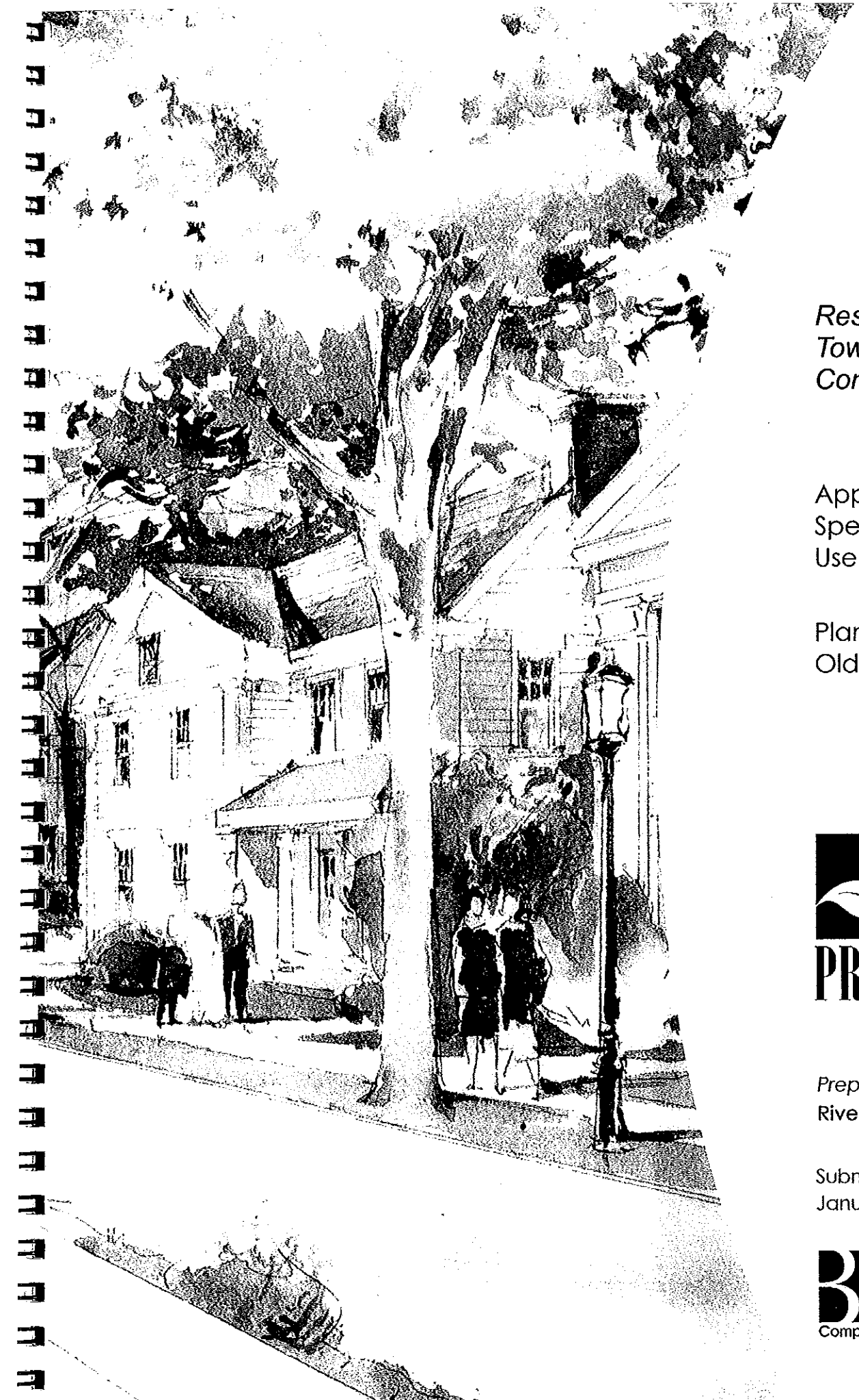


#152



*Response to
Town Review
Comments*

Presentation Exhibits for
January 6, 2005 Public Hearing

Application for
Special Exception
Use

Planning Commission
Old Saybrook, CT



Prepared for:
River Sound Development LLC

Submitted
January 6, 2005



- 1) *Table of Contents*
- 2) *Summary of Values*
- 3) *Preliminary Open Space Subdivision - Master Plan*
- 4) *Development/ Golf Playability Relationship*
- 5) *Preliminary Open Space Subdivision - Preservation Plan*
- 6) *Open Space Connectivity - Preliminary Open Space Subdivision*
- 7) *Conceptual Standard Subdivision (293) - Preservation Plan*
- 8) *Open Space Connectivity - Conceptual Standard Subdivision*
- 9) *Preliminary Open Space - Disturbance Plan*
- 10) *Conceptual Standard Subdivision (293) - Disturbance Plan*
- 11) *Conventional Subdivision - w/ Golf Course (For Informational Purposes)*
- 12) *Open Space - ½ Acre Lot Size (For Informational Purposes)*
- 13) *Conceptual Standard Subdivision (252) -Preservation Plan*
- 14) *Conceptual Standard Subdivision (252) - Disturbance Plan*
- 15) *Breeding Bird Survey Points*
- 16) *Perennial Stream - Canopy Removal*
- 17) *Natural Resource Protection Under The Preliminary Open Space Plan*
- 18) *Natural Resource Protection for the Preserve: The Preliminary Open Space Plan vs. Conceptual Standard Plan*
- 19) *USGS Pesticide National Synthesis Project As Submitted by CFE Page 1*
- 20) *Complete USGS Pesticide National Synthesis Project Page 1*
- 21) *USGS Pesticide National Synthesis Project As Submitted by CFE Page 4*
- 22) *Complete USGS Pesticide National Synthesis Project Page 4*
- 23) *Determination of MABL Conformance and Soil Suitability*

Summary of Development Facts

1/5/2004

Unit Count				
Preliminary Open Space Plan	Conceptual Standard Plan	Conceptual Standard Plan w/ Golf	Open Space Plan - 1/2 AC Min.	Conceptual Standard Plan
248	293	278	293	252

Undisturbed Landscape (refer to note 2)				
Preliminary Open Space Plan	Conceptual Standard Plan	Conceptual Standard Plan w/ Golf	Open Space Plan - 1/2 AC Min.	Conceptual Standard Plan
627 AC (70%)	588 AC (66%)	483 AC (54%)	613 AC (69%)	617 AC (69%)

Open Space to be Conveyed to Town				
Preliminary Open Space Plan	Conceptual Standard Plan	Conceptual Standard Plan w/ Golf	Open Space Plan - 1/2 AC Min.	Conceptual Standard Plan
517 AC (58%)	434 AC (49%)	274 AC (31%)	543 AC (61%)	493 AC (55%)

Disturbed Landscape (refer to notes 3 and 4)				
Preliminary Open Space Plan	Conceptual Standard Plan	Conceptual Standard Plan w/ Golf	Open Space Plan - 1/2 AC Min.	Conceptual Standard Plan
266 AC (30%)	305 AC (34%)	410 AC (46%)	280 AC (31%)	276 AC (31%)

Preserved Landscape (refer to note 1)				
Preliminary Open Space Plan	Conceptual Standard Plan	Conceptual Standard Plan w/ Golf	Open Space Plan - 1/2 AC Min.	Conceptual Standard Plan
576 AC (65%)	434 AC (49%)	344 AC (39%)	543 AC (61%)	493 AC (55%)

Length of Public Roads				
Preliminary Open Space Plan	Conceptual Standard Plan	Conceptual Standard Plan w/ Golf	Open Space Plan - 1/2 AC Min.	Conceptual Standard Plan
3.9 Miles	7.5 Miles	6.7 Miles	6.9 Miles	7.5 Miles

NOTES:

- 1 Includes open space to be deeded to the town and conservation easements
- 2 Includes open space to be deeded to the town, conservation easements, and undisturbed land on private lots.
- 3 Disturbance for home lots under Conceptual Standard Plan with Golf is based upon 67% disturbance required to develop the 293 lot Conceptual Standard Plan plus total golf disturbance
- 4 Disturbance for the 1/2 Ac Open Space Plan assumes 80% of development area is disturbed.



