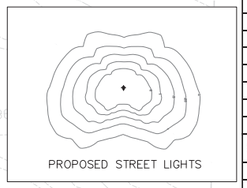
Figure 2.C-25



SYM	SCIENTIFIC NAME	COMMON NAME
	STREET TREES	
AR	*Acer rubrum 'Autumn Flame'*	'Autumn Flame' Red Maple
AS	*Acer saccharum 'Green Mountain'*	'Green Mountain' Sugar Maple
FP	*Fraxinus pensylvanica 'Patmore'*	Patmore' Green Ash
PA	*Platanus x acerifolia*	London Planetree
QR	*Quercus rubra*	Red Oak
TC	*Tilia cordata 'Greenspire'*	Greenspire Littleleaf Linden
UA	*Ulmus americana 'Princeton'*	'Princeton' American Elm
ZS	*Zelkova serrata 'Green Vase'*	'Green Vase' Zelkova
	SHADE TREES	
AR	*Acer rubrum 'Autumn Flame'*	'Autumn Flame' Red Maple
AS	*Acer saccharum 'Green Mountain'*	'Green Mountain' Sugar Maple
FA	*Fraxinus americana*	White Ash
NS	*Nyssa sylvatica*	Black Gum
QA	*Quercus alba*	White Oak
QR	*Quercus rubra*	Red Oak
	UNDERSTORY/ORNAMENTAL TREES	
Ac	*Amelanchier canadensis*	Serviceberry
Ck	*Cornus kousa*	Kousa Dogwood
Oa	*Oxydendron arboreum*	Sourwood
	EVERGREEN TREES	
Pa	*Picea abies*	Norway Spruce
Pn	*Pinus nigra*	Austrian Pine
Pp	*Picea pungens*	Colorago Blue Spruce
Ps	*Pinus strobus*	Eastern White Pine
	SHRUBS	
Ca	*Clethra alnifolia*	Summersweet Clethra
Hv	*Hammelis virginiana*	Witch Hazel
Iv	*Ilex verticillata*	Winterberry
Kl	*Kalmia latifolia*	Mountain Laurel
Mp	*Myrica pensylvanica*	Northern Bayberry
Vd	*Viburnum dentatum*	Arrowwood
	REFORESTATION PLANTS	
An	*Acer negundo*	Box Elder
Ar	*Acer rubrum*	Red Maple
As	*Acer saccharum*	Sugar Maple
Cc	*Cercis canadensis*	Redbud
Co	*Cephalanthus occidentalis*	Buttonbush
Cr	*Cornus racemosa*	Gray Dogwood
Cf	*Cornus florida*	Flowering Dogwood
Fa	*Fraxinus americana*	White Ash
Iv	*Ilex verticillata*	Winterberry
Lb	*Lindera benzoin*	Spicebush
Qr	*Quercus rubra*	Red Oak
Sa	*Sassafras albidum*	Sassafras
Vd	*Viburnum dentatum*	Arrowwood

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250 Gibraltar Road, Suite 1E
Horsham, PA 19044
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FAX: 215-293-0488

ESE Land Planning Engineering Land Surveying

DRAWN | DESCRIPTION | DATE | REV.

LANDSCAPE & LIGHTING PLAN
PLANTING PLAN

HILLTOP VILLAGE AT WAPPINGER
TOWN OF WAPPINGER, DUTCHESS COUNTY, NEW YORK

Figure: 2.C-26
Date: 02/2012
Page: 66
Scale: N.T.S.

STORMWATER POND 2
SEE PLANS PREPARED BY POVALL ENGINEERING FOR BASIN PLANTINGS

BIORETENTION AREA 2
SEE PLANS PREPARED BY POVALL ENGINEERING FOR BASIN PLANTINGS

EXISTING VEGETATION TO REMAIN

THIS PLAN IS FOR PLANTING AND LIGHTING INSTALLATION ONLY. THIS PLAN IS NOT TO BE USED FOR GRADING OR UTILITY CONSTRUCTION

ROAD D

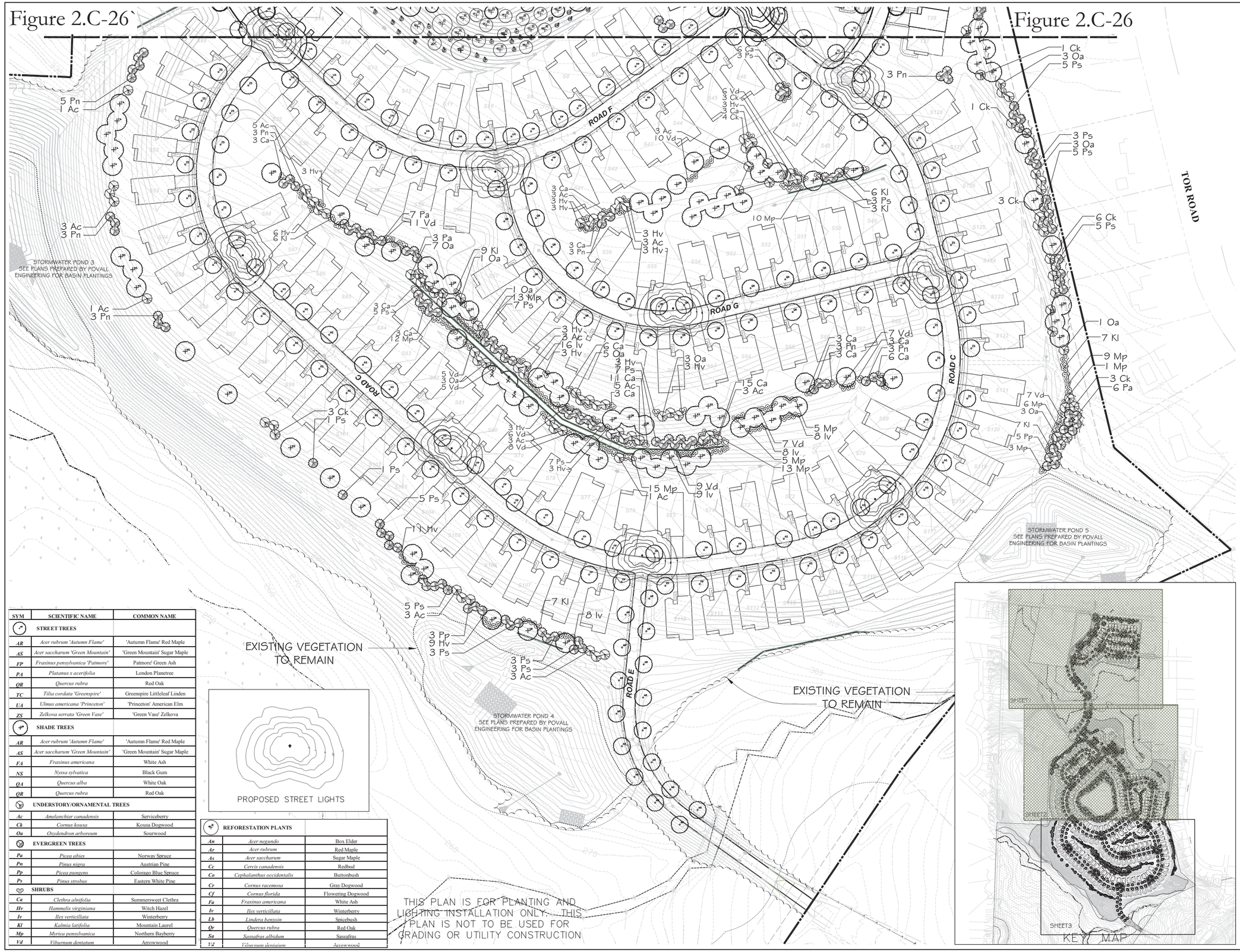
CLUBHOUSE

Figure 2.C-27

Figure 2.C-27

Figure 2.C-26`

Figure 2.C-26



SYM	SCIENTIFIC NAME	COMMON NAME
	STREET TREES	
AR	*Acer rubrum 'Autumn Flame'*	'Autumn Flame' Red Maple
AS	*Acer saccharum 'Green Mountain'*	'Green Mountain' Sugar Maple
FP	*Fraxinus pensylvanica 'Patmore'*	Patmore' Green Ash
PA	*Platanus x acerifolia*	London Planetree
QR	*Quercus rubra*	Red Oak
TC	*Tilia cordata 'Greenspire'*	Greenspire Littleleaf Linden
UA	*Ulmus americana 'Princeton'*	'Princeton' American Elm
ZS	*Zelkova serrata 'Green Vase'*	'Green Vase' Zelkova
	SHADE TREES	
AR	*Acer rubrum 'Autumn Flame'*	'Autumn Flame' Red Maple
AS	*Acer saccharum 'Green Mountain'*	'Green Mountain' Sugar Maple
FA	*Fraxinus americana*	White Ash
NS	*Nyssa sylvatica*	Black Gum
QA	*Quercus alba*	White Oak
QR	*Quercus rubra*	Red Oak
	UNDERSTORY/ORNAMENTAL TREES	
Ac	*Amelanchier canadensis*	Serviceberry
Ck	*Cornus kousa*	Kousa Dogwood
Oa	*Oxydendron arboreum*	Sourwood
	EVERGREEN TREES	
Pa	*Picea abies*	Norway Spruce
Pn	*Pinus nigra*	Austrian Pine
Pp	*Picea pungens*	Colorago Blue Spruce
Ps	*Pinus strobus*	Eastern White Pine
	SHRUBS	
Ca	*Clethra alnifolia*	Summersweet Clethra
Hv	*Hamnelis virginiana*	Witch Hazel
Iv	*Ilex verticillata*	Winterberry
Kl	*Kalmia latifolia*	Mountain Laurel
Mp	*Myrica pensylvanica*	Northern Bayberry
Vd	*Viburnum dentatum*	Arrowwood

PROPOSED STREET LIGHTS

	REFORESTATION PLANTS	
An	*Acer negundo*	Box Elder
Ar	*Acer rubrum*	Red Maple
As	*Acer saccharum*	Sugar Maple
Cc	*Cercis canadensis*	Redbud
Co	*Cephalanthus occidentalis*	Buttonbush
Cr	*Cornus racemosa*	Gray Dogwood
Cf	*Cornus florida*	Flowering Dogwood
Fa	*Fraxinus americana*	White Ash
Iv	*Ilex verticillata*	Winterberry
Lb	*Lindera benzoin*	Spicebush
Qr	*Quercus rubra*	Red Oak
Sa	*Sassafras albidum*	Sassafras
Vd	*Viburnum dentatum*	Arrowwood

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250 Gibraltar Road, Suite 1E
Horsham, PA 19044
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FAX: 215-293-0488

ESE Land Planning Engineering Land Surveying

REV. DATE DESCRIPTION DRAWN

NORTH

LANDSCAPE & LIGHTING PLAN
PLANTING PLAN

HILLTOP VILLAGE AT WAPPINGER
TOWN OF WAPPINGER, DUTCHESS COUNTY, NEW YORK

Figure: 2.C-27
Date: 02/2012
Page: 67
Scale: N.T.S.

Table 2.C-8: Stormwater Management Pond Plant Types

Botanical Name	Common Name	Type
Acorus calmus	Sweet Flag	Herbaceous
Amelanchier canadensis	Serviceberry	Deciduous Shrub
Calamagrotis canadensis	Sweet Flag	Emergent
Ilex verticillata	Winterberry	Deciduous Shrub
Iris versicolor	Blue Flag Iris	Emergent
Liquidambar styraciflua	Sweetgum	Deciduous Tree
Panicum virgatum	Switch Grass	Perimeter Plant
Peltandra virginica	Arrow Rum	Emergent
Pontederia cordata	Pickerelweed	Emergent
Potamogeton nodosus	Long Leaved Pond Weed	Rooted Submerged Aquatic
Scirpus cyperinus	Wool Grass	Emergent
Valisheria americana	Wild Celery	Submergent
Viburnum dentatum	Arrowwood Viburnum	Deciduous Shrub

The plant types for the bioretention areas are summarized in *Table 2.C-9*.

Table 2.C-9: Bioretention Area Plant Types

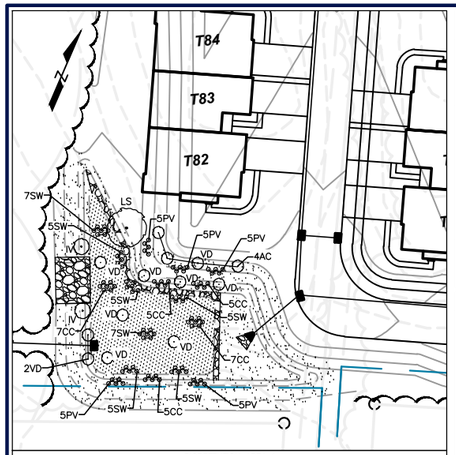
Botanical Name	Common Name	Type
Ilex verticillata	Winterberry	Deciduous Shrub
Liquidambar styraciflua	Sweetgum	Deciduous Tree
Nyssa sylvatica	Blackgum	Deciduous Tree
Viburnum dentatum	Arrowwood Viburnum	Deciduous Shrub

The stormwater management facilities landscaping are shown in *Figure 2.C-28* and on Sheet L-1 "Stormwater Landscaping Plan" of the project in *Appendix D*.

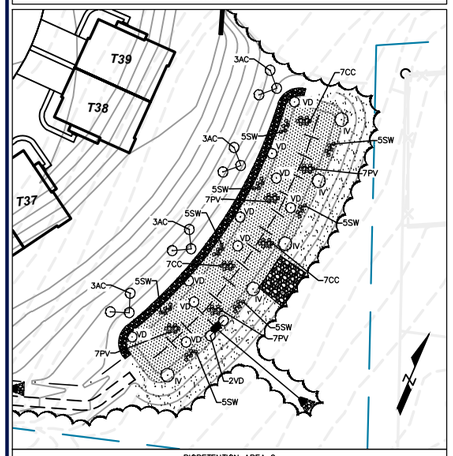
2.C.5.2 Signage

The proposed entrance feature is setback approximately 30 feet from the property line to ensure drivers turning onto All Angels Hill Road from Road "A" will have an unobstructed view. The location of the proposed entrance feature is shown in *Figure 2.C-25*.

The proposed entrance feature will consist of decorative piers, decorative fencing, and landscape accent lights (*Figure 2.C-29* and *Figure 2.C-30*). The overall height of the proposed entrance feature will be 10-feet tall and approximately 35-feet long. The decorative fencing consists of two 8-foot wide Old Towne style fence sections and one 16-foot wide Old Towne style fence section. The height of the fencing will range from 6-feet to 10-feet. The decorative piers consists of two 7'-7" tall and two 8'-0" tall piers. The piers will be 9 square feet and will have a cultured stone brick façade. The actual sign will be 4'-0" by 8'-8" ¾-inch pressure treated sign board with a red background color and gold lines, text, and trim.



BIORETENTION AREA 1
SCALE: 1" = 100'



BIORETENTION AREA 2
SCALE: 1" = 100'

BIORETENTION AREA 1 PLANT SCHEDULE

ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
AC	4	AMELANCHIER CANADENSIS	SERVICEBERRY	3–4' HT	---	---
IV	2	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
LS	1	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2½–3" CAL.	---	---
VD	9	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	29	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	20	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	39	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		3,648 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		8,241 SQ. FT.

BIORETENTION AREA 2 PLANT SCHEDULE

ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
AC	12	AMELANCHIER CANADENSIS	SERVICEBERRY	3–4' HT	---	---
IV	5	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
VD	12	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	21	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	28	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	40	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		8,495 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		5,367 SQ. FT.

STORMWATER POND 1 PLANT SCHEDULE

ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
FOREBAY						
	145	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	326 SQ. FT.
	100	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	222 SQ. FT.
	100	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	222 SQ. FT.
	100	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	225 SQ. FT.
POND						
	415	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	925 SQ. FT.
	265	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	639 SQ. FT.
	285	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	590 SQ. FT.
	180	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	397 SQ. FT.
IV	8	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
LS	2	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2½–3" CAL.	---	---
VD	4	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	19	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	25	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	30	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		8,815 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		10,152 SQ. FT.

STORMWATER POND 2 PLANT SCHEDULE

ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
FOREBAY						
	110	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	240 SQ. FT.
	130	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	287 SQ. FT.
	135	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	305 SQ. FT.
	130	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	288 SQ. FT.
POND						
	175	POTAMOGETON NODOSUS	LONG LEAVED POND WEED	2" PLUG	18" O.C.	393 SQ. FT.
	175	VALISHERIA AMERICANA	WILD CELERY	2" PLUG	18" O.C.	393 SQ. FT.
	395	POTAMOGETON NODUS	LONG LEAVED POND WEED	2" PLUG	18" O.C.	882 SQ. FT.
	395	VALISHERIA AMERICANA	WILD CELERY	2" PLUG	18" O.C.	882 SQ. FT.
IV	14	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
LS	3	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2½–3" CAL.	---	---
VD	26	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	90	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	65	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	110	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		22,770 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		20,566 SQ. FT.

STORMWATER POND 3 PLANT SCHEDULE

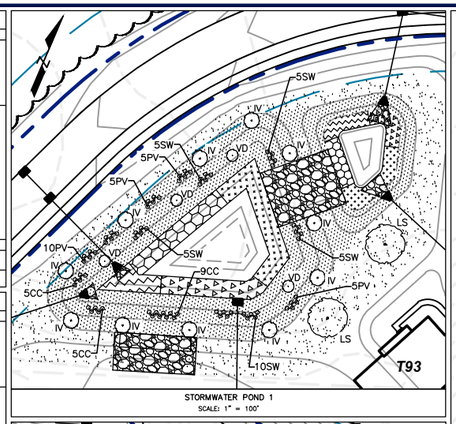
ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
FOREBAY						
	325	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	728 SQ. FT.
	170	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	373 SQ. FT.
	170	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	374 SQ. FT.
	180	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	396 SQ. FT.
POND						
	295	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	656 SQ. FT.
	160	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	354 SQ. FT.
	160	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	360 SQ. FT.
	150	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	332 SQ. FT.
IV	9	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
LS	7	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2½–3" CAL.	---	---
VD	6	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	30	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	30	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	35	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		8,980 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		19,803 SQ. FT.

STORMWATER POND 4 PLANT SCHEDULE

ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
FOREBAY						
	270	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	599 SQ. FT.
	185	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	419 SQ. FT.
	195	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	433 SQ. FT.
	200	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	447 SQ. FT.
POND						
	420	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	941 SQ. FT.
	255	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	574 SQ. FT.
	250	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	555 SQ. FT.
	370	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	831 SQ. FT.
IV	11	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
LS	8	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2½–3" CAL.	---	---
VD	11	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	40	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	50	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	55	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		19,223 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		25,372 SQ. FT.

