3.3 Terrestrial and Aquatic Ecology

3.3.1 Existing Conditions

Habitat Types and Plant Communities

Two major plant communities were identified within the Marketplace at Newburgh site, as defined in "Ecological Communities of New York State."[1] The two communities are successional northern hardwood forests and red maple hardwood swamps. These habitat types are not unique to the area or the region. Figure 3.3-1 presents an aerial view of the project site showing existing vegetative cover.

The successional hardwood community is a hardwood or mixed forest that occurs on sites that have been cleared for farming, logging or otherwise disturbed in the past. The dominant trees in the overstory are usually any two or more of the following: quaking aspen (*Populus tremuloides*), black cherry (*Prunus serotina*), red maple (*Acer rubrum*), white pine (*Pinus strobus*), paper birch (*Betula papyrifera*), gray birch (*B. populifolia*), green ash (*Fraxinus pennsylvanica*), and American elm (*Ulmus americana).* This ecosystem type is recognized as being globally and locally secure.

The overstory community in the upland areas of the site generally located around the wetlands is composed of successional hardwood species. Most of the typical overstory species listed above are found to some degree at the site (Table 3.3-1). The shrubs in the understory were primarily tartarian honeysuckle (*Lonicera tatarica*) and multiflora rose (*Rosa multiflora*). Some of the more common herbaceous species that were identified include Christmas fern (*Polystichum achrostichoides*) and garlic mustard (*Alliaria petiolata*). Other than the Christmas fern, these shrub and herb species indicate disturbance in the recent past or the beginning of succession to a more mature forest.

The overstory community in the drier upland areas of the site is composed primarily of oaks and hickories, with some beeches, cottonwood, and maples. Old field stone walls, and occasional large trees (up to 36 inches in circumference) occur on the property, especially in the southeastern and upper ridge sections. These areas have less disturbance than the areas along the western boundary which include several old homestead foundations in areas of previous development. Power line easements transect the property from north to south on the eastern half and from the northeast to the southeast on the western half. All-terrain vehicle paths are scattered throughout the property.

The Chazen Companies conducted a tree survey in 2005 to identify and inventory trees on-site within 200 feet of the project site's boundary. The survey was designed to provide a general assessment of the size and type of trees that are present along the site's boundary. The minimum tree diameter at breast height (dbh) for specimens included in this study was 18 inches dbh. A second survey inventoried all trees with a dbh equal to or greater than 12 inches within 75 feet of a section of the northern property line commencing behind residential properties with frontage on NYS Route 52, and ending behind residential lots with frontage on Wintergreen Avenue. The tree survey report is included as Appendix E of this DEIS.

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[1] Edinger, G.J. Et al (Eds.) 2002. Ecological Communities of New York State. Second Edition. NY NHP, NYS DEC. Albany, NY. 136 pp.

LEGEND

- Hardwood Swamp
- Northern Hardwood Forest

Figure 3.3-1: Vegetative Associations
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Base: NYS GIS Clearinghouse, 2004 Aerial Photo
Approx. Scale: 1 inch = 400 feet

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During the survey, trees with features such as scaling bark, broken snag branches or trunks, and open cavities were recorded as potential mammalian or cavity nesting bird habitats. Most of the trees were also graded on a scale of A through C in regard to their landscape value. Class "A" trees were classified as trees that would have landscape value after development and thus should be considered for preservation throughout the construction process. Class "B" trees would have lesser value as landscape specimens and thus could be considered for preservation however not enough to redesign construction plans around them. Trees classified as "C" would have little or no value as landscape specimens and thus would not be considered for preservation.

A total of 344 trees were enumerated during the survey (Table 3.3-1), representing at least 17 species. Dominant tree species, and their contributions to the total survey, included: red oak (46 percent), red maple (7 percent), sugar maple (7 percent) and white oak (8 percent). Many of the Class "A" and "B" specimens were located alongside stonewalls on the western half of the property or on the residential lots alongside the property.

Table 3.3-1
Existing Onsite Tree Survey
(within 200 Feet of Project Boundary)

Species	Number of Trees	Average DBH (inches)	Percent of Trees in Survey
American Elm	1	18.0	0.3
Basswood	1	18.0	0.3
Beech	6	21.8	1.7
Black cherry	1	18.5	0.3
Black Oak	6	23.4	1.7
Catalpa	2	21.0	0.6
Chestnut oak	17	23.2	4.9
Dead trees	7	24.6	2.0
Green ash	1	18.5	0.3
Grey birch	1	26.0	0.3
Norway maple	1	24.5	0.3
Norway spruce	6	23.1	1.7
Oak	17	26.0	4.9
Pin oak	1	23.0	0.3
Red maple	26	24.0	7.4
Red oak	161	24.5	46.0
Scarlet oak	13	26.1	3.7
Shagbark hickory	3	20.3	0.9
Sugar maple	25	23.6	7.1
Swamp white oak	4	21.8	1.1
Sycamore	3	24.5	0.9
Tulip poplar	15	25.3	4.3
White oak	28	24.6	8.0
Willow	4	24.8	1.1
TOTAL:	344		100.1

Source: Chazen Companies, 2005.

Using this tree survey information, one acre quadrats were used over the survey areas to approximate the total number of trees on the property. Seven quadrats were evaluated; a total of 73 trees greater than or equal to 18 inches dbh were counted within these areas, or 10.4 trees per acre. Using these factors, approximately 1300 to 1400 trees greater than or equal to 18 inches in diameter are projected to exist within the overall project site.

For smaller trees, between 12 and 18 inches in diameter, 8 to 10 trees per acre were counted in those quadrats nearest to Hilltop Drive. This yields an estimate of approximately 20.6 trees per acre (12 inches in diameter or greater), for a total of 2,628 trees on the project site.

Areas of disturbance, on the western boundary fronting NYS Route 300, have areas of artificial fill, rock and soil piles, and anthropogenic waste (e.g. oil tanks, waste plastic and metal) associated with clearings that have been colonized by species such as Japanese knotweed (*Fallopia japonica*), Japanese barberry (*Berberis thunbergii*), poison ivy (*Toxicodendron radicans*), honeysuckle (*Lonicera* spp.), and multiflora rose (*Rosa multiflora*).

Additionally, there is a distinct area of early successional forest located in the southwestern portion of the site which is a recently logged area. This forested community is dominated by early successional shrubby vegetation.

The remaining upland forests on the site are comprised of second growth trees of the species described above and presented in Table 3.3-2. The majority of these trees are in the 8-16 inch diameter class (approximately 30 - 50 years old.) Figure 3.3-2 is an aerial photo of the property taken in 1963, and it can be seen in this photo that many areas of the site were still open and beginning the transition from agricultural fields to second growth woodland. Absent from this photograph are the commercial uses along NYS Route 300 and the residential areas on Starrow Drive and Charlie Circle to the west of the site. These changes occurred chiefly between 1963 and 1975 based on the review of an aerial photo taken at that time (Figure 3.3-3). Work had also commenced on Interstate 84 along what is now the south end of the site in 1963. This highway construction isolated the property from vacant lands and wetlands located south of the highway's right-of-way.

A list of plant species observed on the project site, including common and botanical names of woody and non-woody plants, is presented in Table 3.3-2. During field investigations conducted in late Spring 2004 and Spring/Summer 2005, no endangered or threatened plant species or communities were observed on the project site. During the site walk conducted on July 26, 2005, emphasis was directed towards locating specimens of agrimony and carex species on the property due to the limited occurrence of these species within the lower reaches of the Quassaic Creek watershed[2]. Two specimens of agrimony were found, in flower, in the upper area of Wetland A. Due to the similarity of plant characteristics, these specimens could not be identified to species, but are most likely soft agrimony (*Agrimonia pubescens*). No specimens of narrow-leaf sedge (*Carex amphibola*) were found either on the property or along adjacent areas of Quassaic Creek.

Wetlands on the site are best described as red maple hardwood swamps. Within Wetland A in the northern portion, and Wetland B in the southwestern portion of the site, the dominant

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[2] Barbour, J. G. 2004. Biodiversity Survery and Natural Resources Inventory and Assessment. Final Report. Quassaick Creek Estuary Preserve and Trail Project. City of Newburgh, NY. 54 pp.

Figure 3.3-2: 1963 Aerial of Project Site
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Approx. Scale: 1 inch = 400 feet

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Figure 3.3-3: 1975 Aerial of Project Site
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Approx. Scale: 1 inch = 400 feet

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species that were identified during the wetland delineation included red maple (*Acer rubrum*), American elm (*Ulmus americana*), spicebush (*Lindera benzoin*), dogwood (*Cornus* spp.), northern arrowwood (*Viburnum recognitum*), sedges (*Carex* spp.*)* sensitive fern (*Onoclea sensibilis*), and skunk cabbage (*Symplocarpus foetidus).* Wetland C had an analogous community of wetland vegetation, including all of the above species as well as green ash (*Fraxinus pennsylvanica*) in the upper story and highbush blueberry (*Vaccinium corymbosum*) in the shrub layer.

Red maple/hardwood swamps represents a community type widely found throughout New York State. This community is recognized by the presence of hydrophytic vegetation, including red maple and American elm in the upper story. The understory shrub layer is generally dominated by highbush blueberry and arrowwood. The herbaceous layer may consist of sensitive fern, tussock sedge (*Carex stricta)* and skunk cabbage. A total of 14.3 acres of the site are delineated as red maple swamps. Wetlands on the site are described in greater detail in Section 3.2 of the DEIS.

Table 3.3-2
Project Site Vegetation

Common Name (***Scientific name***)	
TREES	**SHRUBS**
Pin oak (*Quercus palustris*)	Dogwood species (*Cornus* spp.)*
Black oak (*Quercus velutina*)	Red-panicle dogwood (*Cornus racemosa*)
Red oak (*Quercus rubra*)*	Gray dogwood (*Cornus foemina* sp. *racemosa*)*
Swamp white oak (*Quercus bicolor*)*	Red-osier dogwood (*Cornus stolonifera*)*
White oak (*Quercus alba*)*	Flowering dogwood (*Cornus florida*)
Chestnut oak (*Quercus prinus*)	Southern arrowwood (*Viburnum dentatum*)
American beech (*Fagus grandifolia*)*	Northern arrowwood (*Viburnum recognitum*)*
Sycamore (*Platanus occidentalis*)*	Maple-leaved viburnum (*Viburnum acerifolium)*
Red maple (*Acer rubrum*)*	Witch hazel (*Hamamelis virginiana*)
Sugar maple (*Acer saccharum*)*	Spicebush (*Lindera benzoin*)*
Striped maple (*Acer pennsylvanicum*)	American hazelnut (*Corylus americana*)
Pignut hickory (*Carya glabra*)*	Highbush blueberry (*Vaccinium corymbosum*)*
Bitternut hickory (*Carya cordiformis*)	Lowbush blueberry (*Vaccinium myrtilloides*)
Shagbark hickory (*Carya ovata*)*	Hawthorn species (*Crataegus* spp.)*
Black walnut (*Juglans nigra*)	Tartarian honeysuckle (*Lonicera tartarica*)*
Green ash (*Fraxinus pennsylvanica*)*	Brambles (*Rubus* spp.)*
White ash (*Fraxinus americana*)	Black raspberry (*Rubus occidentalis*)*
Black birch (*Betula nigra*)	Steeplebush spirea (*Spirea tomentosa*)
Birch species (*Betula* spp.)*	Japanese barberry (*Berberis thunbergii*)*
Grey birch (*Betula populifolia*)*	Multiflora rose (*Rosa multiflora*)*
Tulip poplar (*Liriodendron tulipifera*)	Staghorn sumac (*Rhus hirta*)*
American basswood (*Tilia americana*)*	Common buckthorn (*Rhamnus cathartica*)*
Black locust (*Robinia pseudoacacia*)*	Speckled alder (*Alnus rugosa*)*
Quaking aspen (*Populus tremuloides*)*	Winged euonymus (*Euonymus alata*)
Eastern cottonwood (*Populus deltoides*)*	Holly species (*Ilex* spp.)*
Eastern hop-hornbeam (*Ostrya virginiana*)*	Winterberry (*Ilex verticillata*)*
Black cherry (*Prunus serotina*)*	
Ironwood (*Carpinus carolina*)*	
Sassafras (*Sassafras albidum*)	
Shadbush (*Amelanchier* spp.)	
Tree of Heaven (*Ailanthus altissima*)*	
Willow species (*Salix* spp.)*	
Pussy willow (*Salix discolor*)*	
Black willow (*Salix nigra*)*	
Black cherry (*Prunus serotina*)	
Chokecherry (*Prunus virginiana*)*	
Catalpa (*Catalpa bignonioides*)	
American elm (*Ulmus americana*)*	
Eastern hemlock (*Tsuga canadensis*)	
Eastern red cedar (*Juniperus virginiana*)*	
Juniper (*Juniperus communis*)*	
White pine (*Pinus strobus*)*	

Table 3.3-2 Continued on Next Page

Table 3.3-2 Continued Project Site Vegetation	
Common Name (Scientific Name)	
FORBS AND VINES	Common plantain (*Plantago rugellii*)
Grape (*Vitis spp.*)	Trout lily (*Erythronium americanum*)*
Virginia creeper (*Parthenocissus quinquefolia*)*	
Common greenbriar (*Smilax rotundifloia*)	Spotted wintergreen (*Chimaphila maculata*)
Poison ivy (*Toxicodendron radicans*)*	Skunk cabbage (*Symplocarpus foetidus)**
Tickseed sunflower (*Bidens aristosa*)	Broad leaved cattail (*Typha latifolia*)*
Aster species (*Aster* spp.)	Japanese knotweed (*Fallopia japonica*)*
Common cinquefoil (*Potentilla simplex*)	Jack in the Pulpit species (*Arisaema* spp.)
Riverbank grape (*Vitis riparia*)*	Horsetail species (*Equisetum* spp.)
Wood nettle (*Laportea canadensis*)	Wild iris (*Iris versicolor*)
Jewelweed (*Impatiens capensis*)	
Goldenrod species (*Solidago* spp.)*	
Purple loosestrife (*Lythrum salicaria*)*	
Stinging nettle (*Urtica dioica*)*	
Smartweed (*Polygonum* spp.)	
Water pepper (*Polygonum hydropiper*)*	**FERNS AND CLUBMOSSES**
Japanese knotweed (*Polygonum cuspidatum*)*	Bracken fern (*Pteridium aquilinum)*†
Pokeweed (*Phytolacca americana*)	Marginal woodfern (*Dryopteris marginalis*)
Common strawberry (*Fragaria virginiana*)	Hayscented fern (*Dennstaedtia punctilobula*)†
Mullein (*Verbascum blattaria*)	Christmas fern (*Polystichum acrostichoides*)*
Canada thistle (*Cirisium arvense*)	Common polypody (*Polypodium vulgare*)
Burdock species (*Arctium* spp.)	New York fern (*Dryopteris noveboracensis*)
Curly dock (*Rumex crispus*)*	Interrupted fern (*Osmunda cinnamomea*)*
Common yarrow (*Achillea millefolium*)*	Cinnamon fern (*Osmunda regalis*)*
Queen Anne's Lace (*Daucus carota*)*	Sensitive fern (*Onoclea sensibilis*)« †
Wineberry (*Rubus phoenicolasius*)*	Marsh fern (*Thelypteris palustris*)
Agrimony species (Agrimonia spp.)*	
Groundnut (Apios americana)*	**GRASSES AND SEDGES**
Swamp loosestrife (Decodon verticillatus)*	Rush species (*Scirpus* spp.)*
Bladder campion (*Silene cucubalis*)	Soft rush (*Juncus effuses*)*
Bedstraw species (*Galium* spp.)	Common reed (*Phragmites australis*)*
Mugwort (*Artemisia vulgaris*)	Flatsedge species (*Cyperus spp.*)*
Garlic mustard (*Alliaria petiolata*)*	Sedge species (*Carex* spp.)*
Field garlic (*Allium vineale*)*	Tussock sedge (*Carex stricta*)*
Wild leek (*Allium tricoccum*)*	Timothy grass (*Phleum pratense*)*

*Note: Individuals were observed during site visit(s): 20-21 April, 2004; 6 April, 2005, 26 July, 2005.
†Note: All ferns and clubmosses listed above are protected in New York State with the exception of those followed by a " † "marker.
Note: This list includes many species that could potentially inhabit this site. It is not, however, an exhaustive list.
Source: Tim Miller Associates, 2005.

Wildlife and Habitat Associations

Wildlife on the site is comprised of species typically encountered in the suburban woodlands, fields and forested wetlands of Orange County. Table 3.3-3 includes a list of actual observations and probable occurrences of the variety of wildlife species expected on the project site throughout four seasons.

Table 3.3-3
Project Site Wildlife

Common Name	Scientific Name	Habitat Type			
Mammals		**OF**	**Upl**	**Wet**	**Ed**
white-tail deer*	*Odocoileus virginianus*	X	X	X	X
coyote	*Canis latrans*	X	X	X	
raccoon	*Procyon lotor*		X	X	X
red fox	*Vulpes vulpes*	X	X	X	X
gray fox	*Urocyon cinereoargenteus*	X	X		X
opossum	*Didelphis virginiana*		X	X	
Eastern chipmunk	*Tamias striatus*		X		X
gray squirrel	*Sciurus carolinensis*		X	X	
cottontail rabbit	*Sylvilagus floridanus*	X	X		X
striped skunk	*Mephitis mephitis*		X		X
white-footed mouse	*Peromyscus leucopus*	X	X		X
New York weasel	*Mustela frenata*		X	X	X
deer mouse*	*Peromyscus maniculatus*	X	X		X
house mouse	*Mus musculus*	X			X
meadow vole	*Microtus pennsylvanicum*	X			X
starnosed mole	*Codylura cristata*	X	X		X
Eastern mole	*Scalopus aquaticus*	X	X		
woodchuck*	*Marmota monax*	X	X		
short-tailed shrew	*Blarina brevicanda*	X	X		X
common shrew	*Sorex cinereus*	X	X		X
little brown bat	*Myotis lucifugus*		X	X	X
Indiana bat**	*Myotis sodalis*		X	X	X
red bat	*Lasiurus borealis*		X	X	X
Reptiles					
garter snake	*Thamnophis sirtalis*		X	X	X
milk snake	*Lampropeltis triangulum*		X		X
brown snake	*Storeria dekayi*		X	X	X
ringneck snake	*Diadophis punctatus*		X		
Eastern racer	*Coluber constrictor*		X		X
Northern water snake	*Natrix sipedon sipedon*		X	X	
box turtle **	*Terrapene carolina*		X	X	X
wood turtle**	Clemmys insculpta	X	X	X	X
Amphibians					
red-backed salamander	*Plethodon cinereus*		X	X	X
slimy salamander	*Plethodon glutinosus*			X	X
spotted salamander	*Ambystoma malculatum*		X	X	X
dusky salamander	*Desmognathus fuscus*			X	X
newt	*Notophthalmus virdescens*		X	X	X
American toad	*Bufo americanus*		X		X
gray treefrog	*Hyla versicolor*		X	X	
wood frog	*Rana sylvatica*		X	X	
green frog	*Rana clamitans*				X
spring peeper*	*Hyla crucifer*			X	
pickerel frog	*Rana palustris*			X	
bullfrog	*Rana catesbeiana*			X	
Birds		**OF**	**Upl**	**Wet**	**Ed**
barn swallow	*Hirundo rustica*				X
Canada goose	*Branta canadensis*	X		X	
turkey*	*Meleagris gallopavo*	X	X	X	
ruffed grouse	*Bonasa umbellus*	X	X		
wood thrush	*Hylocichla mustelina*	X	X	X	

Table 3.3-3 Continued
Project Site Wildlife

Common Name	Scientific Name	*Habitat Type*			
Birds (cont.)		**OF**	**Upl**	**Wet**	**Ed**
pileated woodpecker	*Dryocopus pileatus*		X	X	
hairy woodpecker*	*Picoides villosus*		X	X	
downy woodpecker*	*Picoides pubescens*		X	X	
red bellied woodpecker *	*Centurs carolinus*		X		
northern flicker	*Colaptes auratus*		X	X	
ovenbird	*Seiurus aurocapillus*		X	X	
Cooper's hawk	*Accipiter cooperii*	X	X	X	X
broad winged hawk	*Buteo platypterus*	X	X	X	X
red-tailed hawk*	*Buteo jamaicensis*	X	X	X	X
robin	*Turdus migratorius*	X	X	X	X
catbird	*Dumetella carolinensis*	X	X		X
mockingbird	*Mimus polyglottos*	X	X	X	X
flycatchers	*Empidonax* spp.		X	X	X
eastern phoebe	*Sayornis phoebe*		X	X	X
common yellowthroat	*Geothlypis trichas*				X
American redstart	*Setophaga ruticella*		X	X	X
red-eyed vireo	*Vireo olivaceus*		X	X	
crow*	*Corvus brachyrhynchos*		X	X	X
grackle	*Quiscalus quiscula*	X			
blue jay*	*Cyanocitta cristata*	X	X	X	X
scarlet tanager	*Piranga olivacae*		X	X	
American goldfinch	*Carduelis tristis*		X	X	
cardinal*	*Cardinalis cardinalis*				X
house sparrow	*Passer domesticus*				X
chipping sparrow	*Spizella passerina*				X
grasshopper sparrow	*Ammodramus savannarum*	X			
vesper sparrow	*Pooecetes gramineus*	X			
horned lark	*Eremophila alpestris*	X			
killdeer	*Charadrius vociferus*	X			
upland sandpiper	*Bartramia longicauda*	X			
bluebird	*Sialia sialis*	X			
red winged blackbird	*Agelius phoeniceus*			X	
towhee	*Pipilo erythrophthalmus*		X	X	
tufted titmouse*	*Parus bicolor*		X		X
warbler	*Dendroica* spp.		X	X	
wren	*Troglodytes* spp.		X	X	X
Eastern wood pewee	*Contopus virens*		X	X	
junco	*Junco hyemalis*		X	X	
mourning dove	*Zenaida macroura*				X
chickadee*	*Parus* spp.		X	X	X
nuthatch*	*Sitta* spp.		X	X	X
northern oriole	*Icterus galbula*		X		X
finch	*Carpodacus* spp.		X		X
evening grosbeak	*Hesperiphona vespertina*		X		X
turkey vulture	*Cathartes aura*		X	X	X
Eastern screech owl	*Otus asio*		X	X	X
great horned owl	*Bubo virginianus*		X	X	X
barred owl	*Strix varia*		X	X	

Habitat: OF- Open Field, Upl - Wooded upland, Wet - Wetland, Ed - Edge habitat.

*Note: Individuals were observed in site
** New York State species of special concern. Indiana bat is state and federally endangered.
Note: This list includes many species that could potentially inhabit this site. It is not, however, an exhaustive list.
Source: Tim Miller Associates, Inc., 2005.

Mammals observed directly or indirectly (track, scat, etc.) included woodchuck (*Marmota monax*), whitetail deer (*Odocoileus virginianus*), raccoon (*Procyon lotor*), gray squirrel (*Sciurus carolinensis*), Eastern cottontail (*Sylvilagus floridanus*), and eastern chipmunk (*Tamias striatus*).

The avifauna observed varied across the site due to the several habitat types present. Crows (*Corvus brachyrhynchos*), bluejays (*Cyanocitta cristata*), and various species of woodpeckers and songbirds were observed on the site during the late Spring survey. Songbirds appeared to be less common in areas of the site near the I-84 corridor.

Upland Mixed Woodlands

This community type includes mature and semi-mature tree species that provide mast for deer and other mammals, and cover in the upper canopy and in standing dead trees. The proximity of some of the woodland to wetlands provides additional benefit to wildlife by offering a water source and additional foraging opportunities. Lack of significant understory and thickets in some areas limits its use as cover for smaller terrestrial animals. A number of trees that are either standing dead or damaged provide habitat for cavity dwellers (i.e., woodpeckers, owls, chipmunks, etc.).

In the limited areas of younger successional woodlands which exist on the site, the tree canopy is not as dense, and invading sunlight promotes a more dense shrub and herbaceous layer. This allows the development of thickets, which are valuable to smaller mammal species and many species of birds, particularly songbirds. These thickets are typically made up of brambles and multiflora rose, which provide cover and food sources for a variety of smaller woodland species. Indicators of higher predatory species (e.g., coyote, fox) have not been found on the site, although habitat does exist that would encourage use by such species, and food sources are readily available.

Signs of deer and raccoon were observed throughout the habitat type, primarily near the wetland edges. It is likely that deer migrate through the wooded portion of the site, as well as utilizing the more open areas for foraging. The project site and surrounding properties contain the “edge habitat” preferred by feeding deer, especially during the early morning and evening hours.

Wetlands

Of the larger species likely to use the site, signs of deer and raccoon were observed at the wetland areas. It is likely that the deer migrate through the wetland while also utilizing the on-site forests and nearby open areas.

The wetlands are also likely to provide habitat for amphibians as indicated in Table 3.3-3. Spring peepers, green frogs and redbacked salamanders were observed in wetland areas. Small reptiles and amphibians living within the wetland areas offer additional food source to some of the larger omnivorous mammals that may be present (e.g., raccoons, fox). Tree cover provides shade and moderates temperature fluctuations within each of these wetlands.

Surface Waters and Aquatic Species

Quassaic Creek is a tributary of the Hudson River, flowing from Chadwick Lake located north of the project site to a confluence with the Hudson River south and east of the site near Bridge Street in the City of Newburgh. Quassaic Creek is identified as a Class D stream within the limits of the site boundaries.

Forty-four species of fish have been reported from the lower reaches of the creek, where tidal influence affects the salinity of the water and thus the species composition. The Marketplace site is outside of the tidal influence area; the following species have been identified in previous studies and are likely to be present within the stream and associated impoundments, including Lower Winona Lake (Table 3.3-4).[3]

Table 3.3-4
Likely Fish Species -
Quassaic Creek and Lower Winona Lake

Common Name	Scientific Name
American eel	*Anguilla rostrata*
goldfish	*Carassius auratus*
common carp	*Cyprinus carpio*
golden shiner	*Notemigonus crysoleucas*
common shiner	*Notropus cornutus*
spottail shiner	*Notropus hudsonius*
longnose dace	*Rhinichthys cataractae*
fallfish	*Semotilus corporalis*
white sucker	*Catostomus commersoni*
white catfish	*Ameiurus catus*
yellow bullhead	*Ameiurus natalis*
brown bullhead	*Ameiurus nebulosus*
channel catfish	*Ictalurus punctatus*
redfin pickerel	*Esox americanus americanus*
chain pickerel	*Esox niger*
eastern banded killifish	*Fundulus diaphanus diaphanus*
redbreast sunfish	*Lepomis auritus*
pumpkinseed	*Lepomis gibbosus*
bluegill	*Lepomis macrochirus*
smallmouth bass	*Micropteris dolomeiu*
largemouth bass	*Micropteris salmoides*
black crappie	*Pomoxis saltatrix*
tessellated darter	*Etheostoma olmstedi*
yellow perch	*Perca flavescens*
Source: Lake, 2002 (from Barbour, 2004)	

Lower Winona Lake, with a shoreline incorporated into a residential neighborhood, is a small, deep empoundment of Quassaic Creek located just upstream of the site. The dam holding the water in Lower Winona Lake has deteriorated, and stream flow over the spillway has eroded the banks of the creek on the east side of the dam.

Potential for use by rare, endangered or protected species

To ascertain the potential for the occurrence of rare, endangered or protected species on the site, letters were sent to the NYS DEC Natural Heritage Program and the US Fish and

[3] *Barbour, J. G. 2004. Biodiversity Survery and Natural Resources Inventory and Assessment. Final Report. Quassaic Creek Estuary Preserve and Trail Project. City of Newburgh, NY. 54 pp.*

Wildlife Service (US FWS) office in Cortland, NY, to request searches of their databases for species of concern that might be present on the site or in the project vicinity. Additionally, other reports were reviewed for information on the presence of listed species. Copies of these request letters and the related responses are provided in Appendix B.

One mammal, the Indiana bat (*Myotis sodalis*), and two plant species, woodland agrimony (*Agrimonia rostellata*) and narrow-leaved sedge (*Carex amphibola* var *amphibola*), have been reported as occurring within the project vicinity. The Indiana bat is a federally- and state-listed endangered species. The woodland agrimony is a State-listed threatened species and the narrow-leaved sedge is a State-listed endangered species[4].

The US FWS has advised that there is the potential for seasonal occurrence of one federally- and state-listed endangered species, the Indiana bat, on and around the project site. In essence, this is a form letter that is now being sent out by the USFWS for practically all sites in the region that requires all undeveloped sites to be investigated for the potential presence of Indiana bats.

Indiana bats utilize caves for winter roosts and trees with snags or strongly exfoliating bark for roosts when not in hibernation. No suitable caves exist on or near to the site. The closest observation of Indiana bats roosting in caves are approximately 24 miles distant from the site. The closest observation of Indiana bat roosting in trees were approximately eight miles from the site. The project site was evaluated for potential bat habitat during the site field surveys, as described below.

Multiple environmental/ecological surveys of the site have been conducted. Collectively, these assessments allow for reasonably detailed evaluation of the existing and proposed habitats on the site in relation to the Indiana bat.

The surveys included the following:

- a tree survey of large trees (those greater than 18" diameter at breast height) on the border of the property, both on and off of the site, which would be representative of trees located within the project site. The tree survey identified each tree by major grouping (i.e. maple, oak, hickory, etc.), trunk diameter and location plotted for each tree on a site map. Trees with features such as scaling bark, broken snags, and open cavities were recorded as potential mammalian habitats. As per the scoping document, trees were surveyed on the project site within 200 feet of the project boundary. The survey identified 213 trees.
- a wetland delineation identified streambed, soil, and vegetative characteristics of the site wetlands and the Quassaic Creek watershed as it traverses the property; and
- seasonal site visits by environmental scientists that have documented plants and animals observed on the project site.

An additional on-site seasonal field survey was conducted in October 2005 within the areas of the property's upland, sloped and riparian forests and wetlands which resulted in additional observations related to the potential presence or absence of habitat that could sustain populations of Indiana bats. The sloped forest lands observed were those on the

[4] *Young, Stephen M. and Troy W. Weldy. 2005. New York Rare Plant Status List. New York.*

eastern portion of the property. The riparian lands were those of the Quassaic Creek spanning the eastern boundary of the Marketplace grounds, although not all of these areas are to be impacted directly by project construction activities.

Based on the results of the field surveys, and review of various data, the following narrative describes the potential for Indiana bat to be present on the project site:

- Overwintering - According to the US FWS letter, the nearest overwintering locations for Indiana bat are approximately 24 miles distant from the project site. The property does not have any exposed rock cave or crevices which could be used as roosts for this species.
- Nursery/Summer roosting - According to the US FWS letter, the nearest summer roosting locations for Indiana bat is approximately 8 miles distant from the project site. Indiana bats have been reported to exploit several tree species for summer and nursery roosts, including deciduous trees with strongly exfoliating bark, coniferous trees providing dense shelter from wind and rain, and dead trees or branches which provide snags.

  There is the potential for the species to exist in the area as a migrant or seasonal resident during dispersal from winter roosts, however the overall composition of the tree community in the areas observed during various surveys is not compatible with the reported summer and nursery roosting preferences reported for Indiana bat. The dominant tree species observed during the Tree Survey were red oak (44 percent), red maple (11 percent) and white oak (9 percent).

  One tree species frequently, but not always, cited as generally useful for nursery roosts is the shagbark hickory (*Carya ovata*). The shagbark hickory is broadly endemic throughout most of New York State and its neighboring states. However, only 5 of 213 trees observed during the survey were identified as shagbark hickories greater than 12" dbh, and only five other trees (smaller specimens with 5-9" dbh) were additionally identified as shagbark hickories on the site during the more extensive October field visit.

  Dead or dying trees with snags also may provide roost sites, however only 8 of the 213 large diameter trees surveyed on site were observed to have snags or large cavities. Stands of coniferous trees may provide shelter from inclement weather. However, few conifers are present on the site, and these are almost exclusively represented by Eastern redcedars (*Juniperus virginiana*), one of the smaller eastern conifers. Another conifer, the Norway spruce (*Picea abies*), was observed; six of the 213 trees of 18" dbh or greater were Norway spruce, however these are within areas that would be preserved.
- Foraging - The forested tree canopy, riparian, open water and meadow areas provide foraging habitat for bats. Limited disturbances are proposed to Wetland A and the Quassaic Creek corridor. Thus, the quality of this foraging habitat would be minimally impacted by the proposed project.

No other federally-listed endangered or threatened species is known to exist in the project area. Additionally, the US FWS does not list any habitat in the project area as designated or proposed "critical habitat" in accordance with the provisions of the federal Endangered Species Act.

Based on habitat availability, there is also the potential that two turtles categorized as species of special concern may use this property. The box turtle (Terrapene carolina) may

utilize any of the upland forest or wooded wetlands on the site. No box turtles were observed during lengthy wildlife reconnaissance, but the turtles are not uncommon in the Town of Newburgh. Box turtles are not rare but have been collected as pets impacting the long term population and breeding opportunities.

The wood turtle (Clemmys insculpta) may use the Quassaic Creek corridor as cover and for overwintering. This turtle tends to prefer wooded stream corridors adjacent to open fields, which do not exist in this site today, but did historically.

As recently as 1998, the New York Rare Plant Status List did not include any records in Orange County of the narrow-leaved sedge, and no records more recently than 20 years prior for the woodland agrimony. An independent study published recently (Barbour, 2004) reported observations of both species within the lower reaches of the Quassaic Creek. The locations of these specimens, off-site and downstream of Brookside Pond in wooded areas alongside the creek, indicate that their locations would not be adversely impacted by the project.

Site walks conducted during Spring through Fall of 2005 did not identify any specimens of either species on the project property. Two specimens of agrimony were identified on the property within Wetland A; based on plant characteristics, these were most likely to be soft agrimony (*Agrimonia pubescens*).

3.3.2 Potential Impacts

Plant Communities/Wildlife

The proposed project would remove a total of 108 acres of vegetation, mostly mixed woodland. It is estimated that 1.76 acres of regulated wetland will be disturbed, and 4.88 acres of isolated wooded wetlands, which are not regulated by any agencies, will be filled in order to accommodate the proposed "lifestyle center" (see the description of this area in Section 2.0, Project Description.) This will result in the loss of trees and other existing site vegetation and associated wildlife habitat.

Based on the estimates derived from the tree survey, approximately 1,100 to 1,200 trees greater than or equal to 18 inches in diameter will be removed for this project. An additional 1,100 smaller trees (between 12 and 18 inches) will also be removed.

As described above, the site does not support known threatened or endangered species or State-listed species of special concern. The site is within a heavily suburbanized area and currently exists as a habitat "island" or "sink" between the existing residential developments to the northeast, commercial development to the east and west, and Interstate 84 to the south. Only species that are common to urban/suburban areas were identified on the property, and based on the transitional nature of the site vegetation (from past agricultural uses to successional woodlands) only these species are likely to exist on site. Connections to open space areas to the north (Algonquin Park) and the south (associated with Brookside Pond) have been cut off by previous development, traffic on Route 52 and the construction of Interstate 84.

The site does support a relatively diverse tree community. Approximately 15.8 acres of the site, all of which are wooded, will be preserved in blocks as large as 4.5 acres. Combined

with the proposed stormwater basins, wetland mitigation areas and vacant off site parcels, approximately 52.5 acres of open space will remain in the immediate area of the project site following development. The largest area of contiguous open space will be more than 17.5 acres.

In general, as a project site is developed, some species will relocate to similar habitats off-site. As habitat is eliminated, populations of some wildlife species may eventually be reduced. The composition of the wildlife population on the project site may be altered somewhat following development, as species that are better adapted to urban/suburban cover types will increase, while species requiring more cover and open space will relocate.

This habitat remains available on site within the existing wetland corridor that will remain, as well as on adjacent parcels that remain undeveloped. Because wildlife populations are identified as being sparse on the subject property, overall numbers for most smaller species are not expected to decrease significantly, but potential habitat for future population growth will be impacted permanently.

The on site deer population will continue to use undeveloped portions of the site, but will expand to adjacent parcels, and may present some temporary problems for landscaping at these properties. Ultimately the deer will find their way to Algonquin Park and other open lands to the north and east.

Avian species that are common to the area will continue to utilize remaining trees as resting and nesting spots. Bird species that prefer denser wooded habitat (several were identified during site surveys) will have to relocate to adjacent properties or pass by the area. When mature, the trees planted as part of the overall site landscape plan will also provide some roosting and nesting opportunities for species that are adapted to suburban conditions.

The plants proposed will include berry and seed-bearing trees and shrubs that will offer a food source for birds. Those amphibian and reptile species that exist on the parcel, although limited in numbers, will no longer be able to use the majority of the site, and will be limited to the wetland areas in the northern part of the site and the wooded areas associated with the Quassaic Creek corridor to the east.