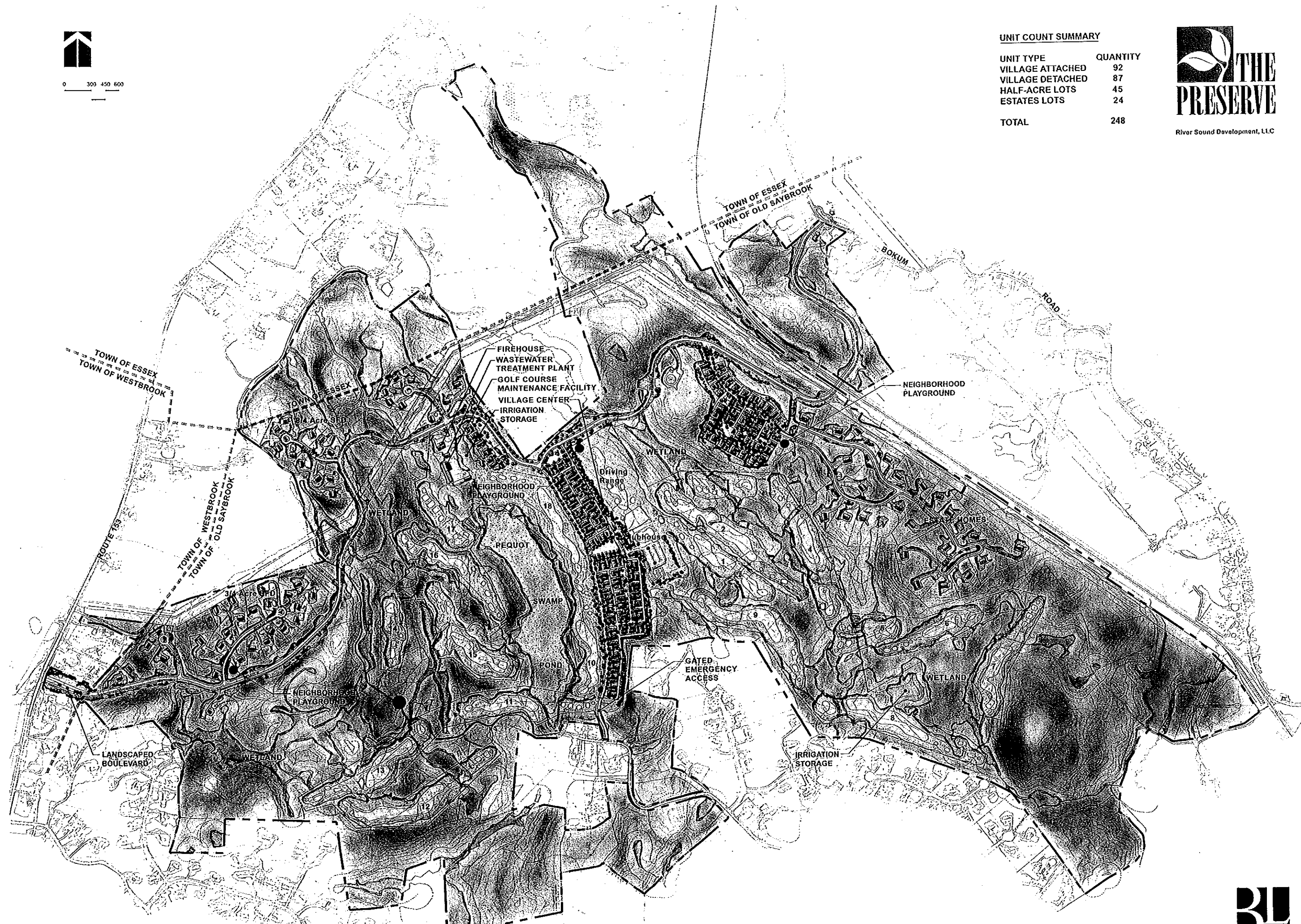
0 300 450 600

UNIT COUNT SUMMARY

UNIT TYPE	QUANTITY
VILLAGE ATTACHED	92
VILLAGE DETACHED	87
HALF-ACRE LOTS	45
ESTATES LOTS	24
TOTAL	248



River Sound Development, LLC

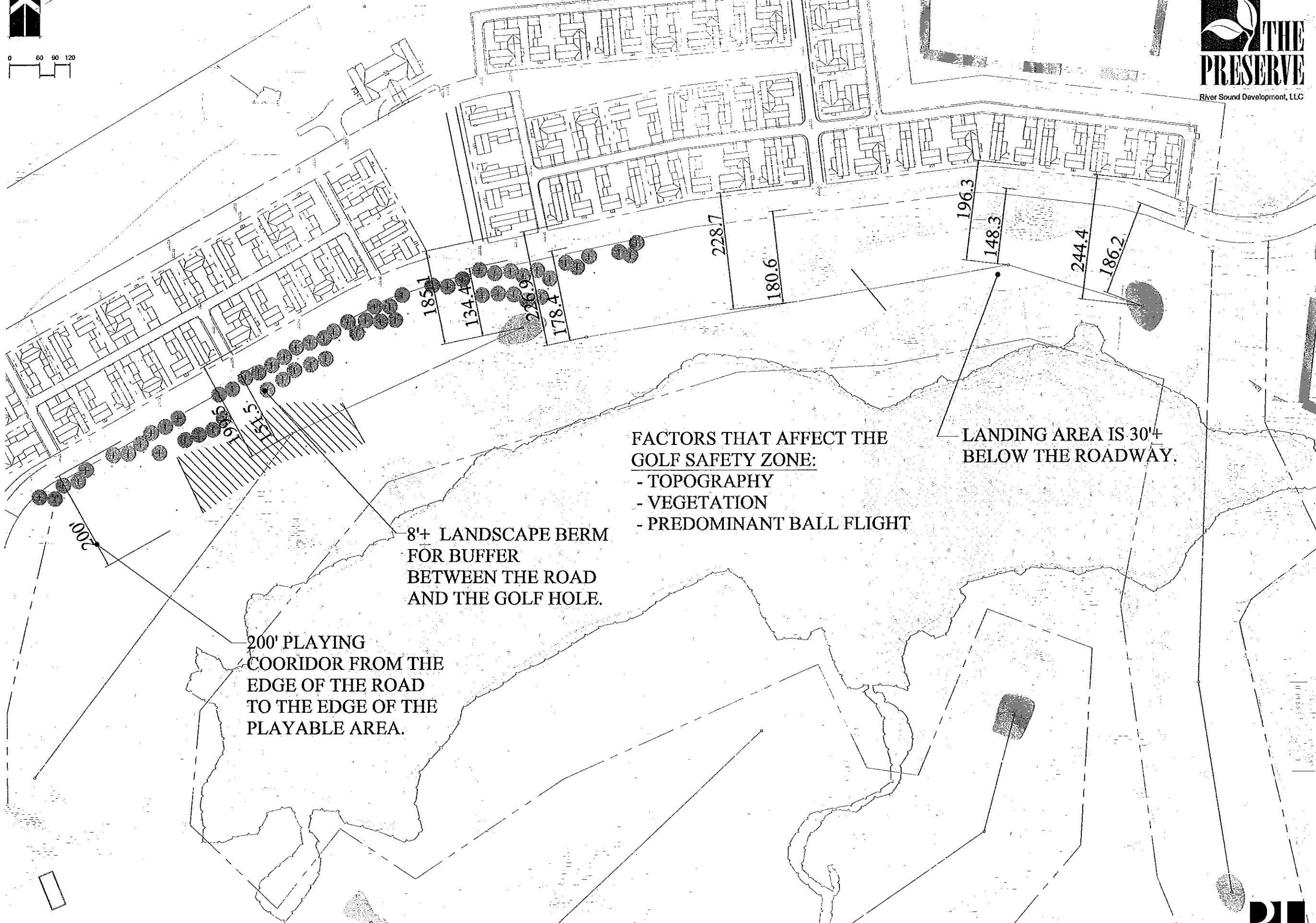


PRELIMINARY OPEN SPACE SUBDIVISION - MASTER PLAN





0 60 90 120



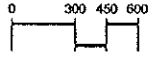
FACTORS THAT AFFECT THE GOLF SAFETY ZONE:
- TOPOGRAPHY
- VEGETATION
- PREDOMINANT BALL FLIGHT

LANDING AREA IS 30'+ BELOW THE ROADWAY.