STORMWATER POND 5 PLANT SCHEDULE

ZONE	QTY.	BOTANICAL NAME	COMMON NAME	SIZE	SPACING	AREA
FOREBAY						
	175	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	387 SQ. FT.
	190	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	425 SQ. FT.
	170	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	380 SQ. FT.
	175	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	393 SQ. FT.
POND						
	390	SCIRPUS CYERINUS	WOOL GRASS	2" PLUG	18" O.C.	874 SQ. FT.
	120	IRIS VERSICOLOR	BLUE FLAG IRIS	2" PLUG	18" O.C.	271 SQ. FT.
	115	PELTANDRA VIRGINICA	ARROW RUM	2" PLUG	18" O.C.	255 SQ. FT.
	150	PONTEDERIA CORDATA	PICKEREL WEED	2" PLUG	18" O.C.	328 SQ. FT.
IV	8	ILEX VERTICILLATA	WINTERBERRY	5–6' HT	---	---
LS	7	LIQUIDAMBAR STYRACIFLUA	SWEETGUM	2½–3" CAL.	---	---
VD	8	VIBURNUM DENTATUM	ARROWWOOD VIBURNUM	3–4' HT	---	---
CC	30	CALAMAGROTIS CANADENSIS	BLUE JOINT GRASS	1 GAL. POT	---	---
PV	35	PANICUM VIRGATUM	SWITCH GRASS	1 GAL. POT	---	---
SW	40	ACORUS CALMUS	SWEET FLAG	1 GAL. POT	---	---
ZONE	SEED MIX			APPLICATION RATE		AREA
	NORTHEAST WETLAND GRASS SEED MIX (MEADOW SEED MIX)			1 LB/2,900 SQ. FT.		11,603 SQ. FT.
	LAWN SEED (SEE NOTE 2)			60 LB/ACRE		12,878 SQ. FT.



STORMWATER POND 1
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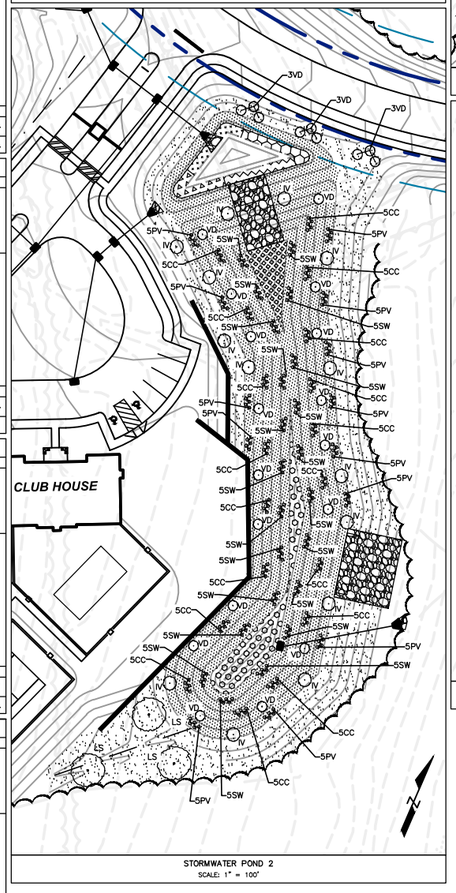
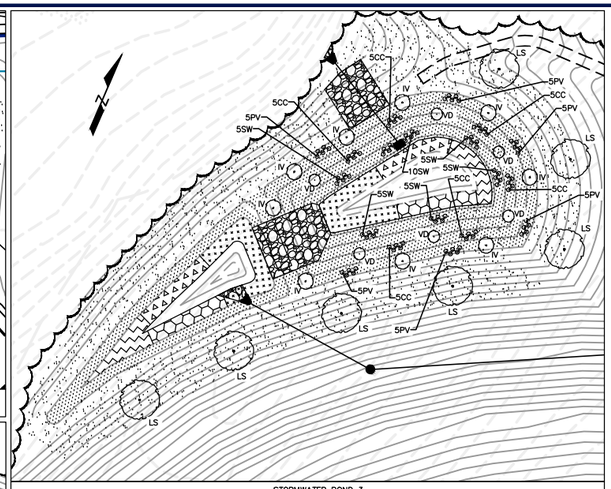
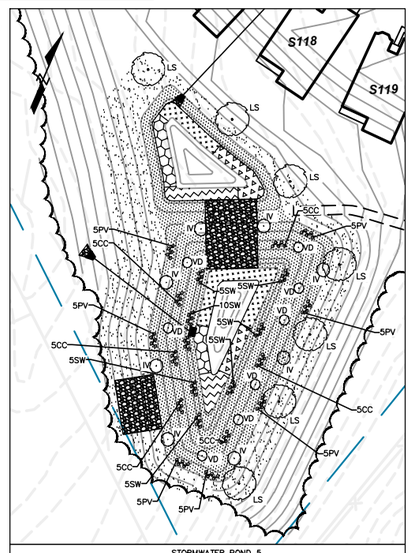


STORMWATER POND 2
SCALE: 1" = 100'



STORMWATER POND 3
SCALE: 1" = 100'

STORMWATER POND 4
SCALE: 1" = 100'



STORMWATER POND 5
SCALE: 1" = 100'

NOTES:
1. SOURCE: SOUTHERN TIER CONSULTING
   2701–A ROUTE 305
   PO BOX 30
   WEST CLARKSVILLE, NT 14786
   PHONE: 585–968–3120
2. USE LAWN SEED OUTSIDE STORMWATER POND WITHIN THE DISTURBANCE LIMITS.

PREPARED BY:

POVALL ENGINEERING, PLLC

HILLTOP VILLAGE AT WAPPINGER

STORMWATER LANDSCAPING PLAN

FIGURE 2.C-28
DATE: 02/2012
PAGE 69
SCALE: 1"=100'

Figure 2.C-29 Proposed Entrance Feature Elevations

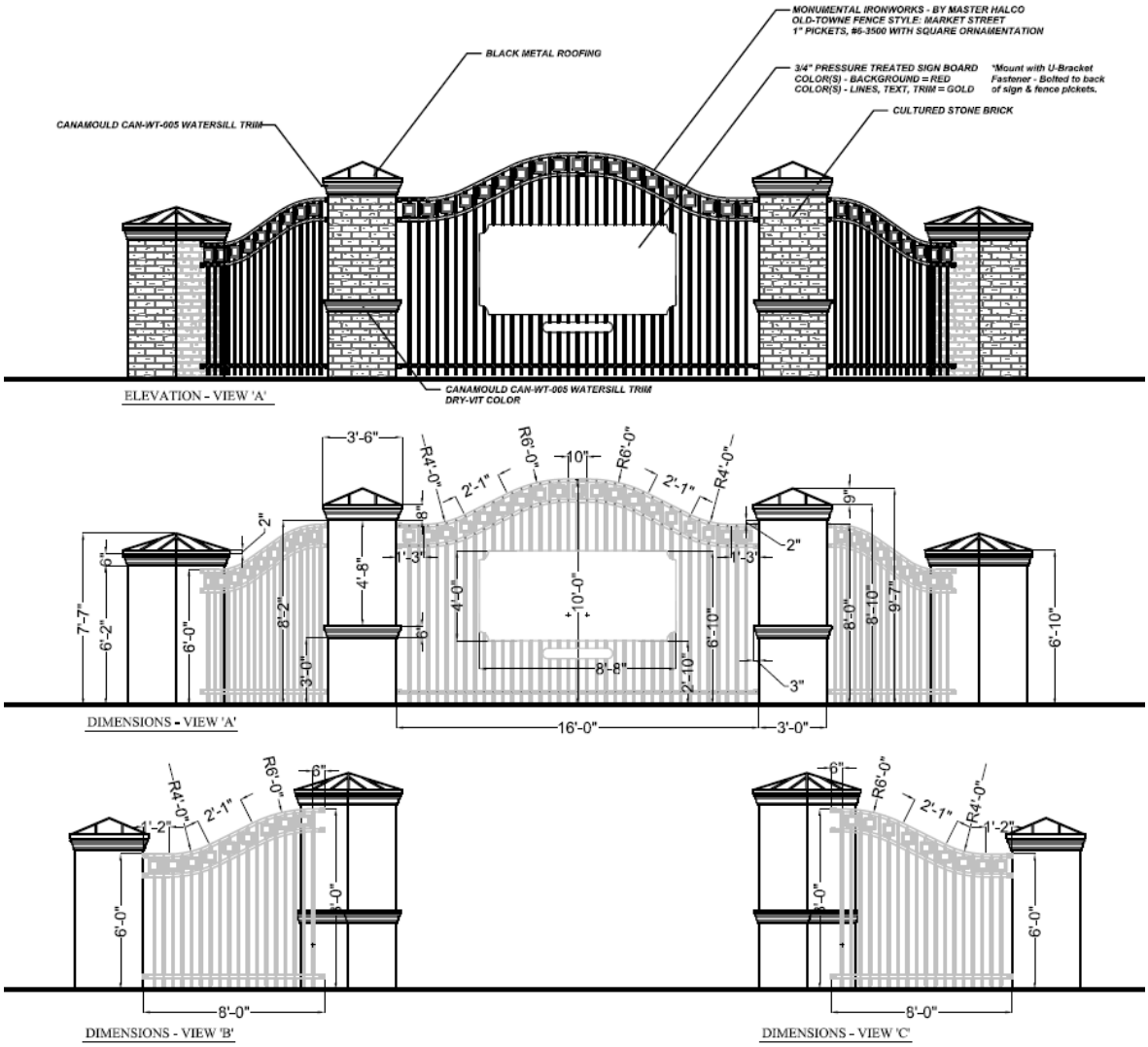
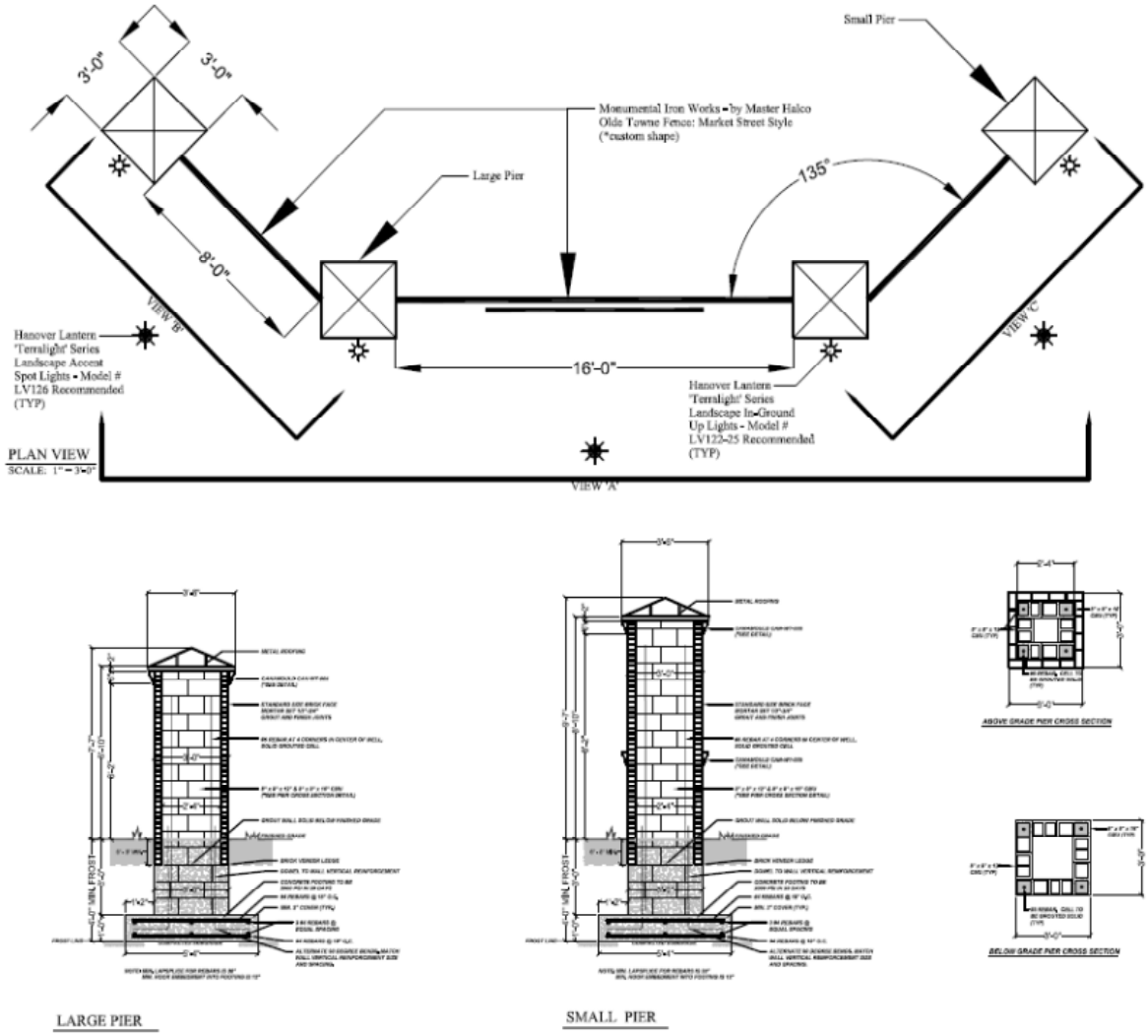


Figure 2.C-30 Proposed Entrance Feature Details and Dimensions



The proposed entrance feature will be lit with Hanover Lantern 'Terralight' series landscape accent spot lights and landscape in-ground up lights. The accent lights will be directed toward the sign and the in-ground up lights will angled toward the decorative piers. Additional information is provided on Sheet 4 of 5 "Details and Specifications" in *Appendix D*.

2.C.5.3 Site Lighting

The site lighting was designed to ensure that no objectionable glare is directed onto adjoining streets, homes and properties. Lighting was limited to the amount and intensity necessary for safety, security and to complement architectural character. A maximum of 0.5 footcandles was held at the property line to limit illumination beyond the property line in accordance with the Town of Wappinger regulations. Dark sky compliant fixtures were selected, since they cast light downward only and provide just the right amount of light exactly where it is needed.

The proposed light fixtures are 100 watt metal halide lantern light fixtures with a Type III cut-off optical assembly. This light fixture will be used extensively throughout the development and the photometrics are shown in *Figure 2.C-25* through *Figure 2.C-27*. The light fixtures will have a cast aluminum roof cap, which will reduce nocturnal glow and glare from urban areas and are considered to be dark sky compliant, since they cast light downward only and provide just the right amount of light exactly where it is needed. The proposed site lighting and photometrics is also provided on Sheets 1 of 5 through 3 of 5 "Landscape & Lighting Plan" in *Appendix D*.

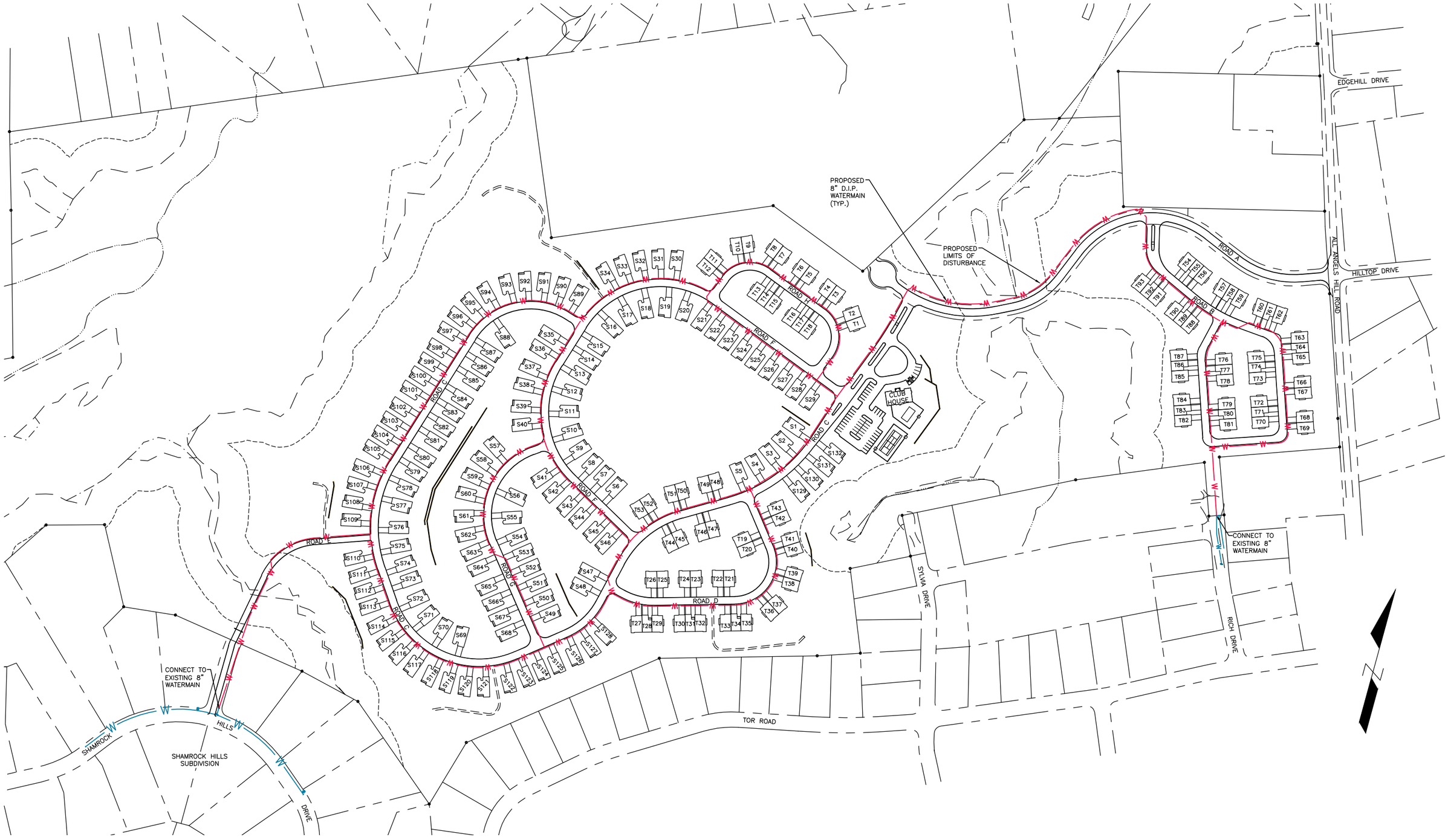
2.C.6 Site Utilities

2.C.6.1 Water Supply System

The anticipated domestic water demand for the Proposed Action was determined by using the Town of Wappinger average daily flow rates for the single family homes and the townhomes and unit flow rates in the New York State Department of Environmental Conservation (NYSDEC) *Design Standards for Wastewater Treatment Works*, 1988 for the club house and swimming pool. The anticipated domestic water demand for the Proposed Action is **61,851 gallons per day (gpd)**, which takes the 20 percent reduction in the hydraulic loading rate into account for the use of water saving plumbing fixtures.

