APPENDIX D

Stormwater Report Tables

TABLE 4A

THE MARKETPLACE
NEWBURGH, NEW YORK

DRAINAGE ANALYSIS DESIGN DATA

DRAINAGE AREA	LAND USE	HYDRO. GROUP & ACREAGE B	CN	C	CN	D	CN	AREA TOTAL		TIME OF CONCENTRATION
EXISTING CONDITIONS										
A	WOODS		55	35.1	70	7.5	77	42.6	3034.5	100' overland paved @ 2%
	BRUSH			0.2	65		73	0.2	13.0	1363' SC paved @ 2%
										687' CF @ 2fps
	Area Total:			35.3		7.5		**42.8**	3047.5	
							WEIGHTED CN:		71.2	
							Use:		**71**	
A-1	WOODS		55	5.6	70		77	5.6	392.0	
	BRUSH			0.1	65		73	0.1	6.5	
	WATER	0.4	100					0.4	40.0	
	COMMER		92	8.3	94		95	8.3	780.2	
	Area Total:			14.0		0.0		**14.4**	1218.7	
							WEIGHTED CN:		84.6	
							Use:		**85**	
B	WOODS		55	1.0	70		77	1.0	70.0	100' overland unpaved @ 11%
										218' SC unpaved @ 16%
	Area Total:			1.0		0.0		**1.0**	70.0	
							WEIGHTED CN:		70.0	
							Use:		**70**	
C	WOODS		55	36.6	70	21.6	77	58.2	4225.2	100' overland unpaved @ 12%
	BRUSH			2.6	65	0.3	73	2.9	190.9	1460' SC unpaved @ 5%
	COMMER		92	2.0	94		95	2.0	188.0	
	Area Total:			41.2		21.9		**63.1**	4604.1	
							WEIGHTED CN:		73.0	
							Use:		**73**	
D	WOODS		55	7.6	70	2.6	77	10.2	732.2	100' overland unpaved @ 15%
	1/4 ACRE		75	1.0	83		87	1.0	83.0	1191' SC unpaved @ 16%
	Area Total:			8.6		2.6		**11.2**	815.2	
							WEIGHTED CN:		72.8	
							Use:		**73**	
E	WOODS	3.4	55		70	1.6	77	5.0	310.2	100' overland unpaved @ 2%
	BRUSH	0.2	48		65		73	0.2	9.6	455' SC unpaved @ 8%
	Area Total:			0.0		1.6		**5.2**	319.8	
							WEIGHTED CN:		61.5	
							Use:		**62**	

TABLE 4A

THE MARKETPLACE
NEWBURGH, NEW YORK

DRAINAGE ANALYSIS DESIGN DATA

DRAINAGE AREA	LAND USE	HYDRO. GROUP & ACREAGE B	CN	C	CN	D	CN	AREA TOTAL		TIME OF CONCENTRATION
PROPOSED CONDITIONS										
AA-1	WOODS	3.3	55	5.0	70	0.3	77	8.6	554.6	100' overland paved @ 2%
	IMPERV	0.6	98					0.6	58.8	1363' SC paved @ 2%
	GRASS		61	4.9	74	0.1	80	5.0	370.6	158' CF @ 5fps
										529' CF @ 2fps
	Area Total:	3.9		9.9		0.4		**14.2**	984.0	
							WEIGHTED CN:		69.3	
							Use:		**69**	
AA-2	COMMER		92	38.9	94	7.5	95	46.4	4369.1	10 minutes = .17 hours for building
	GRASS		61	3.9	74	0.7	80	4.6	344.6	1850' CF @ 5fps
	Area Total:	0.0		42.8		8.2		**51.0**	4713.7	
							WEIGHTED CN:		92.4	
							Use:		**92**	
A-1	WOODS		55	5.6	70		77	5.6	392.0	
	BRUSH			0.1	65		73	0.1	6.5	
	WATER	0.4	100					0.4	40.0	
	COMMER		92	8.3	94		95	8.3	780.2	
	Area Total:	0.4		14.0		0.0		**14.4**	1218.7	
							WEIGHTED CN:		84.6	
							Use:		**85**	
BB	WOODS		55	0.1	70		77	0.1	7.0	use 0.0833
	Area Total:	0.0		0.1		0.0		**0.1**	7.0	
							WEIGHTED CN:		70.0	
							Use:		**70**	
CC-1	WOODS		55	4.1	70	0.8	77	4.9	348.6	100' overland unpaved @ 1%
	GRASS		61	1.1	74	1.3	80	2.4	185.4	287' SC unpaved @ 1.5%
										3690' CF @ 2fps
	Area Total:	0.0		5.2		2.1		**7.3**	534.0	
							WEIGHTED CN:		73.2	
							Use:		**73**	
CC-2	WOODS	0.0	55	0.6	70	0.8	77	1.4	106.0	100' overland unpaved @ 20%
	GRASS		61	0.1	74	0.1	80	0.3	20.0	490' SC unpaved @ 29%
	Area Total:	0.0		0.7		0.9		**1.7**	126.0	
							WEIGHTED CN:		74.1	
							Use:		**74**	

TABLE 4A

THE MARKETPLACE
NEWBURGH, NEW YORK

DRAINAGE ANALYSIS DESIGN DATA

DRAINAGE AREA	LAND USE	HYDRO. GROUP & ACREAGE B	CN	C	CN	D	CN	AREA TOTAL		TIME OF CONCENTRATION
CC-3	COMMER		92	7.0	94	3.6	95	10.6	1000.0	10 minutes = .17 hours for building 195' CF @ 5fps
	Area Total:	0.0		7.0		3.6		**10.6**	1000.0	
							WEIGHTED CN:		94.3	
							Use:		**94**	
CC-4	COMMER		92	18.2	94	7.3	95	25.5	2404.3	10 minutes = .17 hours for building 1600' CF @ 5fps
	Area Total:	0.0		18.2		7.3		**25.5**	2404.3	
							WEIGHTED CN:		94.3	
							Use:		**94**	
DD	WOODS		55	4.8	70	1.8	77	6.6	474.6	100' overland unpaved @ 9%
	1/4 ACRE		75	1.0	83		87	1.0	83.0	775' SC unpaved @ 20%
	Area Total:	0.0		5.8		1.8		**7.6**	557.6	
							WEIGHTED CN:		73.4	
							Use:		**73**	

TABLE NO. 7A

MARKETPLACE AT NEWBURGH
NEWBURGH, NEW YORK

WEIGHTED POLLUTANT CONCENTRATIONS BASED ON LAND COVER CONDITIONS

WATERSHED/ SUBBASIN ID	AREA BY LAND COVER							TSS	TP	TN	METALS	BACTERIA
	ROOF (ac)	PKG/WALKS (ac)	DRIVEWAY (ac)	STREET (ac)	LAWN (ac)	LANDSCAPE (ac)	TOTAL AREA (ac)	WGT. C [1] (mg/l)	WGT. C [1] (mg/l)	WGT. C [1] (mg/l)	WGT. C [1] (mg/l)	WGT. C [2] (1000 col /ml)
EXISTING ON-SITE LAND COVER CONDITIONS												
A	2.63	4.43	0.00	0.00	0.00	49.74	56.80	35	1.86	8.21	0.01	82.8
B	0.00	0.00	0.00	0.00	0.00	1.00	1.00	37	2.10	9.10	0.00	94.0
C	0.03	0.39	0.00	1.28	0.00	61.40	63.10	40	2.06	8.90	0.00	92.3
D	0.09	0.00	0.00	0.29	0.00	10.72	11.10	37	2.04	8.84	0.00	91.8
Total or Wgt. Ave.							**132.00**	**37.4**	**1.97**	**8.60**	**0.01**	**88.2**
DEVELOPED ON-SITE LAND COVER CONDITIONS												
AA-1	2.63	5.03	0.00	0.00	6.24	14.30	28.20	158	1.57	7.16	0.24	54.1
AA-2	12.91	26.53	0.00	0.00	11.56	0.00	51.00	153	0.80	3.58	0.27	8.7
BB	0.00	0.00	0.00	0.00	0.00	0.10	0.10	37	2.10	9.10	0.21	94.0
CC-1	0.00	0.00	0.00	0.00	2.40	4.90	7.30	223	2.10	9.10	0.23	71.0
CC-2	0.00	0.00	0.00	0.00	0.30	1.40	1.70	137	2.10	9.10	0.22	81.6
CC-3	2.02	6.99	0.00	0.00	1.59	0.00	10.60	92	0.44	3.02	0.28	7.6
CC-4	4.09	17.59	0.00	0.00	3.82	0.00	25.50	507	0.44	3.01	0.28	7.8
DD	0.09	0.00	0.00	0.29	0.62	6.60	7.60	88	2.02	8.72	0.22	85.0
Total or Wgt. Ave.							**132.00**	**217**	**1.02**	**4.87**	**0.26**	**27.0**

NYSDEC POLLUTANT CONCENTRATIONS FROM SOURCE AREAS							
AREA	TSS [3]	TP [4]	TN [5]	Metals [6]			Bacteria
				Copper	Zinc	AVERAGE	
	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	1000col/ml
Residential Roof	19	0.11	1.5	0.02	0.31	0.17	0.3
Commercial Roof	9	0.14	2.1	0.01	0.26	0.13	1.1
C/R Parking / Walks	27	0.15	1.9	0.05	0.14	0.10	5.8
Residential Street	172	0.55	1.4	0.03	0.17	0.10	37.0
Lawns	602	2.10	9.1	0.02	0.05	0.03	24.0
Landscaping	37	-	-	0.09	0.26	0.18	94.0
Driveways	173	0.56	2.1	0.02	0.11	0.06	17.0

1. The Simple Method for **CHEMICAL CONSTITUENTS**, L = 0.226*R*C*A, Appendix A, New York State Stormwater Management Design Manual, October 2001, page A-1.
2. The Simple Method for **BACTERIA**, L = 103*R*C*A, Appendix A, New York State Stormwater Management Design Manual, October 2001, page A-1.
3. TSS = Total Suspended Solids
4. TP = Total Phosphorous
5. TN = Total Nitrogen
6. Metals = The Average of Copper and Zinc as representative indicators.

TABLE NO. 9A

MARKETPLACE AT NEWBURGH
NEWBURGH, NEW YORK

ESTIMATED STORMWATER POLLUTANT LOADS

WATER SHED/ SUBBASIN ID	A TOTAL AREA (ac)	P ANNUAL RAIN (in)	(1) R_v RUNOFF COEFF.	(2) R ANNUAL RUNOFF (in)	(3) SMP	Subsequent SMP (3)	TOTAL SS					TOTAL PHOSPHOROUS					TOTAL NITROGEN					METALS					BACTERIA				
							WGT. C (mg/l)	LOAD (lbs/yr)	REM. (%)	SBSQNT REM. (%)	NET (lbs/yr)	WGT. C (mg/l)	LOAD (lbs/yr)	REM. (%)	SBSQNT REM. (%)	NET (lbs/yr)	WGT. C (mg/l)	LOAD (lbs/yr)	REM. (%)	SBSQNT REM. (%)	NET (lbs/yr)	WGT. C (mg/l)	LOAD (lbs/yr)	REM. (%)	SBSQNT REM. (%)	NET (lbs/yr)	WGT. C (1000 col /ml)	LOAD (colonies /yr)	REM. (%)	SBSQNT REM. (%)	NET (colonies /yr)
EXISTING ON-SITE POLLUTANT LOADS																															
A	57.20	49.5	0.20	9	1	1	35	4023	0%	0%	4023	1.86	214	0%	0%	214	8.2	946	0%	0%	946	0.01	1.6	0%	0%	1.6	82.8	4347539	0%	0%	4347539
B	1.00	49.5	0.20	9	1	1	37	75	0%	0%	75	2.10	4	0%	0%	4	9.1	18	0%	0%	18	0.00	0.0	0%	0%	0.0	94.0	86267	0%	0%	86267
C	63.10	49.5	0.20	9	1	1	40	5040	0%	0%	5040	2.06	261	0%	0%	261	8.9	1130	0%	0%	1130	0.00	0.3	0%	0%	0.3	92.3	5342340	0%	0%	5342340
D	11.10	49.5	0.20	9	1	1	37	824	0%	0%	824	2.04	46	0%	0%	46	8.8	198	0%	0%	198	0.00	0.1	0%	0%	0.1	91.8	934647	0%	0%	934647
Total or Wgt. Ave.	**132.40**							9961		0%	**9961**		525		0%	**525**		2292		0%	**2292**		2.0		0%	**2.0**		10710793		0%	**10,710,793**
DEVELOPED ON-SITE POLLUTANT LOADS WITHOUT TREATMENT																															
AA-1	28.60	49.5	0.29	13	1	1	158	13210	0%	0%	13210	1.57	131	0%	0%	131	7.2	600	0%	0%	600	0.24	20.2	0%	0%	20.2	54.1	2066951	0%	0%	2066951
AA-2	51.00	49.5	0.75	33	1	1	153	58522	0%	0%	58522	0.80	306	0%	0%	306	3.6	1372	0%	0%	1372	0.27	103.2	0%	0%	103.2	8.7	1525057	0%	0%	1525057
BB	0.10	49.5	0.20	9	1	1	37	7	0%	0%	7	2.10	0	0%	0%	0	9.1	2	0%	0%	2	0.21	0.0	0%	0%	0.0	94.0	8627	0%	0%	8627
CC-1	7.30	49.5	0.20	9	1	1	223	3274	0%	0%	3274	2.10	31	0%	0%	31	9.1	134	0%	0%	134	0.23	3.4	0%	0%	3.4	71.0	475568	0%	0%	475568
CC-2	1.70	49.5	0.20	9	1	1	137	468	0%	0%	468	2.10	7	0%	0%	7	9.1	31	0%	0%	31	0.22	0.8	0%	0%	0.8	81.6	127381	0%	0%	127381
CC-3	10.60	49.5	0.82	36	1	1	92	8003	0%	0%	8003	0.44	38	0%	0%	38	3.0	263	0%	0%	263	0.28	24.4	0%	0%	24.4	7.6	302636	0%	0%	302636
CC-4	25.50	49.5	0.82	36	1	1	507	106086	0%	0%	106086	0.44	92	0%	0%	92	3.0	630	0%	0%	630	0.28	59.4	0%	0%	59.4	7.8	741383	0%	0%	741383
DD	7.60	49.5	0.20	9	1	1	88	1347	0%	0%	1347	2.02	31	0%	0%	31	8.7	133	0%	0%	133	0.22	3.3	0%	0%	3.3	85.0	592884	0%	0%	592884
Total or Wgt. Ave.	**132.40**							190920		0%	**190920**		637		0%	**637**		3165		0%	**3165**		214.7		0%	**214.7**		5840485		0%	**5,840,485**
DEVELOPED ON-SITE POLLUTANT LOADS WITH TREATMENT																															
AA-1	28.60	49.5	0.29	13	1	1	158	13210	0%	0%	13210	1.57	131	0%	0%	131	7.2	600	0%	0%	600	0.24	20.2	0%	0%	20.2	54.1	2066951	0%	0%	2066951
AA-2	51.00	49.5	0.75	33	2	1	153	58522	80%	0%	11704	0.80	306	50%	0%	153	3.6	1372	35%	0%	892	0.27	103.2	60%	0%	41.3	8.7	1525057	70%	0%	457517
BB	0.10	49.5	0.20	9	1	1	37	7	0%	0%	7	2.10	0	0%	0%	0	9.1	2	0%	0%	2	0.21	0.0	0%	0%	0.0	94.0	8627	0%	0%	8627
CC-1	7.30	49.5	0.20	9	1	1	223	3274	0%	0%	3274	2.10	31	0%	0%	31	9.1	134	0%	0%	134	0.23	3.4	0%	0%	3.4	71.0	475568	0%	0%	475568
CC-2	1.70	49.5	0.20	9	1	1	137	468	0%	0%	468	2.10	7	0%	0%	7	9.1	31	0%	0%	31	0.22	0.8	0%	0%	0.8	81.6	127381	0%	0%	127381
CC-3	10.60	49.5	0.82	36	5	1	92	8003	90%	0%	800	0.44	38	70%	0%	11	3.0	263	50%	0%	131	0.28	24.4	90%	0%	2.4	7.6	302636	90%	0%	30264
CC-4	25.50	49.5	0.82	36	2	1	507	106086	80%	0%	21217	0.44	92	50%	0%	46	3.0	630	35%	0%	410	0.28	59.4	60%	0%	23.8	7.8	741383	70%	0%	222415
DD	7.60	49.5	0.20	9	1	1	88	1347	0%	0%	1347	2.02	31	0%	0%	31	8.7	133	0%	0%	133	0.22	3.3	0%	0%	3.3	85.0	592884	0%	0%	592884
Total or Wgt. Ave.	**132.40**							190920		73%	**52030**		637		35%	**411**		3165		26%	**2333**		214.7		56%	**95.2**		5840485		32%	**3,981,606**

NYSDEC SUGGESTED REMOVAL RATES FOR SMPs [3]

No.	TYPE	REMOVAL RATE				
		TSS	TP	TN	Metals	Bacteria
1	NO SMP MEASURE	0%	0%	0%	0%	0%
2	WET PONDS	80%	50%	35%	60%	70%
3	STORMWATER WETLANDS	80%	50%	30%	40%	80%
4	FILTERING PRACTICES	85%	60%	40%	70%	35%
5	INFILTRATION PRACTICES	90%	70%	50%	90%	90%
6	WATER QUALITY SWALES	85%	40%	50%	70%	0%

1. $Rv = 0.05 + 0.009(I)$, Minimum Rv=0.2
2. $R = P * P_j * R_v$; Pj = Fraction of annual rainfall events that produce runoff, usually 0.9 (Per NYSDEC Stormwater Management Design Manual, Appendix A, Page A-4)
3. Table A-4. Suggested Removal Rates for SMPs, NYSDEC Stormwater Management Design Manual, Appendix A, Page A-7. Subsequent measures remove assigned percentage of pollutants remaining from proceeding measure.
4. The Simple Method for **CHEMICAL CONSTITUENTS**, L = 0.226*R*C*A, Appendix A, New York State Stormwater Management Design Manual, October 2001, page A-1.
5. The Simple Method for **BACTERIA**, L = 103*R*C*A, Appendix A, New York State Stormwater Management Design Manual, October 2001, page A-1.
6. TSS = Total Suspended Solids
7. TP = Total Phosphorous
8. TN = Total Nitrogen
9. Metals = The Average of Copper and Zinc as representative indicators.

APPENDIX E

Cultural Resources
Phase 1A and 1B Reports

PHASE I CULTURAL RESOURCES SURVEY
SITE ASSESSMENT AND SITE IDENTIFICATION PHASES
PROPOSED MARKET PLACE DEVELOPMENT
TOWN OF NEWBURGH, ORANGE COUNTY, NEW YORK

Prepared for
Tim Miller Associates, Inc.
10 North Street
Cold Spring, New York 10516

Prepared by
Stephen J. Oberon
Columbia Heritage, Ltd.
56 North Plank Road - Suite 287
Newburgh, New York 12550

Report CA517AB-3-7-06
July 2006

REPORT SUMMARY - THE MARKET PLACE

SHPO Project Review Number (if available):

Involved State and Federal Agencies: **NYSDEC**

Phase Of Survey: **Phase I**

Location Information:
Location: **Union Avenue (NYS 300), South Plank Road (NYS 52)**
Minor Civil Division: **Town of Newburgh**
County: **Orange**

Survey Area:
Length: **5600 feet (1706 meters)**
Width: **1400 feet (427 meters)**
Depth (where appropriate): **n/a**
Number of Acres: **127.6 (51.6 hectares)**

USGS 7.5-Minute Quadrangle Map: **Newburgh**

Archaeological Survey Overview:
Number & Interval of Shovel Tests: **1179 tests @ 50 feet (15 meters); 8 @ 10 feet (3 meters)**
Number & Size of Units: **n/a**
Width of Plowed Strips: **n/a**
Surface Survey Transect Interval: **n/a**

Results of Archaeological Survey
Number & name of prehistoric sites identified: **0**
Number & name of historic sites identified: **0**
Number & name of sites recommended for Phase II/Avoidance: **n/a**

Results of Architectural Survey
Number of potentially eligible buildings/structures/cemeteries within project area: **0**
Number of potentially eligible buildings/structures/cemeteries adjacent to project area: **0**
Number of previously determined NR listed or eligible buildings/structures/cemeteries/districts: **0**
Number of identified eligible buildings/structures/cemeteries/districts: **0**

Report Author(s): **Stephen J. Oberon**

Date of Report: **20 July 2006**

TABLE OF CONTENTS

INTRODUCTORY SUMMARY

Commercial development is proposed for an approximately 127.6-acre (51.6-hectare) parcel located in the northeastern part of the Town of Newburgh in northeastern Orange County, New York. The affected area consists of flat, gently, moderately and steeply sloping abandoned farmland and pasture and lies north of Interstate 84, east of Union Avenue (NYS Route 300), south of Meadow Avenue, and southwest of South Plank Road (NYS Route 52), some 1.7 miles (2.8 kilometers) northwest of the City of Newburgh and some 0.5 miles (0.8 kilometers) east of Interstate 87 (The New York State Thruway).

A Phase IA site assessment study was carried out between January and November 2005 to evaluate the potential of the study area for containing buried Native and/or European American era cultural remains, based on known settlement patterns associated with these two occupations, documented cultural resources in the immediate vicinity of the parcel, and a reconnaissance of the property to identify subareas of greater and lesser archaeological sensitivity. The flatter portions of the affected area are considered to have an above-average potential for containing buried Native American cultural remains. The northwesternmost portion of the property is identified as having the highest potential for containing buried structural remains and/or cultural features pertaining to the European American era of occupation. Six residences, a commercial structure and associated outbuildings stand within the study area.

As part of the Phase IA study, standing structures adjacent to and within view of the study area were evaluated with regard to meeting minimum age requirements for inclusion on the State or National Register of Historic Places. No structures meeting these criteria were identified within view of the proposed development. The Orange Mill Historic District, whose southwestern edge is located across South Plank Road from the northeasternmost portion of the study area, has at most a possible view of the northeastern entrance drive of the proposed development.

Based on the recommendations of the Phase IA site assessment study, a Phase IB site identification survey was carried out between October 2005 and March 2006 to determine whether buried cultural remains are in fact subject to project impact. The survey investigated the affected area by means of hand-dug screened shovel test holes. Evidence of Native American activity was encountered in one of the 1179 shovel tests executed. Close-interval sampling around this location produced no additional cultural material. A small number of late twentieth century European American era items was encountered in a sparse, scattered context in sampling in the vicinity of Union Avenue, the Interstate 84 right-of-way, behind the existing residential structures adjacent to the eastern portion of the development parcel, and on the existing house lots sampled along Brookside Avenue and South Plank Road.

The findings of this survey indicate that proposed development will have no effect on cultural resources and no further archaeological investigation is recommended.

PHASE IA SITE ASSESSMENT STUDY

PROJECT BACKGROUND

Proposed commercial development encompasses approximately 127.6 acres (51.6 hectares) of flat to gently to moderately and steeply sloping terrain in northeastern Orange County, in the south eastern portion of the State of New York. The parcel lies in the central portion of the Town of Newburgh, just north of Interstate 84, southeast of Meadow Avenue, and east of Union Avenue (NYS Route 300), roughly 1.7 miles (2.8 kilometers) northwest of the limits of the City of Newburgh. After being joined by an unnamed tributary that drains the expanse of wetlands to the west of Union Avenue, Quassaic Creek, a major local drainage stream, flows in a generally northwest-to-southeast direction through Algonquin Park and passes across the narrow eastern portion of the study area before crossing under Interstate 84. Winona Lake, formed by damming the creek in the twentieth century, is located just to the northeast, between the study area and South Plank Road (NYS Route 52). Eight residences, along with associated sheds and garages, stand in the northeasternmost part of the study area along Brookside Avenue and South Plank Road.

Proposed development involves clearing existing vegetation, grading, construction of five major retail outlets, three smaller retail complexes, associated parking and internal roads, the installation of utilities, and landscaping. The structures currently standing in the northeastern corner of the parcel will be demolished to make way for an access road connecting to South Plank Road.

The proposed development site is located in the northeastern part of the Wallkill Valley portion of the Hudson-Mohawk Lowlands region of New York State, a broad, open valley drained by the Wallkill River, adjacent to the Hudson Valley. The west bank of the Hudson River is located some 5.4 miles (8.7 kilometers) east of the study area. The region is geologically characterized by shale and shaley sandstone bedrock covered by glacial drift, overlain by shallow acid soils on glacial till (Thompson 1966: Figs. 8 & 33). Soils within the affected area are generally characterized by good drainage. Specifically, soils present consist of Mardin gravelly silt loam (over approximately 30.7% of the site), Bath-Nassau shaley silt loam (22.8%), Farmington silt loam (11.1%), Pittsfield gravelly loam (8%), and Canandaigua silt loam (7.5%), with Rock Outcrop Farmington (2.6%) and Rock Outcrop Nassau complex (3.3%) in the two most steeply sloping subareas with considerable exposed bedrock, and Udorthents found in cut-and-fill subareas nearest I-84 that make up roughly 0.9% of the site. These soil types are characterized as follows in the Soil Survey of Orange County.

Name	Soil Horizon Depth in (cm)	Color	Texture, Inclusions	Slope %	Drainage	Landform
Mardin gravelly silt loam (MdB&MdC)	Ap 0-8 (0-20) B2 8-15 (20-37.5) A'2 15-20 (37.5-50) B'x 20-60 (50-150)	DkBr YeBr PaBr OlBr	GrSiLo GrSiLo GrSiLo ChSiLo	3-8(MdB) 8-15(MdC)	moderately well	glacial till deposits
Bath-Nassau shaly silt loam (BnB)	Ap 0-9 (0-22.5) B21 9-16(22.5-40) B22 16-26 (40-65) B23 26-29 (65-72.5) Bx 29-53 (72.5-132)	DkBr YeBr YeBr OlBr OlBr	ShSiLo ShSiLo ShSiLo ShSiLo VShLo	3-8	very well	glacial till deposits
Farmington silt loam (FAC)	Ap 0-8 (0-20) B2 8-19 (20-47.5) IIR 19 (47.5)	GrBr YeBr Gr	SiLo Si Lo LiBe	8-15	well	glacial till deposits
Pittsfield gravelly loam (PtB)	Ap 0-10 (0-25) B21 10-23 (25-57.5) B22 23-30 (57.5-75) B23 30-34 (75-85) C 34-60 (85-150)	VDkBr YeBr YeBr DkYeBr Br	GrLo GrLo GrFiSaLo GrFiSaLo GrSaLo	3-8	well	glacial till deposits
Canandaigua silt loam (Ca)	Ap 0-8 (0-20) B21g 8-20 (20-50) B22g 20-35 (50-87.5) IIC1 35-50 (87.5-125) IIC2 50-60(125-150)	VDkGr DkGrBr GrBr DkBr DkBr	SiLo SiLo SiClLo FiSa FiSa	<2	poorly	glacial lake deposits
Rock outcrop-Nassaucomplex (RSB)	A 0-10 (0-25) B 10-18 (0-45) C 18 (45)	DkGrBr YeBr Bl	ShSiLo YeBrVShSiLo ShBe	3-8	excessively	glacial till deposits
Rock outcrop-Farmington (RMD)	A 0-6 (0-15) B 6-14 (15-35) C 14 (35)	DkGrBr Ye Br Gr	SiLo SiLo LiBe	15-35	well to excessively	glacial till deposits
Rock outcrop-Arnot complex (RKD)	A 0-3 (0-7.5) B 3-9 (7.5-22.5) C 9 (22.5)	DkBr ReBr BrGr	ChLo VChLo SaBe	15-35	well to moderately well	glacial till deposits
Udothents (UH)	n/a	n/a	n/a	0-2	moderately to excessively	industrial/urban development

Abbreviations

Dk - dark Ye - yellow Lo - loam Si - silt Me - medium Fi - fine
Pa - pale Gr - grey Lt - light Cl -clay Sa - sand Sh - shale Be - bedrock
Li - limestone Sa - sandstone Br - brown Ol - olive Ch - channery V - very

The ground surface consists of flat to gently, moderately and very steeply sloping recently abandoned farm and pasture lands, generally flat in the west and northwest and in the southeastern corner, while rising to maximum elevation in the east central area. The study area is bordered on the west and northwest by commercial development along Union Avenue and the western end of Meadow Avenue, by Interstate 84 on the south and by residential housing on the north, east, and northeast. The development parcel is populated by grasses, scrub vegetation and young forest with mature trees present in small groups or as individuals and is crossed by numerous dry-laid stone farm walls.

A Phase IA site assessment study was performed between January and November 2005, as project limits were finalized and documentary material was gathered. Stephen Oberon, served as Principal Investigator, assisted by Kim Croshier, using resources of the Newburgh Free Library, the Orange County Historical Society in Goshen, the New York State Office of Parks, Recreation and Historic Preservation and the New York State Museum in Albany. A walking reconnaissance of the study area was carried out by the Principal Investigator, at which time the relative archaeological potential of the various subareas was assessed, any prior disturbance and other factors likely to reduce such potential were noted, and any structures with a view of the proposed development that meet the minimum age requirement for listing on the State and National Register of Historic Places were photodocumented.

CULTURAL BACKGROUND AND SENSITIVITY ASSESSMENT

As mentioned, the study area consists of flat to gently, moderately and steeply sloping former agricultural land and pasture, populated by grasses, scrub vegetation and young forest, with recently deposited refuse noted along the portions bordering Meadow Road, Union Avenue and abutting residential structures along Hilton Avenue and New Street south of South Plank Road. These single-family houses date from the middle decades of the twentieth century. A gas station located along the east side of Union Avenue within the property limits has recently been razed. Reconnaissance, carried out during minimum leaf conditions and with no snow cover, revealed no visible ruins within the study area. Project plans call for the demolition of seven structures on six lots located along the southeastern end of Brookside Avenue and one along the west side of South Plank Road to accommodate an access road to the southeast.

Historic Structures

No structures currently listed on, nominated to or determined eligible for inclusion in the State or National Register of Historic Places stands adjacent to or within view of the proposed development.

The National Register-listed Orange Mills Historic District, the site of the former black powder manufacturing complex in the Town of Newburgh, adjoins the extreme northeastern corner of the study area, where Meadow Avenue meets Powder Mill Road. The district encompasses a 20-acre (8-hectare) area extending north from the portion of South Plank Road east of Meadow Avenue and includes both sides Powder Mill Road and roughly the western half of the County recreational property now known as Algonquin Park. It contains the ruins of 26 industrial resources and five residences associated with the black powder manufacturing complex, with a total of 41 contributing resources, including three mill ponds. Only the proposed northeast access drive of the Market Place construction may be visible from the extreme southwest point of this historic district. Five structures proposed for demolition meet minimum age requirements for inclusion on the State and National Register of Historic Places. These are located at 25 Brookside, 27 Brookside, 29 Brookside, 31 Brookside, and 53 South Plank Road. Photodocumentation of these buildings performed as part of this survey are included in Appendix B of this document.

Native American Era

No sites of Native American occupation have been listed in State Historic Preservation Office and New York State Museum files for this portion of the Quassaic Creek drainage within one mile (1.6 kilometers) of the study area. Other sites documented along other portions of the creek and in this part of the Hudson Valley point to the presence of aboriginal inhabitants from at least the Late Archaic through the Late Woodland periods, spanning a time from approximately 2000BC through the arrival of Europeans around AD 1680. In assessing the potential for Native American presence in the vicinity of the affected area, it must also be remembered that this area has never had the benefit of a systematic professional archaeological survey, with known sites having been encountered by chance during construction of roads, railroads or buildings, through the clearing and cultivation of agricultural fields, by avocational archaeologists inspecting plowed fields, and through

investigations, such as is represented by the present survey, of specific areas for which some type of development or construction project is proposed (Oberon 1996, 2003, 2004; Thomas 1994, 1996, 2004; Eisenberg 1982). Consequently, the number and range of Native American occupation sites actually present in this part of the Town of Newburgh are likely to be underrepresented in the site files with regard to both temporal and spatial distribution.