8'+ LANDSCAPE BERM FOR BUFFER BETWEEN THE ROAD AND THE GOLF HOLE.

200' PLAYING COORIDOR FROM THE EDGE OF THE ROAD TO THE EDGE OF THE PLAYABLE AREA.

DEVELOPMENT/ GOLF PLAYABILITY RELATIONSHIP

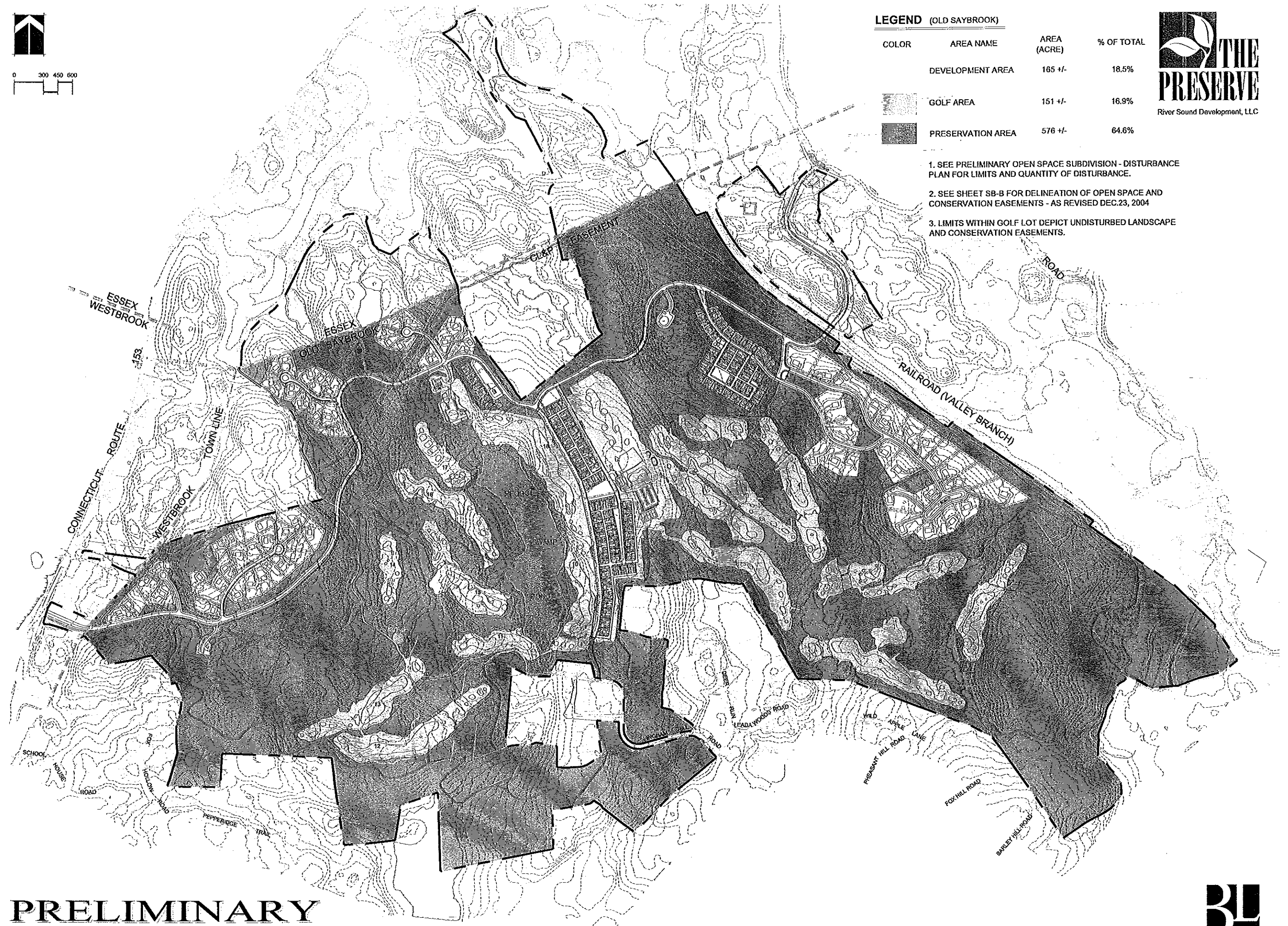


LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	AREA (ACRE)	% OF TOTAL
[Light Gray Swatch]	DEVELOPMENT AREA	165 +/-	18.5%
[Medium Gray Swatch]	GOLF AREA	151 +/-	16.9%
[Dark Gray Swatch]	PRESERVATION AREA	576 +/-	64.6%



1. SEE PRELIMINARY OPEN SPACE SUBDIVISION - DISTURBANCE PLAN FOR LIMITS AND QUANTITY OF DISTURBANCE.
2. SEE SHEET SB-B FOR DELINEATION OF OPEN SPACE AND CONSERVATION EASEMENTS - AS REVISED DEC.23, 2004
3. LIMITS WITHIN GOLF LOT DEPICT UNDISTURBED LANDSCAPE AND CONSERVATION EASEMENTS.



PRELIMINARY OPEN SPACE SUBDIVISION - PRESERVATION PLAN










Legend

-  road_ends
-  water

OPEN_SPACE

-  Committed
-  Unknown-Openspace but no category for committed or uncommitted
-  Vacant
-  Developed
-  Streams



OPEN SPACE CONNECTIVITY- OPENSOURCE SUBDIVISION

NOTE : SUBJECT PARCEL REFLECTS ALL LAND TO BE PRESERVE THROUGH OPEN SPACE DEDICATION AND CONSERVATION EASEMENTS.