The property is located within the United Wappinger Water District (UWWD). The project will require water service for both domestic and fire protection purposes. A double connection to the existing water distribution system is proposed to meet both requirements. The proposed water main will connect to the existing water line stub in the Shamrock Hills subdivision to the west and the existing water line located beneath Rich Drive to the east. The proposed water distribution system will be designed to serve all of the residential homes and club house. Water service from the main to each of the residential units and club house building will be provided through individual service line connections.

The overall potable water system layout is shown in *Figure 2.C-31*. The Water Supply System Engineering Report is provided in *Appendix C.6*. The water system layout is shown on Sheets U-1 through U-3 "Sanitary Sewer & Potable Water Plan" of the project plans in *Appendix D*.



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HILLTOP VILLAGE AT WAPPINGER

POTABLE WATER SYSTEM LAYOUT

FIGURE 2.C-31
DATE: 02/2012
PAGE 73
SCALE: 1"=300'

2.C.6.3 Stormwater Collection System

The proposed topography will generally convey stormwater runoff via sheet flow to onsite catch basins within the paved roads and parking areas or to grass swales. Localized low and high points have been created to aid in the collection of stormwater runoff. The collected stormwater will be conveyed via a closed pipe network or via grass swales to stormwater management facilities for treatment. The treated stormwater will be released in a controlled manner to the eastern and western onsite wetlands prior to leaving the property. The Stormwater Pollution Prevention Plan (SWPPP) is provided in *Appendix C.3*.

2.C.7 Wetlands and Floodplains

2.C.7.1 Wetlands

The property contains NYSDEC, USACE, and Town of Wappinger wetlands. All of the wetland areas observed on the parcel exhibited one or more of the following (1) flowing water, (2) soil saturation. On average water depths within the wetlands ranged from 0-4 inches. Water table elevations within on-parcel wetlands are presumed to occur within a fairly wide range of elevations (up to one half foot). Forested wetlands on the parcel exhibit a distinct hummock-hollow topography, which varies with the degree of water table fluctuations. The wetlands are associated with either an ephemeral, intermittent, or perennial stream channel. Surface water and ground water trend in a north-south direction, and ultimately discharge off the parcel to the Hudson River via off parcel tributaries. The hydric mapping units on the parcel are the Canandaigua silt loam (Ca) and Carlisle muck (Cc) soil series. All of the wetlands identified on the parcel occur in these series.

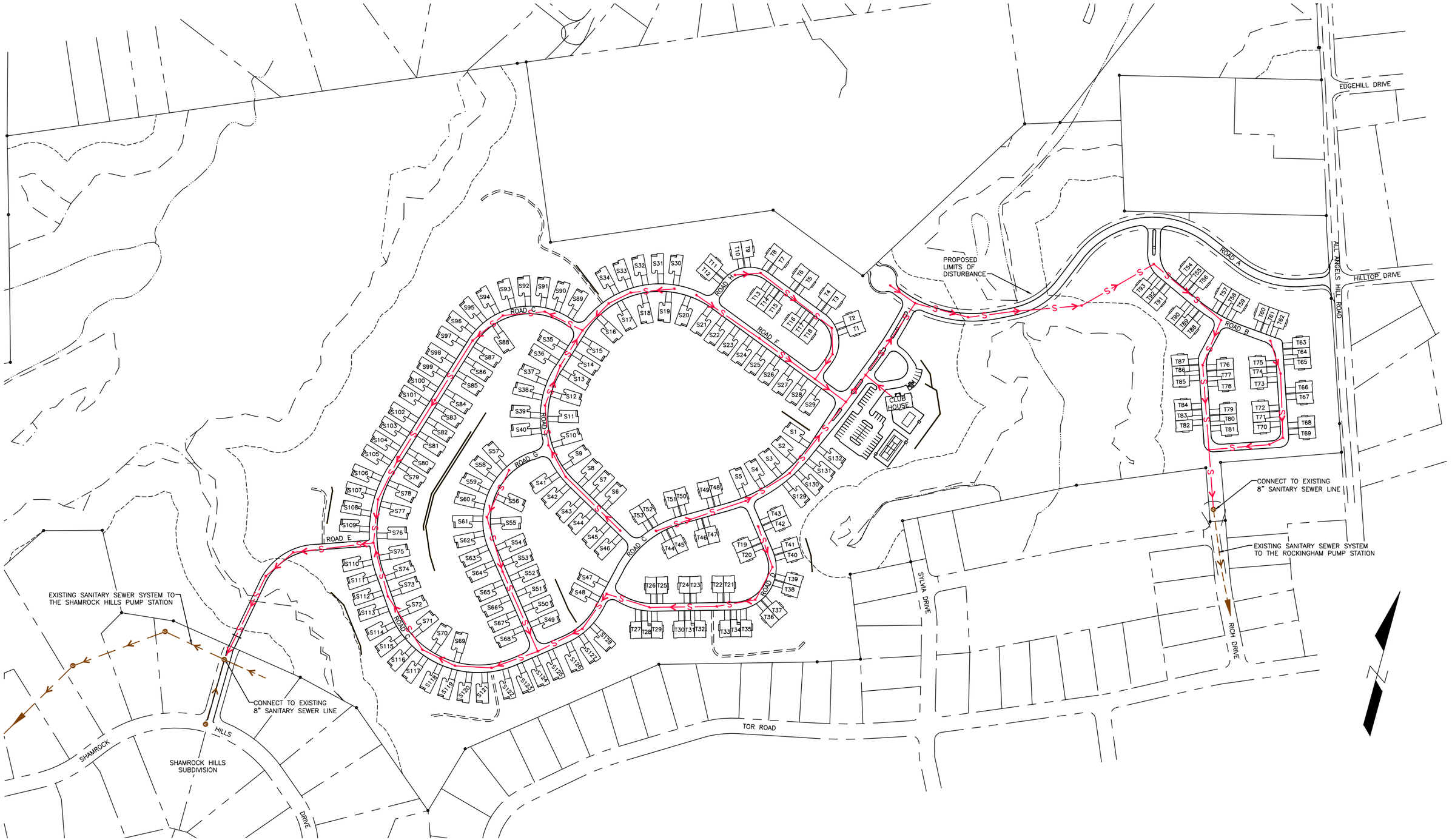
There is one principal wetland area on the property and is identified as NYSDEC Wetland WF-6 or Wetland B-C-D, which is also regulated by the USACE and Town, and contains 29.07 acres or 18.5% of the property. Wetland E is 0.46 acres or 0.3% of the property and is regulated by the USACE and Town. Wetland F-G is 5.00 acres or 3.3% of the property, Wetland H-J is 4.91 acres total or 3.3% of the property, and Wetland N is 0.06 acres or 0.04% of the property, all of which are regulated by the USACE and Town. Wetland acreage totals 39.50 acres or 26.5% of the property. The NYSDEC wetland WF-6 contains a 100 foot adjacent area that is calculated to be 10.91 acres or 7.3 percent of the property. The Town wetland buffer for all wetlands on the parcel equals 25.11 acres or 16.8 percent of the property. The location of the NYSDEC wetland is shown in *Figure 2.C-22* and the locations of the USACE-Town wetlands are shown in *Figure 2.C-23*. *Table 2.C-10* summarizes the acreage, location, and type of wetlands present on the property.

Table 2.C-10: Existing Wetland Conditions

Wetland ID	Wetland Area (acres)	Location	Type
B-C-D[1]	29.07	Western boundary	Red Maple Swamp
F-G	5.00	Eastern boundary	Scrub/Shrub Thicket
E	0.46	Southern Central area	Watercourse
H-J	4.91	Eastern boundary	Red Maple Swamp
N	0.06	Southern area	Red Maple Swamp

[1] The area of NYSDEC Wetland WF-6 (27.47 acres) is included within Wetland B-C-D, since it is part of the ACOE-Town wetland.

Detailed descriptions of the wetlands are provided below.



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HILLTOP VILLAGE

SANITARY SEWER SYSTEM LAYOUT

FIGURE 2.C-32
DATE: 02/2012
PAGE 75
SCALE: 1"=300'

2.C.6.3 Stormwater Collection System

The proposed topography will generally convey stormwater runoff via sheet flow to onsite catch basins within the paved roads and parking areas or to grass swales. Localized low and high points have been created to aid in the collection of stormwater runoff. The collected stormwater will be conveyed via a closed pipe network or via grass swales to stormwater management facilities for treatment. The treated stormwater will be released in a controlled manner to the eastern and western onsite wetlands prior to leaving the property. The Stormwater Pollution Prevention Plan (SWPPP) is provided in *Appendix C.3*.

2.C.7 Wetlands and Floodplains

2.C.7.1 Wetlands

The property contains NYSDEC, USACE, and Town of Wappinger wetlands. All of the wetland areas observed on the parcel exhibited one or more of the following (1) flowing water, (2) soil saturation. On average water depths within the wetlands ranged from 0-4 inches. Water table elevations within on-parcel wetlands are presumed to occur within a fairly wide range of elevations (up to one half foot). Forested wetlands on the parcel exhibit a distinct hummock-hollow topography, which varies with the degree of water table fluctuations. The wetlands are associated with either an ephemeral, intermittent, or perennial stream channel. Surface water and ground water trend in a north-south direction, and ultimately discharge off the parcel to the Hudson River via off parcel tributaries. The hydric mapping units on the parcel are the Canandaigua silt loam (Ca) and Carlisle muck (Cc) soil series. All of the wetlands identified on the parcel occur in these series.

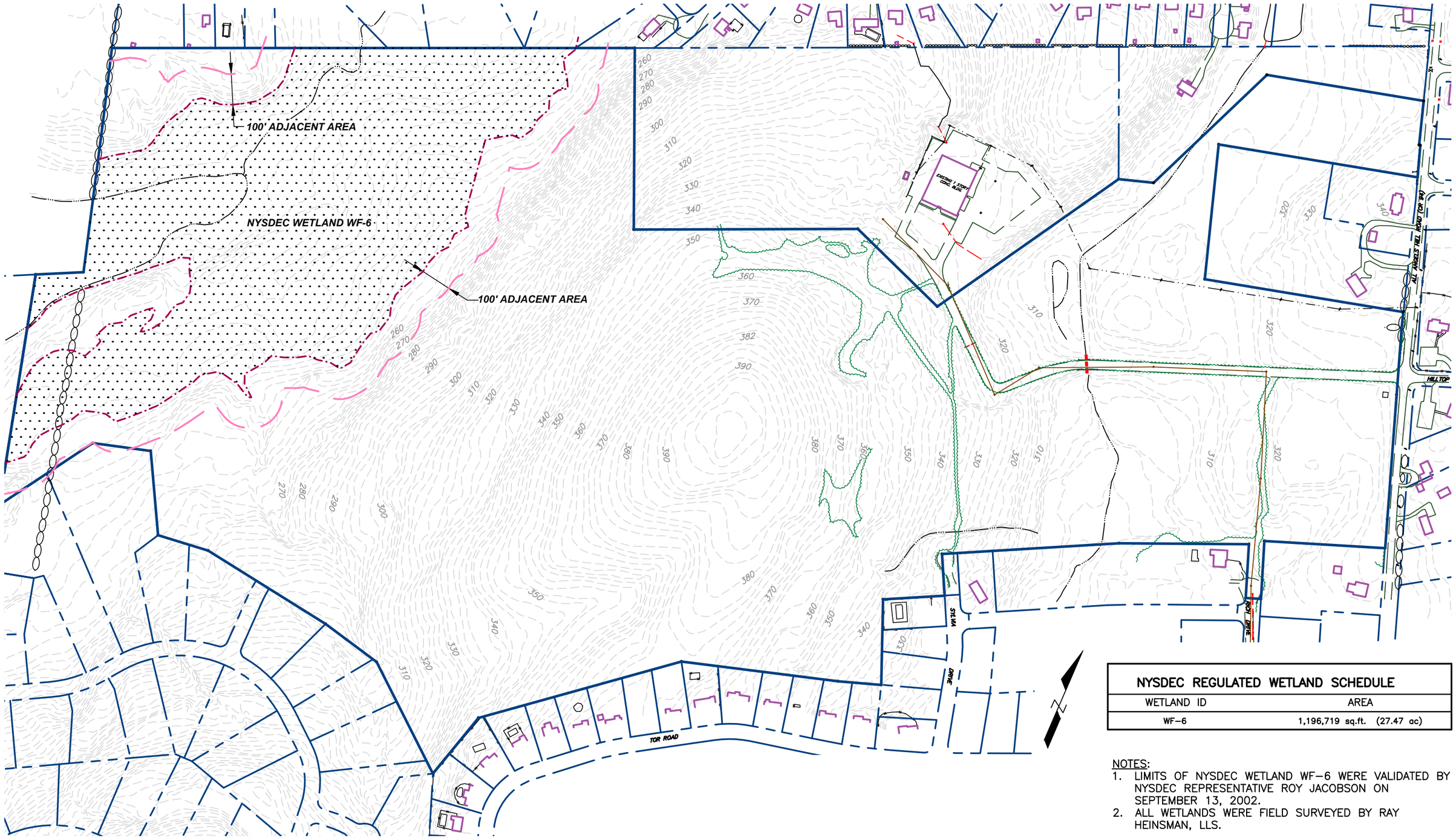
The location of the NYSDEC wetland is shown in *Figure 2.C-22* and the locations of the USACE-Town wetlands are shown in *Figure 2.C-23*. *Table 2.C-10* summarizes the acreage, location, and type of wetlands present on the property.

Table 2.C-10: Existing Wetland Conditions

Wetland ID	Wetland Area (acres)	Location	Type
WF-6	27.47	Western boundary	Red Maple Swamp
B-C-D[1]	29.07	Western boundary	Red Maple Swamp
F-G	5.00	Eastern boundary	Scrub/Shrub Thicket
E	0.46	Southern Central area	Watercourse
H-J	4.91	Eastern boundary	Red Maple Swamp
N	0.06	Southern area	Red Maple Swamp

[1] The area of NYSDEC Wetland WF-6 is included within Wetland B-C-D, since it is part of the ACOE-Town wetland.

Detailed descriptions of the wetlands are provided below.



NYSDEC REGULATED WETLAND SCHEDULE	
WETLAND ID	AREA
WF–6	1,196,719 sq.ft. (27.47 ac)

NOTES:
1. LIMITS OF NYSDEC WETLAND WF–6 WERE VALIDATED BY NYSDEC REPRESENTATIVE ROY JACOBSON ON SEPTEMBER 13, 2002.
2. ALL WETLANDS WERE FIELD SURVEYED BY RAY HEINSMAN, LLS.

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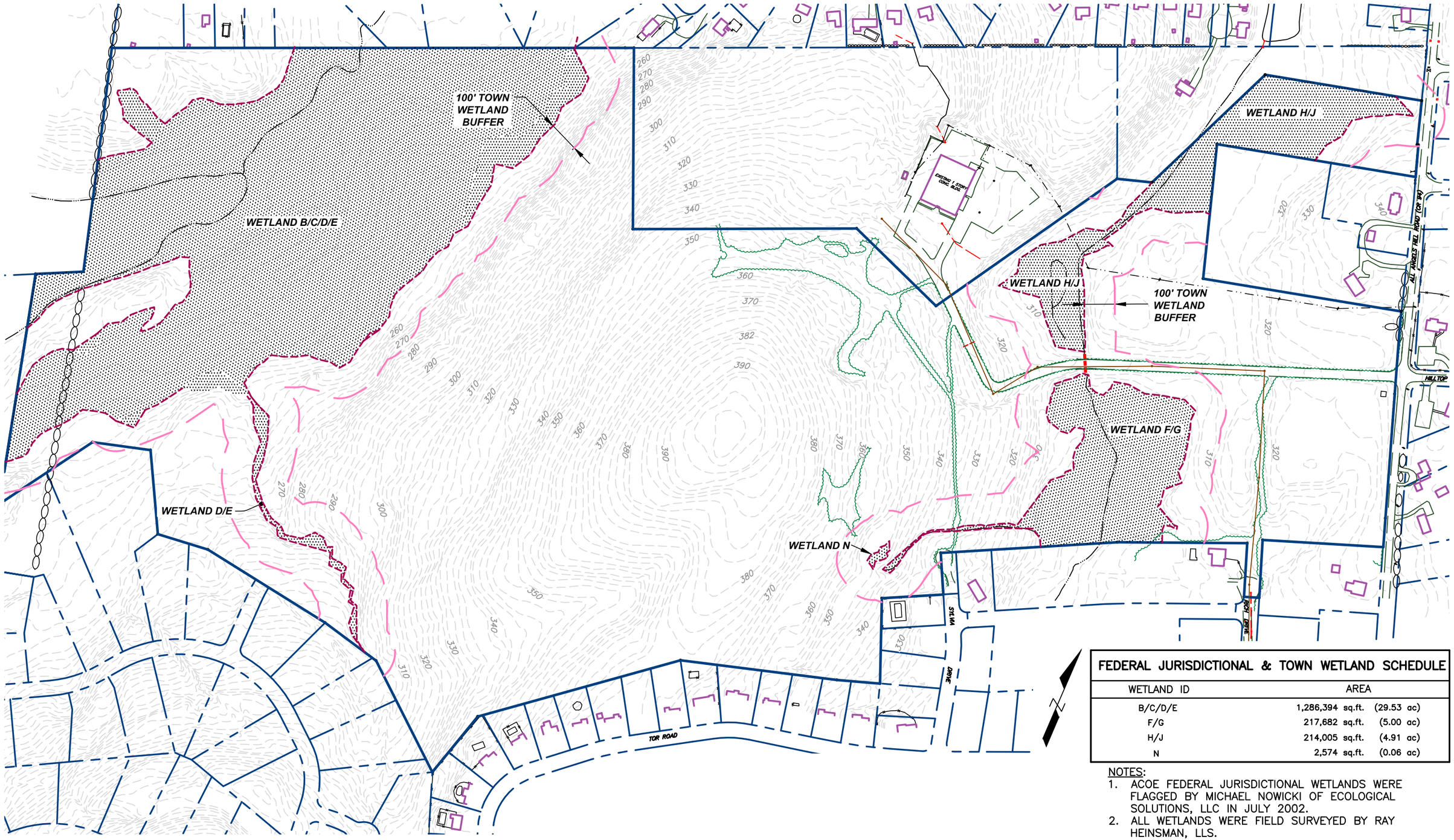
POVALL ENGINEERING, PLLC

HILLTOP VILLAGE AT WAPPINGER

NYSDEC WETLAND MAP

FIGURE 2.C-33
DATE: 02/2012
PAGE 77
SCALE: 1"=300'



FEDERAL JURISDICTIONAL & TOWN WETLAND SCHEDULE		
WETLAND ID	AREA	
B/C/D/E	1,286,394 sq.ft.	(29.53 ac)
F/G	217,682 sq.ft.	(5.00 ac)
H/J	214,005 sq.ft.	(4.91 ac)
N	2,574 sq.ft.	(0.06 ac)

NOTES:
1. ACOE FEDERAL JURISDICTIONAL WETLANDS WERE FLAGGED BY MICHAEL NOWICKI OF ECOLOGICAL SOLUTIONS, LLC IN JULY 2002.
2. ALL WETLANDS WERE FIELD SURVEYED BY RAY HEINSMAN, LLS.