The potential must therefore be recognized for flatter portions of the study area that retain upper soils to have seen what would most likely have been seasonal occupations by small groups exploiting the plant and animal resources offered by the nearby streams to the east and north and wetland environments to the south. Such occupations would most likely have been a component in the seasonal patterns of movement that characterized indigenous populations through at least the Archaic and Transitional periods, although small seasonal occupation sites were also present during later times.

As noted, Native American archaeological remains likely to be present in the study area would probably consist of small, seasonally occupied camps that would have supported small numbers of people for short periods of time, probably on a recurring basis. Cultural remains associated with such sites typically are sparse, shallow and spatially restricted, although they may include hearths, storage pits and/or traces of structures. Larger sites may also include extensive refuse deposits and fortifications. Exposed veins of lithic resources suitable for the manufacture of stone tools, and rock formations such as caves and overhangs that could provide shelter, are also likely to have attracted the indigenous population of the area, as are certain natural phenomena, such as springs and unique rock formations, that would have held religious significance. The physiographic character of the study area precludes the presence of these latter categories of sites.

Reconnaissance of the property noted no exposed deposits of lithic material known to have been used in the manufacture of stone tools, no rock overhangs or caves that might have served as shelters, and no natural features known to have been endowed with religious significance. However, the potential may be seen to exist for the presence within the study area of Native American cultural remains pertaining to smaller, seasonally-occupied camps during any and all periods during which this region saw human occupation. The known presence of glacially deposited chert cobbles and boulders on and near the ground surface of this portion of the Town of Newburgh creates a potential for the presence of the remains of small lithic workshops where such opportunistic exploitation of stone resources might have taken place.

European American Era

European American era settlement of this portion of what is now the Town of Newburgh dates to the early decades of the eighteenth century, when most early settlement was focused along the Hudson River at places such as Orangeville, New Windsor to the south and Balmville to the north. Inland from the river, small nucleated settlements developed around the intersections of major roadways and at locations where suitable water power was available to drive small, locally-oriented industries. The hamlets of Fostertown to the northeast of the study area and Gardnertown to the north are examples of this phenomenon, along with the early cluster of structures around the powder mills situated just to the north and northeast of the study area. Operating as a water power-driven industry before shifting to steam after the Civil War, this enterprise and the area it occupied was

known as Powder Works and Orange Mills during the nineteenth century. The remains of this early industrial complex are now contained in the National Register Historic District discussed above. The Orange Mills produced black powder under a series of owners between 1815, when Asa Taylor purchased and converted Elnathan Foster's sawmill, and 1901, when the E.I. DuPont de Nemours Company completed its control of the industry by acquiring the Laflin and Rand Powder Company (Cornell 1991: 22, 25-26). This shift is reflected in maps published at the beginning of the twentieth century, which show the focus of the Gardnertown community, along with its postal designation, having shifted southeast, to the intersection occupied by the powder mill, and the name Powder Works having ceased to appear (Lathrop 1903: 1).

As was the case in most of this region, most early settlement outside nucleated rural industrial and commercial hamlets was along early roadways, where farm houses and associated outbuildings were built. The portion of the township in which the study area is located, outside the complex associated with the powder mill, appears to have been typical of the pattern just described.

With the development of what became the City of Newburgh during the nineteenth century, spurred by the growth of the railroad and river shipping industries and the concentration of manufacturing around the commercial hub, the smaller ports in the area, such as Orangeville and New Windsor, were eclipsed and the industrial aspects of the smaller hamlets like Gardnertown declined in favor of their burgeoning role as primarily residential communities supported by local services such as stores and repair shops. As noted above, the commercial and industrial focus, as well as the identity of Gardnertown, shifted south to what was formerly known as Powder Works. and the number of residential structures along Gardnertown Road and Fostertown Road increased substantially during this period (compare Beers 1875:76 and Lathrop 1903:1).

In the vicinity of the study area, this shift is somewhat less dramatic, with only a few additional houses shown along the South Plank Road and roughly the same number on this segment of Union Avenue. No buildings are noted to have stood along Meadow Avenue during the second half of the nineteenth century. The complex of structures associated with the powder mill is shown to have been focused to the east, along South Plank Road, Powder Mill Road and Quassaic Creek during this period. Two buildings are depicted just to the east of the northeastern limits of the study area in 1875 and a third structure has been added by the turn of the twentieth century (Beers 1875: 76; Lathrop 1903: 1). Lathrop identifies these structures as pertaining to the "Laflin and Rand Powder Company" along with those to the east and northeast mentioned previously and they are identified as the "small magazine," the "large magazine," and the "old sorting and packing house" (Cornell 1991). Magazines, where powder casks were stored until shipment, were typically located on the outskirts of the industrial operation. These magazines were abandoned following completion of the large magazine near Sherman's Dock on the Hudson River after 1860 (French, Wood and Beers 1859; Hughes 1862). None of these buildings were located within the proposed development impact area, but stood well to the northwest in what is today a suburban residential development at the western end of Brookside Avenue.

One building located along the east side of Union Avenue at the turn of the century, attributed to "J.H. Warford" by Lathrop and a structure attributed to "B. S. Kline" on the same 1903 map and located on a 10-acre (4-hectare) parcel east of Union Avenue and southeast of its intersection with Meadow Avenue, both stood well to the northwest of the limits of the study area. No buildings are shown at this location on the nineteenth century maps and no visible remains were noted in walking reconnaissance.

Five European American era archaeological sites are listed in the NYS Office of Parks, Recreation and Historic Preservation site files within a radius of one mile (1.6 kilometers) of the study area. They are summarized as follows:

Number	Name	Description	Distance
AO71-14-0022	Historic Farm Foundations (3)	19th century	0.6mi/0.9km
AO71-14-0023	Gardner Mill Remains	19th century	0.5mi/0.8km
AO71-14-0024	Ice House	pre-1903 ice house	0.3mi/0.4km
AO71-14-0026	Foundation 3	no details provided	0.9mi/1.4km
AO71-14-0035	Skyler Farm Buildings	walls, no cellar hole	0.8mi/1.2km
AO71-14-0137	Mahood Outbuilding Foundation	built 1864	adjacent

Consultation with Town of Newburgh Historian Les Cornell confirmed the previously-stated impression that structures associated with the Orange Mills stood outside the development area and pointed out that use of the property by the various powder manufacturing operations during the nineteenth century was restricted to procuring timber for the production of charcoal. He indicated no other locally known structural remains or archaeological sites are located within or adjacent to the study area, and that portions of the southwest portion of the development parcel adjoined a scrap yard prior to the construction of Interstate 84 (personal communication). No evidence that this business extended into the development parcel was noted in reconnaissance.

Based on known European American era settlement patterns, a walking reconnaissance of the property and a search of historical texts and maps, a very limited potential is assessed for buried cultural remains pertaining to this period of occupation to be present within the study area. The buildings discussed above as being located in the general vicinity of the project site all appear to lie outside the areas to be affected by development. This limited potential would be focused in the northernmost portion of the property. The Mahood Outbuilding Foundation (OPRHP Site AO71-14-0137), though noted in the table on this page as being situated adjacent to the study area, in fact stood across Union Avenue from the western limits of the project parcel and any associated cultural features would most likely have been restricted to the west side of that road, where the Mahood house was located (Lathrop 1903: 1). The fact that very little of the study area borders early roadways such as South Plank Road, Meadow Road and Union Avenue greatly reduces the potential for impact to remains of early structures that were razed or abandoned prior to publication in 1851 of the first map showing area houses and whose locations were therefore never depicted.

RECOMMENDATIONS

A Phase IB site identification survey is recommended for the flatter portions of the affected area, as such locations in this physiographic setting, particularly overlooking the Quassaic Creek, must be considered to have an above-average potential for the presence of buried Native American cultural remains. The limited potential for pre-twentieth century European American era cultural remains was seen to be present, with the nearest map-depicted structures located to the northwest, west and north of the affected area. Potential for the remains of structures razed prior to the publication of the first detailed maps of the area is also seen to be slight, based on negative evidence from texts, the lack of project frontage on early roadways, and the results of a walking reconnaissance of the property.

This Phase IB survey should employ sampling methods adequate for detecting traces of the small, seasonally occupied camps likely to occur in this physiographic setting, as well as any deposits associated with early European American era cultural activity areas and structures, and any larger occupation sites and/or activity areas that might be present.

PHASE IB SITE IDENTIFICATION SURVEY

RESEARCH DESIGN

The Phase IA site assessment performed for this study area identified a potential for buried Native American cultural remains to be present within portions of the proposed approximately 127.6-acre (51.6-hectare) development site not characterized by steeper slopes, wetlands, or serious prior upper soil disturbance. This assessment was based on the proximity of documented Native American occupation in this part of the Town of Newburgh and the fact that better-drained lands near streams and/or wetlands are known to have been attractive to indigenous inhabitants of the region.

Flatter, better-drained locations near a water source have been found to have been preferred by indigenous populations in the Northeast for occupations ranging from small camps to villages. In times of turmoil, defensive considerations were added to these criteria. Steeply sloping and poorly drained areas or wetlands would generally be seen as of low potential for the occurrence of Native American cultural resources.

Exceptions to this assessment would include steeply sloping locations where lithic resources such as chert would have been accessible to indigenous populations and/or where rock overhangs and caves that could have served as shelters are present. Although poorly-drained areas would seldom be expected to contain habitation sites, the more elevated, better-drained peripheries of such places are likely to have been selected for camps from which the plant and animal resources of the wetter areas would be exploited. Such camps would have served as temporary habitation sites and locations where food was prepared, tools completed and repaired, and animal resources processed (i.e., skinned, butchered, smoked, dried) after being procured nearby.

Smaller sites, which predominate prior to the later Woodland Period and continue to occur during this time, are known to have been occupied by indigenous populations in conjunction with what was usually a seasonal exploitation of plant and animal resources. Generally, these camps would be inhabited for short periods of time, although such episodes of occupation are known to have continued on a regular basis over many centuries.

The inventory of reported archaeological sites for this area indicates that Native American occupation of this part of the Quassaic Creek drainage persisted from at least the Middle Archaic through the Late Woodland period (c. 4000BC-AD1650) and on into the era of European American settlement during the later seventeenth and eighteenth century. Based on this information, the temporal and cultural affiliation of Native American era archaeological remains that might be expected to occur in this part of what is now the Town of Newburgh could represent any and all but the earliest phases of human culture in this region.

As mentioned above, occupation through at least the Middle Woodland Period was considered likely to have occurred on a seasonal basis and to have usually been associated with the exploitation of nearby plant and animal resources. The material remains of sites reflecting such behavior are most likely to be sparse, shallow and spatially restricted, although deeper cultural features and remains of structures may be present. Larger sites, usually pertaining to Woodland period occupations, may include deep refuse deposits, remains of more substantial structures and defensive constructions, such as stockades.

Because reconnaissance had revealed no outcrops of lithic material likely to have been utilized in the manufacture of stone tools, the potential for the presence of bedrock quarry sites was considered low. The absence of caves and rock overhangs eliminates the potential for shelters associated with such features to be present within the affected area. The presence of glacial till near the ground surface raises the possibility of localized exploitation of accessible cobbles and boulders of chert, quartz, quartzite and other lithic resources suitable for the manufacture of stone tools and the presence of small stone processing stations and workshops.

No remains of structures or evidence of buried cultural remains were noted in walking reconnaissance of the property. A series of dry-laid field stone farm walls were observed at various locations. These ubiquitous remains of nineteenth century activities associated with farming and animal husbandry are not generally considered significant cultural resources. In the eastern portion of the study area, late twentieth century domestic refuse, including appliances, glass and aluminum containers, rubber tires, machine parts, and grass and hedge clippings, presumably deposited from the nearby residences, was encountered on the ground surface.

A low potential was identified for building remains and associated cultural features to be present within the affected area, based on the very limited frontage on early roadways and the fact that no structures depicted on historical maps appear to have stood on or adjacent to the development parcel. Those which were located nearest the affected area appear to have been razed for the construction of current commercial and/or residential buildings at those locations.

With the exception of the dry-laid field stone farm walls discussed previously, reconnaissance noted no structural features or remains and no other visible surface anomalies that might indicate prior construction on or pre-twentieth century utilization of the affected area for other than agricultural purposes. Only localized disturbance of upper soils was visible, consisting of deep testing and evidence of logging.

Because this part of Orange County has seen European American era occupation since the turn of the eighteenth century, a potential for the presence of remains of very early structures and activity areas has to be considered, particularly along early roadways, in whose proximity early buildings were usually constructed. The fact that what is now known as Union Avenue (NYS Route 300) dates to the eighteenth century and retains much of its original course in the vicinity of the study area underscores this potential for this stretch of the roadway.

Like smaller Native American sites, the archaeological remains of early buildings that were abandoned prior to the publication of area maps showing individual structures, eighteenth century military activity, and cultural features associated with such sites would be likely to be spatially restricted and characterized by sparse cultural material quite shallow in vertical extent and occurring near the ground surface in areas not characterized by stream or erosion deposition. Therefore, methods selected for archaeological field investigation would need to be sensitive enough to detect the presence of these smaller Native and European American era sites characterized by relatively sparse cultural material, as well as larger sites.

METHODOLOGY

The affected area ranges topographically from flat through gently and moderately sloping terrain, some of it undulating in character, and consists of what appear to be abandoned agricultural fields and pasture land. The development site is populated by grasses, scrub vegetation and young forest growth, with mature trees appearing as solitary figures in more open subareas.

A subsurface sampling plan was developed that called for flatter locations to be systematically archaeologically investigated by means of hand-dug shovel test holes executed in a grid pattern and placed at intervals of approximately 50 feet (15 meters), with adjustments in spacing made as required to follow topographic features or avoid obstacles such as large trees, surface rock, and zones of obvious prior serious upper soil disturbance. Test holes would measure approximately 24 inches (60 centimeters) in diameter and would be dug using small hand tools. Test hole contents would be screened through 1/4-inch (6.25-millimeter) hardware cloth to facilitate the recovery of smaller cultural items.

Any Native American era cultural items recovered would be marked with a numbered pin flag and their location later recorded on the project map along with that of other sampling units. Any relative concentrations of pre-World War II European American era material would also be marked for further investigation. Any isolated test holes that produced Native American cultural material or a relative concentration of European American era items would be more intensively sampled by means of eight additional shovel tests placed at 5-foot (1.5-meter) intervals at cardinal and inter cardinal points around each find spot to determine whether a likely site of cultural activity or a stray find was indicated. An isolated test hole is defined as one separated from the nearest positive test by more than 150 feet (46 meters).

To facilitate record keeping and map reference, the affected area would be divided into five sampling sectors, separated by physical barriers such as steeply sloping ridges or Quassaic Creek. Each sector would be sampled by a series of roughly parallel transects arranged in a grid pattern. In most sampling sectors, transects would be oriented cardinally to facilitate laying out the grid in the field. In others, sampling would be primarily geared to topographic features to be tested or avoided and contours to be followed.

Such methods are considered adequate for detecting traces of smaller Native American camps, special purpose sites and early Euro-American era sites as well as any larger Native or European American era occupations that might be present. The remains of very small buildings, such as privies, which are less likely to be detected by this sampling interval. Since the vicinity of small buildings is usually characterized by some scatter of cultural material, it was hoped even this sampling interval would reveal this more concentrated presence of cultural items, which would in turn lead to the identification of these features and/or structural remains during the more intensive investigation that follows initial identification.

Assessment of soils present within the affected area, containing gravels and other glacial deposits on or just beneath the ground surface, indicated a low potential for the presence of deeply buried culture-bearing soils, with the exception of the Quassaic Creek floodplain, which will not see development impact.

FIELD INVESTIGATION

Phase IB field investigation of the proposed development impact area was carried out between October 2005 and March 2006, under generally good to excellent field conditions, during periods free of ground frost and snow cover. Ground visibility was generally poor due to the density of decayed vegetation covering the ground surface. Soils were found to be moist to moderately dry in most places sampled. Phase IB field investigation was performed by the Principal Investigator assisted by Archibald Miller, Michael Dredley, John Lott, and Jaking Lott.

The affected area was divided into five sampling sections based on geographic features, barriers and the evolution of the planning process with regard to additional impacts. Sampling Sector A encompassed the largest portion of the development parcel, extending from Union Avenue to the steeply sloping rock outcrop ridge roughly south of New Street and between the Interstate 84 right of way to Meadow Avenue. Sampling Sector B, the smallest subarea, consisted of the flatter areas between two steeply sloping ridges roughly south of New Street. Sector C took in the flatter area east of the second of these ridges and west of Quassaic Creek. Sector D encompassed the part of the proposed development east of Quassaic Creek. Sampling Sector E was added in 2006 to address potential impacts on residential properties along Brookside Avenue and South Plank Road (NYS Route 52). In all, 845 test holes were dug in Sector A, 48 in Sector B, 209 in Sector C, 62 in Sector D, and 15 in Sector E, for a total of 1179. Subareas with slopes greater than 12% were excluded from sampling, along with those characterized by surface rock and the utility corridor that passes across west-central part of the property, and wetlands were not included in the sampling grid.

As noted in the previous section, shovel test holes were dug by hand using small hand tools and measured approximately 24 inches (60 centimeters) in diameter. Tests were placed roughly 50 feet (15 meters) apart in parallel transects and test hole contents were screened through 1/4-inch (6.25-millimeter) hardware cloth to facilitate the recovery of smaller items. Test hole transects were oriented cardinally to facilitate layout in the field, with the exception of Sampling Sector B, where holes followed topographic features and contours, and Sampling Sector E, where each house lot required configuration on an individual basis.

Culturally sterile soil consisted of orange, orange tan, tan orange, tan, yellow tan, and grey tan sandy silt, silty sand, clayey silt, and silt loam under medium to light, orange or olive brown silt with varying proportions of sand and or clay and overlain by a dark brown root and leaf mat in all but the open sampling areas around existing structures in the far eastern part of the property. Soils were noted to contain coarse, medium and fine gravels, and usually cobbles, particularly in the Pittsfield gravelly loam, Farmington silt loam, Bath-Nassau and Mardin subareas, with boulders more generally present near rock outcrop locations. Culturally sterile soils were found to be present at depths ranging from 3.6 to 9.2 inches (9 and 23 centimeters) beneath the ground surface. No evidence of a developed plow zone was recorded, and soil profiles, along with the presence of numerous dry-laid field walls, implies this land was primarily used for pasture rather than agricultural during the pre-World War II era. No problems occurred that might have influenced the process or outcome of the Phase IB field investigation.

Archaeological sampling encountered two items associated with the Native American occupation of the area in one test hole (C7 TP-12). As outlined in the previous section, intensive test hole sampling, consisting of eight screened shovel tests was carried out at cardinal and intercardinal points around the find spot at 10-foot (3-meter) intervals from the positive test. Screened shovel tests, designated TP-12A through TP-12H were dug clockwise around the original positive test hole beginning at compass north. No additional cultural material was recovered. European American era material encountered was restricted to a sparse scatter of post-World War II era material, represented by glass, aluminum, iron, and plastic, recovered in sampling of the eastern, southwestern, and western and northwestern periphery of the affected area, nearest to the standing residential structures along Brookside Avenue, and within a short distance of Union Avenue (NYS Route 300), the Interstate 84 right-of-way, and the parking area bordering the northwestern limits of the project parcel. These items were not retained.

CONCLUSIONS AND RECOMMENDATIONS

Systematic archaeological sampling of the portions of the approximately 127.6-acre (51.6-hectare) parcel to be affected by proposed development by means of hand-dug screened shovel test holes produced two pieces of cultural material associated with the Native American occupation of the region. Additional intensive testing around this find post encountered no additional cultural material. These items are interpreted as not representing focused cultural activity likely to contain significant cultural information, but rather as reflecting opportunistic procurement and reduction of locally-available glacially-deposited lithic resources accessible on the ground surface. The latter stages of stone tool production appear to have take place elsewhere.

Only a sparse scatter of European American era items was recovered, consisting entirely of twentieth century material post-dating the World War II era. These items were encountered within roughly 150 feet (45 meters) of NYS Route 300 (Union Avenue), the Interstate 84 right-of-way, existing parking areas, and residences that border the affected area and consisted of machine-blown green, clear and brown bottle glass, aluminum foils and plastic. Surface refuse also pertaining to the last half of the twentieth century was noted in the northern part of Sector D, adjacent to the existing single-family dwellings.

Based on these findings, the proposed Market Place development may be seen to have no effect on either Native American or European American era cultural resources. Consequently, no further archaeological investigation is recommended.

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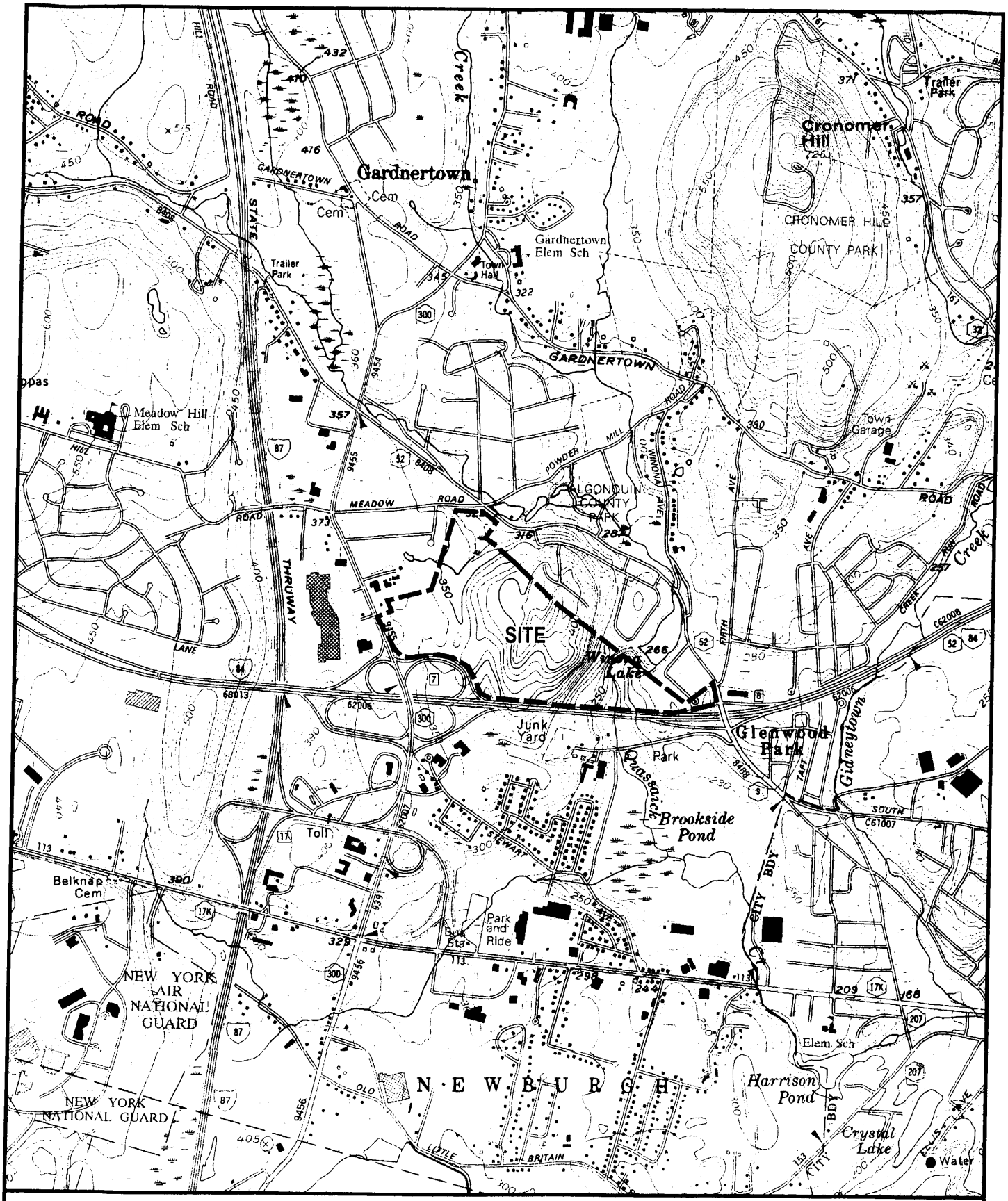
APPENDIX A - FIGURES



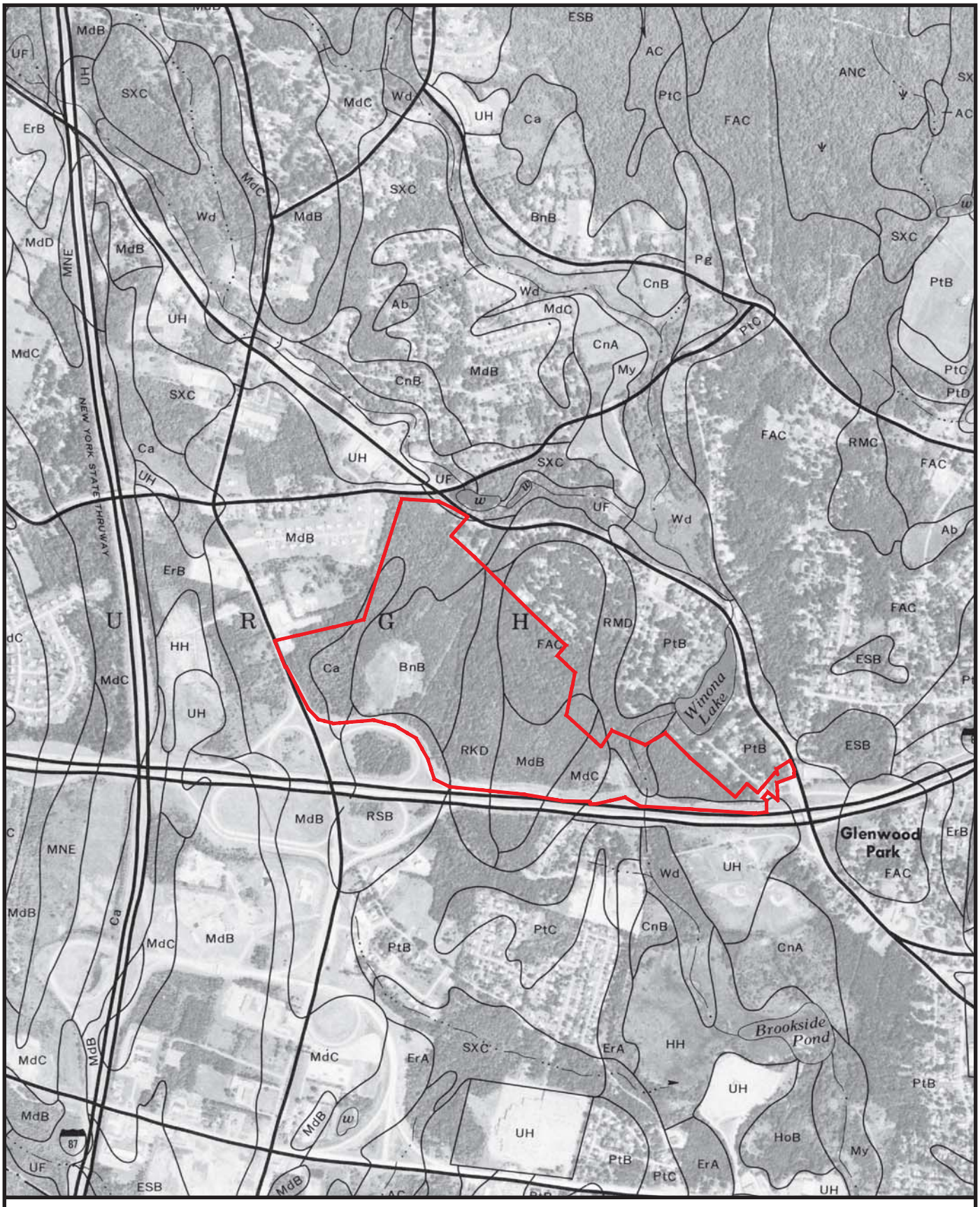
Site Location Map

Market Place

Town of Newburgh, Orange County, New York

Base Map: USGS Topographic Map, Newburgh Quad

Scale: 1 inch = 2,000 feet

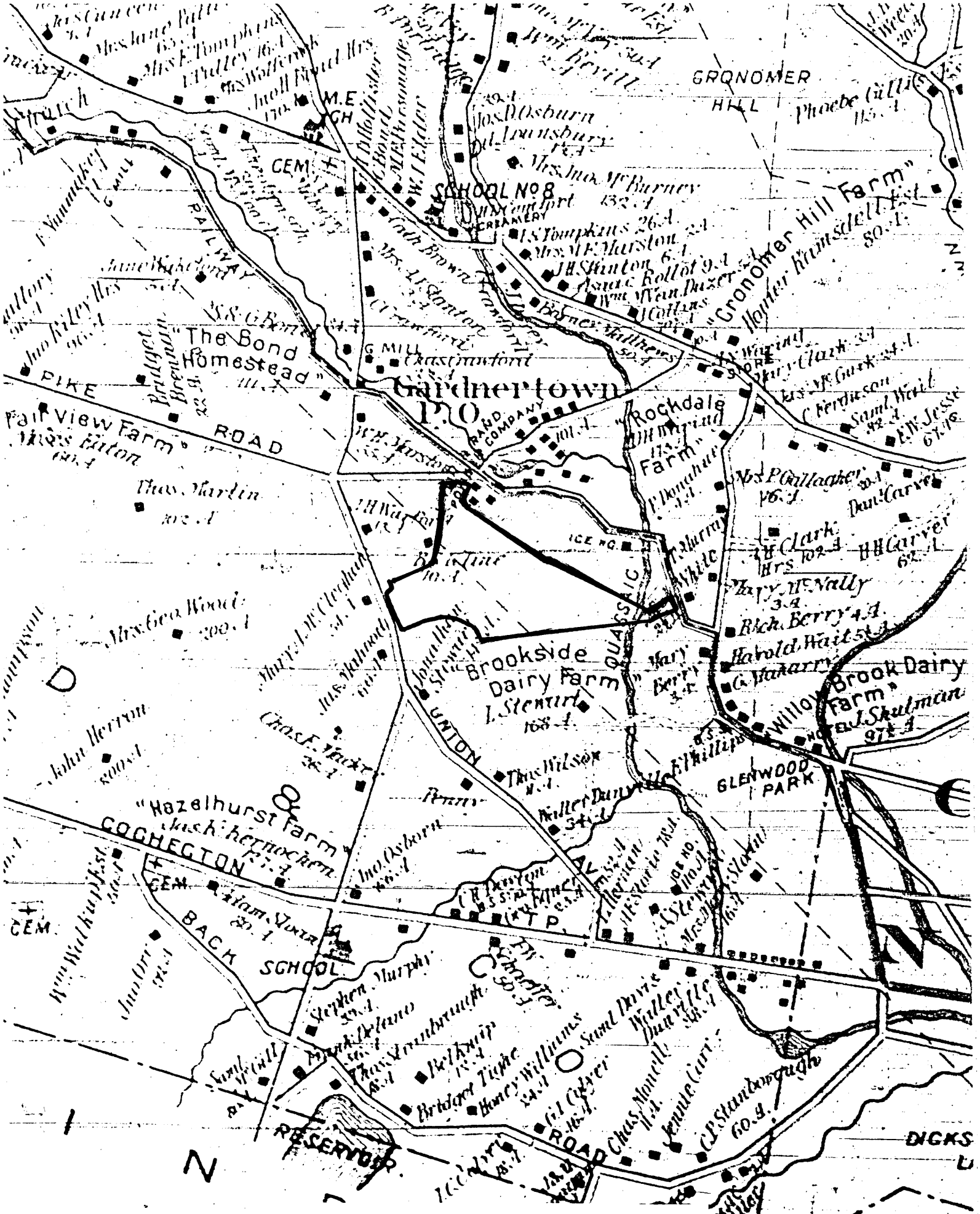


Soils Map

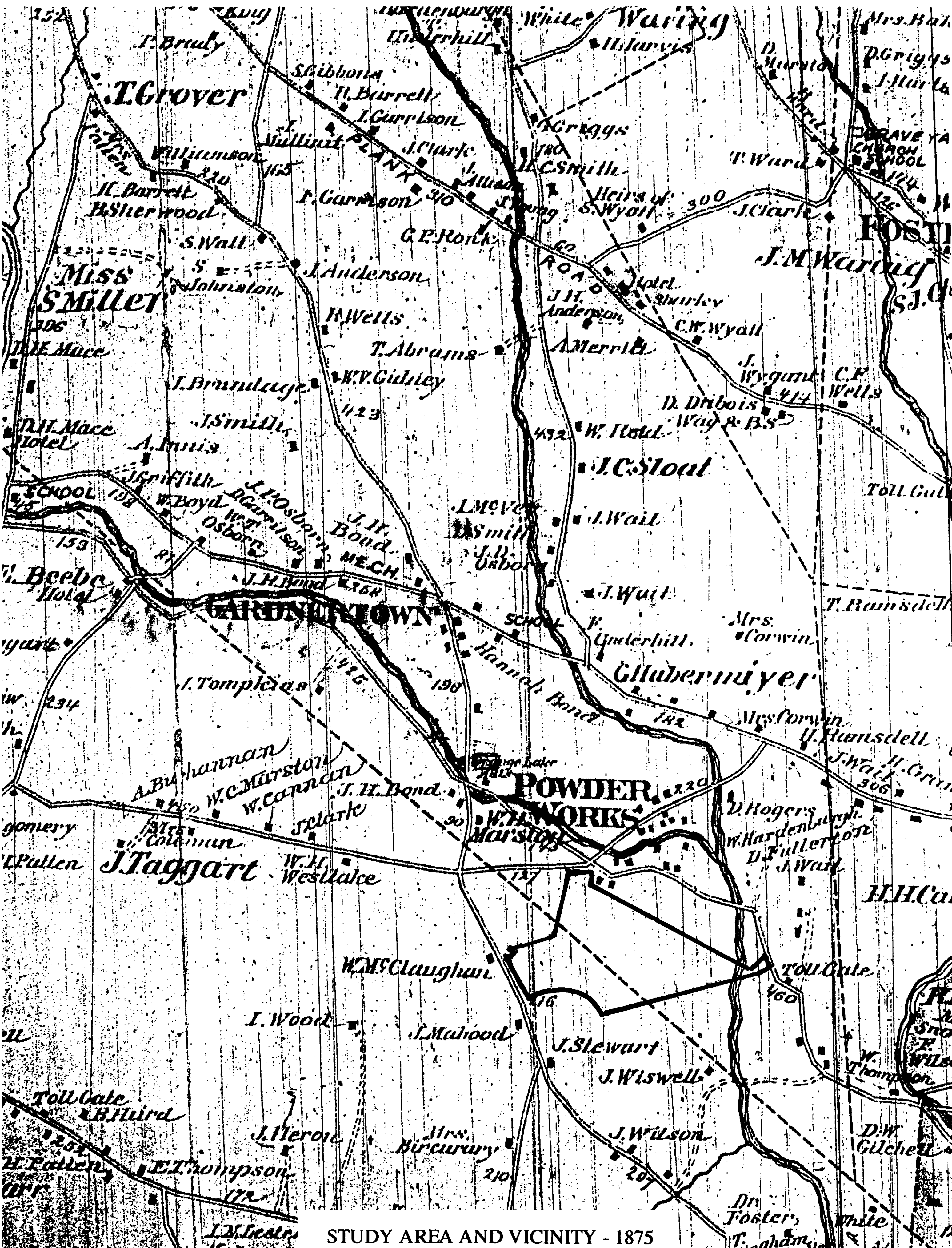
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Base Map: Soil Survey of Orange County, NY
U.S. Dept. of Agriculture, Soil Conservation Service, Oct. 1981
Scale: 1 inch = .25 mi.

