovel-scrape the loose soil in order to clean the subsoil surface to reveal traces of potential features. Soil will need to be excavated to a depth of 30-50 cm (10-20 in) to remove the fill/Ap horizons.

- **Feature excavation.** Any features located during shovel-scraping will be systematically excavated using the normal PAF process. First, their boundaries will be defined by trowelling, then plan views will be drawn and the feature will be photographed. Soil discolorations, post-holes, etc. will be cross-sectioned to obtain a vertical profile. The remaining half will also be bisected to obtain a perpendicular profile. Standard-sized (approximately 10 liters, where possible) soil samples for flotation will be collected for each feature. **We estimate that 1-2 features will be found within the project limits.**

Units will be excavated by removing the top 20 cm (8 in) fill horizon as a single level. The next excavation level will take out the approximately 10 cm (4 in) thick plowzone (Ap horizon). The remaining soil matrix will be excavated in arbitrary 5 cm (2 in) levels within the natural or cultural soil layers to identify potential temporal stratification in the cultural deposits. Each unit will extend at least 10 cm (4 in) into culturally sterile subsoil or until the gravelly C horizon is fully exposed. Archaeologists will excavate all units with shovels and trowels. Soil will be screened through a ¼ inch hardware mesh onto plastic sheeting. All artifacts will be noted and bagged by level.

Table 2. Summary of Field Investigations for the Owego Elementary School Prehistoric site

Type of Excavation	**No.**	**Total Area Excavated (m^2)**
Phase 1 and 2 STPs	24	1.5 m^2
Site Examination Units	3	3 m^2
Subtotal:		*4.5 m^2*
Proposed Data Recovery Units	10-12	10-12 m^2
Mechanical Stripping		100% of site area

With the data recovery, approximately 14-16 m^2 (16% to 18%) of the site area will be systematically excavated and screened. The mechanical stripping of the site will provide 100% coverage for features and partial recovery of artifacts noted during the stripping process. This combination of excavation and soil removal offers an acceptable balance for this data recovery.

3.2 Laboratory Methods

Following fieldwork, all artifacts will be processed and analyzed in the laboratories of the Public Archaeology Facility. Artifacts will be processed and catalogued according to standard procedures. Analysis of chipped and rough stone artifacts will occur in a staged manner according to reduction stages and functional attributes. Other artifacts, such as fire-cracked rock (FCR), will be counted and/or weighed as appropriate.

3.3 Analysis Methods

Chronology

Central to the analysis of the Owego Elementary School Prehistoric site is a definition of the chronological components present on the site. This task is dependent on finding diagnostics and/or datable features. Assuming that features are found, carbon samples will be submitted to Beta-Analytic of Coral Gables, Florida to provide radiometric dating of the site. Carbon samples too small for standard C-14 methods will be submitted for AMS dating. These data will be combined with stratigraphic information to define both vertical and horizontal components on the site. The resulting chronology will structure the form of all subsequent analyses.

Landuse and Settlement Patterns

Detailed lithic analysis (technological and functional) and intra-site analysis are needed to address this research objective. Technological analysis will focus on the procurement and manufacture of chipped stone tools, while the functional data will focus on the activities these tools performed. In both cases, the purpose of the analysis is to make visible productive tasks (labor) that were occurring within the site context. However, the type of labor that each category of data addresses is very different. Technological analysis provides information on the techniques and stages of lithic reduction that were being performed on site. Information regarding procurement of lithic raw material is also recorded during this phase of analysis. Functional analysis addresses the types of activities for which lithic tools were used. These data provide a more holistic view of the chipped stone tradition and provide an interesting perspective on the day-to-day activities that were occurring on the site.

Technological Lithic Analysis

Analysts will collect data focused on reconstructing the system(s) of raw material procurement and chipped stone tool manufacture. Lithics first will be classified by raw material type. There are three major chert-bearing rock units in New York. Devonian limestones contain the chert-bearing Onondaga and Helderberg limestones; and Ordovician shales contain the chert-bearing Normanskill shale (Cassedy 1993; Hammer 1976). The most extensive units are the Onondaga and Normanksill formations. While all three rock units converge in the Hudson Valley region, Normanskill is confined geographically to the Hudson Valley and eastward while Onondaga cherts outcrop in a broad band across southern New York from the western edge of the Hudson Valley to as far west as Buffalo (Cassedy 1993; Hammer 1976; Lavin and Prothero 1992). In the east the formation extends south into northern New Jersey, Pennsylvania and Tennessee (Hammer 1976:48). In central and western New York, the Onondaga formation is the major chert-bearing unit (Cassedy 1993:40). Helderberg cherts outcrop primarily west of the Hudson River along the Allegheny Plateau between the Normanskill and Onondaga formations (Cassedy 1993).