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POVALL ENGINEERING, PLLC

HILLTOP VILLAGE AT WAPPINGER

ACOE & TOWN OF WAPPINGER WETLAND MAP

FIGURE 2.C-34
DATE: 02/2012
PAGE 78
SCALE: 1"=300'

USACE-Town Regulated Wetland B-C-D is approximately 29.07 acres and consists of a forested wetland that primarily receives water through surface sheet flow and adjacent off-site wetlands. NYSDEC Wetland WF-6 is part of this wetland and is approximately 27.47 acres. Channelized flow was identified at the approximate center of the wetland. Hydrologic indicators observed included soil saturation, drift lines, drainage patterns, shallow root systems, and water stained leaves. Herbaceous species identified included *Symplocarpus foetidus* (skunk cabbage). Shrub species observed included *Acer rubrum* (red maple), and *Lindera benzoin* (spicebush). Tree species included *Acer rubrum* (red maple) and *Ostrya virginiana* (eastern hophornbeam). The hydric mapping units in this wetland are the Canandaigua silt loam (Ca) and Carlisle muck (Cc) soil series.

USACE-Town Regulated Wetand F-G is a red maple swamp and is connected Wetland H/J by a small ephemeral or intermittent watercourse. Hydrological indicators identified within the two wetlands included water marks, drift lines, drainage patterns, and water stained leaves. Herbaceous vegetation identified included *Onoclea sensibilis* (sensitive fern), *Osmunda cinnamomea* (cinnamon fern), and *Viola sp.* (violet). Shrub species included *Lindera benzoin* (spicebush) and *Acer rubrum* (red maple). Tree species included *Acer rubrum* (red maple), *Ostrya virginiana* (eastern hophornbeam), and *Fraxinus pennsylvanica* (green ash). The hydric mapping unit in this wetland is Canandaigua silt loam (Ca).

USACE-Town Regulated Wetland E is an ephemeral watercourse with steep banks and a gravelly bottom. Hydrological indicators included watermarks and drainage patterns. No vegetation is dominant in this watercourse.

USACE-Town Regulated Wetland H-J consists of a scrub/shrub thicket wetland component in a red maple swamp. Hydrologic drivers for this wetland are adjacent steep hillsides and surface sheet flow from surrounding uplands, and a small ephemeral watercourse within its boundaries. Hydrologic indicators for this wetland include soil saturation, drainage patterns, oxidized root channels, and water stained leaves. Herbaceous vegetation identified included *Onoclea sensibilis* (sensitive fern), *Osmunda cinnamomea* (cinnamon fern), and *Viola sp.* (violet). Shrub species included *Lindera benzoin* (spicebush) and *Acer rubrum* (red maple). Tree species included *Acer rubrum* (red maple), *Ostrya virginiana* (eastern hophornbeam), and *Fraxinus pennsylvanica* (green ash). The hydric mapping unit in this wetland is Canandaigua silt loam (Ca).

USACE-Town Regulated Wetland N originates on topographically higher portions of the site. The wetland is fed through ground water seepage and surface sheet flow. Hydrologic indicators observed included soil saturation, shallow root systems, drainage patterns, and water stained leaves. Herbaceous vegetation identified included *Onoclea sensibilis* (sensitive fern), *Osmunda cinnamomea* (cinnamon fern), and *Viola sp.* (violet). Shrub species included *Lindera benzoin* (spicebush) and *Acer rubrum* (red maple). The hydric mapping unit in this wetland is Canandaigua silt loam (Ca).

All of the wetland areas on the property are regionally abundant Red Maple Swamp and typical for the glaciated Northeastern United States. There are no unique or regionally rare wetland types on the property for example (kettlehole pond, graminoid fen, cedar swamp).

The NYSDEC Wetland WF-6 contains a 100 foot adjacent area, which is 10.91 acres or 7.3 percent of the property. The Town 100 foot wetland buffer for all wetlands on the property is 25.11 acres or 16.8 percent of the property.

2.C.7.2 Floodplains

The property is located within Zone X (other flood areas) and Zone X (other areas) according to the Flood Insurance Rate Map (FIRM) for the Town of Wappinger, New York.[15] The zones are shown in *Figure 2.C-35*. Zone X (other flood areas) is defined as "areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood".[16] Zone X (other areas) is defined as "areas determined to be outside 500-year floodplain".[17]

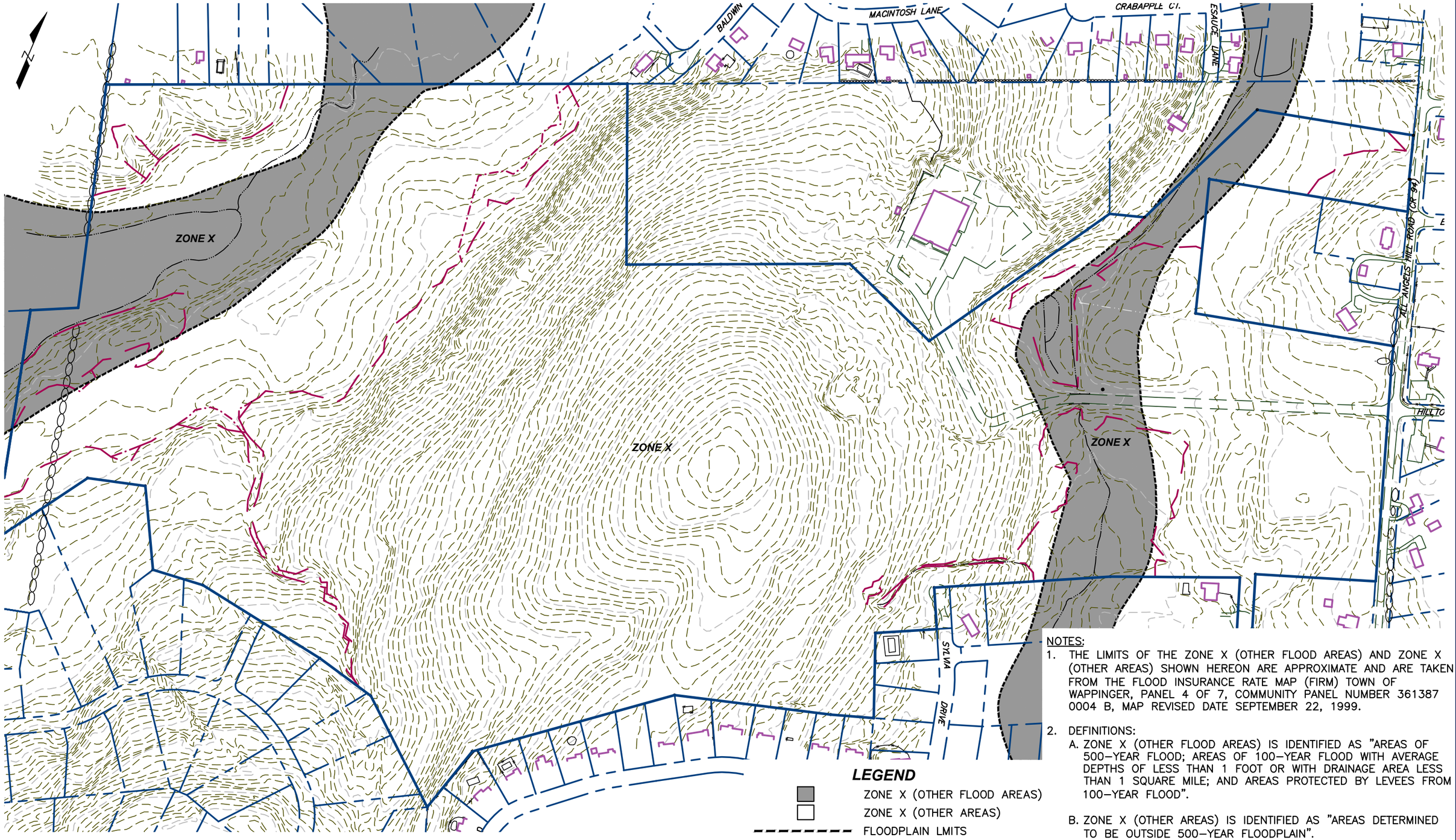
2.C.8 Access to R&R Realty Associates Property

The R&R Realty Associates property is located to the north of the Proposed Action. The commercial business, Flavormatic, is currently located on this property. Access to Flavormatic is provided by an existing shared paved driveway off of All Angels Hill Road (CR 94) with a 60 foot easement/ROW. As proposed, the existing paved driveway will be removed and the existing 60 foot easement/ROW will be extinguished. As shown in *Figure 2.C-36*, a new 24 foot wide road with a 50 foot ROW will be constructed and offered for dedication to the Town of Wappinger. The new road will continue to provide access to Flavormatic as well as to the proposed non-Town roads within the gated portions of the Proposed Action.

The proposed road alignment was designed with gradual curves to provide traffic calming measures, since long straight streets have a tendency to encourage speeding.[18] A turnaround has been provided at the end of the road near R&R Realty Associates Property, which will allow lost drivers the ability to turnaround without having to enter the residential development or Flavormatic. The proposed road will be constructed to current Town of Wappinger Highway Specifications.

The Owner and Applicant have approached and had discussions with R&R Realty Associates regarding the proposed removal of the existing paved driveway to establish a new 24 foot wide road. Should the Town not accept the offer of dedication, the Applicant and Owner will continue to work with R&R Realty Associates in order to establish the proposed new 24 foot wide road.

[15] FIRM Panel 4 of 7, Community Panel Number 361387 0004 B, Map revised date September 22, 1999.
[16] Ibid.
[17] Ibid.
[18] David Szplett and Michael Fuess "Designing Speed Controlled Subdivisions without Road Humps" ITE Annual Meeting Compendium, 1999 (http://www.ite.org/traffic/documents/AHA99B14.pdf)



NOTES:

1. THE LIMITS OF THE ZONE X (OTHER FLOOD AREAS) AND ZONE X (OTHER AREAS) SHOWN HEREON ARE APPROXIMATE AND ARE TAKEN FROM THE FLOOD INSURANCE RATE MAP (FIRM) TOWN OF WAPPINGER, PANEL 4 OF 7, COMMUNITY PANEL NUMBER 361387 0004 B, MAP REVISED DATE SEPTEMBER 22, 1999.

2. DEFINITIONS:
   A. ZONE X (OTHER FLOOD AREAS) IS IDENTIFIED AS "AREAS OF 500–YEAR FLOOD; AREAS OF 100–YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREA LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM 100–YEAR FLOOD".

   B. ZONE X (OTHER AREAS) IS IDENTIFIED AS "AREAS DETERMINED TO BE OUTSIDE 500–YEAR FLOODPLAIN".

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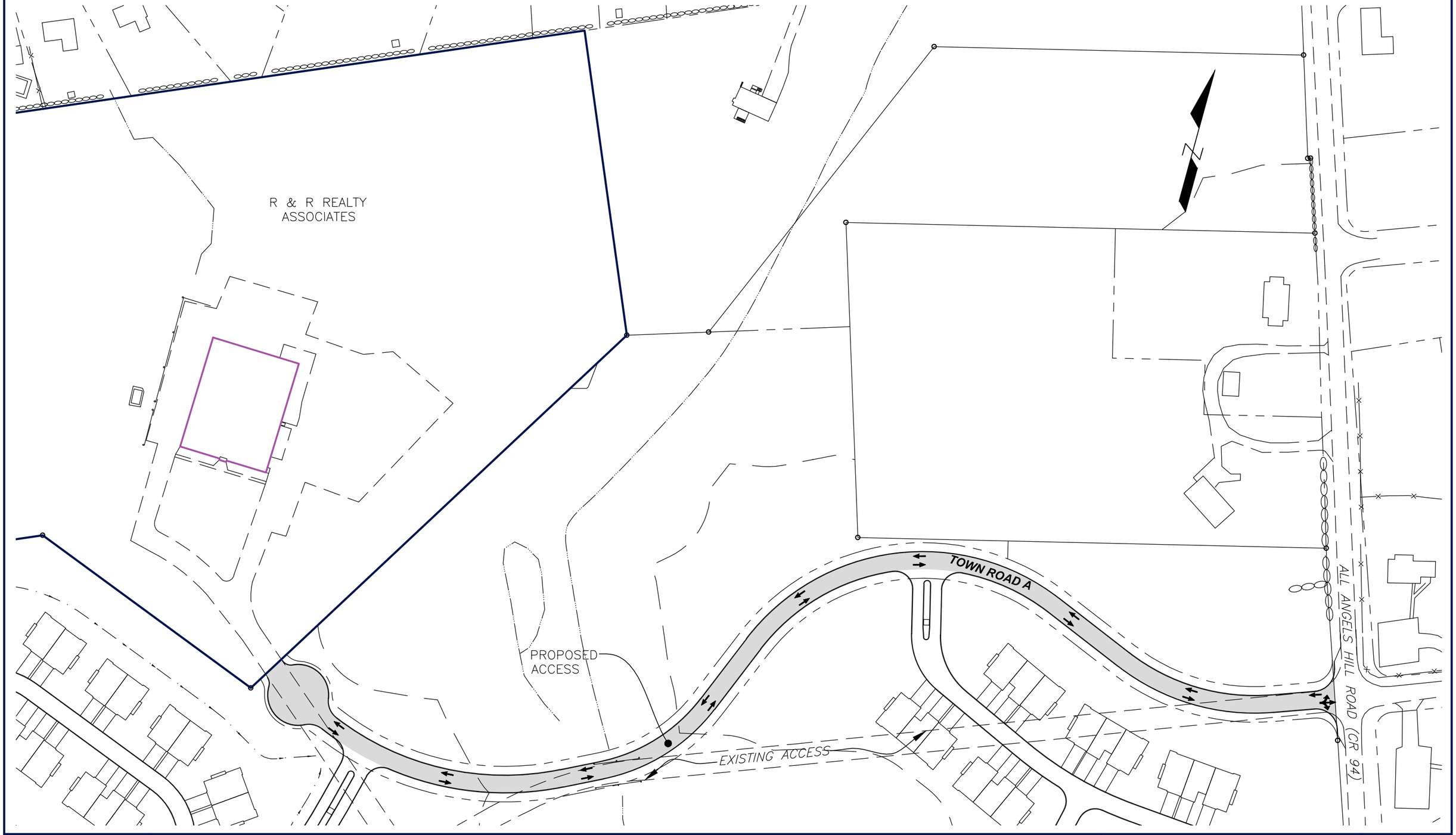
HILLTOP VILLAGE AT WAPPINGER

FLOODPLAIN MAP

FIGURE 2.C-35
DATE: 02/2012
PAGE 81
SCALE: 1"=300'



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POVALL ENGINEERING, PLLC

HILLTOP VILLAGE

PROPOSED ACCESS TO R & R REALTY ASSOCIATES PROPERTY

FIGURE 2.C-36
DATE: 02/2012
PAGE 82
SCALE: N.T.S.

2.C.9 Parcel C Lot Line Realignment

Parcel C currently contains a single family home, which is accessed via Applesauce Lane. Approximately 4.05 acres will be conveyed to Parcel C as a result of the proposed lot line realignment (*Figure 2.C-37*). Should the owner of Parcel C pursue developing the property further, there is a limited area for potential development along All Angels Hill Road (CR 94) as shown in *Figure 2.C-38*. Approximately 2.88 acres of the 4.05 acres consists of US Army Corp. of Engineers Federal wetlands and Town of Wappinger wetlands. Approximately 0.82 acres of the 4.05 acres are located within the 100 foot Town wetland buffer. There is the potential to subdivide Parcel C into two individual parcels and develop one single family home within the existing R-40 zoning district required setbacks on the eastern portion of the lot with frontage on All Angels Hill Road.