File 04011 10/14/05
JS:\04011\

Tim Miller Associates, Inc.,10 North Street, Cold Spring, New York 10516 (845) 265-4400 Fax (845) 265-4418



STUDY AREA AND VICINITY - 1903
(from Lathrop 1903)



STUDY AREA AND VICINITY - 1875
(from Beers 1875)

LEGEND

SLOPES > 15%

EXISTING WETLAND

LIMITS OF DISTURBANCE

DETAIL OF PHASE IB SAMPLING

APPENDIX B - PHOTODOCUMENTATION

STRUCTURE PHOTOS

STRUCTURES AT 29 AND 31 BROOKSIDE AVENUE

STRUCTURE AT 53 SOUTH PLANK ROAD

STRUCTURE AT 25 BROOKSIDE AVENUE

STRUCTURE AT 22 BROOKSIDE AVENUE

STRUCTURE AT 27 BROOKSIDE AVENUE

STRUCTURE AT 20 BROOKSIDE AVENUE

GENERAL PHOTOS

PHOTO 1 - Quassaic Creek as it flows just south of the study area (view to N)

PHOTO 2 - View from flatter subarea toward Quassaic Creek in eastern part of study area (to ESE)

PHOTO 3 - View in east-central part of study area, Quassaic Creek visible below at right (to ESE)

'ypical view in central part of study area (to NE)

PHOTO 5 - Typical view in Sampling Sector B (to NE)

PHOTO 6 - View to steeper area in eastern portion of study area (to N)

APPENDIX C - SUBSURFACE SAMPLING RECORD

THE MARKET PLACE - CA517B

PHASE IB SUBSURFACE SAMPLING RECORD

UNIT	STRATUM	DEPTH(cm)	SOIL PROFILE	CULTURAL
SECTOR A				
TRANSECT 1				
TP-1	1	0-11	dark to medium brown silt, some sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-24+	yellow silt, trace brown, cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	glass (NR)
	2	12-22+	(same as above)	none
TP-3	1	0-12	(same, no cobbles)	none
	2	12-25+	(same, no cobbles)	none
TP-4	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-5	1	0-12	(same, with cobbles)	plastic (NR)
	2	12-30+	(same, with cobbles)	none
TP-6	1	0-13	(same as above)	none
	2	13-26+	(same, moister)	none
TP-7	1	0-14	(same, moister)	none
	2	14-29+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-9	1	0-12	(same as above)	glass (NR)
	2	12-21+	(same as above)	none
TP-10	1	0-14	(same, no cobbles)	none
	2	14-24+	(same, no cobbles)	foil (NR)
TP-11	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-12	1	0-14	(same, moister)	none
	2	14-30+	(same, moister)	none
TRANSECT 2				
TP-1	1	0-12	dark to medium brown silt, some sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-28+	yellow silt, trace brown, cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-30+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-27+	(same as above)	none
TP-4	1	0-12	(same, no cobbles)	none
	2	12-23+	(same, no cobbles)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none

TP-6	1	0-11	(same as above)	none
	2	11-30+	(same as above)	none
TP-7	1	0-11	(same, with cobbles)	none
	2	11-24+	(same, with cobbles)	none
TP-8	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-9	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-10	1	0-13	(same, moister)	none
	2	13-27+	(same, moister)	none
TP-11	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-12	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-13	1	0-14	(same as above)	none
	2	14-30+	(same as above)	none
TP-14	1	0-16	(same as above)	concrete, plastic (NR)
	2	16-30+	(same as above)	none

TRANSECT 3

TP-1	1	0-14	medium to dark brown silt, some sand, cmf gravel, cobbles, under dark brown root/leaf mat	glass (NR)
	2	14-26+	yellow silt, trace brown, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-23+	(same, with cobbles)	none
TP-3	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-22+	(same as above)	none
TP-5	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-38+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-8	1	0-14	(same, no cobbles)	none
	2	14-29+	(same as above)	none
TP-9	1	0-14	(same as above)	none
	2	14-25+	(same, moister)	none
TP-10	1	0-15	(same, moist)	none
	2	15-30+	(same, moist)	none
TP-11	1	0-15	(same as above)	none
	2	15-28+	very moist yellow brown silt, trace grey, trace clay	none

TRANSECT 4				
TP-1	1	0-12	medium to dark brown silt, some sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-28+	yellow silt, trace brown, cmf gravel, cobbles	none
TP-2	1	0-11	(same as above)	none
	2	11-30+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-4	1	0-13	(same, no cobbles)	none
	2	13-24+	(same as above)	none
TP-5	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-6	1	0-12	(same, with cobbles)	none
	2	12-29+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-27+	(same, moister)	none
TP-10	1	0-14	(same, moist)	none
	2	14-30+	(same, moist)	none
TP-11	1	0-16	(same, moister, no cobbles)	none
	2	16-30+	very moist yellow brown silt, trace grey, trace clay	none
TRANSECT 5				
TP-1	1	0-11	medium to dark brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	aluminum bottle cap (NR)
	2	11-27+	yellow silt, trace brown, trace sand, cmf gravel, cobbles	none
TP-2	1	0-11	(same, no cobbles)	none
	2	11-25	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-28+	(same, with cobbles)	none
TP-4	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-5	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-8	1	0-12	(same as above)	none
	2	12-30+	(same as above)	none
TP-9	1	0-14	(same, moist)	none
	2	14-28+	(same, moist)	none

TP-10	1	0-16	(same, very moist)	none
	2	16-29+	very moist, yellow brown silt, trace clay	none
TRANSECT 6				
TP-1	1	0-12	dark to medium brown silt, some sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-25+	yellow silt, trace brown, cmf gravel, cobbles	none
TP-2	1	0-12	(same, with cobbles)	none
	2	12-27+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-6	1	0-12	(same, no cobbles)	none
	2	12-27+	(same as above)	none
TP-7	1	0-13	(same, with cobbles)	none
	2	13-26+	(same as above)	none
TP-8	1	0-13	(same, no cobbles)	none
	2	13-29+	(same, no cobbles)	none
TP-9	1	0-14	(same, moist)	none
	2	14-29+	(same, moist)	none
TP-10	1	0-17	very moist dark brown silt, trace sand	none
	2	17-27+	very moist yellow brown silt, trace clay	none
TP-11	1	0-13	dark to medium brown silt, cmf gravel, under dark brown root/leaf mat	none
	2	13-25+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-12	1	0-18	very moist dark brown silt, trace sand,	none
	2	18-30+	very moist yellow brown silt, trace clay	none
TP-13	1	0-12	dark to medium brown silt, cmf gravel, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-14	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-15	1	0-13	(same as above)	wire nail (NR)
	2	13-26+	(same as above)	none
TRANSECT 7				
TP-1	1	0-11	medium to dark brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	11-24+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-3	1	0-19	very moist dark brown silt, trace sand	none
	2	19-30+	very moist yellow brown silt, trace clay	none

TP-4	1	0-17	(same, less moist)	none
	2	17-27+	(same, less moist)	none
TP-5	1	0-12	medium to dark brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-26+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-6	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-7	1	0-12	(same as above)	glass (NR)
	2	12-26+	(same as above)	none

CLUSTER 1

TP-1	1	0-21	moist medium to dark grey brown silt, some clay, trace sand	
	2	21-48+	moist medium grey brown silt, some clay	
TP-2	1	0-20	(same as above)	none
	2	20-40+	(same as above)	none
TP-3	1	0-20	(same, very moist)	none
	2	20-36+	(same, very moist)	none
TP-4	1	0-22	(same as above)	none
	2	22-37+	(same as above)	none
TP-5	1	0-21	(same, less moist)	none
	2	21-36+	(same as above)	none
TP-6	1	0-20	(same as above)	none
	2	20-32+	(same, less moist)	none
TP-7	1	0-20	(same as above)	none
	2	20-35+	(same as above)	none
TP-8	1	0-22	(same, moister)	none
	2	22-36+	(same, moister)	none
TP-9	1	0-20	(same, less moist)	none
	2	20-34+	(same, less moist)	none
TP-10	1	0-21	(same as above)	none
	2	21-36+	(same as above)	none

CLUSTER 2

TP-1	1	0-13	medium to dark brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	13-27+	yellow silt, trace brown, trace sand cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-4	1	0-20	moist dark grey brown silt, trace sand, trace clay	none
	2	20-35+	moist yellow brown silt, trace clay	none
TP-5	1	0-21	(same as above)	none
	2	21-34+	(same as above)	none
TP-6	1	0-14	medium to dark brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	14-26+	yellow silt, trace brown, trace sand, cmf grave	none

TP-7	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-9	1	0-13	(same as above)	rubber hose segment (NR)
	2	13-26+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-11	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none

TRANSECT 8

TP-1	1	0-11	medium to dark brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	11-23+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-4	1	0-15	moist dark brown silt, trace sand, trace clay, under dark brown root/leaf mat	none
	2	15-28+	yellow brown silt, trace sand, trace clay	none
TP-5	1	0-17	(same as above)	none
	2	17-30+	(same as above)	none
TP-6	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-24+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-9	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-10	1	0-12	(same, moister)	none
	2	12-25+	(same, moister)	none
TP-11	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-13	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-14	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-15	1	0-13	(same as above)	concrete, wire nail (NR)
	2	13-28+	(same as above)	none

TRANSECT 9

TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-22+	yellow silt, trace brown, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-22+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-14	(same, moister)	none
	2	14-28+	(same, moist)	
TP-7	1	0-13	(same as above)	none
	2	13-24+	(same, less moist)	none
TP-8	1	0-13	(same as above)	none
	2	13-30+	(same as above)	none
TP-9	1	0-13	(same, moister)	none
	2	13-28+	(same, moister)	none
TP-10	1	0-12	(same, less moist)	none
	2	12-24+	(same, less moist)	none
TP-11	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-13	1	0-20	moist dark grey brown silt, trace sand, trace clay	none
	2	20-32+	moist medium grey brown silt, some clay	none
TP-14	1	0-21	(same as above)	none
	2	21-30+	(same as above)	none
TP-15	1	0-21	(same as above)	none
	2	21-34+	(same as above)	none
TP-16	1	0-18	(same as above)	none
	2	18-30+	(same as above)	none
TP-17	1	0-18	(same as above)	plastic (NR)
	2	18-31+	(same as above)	none

TRANSECT 10

TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-24+	yellow silt, trace brown, cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-27+	(same as above)	non
TP-3	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none

TP-5	1	0-11	(same as above)	none
	2	11-27+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-11	(same as above)	none
	2	11-26+	(same as above)	none
TP-8	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-10	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-13	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-14	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-15	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-16	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-17	1	0-21	moist dark grey brown silt, trace sand, trace clay	none
	2	21-36+	moist medium grey brown silt, some clay	none
TP-18	1	0-22	(same as above)	none
	2	22-35+	(same as above)	none
TP-19	1	0-22	(same as above)	none
	2	22-34+	(same as above)	none
TP-20	1	0-21	(same as above)	none
	2	21-36+	(same as above)	none
TRANSECT	**11**			
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-26+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-5	1	0-12	(same as above)	none
TP-6	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none

TP-7	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-8	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-10	1	0-14	(same, moister)	none
	2	14-25	(same, moister)	none
TP-11	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-12	1	0-12	(same as above)	none
	2	12-24+	(same, less moist)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-22	moist dark grey brown silt, trace sand. trace clay	
	2	22-30+	moist medium grey brown silt, some clay	none
TP-15	1	0-20	(same as above)	none
	2	20-31+	(same as above)	none
TP-16	1	0-20	(same as above)	none
	2	20-30+	(same as above)	none
TP-17	1	0-22	(same as above)	none
	2	22-36+	(same as above)	none
TP-18	1	0-22	(same as above)	none
	2	22-32+	(same as above)	none
TP-19	1	0-20	(same as above)	none
	2	20-36+	(same as above)	none
TP-20	1	0-21	(same as above)	none
	2	21-38+	(same as above)	none
TRANSECT	**12**			
TP-1	1	0-11	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	11-23	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-4	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-5	1	0-11	(same as above)	none
	2	11-30+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-9	1	0-15	(same, moist)	none
	2	15-26+	(same, moist)	none

TP-10	1	0-12	(same, less moist)	none
	2	12-27+	(same, less moist)	none
TP-11	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-14	1	0-22	moist dark grey brown silt, trace sand. trace clay	none
	2	22-30+	moist medium grey brown silt, some clay	none
TP-15	1	0-22	(same as above)	none
	2	22-32+	(same as above)	none
TP-16	1	0-23	(same as above)	none
	2	23-34+	(same as above)	none
TP-17	1	0-21	(same as above)	none
	2	21-32+	(same as above)	none
TP-18	1	0-22	(same as above)	none
	2	22-32+	(same as above)	none
TP-19	1	0-19	(same as above)	none
	2	19-30+	(same as above)	none
TP-20	1	0-19	(same as above)	plastic (NR)
	2	19-32+	(same as above)	none
TRANSECT 13				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same. very moist)	none
	2	13-26+	(same, moist)	none
TP-10	1	0-12	(same, less moist)	none
	2	12-24+	(same, less moist)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none

TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-22	moist dark grey brown silt, trace sand. trace clay	none
	2	22-30+	moist medium grey brown silt, some clay	none
TP-15	1	0-20	(same as above)	none
	2	20-32+	(same as above)	none
TP-16	1	0-22	(same as above)	none
	2	22-34+	(same as above)	none
TP-17	1	0-22	(same as above)	none
	2	22-32+	(same as above)	none
TP-18	1	0-23	(same as above)	none
	2	23-32+	(same as above)	none
TP-19	1	0-18	(same as above)	none
	2	18-30+	(same as above)	none
TP-20	1	0-19	(same as above)	none
	2	19-30+	(same as above)	none
TRANSECT 14				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-25+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-30+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-9	1	0-14	(same, moist)	none
	2	14-26+	(same, moist)	none
TP-10	1	0-11	(same, less moist)	none
	2	11-25+	(same, less moist)	none
TP-11	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-12	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none

TP-14	1	0-21	moist dark grey brown silt, trace sand, trace clay	none
	2	21-32+	moist medium grey brown silt, some clay	none
TP-15	1	0-20	(same as above)	none
	2	20-34+	(same as above)	none
TP-16	1	0-19	(same as above)	none
	2	19-30+	(same as above)	none
TP-17	1	0-20	(same as above)	none
	2	20-32+	(same as above)	none
TP-18	1	0-20	(same as above)	none
	2	20-34+	(same as above)	none
TP-19	1	0-19	(same as above)	none
	2	19-28+	(same as above)	none
TP-20	1	0-21	(same as above)	none
	2	21-30+	(same as above)	none
TP-21	1	0-22	(same as above)	none
	2	22-34+	(same as above)	none
TP-22	1	0-20	(same as above)	none
	2	20-32+	(same as above)	none

TRANSECT 15

TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same, moist)	none
	2	12-25+	(same, moist)	none
TP-8	1	0-13	(same, less moist)	none
	2	13-24+	(same, less moist)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same, moist)	none
TP-10	1	0-12	(same, moist)	none
	2	12-24+	(same, moist)	none
TP-11	1	0-12	(same, very moist)	none
	2	12-26+	(same, very moist)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-13	(same, less moist)	none
	2	13-26+	(same, less moist)	none

TP-14	1	0-13	(same as above)	none
	2	13-30+	(same as above)	none
TP-15	1	0-21	very moist dark grey brown silt, trace sand, trace clay	none
	2	21-35+	very moist medium grey brown silt, some clay	none
TP-16	1	0-19	(same as above)	none
	2	19-30+	(same as above)	none
TP-17	1	0-19	(same as above)	none
	2	19-29+	(same as above)	none
TP-18	1	0-21	(same as above)	none
	2	21-32+	(same as above)	none
TP-19	1	0-23	(same as above)	none
	2	23-33+	(same as above)	none
CLUSTER 3				
TP-1	1	0-20	very moist dark grey brown silt, trace sand, some clay	none
	2	20-31+	very moist medium grey brown silt, some clay	none
TP-2	1	0-19	(same as above)	none
	2	19-30+	(same as above)	none
TP-3	1	0-22	(same as above)	none
	2	22-34+	(same as above)	none
TP-4	1	0-20	(same as above)	none
	2	20-30+	(same as above)	none
TRANSECT 16				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-25+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-7	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-8	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-9	1	0-13	(same. very moist)	none
	2	13-27+	(same, moist)	none
TP-10	1	0-13	(same, less moist)	none
	2	13-24+	(same, less moist)	none

TP-11	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-12	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-13	1	0-13	(same, very moist)	none
	2	13-28+	(same, very moist)	none
TP-14	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-15	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-16	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none

TRANSECT 17

TP-1	1	0-11	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	11-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-8	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-9	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-10	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-11	1	0-13	(same, very moist)	none
	2	13-25+	(same, moist)	none
TP-12	1	0-13	(same, less moist)	none
	2	13-27+	(same, less moist)	none
TP-13	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-14	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-15	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-16	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none

TP-17	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-18	1	0-15	(same as above)	none
	2	15-26+	(same as above)	none
TP-19	1	0-15	(same, moister)	none
	2	15-28+	(same, moister)	none
TP-20	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TRANSECT 18				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-28+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-26+	(same as above)	none
TP-4	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-7	1	0-15	(same as above)	none
	2	15-23+	(same as above)	none
TP-8	1	0-12	(same, moister)	none
	2	12-25+	(same, moister)	none
TP-9	1	0-13	(same. less moist)	none
	2	13-24+	(same, less moist)	none
TP-10	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-11	1	0-14	(same, moist)	none
	2	14-26+	(same, moist)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-12	(same, less moist)	none
	2	12-26+	(same, less moist)	none
TP-14	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-15	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-16	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-17	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-18	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-19	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none

TP-20	1	0-14	(same, moister)	none
	2	14-30+	(same, moister)	none
TP-21	1	0-15	(same as above)	none
	2	15-27+	(same as above)	none
TRANSECT 19				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-5	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-6	1	0-13	(same, no cobbles)	none
	2	13-27+	(same, no cobbles)	none
TP-7	1	0-14	(same, moist)	none
	2	14-24+	(same, moister)	none
TP-8	1	0-14	(same, less moist)	none
	2	14-27+	(same, less moist)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same, as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same, moister)	none
	2	13-29+	(same. moister)	none
TP-13	1	0-14	(same, less moist)	none
	2	14-25+	(same, less moist)	none
TP-14	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-15	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-16	1	0-14	(same as above)	none
	2	14-26	(same as above)	none
TP-17	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-18	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-19	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-20	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none

TRANSECT 20				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same. very moist)	none
	2	13-26+	(same, moist)	none
TP-10	1	0-12	(same, less moist)	none
	2	12-24+	(same, less moist)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(moist)	none
	2	13-25+	(moist)	none
TP-13	1	0-13	(same, less moist)	none
	2	13-26+	(same, less moist)	none
TRANSECT 21				
TP-1	1	0-13	dark to medium brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	13-25+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same, moist)	none
	2	12-28+	(same, moist)	none
TP-3	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-4	1	0-12	(same, less moist)	none
	2	12-26+	(same, less moist)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-6	1	0-13	(same, with cobbles)	none
	2	13-26+	(same, with cobbles)	none
TP-7	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none

TP-10	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-11	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-12	1	0-13	(same, moist)	none
	2	13-26+	(same, moist)	none
TP-13	1	0-12	(same. less moist)	none
	2	12-25+	(same, less moist)	none
TP-14	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-15	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-16	1	0-11	(same as above)	none
	2	11-23+	(same as above)	none
TP-17	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-18	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-19	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-20	1	0-11	(same, denser gravel)	none
	2	11-23+	(same, denser gravel)	none
TP-21	1	0-9	(same as above)	none
	2	9-22+	(same as above)	none
TRANSECT 22				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same, with cobbles)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none

TP-11	1	0-12	(same, moist)	none
	2	12-26+	(same, moister)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-13	(same, less moist)	none
	2	13-26+	(same, less moist)	none
TP-14	1	0-12	(same as above)	none
	2	12-30+	(same as above)	none
TP-15	1	0-12	(same, denser gravel)	none
	2	12-25+	(same as above)	none
TP-16	1	0-11	(same as above)	none
	2	11-20+	(same as above)	none
TP-17	1	0-9	(same as above)	none
	2	9-22+	(same as above)	none
TP-18	1	0-9	(same as above)	none
	2	9-18+	(same as above)	none

TRANSECT 23

TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-25+	yellow silt, trace brown, trace sand, cmf gravel. cobbles	none
TP-2	1	0-11	(same as above)	none
	2	11-23+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-30+	(same as above)	none
TP-4	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-5	1	0-13	(same, moister)	none
	2	13-28+	(same, moister)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-7	1	0-13	(same, less moist)	none
	2	13-26+	(same, less moist)	none
TP-8	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-11	1	0-14	(same, moist)	none
	2	14-27+	(same, moister)	none
TP-12	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-13	1	0-13	(same, less moist)	none
	2	13-28+	(same, less moist)	none
TP-14	1	0-12	(same, denser gravel and cobbles)	none
	2	12-22+	(same, denser gravel)	none

TP-15	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-16	1	0-10	(same as above)	none
	2	10-24+	(same as above)	none
TP-17	1	0-9	(same as above)	none
	2	9-19+	(same as above)	none
TRANSECT 24				
TP-1	1	0-10	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-22+	yellow silt, trace brown, trace sand, cmf gravel cobbles	none
TP-2	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-5	1	0-14	(same, very moist)	none
	2	14-27+	(same, moist)	none
TP-6	1	0-12	(same, less moist)	none
	2	12-26+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same. moist)	none
	2	13-25+	(same, moist)	none
TP-10	1	0-14	(same, less moist)	none
	2	14-27+	(same, less moist)	none
TP-11	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-14	1	0-14	(same as above)	none
	2	14-30+	(same, more brown)	none
TP-15	1	0-14	(same as above)	none
	2	14-23+	(same as above)	none
TP-16	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-17	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-18	1	0-10	(same, denser gravel and cobbles)	none
	2	10-20+	(same, denser gravel and cobbles)	none
TP-19	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none

TP-20	1	0-9	(same as above)	none
	2	9-22+	(same as above)	none
TP-21	1	0-10	(same, very dense cobbles)	none
]	2	10-22+	(same as above)	none
TP-22	1	0-9	(same as above)	none
	2	9-18+	(same as above)	none
TRANSECT 25				
TP-1	1	0-10	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-20+	yellow silt, trace brown, trace sand, cmf gravel, cobbles, boulders	none
TP-2	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-24+	(same, no boulders)	none
TP-4	1	0-11	(same as above)	none
	2	12-22+	(same as above)	none
TP-5	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-6	1	0-14	(same, very moist)	none
	2	14-28+	(same, wet)	none
TP-7	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-8	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-9	1	0-13	(same. less moist)	none
	2	13-25+	(same, less moist)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-11	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-12	1	0-15	(same as above)	none
	2	15-25+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-14	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-15	1	0-14	(same as above)	none
	2	14-30+	(same as above)	none
TP-16	1	0-13	(same as above)	none
	2	13-22+	(same as above)	none
TP-17	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-18	1	0-10	(same, denser gravel)	none
	2	10-20+	(same, denser gravel and cobbles)	none
TP-19	1	0-9	(same as above)	none
	2	9-18+	(same as above)	none

TP-20	1	0-9	(same, denser cobbles)	none
	2	9-21+	(same as above)	none
TP-21	1	0-9	(same, very dense rock)	none
	2	9-19	(same as above)	none
TRANSECT 26				
TP-1	1	0-10	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-21+	yellow silt, trace brown, trace sand, cmf gravel cobbles	none
TP-2	1	0-9	(same as above)	none
	2	9-18+	(same, with dense cobbles)	none
TP-3	1	0-11	(same as above)	none
	2	11-18+	(same as above)	none
TP-4	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-5	1	0-13	(same, moister)	none
	2	13-24+	(same, moister)	none
TP-6	1	0-14	(same, very moist)	none
	2	14-27+	(same, very moist)	none
TP-7	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-8	1	0-13	(same, less moist)	none
	2	13-22+	(same, less moist)	none
TP-9	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-11	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-12	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-13	1	0-11	(same as above)	none
	2	11-23+	(same as above)	none
TP-14	1	0-10	(same as above)	none
	2	10-23+	(same, darker yellow)	none
TP-15	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-16	1	0-13	(same as above)	none
	2	13-25+	yellow brown silt, trace sand, cmf gravel, cobbles	none
TP-17	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-18	1	0-9	(same, denser gravel and cobbles)	none
	2	9-20+	(same, denser gravel and cobbles)	none
TP-19	1	0-9	(same as above)	none
	2	9-19+	(same as above)	none

TP-20	1	0-10	(same as above)	none
	2	10-20+	(same as above)	none
TP-21	1	0-9	(same as above)	none
	2	9-18	(same, dense cobbles)	none
TRANSECT 27				
TP-1	1	0-11	dark to medium brown silt, some sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-20	yellow silt, trace brown, some sand, dense cmf gravel, cobbles	none
TRANSECT 28				
TP-1	1	0-10	dark to medium brown silt, trace sand, cmf gravel, cobbles under dark brown root/leaf mat	none
	2	10-17+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-11	1	0-13	(same as above)	none
	2	13-26+	yellow brown silt, some sand, cmf gravel, cobbles	none
TP-12	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-13	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-14	1	0-11	(same, denser gravel)	none
	2	11-24+	(same, denser gravel)	none
TP-15	1	0-10	(same, dense cobbles)	none
	2	10-19+	(same, dense cobbles)	none

TRANSECT 29				
TP-1	1	0-10	dark to medium brown silt, trace sand, dense cmf gravel, cobbles under dark brown root/leaf mat	none
	2	10-21+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-23+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-11	1	0-11	(same, denser gravel)	none
	2	11-22+	(yellow brown silt, denser gravel,)	none
TP-12	1	0-10	(same as above)	none
	2	10-20+	(same as above)	none
TP-13	1	0-10	(same, dense cobbles)	none
	2	10-18+	(very dense rock)	none
TRANSECT 30				
TP-1	1	0-9	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	9-18+	yellow silt, trace brown, trace sand, cmf gravel cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-3	1	0-14	(same, moister)	none
	2	14-24+	(same, moister)	none
TP-4	1	0-15	(same as above)	none
	2	15-26+	(same as above)	none
TP-5	1	0-13	(same, less moist)	none
	2	13-24+	(same, less moist)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none

TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	yellow brown silt, trace sand, cmf gravel cobbles	none
TP-11	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-13	1	0-12	(same, denser gravel)	none
	2	12-21+	(same, denser gravel)	none
TP-14	1	0-11	(same as above)	none
	2	11-21+	(same as above)	none
TP-15	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none
TP-16	1	0-9	(same, dense gravel and cobbles)	none
	2	9-12	(same, bedrock at 12cm)	none
TRANSECT 31				
TP-1	1	0-10	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-22+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-10	(same as above)	none
	2	10-25+	(same as above)	none
TP-3	1	0-13	(same, moister)	none
	2	13-26+	(same, moister)	none
TP-4	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-5	1	0-13	(same, less moist)	none
	2	13-25+	(same, less moist)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-9	1	0-13	(same as above))	none
	2	14-27+	(same as above)	none
TP-10	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	14-29+	(same, darker yellow)	none
TP-12	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-13	1	0-11	(same as above)	none
	2	11-26+	(same as above)	none

TP-14	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-15	1	0-10	(same, denser gravel)	none
	2	10-21+	(same, denser gravel)	none
TP-16	1	0-9	(same as above)	none
	2	9-19+	(same as above)	none
TRANSECT 32				
TP-1	1	0-9	dark to medium brown silt, trace sand, cmf gravel, cobbles under dark brown root/leaf mat	none
	2	9-20+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-3	1	0-14	(same, moist)	none
	2	14-28+	(same, moister)	none
TP-4	1	0-13	(same, less moist)	none
	2	13-27+	(same, less moist)	none
TP-5	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-30+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-11	1	0-13	(same as above)	none
	2	13-25+	(same, darker yellow)	none
TP-12	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-14	1	0-9	(same, denser gravel and cobbles)	none
	2	9-19+	(same, dense gravel and cobbles)	none
TRANSECT 33				
TP-1	1	0-11	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-23+	yellow silt, some brown, trace sand, dense cmf gravel, cobbles	none

TRANSECT 34				
TP-1	1	0-12	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-22+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-14	(same, moist)	none
	2	14-28+	(same, moist)	none
TP-3	1	0-13	(same, less moist)	none
	2	13-28+	(same, less moist)	none
TP-4	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same. yellow brown silt)	none
TP-10	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-11	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TRANSECT 35				
TP-1	1	0-10	moist dark to medium brown silt, trace sand, dense cmf gravel, cobbles under dark brown root/leaf mat	none
	2	10-21+	moist yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-14	(same, less moist)	none
	2	14-27+	(same, less moist)	none
TP-3	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same, darker yellow silt, some sand)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none