In southern New York, Onondaga cherts are by far the most commonly encountered material on prehistoric sites. While primary quarry sources are not common, source areas have been identified for Onondaga chert in the Buffalo area, Normanskill chert in the Coxsackie-Catskill area (Lavin and Prothero 1992), and for Helderberg chert in eastern Green County, New York (Cobb and Webb 1994). It is likely that the majority of Onondaga chert found in archaeological contexts in the southern New York region were obtained from secondary sources (Lavin and Prothero 1992). Raw material types can aid in understanding possible lithic exchange networks and regional interaction.

All chipped stone debitage will be assigned to one of five artifact classes: bifacial tools; unifacial tools; cores; flakes; and chunk/shatter. Each artifact will then be size-graded, by placing the artifact on its ventral surface on a series of graded circles of known diameter: from 0-1" the size grades are every 1/16"; from 1-2" the size grades are every 1/8"; and above 2" three size grades are recognized (2-2.5", 2.5-3", and >3"). Every artifact will be weighed to the nearest 0.01 gram.

After the initial size grading, recording of raw material, and weighing, artifacts will be separated into two different analytic streams: debitage (cores and flakes) and tool. Cores are defined as culturally modified stone from which one or more flakes have been removed for further modification or use, but in which the piece itself is generally not intended for further use. Cores are assigned to one of the following subtypes: bipolar; amorphous; bifacial; and blade. Flakes are pieces of stone removed from a core by a single blow. All flakes will be assigned to one of the following subtypes: cortical (having at least some cortex on the dorsal surface); non-cortical (no dorsal cortex); bipolar (exhibiting characteristic damage at opposing edges); and blade (define as flakes that have a length:width ratio of greater than 2 and typically have parallel dorsal flake scars that run the length of the flake). Chunk and shatter are catch-all categories for pieces of stone that lack flake attributes (i.e., debris). In general, chunk and shatter have an ambiguous ventral surface and striking platform. A chunk is a blocky fragment of material; a cortical chunk is a chunk with exterior surface (cortex) present. Shatter, generally small in size, is defined by the lack of diagnostic flake attributes (platforms or easily differentiated dorsal and ventral surfaces; Henry 1989:254; Parry 1987:34; Sullivan and Rozen 1985).

A detailed attribute analysis will be conducted on the flake assemblage. As part of PAF's standard attribute analysis the following data will be recorded: flake condition; dorsal cortex type; platform type; platform grinding; platform lipping; exposure to heat (evaluated based on color change or presence of pot lid spalls); and macroscopic evidence of usewear.

The system of recording flake condition is based on Sullivan and Rozen's (1985) debitage typology which was intended as an "interpretation free" system of debitage classification. There are four types of flake condition: whole, broken, fragments, and debris. Whole flakes retain the platform and all margins are intact. Broken flakes have intact platforms, but are broken along a lateral or distal margin. Flake fragments lack platforms. Debris includes chunks and shatter, and are therefore not technically flakes.

Two attributes of dorsal surface cortex will be recorded: the relative amount of dorsal surface covered with cortex; and indications of whether the cortex derived from a primary (tabular) or secondary (cobular) raw material source. The relative amount of cortex was estimated as: 100%, 76-99%; 51-75%; 26-50%; 1-25%, or 0%.

Flake platforms will be placed into one of seven platform type categories, based largely on the number of flake scars (facets) present on the platform: cortical; flat; concave; pointed; dihedral; faceted; and collapsed. Platforms retaining the original exterior surface of the raw material were coded as cortical. Flakes with a single facet were described as flat, concave, and pointed. Platforms with two facets are dihedral, and those with more than two facets are assigned to the faceted category. Collapsed platforms are those where a platform remnant is present, however, much of the platform has been crushed during flaking and therefore cannot be confidently placed in one of the other types. Platform grinding and platform lipping will be recorded as present or absent.

The resulting artifact catalogs will be entered into a relational data base management program (Paradox) to facilitate subsequent analysis.

Functional Lithic Analysis

Lithic artifacts initially will be cataloged using a general classification system developed by Melody Pope (1996). The typology used for the analysis of chipped stone artifacts is modeled after the type-subtype classification system described by Odell (1982, 1996). The system separates the lithic artifacts into formal tool types (e.g., drill, gouge, graver, etc.), debitage/core, fire-cracked rock, groundstone, or unmodified rock. Formal tools (e.g., drills, gravers, hoes, projectile points, etc.) are then further described by specific characteristics (e.g., a projectile point may be catalogued as fluted, bifurcated based, or Brewerton, etc.). Expedient tools are an important aspect of a site's functional interpretation. All debitage will be examined macroscopically for use wear, and interpretations will follow based on the patterning evident.