Erosion and sedimentation from construction activities is a construction-related impact that could occur to adjacent wetland areas and downstream water resources if grading activities are left uncontrolled. Long term, impacts to water quality are possible if not considered in the stormwater management plan, which must include future monitoring of basins and maintenance of healthy vegetation.

3.3.3 Mitigation Measures

The loss of vegetation and wildlife habitat are unavoidable if this site is to be developed consistent with the proposed plans and the applicable zoning district. However, measures can be taken to mitigate these impacts to some extent and provide continued opportunities for wildlife in the area.

The loss of wetland habitat will be mitigated with the creation of 1.79 acres of additional wetlands in several different locations of the site, as described in Section 3.2 of the DEIS. Wetland plant species that are common on the site will be used where appropriate to eventually create wooded wetland habitat. The on-site detention basins will be planted in a manner that is consistent with marsh and scrub-shrub wetland habitat, which will introduce a new habitat type to the site and provide additional biodiversity opportunities.

The proposed grading between the homes on Hilltop/Fern Avenue and the rear of buildings C and D was revised to enhance the buffer between the homes and the rear of these buildings.

An Erosion and Sediment Control plan has been prepared and is included in the project site plan. All erosion and sediment controls will be installed in accordance with Best Management Practices outlined in the NYS DEC Soil Erosion and Sediment Control Manual[5], and the Town of Newburgh municipal code. All soil erosion and sediment controls will be installed prior to construction activities.

To mitigate increased stormwater runoff that will result from the introduction of impervious surfaces in the form of buildings and parking areas, stormwater facilities have been designed and engineered to prevent impacts to on-site wetlands and downstream areas. Stormwater management basins are proposed to reduce post-development peak flow rates to levels at or below existing rates.

To address impacts to surface water quality, stormwater quality measures have been engineered in accordance with NYSDEC requirements. Several water quality basins may include a permanent pool. These will create some wetland functions and values, including the creation of wetland habitat that should compensate for the impacts to Wetlands B and C.

Establishment of Clearing and Grading Lines

Clearing limit lines are shown on the site plan. These limits would be demarcated in the field prior to construction. The establishment of disturbance limit lines is an effective way to limit impacts.

Landscaping

The project's landscape plan proposes landscape materials that would include a mixture of native and ornamental species. The landscaped areas created by the proposed development would be used as forage, and many trees and shrubs will provide both food and nesting sites for squirrels, and other avian species.

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[5] *NYS DEC, 2005. Soil Erosion and Sediment Control Manual.*

The proposed landscape plan for the project is designed to comply or exceed the requirements for landscaping of parking areas specified in the Town of Newburgh Code.

According to Town Code, the number of trees planted must exceed one tree for every eight parking spaces proposed. The Applicant proposed 3,494 parking spaces; 512 trees are being planted within the parking lot areas exceeds the Town's requirement, of 437 trees. Wherever possible, the landscape plan utilizes tree plantings in massed groups rather than single stems, to mitigate somewhat the loss of natural stands of trees on the site.

Many additional trees are proposed outside of the parking areas including 290 street trees, 115 trees massed within the site, and 140 trees within the buffer areas adjacent to neighboring residences. In total it is proposed to plant 1,062 trees, exclusive of those trees that will be planted within the wetland mitigation areas. A total of 36 additional trees will be planted within these areas, as well as many shrubs.

Tree Preservation

The limits of disturbance will be established in the field prior to the start of construction operations. Most of the large existing free-standing trees located at the boundary of the site and that are in healthy condition will be preserved. The limits of the areas to be cleared will be delineated with fencing or similar method and individual trees to be preserved along the frontage will be protected by physical protective measures.

Re-Landscape With High Quality Native or Naturalized Vegetation for Wildlife Habitat

Native species will be used for landscaping purposes wherever possible. This preference is based on the fitness they have for being adapted to local climatic variables such as temperature, precipitation and growing season length. Native landscape species may also be selected which would be beneficial to native wildlife, especially birds. According to the Cornell Lab of Ornithology, establishing a diversity of plant groups in the re-landscaped areas is preferred, as a variety of plantings will better provide habitat to a larger diversity of bird species. Functional plant groupings of the most utility include: conifers, grasses and legumes, nectar-producing plants, summer-fruiting plants, fall-fruiting plants, and winter-persistent plants.

Coniferous trees and shrubs such as pines, spruces, firs, arborvitae, and junipers provide shelter and nest sites. Unmown grasses and legumes provide cover for ground-nesting birds. Nectar-producing plants may attract hummingbird and orioles. Summer-fruiting plants provide food during nesting season. Many native fruit-bearing plants which are adaptable to landscaping use are available, including various species of cherry, chokecherry, raspberry, serviceberry, blackberry, blueberry, mulberry, and elderberry. On the Newburgh Marketplace site, these species are proposed exclusively for the wetland mitigation and detention basin areas.

Fall-fruiting plants are important for building up or maintaining fat reserves during bird migrations. Examples of these include dogwoods and cotoneasters.

Lastly, winter-persistent plants provide seasonal fruit sources for winter resident species. Varieties of crabapple, bittersweet, sumac, viburnum, as well as American highbush cranberry, eastern wahoo, and hollies such as winterberry are recommended.

Nuts and acorn trees, including oaks, hickories, buckeyes, chestnuts, butternuts, walnuts, and hazelnuts, provide nutrient rich foods for birds and mammals and provide nesting habitat for many birds.

Many native landscaping species can be selected to provide nesting and cover and food for birds. A partial list of specific plant species recommended by the Cornell Lab of Ornithology includes:

Deciduous Trees:
- Mulberry (summer fruiting)
- Serviceberry (summer fruiting)
- Flowering dogwood (fall fruiting)
- Crabapple (fall fruiting, winter persistent fruits)
- White oak (fall fruiting, winter-persistent fruits)

Coniferous Trees:
- Eastern red cedar (fall fruiting, winter persistent fruit, excellent nest sites).
- Spruces (fall fruiting, winter persistent fruit)

Native Vines:
- Wild grape (fall fruiting; excellent nest sites and nest material)
- Virginia creeper (fall fruiting, winter persistent fruit)

Shrubs:
- Northern bayberry (fall fruiting, winter persistent fruit)
- Staghorn sumac (fall fruiting, winter persistent fruit)
- Red-osier dogwood, gray dogwood (fall fruiting)
- Viburnums such as nannyberry and arrowwood viburnum (fall fruiting, some fruits are winter persistent)
- Winterberry (fall fruiting, winter persistent fruits)

Typical landscape plantings would be chosen from among those species included in Table 3.3-5 or similar selections. While these species may not be appropriate for ornamental plantings within close proximity to proposed buildings, they will be used as street trees, for wetland and buffer enhancement, in wetland mitigation areas and in around the proposed detention basins. Final numbers, species and locations of plantings will be finalized as the SEQRA process moves forward.

Table 3.3-5
"Typical" Upland Condition Landscape Plantings

Trees	Shrubs
Deciduous Trees - Major	Deciduous Shrubs
horse chestnut (*Aesculus hippocastanum*)	bottlebrush buckeye (*Aesculus parviflora*)
red maple (*Acer rubrum*)	oak leaf hydrangea (*Hydrangea quercifolia*)
sugar maple (*Acer saccharinum*)	witchhazel (*Hamamelis virginiana*)
American beech (*Fagus grandifolia*)	staghorn sumac (*Rhus typhina*)
white oak (*Quercus alba*)	beautybush (*Kolkwitzia amabilis*)
ashes (*Fraxinus* spp.)	northern bayberry (*Myrica pennsylvanica*)
red oak (*Quercus rubra*)	viburnums (*Viburnum* spp.)
little leaf linden (*Tilia cordata*)	winterberry hollies (*Ilex* spp.)
American elm (*Ulmus americana*)	Evergreen shrubs
shadblow (*Amelanchier canadensis*)	inkberry (*Ilex glabra*)
paperbark birch (*Betula papyrifera*)	Virginia red ceder (*Juniperus virginiana*)
dogwoods (*Cornus* spp.)	mountain laurel (*Kalmia latifolia*)
crabapples (*Malus* spp.)	rosebay rhododendron (*Rhododendron maximum*)
cherries (*Prunus* spp.)	white rhododendron (*Rhododendron album)*
plums (*Prunus* spp.)	leatherleaf viburnum (*Viburnum rhytidophyllum*)
Coniferous Trees	
white fir (*Abies concolor*)	
Colorado spruce (*Picea pungens*)	
Norway spruce (*Picea abies*)	
douglas fir (*Pseudotsuga mensiesii*	
white pine (*Pinus strobus*)	
red pine (*Pinus resinosa*)	

SOURCE: Tim Miller Associates, Inc., 2005.

When installing landscape plants, it is important to secure each specimen with proper placement, as most plants will not thrive in all soils or exposures. Established research regarding plant preferences, e.g., moist or dry soils, shady or sun-tolerant species, will be used in determining site plantings. A landscape plan, detailing methods to use for preparing planting holes and securing plants in holes or trenches, is presented in Section 3.10, Visual Resources, of this DEIS.

3.4 Water Resources

3.4.1 Existing Conditions

Watercourses

Surface waters are classified by the NYS DEC according to their best uses. Best uses may include: drinking water, bathing, fishing, fish propagation, and non-contact recreational activity, and discharges to any classified waterbody must not cause impairment of its designated best use.

Letter classes such as A, B, C, and D have been assigned to most inland surface waters in the state, with the highest values assigned to "Class A" waters and the lowest to "Class D" waters. Surface water classifications are presented in Title 6 Chapter X of the New York State Conservation Law, Parts 800-941. The best uses as determined by the NYS DEC for commonly assigned classes are given in Table 3.4-1.

Table 3.4-1
Best Usage of Surface Water

Fresh Surface Water Classification	Section	Best Usage
A	701.6	The best usages of Class A waters are: a source of water supply for drinking, culinary or food processing purposes; primary and secondary contact recreation; and fishing. The waters shall be suitable for fish propagation and survival.
B	701.7	The best usages of Class B waters are primary and secondary contact recreation and fishing. These waters shall be suitable for fish propagation and survival.
C	701.8	The best usage of Class C waters is fishing. These waters shall be suitable for fish propagation and survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.
D	701.9	The best usage of Class D waters is fishing. Due to such natural conditions as intermittency of flow, water conditions not conducive to propagation of game fishery, or stream bed conditions, the waters will not support fish propagation. These waters shall be suitable for fish survival. The water quality shall be suitable for primary and secondary contact recreation, although other factors may limit the use for these purposes.

Source: Environmental Conservation Law, NYCRR Title 6, Chapter X.

Quassaic Creek

Quassaic Creek (Item 205, Water Index Number H-94) flows as a Class D stream from Chadwick Lake, through the wetlands which exist where Upper Lake Winona once existed prior to the breech of its dam. The flow from Upper Lake Winona is into Lower Winona Lake, through the eastern portion of the subject property, then into Brookside Pond (aka Glenwood Lake, Item 220, Water Index Number P338b) south of Route 84. Between Winona Lake and Brookside Pond, a wetland and stream crossing of Quassaic Creek is proposed, to provide road access to the project from NYS Route 52 in the area of Exit 8 of Interstate 84. Over this reach of the creek it is a Class D waterbody.

Below Brookside Pond, the lower reach of Quassaic Creek is a Class C waterbody. Photos of this reach of Quassaic Creek and the existing box culvert under Interstate 84 are shown in Figure 3.4-1.

An unnamed stream is mapped in the northern portion of the project site. Based on the NYS DEC stream map for the region, this watercourse (Water Index Number H-94-6-1-1[1]) is a minor tributary to Orange Lake outlet, the flow from the Orange Lake dam. This Class C stream is associated with Wetland A, located in the northwestern portion of the site, and is tributary to the Orange Lake discharge in the area of the unnamed Class C pond (Item 226, Water Index Number H-46-P339) at Algonquin Park.

Drainage Areas

The project site is located within the Quassaic Creek watershed. The western portion of the site drains through the unnamed tributary under South Plank Road (NYS Route 52), through the ponds at Algonquin Powder Mill Park. It is then conveyed through the former Upper Winona Lake, via a culvert under NYS Route 52 to Lower Winona Lake and into Quassaic Creek. Runoff from the eastern portion of the site drains directly to Quassaic Creek. Upon entering Quassaic Creek, all flows are conveyed in a southerly direction, passing under Interstate 84 via a large box culvert, traveling through Brookside Pond, Harrison Pond and Muchattoes Lake, and are ultimately discharged to the Hudson River.

Existing Stormwater Quantity

Estimates of the existing runoff conditions for storm events up to and including the 100-year storm event are included in the Stormwater Management Report (Appendix F of this DEIS). Appendix F also presents the model design parameters developed for this project. The computer-aided program used is based primarily on hydrological modeling techniques developed for use by the Soil Conservation Service of the United States Department of Agriculture.

Peak pre-development flows from the project site were calculated at four design points. These flows were calculated utilizing regional precipitation values obtained from the Dutchess County Soil and Water Conservation District office, and are presented in Table 3.4-2a.

Table 3.4-2a
Peak Pre-development Flow Summary for 24-Hour Design Storm
(cubic feet per second)

Design Point	2-Year	10-Year	25-Year	50-Year	100-Year
DP-A	66	148	192	214	237
DP-B	0.87	2.22	2.97	3.35	3.74
DP-C	58	138	181	203	226
DP-D	4	13	19	22	25

Source: Divney Tung Shwalbe, 2005.

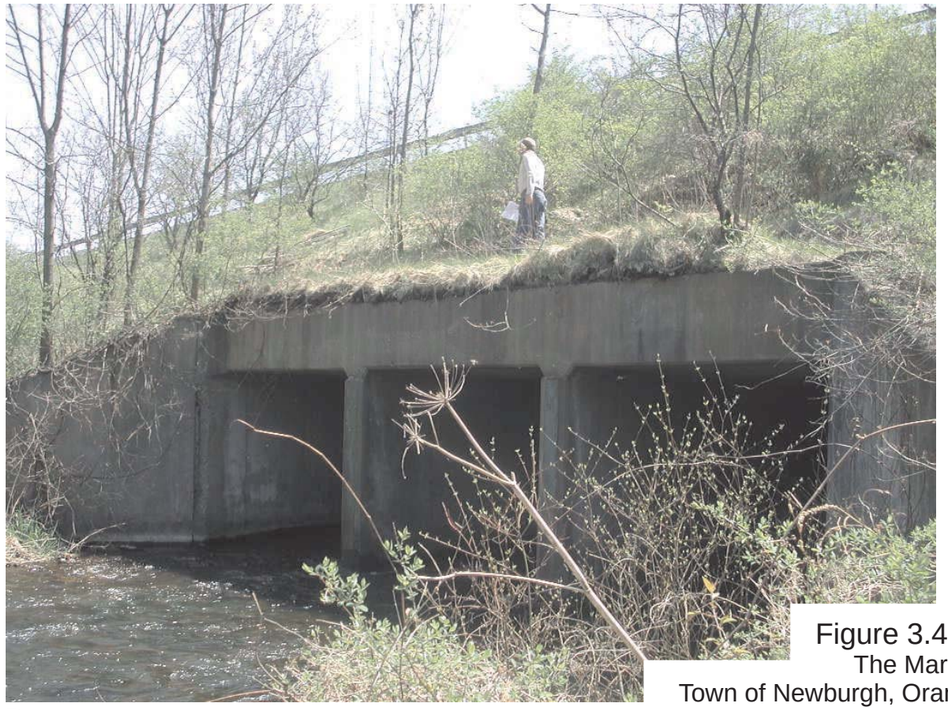
Existing stormwater volumes, which were also requested in the adopted scope, are provided below in Table 3.4-2b.

[1] Title 6, Chapter X, Section 862.6, Item Number 227. Map Ref. No. O-23se.

A: View of Quassaic Creek on project site.

C: Box culvert under I-84 located off-site.

B: View of Quassaic Creek on project site.



D: Quassaic Creek flowing under I-84 box culvert.

Figure 3.4-1 Quassaic Creek
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Photos: TMA,11/22/05

File 04011 11/22/05
TMAWP\Figures

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

Table 3.4-2b
Pre-development Stormwater Volumes for 24-Hour Design Storm
(cubic feet)

Design Point	2-Year	10-Year	25-Year	50-Year	100-Year
DP-A	270,266	593,867	770,659	861,445	953,511
DP-B	3,659	8,762	11,640	13,133	14,655
DP-C	270,212	613,635	803,536	901,436	1,000,927
DP-D	23,287	68,252	95,428	109,851	124,742

Source: Divney Tung Schwalbe, 2005.

Existing Stormwater Quality

No detailed information was available regarding the current state of water quality in the Quassaic Creek where it flows through the subject parcel. It is expected that water quality is generally good but with elevated levels of nutrients and metals, owing to the proximity of the nearby upstream waterbodies to NYS Route 52 and a relatively densely developed area.

On-site areas that drain to Quassaic Creek are predominantly wooded with some herbaceous ground cover and thick leaf litter, resulting generally in clean runoff flowing to the brook from the project site. Suspended sediments within the stream are not high considering the opportunity for deposition of these materials in the pond at Algonquin Park, in the wetland at the south end of the park and in Lower Winona Lake. Temperature within the stream are moderated by the existing trees on either side of the stream as it flows through the site. The stream's temperature is likely elevated prior to discharge into the site as flow passes through Lower Winona Lake.

Stream flow leaving the site from Wetland A in the northwest portion of the site is draining areas that were more recently disturbed and include developed areas along NYS Route 300. This also includes the area in the southwest portion of the site that was filled for construction activities associated with the I-84 off ramp. Thus, it is likely that that the water quality from this stream and its wetland system are of a lower quality than surface water associated with Quassaic Creek.

Groundwater Availability

The existing commercial developments on Route 52 and Route 300 in the Town of Newburgh utilize municipal water and do not utilize individual wells. Some of the homes in the area, particularly on Hilltop and Fern are served by individual wells.

Groundwater in the vicinity of the project area is primarily found in the bedrock. Shallow groundwater is found in the glacial till material locally, but is not a reliable source of groundwater due to the relatively thin cover of glacial till in the area. Bedrock wells are installed into the metamorphic gneiss and granitic gneiss rocks found locally. Bedrock wells are generally dependent upon fractures in the rock to provide sufficient water for a reliable water supply. Therefore, depths of wells and well yields can vary considerably, depending upon the size and quantity of fractures that are intercepted by any specific well.

Depth to water table (surficial groundwater elevations) varies on the site, and during seasonally wet periods, approaches the surface within the wetland portions of the site. Typically, shallow groundwater is found at the interface of the bedrock and overlying soils or

in layers of sand, gravel or silt, in the surficial glacial till material. This shallow groundwater generally moves in the direction of the surface topography. Since the surface water drainage flows in different directions in different parts of this site, shallow groundwater movement can be assumed to be consistent with surface water, towards the property's lower elevations. Ultimately these flows enter the Quassaic Creek as baseflow and the tributary that leaves the site toward the pond at Algonquin Park.

Groundwater flow direction in the bedrock aquifer is somewhat influenced by surface topography, but is also influenced by major fracture systems in the rock, faults, and surface water bodies such as Quassaic Creek and nearby lakes. Groundwater flow direction on the site is not known but is expected to generally flow towards the east and north toward Quassaic Creek and Winona Lakes.

Locally, groundwater quality is generally good, with no reported problems, according to a local well driller. Water hardness, elevated iron and manganese concentrations occur in certain wells, locally. Such conditions may have well and water equipment maintenance implications but are not a health concern and are easily treated with softeners and conditions.

Recharge Analysis

For purposes of this analysis, recharge has been calculated assuming the only source of water is the rainfall that falls on the site itself. The primary source of groundwater is precipitation which infiltrates through the surface of the ground and percolates into the water table. The majority of rainfall is "lost" to surface water runoff, shallow subsurface flow and evapotranspiration. Depending on the physical characteristics of the recharge area, between 15 and 40 percent of the annual precipitation typically recharges the local aquifer.

Evaluation of groundwater recharge with respect to a specific project or land use is usually done by comparing the projected water demand and the ability of the local watershed to recharge the aquifer. Generally, the groundwater table in an unconfined aquifer will loosely follow the surface topography of the land. Groundwater would be expected to flow from drainage boundaries, such as ridges, toward points topographically lower in the watershed. Groundwater in storage and recharge "collected" within the natural drainage basin area would be available to replenish or recharge the aquifer. Due in part to the anisotropic (irregular) nature of the bedrock aquifer, however, only a portion of total basin recharge could transmit water to any given pumping area. For example, heavily faulted and fractured bedrock zones are capable of transmitting larger quantities of water to recharge the bedrock aquifer than are less fractured zones.

The project site is likely underlain by a system of subsurface minor faults and fractures. The fractures, if tapped successfully, will potentially pick up recharge from a large area, including the area beneath Quassaic Creek and nearby lakes. The faults and fractures that form the valleys surrounding the project site may extend for miles and intercept additional fractures well beyond the property. Precipitation falling anywhere within this area naturally drains towards the valleys from the higher elevations. As previously noted, between 15 and 40 percent of precipitation becomes groundwater through recharge and is potentially available to wells tapping these interconnected fractures. The following table provides an estimate of the amount of water available for recharge for only the subject property assuming 25 percent rate of precipitation recharge.

Table 3.4-3 Recharge Calculations	
Acres	108.6
Square Feet	4,730,616
Average rainfall per year (inches) *	48
Average rainfall per year (feet)	4
Cubic feet of precipitation per year	18,922,464
Gallons of precipitation per year	141,540,031
Amount lost to evapotranspiration and runoff (75%)	106,155,023
Amount, in gallons, available for recharge per year	35,385,008
Amount, in gallons, available for recharge per day	96,945
Amount, in gallons, available for recharge per minute	67.3
Source: Tim Miller Associates, Inc., * USDA Soil Survey of Orange County, Table 1	

This quantitative analysis of the recharge potential for the project site is only an estimate, since the recharge area for subject property could conceivably take into account an area that is considerably larger than the local watershed itself. The location, width, and the interconnection of fractures, all affect the amount of groundwater available in any given location.

Using a fairly conservative recharge rate of 25 percent (the percentage of precipitation available to recharge groundwater) results in about 96,945 gallons of recharge per day available from the site alone. This recharge rate far exceeds the amount necessary for periodic irrigation of landscape planting, if considered in the future. It is noted that no irrigation of landscape plantings is currently proposed; no wells have been drilled or are proposed to be drilled for this site. Potable water will be from municipal, not groundwater sources.

3.4.2 Potential Impacts

Stormwater Runoff Quantity and Quality

The Marketplace project will require compliance with the conditions of New York State General Permit 02-01 for stormwater. This includes an evaluation of the proposed methods and practices used to ensure stormwater quantity and quality control, as well as an erosion and sedimentation control plan for during construction. The project would result in disturbance of approximately 108 acres of land, including the introduction of 75 acres of new impervious surfaces. An increase in stormwater runoff would result from the introduction of impervious surfaces, requiring appropriate mitigation measures to handle the additional stormwater flow. Uncontrolled stormwater runoff could affect the water quality of downstream receiving water bodies, including Quassaic Creek, the pond within Algonquin Park, and Upper and Lower Winona Lake.

Runoff from impervious surfaces related to roadways and parking lots poses a potential increase in road and vehicle-related contaminants in the stormwater diverted to treatment basins. These include hydrocarbons derived primarily from crankcase oil drippings and uncombusted exhaust hydrocarbons. Roadway runoff also typically contains detectable

levels of heavy and trace metal contaminants such as lead, zinc, copper, chromium and nickel, which usually result from automobile and truck traffic. These types of potential impacts require appropriate mitigation design to limit impacts to existing water quality.

Potential for Sedimentation and Erosion During Construction

Grading and recontouring of soils is required for the construction of site access roads, building pads, and parking areas. Uncontrolled stormwater runoff has the potential to travel over exposed surfaces and cause soil erosion and sedimentation to downstream property.

Public concern has been expressed with the potential for soil erosion and sedimentation that has resulted from other construction projects in the Town. The Meadow Winds Development at Lawrence Farms is an example.

The Meadow Winds development has been under construction since the late 1990's and has a documented history of stormwater management problems which have reportedly resulted in the flooding of several residential basements and yards and impacted Winona Lake, downstream of the Meadow Winds property. These problems may have been the result of faulty stormwater management designs, as well as facilities that were not constructed according to engineered plans. In addition, it appears that the project was not operating under a SPDES permit for construction activities.

Problems that occurred at Meadow Winds are easily avoided with a well engineered Stormwater Pollution Prevention Plan, SPDES review and permitting prior to the start of construction as required, and the continuous monitoring and maintenance of installed mitigation measures during all phases of construction, all of which are proposed for the Marketplace project. It is noted that the applicant will seek a waiver from the New York State General Permit from the five acre soil disturbance limit. Projects of this size are often allowed to disturb larger areas following review and approval of a detailed and site specific erosion control plan, which includes construction phasing, sequencing and monitoring. The use of redundant erosion controls and structural best management practices are often combined with site stabilization practices in times of impending bad weather. The New York State DEC will ultimately determine if the plan is acceptable, or if additional protection measures will be required.

In order to address the potential for soil erosion and sediment control, an Erosion and Sediment Control Plan has been prepared with appropriate soil erosion controls to mitigate these potential impacts (see below).

Potential Water Quality Impacts from De-icing Materials

De-icing compounds, particularly salt, can have a negative impact on receiving water quality if used in excess. Control of de-icing agents is described below.

Groundwater

On site groundwater is not intended to be used, either for potable water or for irrigation. Water for plant irrigation during initial grow-in will be imported to the site by water truck from commercially available sources.

On-site blasting near residential properties represents a small but potential impact to wells on those properties. As discussed in Section 3.1, these wells will be surveyed prior to blasting if requested by the property owner to determine depth of well, water depths, depth of casing, and other characteristics.

3.5.3 Mitigation Measures

Stormwater Pollution Prevention Plan

The proposed development must comply with a NYS Pollutant Discharge Elimination System (SPDES) General Permit for stormwater discharges, as well as Chapter 157, Stormwater Management, of the Town of Newburgh Code.

One objective of the proposed stormwater management system is to reduce post-development stormwater pollutant loadings to pre-development levels to the greatest extent practicable. This applies to all land areas for which the perviousness has been changed over pre-development conditions due to land clearing, land grading or construction. The stormwater quality components also consider the NYSDEC requirement that 90% of the average stormwater runoff be captured and treated (the "water quality volume").

Given the change from woodland to commercial use, water quality management is very important and was considered prominently in the development of the Stormwater Management Plan. Specific measures of the plan proposed for the maintenance of water quality for this site, and the pollutant loading analysis for the developed condition are presented in the Stormwater Management Report included in this DEIS as Appendix F.

Post-Development Runoff Quantity and Quality

The Stormwater Management Report (Appendix F) was developed in accordance with applicable town and NYSDEC guidelines, including the New York State Stormwater Management Design Manual and the New York Guidelines for Urban Erosion and Sediment Control. Specific attention has been given to generally maintain existing reservoir basin drainage divides, to create Total Maximum Daily Limits (TMDL) benefits, to attenuate peak discharges in comparison to the pre-development conditions and to meet NYSDEC stormwater treatment criteria.

The primary treatment for runoff discharging from the project will be through newly constructed stormwater detention/water quality basins (also known as micropool extended detention ponds). Passively controlled outlets from the basins will extend the discharge duration from the basins to 24 hours or more. Stormwater runoff will be collected in a subsurface closed drainage system and transported to stormwater basins for ultimate discharge from the site at two design points. The last pond in either series of basins is designated as a “micropool extended detention pond” (P-3) per the NYSDEC Design Manual. Runoff at Drainage Area C will enter a sub-surface water quality treatment system. Overflow form this system will discharge to the south along the existing I-84 right of way to an existing vegetated swale.

Basins were sized to meet the 90% treatment requirement of the NYS DEC for average runoff events. Based on the proposed best management practices, combined with phasing of the construction and regular maintenance and monitoring of erosion control measures, it is expected that there will be no adverse environmental impacts to Quassaic Creek or other

downstream water bodies. The stormwater management plan evaluates runoff from the site that enters Quassaic Creek and it's potential impacts to the culvert under the Interstate 84. The plans use the criteria and guidance contained in the NYS Thruway's Hydraulic Design of New Facilities and Developments Impacting Thruway Drainage." These guidelines relate strictly to peak flow rates, and are generally not as restrictive as the State and Town's requirements. Submission of drainage plans with the specific information required will be made to the Thruway Authority as the permitting process moves forward.

Peak post-development (i.e. developed) flows from the project site to the four design points are compared to the pre-development (i.e. existing) flows as presented in Table 3.4-4. Calculated future peak flow rates for each of the 24-hour events considered in the model are expected to be reduced in comparison to the calculated existing flows, as required by the Town of Newburgh and NYS DEC. The stormwater basin volumes have been sized to allow for the capture and treatment of 90% of the average stormwater runoff, as required by the NYSDEC.

Bankside discharge points and velocity dissipaters will be structured so as to protect stream side banks and vegetation. Some of the post-development stormwater will continue to occur as sheet runoff from undisturbed and protected areas of the site, in a manner similar to existing conditions on the property.

Table 3.4-4
Comparison of Pre- and Post Development Peak Flow for 24-Hour Design Storm
(cubic feet per second)

Design Point	**2-Year**		10-Year		**25-Year**		50-Year		**100-Year**	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post
DP-A	66	35	148	96	192	123	214	139	237	171
DP-B	0.87	0.1	2.22	0.03	2.97	0.33	3.35	0.38	3.74	0.42
DP-C	58	41	138	125	181	158	203	173	226	187
DP-D	4	8	13	18	19	24	22	26	25	29

Source: Divney Tung Schwalbe, 2005.

Stormwater volumes to each of the described post development design points are expected to increase, due to the increase in impervious surface (Table 3.4-5).

Table 3.4-5
Post-development Stormwater Volumes for 24-Hour Design Storm
(cubic feet)

Design Point	**2-Year**	**10-Year**	**25-Year**	**50-Year**	**100-Year**
DP-AA-1	148,510	316,276	406,887	453,248	500,169
DP-AA-1	488,130	847,615	1,029,602	1,120,357	1,212,357
DP-BB	365	876	1,163	1,313	1,465
DP-CC-1	31,258	70,958	92,954	104,280	115,789
DP-CC-2	7,651	17,088	22,275	24,943	27,652
DP-CC-3	109,106	184,760	222,865	241,954	261,063
DP-CC-4	262,480	444,482	536,153	582,078	628,046
DP-DD	32,543	73,905	96,776	108,567	120,549

Source: Divney Tung Schwalbe, 2005.

The Stormwater Management Report (Appendix F) projects future water quality parameters in stormwater discharges. Values are presented for phosphorus, nitrogen, total suspended

solids, metals and bacteria. Total annual loads (as lbs/yr) for each of these pollutants were calculated for post-development discharges into each of the design points, and comparisons are provided with estimates of pre-development loads from the project site. Removal efficiencies consider the use of redundant BMP's working in sequence to maximize pollutant removals.

The Stormwater Management Report, which incorporates many of the recommendations and guidelines established by the NYSDEC, proposes a combination mitigation measures including vegetative filtering, infiltration, and stormwater detention to filter, adsorb and dilute these potential pollutants.

In summary, the proposed Stormwater Management Plan, as summarized in the Stormwater Management Report (Appendix F) is designed to assure that the stormwater runoff in the post-development condition will not significantly alter the pre-development quantitative and qualitative stormwater conditions. Pollutant loading calculations demonstrate that post-development pollutant loading will be less than in the existing condition for suspended sediments, phosphorus, nitrogen and bacteria, with a nominal increase in loading for metals.

Stormwater Runoff During Construction

Prior to and throughout the construction phase, four basic principles of stormwater runoff management will be applied at the site to control runoff: 1) stabilization of disturbed areas, (2) containment of sediments, (3) treatment of turbid water, and (4) diversion of clean water.

Implemented, monitored, and enforceable Best Management Practices (BMP) will be utilized during the construction phase as the primary means of instituting controls for erosion and sediment control. The greatest potential watershed impacts associated with this project relative to soils disturbance would be from erosion and sedimentation during construction.

An Erosion and Sediment Control Plan (Drawing SP - 6.0) is provided in the set of site plans accompanying this DEIS which incorporates both structural and nonstructural (i.e. operational) provisions. The primary aim of this plan is to minimize the potential for soil erosion from areas exposed during construction and prevent sediment from reaching the downgradient streams, lakes and wetlands.

All soil erosion and sedimentation control practices will be installed in accordance with the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-02-01) best management practices and Town of Newburgh code.

Soil Erosion Control Measures

Both temporary and permanent erosion control facilities and activities will be applied over the duration of project related activities on the site. Implementation of the soil erosion control plan will be based on the latest New York State Guidelines for Urban Erosion and Sediment Control (Empire State Chapter of the Soil and Water Conservation Society).

A plan for phasing and sequencing of site construction has been prepared and is submitted with the DEIS plan set. Overall, a total of five phases are proposed. Each phase will stand alone with regards to erosion controls, use of best management practices and site

stabilization. This plan, as prepared, is intended to meet the requirements of the NYS General Permit.

The project will be built out in the following phases:

A. Phase 1A – Erosion Control
The first step in the construction process will be to establish erosion control measures. This will include the creation of three sediment traps to capture and detain stormwater runoff. Additionally a stabilized access road and an on-site rock crushing facility will be setup during this phase. Construction vehicle access to the site will be from NYS Route 300 (Union Avenue).

B. Phase 1B – Lifestyle Center
The location for the Lifestyle Center will be cleared of topsoil, trees and other vegetation. Excess fill from the center of the site will be placed in compacted lifts to bring the project area up to final grade. The on-site rock crusher will be utilized to minimize the amount of rock and soil entering or leaving the site. Pavement base courses and building foundations will be placed as soon as possible to stabilize the site. The sediment trap at the west end of the site will be replaced with the permanent below grade stormwater treatment system once significant stabilization is complete. Installation of the on-site utility infrastructure will also be commenced during this phase.

C. Phase 1C – Buildings A, B, and 2
Construction will continue in the area of buildings A, B, and 2 and will include the driveways, parking lots, walkways and utility infrastructure. Excess fill from the center of the site will be placed in layers to bring the project area up to final grade. The on-site rock crusher will be utilized to minimize the amount of rock and soil entering or leaving the site. Pavement base courses and building foundations will be placed as soon as possible to stabilize the site. Additionally, the connection to Meadow Avenue and NYS Route 52 northeast of the site will be completed in this phase.

D. Phase 1D – Building E
Construction will continue in the area of buildings E and will include the driveways, parking lots, walkways and utility infrastructure. Excess fill from the center of the site will be placed in layers to bring the project area up to final grade. The on-site rock crusher will be utilized to minimize the amount of rock and soil entering or leaving the site. Pavement base courses and building foundations will be placed as soon as possible to stabilize the site. Once the pavement base course has been installed, the temporary sediment trap will be converted into permanent stormwater quality and detention basins.

E. Phase 1E – Buildings C, D and 1
Construction will continue in the area of buildings C, D and 1 and will include the driveways, parking lots, walkways and utility infrastructure. Excess fill from the parking area and buildings C and 1 will be placed in layers to bring the remainder of the project area up to final grade. The on-site rock crusher will be utilized to minimize the amount of rock and soil entering or leaving the site. Pavement base courses and building foundations will be placed as soon as possible to stabilize the site. Additionally, the connection to Route 52 southeast of the site will be completed in this

phase. Once the pavement base course has been installed, the temporary sediment trap will be converted into permanent stormwater quality and detention basins.

While the General Permit requires that exposed areas be kept under five (5) acres at any given time, it would not be feasible to build a project of this scale with that restriction. The NYS DEC has in the past allowed a waiver of that requirement if additional prevention measures are implemented during construction. For this project these measures include the following:

1. The site will be inspected every other day by a certified professional during those periods when work areas include more than ten acres of exposed soils.

2. Areas identified by the erosion control inspector will be addressed within three days.

3. Disturbed areas that will not be used for construction within ten days will have temporary stabilization methods applied.

4. A supply of temporary erosion control measures, to include mulch, erosion control blankets, and hydroseed shall be maintained on site to stabilize all exposed areas.

5. Prior to forecasted storms in excess of one inch in 24 hours, the exposed area shall be reduced to a maximum of 10 acres through the use of temporary erosion control measures.

6. Building foundations shall be excavated to contain runoff for dewatering to sediment traps whenever feasible.

7. Rock that is exposed during construction will generally be cleared of loose soils.

8. Slopes of 3:1 or greater will have jute mesh, top soil, and seed applied immediately after final grading is complete.

In general, the following temporary methods and materials will be used to control erosion from the project site:

- Stabilized construction entrances
- Diversion swales and/or berms
- Silt fence barriers
- Stone check dams
- Storm drain inlet protection
- Sediment basins.