TP-10	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-11	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-12	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-9	(same, dense gravel and cobbles)	none
	2	9-20+	(same, very dense gravel and cobbles)	none
TRANSECT 36				
TP-1	1	0-9	moist dark to medium brown silt, some sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	9-23+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-23+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-14	(same, moister)	none
	2	14-25+	(same, moister)	none
TRANSECT 37				
TP-1	1	0-12	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, trace brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none

TP-3	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-4	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none

TRANSECT 38

TP-1	1	0-13	dark to medium brown silt, trace sand, dense cmf gravel, cobbles under dark brown root/leaf mat	none
	2	13-24+	yellow silt, some brown, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-3	1	0-13	(same, with boulders)	none
	2	13-25+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-9	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-11	1	0-15	(same as above)	none
	2	15-25+	(same as above)	none
TP-12	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none

TRANSECT 39

TP-1	1	0-12	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-27+	yellow silt, some brown, trace sand, dense cmf gravel, cobbles, boulders	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same, no boulders)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-9	(same, denser gravel and cobbles, with boulders)	none
	2	9-17+	(same, very dense rock)	none
TP-5	1	0-13	(same, less dense, no boulders)	none
	2	13-26+	(same, less dense)	none
TP-6	1	0-10	(same, denser gravel)	none
	2	10-23+	(same, denser gravel and cobbles)	none
TP-7	1	0-14	(same, less dense)	none
	2	14-22+	(same, less dense)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-15	(same as above)	none
	2	15-26+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-28+	(same, yellow brown silt)	none
TP-11	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none

TRANSECT 40

TP-1	1	0-11	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-23+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-28+	(same, dense cobbles, with boulders)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same, less dense cobbles, no boulders)	none
TP-5	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	12-29+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none

TP-9	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TRANSECT 41				
TP-1	1	0-9	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	9-17+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-23+	(same as above)	none
TP-6	1	0-15	(same as above)	none
	2	15-26+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TRANSECT 42				
TP-1	1	0-12	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-27+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none

TP-7	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-11	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-11	(same, denser gravel and cobbles)	none
	2	11-24+	(same, denser gravel and cobbles)	none

TRANSECT 43

TP-1	1	0-10	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-20+	brownish yellow silt, trace sand, dense cmf gravel, cobbles, boulders	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same, no boulders)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-11	(same. denser gravel and cobbles)	none
	2	11-24+	(same, denser gravel)	none
TP-11	1	0-10	(same as above)	none
	2	10-24+	(same as above)	none
TP-12	1	0-10	(same as above)	none
	2	10-21+	(same, with boulders)	none

TRANSECT 44				
TP-1	1	0-10	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-22+	brownish yellow silt, trace sand, dense cmf gravel, cobbles, boulders	none
TP-2	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-26+	(same, no boulders)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-15	(same as above)	none
	2	15-26+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-9	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TRANSECT 45				
TP-1	1	0-11	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-23+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-6	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TRANSECT 46				
TP-1	1	0-11	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-24+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none

TP-2	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TRANSECT 47				
TP-1	1	0-10	dark to medium brown silt, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-20+	brownish yellow silt, dense cmf gravel	none
TP-2	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-9	1	0-14	(same. very moist)	none
	2	14-25+	(same, moist)	none
TRANSECT 48				
TP-1	1	0-12	dark to medium brown silt, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-27+	brownish yellow silt, dense cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same, no cobbles)	none
	2	11-28+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-8	1	0-15	(same. moist)	none
	2	15-26+	(same, moist)	none

TRANSECT 49				
TP-1	1	0-11	dark to medium brown silt, dense cmf gravel cobbles, under dark brown root/leaf mat	none
	2	11-27+	brownish yellow silt, dense cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-14	(same, no cobbles)	none
	2	14-25+	(same as above)	none
TP-7	1	0-12	(same, less dense gravel)	none
	2	12-27+	(same, less dense gravel)	none
TP-8	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-14	(same, moister)	none
	2	14-27+	(same, moister)	none
TRANSECT 50				
TP-1	1	0-10	dark to medium brown silt, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-19+	brownish yellow silt, dense cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
TP-4	1	0-14	(same, no cobbles)	none
	2	14-27+	(same as above)	none
TRANSECT 51				
TP-1	1	0-14	dark to medium brown silt, cmf gravel, under dark brown root/leaf mat	none
	2	14-29+	brownish yellow silt, cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
CLUSTER 5				
TP-1	1	0-14	dark to medium brown silt, cmf gravel	none
	2	14-30+	brownish yellow silt, cmf gravel	none
TP-2	1	0-10	(same as above)	none
	2	10-22+	(same as above)	none
TP-3	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none
TP-4	1	0-10	(same as above)	none

	2	10-20+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-6	1	0-14	(same, moist)	none
	2	14-24+	(same, moist)	none
TP-7	1	0-14	(same. very moist)	none
	2	14-26+	(same, very moist)	none
TP-8	1	0-15	(same as above)	none
	2	15-29+	(same as above)	none
TP-9	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-10	1	0-13	(same, less moist)	none
	2	13-25+	(same, less moist)	none
TP-11	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TRANSECT 52				
TP-1	1	0-14	moist dark to medium brown silt, cmf gravel	none
	2	14-26+	brownish yellow silt, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-14	(same, moist)	none
	2	14-27+	(same, moist)	none
TP-5	1	0-15	(same, very moist)	none
	2	15-26+	(same, very moist)	none
TRANSECT 53				
TP-1	1	0-13	moist medium to dark brown silt, cmf gravel	none
	2	13-25+	brownish yellow silt, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-5	1	0-15	(same, very moist)	none
	2	15-27+	(same, very moist)	none
TP-6	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TRANSECT 54				
TP-1	1	0-12	dark to medium brown silt, cmf gravel	none
	2	12-27+	brownish yellow silt, cmf gravel	none

TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-8	1	0-13	(same, moister)	none
	2	13-24+	(same, moister)	none
TRANSECT 55				
TP-1	1	0-10	dark to medium brown silt, cmf gravel	none
	2	10-22+	brownish yellow silt, cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-30+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same. very moist)	none
	2	13-26+	(same, moist)	none
TRANSECT 56				
TP-1	1	0-10	dark to medium brown silt, cmf gravel	none
	2	10-20+	yellow silt, trace brown, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none

TP-7	1	0-15	(same as above)	none
	2	15-29+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same. moister)	none
	2	13-26+	(same, moister)	none
TP-10	1	0-12	(same, moist)	none
	2	12-24+	(same, moist)	none

TRANSECT 57

TP-1	1	0-12	dark to medium brown silt, cmf gravel	none
			gravel, under dark brown root/leaf mat	none
	2	12-24+	yellow silt, trace brown, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-7	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-9	1	0-13	(same. very moist)	none
	2	13-26+	(same, moist)	none
TP-10	1	0-12	(same, less moist)	none
	2	12-24+	(same, less moist)	none

TRANSECT 58

TP-1	1	0-12	dark to medium brown silt, cmf gravel	none
	2	12-27+	brownish yellow silt, cmf gravel	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none

TP-8	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-10	1	0-14	(same, moist)	none
	2	14-28+	(same, moist)	none
TP-11	1	0-15	(same, moister)	none
	2	15-26+	(same, moister)	none
TRANSECT 59				
TP-1	1	0-13	dark to medium brown silt, cmf gravel	none
	2	13-24+	brownish yellow silt, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-30+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-22+	(same as above)	none
TP-9	1	0-13	(same. very moist)	none
	2	13-26+	(same, moist)	none
TRANSECT 60				
TP-1	1	0-13	dark to medium brown silt, cmf gravel	none
	2	13-23+	brownish yellow silt, cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-7	1	0-14	(same, moist)	none
	2	15-25+	(same, moist)	none
TP-8	1	0-15	(same, very moist)	none
	2	15-24+	(same, wet)	none

TRANSECT 61				
TP-1	1	0-12	dark to medium brown silt, cmf gravel	none
	2	12-29+	brownish yellow silt, cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-3	1	0-15	(same as above)	none
	2	15-25+	(same as above)	none
TP-4	1	0-14	(same, moist)	none
	2	14-27+	(same, moist)	none
TP-5	1	0-15	(same, very moist)	none
	2	15-26+	(same, very moist)	none
TRANSECT 62				
TP-1	1	0-13	dark to medium brown silt, cmf gravel	none
	2	13-24+	brownish yellow silt, cmf gravel	none
TP-2	1	0-13	(same. moist)	none
	2	13-26+	(same, moist)	none
TP-3	1	0-14	(same, moister)	none
	2	14-24+	(same, moister)	none
TRANSECT 63				
TP-1	1	0-12	dark to medium brown silt, cmf gravel	none
	2	12-29+	brownish yellow silt, cmf gravel	none
TP-2	1	0-14	(same, moist)	none
	2	14-27+	(same, moist)	none
SECTOR B				
TP-1	1	0-14	medium to grey brown silt, trace sand, cmf gravel, under dark brown root/leaf mat	none
	2	14-27+	dark yellow silt, trace brown, trace sand cmf gravel	none
TP-3	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-6	1	0-8	(same as above)	none
	2	8-17+	(same as above)	none
TP-7	1	0-10	(same as above)	none
	2	10-25+	(same as above)	none
TP-8	1	0-11	(same as above)	none
	2	11-20+	(same as above)	none
TP-9	1	0-9	(same as above)	none
	2	9-18+	(same as above)	none
TP-10	1	0-10	(same as above)	none
	2	10-24+	(same as above)	none

TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-15	1	0-6	medium to dark brown silt, some sand, dense cmf gravel, cobbles, boulders under dark brown root/leaf mat	none
	2	6-17+	dark orange silt, trace sand, very dense cmf gravel, cobbles, boulders	none
TP-16	1	0-6	(same as above)	none
	2	6-20+	(same as above)	none
TP-17	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-18	1	0-7	(same as above)	none
	2	7-17+	(same as above)	none
TP-19	1	0-6	(same as above)	none
	2	6-16+	(same as above)	none
TP-20	1	0-18	(same as above)	none
	2	8-17+	(same as above)	none
TP-21	1	0-8	(same as above)	none
	2	8-19+	(same as above)	none
TP-22	1	0-7	(same as above)	none
	2	7-20+	(same as above)	none
TP-23	1	0-8	(same as above)	none
	2	8-20+	(same as above)	none
TP-24	1	0-7	(same as above)	none
	2	7-17+	(same as above)	none
TP-25	1	0-6	(same, very dense gravel, cobbles, boulders)	none
	2	6-16+	(same, very dense gravel, cobbles, boulders)	none
TP-26	1	0-6	(same as above)	none
	2	6-15+	(same as above)	none
TP-27	1	0-7	(same as above)	none
	2	7-18+	(same as above)	none
TP-28	1	0-8	(same as above)	none
	2	8-17+	(same as above)	none
TP-29	1	0-6	(same as above)	none
	2	6-19+	(same as above)	none
TP-30	1	0-6	(same as above)	none
	2	6-10	(same, bedrock at 10cm)	none
TP-31	1	0-7	(same as above)	none
	2	7-18+	(same as above)	none
TP-32	1	0-7	(same as above)	none
	2	7-20+	(same as above)	none
TP-33	1	0-6	(same as above)	none
	2	6-12	(same, bedrock at 12cm)	none

TP-34	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-35	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-36	1	0-8	(same as above)	none
	2	8-19+	(same as above)	none
TP-37	1	0-10	(same as above)	none
	2	10-20+	(same as above)	none
TP-38	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-39	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-40	1	0-11	(same as above)	none
	2	13-22+	(same as above)	none
TP-41	1	0-11	(same as above)	none
	2	12-25+	(same as above)	none
TP-42	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-43	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-44	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
TP-45	1	0-11	(same as above)	none
	2	11-20+	(same as above)	none
TP-46	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-47	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none

SECTOR C
TRANSECT 1

TP-1	1	0-13	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-24+	yellow silt, trace brown, dense cmf gravel, cobbles	none
TP-2	1	0-10	(same as above)	none
	2	10-20+	(same as above)	none

TRANSECT 2

TP-1	1	0-12	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-24+	yellow silt, trace brown, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same, moist)	none
	2	12-26+	(same, moist)	none

TP-3	1	0-13	(same, less moist)	none
	2	13-25+	(same, less moist)	none
TP-4	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-5	1	0-10	(same as above)	none
	2	10-21+	(same, very dense rock)	none

TRANSECT 3

TP-1	1	0-13	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-29+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-3	1	0-14	(same, moist)	none
	2	14-28+	(same, moist)	none
TP-4	1	0-13	(same, less moist)	none
	2	13-26+	(same, less moist)	none
TP-5	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-7	1	0-10	(same as above)	none
	2	10-20+	(same as above)	none
TP-8	1	0-10	(same, denser gravel and cobbles)	none
	2	10-22+	(same, denser gravel and cobbles)	none
TP-9	1	0-11	(same as above)	none
	2	11-26+	(same as above)	non
TP-10	1	0-14	(same, less dense gravel and cobbles)	none
	2	14-24+	(same, less dense gravel and cobbles)	none
TP-11	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none

TRANSECT 4

TP-1	1	0-14	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	14-25+	yellow silt, trace brown, trace sand, cmf gravel, cobbles	none
TP-2	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none

TP-7	1	0-10	(same as above)	none
	2	10-27+	(same as above)	none
TP-8	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-9	1	0-9	(same as above)	none
	2	19-18+	(same as above)	none
TP-10	1	0-10	(same as above)	none
	2	10-17	(same, bedrock at 17cm)	none
TP-11	1	0-11	(same as above)	none
	2	11-26+	(same as above)	none
TP-12	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-13	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-14	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-15	1	0-14	(same. very moist)	none
	2	14-23+	(same as above)	none

TRANSECT 5

TP-1	1	0-14	medium to dark brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	14-24+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-15	(same as above)	none
	2	15-26+	(same as above)	none
TP-3	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-5	1	0-11	(same as above)	none
	2	11-21+	brownish yellow silt, trace sand, cmf gravel	none
TP-6	1	0-12	(same as above)	none
	2	12-21+	(same, with cobbles)	none
TP-7	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-8	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-9	1	0-9	(same as above)	none
	2	10-19+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none

TP-14	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-15	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-16	1	0-12	(same, moist)	none
	2	12-24+	(same, moister)	none
TP-17	1	0-10	(same, less moist)	none
	2	10-18+	(same, less moist)	none
TP-18	1	0-10	(same as above)	
	2	10-17+	yellow silt, trace brown, trace sand, cmf gravel cobbles, boulders	none
TP-19	1	0-9	(same, denser gravel and cobbles)	none
	2	9-19+	(same, denser gravel and cobbles)	none

TRANSECT 6

TP-1	1	0-14	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	14-28+	yellow silt, trace brown, trace sand, cmf gravel, cobbles	none
TP-2	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-6	1	0-11	(same, denser gravel and cobbles)	none
	2	11-21+	(same, denser gravel and cobbles)	none
TP-7	1	0-11	(same as above)	none
	2	11-23+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-9	1	0-13	(same. less dense gravel and cobbles)	none
	2	13-26+	(same, less dense gravel and cobbles)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-14	(same as above)	none
	2	14-27+	brownish yellow silt, trace sand, cmf gravel, cobbles	none
TP-15	1	0-12	(denser gravel and cobbles)	none
	2	12-22+	(denser gravel and cobbles)	none

TP-16	1	0-11	(same, with boulders)	none
	2	11-28+	(same as above)	none
TP-17	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-18	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-19	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-20	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-21	1	0-13	(same, less dense gravel, and cobbles)	none
	2	13-24+	(same, less dense gravel and cobbles)	none
TP-22	1	0-13	(same. very moist)	none
	2	13-26+	(same, moist)	none
TP-23	1	0-12	(same, moist)	none
	2	12-24+	(same, moist)	none
TP-24	1	0-12	(same, less moist)	none
	2	12-26+	(same, less moist)	none
TP-25	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-26	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-27	1	0-14	(same as above)	none
	2	14-29+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-28	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-29	1	0-11	(same as above)	none
	2	11-28+	(same as above)	none
TRANSECT 7				
TP-1	1	0-13	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-24+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-11	(same as above)	none
	2	11-26+	(same as above)	none
TP-6	1	0-10	(same, denser gravel and cobbles)	none
	2	10-19+	(same, denser gravel and cobbles)	none
TP-7	1	0-12	(same, with boulders)	none
	2	12-25+	(same as above)	none
TP-8	1	0-11	(same as above)	none
	2	11-21+	(same as above)	none
TP-9	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none

TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same as above)	chert
	2	13-25+	(same as above)	none
TP-12A	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-12B	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-12C	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-12D	1	0-12	(same as above)	none
	2	12-20+	(same as above)	none
TP-12E	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-12F	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-12G	1	0-13	(same as above)	none
	2	13-22+	(same as above)	none
TP-12H	1	0-12	(same as above)	none
	2	12-30+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-12	(same as above)	none
	2	12-27+	brownish yellow silt, trace sand, cmf gravel	none
TP-15	1	0-12	(same, denser gravel and cobbles, boulders)	none
	2	12-25+	(same, dense cobbles)	none
TP-16	1	0-10	(same, moist)	none
	2	10-21+	(same, moist)	none
TP-17	1	0-9	(same, less moist)	none
	2	9-21+	(same, less moist)	none
TP-18	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-19	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-20	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-21	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-22	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-23	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-24	1	0-14	(same, less dense gravel and cobbles)	none
	2	14-26+	(same, less dense gravel and cobbles)	none
TP-25	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-26	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none

TP-27	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TRANSECT 8				
TP-1	1	0-13	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-22+	yellow silt, trace brown, trace sand, cmf gravel	none
TP-2	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-28+	(same, with cobbles)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-6	1	0-12	(same, denser gravel)	none
	2	12-23+	(same, denser gravel and cobbles)	none
TP-7	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-8	1	0-11	(same as above)	none
	2	11-24+	(same as above)	none
TP-9	1	0-8	(same as above)	none
	2	8-16+	(same, very dense cobbles, boulders)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same, less dense cobbles)	none
TP-11	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-12	1	0-13	(same, moister)	none
	2	13-25+	(same, moist)	none
TP-13	1	0-13	(same, less moist)	none
	2	13-26+	(same, less moist)	none
TP-14	1	0-14	medium brown silt, trace sand, cmf gravel, cobbles under dark brown root/leaf mat	none
	2	14-27+	brownish yellow silt, trace sand, cmf gravel cobbles	none
TP-15	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-16	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-17	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-18	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-19	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-20	1	0-10	(same, denser gravel and cobbles)	none
	2	10-20+	(same, denser gravel and cobbles)	none
TP-21	1	0-10	(same as above)	none

	2	10-21+	(same as above)	none
TP-22	1	0-11	(same as above)	none
	2	11-23+	(same as above)	none
TRANSECT 9				
TP-1	1	0-14	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	14-24+	yellow silt, some brown, trace sand, cmf gravel, cobbles	none
TP-2	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-5	1	0-12	(same as above)	none
	2	12-21+	(same as above)	none
TP-6	1	0-10	(same as above)	none
	2	10-19+	(same as above)	none
TP-7	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-9	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-10	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-11	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-13	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-14	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-15	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-16	1	0-11	(same as above)	none
	2	11-23+	(same as above)	none
TP-17	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TRANSECT 10				
TP-1	1	0-13	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-24+	yellow silt, some brown, trace sand, cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none

TP-3	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-23+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-7	1	0-10	(same, denser gravel and cobbles)	none
	2	10-20+	(same, denser gravel and cobbles)	none
TP-8	1	0-9	(same as above)	none
	2	9-14	(same, bedrock at 14cm)	none
TP-9	1	0-10	(same as above)	none
	2	10-21+	(same as above)	none
TP-10	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-11	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-13	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-14	1	0-13	(same as above)	none
	2	12-28+	(same as above)	none
TP-15	1	0-11	(same, denser gravel)	none
	2	11-24+	(same, denser gravel)	
TP-16	1	0-9	(same as above)	none
	2	9-20+	(same as above)	none
TRANSECT	**11**			
TP-1	1	0-12	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-22+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-6	1	0-11	(same, with boulders)	none
	2	11-21+	(same, denser gravel and cobbles)	none
TP-7	1	0-9	(same as above)	none
	2	9-18+	(same, dense rock)	none
TP-8	1	0-10	(same as above)	none
	2	10-19+	(same as above)	none

TP-9	1	0-9	(same as above)	none
	2	9-16+	(same as above)	none
TP-10	1	0-14	(same, less dense gravel and cobbles)	none
	2	14-24+	(same, less dense rock)	none
TP-11	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-12	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-13	1	0-11	(same, denser gravel and cobbles)	none
	2	11-22+	(same, denser gravel and cobbles)	none

TRANSECT 12

TP-1	1	0-10	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	10-21+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-10	(same as above)	none
	2	10-19+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TP-4	1	0-11	(same as above)	none
	2	11-21+	(same as above)	none
TP-5	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-6	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-7	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none

TRANSECT 13

TP-1	1	0-12	dark to medium brown silt, some sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-22+	brownish yellow silt, some sand, dense cmf gravel, cobbles	none
TP-2	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-26+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-27+	(same as above)	none
TP-5	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none

CLUSTER 1

TP-1	1	0-12	dark to medium brown silt, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-24+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none

TP-2	1	0-12	(same as above)	none
	2	12-26+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-21+	(same as above)	none
TP-4	1	0-10	(same as above)	none
	2	10-23+	(same as above)	none
CLUSTER 2				
TP-1	1	0-11	dark to medium brown silt, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-24+	brownish yellow silt, dense cmf gravel, cobbles	none
TP-2	1	0-11	(same as above)	none
	2	11-22+	(same as above)	none
TP-3	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
CLUSTER 3				
TP-1	1	0-11	dark to medium brown silt, some sand, dense cmf gravel, under dark brown root/leaf mat	none
	2	11-21+	brownish yellow silt, some sand, dense cmf gravel, cobbles	none
TP-2	1	0-10	(same as above)	none
	2	10-19+	(same, dense rock)	none
TP-3	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-4	1	0-13	(same, moist)	none
	2	13-28+	(same, moister)	none
TP-5	1	0-12	(same as above)	none
	2	12-22+	(same as above)	none
SECTOR D TRANSECT 1				
TP-1	1	0-12	dark brown silt, some sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-23+	brownish yellow silt, some sand, cmf gravel, cobbles	
TP-2	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-12	(same as above)	none
	2	12-21+	(same as above)	none
TP-5	1	0-11	(same, denser gravel)	none
	2	11-23+	(same, denser gravel)	none

TP-6	1	0-12	(same as above)	none
	2	12-28+	(same as above)	none
TP-7	1	0-13	(same as bove)	none
	2	13-28	(same as above)	none
TP-8	1	0-13	(same as above)	none
	2	13-29+	(same as above)	none
TP-9	1	0-14	(same as above)	none
	2	14-26+	(same as above)	none
TP-10	1	0-14	(same as above)	none
	2	14-24+	(same as above)	none
TRANSECT 2				
TP-1	1	0-14	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	14-27+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-13	(same as above)	none
	2	13-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-13	(same as above)	none
	2	13-23+	(same as above)	none
TP-6	1	0-11	(same, denser gravel)	none
	2	11-22+	(same as above)	none
TRANSECT 3				
TP-1	1	0-12	dark to medium brown silt, trace sand, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	12-24+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-14	(same as above)	none
	2	14-27+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TP-6	1	0-12	(same as above)	none
	2	12-24+	(same as above)	none
TRANSECT 4				
TP-1	1	0-11	dark to medium brown silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-21+	brownish yellow silt, dense cmf gravel	none

TP-2	1	0-12	(same as above)	none
	2	12-25+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TP-5	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-6	1	0-14	(same as above)	none
	2	14-29+	(same as above)	none
TRANSECT 5				
TP-1	1	0-13	dark to medium brown silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-25+	brownish yellow silt, dense cmf gravel	none
TP-2	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-25+	(same as above)	none
TP-4	1	0-11	(same, denser gravel)	none
	2	11-22+	(same, with cobbles)	none
TP-5	1	0-14	(same, less dense gravel)	none
	2	14-26+	(same, no cobbles)	none
TRANSECT 6				
TP-1	1	0-13	dark to medium brown silt, cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	13-26+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-14	(same as above)	none
	2	14-28+	(same as above)	none
TP-3	1	0-14	(same as above)	none
	2	14-26+	(same, no boulders)	none
TP-4	1	0-12	(same as above)	plastic, wire nail (NR)
	2	12-27+	(same as above)	none
TRANSECT 7				
TP-1	1	0-13	medium to dark brown silt, cmf gravel,	none
	2	13-28+	brownish yellow silt, some sand, dense cmf gravel, cobbles	none
TP-2	1	0-15	(same as above)	none
	2	15-28+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-4	1	0-11	(same, denser gravel)	aluminum spoon (NR)
	2	11-23+	(same, with boulders)	none

TRANSECT 8				
TP-1	1	0-11	dark to medium brown silt, trace sand, dense cmf gravel, cobbles, under dark brown root/leaf mat	none
	2	11-23+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-29+	(same as above)	none
TP-3	1	0-13	(same as above)	none
	2	13-24+	(same as above)	none
TRANSECT 9				
TP-1	1	0-10	dark to medium brown silt, some sand, dense cmf gravel, cobbles, under dark brown root/leaf	none
	2	10-23+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-2	1	0-12	(same as above)	none
	2	12-23+	(same as above)	none
TP-3	1	0-11	(same as above)	none
	2	11-25+	(same as above)	none
SECTOR E				
TP-1	1	0-13	very moist dark brown silt, some sand, cmf gravel, cobbles under turf	none
	2	13-29+	dark yellow silt, some sand, cmf gravel, cobbles	none
TP-2	1	0-10	dark yellow silt, some sand, cmf gravel, cobbles, under turf	none
	2	13-23+	tan yellow silt, some sand, cmf gravel, cobbles	none
TP-3	1	0-11	dark to medium brown silt, some sand, cmf gravel, cobbles, under turf	iron pin, aluminum foil (NR)
	2	11-24+	brownish yellow silt, trace sand, dense cmf gravel, cobbles	none
TP-4	1	0-21	(same as above)	none
	2	21-32+	(same as above)	none
TP-5	1	0-15	(same as above)	glass marble (NR)
	2	15-28+	(same as above)	none
TP-6	1	0-19	(same, very moist)	none
	2	19-29+	(same as above)	none
TP-7	1	0-14	grey brown silt, trace sand, under turf	none
	2	14-29+	yellow brown silt, some sand, cmf gravel, cobbles	none
TP-8	1	0-14	dark to medium brown silt, cmf gravel, cobbles, under turf	none
	2	14-26+	brownish yellow silt, dense cmf gravel, cobbles	none
TP-9	1	0-13	(same as above)	none
	2	13-26+	(same as above)	none

TP-10	1	0-13	(same as above)	none
	2	13-28+	(same as above)	none
TP-11	1	0-13	(same, with blue gravel fill)	none
	2	13-23+	(same as above)	none
TP-12	1	0-12	(same, no cobbles)	none
	2	12-23+	(same as above)	none
TP-13	1	0-18	(same as above)	wire nail, bottle glass (NR)
	2	18-30+	(same as above)	none
TP-14	1	0-15	(same as above)	none
	2	15-25+	(same as above)	none
TP-15	1	0-13	(same as above)	none
	2	13-27+	(same as above)	none
TP-16	1	0-15	(same. very moist)	none
	2	15-26+	(same, moist)	none
TP-17	1	0-12	(same, less moist)	none
	2	12-25+	(same, less moist)	none
TP-18	1	0-4	(same, no cobbles)	none
	2	4-27+	brownish yellow silt, dense cmf gravel	none

NR = not retained

APPENDIX D - ARTIFACT CATALOG

THE MARKET PLACE - CA517B

PHASE IB ARTIFACT CATALOGUE

QUANTITY	DESCRIPTION	PROVENIENCE
2	chert fragments	Tr C7, TP-12, Level 1

APPENDIX F

Breeding Bird
Atlas Data

Breeding Bird Atlas Block 5759A

1 Mile

Scale is approximately 1:25,000, but may vary on your printer.

New York State Department of
Environmental Conservation

NYS Breeding Bird Atlas

ATLAS 2000

1980-1985

Navigation Tools
Perform Another Search
Sort by Field Card Order
Sort by Taxonomic Order
View 2000 Data

Block 5759A Summary	
Total Species:	77
Possible:	10
Probable:	27
Confirmed:	40

Click on column heading to sort by that category.

Common Name	Scientific Name	Behavior Code	Date	NY Legal
American Black Duck	*Anas rubripes*	P2	1980	Game Speci
American Crow	*Corvus brachyrhynchos*	NE	1985	Game Speci
American Goldfinch	*Carduelis tristis*	S2	1981	Protected
American Redstart	*Setophaga ruticilla*	S2	1981	Protected
American Robin	*Turdus migratorius*	NE	1980	Protected
American Woodcock	*Scolopax minor*	D2	1980	Game Speci
Baltimore Oriole	*Icterus galbula*	FL	1981	Protected
Barn Swallow	*Hirundo rustica*	FL	1980	Protected
Barred Owl	*Strix varia*	X1	1980	Protected
Belted Kingfisher	*Ceryle alcyon*	P2	1981	Protected
Black-and-white Warbler	*Mniotilta varia*	FL	1981	Protected
Black-billed Cuckoo	*Coccyzus erythropthalmus*	S2	1980	Protected

Black-capped Chickadee	*Poecile atricapillus*	NY	1981	Protected
Blue Jay	*Cyanocitta cristata*	FL	1981	Protected
Blue-winged Warbler	*Vermivora pinus*	S2	1981	Protected
Broad-winged Hawk	*Buteo platypterus*	D2	1980	Protected
Brown Thrasher	*Toxostoma rufum*	FL	1981	Protected
Brown-headed Cowbird	*Molothrus ater*	FL	1980	Protected
Canada Goose	*Branta canadensis*	FL	1981	Game Speci
Carolina Wren	*Thryothorus ludovicianus*	S2	1980	Protected
Cedar Waxwing	*Bombycilla cedrorum*	P2	1980	Protected
Chestnut-sided Warbler	*Dendroica pensylvanica*	S2	1980	Protected
Chimney Swift	*Chaetura pelagica*	P2	1980	Protected
Chipping Sparrow	*Spizella passerina*	FL	1980	Protected
Common Grackle	*Quiscalus quiscula*	NY	1980	Protected
Common Nighthawk	*Chordeiles minor*	N2	1981	Protected-S Concern
Common Yellowthroat	*Geothlypis trichas*	FY	1980	Protected
Downy Woodpecker	*Picoides pubescens*	FY	1981	Protected
Eastern Kingbird	*Tyrannus tyrannus*	FL	1980	Protected
Eastern Meadowlark	*Sturnella magna*	S2	1981	Protected
Eastern Phoebe	*Sayornis phoebe*	FL	1981	Protected
Eastern Towhee	*Pipilo erythrophthalmus*	S2	1981	Protected
Eastern Wood-Pewee	*Contopus virens*	FY	1981	Protected
European Starling	*Sturnus vulgaris*	NY	1980	Unprotectec
Field Sparrow	*Spizella pusilla*	S2	1980	Protected
Fish Crow	*Corvus ossifragus*	D2	1981	Protected
Grasshopper Sparrow	*Ammodramus savannarum*	X1	1981	Protected-S Concern
Gray Catbird	*Dumetella carolinensis*	FL	1980	Protected
Great Crested Flycatcher	*Myiarchus crinitus*	S2	1980	Protected
Green Heron	*Butorides virescens*	X1	1980	Protected
Hairy Woodpecker	*Picoides villosus*	FY	1981	Protected
House Finch	*Carpodacus mexicanus*	FL	1981	Protected
House Sparrow	*Passer domesticus*	NY	1980	Unprotectec
House Wren	*Troglodytes aedon*	NY	1980	Protected
Indigo Bunting	*Passerina cyanea*	FL	1981	Protected

Killdeer	*Charadrius vociferus*	FL	1980	Protected
Mallard	*Anas platyrhynchos*	FL	1981	Game Speci
Mourning Dove	*Zenaida macroura*	FL	1980	Protected
Northern Bobwhite	*Colinus virginianus*	X1	1980	Game Speci
Northern Cardinal	*Cardinalis cardinalis*	FY	1980	Protected
Northern Flicker	*Colaptes auratus*	NY	1981	Protected
Northern Mockingbird	*Mimus polyglottos*	FY	1980	Protected
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	P2	1980	Protected
Ovenbird	*Seiurus aurocapilla*	S2	1980	Protected
Red-eyed Vireo	*Vireo olivaceus*	FL	1981	Protected
Red-shouldered Hawk	*Buteo lineatus*	X1	1981	Protected-S Concern
Red-tailed Hawk	*Buteo jamaicensis*	X1	1980	Protected
Red-winged Blackbird	*Agelaius phoeniceus*	FL	1981	Protected
Rock Pigeon	*Columba livia*	NY	1981	Unprotectec
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	FL	1981	Protected
Ruby-throated Hummingbird	*Archilochus colubris*	X1	1980	Protected
Savannah Sparrow	*Passerculus sandwichensis*	X1	1981	Protected
Scarlet Tanager	*Piranga olivacea*	FL	1981	Protected
Song Sparrow	*Melospiza melodia*	FL	1980	Protected
Spotted Sandpiper	*Actitis macularia*	FL	1981	Protected
Swamp Sparrow	*Melospiza georgiana*	S2	1980	Protected
Tufted Titmouse	*Baeolophus bicolor*	S2	1980	Protected
Turkey Vulture	*Cathartes aura*	X1	1980	Protected
Upland Sandpiper	*Bartramia longicauda*	FL	1982	Threatened
Veery	*Catharus fuscescens*	S2	1980	Protected
Warbling Vireo	*Vireo gilvus*	S2	1980	Protected
White-breasted Nuthatch	*Sitta carolinensis*	S2	1980	Protected
Willow Flycatcher	*Empidonax traillii*	T2	1980	Protected
Wood Thrush	*Hylocichla mustelina*	FL	1980	Protected
Worm-eating Warbler	*Helmitheros vermivorus*	S2	1980	Protected
Yellow Warbler	*Dendroica petechia*	FL	1981	Protected
Yellow-throated Vireo	*Vireo flavifrons*	X1	1980	Protected

NYS Breeding Bird Atlas

2000-2005

Navigation Tools
Perform Another Search
Show All Records
Sort by Field Card Order
Sort by Taxonomic Order
View 1985 Data

Block 5759A Summary	
Total Species:	76
Possible:	8
Probable:	27
Confirmed:	41

Click on column heading to sort by that category.