A sample of 8-10 utilized chipped-stone artifacts (including both formal and informal tools) will be submitted for a detailed micro-wear analysis. Thomas Loebel, a microwear specialist at St. Xavier University, has agreed to analyze these materials. The analysis will follow a two-stage procedure. First the entire assemblage will be scanned at low and high magnifications to characterize the nature of the use traces if present and to determine which pieces are suitable for further analysis. Prior to further examination, suitable pieces will be subjected to a cleaning process in order to remove any surface deposits that may obscure or distort the accurate observation of microwear traces. This will involve washing and immersing the item in ammonia based detergent in order to remove any finger grease and residual soil deposits. Pieces will then be briefly (3 minutes) placed in a warm HCl (10% solution) to remove any lime or mineral deposits, and then immersed in KOH (20-30% solution) to remove any extraneous organic deposits.

The second phase of the analysis will involve recording detailed information on attributes of the micro-polish and striations to infer information about contact material, tool motion, and edge condition. After cleaning, all items will be examined at a range of magnifications from 40x to 400x using an Olympus BHM incident light microscope with photo attachment. All working edges and artifact surfaces will be examined for evidence of micro polishes, striations, edge damages, and the location of any identified use wear will be noted on a line drawing of the tool. Photographs of representative damage or use-wear will be obtained using a Nikon Coolpix 995 3.3 mega pixel digital camera.

Feature Analysis

To establish feature function a typological analysis will be conducted. Important variables to be used in this analysis are: size, shape, and feature contents. This analysis will involve an examination of existing feature typologies for the Eastern Woodlands (e.g., Stewart 1975, 1977; Stahl 1985; Ritchie and Funk 1973; Hatch and Stevenson 1980; Knapp 1996).

Large-volume (e.g. 10 liters, where possible) soil samples will be collected and floated from each feature on the site. The recoveries from each floated feature will be sent to consultants for archaeobotanical analysis and if larger than expected volumes are derived, these will be sampled during analysis. Faunal remains will be analyzed at Binghamton University. The data generated from feature and subsistence analyses will be used to address the research topics outlined in Section II.

Intra-site Analysis

Analysis of site function and structure within the project limits will examine spatial variability in artifact diversity and density across the site space. Units excavated on the site will be characterized by their individual artifact content. Content will be defined using the gross categories derived from the lithic reduction study and the low-power search for utilization. Previous studies have found that common clusters resulting from this form of analysis include groupings dominated by manufacturing by-products; those with a major component of expedient tools; those with an assemblage dominated by curated tools; as well as other less common combinations. These groupings, in turn, can be linked to feature locations and a preliminary model of the site's spatial structure emerges. This model will then be refined using the results of the technological and functional analysis of lithics to better define how the site space was divided and used. The data generated from these spatial analyses will be used to estimate site function and how this site fits within existing settlement models of prehistoric landuse within the Upper Susquehanna drainage.

Regional Analysis and Interpretation

Each of the data sets discussed above will be integrated to provide an interpretation of the prehistoric landuse patterns in the region surrounding the Owego Elementary School Prehistoric site. This synthesis will specifically address the function of this site within a larger settlement and subsistence system and the regional context of the site. Macrowear analysis and an examination of subsistence remains recovered from features are critical information for assessing site function and seasonality. These data will highlight the types of resources targeted and the range of processing activities occurring at the site. Data on lithic reduction/management systems in operation at the site will inform us on group mobility, which is relevant to any understanding of the site's role in a larger settlement system. Data on raw material types utilized at the site will contribute to our understanding of possible lithic exchange networks and regional integration of groups. These data will be used to refine and enhance the research context presented in Section II.

Proposed Schedule

Field:	3-5 weeks
End of Field letter:	2 weeks following the completion of field work
Final Report:	1 year following acceptance of the End of Field Letter

IV. COMMUNITY OUTREACH

After excavations and analyses are complete, PAF staff will consider potential public outreach projects, such as a pamphlet for local schools, an addition of the site results to PAF's web page, and/or a small exhibit for schools and local historical societies. Once the outreach potential of the data is known, a final decision will be made as to the most effective presentation and the target audience for that presentation.

In addition, once the quality of results is known, presentations will be made at professional and/or amateur meetings such as the annual NYSAA conference, ESAF, and MAAC. Depending on the results of analysis, findings and interpretations will be prepared for publication in scholarly journals and presentations at national meetings, such as SAA.

V. CURATION POLICY

The Public Archaeology Facility maintains professional collections curation facilities that comply with federal standards (36 CFR Part 79) and professional guidelines. All artifacts, notes and other documentation of the data recovery will be curated according to federal (36 CFR Part 79) and state guidelines (NYAC 1994) in the facilities of the Department of Anthropology at Binghamton University.

Use of our collections is restricted to qualified professionals and students for study, loan, public interpretation, exhibition and scientific analysis. All requests for collection use are considered by the Director of PAF. Short-term, supervised use of collection material is available in secure work areas. Long-term loans are time limited and made only to researchers associated with an institution (educational or museum) who can demonstrate that a safe and secure environment can be maintained for the duration of the loan.