Disturbed areas will be permanently stabilized within 14 days of establishing final grading to limit the length of time that the temporary facilities must be utilized. The use of a planned sequence of phased construction activities across the site will limit the maintenance requirements for temporary facilities during the construction phase.

Permanent methods of erosion control will be accomplished by diverting stormwater runoff from steep slopes, controlling or reducing stormwater runoff velocities and volumes, and installing vegetative and structural features which will act to stabilize soil surfaces. All of the

permanent facilities will be selected from options which feature low-maintenance requirements and long-term exposure stability.

Basin and swale BMP features are manmade and the result of years of engineering research and design as well as actual in-situ case histories. They function as "natural" removal systems which are featured to blend into the other proposed landscaped and natural features of the property.

The applicant will be responsible for ensuring all stormwater management practices are adhered to. Responsible parties for the implementation and maintenance of each of the erosion control measures and stormwater facilities will be specifically identified and documented in the Stormwater Management Pollution Prevention Plan to be prepared by the Applicant and approved by the NYSDEC prior to construction activity.

Future Monitoring of Basins and Stormwater Discharged From Site

Each swale and basin, when stabilized, is designed to allow for sediments to accumulate for a period of 10-20 years before the functional capacity of the structure will be impacted. Sediment removal at this time will restore the structure to its original over-design capacity.

Entry to the basins for performing scheduled maintenance activities will be through stabilized basin accesses. The basin accesses, grass swales, and the side slopes and berms of the basins will be mowed annually to prevent the establishment of woody plants within these areas.

During construction, all basins and sedimentation and erosion controls must be inspected on a weekly basis, in compliance with GP-02-01. Monitoring reports will be left at the site construction trailer for inspection and will be forwarded to the local jurisdiction, if requested. Inspections will also occur on a random basis following storm events. These inspections include observation of storm water leaving the site.

In summary, the Marketplace at Newburgh project would *not* result in the soil erosion and sedimentation issues. The Marketplace at Newburgh will conform to all requirements of the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activity (GP-02-01) as described below.

Mitigation of De-icing agents

The management entity responsible for maintaining the internal drives will use sand for traction following plowing of the parking areas and access roads. In some situations a de-icing agent such as sodium chloride may be used if severe weather conditions require its use, but application will follow strict guidelines in order to limit potential impacts to water resources.

Off Site Improvements

The project sponsor, at the request of citizens in the neighborhood, has agreed to incorporate into its proposed Stormwater Management Plan improvements designed to alleviate existing drainage problems on NYS Route 52 in the vicinity of the pond at Algonquin Park. Implementation of the proposed stormwater management plan will intercept existing

stormwater runoff which presently drains toward the residences along Route 52, resulting in septic and flooding problems, and stormwater would be redirected to the on-site wetlands to eliminate these problems.

Groundwater

Since no impact to on-site groundwater resources is proposed, no mitigation is offered. Potential impacts to off-site groundwater wells is viewed as being highly unlikely, based on past experiences in the region. Nonetheless, should such impacts occur, potential mitigation measures could include the deepening of existing wells, drilling of new wells, repair or improvement of existing well casings or connection to the existing municipal system. Any such measures would be coordinated with the Town of Newburgh and the Orange County Department of Health, and implemented at no cost to the affected party.

3.5 Zoning and Surrounding Land Uses

3.5.1 Existing Conditions

Existing Project Site - Land Use and Zoning

The existing land uses on the project site and project area are shown in Figure 3.5-1. Approximately 125 acres of the project site is vacant. Of this vacant acreage, approximately one (1) acre consists of a parcel that was used previously for a gas filling station. Existing fuel storage tanks and contaminated soils at this site have been removed in order to remediate a 17-year old fuel spill as per a NYS DEC Consent Order and monitoring plan. In addition, the former gas station building, paved parking areas, curbs, and underground piping, fuel islands, as well as underground storage tanks, have been removed under NYS DEC supervision.

The remaining approximately 3 acres of the easterly portion of the project site consists of single-family dwellings and a portion of Brookside Avenue over which a proposed easterly access road would traverse. These dwellings maintain frontage on Brookside Avenue and NYS Route 52 (South Plank Road). Tax parcel records for the dwellings indicate the majority were constructed in the early 1940s.

Chapter 185, Zoning, of the Code of the Town of Newburgh, establishes the zoning districts, uses, and development regulations applicable to property within the unincorporated area of the Town of Newburgh. Based on a review of the zoning regulations, 97.5 percent of the site is located within the Interchange Business (IB) zoning district. All of the areas on which the retail buildings, parking, and stormwater facilities would be situated are located in this zone. The proposed use, a shopping center, is a permitted use subject to site plan review and approval by the Newburgh Planning Board.

As stated above, the approximately 3 acres of the project site are zoned “R-3”, Residential, and would be developed with a small portion of the easterly access driveway that would connect to Route 52 in the vicinity of 5th Avenue.

The Town of Newburgh zoning law establishes different bulk requirements depending on the specific use proposed within the applicable zoning district. The Marketplace's conformity to the zoning and bulk requirements is analyzed under the "Impacts" section below.

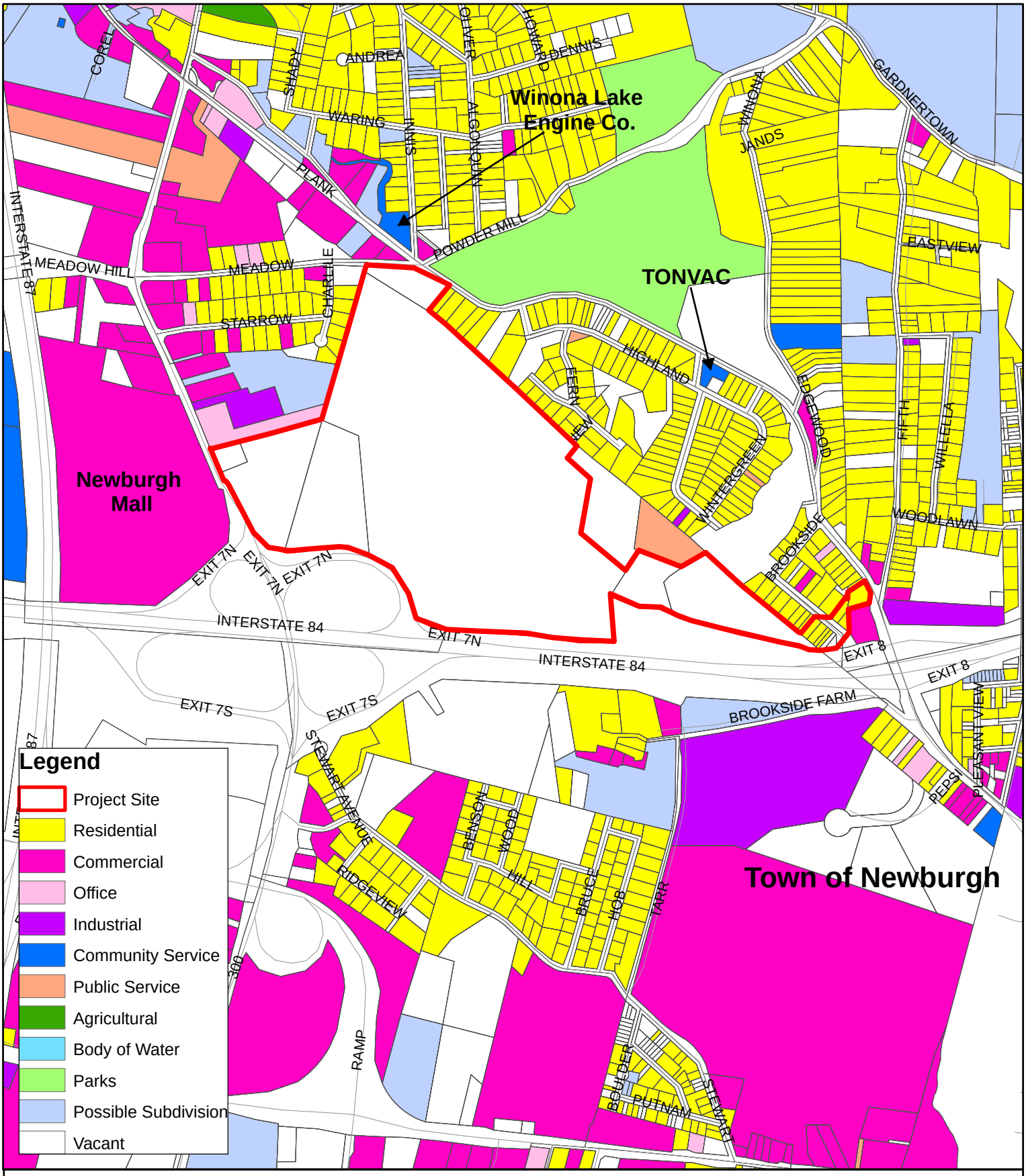
Figure 3.5-2 depicts the zoning for the project site and surrounding area.

Land Use in the Surrounding Area

Area Transportation Corridors

The area surrounding the project site includes two major interstate highways, two state-maintained thoroughfares, and commercial properties. There are some residential uses to the north and west of the Marketplace site.

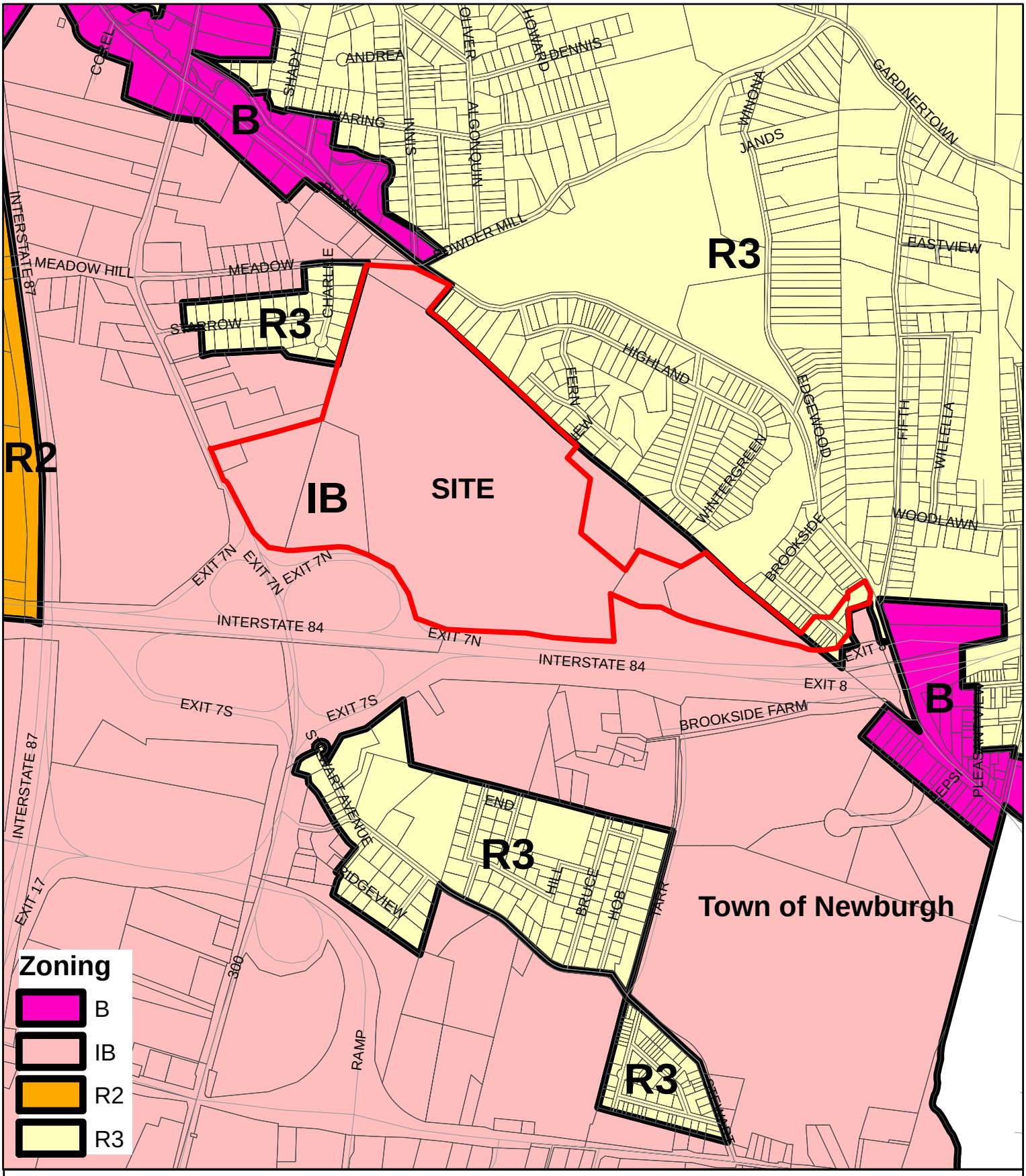
Interstate I-84 is a major limited access highway that travels east-west through the project area, and forms the project site’s southerly property boundary. The New York State Thruway, I-87, is a major limited access toll highway oriented in a north-south direction which



FS EQ: Market Place/LandUse.Mxd

Figure 3.5-1: Land Use Map
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: Orange County Water Authority
Scale: 1" = 1000'

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



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FS EQ: Market Place/Zoning.Mxd

Figure 3.5-2: Zoning Map
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: Orange County Water Authority
Scale: 1" = 1000'

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

is located to the west of the Newburgh Mall. I-84 and I-87 intersect at Interchange 17 of the New York State Thruway just south and west of the project site.

Several other major state transportation corridors intersect the project area. NYS Route 52 (South Plank Road), NYS Route 300 (Union Avenue) and NYS Route 17K are located within the project vicinity.

NYS Route 300 forms a portion of the project site's westerly boundary, and NYS Route 52 forms a portion of the project site's northerly and easterly boundaries. NYS Route 17K does not adjoin the project site, but is located south of, and within the project vicinity.

The complex of highways, highway interchanges, and state roads sets the framework for the major commercial land uses located in the project area. Route 17K and Route 300 are well established commercial corridors which include a full range of old to new retail and commercial uses.

NYS Route 300

The Newburgh Mall is located west of the project site and fronts on NYS Route 300. The site is anchored with tenants such as Sears, Old Navy, Bed Bath & Beyond, and the Bon Ton department store. Smaller tenants include a mix of the following types of retail tenants: clothing and shoe stores, crafts, sporting goods, small electronic establishments, photo stores, restaurants, bookstore, jewelers, opticians, dentists, game stores, and similar retailers.

The NYS Route 300 corridor, between Route 52 and the Exit 7 interchange and adjoining the project site, is overwhelmingly commercial in character. Properties with frontage on Route 300 are zoned "IB". Uses include banks, fast food restaurants, automotive repair establishments, and the Newburgh Towne Center which includes a grocery store, apparel store, and miscellaneous retail and service commercial tenants. The Newburgh Mall occupies the land area bound by Meadow Avenue, I-84, Route 300 and the NYS Thruway.

Much of the land immediately adjoining Exit 7 is vacant and part of I-84 right-of-way, as well as right-of-way associated with Exit 17 of the New York State Thruway. South of the interchange area, land with frontage on NYS Route 300 is zoned IB, and includes hotels, sit-down restaurants, and a large office building.

Traveling along NYS Route 300 and south of Interstate I-84, commercial uses continue and are more recent additions along the corridor. A Lowes home improvement store, Barnes and Noble bookstore, Pier 1 Imports home goods store, and Michaels arts and craft store are located at the southwest corner of the intersection of NYS Route 17K and NYS Route 300. An Adams Fairacre Farms market and landscaping store is located at the southeast corner of this intersection. Farther south on Route 300 is a Wal-Mart Superstore (approximately 209,000 square feet) now under expansion and a Home Depot (approximately 108,000 square feet). All these properties in Route 300 are zoned "IB".

Route 17K and Vicinity

Traveling east along Route 17K, a concentration of automotive retail dealerships exist including Nissan, Honda, Chevrolet, Chrysler/Jeep Dodge, Ford and Buick/Pontiac.

Numerous banks are found along the highway's frontage. The former Ames shopping center is being refurbished. The Ames building has been demolished and a new approximately 132,000 square foot Target and associated retail uses is under construction. A steakhouse, grocery store, and miscellaneous smaller retail tenants are situated in this shopping center.

A single-family residential neighborhood consisting primarily of a mix of older homes and one-story ranches is located along Stewart Avenue, which connects Route 300 with Route 17K. A gated access road provides emergency access from this street to the former Ames Shopping Center (Target).

The residential neighborhoods in this vicinity are zoned Residential "R-3". To the north and east of this neighborhood, a Pepsi distribution center and NYS DOT maintenance facility are nonresidential uses that dominate land to the west of Interchange 8, on the south side of I-84. These nonresidential uses adjoin I-84 and are zoned Interchange Business, "IB".

NYS Route 52

The NYS Route 52 corridor extends from the NYS Thruway to Interchange 8 of I-84 and is zoned a combination of Interchange Business (IB), Business (B), and Residential (R-3) zoning districts. At the west end of the corridor, a mini storage facility is zoned IB. Route 52 is non-residentially zoned "B" on both sides of the road extending from the New York State Thruway through its intersection with Route 300 and to its intersection with Powder Mill Road.

Within the "B" zone, there are numerous miscellaneous small-scale strip shopping centers with a variety of small retail and personal service establishments. Gas stations, delis, a bowling lane, diner, fast-food restaurants, car wash, automotive repair facilities, movie rental, pool and spa sales, and hardware store are represented along this corridor.

At the west end of Route 52 just east of the Thruway, there are scattered residential uses and some mobile home trailers that do not maintain frontage on the road but gain access to it via existing private roads.

The R-3 district extends on either side of Route 52 between Powder Mill Road and Interchange 8. This zone encompasses a residential neighborhood on the south side of NYS Route 52 consisting primarily of single-family residences. On the north side of Route 52, Algonquin Park is situated along much of the road's frontage extending to Route 52's intersection with Winona Avenue. Winona Lake is located on the south side of Route 52, and is surrounded by smaller lot single-family residences. It is noted that there is a scattering of nonresidential uses along this corridor within the R-3 district, including law offices, a dentist, and chiropractor's office. A restaurant and welding/manufacturing use are also located here.

At the east end of Route 52, the IB district and B district encompass properties immediately adjacent to Exit 8 and contain a mixed use commercial building and a small strip retail center. A gas station is also located at the corner of 5th Avenue and NYS Route 52.

Town of Newburgh Planning Documents

Comprehensive Plan Update, Town of Newburgh (October 2005)

The Newburgh Town Board adopted a new Comprehensive Plan Update (October 2005) on October 3, 2005. It provides a planning vision and strategies for planned growth and future development for the Town.

The following points may be made as related to the Marketplace site:

1. Exhibit III-8, Existing Zoning, of the Plan Update illustrates that the project site is presently zoned "IB".
2. Exhibit III-16, Recommended Rezoning, of the Plan Update recommends that the IB zoning be retained for the approximately 97 percent of the Marketplace site that is presently zoned "IB".
3. If the Town were to enact a growth limit boundary, the project site would be in that area of the Town intended to foster future growth. (see Exhibit III-3 of the Plan Update).
4. The Town has excess water and sewer capacity to handle additional growth (see p. III-3 of the Plan Update).
5. The portions of Route 300 and Route 52 on which the Marketplace property fronts are considered "major corridors of concern". Here, The Plan Update recommends that traffic conditions on these roads be analyzed to determine how to alleviate existing roadway capacity problems and safety concerns.
6. The Plan Update recommends that the Town examine whether residential uses, i.e., senior and affordable housing, are appropriate permitted uses in the IB district.
7. The Plan Update recommends the creation of a Town Center that would serve as a focal point where residents could gather.

Orange County Comprehensive Plan

The Orange County Comprehensive (OC) Plan was adopted in 2003. In general, the County Plan, much like the Town's Plan, seeks to preserve certain rural and ecologically sensitive areas, while allowing more intense development in areas where there is adequate road and utility services to support such growth. These areas for growth in the County Plan are referred to as "Priority Growth Areas". A Priority Growth Area is a general area of preference for future development to maximize efficiency of infrastructure and services and to minimize open space loss in the County.

The project site is located within one of the County's Priority Growth Areas. The project site is also located strategically and proximate to the Newburgh City Area and Stewart Airport transportation hubs.

Town of Newburgh Development Regulations

Various development regulations would apply to the project site and its development as a shopping center.

Zoning - IB and R-3 District Use Regulations

The project site is located in the IB zoning district. Table 3.5-1 lists the permitted uses and uses subject to site plan review approval of the Newburgh Planning Board allowed within the IB zoning district .

Table 3.5-1
Allowable Uses in the IB Zoning District

Permitted Uses

1. Municipal Building and town facilities

2. Existing single-family dwellings

3. Two-family dwellings

Uses Subject to Site Plan Approval of the Planning Board

1. Mini-malls

2. Individual retail stores, convenience stores with or without gasoline filling stations and health clubs and fitness facilities

3. Shopping centers.

4. Theaters

5. Office for business, research and professional use

6. Restaurants and fast-food establishments in conjunction with use shopping centers, theaters and offices for business, research and professional use

7. Research Laboratories

8. Manufacturing, altering, fabricating or processing products or materials involving the use of only oil, electricity, gas or fuel.

9. Warehouse, storage and transportation facilities, including truck and bus terminals, not within 500 feet of Route 17K

10. Dealerships of new motor and camping vehicles, mobile homes, boats and snowmobiles, including repair and service facilities in accordance with §185-28

11. Motor vehicle service stations and public garages, car wash and rental agency, in accordance with 85-28.

12. Hotel and motels in accordance with §185-27

13. Business park in accordance with §185-41

14. Public utility structures and rights-of-way

15. Self-storage centers in accordance with §185-35

16. Affordable housing in accordance with § 185-47

17. Senior citizen housing in accordance with §185-48

18. Travel center in accordance with § 185-48.1

19. Schools and colleges for general and technical education with related facilities

Source: Chapter 185, Zoning, of the Code of the Town of Newburgh, 2005.

The IB district allows various accessory uses. Accessory uses that would be allowed in association with a shopping center include: signs, off-street parking, truck loading facilities, fast-food restaurants, and eating and drinking facilities or food preparation shops not offering full table service.

A small portion of the project site, (approximately 3 percent, or 3 acres) over which the easterly access drive would traverse is zoned R-3. Permitted uses allowed in this zoning district include: single-family dwellings and municipal buildings and town activities.. Uses requiring site plan approval by the Planning Board include, but are not limited to:

- multiple dwellings, one-family attached dwellings, garden style dwellings, affordable housing, membership clubs, places of worship, nursery schools, schools of general instruction, hospitals, funeral homes, cemeteries, senior citizen housing, 2-family dwellings, substance abuse rehabilitation, and community residence for the disabled.

The R-3 district also allows various accessory uses, including off-street parking. There is no plan to develop this portion of the site other than with an access road to the main development area located within the IB zone.

Airport "A" Overlay

Section 185-8.B of the Newburgh zoning law regulates uses that are located within the airspace surrounding Stewart International Airport. All uses within the "A" Airport Overlay district requiring site plan approval must include a site survey with elevations based on United States Geological Survey datum for all areas of the site where structures are proposed. All structures and appurtenances must remain below the height limitations shown on the zoning map.

Any intrusion within the airspace requires approval by the Federal Aviation Administration (FAA) before a permit or approval may be issued by any town agency. Most of the project site is located within the " A-641' " airport overlay district, except that a small portion of the easterly drive near its intersection with NYS Route 52 would be located within the " A-691' " overlay district. The districts would restrict the maximum height of structures and appurtenances to less than 641 feet and 691 feet, respectively.

IB Bulk Regulations

Table 3.5-2 lists the bulk requirements applicable to a shopping center in the IB zoning district.

Table 3.5-2
Bulk Regulations for the IB District

Minimum Lot Area	5 acres
Maximum Lot Building Coverage	30%
Maximum Lot Surface Coverage	80%

Source: Town of Newburgh Zoning Code, 2005.

It is noted that the use, a shopping center, is not subject to specific bulk requirements for minimum lot width, lot depth, front yard, rear yard, or side yards. In terms of building height, it would appear that this use is subject to a maximum building height of 40 feet.[1]

Parking Requirements

The proposed project would be subject to the parking requirements set forth in Section 185-13 of the Newburgh zoning law. At 850,000 square feet of retail space, the project would be subject to the parking requirements for a "shopping center in excess of 25,000 square feet of gross leasable floor area." The standard for parking is a minimum of one (1) parking space per 225 square feet of gross leasable floor area or 4.45 parking spaces per 1,000 square feet of gross leasable area.

Parking spaces are to be no less than nine (9) feet in width and 18 feet in length.

Other standards set forth in Section 185-13, including provisions for landscaping, truck loading areas, and similar parking features, would also apply.

Sign Regulations

The sign regulations contained in Section 185-14 of the Newburgh zoning law provide standards for business uses. The total area of all business signs on a lot shall not exceed ½ of the total length of street frontage of the lot in linear feet. No sign may be located closer than 15 feet to the street line. The signs may be freestanding or attached to a building announcing a business establishment on the same lot. The sign may also be illuminated, however, lighting must be diffused or indirect and arranged so it does not illuminate neighboring properties in a residential district or any public street.

Setbacks and Buffers

Section 185-18.C.(4) of the Newburgh zoning law requires that front yards abutting a state or county road shall be at least 60 feet in depth, or the average of the depth of lots within 300 feet of the property of a lesser depth, but not less than 50 feet or the average of lots within 300 feet of the property, whichever is greater. However, along Union Avenue, no building or structure shall be placed within 80 feet of the centerline of Union Avenue. The proposed project maintains frontage along NYS Route 300 (Union Avenue) and NYS Route 52 and would be subject to these provisions.

The proposed project would also be subject to Section 185-21 of the zoning law. Where a property in the IB district abuts a residence district, the regulations require that a minimum side or rear yard be provided which shall be no less than 100 feet. The 50 feet nearest the residence district must consist of a buffer area with the minimum planting of a screen of evergreens having a uniform height of at least 6 feet above ground level at the time of planting and set in two staggered rows no more than 10 feet apart. The remaining 50 feet of the side or rear yard may be used for parking facilities. Any screening installed in the buffer area must achieve a height of ten (10) feet within three years of installation.

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[1] *The building height column for the IB zoning district makes reference to the building height for a shopping center being "40%", however, this appears to be a typographical error and the building height would be "40" feet.*

Environmentally Sensitive Areas

The project site is characterized by limited areas that contain Army Corps of Engineer regulated wetlands, and areas contained within the 100-year floodplain associated with Quassaic Creek. These areas, shown on the accompanying site plan, are subject to the regulations set forth in Section 185-22 of the Newburgh zoning law that limit disturbances within these areas, and require that long-term soil erosion and sediment control measures are established.

Site Plan Review

Development of the proposed site for a shopping center use would be subject to the procedures set forth in Article IX, Site Plan Review, of the Town zoning law. Section 185-56.L sets forth the development standards used in the Planning Board's decision-making. The Planning Board must give specific consideration to: traffic access; circulation and parking; drainage; landscaping and screening; character and appearance; and conformity with the Americans with Disabilities Act (ADA).

Architectural Review

The proposed project will be subject to architectural review by the Town's Architectural Review Board (ARB). The ARB reviews every application requiring site plan review by the Planning Board (refer to Section 185-59 of the zoning law). The application must be accompanied by samples of materials and colors to be used in proposed buildings and structures and topographic data (if required by the ARB).

The ARB would review the application to ensure that the proposed development promotes architectural beauty and harmony of building design, and prevent buildings or structures from being improperly designed, located or modified in relation to existing buildings and structures, prominent site features, lot lines and street lines.

Other Development Regulations

Blasting

Chapter 66, Blasting, of the Town of Newburgh Code, regulates the manner in which blasting operations are conducted. These regulations provide control measures to ensure blasting is conducted in a safe manner. A NYS blaster's license and a blasting permit is required prior to any blasting operations. The blasting permit is issued by the Town of Newburgh Building Inspector.

Proof of blasting insurance and a surety bond must be submitted to the Town prior to issuance of a blasting permit. Blasting is not permitted between the hours after 7 PM and before 8 AM or on Sundays, without approval from the Building Inspector. Section 3.1 of this DEIS provides additional detail on compliance with this chapter of the Town Code.

Clearing and Grading

Clearing and grading regulations are set forth in Chapter 83, Clearing and Grading. These regulations are enacted to control erosion and flooding due to the removal of vegetation or alteration of surface topography. The Marketplace development will require a permit issued by the Town Building Inspector, including referral to the Planning Board with input from the Town Engineer and Superintendent of Highways. The following types of activities require a permit:

1. Excavation which affects more than one thousand five hundred (1,500) cubic yards of material within any parcel or any one (1) subdivision, excluding proposed public roads.
2. Clearing which affects more than one (1) acre of ground surface, excluding proposed public roads.
3. Grading which affects more than one (1) acre of ground surface within any parcel or any one (1) subdivision, excluding proposed public roads.

Dumpsters and Garage

Chapter 95, Dumpsters and Garbage, sets forth restrictions and regulations pertaining to garbage disposal. Construction debris generated on the project site may be temporarily stored on site in a safe manner, as long as it is removed within 45 days from the issuance of the building permit.

Fire Prevention

Chapter 107, Fire Prevention, sets forth regulations requiring the review and approval of building and site plans for fire prevention and protection measures. The Bureau of Fire Prevention is designated to review such applications on behalf of the Fire Inspector. When plans affect hydrants, water mains and/or road locations, the review and approval by the Fire Chief of the involved Fire District is also required. The Marketplace site and building plans will require review and approval, as required by Section 107-7, by the Fire Inspector and Fire Chief for the Winona Lake Fire District.

Article VIII of Chapter 107 contains requirements for the testing and operation of fire hydrants as well as the clear access of driving lanes on private property devoted to public use. Additionally, privately owned water mains and fire hydrants must be maintained and serviced in accordance with standards set by the Fire Inspector and are subject to inspections by the same. These regulations are applicable to the proposed Marketplace.

According to Chapter 107, Article IX, the proposed Marketplace development is a fire occupancy classification of C-2, a Mercantile Premise. This classification requires sprinkler systems to be installed during construction in accordance with the Town of Newburgh and the National Fire Protection Association standards. The sprinkler systems proposed for Marketplace would be subject to approval for issuance of a building permit and certificate of occupancy.

Flood Prevention

A portion of the 100-year flood plain associated with Quassaic Creek is located on the Marketplace site. The 100-year flood plain is confined to the narrow ravine located in the southeasterly corner of the site, over which one of the access drives is proposed to cross.

Chapter 109, Flood Damage Prevention, regulates uses and activities within special flood hazards, as indicated on the Federal Emergency Management Agency maps, in order to prevent or minimize flooding. Activities involving alteration of natural flood plains, stream channels and natural protective barriers by filling, grading, dredging, or changing water drainage patterns are controlled by this regulation. Development within the special flood hazards areas requires a development permit issued by the Town Building Inspector.

Parking Areas

Shopping center parking areas are regulated by Chapter 131 of the Town Code. This regulation requires that maintenance of parking areas be conducted in a manner to prevent the deterioration and subsequent blight of such areas, maintaining the nature and property values of the shopping center and surrounding properties. Maintenance required within shopping center parking areas includes maintenance and/or repair of ground surfaces, curbs, drainage systems, sidewalks, steps, fences and signs; removal of rubbish, shopping carts or debris from all areas; and the proper care, trimming and/or replacement of all landscaping, to include lawns, within the shopping center. Such shopping centers are subject to inspection and repair as deemed necessary by the Town Building Inspector.

Stormwater Management

Chapter 157, Stormwater Management, regulates erosion and flooding as a result of improper drainage patterns. A stormwater management plan is required and must be submitted for review and approval by the Town Engineer prior to the issuance of a building permit. No waivers may be applied for commercial developments and the submitted plan must meet all applicable requirements specified in Section 157-6. Any conditions imposed by the Town would be in addition to those that may be imposed by the NYS DEC in issuing a SPDES permit for construction activities.

3.5.2 Potential Impacts

Compatibility with Surrounding Land Use Patterns

The Marketplace at Newburgh will be compatible with the majority of land uses within the project vicinity. The project would be compatible with the existing commercial uses located on NYS Route 300. The project would not have any land use impact on Interstate 84 located to the south. With the existing commercial development along this segment of NYS Route 300 and its interchange with I-84, the site is well suited for shopping center development. The development is also compatible with the Newburgh Mall shopping center, an approximately 470,000 square foot enclosed mall with a standalone retail buildings and fast food restaurant, located on the west side of NYS Route 300 opposite the project site.

The Marketplace would introduce stormwater management facilities along the westerly property boundary behind residences that front on Charlile Circle. However, the nearest structural improvement, i.e., streets and drives, would be located at least 300 feet from the nearest residential structure. The project would provide sufficient distance between the proposed buildings, parking areas, and drives so as not to impact this residential enclave which is otherwise surrounded by commercial uses.

The project would introduce a retail use proximate to the single family residential neighborhood located to the north of the site in the vicinity of NYS Route 52 and Hilltop Avenue. The shared residential property boundary is 590 lineal feet of the of site perimeter.

The single family residential neighborhood could be subjected to increased noise and traffic as a result of the construction of the proposed project. These topics are discussed in greater detail in Section 3.6, Transportation, and Section 3.8, Noise, of this DEIS. For these residences, operation of the Marketplace could potentially increase noise levels associated with the following activities:

- Truck traffic and small heavy equipment as a result of delivery of retail products.
- Waste disposal traffic as a result of on-site refuse disposal.
- Traffic from vehicles on the project site as well as increased traffic along nearby roads.
- Snow clearing operations on the internal roads and parking areas during winter months.
- Air conditioning compressors and rooftop mechanical equipment.

A potential impact to residential areas adjacent to the project site might be nuisances created by pedestrians traveling to or from the project site and “short-cutting” through residential areas if the shopping center is not secured in some manner.

During the evening, residents may also experience “night glow” from newly introduced lighting fixtures serving the shopping center if lighting is not designed properly. Mitigation measures to address the potential impacts are described in Section 3.5.3 below.

The Town of Newburgh’s zoning law sets forth minimum yard and buffer area requirements where a use in the IB zoning district abuts a residence district. Compliance with Section 185-21 is discussed below. Through adherence to the buffer regulations, as well as other design features intended to limit impacts to the residence district, the proposed project’s potential impacts on these adjoining uses would be mitigated. Mitigation measures are described in Section 3.5.3 below.

2005 Comprehensive Plan Update

The Marketplace project would conform to the recently adopted Comprehensive Plan Update as the Update envisions that the project would remain in "IB" zoning which is intended to accommodate retail uses. In addition, the Plan Update acknowledges that residential uses such as senior and affordable housing may not be appropriate to the IB zoning district; the Marketplace does not propose any housing.

The Marketplace would result in improvements to the local transportation network, especially along NYS Route 300 and NYS Route 52, which would assist in addressing traffic and safety concerns along these corridors identified as "major corridors of concern." These improvements are described in detail in Section 3.6 of the DEIS.

The Marketplace would be consistent with the Town's objective to avoid suburban sprawl and preserve the rural character of the outlying areas by concentrating nonresidential development in proximity to the I-84/I-87 interchange area, an area within the growth

boundary of the Plan Update. Lastly, the Marketplace's lifestyle center would create a focal point for social activity within the Town.

Compatibility with County and other Regional Plans

The proposed project would be compatible with the adopted Orange County Comprehensive Plan adopted in 2003. As mentioned previously, the project site is located within a Priority Growth Area established in the County Plan. The Plan recommends that commercial and industrial development be located within these areas. The Plan also notes that commercial and industrial users need a combination of the following: central water and sewer services, access to highways, roads and railroad sidings, housing, a favorable tax situation, suitable land for building or expansion, visibility, available emergency services, and a suitable employment base.

The Comprehensive Plan's stated vision for quality communities identifies Priority Growth Areas where future development is preferred to maximize efficiency of infrastructure and services and to minimize open space losses in the County as a whole. In describing the desirable pattern of commercial and industrial development, the Plan notes "that development [since 1980] has been consistent with the Plan and closely related to the triangle of major highways -- Interstate 84, the Thruway (87) and the Quickway (17)." The strategies for quality communities plan encourages uses that support and enhance development centers and corridors.

The proximity of the Marketplace site to major highway interchanges makes the site strategically situated with respect to residentially developed neighborhoods throughout its trade area. The Marketplace, due in part to its critical mass and in part due to the lifestyle center component, will be a project that creates a sense of place and can become a focal point for activity in the Town of Newburgh which presently has no "village" center. The Marketplace will be subject to a cohesive and comprehensive set of design regulations established by the developer in concert with the Architectural Review Board that will include detailed landscape plans and a specific, unified facade program.