Common Name	Scientific Name	Behavior Code	Date	NY Legal Status	V
American Crow	*Corvus brachyrhynchos*	NY	5/31/2005	Game Species	D
American Goldfinch	*Carduelis tristis*	B2	5/22/2005	Protected	D
American Redstart	*Setophaga ruticilla*	T2	5/31/2005	Protected	D
American Robin	*Turdus migratorius*	NY	5/16/2005	Protected	D
Baltimore Oriole	*Icterus galbula*	NE	5/31/2005	Protected	D
Bank Swallow	*Riparia riparia*	S2	7/1/2005	Protected	D
Barn Swallow	*Hirundo rustica*	NE	5/23/2005	Protected	D
Black-capped Chickadee	*Poecile atricapillus*	NY	5/31/2005	Protected	D
Blue Jay	*Cyanocitta cristata*	FY	7/1/2005	Protected	D
Blue-gray Gnatcatcher	*Polioptila caerulea*	T2	6/10/2005	Protected	D

Blue-headed Vireo	*Vireo solitarius*	X1	8/1/2004	Protected	T
Blue-winged Warbler	*Vermivora pinus*	FY	6/18/2005	Protected	D
Brown Thrasher	*Toxostoma rufum*	D2	6/29/2005	Protected	D
Brown-headed Cowbird	*Molothrus ater*	FL	6/10/2005	Protected	D
Canada Goose	*Branta canadensis*	NE	4/18/2005	Game Species	D
Carolina Wren	*Thryothorus ludovicianus*	T2	8/1/2004	Protected	T
Cedar Waxwing	*Bombycilla cedrorum*	FL	7/16/2005	Protected	D
Chimney Swift	*Chaetura pelagica*	D2	6/13/2005	Protected	D
Chipping Sparrow	*Spizella passerina*	FL	8/1/2004	Protected	T
Common Grackle	*Quiscalus quiscula*	NY	5/16/2005	Protected	D
Common Yellowthroat	*Geothlypis trichas*	D2	7/1/2005	Protected	D
Cooper's Hawk	*Accipiter cooperii*	T2	6/18/2005	Protected-Special Concern	D
Downy Woodpecker	*Picoides pubescens*	NY	5/16/2005	Protected	D
Eastern Bluebird	*Sialia sialis*	NY	5/16/2005	Protected	D
Eastern Kingbird	*Tyrannus tyrannus*	NY	6/18/2005	Protected	D
Eastern Phoebe	*Sayornis phoebe*	NY	5/16/2005	Protected	D
Eastern Towhee	*Pipilo erythrophthalmus*	T2	6/10/2005	Protected	D
Eastern Wood-Pewee	*Contopus virens*	T2	6/10/2005	Protected	D
European Starling	*Sturnus vulgaris*	NY	5/23/2005	Unprotected	D
Gray Catbird	*Dumetella carolinensis*	FY	6/13/2005	Protected	D
Great Blue Heron	*Ardea herodias*	X1	5/3/2005	Protected	D
Great Crested Flycatcher	*Myiarchus crinitus*	NY	6/13/2005	Protected	D
Green Heron	*Butorides virescens*	S2	6/9/2005	Protected	D
Hairy Woodpecker	*Picoides villosus*	T2	6/10/2005	Protected	D
House Finch	*Carpodacus mexicanus*	D2	5/31/2005	Protected	D
House Sparrow	*Passer domesticus*	NY	6/13/2005	Unprotected	D

House Wren	*Troglodytes aedon*	NY	6/18/2005	Protected	D
Indigo Bunting	*Passerina cyanea*	FL	7/9/2005	Protected	D
Killdeer	*Charadrius vociferus*	S2	6/9/2005	Protected	D
Louisiana Waterthrush	*Seiurus motacilla*	T2	6/10/2005	Protected	D
Mallard	*Anas platyrhynchos*	FL	8/1/2004	Game Species	T
Mourning Dove	*Zenaida macroura*	NE	5/23/2005	Protected	D
Mute Swan	*Cygnus olor*	NE	4/25/2005	Protected	D
Northern Cardinal	*Cardinalis cardinalis*	FY	6/9/2005	Protected	D
Northern Flicker	*Colaptes auratus*	FY	6/29/2005	Protected	D
Northern Mockingbird	*Mimus polyglottos*	FL	7/16/2005	Protected	D
Northern Rough-winged Swallow	*Stelgidopteryx serripennis*	ON	6/13/2005	Protected	D
Ovenbird	*Seiurus aurocapilla*	FL	7/9/2005	Protected	D
Pileated Woodpecker	*Dryocopus pileatus*	X1	7/19/2005	Protected	D
Red-bellied Woodpecker	*Melanerpes carolinus*	NY	5/31/2005	Protected	D
Red-eyed Vireo	*Vireo olivaceus*	FL	7/9/2005	Protected	D
Red-tailed Hawk	*Buteo jamaicensis*	NE	5/5/2000	Protected	M
Red-winged Blackbird	*Agelaius phoeniceus*	NY	6/9/2005	Protected	D
Ring-necked Pheasant	*Phasianus colchicus*	X1	7/9/2005	Game Species	D
Rock Pigeon	*Columba livia*	X1	8/1/2004	Unprotected	T
Rose-breasted Grosbeak	*Pheucticus ludovicianus*	FL	7/9/2005	Protected	D
Ruby-throated Hummingbird	*Archilochus colubris*	T2	7/1/2005	Protected	D
Scarlet Tanager	*Piranga olivacea*	T2	6/10/2005	Protected	D
Song Sparrow	*Melospiza melodia*	FY	5/31/2005	Protected	D
Spotted Sandpiper	*Actitis macularia*	X1	5/16/2005	Protected	D
Swamp Sparrow	*Melospiza georgiana*	D2	7/9/2005	Protected	D
Tree Swallow	*Tachycineta bicolor*	N2	5/31/2005	Protected	D
Tufted Titmouse	*Baeolophus bicolor*	FY	5/31/2005	Protected	D
Turkey Vulture	*Cathartes aura*	X1	5/3/2005	Protected	D

Veery	*Catharus fuscescens*	FY	6/18/2005	Protected	D
Virginia Rail	*Rallus limicola*	T2	5/31/2005	Game Species	D
Warbling Vireo	*Vireo gilvus*	T2	5/16/2005	Protected	D
White-breasted Nuthatch	*Sitta carolinensis*	FL	6/18/2005	Protected	D
Wild Turkey	*Meleagris gallopavo*	S2	5/31/2005	Game Species	D
Willow Flycatcher	*Empidonax traillii*	T2	6/9/2005	Protected	D
Wood Duck	*Aix sponsa*	T2	4/25/2005	Game Species	D
Wood Thrush	*Hylocichla mustelina*	D2	6/10/2005	Protected	D
Worm-eating Warbler	*Helmitheros vermivorus*	T2	6/18/2005	Protected	D
Yellow Warbler	*Dendroica petechia*	NY	6/10/2005	Protected	D
Yellow-billed Cuckoo	*Coccyzus americanus*	X1	6/10/2005	Protected	D
Yellow-throated Vireo	*Vireo flavifrons*	FY	7/9/2005	Protected	D

Current Date: 6/2/2006

APPENDIX G

Air Quality Updated Data
CD

APPENDIX H

Correspondence

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189

518-237-8643

November 13, 2006

Stephen J. Oberon
Columbia Heritage, Ltd.
56 North Plank Road-Suite 287
Newburgh, NY 12550

Re: **CORPS/DEC/SEQRA**
Marketplace at Newburgh
Newburgh, Orange County
06PR02811

Dear Mr. Oberon:

Thank you for continuing consultation with the State Historic Preservation Office (SHPO). We have had an opportunity to review the project in accordance with Section 106 of the National Historic Preservation Act of 1966 and relevant implementing regulations.

Our office has no concerns over the Town of Newburgh Planning Board assuming Lead Agency status for the purposes of the State Environmental Quality Review Act.

Our office has no further concerns regarding archeology and the project: additional survey is not warranted.

Based upon our review, it is the SHPO's opinion that the project will have **No Adverse Effect** upon properties in or eligible for inclusion in the National Register of Historic Places.

If you have any questions regarding this letter, please feel free to contact me at your convenience. Ext. 3273.

Sincerely,

Kenneth Markunas
Historic Sites
Restoration Coordinator

Cc: Town of Newburgh Planning Board

Revised 5/15/06

TOWN OF NEWBURGH PLANNING BOARD
NOTICE OF DETERMINATION OF ACCEPTANCE OF DEIS

Determination: A Draft Environmental Impact Statement (DEIS) has been submitted by the project applicant on April 5, 2006 and officially received on April 20, 2006. Upon review by the Town of Newburgh Planning Board, in accordance with the provisions of the New York State Code of Rules and Regulations, Part 617, the Planning Board has determined that the DEIS is complete and has adequately addressed all items in terms of scope and content.

Contact Persons/Address:	Norma Jacobsen, Planning Board Secretary Town of Newburgh Planning Board 308 Gardnertown Road Newburgh, New York 12550 (845) 564-7804
Name of Project:	**THE MARKETPLACE**
Location:	Route 300 at I-84 to NYS Route 52 at I-84 Town of Newburgh, County of Orange
Tax map parcel:	60/3/49.22; 60/3/48; 60/3/49.1; 60/31/41.3; 60/3/41.4; 60/3/49.21; 97/1/13.3; 71/5/9; 97/1/20.3; 71/4/11-14; 71/5/16; 71/4/7; 71/4/9; 71/4/10; 71/4/8.
SEQRA Status:	Type 1, over 100,000 square feet of floor area with parking spaces for over 1,000 vehicles
Project Description:	The applicant proposes the construction of a commercial shopping center consisting of approximately 850,000 square feet on 127.6 acres of vacant land within the Interchange Business (IB) zoning district opposite and east of the Newburgh Mall. The site extends to Route 52 to the east along Route I-84 and to Route 52 at Meadow Road to the north.
Public Hearing:	A public hearing has been scheduled for June 1, 2006 to be held at the Meadow Hill School Auditorium on Meadow Hill Road at 7:00 PM on both the DEIS and site plan
Comment Period:	30 days following the close of the public hearing or as otherwise determined by the planning board
Web Site Posting:	The DEIS is posted on the world wide web at www.timmillerassocates.com Click on link that reads "public review"
Date of Action:	May 4, 2006
Date of Mailing:	May 11, 2006

OFFICE OF PARKS · RECREATION · HISTORIC PRESERVATION
NEW YORK STATE
Bernadette Castro
Commissioner

New York State Office of Parks, Recreation and Historic Preservation
Historic Preservation Field Services Bureau
Peebles Island, PO Box 189, Waterford, New York 12188-0189 518-237-8643

June 15, 2006

Norma Jacobsen
Town of Newburgh Planning Board
308 Gardnertown Road
Newburgh, New York 12550

Re: CORPS PERMITS,DEC,DOT,FAA,SEQRA
The Marketplace at Newburgh; 108 acre development
NY 300 (Union Avenue); east of I-84 and 87 interch/Newburgh, Orange County
06PR02811

Dear Ms. Jacobsen:

Thank you for requesting the comments of the Office of Parks, Recreation and Historic Preservation (OPRHP) concerning your project's potential impact/effect upon historic and/or prehistoric cultural resources. Our staff has reviewed the documentation that you provided on your project. Preliminary comments and/or requests for additional information are noted on separate enclosures accompanying this letter. A determination of impact/effect will be provided only after ALL documentation requirements noted on any enclosures have been met. Any questions concerning our preliminary comments and/or requests for additional information should be directed to the appropriate staff person identified on each enclosure.

In cases where a state agency is involved in this undertaking, it is appropriate for that agency to determine whether consultation should take place with OPRHP under Section 14.09 of the New York State Parks, Recreation and Historic Preservation Law. In addition, if there is any federal agency involvement, Advisory Council on Historic Preservation's regulations, "Protection of Historic and Cultural Properties" 36 CFR 800 requires that agency to initiate Section 106 consultation with the State Historic Preservation Officer (SHPO).

When responding, please be sure to refer to the OPRHP Project Review (PR) number noted above.

Sincerely,

Ruth L. Pierpont

Ruth L. Pierpont
Director

RLP:mam
Enclosure

ARCHEOLOGY COMMENTS
06PR02811

Based on reported resources, there is an archeological site in or adjacent to your project area. Therefore the Office of Parks, Recreation and Historic Preservation (OPRHP) recommends that a Phase 1 archeological survey is warranted for all portions of the project to involve ground disturbance, unless substantial prior ground disturbance can be documented. If you consider the project area to be disturbed, documentation of the disturbance will need to be reviewed by OPRHP. Examples of disturbance include mining activities and multiple episodes of building construction and demolition.

A Phase 1 survey is designed to determine the presence or absence of archeological sites or other cultural resources in the project's area of potential effect. The OPRHP can provide standards for conducting cultural resource investigations upon request. Cultural resource surveys and survey reports that meet these standards will be accepted and approved by the OPRHP.

Our office does not conduct cultural resources surveys. A 36 CFR 61 qualified archeologist should be retained to conduct the Phase 1 survey. Many archeological consulting firms advertise their availability in the yellow pages. The services of qualified archeologists can also be obtained by contacting local, regional, or statewide professional archeological organizations. Phase 1 surveys can be expected to vary in cost per mile of right-of-way or by the number of acres impacted. We encourage you to contact a number of consulting firms and compare examples of each firm's work to obtain the best product.

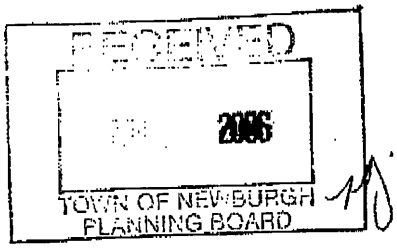
Documentation of ground disturbance should include a description of the disturbance with confirming evidence. Confirmation can include current photographs and/or older photographs of the project area which illustrate the disturbance (approximately keyed to a project area map), past maps or site plans that accurately record previous disturbances, or current soil borings that verify past disruptions to the land. Agricultural activity is not considered to be substantial ground disturbance and many sites have been identified in previously cultivated land.

Please also be aware that a Section 233 permit from the New York State Education Department (SED) may be necessary before any archeological survey activities are conducted on State-owned land.If any portion of the project includes the lands of New York State you should contact the SED before initiating survey activities.The SED contact is Christina B. Rieth and she can be reached at (518) 402-5975. Section 233 permits are not required for projects on private lands.

If you have any questions concerning archeology, please contact Michael Schifferli at 518-237-8643. ext 3281

The Winona Lake Homeowners Assn.
Bill Huntington Pres.
11 Wintergreen Ave. Newburgh, NY 12550
845-565-6269 E-mail wlha123@aol.com

914-909-7328



Wayne Booth Supervisor
Town of Newburgh
Gardnertown Rd.
Newburgh NY

John Ewasutyn, Chairman
Town of Newburgh Planning board
Gardnertown Rd.
Newburgh, NY

May 31, 2006

Re: Marketplace- Alternative Access Road Layout at Exit 8 & Route 52

Dear Supervisor Booth & Chairman Ewasutyn:

We understand from conversations with our neighbors, from informational meetings with the developer's consultants and from the Marketplace DEIS that a second entrance to the Marketplace is to be located on Route 52 directly across from Fifth Avenue. The proposed access road will wind behind the homes on Brookside Ave. and lead up into the Marketplace on land owned or under contract to the developer.

We understand that the developer has proposed an alternative road layout plan that moves this access road several hundred feet south of our properties toward Route 84. According to the developer and the DEIS, this is shown in the DEIS an alternative as the land for this alternative route is currently owned by the NYS Department of Transportation. We understand that the developer, along with the Town Supervisor, has met with the DOT in Poughkeepsie and the DOT has written a letter of willingness to cooperate with the Town for this revised road location provided there is a clear mandate from the Town, the Planning Board and the neighbors that this alternative road location is preferred and desired by all parties concerned.

We and our neighbors are in full support of this access road relocation and would like to make sure the approval process for the Marketplace takes this into account and further that both the Town Board and the Town Planning Board provide whatever clear message is necessary to the NYSDOT to get the NYS DOT to commit to provide the necessary easements or land for this alternative road location.

We will be sending you a petition shortly to show that there is broad based support for this alternative access road location.

Sincerely,

Bill Huntington

Cc: Director, NYSDOT (Poughkeepsie Region)

State of New York
Department of Transportation
4 Burnett Boulevard
Poughkeepsie, NY 12603
http://www.dot.state.ny.us

Robert A. Dennison III, P.E.
Regional Director

Thomas J. Madison, Jr.
Acting Commissioner

June 28, 2005

Mr. Robert H. Wilder, Jr.
Wilder Balter Partners, Inc.
570 Taxter Rd.
6th Floor
Elmsford, NY 10523

**Re: Surplus Property Application
Town of Newburgh (8.2 acres)
Orange County**

Dear Mr. Wilder:

The New York State Department of Transportation ("DOT") is in receipt of the Real Property Application of WB Interchange Associates, LLC ("WBI") which was filed with the New York State Thruway on November 3, 2004 and forwarded to DOT for review and comment. This application requested that the Thruway Authority consider the sale of two parcels, totaling approximately eight (8) acres, near Interstate 84 in the Town of Newburgh (the "State Property"). Our understanding is that WBI presently owns or controls all of the privately owned land that abuts this State Property.

As you are aware, based on your discussions with DOT and Thruway Authority staff, given that the State Property was acquired in part with Federal funds, Federal Highway Administration ("FHWA") approval is required to dispose of the property. DOT has had preliminary discussions with the FHWA with respect to your application, and the FHWA has not raised any objections to the sale of the State Property.

We understand that WBI has applied to the Town of Newburgh Planning Board for site plan approval to develop a 860,000 square foot retail facility on ten (10) acres that are adjacent to the State Property, also referred to as the "Marketplace" Project, and that the Planning Board is the Lead Agency under SEQRA. DOT and the State Thruway Authority are Involved Agencies for purposes of the SEQRA review of the project.

We understand that the State Property is not required to construct the Mar etplace Project, and is not part of the site plan that has been presented to the Town of Newburg Planning board. Primary access to the facility is proposed to be located on Union Avenue.

WBI has presented DOT with two alternatives for a secondary means of ad ess to the Marketplace facility to mitigate the impact of traffic along Route 300 near th proposed main entrance.

The first alternative that has been presented for secondary access is to cor struct a road to the Marketplace facility from Route 52 in the vicinity of Exit 8 on Interstate 84, t rough real property that is owned or controlled by WBI. This alternative does not involve or req ire the State Property.

The second alternative that has been presented to DOT is the construction of a road starting from the same access point on Route 52 as set forth above, but connecting to the Marketplace facility approximately 800 feet east of Route 52 by running through the Stat Property, parallel to and somewhat to the south of the "first alternative" route. This second al ernative is acceptable to DOT.

It is our understanding that WBI will modify its site plan to show the second alternative for secondary access that is set forth above, and will incorporate the alternativ into its Draft Environmental Impact Statement.

We will approve the sale of the State Property to WBI subject to the comple ion of the SEQRA process (i.e. the issuance of a positive findings statement by the Town Plan ing Board as Lead Agency under SEQRA, which demonstrates that the proposed secondary a cess through the State Property avoids and/or minimizes environmental impacts to the maxi um extent practicable).

The sale will be processed in accordance with the rules, regulations and pr cedures that govern the disposal of surplus State property by the Department of Transportation to adjacent landowners.

Very truly yours,

ROBERT A. DENNISON III, P.E.
Regional Director

Partners
Charles W. Manning, P.E.
John M. Tozzi, P.E.
Edward V. Woods, P.E.
Donald G. Sovey, P.L.S.

CME
CREIGHTON MANNING ENGINEERING, LLP

Associates
Shelly A. Johnston, P.E., PTOE
Mark A. Sargent, P.E., PTOE
Jeffrey W. Pangburn, P.E.
Thomas R. Johnson, P.E., PTOE

April 28, 2006

Mr. John Ewasutyn
Planning Board Chairman
Town of Newburgh
308 Gardnertown Road
Newburgh, NY 12550

RE: Wilder-Balter Partners, Marketplace at Newburgh, Route 300, Town of Newburgh, NY; Town Project No. 2004-54, CME Project No. 04-136.

Dear Mr. Ewasutyn:

Creighton Manning Engineering (CME) is in receipt of the revised sections of the Draft Environmental Impact Statement (DEIS) dated March 10 and 17, 2006, prepared for the above noted project by Tim Miller Associates. Reviewing the DEIS's revisions relative to scope completeness and previous comment letters, we offer the following comments:

1. The DEIS revisions on Air, Noise, and Traffic address previous comments and is considered complete. Additional detailed supporting documentation will be necessary for the technical review and will be requested later.

2. The revised Air, Noise, and Traffic sections should be incorporated into the DEIS provided for public review, when accepted.

If you have any questions regarding these comments or recommendations, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

Kenneth Wersted, P.E.
Project Engineer

Cc: Ed Garling – Town Planner
Jim Osborne – Town Engineer
Pat Hines – MHE
Tim Miller – Tim Miller Associates
Michael Donnelly – PB Attorney
Gerry Canfield – Code Enforcement
Karen Arent – KALA

F:\Projects\04-136\04-136ltr08.doc

04011
TM
SM

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.

RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
MARK J. EDSALL, P.E. (NY, NJ & PA)
JAMES M. FARR, P.E. (NY & PA)

MAIN OFFICE
33 Airport Center Drive
Suite 202
New Windsor, New York 12553

(845) 567-3100
fax: (845) 567-3232
e-mail: mheny@mhepc.com

COPY

TOWN OF NEWBURGH
PLANNING BOARD
REVIEW COMMENTS

PROJECT:	**MARKETPLACE**
PROJECT NO.:	**04-54**
PROJECT LOCATION:	**SECTION 60 BLOCK 3 LOT 49.22 & Multiple Other Lots**
PROJECT REPRESENTATIVE:	**TIM MILLER ASSOCIATES**
REVIEW DATE:	**27 APRIL 2006**
MEETING DATE:	**4 MAY 2006**

Our office has reviewed the Draft Environmental Impact Statement as revised pursuant to previous comments issued by our office and technical work sessions. Based on our review of the project scope and Draft EIS we believe the document is now in a form acceptable for public review. Our review of the document was with regard to completeness of the document for review. Technical comments on each of the various reports and studies will be provided once the Planning Board determines the document is complete for review.

Respectfully submitted,

McGoey, Hauser and Edsall
Consulting Engineers, P.C.

Patrick J. Hines
Associate

COPY 04011 TM

Orange County Department of Planning

Application for Mandatory County Review of Local Planning Action

(Variances, Zone Changes, Special Permits, Subdivisions)

Bob Wilder SM

To be completed by Local Board having jurisdiction.
To be signed by Local Official.

MUNICIPALITY: Town of Newburgh TAX MAP ID: 60-3-49.22, 49.2, 49.1
(Section-Block-Lot) 49.3, 48, 41.4 AND ~~PARTS~~ OF 71-5 AND 97-1.

Local File #: 2004-54 Project Name: THE MARKETPLACE

Applicant: WILDER BALTER PARTNERS, INC.

Address: 570 TAXTER ROAD, SIXTH FLOOR
ELMSFORD, NY 10523

Attorney, Engineer, Architect: JACOBOWITZ & GUBITS ESQ, DIVNEY TUNG SCHWALBE, ADD, INC. AND MSA COLLABORATIVE

Location of Site: ROUTES 52 AND 300 AT I-84 EXITS 7 AND 8
(Street, highway, nearest intersection)

Size of Parcel: 12.76AC. Existing Lots: 16 Proposed Lots/Units 1 OR MORE FOR AN 850,000 SQ. FT. CENTER

Present Zoning District: IB

TYPE OF REVIEW:

- ☒ Site Plan: 850,000 SQ. FT. SHOPPING CENTER
- ☐ Special Use Permit* (SUP): _____
- ☐ Variance* USE (VU): _____
  AREA (AV): _____
- ☐ Zone Change* FROM: _____ TO: _____
- ☐ Zoning Amendment To Section: _____
- ☐ Subdivision Major _____ Minor _____

☒ Sketch ☐ Preliminary ☐ Final

DATE: MAY 31, 2006 Edwin J. Garling, TOWN PLANNER
Signature and Title

*Cite Section of Zoning Regulations where pertinent.

FOR COUNTY USE ONLY
County ID # _____

cc: NORMA JACOBSEN
TIM MILLER
JACOBOWITZ & GUBITS

Revised 5/15/06

TOWN OF NEWBURGH PLANNING BOARD
NOTICE OF DETERMINATION OF ACCEPTANCE OF DEIS

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Contact Persons/Address:	Norma Jacobsen, Planning Board Secretary Town of Newburgh Planning Board 308 Gardnertown Road Newburgh, New York 12550 (845) 564-7804
Name of Project:	**THE MARKETPLACE**
Location:	Route 300 at I-84 to NYS Route 52 at I-84 Town of Newburgh, County of Orange
Tax map parcel:	60/3/49.22; 60/3/48; 60/3/49.1; 60/31/41.3; 60/3/41.4; 60/3/49.21; 97/1/13.3; 71/5/9; 97/1/20.3; 71/4/11-14; 71/5/16; 71/4/7; 71/4/9; 71/4/10; 71/4/8.
SEQRA Status:	Type 1, over 100,000 square feet of floor area with parking spaces for over 1,000 vehicles
Project Description:	The applicant proposes the construction of a commercial shopping center consisting of approximately 850,000 square feet on 127.6 acres of vacant land within the Interchange Business (IB) zoning district opposite and east of the Newburgh Mall. The site extends to Route 52 to the east along Route I-84 and to Route 52 at Meadow Road to the north.
Public Hearing:	A public hearing has been scheduled for June 1, 2006 to be held at the Meadow Hill School Auditorium on Meadow Hill Road at 7:00 PM on both the DEIS and site plan
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Web Site Posting:	The DEIS is posted on the world wide web at www.timmillerassocates.com Click on link that reads "public review"
Date of Action:	May 4, 2006
Date of Mailing:	May 11, 2006

Revised 5/15/06

TOWN OF NEWBURGH PLANNING BOARD
NOTICE OF DETERMINATION OF ACCEPTANCE OF DEIS

Determination: A Draft Environmental Impact Statement (DEIS) has been submitted by the project applicant on April 5, 2006 and officially received on April 20, 2006. Upon review by the Town of Newburgh Planning Board, in accordance with the provisions of the New York State Code of Rules and Regulations, Part 617, the Planning Board has determined that the DEIS is complete and has adequately addressed all items in terms of scope and content.

Contact Persons/Address:	Norma Jacobsen, Planning Board Secretary Town of Newburgh Planning Board 308 Gardnertown Road Newburgh, New York 12550 (845) 564-7804
Name of Project:	**THE MARKETPLACE**
Location:	Route 300 at I-84 to NYS Route 52 at I-84 Town of Newburgh, County of Orange
Tax map parcel:	60/3/49.22; 60/3/48; 60/3/49.1; 60/31/41.3; 60/3/41.4; 60/3/49.21; 97/1/13.3; 71/5/9; 97/1/20.3; 71/4/11-14; 71/5/16; 71/4/7; 71/4/9; 71/4/10; 71/4/8.
SEQRA Status:	Type 1, over 100,000 square feet of floor area with parking spaces for over 1,000 vehicles
Project Description:	The applicant proposes the construction of a commercial shopping center consisting of approximately 850,000 square feet on 127.6 acres of vacant land within the Interchange Business (IB) zoning district opposite and east of the Newburgh Mall. The site extends to Route 52 to the east along Route I-84 and to Route 52 at Meadow Road to the north.
Public Hearing:	A public hearing has been scheduled for June 1, 2006 to be held at the Meadow Hill School Auditorium on Meadow Hill Road at 7:00 PM on both the DEIS and site plan
Comment Period:	30 days following the close of the public hearing or as otherwise determined by the planning board
Web Site Posting:	The DEIS is posted on the world wide web at www.timmillerassocates.com Click on link that reads "public review"
Date of Action:	May 4, 2006
Date of Mailing:	May 11, 2006

PLANNING BOARD
308 GARDNERTOWN ROAD
NEWBURGH, NEW YORK 12550
(845) 564-7804
FAX (845) 564-7802
Email: planningboard@hvc.rr.com

NOTICE OF HEARING

TOWN OF NEWBURGH PLANNING BOARD

PLEASE TAKE NOTICE that the Planning Board of the Town of Newburgh, Orange County, New York will hold a Public Hearing pursuant to the Municipal Code of the Town of Newburgh, Chapter 185-57 Section (K) and for a Draft Environmental Impact Statement (DEIS) pursuant to the New York State Code of Rules and Regulations, Part 617 on the Application of:

WILDER BALTER PARTNERS. INC./THE MARKETPLACE (2004-54)

for a: regional shopping center on 127.6 acres of primarily vacant land within the Interchange Business (IB) zoning district opposite and east of the Newburgh Mall. The regional shopping center is approximately 850,000 square feet of floor area with over 1,000 parking spaces. Access is proposed to: Route 300 north of I-84 exit 7, Route 52 north of I-84 exit 8 and Route 52 at Meadow Road. The project is proposed to be serviced by municipal sewer and water.

on premises located: on Route 300

in the Town of Newburgh, designated on Town Tax Maps as Section 60, Block 3, Lots 41.3, 41.4, 48, 49.1, 49.21 and 49.22; Section 71, Block 4, Lots 7, 8, 9, 10, 11, 12, 13 and 14; Section 71, Block 5, Lots 9 and 16 and Section 97, Block 1, Lots 13.3 and 20.3

Said hearing will be held on the 1st day of June 2006 at the Auditorium of the Meadow Hill School, Meadow Hill Road, Newburgh, New York, at 7:00 PM at which time all interested persons will be given an opportunity to be heard.