The proper curation of collections at the university maintains this data base in the public domain and guarantees that this information is available for serious researchers.

VI. STATE HISTORIC PRESERVATION OFFICE/NEW YORK STATE OFFICE OF PARKS, RECREATION AND HISTORIC PRESERVATION HUMAN REMAINS DISCOVERY PROTOCOL

In the event that human remains are encountered during construction or archaeological investigations, the State historic Preservation office (SHPO) requires that the following protocol is implemented:

- At all times human remains must be treated with the utmost dignity and respect. Should human remains be encountered, work in the general area of the discovery will stop immediately and the location will be immediately secured and protected from damage and disturbance.

- Human remains or associated artifacts will be left in place and not disturbed. No skeletal remains or materials associated with the remains will be collected or removed until appropriate consultation has taken place and a plan of action has been developed.

- The Director of PAF, county coroner and local law enforcement as well as the SHPO and the involved agency will be notified immediately. The coroner and local law enforcement will make the official ruling on the nature of the remains, being either forensic or archaeological. If the remains are archaeological in nature, a bioarchaeologist will confirm the identification as human.

- If human remains are determined to be Native American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. The involved agency will consult SHPO and appropriate native American groups to develop a plan of action that is consistent with the Native American Graves Protection and Repatriation Act (NAGPRA) guidance.

- If human remains are determined to be Euro-American, the remains will be left in place and protected from further disturbance until a plan for their avoidance or removal can be generated. Consultation with SHPO and other appropriate parties will be required to determine a plan of action.

VII.. REFERENCES CITED

Armstrong, Douglas V., LouAnn Wurst and Elizabeth J. Keller
2000 *Archaeological Sites and Preservation Planning in Central New York: A Unified Site File and GIS Database for NYSDOT Region 3*. New York State Historic Preservation Office: Peebles Island, Waterford, NY.

Cassedy, D.
1993 *Native American Interaction Patterns and Lithic Acquisition Strategies in Eastern New York and Southern New England*. Ph.D. Dissertation, Department of Anthropology, Binghamton University, Binghamton, NY.

Cobb, C. and P. Webb
1994 A Source Area Perspective on Expedient and Formal Core Technologies. In *North American Archaeologist*, edited by Roger Moeller. 15 (3): 197-219.

Custer, Jay F.
1996 *Prehistoric Cultures of Eastern Pennsylvania.* Pennsylvania Historical and Museum Commission, Harrisburg, PA.

Funk, Robert E.
1993 *Archaeological investigations in the Upper Susquehanna Valley, New York State*. Persimmon Press, Binghamton, New York.

Grills, Sara A
2012 *Phase 1 Cultural Resource Reconnaissance Survey, Village of Owego Wastewater Facility Upgrade Project (No. 2009-071) and Phase 2 Site Examination, Owego Sewage 2 Site (SUBi-3005), Village of Owego, Tioga County, New York, MCD 10740.* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Hammer, J.
1976 Identification and Distribution of Some Lithic Raw Materials from Western New York State. In *Man in the Northeast* 11:39-62.

Hatch, James A. and Christopher M. Stevenson
1980 A Functional Analysis of Fisher Farm Features. In *The Fisher Farm Site: A Late Woodland Hamlet in Context. The Archaeology of Central Pennsylvania*, Volume 1, edited by James W. Hatch, pp. 140-170. The Pennsylvania State University, Department of Anthropology Occasional Papers No. 12. University Park, Pennsylvania.

Henry, Donald O.
1989 Correlations Between Reduction Strategies and Settlement Patterns. In *Alternative Approaches to Lithic Analysis*, edited by Donald O. Henry and George H. Odell, pp. 139-156. Archaeological Papers of the American Anthropological Association, Number 1.

Horn, Claire H.
2008 *Site Examination, Carter/Fall Creek Site (SUBi-2689, NYSM 11737, USN A10107.000031), PIN 6048.20.121, NY 248 over Fall Creek, Town of Canisteo, Steuben County, New York (MCD 07102).* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Knapp, Timothy D.
1996 *Stage 3 Data Recovery Thomas/Luckey Site (SUBi-888), Town of Ashland, Chemung County, New York*. Public Archaeology Facility, Binghamton University, Binghamton, New York.

Knapp, Timothy D.
2005 Site Examination of the Parson Site (SUBi-2331). PIN 9306.73.101, 99PR1110 Phase 2 Site Examinations. Routes 7 and 206 Reconstruction, Village of Bainbridge, Town of Bainbridge, Chenango County, New York (MCDs 01742 and 01702), prepared by Sara A. Grills.

2011 *Life at the Confluence: Archaic and Woodland Occupations of the Chenango Point Site (SUBi-1274), Data Recovery Excavations for the Downtown Academic Center Project, City of Binghamton, Broome County, New York, MCD 00740.* Public Archaeology Facility, Binghamton University. Binghamton, New York.