Compliance with Zoning and Other Land Development Regulations

The Marketplace retail plan is a use that is allowed within the IB zoning district upon site plan approval by the Planning Board. The site plan has been prepared to comply fully with all the provisions of the Town of Newburgh zoning law, including bulk regulations, setbacks, parking, signage, landscaping, and building height limits. Specifically:

1. The minimum lot area for this use in the IB district is 5 acres; the IB-zoned portion of the project site is approximately 125 acres.
2. No principal structure within the IB district would exceed 40 feet in building height.
3. Building coverage totals approximately 19.2 acres, or 16 percent of the project site located in the IB district, meeting the building coverage requirement.
4. The total lot coverage is 75 percent, or less than the 80 percent permissible in the district.

Airport "A" Overlay

As stated previously, Building "D" would have the highest first floor building elevation, proposed at an elevation of 399 feet above mean sea level (msl). A building that is 40 feet high would have an elevation of 439 feet msl. This is more than 200 feet below the limits established in the Airport Overlay zone, which requires that all structures be located less than 641 feet msl.

Parking Requirements

The proposed project would be subject to the parking requirements set forth in Section 185-13 of the Newburgh zoning law. As presented on the site plan, the project site conforms to the Town's parking regulations. Moreover, the site plan will provide for 40 handicapped parking spaces and will comply in all respects with the handicapped requirements of the town, state and federal agencies having jurisdiction.

Sign Regulations

A signage plan is being developed by the applicant and will be submitted to the Planning Board prior to any site plan public hearing.

Setbacks and Buffers

The proposed site plan meets or exceeds the buffer and building setback requirements in the Town zoning law. It should be noted that a recent study of six adjacent or nearby municipal zoning laws, the buffer and building setback requirements for commercial buildings abutting a residentially zoned property were the most restrictive of any community.

Where a commercial zone abuts a residential zone, the Town of Newburgh zoning law requires a 50-foot landscaped buffer and a 100-foot building setback from a residential property line. On the north side of the Marketplace site where the Marketplace property abuts residentially zoned land, the DEIS site plan shows a minimum building setback of 110 feet and an average of 119 feet in this area.

Section 185-18.C.(4) of the Newburgh zoning law requires that front yards abutting a state or county road shall be at least 60 feet in depth, or the average of the depth of lots within 300 feet of the property of a lesser depth, but not less than 50 feet or the average of lots within 300 feet of the property, whichever is greater. Buildings would not be situated within this area. The project conforms to this requirement along NYS Route 52 as no structures are proposed near the intersection of the internal driveways with these roads.

Along NYS Route 52, the project conforms to the requirement that no building or structure be placed within 80 feet of the centerline of Union Avenue.

As stated above, the proposed building along the northerly property line has been setback a minimum of 110 feet from the property line, exceeding this requirement. In addition, a 50-foot vegetative buffer is proposed. Any disturbance in this area from construction activities will be restored and planted with a combination of evergreen and deciduous plantings as shown on the landscaping plans that are part of the site plan.

At the top of the rock wall, a solid fence eight (8) feet in height would be provided to further buffer the site from adjoining residences, and provide a safety fence as there would be a high rock cut introduced between the residences and the back of the adjoining proposed building containing spaces C, D and 1.

It is also important to note that the topography in this area behind Buildings C, 1 and D is either in significant cut or significant fill. Therefore, this cut or fill situation will provide additional visual buffering as the sight lines from these homes to the buildings will be reduced due to significant topographical changes.

Environmentally Sensitive Areas

Development of the project would conform to Section 185-22 of the Newburgh zoning law. Specifically:

- No septic, leaching fields or wells are proposed in the 100-year floodplain;
- An Erosion and Sediment Control Plan has been developed that will avoid soil deposits within the 100-year floodplain.
- the applicant will obtain all necessary permits from the NYSDEC and the ACOE prior to conducting any work within the floodplain.

With regard to wetlands, the project sponsor would apply for a permit and would conform to all permit requirements of the United States Army Corps of Engineers as required by this section of the zoning law.

Site Plan Review

Development of the proposed site for a shopping center requires approval as per the site plan regulations. A full and complete site plan is being submitted to the Town Planning Board concurrently with the submission of this DEIS.

Architectural Review

At the time of final site plan review and subsequent to SEQRA, the project sponsor will present final building elevations that would be subject to ARB review. This review would be performed prior to the Planning Board's approval of the site plan and ARB recommendations would be incorporated into the site plan approval conditions.

Other Development Regulations

Blasting

Construction of the proposed project will require rock blasting. Section 3.1 of the DEIS provides a blasting plan to mitigate potential effects associated with blasting. A blasting permit will be secured from the Town of Newburgh Building Inspector prior to any blasting activities.

Clearing and Grading

The Marketplace development will require a permit issued by the Town Building Inspector. An Erosion and Sediment Control Plan has been prepared and is included as part of the site plan. Refer to Section 3.1 and 3.4 with regard to the specific controls to be implemented to eliminate effects associated with clearing and grading activities.

Dumpsters and Garage

Construction debris generated on the project site will be temporarily stored on site in a safe manner, and will be removed within 45 days from the issuance of the building permit. The location of dumpsters at the Marketplace development will be in accordance with approved site plans.

Fire Prevention

Construction of the Marketplace will conform to the requirements of Chapter 107, Fire Prevention. The Bureau of Fire Prevention will review the site plan application as well as the Fire Chief of the Winona Lake Fire District.

Once operational, the management entity will be responsible for ensuring proper testing and operation of fire hydrants as well ensuring clear access of driving lanes on private property.

As required by the NYS Code, as well as Chapter 107, Article IX, sprinkler systems would be installed in buildings in accordance with the Town of Newburgh and the National Fire Protection Association standards. The sprinkler systems proposed for Marketplace would be subject to approval prior to issuance of a building permit.

Flood Prevention

Development within the special flood hazard will necessitate a development permit from the Town Building Inspector to construct the proposed easterly access drive. Apart from a stream crossing of the Quassaic Creek, no development activity is proposed for any flood hazard area.

Parking Areas

Once operational, parking areas will be maintained by the Marketplace management company and tenants will pay a proportion of these costs under a provision of their leases known as a Common Area Maintenance or "C.A.M." reimbursements. These maintenance activities under C.A.M. are intended to include all the maintenance required under Chapter 131 of the Town Code.

Maintenance would include repair of ground surfaces, curbs, drainage systems, sidewalks, steps, fences and signs; removal of rubbish, shopping carts or debris from all areas; and the proper care, trimming and/or replacement of all landscaping, to include lawns, within the shopping center. The Marketplace parking areas would be subject to inspection and would be repaired as may be required by the Town Building Inspector.

Stormwater Management

A Stormwater Management Report has been prepared and is included as Appendix F of the DEIS. It must be reviewed and approved by the Town Engineer prior to the issuance of a building permit.

In addition, a Stormwater Pollution Prevention Plan ("SWPPP") will be submitted to the NYS DEC to obtain coverage under the SPDES General Permit for Stormwater Discharges from Construction Activity (GP-02-01).

3.5.3 Mitigation Measures

The proposed site plan has been designed in such a way as to minimize the degree of disturbance to existing residences in the R-3 zoning districts adjoining the project site. These measures are as follows:

- The northerly boundary of the site adjoining the Hilltop residences would be separated from the rear lot line of the residential lots with a 50-foot vegetative buffer as described previously. Building setbacks will be greater than those required under the Town zoning law.
- A 50-foot vegetative buffer is maintained, and additional vegetative screening will be provided between the proposed stormwater management facilities and Charlile Circle.
- Existing vegetation will be retained between the easterly access drive and the residences along Brookside Avenue to limit views of the road.
- The Brookside Avenue cul-de-sac will be reconstructed based upon the recommendations of the Planning Board.
- The proposed buildings nearest the residential structures have been oriented south towards Interstate 84. No customer activity will take place on the northern side of the building nearest the residences.
- The site plan and building configuration has been designed to reduce traffic along the northern property line near the residences.
- The proposed site lighting plan has been designed to provide zero (0) foot candles of light at the residential property boundaries on the north side of the Marketplace site.
- An 8-foot high, solid security fence will be installed along the northerly side of the property.
- Based on meetings with the Hilltop, Fern and Route 52 neighbors, at their request, no pedestrian or vehicular connections are being provided between the residential neighborhoods and the Marketplace due to security concerns.

These mitigation measures will significantly mitigate potential conflicts between residential land uses and the Marketplace.

3.6 Traffic & Transportation

3.6.1 Existing Traffic Conditions

Introduction and Summary

The Marketplace site is strategically and uniquely located at the intersection of two interstate highways: the New York State Thruway (I-87) and Interstate 84. More importantly, the site has virtually direct access to three, four-way interstate interchanges - two on I-84 and one on the Thruway.

Because of its ideal location relative to transportation infrastructure, the majority of the Marketplace traffic that will be arriving and departing will use interstate highways, thereby minimizing traffic effects on local roads. Existing infrastructure supports high capacity with associated high traffic volume design.

The site location in relation to the regional transportation network is shown in Figure 3.6-1. A *Traffic Impact Study* conducted by John Collins Engineers, P.C., assessed the existing traffic conditions near the site and studied the traffic impacts associated with development of this project in combination with six other identified development projects in the Town of Newburgh. The traffic study, dated September 14, 2005, is included as Appendix G of this DEIS.

The *Traffic Impact Study* evaluates existing and future traffic conditions at fifteen intersections which are located in proximity to the proposed Marketplace development. Thirteen existing intersections were identified in the *Final Scope* document submitted to the Town of Newburgh. The I-84 ramps at Exit 7 were evaluated as two intersections, and the new intersection of the relocated Meadow Avenue and Site Access Drive (evaluated in the Build condition only), for a total of fifteen intersections. Figures 3.6-2 and 3.6-2A show the locations of the fifteen intersections. They are:

(1) Union Avenue (Rt 300) and Newburgh Mall Southerly Driveway (Proposed Site Access)
(2) Union Avenue (Rt 300) and Newburgh Mall Northerly Driveway
(3) Union Avenue (Rt 300) and Newburgh Commons Driveway
(4) Union Avenue (Rt 300) and Meadow Avenue/Meadow Hill Road
(5) Union Avenue (Rt 300) and NYS Route 52
(6) NYS Route 52 and Meadow Avenue/Powder Mill Road (Proposed Site Access)
(7) NYS Route 52 and Fifth Avenue (Proposed Site Access)
(8) NYS Route 52 and I-84 Westbound on/off Ramps (Exit 8)
(9) NYS Route 52 and I-84 Eastbound on/off Ramps (Exit 8)
(10) Relocated Meadow Avenue & Site Access Drive (Proposed Site Access)
(11) NYS Route 300 (Rt 300) and I-84 Exit 7 Ramp WB
(12) NYS Route 300 (Rt 300) and I-84 Exit 7 Ramp EB
(13) NYS Route 300 (Rt 300) and Route 32
(14) NYS Route 300 (Rt 300) and Route 17K
(15) NYS Route 300 (Rt 300) and Thruway Exit 17 Ramp/Unity Place
(16) NYS Route 300 (Rt 300) and Stop & Shop/Newburgh Cinemas/Shopping Center Driveway.

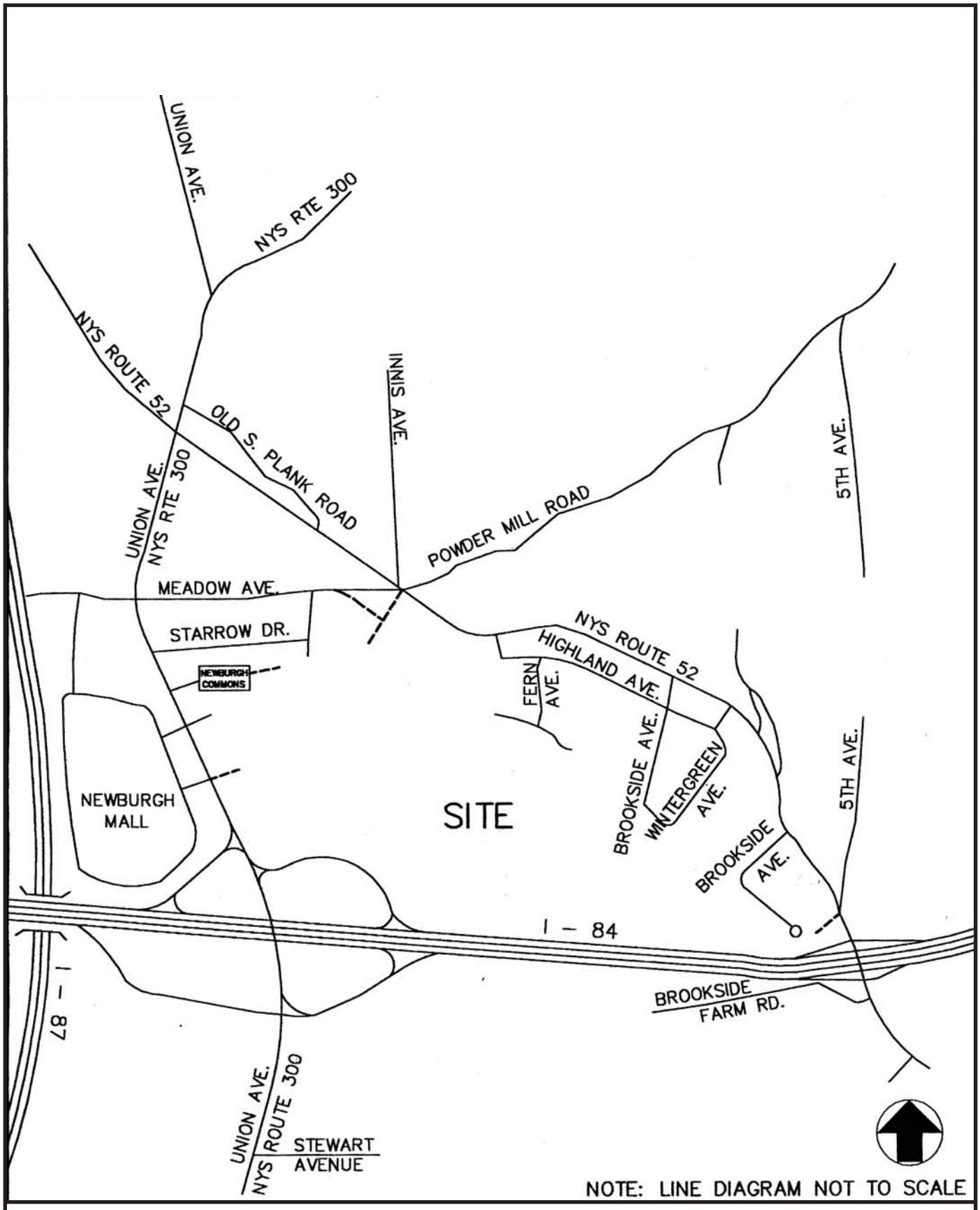

Figure 3.6-1: Site Location Map
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

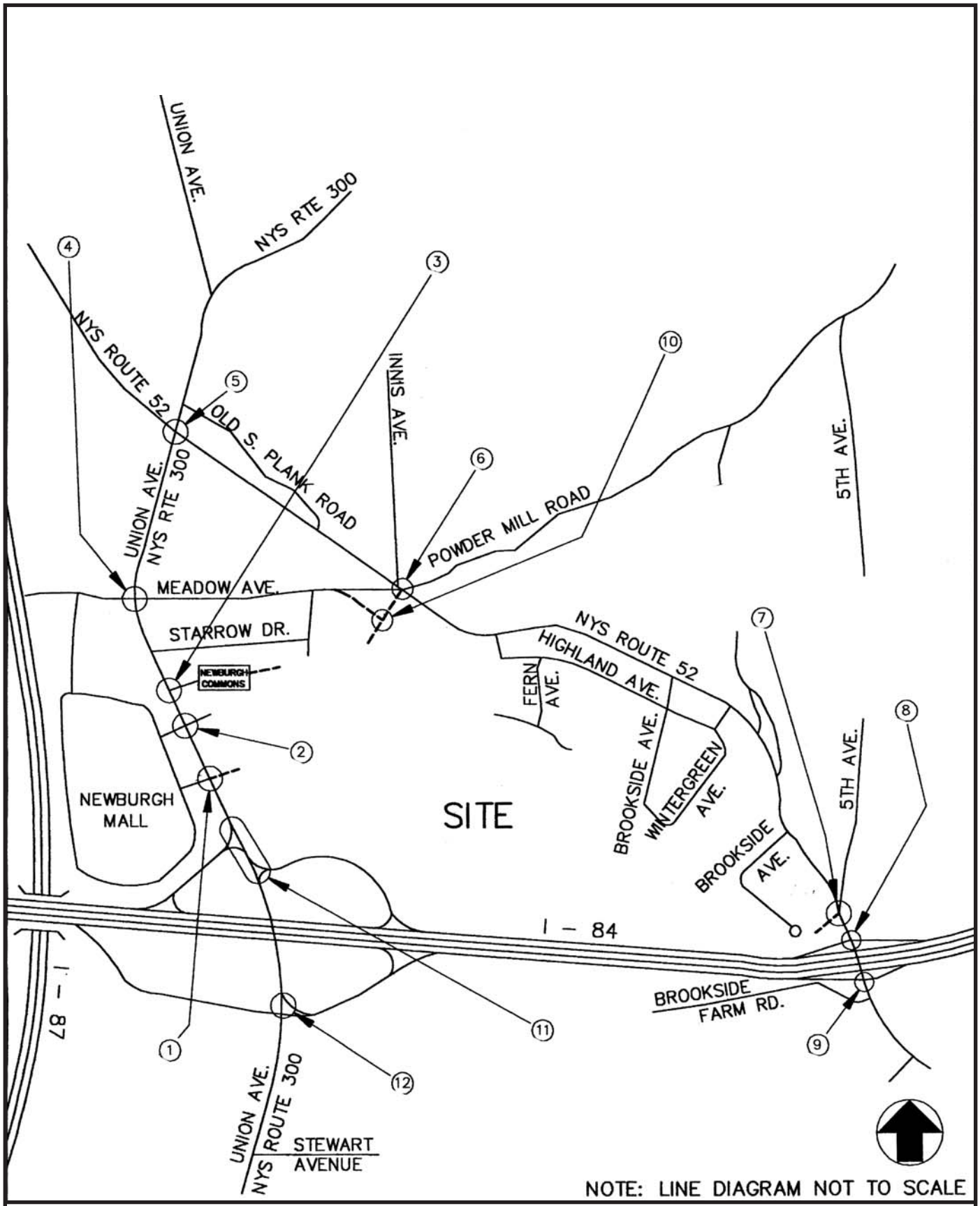

Figure 3.6-2: Intersections Studied
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

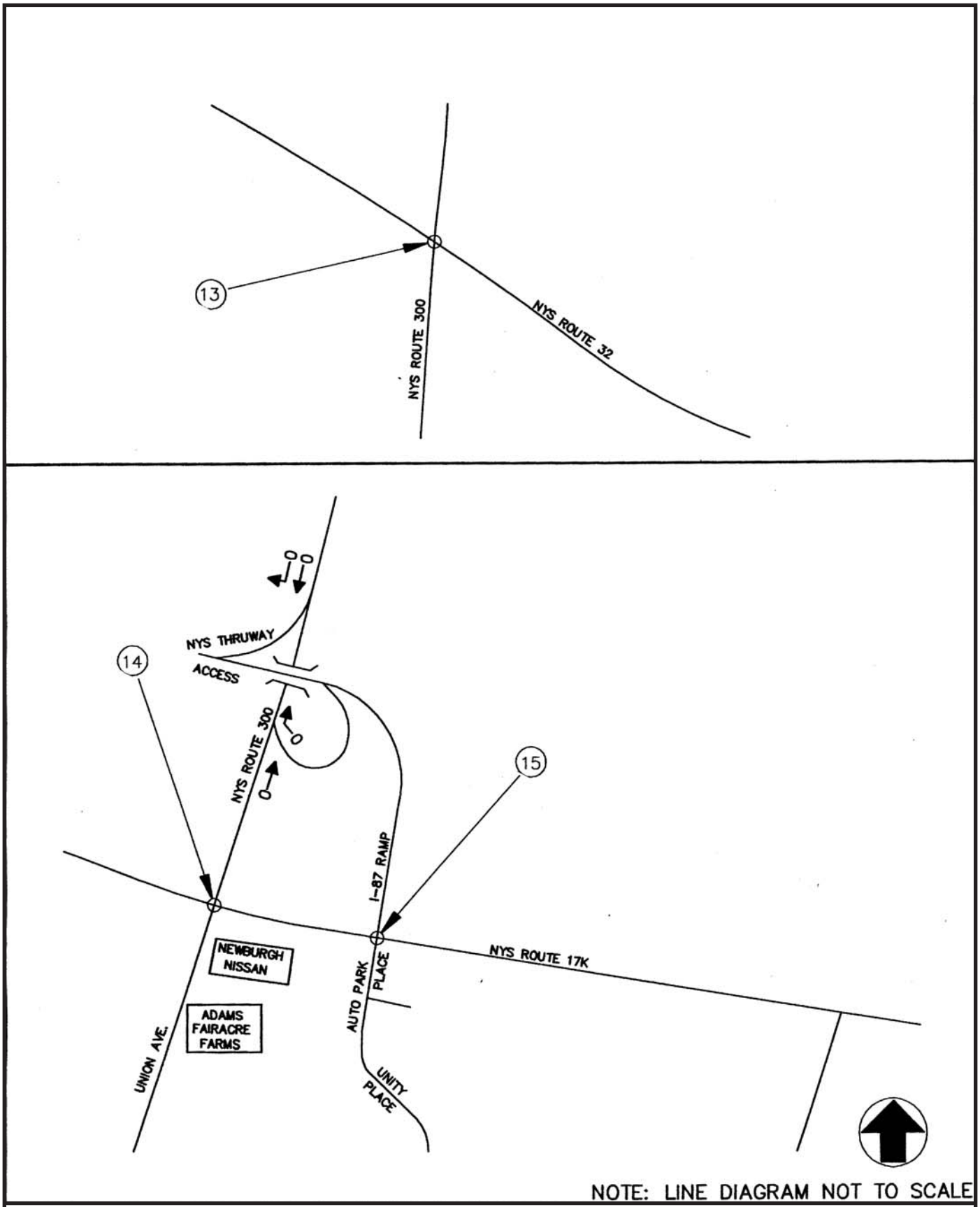

Figure 3.6-2A: Intersections Studied
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

The project site is located on the east side of NYS Route 300, on the north side of Interstate 84 and has frontage in two locations on NYS Route 52. The project site is in the southwest corner of the Town of Newburgh, with excellent regional access provided via Interstates 84 and 87. Interstate 87 is the major north-to-south interstate highway linking New York City with Albany and points north to Montreal, Canada. Interstate 84 is the major east west interstate highway north of New York City, linking Boston, Massachusetts, with many cities through central and western Pennsylvania and points west.

NYS Route 300 provides the primary means of access to the site from major transportation corridors. NYS Route 300 provides a connection between Interstate Routes 87 (the NYS Thruway) and Interstate 84 to the west and south, respectively. NYS Route 52 provides access to the eastern portion of the site with a direct connection to Interstate 84 at exit 8.

NYS Route 300 is the primary north-south transportation corridor extending from I-84 through the Town of Newburgh to points north and south. The access to the Marketplace on NYS Route 300, directly across from the Newburgh Mall, will process an estimated 59% of the traffic generated by the Marketplace.

Approximately ¼ mile south of the proposed Union Avenue (Route 300) entrance to the Marketplace is the access to I-87 (the NYS Thruway). This 4-way interchange on the NYS Thruway is undergoing a major reconfiguration to allow direct access from I-84 to I-87 without traffic exiting on to NYS Route 300. These improvements will, at the same time, reduce traffic flow on portions of NYS Route 300 and provide an even closer access point from the interstate systems to the Marketplace's main (Route 300) entrance. In order to be conservative, the traffic analysis evaluates conditions for operations prior to the completion of the final interchange improvements at the New York State Thruway Exit 17. A sensitivity analysis to show conditions to be expected upon completion of the interchange improvements has been included in Appendix G.

The Marketplace site will also be serviced in two locations from NYS Route 52, one approximately ¼ mile north of exit 8 on I-84 and one approximately 1 mile north of the I-84/Route 52 interchange at the intersection of Route 52, Meadow Avenue and Powder Mill Rd.

In order to assess the impacts of the Marketplace development, manual turning movement counts were taken during the PM weekday and Saturday peak hour periods. Copies of the raw turning movement traffic counts with a list of the various dates of data collection, in addition to hourly information for typical conditions, have been included in Appendix G. The manual counts were conducted on typical weekdays and Saturdays in 2004. The traffic counts were conducted in 15-minute intervals. Traffic counts were supplemented by a review of other area traffic studies conducted in the project vicinity.

Based upon these counts, the evening weekday peak hour occurs between 4:30 PM and 5:30 PM and the peak for the weekend falls on Saturday between 12:30 PM and 1:30 PM.

Arrival /departure patterns were projected and future conditions for the build year of 2008 were evaluated for all study intersections. Based on the results of the traffic analyses, a number of improvements, to be provided for and funded by the developer, to several intersections have been identified.

The important and relevant analysis is to compare the Build with the No-build condition as both sets of numbers and conclusions are based on the same time period (2008) and take into

account increases in traffic exclusive (No-build) and inclusive (Build) of traffic generated by the Marketplace. While the John Collins *Traffic Study* provides full details and analysis of the impact on all intersections in the vicinity of the Marketplace, below are a few summary observations:

1. At the proposed Union Avenue (Route 300) entrance to the Marketplace where approximately 59% of the traffic will enter and exit, the installation of a coordinated signal coupled with the six-lane entrance-exit design, will improve the level of service at this intersection with the Marketplace development over the No-build condition.

2. Proceeding north along Route 300, in the vicinity of Meadow Avenue and the Stop and Shop shopping center, the level of service declines marginally or not at all, under the Build condition.

3. At the proposed entrance at the intersection of 5th Avenue and NYS Route 52, where it is projected that 29% of the Marketplace traffic will enter and exit, under the build condition (with the Marketplace project), the level of service in both directions will remain on average the same (in one direction it will improve and in the other direction the level of service will decline).

4. Due to significant road and signal improvements planned for the current intersection of Meadow Avenue, Powder Mill Road, NYS Route 52 and Innis Avenue, including road widening, providing a left hand turn stacking lane for north bound traffic, signalization improvements, striping and signage, the level of service at this location will be better with the increased traffic from the Marketplace compared to the existing condition. The eastbound approach to this intersection improves significantly, and the overall level of service for all approaches at this intersection improves. This intersection is projected to handle approximately 12% on average of the traffic generated from the Marketplace.

3.6.2 Level of Service Criteria

Peak hour vehicle delays were calculated to establish the quality of operation (level of service) at intersection approach lanes under the existing conditions. No-Build conditions without the project and Build conditions with the project were also analyzed using peak hour delays.

The Highway Capacity Manual and the Highway Capacity Software procedures document the methodology used for modeling levels of service, delay, and volume to capacity ratios at both signalized and unsignalized intersections. Level of service is a measure of the operational quality of an intersection; level of service A is the highest, most efficient level, and level of service F is the lowest level. The operational quality of an intersection is based on the average amount of time a vehicle is delayed. Levels of service are examined by lane group, the set of lanes allowing the same movements on an approach.

The definitions of delay consider all delays including startup, deceleration and acceleration delays. The New York State Department of Transportation prefers the use of the Highway Capacity Manual methodologies over other traffic capacity methodologies.

Table 3.6-1 presents the levels of service criteria for both signalized and unsignalized intersections.

TABLE 3.6-1
Level of Service Criteria

UNSIGNALIZED INTERSECTIONS		SIGNALIZED INTERSECTIONS	
Level of Service	*Average Total Delay (Seconds Per Vehicle)*	Level of Service	Stopped Delay Per Vehicle (Sec)
A	*≤ 10*	A	≤ 10
B	*>10 and ≤ 15*	B	>10 and ≤ 20
C	*>15 and ≤ 25*	C	>20 and ≤ 35
D	*>25 and ≤ 35*	D*	>35 and ≤ 55
E	*>35 and ≤ 50*	E	>55 and ≤ 80
F	*> 50*	F	> 80.0

SOURCE: Highway Capacity Manual, Transportation Research Board, National Research Council, Special Report 209, Washington, D.C..
* For urban areas, the minimum level of service for design of lane-groups (one or more movements) assuming reasonable costs and impacts.

The New York State Department of Transportation (NYS DOT) generally seeks a minimum level of service D (delay of 55 seconds or less for a signalized intersection) for all lane groups. The NYS DOT Highway Design Manual notes, "In some cases, it may be necessary to accept Level of service E or F on individual lane groups due to unreasonable costs or impacts associated with improving the level of service." A lane group is a set of lanes on an approach having the same common movement(s).

For all intersections, the volume to capacity ratio is an indication of the unused capacity or the ability of the intersection to process more traffic. It is possible to have a movement with an adequate level of service (level of service A, B, C or D) and be at capacity for the movement. It is also possible to have a movement with a level of service E or F, with additional capacity available on the movement. The NYS DOT goal for volume to capacity (V/C) ratios at signalized intersections for lane groups is generally below 0.95. The ability of an entire intersection to handle more traffic is a complex issue as traffic can be added to under capacity movements without impacting over capacity movements.

3.6.3 Existing Roadway Network

As previously noted, the proposed Marketplace project would be located east of NYS Route 300 and north of Interstate 84 in the Town of Newburgh. A description of the local roadway system is provided below.

1. Interstate 84 - is a major limited access highway located immediately south of the site. It runs in an east/west direction throughout Orange County. To the east, it provides access to Dutchess County via the Newburgh/Beacon Bridge and to the west it provides access to the western portions of Orange County and to Pennsylvania. In the vicinity of the site, the roadway consists of two lanes per direction and has a posted speed limit of 55 mph. There is an existing cloverleaf interchange (Exit 7) connecting I-84 with Union Avenue immediately south of the site which is being modified and upgraded by the New York State Thruway Authority. A diamond type interchange (Exit 8) connection with NYS State Route 52 is located to the east of the site.

2. NYS Route 300 (Union Avenue) - is under the jurisdiction of the NYS DOT and this roadway consists of five lanes in the vicinity of the site. It has signalized intersections with the Newburgh Mall North Drive and Meadow Hill Road/Meadow Avenue north of the site and with NYS Route 17K south of the site. Continuing north of Meadow Hill Road, Union Avenue narrows to a three lane roadway approaching the intersection with NYS Route 52. North of NYS Route 52, the roadway consists of one lane in each direction. At the intersection with NYS Route 32, the NYS DOT is currently in the process of upgrading the intersection to include separate turn lanes and upgrade signalization.

3. Meadow Avenue - is a two lane Town road which originates at a signalized intersection with NYS Route 52 and Powder Mill Road. It continues in westerly direction and intersects with Union Avenue at a signalized intersection opposite Meadow Hill Road. The road continues in a westerly direction providing access to the Newburgh Mall and the Stop and Shop Shopping Center. It continues west, crosses I-87 and provides access to other residential areas of the Town.

4. NYS Route 52 - is a two lane state road which runs in a generally northwest/southeast direction in the area. It has an interchange connection with the ramps to I-84 (Exit 8) which are signalized intersections with separate left turn lanes. The road continues in a northwesterly direction intersecting with Powder Mill Road/Meadow Avenue as well as NYS Route 300. The road continues through the Town of Newburgh and into the Town Montgomery.

5. NYS Route 17K - is a major state arterial road which runs in a generally east/west direction paralleling Interstate 84 in this area. The road originates in the City of Newburgh and in the vicinity of the site, the roadway consists of five lanes. The road has signalized intersections with De Alfonso Road, NYS Thruway Ramp/Unity Place as well as with NYS Route 300 (Union Avenue). West of NYS Route 300, the roadway becomes a generally two-lane road continuing in a westerly direction and intersecting with I-84 at a signalized diamond interchange. The roadway continues west into the Town of Montgomery.

3.6.4 Existing Pedestrian and Bicycle Activity

No pedestrian or bicycle traffic activity was observed along NYS Route 300 near the Marketplace site. There are no sidewalks, worn paths, or paved shoulders along NYS Route 300. There is a limited section of sidewalk along NYS Route 52 in the vicinity of 5th Avenue. No pedestrian or bicycle traffic activity was observed along NYS Route 52 near the project site.

3.6.5 Existing Mass Transit Service

Daily bus service is provided in the Newburgh area by the Newburgh Beacon Bus Corporation under contract with the Orange County Department of Planning. The County also provides ParaTransit handicapped services to the Town of Newburgh. Regional transportation is provided by Adirondack Trailways, Shortline and Leprechaun Lines, to upstate New York and to the New York City metropolitan area. The City of Newburgh provides on demand dial-a-bus service to city residents. Ulster County provides a single bus route from Ulster County to the Newburgh area under an intermunicipal agreement between Orange and Ulster counties.

Rail service is available via the Metro North/New Jersey Transit Port Jervis line at the Salisbury Mills/Cornwall Station in Cornwall (west side of the Hudson River) and the Metro North Hudson Line at the Beacon Station (east of the Hudson River). In addition, Leprechaun Lines provides a

Newburgh Beacon Stewart Shuttle. This service operates weekdays between Newburgh, Stewart International Airport and Grand Central Terminal via the Metro North Beacon Station.

Additional information regarding the routing, schedules and fares of existing mass transit services is provided in Appendix G of the DEIS.

3.6.6 Traffic Accident Data

Accident data for area roads were collected from the New York State Department of Transportation for the latest three-year period. Copies of the accident data are contained in Appendix G. Table A in the Appendix provides a summary of the accidents by location, type, weather conditions, number of vehicles involved and other important contributing factors. The accident rates have been computed for the various links and compared to statewide averages. A summary table has been included with the accident data in Appendix G.

3.6.7 Existing Levels of Service

Existing traffic volumes for the roadway network are shown in Figures 3.6-3, 3.6-3A, 3.6-4 and 3.6-4A. A summary of the capacity analyses for the area intersections under Existing Conditions is provided in Table 3.6-2 for both signalized and unsignalized intersections.