BY ORDER OF THE PLANNING BOARD OF THE TOWN OF NEWBURGH

JOHN P. EWASUTYN, Chairman
Planning Board Town of Newburgh

Date: May 9, 2006

Publish one time only

No later than May 17, 2006

CREIGHTON MANNING ENGINEERING, LLP

Partners
Charles W. Manning, P.E.
John M. Tozzi, P.E.
Edward V. Woods, P.E.
Donald G. Sovey, P.L.S.

Associates
Shelly A. Johnston, P.E., PTOE
Mark A. Sargent, P.E., PTOE
Jeffrey W. Pangburn, P.E.
Thomas R. Johnson, P.E., PTOE

May 19, 2006

Mr. Akhter A. Shareef
NYSDOT Region 8
Planning & Program Management
4 Burnett Blvd.
Poughkeepsie, NY 12603

RE: Wilder Balter Partners (Marketplace at Newburgh), Route 300, Town of Newburgh, NY; Town Project No. 2003-54, CME Project No. 04-136

Dear Mr. Shareef:

The Town of Newburgh Planning Board has accepted the DEIS for the proposed Marketplace at Newburgh project and the New York State Department of Transportation and the Thruway Authority should have received copies of the document. The Planning Board will be holding a public hearing on the project on June 1, 2006 at the Meadow Hill School auditorium beginning at 7:00 PM. (See attached notice.) We expect this meeting to be well attended by the public and welcome any participation the Department or Thruway Authority may be in interested in offering.

In the coming weeks, the Town of Newburgh and its consultants will be conducting their technical review of the document and look forward to receiving any comments NYSDOT and the Thruway have on the project.

Respectfully submitted,
Creighton Manning Engineering, LLP

Kenneth Wersted, P.E.
Project Engineer
(Town of Newburgh Traffic Consultant)

Cc: Darrin Scalzo – Thruway Authority
John Ewasutyn – Planning Board Chairman

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Revised 5/15/06

TOWN OF NEWBURGH PLANNING BOARD
NOTICE OF DETERMINATION OF ACCEPTANCE OF DEIS

Determination: A Draft Environmental Impact Statement (DEIS) has been submitted by the project applicant on April 5, 2006 and officially received on April 20, 2006. Upon review by the Town of Newburgh Planning Board, in accordance with the provisions of the New York State Code of Rules and Regulations, Part 617, the Planning Board has determined that the DEIS is complete and has adequately addressed all items in terms of scope and content.

Contact Persons/Address:	Norma Jacobsen, Planning Board Secretary Town of Newburgh Planning Board 308 Gardnertown Road Newburgh, New York 12550 (845) 564-7804
Name of Project:	**THE MARKETPLACE**
Location:	Route 300 at I-84 to NYS Route 52 at I-84 Town of Newburgh, County of Orange
Tax map parcel:	60/3/49.22; 60/3/48; 60/3/49.1; 60/31/41.3; 60/3/41.4; 60/3/49.21; 97/1/13.3; 71/5/9; 97/1/20.3; 71/4/11-14; 71/5/16; 71/4/7; 71/4/9; 71/4/10; 71/4/8.
SEQRA Status:	Type 1, over 100,000 square feet of floor area with parking spaces for over 1,000 vehicles
Project Description:	The applicant proposes the construction of a commercial shopping center consisting of approximately 850,000 square feet on 127.6 acres of vacant land within the Interchange Business (IB) zoning district opposite and east of the Newburgh Mall. The site extends to Route 52 to the east along Route I-84 and to Route 52 at Meadow Road to the north.
Public Hearing:	A public hearing has been scheduled for June 1, 2006 to be held at the Meadow Hill School Auditorium on Meadow Hill Road at 7:00 PM on both the DEIS and site plan
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Web Site Posting:	The DEIS is posted on the world wide web at www.timmillerassocates.com Click on link that reads "public review"
Date of Action:	May 4, 2006
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CREIGHTON MANNING ENGINEERING, LLP

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Jeffrey W. Pangburn, P.E.
Mark A. Sargent, P.E.

January 31, 2007

Mr. John Ewasutyn
Planning Board Chairman
Town of Newburgh
308 Gardnertown Road
Newburgh, NY 12550

RE: Wilder-Balter Partners, Marketplace at Newburgh, Route 300, Town of Newburgh, NY; Town Project No. 2004-54, CME Project No. 04-136.

Dear Mr. Ewasutyn:

Creighton Manning Engineering (CME) is in receipt of the Final Environmental Impact Statement (FEIS) dated December 7, 2006, prepared for the above noted project by Tim Miller Associates. In reviewing the FEIS and DEIS, we offer the following comments:

Air

1. An updated air quality report should be included in the Appendix of the FEIS that includes the following:

   a) Based on the information provided in the air quality study, the project screens out from requiring a detailed CO analysis. Therefore, there was no need to further review the detailed CO analysis presented in the study as it was not required. Detailed information on the emission factor calculations should be included in the documentation in order to verify the use of Table 3C as part of the CO screening procedure. Details on the emission factor calculations used as input in the PM analysis should also be provided.

   b) In the CAL3QHC input files of the PM analysis it appears that the proper mixing zone widths were not used. Free flow mixing zone width should be represented by the lane width plus a 10 foot dispersion area on each side. For a 12 foot lane the mixing zone would be 32 feet in the analysis. The mixing zone for queue links is represented by the lane width with no additions.

   c) The summary tables shown in the report indicate that a background PM concentration was applied to the analysis results. However, the guidance indicates that the threshold criteria for both PM_{10} and $PM_{2.5}$ are based on differences in exhaust emissions between No-Build and Build conditions and do not consider background emission concentrations. A table accurately comparing the difference in No-Build and Build results as compared to the annual and 24-hour thresholds stated in the guidance should be provided to ensure that the project complies with the standards and has no impacts.

d) As noted in comment a) above, a detailed CO analysis is not required for the project. However, the following is noted regarding the comment responses provided in the FEIS.

i) Comment Response 3.9-24 and 32- We agree that the CAL3QHC model should extend 1,000 feet along each roadway. We also agree that the saturation flow rates in the queue links should represent vehicles/hour/lane. The values over 3,000 in the model represent two lanes of traffic and should be divided by two to represent one lane.

ii) Comment Response 3.9-26 and 30- It is not necessarily true that background CO concentrations for future years will be lower. Future background CO concentrations are determined based on a ratio of emissions and volumes. A large increase in the traffic volumes can offset the decrease in emissions resulting in a larger background CO concentration in future years.

iii) Comment Response 3.9-29- One hour CO results are obtained by multiplying the 8-hour results by the persistence factor not dividing as stated in the comment response.

Noise

2. An updated noise study should be included in the Appendix of the FEIS that includes the following:

a) Comment Response 3.8-1: The applicant will need to submit barrier design plans as part of the site plan review to substantiate the performance claims of the barrier. The barrier heights of 8 feet (discussed in the DEIS) and 10 feet (discussed in the FEIS) are a reasonable assumption (at this point in preliminary design) of what may provide acceptable attenuation. The exact height, length, composition, and location of the barrier will need to be designed and determined during site plan review. The design will require review prior to site plan approval.

b) Comment Response 3.8-2: A noise monitoring plan should be included as part of the site plan approval to assure compliance with the Town Noise Code.

c) Comment Response 3.8-5: Traffic noise levels due to the access drives need to be modeled using software such as the FHWA Traffic Noise Model (TNM 2.5) to determine technical accuracy. At least one (1) receptor used in the model should be placed on either side of the proposed roadways in areas that represent expected outdoor residential activity. The applicant needs to submit a sketch to the Town (or its designee) for approval of the receptor locations to be used in the model. At sensitive receptors adjacent to the access roads, the predicted one-hour equivalent levels from the TNM model is the preferred method of determining the potential for impacts or changes in overall noise levels that may cause complaints. Peak levels must also be considered since they are specified in the Town Code.

On private property, a 25 mph speed limit sign is merely a suggestion and not enforceable

by the Police Department unless explicitly expressed as such. The study needs to use a more applicable operating speed for the access roads such as 35 mph as it is expected that 85% of the access road vehicles will be traveling at 35 mph or below.

The proposed rooftop parapet and proposed barrier along the rear of buildings B and C will not likely provide the 18 dBA attenuation claimed in the FEIS. HVAC units are typically installed in locations to minimize the amount of internal ductwork required and to gravity feed the conditioned air. This makes sense for efficiency. From an exterior noise perspective, when you spread the units out across the rooftop, the units will not act as group of individual point sources as described in the FEIS. They will begin to act as a line source depending on the number of units. The analysis needs to consider all of the rooftop units operating and assume an approximate location spread out on the rooftops. The applicant may seek alternate methods of noise attenuation that will be present due to the rooftop HVAC units, the trash compacting operations and other heavy truck activities behind buildings B, C, and E. Prefabricated sound barriers designed specifically for rooftop HVAC units are available and can be expected to provide additional attenuation. A secondary benefit from the rooftop sound barrier devices is that they will provide attenuation of HVAC noise that would reach the second story windows of the homes along Hilltop Avenue and other residences that border the site.

The proposed fence/barrier along the eastern access drive will have at least one gap for emergency access, this will slightly diminish the proposed barrier/fences attenuation ability. This barrier should be modeled in the TNM model developed for this access road to quantify the benefit provided. CME understands that the emergency access through the fence will be solidly gated. This will help the performance of the barrier/fence in this area.

d) Comment Response 3.8-36: The applicant should commit to using a rock crushing operation that will not exceed the levels stated in the response to the FEIS comments and it should be monitored during construction.

Traffic

1. There are approximately 30 pages of comments and responses on Traffic and Transportation. The applicant may want to consider combining comments and responses to consolidate the document.

2. Figure 12 of the updated traffic analysis (FEIS Volume II, Appendix C) indicates lower traffic volumes than shown in Table No 1-SEN. If there are additional trip generation credits being taken, they should be clarified. Similar comment for the Saturday peak hour. The pass-by trips figure was not found in the appendix.

3. The signal phasing at the Route 300/South Mall driveway/Site driveway could include an overlap of the eastbound and westbound through/right phases, with only the westbound left turn operating as a protected phase. This is a technical design comment that should be looked at during the improvement design phases.

4. Comment Response 3.6-22: The proposed access to Route 52 at Meadow Ave/Power Mill Road includes the relocation of Meadow Avenue. The relocation section of this Town road includes two reverse curves with no tangent section between the curves. Although this is a design consideration, we request to see the roundabout concept and capacity analysis and that it be included as a possible alternative.

5. To address queuing at the Route 52/I-84 interchange, the applicant responds that NYSDOT will be in control of the signal timings, and suggests that as a way to meter the peak hour congestion at the interchange, traffic exiting the site be controlled, such that the queuing occurs on-site. What amount of queuing would occur on-site in this situation, and does this remedy just transfer the issue from one roadway to another?

6. Comment Response 3.6-26, through 28: are related to screening and may be more appropriate elsewhere in the FEIS.

7. Comment Reponse 3.6-74 – The northbound right turn lane referenced in the comment already exists and is not a proposed improvement.

Based on the comments noted above on the FEIS, we do not consider the document complete and request the noted items be addressed.

If you have any questions regarding these comments or recommendations, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

Kenneth Wersted, P.E.
Project Engineer

Cc: Ed Garling – Town Planner
Jim Osborne – Town Engineer
Pat Hines – MHE
Tim Miller – Tim Miller Associates
Michael Donnelly – PB Attorney
Gerry Canfield – Code Enforcement
Karen Arent – KALA

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McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.

RICHARD D. McGOEY, P.E. (NY & PA)
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TOWN OF NEWBURGH
PLANNING BOARD
REVIEW COMMENTS

PROJECT:	**MARKET PLACE**
PROJECT NO.:	**04-54**
PROJECT LOCATION:	**SECTION 60, BLOCK 3, LOT 49.22 & MUTIPLE LOTS**
PROJECT REPRESENTATIVE:	**TIM MILLER ASSOCIATES**
REVIEW DATE:	**15 MARCH 2007**
MEETING DATE:	**15 MARCH 2007**

1. The Applicant's Representatives are requested to discuss and clarify the projects' construction sequencing with the Planning Board. We concur with the Applicant's recent letter, dated 9 March 2007 that no final site plan approval will be issued until outside agency permits have been received for the project including, but not limited to; NYSDOT, the US Army Corps of Engineers, Orange County Health Department, Town of Newburgh Town Board, NYS Thruway Authority and any other permitting agencies.

2. The Applicant's 9 March 2007 letter states that the improvements to the Route 52 interchange with Meadow Avenue, will be undertaken regardless of ACOE approval for wetlands, however, wetlands disturbances are proposed for the round-about design, access from Union Avenue and the bridge over Quassaick Creek and watermain extension from Route 52.

   It would appear, based on a review of the plans that Army Corps approval will be required for any construction activities to commence on the project site as access, drainage and waterline crossing Federal jurisdictional wetlands at multiple locations.

3. Ken Worsted's comments regarding an evaluation of the traffic impacts for any phased improvements should be received. A discussion of all off-site traffic improvements and the timing of those improvements should be addressed with the Planning Board.

4. The construction sequencing Figure 1, dated 9 March 2007 identifies that "if access 2-B Phase is not approved by outside agencies, the site plan will be modified to show a one hundred fifty (150,000) thousand square foot smaller project". It appears that each of the agencies involved in the 2-B Phase construction would also have approval authority on the Union Avenue and Route 52 accesses for the project, this should be clarified.

5. While we continue to agree, in concept, with the stormwater management plan, site specific stormwater management report must be generated based upon plan revisions during site plan review process. Mitigation measures proposed in the DEIS and FEIS are sufficient for environmental impact statement review however, future stormwater management report must be provided including, stage/storage/discharge curves for each of the stormwater management facilities, as well as piping sizing calculations, definition pond details, etc.

Respectfully submitted,

McGoey, Hauser and Edsall
Consulting Engineers, P.C.

Patrick J. Hines/lsk
Patrick J. Hines
Associate

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COPY
GARLING ASSOCIATES
301 MAIN STREET SUITE A
GOSHEN, NEW YORK 10924
(845) 294-5835
fax: 294-5754
email: bcocks@frontiernet.net

MEMORANDUM

TO: Town of Newburgh Planning Board and Consultants, Tim Miller Associates
FR: Bryant Cocks and Ed Garling
RE: Comments on Marketplace FEIS and Summary of Consultants Worksession
DT: March 12, 2007

Our office received the Marketplace FEIS revisions on February 16, 2007. In this package, the applicant provided us with each page of the FEIS which needed to be revised and with the changes tracked on the sheet to see what was added and deleted. This memo addresses changes necessary to deem the FEIS complete, and also discusses issues to be addressed by the Planning Board. A complete package was provided at the March 8, 2007 worksession.

Response 2-2: The Planning Board will discuss the conditions of the developer's agreement which will create a new committee to monitor the progress of construction and handle all matters related to public questions. The results of this discussion will be memorialized in the Findings Statement.

Response 3.3-21: A sequencing plan will be submitted to the Planning Board and it's consultants to show the anticipated impacts of construction to analyze the potential impacts of this phasing on the environment. The project will be constructed in a single phase, but will be sequenced. This will be memorialized in the Findings Statement and Developer's Agreement.

Response 3.6-30: There are several site plan issues that will need to be addressed during site plan review, after SEQRA is completed. Some of these issues include pedestrian movements around the site and the inclusion of more crosswalks, internal traffic circulation patterns on the site and the design of intersections on the main access drive and in the parking lots, and a landscaping plan and snow removal plan will also be provided.

The comments from our memo of January 29, 2007 have been addressed adequately in the revisions to the FEIS, but there are issues that should be discussed by the Planning Board before any action can be taken. The first issue is the submission of a sequencing or phasing plan. The applicant has stated they will provide a construction sequencing plan which will lay out the order of the buildings and associated roadways and parking lots to be constructed, possibly along with a timeline for the opening of these stores. This

phasing could not only have an effect on the circulation pattern of the site, but also the aesthetic impacts of clearing and grading from Route 300, and could show unforeseen environmental impacts associated with phased construction processes. We anticipated we would receive and review this plan the week of March 12 and we saw the basic plan at the worksession. However, the letter and plan received from Tim Miller only scratches the surface. Much more detail is needed.

The project has gotten away from the original proposal of a Town Center with some associated stores outside of the Center to a group of big box retail shops as the main focus of the development and the Town Center as an afterthought. At least this is our concept of the original proposal and we spoke with John and concur. The original proposal showed the Town Center as focal point of the development, and showed several images of similar developments. The applicant has now indicated that the Town Center could possibly be the last part of the development to be built and occupied by retailers, which would mean that this section of the Marketplace would not be opened for several years, depending on the timing of the sequencing plan. This section of the project was supposed to be not only the cornerstone of the project, but also provide amenities to the community; we feel the project should continue to reflect these values as was originally proposed. We were informed that the Life Style Center will be built, but now it may be down to 100,000 square feet.

All traffic issues must be discussed and reviewed by Ken Wersted before this FEIS can be deemed complete. This would include notice from the DOT that the intersections would work conceptually. Ken will get back to the board on this after he reviews the materials received.

The applicant has addressed the issues on FEIS completeness as stated in our January 29, 2007 memo, but the consultant's worksession on February 5 shed light on several issues that were not previously discussed.

The worksession held on March 8 was attended by the applicant and their consultants and by Karen Arent, Bryant Cocks, Pat Hines, Ed Garling and Ken Wersted.

The results of the worksession were as follows:

1. Wetlands, Flora and Fauna – Two studies were performed to date and there was no evidence of threatened, endangered or species of state concern at the site. Additional studies will be performed this season between March and August on the vernal pools prior to construction. This will be done as a further mitigation measure and if such a species are found, including salamanders or Indiana Bats, or their habitat, such will be relocated to vernal pools or wetlands on site or otherwise provided for.

2. Grading – Visual – A disturbance limit line will be established around the site at least ten feet from the edge of proposed grading areas.

3. Traffic
   a. Traffic monitoring will take place during the development of the site as agreed to between Phil Greely and Ken Wersted and as approved by the Planning Board. This will address the adequacy and accuracy of the traffic study.
   b. Internal traffic circulation issues and concerns will be noted by the consultants and Planning Board and provision for their monitoring and/or correction will be specifically noted in the Findings Statement.
   c. Modifications to pedestrian access plans to be noted and necessary review or revisions to the site plan will be specifically noted in the Findings Statement.
   d. A snow storage plan shall be prepared and provided during site plan review to be approved by the Planning Board and filed with the Planning Board, Building Inspector and Town Engineer.
   e. Ken Wersted will discuss traffic in his report more fully.

4. Landscaping and Site Plan Issues
   a. Plan addresses the buffer issue with a 150 foot buffer and ten foot wall/sound barrier. Sound barrier design to be reviewed.
   b. Applicant will provide an alternative location design for Costco to be reviewed along with current location. While the current location is more visible, screening it may be preferable to locating it closer to residences and creating possible traffic issues.
   c. The Planning Board will require some degree of façade plantings around buildings. This statement will be added to the Findings Statement.
   d. Adequate landscaping will be required as part of site plan review and the parking lot tree standards shall be addressed within the parking lots. Diamond shaped planters may be considered. This is to go in the Findings Statement.

5. Phasing or Sequencing

   It was agreed that the plan will be developed in its entirety and not phased, as we understand phasing. However, the actual construction and openings of buildings will be sequenced in a plan to be provided by the applicant next week and explained to the Planning Board. Our understanding of this is the following and was confirmed in less detail in Tim Miller's letter:
   a. Site plan would be granted preliminary approval and applicant would pursue other approvals. The plans would not be signed until all permits and security were issued or provided and until a final site plan was submitted for the first building to be constructed.
   b. One condition of approval will be a Developers Agreement that must be approved prior to signing plans.
   c. Phasing does not include the NYSDEC five acre stormwater issue. It is assumed the developer will seek and obtain approval to disturb over five acres at a time.

d. A sequencing plan will be presented showing where construction will begin and end including time periods (not dates) during which anticipated construction will occur. This plan will be able to be modified with approval of the Planning Board, or Building Inspector and Town Engineer, or a committee. This will be determined by the Planning Board.
e. Preliminary site plan approval will be granted based on the generic architectural plan as found in the DEIS and as articulated in the Findings Statement. However, as each building is proposed it will come before the Planning Board for architectural and landscape review and possibly site plan approval or amendment prior to issuance of a building permit. Additional landscape bonds may be required at that time.
f. Stores may be opened before the entire site is complete, but emergency access from Route 52 at Meadow Hill will be required for use in the central area of the site to be opened (to be discussed by the Planning Board).
g. This is an outline of how we perceive the sequencing to occur. If the applicant does not receive ACOE approval, which would occur prior to signing plans, a new plan would be needed along with a Supplementary DEIS. This will be written into the Findings Statement.

6. Noise and Air Quality
   There are no significant adverse environmental impacts or any such impacts have been mitigated. Resolution of some technical questions are being resolved by the consultants. Issues center around running numbers and methodologies rather than results.

Finally, Bryant, John and I spoke on Tuesday and, as a result, redrafted this memo and reviewed the plans relative to building sizes. Because the plans didn't reflect in building area, the numbers shown on the cover sheets and because we are unsure of what some buildings are we have recommended preliminary approval on. The issues are:

1. We are not certain how large the Village Center or Life-Style Center is in area. The cover sheet states 200,000 square feet, the DEIS originally said 250,000 and the plans calculate to 153,000. Is it two-story in part or is it only 150,000 square feet?
2. What are the small squares in the Life Style Center?
3. The cover sheet adds up to 850,000 square feet, but unless the buildings are two-stories in part, they add up to 792,300 square feet.
4. There are two buildings of 32,500 square feet on the cover sheet, but only one (Building 2) is on the plans.
5. Buildings A-E are compared from the cover sheet to actual measurements.

Building	Cover Sheet	Measured
A	100,000	104,310
B	90,000	94,925
C	155,000	141,825
D	90,000	105,975
E	150,000	151,575

At the 100 scale a few thousand feet may be close enough, but 15,000 is too far off and 58,000 for the total is an entire supermarket. If we are approving 800,000 then we should reduce parking and increase landscaping or wetlands. We need a better idea of what we are approving and some clarification.

KALA KAREN ARENT LANDSCAPE ARCHITECT

Memorandum

To: Chairman John Ewasutyn and the Town of Newburgh Planning Board

From: Karen Arent, Landscape Architect

Date: March 8, 2007

Subject: Marketplace FEIS

Town Project Number: 2004-54

Consultant: Tim Miller Associates

Cc: Mr. Ed Garling, Mr. Michael Donnelly, Mr. Pat Hines, Mr. Tim Miller

COMMENTS:

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1. The project must receive all outside agency approvals before signing of the site plan by the chairman. If for some reason, certain approvals are not granted, the project will significantly change. Findings should document that the project is proposed as a single phased project and any major changes to the site plan will require the project to go back before the board to determine if a new SEQRA determination is warranted. This way the planning board can evaluate whether or not the new design poses any new SEGRA issues such as emergency response time.
2. Construction Sequencing: The consultants have prepared a construction sequencing plan that addresses the proposed construction sequence. The board and the board's consultants have not had a chance to review or comment on this plan. The board should determine if construction sequencing could be reviewed during site plan review and if so, the findings could state that the consultants will submit a Construction Sequencing Plan that will be reviewed by the Planning Board. This plan may need to be revised so that it is acceptable to the board. The construction sequencing plan should address all infrastructure and offsite improvements that will be required before the issuance of building permits. This plan should also list all improvements that will be required before the issuance of certificate of occupancies for buildings.
3. Noise mitigation: The consultant should reword the response for noise mitigation to include all mitigation measures as recommended by the Town of Newburg noise consultant. This could also be included within the findings statement.
4. Pedestrian circulation: In addition to the response as noted in the revised FEIS, findings should note that during site plan review, the pedestrian circulation system will be

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COMMENTS FOR MARKETPLACE FEIS
Dated March 8, 2007

adjusted to provide a plan acceptable to the planning board. A similar statement could be included within the findings statement with regard to internal vehicular circulation.

5. Endangered and threatened species: The applicant's consultant has agreed to conduct additional survey work to search for endangered and threatened species. This survey work should be performed by consultants appointed by the Town. The applicant's consultants are very confident that no species will be found have offered mitigation measures that will be included within the FEIS.
6. Storm water infiltration; The applicant is making an effort to increase storm water infiltration as well as to use storm water for watering some of the landscaping within the site. This plan should be further developed during site plan review and should be subject to approval by the planning board. Findings should state that infiltration trenches shall be used wherever practical to provide storm water to irrigate landscaping.
7. The applicant has been advised that the Landscaping Plan will be reviewed as part of the site plan approval process and will need to be revised accordingly. Findings should state that during site plan review the landscape plan will need to be adjusted to provide a plan acceptable to the planning board. This adjustments include but are not limited to the following:
    - Native planting to be proposed in accordance with FEIS descriptions.
    - Additional parking lot tree planting: Additional tree planting may be required to meet Town of Newburgh parking lot landscaping requirements of one tree for every eight parking spaces, not including street tree, screening or trees outside of parking areas. These trees could be planted in diamond shaped planters within the parking areas. Protection of the trees while they are young, soil mixtures and storm water irrigation of these planters shall also be considered during site plan review.
    - Refinement of the site plan may require elimination of tree islands for pedestrian circulation or other site improvements. These changes will require tree planting to be proposed in other areas which may include using the diamond shaped planting boxes.
    - Additional screening: Additional screening will be needed to screen the light glare from the proposed gas station and to screen other unsightly areas such as loading docks.
8. Preservation of existing vegetation: Findings should state that existing vegetation should be preserved to the greatest extent practical. The disturbance limit line should be shown a maximum of 10' from the grading limit line if and only if necessary for construction operations.
9. Building façade landscaping: To insure that all buildings will include landscaping along building facades consistent with other recently approved projects, the findings statement should include a percentage of square footage of landscaping in proportion to the building area.

COMMENTS FOR MARKETPLACE FEIS
Dated March 8, 2007

10. Findings should also address that during site plan review, all aspects of the site plan will be further reviewed by the planning board and consultants and the site plan must be revised accordingly.
11. All buildings will need amended site plan approval and architectural approval. The amended site plan approval is necessary since no landscaping, site furniture or other amenities are proposed along facades at this time.

Please note that additional comments may be generated in reference to findings.

CREIGHTON MANNING ENGINEERING, LLP

Partners
Charles W. Manning, P.E.
John M. Tozzi, P.E.
Edward V. Woods, P.E.
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Associates
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Shelly A. Johnston, P.E.
Edwin C. Lawson
Jeffrey W. Pangburn, P.E.
Mark A. Sargent, P.E.

March 14, 2007

Mr. John Ewasutyn
Planning Board Chairman
Town of Newburgh
308 Gardnertown Road
Newburgh, NY 12550

RE: Wilder-Balter Partners, Marketplace at Newburgh, Route 300, Town of Newburgh, NY; Town Project No. 2004-54, CME Project No. 04-136.

Dear Mr. Ewasutyn:

Creighton Manning Engineering (CME) is in receipt of the revised pages for the Final Environmental Impact Statement (FEIS) transmitted March 1, 2007, prepared for the above noted project by Tim Miller Associates, and the site plans last revised March 2, 2007. In reviewing these items, we offer the following comments:

Air

1. The air quality analysis addresses our previous comments.

Noise

2. Response 3.8-20: The TNM analysis should be referenced.
3. Response 3.8-22: We suggest that CME review the design and specifications of the barriers once a wall manufacturer is selected to verify the expected sound attenuation levels.
4. Response 3.8-24: Also refer to the HVAC response of 3.8-5.
5. Response 3.8-25: Site plan review will be required to verify the noise attenuating properties of the wall.
6. Response 3.8-26: Also refer to the HVAC response of 3.8-5.
7. Response 3.8-27: Also refer to the HVAC response of 3.8-5.
8. Response 3.8-30: The individual truck delivery schedule and operations will be determined as part of the site plan review when specific tenants are identified. Delivery locations and noise attenuation will then be evaluated.
9. Response 3.8-32: Specific loading dock and compactor locations will be reviewed and approved during site plan approval.

Traffic

10. Our previous comments have been addressed.
11. The applicant has revised the proposed two-signal, offset, and realigned Meadow Avenue intersection in favor of the roundabout option. This option appears to reduce the wetland

disturbance impacts and the amount of Meadow Avenue needing realignment. Operations under this configuration will be better then the previous proposed improvements.

12. Response 3.6-6: At a meeting to discuss the roundabout option, improvements to Powder Mill Road in the form of traffic calming near Algonquin Park was discussed. Please add this discussion.

Site Plan

13. The main noise wall should be extended an additional 100 feet on the west end, as close the parking lot as practicable. The main wall should also be extended 200 feet on the east end to the proposed 420-foot elevation, as shown on the attached site plan excerpts.
14. As specific tenants and building footprints become available, truck turning movements will need to be evaluated. Currently there appears to be constraints at the conceptual loading dock areas of Buildings C and D.

These revised pages, above items, and appropriate appendices should incorporated into the FEIS.

If you have any questions regarding these comments or recommendations, please feel free to contact our office.