2.C.10 Future Development Parcel

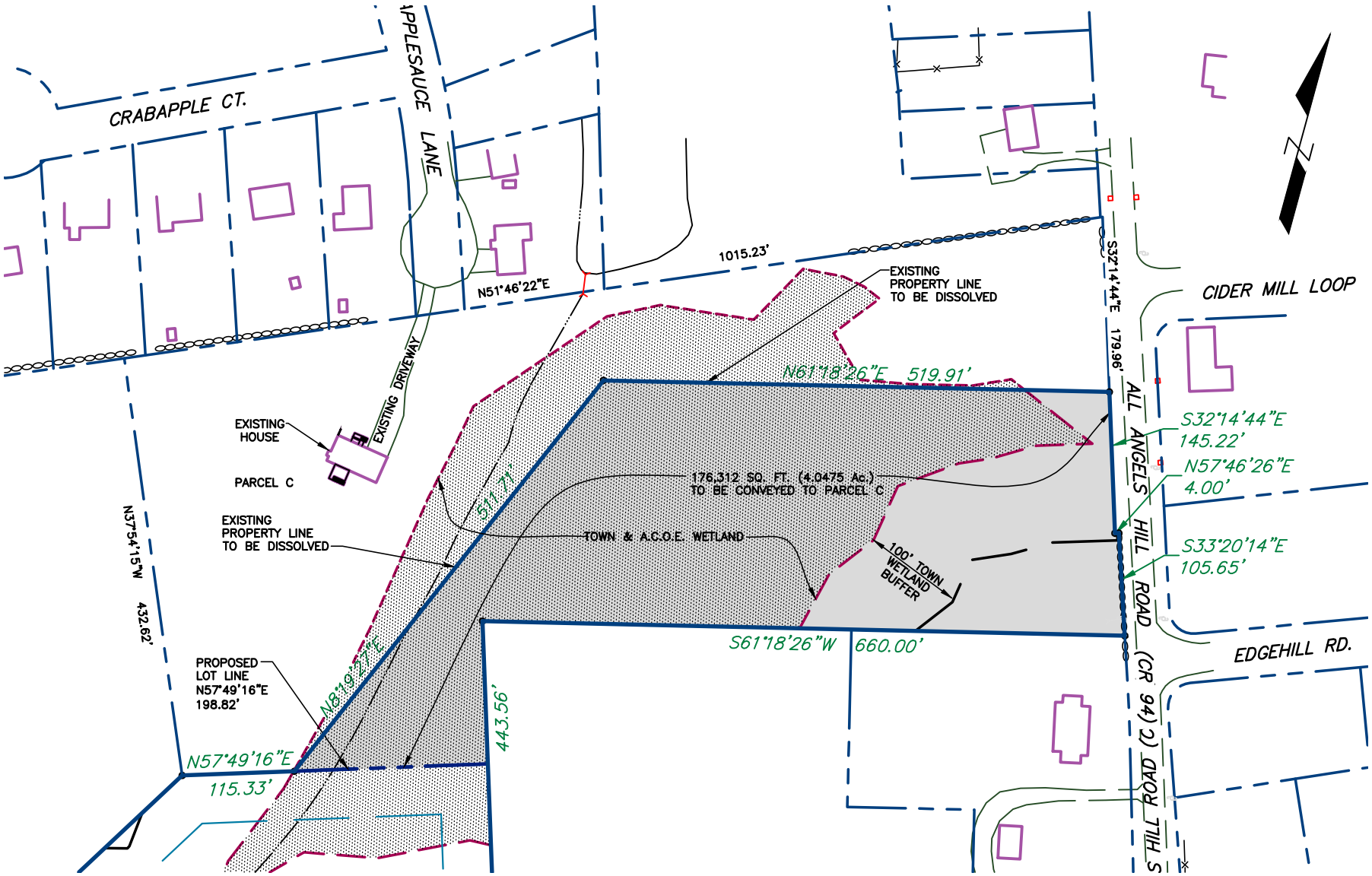
According to the *Town of Wappinger Comprehensive Plan*, a survey was conducted in 2004 and one of the most requested amenities was for a new larger senior center.[19] A 1.48 acre parcel along the proposed Road "A" is being offered for dedication to the Town of Wappinger for recreational purposes (*Figure 2.C-39*). An example use of the property is shown in *Figure 2.C-40*, which depicts a Town Senior Center. Based upon the *Town of Wappinger Zoning Code* setback requirements, there is potential for a 46 foot by 64 foot (2,944 square foot) building with a 28 foot by 42 foot (1,176 square foot) patio area, an open space area for potential outdoor recreational activities, and a parking area with the potential for 30 parking spaces. This is just one example use of the property and should the Town accept the offer of dedication, the parcel can be developed to meet the Town's recreational needs.

This area is not included within the 73.72 acres of permanent open space. Should the Town not accept the offer of dedication, then the Future Development Parcel will become permanent open space maintained by the HOA.

2.C.11 Robinson Lane Recreation Parcel

According to the *Town of Wappinger Comprehensive Plan*, the Town is looking at lands around Robinson Lane Park for potential acquisition for recreational purposes.[20] According to the *Town of Wappinger Comprehensive Plan*, "the Recreation Commission has proposed a one-mile trail around the perimeter of the park…A second vehicular access is needed to resolve congestion and safety problems during larger events."[21] A survey was conducted in 2004 and some of the most requested amenities included shaded picnic areas, a pavilion, and lighting on athletic fields for nighttime use.[22] The Recreation Committee is also working on developing high priority amenities, such as additional athletic fields and additional tennis courts.[23]

[19] *Town of Wappinger Comprehensive Plan*, September 27, 2010, pg. 81-82.
[20] *Town of Wappinger Comprehensive Plan*, September 27, 2010, pg. 80.
[21] *Town of Wappinger Comprehensive Plan*, September 27, 2010, pg. 81.
[22] *Town of Wappinger Comprehensive Plan*, September 27, 2010, pg. 81-82.
[23] *Town of Wappinger Comprehensive Plan*, September 27, 2010, pg. 82.



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HILLTOP VILLAGE AT WAPPINGER

LOT LINE REALIGNMENT OF PARCEL C

FIGURE 2.C-37
DATE: 02/2012
PAGE 84
SCALE: 1"=150'

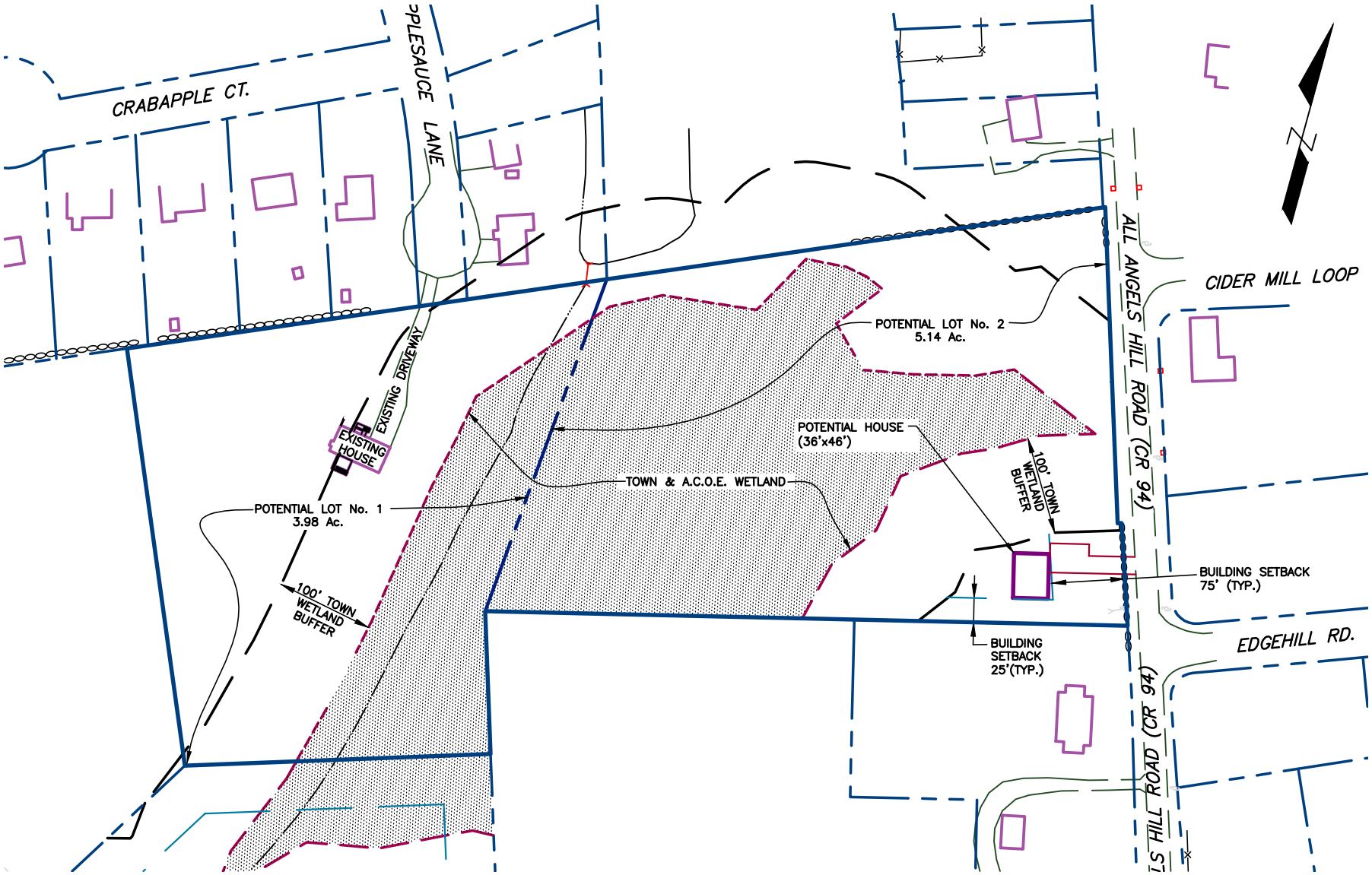

FIGURE 2.C-38
DATE: 02/2012
PAGE 85
SCALE: 1"=150'

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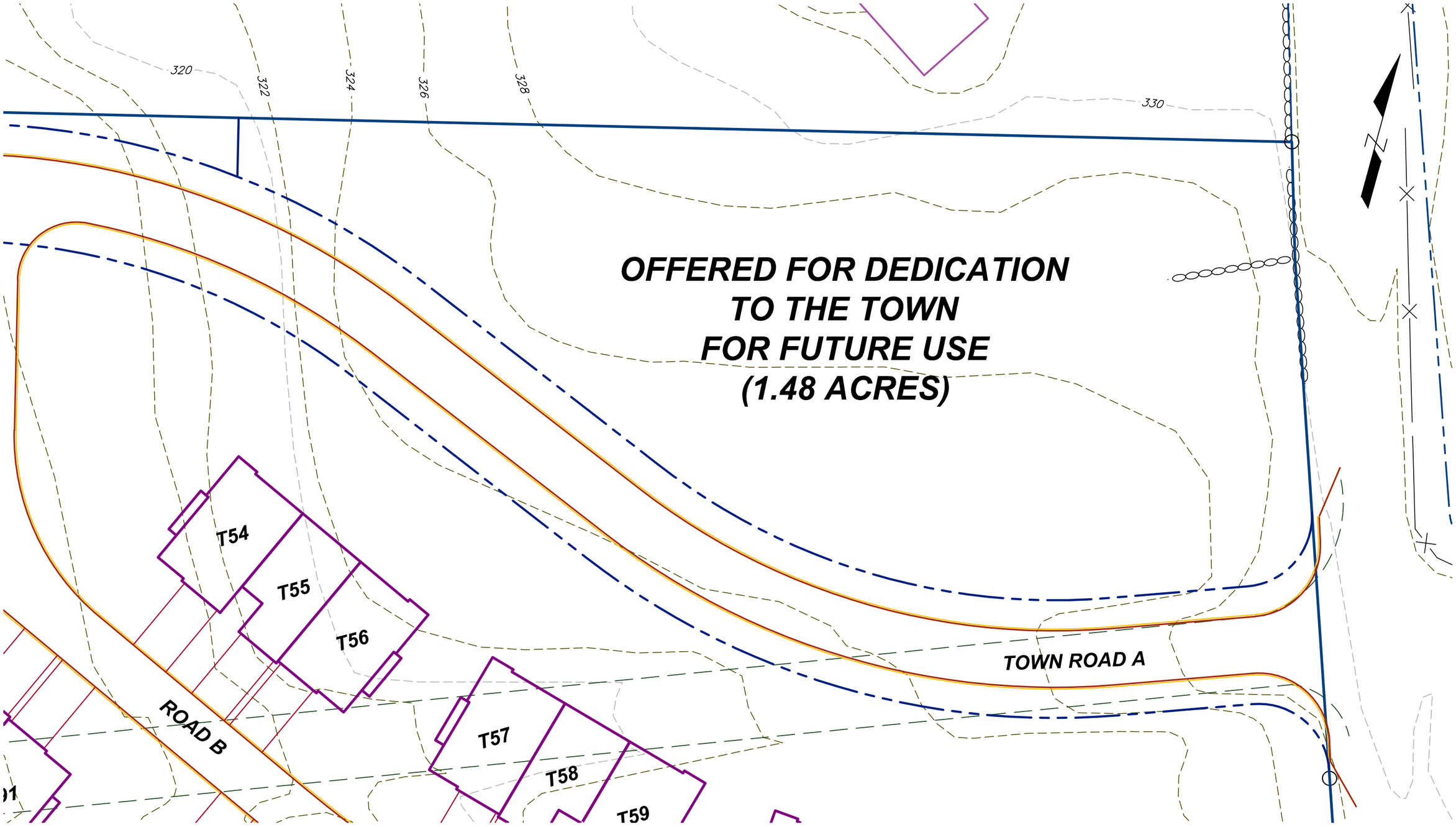
HILLTOP VILLAGE AT WAPPINGER

POTENTIAL DEVELOPMENT OF PARCEL C



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HILLTOP VILLAGE AT WAPPINGER

FUTURE DEVELOPMENT PARCEL

FIGURE 2.C-39

DATE: 02/2012

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SCALE: 1"=40'

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HILLTOP VILLAGE AT WAPPINGER

FUTURE DEVELOPMENT PARCEL EXAMPLE USE

FIGURE 2.C-40

DATE: 02/2012

PAGE 87

SCALE: 1"=40'

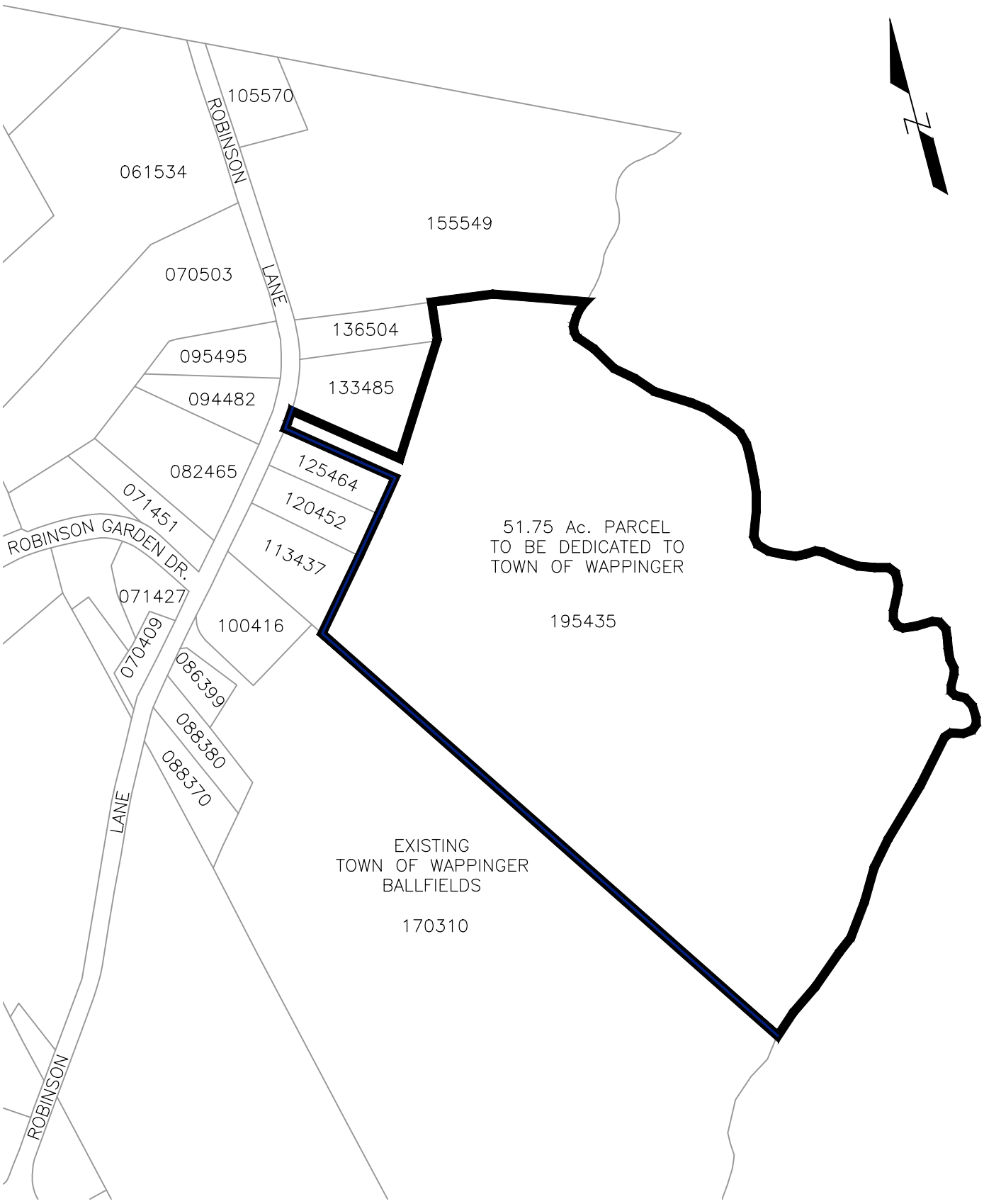
The Owner currently owns a 51.7 acre parcel on Robinson Lane adjacent to the existing Town Recreation Center on Robinson Lane (*Figure 2.C-41*), which is being offered for dedication to the Town of Wappinger for recreational purposes. The parcel contains old field areas as well as wetlands and regulated buffer area; however, there is approximately 28.08 acres of useable space. One example use (*Figure 2.C-42*) was developed to show that this parcel is suitable for passive and active recreation including expansion of existing athletic fields and supporting infrastructure. The layout shows several picnic areas, a pavilion, soccer fields, tennis courts, shuffleboard courts, a walking trail around the perimeter of the property, additional parking, lighting around the two larger soccer fields for night use, and a second vehicular access to reduce congestion. This is just one example use of the property and should the Town accept the offer of dedication, the parcel can be developed to meet the Town's recreational needs.

This area is not included within the 73.72 acres of permanent open space. Should the Town not accept the offer of dedication, then the parcel will remain owned by the Owner.

2.C.12 Age Restriction and Children Policies

The Proposed Action consists of 225 age-restricted units for persons 55-years of age and older. The applicant proposes to enforce the age restriction through the Condominium Offering Plan and its By-Laws. Occupancy will be restricted to households who meet the following criteria:

- A single person 55 years of age or older;
- Two or three persons, all of whom are 55 years of age or older;
- A married couple, the husband or wife of which is 55 years of age or older;
- Children residing with a parent who is 55 years of age or older, provided that said child is over the age of 18;
    - Temporary Occupancy. The surviving child of a person 55 years of age or older may continue to reside in the development for a period of six months following the death of the parent, provided that said child was duly registered as a resident of the development at the time of the parent's death.
- The surviving spouse of a person 55 years of age or older, provided that the surviving spouse was duly registered as a resident of the development at the time of the elderly person's death; or
- One adult 18 years of age or older residing with a person who is 55 years of age or older, provided that said adult is essential to the long-term care of the elderly person as certified by a physician duly licensed in New York State.