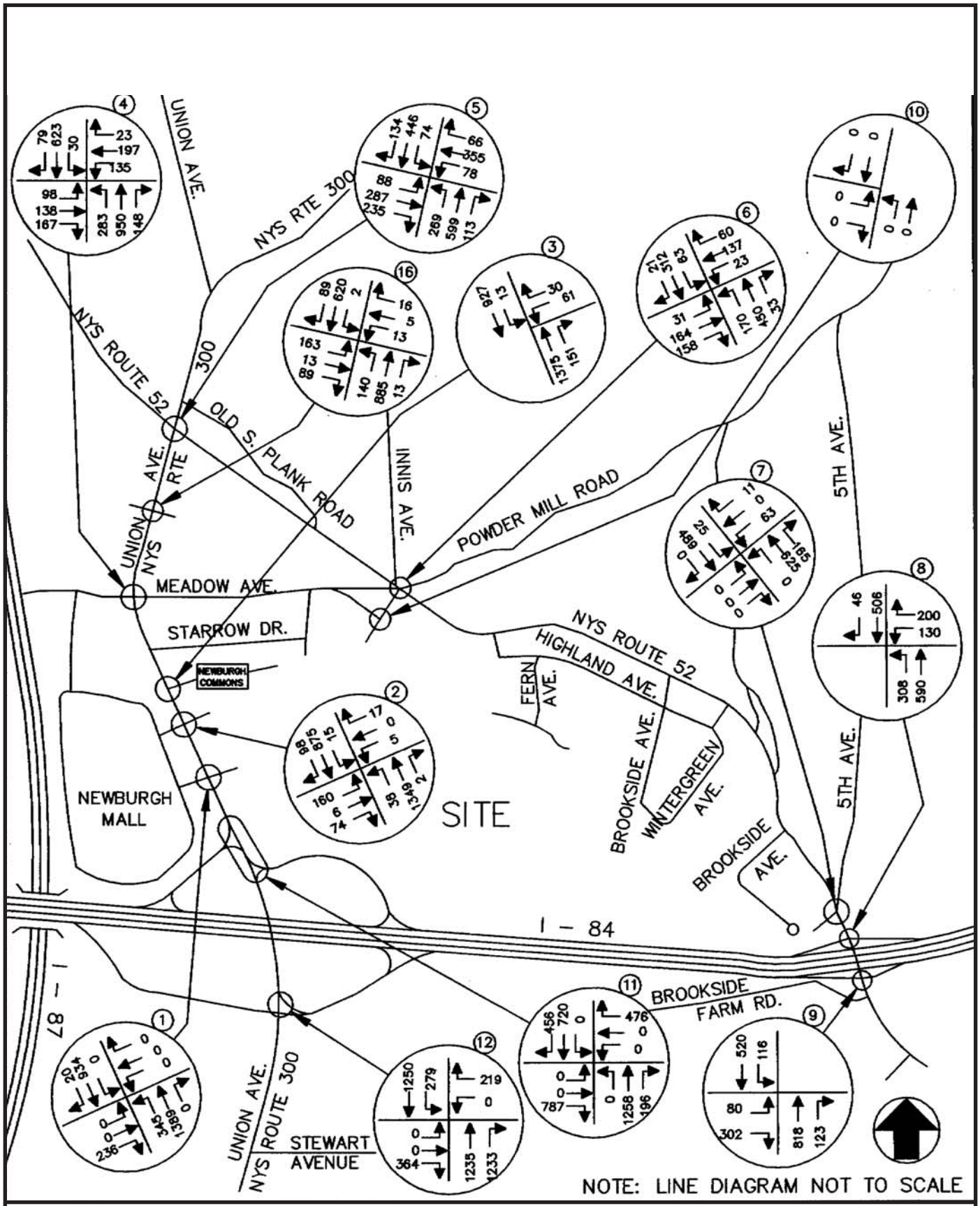

Figure 3.6-3: 2004 Existing PM Peak Hour Traffic Volumes
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

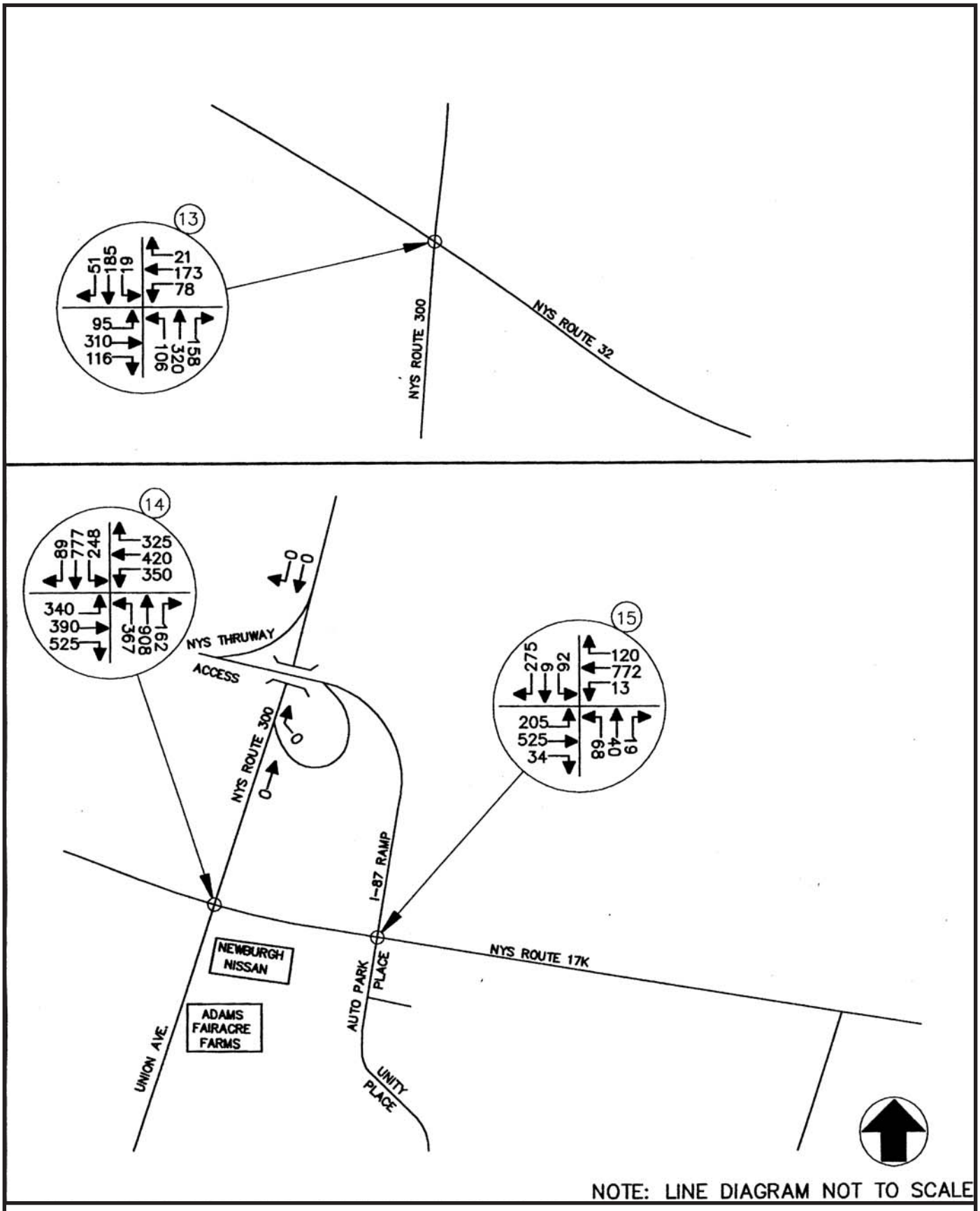

Figure 3.6-3A: 2004 Existing PM Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

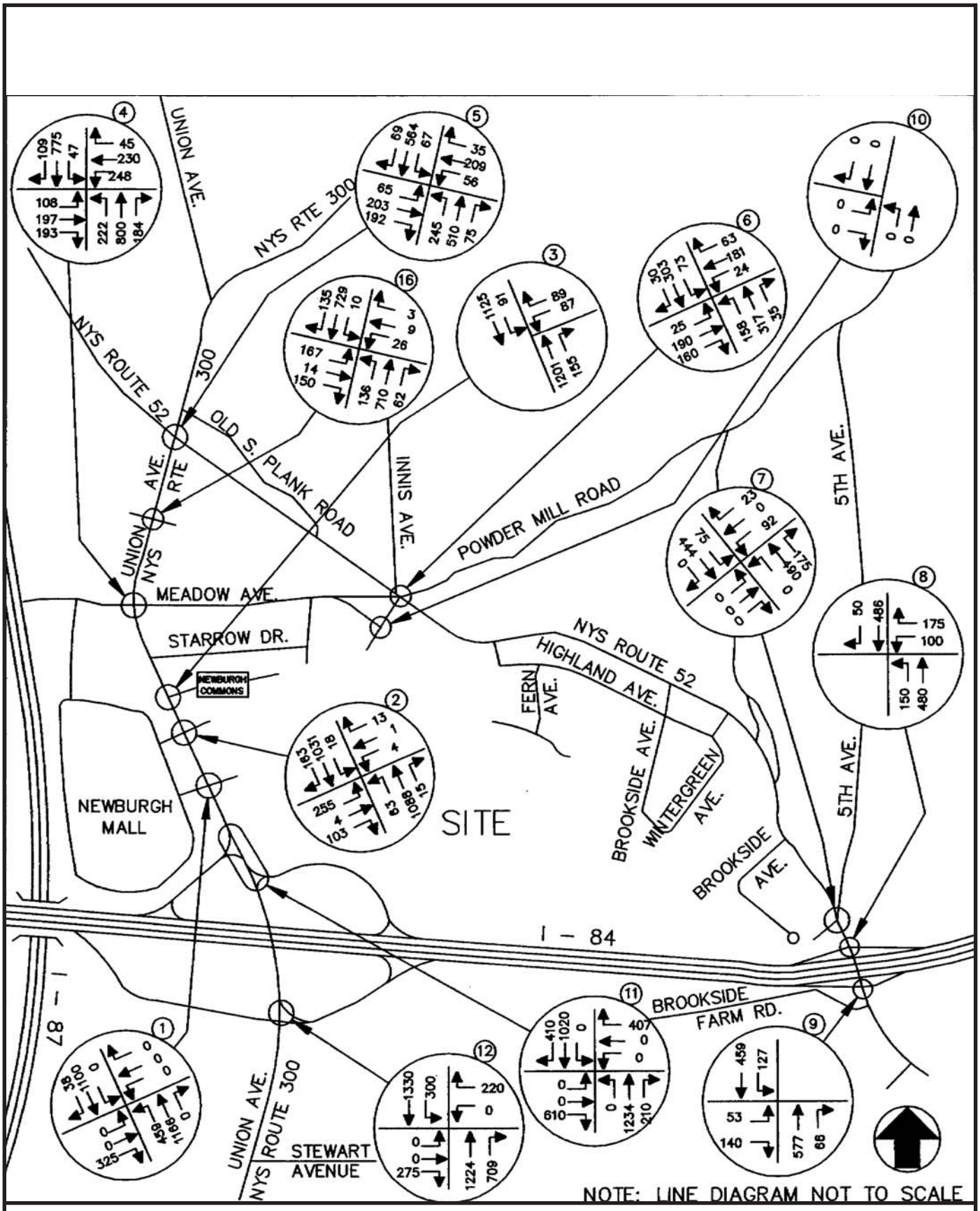

Figure 3.6-4: 2004 Existing Saturday Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

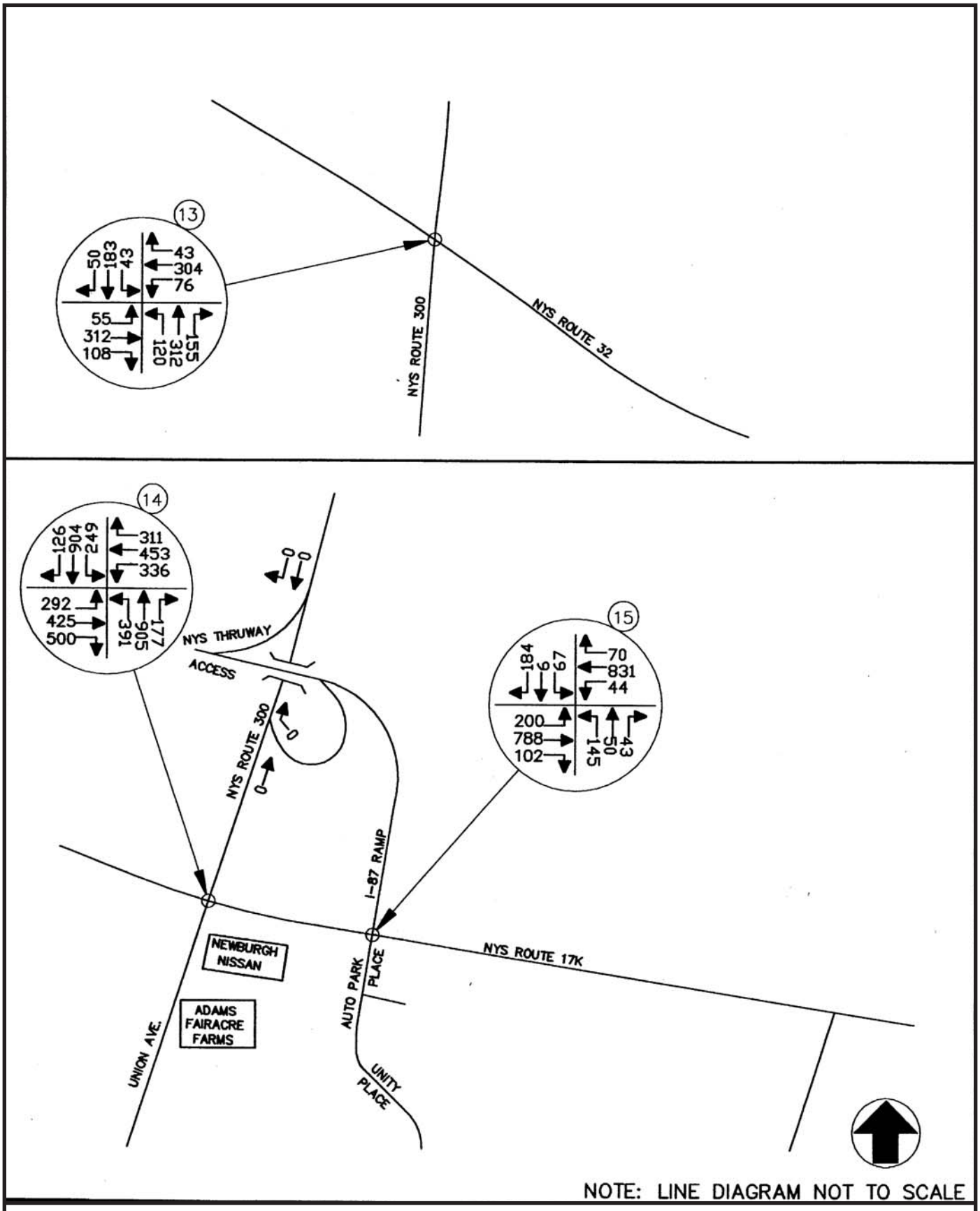

Figure 3.6-4A: 2004 Existing Saturday Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

Table 3.6-2 (a)
Existing Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Newburgh Mall Driveway (South)							
NYS Route 300	NB- L	0.60	18.9	C	0.96	58.2	F
Newburgh Mall Driveway (South)	EB- R	0.53	20.2	C	0.84	44.4	E
NYS Route 300 and Newburgh Mall Driveway (North)							
Newburgh Mall Driveway (North)	*EB- L,T*	*0.40*	*17.4*	*B*	*0.62*	*21.1*	*C*
	EB- R	*0.15*	*15.4*	*B*	*0.21*	*15.8*	*B*
	WB- L,T, R	*0.04*	*14.7*	*B*	*0.03*	*14.7*	*B*
NYS Route 300	*NB- L*	*0.26*	*10.9*	*B*	*0.67*	*29.0*	*C*
	NB-T,R	*0.87*	*20.7*	*C*	*0.71*	*15.0*	*B*
NYS Route 300	*SB- L*	*0.16*	*10.3*	*B*	*0.16*	*10.2*	*B*
	SB-T,R	*0.64*	*13.6*	*B*	*0.79*	*17.0*	*B*
	Overall		*17.5*	*B*		*16.7*	*B*
NYS Route 300 and Newburgh Commons Driveway							
NYS Route 300	SB- L	0.04	15.4	C	0.24	16.1	C
Newburgh Commons Driveway	WB- L	1.81	620.2	F	3.69	1522.0	F
	WB- R	0.11	18.5	C	0.28	19.5	C
NYS Route 300 & Meadow Avenue							
Meadow Avenue	*EB- L*	*0.38*	*31.3*	*C*	*0.40*	*29.4*	*C*
	EB-T,R	*0.78*	*43.6*	*D*	*0.89*	*52.3*	*D*
Meadow Avenue	*WB- L*	*0.54*	*24.3*	*C*	*0.94*	*57.3*	*E*
	WB-T,R	*0.35*	*21.9*	*C*	*0.39*	*18.6*	*B*
NYS Route 300	*NB- L*	*0.75*	*31.0*	*C*	*1.01*	*87.0*	*F*
	NB-T,R	*0.71*	*20.2*	*C*	*0.73*	*24.2*	*C*
NYS Route 300	*SB- L*	*0.31*	*31.3*	*C*	*0.45*	*31.2*	*C*
	SB-T,R	*0.89*	*46.3*	*D*	*0.97*	*55.2*	*E*
	Overall		*30.9*	*C*		*43.2*	*D*
NYS Route 52 & NYS Route 300							
NYS Route 52	*EB- L,T*	*1.59*	*312.9*	*F*	*0.78*	*42.2*	*D*
	EB- R	*0.37*	*16.2*	*B*	*0.29*	*15.4*	*B*
	WB- L,T	*1.34*	*201.0*	*F*	*0.72*	*37.6*	*D*
	WB- R	*0.10*	*13.8*	*B*	*0.05*	*13.4*	*B*
NYS Route 300	*NB- L*	*1.36*	*202.6*	*F*	*0.88*	*27.6*	*C*
	NB- T,R	*1.09*	*77.8*	*E*	*0.85*	*23.4*	*C*
	SB- L	*0.41*	*21.8*	*C*	*0.20*	*12.7*	*B*
	SB- T,R	*0.90*	*42.2*	*D*	*0.92*	*43.9*	*D*
	Overall		*125.8*	*F*		*32.2*	*C*

Table 3.6-2 - Continued (b)
Existing Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 52 and Meadow Avenue Powder Mill Road							
Meadow Avenue Powder Mill Road	*EB- L,T, R*	*1.00*	*78.7*	*E*	*0.76*	*33.1*	*C*
	WB- L,T, R	*0.66*	*35.1*	*D*	*0.54*	*25.5*	*C*
NYS Route 52	*NB- L,T, R*	*0.81*	*17.6*	*B*	*0.79*	*22.1*	*C*
	SB- L,T, R	*0.46*	*8.5*	*A*	*0.54*	*13.5*	*B*
	Overall		*31.0*	*C*		*21.3*	*C*
NYS Route 52 and 5th Avenue							
NYS Route 52	SB- L,T	0.04	9.9	A	0.10	9.7	A
5th Avenue	WB- L,R	0.48	44.5	E	0.70	60.9	F
I-84 Ramp (Westbound) and NYS Route 52							
I-84 Ramp (Westbound)	*WB- L*	*0.29*	*19.8*	*B*	*0.23*	*19.3*	*B*
	WB-R	*0.51*	*21.8*	*C*	*0.44*	*21.1*	*C*
NYS Route 52	*NB- L*	*0.97*	*53.1*	*D*	*0.46*	*9.6*	*A*
	NB-T	*0.63*	*11.4*	*B*	*0.52*	*9.6*	*A*
	SB- T,R	*0.60*	*10.8*	*B*	*0.58*	*10.5*	*B*
	Overall		*20.2*	*C*		*12.0*	*B*
NYS Route 52 and I-84 Ramp (Eastbound)							
I-84 Ramp	*EB- L*	*0.18*	*19.0*	*B*	*0.12*	*18.6*	*B*
	EB- R	*0.77*	*30.7*	*C*	*0.36*	*20.4*	*C*
NYS Route 52	*NB- T,R*	*1.03*	*51.1*	*D*	*0.70*	*12.9*	*B*
	SB- L	*0.70*	*22.2*	*C*	*0.46*	*9.8*	*A*
	SB- T	*0.56*	*10.1*	*B*	*0.49*	*9.3*	*A*
	Overall		*34.0*	*B*		*12.4*	*B*
NYS Route 300 and I-84 Ramp (Westbound)							
1-84 Ramp (Westbound)	WB- R	1.40	225.2	F	1.18	136.4	F
	EB- R	1.48	244.0	F	1.47	247.2	F
NYS Route 300 and I-84 Ramp (Eastbound)							
1-84 Ramp (Eastbound)	*EB- R*	*0.38*	*7.7*	*A*	*0.23*	*1.6*	*A*
	WB- R	*0.16*	*0.20*	*A*	*0.17*	*0.2*	*A*
NYS Route 300	*NB- T*	*0.58*	*9.6*	*A*	*0.47*	*2.2*	*A*
	NB- R	*0.93*	*12.3*	*B*	*0.61*	*3.5*	*A*
	SB- L	*0.54*	*15.7*	*B*	*0.88*	*26.5*	*C*
	SB- T	*0.30*	*0.20*	*A*	*0.32*	*0.2*	*A*
	Overall		*7.6*	*A*		3.4	*A*

Table 3.6-2 continued on next page.

Table 3.6-2 - Continued (c)
Existing Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 32 and NYS Route 300)							
NYS Route 32	*EB- L,T*	*0.85*	*38.2*	*D*	*0.77*	*32.3*	*C*
	EB- R	*0.23*	*19.9*	*B*	*0.20*	*19.7*	*B*
	WB- L	*0.45*	*23.3*	*C*	*0.35*	*21.6*	*C*
	WB- T, R	*0.33*	*20.8*	*C*	*0.56*	*23.8*	*C*
NYS Route 300	*NB- L*	*0.24*	*11.8*	*B*	*0.25*	*11.8*	*B*
	NB-T,R	*0.80*	*31.0*	*C*	*0.74*	*27.7*	*C*
	SB- L	*0.07*	*13.5*	*B*	*0.15*	*13.5*	*B*
	SB-T,R	*0.39*	*20.1*	*C*	*0.36*	*19.9*	*B*
	Overall		*27.4*	*C*		*24.7*	*C*
NYS Route 300 & NYS Route 17K							
NYS Route 17K	*EB- L*	*0.72*	*42.2*	*D*	*0.58*	*34.3*	*C*
	EB- T	*0.66*	*47.2*	*D*	*0.68*	*47.8*	*D*
	EB-R	*0.86*	*43.8*	*D*	*0.77*	*36.6*	*D*
NYS Route 17K	*WB- L*	*0.76*	*45.3*	*D*	*0.68*	*39.8*	*D*
	WB- T	*0.71*	*48.9*	*D*	*0.72*	*49.3*	*D*
	WB-R	*0.50*	*27.1*	*C*	*0.46*	*26.3*	*C*
NYS Route 300	*NB- L*	*0.43*	*14.7*	*B*	*0.40*	*16.2*	*B*
	NB- T	*0.75*	*33.8*	*C*	*0.71*	*34.2*	*C*
	NB-R	*0.17*	*16.0*	*B*	*0.19*	*16.1*	*B*
NYS Route 300	*SB- L*	*0.70*	*29.8*	*C*	*0.66*	*24.8*	*C*
	SB- T,R	*0.69*	*31.8*	*C*	*0.78*	*35.1*	*D*
	Overall		*35.8*	*D*		*34.4*	*C*
NYS Route 17K & I-87 Ramp (Unity Place)							
NYS Route 17K	*EB- L*	*0.67*	*19.9*	*B*	*0.61*	*17.0*	*B*
	EB- T,R	*0.49*	*22.3*	*C*	*0.75*	*27.3*	*C*
	WB- L	*0.03*	*9.4*	*A*	*0.14*	*11.8*	*B*
	WB- T,R	*0.78*	*28.4*	*C*	*0.74*	*27.0*	*C*
I-87 Ramp (Unity Place)	*NB- L,T*	*0.27*	*23.0*	*C*	*0.48*	*25.3*	*C*
	NB- R	*0.02*	*10.4*	*B*	*0.05*	*10.6*	*B*
	SB- L,T	*0.29*	*23.2*	*C*	*0.21*	*22.5*	*C*
	SB- R	*0.31*	*12.5*	*B*	*0.18*	*11.4*	*B*
	Overall		*23.4*	*C*		*24.7*	*C*

Level of Service (see Tables 3.6-1 and 3.6-2 for level-of-service criteria).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
L = Left, T = Through, R = Right, T, R = Through and Right (e.g. WB- L = Westbound left).
Italics are signalized intersections.

Table 3.6-2 continued on next page.

Table 3.6-2 - Continued (d)
Existing Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Stop & Shop/Newburgh Cinema Driveway							
Stop & Shop /Newburgh Cinema Driveway	*EB- L,T*	*0.57*	*30.7*	*C*	*0.56*	*29.9*	*C*
	EB- R	*0.24*	*26.2*	*C*	*0.39*	*26.9*	*C*
	WB- L,T, R	*0.09*	*24.9*	*C*	*0.11*	*24.3*	*C*
NYS Route 300 (Union Avenue)	*NB- L*	*0.38*	*9.2*	*A*	*0.44*	*11.3*	*B*
	NB-T,R	*0.64*	*19.7*	*B*	*0.57*	*19.1*	*B*
	SB- L	*0.01*	*8.7*	*A*	*0.03*	*8.5*	*A*
	SB-T,R	*0.51*	*17.7*	*B*	*0.64*	*20.4*	*C*
	Overall		*19.6*	*B*		*20.6*	*C*

Level of Service (see Tables 3.6-1 and 3.6-2 for level-of-service criteria).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
L = Left, T = Through, R = Right, T, R = Through and Right (e.g. WB- L = Westbound left).
Italics are signalized intersections.

3.6.8 Potential Impacts - No-Build Traffic Conditions

The No-Build traffic volumes represent the traffic conditions expected in the year that the proposed development is projected to be entirely built (but without project-generated traffic). The projected build year is 2008.

To account for other potential background developments in the area, the 2004 existing traffic volumes were increased by a factor of 1.5 percent per year to project traffic volumes to 2008. In addition, peak hour traffic volumes from the following proposed projects/developments were added to the projected traffic volumes:

- Target Store - Route 17K (previous K-Mart location)
- Hilton Garden Inn - Route 300
- Newburgh Retail at NE corner of Route 17K and NYS Route 300
- Britain Commons - Little Britain Road (NYS Route 207)
- Walmart Expansion - Route 300 south of 17K
- Hess Mart - Route17K

No-Build traffic volumes for the roadway network are shown in Figures 3.6-5, 3.6-5A, 3.6-6 and 3.6-6A. A summary of the capacity analyses for the area intersections under No-Build Conditions is provided in Table 3.6-3 for both signalized and unsignalized intersections.

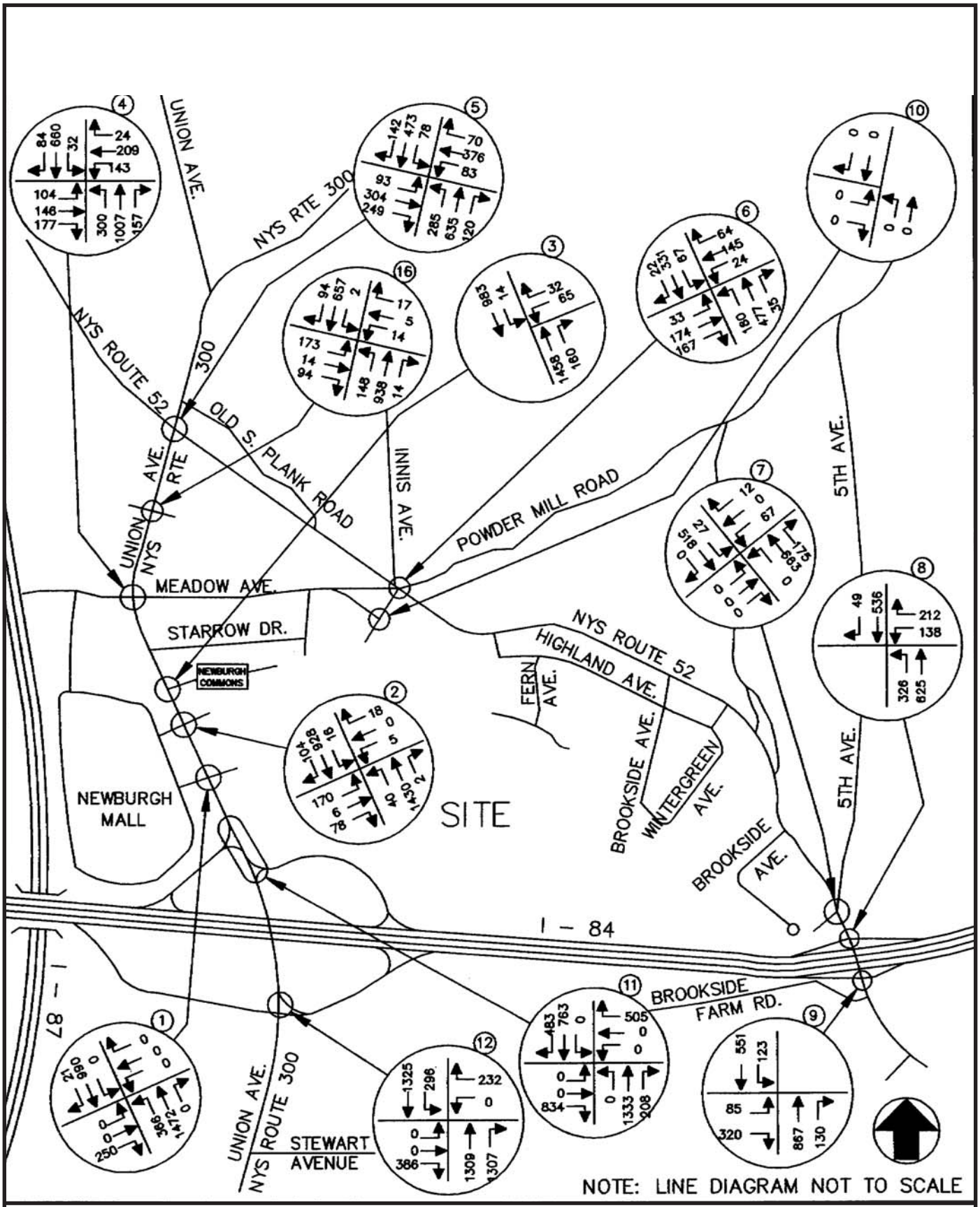

Figure 3.6-5: 2008 No-Build PM Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

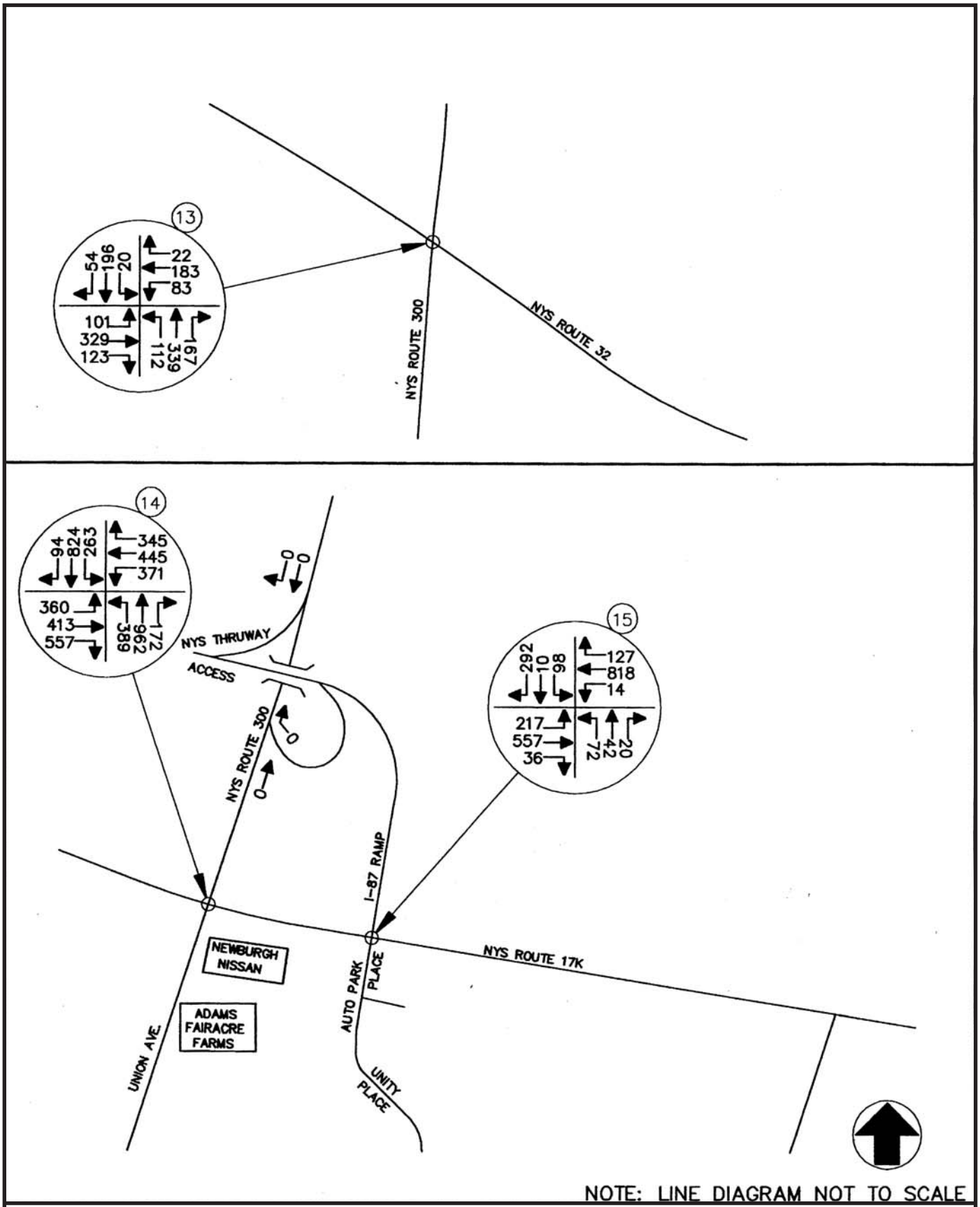

Figure 3.6-5A: 2008 No-Build PM Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

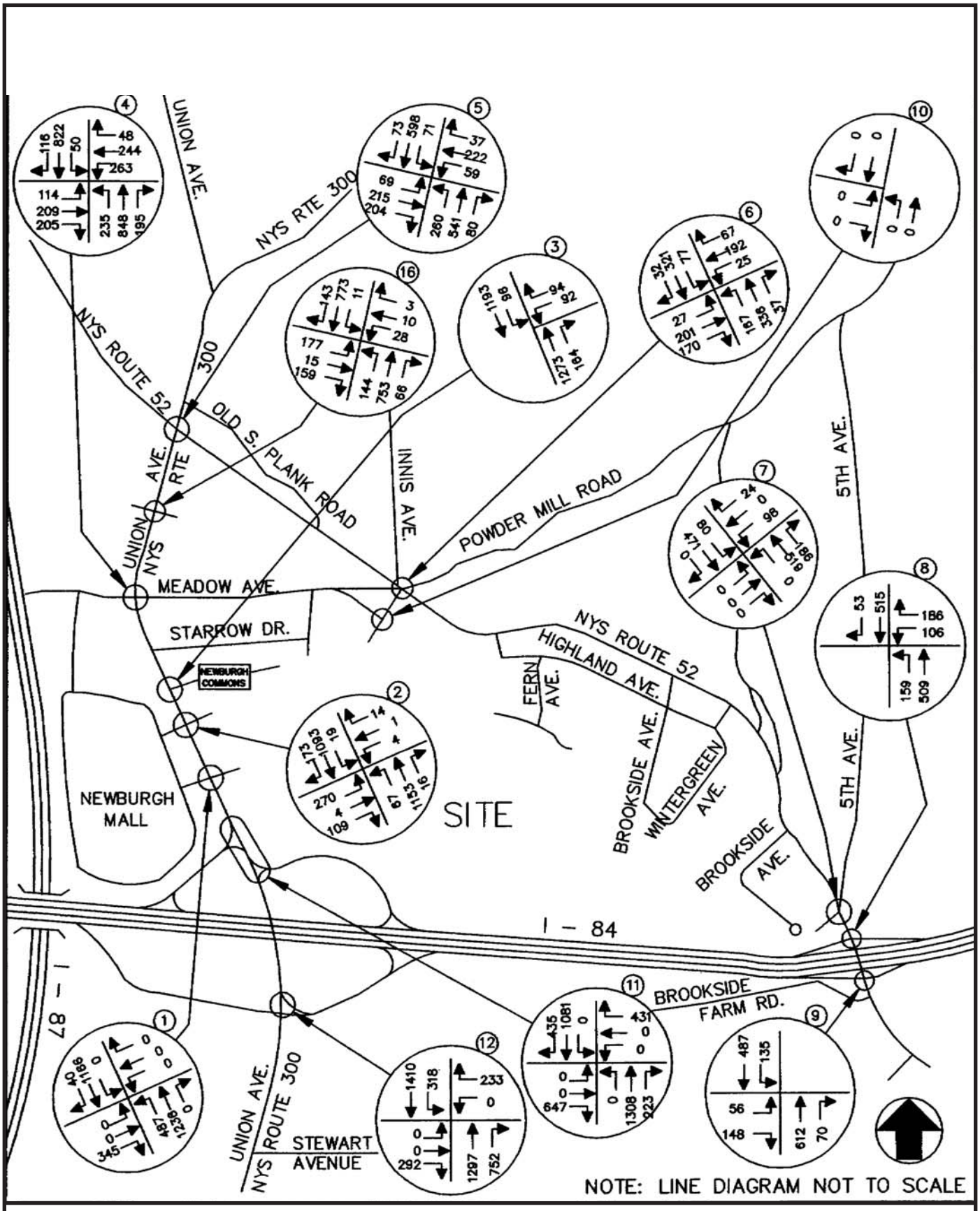

Figure 3.6-6: 2008 No-Build Saturday Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