Respectfully submitted,
Creighton Manning Engineering, LLP

Kenneth Wersted, P.E.
Project Engineer

Cc: Ed Garling – Town Planner
Jim Osborne – Town Engineer
Pat Hines – MHE
Tim Miller – Tim Miller Associates
Michael Donnelly – PB Attorney
Gerry Canfield – Code Enforcement
Karen Arent – KALA

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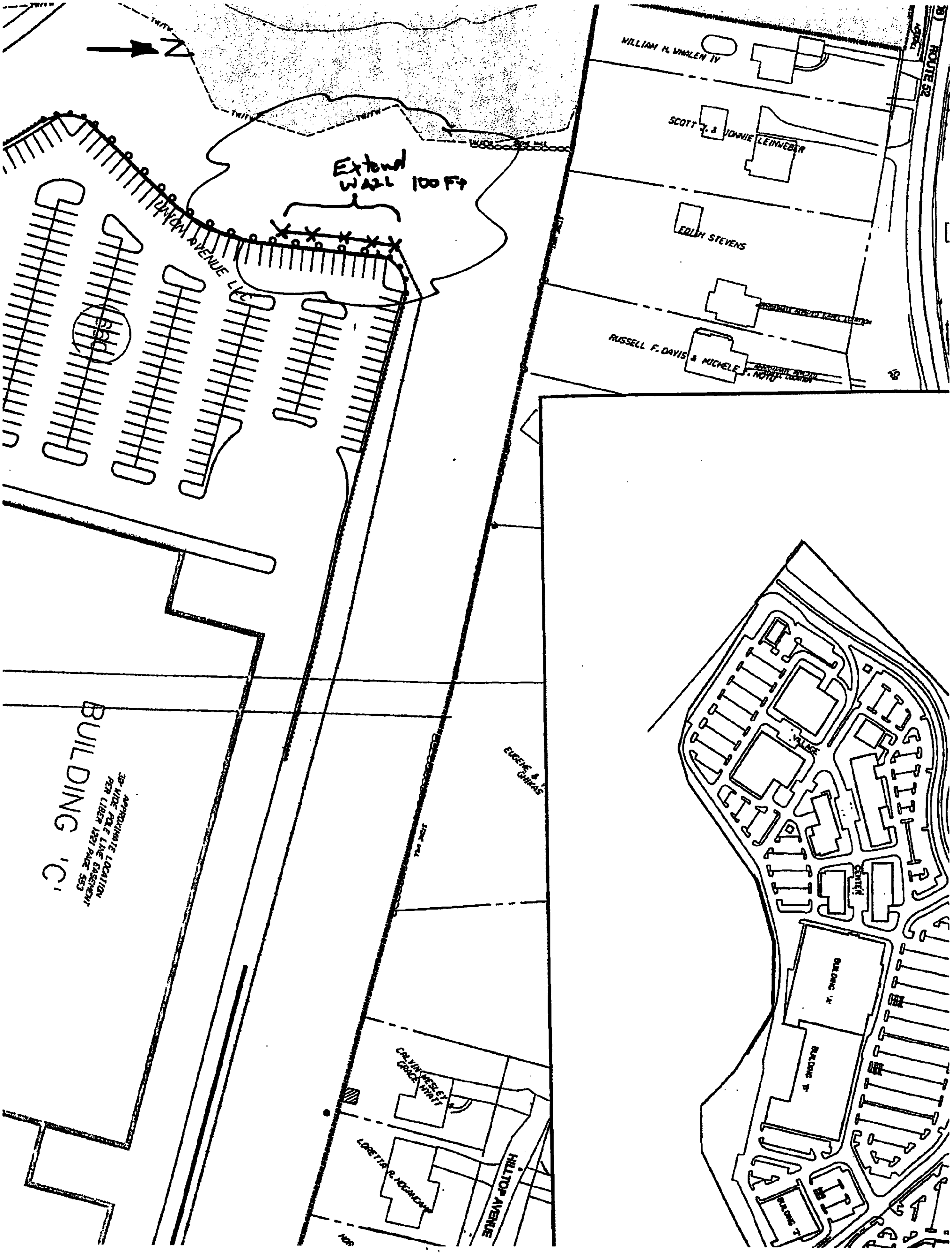
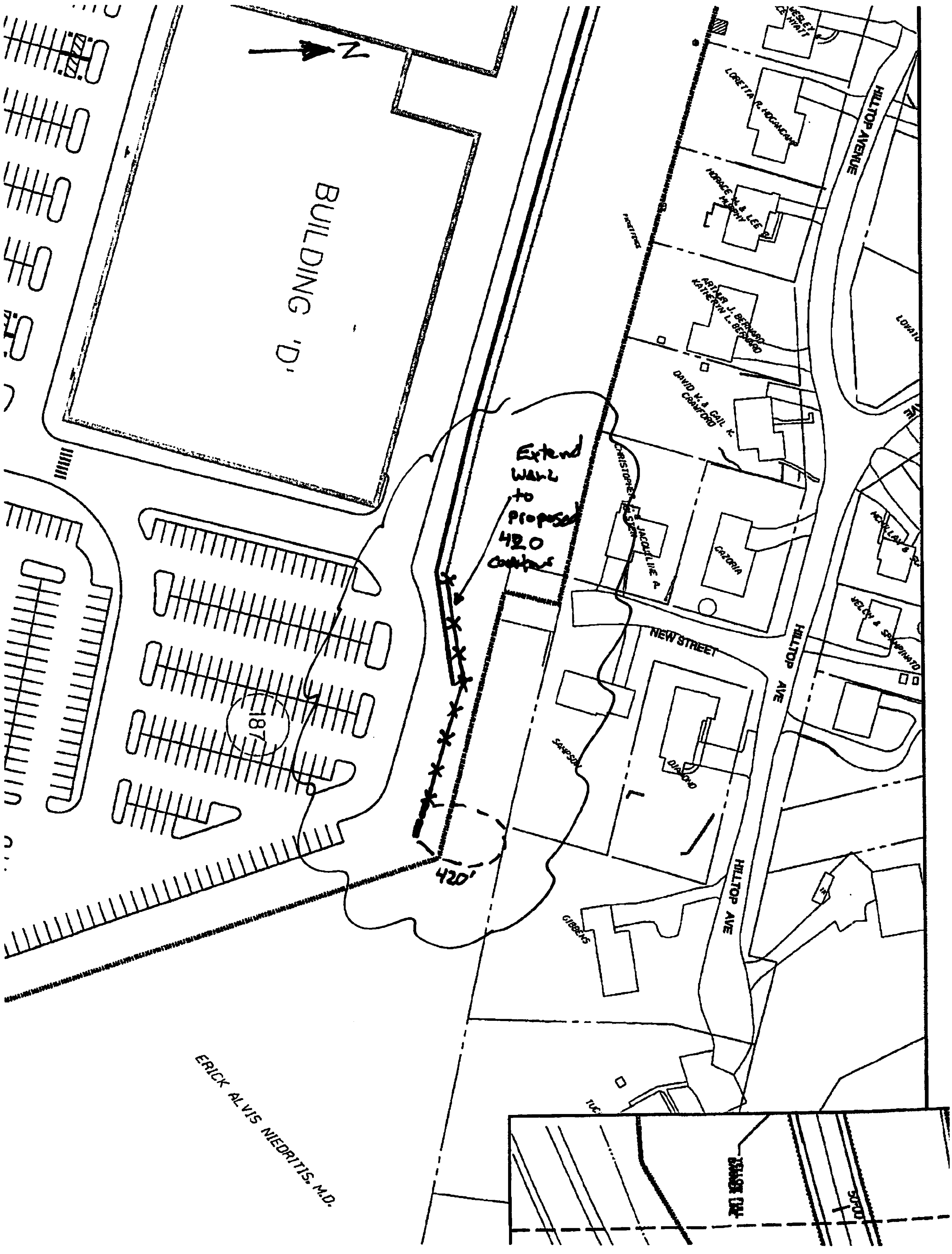


Extend WALL 100 Ft
UNION AVENUE LLC
WILLIAM H. WHALEN IV
ROUTE 52
EDITH STEVENS
RUSSELL F. DAVIS & MICHELE
BUILDING 'C'
APPROXIMATE LOCATION
30' WIDE POLE LINE EASEMENT
PER LIBER 1221 PAGE 553
HILLTOP AVENUE
VILLAGE
CENTER


N
BUILDING 'D'
Extend Wall to proposed 420 contour
420'
187
HILLTOP AVENUE
HILLTOP AVE
NEW STREET
ARTHUR J. BERNARD
KATHERIN L. BERNARD
DAVID W. & GAIL K. CRAWFORD
CAZORIA
SAMPSON
DIAMOND
GIBBENS
ERICK ALVIS NIEDRITIS, M.D.

KALA KAREN ARENT LANDSCAPE ARCHITECT

Memorandum

To: Chairman John Ewasutyn and the Town of Newburgh Planning Board

From: Karen Arent, Landscape Architect

Date: January 26, 2007

Subject: Marketplace FEIS

Town Project Number: 2004-54

Consultant: Tim Miller Associates

Cc: Mr. Ed Garling, Mr. Michael Donnelly, Mr. Pat Hines, Mr. Tim Miller

COMMENTS:

The FEIS was reviewed and comments listed below should be addressed by the findings statement. Please note that this is a preliminary list.

1. In the FEIS, response 2-2, page 2-1, states that the "Planning Board will consider whether the formation of a committee is productive as a means of ensuring that the public is kept informed about the progress of site activities and as a forum for concerns." This idea should be discussed with the Planning Board as a means to alleviate some of the pressures that the Town Board and Building Departments will have as a result of construction operations.
2. In response to a public comment (comment 2-11, page 2-6), the FEIS mentions that the Storm Water Management Plan includes the use of planted landscaped islands within the parking lot to capture and treat some of the storm water runoff before it is conveyed to the proposed detention basins... these islands will act to some extent as biofilter basins and will add additional trees to the overall landscape plan". A schematic design and details for this system will need to be designed, reviewed and approved during site plan review. These systems should be further developed when individual applications for buildings are presented. (Response 3.4-21)
3. The use of storm water to water plants in parking islands is also mentioned in the FEIS comment response 3.4-21. Findings should note that details, soil mixtures, plant choices, etc. will need to be reviewed and approved during site plan review.
4. The FEIS should mention that additional surveys will be conducted before construction begins to find Beaked agrimony when it is in flower and fruit. If Beaked agrimony is found in an area that will be disturbed, individual specimens will be relocated to

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COMMENTS FOR MARKETPLACE FEIS
Dated January 26, 2007 continued

elsewhere in the wetland and monitored for survival. (Response 3.3-30). As mentioned in the FEIS, the ecological consultant to the Planning Board should conduct these surveys.

5. Details for pervious asphalt should be developed, along with maintenance guidelines which must be reviewed and approved during site plan review.
6. Response 3.3-38 mentions that the landscaping plan has been revised to include only native tree and shrub species in areas that are in the applicant's control. The landscape plan in the FEIS includes 19 species that are not indigenous, and many that are not native. The findings should clarify where native indigenous plant materials will be proposed and where, if necessary, non native, more urban tolerant plants may be proposed. Findings should address how the plan responds to comments included within the FEIS. The Landscape Plan also includes a non native species, Miscanthus sinensis, listed by the state of Connecticut as a potentially invasive species.
7. Findings should mention that the Quassaic Creek culvert crossing will be designed to minimize streambed disturbance and maintain an open corridor for water flow and wildlife movement as noted in response 3.3-49. Design will include methods to lead crawling wildlife toward these corridors rather than over the road. Review of this design should be conducted and approved of by consultants selected by the planning board.
8. Response 3.6-50 mentions that the access road intersections with Routes 300 and 52 will incorporate pedestrian crosswalks and pedestrian signals if required by the Town and approved by the DOT. Findings should mention that these improvements will be discussed with the Planning Board and if requested, will be presented to the DOT for approval. Site improvements that may be necessary in order for the DOT to approve pedestrian crosswalks and signals should be designed if and as necessary and should be included with DOT proposed improvements.
9. Design and building of sidewalks along access roads to Routes 52 and 300 should be discussed with the planning board and included in the plan if requested. Findings should address any environmental impacts as a result of including these site improvements.
10. Findings should mention the coordinated review of the location of bus stops with the Transit Coordinator for Orange County, Mr. Robert Parrington. Site amenities as requested by the Planning Board, consultants and Mr. Parrington should be shown and detailed on the plans and reviewed during site plan review.
11. Comment 3.7-27 mentions the need to establish a private security force for the Marketplace and a security camera network. Findings should address this comment.
12. Comment 3.7-28 mentions a reimbursement agreement for the use of Town of Newburgh Police force in connection with traffic control. Findings should address this comment.
13. The proposed sound barrier/fence should be studied, reviewed and approved by a noise consultant appointed by the Town of Newburgh Planning Board and suggestions made by the consultant should be incorporated into designs.
14. A cohesive signage plan that meets zoning codes must be developed. Aesthetic qualities of signage should be reviewed and approved by the Planning Board. Findings should address the development of a cohesive and unified signage plan.

COMMENTS FOR MARKETPLACE FEIS
Dated January 26, 2007 continued

15. Consultants should also propose a cohesive and unified plan of signage for way finding and traffic control which should be reviewed and approved by the Planning Board.
16. Response 3.10-6 mentions that an eight foot high foam filled fence is proposed along Hilltop Drive residences. Most other responses indicate that a 10' high fence is proposed. This should be clarified.
17. All plans included in the FEIS will be reviewed by the Planning Board and consultants during site plan review. Plans included were not reviewed in detail therefore changes, additional design details and other information may need to be presented before consideration for approval. The FEIS should address this issue.

William Schuster, Ph.D.
131 Continental Road
Cornwall, NY 12518
845-534-4102

Memo To: Patrick J. Hines, McGoey, Hauser and Edsall
From: William Schuster
Date: February 2, 2007
Subject: Town of Newburgh – Marketplace FEIS Review
Project #: 2004:-54

This document represents my review of the Preliminary Final Environmental Impact Statement dated December 7, 2006 for the project entitled The Marketplace at Newburgh. All of my comments follow within the same format of the seven general categories I was originally requested to review in July of 2006.

1. Existing plant communities and types.

Figure 3.3.1 is improved showing six vegetative community types and stone walls. The dashed lines are too thick and all the same color/pattern making it somewhat unclear where community types abut. Wetland types are better described now: plant communities differ in Wetlands A and B, but red maple and associated hardwoods do dominate each area.

Re: Comment 3.3.14, I continue to disagree with the applicant's consultant's on this classification: my four-hour visit on September 1, 2006 made it clear that the bulk of the project area is mostly not northern hardwoods (*i.e.* maple/beech/birch) but oak-dominated hardwood forest.

Much of the area to be disturbed is relatively young successional hardwoods, as stated, with occasional older trees. However my analysis of the area around wetland B indicates this section of forest is indeed well over 100 years old, having for some reason (water-logged soils?) escaped the more recent episodes of land clearing in the area. I did not select "only the largest trees" for coring in this area. If this matter of dispute is deemed significant I suggest that a qualified expert randomly select twenty canopy trees in this area and obtain core samples that hit the pith and date them using established dendrochronological methods.

2. Wildlife resources including significance of Federal Jurisdictional Wetlands and vernal pools.

Wetlands A and B are both high quality wetlands that provide multiple benefits. It is good that only a small portion of Wetland A is proposed to be affected and that funneling culverts, large enough to permit ecological and hydrologic connectivity, will be put into place where the road will cross this wetland. This should be a requirement in any approved plan. I still find insufficient adjacent upland to be preserved in the plan to ensure the health and sustainability of Wetland A and populations of its native animals. The proposed elimination of the road east of this wetland will provide some additional upland habitat, but at least twice as much would be desirable.

It is good that the Vernal Pond is Wetland A has been mapped and will not be affected.

The elimination of the mature, forested, Wetland B will be a real loss. I encourage that it be again examined for the possible presence of important vernal breeding pools in the 2007 during late March – late April, as it was in 2006, to test the applicant's claim that the area is not important amphibian breeding habitat. It may be that the exceedingly dry year of 2005 drastically reduced amphibian populations here as it did in other locations of which I am aware.

The change in the road plans to avoid direct impact to Wetland E (floodplain forest) should be beneficial. Fences should be erected during construction to ensure that stray construction activities do not impact this area.

Additional work completed has significantly improved the species lists for the wetlands on site. These should be augmented by the actions I propose above and below.

3. Methodologies utilized to document on-site vegetation and wildlife resources.

The methodologies used to date appear to be good. The species list for the site has grown significantly, documenting that it does have great biological diversity. This has shown that additional field work results in better documentation of biological resources. Prior to construction, additional survey work listed above and below should be accomplished by qualified experts, in the proper seasons, searching further for rare and threatened species within the areas to be disturbed (the FEIS already states that this will be accomplished for at least the narrow-leaved sedge). This is important due to the large area to be disturbed, the documented biological diversity of the site, the previous documentation of endangered species in locations around the site, and the amount of time and diligence it really takes to find, or be certain as to the absence of, these rare species.

4. Impacts to Quassaick Creek.

See #6 below.

5. Impacts to threatened or endangered species.

As stated before, wetlands on the property appear unlikely to contain endangered bog turtles or northern cricket frogs.

Some of the numerous mature trees on the property could conceivably be summer roost trees for Indiana bats, based on documented findings of Indiana bats in other areas around the region. I am not certain that these will only roost under loose bark of large trees in sunlit openings. Since so many large trees are proposed for destruction, I urge that a specialist knowledgeable about this species (not myself, although I can supply a list of experts) conduct a site survey in summer 2007 prior to any construction.

I must reiterate that just because I did not find beaked agrimony or narrow-leaved sedge on the site does not mean they do not exist there. I do respect the extensive work that the applicant's consultants have done to date documenting the flora and fauna on the site. However I feel that an independent expert in rare plants should thoroughly examine all areas to be disturbed, prior to construction and in the appropriate season for identification, especially to look for these rare plants, since they have been documented further down the Quassaick watershed.

6. Impacts to Quassaick Creek.

Plans call for additional planted trees and some additional pervious surface in the development, which will be beneficial, but the large amount of disturbance and impervious surface means that potential still exists for significant downstream and offsite runoff and water quality impacts. Rigorous inspection and enforcement of the sediment/erosion control and stormwater management plans must be ensured.

The revised location for the bridge substantially minimizes direct impacts to Quassaick Creek and the adjoining floodplain forest, benefiting ecological connectivity within this corridor. The 40-foot arched bridge, associated roads, and the adjacent sediment basin should all be constructed with the minimum possible disruption of the creek corridor and with temporary fencing to prevent equipment from straying beyond the proposed limits of disturbance. It would be preferable if the shape, location, or dimensions of the adjacent sediment basin can are changed so that the basin outslope remains at least 100 feet away from the high water mark of the creek (at one point it is now proposed directly adjacent to the high water line). The associated construction work should ideally be accomplished in the winter to minimize ecological impacts.

7. Evaluation to determine if additional surveys are warranted.

I must restate that my single four-hour visit to the site on September 1 was not sufficient to be certain that endangered or rare species do not occur within the project area. Due to the documentation of three such species at other locations in the surrounding area, prior to construction, and in the appropriate seasons, thorough surveys should be made by qualified experts in all areas to be disturbed for beaked agrimony, narrow-leaf sedge, and Indiana bats.

Since one wetland area is proposed to be eliminated and part of a second, federally-listed wetland is to be disturbed, in these areas further surveys should be completed for sensitive, threatened, and rare amphibians and reptiles, especially Jefferson's and Blue-Spotted Salamanders, Marbled and Spotted Salamanders, and Box and Wood turtles.

This concludes my review comments.

McGOEY, HAUSER and EDSALL
CONSULTING ENGINEERS P.C.

RICHARD D. McGOEY, P.E. (NY & PA)
WILLIAM J. HAUSER, P.E. (NY & NJ)
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TOWN OF NEWBURGH
PLANNING BOARD
REVIEW COMMENTS

PROJECT:	**MARKET PLACE**
PROJECT NO.:	**04-54**
PROJECT LOCATION:	**SECTION 60 BLOCK 3 LOT 49.22 & MUTIPLE LOTS**
PROJECT REPRESENTATIVE:	**TIM MILLER ASSOCIATES**
REVIEW DATE:	**26 JANUARY 2007**
MEETING DATE:	**1 FEBRUARY 2007**

1. Modifications of the site layout including changes to the Life Style Center and changes in size and location of the "Big Box Stores", have been undertaken in response to comments from the DEIS. The Stormwater Management scheme on the project site continues to utilize extended detention wet ponds for both water quality and water quantity central. The FEIS identifies changes in the stormwater plan with regard to elimination of oil water separator devices. The FEIS identifies an area of porous pavement, proposed of approximately four (4) acres in size to be utilized as a mitigation measure and to allow additional infiltration to occur. While we continue to conceptually concur with the Stormwater Management plan identified with regard to the Environmental Impact analysis, specific review of the Stormwater Management plan, including any modeling revisions required by changes in site layout, will be undertaken during site plan review of the project.

2. Any changes to the Stormwater Management plan, based on relocation of structures in impervious surfaces, reduction grading, or increase in buffers should be addressed in a revised Stormwater Management plan detailing these changes and modeling the design storm events. The current stormwater plan is acceptable for environmental review as it represents a "worst case" analysis, any changes in the site plan will serve to reduce impacts below those analyzed .

3. The applicant has identified the need for a site specific Federal Jurisdictional Wetlands permit for construction activities. The status of this permit should be addressed with the Board. The findings statement should require that this and other permits be obtained prior to construction . The FEIS identifies a reduction in total wetland disturbance from 1.76 acres to 1.35 acres and a 1.52:1 wetland mitigation proposed.

4. A 5 December 2006 memo from William Schuster PHD, is attached regarding environmental conditions on the site requesting more site specific studies for the presence

or absence of Indiana bats, (May through September) and field review for potential endangered plant species (June and August). The Planning Board should determine whether the applicant's current site analysis complied the "hard look" required under SEQRA. It is noted neither species, nor evidence of them has been found on multiple field reviews by the applicants or the Town's consultant.

5. The Schuster letter requests; preservation of large diameter trees wherever appropriate design for wetland crossing utilizing culverts, which leave the existing substrate in the culvert bottom, limitation on work within Quassaick Creek that during winter season to minimize impacts on wildlife.

6. Any comments from NYSDOT on revised plans and traffic studies should be received. Input from the NYS Thruway Authority regarding the FEIS should also be requested.

7. The plans have been revised to have fifty (50') foot no disturbance and twenty-five (25') foot minimum vegetated buffer, seventy-five (75') feet total with minimum building setback of one hundred twenty-five (125') feet. This has resulted in a reduction in an impervious surface and an increase in the proposed buffer.

8. The FEIS mentions in Section 2-1, that coordination in final design phase with the jurisdictional Fire Department will be undertaken. It is noted that several mitigation measures regarding emergency services are included in the FEIS which must be adopted in the findings statement. These include installation of emergency vehicle preemption devices of numerous traffic control signals and clarifying that no impact to Winona Lake Fire Department along Route 52 will occur.

9. During the Planning Board review process including site plan, DEIS and FEIS discussions regarding sidewalks to provide connections to the site were undertaken. A determination for sidewalks should be undertaken prior to final site plan approval.

10. A mitigation measure regarding potential impacts to off-site properties including impacts to neighboring wells and structures has been offered. Finding Statements must address the requirements identified in the response 2-6. Will the Town Board accept this agreement and bonding?

11. A pest management plan is identified in response to 2-7 which must be incorporated into the Findings Statement and be finalized prior to or any approval.

12. Comment 3.2-8 response, identifies the wetlands as "low functioning remnants of wetlands" that existed. This comment should be revised as the only basis for jurisdictional or non jurisdictional of these wetlands is in fact the hydraulic connection, not a determination of the Army Corps of Engineers regarding their junction or values.

13. During the Draft Environmental Impact Statement Public Hearing, it was noted that several area residents had encountered Box Turtles in the project vicinity. During follow-up field reviews, by the applicant's representative, several occurrences of Box Turtles were documented on the site and one occurrence of a Wood Turtle was encountered along the Quassaick Creek corridor.

14. Comments 3.4-9 identifies, that the Chadwick Lake Water system is capable of supplying adequate water to meet the Town's average daily water requirements. This statement is incorrect, both the Delaware Aqueduct and Chadwick water supply are required to meet the Town's current water demand. It is true that the Town of Newburgh is investigating alternative water sources to be utilized in emergency conditions including connections to adjoining municipalities.

15. A review of the final Environmental Impact Statement identifies the following permits or approvals which would be required for the project, as well as additional information which is identified as mitigation, this includes, but is not limited to:

    1. Pest management plan.
    2. Bonding and Agreement for potential offsite damage.
    3. Traffic mitigation plan for extreme events.
    4. NYSDEC Stormwater SPDES permit with five (5) acre waiver.
    5. NYSDEC Air Discharge permit.
    6. NYSDEC Dam Safety permit.
    7. Pre-blast surveys of adjoining properties structures and wells.
    8. Offer for water filters on wells.
    9. City of Newburgh sewer flow letter.
    10. Private security force and cameras to augment site security.
    11. Orange County Health Department approval for water system extension.
    12. NYS Thruway Authority sign off.
    13. NYSDOT Highway Access and work permits.
    14. Town Board abandonment of existing roadway area, Brookside Avenue.
    15. Site plan approval

Respectfully submitted,

McGoey, Hauser and Edsall
Consulting Engineers, P.C.

_____
Patrick J. Hines
Associate

William Schuster, Ph.D.
131 Continental Road
Cornwall, NY 12518
845-534-4102

Memo To: Patrick J. Hines, McGoey, Hauser and Edsall
From: William Schuster, Ph.D.
Date: December 5, 2006
Subject: Town of Newburgh – Marketplace DEIS Review
Project #: 2004-54

At the October 25 meeting the applicant and his consultants presented several changes to the DEIS and other changes were suggested. I expressed concern that Wetland B was a valuable wetland biologically as well as hydrologically, but the applicant stated that their plans could not accommodate preserving these wetlands. I expressed concern that biological health of Wetland A species would require preservation of contiguous uplands. The applicant's consultants stated that their revised plans would show additional preserved uplands. I expressed concern that large and old trees should be preserved wherever possible and the applicant's consultants agreed to state this in the plans. I seconded concerns that there should be less impervious area, more infiltration, more trees planted and that trees should be clustered wherever possible to create true habitat islands that would be beneficial ecologically as well as visually pleasing. The applicant's consultants agreed to make accommodations to these suggestions in the plans.

Upon further reflection I re-emphasize that the fact that certain endangered species have not been found on the site does not mean they might not be present on the project area. I feel it will be prudent to have an expert on Indiana bats thoroughly examine the area proposed to be disturbed during the season when Indiana bats may use the site (May – September). I further feel a rare plant specialist should examine the area proposed to be disturbed during the season when Federally endangered plants *Carex amphibola* and *Agrimonia rostellata* can be unambiguously identified due to the presence of flowers and/or fruits (June – August).

On December 5, 2006 Steve Marino from the applicant's consultant Tim Miller Associates visited my office and showed me revised plans and we had discussions. I told him about my concerns that and even more thorough review of the site be conducted for the above species. The plans had several new changes that represent environmental and ecological improvements. Many more trees are proposed to be planted, including clusters, especially in sections where visual screening is important. A diverse mix including woody species will be planted on the steep slope areas and these will be allowed to succeed to woodland over time, which will be environmentally, ecologically, and visually beneficial. The revised road design impacts less of the wetland areas than previously and additional contiguous uplands are to be preserved. Two areas of parking are now proposed to use pervious base material. Wetland mitigation areas will use only native species and it was stated that existing large trees will be preserved in these areas.

I requested that all large trees in the Quassaick Creek corridor be identified on the plans so they can more readily be preserved. I asked that the road crossing Wetland A employ culverts that are designed for biological and well as hydrologic function (there have been some studies comparing the effectiveness of different culverts for animal migration). I asked that work in sensitive areas such as above the Quassaick Creek be accomplished during the winter season to minimize impacts on wildlife. I also stated my concern that further site studies specifically looking for the endangered species mentioned above be conducted prior to any construction.

GARLING ASSOCIATES
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MEMORANDUM

TO: Town of Newburgh Planning Board and Consultants, Tim Miller Associates
FR: Bryant Cocks and Ed Garling
RE: Comments on Marketplace FEIS
DT: January 29, 2007

We have reviewed the Marketplace FEIS, as received by this office in December 2006. There were many public comment letters regarding this project, along with the consultant's comments on the DEIS that needed to be addressed in this document. If all of these items have been addressed sufficiently in the FEIS, a Findings Statement will be prepared by the Planning Board detailing the environmental impacts from this project. The FEIS will have to be revised to address any of the consultant's comments regarding the first draft of the FEIS that was given to us before the Findings Statement can be approved by the Planning Board and the SEQRA process completed.

General Comments

Response 2-2: The Planning Board will have to discuss the creation of a public committee to be a liaison to the developer for adjacent residents.

Response 2-6: The Planning Board should determine a satisfactory bond amount for any possible repairs or restoration needed for adjacent residents.

Response 3.2-7: We concur with Tim Miller Associates' claim that a SEIS is not necessary for this project, as suggested by the Attorney for Save Open Space. There are no new changes proposed for the project that would cause a significant adverse impact, there has been no newly discovered information regarding any environmental conditions that have not been addressed, and there is no change in the circumstances related to the project regarding site layout, adjacent property owners or related traffic or environmental impacts. Without one of these three conditions being met to warrant the creation of a SEIS, we feel it is not necessary.

Section 3.3: A detailed ecological survey is contained in this section, as requested by many members of the public. This section lists all plant and animal species that were identified by the applicant's environmental expert, the Planning Board's consultant, Dr. Schuster and all DEC data regarding the site. This study shows that there were no instances of endangered species on the site, and only a few instances of any species of

concern. Due to the lack of evidence of these species, we agree that there will be no adverse effect on any endangered or threatened species from the development of this project.

Response 3.3-10: If there is no irrigation proposed for trees and shrubs after the first year, the applicant must make sure that all plantings on site remain in good health or they must be replaced. Karen Arent will be conducting annual site visits to ensure that plants are alive or the landscape bond will be held open.

Response 3.3-21: We agree that the access to the site on Route 52 at Meadow Avenue is crucial to the success of the project. Without this access road, there will be an exceptional increase in traffic on the Route 300 entrance, which would create numerous problems not only for the customers frequenting the site, but also residents of the town trying to pass by. The applicant's plan to install culverts for wildlife corridors at this entrance will also provide connections for wildlife to access nearby parks, wooded and wetland areas.

Response 3.3-33: What is the status of the ACOE permit? There are legal proceedings regarding this case that has made it difficult for applicants to obtain permits. What can be required as a condition of federal wetland approval?

Section 3.5 Zoning and Surrounding Land Use: The applicant has addressed all of the outstanding zoning comments from our office, as stated in the memo of June 19, 2006. This would include the applicant providing a plan with the proposed buffer requirements as they read now. These requirements could change when they are adopted, but the applicant did show the anticipated impacts on the site, which resulted in a loss of around 20,000 square feet in combined building footprints, and a 2% decrease in impervious surface. Once the new buffer law is adopted, the applicant will have to revise the site plan accordingly to address the new zoning requirements since this would not be grandfathered into the old zoning code.

Throughout the FEIS, multiple comments have been made by the public stating that this area should remain wooded because of its biodiversity and other such factors. It should be noted that this site is zoned for commercial development such as this project, and has been for some time. This is the corridor of the Town of Newburgh that has been designated for commercial development and within several years, we anticipate this corridor to be fully built out. The applicant, the Town of Newburgh Planning Board and its consultants have looked at this project fully and anticipated the impacts on this project on the surrounding community throughout the approval process and have taken into consideration all of the concerns of the public at this time.

Response 3.6-24: Visuals will be needed in the FEIS for the area around Building E and the grading that is proposed on the embankment instead of the retaining wall. This would have to be looked at in the FEIS so they can be addressed in the Findings Statement.

Response 3.6-30: Due to the wetlands separating the properties of the Marketplace and Newburgh Commons, the applicant claims it will not be feasible to provide a pedestrian

connection at this time, but it should be noted that the applicant has provided a right of way to access this property if it is possible with future developments. We think that this connection would be possible and should be utilized in the future. It would be good planning practice to include this pedestrian connection, as a similar pedestrian connection on Route 211 leading into the Galleria at Crystal Run is used frequently.

Response 3.7-6: This response does not give any indication of whether union workers will be used or if any construction employees will come from the Town of Newburgh. The applicant references studies but does not indicate that there are any initiatives to employ local residents by using local companies. Utilization of local union employees would be beneficial to the community, but this is not a Planning Board issue and does not affect the SEQRA or site plan approval processes.

Response 3.8-2: The applicant states that the noise from blasting and rock crushing will fall within allowable daytime noise levels. This should be monitored to determine if they are being exceeded and will affect the adjacent residents.

Response 3.10-2: A full architectural review is required for this project before final approval is given. The Planning Board will look at all building facades, associated structures such as garbage receptors and all signage on site. The Planning Board will also look at visual impacts from off-site locations.

Response 3.10-3: The site plan will be reviewed fully after the SEQRA process is completed to determine the best location for the gas station and how to screen the light pollution from residents.

Figure 3.10-6: The sidewalk map should include one additional crosswalk leading to the single building on the access road to Route 52. There is a crosswalk leading from Building A to Building C, but no connection to the building across from Building C.

Response 3.10-5: A detailed signage plan will be needed to show that this site is within the allowable signage square footage as allowed in the zoning code. If the applicant plans on going over this threshold, a variance will be needed. This will be reviewed in the architectural review process.

Appendix I – Architectural Theme Guidelines: This section of the appendices outlines the general themes and intent behind the big box retail developments across the country. It is going to be interesting to see how these guidelines apply to the architectural theme the developer is proposing. The Town of Newburgh Planning Board has been reviewing several "big box" retail developments in the last couple of years and has asked the applicant to provide more architectural features than in the standard corporate design. Since this is a Lifestyle Center, we expect the applicant to go above and beyond the minimum corporate standards for these buildings and create the aesthetically pleasing vision that we have been promised from the start of this project.

In conclusion, we feel as though with the inclusion of these items and the comments from the other consultants the FEIS would be deemed completed. When these issues are resolved in the FEIS, the Planning Board would be able to accept the FEIS as completed and issue a Findings Statement, which would complete the SEQRA process.

APPENDIX I

Architectural Theme Guidelines

back to Special Planning Regulations

BIG-BOX DESIGN STANDARDS

I. Introduction

A growing trend in communities across the country is the development of large retail, or "big-box", design standards. The cities of Fort Collins, Colorado, Tucson, Arizona, Easton, Maryland, and Somerset County, New Jersey have already implemented design standards for large retail establishments. Lexington is currently in the process of adopting design standards.

"Big-box" retail can be defined as large-scale retailers, such as Wal-Mart, Kmart, Meijer, Kroger, Target, Circuit City, or Home Depot, that occupy more than 50,000 square feet and derive their profits from high sales volumes. They may operate as stand-alone facilities, or more commonly they are located in a "power center."