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HILLTOP VILLAGE AT WAPPINGER

ROBINSON LANE PARCEL

FIGURE 2.C-41

DATE: 02/2012

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SCALE: 1"=400

LAND AREA CALCULATIONS	
	AREA
TOWN OF WAPPINGER WETLANDS	2.12 Ac.
N.Y.S.D.E.C. WETLANDS	14.88 Ac.
N.Y.S.D.E.C. 100' ADJACENT AREA	6.64 Ac.
USABLE LAND	28.08 Ac.

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HILLTOP VILLAGE AT WAPPINGER

ROBINSON LANE PARCEL EXAMPLE USE

FIGURE 2.C-42
DATE: 02/2012
PAGE 90
SCALE: 1"=250'

2.C.13 Below-Market-Rate Portion of Project

General Definition of Affordability

It is generally accepted by mortgage underwriters that a household should not pay more than 30% of its gross income on housing costs to avoid being unable to meet other financial obligations. According to the US Department of Housing and Urban Development (HUD), the definition of "affordable housing" generally means a rental or owned property that costs less than 30% of the gross income of a household that makes 80% of the area median household income. This is the standard for moderate-income affordability. Low-Income affordability applies to households making 60% of the area median.

Moderate Income Household	Between 60-80% of Median Household Income for Area
Low Income Household	Less than 60% of Median Household Income for Area
Affordable Moderate Income Housing	Costs Less Than 30% of Moderate Income Household's Gross Annual Income
Affordable Low Income Housing	Costs Less Than 30% of Low Income Household's Gross Annual Income

Affordable Housing in the Town of Wappinger

HUD uses the "Area Median Income" to determine affordability. The local area is Dutchess County.

2009 Median Household Income*	$71,504
Moderate Income Household makes	Between $42,900 and $57,200
Low Income Household makes	Less than $42,900
Affordable Moderate Income Housing	Costs Less Than $17,160 per year or $1,430 per month
Affordable Low Income Housing	Costs Less Than $12,870 per year or $1,073 per month

***Source:** U.S. Census Bureau 2005-2009 American Community Survey 5-Year Estimates for Dutchess County, New York; Data is in 2009 inflation-adjusted dollars.

Affordable Housing at Hilltop Village at Wappinger

Determining what is "affordable" takes many factors into account including but not limited to financing terms, mortgage products, variation in utility costs, and different levels of net worth. For this calculation, the Applicant believes the average moderate-income family desiring to live in Hilltop Village at Wappinger will have some personal savings to put toward a down-payment on a new home, at least 20%, due to the sale of another residence.

This calculation estimates an annual income of $57,200, or 80% of the Town of Wappinger median household income, including 2% of available assets, with no personal debt and a good credit rating for the moderate-income affordable homes.

Affordable Moderate Income Housing			
Max. Cost Per Month (30%)	=	$	1,430
Minus:			
Monthly property tax (average)	-	$	334
Monthly property insurance	-	$	65
Monthly homeowner's association fee	-	$	225
Equals max. monthly mortgage payment	**=**	**$**	**806**
Loan terms (years)	=		30 years
Interest rate (fixed)	=		3.9%
Maximum loan amount allowed	=	$	170,883
Maximum Home Price (20% down)	**=**	**$**	**213,604**

2.D Construction Operations

Construction activities and deliveries will be performed during the normal business hours of 7:00 am to 6:00 pm Monday through Friday and 8:00 am to 5:00 pm on Saturday, except in the event of an emergency requiring immediate construction or demolition. Typical safety measures, such as orange construction fence, signage, designated material storage areas, etc, will be utilized throughout the duration of construction. The Proposed Action will be constructed in seven (7) phases. A breakdown of each of the seven (7) phases of construction is provided in *Section 2.D.1*. Pollution prevention controls, or good housekeeping practices, will be implemented throughout all phases of construction to maintain a clean and orderly work environment. These good housekeeping practices are further discussed in *Section 2.D.3*. A detailed construction management plan will be prepared as part of the FEIS, which will specify equipment storage locations, material storage areas, staging areas, location of construction trailers, and worker parking for each phase of construction since the locations will change from phase to phase.

All construction vehicles will access the site using the existing driveway entrance off of All Angels Hill Road (CR94). Efforts will be made to reduce the number of construction vehicle trips to and from the site by keeping construction vehicles onsite as much as possible. Heavy equipment will be delivered to the site and will remain onsite until that piece of equipment is no longer needed, thereby reducing daily traffic trips. The types of equipment, potential routes, arrival and departure times, and the number of vehicles entering the site are further discussed in *Section 2.D.5*.

Short-term noise impacts will occur from construction equipment and earth-moving activities during construction of the Proposed Action. It is not possible to predict the exact magnitude of this impact on ambient noise levels in adjacent residential areas due to the variability in many of the factors needed to make such an assessment. To reduce the potential impact of noise on adjacent residences, all construction vehicles and equipment will be well maintained and operated in an efficient manner. In particular, the mufflers on all construction equipment will be fully functional and well maintained by the construction contractor. Mufflers will reduce the frequency of sound on machinery that pulses, such as diesel engines and compressed air machinery. The range of noise levels expected during construction is provided in *Section 2.D.6*.

A Stormwater Pollution Prevention Plan (SWPPP) has been prepared for the Proposed Action. The SWPPP details erosion and sediment control practices; pollution prevention controls; and stormwater management techniques to be implemented during and after construction. These are

further discussed in *Section 2.D.2* through *Section 2.D.4*. The SWPPP has been provided in *Appendix C.3*.

2.D.1 Construction Sequencing Schedule and Phasing

The purpose of the construction sequencing schedule and phasing is to reduce the overall disturbance and ensure that previously disturbed areas are re-established prior to construction in another portion of the site. The duration of the construction activities, including planned winter shutdowns, will be from August 2012 to August 2016.

The proposed total disturbance is 71.58 acres. The proposed project will be completed in phases and some of the phases will overlap another. The Applicant is requesting written approval from the Town of Wappinger, which is a MS4, to disturb more than five (5) acres of soil at any one time. The Applicant is proposing to disturb more than five (5) acres of soil in order to obtain the necessary fill material to construct necessary sections of the Proposed Action while balancing onsite earthwork. This will eliminate the need to import/export material onto or from the parcel. The construction phasing is shown on *Figure 2.D-1* through *Figure 2.D-7*.

The anticipated number of phases and associated disturbance areas are summarized in *Table 2.D-1* below.

Table 2.D-1: Construction Phasing Breakdown

Phase	Disturbance Area (ac)	Estimated Year of Completion
1	12.16	2013
2	14.99	2014
3	14.97	2014
4	8.34	2015
5	9.29	2015
6	10.51	2016
7	7.45	2016

The construction sequencing is outlined below.

General Notes for All Phases:

1. Prior to commencement of any construction activities, prior written authorization to disturb more than five (5) acres shall be obtained from either the NYSDEC or the Town of Wappinger.

2. The Contractor shall flag all disturbance limits of each phase. All temporary erosion and sediment control measures (e.g., stabilized construction entrances, silt fencing, storm drain inlet protection, etc) for the phase shall be installed as shown on the project plans. Temporary erosion and sediment control measures shall be constructed, stabilized, and functional before site disturbance begins within their tributary areas.

MODEL

MODEL

MODEL

CLUB HOUSE

100' TOWN BUFFER (TYP)

100' TOWN BUFFER (TYP)

100' TOWN BUFFER (TYP)

PHASE 1
12.16 ac.

T8 T7 T6 T5 T4 T3 T2 T1 T13 T14 T15 T16 T17 T18 S26 S27 S28 S29 S1 S2 S132 S131 S130 S129 T42 T41 T40 T39

T93 T92 T91 T90 T89 T88 T87 T86 T85 T84 T83 T82 T54 T55 T56 T57 T58 T59 T60 T61 T62 T63 T64 T65 T66 T67 T68 T69 T70 T71 T72 T73 T74 T75 T76 T77 T78 T79 T80 T81

PREPARED BY:

POVALL ENGINEERING, PLLC

LEGEND

- PROPOSED PHASE BOUNDARY
- PROPOSED ROAD INSTALLATION
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- PROPOSED STORMWATER MANAGEMENT POND

N

HILLTOP VILLAGE AT WAPPINGER

PHASE 1

FIGURE 2.D-1

DATE: 02/2012

PAGE 94

SCALE: 1"=120'

PHASE 2
14.99 ac.

EXISTING 1 STORY CONC. BLDG.

100' TOWN BUFFER (TYP.)

100' TOWN BUFFER & DEC. ADJACENT AREA

CLUB HOUSE

SYLVIA

PREPARED BY:

POVALL ENGINEERING, PLLC

LEGEND

- PROPOSED PHASE BOUNDARY
- PROPOSED ROAD INSTALLATION
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- PROPOSED STORMWATER MANAGEMENT POND
- CONSTRUCTED ROAD AND HOMES
- CONSTRUCTED STORMWATER MANAGEMENT POND

N

HILLTOP VILLAGE AT WAPPINGER

PHASE 2

FIGURE 2.D-2
DATE: 02/2012
PAGE 95
SCALE: 1"=180'

PHASE 3
348 ac.

PHASE 3
11.49 ac.

100' TOWN BUFFER & DEC ADJACENT ARE

100' TOWN BUFFER (TYP)

100' TOWN BUFFER (TYP)

100' TOWN BUFFER (TYP)

CLUB HOUSE

SYLVIA DRIVE

PREPARED BY:
POVALL ENGINEERING, PLLC

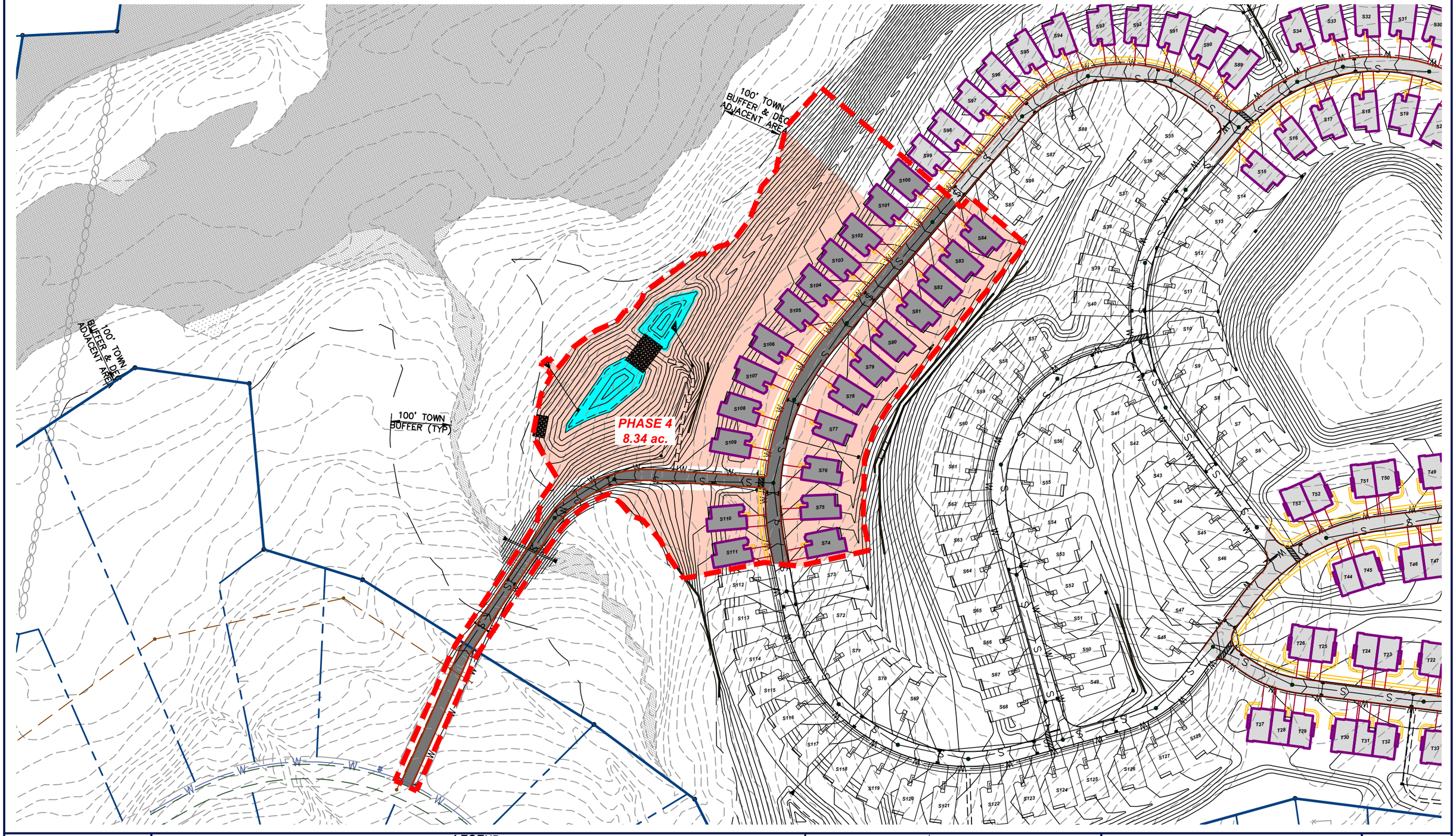
LEGEND

- PROPOSED PHASE BOUNDARY
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- PROPOSED BIORETENTION AREA
- CONSTRUCTED ROAD AND HOMES
- CONSTRUCTED STORMWATER MANAGEMENT POND

HILLTOP VILLAGE AT WAPPINGER

PHASE 3

FIGURE 2.D-3
DATE: 02/2012
PAGE 96
SCALE: 1"=180'



PREPARED BY:

POVALL ENGINEERING, PLLC

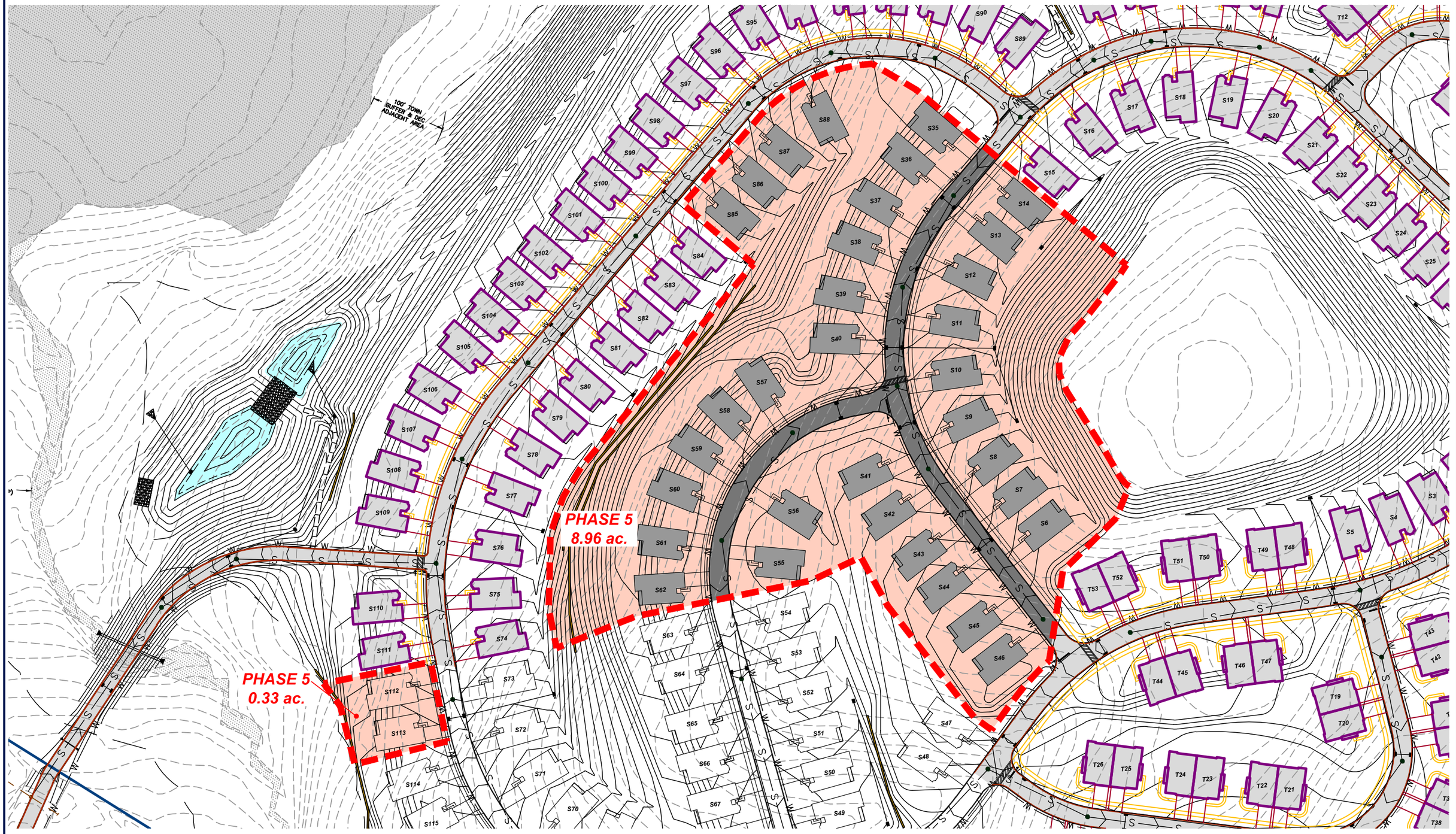
LEGEND

- PROPOSED PHASE BOUNDARY
- PROPOSED ROAD INSTALLATION
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- PROPOSED STORMWATER MANAGEMENT POND
- CONSTRUCTED ROAD AND HOMES

HILLTOP VILLAGE AT WAPPINGER

PHASE 4

FIGURE 2.D-4
DATE: 02/2012
PAGE 97
SCALE: 1"=150'