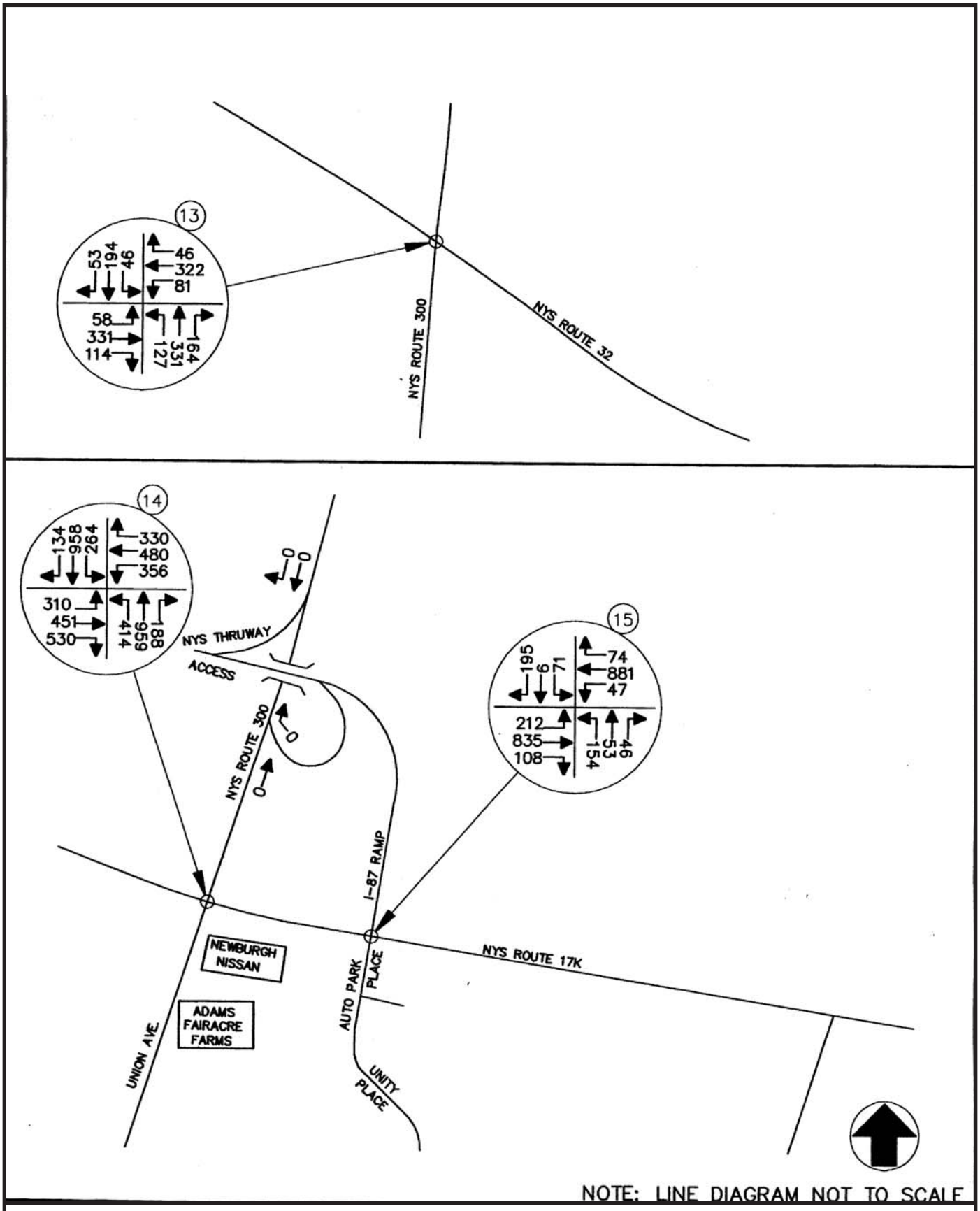

Figure 3.6-6A: 2008 No-Build Saturday Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

Table 3.6-3 (a)
No-Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction-Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Newburgh Mall Driveway (South)							
NYS Route 300	NB- L	0.68	22.5	C	1.09	96.5	F
Newburgh Mall Driveway (South)	EB- R	0.59	23.0	C	0.94	63.8	F*
NYS Route 300 and Newburgh Mall Driveway (North)							
Newburgh Mall Driveway (North)	*EB- L,T*	*0.42*	*17.7*	*B*	*0.66*	*22.4*	*C*
	EB- R	*0.16*	*15.5*	*B*	*0.22*	*15.9*	*B*
	WB- L,T, R	*0.05*	*14.7*	*B*	*0.04*	*14.7*	*B*
NYS Route 300	*NB- L*	*0.31*	*11.5*	*B*	*0.71*	*33.9*	*C*
	NB-T,R	*0.92*	*25.1*	*C*	*0.76*	*16.0*	*B*
NYS Route 300	*SB- L*	*0.17*	*10.4*	*B*	*0.20*	*10.7*	*B*
	SB-T,R	*0.68*	*14.3*	*B*	*0.83*	*18.7*	*B*
	Overall		*20.0*	*C**		*18.2*	*B*
NYS Route 300 and Newburgh Commons Driveway							
NYS Route 300	SB- L	0.05	16.5	C	0.27	17.5	C
Newburgh Commons Driveway	WB- L	2.32	876.9	F	5.10	2232.0	F
	WB- R	0.13	19.9	C	0.32	21.3	C
NYS Route 300 & Meadow Avenue							
Meadow Avenue	*EB- L*	*0.41*	*31.6*	*C*	*0.43*	*29.8*	*C*
	EB-T,R	*0.83*	*47.8*	*D*	*0.95*	*62.6*	*E**
	WB- L	*0.61*	*26.5*	*C*	*1.06*	*94.3*	*F**
	WB-T,R	*0.37*	*22.1*	*C*	*0.41*	*18.9*	*B*
NYS Route 300	*NB- L*	*0.80*	*35.3*	*D**	*1.07*	*103.8*	*F*
	NB-T,R	*0.75*	*21.3*	*C*	*0.77*	*25.6*	*C*
	SB- L	*0.36*	*32.3*	*C*	*0.58*	*37.9*	*D**
	SB-T,R	*0.94*	*53.4*	*D*	*1.03*	*70.5*	*E*
	Overall		*34.1*	*C*		*53.4*	*D*
NYS Route 52 & NYS Route 300							
NYS Route 52	*EB- L,T*	*1.95*	*475.9*	*F*	*0.88*	*55.6*	*E**
	EB- R	*0.39*	*16.5*	*B*	*0.31*	*15.5*	*B*
	WB- L,T	*1.55*	*296.2*	*F*	*0.81*	*45.0*	*D*
	WB- R	*0.11*	*13.8*	*B*	*0.06*	*13.4*	*B*
NYS Route 300	*NB- L*	*1.59*	*310.4*	*F*	*0.93*	*38.5*	*D**
	NB- T,R	*1.16*	*102.3*	*F**	*0.90*	*28.9*	*C*
	SB- L	*0.44*	*22.0*	*C*	*0.23*	*14.4*	*B*
	SB- T,R	*0.96*	*51.8*	*D*	*0.97*	*54.6*	*D*
	Overall		*181.9*	*F*		*40.2*	*D**

Table 3.6-3 continued on next page.

Table 3.6-3 - Continued (b)
No-Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction-Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 52 and Meadow Avenue Powder Mill Road							
Meadow Avenue Powder Mill Road	*EB- L,T, R*	*1.07*	*100.3*	*F**	*0.81*	*36.2*	*D**
	WB- L,T, R	*0.72*	*37.7*	*D*	*0.58*	*26.3*	*C*
NYS Route 52	*NB- L,T, R*	*0.87*	*22.7*	*C**	*0.86*	*27.7*	*C*
	SB- L,T, R	*0.50*	*8.8*	*A*	*0.58*	*14.2*	*B*
	Overall		*38.3*	*D**		*26.0*	*C*
NYS Route 52 and 5th Avenue							
NYS Route 52	SB- L,T	0.04	10.2	B*	0.11	9.9	A
5th Avenue	WB- L,R	0.60	60.7	F*	0.83	88.6	F
I-84 Ramp (Westbound) and NYS Route 52							
I-84 Ramp (Westbound)	*WB- L*	*0.31*	*20.0*	*B*	*0.24*	*19.4*	*B*
	WB-R	*0.54*	*22.4*	*C*	*0.47*	*21.4*	*C*
NYS Route 52	*NB- L*	*1.08*	*86.3*	*F**	*0.51*	*10.4*	*B**
	NB-T	*0.67*	*12.1*	*B*	*0.55*	*10.0*	*A*
	SB- T,R	*0.64*	*11.4*	*B*	*0.62*	*11.1*	*B*
	Overall		*26.5*	*C*		*12.5*	*B*
NYS Route 52 and I-84 Ramp (Eastbound)							
I-84 Ramp	*EB- L*	*0.19*	*19.1*	*B*	*0.13*	*18.6*	*B*
	EB- R	*0.81*	*34.2*	*C*	*0.37*	*20.5*	*C*
NYS Route 52	*NB- T,R*	*1.09*	*70.9*	*E**	*0.74*	*14.2*	*B*
	SB- L	*0.81*	*35.9*	*D**	*0.52*	*10.9*	*B**
	SB- T	*0.59*	*10.6*	*B*	*0.52*	*9.7*	*A*
	Overall		*45.0*	*B*		*13.2*	*B*
NYS Route 300 and I-84 Ramp (Westbound)		***Signalized in No-Buid Condition***					
1-84 Ramp (Westbound)	*WB- L*	*0.83*	*33.2*	*C*	*0.78*	*34.1*	*C*
	EB- R	*0.36*	*0.1*	*A*	*0.31*	*0.10*	*A*
NYS Route 300	*NB- T*	0.77	*17.6*	*B*	*0.69*	*12.7*	*B*
	NB- R	0.27	*10.6*	*B*	*0.26*	*8.3*	*A*
	SB- T	0.44	*12.0*	*B*	*0.57*	*10.8*	*B*
	SB- R	0.63	*15.2*	*B*	*0.51*	*10.4*	*B*
	Overall		*17.0*	*B*		*13.8*	*B*
NYS Route 300 and I-84 Ramp (Eastbound)							
1-84 Ramp (Eastbound)	*EB- R*	*0.40*	*7.7*	*A*	*0.37*	*11.5*	*B**
	WB- R	*0.17*	*0.2*	*A*	*0.18*	*0.2*	*A*
NYS Route 300	*NB- T*	*0.62*	*9.6*	*B**	*0.75*	*17.0*	*B**
	NB- R	*0.99*	*12.3*	*C**	*0.98*	*45.1*	*D**
	SB- L	*0.59*	*15.7*	*C**	*0.53*	*17.7*	*B*
	SB- T	*0.31*	*0.2*	*A*	*0.34*	*0.2*	*A*
	Overall		*11.0*	*B**		15.2	*B**

Table 3.6-3 - Continued (c)
No-Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction-Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 32 and NYS Route 300							
NYS Route 32	*EB- L,T*	*0.93*	*51.0*	*D*	*0.87*	*42.4*	*D**
	EB- R	*0.24*	*20.0*	*C**	*0.21*	*19.8*	*B*
	WB- L	*0.54*	*25.9*	*C*	*0.40*	*22.4*	*C*
	WB- T, R	*0.35*	*21.0*	*C*	*0.60*	*24.6*	*C*
NYS Route 300	*NB- L*	*0.25*	*12.0*	*B*	*0.27*	*12.0*	*B*
	NB-T,R	*0.84*	*34.5*	*C*	*0.78*	*30.0*	*C*
	SB- L	*0.08*	*14.1*	*B*	*0.17*	*14.1*	*B*
	SB-T,R	*0.41*	*20.4*	*C*	*0.38*	*20.1*	*C**
	Overall		*31.8*	*C*		*27.6*	*C*
NYS Route 300 & NYS Route 17K							
NYS Route 17K	*EB- L*	*0.75*	*43.4*	*D*	*0.60*	*39.4*	*C*
	EB- T	*0.70*	*48.4*	*D*	*0.72*	*49.2*	*D*
	EB-R	*0.91*	*51.5*	*D*	*0.83*	*40.3*	*D*
NYS Route 17K	*WB- L*	*0.79*	*47.2*	*D*	*0.70*	*40.7*	*D*
	WB- T	*0.75*	*50.5*	*D*	*0.77*	*51.3*	*D*
	WB-R	*0.54*	*27.9*	*C*	*0.49*	*26.8*	*C*
NYS Route 300	*NB- L*	*0.44*	*15.3*	*B*	*0.41*	*17.1*	*B*
	NB- T	*0.79*	*35.5*	*C*	*0.75*	*33.8*	*C*
	NB-R	*0.19*	*16.2*	*B*	*0.20*	*16.3*	*B*
NYS Route 300	*SB- L*	*0.77*	*39.7*	*D**	*0.72*	*33.5*	*C*
	SB- T,R	*0.73*	*33.2*	*C*	*0.83*	*37.6*	*D*
	Overall		*38.2*	*D*		*36.4*	*D**
NYS Route 17K & I-87 Ramp (Unity Place)							
NYS Route 17K	*EB- L*	*0.73*	*28.0*	*C**	*0.68*	*23.3*	*C**
	EB- T,R	*0.52*	*22.6*	*C*	*0.79*	*29.0*	*C*
	WB- L	*0.04*	*9.6*	*A*	*0.15*	*12.4*	*B*
	WB- T,R	*0.82*	*30.5*	*C*	*0.78*	*28.6*	*C*
I-87 Ramp (Unity Place)	*NB- L,T*	*0.29*	*23.2*	*C*	*0.51*	*25.8*	*C*
	NB- R	*0.02*	*10.4*	*B*	*0.05*	*10.6*	*B*
	SB- L,T	*0.31*	*23.5*	*C*	*0.24*	*22.7*	*C*
	SB- R	*0.33*	*12.7*	*B*	*0.19*	*11.5*	*B*
	Overall		*25.2*	*C*		*26.4*	*C*

Level of Service (see Tables 3.6-1 and 3.6-2 for level-of-service criteria).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
L = Left, T = Through, R = Right, T, R = Through and Right (e.g. WB- L = Westbound left).
Italics are signalized intersections.

* Denotes a decline in level of service compared to Existing Conditions.

Table 3.6-3 continued on next page.

Table 3.6-3 Continued (d)
No-Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Stop & Shop/Newburgh Cinema Driveway							
Stop & Shop /Newburgh Cinema Driveway	*EB- L,T*	*0.60*	*31.9*	*C*	*0.60*	*30.9*	*C*
	EB- R	*0.25*	*26.3*	*C*	*0.41*	*27.2*	*C*
	WB- L,T, R	*0.10*	*25.0*	*C*	*0.12*	*24.4*	*C*
NYS Route 300 (Union Avenue)	*NB- L*	*0.41*	*9.7*	*A*	*0.49*	*12.3*	*B*
	NB-T,R	*0.68*	*20.4*	*C**	*0.60*	*19.6*	*B*
	SB- L	*0.01*	*9.1*	*A*	*0.03*	*8.7*	*A*
	SB-T,R	*0.54*	*18.1*	*B*	*0.68*	*21.2*	*C*
	Overall		*20.2*	*C**		*21.3*	*C*

Level of Service (see Tables 3.6-1 and 3.6-2 for level-of-service criteria).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
L = Left, T = Through, R = Right, T, R = Through and Right (e.g. WB- L = Westbound left).
Italics are signalized intersections.

3.6.9 Potential Impacts - Build Traffic Conditions

In order to estimate the amount of traffic that would be generated by the Marketplace during peak hours, information published by the Institute of Transportation Engineers (ITE) in its publication Trip Generation (7th Edition, November 2003) was used.

With respect to the adjacent roadways, the ITE data indicate that a major portion of the trips to the Marketplace would come from the existing traffic stream and are therefore not considered new trips on the roadway network but are classified as “pass-by trips” or trips which are diverted from the existing traffic stream. Based on the ITE data for this size shopping center, between 25% and 35% of the trips can be expected to already be on the roadway network. For the purpose of this report, a 25% pass-by credit has been used which is considered somewhat conservative.

Tables 3.6-4 and 3.6-5 summarize the trip generation rate and the number of trips to be generated by the project, respectively. The project would generate approximately 1,930 new vehicular trips in the weekday PM peak hour, and 2,610 new vehicular trips in the Saturday peak hour.

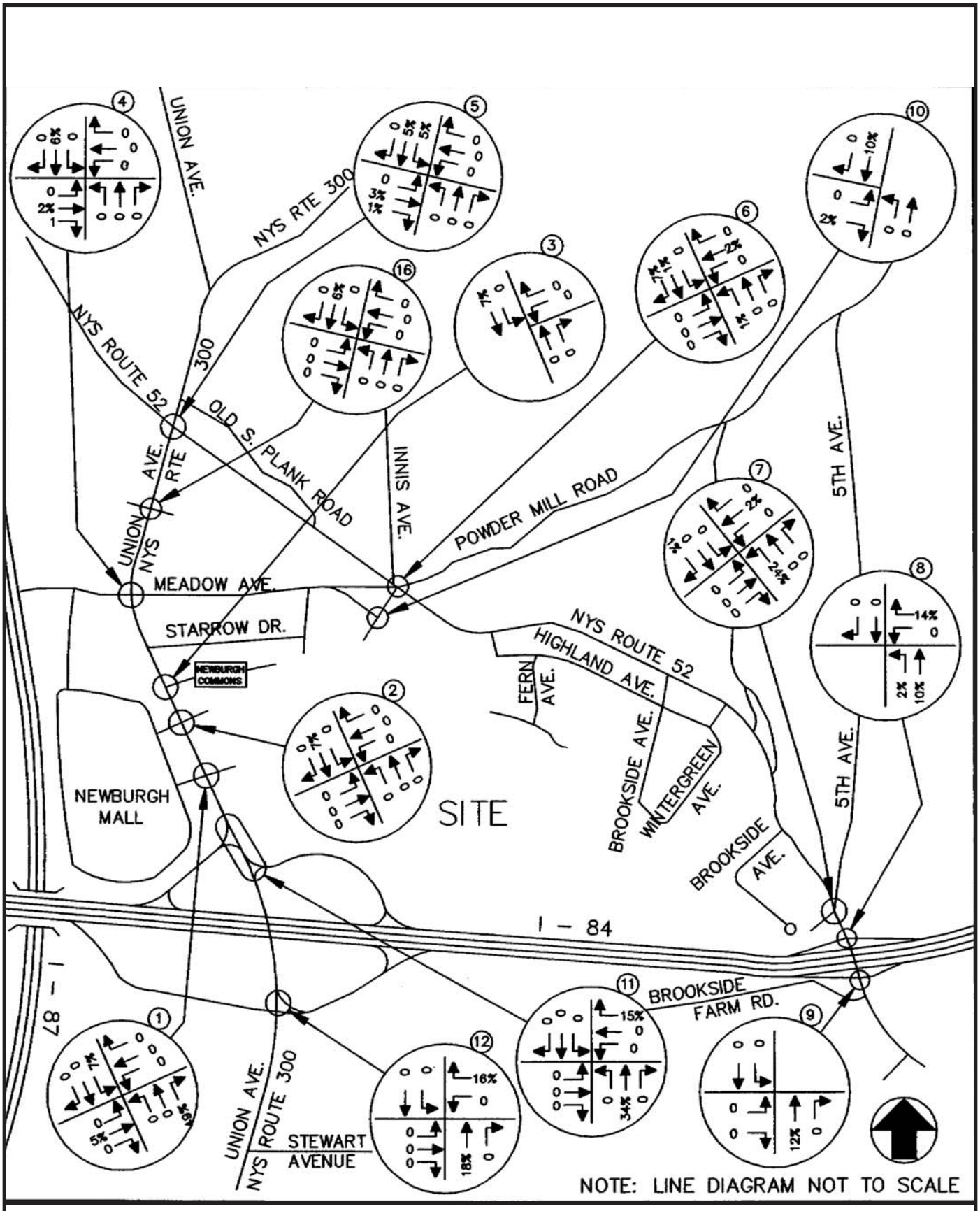

Figure 3.6-7: Arrival Distribution
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

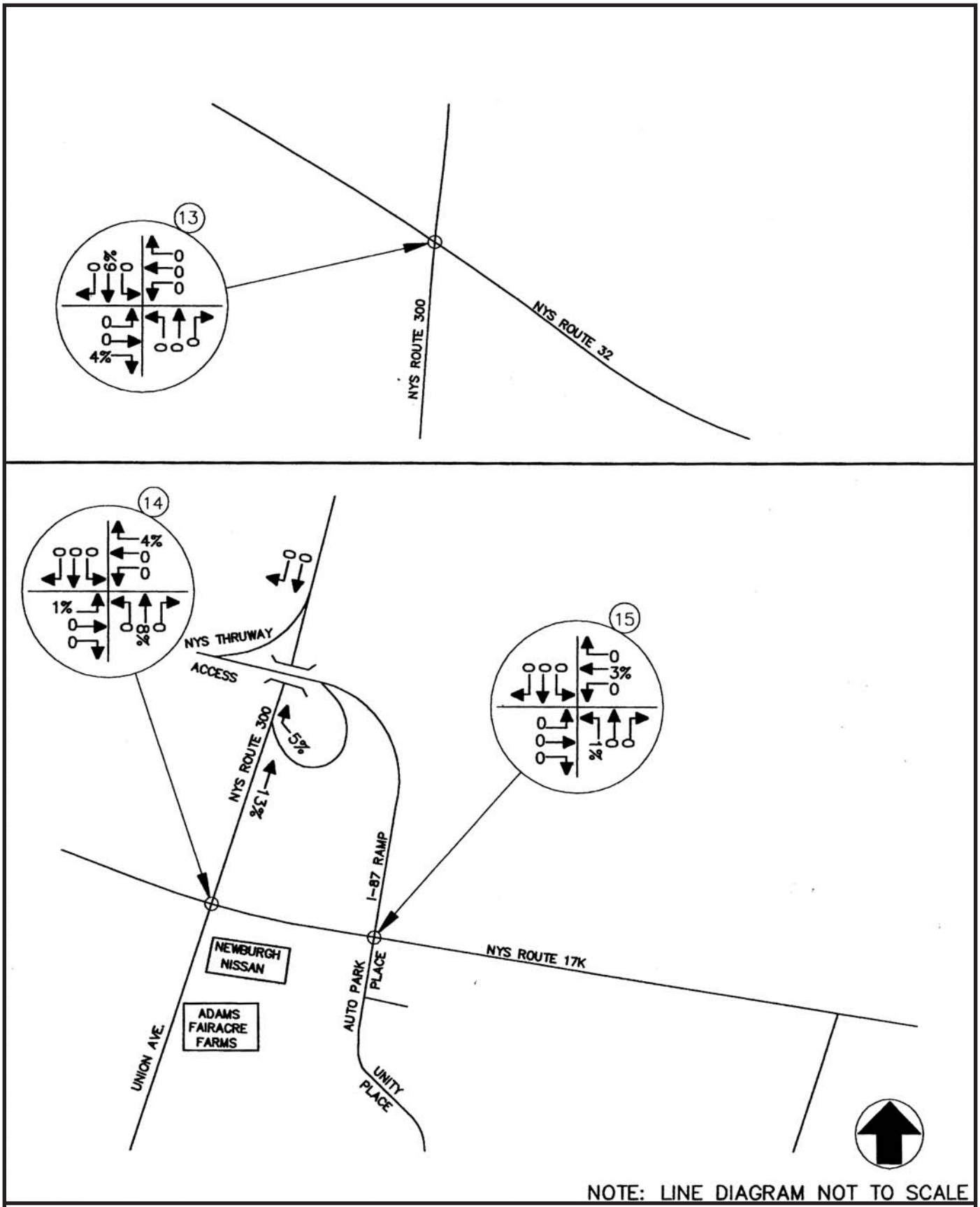

Figure 3.6-7A: Arrival Distribution
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

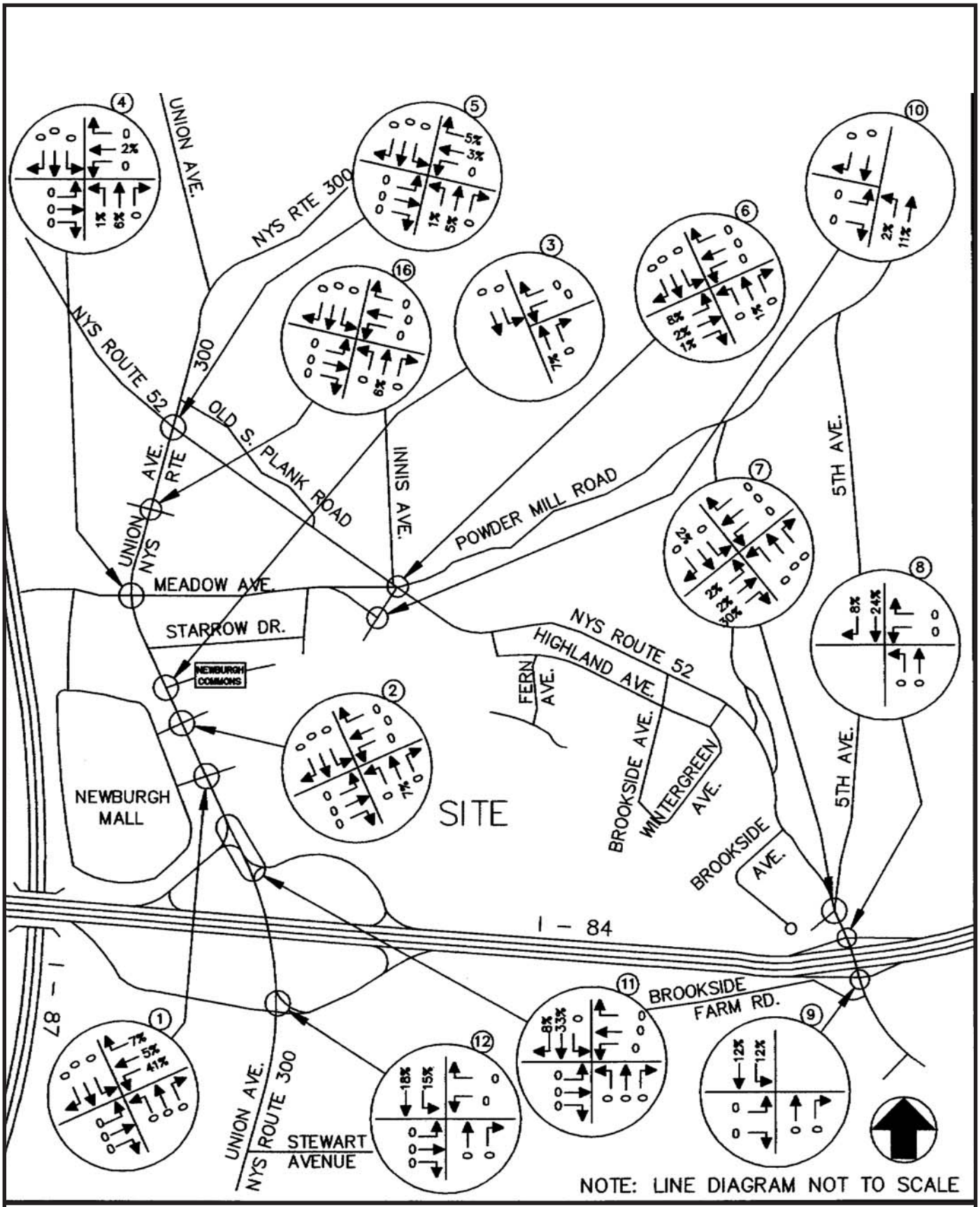

Figure 3.6-8: Departure Distribution
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

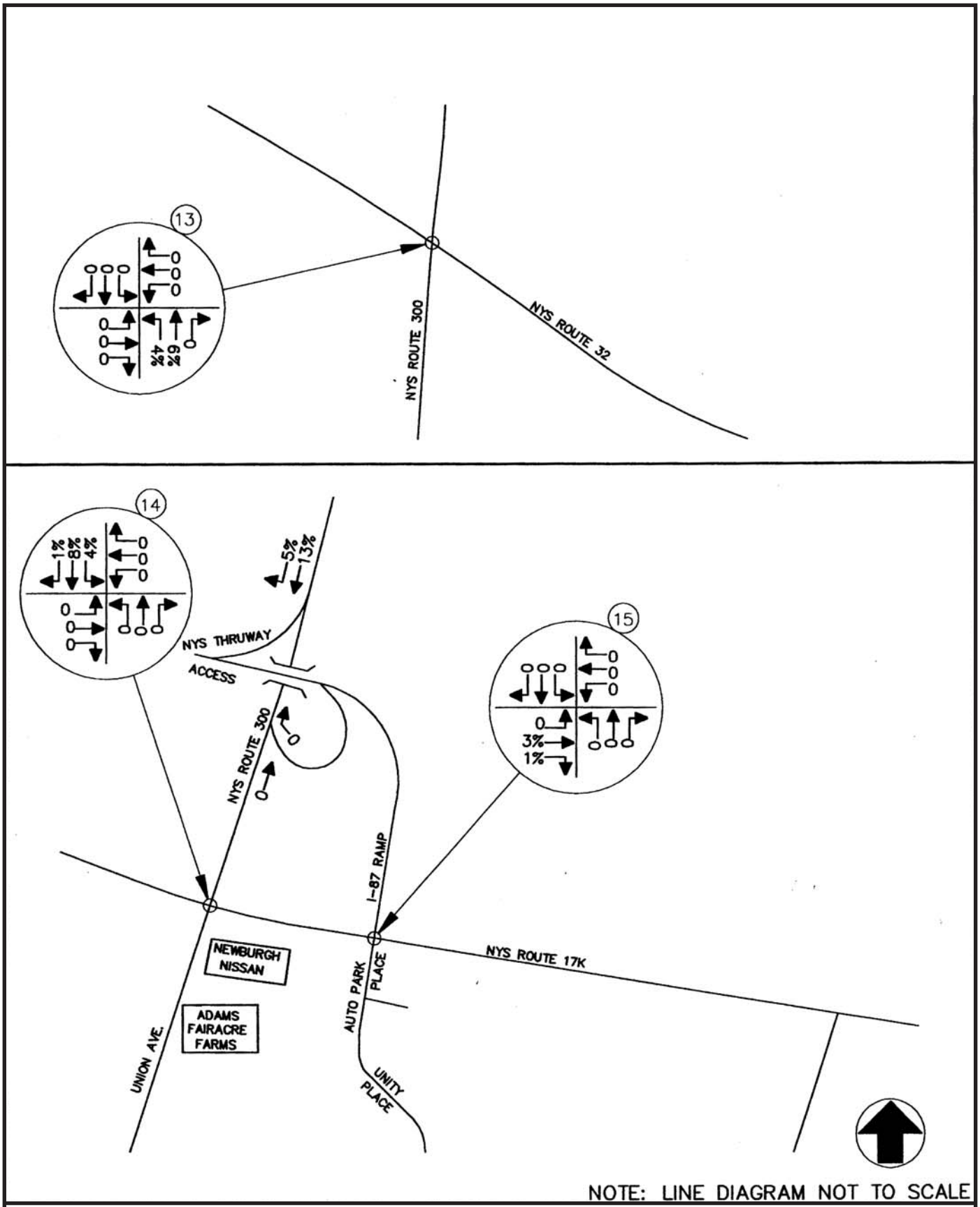

Figure 3.6-8A: Departure Distribution
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

Table 3.6-4
Trip Generation Rates

Potential Land Use and Size {ITE Code}	Trips Rates [1]			
	PM Peak Hour		SAT Peak Hour	
	Trips/1,000 sf		Trips/1,000 sf	
	Enter	Exit	Enter	Exit
Shopping Center - 850,000 square feet(sf) {820}	1.51	1.51	2.04	2.04

[1] Trip Generation, Institute of Transportation Engineers, 7th edition, Washington DC, 2003.

Table 3.6-5
Project Site Trip Generation

Land Uses (size) {ITE Code}[1]	Trips			
	PM Peak Hour		SAT Peak Hour	
	Enter	Exit	Enter	Exit
Shopping Center - 850,000 square feet(sf) {820}	965	965	1305	1305

[1]Trip Generation, Institute of Transportation Engineers, 7th edition, Washington DC, 2003.

Note: A 25% pass-by credit has been deducted from the Trip Generation calculated in Table 3.6-5 to determine the number of shopping center trips.

Based on the results of the traffic counts conducted at the existing Newburgh Mall driveways, a review of the other existing traffic volumes on the area roadways, and other pertinent population data, the expected arrival/departure distributions were identified. Figures 3.6-7 and 3.6-7A show the anticipated arrival distribution and Figures 3.6-8 and 3.6-8A show the departure distribution for the trips to and from the proposed shopping center.

The trips generated for both peak hours were distributed over the project network. Figures 3.6-9, 3.6-9A, 3.6-10 and 3.6-10A, show the project-generated traffic distributed over the road network.

The project-generated traffic was then added to the No-Build traffic to produce the Build traffic condition. Figures 3.6-11, 3.6-11A, 3.6-12 and 3.6-12A, show composite traffic volumes for the Build condition.