2013 *Phase 2 Site Examination, Owego Elementary School Prehistoric Site (SUBi-3024), Flood Mitigation Area, Owego Apalachin Elementary School Project, Village of Owego (MCD 10740), Tioga County, New York.* Public Archaeology Facility, Binghamton, NY

Knapp, Timothy D. and John Stiteler
2012 *Phase 1 Cultural Resource Survey, Owego Apalachin Elementary School and Flood Mitigation Project, Village of Owego, Tioga County, New York (MCD 10740).* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Kudrle, Samuel E.
2002 *Scudder-Indian Hills Mine Expansion and Pipeline Project, Phase 2 Site Examination Scudder II Site (SUBi-2231), Town of Erwin, Steuben County, New York.* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

2004 Phase 3 Data Recovery of the River Road Site (SUBi-1077) – Loci 1, 5, and 6, Bell School Sewer Line Project, Town of Kirkwood, Broome County, New York (MCD 00708). Report prepared by the Public Archaeology Facility, SUNY Binghamton.

2005 *Sidney Municipal Airport Project. Phase 3 Data Recovery of the Sidney Hangar Site (SUBi-2073). Town of Sidney, Chenango and Delaware Counties, New York.* Public Archaeology Facility, Binghamton University, Binghamton, New York.

Lavin, L. and D. R. Prothero
1992 Prehistoric Procurement of Secondary Sources: The Case for Characterization. *North American Archaeologists* 13(2):97-113.

Miroff, Laurie E.
2000 *Cultural Resource Management Survey, Stage 1B archaeological Reconnaissance Owego/Apalachin Central School District Project, Village of Owego, Town of Owego, Tioga County, New York (MCDs 10740 and 10706).* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

2002a *Above the Valley Walls: Data Recovery of the Park Creek I (SUBi-1463, NYSM #10221), Park Creek II (SUBi-1464, NYSM #10222), and Raish (SUBi-1465, NYSM #10223) Sites in the Upper Susquehanna Valley, PIN 9066.41.122, Towns of Windsor and Kirkwood, Broome County, New York, MCDs 00716 and 00708 with contributions by Nancy Asch Sidell, David Cremeens, and Melody Pope.* Public Archaeology Facility, Binghamton University, Binghamton, New York.

2002b *Prehistoric Land Use in the Chemung Valley: Data Recovery Excavations of the Multi-component Lamb Site (SUBi-1643, NYSM #10269), PIN 6066.41.122, Town of Ashland, Chemung County, New York, MCD 01501.* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

2002c *Addendum Reconnaissance Survey and Phase 2 Site Examination, the Owego Creek Site (SUBi-2090), Owego/Apalachin Central School District Project, Town of Owego, Tioga County, New York, MCD 10706.* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Miroff, Laurie E.
2006 *A Hunting Camp above the Tioga River: Data Recovery Investigations of the Late Archaic Chilson Site (SUBi-2573, NYSM# 11705), PIN 6008.22.125, U.S. Realignment Project, Town of Lindley, Steuben County, New York, MCD 10120.).* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Miroff, Laurie E., Michaeol Jacobson, Claire Horn, and Daniel Seib
2010 *Cultural Resources Management Report, 2010-2011 Highway Program, Data Recovery Investigations, Suthrup Site (SUBi-2441, NYSM 11473), Marcer Site(SUBi-2442, NYSM 11472), Otsego III Site(SUBi-2445, NYSM 11470), Steere Site (SUBi-2448, NYSM 11468), Whitwell Site (SUBi-2447, NYSM 11469), Clark Prehistoric Site (SUBi-2449, NYSM 11467), Grasslands I Site (SUBi-2450, NYSM 11466), Grasslands II Site (SUBi-2451, NYSM 11465), PIN 9018.41.121, NY 28 from Goey Pond to the CR26 Intersection, Hamlets of Hartwick Seminary, Hyde Park, and Index, Towns of Hartwick and Otsego, Otsego County, New York, MCD 07707 and 07716, 03PR05088.* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Miroff, Laurie and Samuel M. Kudrle
2003 *Sidney Municipal Airport Project. Data Recovery for the Sidney AWOS site - Locus 1 (SUBi-2066). Town of Sidney. Chenango County, New York, MCD 01702*. Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Miroff, Laurie E. and Jeremy J. Wilson
2006 *What's the Point?: Reconsidering Culture-Historic Taxa in the Late Archaic*. Paper presented at the Annual Meeting of the Society for American Archaeology, San Juan, Puerto Rico.

Miroff, Laurie E., Jeremy J. Wilson, and Nina M. Versaggi
2008 Reconsidering Culture-Historical Taxa in the Late Archaic. *North American Archaeologist*, 29(2):157-177.