Power centers will usually have some common characteristic such as large rectangular single-story structures, a reliance on auto-borne traffic with large areas of parking, limited mass transit service, and a no frills site plan with little unique community character, mixed-use and pedestrian amenities. Power centers will generally bring together various branches of the "big-box" family, for example, a discount department store, a warehouse club, a supermarket, and smaller outlots.

Examples of power centers in Lexington include Hamburg Place, Beaumont Center, and the new Lowe's/Wal-Mart on Nicholasville Road. In Georgetown, Washington Square, Georgetown Center, and Factory Stores of America could be considered examples of power centers. Although these three sites are much smaller in scale, they all contain "big-boxes" in excess of 50,000 square feet (Kroger with approximately 60,000 sq. ft. and Kmart with approximately 96,000 sq. ft., Factory Stores of America contain a total of 176,000 sq. ft.). The three sites also contain retail establishments with less than 50,000 square feet. The recently approved rezoning of Cherry Blossom Properties (A-1 Agricultural to B-5 General Commercial Park), located between I-75 and 84 Lumber, is designed to be a power center as defined above. The approved conceptual plan shows the site with a "big-box" structure and numerous outlots with a large parking area. The Howard Property, recently rezoned from A-1 to B-5, contains 27.31 acres that is suitable for a "big-box" type of development. Also, the Whitaker Property (225 acres), located north of 84 Lumber and south of Toyota, was recently rezoned from A-1 to B-5. Although this site is proposed for a mixed use of commercial, professional office, limited light industrial, and residential, there is approximately 43 acres suitable for "big-box" development. The site was approved with the Traditional Neighborhood Design in mind, thus the need exists for design standards to be in place it ensure the entire development is coordinated for an overall community design.

The B-5 zone is designed to allow flexibility in the development of compatible mixed-use areas of limited light industrial, professional office, and commercial in a business park or "campus-style" setting. The B-5 zone discourages "strip" commercial development while encouraging internal driveways and pedestrian access in order to minimize traffic movements out of the development. The B-5 is designed to minimize off-site impacts generally associated with standard commercial/B-2 development with increased setbacks and landscape buffers. The B-5 includes higher design standards but does not typically or specifically address "big-box" concerns. As "big-box" development could occur in B-2, B-4, and B-5, these guidelines shall be utilized in any district where "big-box" development may locate.

II. Background and Justification

The basis for development within our community is set forth in the *Zoning Ordinance*, *Subdivision Regulations*, and the *Comprehensive Plan*. Article I, Section 1.3 of the *Zoning Ordinance for Georgetown, Scott County, Sadieville, and Stamping Ground* states, "The purpose of the Zoning Ordinance is to promote the general welfare by establishing and regulating zoning districts... In establishing the zoning districts, this ordinance seeks the general welfare by designating sufficient space for all necessary uses of land, by protecting the permitted uses in each district from the undesirable effects of conflicting uses, and by ensuring the stable value of all permitted development." Article I, Section 105 of the *Subdivision & Development Regulations for Georgetown, Scott County,*

Sadieville, and Stamping Ground states, "These regulations are adopted in order to implement the Georgetown-Scott County Comprehensive Plan and to ensure the protection of public health, safety, and welfare." Furthermore, Section I, Subsection B-3 of the *Georgetown-Scott County Comprehensive Plan 1996 Update* states, "Community identity and integrity should be maintained as we grow, and opportunities for community social life should be increased." Subsection B-4 goes on to state, "Scott County cities should maintain their small town character..."

With the tremendous amount of growth occurring in Georgetown and Scott County, it is a matter of time before large retail establishments begin locating in our community and the possibility of existing establishments relocating or expanding. Large retail establishments will locate anywhere, be it a rural town, suburban county, or an urban center. Within a 25 mile radius of Georgetown, there are 7 Wal-Marts (2 superstores) and 7 Kmarts (according to Wal-Mart and Kmart internet store locators).

The residents of Georgetown and Scott County are largely defined by small town characteristics and quality of life. As a community, we should not only be concerned about the economic impact of big-box retailers on our traditional downtown merchants but also on how the appearance of such retail establishments fit in with the community.

Our community does not have to rely on the dull, rectangular boxes of retail giants, with massive amounts of asphalt and limited landscaping and pedestrian amenities.

A growing number of jurisdictions are requiring a much higher level of design standards and implementing procedures that require large retail stores to better relate to the characteristics of the community.

In Fort Collins, CO., there were many public hearings with the community playing a large role in defining the retail standards, and it resulted in a nationally acclaimed ordinance. Staff has reviewed this ordinance and an ordinance adopted by Tucson, AZ. Also, staff has contacted the planning departments in Rockville, MD, Easton, MD, Somerset County, NJ, and Lexington, KY, who are in the process of writing their ordinances. The research indicates that Fort Collins has become the model that communities are basing their design standards and ordinances on.

These proposed guidelines are a response to dissatisfaction with corporate chain marketing strategy, dictating design that is indifferent to local identity and interests. The main goal is to encourage development that contributes to Georgetown-Scott County as a unique place by reflecting its physical character and adding to it in appropriate ways. Large retail developments depend on high visibility from major public streets. In turn, their design determines much of the character and attractiveness of major streetscapes in the city. The marketing interests of many corporations, even strong image-making design by professional designers, can be potentially detrimental to community aspirations and sense of place when they result in massive individual developments that do not contribute to or integrate with the community in a positive way.

The purpose of these guidelines is to augment the existing criteria contained in the B-5 General Commercial Park and those contained in the *Zoning Ordinance* and *Subdivision Regulations*, with more specific interpretations that apply to the design of large retail developments. These guidelines require a basic level of architectural variety, compatible scale, pedestrian and bicycle access, and mitigation of negative impacts.

III. Procedure

The following guidelines are intended to be used as a design aid by developers proposing large retail developments and as an evaluation tool by the staff of the Planning Commission in their review processes. These guidelines shall apply to all projects, which are processed according to the criteria for proposed development plans and to all projects for retail establishments of more than 50,000 square feet. These guidelines are to be used in conjunction with the *Subdivision & Development Regulations*.

IV. Definitions

- Arcade – an area contiguous to a street or plaza that is open and unobstructed, and that is accessible to the public at all times. Arcades may include building columns, landscaping, statuary and fountains.

Arcades do not include off-street loading/unloading areas, driveways or parking areas.

- Articulate – to give emphasis to or distinctly identify a particular element. An articulated façade would be the emphasis of elements on the face of a wall including a change in setback, materials, roof pitch or height.
- "As-of-Right Zoning" – uses and development standards that are determined in advance and specifically authorized by the zoning regulations (e.g., a single-family zone would allow single-family housing as of right so long as site development standards are met). This type of zoning is in contrast to cumulative or "pyramidal" zoning.
- Berm – an earthen mound designed to provide visual interest on a site, screen undesirable views, reduce noise or provide a buffer from adjoining uses.
- Breezeway – a structure for the principal purpose of connecting a main building or structure on a property with other buildings.
- Buffer – see also "screen". An area provided to reduce the conflict between two different land uses. Buffers are intended to mitigate undesired views, noise and glare - effectively providing greater privacy to neighboring land uses. Typical buffers consist of materials that serve this purpose and include, but are not limited to, plant materials, walls, fences and/or significant land area to separate the uses.
- Buffer Strip – a portion of a lot or property used to visually separate one use from another through the use of vegetation, distance or other approved method.
- Building Face, Front – any building face, which can be touched by a line drawn perpendicular to street (public or private).
- Building Face, Public – any building side which is visible from public or private right-of-ways and/or the faces that contain public entry.
- Building Mass – the building's expanse or bulk and is typically used in reference to structures of considerable size.
- Design Guidelines – statements and graphics intended to direct the planning and development of the built environment in a particular manner or style so that the end result contributes positively to the overall development.
- Dormer – a window set vertically in a gable projecting from a sloping roof.
- Facade – the portion of any exterior elevation on the building extending from grade to the top of the parapet, wall or eaves and extending the entire length of the building.
- Front Yard – the portion of the front yard extending the full width of the lot and measured between the front lot line and a parallel line across the front of the building. Corner and double lots shall adhere to the front yard setback(s) for each frontage.
- Gable – a triangular wall section at the end of a pitched roof, bounded by the two roof slopes.
- Hip Roof – roof without gables.
- Parapet – the portion of a wall that extends above the roofline.
- Pedestrian Oriented Development – development designed with an emphasis primarily on the street sidewalk and on pedestrian access to the site and buildings/structures rather than on auto access. The buildings/structures are generally located close to the public or private right-of-way and the main entrance (s) is oriented to the street sidewalk. There are generally windows or display cases along building facades. Although parking is provided, it is generally limited in size and location.
- Pedestrian Walkway – a surfaced walkway, separate from the traveled portion of a public or private right-of-way or parking lot/driving aisle.
- Portico – a porch or walkway with a roof supported by columns, often leading to the entrance to a building.
- Public/Private Right of Way – any public or private road, access easement intended to provide public access to any lot/development, but excluding any service road or internal driving aisles (i.e., within parking lots).
- Screen – see also "buffer". The sole purpose of a screen is to block views. A screen should be constructed of opaque materials and whose height will be effective in obstructing unwanted views.
- Setback – a prescribed distance or an area between one element and another (i.e., a building and the road right-of-way). Within these guidelines, the term also refers to:
    - The minimum distance and the area measured from the property line to the interior of a parcel

where buildings may be constructed.
- The required distance and the area between the edge of the parking lot pavement/curb and the property line or buildings/structures.
- Placing a building face on a line to the rear of another building line.

- Streetscape – all elements of a development or area that are in view from other points along a street.

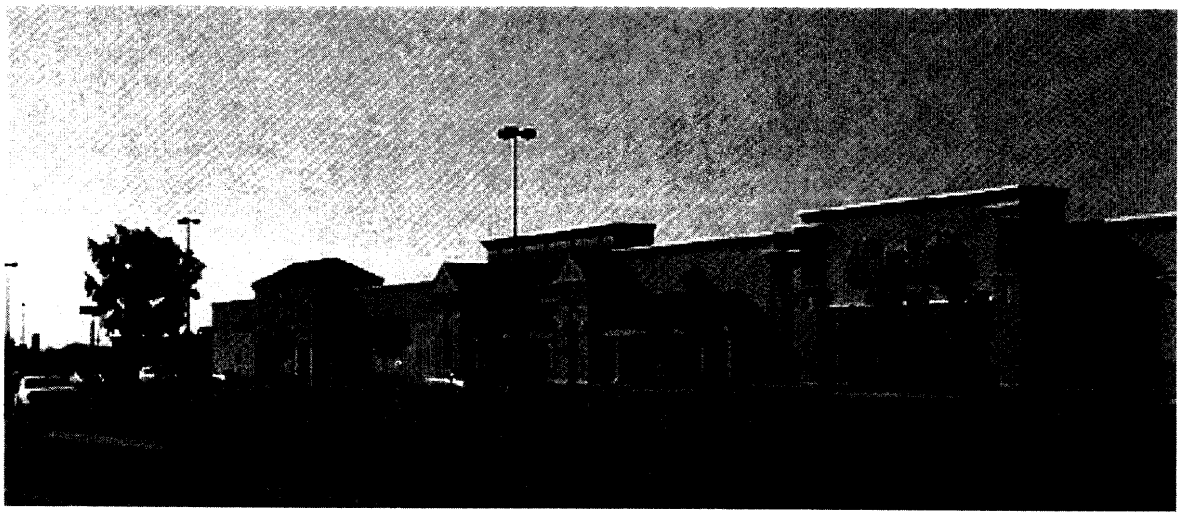
V. Design Guidelines

ARTICLE I - AESTHETIC CHARACTER

1. Facades and Exterior Walls

INTENT: Facades should be articulated to reduce the massive scale and the uniform, impersonal appearances of large retail buildings and provide visual interest that will be consistent with the community's identity character, and scale. The intent is to encourage a more human scale that residents of Georgetown-Scott County will be able to identify with their community. The resulting scale will ensure a greater likelihood of reuse of structure by subsequent tenants.

GUIDELINE: Developments with facade over 100 feet in linear length shall incorporate wall projections or recesses a minimum of 3 foot depth and a minimum of 20 contiguous feet within each 100 feet of facade length and shall extend over 20 percent of the facade. Developments shall use animating features such as arcades, display windows, entry areas, or awnings along at least 60 percent of the facade.



(Photo courtesy of Hamburg Place)

2. Smaller Retail Stores

INTENT: The presence of smaller retail stores gives a center a "friendlier" appearance by creating variety, breaking up large expanses, and expanding the range of the site's activities. Windows and window displays of such stores should be used to contribute to the visual interest of exterior facades. The standards presented in this section are directed toward those situations where additional, smaller stores, with separate, exterior customer entrances are located in the principal buildings or development site.

GUIDELINE: Where principal buildings contain additional, separately owned stores, which occupy less than fifty thousand (50,000) square feet of gross floor area, with separate, exterior customer entrances:

a. The street level facade of such stores shall be transparent between the height of three feet and eight feet above the walkway grade for no less than 60 percent of the horizontal length of the building facade of such additional stores.

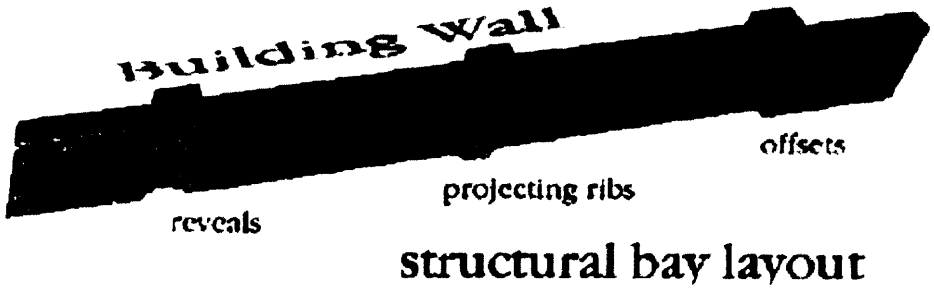
b. Windows shall be recessed and should include visually prominent sills, shutters, or other such forms of framing.

3. Detail Features

INTENT: Buildings should have architectural features and patterns that provide visual interests, at the scale of the pedestrian, reduce massive aesthetic effects, and recognize local character. The elements in the following standard should be integral parts of the building fabric, and not superficially applied trim or graphics, or paint.

GUIDELINE: Building facades shall include a repeating pattern that shall include no less than three of the elements listed below. At least one of these elements shall repeat horizontally. All elements shall repeat at intervals of no more than thirty (30) feet, either horizontally or vertically.

- Color change
- Texture change
- Material module change
- Expression of architectural or structural bay through a change in plane no less than 12 inches in width, such as an offset, reveal, or projecting rib.



Expression of Architectural or Structural Bay
(Drawing courtesy of Fort Collins, Colorado)

4. Roofs

INTENT: Variations in roof lines should be used to add interest to, and reduce the massive scale of large buildings. Roof features should compliment the character of adjoining neighborhoods.

GUIDELINE: Roof lines shall be varied with a change in height every 100 linear feet in the building length. Parapets, mansard roofs, gable roofs, hip roofs, or dormers shall be used to conceal flat roofs and roof top equipment from public view. Alternating lengths and designs may be acceptable and can be addressed during the preliminary development plan.

(Photo courtesy of Hamburg Place)

5. Materials and Colors

INTENT: Exterior building materials and colors comprise a significant part of the visual

impact of a building. Therefore, they should be aesthetically pleasing and compatible with materials and colors used in adjoining neighborhoods.

GUIDELINE:

a. Predominant exterior building materials shall be high quality materials. These include, without limitation:

- Brick
- Wood
- Sandstone
- Other native stone
- Tinted, textured, concrete masonry units

b. Facade colors shall be low reflectance, subtle, neutral, or earth tone colors. The use of high intensity colors, metallic colors, black or fluorescent colors is prohibited.

c. Building trim and accent areas may feature brighter colors, including primary colors, but neon tubing shall not be an acceptable feature for building trim or accent areas.

d. Predominant exterior building materials as well as accents should not include the following:

- Smooth-faced concrete block

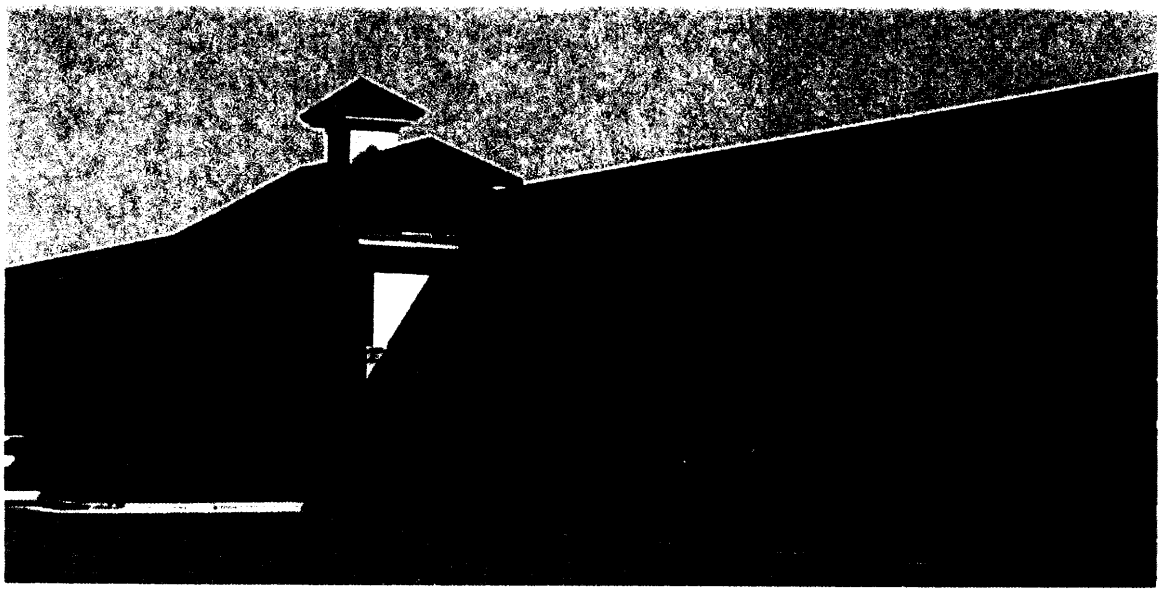
- Tilt-up concrete panels
- Pre-fabricated steel panels

6. Entryways

INTENT: Entryway design elements and variations should give orientation and aesthetically pleasing character to the building. The standards identify desirable entryway design features.

GUIDELINE: Each principal building on a site shall have clearly defined, highly visible customer entrances featuring no less than three of the following:

- canopies or porticos
- overhangs
- recesses/projections
- arcades
- raised corniced parapets over the door
- peaked roof forms
- arches
- outdoor patios
- display windows
- architectural details such as tile work and moldings which are integrated into the building structure and design
- integral planters or wing walls that incorporate landscaped areas and/or places for sitting



(Photo courtesy of Hamburg Place)

ARTICLE II - SITE DESIGN AND RELATIONSHIP TO THE SURROUNDING COMMUNITY

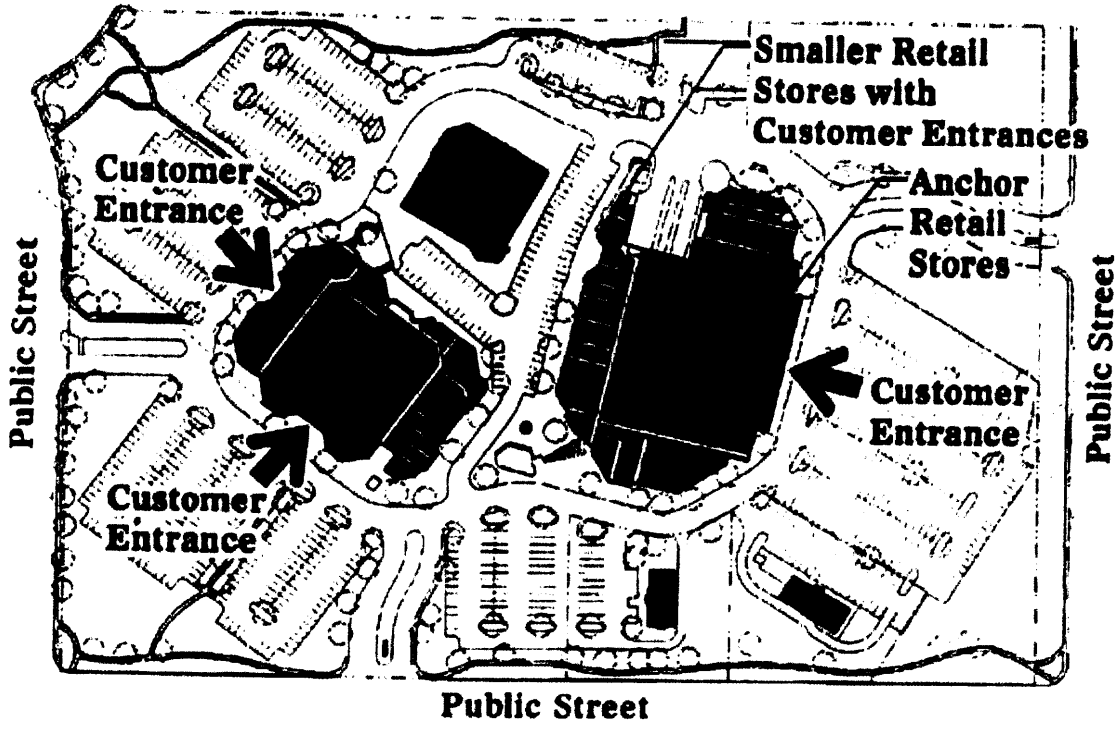
1. Entrances

INTENT: Large retail buildings should feature multiple entrances. Multiple building entrances reduce walking distances from cars, facilitate pedestrian and bicycle access from public sidewalks, and provide convenience where certain entrances offer access to individual stores, or identified departments in a store. Multiple entrances

also mitigate the effect of the unbroken walls and neglected areas that often characterize building facades that face bordering land uses.

GUIDELINE: All sides of a principal building that directly face an abutting public or private right-of-way shall feature at least one customer entrance. Where a principal building directly faces more than two abutting public or private rights-of-way, this requirement shall apply only to two sides of the building, including the side of the building facing the primary street, and another side of the building facing a secondary street.

The number of entrances for the principal building shall be addressed at the preliminary development plan stage. Where additional stores will be located in the principal building, each such store shall have at least one exterior customer entrance, which shall conform to the above requirements.



Example of a development with customer entrances on all sides which face a public street.
(Drawing courtesy of Fort Collins, Colorado)

2. Parking Lot Orientation

INTENT: Parking areas should provide safe, convenient, and efficient access for vehicles and pedestrians. They should be distributed around large buildings in order to shorten the distance to other buildings and public sidewalks and to reduce the overall scale of the paved surface. If buildings are located closer to streets, the scale of the complex is reduced, pedestrian traffic is encouraged, and architectural details take on added importance.

GUIDELINE: No more than 60 percent of the off-street parking area for the entire property shall be located between the front facade within the front yard of the principal building(s) and the primary abutting street unless the principal building(s) and/or parking lots are screened from view by outlot development (such as restaurants) and additional tree plantings and/or berms.

3. Back and Sides

INTENT: The rear or sides of buildings often present an unattractive view of blank walls,

loading areas, storage areas, HVAC units, garbage receptacles, and other such features. Architectural and

landscaping features should mitigate these impacts. Any back or side of a building visible from a public or private right-of-way shall be built in accordance with Article I. The Planning Commission may waive this requirement as part of the development plan.

GUIDELINE: The minimum setback for any building facade shall be in accordance with the B-5 requirements (*Zoning Ordinance*, Section 4.484, 1- 4). Where the facade faces adjacent residential uses an earthen berm shall be installed, no less than 6 feet in height, containing at a minimum, a double row of evergreen or deciduous trees planted at intervals of 15 feet on center. Additional landscaping may be required by the Planning Commission to effectively buffer adjacent land use as deemed appropriate. All additional landscape requirements of the *Landscape Ordinance* shall apply.

4. Outdoor Storage, Trash Collection, and Loading Areas

INTENT: Loading areas and outdoor storage areas exert visual and noise impacts on surrounding neighborhoods. These areas, when visible from adjoining properties and/or public streets, should be screened, recessed or enclosed. While screens and recesses can effectively mitigate these impacts, the selection of inappropriate screening materials can exacerbate the problem. Appropriate locations for loading and outdoor storage areas include areas between buildings, where more than one building is located on a site and such buildings are not more than 40 feet apart, or on those sides of buildings that do not have customer entrances.

GUIDELINE:

a. Areas for outdoor storage, truck parking, trash collection or compaction, loading, or other such uses shall not be visible from public or private rights-of-way.

b. No areas for outdoor storage, trash collection or compaction, loading, or other such uses shall be located within 20 feet of any public or street, public sidewalk, or internal pedestrian way.

c. Loading docks, truck parking, outdoor storage, utility meters, HVAC equipment, trash dumpsters, trash compaction, and other service functions shall be incorporated into the overall design of the building and the landscaping so that the visual and acoustic impacts of these functions are fully contained and out of view from adjacent properties and public streets, and no attention is attracted to the functions by the use of screening materials that are different from or inferior to the principal materials of the building and landscape.

d. Non-enclosed areas for the storage and sale of seasonal inventory shall be permanently defined and screened with walls and/or fences. Materials, colors, and designs of screening walls and/or fences and the cover shall conform to those used as predominant materials and colors of the building. If such areas are to be covered, then the covering shall conform to those used as predominant materials and colors on the buildings.

e. Temporary sales/displays, such as Christmas trees, landscape materials, and fireworks, shall follow all outdoor requirements for B-2, B-4, and B-5 districts as described in the *Zoning Ordinance*. Location and time/duration of such sales/displays shall be reviewed and approved by the Planning Director or appointed designee.

5. Pedestrian Flows

INTENT: Pedestrian accessibility opens auto-oriented developments to the neighborhood, thereby reducing traffic impacts and enabling the development to project a friendlier, more inviting image. This section sets forth standards for public sidewalks and internal pedestrian circulation systems that can provide user-friendly pedestrian access as well as pedestrian safety, shelter, and convenience within the center grounds.

GUIDELINE:

a. Sidewalks at least 6 feet in width shall be provided along all sides of the lot that abut a public or private right-of-way, excluding interstates, Cherry Blossom Way, and McClelland Circle. The Planning Commission may

waive this requirement as part of the development plan.

b. Continuous internal pedestrian walkways, no less than 5 feet in width, shall be provided from the public sidewalk or right-of-way to the principal customer entrance of all principal buildings on the site. At a minimum, walkways shall connect focal points of pedestrian activity such as, but not limited to, transit stops, street crossings, building and store entry points, and shall feature adjoining landscaped areas that include trees, shrubs, benches, flower beds, ground covers, or other such materials for no less than 50 percent of their length.

c. Sidewalks, no less than 5 feet in width, shall be provided along the full length of the building along any facade featuring a customer entrance, and along any facade abutting public parking areas. Such sidewalks shall be located at least six (6) feet from the facade of the building to provide planting beds for foundation landscaping, except where features such as arcades or entryways are part of the facade.

d. Internal pedestrian walkways provided in conformance with Subsection b above, shall provide weather protection features such as awnings or arcades within 30 feet of all customer entrances, constructed parallel to the facade of the building. This is not intended to extend into the driving aisles or parking areas.

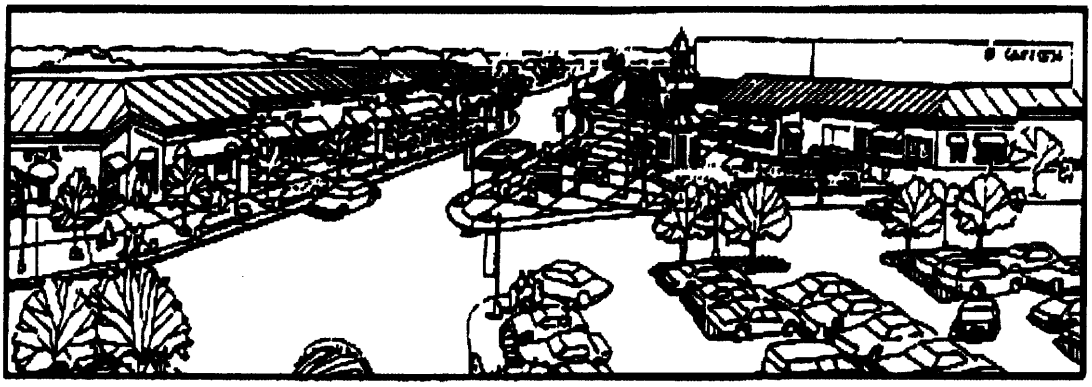
e. All internal pedestrian walkways shall be distinguished from driving surfaces through the use of durable, low maintenance surface materials such as pavers, bricks, or scored concrete to enhance pedestrian safety and comfort, as well as the attractiveness of the walkways. Signs shall be installed to designate pedestrian walkways.

6. Central Features and Community Spaces

INTENT: Buildings should offer attractive and inviting pedestrian scale features, spaces and amenities. Entrances and parking lots should be configured to be functional and inviting with walkways conveniently tied to logical destinations. Bus stops and drop-off/pick-up points should be considered as integral parts of the configuration. Pedestrian ways should be anchored by special design features such as towers, arcades, porticos, pedestrian light fixtures, bollards, planter walls, and other architectural elements that define circulation ways and outdoor spaces. The features and spaces should enhance the building and the center as integral parts of the community fabric.

GUIDELINE: Each retail establishment subject to these standards shall contribute to the establishment or enhancement of community and public spaces by providing at least two of the following: patio/seating area, pedestrian plaza with benches, transportation center, window shopping walkways, outdoor play area, kiosk area, water feature, clock tower, steeple, or other such deliberately shaped area and/or a focal feature or amenity that, in the judgement of the Planning Commission, adequately enhances such community and public spaces. Any such areas shall have direct access to the public sidewalk network and such features shall not be constructed of materials that are inferior to the principal materials of the building and landscape.

Although Georgetown does not currently maintain a public bus system, areas should be provided or designed to accommodate possible (future) bus service and the growing number of private bus services (i.e., nursing home/assisted living, Housing Authority, Bluegrass Action Council, etc.)



Example of a center with numerous special features and community spaces
(Drawing courtesy of Fort Collins, Colorado)

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APPENDIX J

Well Response Protocol

Well Protocol
The Marketplace Project
Town of Newburgh

Neighbors have expressed concern that construction activities associated with the grading for the Marketplace project, particularly blasting, will adversely affect individual homeowner wells in the neighborhood.

A variety of measures will be in-place to minimize this potential impact.

1. Wells within 500 feet of areas of proposed blasting will be located and surveyed (size, location, depth), if they are not buried, with permission of property owners.

2. For those property owners granting permisssion, data loggers will be installed in the wells to ascertain pre-blasting, blasting and post blasting operating conditions. The data loggers measures the static water level in the well and is the best evidence of potential geologic changes that would affect increasing or decreasing flows into the wells. The information from the data loggers will be downloaded weekly by a hydrogeologist and the results will be provided to the town on a weekly basis.

3. Blasting contracts will specify maximum peak particle velocity permitted at the property line. Maintaining peak particle velocity at under 2 inches per second, has been found by Federal Agencies, to provide ample protection to structures as a result of blast vibration. Seismographs will be set up at the property line to monitor blasting vibration and the results of seisograph data will be submitted to the town engineer on a weekly basis.

4. A well driller will be on-call during periods of blasting that occurs within 500 feet of the residential property line of the Marketplace site. In the event of a well failure, the well driller will initially tie in an operating well within the neighborhood, or on the subject site, to the distressed residential water supply. This will provide a water supply within 12 to 24 hours of any impact. The well driller will then pull the pump on the affected well and drill the well deeper, or alternatively drill a new well on the affected property and tie it into the residential home, at no cost to the residential well owner.

5. In the event that an acceptable water supply cannot be found onsite, the applicant will develop an alternative water supply offsite with appropriate easements and extensions to the affected property owner. If this option is non-workable the applicant will pay for the costs to extend town water to the affected site. A bond will be placed with the town covering the costs of that extension. The bond shall be released within 90 days after completion of all blasting on the subject site.