A capacity analysis was conducted for each of the site driveways as well as the adjacent intersections utilizing the 2008 No-Build and 2008 Build Traffic Volumes in order to determine future Levels of Service under the 2008 No-Build and 2008 Build Conditions. Copies of the capacity analysis worksheets are contained in Appendix G of the DEIS. The following is a brief description of each of the intersections analyzed, the results of the capacity analyses, and any corresponding recommended improvements:

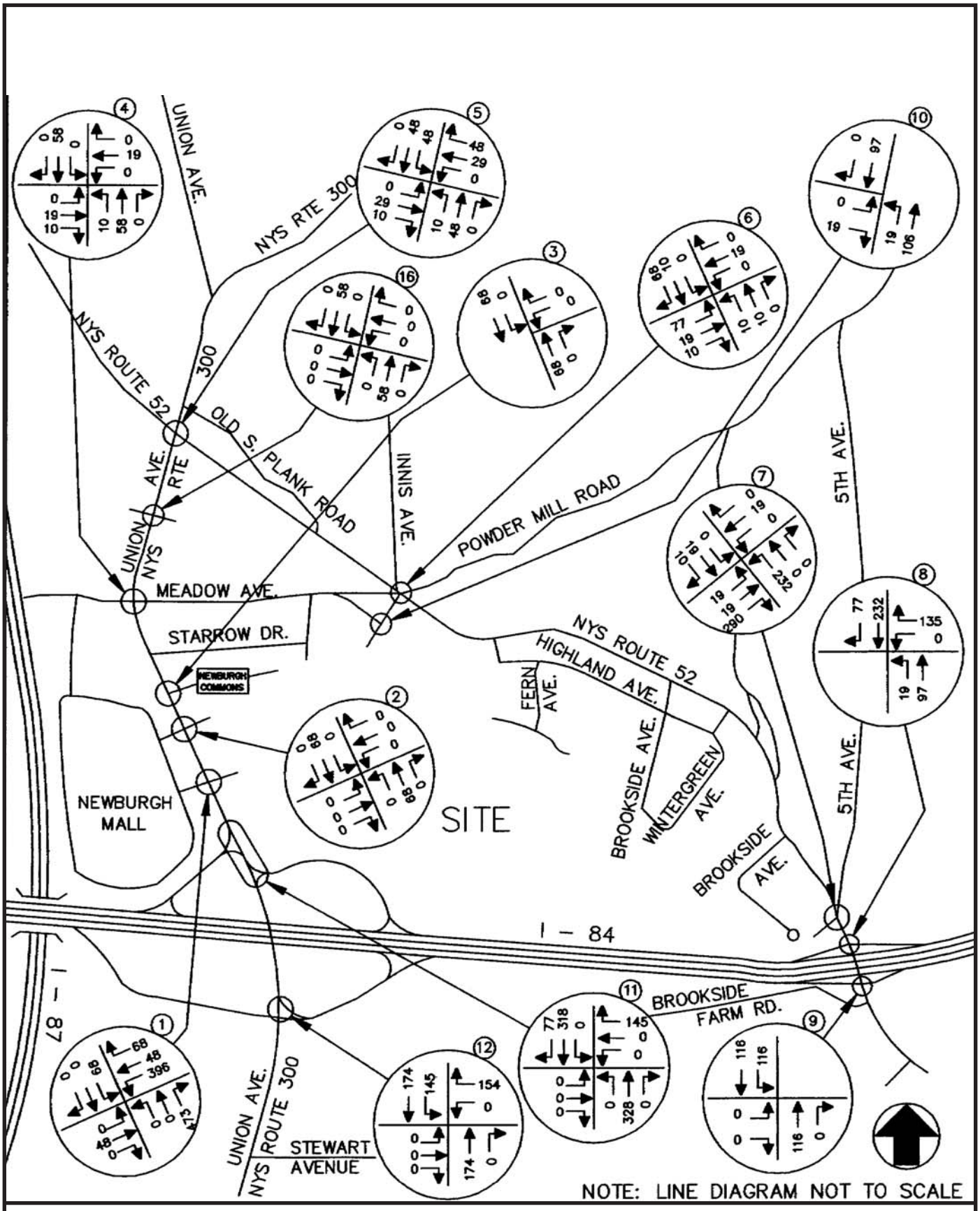

Figure 3.6-9: PM Site Generated Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

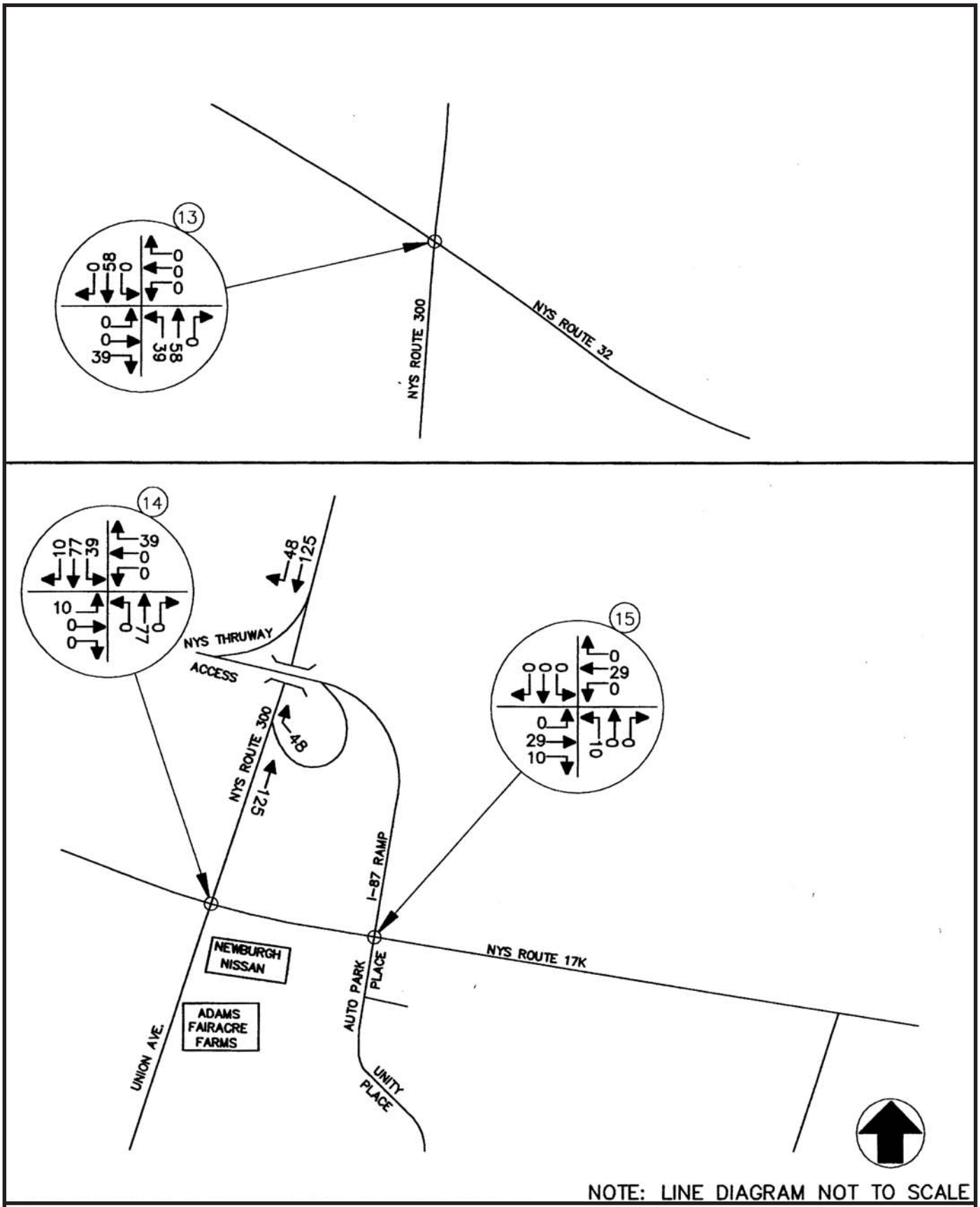

Figure 3.6-9A: PM Site Generated Traffic Volumes
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

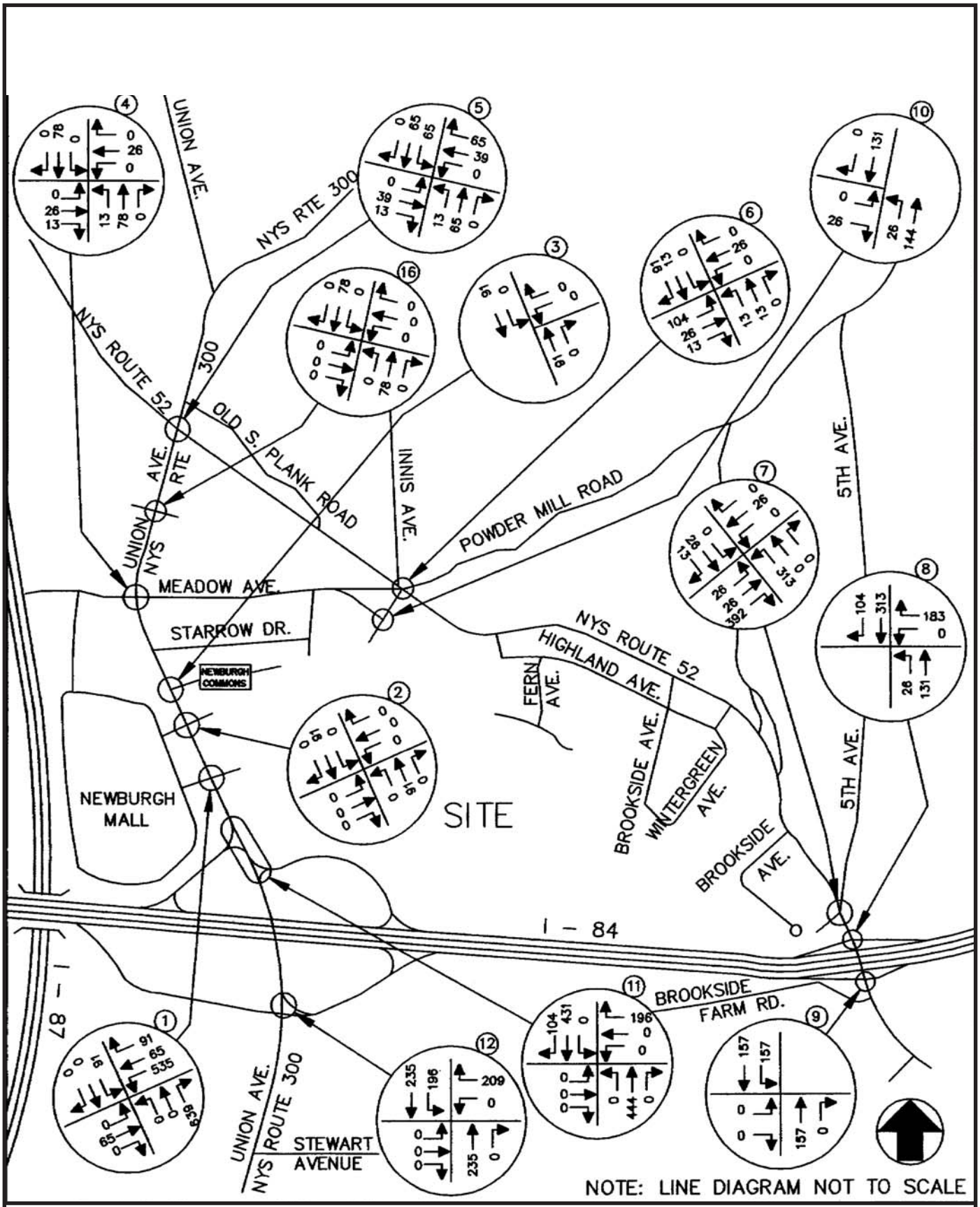

Figure 3.6-10: Saturday Site Generated Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

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

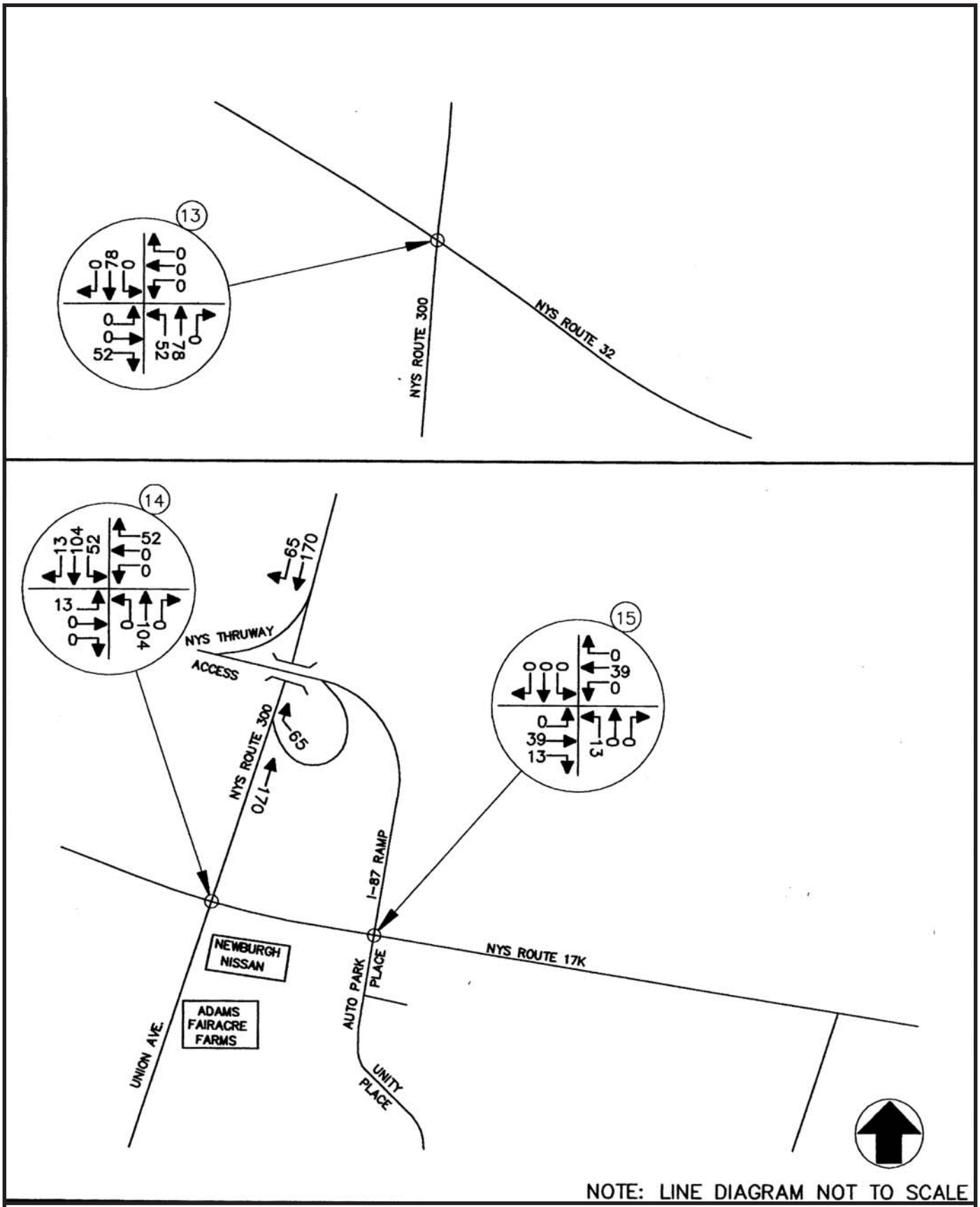

Figure 3.6-10A: Saturday Site Generated Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

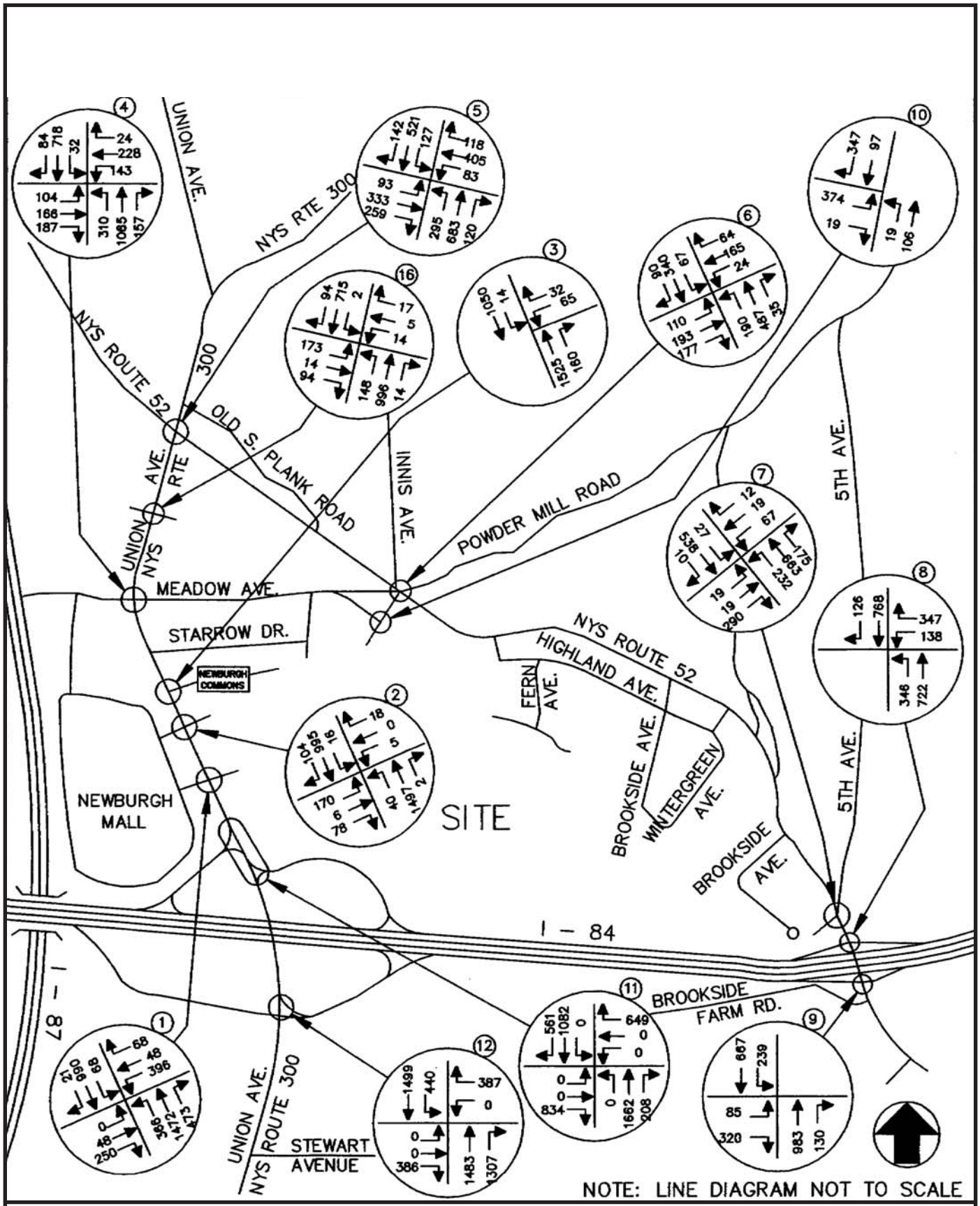

Figure 3.6-11: 2008 Build PM Peak Hour Traffic Volumes
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: Sept. 2005

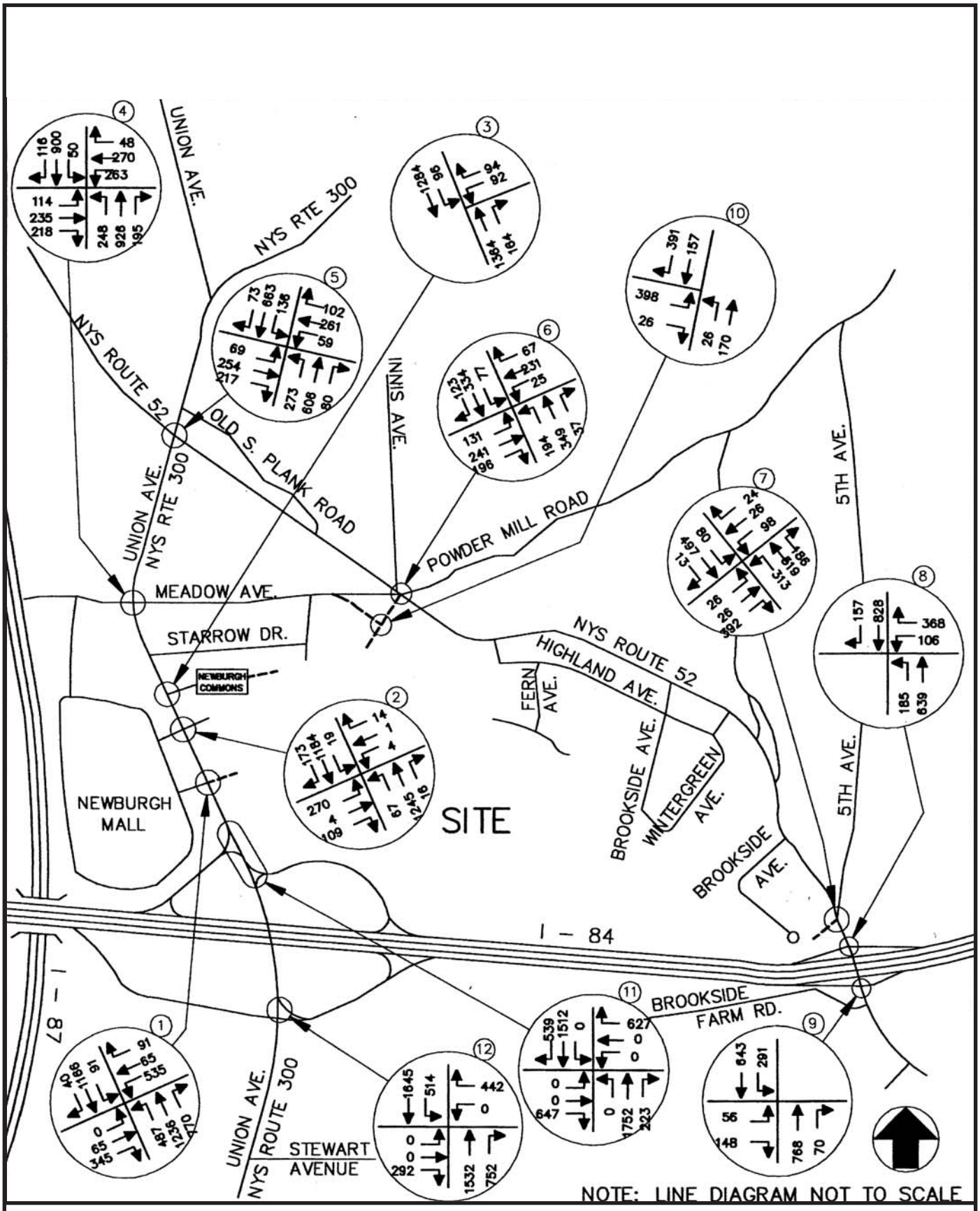

Figure 3.6-11A: 2008 Build PM Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

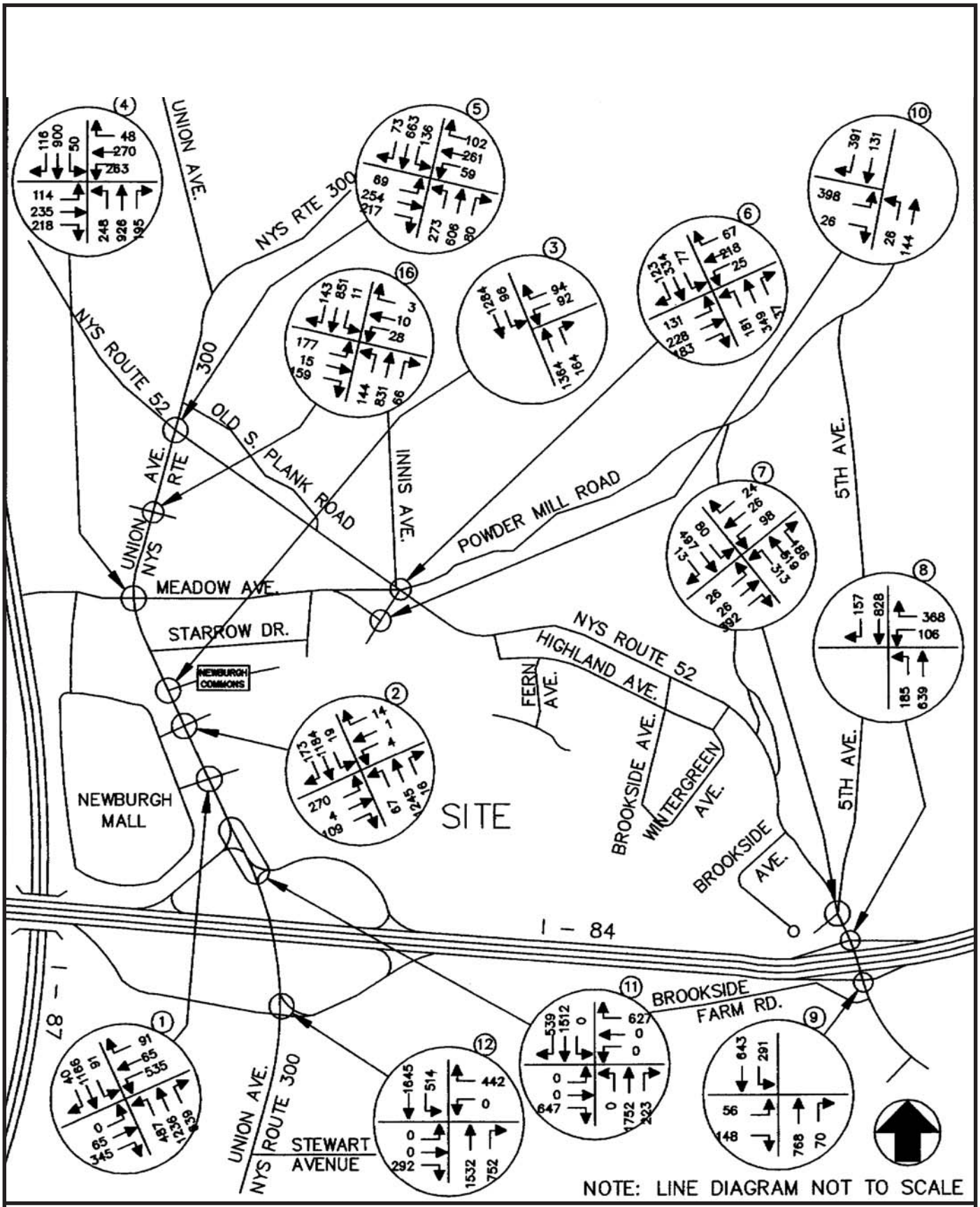

Figure 3.6-12: 2008 Build Saturday Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

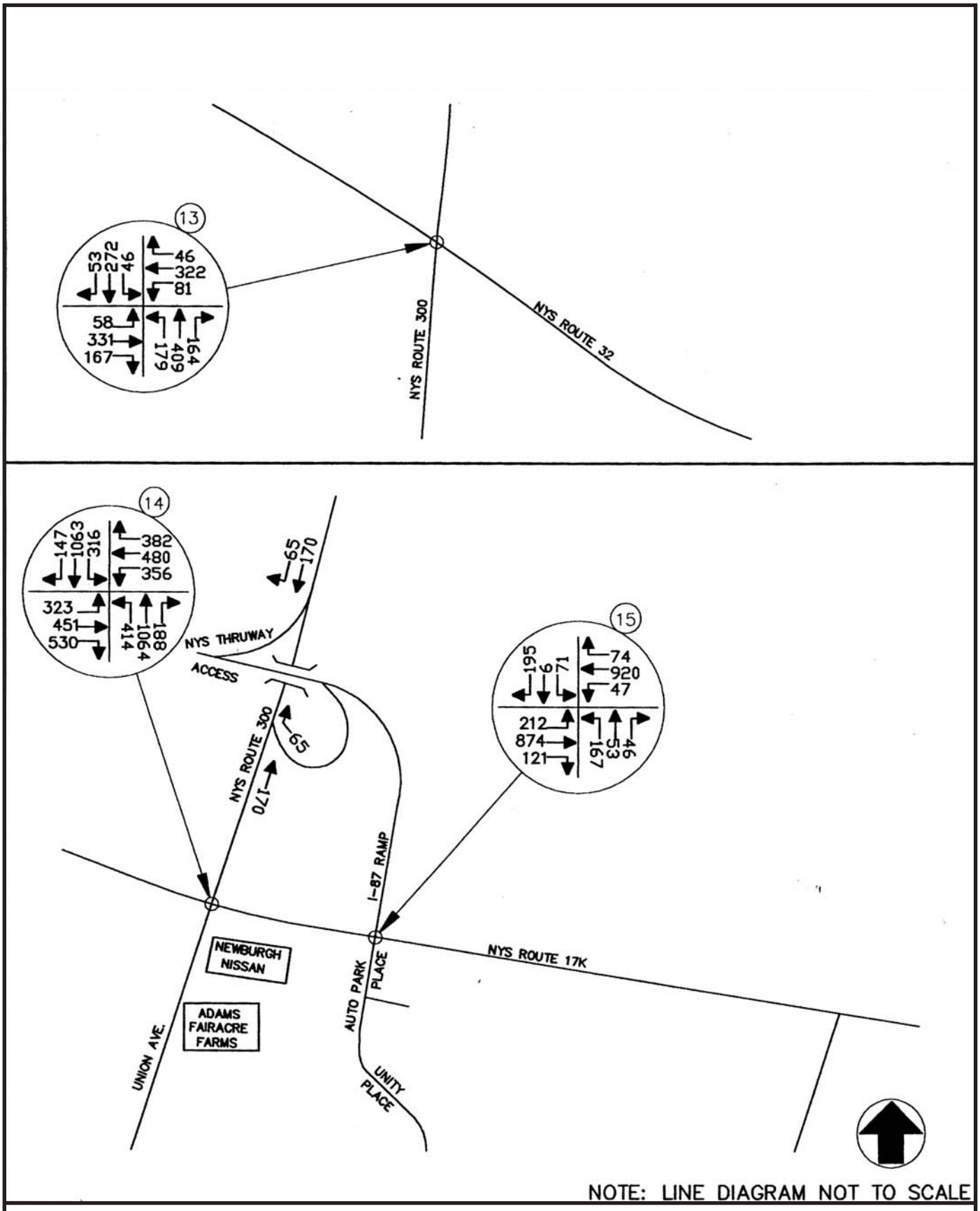

Figure 3.6-12A: 2008 Build Saturday Peak Hour Traffic Volumes

The Marketplace at Newburgh

Town of Newburgh, Orange County, New York

Source: John Collins Engineers, P.C.

Date: Sept. 2005

1. Proposed Site Access/South Newburgh Mall Driveway and NYS Route 300 (adjacent to the Marketplace)

NYS Route 300 at its approach to this intersection consists of two travel lanes in each direction with a center shared turning lane permitting left turns into the Newburgh Mall driveway. The Newburgh Mall South driveway approach to the intersection consists of a one lane approach channelized to permit right turn exits only. This driveway also allows entering traffic from both the northbound and southbound approaches to the intersection. The posted speed limit in this vicinity is 45 mph.

In association with the construction of the Marketplace at Newburgh, a new access road will be constructed opposite the existing Newburgh Mall southerly driveway. The new roadway will be a boulevard type roadway and will consist of multiple lanes with the exiting approach (westbound approach) to be constructed as a double left turn lane, one through lane and a separate right turn lane (refer to Figure 3.6-13).

A review of the traffic signal warrants indicates that signalization will be required in association with the new driveway. Therefore, a multi-phase actuated traffic signal will be installed at the intersection. This signal will also have to be coordinated with the proposed signal at the I-84 ramp connections to NYS Route 300 as well as the other existing signals north of this location.

Capacity analyses conducted utilizing the 2008 Build traffic volumes for this intersection indicate that with the improvements, an overall Level of Service C or better would be experienced for both the peak PM and peak Saturday hours.

2. Newburgh Mall North Driveway and NYS Route 300 (adjacent to the Marketplace)

The Newburgh Mall North driveway is a signalized intersection with NYS Route 300 and provides two lanes entering and two lanes exiting the mall. NYS Route 300 at this vicinity consists of two lanes in each direction with a center shared turning lane for both northbound and southbound left turns. The capacity analyses conducted at this intersection utilizing the future No-Build and Build traffic volumes indicate that with the signal coordination, this intersection will operate at an acceptable Level of Service C or better during peak periods.

3. NYS Route 300 and Newburgh Commons Driveway (1/4-mile north of the Marketplace)

The Newburgh Commons driveway intersects with NYS Route 300 at a stop sign-controlled T type intersection. The driveway approach consists of two exiting lanes. NYS Route 300 consists of two lanes per direction plus a center left turn lane. The capacity analysis conducted at this intersection indicates long delays for traffic exiting the driveway under the 2008 No-Build Conditions.

4. NYS Route 300 and Meadow Hill Road/Meadow Avenue

Meadow Hill Road aligns opposite Meadow Avenue at a signalized intersection with NYS Route 300 (Union Avenue). The Meadow Hill Road and Meadow Avenue approaches both consist of a separate left turn lane and a shared through/right turn lane. The NYS Route 300 approaches to the intersection consist of three lanes in the form of a separate left turn lane, exclusive through lane and a shared through/right turn lane.

The capacity analysis conducted at this location under the 2008 No-Build condition indicate that an overall Level of Service "D" will be experienced during both the peak PM and peak Saturday hours. The analysis recomputed for the 2008 Build condition indicates an overall Level of Service "D" or better will be maintained for both peak hours. The existing traffic signal will have to be upgraded and coordinated with the other adjacent signals along Union Avenue.

5. NYS Route 52 and NYS Route 300 (1 mile north of the Marketplace)

NYS Route 52 intersects with NYS Route 300 at a full movement signalized intersection. The NYS Route 300 approaches have separate left turn lanes and a single through lane. The NYS Route 52 approaches consist of one through lane and a shoulder/right turn lane. Under existing conditions, this intersection experiences peak hour delays.

The Town has identified this intersection as needing improvements to accommodate future traffic volumes. It is expected that the Marketplace at Newburgh will participate on a fair-share basis for the improvements at this intersection.

6. NYS Route 52 and Meadow Avenue/Powder Mill Road (adjacent to the Marketplace)

This existing four-way intersection is currently controlled by a traffic signal. All approaches consist of one lane and during peak hours the intersection experiences delays due to the lack of separate left turn lanes. These delays will increase in the future with Levels of Service E and F expected under future No-Build conditions. Improvements to this intersection will be required to serve future traffic volumes. The provision of a separate left lane on NYS Route 52 and reconstruction of the intersection has been considered under the future Build conditions. The improvements proposed also call for the provision of a new access drive along with this reconstruction (See Figure 3.6-14). The analysis was recomputed utilizing the future Build traffic volumes with improvements. A review of these analyses indicates that acceptable levels of service will be achieved.

An alternative using a roundabout was considered for this intersection. This could alleviate existing traffic flow and circulation problems at this intersection, but was rejected early in the process when wetland impacts, road maintenance and comments from the local fire company were considered.

7. NYS Route 52 and Fifth Avenue/Proposed Site Access (adjacent to the Marketplace)

Fifth Avenue currently intersects with NYS Route 52 north of the I-84 interchange at a stop sign controlled T type intersection. The NYS Route 52 southbound approach consists of one lane as does the Fifth Avenue approach. The northbound approach includes a through lane and a shoulder right turn lane. The capacity analysis conducted utilizing the Existing traffic volumes indicates that traffic exiting Fifth Avenue currently operates at Levels of Service E and F during peak periods. These delays are expected to increase under future No-Build conditions.

Construction of the proposed access, approximately ¼-mile north of the NYS Route 52/I-84 interchange, will provide a connection aligning Fifth Avenue and the Marketplace entrance resulting in an improved, four-way intersection. In order to accommodate the traffic

movements at the intersection, additional road widening, striping and a traffic signal will be installed. This revised intersection plan is shown in Figure 3.6-15. The proposed traffic signal will be interconnected with the adjacent signals at the I-84 Exit 8 ramps. With these improvements, an overall Level of Service C or better will be attained during peak hours.

8 & 9.NYS Route 52 and I-84 Exit 8 Ramps (1/4 mile from the Marketplace)

NYS Route 52 intersects with I-84 at a diamond interchange. NYS Route 52 approaches consist of one through lane and a separate left turn lane while the off ramp approaches consist of a separate left and separate right turn lane. The traffic is controlled by a multi-phase traffic signal. The capacity analysis conducted at this intersection indicates that during the peak hours the interchange ramps currently operate at a Level of Service C or better. The intersections were reanalyzed utilizing the future No-Build traffic volumes. A review of these analyses indicates a Level of Service D or better will be maintained.

The intersection was reanalyzed utilizing the future Build traffic volumes. A review of these analyses indicates that the westbound off ramp will have to be widened to increase the right turn lane length, and the southbound approach will have to be widened to provide a full right turn lane. The traffic signals will need to be upgraded and interconnected with the signal proposed at the 5th Avenue intersection to maintain an overall Level of Service C during peak hours.

10. Relocated Site Access and Meadow Avenue (adjacent to the Marketplace)

In order to safely accommodate the proposed access at the intersection of NYS Route 52 and Meadow Avenue/Powder Mill Road, it is proposed to relocate the intersection of Route 52 and Meadow Avenue at the point of site access and make significant other improvements to NYS Route 52 including stacking lanes, turn in and turn out lanes and striping and drainage improvements. These improvements are shown on Figure 3.6-14. Traffic conditions at this reconstructed intersection, with the Marketplace in full operation, are anticipated to be at an overall Level of Service B during peak hours.

11 & 12. Union Avenue and I-84 On/Off Ramps (Exit 7)

The eastbound on/off ramp connection to Union Avenue consists of a signalized intersection which accommodates left turns southbound on Union Avenue and eastbound I-84. This intersection consists of two through lanes in each direction plus a separate left turn lane. Right turns from the ramps are channelized. Traffic is controlled by a multi-phase actuated traffic signal. The capacity analysis conducted at this intersection utilizing the Existing traffic volumes indicates a Level of Service C or better during peak periods. The intersection was reanalyzed utilizing the future No-Build and Build traffic volumes. In both the Build and No build conditions, the level of service remains virtually the same with an average level of service B (various movements range from A to C) .

The I-84 westbound on/off ramps are currently channelized ramps connecting to Union Avenue. This section of Union Avenue consists of two lanes per direction plus a separate left turn lane. The NYS Thruway Authority has plans to reconstruct the ramps and install signalization. The intersection was analyzed utilizing the future No-Build and Build traffic volumes. A review of the analysis indicates that a Level of Service D or better will be maintained at the intersection under future conditions.

13. NYS Route 32 and NYS Route 300 (2 miles north of the Marketplace)

NYS Route 32 intersects with NYS Route 300 at a signalized four-way intersection. Presently this intersection experiences peak hour delays due to the lack of turning lanes. This intersection is two miles north of the Marketplace site. The New York State Department of Transportation is in the process of upgrading the intersection to include separate turn lanes as well as new signal installation. A copy of the NYS DOT improvement plan is contained in Appendix G.

The capacity analysis conducted at the intersection utilizing the improved intersection with the No-Build and Build traffic volumes indicates that Levels of Service C or better will be experienced during the peak hours at this intersection.

14. NYS Route 17K and NYS Route 300 (Union Avenue) (3/4 mile south of the Marketplace)
Under present conditions, NYS Route 17K intersects with Union Avenue at a signalized full movement intersection. The intersection was improved recently in association with the Lowe's Shopping Plaza. The improvements have provided dual left turn lanes on the north-bound, eastbound and westbound approaches and two through lanes in each direction. The capacity analysis indicates that the intersection currently operates at an overall Level of Service D or better during peak periods. The analysis was recomputed utilizing the future No-Build and Build traffic volumes. A review of these analyses indicates that similar levels of service will be maintained at the intersection.

15. NYS Route 17K/NYS Route 300 and I-87 On/Off Ramp/Unity Place (1/2 mile south of the Marketplace)

NYS Route 17K intersects with the I-87 off ramp and Unity Place at a signalized full movement intersection. The NYS Route 17K approach consist of two lanes in each direction plus separate left turn lane and a channelized right turn westbound onto the ramp. The off ramp approach consists of two lanes while Unity Place has a multi-lane approach. The capacity analysis conducted for this intersection indicates that a Level of Service of B to C (depending on the specific traffic movements) is currently experienced at this intersection. The intersection was reanalyzed to evaluate future No-Build and Build conditions. A review of these analyses indicate that with signal timing modifications, the intersection will maintain the same levels of service as currently exist both in the Build and the No-build condition.

16. NYS Route 300 and the Newburgh Cinema/Shopping Center Driveway

The Newburgh Cinema/Shopping Center Driveway intersects with NYS Route 300 at a four way signalized intersection. The driveway approach consists of two exiting lanes. NYS Route 300 consists of two lanes per direction plus a center left turn lane. The capacity analysis conducted at this intersection indicates all movements operate at level of service C or better under existing and future No-build and Build conditions.

A summary of the capacity analyses for the area intersections under Build Conditions is provided in Table 3.6-6 for both signalized and unsignalized intersections.