NYAC (New York Archaeological Council)
1994 *Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State.* The New York Archaeological Council, Albany. NYSED, New York State Education Department.

Parry, William J.
1987 Chipped Stone Tools in Formative Oaxaca, Mexico: Their Procurement, Production, and Use. In *Memoir No. 10, Museum of Anthropology*, University of Michigan, Ann Arbor.

Pope, Melody
1998 *Chipped Stone Artifacts from the Woodland and Archaic Occupations at 15Lo182, Logan County, Kentucky: Report of the Lithic Analysis*. Wilbur Smith Associates, Lexington, KY.

Rafferty, Sean M.
2002 *Data Recovery, Couse Goat Site, SUBi-1657 (NYSM# 10239), PIN9751.79.121/BIN3-35433-0, County Route 35 Spur over Cherry Valley Creek, Town of Middlefield, Otsego County, New York (MCD 07710).* Report prepared by the Public Archaeology Facility, SUNY Binghamton.

Rickard, L.V. and D.W. Fisher
1970 *Geologic Map of New York: Finger Lakes Sheet*. New York State Museum and Science Service; Map and Chart Series #15.

Ritchie, William A.
1980 *The Archaeology of New York State*. Purple Mountain Press, Fleischmanns, NY.

Ritchie, William A. and Robert E. Funk
1973 *Aboriginal Settlement Patterns in the Northeast*. The University of the State of New York, the State Education Department, Albany, NY.

Odell, George H.
1982 *The Typological System Employed to Process Lithic Artifacts from Sites on the FAP408 Corridor*. Contract Archaeology Program, Center for American Archaeology, Reports of Investigations, no. 128.

1996 *Stone Tools: Theoretical Insights into Human Prehistory*, edited by G. H. Odell. Plenum Books, New York.

Stahl, Ann
1985 The Dohack Site, American Bottom Archaeology, FAI-270 Site Reports, Volume 12. University of Illinois Press, Urbana.

Stewart, Marilyn
1975 *A Typology of Pits on the Engelbert Site*. Unpublished Ph.D. dissertation, Department of Anthropology, SUNY-Binghamton, New York.

1977 Pits in the Northeast: A Typological Analysis. In Current Perspectives in Northeastern Archaeology, edited by Robert E. Funk and Charles F. Hayes III, pp. 149-164. Research and Transactions of the New York State Archaeological Association 17(1). Rochester, New York.

Sullivan, Alan P. and Kenneth C. Rozen
1985 Debitage Analysis and Archaeological Interpretation. *American Antiquity* 50(4): 755-779.

Trubowitz, Neal L.
1977 *Highway Archaeology and Settlement Study of the Genesee Valley*. Thesis, State University of New York at Buffalo.

Versaggi, Nina
1987 *Hunter-gatherer settlement models and the archaeological record : a test case from the Upper Susquehanna Valley of New York*. PhD dissertation, Department of Anthropology, Binghamton University.

1996 Prehistoric Hunter-Gatherer Settlement Models: Interpreting the Upper Susquehanna Valley. In *A Golden Chronograph for Robert E. Funk, Occasional Pub lication in Northeastern Anthropology*, No. 15: 129140.

2000 An Overview of Prehistoric Settlement Patterns and Landforms in the Northern Appalachians. Paper presented in the symposium, *Current Topics in Northeast Geoarchaeology: Glaciated Landscapes* (John Hart and David Cremeens, organizers). New York State Museum, Albany.

Versaggi, Nina M., Janice M. McDonald, A. Peter Mair II, and Susanc C. Prezzano
1982 *The Southside Treatment Plant Site, SUBi-672, Cultural Resources Mitigation Project*. Public Archaeology Facility, Binghamton University. Binghamton, New York.

Versaggi, Nina M. and Laurie E. Miroff
2004 *The Vestal Phase Revisited: A New Look at the Late Archaic in the Susquehanna Valley of New York*. Paper presented at the 69th Annual Meeting of the Society for American Archaeology, Montreal, Canada.

Wurst, LouAnn and Andrea Lain
1998 *Prehistoric Occupation of the Susquehanna's "Great Bend": Phase 2 Site Examination of the Hallstead Park site SUBi-1412)*. Borough of Hallstead, Susquehanna County, Pennsylvania.

Wurst, LouAnn and Nina Versaggi
1992 *Phase 3 Archaeological Data Recovery Report. Indeck Site (SUBi-1257)*. Town of Kirkwood, New York. prepared for Indeck Energy Services, Inc.

Wurst, L. and N. Versaggi
1993 *Under the Asphalt: The Archaeology of the Binghamton Mall Project*. Public Archaeology Facility, Binghamton University. Binghamton, New York.