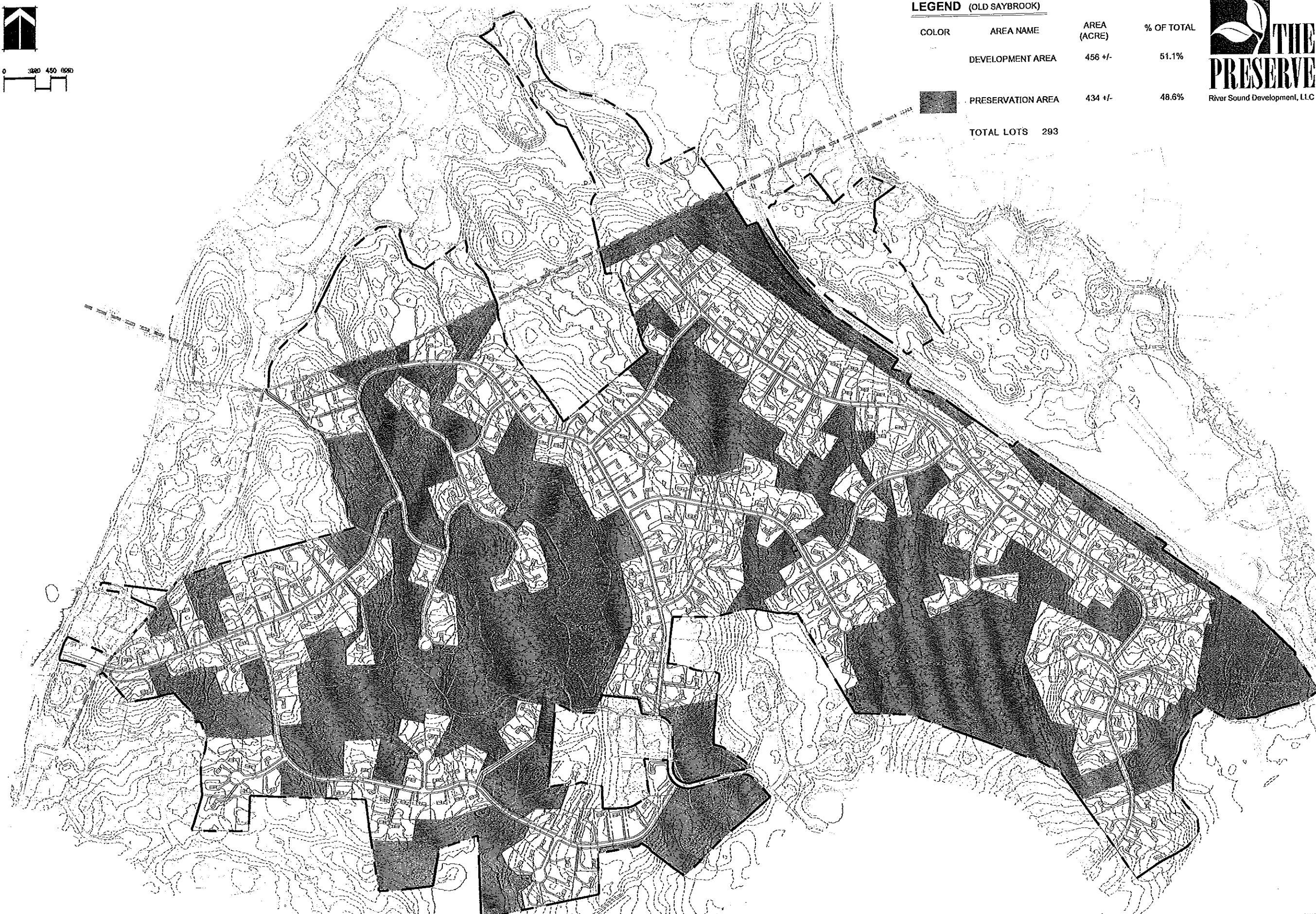




0 300 450 600

LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	AREA (ACRE)	% OF TOTAL
White	DEVELOPMENT AREA	456 +/-	51.1%
Dark Grey	PRESERVATION AREA	434 +/-	48.6%
TOTAL LOTS		293	



CONCEPTUAL STANDARD SUBDIVISION - PRESERVATION PLAN








US FILE: PRESERVATION-04/PAUL0507



Legend

-  road_ends
-  water

OPEN_SPACE

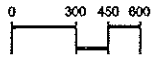
-  Committed
-  Unknown-Openspace but no category for committed or uncommitted
-  Vacant
-  Developed
-  Streams



**OPEN SPACE CONNECTIVITY-
CONCEPTUAL STANDARD
SUBDIVISION**

NOTE : SUBJECT PARCEL REFLECTS ALL LAND TO BE PRESERVE THROUGH OPEN SPACE DEDICATION AND CONSERVATION EASEMENTS.





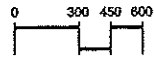
LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	AREA (ACRE)	% OF TOTAL
	DEVELOPMENT	115±	14.3%
	GOLF CLEARING-	151±	15.6%
	TOTAL CLEARING	266.7±	29.9%
	TOTAL UNDISTURBED	626.5±	70.1%



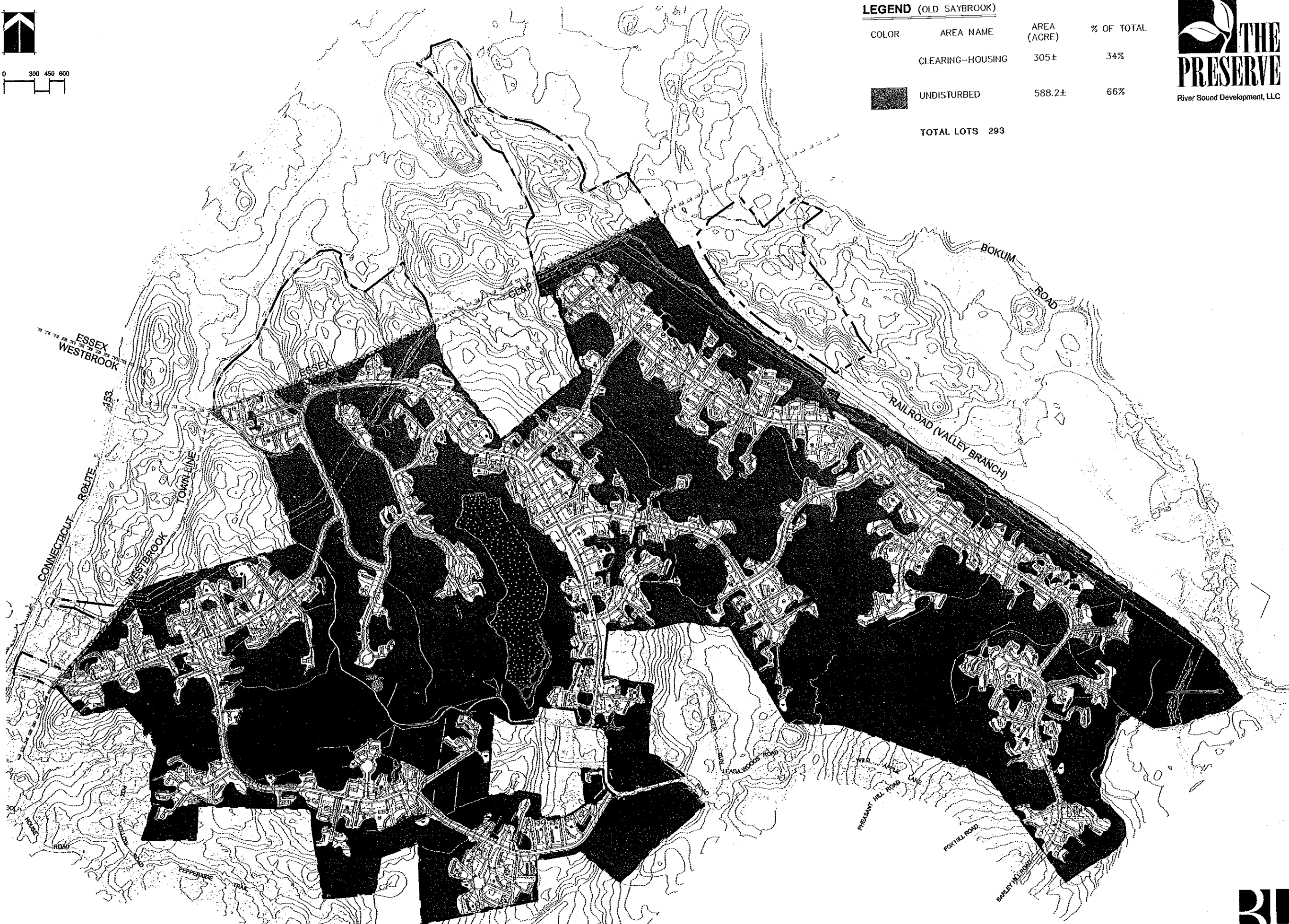
PRELIMINARY OPEN SPACE SUBDIVISION - DISTURBANCE PLAN





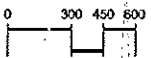
LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	AREA (ACRE)	% OF TOTAL
	CLEARING-HOUSING	305±	34%
■	UNDISTURBED	588.2±	66%
TOTAL LOTS		293	