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LEGEND

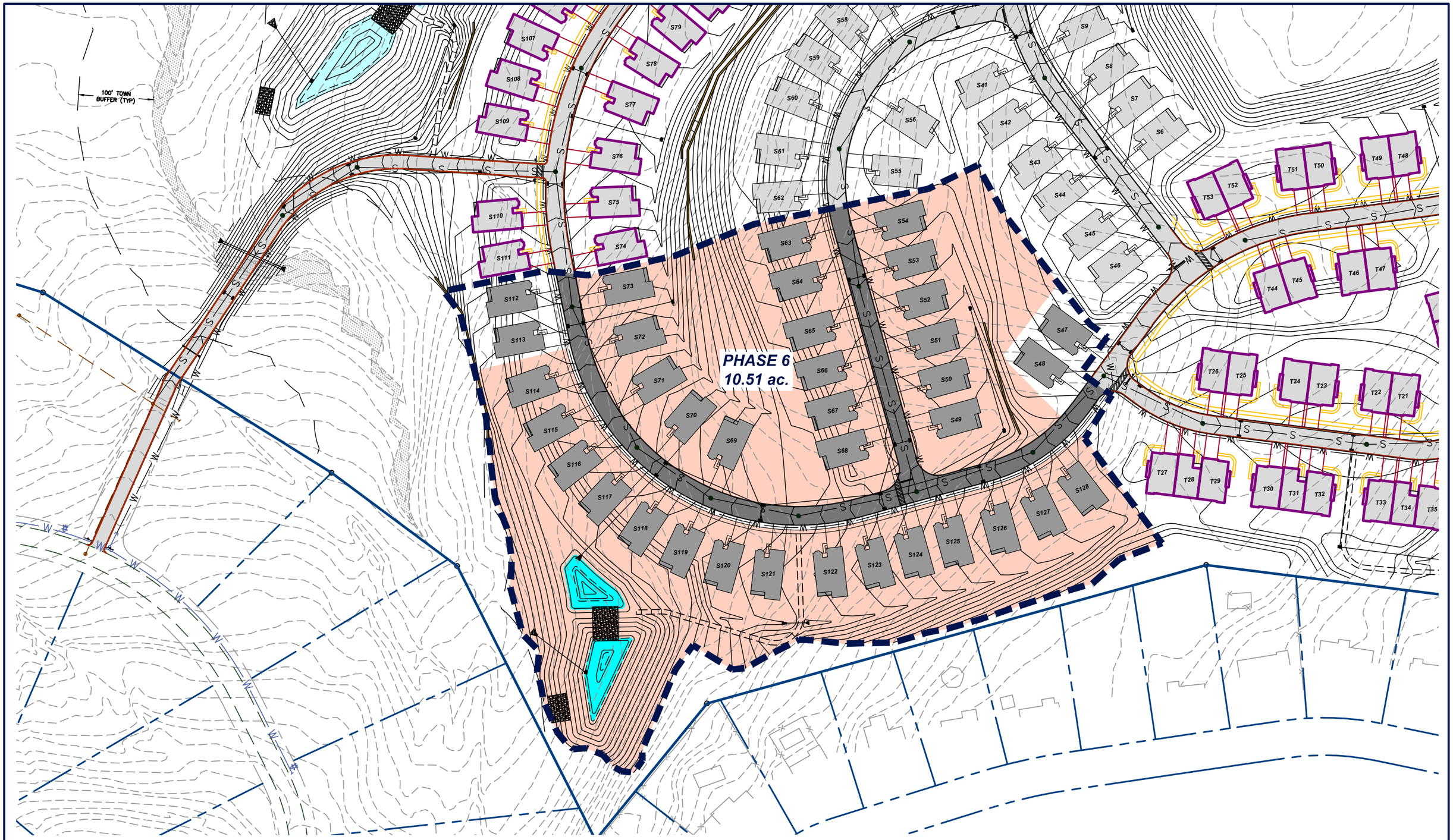
- PROPOSED PHASE BOUNDARY
- PROPOSED ROAD INSTALLATION
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- CONSTRUCTED ROAD AND HOMES
- CONSTRUCTED STORMWATER MANAGEMENT POND

N

HILLTOP VILLAGE AT WAPPINGER

PHASE 5

FIGURE 2.D-5
DATE: 02/2012
PAGE 98
SCALE: 1"=120'



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LEGEND

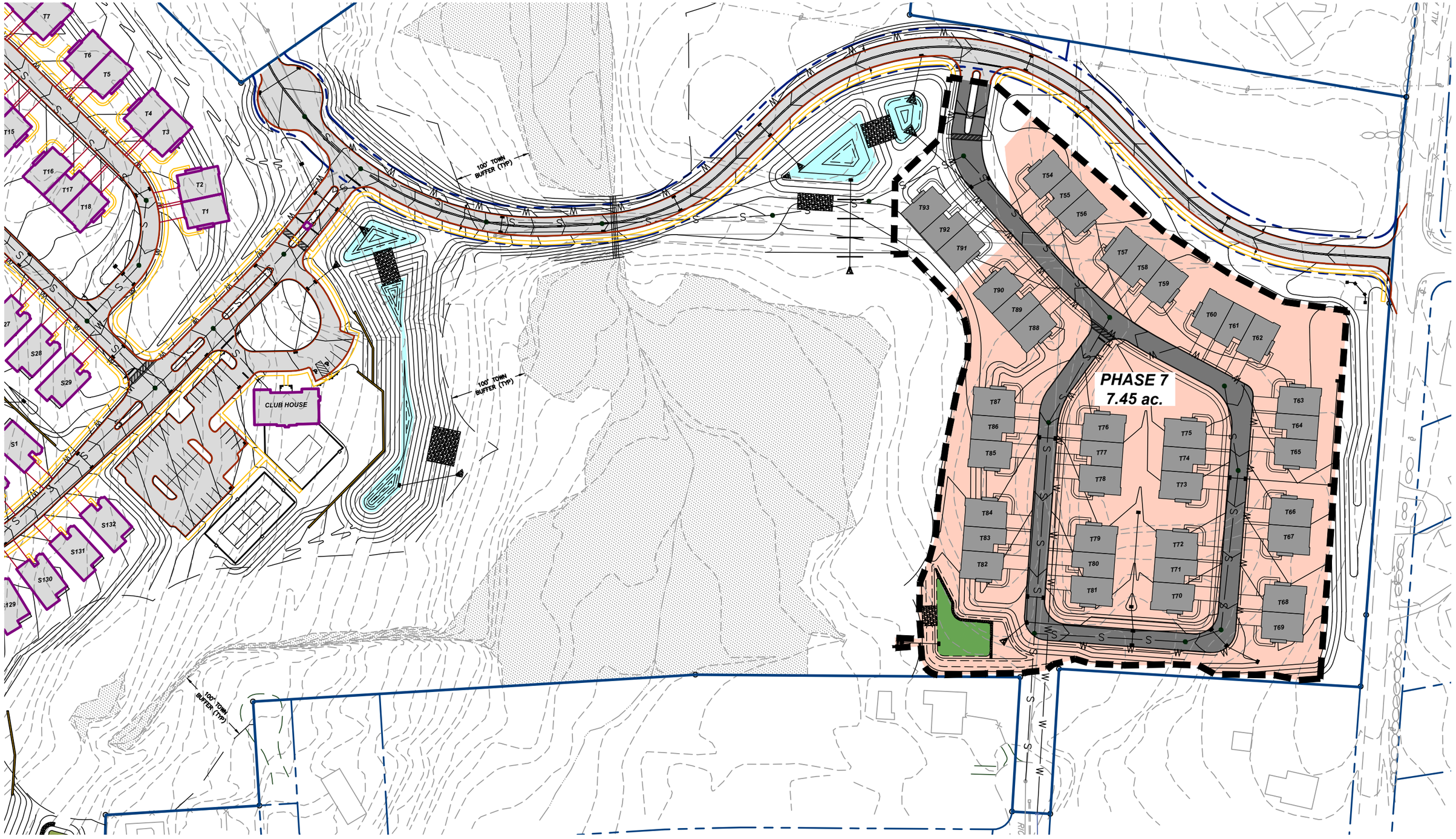
- PROPOSED PHASE BOUNDARY
- PROPOSED ROAD INSTALLATION
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- PROPOSED STORMWATER MANAGEMENT POND
- CONSTRUCTED ROAD AND HOMES
- CONSTRUCTED STORMWATER MANAGEMENT POND

N

HILLTOP VILLAGE AT WAPPINGER

PHASE 6

FIGURE 2.D-6
DATE: 02/2012
PAGE 99
SCALE: 1"=120'



LEGEND

- PROPOSED PHASE BOUNDARY
- PROPOSED ROAD INSTALLATION
- PROPOSED HOME INSTALLATION
- PROPOSED BULK GRADING
- PROPOSED BIORETENTION AREA
- CONSTRUCTED ROAD AND HOMES
- CONSTRUCTED STORMWATER MANAGEMENT POND
- CONSTRUCTED BIORETENTION AREA

PREPARED BY:

POVALL ENGINEERING, PLLC

HILLTOP VILLAGE AT WAPPINGER

PHASE 7

FIGURE 2.D-7
DATE: 02/2012
PAGE 100
SCALE: 1"=120'

3. The stormwater management facilities shall be used as temporary sediment basins during construction.

4. Construction activities shall commence after the pre-construction site assessment has been completed by the Qualified Professional and all erosion and sediment control measures have been determined to be functional. A pre-construction site assessment shall be completed for each phase.

Phase 1 (12.16 acres):

1. Install all erosion and sediment control measures within the Phase 1 disturbance limits.

2. Stake out the locations of the proposed stormwater management facilities, improvements (e.g., roadways, parking area, model units (S1, S28-29, S132, and T1-2), club house, etc), and monuments.

3. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

4. Rough grade Road "A". Place surplus material in the temporary soil stockpile locations shown on the project plans.

5. Clear and grub the stormwater management ponds areas. Install the outlet control structure and earthen berm. The temporary sediment basins shall be graded to the top of the aquatic bench. Cover the primary inlet of the outlet control structure with AMOCO Type 4545 or equal construction fabric to prevent fines from entering the stormwater discharges from the temporary sediment basin. Install inlet and outlet protection measures (i.e., rip-rap overflow weir(s), culvert inlet/outlet protection, etc) and stabilize the areas disturbed during the construction of the temporary sediment basin.

6. Install temporary diversion measures and stabilization measures (e.g., vegetative cover, rip-rap, etc) to ensure that stormwater runoff is conveyed to the temporary sediment basins. Temporary diversion measures shall be located in a manner that will ensure that the tributary area to each diversion measure shall not exceed five (5) acres.

7. Rough grade the remaining roads and site within the disturbance limits.

8. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

9. Deliver building materials to designated staging areas for model units and club house construction.

10. Install proposed curbing and sidewalks.

11. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of

the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

12. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the stormwater management ponds.

13. Finalize construction of the stormwater management ponds upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management ponds and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

14. Remove the construction fabric from the primary inlet of the outlet control structure once permanent vegetative cover has been established on all disturbed areas of the site.

15. Place pavement top course and pavement markings.

16. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

Phase 2 (14.99 acres):

1. Install all erosion and sediment control measures within the Phase 2 disturbance limits.

2. Stake out the locations of the proposed stormwater management facilities and improvements (e.g., roadways, homes (S15-27, S30-34S, S89-92, and T3-18), etc).

3. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

4. Rough grade the roads and site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

5. Clear and grub the stormwater management pond 3 area. Install the outlet control structure and earthen berm. The temporary sediment basin shall be graded to the top of the aquatic bench. Cover the primary inlet of the outlet control structure with AMOCO Type 4545 or equal construction fabric to prevent fines from entering the stormwater discharges from the temporary sediment basin. Install inlet and outlet protection measures (i.e., rip-rap overflow weir(s), culvert inlet/outlet protection, etc) and stabilize the areas disturbed during the construction of the temporary sediment basin.

6. Install temporary diversion measures and stabilization measures (e.g., vegetative cover, rip-rap, etc) to ensure that stormwater runoff is conveyed to the temporary sediment basins. Temporary diversion measures shall be located in a manner that will ensure that the tributary area to each diversion measure shall not exceed five (5) acres.

7. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

8. Deliver building materials to designated staging areas for model units and club house construction.

9. Install proposed curbing and sidewalks.

10. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

11. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the stormwater management ponds.

12. Finalize construction of the stormwater management pond upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management pond and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

13. Remove the construction fabric from the primary inlet of the outlet control structure once permanent vegetative cover has been established on all disturbed areas of the site.

14. Place pavement top course and pavement markings.

15. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

Phase 3 (14.97 acres):

1. Install all erosion and sediment control measures within the Phase 3 disturbance limits.

2. Stake out the locations of the proposed stormwater management facilities and improvements (e.g., roadways, homes (S2-5, S93-99, S129-131, and T19-53), etc).

3. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

4. Rough grade the roads and site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

5. Clear and grub the bioretention area 2. Install the outlet control structure and earthen berm. The temporary sediment basin shall be graded in accordance with the project plans. Cover the primary inlet of the outlet control structure with AMOCO Type 4545 or equal construction fabric to prevent fines from entering the stormwater discharges from the

temporary sediment basin. Install inlet and outlet protection measures (i.e., rip-rap overflow weir(s), culvert inlet/outlet protection, etc) and stabilize the areas disturbed during the construction of the temporary sediment basin.

6. Install temporary diversion measures and stabilization measures (e.g., vegetative cover, rip-rap, etc) to ensure that stormwater runoff is conveyed to the temporary sediment basins. Temporary diversion measures shall be located in a manner that will ensure that the tributary area to each diversion measure shall not exceed five (5) acres.

7. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

8. Deliver building materials to designated staging areas for model units and club house construction.

9. Install proposed curbing and sidewalks.

10. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

11. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the bioretention area.

12. Finalize construction of the stormwater management pond upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management pond and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

13. Remove the construction fabric from the primary inlet of the outlet control structure once permanent vegetative cover has been established on all disturbed areas of the site.

14. Place pavement top course and pavement markings.

15. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

Phase 4 (8.34 acres):

1. Install all erosion and sediment control measures within the Phase 4 disturbance limits.

2. Stake out the locations of the proposed stormwater management facilities and improvements (e.g., roadways, homes (S74-84 and S100-111), etc).

3. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

4. Rough grade the roads and site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

5. Clear and grub the stormwater management pond 4 area. Install the outlet control structure and earthen berm. The temporary sediment basin shall be graded to the top of the aquatic bench. Cover the primary inlet of the outlet control structure with AMOCO Type 4545 or equal construction fabric to prevent fines from entering the stormwater discharges from the temporary sediment basin. Install inlet and outlet protection measures (i.e., rip-rap overflow weir(s), culvert inlet/outlet protection, etc) and stabilize the areas disturbed during the construction of the temporary sediment basin.

6. Install temporary diversion measures and stabilization measures (e.g., vegetative cover, rip-rap, etc) to ensure that stormwater runoff is conveyed to the temporary sediment basins. Temporary diversion measures shall be located in a manner that will ensure that the tributary area to each diversion measure shall not exceed five (5) acres.

7. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

8. Deliver building materials to designated staging areas for model units and club house construction.

9. Install proposed curbing and sidewalks.

10. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

11. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the stormwater management ponds.

12. Finalize construction of the stormwater management pond upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management pond and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

13. Remove the construction fabric from the primary inlet of the outlet control structure once permanent vegetative cover has been established on all disturbed areas of the site.

14. Place pavement top course and pavement markings.

15. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

Phase 5 (9.29 acres):

1. Install all erosion and sediment control measures within the Phase 5 disturbance limits.

2. Stake out the locations of the proposed stormwater management facilities and improvements (e.g., roadways, homes (S2-5, S93-99, S129-131, and T19-53), etc).

3. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

4. Rough grade the roads and site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

5. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

6. Deliver building materials to designated staging areas for model units and club house construction.

7. Install proposed curbing and sidewalks.

8. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

9. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment.

10. Finalize construction of the stormwater management pond upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management pond and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

11. Place pavement top course and pavement markings.

12. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

Phase 6 (10.51 acres):

16. Install all erosion and sediment control measures within the Phase 6 disturbance limits.

17. Stake out the locations of the proposed stormwater management facilities and improvements (e.g., roadways, homes (S47-54, S63-S73, and S112-128), etc).

18. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

19. Rough grade the roads and site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

20. Clear and grub the stormwater management pond 5 area. Install the outlet control structure and earthen berm. The temporary sediment basin shall be graded to the top of the aquatic bench. Cover the primary inlet of the outlet control structure with AMOCO Type 4545 or equal construction fabric to prevent fines from entering the stormwater discharges from the temporary sediment basin. Install inlet and outlet protection measures (i.e., rip-rap overflow weir(s), culvert inlet/outlet protection, etc) and stabilize the areas disturbed during the construction of the temporary sediment basin.

21. Install temporary diversion measures and stabilization measures (e.g., vegetative cover, rip-rap, etc) to ensure that stormwater runoff is conveyed to the temporary sediment basins. Temporary diversion measures shall be located in a manner that will ensure that the tributary area to each diversion measure shall not exceed five (5) acres.

22. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

23. Deliver building materials to designated staging areas for model units and club house construction.

24. Install proposed curbing and sidewalks.

25. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

26. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the stormwater management ponds.

27. Finalize construction of the stormwater management pond upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management pond and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

28. Remove the construction fabric from the primary inlet of the outlet control structure once permanent vegetative cover has been established on all disturbed areas of the site.

29. Place pavement top course and pavement markings.

30. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

Phase 7 (7.45 acres):

1. Install all erosion and sediment control measures within the Phase 7 disturbance limits.

2. Stake out the locations of the proposed stormwater management facilities and improvements (e.g., roadways, homes (T54-93), etc).

3. Remove trees, stumps, and vegetation within the disturbance limits in accordance with the project plans.

4. Rough grade the roads and site. Place surplus material in the temporary soil stockpile locations shown on the project plans.

5. Clear and grub the bioretention area 1. Install the outlet control structure and earthen berm. The temporary sediment basin shall be graded in accordance with the project plans. Cover the primary inlet of the outlet control structure with AMOCO Type 4545 or equal construction fabric to prevent fines from entering the stormwater discharges from the temporary sediment basin. Install inlet and outlet protection measures (i.e., rip-rap overflow weir(s), culvert inlet/outlet protection, etc) and stabilize the areas disturbed during the construction of the temporary sediment basin.

6. Install temporary diversion measures and stabilization measures (e.g., vegetative cover, rip-rap, etc) to ensure that stormwater runoff is conveyed to the temporary sediment basins. Temporary diversion measures shall be located in a manner that will ensure that the tributary area to each diversion measure shall not exceed five (5) acres.