As stated in the *Traffic Impact Study*, with the mitigation measures proposed the level of service at the intersections studied can operate at acceptable levels of service (see Section 3.6.11, Mitigation Measures, below).

Table 3.6-6 (a)
Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction-Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Newburgh Mall Driveway (South)		***Signalized in the Build Condition***					
Newburgh Mall Driveway (South)	*EB- L,T*	*0.10*	*29.3*	*C*	*0.70*	*69.8*	*E*
	EB- R	*0.33*	*14.1*	*B*	*0.34*	*13.0*	*B+*
	WB- L	*0.81*	*36.4*	*D*	*0.93*	*58.6*	*E*
	WB- T	*0.10*	*21.7*	*C*	*0.21*	*32.9*	*C*
	WB- R	*0.18*	*22.2*	*C*	*0.34*	*34.2*	*C*
NYS Route 300	*NB- L*	*0.90*	*27.8*	*C*	*1.07*	*71.0*	*E+*
	NB- T	*0.76*	*3.5*	*A*	*0.60*	*2.1*	*A*
	NB- R	*0.65*	*3.4*	*A*	*0.53*	*0.3*	*A*
	SB- L	*0.76*	*41.5*	*D*	*0.42*	*2.6*	*A*
	SB- T	*0.88*	*21.4*	*C*	*1.05*	*56.9*	*E*
	SB- R	*0.04*	*9.7*	*A*	*0.07*	*7.2*	*A*
	Overall		14.5	B		30.9	C
NYS Route 300 and Newburgh Mall Driveway (North)		***Signal Timing adjusted in the Build Condition***					
Newburgh Mall Driveway (North)	*EB- L,T*	*0.40*	*23.2*	*C**	*0.71*	*35.7*	*D**
	EB- R	*0.15*	*20.5*	*C**	*0.24*	*25.6*	*C**
	WB- L,T, R	*0.04*	*19.6*	*B*	*0.04*	*23.8*	*C**
NYS Route 300	*NB- L*	*0.35*	*15.7*	*B*	*0.68*	*30.7*	*C*
	NB-T,R	*0.93*	*31.5*	*C*	*0.66*	*14.8*	*B*
NYS Route 300	*SB- L*	*0.25*	*15.1*	*B*	*0.16*	*10.0*	*B*
	SB-T,R	*0.69*	*19.2*	*B*	*0.72*	*16.3*	*B*
	Overall		*25.7*	*C*		*18.0*	*B*
NYS Route 300 and Newburgh Commons Driveway				***Signalized in the Build Condition***			
Newburgh Commons Driveway	*WB- L*	*0.18*	*31.2*	*C+*	*0.23*	*30.1*	*C+*
	WB- R	*0.10*	*30.5*	*C*	*0.26*	*30.4*	*C*
NYS Route 300	*NB- T,R*	*1.02*	*49.4*	*D*	*0.93*	*32.5*	*C*
	SB- L	*0.08*	*20.9*	*C*	*0.45*	*20.2*	*C*
	SB- T	*0.51*	*8.4*	*A*	*0.61*	*10.6*	*B*
	Overall		*33.5*	*C*		*22.9*	*C*

Table 3.6-6 continued on the next page.

Table 3.6-6 - Continued (b)
Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction-Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Meadow Avenue		***Upgraded signal phasing in Build Condition***					
Meadow Avenue	*EB- L*	*0.39*	*29.9*	*C*	*0.45*	*31.4*	*C*
	EB-T,R	*0.79*	*42.2*	*D*	*1.00*	*79.2*	*E*
	WB- L	*0.65*	*33.6*	*C*	*1.00*	*79.1*	*E+*
	WB-T,R	*0.40*	*22.5*	*C*	*0.43*	*19.7*	*B*
NYS Route 300	*NB- L*	*0.99*	*54.6*	*D*	*1.00*	*66.7*	*E+*
	NB-T,R	*0.77*	*8.3*	*C*	*0.75*	*11.7*	*B+*
	SB- L	*0.32*	*21.0*	*C*	*0.41*	*22.0*	*C+*
	SB-T,R	*0.88*	*32.5*	*D*	*1.06*	*68.7*	*E*
	Overall		*25.6*	*C*		*46.6*	*D*
NYS Route 52 and NYS Route 300		***Add EB and WB Left Turn Lanes in Build Condition***					
NYS Route 52	*EB- L*	*1.07*	*150.4*	*F*	*0.41*	*32.2*	*C+*
	EB- T	*0.70*	*36.1*	*D*	*0.57*	*33.8*	*C+*
	EB- R	*0.43*	*19.1*	*B*	*0.35*	*18.3*	*B*
	WB- L	*0.60*	*37.5*	*D+*	*0.34*	*31.2*	*C+*
	WB- T	*0.85*	*46.2*	*D+*	*0.59*	*34.2*	*C+*
	WB- R	*0.20*	*16.6*	*B*	*0.17*	*16.5*	*B*
NYS Route 300	*NB- L*	*1.17*	*123.2*	*F*	*0.98*	*50.6*	*D*
	NB- T,R	*1.06*	*62.3*	*E+*	*0.91*	*25.3*	*C+*
	SB- L	*0.53*	*22.1*	*C*	*0.43*	*15.2*	*B*
	SB- T,R	*0.92*	*42.9*	*D+*	*0.97*	*50.6*	*D+*
	Overall		*54.1*	*D+*		*35.0*	*C+*
NYS Route 52 and Meadow Avenue/Powder Mill Road		***Add EB and NB Left Turn Lanes in Build Condition***					
Meadow Avenue Powder Mill Road	*EB- L,*	*0.43*	*24.3*	*C+*	*0.51*	*23.7*	*C+*
	EB- T,R	*0.77*	*33.7*	*C+*	*0.79*	*32.0*	*C+*
	WB- L,T,R	*0.62*	*27.7*	*C+*	*0.66*	*26.9*	*C*
NYS Route 52	*NB- L,*	*0.59*	*15.3*	*B+*	*0.68*	*21.3*	*C*
	NB- T,R	*0.79*	*28.8*	*C*	*0.64*	*24.9*	*C*
	SB- L	*0.24*	*13.6*	*B**	*0.23*	*13.0*	*B*
	SB- T,R	*0.66*	*23.7*	*C**	*0.77*	*30.4*	*C**
	Overall		*26.4*	*C*		*27.1*	*C*
NYS Route 52 and 5th Avenue		***Signalized, NB & SB left turn lanes in Build Condition***					
5th Avenue	*EB- L,T*	*0.16*	*34.0*	*C*	*0.45*	*47.1*	*D*
	EB- R	*0.59*	*31.6*	*C*	*0.67*	*32.8*	*C*
	WB- L,T,R	*0.65*	*48.7*	*D+*	*0.69*	*49.6*	*D+*
NYS Route 52	*NB- L*	*0.69*	*23.3*	*C*	*0.68*	*18.5*	*B*
	NB- T	*0.83*	*26.7*	*C*	*0.80*	*32.7*	*C*
	NB- R	*0.20*	*13.2*	*B*	*0.26*	*20.4*	*C*
	SB- L	*0.14*	*13.6*	*B*	*0.20*	*11.2*	*B**
	SB- T,R	*0.56*	*11.5*	*B*	*0.78*	*31.9*	*C+*
	Overall		*22.7*	*C*		*30.2*	*C*

Table 3.6-6 - Continued (c)
Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
I-84 Ramp (Westbound) and NYS Route 52							
I-84 Ramp (Westbound)	*WB- L*	*0.39*	*30.5*	*C**	*0.24*	*25.4*	*C**
	WB-R	*0.85*	*51.3*	*D**	*0.73*	*35.9*	*D**
NYS Route 52	*NB- L*	*0.99*	*48.1*	*D+*	*0.80*	*21.0*	*C**
	NB-T	*0.65*	*2.6*	*A**	*0.63*	*2.6*	*A*
	SB- T	*0.87*	*21.3*	*C**	*0.97*	*39.2*	*D**
	SB- R	*0.17*	*7.8*	*A+*	*0.22*	*9.2*	*A+*
	Overall		*22.7*	*C*		*23.8*	*C**
NYS Route 52 and I-84 Ramp (Eastbound)		***Add SB Right Turn Lane in Build Condition***					
I-84 Ramp	*EB- L*	*0.48*	*39.5*	*D**	*0.16*	*28.4*	*C**
	EB- R	*0.55*	*25.8*	*C*	*0.18*	*20.1*	*C*
NYS Route 52	*NB- T*	*1.06*	*51.0*	*D+*	*0.87*	*12.7*	*B*
	NB- R	*0.09*	*1.6*	*A+*	*0.01*	*2.4*	*A+*
	SB- L	*0.91*	*62.0*	*E**	*0.87*	*21.1*	*C**
	SB- T	*0.72*	*5.0*	*A+*	*0.72*	*6.5*	*A*
	Overall		*34.0*	*C**		*12.6*	*B*
Relocated Meadow Avenue and Site Access							
Relocated Meadow Avenue	*EB- L*	*0.54*	*19.1*	*B*	*0.58*	*19.8*	*B*
	EB- R	*0.03*	*14.1*	*B*	*0.04*	*14.2*	*B*
Site Access	*NB- L*	*0.04*	*14.2*	*B*	*0.06*	*14.3*	*B*
	NB- T	*0.17*	*15.1*	*B*	*0.24*	*15.7*	*B*
	SB- T	*0.16*	*15.0*	*B*	*0.22*	*15.5*	*B*
	SB- R	*0.56*	*19.6*	*B*	*0.63*	*21.3*	*C*
	Overall		*18.1*	*B*		*12.6*	*B*
NYS Route 300 and I-84 Ramp (Westbound)							
1-84 Ramp (Westbound)	*WB- L*	*0.83*	*33.2*	*C*	*0.78*	*34.1*	*C*
	EB- R	*0.47*	*0.2*	*A*	*0.45*	*0.20*	*A*
NYS Route 300	*NB- T*	0.96	*32.5*	*C**	*0.92*	*23.2*	*C**
	NB- R	0.27	*10.6*	*B*	*0.26*	*8.3*	*A*
	SB- T	0.63	*14.3*	*B*	*0.80*	*15.5*	*B*
	SB- R	0.73	*18.1*	*B*	*0.64*	*12.6*	*B*
	Overall		*22.0*	*C**		*17.9*	*B*
NYS Route 300 and I-84 Ramp (Eastbound)							
1-84 Ramp (Eastbound)	*EB- R*	*0.40*	*7.9*	*A*	*0.37*	*11.5*	*B*
	WB- R	*0.29*	*0.3*	*A*	*0.33*	*0.3*	*A*
NYS Route 300	*NB- T*	*0.70*	*11.6*	*B*	*0.89*	*23.2*	*C**
	NB- R	*0.99*	*23.1*	*C*	*0.98*	*45.1*	*D*
	SB- L	*0.96*	*65.9*	*E**	*0.87*	*36.8*	*D**
	SB- T	*0.35*	*0.2*	*A*	*0.39*	*0.3*	*A*
	Overall		*14.5*	*B*		17.8	*B*

Table 3.6-6 - Continued (d)
Build Condition Level of Service Summary

Intersection Roads	Lane Group (Approach Direction-Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 32 and NYS Route 300							
NYS Route 32	*EB- L,T*	*0.93*	*51.0*	*D*	*0.87*	*42.4*	*D*
	EB- R	*0.32*	*20.8*	*C*	*0.31*	*20.7*	*C**
	WB- L	*0.54*	*25.9*	*C*	*0.40*	*22.4*	*C*
	WB- T, R	*0.35*	*21.0*	*C*	*0.60*	*24.6*	*C*
NYS Route 300	*NB- L*	*0.38*	*13.1*	*B*	*0.44*	*13.5*	*B*
	NB-T,R	*0.93*	*46.4*	*D**	*0.90*	*40.6*	*D**
	SB- L	*0.10*	*15.5*	*B*	*0.21*	*16.1*	*B*
	SB-T,R	*0.50*	*21.4*	*C*	*0.50*	*21.4*	*C*
	Overall		*34.8*	*C*		*30.2*	*C*
NYS Route 300 & NYS Route 17K							
NYS Route 17K	*EB- L*	*0.77*	*44.8*	*D*	*0.62*	*36.0*	*D**
	EB- T	*0.70*	*48.4*	*D*	*0.72*	*49.2*	*D*
	EB-R	*0.91*	*51.5*	*D*	*0.83*	*40.3*	*D*
NYS Route 17K	*WB- L*	*0.79*	*47.2*	*D*	*0.70*	*40.7*	*D*
	WB- T	*0.75*	*50.5*	*D*	*0.77*	*51.3*	*D*
	WB-R	*0.61*	*29.6*	*C*	*0.58*	*28.7*	*C*
NYS Route 300	*NB- L*	*0.42*	*16.3*	*B*	*0.37*	*18.9*	*B*
	NB- T	*0.86*	*39.1*	*D**	*0.83*	*37.5*	*D**
	NB-R	*0.19*	*16.2*	*B*	*0.20*	*16.3*	*B*
NYS Route 300	*SB- L*	*0.93*	*66.2*	*E**	*0.92*	*65.0*	*E**
	SB- T,R	*0.80*	*36.0*	*D**	*0.93*	*46.0*	*D*
	Overall		*41.1*	*D*		*40.9*	*D*
NYS Route 17K & I-87 Ramp (Unity Place)							
NYS Route 17K	*EB- L*	*0.73*	*28.2*	*C*	*0.68*	*23.7*	*C*
	EB- T,R	*0.55*	*23.1*	*C*	*0.84*	*31.1*	*C*
	WB- L	*0.04*	*9.7*	*A*	*0.15*	*13.0*	*B*
	WB- T,R	*0.85*	*31.9*	*C*	*0.82*	*29.9*	*C*
I-87 Ramp (Unity Place)	*NB- L,T*	*0.32*	*23.5*	*C*	*0.55*	*26.7*	*C*
	NB- R	*0.02*	*10.4*	*B*	*0.05*	*10.6*	*B*
	SB- L,T	*0.32*	*23.5*	*C*	*0.25*	*22.8*	*C*
	SB- R	*0.33*	*12.7*	*B*	*0.19*	*11.5*	*B*
	Overall		*26.0*	*C*		*27.8*	*C*

Level of Service (see Tables 3.6-1 and 3.6-2 for level-of-service criteria).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
L = Left, T = Through, R = Right, T, R = Through and Right (e.g. WB- L = Westbound left).
Italics are signalized intersections.

* Denotes a decline in level of service compared to No-Build Conditions.
\+ Denotes an improvement in Level of Service compared to No-Build Conditions.

Table 3.6-6 Continued (e)
Build Condition - Level of Service Summary

Intersection Roads	Lane Group (Approach Direction- Movement)	PM Weekday Peak Hour			Saturday Peak Hour		
		Volume to Capacity Ratio	Delay (secs./ vehicle	Level of Service	Volume to Capacity Ratio	Delay (secs./ vehicle)	Level of Service
NYS Route 300 and Stop & Shop/Newburgh Cinema Driveway							
Stop & Shop /Newburgh Cinema Driveway	*EB- L,T*	*0.60*	*31.9*	*C*	*0.60*	*30.9*	*C*
	EB- R	*0.25*	*26.3*	*C*	*0.41*	*27.2*	*C*
	WB- L,T, R	*0.10*	*25.0*	*C*	*0.12*	*24.4*	*C*
NYS Route 300 (Union Avenue)	*NB- L*	*0.44*	*10.3*	*B**	*0.53*	*14.1*	*B*
	NB-T,R	*0.72*	*21.4*	*C*	*0.66*	*20.7*	*C**
	SB- L	*0.01*	*9.6*	*A*	*0.04*	*9.3*	*A*
	SB-T,R	*0.58*	*18.7*	*B*	*0.74*	*22.6*	*C*
	Overall		*20.8*	*C*		*22.3*	*C*
Route 300 Connection Access Drive at Internal Intersection with Meadow Avenue Connection							
Route 300 Connection	*EB- L*	*0.07*	*14.4*	*B*	*0.10*	*14.6*	*B*
	EB- T	*0.49*	*18.3*	*B*	*0.66*	*21.6*	*C*
	EB-R	*0.39*	*17.1*	*B*	*0.53*	*18.9*	*B*
	WB- L	*0.13*	*15.0*	*B*	*0.25*	*16.2*	*B*
	WB- T	*0.37*	*16.9*	*B*	*0.47*	*18.0*	*B*
	WB-R	*0.13*	*14.8*	*B*	*0.17*	*15.2*	*B*
Meadow Avenue-Route 52 Connection	*NB- L*	*0.34*	*16.7*	*B*	*0.43*	*17.7*	*B*
	NB- T,R	*0.12*	*14.7*	*B*	*0.15*	*15.0*	*B*
	SB- L	*0.10*	*14.6*	*B*	*0.15*	*15.0*	*B*
	SB- T	*0.05*	*14.2*	*B*	*0.06*	*14.3*	*B*
	SB-R	*0.08*	*14.5*	*B*	*0.10*	*14.6*	*B*
	Overall		*16.7*	*B*		*18.3*	*B*

Level of Service (see Tables 3.6-1 and 3.6-2 for level-of-service criteria).
NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
L = Left, T = Through, R = Right, T, R = Through and Right (e.g. WB- L = Westbound left).
Italics are signalized intersections.

3.6.10 Intersection Geometry - Proposed Access Points

The intersection geometry of the three proposed access points are shown in Figures 3.6-13, 3.6-14 and 3.6-15. The access point locations are as follows:

Figure 3.6-13: NYS Route 300 (Union Avenue) and the Main Access across from Newburgh Mall
Figure 3.6-14: NYS Route 52 and relocated Meadow Avenue
Figure 3.6-15: NYS Route 52 and 5th Avenue

These figures illustrate the roadway geometry for the proposed access points. Each of the proposed access points will be signalized, providing a measure of traffic control which duplicates the objectives of recommended sight distances. As can be seen in Figures 3.6-13, 3.6-14, and 3.6-15, multi lane approaches, queue lengths and storage capacity at each intersection provides for a minimum of 15 vehicles. A queuing table for various analysis conditions has been included in Appendix G.

3.6.11 Mitigation Measures

Mitigation measures for signalized intersections can vary from changes in signal timing and phasing to the construction of additional approach lanes, or signalization of an unsignalized intersection.

A review of the analysis indicates that with the completion of the following improvements, acceptable Levels of Service will be obtained and the proposed Marketplace at Newburgh will not result in a significant negative impact on traffic operations in the area. Except as noted, the applicant will perform and/or fund the proposed improvements.

1. An analysis of the proposed access to Union Avenue resulted in a driveway design shown on the site plan that will consist of four exiting lanes and two entering lanes and should align opposite the Newburgh Mall South Driveway approach. A separate right turn lane will be provided on the northbound and southbound approaches and signalization will also be provided. With these improvements, the intersection will be able to adequately accommodate the additional traffic generated by the Marketplace at Newburgh and the level of service will not decline in this location.

2. The intersection of NYS Route 52 and Meadow Avenue/Powder Mill Road currently experiences significant peak hour delays and congestion primarily due to the lack of separate turn lanes. Improvements will be required at this intersection regardless of the proposed development. The construction of left turn lanes or alternate improvements will have to be pursued at this intersection. As part of this proposed development, plans have been developed to construct a street connection to NYS Route 52 opposite Powder Mill Road to provide a standard four way intersection. Separate left turn lanes will also be provided on the northbound NYS Route 52 approach.

Meadow Avenue will be relocated and the existing traffic signal will be upgraded. The overall safety of the intersection will be significantly improved. These improvements will have to be coordinated with the Town of Newburgh and NYS DOT as part of the Highway Work Permit process. The overall level of service will improve as a result of these improvements. The realigned Meadow Avenue will be offered to the Town for dedication following completion of the realignment. If the Meadow Avenue changes are not accepted by the Town Board, additional analysis of an alternative road alignment will be completed and may

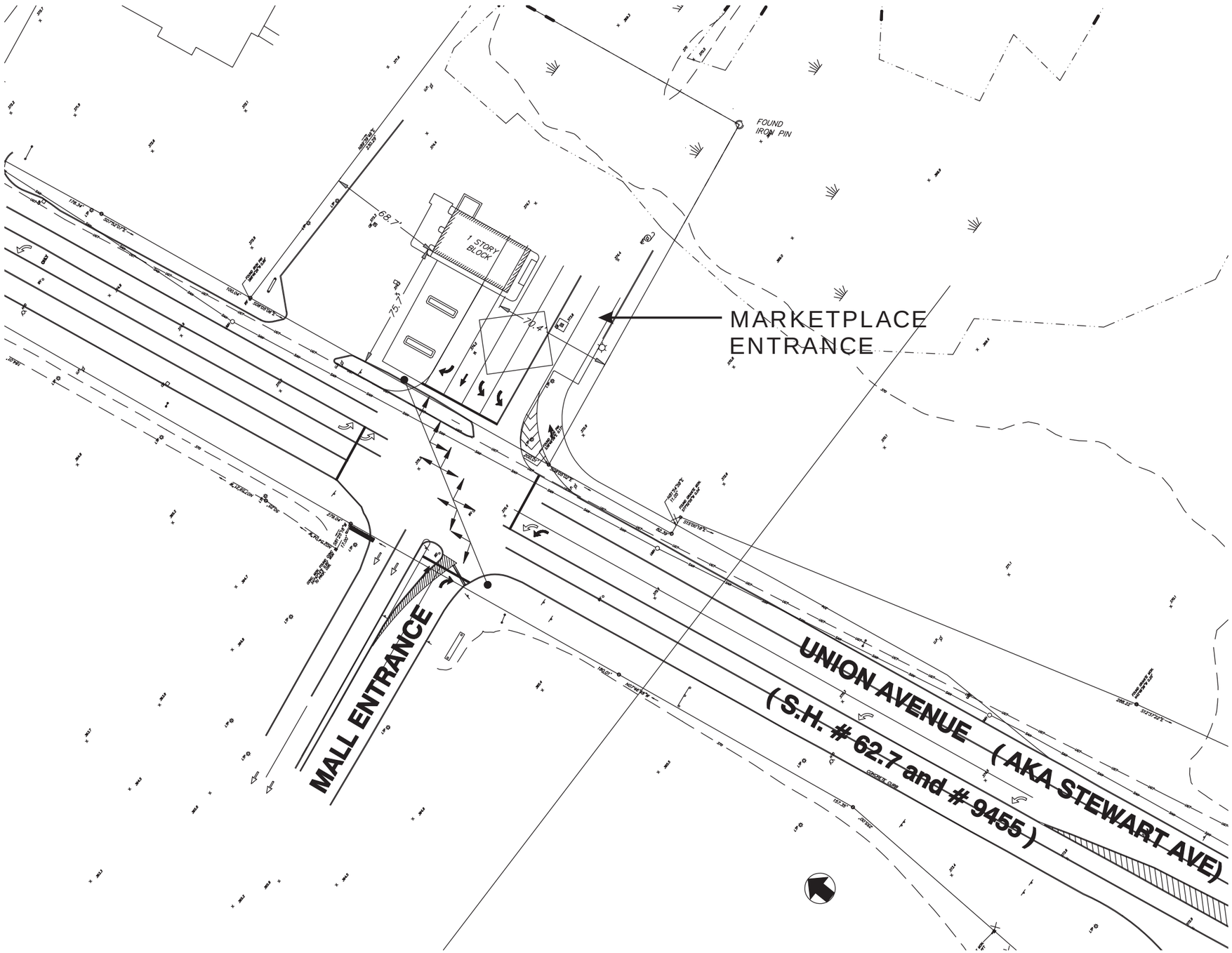

Figure 3.6-13: NYS Route 300 and Main Access
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: 08/22/05

File 04011 11/22/05
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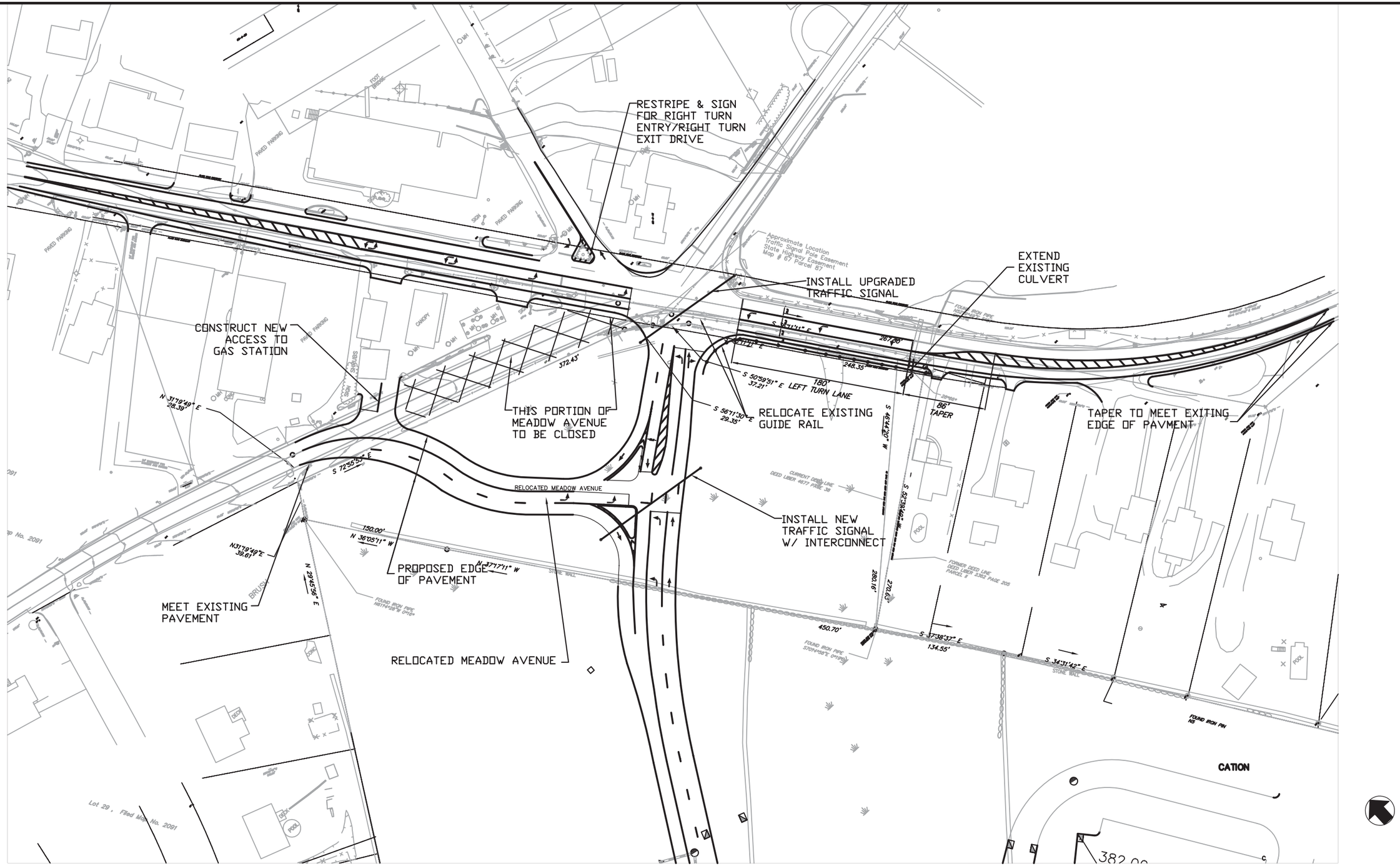

Figure 3.6-14: NYS Route 52 and Relocated Meadow Avenue
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: 08/22/05

Figure 3.6-15: NYS Route 52 and 5th Avenue
The Marketplace at Newburgh
Town of Newburgh, Orange County, New York
Source: John Collins Engineers, P.C.
Date: 03/10/05

require further review under SEQRA.

3. A new access drive will be constructed opposite 5th Avenue. This driveway will consist of two exiting and one wide entering lane and a traffic signal will be installed to control traffic movements. In addition, due to the significant through volumes along NYS Route 52, NYS Route 52 will be widened to provide a separate left turn lane northbound to accommodate traffic entering and exiting the site.

4. The existing traffic signals at the Exit 8 I-84 ramps will have to be upgraded and interconnected with the signal at Fifth Avenue and the proposed NYS Route 52 driveway access. In addition, the I-84 westbound off ramp will have to be widened to include additional length on the right turn lane approaching the NYS Route 52 intersection.

5. The New York State Department of Transportation is currently completing improvements including the provision of separate turn lanes and upgraded signalization at the intersection of NYS Route 300 and NYS Route 32. These improvements will be required to accommodate future traffic volumes with or without the proposed development.

6. Associated with the construction of the site access and new signalization, the adjacent existing traffic signals along NYS Route 300 will have to be interconnected. These include the intersection of NYS Route 300 and Meadow Avenue/Meadow Hill Road, the existing Newburgh Mall north driveway and coordination with the planned new signalization of the I-84 exit ramps.

7. The Newburgh Commons Driveway connection to Union Avenue is projected to experience long delays for exiting vehicles under Future No-Build conditions. It is recommended that the intersection be monitored for potential signalization.

8. The intersection of NYS Route 52 and NYS Route 300 has been identified as an existing constrained intersection. Improvements will be required at this intersection regardless of the proposed development. A fair-share contribution towards these improvements should be undertaken in association with the project.

3.6.12 Internal Traffic Circulation and Signing

A detailed internal Pavement Marking and Signage Plan has been developed indicating the various on-site traffic control directional signing to distribute traffic onto the roadway network, including the various access routes to Interstate 84 and Interstate 87. In addition, at the major internal intersection where the NYS Route 52 and NYS Route 300 access drives intersect, an actuated traffic signal will be installed to control traffic movements at this intersection.

The internal site intersection was reviewed and traffic volumes projected and analyzed. This analysis is included in Appendix G. A summary of the level of service for this intersection is included in Table 3.6-6 (e). Under signalized conditions, all approaches are expected to operate at level of service C or better, with the majority of movements operating at level of service B. Additional design details will be provided for review as part of the site plan approval process.

3.6.13 Pedestrian & Bicycle Activity

Pedestrian movement within the proposed project will be facilitated by a series of sidewalks and

walkways identified on the proposed site plan accompanying this DEIS. The portion of the project adjacent to NYS Route 300, known as the village or lifestyle center, has been designed as a pedestrian shopping venue. The developer will work with the County transit agency to site bus stops within the retail center and County transit hopes to incorporate a looped bus route to accommodate shopper's internal movements within the Marketplace.

State highways link the region's activity centers and destinations. The same places people want to travel by automobile, are often the same places bicyclists want to travel. According to the NYS DOT Hudson Valley Bikeways and Trailways Map, NYS Route 300 in Orange County has been designated as part of a regional system of state bike routes.

Bicycle Route designation requires that whenever work is done on the state highway, either wide shoulders, wide outside travel lanes, bike lanes, bike paths or alternate routing be considered depending on the roadway environment, opportunities or constraints. To date, NYS Route 300 in Orange County is not a state highway that has been signed for bike use.

There were no pedestrians or cyclists observed during the traffic counts in December of 2004 external to the project site. Sidewalks are proposed around the buildings on-site to facilitate pedestrian movement within the Marketplace. Bike racks could be included as part of the final design plans to accommodate cyclists. As shown on Figure 4-2 in the Alternatives section, pedestrian connections to Route 52 at Meadow Avenue and Route 300 at the Newburgh Mall are proposed if determined to be desirable by the Planning Board.

3.6.14 Mass Transit

Public bus service in the area is somewhat limited. The various routes are identified in Appendix G. With the development of the Marketplace at Newburgh, coordination with the Orange County Department of Planning will be undertaken to provide bus service and on-site bus stops to accommodate patrons to the shopping center. These will be coordinated during the site plan approval process. A letter from Robert Parrington, Transit Coordinator for Orange County, indicates Orange County's support for incorporating public transit and private bus service. His letter is included in Appendix B of the DEIS.

3.6.15 Sight Distance

All three accesses to the Marketplace will be traffic signal controlled. The traffic safety and capacity improvements will protect vehicles entering the traffic stream and duplicates the objectives of recommended sight distances. Table SD-1 in Appendix G provides a summary of the sight distance available at each of the proposed access points.

3.6.16 Peak Seasonal Traffic Conditions

Certain select turning movement traffic counts and machine traffic counts were collected during the month of December 2003 to identify seasonal variations due to increased shopping activities and to supplement the traffic counts for typical times of the year. Appendix G of the DEIS contains copies of the machine traffic counts and a comparison of the counted traffic volumes at select intersections including the Newburgh Mall driveways. Counts are presented for the weekday and Saturday conditions on Figures No. 2A and 3A in Appendix G. Based upon a review of this information, while the entering and exiting driveway volumes show a seasonal increase, the overall intersection traffic volumes are only slightly higher than typical conditions.

In addition, based on information published by the Institute of Transportation Engineers, estimates of the peak season (Christmas season) trip generation estimates were computed for each of the peak hours (Table No. 1A of Appendix G). These traffic volumes were assigned to the roadway network following the procedures previously described in this report. These volumes were combined with the No-Build traffic volumes to obtain the Build traffic volumes for the peak season conditions. Figure 8S (Seasonal) through Figure 11S, contained in Appendix G, depict seasonal site generated trips and seasonal Build conditions for the weekday p.m. and Saturday peak hour periods.

A separate capacity analysis was conducted at these intersections during the peak hours utilizing these traffic volumes (See Table No. 2A of Appendix G). With the increased volumes, the intersections will experience longer peak hour delays and a traffic management program will have to be implemented to accommodate the expected future traffic volumes during these time periods.

3.6.17 Traffic Simulation Analysis

A SYNCHRO/SIM traffic simulation analysis was prepared for the NYS Route 300 (Union Avenue) corridor between the Thruway ramps and Meadow Avenue and is included in Appendix G of the DEIS. This analysis was prepared to evaluate the signal system operation and to define the signal timings and coordination for the existing and proposed traffic signals. A similar analysis was undertaken for the NYS Route 52 corridor including the Exit 8 ramps, 5th Avenue and Meadow Avenue intersections. Copies of the SYNCHRO printouts are contained in Appendix G. A summary of the queue lengths at each of the intersections is presented in Table No. Q-1 of Appendix G. A SYNCHRO/SIM traffic simulation analysis of both Existing and No-Build conditions is included in Appendix G

3.6.18 Traffic from Construction Activity

The proposed project will result in construction activity taking place. It is anticipated that a stabilized rough grade of the proposed site access will serve as access for the project during construction. This access is from NYS Route 300, as shown on the proposed site plan. Most construction vehicles will use this access for ingress and egress. Construction vehicles and employees will park on-site at all times. Materials and equipment storage will be located on site.

Construction traffic consists primarily of construction vehicles arriving at the beginning of the construction period, trucks carrying and delivering supplies, and daily trips of construction workers. Construction workers typically arrive and depart the site prior to standard commutation peak hours. Trucks delivering construction supplies would generally arrive and leave during the day.

Construction traffic to and from the site is not expected to be excessive, as building will generally be constructed in phases. The heaviest volume of construction traffic is expected to occur at the beginning of the construction as site clearing and rough grading is conducted, and when asphalt and building materials are transported to the site. It is anticipated that most construction trips would travel to and from the site via NYS Route 300 and NYS Route 52.

3.6.19 Emergency Access

The proposed site plan shows three access points; the main entrance on NYS Route 300, and two additional access points on NYS Route 52. Any one of these can be used for emergency access in the event that an incident closes one or two other access drives. In addition, a new emergency access would be created into Brookside Avenue from the newly constructed Route 52 easterly access road (near Exit 8 of I-84).

The Winona Lake Engine Company, which will service the Marketplace, is located on the corner of Powder Mill Road and NYS Route 52, directly across the street from one of the three proposed Marketplace access points. The Ambulance Corps is located on NYS Route 52 approximately ½-mile south of the Winona Lake Engine Company and equidistant from the two proposed entrances to the Marketplace on Route 52.

3.6.20 Transportation Management Plan

A Transportation Management Plan (TMP) is expected to be developed as the site plans are advanced as part of the DEIS review process. The TMP is expected to include, but not be limited to the following:

- Potential use of police or other manned traffic control at key internal and potentially some external intersections.
- Use of supplemental internal variable message signs to direct traffic to the appropriate exit drives from the site.
- Potential temporary internal closures or restrictions of turning movements (such as left turns) at certain internal intersections to direct traffic flow on-site.
- Coordination with NYS DOT and NYS TA regarding any other external measures including use of other temporary variable message signs, etc.

3.6.21 Summary

In summary, based on the results of the *Traffic Impact Study* which is included as Appendix G of the DEIS, the proposed Marketplace at Newburgh will require the construction of access related improvements and upgrades to signalization in the area to accommodate the additional traffic volumes. However, with implementation of the improvements outlined herein, levels of service will, in general, be equal to the No build levels of service without such improvements.