CONCEPTUAL STANDARD PLAN - DISTURBANCE PLAN



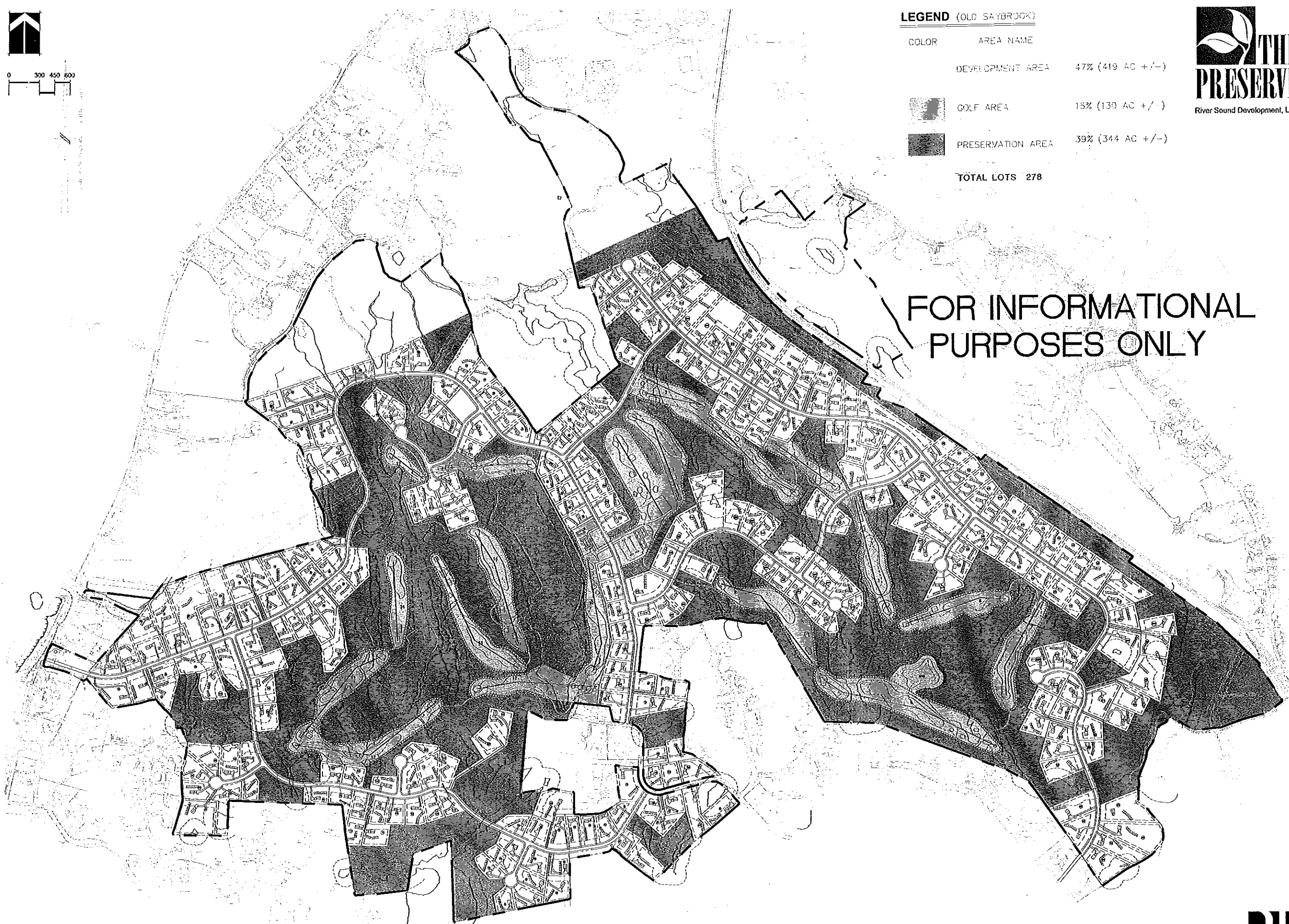


LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	
	DEVELOPMENT AREA	47% (419 AC +/-)
	GOLF AREA	15% (130 AC +/-)
	PRESERVATION AREA	39% (344 AC +/-)
TOTAL LOTS		278



FOR INFORMATIONAL
PURPOSES ONLY



CONVENTIONAL SUBDIVISION - W/ GOLF COURSE




PLANNING



0 300 450 600

LEGEND (OLD SAYBROOK)

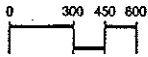
COLOR	AREA NAME	
	DEVELOPMENT AREA	39% (349.5 AC +/-)
	PRESERVATION AREA	61% (543.5 AC +/-)
TOTAL LOTS		293



FOR INFORMATIONAL
PURPOSES ONLY

OPEN SPACE SUBDIVISION - 1/2 ACRE MINIMUM LOT SIZE



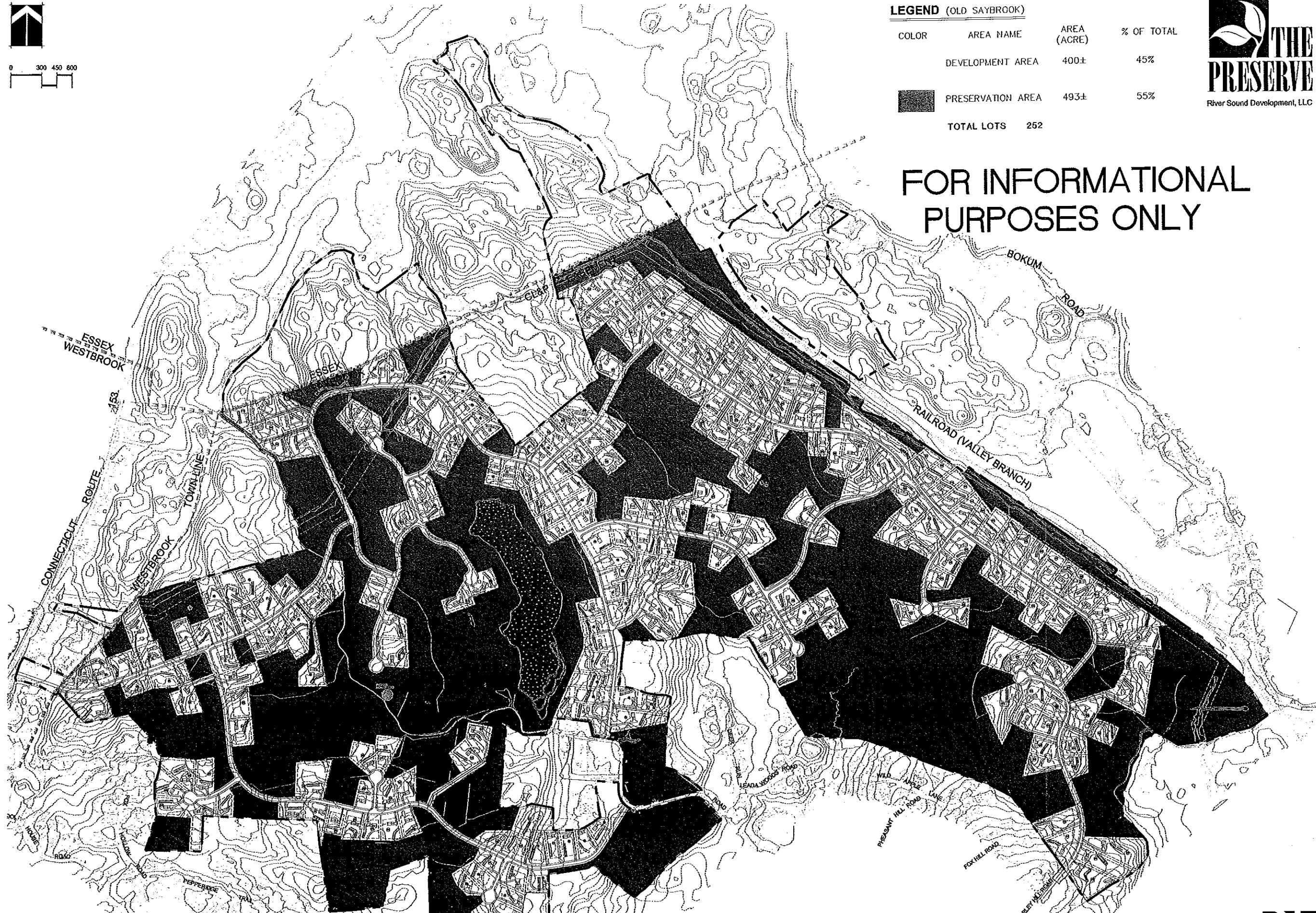


LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	AREA (ACRE)	% OF TOTAL
	DEVELOPMENT AREA	400±	45%
■	PRESERVATION AREA	493±	55%
TOTAL LOTS		252	