7. Construct all site utilities and utility service connections as shown on the project plans. Install inlet protection measures at all inlets and at the ends of all exposed stormwater pipes and rip-rap at the locations shown on the project plans.

8. Deliver building materials to designated staging areas for model units and club house construction.

9. Install proposed curbing and sidewalks.

10. Prepare pavement subgrade and install subbase material. Inlet protection measures may be removed temporarily during this operation, but no more than 24 hours prior to placement of the subbase material. Inlet protection measures shall be replaced once the subbase material has been installed.

11. Finish grading and stabilize all disturbed areas. The Contractor shall clean all catch basins, manholes, and drainage lines of any accumulated silt and sediment prior to finalizing the bioretention area.

12. Finalize construction of the stormwater management pond upon completion of construction activities. The Contractor shall remove all accumulated sediment from the stormwater management pond and finish grade the forebay(s), aquatic bench, and wet pool. The Contractor shall install all plantings in accordance with the project plans.

13. Remove the construction fabric from the primary inlet of the outlet control structure once permanent vegetative cover has been established on all disturbed areas of the site.

14. Place pavement top course and pavement markings.

15. Remove all temporary erosion and sediment control measures. Immediately stabilize the areas disturbed during their removal. Establish permanent vegetative cover and install all landscaping.

2.D.2 Erosion and Sediment Control Measures

The Stormwater Pollution Prevention Plan (SWPPP) and project plans identify both temporary and permanent erosion and sediment control measures, which have been designed in accordance the *New York State Standards and Specifications for Erosion and Sediment Control*, latest revision. Temporary erosion and sediment control measures will be implemented during construction to minimize soil erosion and control sediment transport offsite. Permanent erosion and sediment control measures will be implemented after construction to control the quality and quantity of stormwater runoff from the developed site.

Temporary erosion and sediment control measures to be utilized during construction generally include:

- **Stabilized Construction Entrance** - Prior to construction, stabilized construction entrances shall be installed to reduce the tracking of sediment onto public roadways. Construction traffic shall enter and exit the site at the stabilized construction entrance. The entrance shall be maintained in good condition, which will control tracking of sediment onto public rights-of-way or streets. When necessary, the placement of additional aggregate atop the filter fabric shall be done to assure the minimum thickness is maintained. All sediments and soils spilled, dropped, or washed onto the public rights-of-way must be removed immediately. Periodic inspection and needed maintenance shall be provided after each substantial rainfall event.

- **Dust Control** - Water trucks shall be used as needed during construction to reduce dust generated on the site. Dust control must be provided by the general contractor to a degree that is acceptable to the owner/operator, and in compliance with the applicable local and state dust control requirements.

- **Temporary Soil Stockpile** - Materials, such as topsoil, shall be temporarily stockpiled (if necessary) on the site during the construction process. Stockpiles shall be located in an area away from storm drainage, water bodies and/or courses, and shall be properly protected from erosion by a surrounding silt fence barrier or hay bales when located on paved areas.

- **Silt Fencing** - Prior to the initiation of and during construction activities, silt fencing shall be established along the perimeter of all areas to be disturbed as a result of the construction which lie up gradient of water courses or adjacent properties. These barriers may extend into non-impact areas to ensure adequate protection of adjacent lands. Clearing and grubbing shall be performed only as necessary for the installation of the sediment control barrier. To ensure effectiveness of the silt fencing, daily inspections and inspections immediately after significant storm events shall be performed by site personnel. Maintenance of the fence shall be performed as needed.

- **Temporary Seeding** - Within seven days after construction activity ceases on any particular area of the site, all disturbed areas where there will not be construction for longer than 14 days shall be temporarily seeded and mulched to minimize erosion and sediment loss.

- **Stone Inlet Protection Barrier** - Concrete blocks surrounded by wire mesh and crushed stone shall be placed around both existing catch basins and proposed catch basins, once installed, to keep sediment from entering the storm sewer system. During construction, crushed stone shall be replaced as necessary to ensure proper function of the structure.

- **Stone Check Dams** - Stone check dams shall be installed within drainage ditches to reduce the velocity of stormwater runoff, promote settling of sediment, and reduce sediment transport offsite. The stone check dams shall be inspected at least every seven calendar days. Damage shall be repaired upon discovery. If significant erosion has occurred between structures, a liner of stone or other suitable material shall be installed in that portion of the channel. Sediment accumulated behind the stone check dams shall be removed, as needed, to allow the channel to drain through the stone check dam and prevent large flows from carrying sediment over or around the dam. Stones shall be replaced, as needed, to maintain the design cross section of the structures.

- **Temporary Sediment Basin** - Temporary sediment basins shall be constructed to intercept sediment laden runoff and reduce the amount of sediment leaving the disturbed areas and to protect drainage ways, properties, and rights-of-way. Projects that have proposed stormwater ponds to treat stormwater quality and manage stormwater quantity can be used as temporary sediment basins during construction. Temporary sediment basins shall be inspected at least every seven calendar. All damages caused by soil erosion and construction equipment shall be repaired upon discovery. Accumulated sediment shall be removed from the sediment basin/trap when it reaches 50 percent of the design capacity and shall not exceed 50 percent. Sediment shall not be placed downstream from the embankment, adjacent to a stream, or floodplain.

- **Erosion Control Blanket** - Erosion control blankets shall be installed on all slopes exceeding 3:1. Erosion control blankets will provide temporary erosion protection, rapid vegetative establishment, and long-term erosion resistance to shear stresses associated with high runoff flow velocities associated with steep slopes.

- **Dewatering** - Dewatering, if required, shall not be discharged directly into wetlands, water courses, water bodies, and storm sewer systems. Proper methods and devices shall be utilized to the extent permitted by law, such as pumping water into temporary sediment

basins, providing surge protection at the inlet and outlet of pumps, floating the intake of the pump, or other methods to minimize and retain the suspended solids.

Permanent erosion and sediment control measures to be utilized after construction generally include the following:

- **Establishment of Permanent Vegetation** - Disturbed areas that are not covered by impervious surfaces shall be seeded in accordance with the accompanying plans. The type of seed, mulch, and maintenance measures shall be followed. All areas at final grade shall be seeded and mulched within seven (7) days after completion of the major construction activity. All seeded areas shall be protected with mulch and/or hay. Final site stabilization is achieved when all soil-disturbing activities at the site has been completed and a uniform, perennial vegetative cover with a density of 80 percent has been established or equivalent stabilization measures (such as the use of mulches or geotextiles) have been employed on all unpaved areas and areas not covered by permanent structures.

- **Final Seeding and Planting** - Final seeding and planting shall be installed as shown on the accompanying plans. Final seeding and planting will help minimize erosion and sediment loss.

- **Rock Outlet Protection** - Rock outlet protection shall be installed at the locations as shown on the accompanying plans. The installation of rock outlet protection will reduce the depth, velocity, and energy of water, such that the flow will not erode the receiving water course or water body.

- **Stone Check Dams** - Stone check dams shall remain or be installed at the location shown on the accompanying plans. The stone check dams indicated to remain shall be inspect and any damage will be repaired upon discovery. Any significant erosion between structures shall be repaired and any accumulated sediment shall be removed. Existing stones shall be replaced as needed.

Refer to the SWPPP in *Appendix C.3* and the project plans. Erosion and sediment control notes and details have been provided in *Appendix D*. An erosion and sediment control plan will be developed for each phase in accordance with the *New York State Standards and Specifications for Erosion and Sediment Control*, latest revision.

2.D.3 Pollution Prevention Controls

Good housekeeping practices are designed to maintain a clean and orderly work environment. Good housekeeping measures shall be maintained throughout the construction process by those parties involved with the direct care and development of the site. The following measures should be implemented to control the possible exposure of harmful substances and materials to stormwater runoff:

1. Material resulting from the clearing and grubbing operation shall be stockpiled away from storm drainage, water bodies and/or watercourses and surrounded with adequate erosion

and sediment control measures. Soil stockpile locations shall be exposed no longer than 14 days before seeding.

2. Equipment maintenance areas shall be protected from stormwater flows and shall be supplied with appropriate waste receptacles for spent chemicals, solvents, oils, greases, gasoline, and any pollutants that might contaminate the surrounding habitat and/or water supply. Equipment wash-down zones shall be located within areas draining to sediment control devices.

3. The use of detergents for large-scale (i.e., vehicles, buildings, pavement surfaces, etc.) washing is prohibited.

4. Material storage locations and facilities (i.e., covered storage areas, storage sheds, etc.) shall be located onsite and shall be stored according to the manufacturer's standards in a dedicated staging area. Chemicals, paints, solvents, fertilizers, and other toxic material must be stored in waterproof containers. Runoff containing such materials must be collected, removed from the site, treated and disposed at an approved solid waste or chemical disposal facility.

5. Hazardous spills shall be immediately contained to prevent pollutants from entering the surrounding habitat and/or water supply. Spill Kits shall be provided onsite and shall be displayed in a prominent location for ease of access and use. Spills greater than five (5) gallons shall be reported to the NYSDEC Response Unit at 1-800-457-7362. In addition, a record of the incident(s) and/or notifications shall be documented and attached to the SWPPP.

6. Portable sanitary waste facilities shall be provided onsite for workers and shall be properly maintained.

7. Dumpsters and/or debris containers shall be located onsite and shall be of adequate size to manage respective materials. Regular collection and disposal of wastes shall occur as required.

8. Temporary concrete washout facilities should be located a minimum of 50 feet from storm drain inlets, open drainage facilities, and watercourses. Each facility should be located away from construction traffic or access areas to prevent disturbance or tracking. A sign should be installed adjacent to each washout facility to inform concrete equipment operators to utilize the proper facilities. When temporary concrete washout facilities are no longer required for the work, the hardened concrete shall be removed and disposed of. Materials used to construct the temporary concrete washout facilities shall be removed and disposed of. Holes, depressions or other ground disturbance caused by the removal of the temporary concrete washout facilities shall be backfilled and/or repaired, seeded, and mulched for final stabilization.

9. Non-stormwater components of site discharge must be clean water. Water used for construction, which discharges from the site, must originate from a public water supply or private well approved by the Health Department. Water used for construction that does not

originate from an approved public supply must not discharge from the site. It can be retained in the ponds until it infiltrates and evaporates.

2.D.4 Construction Inspection and Maintenance

To ensure the stability and effectiveness of all protective measures and practices during construction, all erosion and sediment control measures employed shall be inspected by the Qualified Professional at least every seven (7) calendar days. The contractor's and/or subcontractor's trained individual(s) shall perform daily inspections of all erosion and sediment control measures at the beginning and end of the day. The trained individual(s) shall immediately correct any deficiencies noted during their inspection or during the Qualified Professional's inspections.

For construction sites where soil disturbance activities have been temporarily suspended (e.g., winter shutdown) and temporary stabilization measures have been applied to all disturbed areas, the frequency of the inspections can be reduced. However, NYSDEC and Town must be notified prior to reducing the frequency of the inspections. If approved, the Qualified Professional shall conduct a site inspection at least once every 30 calendar days.

For construction sites where soil disturbances of greater than five (5) acres have been authorized by the NYSDEC or the Town, the Qualified Professional shall conduct at least two (2) site inspections every seven (7) calendar days to ensure the stability and effectiveness of all protective measures and practices during construction for as long as greater than five (5) acres of soil remain disturbed. The two (2) site inspections shall be separated by a minimum of two (2) full calendar days. In areas where soil disturbance activity has been temporarily or permanently ceased, temporary and/or permanent soil stabilization measures shall be installed and/or implemented within seven (7) calendar days from the date the soil disturbance activity ceased.

The Town Stormwater Management Officer may require other inspections as necessary to determine compliance. As required by the Stormwater Management Officer, to obtain inspections the owner/operator or contractor shall notify the Town Enforcement Officials at least 48 hours before any of the following:

- Start of construction.
- Installation of erosion and sediment control measures.
- Completion of site clearing.
- Completion of rough grading.
- Completion of final grading.
- Close of the construction season.
- Completion of final landscaping.
- Successful establishment of landscaping in public areas.

Specific maintenance components, schedule frequency, inspection parameters and remediation procedures are provided on the accompanying project plans. Any adjustments or modifications to the maintenance plan shall be noted in the inspection reports and submitted to the Town for approval. Refer to the SWPPP in *Appendix C.3* and the project plans in *Appendix D* for additional information related to erosion and sediment control.

2.D.5 Construction Traffic

All construction traffic and activities shall comply with the Town code. Construction activities and deliveries will typically occur during the normal business hours of 7:00 am to 6:00 pm Monday through Friday and 8:00 am to 5:00 pm on Saturday, except in the event of an emergency requiring immediate construction or demolition. All construction traffic will use the existing driveway entrance and will likely use both directions of All Angels Hill Road (CR 94). The proposed emergency access drive will not be used for any vehicular traffic related to the construction of the site and will remain dedicated only for emergency vehicle traffic.

Efforts will be made to reduce the number of construction vehicle trips to and from the site by keeping vehicles onsite as much as possible. Given the extent and type of building and site construction planned for the Proposed Action heavy equipment will be delivered to the site once at the beginning of its associated phase, left on-site for the duration of that work, then potentially removed from the site when its phase is completed. Building materials will be brought to the site in large truck-loads thereby limiting the number of trips along All Angels Hill Road. Any large deliveries will be made during off-peak periods.

The number and types of vehicles would vary depending on the construction phase – cement trucks during the laying of concrete foundations, flatbed trucks carrying assorted material for walls, flooring and roofing, dump trucks loaded with asphalt during paving operations, etc. These activities do represent an increase in truck trips over that currently traveling on All Angels Hill Road; however, the impact on the adjacent community will be temporary – when construction is completed, heavy truck activity will return to pre-construction levels.

The number of workers on-site also will vary depending on the type of work underway. Many workers will carpool and some building trades will send a number of workers to the site in a single van or equipment truck. During the Site Infrastructure Construction Phase, there will be approximately 8-10 workers per day. During this time, there will be approximately three deliveries per day. There will be more construction workers during the Home Construction Phase.

2.D.6 Construction Noise

Short-term noise impacts will occur from construction equipment and earth-moving activities during construction of the proposed development. It is not possible to predict the exact magnitude of this impact on ambient noise levels in adjacent residential areas due to the variability in many of the factors needed to make such an assessment. These factors include the number and types of construction equipment, construction methods, and scheduling of construction work. *Table 2.D-2* summarizes the sound levels of common construction equipment when measured 50 feet from the source.[24]

[24] *Assessing and Mitigating Noise Impacts*, New York State Department of Environmental Conservation, revised February 2, 2001.

Table 2.D-2: Common Equipment Sound Levels

Equipment	Decibel Level (dBA)
Augered earth drill	80
Backhoe	86-86
Cement Mixer	63-71
Chain saw cutting trees	75-81
Compressor	67
Garbage Truck	71-83
Jackhammer	82
Paving breaker	82
Wood chipper	89
Bulldozer	80
Grader	85
Truck	91
Generator	78
Rock drill	98

Construction equipment typically generates noise levels when measured 50 feet from the source that range from 70 decibels (dBA) to over 95 dBA[25]. These levels can be compared to a shouting voice at six feet (70 dBA) or to a lawn mower at three feet (95 dBA). Since noise from stationary sources attenuates at a rate of 6 dB per doubling of distance, a 90 dBA noise level at 50 feet from the source would be reduced to 84 dBA at 100 feet, 78 dBA at 200 feet, and so forth.

The noise level at receptors within the surrounding area will vary depending on the specific areas in which construction is taking place. The Proposed Action will leave approximately 51 percent of the site undeveloped, the majority of which will be open space, wooded or wetland areas, which will help to attenuate noise from construction and shield adjacent areas from potential impacts. In addition, construction of the Proposed Action will occur in phases therefore development will generally be limited to one portion of the site at a time. To reduce the potential impact of noise on adjacent residences, all construction vehicles and equipment will be well maintained and operated in an efficient manner. In particular, the mufflers on all construction equipment will be fully functional and well maintained by the construction contractor. Mufflers will reduce the frequency of sound on machinery that pulses, such as diesel engines and compressed air machinery.

Geotechnical investigations were performed by The Chazen Companies in July 2004, the depth to rock ranges from 13 to 32 feet below the existing grade. Based upon these investigations, rock removal is not expected; therefore, blasting, chipping, or stone crushing is not anticipated to occur. However, should rock be encountered, the type of rock will be evaluated to determine if mechanical means (i.e., chipping or excavation) can be used to remove the rock. The ability to rip or excavate rock is determined by the type of excavator capable of removing it without blasting (i.e. dozer D8 or Hoe CAT235 or comparable). Blasting operations will only be resorted to if necessary. Additional information regarding the geotechnical investigation is provided in *Section 3.A.1.2*.

[25] *Assessing and Mitigating Noise Impacts*, New York State Department of Environmental Conservation, revised February 2, 2001.

2.E Involved Agencies & Required Permits/Approvals

The following involved agencies with corresponding required permits and/or approvals have been identified in *Table 2.E-1* below:

Table 2.E-1: Involved Agencies & Required Permits/Approvals

Approval/Permit	Reviewing Agency
Zoning Change to RMF-3	Town of Wappinger Town Board
Subdivision Approval Site Plan Approval Wetland Permit	Town of Wappinger Planning Board
Water Distribution and Connection Approval	Dutchess County Department of Health CAMO Pollution Control, Inc. Town Engineer
Sewer System and Connection Approval	Dutchess County Department of Health CAMO Pollution Control, Inc. Town Engineer
New Road Acceptance Driveway Permit	Town of Wappinger Superintendent of Highways
Section 401 Water Quality Certification SPDES General Permit GP-0-10-001	NYSDEC
MS4 SWPPP Acceptance	Town of Wappinger
Entrance Permit	Dutchess County Department of Public Works

The Stormwater Pollution Prevention Plan will have to be accepted by the Town of Wappinger before the developer submits the Notice of Intent to the NYSDEC. A maintenance agreement between the HOA and the Town of Wappinger for the stormwater systems will have to be established after the developer submits the Notice of Intent.

2.F Interested Agencies

The list of Interested Agencies and Parties are:

- New Hackensack Fire District.
- Wappinger Central School District.
- Dutchess County Department of Planning.
- New York State Office of Parks, Recreation, and Historic Preservation.
- U.S. Army Corp of Engineers (with approval authority)
    - Nationwide Permit 29
    - Section 404