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January 18, 2013

Dr. Bill Russell, Superintendent
Owego Apalachin Central School District
36 Talcott Street
Owego, NY 13827

Re: Elementary School Demolition and Reconstruction - Evaluation of staging area

Dear Dr. Russell:

Per our conversation yesterday, we have reviewed our Phase 1 testing report from December 2012 written by Timothy Knapp, and evaluated our results in relation to the newly proposed staging area between the current school and George Street.

Attached is a map with the proposed staging area outlined in blue. Tim Knapp, PAF project director for this project, checked our records and verified that we did test in this area. In addition, there were some backhoe trenches. It appears that most of our STPs in this area found deep layers of fill. This was confirmed by the two backhoe trenches dug in this area. Trench 7 (closer to the road) had 60 cm (24 inches) of fill. Trench 8, to the north, documented disturbed soils to 140 cm (55 inches). We could not test where the FEMA trailers are located in this area, but only 2 STPs would have been excavated here. Extrapolating from Trench 8 and nearby STPs, fill and disturbed soils for at least 2 ft in depth are probably underneath the FEMA trailers. There are also buried utilities now in this area.

Our recommendation is that no cultural resources are present in this area to the depths of our testing. If scraping of the ground surface for the proposed staging area is restricted to the depths we discussed (6-12 inches) I do not see any concerns that SHPO or FEMA would have in this area.

Please let me know if you have questions.

Sincerely,

Nina M. Versaggi

Nina M. Versaggi, PhD RPA
Director of PAF

enc.

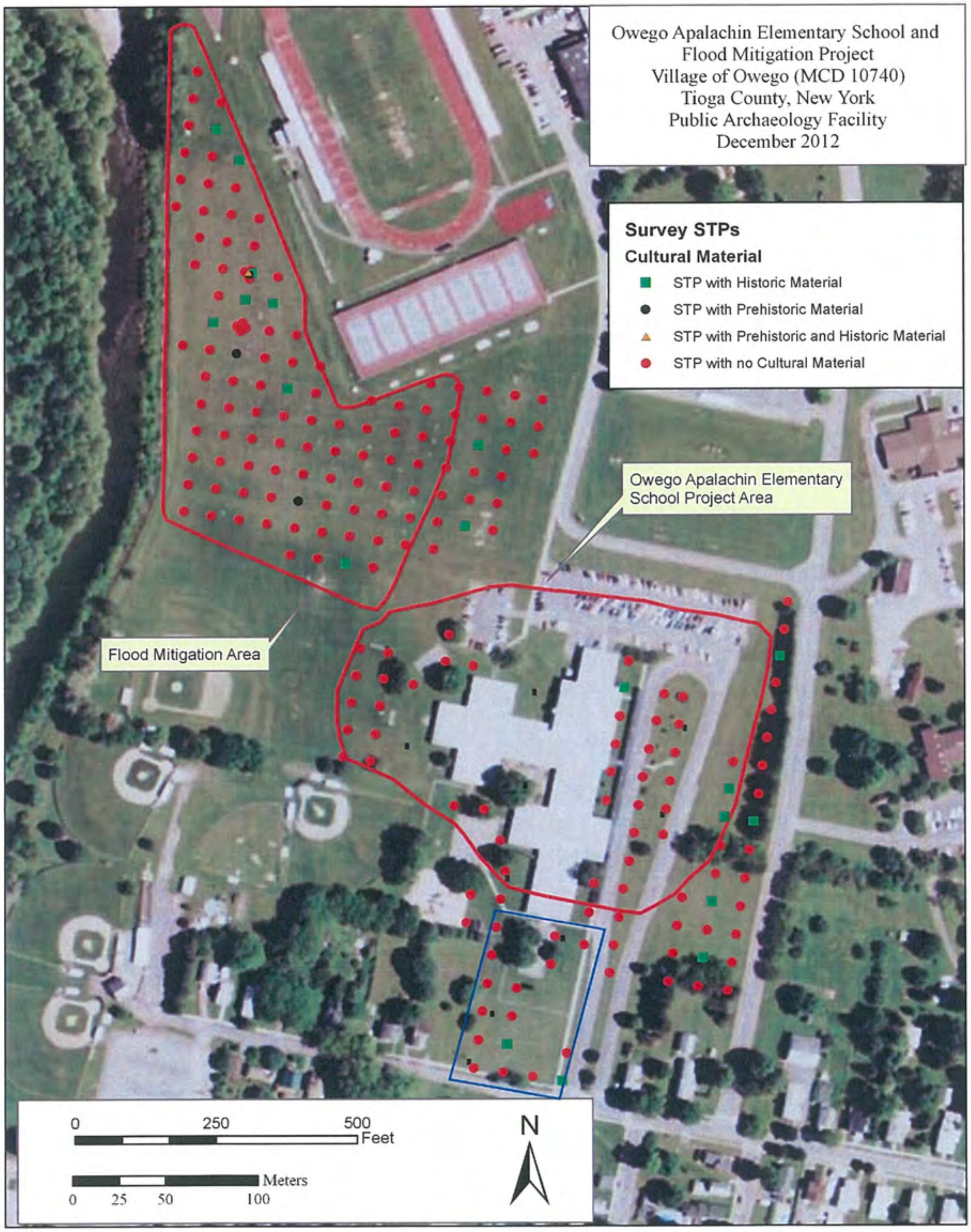


Figure showing proposed staging area (in blue) and the shovel test pits (red) and backhoe trenches (green) excavated during Phase 1 testing.