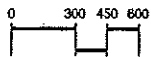


FOR INFORMATIONAL
PURPOSES ONLY



**CONVENTIONAL SUBDIVISION (252 LOTS) -
PRESERVATION PLAN**





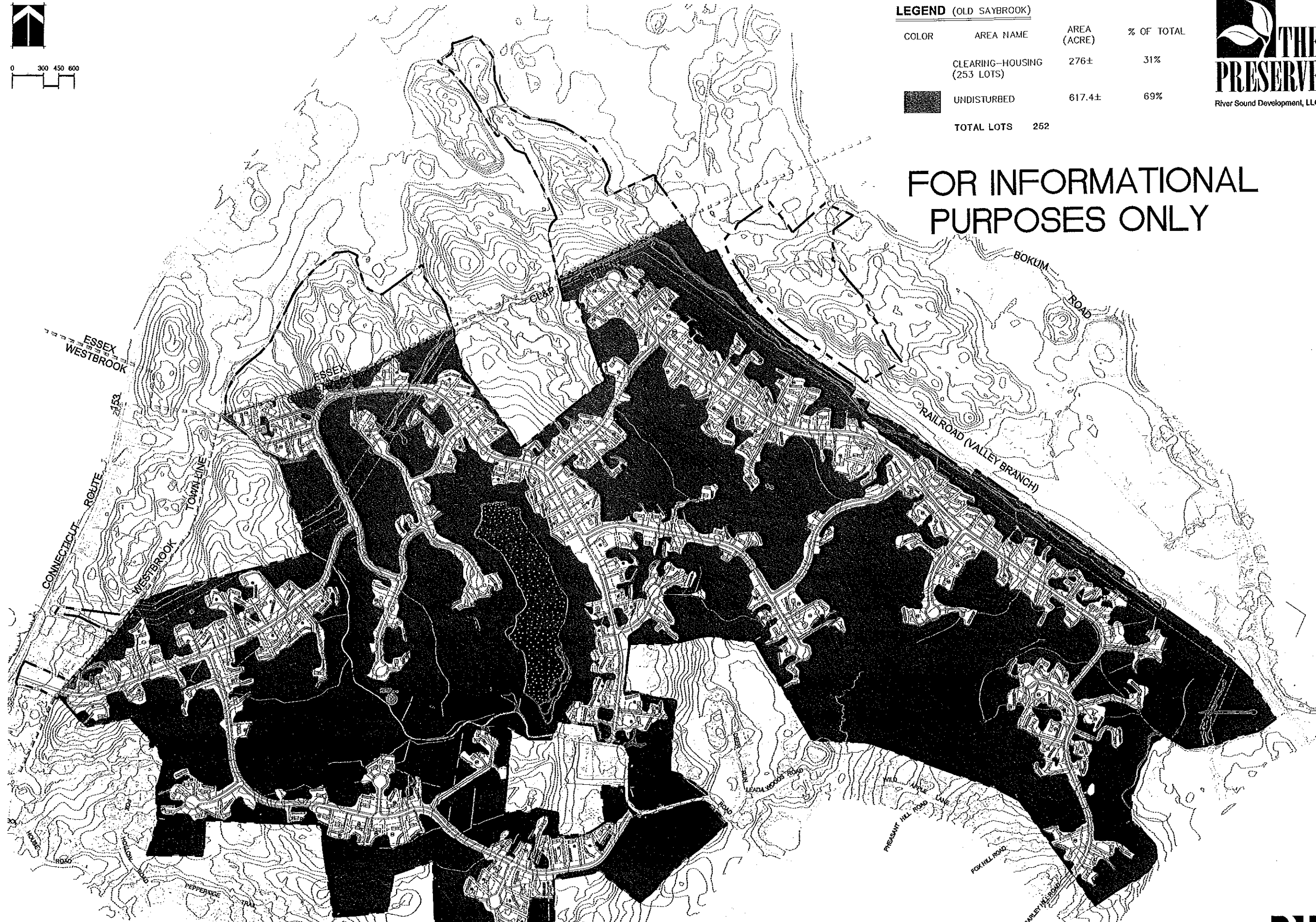
LEGEND (OLD SAYBROOK)

COLOR	AREA NAME	AREA (ACRE)	% OF TOTAL
	CLEARING-HOUSING (253 LOTS)	276±	31%
■	UNDISTURBED	617.4±	69%
TOTAL LOTS		252	



River Sound Development, LLC

**FOR INFORMATIONAL
PURPOSES ONLY**









**CONVENTIONAL SUBDIVISION (252 LOTS) -
DISTURBANCE PLAN**



THE PRESERVE
Old Saybrook, Westbrook, Essex

Map showing breeding bird survey points per D. Provencher survey, 2002.

KEY

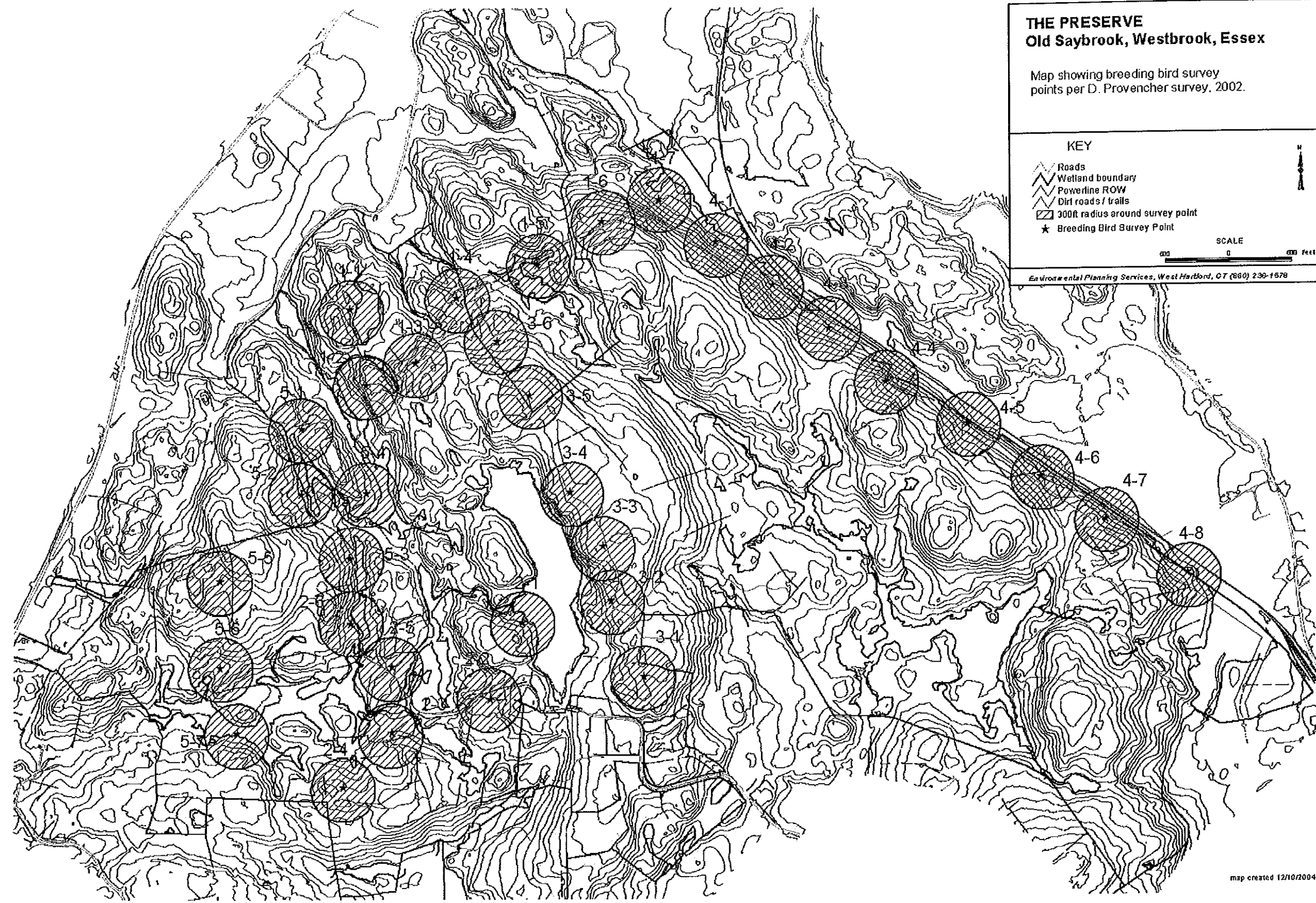
-  Roads
-  Wetland boundary
-  Powerline ROW
-  Dirt roads / trails
-  300ft radius around survey point
-  Breeding Bird Survey Point