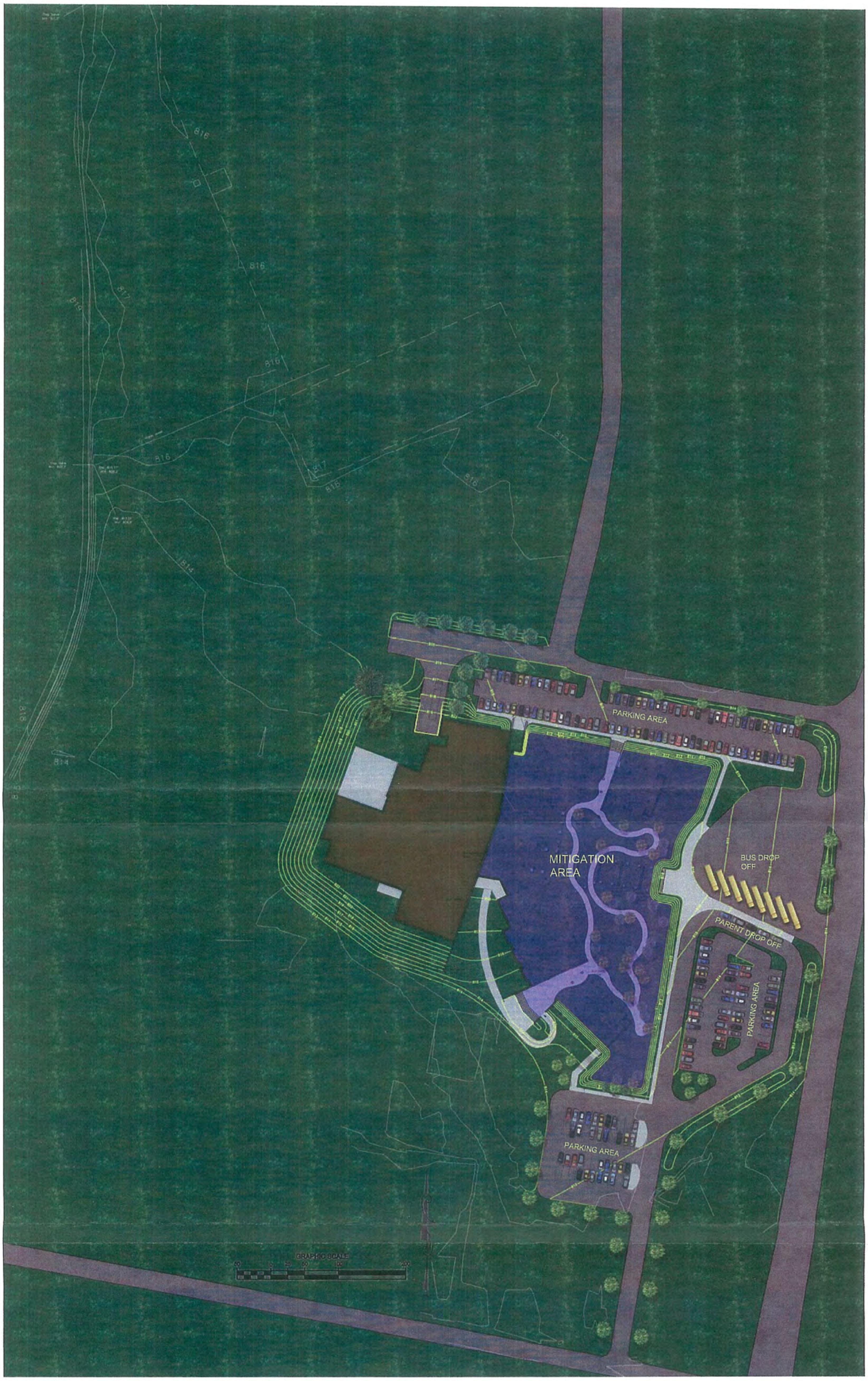
HIGHLAND ASSOCIATES

SITE MITIGATION PLAN

DECEMBER 13, 2012

OWEGO ELEMENTARY PROPOSED FILL OPTION

Owego Apalachin Central School District



SITE MITIGATION PLAN

DECEMBER 13, 2012

OWEGO ELEMENTARY PROPOSED STILT OPTION

Owego Apalachin Central School District

HIGHLAND ASSOCIATES