SCALE



Environmental Planning Services, West Hartford, CT (860) 236-1578



map created 12/10/2004

BREEDING BIRD SURVEY POINTS
D. PROVENCHER SURVEY, 2002



PERENNIAL STREAM 2
(WETLAND 19 OUTLET)
5100 LF ON SITE
635 LF OF CANOPY REMOVAL

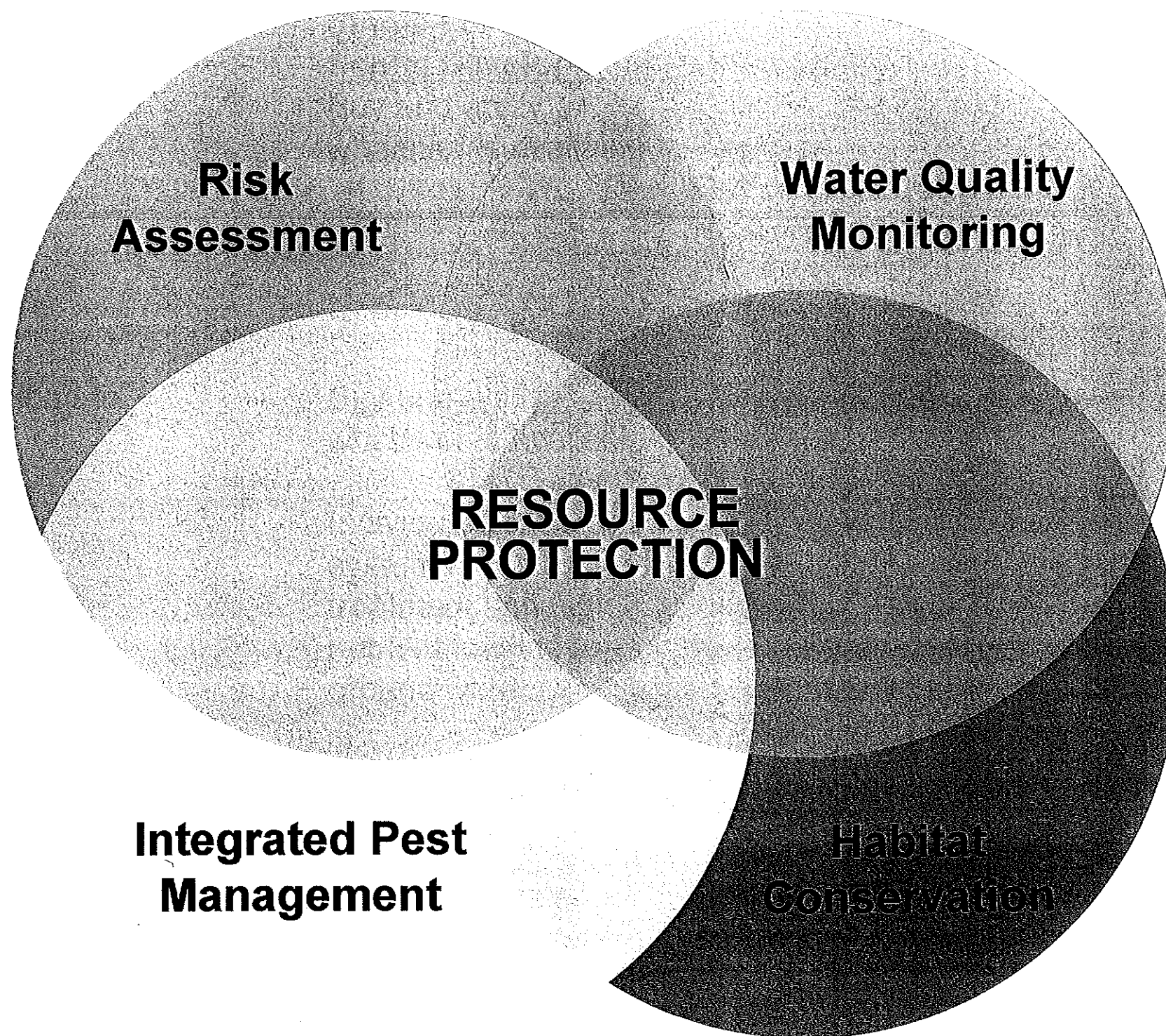
AREA OF CANOPY REMOVAL

2

1

PERENNIAL STREAM 1
(WETLAND 35 OUTLET)
667 LF ON SITE

PERENNIAL STREAM - CANOPY REMOVAL



S. Cohen
1/5/05

Conservation
Measure/Potential Impact

Single Lot on-site
Septic Development

Open Space

Pesticide and fertilizer use

Buy and apply
whatever is available

Only risk-assessed substances allowed.
Pesticide and fertilizer use must be justified.
Golf course sup't regulated by CTDEP.
Homeowners' activities governed by HOA.
(HOA mgmt docs approved by ZC pursuant to
PRD reg'ns and CTDEP input.)

Fertilizer nitrogen load to
the environment

Buy and apply
whatever is available

Open space application of N only likely to be
50-60% of conventional.

Sanitary wastewater

Individual septic
systems with no pre-
treatment and high
nutrient loading to
ground water.

Managed WWTP regulated by CTDEP Permit
and operated by professional, licensed
operator. 50% to 90% reduction in pollutant
load prior to discharge to ground water.
Quarterly ground water monitoring required by
CTDEP.

Vernal Pool Depression*

No impact

No impact

Vernal Pool Envelope*

Regulated under
Wetland Act, some
intrusion allowed with
permit

Conserved for all high priority pools-some
intrusion in a few lowest priority pools

Critical Terrestrial Habitat*

Unregulated

Conserved for all high priority pools

* Note: Without protection of pool depression, envelope and terrestrial habitat, pool amphibians will NOT be conserved.



National Water Quality Assessment (NAWQA)
Pesticide National Synthesis Project

PESTICIDES USED ON AND DETECTED IN GROUND WATER BENEATH GOLF COURSES

[Compiled (4/3/97) and updated (11/24/98) by Jack Barbash [jbarbash@usgs.gov]. Where Used on Golf Courses: Years in parentheses, if given, represent those for which use data were compiled; note that the locations given are those for which data are available, but are not necessarily the only areas where the pesticides in question have been applied to golf courses. As, arsenic, presumed to have been derived from MSMA; BS&T, detected in stream bed sediments and tissues of aquatic biota, rather than ground water; CA, California; Disc., year in which use was discontinued, if applicable; NY, New York; Mass., Massachusetts; MCPP, potassium salt of mecoprop; unspec., particular use areas in country not specified.]

USE CLASS	COMPOUND (degradates indented)	WHERE USED ON GOLF COURSES (known sites only)	WH IN {golf
Herbicides	2,4,5-TP (silvex; disc. 1983)	U.S. (unspec.)	
	2,4-D	Florida	
		Massachusetts	Ma
		Massachusetts	
		U.S. (unspec. [1982])	
		North Carolina	
		New Jersey (1993)	
		U.S. (unspec.)	
		New Jersey (1993)	
	amitrol	Japan	
	asulam	Japan	
	atrazine	Japan	
	benfluralin (benefin)	North Carolina	
	bensulide	Japan	
	bentazon	New Jersey (1993)	
	Japan		
	U.S. (unspec. [1982])		
	New Jersey (1993)		
	Florida		
	New Jersey (1993)		
	New Jersey (1993)		
	New Jersey (1993)		
	Massachusetts		
	Massachusetts		





National Water Quality Assessment (NAWQA)
Pesticide National Synthesis Project

PESTICIDES USED ON AND DETECTED IN GROUND WATER BENEATH GOLF COURSES

[Compiled (4/3/97) and updated (11/24/98) by Jack Barbash [jbarbash@usgs.gov]. Where Used on Golf Courses: Years in parentheses, if given, represent those for which use data were compiled; note that the locations given are those for which data are available, but are not necessarily the only areas where the pesticides in question have been applied to golf courses. As, arsenic, presumed to have been derived from MSMA; BS&T, detected in stream bed sediments and tissues of aquatic biota, rather than ground water; CA, California; Disc., year in which use was discontinued, if applicable; NY, New York; Mass., Massachusetts; MCPP, potassium salt of mecoprop; unspec., particular use areas in country not specified.]

USE CLASS	COMPOUND (degradates indented)	WHERE USED ON GOLF COURSES (known sites only)	WHERE DETECTED IN GROUNDWATER (golf courses only)	REFERENCE (citations given below*)
Herbicides	2,4,5-TP (silvex; disc. 1983)	U.S. (unspec.)		Hallberg et al (1996)
	2,4-D	Florida		Swancar (1996)
		Massachusetts	Massachusetts	Cohen et al (1990)
		Massachusetts		Horsley and Moser (1990)
		U.S. (unspec. [1982])		Cox (1991)
		North Carolina		Ryals et al. (1998)
		New Jersey (1993)		NJDEP (1993)
		U.S. (unspec.)		Marquardt (1997)
		New Jersey (1993)		NJDEP (1993)
	amitrol		Japan	Yamamoto et al. (1992)
	asulam		Japan	Suzuki et al. (1998)
	atrazine		Japan	Suzuki et al. (1998)
			North Carolina	Ryals et al. (1998)
benfluralin (benefin)		Japan	Suzuki et al. (1998)	
		New Jersey (1993)	NJDEP (1993)	
bensulide		Japan	Odanaka et al (1994)	
		U.S. (unspec. [1982])	Cox (1991)	
		New Jersey (1993)	NJDEP (1993)	
bentazon		Florida	Swancar (1996)	
		New Jersey (1993)	NJDEP (1993)	



cycloheximide	New Jersey (1993)
cyproconazole	New Jersey (1993)
etridiazole	New Jersey (1993)
fenarimol	Florida
	Japan
	Massachusetts
	New Jersey (1993)
flutolanil	Japan
	Japan
	New Jersey (1993)
fosetyl-al	New Jersey (1993)
iprobenfos (IBP)	Japan
iprodione	Florida
	Japan
	Japan
	Massachusetts
	U.S. (unspec. [1982])
	New Jersey (1993)
isoprothiolane	Japan
	Japan
	Japan
mancozeb	U.S. (unspec. [1982])
	New Jersey (1993)
maneb	Massachusetts
	U.S. (unspec. [1982])
mepronil	Japan
mercurous chloride	New Jersey (1993)
metalaxyl	Florida
	Japan
	New Jersey (1993)
myclobutanil	New Jersey (1993)
oxine-copper	Japan
PMA	New Jersey (1993)
propamocarb HCl	New Jersey (1993)
propiconazole	New Jersey (1993)
quintozene (PCNB)	New Jersey (1993)
sulfur	New Jersey (1993)
thiophanate	New Jersey (1993)
thiophanate-methyl	New Jersey (1993)
thiram	U.S. (unspec. [1982])
	New Jersey (1993)
toclofos-methyl	Japan
triadimefon	Florida
	Japan
	Massachusetts
	New Jersey (1993)
	Japan
triflumizole	New Jersey (1993)
vinclozolin	New Jersey (1993)
Nematicides	ethylene dibromide (EDB)
	U.S. (unspec. [1982])



cycloheximide
 cyproconazole
 etridiazole
 fenarimol

flutolanil

fosetyl-al
 iprobenfos (IBP)
 iprodione

isoprothiolane

mancozeb

maneb

mepronil
 mercurous chloride
 metalaxyl

myclobutanil
 oxine-copper
 PMA
 propamocarb HCl
 propiconazole
 quitozene (PCNB)
 sulfur
 thiophanate
 thiophanate-methyl
 thiram

toclofos-methyl
 triadimefon

triflumizole
 vinclozolin

Nematicides ethylene dibromide (EDB)
 fenamiphos

fenamiphos sulfoxide
 fenamiphos sulfone

New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 Florida
 Japan
 Massachusetts
 New Jersey (1993)
 Japan
 Japan
 New Jersey (1993)
 New Jersey (1993)
 Japan
 Florida
 Japan
 Japan
 Massachusetts
 U.S. (unspec. [1982])
 New Jersey (1993)
 Japan
 Japan
 Japan
 U.S. (unspec. [1982])
 New Jersey (1993)
 Massachusetts
 U.S. (unspec. [1982])
 Japan
 New Jersey (1993)
 Florida
 Japan
 New Jersey (1993)
 New Jersey (1993)
 Japan
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 New Jersey (1993)
 U.S. (unspec. [1982])
 New Jersey (1993)
 Japan
 Florida
 Japan
 Massachusetts
 New Jersey (1993)
 Japan
 New Jersey (1993)

U.S. (unspec. [1982])
 Florida
 New Jersey (1993)
 U.S. (unspec.)

Japan

Japan

Japan

Florida
 Japan

Florida

Florida
 Florida

NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 Swancar (1996)
 Odanaka et al (1994)
 Horsley and Moser (1990)
 NJDEP (1993)
 Ojima et al (1993); Odanak
 Suzuki et al. (1998)
 NJDEP (1993)
 NJDEP (1993)
 Niitsuma and Onishi (1992)
 Swancar (1996)
 Odanaka et al (1994)
 Suzuki et al. (1998)
 Cohen et al (1990); Horsle
 Cox (1991)
 NJDEP (1993)
 Odanaka et al (1994)
 Murata and Takahashi (1991)
 Suzuki et al. (1998)
 Cox (1991)
 NJDEP (1993)
 Horsley and Moser (1990)
 Cox (1991)
 Suzuki et al. (1998)
 NJDEP (1993)
 Swancar (1996)
 Odanaka et al (1994)
 NJDEP (1993)
 NJDEP (1993)
 Odanaka et al (1994)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 NJDEP (1993)
 Cox (1991)
 NJDEP (1993)
 Odanaka et al (1994)
 Swancar (1996)
 Suzuki et al. (1998)
 Horsley and Moser (1990)
 NJDEP (1993)
 Odanaka et al (1994)
 NJDEP (1993)

Cox (1991)
 Swancar (1996)
 NJDEP (1993)
 Marquardt (1997)
 Swancar (1996)
 Swancar (1996)



Table 1: Percent of Undeveloped Area Within CrC/HpE Complex That Supports MABL

	A	B	C	A- (B+C)
Soil Complex	³ Percent of Soil Complex to Support MABL	¹ Percent of Soil Complex containing MABL	² Percent of Soil Complex Containing Infrastructure	Remaining Percent of Complex to Support MABL
CrC	45%	16%	9%	20%
HpE	40%	12%	7%	21%

Table 2: Percent of HpE/ CrC Soil Complex That Supports MABL

Soil Complex	A	B	A+B	100%-(A+B)
	Percent Hollis Soil within Soil Complex	Percent other ⁴ Soil Types/ Outcrops within Soil Complex	Percent Restrictive Characteristics	Percent of Soil Complex to Support MABL
CrC	30%	25%	55%	45%
HpE	40%	20%	60%	40%

Table 3: Percent of MABL within CrC/ HpE Soil Complexes

Soil Complex	A	B	C	% C/A
	Total Area of Soil on Site	Proposed Total Lots within Soil Complex	⁵ Total Area of MABL within Soil Complex	Percent of MABL within Soil Complex within Complex
CrC	269 AC	121	41.7 AC	16%
HpE	368 AC	130	44.8 AC	12%

DETERMINATION OF MABL CONFORMANCE AND SOIL SUITABILITY